GEORGIA DEPARTMENT of TRANSPORTATION

Guidelines for Processing Design Data in CAiCE

Current with CAiCE Visual Transportation 10

Seventh Edition, Version 1.10

FEBRUARY 1, 2013

REVISION HISTORY

Date	Revision Number	By	Section	Description
Sept 27, 02	1.0	Joe Bozarth Holly A. Cross	All	Initial Document
Jan 8, 03	1.1	Holly A. Cross Marlene E. Cole	All	Reformatting
Sept 26, 03	1.2	Holly A. Cross	All	Updated screen captures and text to correspond with CAiCE VT 10
" "	" "	" "	Sec 2/p 2-5	Added note to create projects in Kcdata folder
" "	" "	" "	Sec 2/p 2-11	Revised 'Updating the DTM Surface' procedure by adding error message info to Step 4
" "	" "	" "	Sec 4/p 4-3	Added note detailing updated Archive procedure
Oct 10, 03	1.3	Joe Bozarth	Sec 7/p 7-2	Revised 'Generate Deed Files' procedure to reflect the new procedure using the KCRW macro.
March 15, 04	1.4	Joe Bozarth	Sec 1/p 1-2, 1-3 Appendix A	Added an entry in **Table 1.1** for shoulder hinge point chains. Added entries in **Table 1.2** for detour centerline, edge of paved shoulder, and shoulder hinge point feature codes. Added **Table 2.2**, **Table 3.1**, and **Table 3.2** to Appendix A.
Feb 15, 05	1.5	Holly A. Cross	Sec 7/p 7-3, 7-4	Revised 'Provide Files to Contactors' section to reflect new procedure for providing alignment chain information to contractors. Removed the .KCM and .EAR file requirements.

REVISION HISTORY

Date	Revision Number	By	Section	Description
March 15, 06	1.6	Holly A. Cross	Sec 1/p 1-10	Revised the Location of web-page link to download Project Data Sheet Forms.
" "	" "	" "	Sec 3/p 3-4, 3-5	Revised the Location of web-page link to download the GDOT Standard Files (CAiCEALL.exe).
" "	" "	" "	Sec 5/p 5-7 Appendix A p A-8	Added entries in **Table 5.2** for EDG-2004 Version (Profile) Seed files. Added entries in **Table 5.3** for EDG-2004 Version (Profile) Grid files. Added table header to **Table 5.2** and **Table 5.3** to reflect the EDG-(Pre-2004) Version (Profile) Seed/Grid files. Updated **Appendix** to reflect these changes to **Tables 5.2** & **5.3**.
" "	" "	" "	Sec 5/p 5-8	Updated Sec 5.3.1 Sheet Format Selections to include XSEC-NARROW-EDG & XSEC-WIDE-EDG.
" "	" "	" "	Sec 5/p 5-12 Appendix A p A-9	Added Section 5.3.5 (*VBA Macro Plot and Export X-Section Sheets*). Added entries in **Table 5.4** for EDG-2004 X-Section Seed/Grid files and EDG-(Pre-2004) Seed/Grid files. Updated **Appendix** to reflect these changes to **Table 5.4**.
" "	" "	" "	Sec 5/p 5-13	Added examples of EDG-2004/EDG-(Pre-2004) X-Section Sheets. Removed reference to "old" x-section sheets.

Date	Revision Number	By	Section	Description
Nov 1, 07	1.7	Holly A. Cross	Sec 7/p7-3, 7-7,7-8	Revised 'Provide Files to Contractors' section to reflect new procedure for providing GPS Grading Report File information to contractors. Added additional information regarding Pre- and Post- Award deliverable process.
Jan 1, 09	1.8	Holly A. Cross	Sec 7/p7-3, 7-5,7-6	Revised 'Provide Files to Contractors' section to reflect an additional procedure for providing Alignment Report Files for use in Contractor GPS equipment. Added additional information regarding Pre-Award deliverable process for Alignment Data.
" "	" "	" "	Sec 1/p 1-10	Revised the Location of web-page link to download Project Data Sheet Forms.
" "	" "	" "	Sec 3/p 3-4, 3-5	Revised the Location of web-page link to download the GDOT Standard Files (CAiCEALL.exe).
Dec 1, 12	1.9	Holly A. Cross	Sec 2/p 2-11	Updated document to reflect the change from a DTM LZH format to a DTM ZIP compression format for use in the "Additional Survey Data Macro".
Feb 1, 13	1.10	Holly A. Cross	Sec 7/p7-3, 7-8	Revised 'Provide Files to Contractors' section to reflect new procedure for providing GPS Grading Report File Pre-Award of the Contract.

PREFACE

These guidelines have been developed as part of the ongoing statewide implementation of CAiCE. The intent of this document is to provide guidelines and standards for processing design data in CAiCE. The Design Guidelines must be followed in detail in order to conform to the GDOT standards for producing the resulting DGN files used for plan production. Updates to this document will be made periodically when minor revisions, additional information, and/or enhancements are added.

It is the responsibility of the District SDE to prepare, convert, and enhance all mapping and survey data prior to the delivery to the Project Manager or Designer. **At no time should the Project Manager or Designer revise, edit, or enhance survey data.**

If there is any approved deviation from the standard file and data naming/feature code conventions as prescribed by this document, a detailed description of the deviation(s) and approved reasons for the deviation(s) shall be documented and included with the project files in electronic format.

All electronic documentation files shall be provided in a Microsoft Word format and located in a *Documentation* sub folder of the project directory.

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OVERVIEW

These Guidelines cover the beginning process of project design utilizing CAiCE survey data, standards for storing objects within CAiCE, brief explanations of all the standard files, automated design processes within the Department, plan production, and other information.

Document Content

Below is a list of topics covered in this document:

- Standard Object Names and File Names
- CAiCE Original Survey Data Projects
- Standard GDOT Files
- Project Archival
- Plan Production
- Rebuild Utility
- Additional Files to be Produced
- Converting Projects from CEAL to CAiCE
- Appendix
- Index

1

Standard Object Names and File Names

1. Standard Object Names and File Names

Standard object and file naming conventions have been established in order to promote consistency and assist in the organization of project data. These standard naming schemes help to ensure uniformity for all users who may work on the project.

This section covers the following topics:

- Standard Object Names
- Standard File Names
- Standard R/W Point Cell Size and Text Size
- Project Data Sheet
- Location of Project Data Sheet Forms

1.1 Standard Object Names

The designer shall follow the guidelines on the following page (see **Table 1.1** and **Table 1.2**) when storing design objects in CAiCE. These guidelines **must** be followed in order to conform to current GDOT standards and policies. ***Use only <u>one</u> prefix for points in CAiCE***. This eliminates the possibility of duplicate points going back to the Data Collector.

Note: All standard design object names must begin with the prescribed prefix. *Please see the guidelines in* **Table 1.1** *for additional information.*

Table 1.1
Design Object Names

Object	Prefix	Starting Number
Point*	KC	10000 (Max. = 99999)
Curve	KC	1
Spiral	KC	1
Geometry Chain (Alignment)	KC	1
Geometry Chain (Right of Way)	KC	User-defined**
Geometry Chain (Easement)	KC	User-defined**
Geometry Chain (Edge of pavement, travel lane or paved shoulder)	EP	1
Geometry Chain (Shoulder hinge point)	SH	1
Geometry Chain (Ditch CL)	DC	1
Design Profile	KC	1
Other	User-defined	User-defined

*All design points must be named with a prefix of KC and begin with the number 10000 (e.g., first design point = KC10000).

It is ***suggested* that a block of chain numbers be set aside for Right-of-Way and Easement chains before beginning to store these chains (e.g., R/W chain numbers = 101-300; Easement chain numbers = 301-500).

Table 1.2			
Design Object Feature Codes and Descriptions			
Object Type	**Applies to Following Objects**	**Feature Code**	**Descriptions**
Alignments			
Mainline CL	Points, Curves, Chains	CONSTCL	Roadname (Chains only)
Sideroad CL	Points, Curves, Chains	SIDECL	Roadname (Chains only)
Detour CL	Points, Curves, Chains	DETCL	Roadname (Chains only)
Rights of Way			
R/W Monument	Points	RWRM	
R/W	Points, Curves, Chains	REQD	Parcel Number (Chains only)*
Perm. Cnst. Esmt.	Points, Curves, Chains	PESMT	Parcel Number (Chains only)*
Temp. Cnst. Esmt.	Points, Curves, Chains	TESMT	Parcel Number (Chains only)*
Driveway Esmt.	Points, Curves, Chains	DWESMT**	Parcel Number (Chains only)*
Miscellaneous			
Edge of Pavement	Points, Curves, Chains	EOP	
Edge of Paved Shoulder	Points, Curves, Chains	EPSHLDR	
Edge of Shoulder (Shoulder hinge point)	Points, Curves, Chains	SHLDR	
Ditch CL	Chains	DITCHCL	
Other	Points, Curves, Chains	User-Defined	

*Format of parcel number shall be “Parcel ###”.

**The feature code DWESMT will be used for all other types of easement and be noted as such on plans by the engineer.

1.2 Standard File Names

New standards and policies for naming conventions of *Design File Names* have been implemented. The *Design File Names* will now consist of a standard naming scheme. These design files include the following:

Terrain Profile (.pf$)
Existing X-Sections (.ear)
Proposed X-Sections (.ear)
X-Section Design (.vrs)

This standard naming scheme will enable the design objects and the design file names to be consistent with the *associated alignment*. This association and consistency will help any personnel who work on the project in the future to recognize at a glance the correct design files and design objects to utilize.

Note: All standard Design Files must now be named the same as their "associated alignment." Please see the **Example Guidelines** in **Table 1.3** for the standard GDOT Naming Conventions.

Table 1.3

Example of Standard Design Object Names and File Names

Design Object/File	Name	Additional Information
Horizontal Alignment	KC1	Associated Alignment
Terrain Profile	KC1.pf$	Corresponds with associated alignment.
Design Profile	KC1	Corresponds with associated alignment.
Existing X-Section File	KC1_exist.ear	Corresponds with associated alignment.
Proposed X-Section File	KC1_prop.ear	Alternate proposed X-Section files may be annotated at the end of the standard name. *Example*: KC1_prop2.ear.
X-Section Design File	KC1_prop.vrs	These files will have the same name as the corresponding X-Section (*.ear) file.
Edge of Pavement Chains	EP1	Number Edge of Pavement chains from left to right.
Ditch Chains	DC1	Number ditch chains from left to right.
Ditch Profile	DC1	Ditch Profile name will be the same as the corresponding ditch chain name.

1.3 Standard R/W Point Cell Size and Text Size

The feature table controls point cell size. It is only necessary to have the correct feature code assigned to the point (see **Table 1.2**) and the appropriate feature table attached (see **Table 3.1**) to plot these points to the appropriate size for R/W plans.

Before exporting R/W data to a Microstation DGN file, the designer must set the text size for the point names. The table below (see **Table 1.4**) lists the appropriate text size for all R/W and easement points on R/W plans according to the sheet scale used. To set the point name text size, click on the ***"Settings"*** pull-down menu on the main CAiCE screen. Then place your cursor over ***"Object Display"*** and click on ***"Points"*** on the pop-up menu to open the *"Point Display Settings"* dialog box – ***Settings*** >> ***Object Display*** >> ***Points***. Change the "size" field in the name column to the appropriate setting from the table below.

Table 1.4

Right of Way Point Text Size

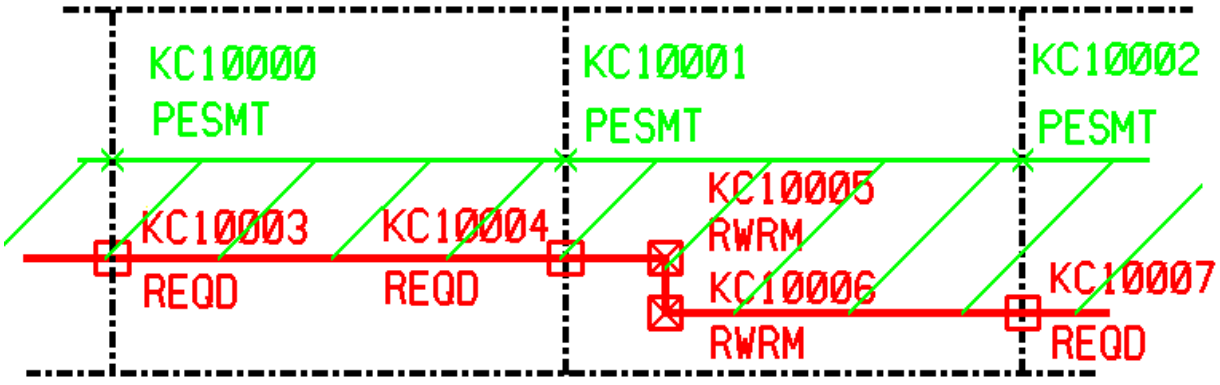
	English			Metric	
Scale	**20**	**50**	**100**	**250**	**500**
Text Size	3.0	7.5	15.0	1.0	2.0

Right of Way points will be displayed with the cells shown in the following illustration:

RWRM: Required R/W monument where offset change occurs

REQD: Required R/W intersection with property line

PESMT: Permanent construction easement



1.4 Project Data Sheet

As indicated previously, a new naming standard for design objects and design files has been implemented in order to be consistent with the *associated alignment*. This association and uniformity will help enable any personnel who may inherit the project in latter stages to identify the correct design files and design objects. As an additional aid, and for documentation purposes, **Project Data Sheet** forms have been implemented. These Project Data Sheets must be used to conform to current GDOT standard guidelines. **These forms shall be included in electronic format with all submissions of the electronic CAiCE project archive file. All electronic documentation files shall be provided in a Microsoft Word format and located in a *Documentation* sub-folder of the project directory.**

There are two types of **Project Data Sheet** forms:

1.4.1 Project Data Sheet (Alignment and Associated Objects and Files)

This form will be utilized to document the horizontal alignment and any of its associated objects and files. There are two versions of this form available: the *Single Alignment* (See **Figure 1-1**) form and the *Multiple Alignment* (See **Figure 1-2**) form. The version utilized is left to the user's discretion.

1.4.2 Project Data Sheet (Required Right of Way Objects)

This form will be utilized to document each Parcel and its' associated chains (R/W chains, Easement chains, etc.). (See **Figure 1-3**)

(Single Alignment)

PROJECT DATA SHEET

Georgia Department of Transportation

(Alignment and Associated Objects and Files)

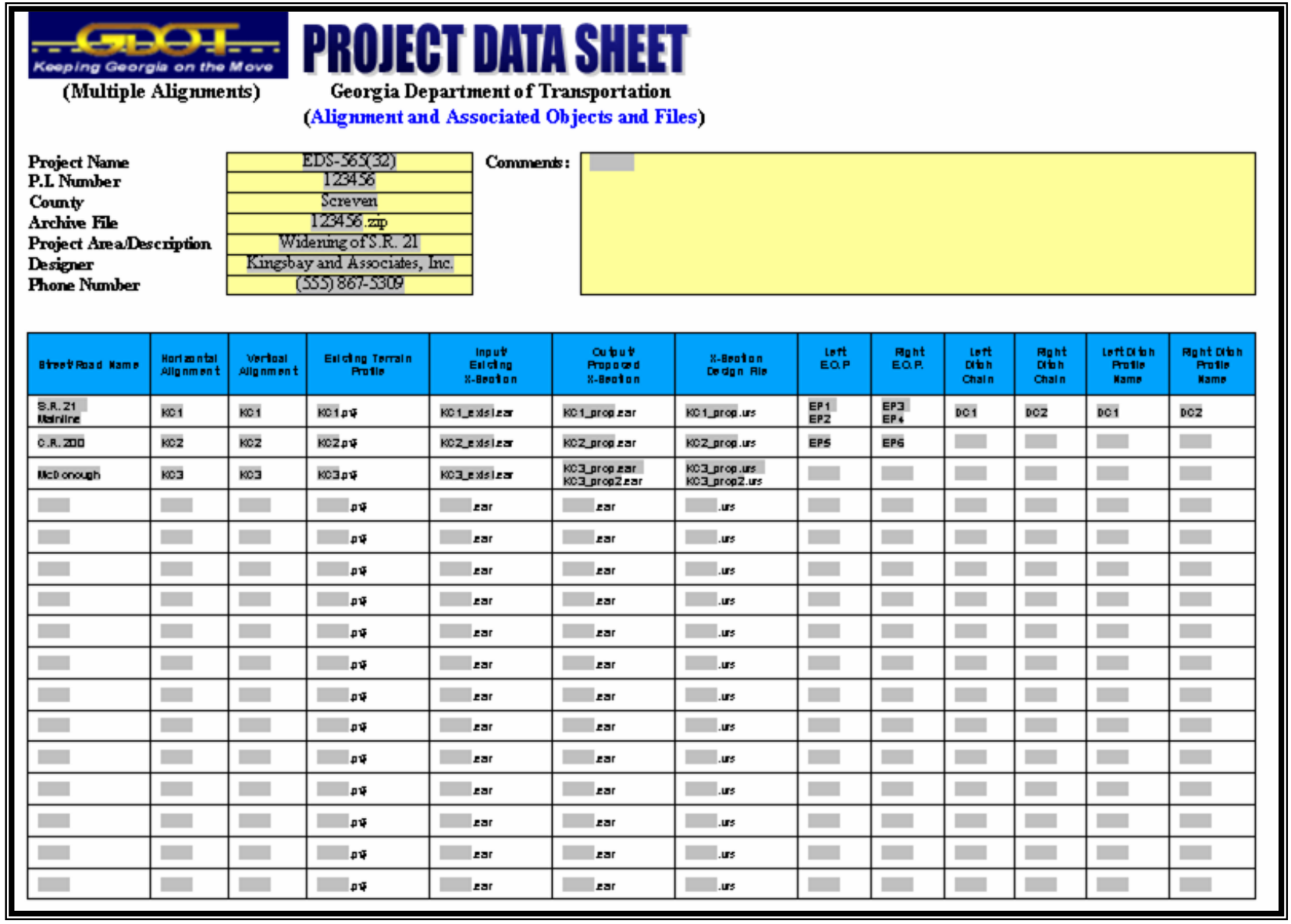
Project Name	EDS-565(32)
P.I. Number	123456
County	Screven
Archive File	123456.zip
Project Area/Description	Widening of S.R. 21
Designer	Kingsbay and Associates, Inc.
Phone Number	(555) 867-5309

