ODOT

DESIGN BUILD

SCOPE OF SERVICES

PID: 93605 **State Project Number:**

County: Madison **Route:** I-70 **Section:** 10.27

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1 PROJECT IDENTIFICATION & GENERAL INFORMATION

Table 1-1: Project Identification

PID	93605
State Project Number	223005
County-Route-Section	MAD-70-10.27
Highway Functional Classification & Federal Aid System	Interstate

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1.1 Design Designation

The DBT shall use the design designations for each of the facilities below various design elements as specified within the Scope of Services.

Table 1-2: Design Designation

Location:	MAD-29-10.61 (SLM at interchange)
Current ADT (2024):	5,100
Design Year ADT (2044):	6,800
Design Hourly Volume:	700
Directional Distribution:	58.5%
Trucks:	17%
Design Speed:	60
Legal Speed:	55
Design Functional Classification:	Rural Major Collector
NHS Project:	No

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Deleted: 2043
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1.2 Existing Plans and Project Information

Available information related to the Project is available in the Document Inventory shown in Table 1-3. The Document Inventory will identify whether the document is designated as "Reference Documents" or "Contractual Appendices".

Reference Documents appendices are provided for informational purposes only. The Department makes no representation or warranty as to the accuracy, adequacy, applicability, or completeness of the Reference Documents. Except to the extent set forth to the contrary

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in the Contract Documents, reliance upon the Reference Documents shall be at the Proposer's risk, and the Department shall have no liability or obligation as a result of the inaccuracy, inadequacy, inapplicability, or incompleteness of the Reference Documents, regardless of the contents thereof.

Contractual Appendices in the Document Inventory are considered binding obligations of the DBT. The DBT shall meet requirements identified in the Contractual Appendices and shall implement the Work in accordance with these requirements.

The Offerors (i.e. prospective Design-Build Teams) shall examine the information provided in the Document Inventory to determine if the information accurately depicts existing field conditions.

The following existing plans are considered part of the Document Inventory and are available for review:

- MAD-70-6.25
- MAD-70-8.68
- MAD-70-10.270 (Phase 1)
- MAD-70-8.62
- MAD-29-10.61
- SR 29 Improvements at Commerce Parkway
- MAD-70 at 29 EB Ramps

The plans identified in the Document Inventory are not as-built plans. All existing plans are considered Reference Documents.

In addition to the existing plans, appendices to the Scope of Services are listed in the Document Inventory and posted on the FTP site.

ftp://ftp.dot.state.oh.us/pub/Contracts/Attach/MAD-93605/

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Table 1-3: Document Inventory

Appendix #	Appendix Title	Contractual/Reference Designation
A	Existing Plans	Reference
B	Storm Water Site Plan	Contractual
C	Right-of-Way Plan	Contractual
C1	Right-of-Way Status Matrix	Contractual
D	Boring Data	Reference
E	Interchange Modification Study	Contractual
F	Utility Plans	Reference

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G	Detour Determination Report	Contractual
G1	Short Term Closures of I-70	Contractual
H	Environmental Commitments	Contractual
I	Utility Conflict Example	Reference
J	Existing Survey Data	Contractual
K	Geometric Requirements	Contractual
L	Roundabout Lane Arrangements	Contractual
M	Preliminary Layout	Reference
N	RWIS Sensor Details	Contractual
O	Ramp Approach Pavement Limits	Contractual
P	Curb Location and Type Requirements	Contractual
Q	Pavement Limits	Contractual

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1.3 Railroad Coordination

Not applicable.

1.4 Airway/Highway Clearance

Not applicable.

2 PRE-BID MEETING

This meeting is to discuss and clarify all issues that the project may have. Offeror attendance at the pre-bid meeting is NOT mandatory.

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Location: Virtual - Microsoft Teams

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Date: 4/12/2022

Time: 2:00 PM

3 CONTRACTOR PRE-QUALIFICATION

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It is required that the Bidder be a Contractor prequalified in accordance with Section 102.01 of PN *126*. The Contractor or one of the subcontractors identified in the Proposal must be prequalified for all Work Type Codes included in the Proposal.

The Bidder is also required to have engaged the services of an ODOT pre-qualified Consultant (Designer) in accordance with Section 4 of the Scope of Services to constitute the DBT.

If the Contractor, Designer, and/or the sub-consultant(s) submitted do not meet all the required qualifications, the Office of Contract Sales may reject the bid.

4 DESIGNER

Each Offeror shall name the Designer and all design sub-consultant(s) in the electronic form on the following web-page prior to Bid submittal:

http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Pages/Scope.aspx

Each Offeror must list relevant prequalification categories for the Designer and each design sub-consultants to show that the prequalification requirements listed below are satisfied. All consultant names and addresses must be the same as that on file with the Department as found on the following listing:

https://www.dot.state.oh.us/Divisions/Engineering/Consultant/Pages/firm-preq-list.aspx

The Designer or sub-consultants of the Designer must be prequalified to perform design work associated with the following prequalification categories:

- **NON-COMPLEX ROADWAY DESIGN**
- **COMPLEX ROADWAY DESIGN**
- **LEVEL 2 BRIDGE DESIGN**
- **LIMITED LIGHTING DESIGN**
- **ITS DESIGN AND OPERATIONS**
- **BASIC TRAFFIC SIGNAL DESIGN**
- **GEOTECHNICAL ENGINEERING SERVICES**
- **GEOTECHNICAL FIELD EXPLORATION SERVICES**
- **GEOTECHNICAL TESTING LABORATORY**
- **SUBSURFACE UTILITY LOCATION SERVICES**

In accordance with Section 104.011 of PN 126, design services that require prequalification may only be performed by firms that are prequalified for those services at the time of performance of the services.

Restrictions on Participation in design-build contracts:

Any Consultant who provided services to the Department that have been directly utilized in this design-build Proposal or Scope of Services document will NOT be eligible to participate in this design-build contract for this Project, either as a prime consultant, sub-consultant or as a CE inspector.

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The following consultants have provided services utilized in this design build proposal:

- *CARPENTER MARTY TRANSPORTATION*
- *HNTB*
- *KORDA/NEMETH ENGINEERING*
- *BURGESS & NIPLE*

As per Section 2.18 of ODOT Consultant Conflict of Interest Waiver Guidance, any firms that have provided services related to this project may provide a waiver request to participate in the Design-Build Contract.

