

## PRELIMINARY DESIGN CHECKLIST – DRAINAGE (CONNECT)

Date: 8-25-2022

County: \_\_\_\_\_ Design No.: \_\_\_\_\_ Check By: \_\_\_\_\_ Date: \_\_\_\_\_

Project Location: \_\_\_\_\_ Consultant: \_\_\_\_\_

### CADD and Electronic file Deliverables

\_\_\_ Verify file naming convention refer to [CONNECT Models and Naming Convention](#)

\_\_\_ Verify B2 deliverables are placed in the correct Design Events folder. Refer to [Folder Structure](#)

- Bridges&Structures.accdb, refer to [CW09](#)
- ASCII input file, refer to [CW03](#)
- Preliminary Schedule Sheet, refer to [CW09](#)

\_\_\_ Verify coordinate system is correct for project

### General

\_\_\_ Verify pre-project drainage patterns are being maintained per [BDM 4.2](#). Maximum allowable diversion is generally limited to a 10% increase in watershed area.

\_\_\_ Verify Pipe size as per [BDM 4.2](#) that states for rural basins with drainage areas less than two square miles (1280 acres) use the Iowa Runoff Chart or the Iowa DOT culvert program. For the design of crossroad (mainline) culverts and for most sideroad culverts (city or county roads) use a 50-year flood event.

\_\_\_ Verify Culverts in Series as per [BDM 4.2.3](#) the slope between the culverts to a minimum, perhaps 1% or less

\_\_\_ Verify Pipe Minimum Allowable Cover as per [BDM 4.2.6](#) Minimum allowable cover for all concrete pipes is 2 feet for roadway pipes

\_\_\_ Verify Pipe Class for High Fill Pipes as per [BDM 4.2.7](#) refer to [DR-104](#)

\_\_\_ Verify Pipe Placement

- Horizontal Alignment refer to [BDM 4.3.4](#)
- Vertical Alignment refer to [BDM 4.3.5](#)
- Length Determination refer to [BDM 4.3.6](#) including clear zone
- Distance and correct placement of Median pipes refer to [BDM 4.4.2](#)

\_\_\_ Verify Drainage Structures 104-3 Tab and Schedule Sheet are complete from the data base

\_\_\_ Verify Pipe Extensions

- RCB with pipe Extension's size refer to [BDM 4.41](#)
- Correct Pipe connection is being used refer to [DR-121](#) and to [DR-122](#)

\_\_\_ Verify correct Pipe standard is being used refer to Standard Road Plans [DR Series](#)

\_\_\_ Verify correct removing or abandoning culverts refer to [4B-3](#) and [BDM 4.3.7](#)

\_\_\_ Verify placement of Ditch Blocks and Dikes refer to [EW-110](#)

### Cross Section sheets

\_\_\_ Verify annotations refer to [CW06](#)

- Design Cover
- Profile Grade Elevation
- Flowline Elevation needed for DR standards and elevations needed for the database.
- Total length Rt and LT
- Length of trenchless
- Skew angle of pipe to roadway
- Structure description and any other unique items that need to be called out.

\_\_\_ Verify Sheet Index info is correct refer to [CW07](#)