Comments:

Horizontal Alignment* **	KC1
Vertical Alignment (Design Profile)	KC1
Existing Terrain Profile	KC1
Input/Existing X-Section (.ear)	KC1_exist.ear
Output/Proposed X-Section (.ear)	KC1_prop.ear
X-Section Design File (.vrs)	KC1_prop.vrs
Edge of Pavement Chains (if applicable)	EP1 EP2
Ditch Chains (if applicable)	DC1 DC2
Ditch Profile Name (if applicable)	DC1 DC2

NOTE:** Document ***ONLY ONE Alignment and its associated objects and files *per sheet****

Figure 1-1



GDOT Keeping Georgia on the Move

PROJECT DATA SHEET

(Multiple Alignments)

Georgia Department of Transportation

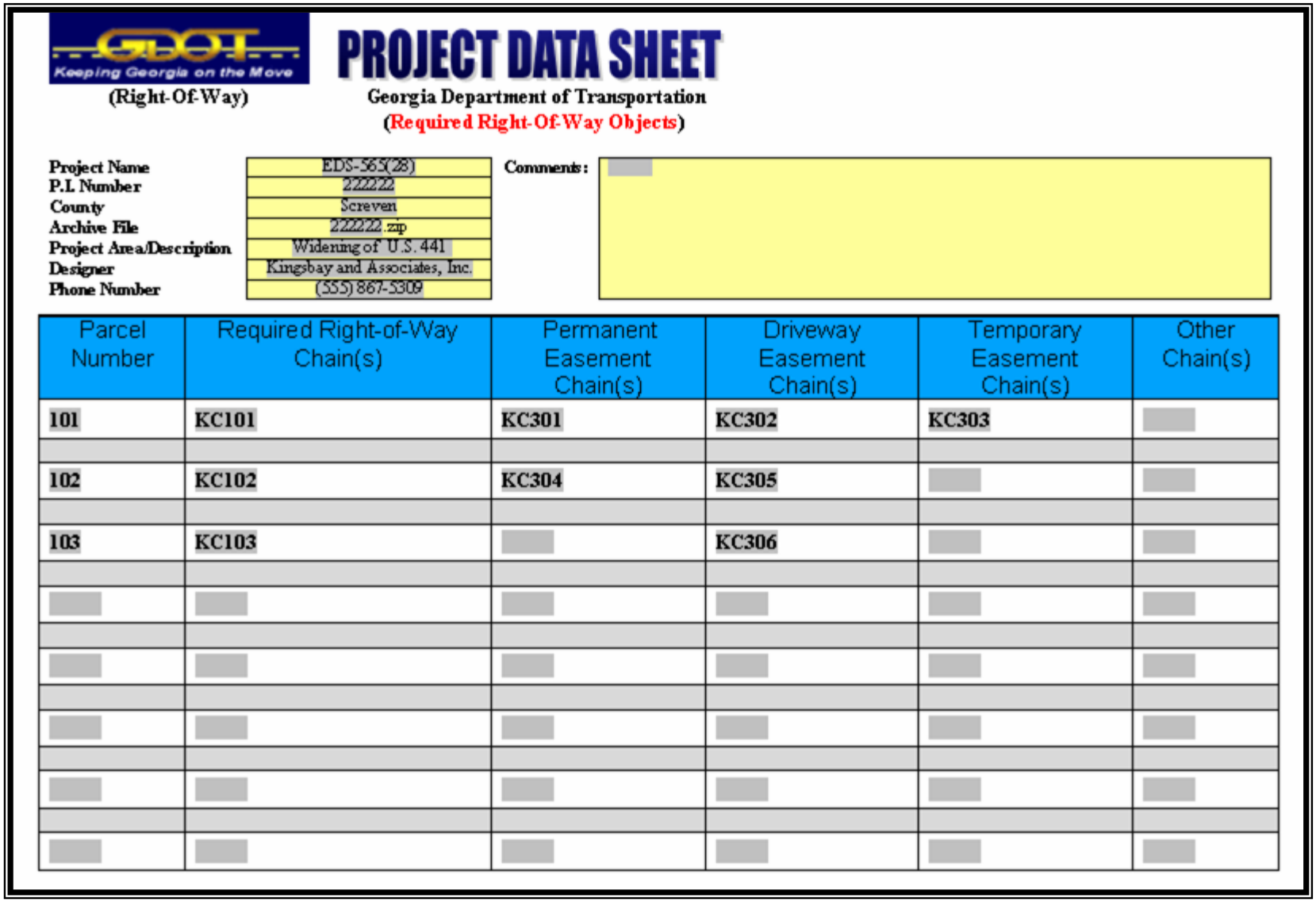
(Alignment and Associated Objects and Files)

Project Name	EDS-565(32)
P.I. Number	123456
County	Screven
Archive File	123456.zip
Project Area/Description	Widening of S.R. 21
Designer	Kingsbay and Associates, Inc.
Phone Number	(555) 867-5309

Comments:

Street/Road Name	Horizontal Alignment	Vertical Alignment	Existing Terrain Profile	Input Existing X-Section	Output Proposed X-Section	X-Section Design File	Left E.O.P.	Right E.O.P.	Left Ditch Chain	Right Ditch Chain	Left Ditch Profile Name	Right Ditch Profile Name
S.R. 21 Mainline	KO1	KO1	KO1.prf	KO1_exist.ear	KO1_prop.ear	KO1_prop.urs	EP1 EP2	EP3 EP4	DC1	DC2	DC1	DC2
C.R. 200	KO2	KO2	KO2.prf	KO2_exist.ear	KO2_prop.ear	KO2_prop.urs	EP5	EP6				
McDonough	KO3	KO3	KO3.prf	KO3_exist.ear	KO3_prop.ear KO3_prop2.ear	KO3_prop.urs KO3_prop2.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						
			.prf	.ear	.ear	.urs						

Figure 1-2



Keeping Georgia on the Move

(Right-Of-Way)

PROJECT DATA SHEET

Georgia Department of Transportation

(Required Right-Of-Way Objects)

Project Name	EDS-565(28)
P.I. Number	222222
County	Screven
Archive File	222222.zip
Project Area/Description	Widening of U.S. 441
Designer	Kingsbay and Associates, Inc.
Phone Number	(555) 867-5309

Comments:

Parcel Number	Required Right-of-Way Chain(s)	Permanent Easement Chain(s)	Driveway Easement Chain(s)	Temporary Easement Chain(s)	Other Chain(s)
101	KC101	KC301	KC302	KC303	
102	KC102	KC304	KC305		
103	KC103		KC306		

Figure 1-3

1.5 Location of Project Data Sheet Forms

The Project Data Sheet forms are available in electronic format and are available for download from both the internal and external Web site.

1.5.1 Internal to GDOT

All GDOT standard forms can be downloaded internally from the GDOT *"R.O.A.D.S."* Homepage. To access the Internal GDOT *"R.O.A.D.S."* Homepage, enter Internet Explorer or Netscape. Go straight to the link at:

http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/software/Pages/CAiCEDocumentation.aspx

- Select the appropriate Project Data Sheet(s) and Save it to the computer.

1.5.2 External to GDOT

All GDOT standard forms can be downloaded externally from the GDOT *"R.O.A.D.S."* Homepage. To access the External GDOT *"R.O.A.D.S."* Homepage, enter Internet Explorer or Netscape. Go straight to the link at:

http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/software/Pages/CAiCEDocumentation.aspx

- Select the appropriate Project Data Sheet(s) and Save it to the computer.

2

CAiCE Original Survey Data Projects

2. CAiCE Original Survey Data Projects

Survey information received from the Survey Data Engineer is changing as the SDE moves to CAiCE for processing survey data. The following section covers some of the basics about how the SDE will process survey data as well as specific instructions on how the designer will bring the supplied survey data into the current CAiCE project.

This section covers:

- The Use of ZONES in Survey Data
- Initial Submission
- Enhancement Submissions

2.1 The Use of ZONES in Survey Data

Zones in CAiCE are equivalent to levels in Microstation or layers in AutoCad. Zones allow for grouping of data and are used within the Department for grouping the various types of survey data.

The zone specifications currently used within the Department are as follows:

Table 2.1

Zone	Source	Attribute	Description
1 – 9	G.O. and District Design Offices	2D – "F"	Design data
10 – 49	Aerial mapping or field	3D – "G"	Original segment data
50	District Field Survey/SDE	2D – "F"	Property (Geometry Chains)
51	District Field Survey/SDE	3D – "G"	3D Topographic data
52	District Field Survey/SDE	2D/3D –"F"	2D/3D Planimetric data

Zones 1-9 are reserved for use by design. **Zones 10-49** will be used for the original Environment/Location stereoplotter SRV segment files or the original field surveyed SRV files. Each original survey data segment will correspond to a standard zone (i.e., Segment "A" will correspond to **Zone 10**, Segment "B" will correspond to **Zone 11**, etc.) as shown in the chart below.

Table 2.2

Segment	Zone
A	10
B	11
C	12
D	13
E	14
F	15
G	16
H	17
I	18
J	19
K	20
L	21
M	22

Segment	Zone
N	23
O	24
P	25
Q	26
R	27
S	28
T	29
U	30
V	31
W	32
X	33
Y	34
Z	35

The survey data in an original field surveyed SRV file or in an enhanced mapping SRV file, which will be on **Zones 50-52**, is processed by the SDE as described below. This includes the following:

- Original Survey Data
- Property Survey Data
- 3D Topographic Data
- 2D/3D Plainmetric Data

2.1.1 Original Survey Data

Original survey data includes the following:

- Mapping Projects
- Field Surveyed Projects

2.1.1.1 Mapping Projects

The original survey data will occupy Zones starting with 10 and continuing through the number of zones needed to cover the number of original survey segments (i.e.,11, 12, etc.).

Zone 10	Zone 11	Zone 12
A	**B**	**C**

2.1.1.2 Field Surveyed Projects

The original survey data will occupy **Zones 51 – 52** (See 3D Topographic Data and 2D/3D Planimetric Data below) and will be moved to the correct segment zone by the SDE which will typically be Segment "A" or **Zone 10**.

2.1.2 Property Survey Data

Property points will come in from the field in the field enhanced SRV file or in the original field surveyed SRV file on **Zone 50**. These will be 2D ("F") points that define any property corners found, property points on line, etc.

2.1.3 3D Topographic Data

Data that will go to the DTM will come in from the field in the enhanced survey file or in the original field surveyed SRV file on **Zone 51**. This data will be moved to the correct segment zone by the SDE.

2.1.4 2D/3D Planimetric Data

Data that has an attribute of "F" (other than property data) that will come in from the field in the enhanced survey file or in the original field surveyed SRV file will go to **Zone 52**. This data will be moved to the correct segment zone by the SDE.

2.2 Initial Submission

For the initial submission, the SDE will be supplying design with an archive file (.ZIP) of the project with all the survey data imported, the DTM built, and the project ready to begin design. The designer will:

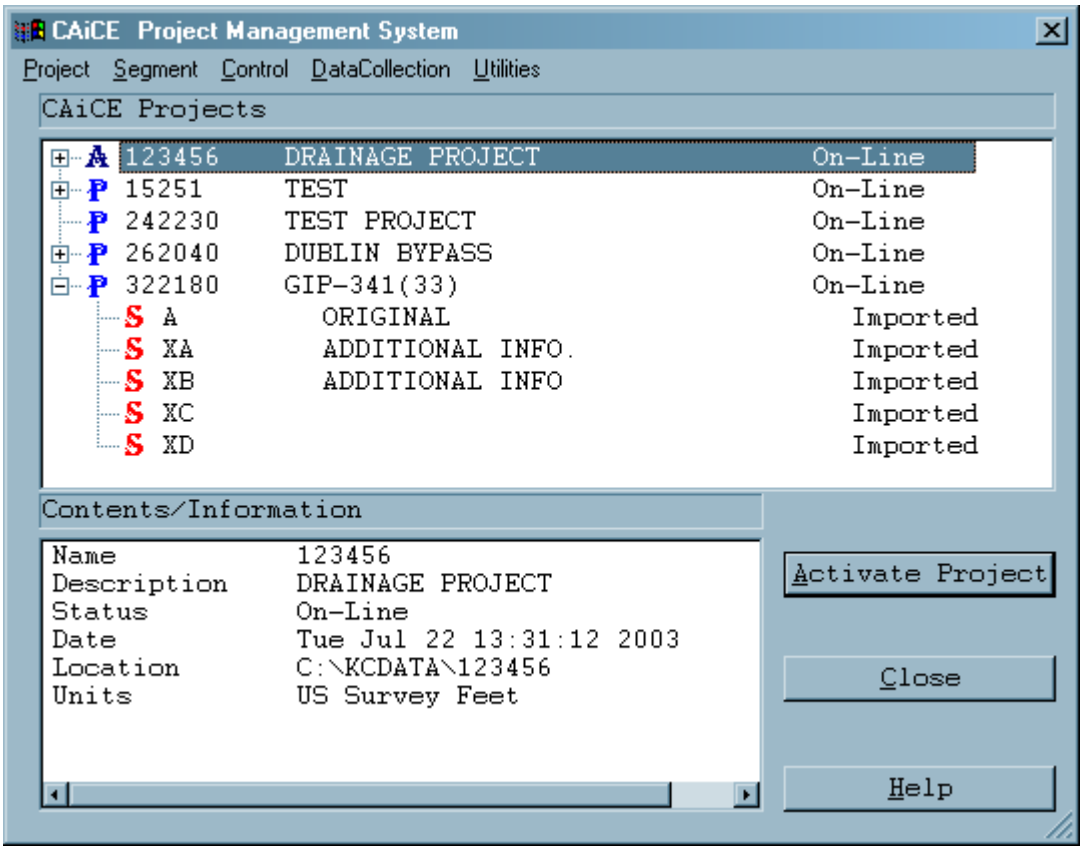
- Create the Project in CAiCE
- Unarchive the Archive File

2.2.1 Create the Project in CAiCE

Follow the steps below to create the project in CAiCE:

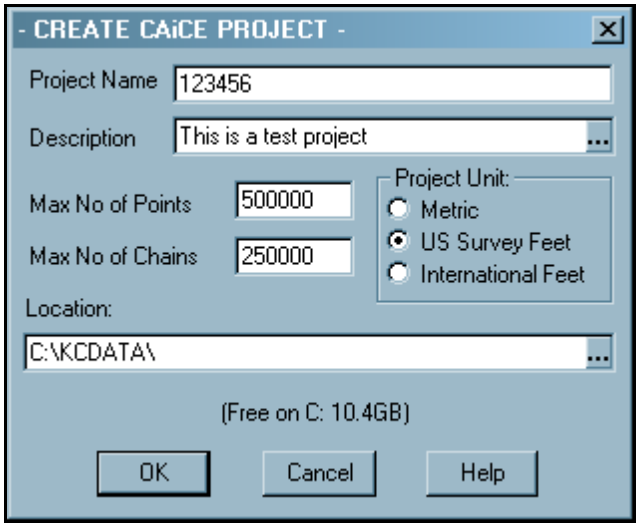
1. From the CAiCE main pull-down menu, click ***File*** >> ***Project Manager*** and the *CAiCE Project Management System* dialog appears as shown in **Figure 2-1**.

Figure 2-1



From the *CAiCE Project Management System* window, click ***Project*** >> ***Create*** and the *Create CAiCE Project* dialog (shown in **Figure 2-2**) appears:

Figure 2-2



Note: All project names in CAiCE will be the P.I. Number of the project. For projects with **new** TPRO project numbers, the CAiCE project name will be the **last** six digits of the TPRO project number (i.e., TPRO project number = 0001234 so CAiCE project name = 001234).