5 SCOPE OF WORK

Project Description:	**This project involves:** • **The construction of a new bridge over I-70 at SR-29;** • **Converting the existing roundabout at SR-29/I-70 WB interchange ramps into a 2-lane roundabout;** • **The reconfiguration of the SR-29/I-70 EB interchange ramps into a 2-lane roundabout;** • **Widening of SR-29 from proposed roundabout to Commerce Parkway;** • **Elimination of the Byerly Rd connection to SR-29 & construction of cul-de-sac.** **This project will include the conversion of the existing roundabout at SR-29/I-70 WB exit and entrance ramps (north of the existing bridge) to a 2-lane roundabout. Modifications to the existing roundabout include new lane arrangements, a bypass lane from the I-70 WB exit ramp to SR-29 NB, and operational changes as depicted in Appendix L. The existing splitter island between the existing bridge and roundabout will be reconstructed to accommodate 2 lanes of traffic entering the roundabout from SR-29 NB and to separate the entrance and exit to the proposed bridge. The splitter island will be constructed across the circulatory roadway, to restrict the "full-rotation" movement around the roundabout. A new pavement approach will be constructed from the existing roundabout to connect to the proposed bridge.**

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	SR-29 SB starting at approximately STA. 540+40 will be restriped to accommodate 2 lanes entering the existing roundabout. **The proposed bridge will be one-way and carry southbound SR-29 traffic (two lanes) over I-70.** **The existing adjacent bridge (MAD-29-1063, SFN 4900243) will be restriped to be one-way and carry northbound SR-29 traffic (two lanes) over I-70. The drainage system will be adjusted/changed to properly convey drainage with the addition of the new adjacent bridge. Roadside barriers, including guardrail and guardrail terminal assemblies, shall be reconstructed to address final traffic patterns.** **The I-70 EB exit/entrance ramp intersection with SR-29 at the SR-29/I-70 interchange will be reconstructed into a 2-lane roundabout. The proposed roundabout shall meet the geometric requirements set forth in Appendix K and lane arrangements (and # of lanes) depicted in Appendix L. The splitter island between the bridges and roundabout will be constructed across the circulatory roadway, to restrict the "full-rotation" movement around the roundabout. Bypass lanes for I-70 EB to SR-29 SB and SR-29 NB to I-70 EB will be constructed.** **SR-29 will be reconstructed and widened to four lanes (2 in each direction) from the proposed roundabout to Commerce Parkway. A two-way left turn lane shall be added from approximately STA. 577+35 to Commerce Parkway. The two-way left turn lane shall be striped off transversely starting at STA. 583+50 to Commerce Parkway, to restrict left turns onto Commerce Parkway. SR-29 NB will taper to two lanes immediately north of the unnamed tributary crossing at the SR-29/Commerce Parkway intersection. SR-29 SB will be striped as one through lane and one right-turn lane at the intersection with Commerce Parkway.** **The existing southern driveway at Parcel 10 (Auditor's Parcel #08-00344.000) will be reconstructed to accommodate widening of SR-29. The northern driveway that is adjacent to Byerly Rd shall be removed. The Byerly Rd connection to SR-29 will be removed & a cul-de-sac shall be constructed**

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	at the termination point within proposed construction limits. The cul-de-sac shall be constructed prior to the existing drive connection to Byerly Rd at Parcel 10. The removal limits shall be restored with topsoil and seeded. **ODOT has developed a preliminary layout (Appendix M - Preliminary Layout). The DBT shall modify the design to meet final field conditions and maintain the intent of this design. This preliminary design depicts ODOT's intent and is not the final design. The DBT shall provide a Final Design which meets the required design standards.** **(All stationing in reference to stations listed on MAD-70-10.27 PHASE 1 plan)**
Completion Date:	8/30/2024
Warranties:	N/A

The approximate Project Limits for each applicable roadway are provided in Table 5-1.

Table 5-1: Approximate Project Limits

Roadway Name	Begin	End
MAD-29	SLM 10.24	SLM 11.14

Work limits include all ramps at SR-29/I-70 interchange. The construction limits for the project are shown on the Preliminary Layout (Appendix M).

The Consultant shall provide for the engineering services, design, and preparation of detail construction plans for the construction of the proposed project.

The Contractor shall provide for the furnishing of materials, construction and completion in every detail of all the work described in the Contract Documents to fulfill the intent of the Contract.

6 FIELD OFFICE

No field office required for this project.

7 GENERAL PROVISIONS FOR THE WORK

7.1 Governing Regulations

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All services, including but not limited to survey, design and construction work, performed by the DBT and all subcontractors (including sub-consultants), shall be in compliance with all applicable ODOT Manuals and Guidelines & other manuals listed below. DBT shall follow ODOT manuals over other manuals if conflicting information is found.

It will be the responsibility of the DBT to acquire and utilize the necessary ODOT manuals that apply to the design and construction work required to complete this project.

The current edition, including updates released on or before the *prebid meeting*, of the following ODOT Manuals and Guidelines shall be met or exceeded in the performance of the design and construction work required to complete this project:

Bridge Design Manual
Location and Design Manuals
Volume One - Roadway Design
Volume Two - Drainage Design
Volume Three - Plan Preparation
Pavement Design & Rehabilitation Manual (*all "should" statements will be considered "shall" statements for this project for the Pavement Design & Rehabilitation Manual)*
Specifications for Geotechnical Explorations
Survey Manual
Construction and Material Specifications
Proposal Notes for Construction and Material Specifications
Supplemental Specifications for Construction and Material Specifications
Item Master
Manual for Abandoned Underground Mines - Inventory and Risk Assessment
State Highway Access Management Manual
Standard Construction Drawings
Plan Insert Sheets
Traffic Engineering Manual
Ohio Manual of Uniform Traffic Control Devices
Real Estate Administration Policies and Procedures Manual:
Appraisal
Acquisition Property Management
Relocation
ROW Plans
Utilities
Wireless Communication Tower Manual
Environmental Services Handbooks and Guidelines
Waterway Permit Manual
Design Mapping Specifications
CADD Engineering Standards Manual
Geotechnical Bulletins
Quality Guidelines for Temporary Traffic Control Devices

The following Manuals and Guidelines shall be met or exceeded in the performance of the design and construction work required to complete this project. If conflicting requirements are found with any of the above ODOT Manuals and Guidelines, the DBT shall adhere to the requirements of the ODOT Manual or Guideline.

