

# PRELIMINARY DESIGN CHECKLIST – PLAN SHEET FOR TEMPORARY DETOUR PIPES AT A STREAM CROSSING (CONNECT)

Date: 1-1-2024

County: \_\_\_\_\_ Check By: \_\_\_\_\_ Date: \_\_\_\_\_

Project Location: \_\_\_\_\_ Designer: \_\_\_\_\_

## GENERAL

- \_\_\_ For requirements specific to temporary detour pipes, reference [BDM 4.4.12]
- \_\_\_ Abbreviations - Use as needed. Reference [BDM 13.1.4]
- \_\_\_ Survey Control Point – Use coordinates/description per plan set
- \_\_\_ Hydraulic Data table - include Drainage Area, Q<sub>5</sub> cfs, HW, stream slope, outlet velocity, low roadway Edge of Traveled Way (sta., Elev).
- \_\_\_ Location table
- \_\_\_ Title Block
  - o Reinforced Concrete Pipe(s)-Temporary Detour
  - o Diameter x Length
  - o For more than one pipe the station is the culvert group centerline crossing of the roadway centerline.
  - o Skew angle – whole degree, same as shown in plan view
- \_\_\_ Project (phase) number (include any leading zeros) and file number (Asset ID number is not required for temporary pipes)
- \_\_\_ Scale bar
- \_\_\_ North arrow
- \_\_\_ NOTES: use as needed
- \_\_\_ Use Class C bedding, connected joints (DR-121), wrap joints for sites within Loess hills areas
- \_\_\_ Include reinforced concrete pipe aprons at inlet and outlet ends to reduce potential for uplift
- \_\_\_ (This note is to be placed in the upper left corner of the bridge replacement first TS&L Situation Plan sheet) "The temporary run around shall be monitored for the duration that it is under traffic. When the construction of the run around is installed, the contractor shall notify the Preliminary Design Unit Leader at 515-233-7949 so a Flood Management Plan can be developed in advance of the temporary run around being put into service. Upon notification, the DOT will add the site to the Bridge Watch Management Plan for monitoring."
- \_\_\_ General Utility Symbols and Utilities Note Cell. Place a label on the plan view to identify areas that may be of potential conflict.

## PLAN VIEW

- \_\_\_ Label "Plan View"
- \_\_\_ Culvert(s) oriented horizontally on the sheet
- \_\_\_ Ground elevations, contours, and topography. Label contour elevations
- \_\_\_ Existing utilities shown. Referenced line styles from survey file are at an appropriate scale for readability.

- \_\_\_ Existing structures: include general description
- \_\_\_ Proposed length: include dimensions as-needed from culvert typical, e.g., lengths left and right, total length
- \_\_\_ Proposed station on temporary detour centerline
- \_\_\_ Skew angle of culvert to temporary detour roadway. A whole degree skew is preferred.
- \_\_\_ Proposed detour roadway lane and shoulder widths
- \_\_\_ Show proposed detour roadway embankment and ditch grading. Verify with Road Design.
- \_\_\_ Label centerline culvert/detour/road construction
- \_\_\_ Label stationing on at least two "tic" marks in the plan view for both the mainline and temporary detour alignments.
- \_\_\_ Drainage: show direction of flow
- \_\_\_ Check that all text and dimensioning is legible and not placed on top of other text or features
- \_\_\_ Do not show revetment at pipe inlet/outlet unless justified. If revetment is proposed include a note with justification on the sheet.

## LONGITUDINAL SECTION

- \_\_\_ Detour Roadway section drawn along pipe centerline. True length is shown
- \_\_\_ Existing ground line and proposed grade line shown and labeled
- \_\_\_ Show existing and proposed structure(s)
- \_\_\_ Proposed flow-lines at inlet and outlet
- \_\_\_ Label detour roadway fore-slope used (e.g., 3:1)
- \_\_\_ Profile grade elevation at intersection of culvert and detour road centerline
- \_\_\_ Q<sub>5</sub> 'Design' HW
- \_\_\_ Show maximum fill height and location.

## CADD Checklist

- Refer to: [Preliminary Bridge - Connect Applications](#)
- \_\_\_ Verify Iowa Regional Coordinate System is correct for the project site.
- \_\_\_ CONNECT ProjectWise folder structure is being used.
- \_\_\_ Correct seed files are being used.
- \_\_\_ MicroStation File naming conventions are being followed.
- \_\_\_ Correct MicroStation Model naming conventions are being followed.
- \_\_\_ The correct levels, element templates, or features are being used. (to ensure the correct font style is applied).