2. In the *Create CAiCE Project* dialog, enter the following:

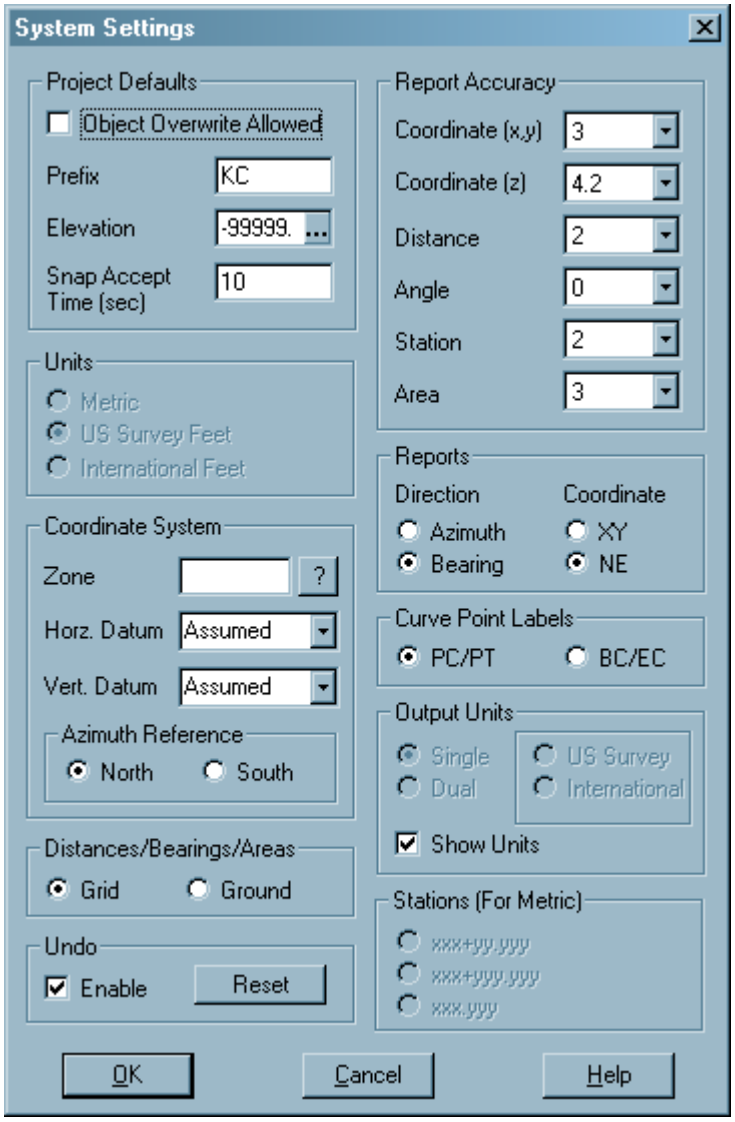
   - Project Name
   - Description
   - Max No of Points (500000)
   - Max No of Chains (250000)
   - Project Unit
   - Project Location (KCDATA directory)**

   ** Please note that all projects must be created in the KCDATA folder under the same **root drive** in which CAiCE is located. If there is no KCDATA folder, the user must create one.

   Example: C:\KCDATA\

3. Click ***OK*** and the *System Settings* dialog appears as shown in **Figure 2-3**.

Figure 2-3



4. Set the System Settings as desired, then click ***OK*** to save entries.

2.2.2 Unarchive the Archive File

Follow the steps below to unarchive the archive file:

1. From the CAiCE main pull-down menu, click ***File*** >> ***Project Manager*** and the *CAiCE Project Management System* dialog appears as shown in **Figure 2-1**.
2. From the *CAiCE Project Management System* window, click ***Project*** >> ***Unarchive***.

Note: There will be a folder called SDE located in the project directory. This directory will contain all files sent to the designer by the SDE besides CAiCE files (.DGN, etc.).

2.3 Enhancement Submissions

Enhancement submissions include the following:

- Topo Enhancements
- Property Enhancements

2.3.1 Topo Enhancements

All enhanced topo data will be submitted in the form of SRV file(s) for the segment(s) enhanced. The SRV file is to be a new, completely enhanced SRV Segment File. A compressed file containing the new and revised DTM will also be submitted.

Follow the procedure below to incorporate the SRV file and revised DTM into the project database:

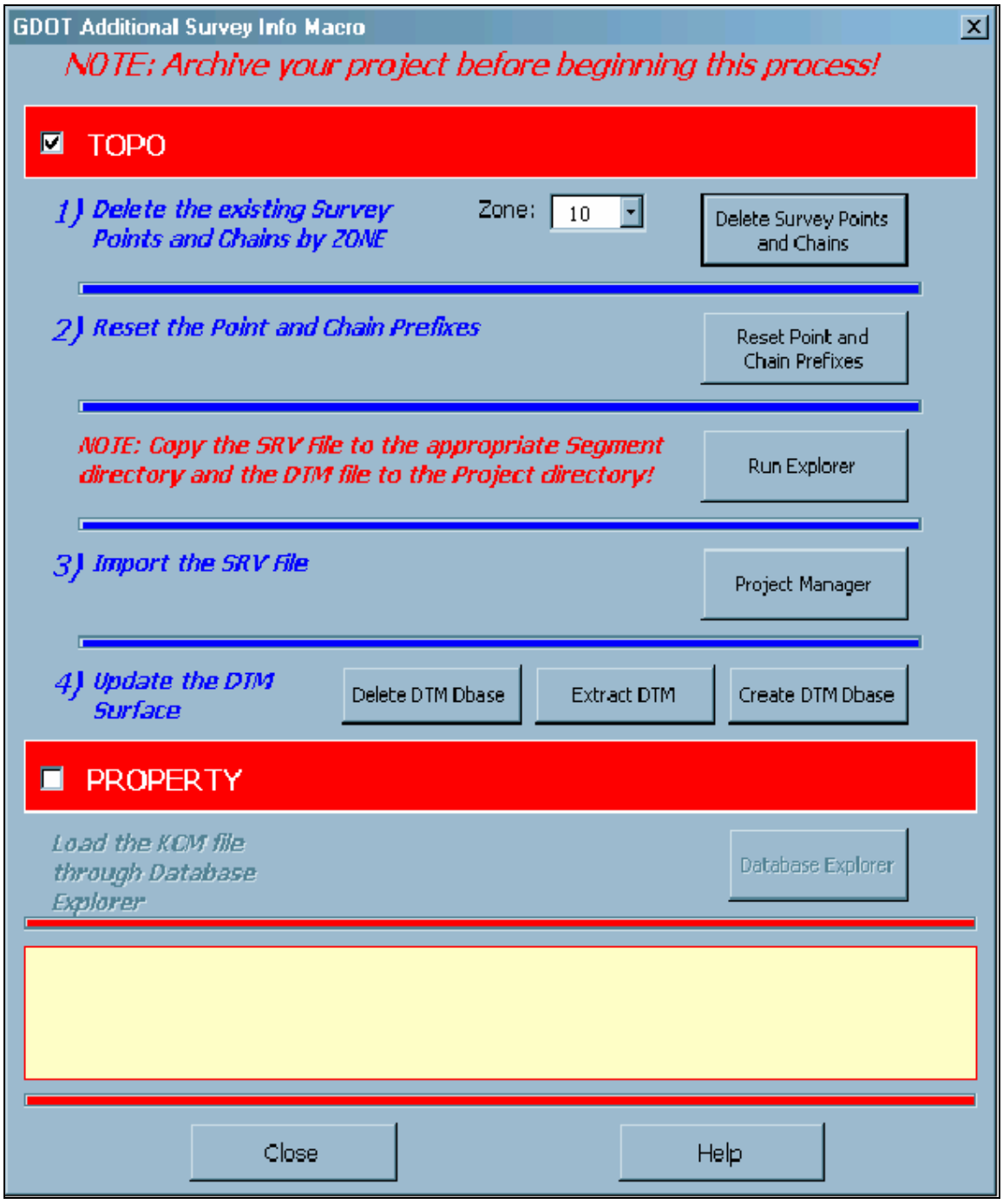
- Invoke the GDOT Macro Menu
- Delete the Existing Survey Points and Chains by ZONE
- Reset the Point and Chain Prefixes
- Import the SRV File
- Update the DTM Surface

2.3.1.1 Invoke the GDOT Macro Menu

Follow the steps below to invoke the GDOT macro menu:

1. From the CAiCE main pull-down menu, click ***Tools*** >> ***Custom Tools*** >> ***GDOT Macro Menu*** and the *GDOT Macro Main Menu* appears.
2. Click the ***Utilities*** tab, then click ***Addl. Survey Info*** to load the *Additional Survey Info Macro* as shown in **Figure 2-4**.

Figure 2-4



2.3.1.2 Delete the Existing Survey Points and Chains by ZONE

Follow the steps below to delete existing survey points and chains by ZONE:

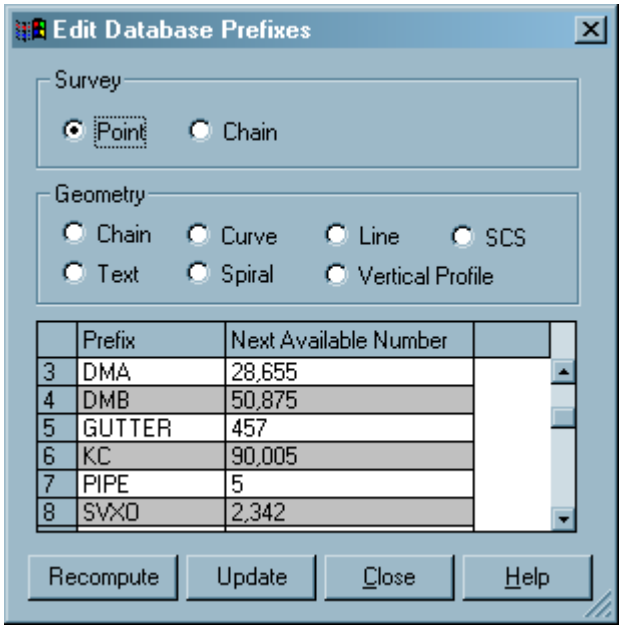
1. On the *GDOT Additional Survey Info Macro* dialog, click the ***TOPO*** check box.
2. Select the zone in the pull-down on the *GDOT Additional Survey Info Macro*.
3. Click ***Delete Survey Points and Chains***.
4. Select the zone for deleting existing points and survey chains, then click ***OK***.

2.3.1.3 Reset the Point and Chain Prefixes

Follow the steps below to reset the point and chain prefixes:

1. From the *GDOT Additional Survey Info Macro* dialog, click ***Reset Point and Chain Prefixes*** and the *Edit Database Prefixes* dialog appears as shown in **Figure 2-5**.

Figure 2-5



2. In the *Survey* section, click ***Point***.
3. Click ***Recompute***, then click ***Update***.

> **Note:** To reset the *SVXO* prefix for both points and chains you MUST MANUALLY KEY IN "1" for the Next Available Number field, then click ***Update***.

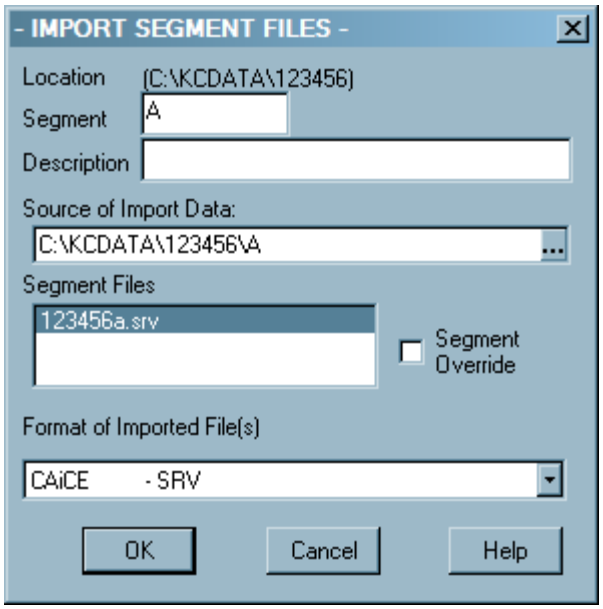
4. In the *Survey* section, click ***Chain***.
5. Click ***Recompute***, then click ***Update***.
6. Click ***Close*** to exit the dialog box.

2.3.1.4 Import the SRV File

Follow the steps below to import the SRV file:

1. Click ***Run Explorer*** to copy the following files:
   - SRV file to appropriate Segment directory
   - DTM file to the Project directory
2. Click ***Project Manager*** to load the *CAiCE Project Management System*, then highlight the segment to which you want to import.
3. Click ***Segment >>Import*** and the *Import Segment Files* dialog appears as shown in **Figure 2-6**.

Figure 2-6



4. Navigate to the project folder from which you are importing the SRV file (*Source of Import Data*), then select the appropriate segment letter to import the SRV file.
5. Click ***OK*** and the selected SRV file appears in the *Segment Files* data field.
6. Highlight the SRV file and ensure that *Format of Imported File(s)* is set to ***CAiCE - SRV***. Click ***OK*** to import the SRV file.
7. Click ***Close*** to close the *CAiCE Project Management System* dialog when the process is complete.

Note: It may be necessary to run the **REBUILD** utility before importing the new SRV file in some cases. It will only need to be run if the user notices a severe slowness in importing the SRV file.

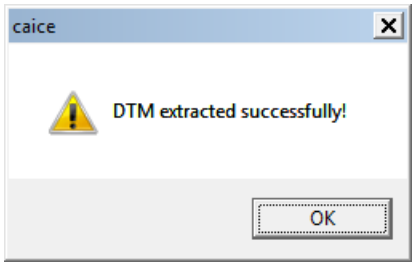
Follow the steps below if you determine that it is necessary to run the **REBUILD** utility:

1. Exit CAiCE.
2. Follow the **REBUILD** directions in ***Section 6*** of this document.
3. Open CAiCE.
4. Refer to ***Section 2.3.1.4*** of this document and repeat ***Steps 2-7***.

2.3.1.5 Update the DTM Surface

Follow the steps below to update the DTM surface:

1. Click ***Delete DTM Dbase*** and the *DTM Database Manager* dialog appears.
2. Select *EXIST* surface and click ***Delete***.
3. Click ***Close*** to close the dialog box.
4. Click ***Extract DTM*** to extract the compressed .**ZIP** file. When the ***Extract DTM*** button is clicked, a brief DOS box may appear listing the extracted files. Then the following message box will be depicted:



Note: The DTM is now provided in a ZIP file format! This Macro will only extract DTM's that are ZIP files. If the provided file is in LZH format, the macro will not work!

5. Click ***Create DTM Dbase*** to display the *DTM Database Manager* dialog and create *EXIST* surface (new DTM data should automatically load into new *EXIST* surface).
6. Click ***Close*** to close the *DTM Database Manager* dialog when the process is complete.

2.3.2 Property Enhancements

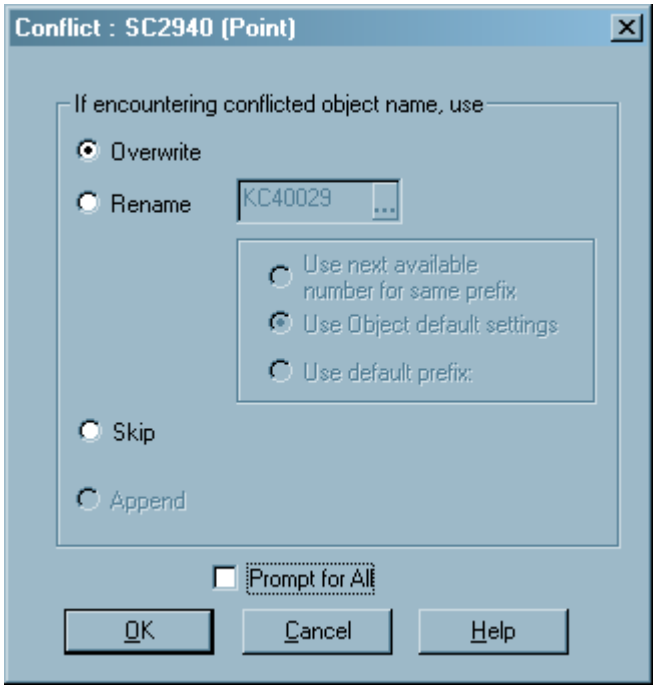
All property enhancements will come to the designer in the form of CAiCE .KCM files. For **property enhancements**, the designer will receive ONE .KCM file from the SDE. This .KCM file includes the original property information AND any property that has been added or revised. The designer will then follow these steps to import the .KCM file into the CAiCE database and update the property information.

Follow the procedure below to incorporate the .KCM file into the project database.