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Roundabouts: An Informational Guide (NCHRP Report 672)
AASHTO Green Book – A Policy on Geometric Design of Highways and Streets (7th Edition)

7.2 CADD files supplied by the DBT

The DBT shall comply with ODOT's CADD Standards, and supply files in accordance with the CADD Engineering Standards Manual for OHDOT CONNECT. All data shall be provided to the Department according to the provisions as detailed under the appropriate CADD links accessed from the Department's Division of Engineering's website. This includes, but is not limited to, the level assignments, symbols, lines and line styles that are to be used, line weights, cells, placement of text and file naming conventions.

The standards and necessary downloads can be accessed at the following URL addresses:

https://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/CADD_Services/Standards/Pages/Manuals.aspx

https://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/CADD_Services/Standards/Pages/Downloads.aspx

The Department will accept CADD files through electronic media.

1. The DBT shall submit all CADD information produced in the process of plan development. All CADD information shall be submitted in the current version of MicroStation (*.dgn) format as indicated in the CADD Engineering Standards Manual for OHDOT CONNECT. The DBT shall provide a comprehensive set of complete and accurate CADD data which is compatible with ODOT's CADD systems with no additional work or modification.
2. The DBT shall submit all information produced in the process of plan development according to L&D Volume 3, Section 1500.

The DBT shall use a separate file name for each horizontal or vertical alignment. The DBT shall provide required ASCII report content in accordance with the CADD Engineering Standards Manual.

These requirements and procedures may be updated from time to time with notification provided on the ODOT Division of Engineering website. The DBT shall use ODOT cell files and ODOT seed files consistent with the version of the requirements identified in Section 7.1 (Governing Regulations).

7.3 Pre-Award Conference

Within 7 days following Bid opening, the apparent successful DBT shall attend a mandatory pre-award conference. This confidential meeting will be held with the Office of Contract Sales in the Division of Construction Management to discuss the DBT's bid of the lump sum items. The DBT shall be prepared to discuss general items of Work included within the lump sum bid items, approximate amounts of Work included within the DBT's Bid Items, and

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general design approach and design concepts for the Work. Other Department representatives familiar with the Project may attend.

While not required, the DBT may prepare general engineering information to be presented to the Office of Contract Sales to help explain design concepts and quantities. This information will be used only by the Office of Contract Sales to assist in understanding the DBT's bid for award recommendation purposes.

No shared concepts, shared quantity information, discussions, comments made or shared by either party will be considered binding, a revision to the Contract Documents, or acceptance or validation of any design concept or assumed quantities of Work.

7.4 Partnering Agreement

The DBT is required to enter into a partnering agreement with the Department that is:

☐ Facilitated

☑ Self-Facilitated

The objective of this agreement is the timely completion of the work and a quality product that will be a source of pride to both the Department and the DBT. Partnering will not affect the terms and conditions of the contract. The partnering agreement is a document which is solely intended to establish an environment of cooperation between the parties. The costs associated with the partnering process will be in accordance with *"Section 108.02 of PN 126" for Self-Facilitated Partnering*.

7.5 Communication

All communication during design and construction shall be with the District Project Manager and the District Project Engineer.

District's Project Manager's Name:	Andrew Holloway
Phone number:	740-833-8107
E-mail:	Andrew.Holloway@dot.ohio.gov

District's Project Engineer's Name:	Jeff Vance

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At the Pre-Design Meeting, the DBT shall name a Project Manager who will act as a liaison between the DBT and the Department.

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7.5.1 Task Force Design Meetings

☐ Required

☑ Not Applicable

7.6 Permits

The DBT shall ensure that the Project is constructed and maintained in accordance with all requirements, regulations, and applicable permits required for the Project. This includes the permits described herein and any additional permits not specifically identified in the Contract Documents.

Unless noted otherwise in the Contract Documents, the DBT shall obtain all necessary permits and pay all charges, fees and taxes associated with these permits (e.g., city street opening permits, street crossing/equipment moving permits, water department fees, sewer permits, rail permits and fees, etc.). The DBT shall be responsible for any fines levied by regulatory agencies as a result of their construction activities or non-compliance with any permit special or general conditions.

The DBT shall obtain a permit from the State or local government having jurisdiction to perform any non-construction work within the existing Right of Way and/or limited access.

7.7 Entry on Private Property

The DBT, acting as The Department's agent, may enter upon any lands within the State for the purpose of inspecting, surveying, leveling, digging, drilling, or doing any work deemed necessary in the execution of any survey authorized by the Director of Transportation in accordance with Section 5517.01 of the Ohio Revised Code and ODOT's Survey Manual. Prior to performing said survey, the DBT will send notification letters indicating the date and duration of entry to the affected property owners no less than forty-eight hours nor more than 30 days prior to the date of entry for said survey in accordance with ODOT's Survey Manual. The DBT shall forward copies of all notification letters distributed to ODOT's Project Manager.

Any subsequent claims for compensation due to damages incurred while said activities were performed will be negotiated between the DBT and the affected property owners with final approval from ODOT's Project Manager. Crop and property damage minimization and reimbursement information, together with the crop damage reimbursement formula and Special Waiver of Damage form, will be provided to the DBT by ODOT's Project Manager.

Any subsequent entries onto private property for the purpose of obtaining additional survey or soil information prior to the submission of the Bid will be made in accordance with the procedures outlined in this section.

8 ENVIRONMENTAL

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The DBT shall ensure that the Project is designed, constructed and maintained in accordance with all environmental requirements, regulations, and applicable permits required for this Project.

8.1 NEPA & Environmental Commitments

The DBT shall perform all environmental commitments as described *Appendix H*, unless otherwise specified in the Contract Documents.

The DBT shall:

1. Monitor and document Work to demonstrate compliance with environmental commitments.
2. Provide documentation of environmental commitment compliance at request of the Department.
3. Follow Department and local regulations regarding dust control, adhering to dust control measures outlined in C&MS 616.
4. Adhere to local City and Village ordinances for vehicle idling and all current U.S. Environmental Protection Agency (EPA) air quality regulations.

If the DBT becomes aware of any failure to perform an environmental commitment, the DBT shall notify the Department immediately.

8.2 Environmental Permits

The DBT shall:

1. Be aware of all applicable environmental permits related to the Work.
2. Provide the Department relevant information necessary to obtain all environmental permits required to perform the Work.
3. Comply with all conditions imposed by environmental permits in design and construction.
4. Notify the Department regarding any failure to comply with conditions of the environmental permits.
5. Maintain and update environmental permits to ensure they are in effect during the Work.
6. Coordinate with the Department and submit any documents regarding updates required for environmental approvals to the Department for coordination with the regulatory agency.

