**Civil 3D Metadata Sheet for WisDOT Project - Construction Data Packet**

09/2023

*(Save this file in the const folder within the Civil 3D WisDOT project folder)*

The data in the Construction Data Packet is only provided for the Contractor’s general knowledge and is not a part of the construction project contract.

The department assumes no responsibility for discrepancies between the data provided and the contract documents.

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| Date |  | County  |  |
| Design ID  |  | Highway |  |
| Const ID |  | Limits |  |
| Tied Const ID(s) |  | Description |  |
| Project Type |  |  |  |

Prepared by:

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| Name: |  | Phone |  |
| Office/Firm |  | Email |  |

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| **File Location** | **File Naming Convention** | **Project File(s)** |

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| **Field Control Data** |
| const\CD-BaseData | <Construction\_ID>-SrvyCtrl.xml |  |
| <Construction\_ID>- DT1773.docx  |  |

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| **Existing Surface Data** |
| const\CD-BaseData | <Construction\_ID>-Srfc-Ex.xml  |  |
| <Construction\_ID>-Srfc-Ex-Bndry.dwg |  |

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| **Existing Topography – General** |
| const\CD-BaseData | <Construction\_ID>-Topo-Ex.dwg |  |

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| **Existing Topography – Utilities** |
| const\CD-BaseData | <Construction\_ID>-Uti-Ex.dwg |  |

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| **Reference Line Data****Reference Profile Data** |
| const\CD-Design\CD-AliProf | <Construction\_ID>-AliProf-RL.xml |  |
| <Construction\_ID>-AliProf-Pavt.xml  |  |

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| **Superelevation Data** |
| const\CD-Design\CD-AliProf | <Construction\_ID>-Super-Ali-<Ali Name>.csv or .xlsx |  |

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| **File Location** | **File Naming Convention** | **Project File(s)** |

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| **Proposed Point Data** |
| const\CD-Design | <Construction\_ID>- Pts-<Location Desc>.xml |  |

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| **Proposed Roadway Features** |
| const\CD-Design | <Construction\_ID>-Pavt.dwg |  |

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| **Proposed Structure Horizontal Features** |
| const\CD-Design | <Construction\_ID>-Struct.dwg |  |

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| **Proposed Surface Model** |
| const\CD-Design\CD-Surface | <Construction\_ID>-Datum-Breaklines-<Const-Stg>.dwg |  |
| <Construction\_ID>-Datum-Srfc-<Const-Stg>.xml |  |
| <Construction\_ID>-Top-Breaklines-<Const-Stg>.dwg |  |
| <Construction\_ID>-Top-Srfc-<Const-Stg>.xml |  |
| <Construction\_ID>-Top-Breaklines-RuralDwy.dwg |  |
| <Construction\_ID>-Top-Srfc-RuralDwy.xml |  |

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| **Proposed Cross Section Data** |
| const\CD-Design\CD-X-Section | <Construction\_ID>-Slp-Stk-<Ali>-<Const-Stg>.xlsx |  |

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| **Earthwork Data** |
| const\CD-Design\CD-X-Section | <Construction\_ID>-Ewrk-<Ali>-<Const-Stg>.xlsx |  |

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| **Right-of-Way Monumentation Data** |
| const\CD-RW | <Construction\_ID>-Pts-Ult-RW.xml |  |
| <Construction\_ID>-Ult-RW.dwg |  |

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| **Notes to Construction - digital data** |
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**Attachment 1 – File Information**

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| **Field Control Data** |
| File Naming Convention | **const\CD-BaseData\<Construction\_ID>-SrvyCtrl.xml** |
| Description | The survey control file includes existing horizontal and vertical field control. Only horizontal and vertical control that will be used during construction is included in this file. Data is provided in the coordinate system specified for the project. |
| Purpose | Data in this file is used to establish survey control in the field. |
| Source of data | Control points are physical points collected in the field, not points created by a designer. |
| CAD elements | Civil 3D points |
| File Naming Convention | **const\CD-BaseData\<Construction\_ID>- DT1773.docx** |
| Description | Geodetic Reference Documentation |
| Purpose | Provide written documentation of the horizontal datum, vertical datum, and coordinate system used for the project. |
| Source of data | To reduce the confusion over the references used for a project, the responsible party for field survey work is encouraged to complete this form however it is not a requirement. See FDM 9-5-10 Standard Geodetic References for more information. |