1. Follow ***Steps 1-2*** in ***Section 2.3.1*** "*Topo Enhancements*" to load the *GDOT Additional Survey Info Macro*.
2. Click the ***PROPERTY*** check box, then click ***Database Explorer*** to load the *Database Explorer* dialog.
3. Click ***Read All KCM Data Now***.
4. Select the property .KCM file, then click ***Open*** to read the .KCM file into the project database.
5. Conflicts are expected to occur due to the following conditions:
   - The existing project already contains property data
   - The .KCM file contains some of the same property data

6. The *Conflict* dialog appears (as shown in **Figure 2-7**) when the first conflict occurs.

Figure 2-7



7. Click ***Overwrite***, then click ***Prompt for All*** to remove the checkmark. This allows for:
   - Existing data coming in from the .KCM file to overwrite the existing information
   - Any revised or additional data to be added to the database
8. Click ***OK*** to import enhanced property from the .KCM file.

3

Standard GDOT Files

3. Standard GDOT Files

This section provides an overview of GDOT standard files and locations. Topics include the following:

- Feature Tables
- Other Standard Files
- Location of Standard Files

3.1 Feature Tables

Feature tables have been setup for each scale used for English projects (20, 50, 100) and for Metric projects (250, 500). The naming scheme for the feature tables corresponds to the scale it is to be used for:

Table 3.1

Feature Tables

Feature Table	Geometry Alignment Chains	Scale
GDOT20.FTB	GDOT20.FTM	20 English Scale
GDOT50.FTB	GDOT50.FTM	50 English Scale
GDOT100.FTB	GDOT100.FTM	100 English Scale
GDOT250.FTB	GDOT250.FTM	250 Metric Scale
GDOT500.FTB	GDOT500.FTM	500 Metric Scale

The feature tables contain all standard design and survey feature codes and the level and symbology settings for each feature code correspond to the EDG (Electronic Data Guidelines). The .FTM tables contain plot settings for geometry alignment chains.

The .FTB and .FTM files are attached by executing the command ***Tools*** >> ***Attach*** >>***Feature Table (.FTB)***. The available feature tables are located in the ***CAICE\FTB*** subdirectory.

3.2 Other Standard Files

The following table (**Table 3.2**) lists other standard GDOT files and provides a brief description of each one:

Table 3.2

File	Description	Comments
Cell Files	The two (2) CAiCE cell files are the same exact cell libraries used in Microstation since CAiCE allows a direct translation of a Microstation cell library (.CEL) into a CAiCE cell library (.CCL). The following is a list of the two cell files: **SDE.CCL** – English units cell library **SDEM.CCL** – Metric units cell library	These files reside in the following subdirectory: **CAICE\CELL** These files are attached by the following command: ***Tools >> Attach >> Cell File***
Earthwork Class Table	The earthwork class table has been setup to agree with the fragments that have also been developed so that correct earthwork will be computed. At the current time, the only computations will be the amount of "soil" for unclassified excavation and embankment quantities. Later, pavement layers, etc. may be added. The only surface names that GDOT uses are *EXIST* and *SUB* for the actual earthwork computations. The fragment diagrams reflect the surface names. The earthwork class table is: **GDOTERWK.TBL**	• This file **MUST** be used to obtain the correct earthwork quantities. • This file resides in the following subdirectory: **CAiCE\EWCLASS** • The following command is used to attached the file: ***Tools >> Attach >> Earthwork Class Table***
Command Table	The standard command table to attach is the CAiCE – supplied command table listed below: **DEFAULT.CTB**	This file resides in the following subdirectory: **CAiCE\COMMAND** This file is attached by executing the following command sequence: ***Tools >> Attach >> Command Table***

<table>
<tr><th colspan="3">Table 3.2</th></tr>
<tr><th>File</th><th>Description</th><th>Comments</th></tr>
<tr><td>INI Files</td><td>The standard CAiCE INI files that have been developed for creating projects are listed below:<table><tr><td>CAiCEe.ini</td><td>English</td></tr><tr><td>CAiCEm.ini</td><td>Metric</td></tr></table></td><td>Standard INI files have also been developed for plotting cross-section sheets and profile sheets (see Section 5 – Plan Production)</td></tr>
<tr><td>Fragments</td><td>The standard GDOT Fragment Description files are located on the GDOT Macro Main Menu.</td><td>To access Description files:
Select command Tools>>Custom Tools>>GDOT Macro Menu to display the GDOT Macro Main Menu form.
Click the File tab.
Click Fragment Descriptions to load the Fragment Descriptions macro.</td></tr>
<tr><td>Microstation Seed Files</td><td>When exporting CAiCE elements to Microstation design files the following standard Microstation seed files should be used:<table><tr><td>Plan View Elements</td><td>GDOT2D.dgn (English)
GDOT2Dm.dgn (Metric)</td></tr><tr><td>Profile View Elements</td><td>See Table 5.2</td></tr><tr><td>Cross-Section View Elements</td><td>See Table 5.4</td></tr></table></td><td>Seed files reside in the following directory:

CAiCE/Seed</td></tr>
</table>

3.3 Location of Standard Files

This section discusses the location of standard files. Topics include files that are:

- Internal to GDOT
- External to GDOT

3.3.1 Internal to GDOT

All GDOT standard CAiCE files can be downloaded internally from the GDOT *"R.O.A.D.S."* Homepage.

Follow the Link below to access the Internal GDOT *"R.O.A.D.S."* Homepage*:*

http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/software/Pages/CAiCEStandard.aspx

A file called **CAICEALL.EXE** is available that allows you to update all of the CAiCE standard files with one file. Download the file, execute it and specify the root drive of the CAiCE directory (default is **C:**\) and the files will be updated. This file is updated frequently. It is advisable to check the Web site weekly for the latest revisions. The latest revisions can be viewed by clicking on the "CAiCEALL History (Brief)" link, but a complete history of all revisions to the standard files can be viewed by clicking on the "CAICEALL History (Full)" link on the download page.

3.3.2 External to GDOT

All GDOT standard CAiCE files can be downloaded externally from the GDOT *"R.O.A.D.S."* Homepage.

Follow the Link below to access the Internal GDOT *"R.O.A.D.S."* Homepage*:*

http://www.dot.ga.gov/doingbusiness/PoliciesManuals/roads/software/Pages/CAiCEStandard.aspx

A file called **CAICEALL.EXE** is available that allows you to update all of the CAiCE standard files with one file. Download the file, execute it and specify the root drive of the CAiCE directory (default is **C:**) and the files will be updated. This file is updated frequently. It is advisable to check the Web site weekly for the latest revisions. The latest revisions can be viewed by clicking on the "CAiCEALL History (Brief)" link, but a complete history of all revisions to the standard files can be viewed by clicking on the "CAICEALL History (Full)" link on the download page.

4

Project Archival

4. Project Archival

CAiCE Visual Transportation 10 supports the .ZIP file format for its' archival process. This archival format was introduced with the advent of Visual 2000 (June 2000). CAiCE Visual Transportation 10 still supports the old CAiCE archive file format for projects created prior to Visual 2000 that utilized the .ARC and .DSN archive format.

It is recommended that the designer should make periodic archives of the project dataset to protect against losing data if the database becomes corrupt. The designer should also make an archive before performing any major process on the dataset, such as a **REBUILD** (see ***Section 6***) or a survey data update (see ***Section 2.3***).

This section covers the project archival process, which includes the following topics:

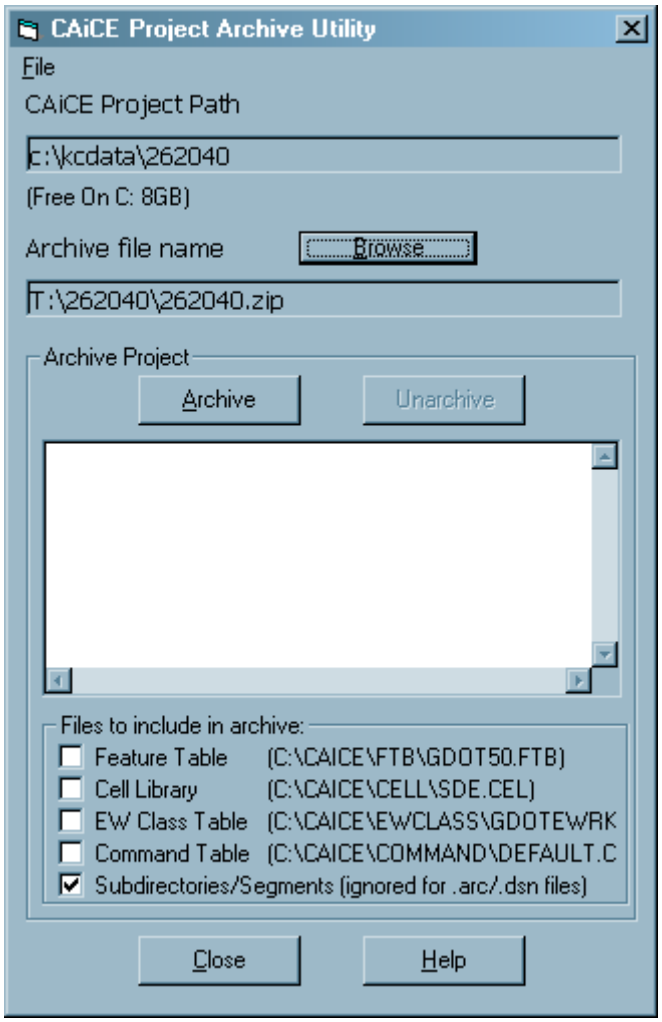
- Opening the CAiCE Project Archive Utility
- Archiving the Project

4.1 Opening the CAiCE Project Archive Utility

Follow the steps below to open the *CAiCE Project Archive Utility*:

1. Select command ***File>>Project Manager*** to display *CAiCE Project Management System* dialog box.
2. Select the project to archive, then click ***Activate Project***.
3. Select command ***Project>>Archive*** and the *CAiCE Project Archive Utility* dialog appears as shown in **Figure 4-1**:

Figure 4-1



4.2 Archiving the Project

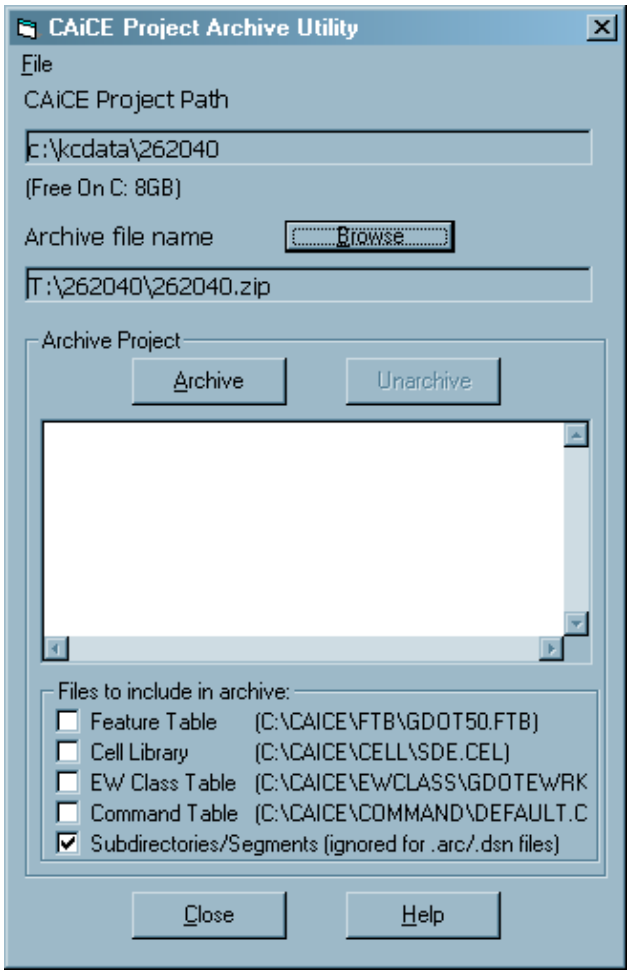
Follow the steps below to archive the current project:

1. Click ***Browse*** to select the archive location (Ex. Design Group Network Share).

Note: If you archive to the project directory, move the archive to a new location BEFORE archiving the project again. If you are archiving to a folder which already contains a CAiCE archive file, the new archive file must have a name which is DIFFERENT than any existing archive files in the folder. The best practice is to change the existing archive file name in *Windows Explorer* BEFORE creating a new archive. For example, a date could be appended to the existing archive file name: original archive file name = 123456.zip; change archive file name to 123456(5-28-03).zip in *Windows Explorer* before creating the new archive.

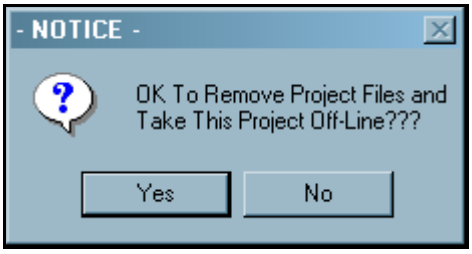
2. In the *Files to include in archive* section of this dialog, check the ***Subdirectories/Segments*** checkbox. **Do not check any of the other boxes!**
3. Click ***Archive*** to archive project.
4. Click ***OK*** when the *Archive Complete* dialog appears.
5. Once the archive is complete, click ***Close*** to exit the *CAiCE Project Archive Utility* (shown in **Figure 4-2**).

Figure 4-2



Select ***No*** when prompted by the dialog (shown in **Figure 4-3)**.

Figure 4-3



6. Click ***Close*** to exit the *CAiCE Project Management System* and return to *CAiCE*.

5

Plan Production

5. Plan Production

This section covers the process for producing required plan sheets from the CAiCE database. Topics include the following:

- Plan Sheet Elements
- Profile Sheets
- Cross-Section Sheets

5.1 Plan Sheet Elements

Plan sheet elements contain the following components:

- Plot Settings
- Plan Sheets
- Construction Limits

5.1.1 Plot Settings

The designer shall manually set the following plan sheet elements:

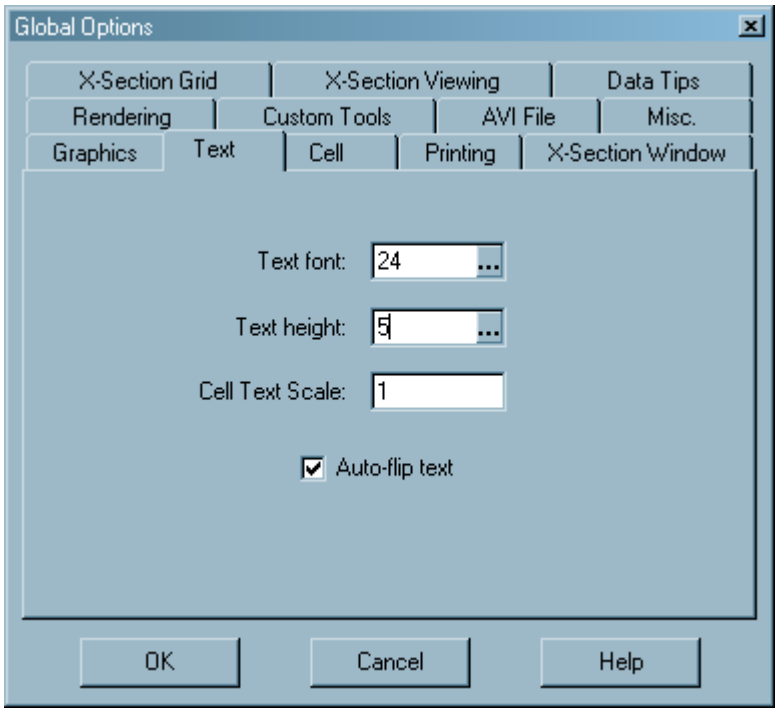
- Font
- Degree Symbol

5.1.1.1 Font

Follow the steps below to set the plan sheet font:

1. Click ***Settings>> Global Options***.
2. Click the ***Text*** tab and the *Global Options* dialog appears as shown in **Figure 5-1**.

Figure 5-1



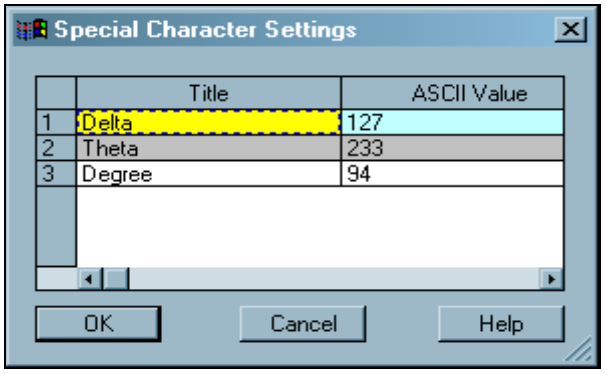
3. Set *Text Font =24*, then click ***OK***.

5.1.1.2 Degree Symbol

Follow the steps below to set the plan degree symbol:

1. Click ***Settings>>Special Characters*** and the *Special Character Settings* dialog appears as shown in **Figure 5-2**.