If the DBT modifies elements of the Preliminary Layout used as the basis for obtaining a permit, the DBT accepts all responsibility for associated cost and schedule impacts resulting from the permit modification process and accepts the risk that the regulatory agency may not approve the proposed permit modification.

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At no time shall the DBT coordinate environmental permitting issues directly with the regulatory agencies, unless directed to do so by the Department. The DBT shall not commence with Work covered by environmental permits until the applicable permit approval is obtained from the regulatory agency.

Table 8-2 identifies work performed by the Department related to various environmental permits and the status of Department activities. Table 8-2 is not a comprehensive list of the environmental permits required to perform the Work. Unless otherwise noted, the DBT shall be responsible to obtain all necessary environmental permits and pay all charges, fees and taxes associated with these permits.

Table 8-1: Status of Department Activities for Environmental Permits

Agency	Permit/Approval	Status
OEPA	NOI	Department to file prior to preconstruction meeting

The DBT shall acquire required noise permits and/or variances from the local jurisdiction.

The DBT shall be responsible for any fines levied by regulatory agencies as a result of their construction activities or non-compliance with any permit special or general conditions.

8.2.1 Waterway Impacts

No impacts below the Ordinary High Water Mark of Unnamed Tributary 1 and Unnamed Tributary 2 to the Little Darby Creek are permitted.

8.2.2 Scenic River Protection

Environmental restrictions for protection of Little Darby Creek are included in Appendix H and must be adhered to by the DBT. These restrictions shall also be included as plan notes.

8.3 Temporary Sediment and Erosion Control

The DBT shall be responsible for designing and implementing all temporary sediment and erosion controls in accordance with SS 832 and the Ohio NPDES general permit for storm water discharges from construction activities (NPDES Permit).

The DBT shall submit information to the Department for development of the Notice of Intent for the NPDES Permit, including the total acreage of earth disturbing activities for both off project and on project work. The DBT shall assume that approval from OEPA will require a minimum of 31 days following submittal to the ODOT Project Manager. Earth disturbing activity is not permitted prior to approval of coverage under the NPDES Permit.

All costs associated with the work to development, design, revisions, modifications, amendments and submittals of the Storm Water Pollution Prevention Plan is considered incidental to the Project. All costs associated with the work to perform Storm Water

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Pollution Prevention Inspections and all work associated with NPDES required inspections, monthly inspections, and reporting is considered incidental to the Project. All costs associated with providing and maintaining the required CPESC and CESSWI personnel, conducting the NPDES required inspections utilizing the SWPPPTrack inspection software application and support engineering services are incidental to the Project. All costs associated with the Storm Water Pollution Prevention Inspection Software includes all costs for the SWPPPTrack inspection software and services and is incidental to the Project.

The DBT shall be compensated for furnishing and installing items related to temporary sediment and erosion control requirements. The Department will compensate the DBT through an encumbered amount included in the Proposal as a non-bid reference number. The Proposal specifies the unit prices for the temporary sediment and erosion control items. Payments for temporary sediment and erosion control items that exceed the encumbered amount will be made through an Extra Work Change Order using the specified unit prices. The specified unit prices are fixed for the Contract Documents and may not be negotiated or adjusted for inflation or claimed changed condition.

All temporary erosion control items shall be removed before the project is accepted. Removed materials shall become the property of the DBT and shall be disposed of in accordance with the appropriate C&MS specifications.

8.4 Regulated Materials

The DBT shall meet all regulatory conditions imposed with regulated materials, including hazardous materials, associated with the Project. The DBT shall characterize, collect, contain, and properly dispose of all waste generated or encountered during the Work. The DBT shall ensure that the site is properly contained during construction so that regulated materials do not migrate off-site. The DBT shall prepare and implement a Spill Prevention Control and Countermeasures (SPCC) Plan per the requirements of 40 CFR Part 112 that provides specific guidance for managing, handling, and disposing of regulated materials that may be encountered within the Right-of-Way and for protecting the health and safety of all on-site personnel and the general public.

If any unknown regulated materials are discovered through work on the Project, the DBT shall notify the Department immediately and shall follow the SPCC Plan, as well as all appropriate regulations.

9 RIGHT OF WAY (ROW)

The DBT shall perform all necessary construction for the project within the Project Right-of-Way (See Appendix C). If the DBT determines that additional Right-of-Way is required to complete the project, the Department shall be notified immediately. Under no circumstance shall the DBT acquire any additional Right-of-Way.

The DBT will stake and flag the right of way in the field prior to the start of construction and will maintain stakes and flags throughout the duration of the Project.

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The DBT shall design and install new fence along the newly proposed limited access right-of-way limits. The fence shall properly tie into the existing fence along the interchange ramps, and it shall terminate where the limited access right-of-way ends.

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The DBT shall identify all right of way encroachments on the construction plans with the Interim Design submission. ODOT's Project Manager will be responsible for clearing all encroachments on Federal-aid projects in accordance with standard encroachment removal.

The status of each parcel that is currently in the acquisition process is indicated in Appendix C1 (Right-of-Way Status Matrix). Additional requirements and information for specific parcels are included in the Right-of-Way Status Matrix. The Department will provide written notification to the DBT of any access restrictions that may be applicable. The DBT shall not be allowed access to newly acquired Right-of-Way on a given parcel until written notification is provided by the Department.

The Department will provide an update to the Right of Way Status Matrix at the time of NTP. In addition, the Department will provide the DBT with monthly reports regarding the status of the acquisition process for parcels for which access was not provided at the time of NTP.

9.1 Temporary Easements

The Department will facilitate use of certain parcels through temporary easements. The DBT shall use temporary easements solely for the purposes described within the easement. The DBT shall only be able to use the temporary easement for the duration established within the easement. The duration commences on the date when physical work commences within the temporary easement site. The DBT shall provide written notice to the Department indicating the planned date for beginning work in a temporary easement. The DBT shall not enter into temporary easement sites after the duration of the temporary easement has elapsed.

The DBT shall not store material or equipment within the limits of any temporary easement.

10 UTILITIES

10.1 Existing Utilities

The District Utility Coordinator, in coordination with the registered underground utility protection services, Oil and Gas Producers Underground Protection Service (OGPUPS), and other utility owners that are non-members of any utility protection services, has determined that the utilities identified in Table 10-1 are located in the area of the Project.