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| **Existing Surface Data** |
| File Naming Convention | **const\CD-BaseData\<Construction\_ID>-Srfc-Ex.xml** |
| Description | File includes a surface of the existing terrain that was used during for the design of the project. |
| Purpose | Use of the data may include but is not limited to planning earthwork operations and for the verification of existing conditions and project impacts prior to construction. This existing surface data is also used in the measurement of earthwork quantities. |
| Source of data | The existing surface data may be collected from aerial mapping, field survey, or a combination of field and flight data. |
| XML elements | Definition of 3D faces of surface triangles. Breaklines are not included. |
| File Naming Convention | **const\CD-BaseData\<Construction\_ID>-Srfc-Ex-Bndry.dwg** |
| Description | File includes a boundary of the existing terrain surface that was used during for the design of the project. |
| CAD elements | AutoCAD polyline of surface boundary (2D or 3D) |

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| **Existing Topography – General** |
| File Naming Convention | **const\CD-BaseData\<Construction\_ID>-Topo-Ex.dwg** |
| Description  | File includes point and figure information pertaining to topographic information, other than utilities. An example of linework includes but is not limited to, fences, tree lines, waterways, etc. |
| Purpose | File provides the location of existing features that are accounted for in design. |
| Source of data | The data may be collected from aerial mapping, field survey, or a combination of field and flight data. |
| CAD elements | - AutoCAD points (2D or 3D)- AutoCAD polylines (2D or 3D) |

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| **Existing Topography – Utilities** |
| File Naming Convention | **const\CD-BaseData\<Construction\_ID>-Uti-Ex.dwg** |
| Description | File includes point and figure information pertaining to utilities such as gas, telephone, and storm sewer.  |
| Purpose | File provides the location of existing features that are accounted for in design. |
| Source of data | Data is collected from the field survey of existing facilities that are visible above ground and underground facilities marked by a locating service and the interpretation of existing documentation including but not limited to as-built plans, utility systems maps, and recorded utility easements. |
| CAD elements | - AutoCAD points (2D or 3D)- AutoCAD polylines (2D or 3D) |

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| **Reference Line Data, Reference Profile Data** |
| File Naming Convention | **const\CD-Design\CD-AliProf\<Construction\_ID>-AliProf-RL.xml** |
| Description | This file includes all mainline and side road reference line and profile data for the LET project. |
| Purpose | Provide electronic data that can be imported into Construction’s equipment for construction staking or construction model development. |
| Source of data | Object data exported from Civil 3D project design files. |
| XML elements | - Reference line alignments- Reference line alignment superelevation transitions- Reference line profiles |
| File Naming Convention | **const\CD-Design\CD-AliProf\<Construction\_ID>-AliProf-Pavt.xml** |
| Description | File includes the mainline and side road edge line alignments and profiles used in the design of the project that are also included in the LET plan. |
| Purpose | The data is available to the Construction for staking out pavement edges. |
| Source of data | Object data exported from Civil 3D project design files. |
| XML elements | - alignments- alignment superelevation transitions- profiles |

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| **Superelevation Data** |
| File Naming Convention | **const\CD-Design\CD-AliProf\<Construction\_ID>-Super-Ali-<Ali Name>.csv or .xlsx** |
| Description | File includes information on the locations of the superelevation transition points along an alignment. The minimum number of transition points included are the beginning and ending of normal crown, reverse crown, and the beginning and ending of full superelevation. |
| Purpose | Provide tabular data of superelevation transition information |
| Source of data | Report generated from Civil 3D object data. |
| .csv or .xlsx elements | Transverse lane and shoulder slopes along reference line at superelevation transition points |

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| **Proposed Point Data** |
| File Naming Convention | **const\CD-Design\<Construction\_ID>- Pts-<Location Desc>.xml** |
| Description | File includes points provided in plan detail sheet tables. Examples include intersection and curb ramp details. Other design points shown in the plan that are not in a table may be provided as well. Data is provided in the coordinate system specified for the project. |
| Purpose | Provide 2D and 3D point data for construction staking. |
| Source of data | Exported Civil 3D objects used for point locations in plan detail sheets. |
| XML elements | Point data (2D or 3D) |

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| **Proposed Roadway Features** |
| File Naming Convention | **const\CD-Design\<Construction\_ID>-Pavt.dwg** |
| Description | File includes proposed physical features of the roadway which may include but are not limited to edges of pavement, shoulder edges, curb and gutter. |
| Purpose | Provide 2D representation of the proposed project geometrics. |
| Source of data | Exported Civil 3D offset alignments and CAD graphics |
| CAD elements | AutoCAD polylines (2D) |