Figure 5-2



2. Set *Degree ASCII Value* = **94**, then click ***OK***.

Note: The degree symbol will display as a "^" character in CAiCE and change to the correct degree symbol when exported to Microstation.

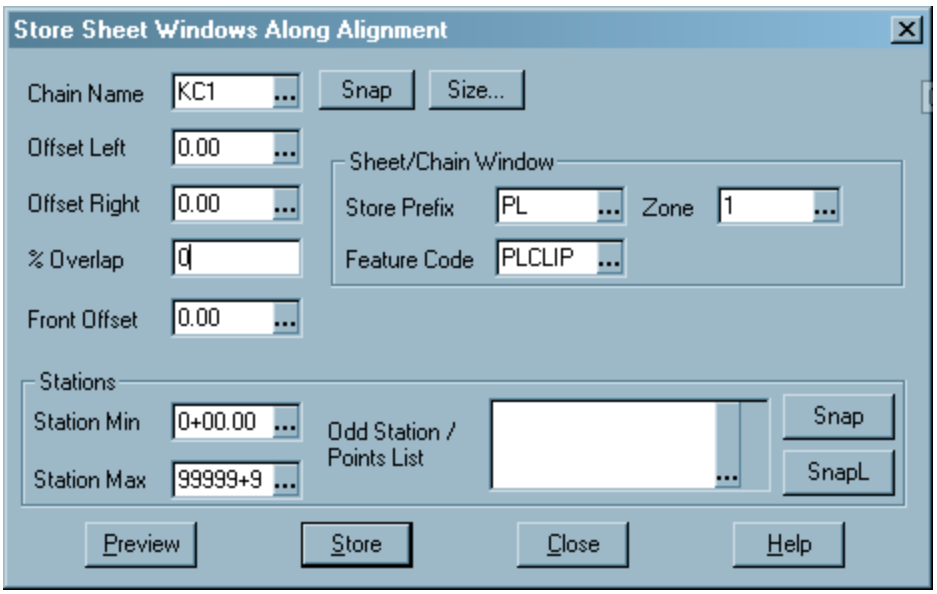
5.1.2 Plan Sheets

Plan sheets are produced and plotted in Microstation. Clip borders for clipping the plan sheets are placed along the alignment in Microstation. CAiCE allows the user to place clip borders in CAiCE.

Follow the steps below for the placement of clip borders before the data is exported to Microstation:

1. Click ***Drafting >>Store Sheet Windows Along Alignment*** and the dialog appears as shown in **Figure 5-3**.

Figure 5-3



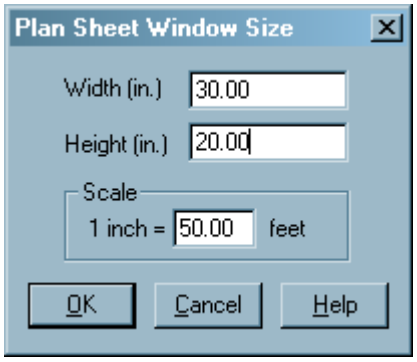
2. Complete the following values:
   - % Overlap
   - Store Prefix
   - Feature Code (PLCLIP is the standard feature code to use)

3. Click ***Store*** (as shown in **Figure 5-4**) to store the objects in the database.

Figure 5-4

4. Click ***Size*** and the *Plan Sheet Window Size* dialog appears (shown in **Figure 5-5**).

Figure 5-5



5. Type the size for the project units as follows:
   - English = 30" X 20"
   - Metric = 780mm X 560mm
6. Type the desired scale.
7. Click ***OK*** to save settings and close the dialog.

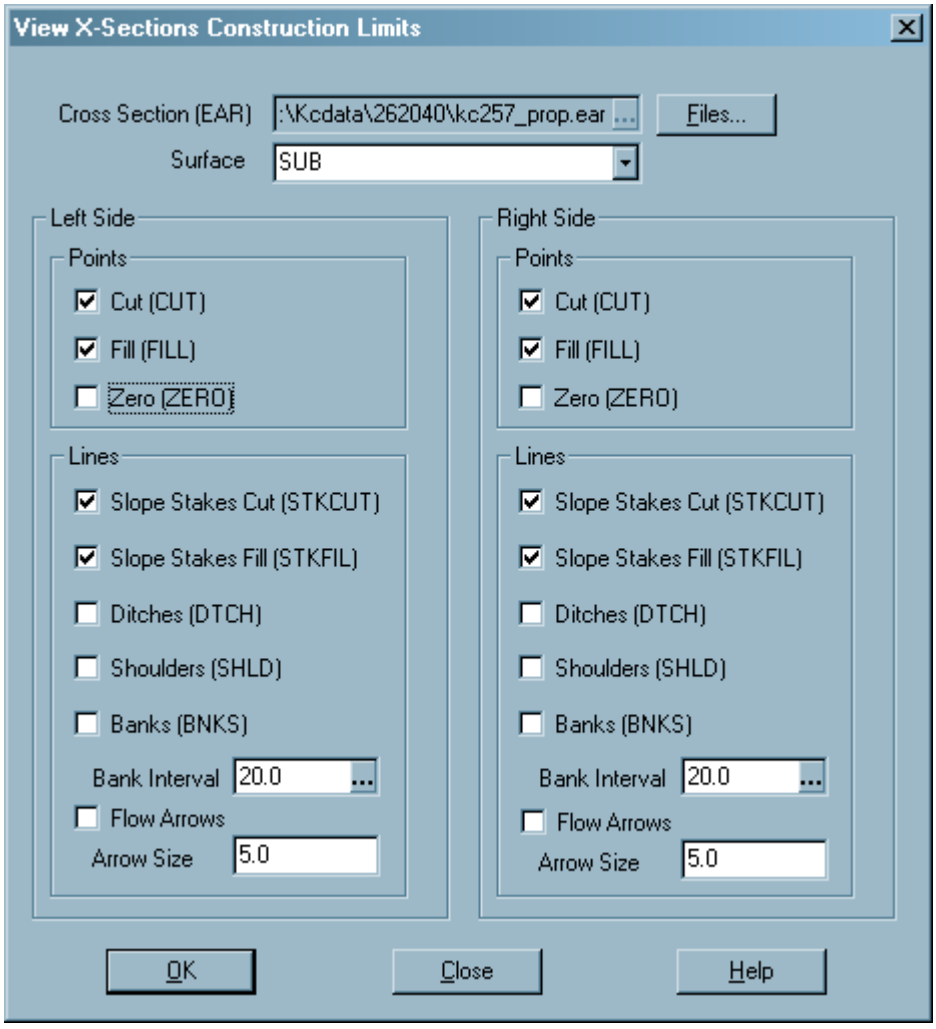
5.1.3 Construction Limits

Once the endarea has been constructed, the construction limits can then be viewed with the "C" and "F" cells.

Follow the steps below to view construction limits:

1. Ensure the correct CAiCE cell file (SDE.CCL or SDEM.CCL) is attached.
2. Ensure the correct feature table (GDOT*.FTB) is attached.
3. Click ***View*** **>>** ***X-Sections*** **>>** ***Surface Limits*** and the dialog appears as shown in **Figure 5-6**.
4. Match the settings shown in the dialog (see **Figure 5-6**).

Figure 5-6



The construction limits will be viewed as a dashed line with the "C" and "F" cells.

Note: The surface "**SUB**" must be the active surface selected in the dialog (see **Figure 5-6**) for the correct construction limits.

5.2 Profile Sheets

The production of standardized profile sheets has been automated by the VBA macro *Plot and Export Profile Sheets*. The user will also utilize the *Plan Production Settings* dialog box (which can be accessed from the macro) to make the correct profile plotting settings.
The following are the steps necessary to produce profile sheets:

- Attach Files
- Run the VBA Macro
- Plans Production Settings

5.2.1 Attach Files

Follow the steps below to attach files needed to produce profile sheets:

1. Click ***Tools*** >> ***Attach*** >> ***Feature Table***.
2. Select the appropriate feature table (see **Table 5.1**), then click ***Open***.
3. Click ***Tools*** >> ***Attach*** >> ***Command Table***.
4. Select ***default.ctb***, then click ***Open***.

5.2.2 Run the VBA Macro

Follow the steps below to run the VBA macro:

1. Click ***Tools*** >> ***Custom Tools*** >> ***GDOT Macro Menu*** and the *GDOT Macro Main Menu* form appears.
2. Click the ***Plotting*** tab.
3. Click ***Plot and Export Profile Sheets*** and the *Plot and Export Profile Sheets* form appears.
4. Click ***Help*** and the on-line .PDF Help description form for the macro appears.

5.2.3 Plans Production Settings

Use the *Plans Production Settings* dialog box (which can be accessed from the GDOT Macro referenced in ***Section 5.2.2***) to make sheet format selections

Follow the steps below to access plans production settings:

1. Click ***Plans Production Settings*** in the macro and the *Plan Production Settings* dialog appears.
2. Select ***PROFILE*** from the *Drawing Type* pull-down list.
3. Select the desired scale from the *Sheet Scale* pull-down list.

Note: Currently, the only option available for *Sheet Size* is ***FULL***

4. Accept all other default settings.
5. Click ***OK*** to close dialog box and activate the correct settings.

Note: When you click ***Export to Microstation*** on the *Plot and Export Profile Sheets* macro form, the applicable seed file (see **Table 5.2**) is used to create the profile .DGN file and the applicable reference grid file (see **Table 5.3**) is copied to the *CAiCE* project directory.

Table 5.1

Feature tables

Horizontal Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Feature Table(.ftb)	gdot20	gdot50	gdot100	gdot250	gdot500	gdot500

Table 5.2

Microstation Seed Files EDG – 2004 Version

Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Single Window	PR1_20EDG	PR1_50EDG	PR1_100EDG	N/A	N/A	N/A
Double Window	PR2_20EDG	PR2_50EDG	PR2_100EDG	N/A	N/A	N/A
Plan/Profile Window	PR3_20EDG	PR3_50EDG	PR3_100EDG	N/A	N/A	N/A
Long Profile Window	PRL_20	PRL_50	PRL_100	N/A	N/A	N/A

Microstation Seed Files EDG – (PRE-2004) Version

Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Single Window	PR1_20	PR1_50	PR1_100	PR1_250	PR1_500	PR1_1000
Double Window	PR2_20	PR2_50	PR2_100	PR2_250	PR2_500	PR2_1000
Plan/Profile Window	PR3_20	PR3_50	PR3_100	PR3_250	PR3_500	PR3_1000
Long Profile Window	PRL_20	PRL_50	PRL_100	PRL_250	PRL_500	PRL_1000

Table 5.3

Microstation Reference Grid Files EDG – 2004 Version

Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Single Window	GR1_EDG20	GR1_EDG	GR1_EDG	N/A	N/A	N/A
Double Window	GR2_EDG20	GR2_EDG	GR2_EDG	N/A	N/A	N/A
Plan/Profile Window	GR3_EDG20	GR3_EDG	GR3_EDG	N/A	N/A	N/A
Long Profile Window	GRL_E20	GRL_E	GRL_E	N/A	N/A	N/A

Microstation Reference Grid Files EDG - (PRE-2004) Version

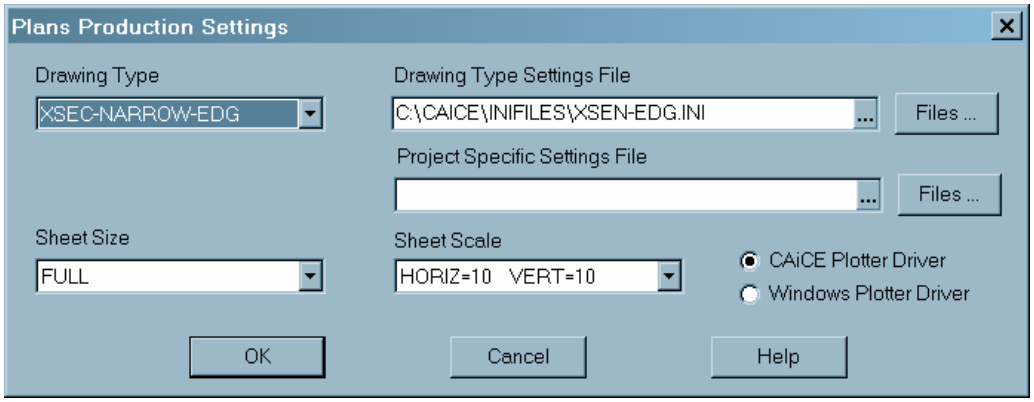
Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Single Window	GR1_E20	GR1_E	GR1_E	GR1_M	GR1_M	GR1_M
Double Window	GR2_E20	GR2_E	GR2_E	GR2_M	GR2_M	GR2_M
Plan/Profile Window	GR3_E20	GR3_E	GR3_E	GR3_M	GR3_M	GR3_M
Long Profile Window	GRL_E20	GRL_E	GRL_E	GRL_M	GRL_M	GRL_M

5.3 Cross-Section Sheets

The production of standardized X-Section sheets is detailed in the steps below. A VBA macro called *Plot and Export X-Section Sheets* (which automates several of the steps listed below) has been created which assists in the "exportation" of X-Sections to MicroStation. This macro is described in more detail in the next section.

The *Plans Production Settings* dialog box (shown in **Figure 5-7**) has been configured to assist in the process of plotting standardized cross sections in CAiCE.

Figure 5-7



This tool allows you to make sheet format selections from drop-down lists to plot English or Metric cross sections. These sheet format selections will include options for plotting cross sections on narrow or wide sheets at a particular scale. This tool also includes the options of choosing the *Drawing Type* to conform to the Border Size of the EDG (Electronic Data Guidelines). The EDG options are EDG - 2004 standards or the EDG – (Pre-2004) standards.

This section covers the following topics:

- Sheet Format Selections
- View Cross Sections
- Export Cross Sections to MicroStation
- Copy the MicroStation Reference Grid File
- VBA macro *Plot and Export X-Section Sheets*

5.3.1 Sheet Format Selections

Follow the steps below to make sheet format selections using the *Plans Production Settings* dialog:

1. Click ***Settings*** **>>** ***Sheet Formats*** **>>** ***Plans Production*** and the *Plans Production Settings* dialog appears as shown in **Figure 5-7**.

2. From the *Drawing Type* drop-down list, select one of the following options:

   - ***XSEC-NARROW-EDG*** (EDG - 2004 Format)
   - ***XSEC-NARROW*** (EDG - Pre-2004 Format)
   - ***XSEC-WIDE-EDG*** (EDG - 2004 Format)
   - ***XSEC-WIDE*** (EDG - Pre-2004 Format)

3. Select the desired scale from *Sheet Scale* drop-down list.

Note: Currently, the only option available for *Sheet Size* is ***FULL***

4. Click ***OK*** to close the dialog and activate the correct settings.

5.3.2 View Cross Sections

The following steps are required for you to view cross sections:

- Clear the Screen
- Attach the Feature Table
- *View X-Section on Sheets* Dialog Settings
- Check Surface Features to View
- View Graphic Extents

5.3.2.1 Clear the Screen

You must first clear the screen graphics before you view the cross sections. Press the **<*F8*>** key to clear the screen graphics.

5.3.2.2 Attach the Feature Table

Follow the steps below to attach the feature table:

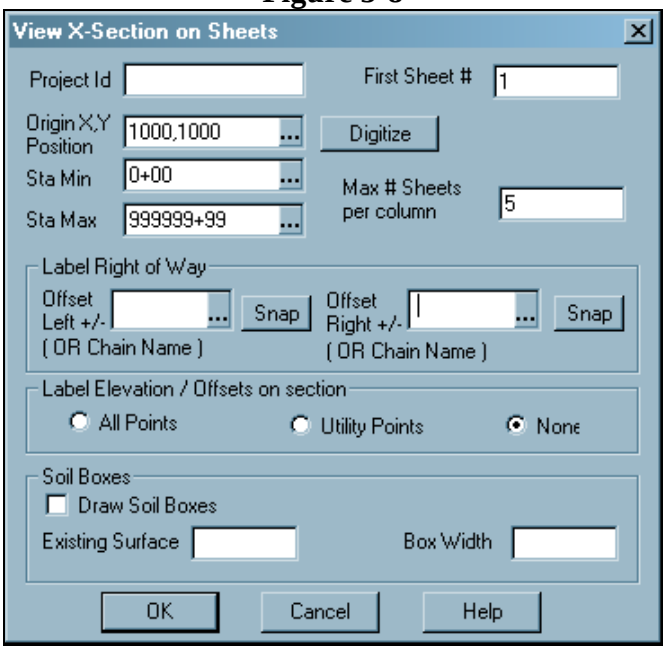
1. Click ***Tools >>Attach>> Feature Table (.FTB)***.
2. Select the appropriate feature table (see **Table 5.4**) and click ***Open***.

5.3.2.3 View X-Section on Sheets Dialog Settings

Follow the steps below to invoke the *View X-Section on Sheets* dialog:

1. Click ***View>>X-Sections>>On X-Section Sheets*** and the *View X-Section on Sheets* dialog appears as shown in **Figure 5-8**.