Table 10-1: Utility Contacts and Status

Utility Owner	Utility Contact	Relocation Status/Remarks
Columbia Gas of Ohio	Rob Caldwell rcaldwell@nisource.com 614-370-1906	To be coordinated by DBT.

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Madison County Engineer	Ken Koppes kkoppes@co.madison.oh.us 740-852-9404	To be coordinated by DBT.
Madison County Sanitary Sewer & Water District		To be coordinated by DBT.
Madison Energy Cooperative	Kyle Underwood kunderwood@utilitypipelineltd.com 330-498-9130	To be coordinated by DBT.
AT&T	Howard Laudermilk II HL1596@att.com 937-296-3588	To be coordinated by DBT. Relocation anticipated.
Ohio Edison	Chris Harper harperc@firstenergycorp.com office: 937-327-1283 cell: 937-207-9045	To be coordinated by DBT. Relocation of poles along 29 SB anticipated.
Park 70 Owners Association		To be coordinated by DBT.
Charter (Spectrum/Time Warner)		To be coordinated by DBT.
Village of West Jefferson	John Mitchell jmitchell@westjeffersonohio.gov 614-879-5342	To be coordinated by DBT.
ODOT District 6	David Carlin David.Carlin@dot.ohio.gov 740-833-8198	Removal of existing signal and facilities at SR-29 & I-70 EB Ramps shall be completed by DBT during construction. Any RWIS sensors that are disturbed by the project shall be replaced as per Section 18.6. There are

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		two located on I-70 WB in the project limits, and one in the existing SR-29 bridge deck (NB lane).
ODOT ITS	Bryan Comer Bryan.Comer@dot.ohio.gov 614-387-1253	Camera Pole to be relocated by DBT if found to conflict with proposed design. See section 18.5 for more information.

Below is a list of **potential** utility conflicts that have been identified by the Department. This list is not meant to be all-inclusive, as other conflicts may exist.

- Ohio Edison owned poles (with AT&T as a joint user) along SR-29 SB (south of interchange) – 5 poles are anticipated to conflict with proposed pavement for SR-29 widening.
- Underground telephone line (depth unknown) that runs underneath the proposed pavement for widening of SR-29 (Proposed 2nd NB lane, south of interchange). Line is presumed to be owned by AT&T, but this is not confirmed.
- Underground telephone line (depth unknown) that crosses SR-29 north of the interchange and then underneath I-70 – this line has potential to conflict with the proposed bridge northern abutment. Line is presumed to be owned by AT&T, but this is not confirmed.
- Columbia Gas owned 6" distribution line crossing widening of pavement & curb on SW quadrant of SR-29 and Commerce Parkway intersection.

10.2 General Requirements

The DBT shall:

- Coordinate with the owners of all public and private/investor utility facilities affected by the Project.
- Coordinate with the utility owners, third-parties and stakeholders to resolve all utility conflicts encountered on the Project.
- Resolve any conflicts between utility facilities and the construction of the Project.
- Coordinate the completion of all utility relocations with the respective utility owners and stakeholders.

The DBT shall put forth all efforts required to coordinate and resolve utility conflicts within the schedule and shall accept the associated cost and schedule risk, regardless of the entity performing the utility adjustment work, except as described in 10.8 (Deadlines and Delays).

The Department will solely determine compensable rights related to utility design, relocation, modification and construction for each conflict. When warranted, the Department will

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compensate the respective utility owner directly as outlined in Section 10.11(REIMBURSEMENT AND DEPOSIT PROCESSES).

No additional compensation will be made to the DBT for delays, inconveniences, or damages sustained by the DBT due to interference from the utilities or utility work.

The DBT shall be responsible to verify all utility relocation to ensure that the relocation work does not interfere with other proposed construction activities, including relocations of other utilities.

All new utility installation requests within limited access right of way shall be subject to the ODOT permitting process.

10.3 Governing Regulations for Utility Design and Construction

All utility work performed by the DBT shall be consistent with the Department's Utility Relocation Manual and must meet the Federal Highway Administration (FHWA) "Buy America" policy requirements of 23 USC313 and 23 CFR 635.410. Utility work shall be in accordance with ODOT's 8100 Policy for Accommodation of Utilities and 8200 Procedure for Utility Relocations, Adjustments and Reimbursement.

The DBT shall perform all utility work in compliance with the following:

The utility owner's specifications, standards of practice and construction methods;

Applicable ODOT design and construction standards;

Local public agency specifications, standards of practice and construction methods; and/or

Railroad permit requirements.

10.4 Utility Coordination

The DBT shall design the project construction work to minimize the scope and extent of utility conflicts and relocations. The DBT shall not design or construct the Work in a way that precludes legal occupancy of the highway right-of-way by the adjusted utility.

When utility relocations are necessary, coordination and scheduling of these relocations with the involved utilities shall be the responsibilities of the DBT.

Only those utilities affected by the Project shall be relocated or adjusted. If the DBT desires the temporary or permanent relocation or adjustment of the utilities for the DBT's benefit, the DBT shall conduct all negotiations with the utility owners and pay all costs associated with the relocation or adjustment. The DBT shall assume all schedule and cost impacts from these relocations or adjustments.

The DBT shall perform the following services related to utility coordination:

Identify and locate all utility conflicts.

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Confirm the identification and contact information of the utilities within the project area as provided by the District Utility Coordinator to verify the nature, extent and location of their existing facilities.

Minimize potential delays and coordinate the efficient relocation of affected utilities.

Provide all project construction documents, other utility relocation plans, subsurface utility engineering (SUE) information, and geotechnical information for relocation of utilities.

Coordinate all project work and utility work with the affected utility owners.

Schedule and conduct utility coordination meetings during the project design and construction process.

Maintain and update the utility coordination information monthly and make that information available to the District Utility Coordinator.

10.5 Notification

In accordance with ORC 153.64 and at least two (2) days prior to commencing construction operations in an area that may affect underground utilities, the DBT shall notify the Department, registered underground utility protection services, Oil and Gas Producers Underground Protection Service (OGPUPS), and other utility owners that are non-members of any utility protection services.

10.6 Utility Coordination Meetings

The DBT shall schedule and conduct utility coordination meetings commensurate with the complexity of each utility's relocation issues. The DBT shall notify the Department at least three (3) business days in advance of each of the meetings. The Department will participate as necessary. The DBT is responsible for generating meeting minutes within two (2) business days after the meeting and submitting those meeting minutes to the Department.