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| **Proposed Structure Horizontal Features** |
| File Naming Convention | **const\CD-Design\<Construction\_ID>-Struct.dwg** |
| Description | This category includes proposed physical features of the structure(s). This includes but is not limited to structure geometrics, pavement, shoulder, sidewalk, structure roadway widths, parapets, abutments, wingwalls, piers, and footings. This does not include but is not limited to reinforcement details, piling locations, and girders. |
| Purpose | Provides 2D representation of the approximate location of proposed structure(s). These graphics are for general reference and are not to be used for construction staking or structure layout. |
| Source of data | 2D design CAD files |
| CAD elements | AutoCAD polylines (2D) |

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| **Proposed Surface Model** |
| File Naming Convention | **const\CD-Design\CD-Surface\<Construction\_ID>-<Surface Model Type>-Breaklines-<Const-Stg>.dwg** |
| Description | This file contains the longitudinal breaklines and surface points that define the proposed design surface. Proposed surfaces include Top and Datum. Other potential surfaces provided include the top surfaces of Rural Driveways.Note: In areas of surface models developed by Civil 3D grading objects only, surface triangle graphics may be provided in place of longitudinal breaklines. |
| Purpose | Proposed design breaklines may be used to aid in the creation of the construction surface model for Construction operations. |
| Source of data | Civil 3D corridor object feature linesUser defined surface refinement breaklines |
| CAD elements | - AutoCAD polylines of breaklines (3D)- AutoCAD 3D faces of surface triangles for areas developed by Civil 3D grading objects (example: grading at intersection quadrants)- AutoCAD polyline of surface boundary (2D or 3D) |
| File Naming Convention | **const\CD-Design\CD-Surface\<Construction\_ID>-<Surface Model Type>-Srfc-<Const-Stg>.xml** |
| XML elements |  Definition of 3D faces of surface triangles. Breaklines are not included. |

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| **Proposed Cross Section Data** |
| File Naming Convention | **const\CD-Design\CD-X-Section\<Construction\_ID>-Slp-Stk-<Ali>-<Const-Stg>.xlsx** |
| Description | Proposed datum surface slope stake reports for all cross-section groups in the plan. All cross-section data included has a corresponding reference line information submitted as well. |
| Purpose | Provide electronic data to support construction operations and construction model development |
| Source of data | Proposed datum surface |
| .xlsx elements | Station, offset, elevation and slope data along reference line |

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| **Earthwork Data** |
| File Naming Convention | **const\CD-Design\CD-X-Section\<Construction\_ID>-Ewrk-<Ali>-<Const-Stg>.xlsx** |
| Description | This file is the tabular data included in the plan’s computer earthwork data sheets, immediately preceding the cross sections in the plan. |
| Purpose | Use of the data may include but is not limited to planning earthwork operations. |
| Source of data | Proposed datum surface |
| .xlsx elements | Data includes incremental end areas, incremental volumes, cumulative volumes, expanded volumes and expansion factors for; cut, fill, marsh excavation, rock excavation, and EBS; cumulative mass ordinate. |

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| **Right-of-Way Monumentation Data** |
| File Naming Convention | **const\CD-RW\<Construction\_ID>-Pts-Ult-RW.xml** |
| Description | File includes 1) Project right-of-way points. This is a combination of the existing and proposed (FEE) right-of-way points, 2) permanent limited easement points, 3) temporary limited easement points |
| Purpose | Provide electronic point data for locating right-of-way and easement points. |
| Source of data | Field survey and property records used to develop the Transportation Project Plat |
| XML elements | - Right-of-way and easement points |
| File Naming Convention | **const\CD-RW\<Construction\_ID>-Ult-RW.dwg** |
| Description | File includes 1) Project right-of-way alignments. This is a combination of the existing and proposed (FEE) right-of-way alignments and points to be staked, 2) permanent limited easement alignments, 3) temporary limited easement alignments |
| Purpose | Provide electronic data that may be imported into the Construction’s equipment to visually represent the project envelope where construction activities can occur.  |
| Source of data | Field survey and property records used to develop the Transportation Project Plat |
| CAD elements | - AutoCAD polylines (2D) |

Notes:

- This document should be included with the files submitted with the construction data packet.

- Construction data files are files exported from design files. Civil 3D files that contain Civil 3D object data should be exported to an AutoCAD dwg file (example: a Civil 3D pavement edge alignment used in the design pavement file is exported to <Construction\_ID>-Pavt.dwg)

- Unused layers and referenced data should not be exported to CAD files included in the Construction Data Packet.

- Deselect any setup alignments/profiles that are not included as plan information during the export to xml process.

Template Folder Structure:

Design\_ID

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 CD-BaseData

 CD-Design

 CD-AliProf

 CD-Surface

 CD-X-Section

 CD-RW

File Formats:

xml = LandXML v 1.2 file exported from Civil 3D objects

dwg = basic AutoCAD v2010 file exported from Civil 3D objects

csv = comma-separated values file exported from Civil 3D