Figure 5-8



2. Enter values in the dialog fields as follows:

Field	Value
Origin X,Y Position	1000, 1000
Max # Sheets per column	5
Sta Min	Type the value for the first station to be plotted
Sta Max	Type the value for the last station to be plotted

3. Click ***OK*** to close the dialog and save values.

Note: Entire cross section file will be plotted if you use the following default values:

Sta Min = 0+00 and *Sta Max* = 999999+99

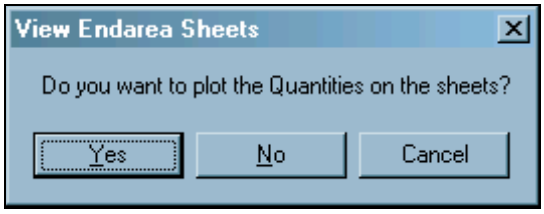
5.3.2.4 Check Surface Features to View

Follow the steps below to check surface features to view:

1. Select the .EAR file to be viewed and then click ***Open***.

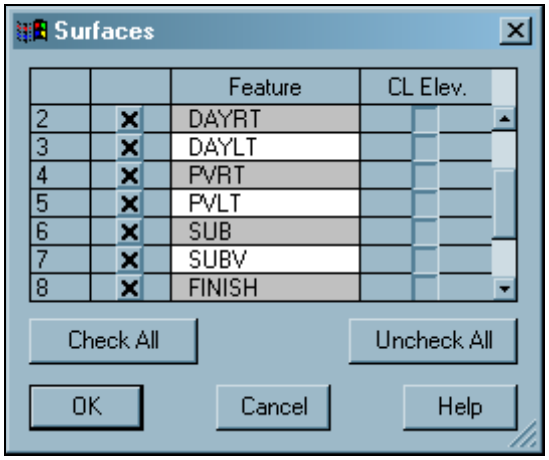
Note: Click ***No*** if prompted by the dialog shown in **Figure 5-9**.

Figure 5-9



2. The *Surfaces* dialog then appears as shown in **Figure 5-10**.

Figure 5-10



3. Ensure that an **X** appears to the left of each surface feature in the *Feature* column.
4. Click ***OK*** to view cross sections on screen.

5.3.2.5 View Graphic Extents

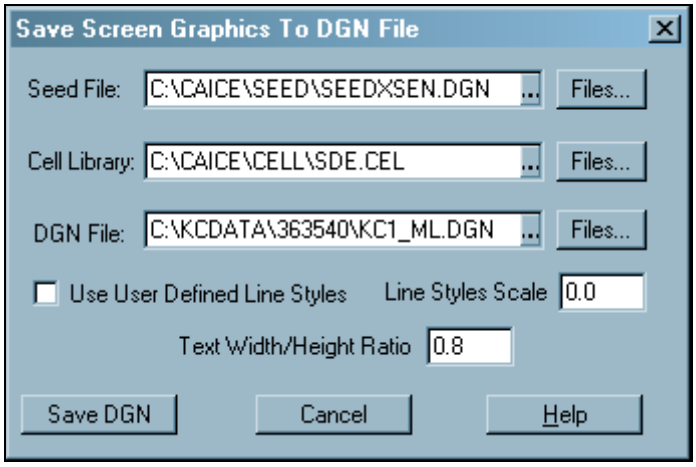
View graphic extents by pressing the <***F6***> key.

5.3.3 Export Cross Sections to MicroStation

Follow the steps below to export cross sections to MicroStation:

1. Click ***File >> Export Translators >> To Intergraph/Microstation >>Screen Graphics to DGN File*** and the *Save Screen Graphics To DGN File* dialog appears as shown in **Figure 5-11**.

Figure 5-11



2. Select the appropriate seed file (see **Table 5.4**) and enter the filename in the *Seed File* field, or browse by clicking the ***Files*** button.
3. Enter a DGN filename in *DGN File* field.

Note: The current version of CAiCE does NOT require the user to enter a *Cell Library* filename for writing out Cross-Section DGN files.

4. Click ***Save DGN***.

5.3.4 Copy the Microstation Reference Grid File

Use Windows Explorer to copy the applicable Microstation reference grid file (see **Table 5.4**) from the *CAiCE\Seed* directory to the project directory.

5.3.5 VBA Macro Plot and Export X-Section Sheets

Use the VBA Macro *Plot and Export X-Section Sheets* to automate the process of generating X-Sections in CAiCE.

Follow the steps below to run the VBA macro:

1. Click ***Tools >> Custom Tools >> GDOT Macro Menu*** and the *GDOT Macro Main Menu* form appears.
2. Click the ***Plotting*** tab.
3. Click ***Plot and Export X-Section Sheets*** and the *Plot and Export X-Section Sheets* form appears.
4. Click ***Help*** and the on-line .PDF Help description form for the macro appears.

The *Plot and Export X-Section Sheets* macro automates the step by step process described in ***Section 5.3.1 – Section 5.3.4***. Follow the steps below to utilize the macro:

1. Select the *EDG Version* of ***EDG -2004*** or ***EDG- (PRE-2004)*** – this option determines the EDG Border Version.
2. Select the *Sheet Type* option of ***Narrow*** or ***Wide*.**
3. Click ***Plans Productions*** in the macro. The *Plan Production Settings* dialog box appears. Select the appropriate *Drawing Type* which corresponds to the *EDG Version* selected.
4. Click ***Plot to CAiCE Screen*.** Follow the prompts for viewing X-sections. (See the previous ***Section 5.3.2 View Cross Sections*** for screen captures and details).
5. Click ***Export to MicroStation*.** The user will enter the desired name for the X-Section DGN file. The macro will then automatically select the correct seed file to use in creating the X-Section design file. The X-Section file along with the correct reference grid file will be exported to the CAiCE Project directory.

Table 5.4
Feature Tables and Microstation Files

Units	ENGLISH		METRIC	
Sheet Layout	Narrow	Wide	Narrow	Wide
Feature Table	Gdot50.ftb	gdot50.ftb	gdot500.ftb	gdot500.ftb
EDG - 2004				
Seed File	SeedXSen-edg.dgn	SeedXSew-edg.dgn	Not Available	Not Available
Ref. Grid File	Kcgrden-edg.dgn	Kcgrdew-edg.dgn	Not Available	Not Available
EDG - (PRE-2004)				
Seed File	SeedXSen.dgn	seedXSew.dgn	seedXSmn.dgn	seedXSmw.dgn
Ref. Grid File	Kcgrden.dgn	Kcgrdew.dgn	Kcgrdmn.dgn	Kcgrdmw.dgn

Note: You have the option to select one of the following cross section sheet formats:

- "EDG-2004" Format cross section sheets **Figure 5-12**
- "EDG-(Pre-2004)" Format cross-section sheets **Figure 5-13**

Figure 5-12: EDG-2004 Format

Cross Section Sheet

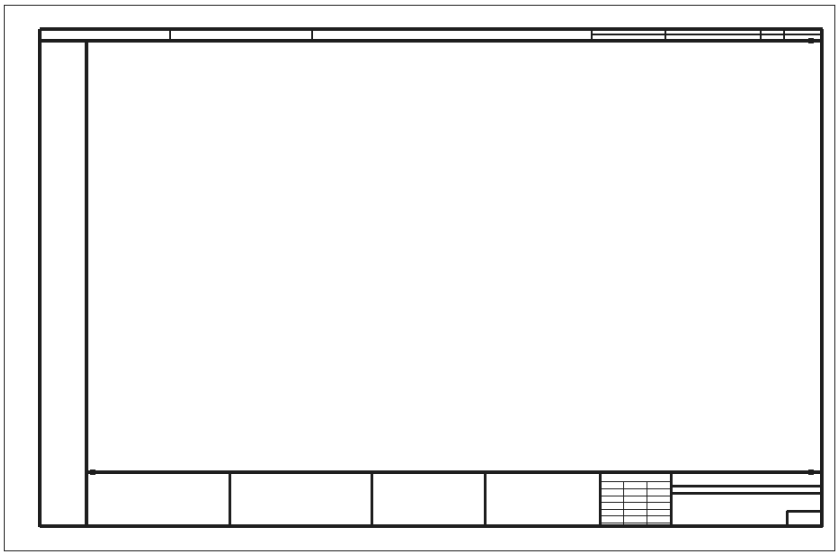
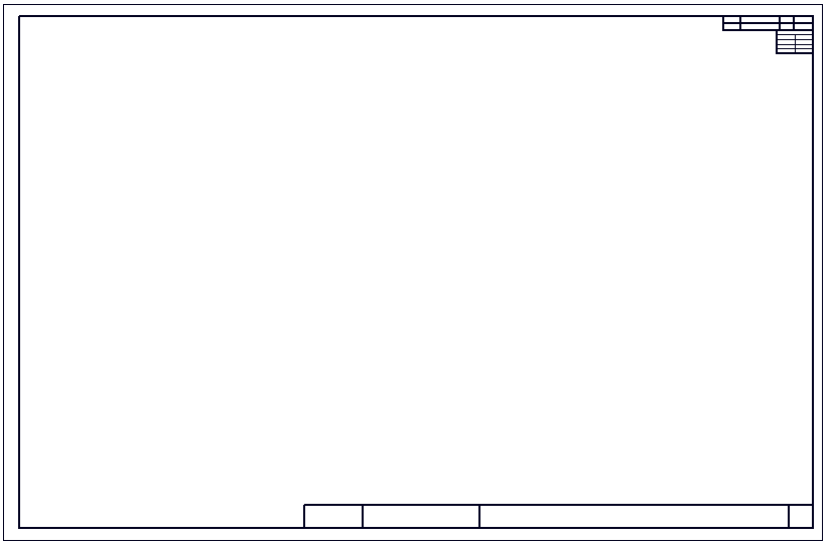


Figure 5-13: EDG - (Pre-2004) Format

Cross Section Sheet



6

Rebuild Utility

6. Rebuild Utility

In some cases, the CAiCE database will need to be "rebuilt." CAiCE provides a utility with the installation that will rebuild the database files. One of the biggest signs of the database needing rebuilding is unusual occurrences in the database, especially in viewing operations. The process is run on three files: the .GO4, .PT4, and the .PS4 files. These files are the main database files containing point, chain, and prefix information. The *Standard GDOT Files* must be downloaded in order to perform this task (see ***Section 3.3***).

Follow the steps below to run the **REBUILD** utility:

1. Exit CAiCE and go to the MS-DOS Prompt.
2. Go to the project directory.
3. Key-in: *REB project (i.e., REB 123456, REB 621450, etc.)*
4. Just press ***Enter*** as prompted until completed.
5. Re-enter CAiCE and things should be more stable.

7

Additional Files to be Produced

7. Additional Files to Be Produced

This section covers methods for compiling additional files to be produced using CAiCE. Topics include the following:

- Write Data Out to a Data Collector
- Generate Deed Files
- Provide Files to Contractors

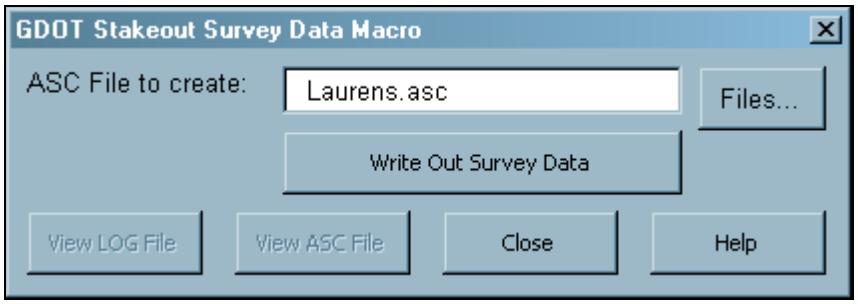
7.1 Write Data Out to a Data Collector

To write out data to upload into a data collector to take back to the field, the *Stakeout Survey Data* macro should be used. This method only writes out data in X and Y format.

Follow the steps below to write out the data:

1. Click ***Tools >> Custom Tools >> GDOT Macro Menu*** and the *GDOT Macro Main Menu* form appears.
2. Click the ***File*** tab.
3. Click ***Stakeout Survey Data*** to load the *Stakeout Survey Data* macro (see **Figure 7-1**).

Figure 7-1



4. In the *ASC File to create:* field, define the name of the .ASC file to create, including the .ASC extension. The full path may also be defined as well. The default location for the saved file is the project directory.
5. Click ***Write Out Survey Data***. The current project database is then read and the points matching the following feature codes are obtained:

PAR, RWE, RWM, RWC, RWU, PCF, POEL
PPC, SNGSCM, SLCM, SLCD, SDCD, SBNCHMK
REQD, PESMT, TESMT, DWESMT, RWRM, CONSTCL, SIDECL

6. For each point, the prefix is stripped off, the point is checked for duplication, and then it is written to the .ASC file. If any points are duplicated, the user receives a warning message.
7. Upon completion, the user is notified by message box and the file viewing buttons are activated.

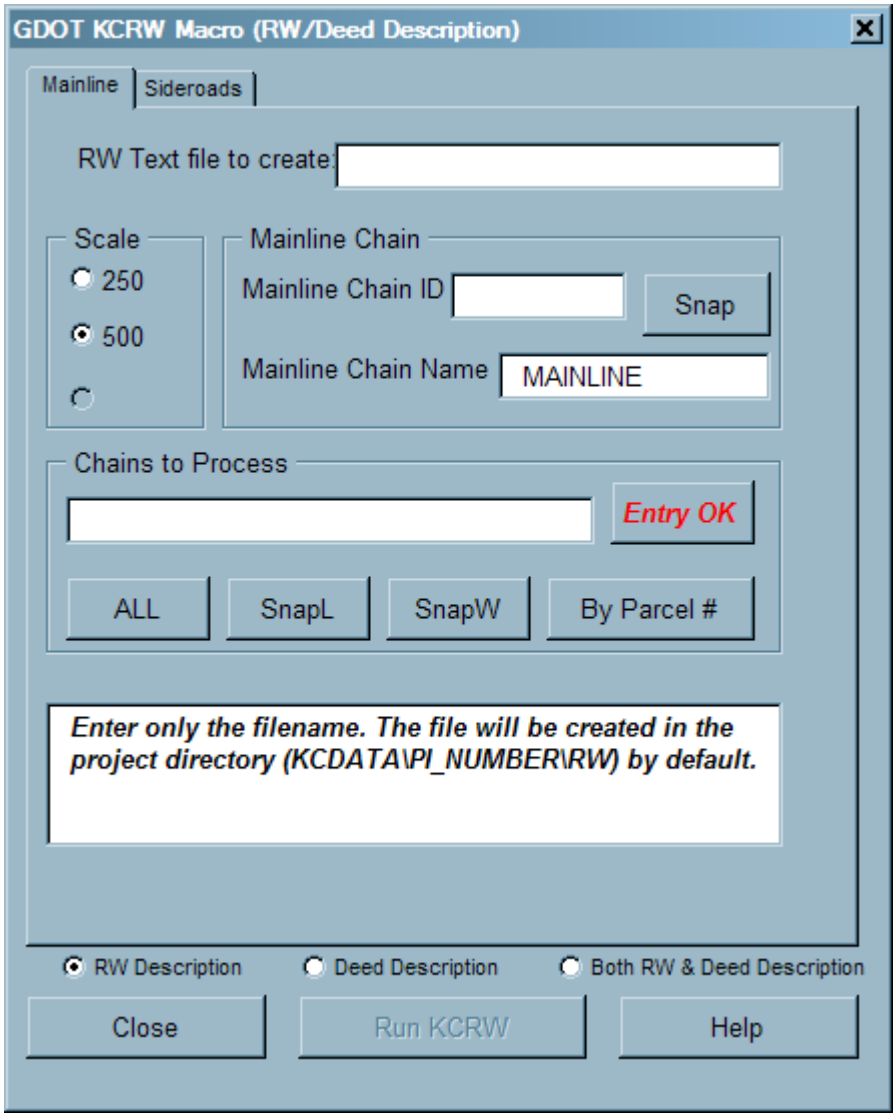
7.2 Generate Deed Files

Once the Right-of-Way plans are approved, the "deed description files" containing the data used for writing deeds may be generated with the *GDOT KCRW* macro.

Follow the steps below to access the *GDOT KCRW* macro:

1. Click ***Tools >> Custom Tools >> GDOT Macro Menu***.
2. Click the ***Utilities*** tab.
3. Click ***KCRW*** and the *GDOT KCRW Macro (RW/Deed Description)* dialog appears as shown in **Figure 7-2**.

Figure 7-2



4. Click ***Help*** to display the on-line help file for the macro.

7.3 Provide Files to Contractors

When a project is complete and let to construction, alignments and other information will be supplied to the Contractor. Four types of data will be provided:

- Alignment File Descriptions
- Alignment Report Files
- Endarea Report Files
- GPS Grading Report Files

NOTE:

The Alignment File Descriptions, Alignment Report Files, Endarea Report Files and the GPS Grading Report Files will be provided Pre-Award of the Contract.