10.7 Scheduling of Utility Relocation Work

The DBT shall obtain activity durations for all utility relocation work-related activities from the representative utility owner for incorporation into the DBT's Project Schedule. The DBT shall provide all documentation supporting the utility owner's concurrence with the activity durations included in the project schedule.

The DBT shall pay all related acceleration costs incurred by the utility owner if the DBT requests acceleration of utility relocation work. These acceleration costs are NOT eligible for reimbursement to the Utility by the Department.

The DBT shall review the utility's design and/or permit application to ensure that the relocation does not interfere with other proposed construction activities, including relocations of other utilities. The DBT shall complete this review no later than fourteen (14) calendar days after its submission to the DBT, unless a different time period is expressly

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agreed to by both parties. The DBT shall compile and provide written review comments to the Department and the utility owner.

10.8 Deadlines and Delays

The DBT shall monitor the progress of all activities associated with utility relocations and promptly notify the Department when the progress of the activity controlled by a utility owner or a duration of relocation provided by the utility is not consistent with the durations obtained in section 10.7 (SCHEDULING OF UTILITY RELOCATION WORK).

The DBT may ask the Department to issue an Obstructive Removal Notice upon submission of sufficient documentation confirming that a utility owner has failed to perform within the schedule activity durations developed in Section 10.7.

The Department will solely determine if the Obstruction Removal Notice is to be issued. An Obstruction Removal Notice only governs the relocation process when the utility in question is located within the public road right-of-way. If a utility is located within the utility owner's easement, the notice does not apply and the relocation delay responsibility is based on the relocation schedule provided by the utility.

The Department will not be responsible for payment of delay claims associated with utility coordination/relocation unless the DBT is able to provide the Department with sufficient documentation for an Obstruction Removal Notice or failure of the utility to meet its utility relocation schedule.

10.9 Changes to Utility Relocation Work

The DBT shall not make any changes to the Project that would necessitate additional relocation of the utility once a utility relocation by the utility has begun. The DBT shall absorb the schedule impact and provide full compensation for one hundred percent (100%) of all costs (design and construction) associated with the additional relocation incurred by the utility owner if changes occur after relocation design or construction work has begun. The DBT shall provide all documentation related to changes in utility relocation work.

10.10 Utility Owner Inspections

The utility owner may inspect construction of any utility work performed by the DBT on the utility owner's facility. The DBT shall notify the Department of any such inspections. The DBT shall provide the Department with written documentation of all utility comments and resolutions.

The DBT shall provide safe access, including any necessary traffic control, for any utility work inspections performed by the utility owner.

10.11 Reimbursement and Deposit Processes

The DBT shall immediately notify the Department if a utility owner notifies the DBT that it believes any utility relocation work is reimbursable to that utility owner or if the utility

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believes an easement acquisition by the Department is required. The Department's District Utility Coordinator will work with the utility owner to confirm the compensable position and perform the Department's utility reimbursement process.

The DBT shall work with the District Utility Coordinator to determine how the utility will be made responsible for providing a deposit to cover the cost of that utility installation support if the project contains construction work to support the installation of a private/investor owned utility company's facilities.

10.12 Continuity of Utility Service

The DBT shall ensure that all utilities remain fully operational during all phases of the project, except as specifically approved by the utility owner. The DBT shall obtain approvals from the applicable utility owners for all necessary interruptions of service, including proposals for shutdowns and temporary diversions of affected utilities.

The DBT shall immediately alert the utility owner, the Department and occupants of nearby premises as to any utility related emergency (e.g., accidental breakage) which interrupts service. The DBT will coordinate with the utility owner to restore service. If service is interrupted, the DBT shall continue efforts to repair until any interrupted service is restored.

The DBT shall obtain approval for continued service from the local fire department authority prior to initiating Work which may impact fire hydrants.

Where the DBT is responsible for performance of utility relocation work, the DBT shall:

Maintain service continuity to the extent practicable while performing the utility relocation work.

Keep the utility owner fully informed of schedules, including coordinating with the utility owner with regard to the DBT's design, construction and inspection of the utility relocation work.

Coordinate any changes with the utility owner.

Keep the utility owner involved in making decisions that affect the utility owner's facilities so the utility owner is able to provide uninterrupted service to its customers, or be subject to the least interruptions practicable.

10.13 Existing Utility Locations

The DBT shall verify the actual location of all underground utilities, including type, number and depth. The DBT is responsible for verifying the actual location of all overhead utilities including type, number, and elevation of lines and all above ground utility facilities.

The DBT shall disconnect and remove or abandon to ground (abandon in place) all existing underground utilities to be abandoned, including service connections. The DBT shall remove all utility poles and other above ground utility facilities to be abandoned in their entirety.

10.14 Utility Conflicts

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Additional unknown utilities may be present that may or may not conflict with the project. The DBT shall identify, verify and document all utility conflicts and potential utility conflicts encountered during the performance of both design and construction work.

10.15 Protection of Utilities

The DBT shall take all necessary precautions to prevent disturbance to utility facilities and coordinate project design and construction with utility adjustments.

The DBT shall perform work in a manner that will cause the least reasonable inconvenience to the utility owner and those being served by the utility. Existing, adjusted or new utilities remaining within the right-of-way of the project shall be properly protected by the DBT to prevent disturbance or damage. If the DBT encounters a previously unknown utility that requires adjustment, the DBT shall not interfere with the utility, but shall take the proper precautions to protect the utility or take appropriate actions, per Contract Documents, to coordinate the adjustment of the facility.

10.16 Utility Relocations

The DBT shall coordinate and resolve all utility conflicts with the affected utility owner at no additional cost to the Department.

10.17 Utility Betterments

Any ineligible, unnecessary or betterment to the utility facility will be the responsibility of the utility owner and not the DBT. Determination of eligibility shall be coordinated through the Department. Payment for betterment or ineligibility costs shall be made by the appropriate utility owner through the Department to the utility contractor. Betterment procedures shall follow the Department's Utilities Relocation Manual.

10.18 Subsurface Utilities Engineering (SUE)

Subsurface Utility Engineering Required: ☑ Yes ☐ No

If marked yes, the DBT shall use a state approved subsurface utilities engineering location service to field verify all underground utilities prior to beginning of any design work and shall incorporate the results in the design.

