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# Chapter 12 - DRAINAGE STANDARDS

CADD Production Criteria Handbook

## 12.1 GENERAL

The purpose of this chapter is to provide Computer Aided Design and Drafting (CADD) standards for Florida Department of Transportation (FDOT) projects generated by Roadway Design and Drainage Design. (See also Chapter 13 for Roadway Design)

## 12.2 STANDARD FILE NAMES

FDOT utilizes standard naming conventions for all of its files. Some of the automation implemented in various tools provided by FDOT depends on naming conventions being met. More importantly, the naming convention confers information to the downstream customer of the data.

Standard file names should follow this format: ***AAAABB##.ext***

Where **AAAA** = abbreviated file description, **BB** = Discipline Denotation, ## =*Sequence number.*

***Note*** *Please see Chapter 5 of this document for more information.*

The following table defines the Drainage File Name Standards in regards to FDOT Projects with the understanding that each file name will include sequential numbering. For other standard file names refer to the Roadway Chapter, Chapter 13. Since most Drainage files are shared with Roadway, the two groups must coordinate the creation and ownership of these files. Standard Model names are also provided, however, it is not mandatory to use more than the default model, with the exception of those listed in this table.

***Note*** *See Chapter 4 for the symbology standards for each applicable Standard Rule.*

| File Type | Critical File | File Name | Model Name | File Description | Standard Rule | MicroStation Seed File | Civil 3D Template File |
|---|---|---|---|---|---|---|---|
| Borders & Sheets | | BDDMRD* | default | Border Sheet Reference File for Drainage Map Sheet | planrd | fdotseed2d.dgn | |
| Borders & Sheets | | LDPRRD* | default | Lateral Ditch Plan / Profile Sheet | plprrd | fdotseed2d.dgn | plprrd.dwt |
| Cross Sections | X | DRXSRD* | rdxsrd | Drainage Structure Cross Sections | drxsrd | fdotseedxs.dgn | drxsrd.dwt |
| | | | Pattrd | Drainage Structure Pattern Lines | | | |
| | | | Xsshrd | Drainage Structure Shapes | | | |
| | | | Rdxsrd_shg | Drainage Structure Cross Section Sheets | | | |
| Cross Sections | X | LDXSRD* | Rdxsrd | Lateral Ditch XSections,Pattern Line & Shapes | rdxsrd | fdotseedxs.dgn | rdxsrd.dwt |
| | | | Pattrd | Lateral Ditch Pattern Lines | | | |
| | | | Xsshrd | Lateral Ditch Shapes | | | |
| | | | Rdxsrd_shg | Lateral Ditch Cross Section Sheets | | | |
| Cross Sections | X | PDXSRD* | rdxsrd | Pond Cross Sections | pdxsrd | fdotseedxs.dgn | pdxsrd.dwt |
| | | | Pattrd | Pond Pattern Lines | | | |
| | | | Xsshrd | Pond Shapes | | | |
| | | | Rdxsrd_shg | Pond Cross Section Sheets | | | |

| File Type | Critical File | File Name | Model Name | File Description | Standard Rule | MicroStation Seed File | Civil 3D Template File |
|---|---|---|---|---|---|---|---|
| Drainage | | DRDTRD* | default | Drainage Detail Sheet | drdtrd | fdotseed2d.dgn | drdtrd.dwt |
| Drainage | | DREXRD* | default | Drainage Structures - Existing | drexrd | fdotseed2d.dgn | drexrd.dwt |
| Drainage | | DRFLRD* | default | Drainage Flood Data Form | drprrd | fdotseed2d.dgn | drprrd.dwt |
| Drainage | | DRMPRD* | default | Drainage Map | drmprd | fdotseed2d.dgn | drmprd.dwt |
| Drainage | | DROMRD* | default | Drainage Optional Materials Tabulation | planrd | fdotseed2d.dgn | genplanrd.dwt |
| Drainage | X | DRPRRD* | default | Drainage Structures - Proposed | drprrd | fdotseed2d.dgn | drprrd.dwt |
| Proposed Design | | PDPLRD* | default | Pond Design | drprrd | fdotseed2d.dgn | drprrd.dwt |
| Proposed Design | | SWPPRD* | default | Storm Water Pollution Prevention Plan | plprrd | fdotseed2d.dgn | plprrd.dwt |
| Proposed Design | | TEXTDR* | default | Text Labels & Miscellaneous Descriptions | planrd | fdotseed2d.dgn | |
| Proposed Design | | WETLRD* | default | Wetlands Delineation for Drainage | planrd | fdotseed2d.dgn | planrd.dwt |
| Summary Boxes / Tables | | BRHYRD* | default | Bridge Hydraulics Recommendation Sheet | planrd | fdotseed2d.dgn | planrd.dwt |
| Summary Boxes / Tables | | BXCLRD* | default | Box Culvert Wingwall Design and Special Details | drdtrd | fdotseed2d.dgn | drdtrd.dwt |
| Summary Boxes / Tables | | SUMDRD* | default | Summary of Drainage Structures | planrd | fdotseed2d.dgn | genplanrd.dwt |

### 12.2.1 FILE SHARING AND MERGING

Every project utilizes the standard directory structure regardless of the project requirements. Data for each discipline is maintained in its sub-directory. **If a discipline requires information from another discipline, the needed file(s) shall be referenced from the original directory, not copied**.

## 12.3 RESOURCE FILES

Engineering CADD Systems Office (ECSO) provides software resources for CADD Drainage plans design using GEOPAK. However, some districts also utilize other Drainage applications, such as, Automated Storm Sewer Analysis and Design (ASAD). The Drainage databases produced by GEOPAK Drainage, ASAD or any other Drainage applications shall be delivered with the project upon completion.

## 12.4 ENGINEERING DATA

The Drainage discipline directory contains the additional sub-directory named **\eng_data.** This sub-directory was designated to contain the following:

- Image files of the plan sheets for the drainage design, if applicable
- Quality Control Reports
- Engineering Data output files
- Drainage Reports, including the drainage databases used in the development of the reports
- All supplemental hand calculations (scanned and saved in PDF format)
- Other data pertinent to the overall drainage design

## 12.5 PACKAGING

Listed below are files created by Roadway that are to be treated as Drainage files:

- Drainage Detail Sheets (DRDTRD00.DGN)
- Drainage Existing Structures (DREXRD00.DGN)
- Flood Data Form (DRFLRD00.DGN)
- Drainage Map (DRMPRD00.DGN - The Drainage Map, if required in the Plans Preparation Manual (PPM), shall be included in the final submittal – this is no longer at the discretion of the individual District.)
- Drainage Proposed Structures (DRPRRD00.DGN)
- Drainage Structure Cross Sections (DRXSRD00.DGN)
- Summary of Drainage Structures (SUMDRD00.DGN)

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