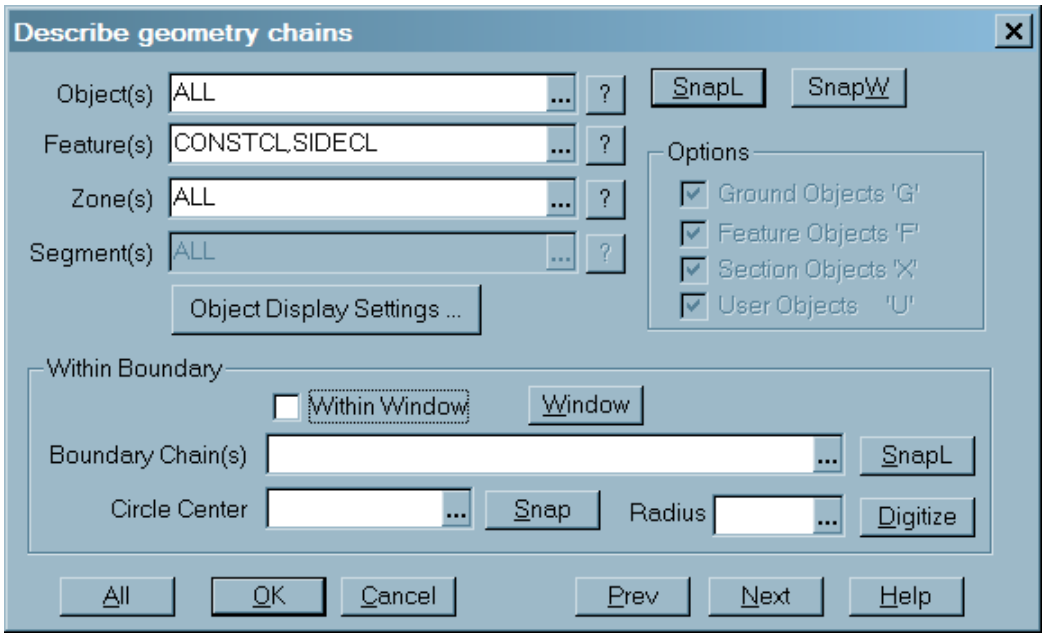
7.3.1 Alignment File Descriptions --- (Pre-Award)

A text file description of the Alignment chains will be used to supply alignments to the Contractor.

Follow the steps below to produce the Alignment text file:

1. Click ***Geometry*** >> ***Geometry Chains***>>***Describe*** and the *Describe Geometry Chains* dialog opens as shown in **Figure 7-3**.

Figure 7-3



2. In the *Feature(s)* field, list the feature code(s) of the alignment chains (Mainline and Sideroad) that are used in the design of the project (see **Figure 7-3**). Then click ***OK***.

Note: For the above procedure to work as documented, all alignments must have been stored in CAiCE using the standard GDOT feature codes for alignments as shown below.

CONSTCL	Construction Centerline
SIDECL	Sideroad Centerline

3. This will open the CAiCE default text editor which displays a description of the selected Mainline and Sideroad alignment chains (see example **Figure 7-4**).

Figure 7-4

```
*******************************************************************************
CHAIN KC1
List          KC10000,C ,KC1,C ,KC2,C ,KC3,10004
Layer         1
Feature       CONSTCL
*******************************************************************************
KC10000 N 1359157.9180 E 1956397.0600 Z -99999.900    STA 10+00.000000
      Distance      1108.94'   Bearing  N 72°54'05.8061798" E
CURVE KC1
      PC N 1359483.9601 E 1957456.9825    STA 21+08.936069
      CC N 1360439.7614 E 1957162.9691
      PI N 1359566.1190 E 1957724.0710    STA 23+88.375400
            TAN 279.44'
            DB N 72°54'05.8061799" E
            DA N 41°40'36.1406373" E
            LChord      Distance       538.26'   Bearing  N 57°17'20.9734086" E
            External Distance 38.31'
            Middle Ordinate 36.90'
            Radius 1000.00'
            DEG 5°43'46.4806247"
            DELTA -31°13'29.6655426"
            LENGTH 544.98'
      PT N 1359774.8346 E 1957909.8777    STA 26+53.913507
CURVE KC1
      Distance       326.88'   Bearing  N 41°40'36.1406372" E

KC10004 N 1362309.7296 E 1960636.9629 Z -99999.900    STA 65+85.224984
*******************************************************************************
CHAIN LENGTH 5585.22'
```

4. Save the alignment text file using the following naming scheme: **PI#AL.txt** (i.e., ***123456AL.txt***).

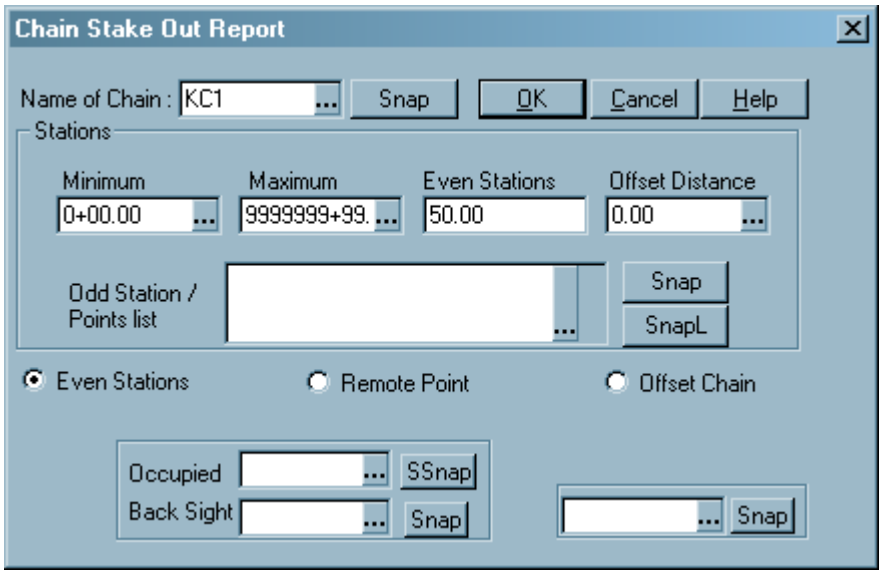
7.3.2 Alignment Report Files --- **(Pre-Award)**

Alignment Report Files will be utilized to supply alignment chain information to the Contractor for use in GPS equipment. This report depicts the alignment information located at 50 Foot Station intervals at a Zero offset. This Report is required for each CONSTCL and SIDECL alignment in the CAiCE Project. (**Please Note:** Each Alignment input must be generated one alignment at a time).

Follow the steps below to produce the Alignment Report File:

1. Click ***Geometry >> Geometry Chains>>Stake Out>>Even Stations*** and the *Chain Stake Out Report* dialog opens as shown in **Figure 7-5**.

Figure 7-5



2. In the *Name of Chain* field, list the name of the Alignment Chain (Mainline and/or Sideroad) that is used in the design of the project (see **Figure 7-5**). Each Alignment must be input separately – one alignment at a time per dialog box. Then make sure that the *Minimum*, *Maximum*, *Even Stations* (50.00) and *Offset Distance* (0.00) correspond to the screen capture depicted above. Then click ***OK***.

Note: For the above procedure to work as documented, all alignments must have been stored in CAiCE using the standard GDOT feature codes for alignments as shown below.

CONSTCL	Construction Centerline
SIDECL	Sideroad Centerline

3. This will open the CAiCE default text editor which displays a report description of the selected Mainline/ Sideroad alignment chain input as the last entry in the text file.

4. The Alignment Chain is "appended" to the end of the PI#.RPT file (Ex. 123456.RPT) report file. The user will need to type the Name of the Roadway next to the Chain Name in the Header of the Report of the Alignment Chain (See example **Figure 7-6**).

Figure 7-6

```
-------------------------------------------------------
------ Even Stations Report   Wed Nov 12 15:46:31 2008 -------
Chain Name :        KC1 - North Avenue
-------------------------------------------------------
Station     Northing    Easting          Offset
-------------------------------------------------------
95+00.00(1)       1088052.63  512785.24   0.00
95+50.00(1)       1088058.27  512834.92   0.00
96+00.00(1)       1088063.90  512884.60   0.00
96+50.00(1)       1088069.53  512934.28   0.00
97+00.00(1)       1088075.17  512983.96   0.00
97+50.00(1)       1088080.80  513033.65   0.00
98+00.00(1)       1088086.43  513083.33   0.00
98+50.00(1)       1088092.07  513133.01   0.00
99+00.00(1)       1088097.70  513182.69   0.00
99+50.00(1)       1088103.33  513232.37   0.00
100+00.00(1)      1088108.97  513282.05   0.00
100+50.00(1)      1088114.60  513331.74   0.00
101+00.00(1)      1088120.23  513381.42   0.00
101+50.00(1)      1088125.87  513431.10   0.00
102+00.00(1)      1088131.50  513480.78   0.00
102+50.00(1)      1088137.13  513530.46   0.00
103+00.00(1)      1088142.77  513580.14   0.00
103+50.00(1)      1088148.40  513629.82   0.00
103+99.68(1)      1088154.00  513679.19   0.00
104+00.00(1)      1088154.03  513679.51   0.00
```

5. Repeat Steps 1-4 for each CONSTCL and SIDECL in the CAiCE Project.

6. When all Alignments are represented in the Report File (appended at the end of the RPT file) and all Road Names have been input in the associated Alignment --- next copy, paste and then save all of these alignment entries into one new txt file using the following naming scheme: **PI#AL_GPS.txt** (i.e., ***123456AL_GPS.txt***).

   Please Note: DO NOT send the original PI#.RPT file (which contains all of the CAiCE Project Description Information)… Please submit only the Alignment Report Files appended at the bottom of the PI#.RPT report. The process for this is described in **Step 6**.

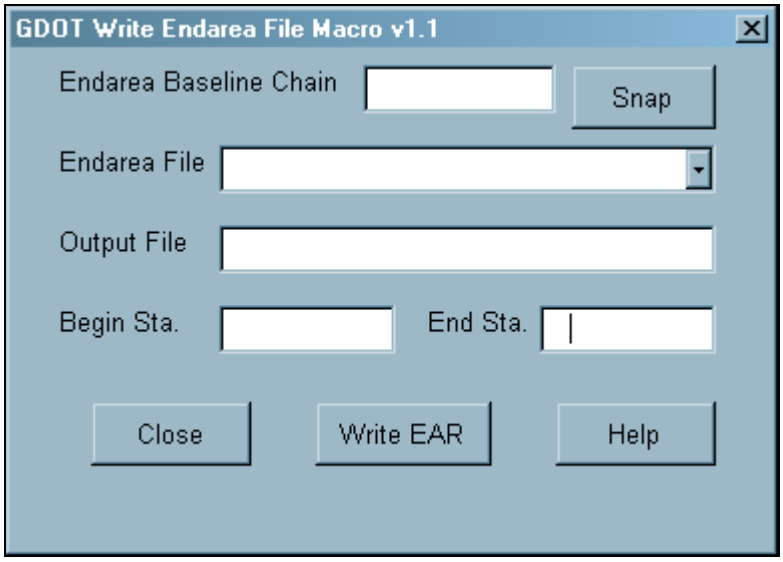
7.3.3 Endarea Report Files --- (Pre-Award)

Endarea Report Files will be used to supply endarea information to the Contractor. To generate the report files, use the *GDOT Write Endarea File Macro* which is part of the standard **CAICEALL.EXE** download. (See ***Section 3.2*** on ***Page 3-2*** for location of Standard Files). This macro reads a specified CAiCE Endarea (.EAR) file and produces a GDOT Standard Format Output file. The standard format is documented in the macro help description file.

Follow the steps below to run the *GDOT Write Endarea File Macro*:

1. Click ***Tools*** >> ***Custom Tools*** >> ***GDOT Macro Menu*** and the *GDOT Macro Main Menu* form appears.
2. Click the ***File*** tab.
3. Click ***Write Endarea File*** to load the *GDOT Write Endarea File Macro* as shown in **Figure 7-7**.

Figure 7-7



4. Click ***Help*** to display the on-line .PDF help description form for the macro.
5. The *GDOT Write Endarea File Macro* writes out a CAiCE Endarea file to a standard GDOT ASCII text file for distribution to Contractors when a project is let to Construction.

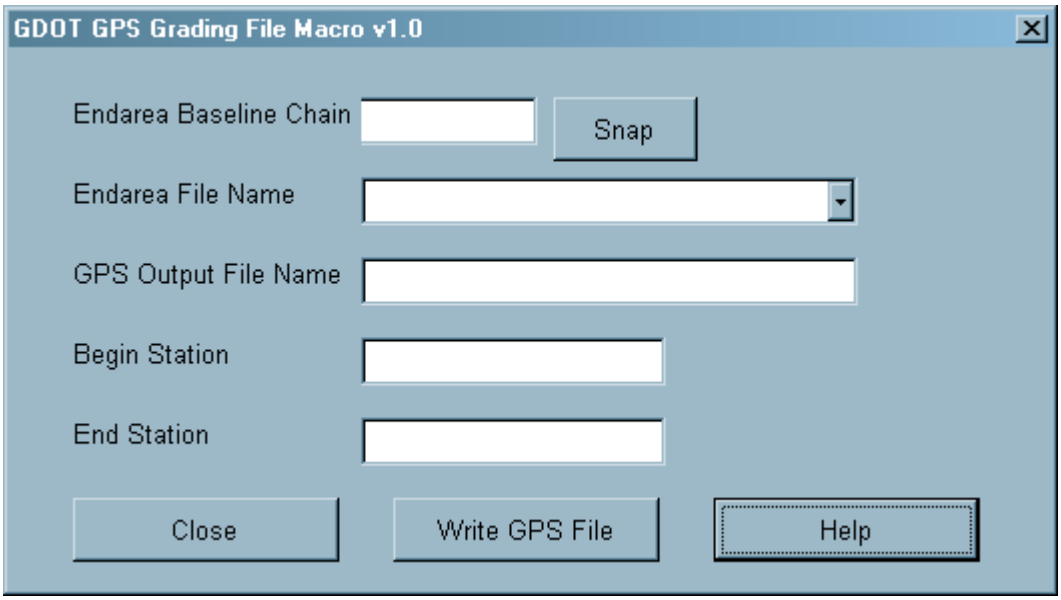
7.3.4 GPS Grading Report Files --- (Pre-Award)

GPS Grading Report Files will be used to supply the proposed "Finished Surface" information to the Contractor. To generate the report files, use the *GDOT GPS Grading File Macro* which is part of the standard **CAICEALL.EXE** download. (See ***Section 3.2*** on ***Page 3-2*** for location of Standard Files). This macro reads a specified CAiCE Endarea (.EAR) file and produces a GDOT Standard Format Output file (.END file format) of the "Finished Surface". The standard format is documented in the macro help description file.

Follow the steps below to run the *GDOT GPS Grading File Macro*:

1. Click ***Tools*** >> ***Custom Tools*** >> ***GDOT Macro Menu*** and the *GDOT Macro Main Menu* form appears.
2. Click the ***File*** tab.
3. Click ***GPS Grading File*** to load the *GDOT GPS Grading File Macro* as shown in **Figure 7-8**.

Figure 7-8



4. Click ***Help*** to display the on-line .PDF help description form for the macro.
5. The *GDOT GPS Grading File Macro* writes out the CAiCE Endarea file(s) proposed "Finished Surface" to a standard GDOT ASCII text file (.END file format) for distribution to Contractors before the award of the contract.
6. Save the GPS Grading Report File using the following naming scheme: **Alignment Chain Name_gps.END** (i.e., ***KC2_gps.End***). Use this naming scheme in order to differentiate between the GPS Files and the Earthwork Endarea Files.

8

Converting Projects from CEAL to CAiCE

8. Converting Projects from CEAL to CAiCE

Two situations will occur when converting CEAL Project files from CEAL to CAiCE. These scenarios are as follows:

- The Survey Data will be Converted from CEAL to CAiCE
- The Design Data will be Converted from CEAL to CAiCE

8.1 The Survey Data will be Converted from CEAL to CAiCE

ALL conversion of Survey Data from CEAL to CAiCE will be performed by the Office of Environment/Location. The designer should contact the *Engineering Management Group Operation Manager* of the Office of Environment/Location for details.

Upon completion of the Survey Data conversion process, the Office of Environment/Location will submit to the designer a CAiCE archive (.ZIP) file of the project. The designer will then proceed to the following steps.

Note: The designer should ***never*** perform any Survey Data conversion.

8.2 The DESIGN DATA will be Converted from CEAL to CAiCE

The designer will have a CEAL INT file. The INT file will contain both the survey data the SDE provided, as well as design data the designer has stored. The designer is concerned only with the **design data** in the INT file.

The steps to convert the design data from CEAL to CAiCE are as follows:

- Write Interface File
- Create the Project in CAiCE
- Unarchive the CAiCE Archive File
- Import the INT File

8.2.1 Write Interface File

The designer will perform a ***WRITE Interface*** command from the most current CEAL project database. This ***WRITE Interface*** will be to write out the design data to an INT file. This resulting INT file will then be ***imported*** later into the CAiCE project database submitted by the Office of Environment/Location.