DBT shall have the SUE perform the following Quality Levels:

☑ SUE Level A

☐ SUE Level B

☐ SUE Level C

☐ SUE Level D

11 MAINTENANCE OF TRAFFIC (MOT)

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11.1 General

The DBT shall be responsible for designing, providing, and maintaining safe and effective traffic control 24 hours a day for the duration of the Project. The DBT shall furnish, install, maintain and remove all traffic control devices. The DBT shall implement Maintenance of Traffic (MOT) in a manner that minimizes both construction duration and impact to the traveling public.

The DBT shall provide advanced (see Section 11.7.2) written notice to the Department & The Village of West Jefferson (see contact information below) for any MOT changes and closures.

John Mitchell
Director of Public Service, Village of West Jefferson
jmitchell@westjeffersonohio.gov
614-879-5342

The DBT shall furnish temporary MOT devices compliant with the AASHTO Manual for Assessing Safety Hardware (MASH), as applicable.

All state detour routes have been provided by the Department in Appendix G and shall be signed by the DBT. The designated local detour is provided by the Department in Appendix G.

The DBT is responsible for maintaining access to the construction zone and employee parking that meets the requirements of the Temporary Traffic Control Manual (TTCM), and does not unduly impact traffic and local residents and businesses

11.2 MOT Requirements

The DBT shall design and implement the MOT in accordance with the requirements referenced in Table 11-1.

Table 11-1: MOT Requirements

Requirement	Detailed Requirement Information
Minimum number of lanes in each direction to remain open during construction	See Section 11.6
Minimum lane width	I-70 & Ramps = 11’ Non-Interstate Roadways = 11’
Maximum duration of detour	See Section 11.6
Restrictions on lane closures during special events (sports events, fairs, concerts, etc.)	See Section 11.6.1
Restriction related to hospitals, fire and police, schools, etc.	N/A

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Traffic Control Device Spacing (channelizing devices)	Maximum spacing 40 feet center to center in tapers and transitions 80 feet center to center in tangents

11.3 Work Zone Speed Reduction

The DBT shall evaluate if a work zone speed reduction is warranted based on the final MOT scheme. The evaluation requirements are listed in Section 600 of the Traffic Engineering Manual.

If a work zone speed reduction is warranted, the DBT shall design and implement signing in accordance with the requirements of the Traffic Engineering Manual.

11.4 Haul Routes

In addition to the requirements of C&MS 105.13, the Progress Schedule shall account for 30 Days for the Department to secure approval for haul routes.

11.5 Traffic Engineering Manual Notes

The DBT shall design and implement the MOT in accordance with the following TEM notes:

- 642-2 Item 614, Maintaining Traffic
- 642-4 Item 614, Maintaining Traffic (Time Limitation on a Detour) applies to SR-29, Ramp C and Ramp D only, see section 11.6.6 for additional details
- 642-5 Item 614, Maintaining Traffic (Winter Time Limitations) – See section 11.18
- 642-6 Item 614, Maintaining Traffic (Lanes Open During Holidays or Special Events) Holidays applies to I-70 only. Special Events applies to I-70, SR-29 and all ramps.
- 642-7 Item 614, Maintaining Traffic (Lane Closure/Reduction Required)
- 642-8 Item 614, Maintaining Traffic (Notice of Closure Sign)
- 642-10 Item 614, Maintaining Traffic (ROAD CLOSED Sign)
- 642-11 Item 614, Maintaining Traffic (Signs and Barricades)
- 642-12 Maintaining Traffic
- 642-19 Dust Control
- 642-24 Work Zone Speed Zones (WZSZs)
- 642-25 Designated Local Detour Route
- 624-27 Work Zone Increased Penalties Sign
- 642-29 Floodlighting

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- 642-30 Work Zone Impact Attenuator for 24" wide hazards (Unidirectional or Bidirectional)
- 642-32 Approved Maintenance of Traffic (MOT) Policy Exception see section 11.6.3 for additional details
- 642-41 Portable Changeable Message Signs (At least 4 signs shall be maintained on site for the duration of the project)
- 642-44 Worksite Traffic Supervisor
- 642-48 Item 614, Work Zone Raised Pavement Marker, As Per Plan
- 642-51 Delineation of Portable and Permanent Barrier
- 642-52 Delineation of Temporary and Permanent Guardrail
- 642-55 Law Enforcement Officer (with Patrol Car) for assistance during construction operations

11.6 Lane, Ramp, and Road Closures

11.6.1 Lanes Open During Holidays

No work shall be performed (on I-70) and the same number of lanes (on I-70) as were available at the start of the project shall be open to traffic during the following designated holidays or events:

Christmas	Fourth of July
New Year's	Labor Day
Memorial Day	Thanksgiving

The period of time that the lanes are to be open depends on the day of the week on which the holiday is observed. The following schedule shall be used to determine this period:

DAY OF HOLIDAY	***TIME ALL LANES MUST BE OPEN TO TRAFFIC***
SUNDAY	*12:00 NOON FRIDAY THROUGH 6:00 AM MONDAY*
MONDAY	*12:00 NOON FRIDAY THROUGH 6:00 AM TUESDAY*
TUESDAY	*12:00 NOON MONDAY THROUGH 6:00 AM WEDNESDAY*
WEDNESDAY	*12:00 NOON TUESDAY THROUGH 6:00 AM THURSDAY*
THURSDAY	*12:00 NOON WEDNESDAY THROUGH 6:00 AM FRIDAY*
THANKSGIVING	*5:00 AM WEDNESDAY THROUGH 6:00 AM MONDAY*
FRIDAY	*12:00 NOON THURSDAY THROUGH 6:00 AM MONDAY*
SATURDAY	*12:00 NOON FRIDAY THROUGH 6:00 AM MONDAY*

SPECIAL EVENTS

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FARM SCIENCE REVIEW (9/20/22-9/22/22, 9/19/23-9/21/23, 9/17/24-9/19-24)

- LANE, RAMP OR SHOULDER CLOSURES ARE NOT PERMITTED DURING THE FARM SCIENCE REVIEW 5AM-10PM DAILY ON THE FOLLOWING ROUTES:
  - I-70 BETWEEN SR 54 (CLARK COUNTY) AND SR 142
  - SR 38 BETWEEN SR 29 AND US 42
  - SR 56 BETWEEN HOUSTON PIKE AND US 42
  - US 40 BETWEEN SR 54 (CLARK COUNTY) AND SR 142
  - US 42 BETWEEN SR 38 AND SR 29

No extensions of time shall be granted for delays in material deliveries, unless such delays are industry wide, or for labor strikes, unless such strikes are area wide.