Follow the steps below to write the interface file:
Use the ***WRITE Interface fname*** command in CEAL to write out the design data to an INT file. This can be accomplished by:

- Using the standard class codes *(CLASS REQD, etc.)*
  Example: *Write Int fname CLASS REQD, etc.*
- Using the prefix on all design data *(SEL A*, etc.).*
  Example: *Write Int fname SEL A000 to A999, R000 to R999*

8.2.2 Create the Project in CAiCE.

Please see ***Section 2.2.1*** on ***Page 2-4*** of this document for details on how to create a CAiCE Project and set *System Settings*.

8.2.3 Unarchive the CAiCE Archive File

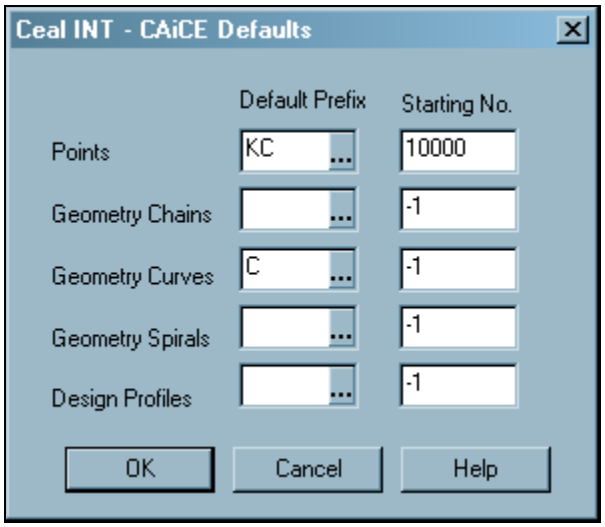
Unarchive the project archive file received from the Office of Environment/Location into the CAiCE project created in the previous step.

8.2.4 Import the INT file

Follow the steps below to import the INT file containing the design data into the CAiCE project database:

1. Click ***File >> Import Translators >> From CEAL >> Geometry Interface File (INT)*** and the *Ceal INT – CAiCE Defaults* dialog appears as shown in **Figure 8-1**.

Figure 8-1



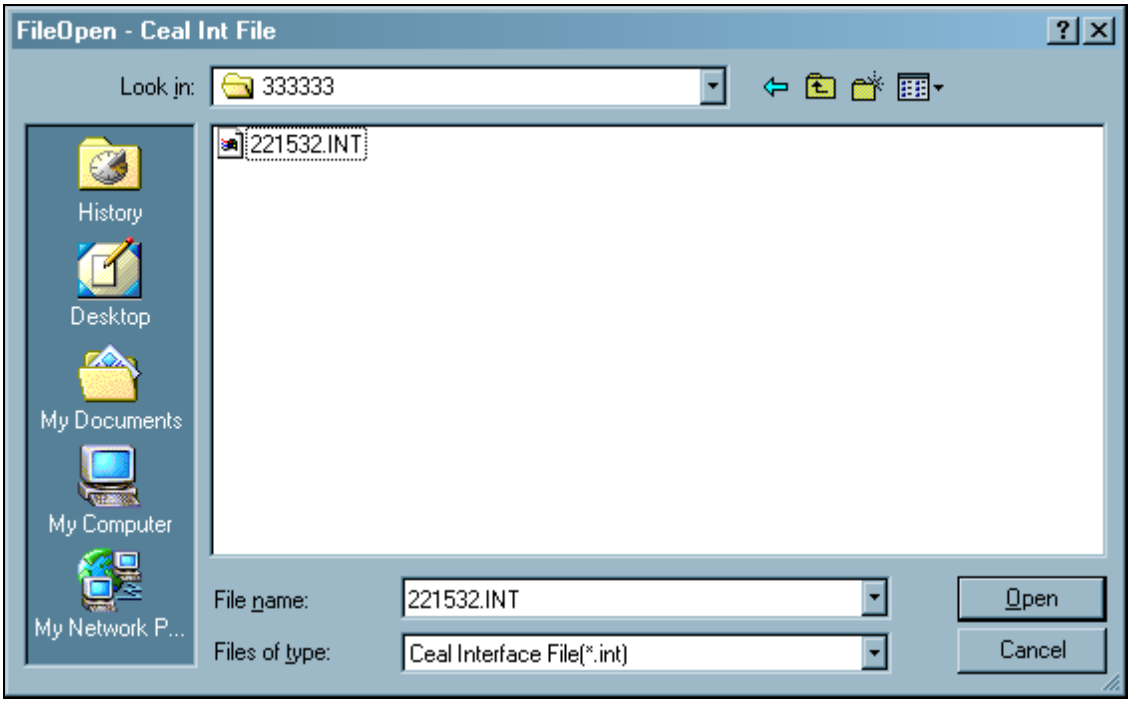
2. Enter settings as shown in the following table:

Field	*Default Prefix*	*Starting No.*
Points	KC	10000
Geometry Curves	C	-1

3. Leave all other *Default Prefixes* blank.
4. Leave all other *Starting No.'s* set to the defaults (see **Figure 8-1**).
5. Click ***OK***.

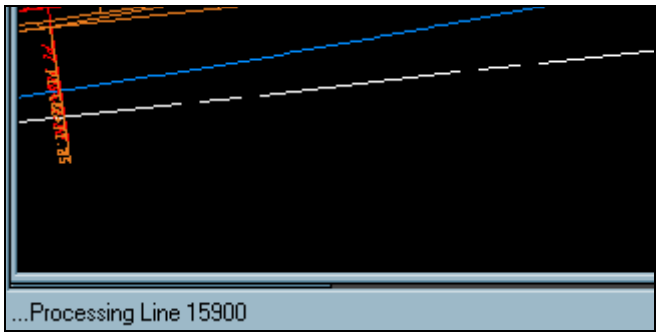
6. Browse to the *CEAL INT* file. Select the file, then click ***Open*** to import the file.

Figure 8-2



7. This process may take a while depending on the amount of data imported. The status of the importation process can be followed by looking at the bottom left hand corner of the CAiCE Status Bar. This status bar will display …*Processing Line #####*.
8. The importation process is completed when the processing "countdown" stops as shown in **Figure 8-3**.

Figure 8-3



Appendix

A

Quick Reference Guide to Design Tables

APPENDIX A QUICK REFERENCE GUIDE TO DESIGN TABLES

Table 1.1

Design Object Names

Object	Prefix	Starting Number
Point*	KC	10000 (Max. = 99999)
Curve	KC	1
Spiral	KC	1
Geometry Chain (Alignment)	KC	1
Geometry Chain (Right of Way)	KC	User-defined**
Geometry Chain (Easement)	KC	User-defined**
Geometry Chain (Edge of pavement, travel lane or paved shoulder)	EP	1
Geometry Chain (Shoulder hinge point)	SH	1
Geometry Chain (Ditch CL)	DC	1
Design Profile	KC	1
Other	User-defined	User-defined

*All design points must be named with a prefix of KC and begin with the number 10000 (e.g., first design point = KC10000).

It is ***suggested* that a block of chain numbers be set aside for Right-of-Way and Easement chains before beginning to store these chains (e.g., R/W chain numbers = 101-300; Easement chain numbers = 301-500).

Table 1.2			
Design Object Feature Codes and Descriptions			
Object Type	**Applies to Following Objects**	**Feature Code**	**Descriptions**
Alignments			
Mainline CL	Points, Curves, Chains	CONSTCL	Roadname (Chains only)
Sideroad CL	Points, Curves, Chains	SIDECL	Roadname (Chains only)
Detour CL	Points, Curves, Chains	DETCL	Roadname (Chains only)
Rights of Way			
R/W Monument	Points	RWRM	
R/W	Points, Curves, Chains	REQD	Parcel Number (Chains only)*
Perm. Cnst. Esmt.	Points, Curves, Chains	PESMT	Parcel Number (Chains only)*
Temp. Cnst. Esmt.	Points, Curves, Chains	TESMT	Parcel Number (Chains only)*
Driveway Esmt.	Points, Curves, Chains	DWESMT**	Parcel Number (Chains only)*
Miscellaneous			
Edge of Pavement	Points, Curves, Chains	EOP	
Edge of Paved Shoulder	Points, Curves, Chains	EPSHLDR	
Edge of Shoulder (Shoulder hinge point)	Points, Curves, Chains	SHLDR	
Ditch CL	Chains	DITCHCL	
Other	Points, Curves, Chains	User-Defined	

*Format of parcel number shall be “Parcel ###”.

**The feature code DWESMT will be used for all other types of easement and be noted as such on plans by the engineer.

Table 1.3		
Example of Standard Design Object Names and File Names		
Design Object/File	**Name**	**Additional Information**
Horizontal Alignment	KC1	Associated Alignment
Terrain Profile	KC1.pf$	Corresponds with associated alignment.
Design Profile	KC1	Corresponds with associated alignment.
Existing X-Section File	KC1_exist.ear	Corresponds with associated alignment.
Proposed X-Section File	KC1_prop.ear	Alternate proposed X-Section files may be annotated at the end of the standard name. *Example*: KC1_prop2.ear.
X-Section Design File	KC1_prop.vrs	These files will have the same name as the corresponding X-Section (*.ear) file.
Edge of Pavement Chains	EP1	Number Edge of Pavement chains from left to right.
Ditch Chains	DC1	Number ditch chains from left to right.
Ditch Profile	DC1	Ditch Profile name will be the same as the corresponding ditch chain name.

Table 1.4					
Right of Way Point Text Size					
	English			**Metric**	
Scale	**20**	**50**	**100**	**250**	**500**
Text Size	3.0	7.5	15.0	1.0	2.0

Table 2.1

Zone	Source	Attribute	Description
1 – 9	G.O. and District Design Offices	2D – "F"	Design data
10 – 49	Aerial mapping or field	3D – "G"	Original segment data
50	District Field Survey/SDE	2D – "F"	Property (Geometry Chains)
51	District Field Survey/SDE	3D – "G"	3D Topographic data
52	District Field Survey/SDE	2D/3D –"F"	2D/3D Planimetric data

Table 2.2

Segment	Zone
A	10
B	11
C	12
D	13
E	14
F	15
G	16
H	17
I	18
J	19
K	20
L	21
M	22

Segment	Zone
N	23
O	24
P	25
Q	26
R	27
S	28
T	29
U	30
V	31
W	32
X	33
Y	34
Z	35

Table 3.1
Feature Tables

Feature Table	Geometry Alignment Chains	Scale
GDOT20.FTB	GDOT20.FTM	20 English Scale
GDOT50.FTB	GDOT50.FTM	50 English Scale
GDOT100.FTB	GDOT100.FTM	100 English Scale
GDOT250.FTB	GDOT250.FTM	250 Metric Scale
GDOT500.FTB	GDOT500.FTM	500 Metric Scale

<table>
<tr><th colspan="3">Table 3.2</th></tr>
<tr><th>File</th><th>Description</th><th>Comments</th></tr>
<tr><td>Cell Files</td><td>The two (2) CAiCE cell files are the same exact cell libraries used in Microstation since CAiCE allows a direct translation of a Microstation cell library (.CEL) into a CAiCE cell library (.CCL).

The following is a list of the two cell files:
<table><tr><td>SDE.CCL</td><td>English units cell library</td></tr><tr><td>SDEM.CCL</td><td>Metric units cell library</td></tr></table></td><td>These files reside in the following subdirectory:

CAICE\CELL

These files are attached by the following command:

Tools >> Attach >> Cell File</td></tr>
<tr><td>Earthwork Class Table</td><td>The earthwork class table has been setup to agree with the fragments that have also been developed so that correct earthwork will be computed. At the current time, the only computations will be the amount of “soil” for unclassified excavation and embankment quantities. Later, pavement layers, etc. may be added. The only surface names that GDOT uses are EXIST and SUB for the actual earthwork computations. The fragment diagrams reflect the surface names. The earthwork class table is:

GDOTERWK.TBL</td><td>• This file <u>MUST</u> be used to obtain the correct earthwork quantities.
• This file resides in the following subdirectory:

CAiCE\EWCLASS

• The following command is used to attached the file:

Tools >> Attach >> Earthwork Class Table</td></tr>
<tr><td>Command Table</td><td>The standard command table to attach is the CAiCE – supplied command table listed below:

DEFAULT.CTB</td><td>This file resides in the following subdirectory:

CAiCE\COMMAND

This file is attached by executing the following command sequence:

Tools >> Attach >> Command Table</td></tr>
<tr><td>INI Files</td><td>The standard CAiCE INI files that have been developed for creating projects are listed below:
<table><tr><td>CAiCEe.ini</td><td>English</td></tr><tr><td>CAiCEm.ini</td><td>Metric</td></tr></table></td><td>Standard INI files have also been developed for plotting cross-section sheets and profile sheets (see Section 5 – Plan Production)</td></tr>
</table>

<table>
<tr><th colspan="3">Table 3.2</th></tr>
<tr><th>File</th><th>Description</th><th>Comments</th></tr>
<tr><td>Fragments</td><td>The standard GDOT Fragment Description files are located on the GDOT Macro Main Menu.</td><td>To access Description files:
Select command Tools>>Custom Tools>>GDOT Macro Menu to display the GDOT Macro Main Menu form.
Click the File tab.
Click Fragment Descriptions to load the Fragment Descriptions macro.</td></tr>
<tr><td>Microstation Seed Files</td><td>When exporting CAiCE elements to Microstation design files the following standard Microstation seed files should be used:<table><tr><td>Plan View Elements</td><td>GDOT2D.dgn (English)
GDOT2Dm.dgn (Metric)</td></tr><tr><td>Profile View Elements</td><td>See Table 5.2</td></tr><tr><td>Cross-Section View Elements</td><td>See Table 5.4</td></tr></table></td><td>Seed files reside in the following directory:

CAiCE/Seed</td></tr>
</table>

Table 5.1						
Feature tables						
Horizontal Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Feature Table(.ftb)	gdot20	gdot50	gdot100	gdot250	gdot500	gdot500

Table 5.2						
Microstation Seed Files EDG – 2004 Version						
Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Single Window	PR1_20EDG	PR1_50EDG	PR1_100EDG	N/A	N/A	N/A
Double Window	PR2_20EDG	PR2_50EDG	PR2_100EDG	N/A	N/A	N/A
Plan/Profile Window	PR3_20EDG	PR3_50EDG	PR3_100EDG	N/A	N/A	N/A
Long Profile Window	PRL_20	PRL_50	PRL_100	N/A	N/A	N/A

Microstation Seed Files EDG – (PRE-2004) Version

Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Single Window	PR1_20	PR1_50	PR1_100	PR1_250	PR1_500	PR1_1000
Double Window	PR2_20	PR2_50	PR2_100	PR2_250	PR2_500	PR2_1000
Plan/Profile Window	PR3_20	PR3_50	PR3_100	PR3_250	PR3_500	PR3_1000
Long Profile Window	PRL_20	PRL_50	PRL_100	PRL_250	PRL_500	PRL_1000

Table 5.3						
Microstation Reference Grid Files EDG – 2004 Version						
Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Single Window	GR1_EDG20	GR1_EDG	GR1_EDG	N/A	N/A	N/A
Double Window	GR2_EDG20	GR2_EDG	GR2_EDG	N/A	N/A	N/A
Plan/Profile Window	GR3_EDG20	GR3_EDG	GR3_EDG	N/A	N/A	N/A
Long Profile Window	GRL_E20	GRL_E	GRL_E	N/A	N/A	N/A

Microstation Reference Grid Files EDG - (PRE-2004) Version

Scale	**20**	**50**	**100**	**250**	**500**	**1000**
Single Window	GR1_E20	GR1_E	GR1_E	GR1_M	GR1_M	GR1_M
Double Window	GR2_E20	GR2_E	GR2_E	GR2_M	GR2_M	GR2_M
Plan/Profile Window	GR3_E20	GR3_E	GR3_E	GR3_M	GR3_M	GR3_M
Long Profile Window	GRL_E20	GRL_E	GRL_E	GRL_M	GRL_M	GRL_M

TABLE 5.4 Feature Tables and Microstation Files				
Units	**ENGLISH**		**METRIC**	
Sheet Layout	Narrow	Wide	Narrow	Wide
Feature Table	Gdot50.ftb	gdot50.ftb	gdot500.ftb	gdot500.ftb
EDG - 2004				
Seed File	SeedXSen-edg.dgn	SeedXSew-edg.dgn	Not Available	Not Available
Ref. Grid File	Kcgrden-edg.dgn	Kcgrdew-edg.dgn	Not Available	Not Available
EDG - (PRE-2004)				
Seed File	SeedXSen.dgn	seedXSew.dgn	seedXSmn.dgn	seedXSmw.dgn
Ref. Grid File	Kcgrden.dgn	Kcgrdew.dgn	Kcgrdmn.dgn	Kcgrdmw.dgn

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