Should the DBT fail to meet any of these requirements, the DBT shall be assessed a disincentive for I-70 per the lane value contract table (Section 11.6.2) and $100 for each minute the above described lane closure restrictions are violated for SR-29.

11.6.2 I-70 Lane Closure Restrictions

Table 11-2: MAD-70 Lane Value Contract Table

Section	Existing Number of Lanes per Direction	Lane closures are NOT permitted:				Disincentive Amounts per minute per lane
		Lane Reduction	Mon to Thur	Fri	Sat & Sun	
Clark County Line (0.00) to Franklin County Line (15.58)	3	3 to 2	No Restriction	3PM-7PM	No Restriction	$250
		3 to 1	6AM-7PM	6AM-8PM	8AM-9PM	$250
Short term shoulder closures are permitted any time except 6AM-9AM and 3PM-6PM Monday-Friday.						

11.6.3 Approved Maintenance of Traffic (MOT) Policy Exceptions

Portions of the MOT plan as described below have approved MOT Exception(s) per Traffic Management in Work Zones Policy (21-008(P)) and Standard Procedure (123-001(SP)).

Approved MOT Exception(s) include:

- 2 full closures of I-70 westbound will be allowed for beam erection
- 2 full closures of I-70 eastbound will be allowed for beam erection

Beam setting to be accomplished before the roundabout on the south east side starts construction to allow for detouring using the existing ramp geometries. During the closures I-70 traffic will be diverted to the I-70/SR-29 interchange ramps as shown in SCD MT-99.50. The DBT shall adjust the signal at I-70EB ramps/SR-29 to accommodate the up and over diversion. SR-29 shall also be closed and detoured during the I-70 closure so that the interchange ramps

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will be able to free flow across SR-29 without stopping. See Appendix G1 for more details. The Design-Build team shall provide detailed MOT sheets showing the layout that is to be utilized for the closure of I-70 and SR-29. The allowable closure time is 12AM (Midnight) to 5 AM, and any closures past the allowable time will be subject to the disincentives for 3 to 1 closures listed in the lane value contract table. Additionally, DBT shall coordinate signal ramp timings at MAD-70/42 to anticipate diverted traffic. Signal timings shall be coordinated with David Carlin, District Traffic Engineer.

A maintenance of traffic meeting shall be held a minimum of 30 calendar days prior to implementation of each approved MOT Exception. This meeting shall include the District Work Zone Traffic Manager, Madison County Engineer's Office, Village of West Jefferson, as well as the Contractor, Worksite Traffic Supervisor (WTS) and any subcontractors involved with temporary traffic control.

In addition to any notifications required in other notes, the DBT shall notify the Project Engineer at least 3 business days in advance of implementation of the approved MOT Exception(s) referenced above so that the Project Engineer can send email notification to the Office of Roadway Engineering, Statewide TMC, DWZTM and Special Hauling Permits at least 2 business days in advance of the implementation of the approved MOT Exception(s) referenced above. Reference "Exception Request Approval dated 8/12/2021 for PID 93605" in the notification and other correspondence.

Any changes to the MOT that impact the previously approved MOT Exception(s) listed above shall be approved in writing by the MOT Exception Committee (MOTEC). In the event that such changes are proposed, the request shall be coordinated through the District Work Zone Traffic Manager (DWZTM) a minimum of 30 calendar days prior to the desired implementation date. If the District agrees with the proposed changes the DWZTM shall seek approval from the MOTEC. In the event the proposed changes are approved in writing, the closures are still subject to notification requirements within this note prior to implementation.

Notifications During Closure Required

A designated on-site point of contact shall communicate with the TMC as the status of the closure changes.

Contact the TMC:

- If the closure is postponed or cancelled
- At the time the closure is implemented
- At the time the closure is removed and all lanes restored
- If the closure will not be opening on time

Contact can be made with the TMC in the following ways:

- Phone: 1-614-387-2438 or 1-800-884-4030
- Email: StatewideTMC@dot.ohio.gov
- Radio: XDOT Main

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PCMSs (along with signage) shall be placed at the closure points to guide motorists through the closure.

During the short duration closures of I-70, SR-29 shall be closed as shown in Appendix G1.

PCMS locations during the short duration closures:

- Intersection of US-42 & SR-29 facing 29 SB
- Gore of 70 WB to SR-29 exit ramp
- Gore of 70 EB to SR-29 exit ramp
- Intersection of US-40 & SR-29 facing US-40

See Appendix G1 for more details on PCMS locations and message content.

11.6.4 SR-29 Lane Closures

At least one lane of traffic shall be maintained at all times on SR-29, except during the short duration closures noted in 11.6.3 and the full-closure noted in Section 11.6.6. Signalized Closing 1 Lane of a 2-Lane Highway shall not be allowed.

11.6.5 Short Duration Ramp Closures

For the purpose of performing the required work, ramps may be closed for short durations and detoured in accordance with the ramp closure table if approved by the engineer. Ramp closures are subject to a disincentive of $45 per minute.

For all ramp closures lasting more than 12 hours but less than 60 hours, the DBT shall provide the following:

-A minimum of two portable changeable message signs (PCMS) placed, as directed by the engineer, to warn drivers of the closure and to provide the designated detour route.

-Positive guidance along the detour route with detour signs (M4-9 series).

For all service ramp closures lasting less than 12 hours, the DBT shall provide the following:

-A minimum of two portable changeable message signs (PCMS) placed, as directed by the engineer, to warn drivers of the closure and to provide the designated detour route. When closing entrance ramps, corresponding lead-in lanes and turn lanes shall also be closed.

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Ramp Closure Restrictions
Interstate Route 70 in Madison County

Secondary Route: State Route 29 SLM along 70:					
Ramp	Movement	No Closures Allowed		Detour Routes	
		Mon to Fri	Sat to Sun	Primary Route	Secondary Route
A	SR-29 to I-70 WB	6AM-9AM & 3PM-7PM	No Restriction	SR-29 WB to US-42 SB to I-70WB (Ramp A)	SR-29 EB to US-40 SB to US-42 NB to I-70 WB (Ramp A)
B	I-70 WB to SR-29	5AM-9PM	8AM-7PM	I-70 WB to US-42 (Ramp B) to US-42 NB to SR-29	I-70 WB to US-42 (Ramp B) to I-70 EB (Ramp C) to SR-29
C	SR-29 to I-70 EB	5AM-7PM	8AM-7PM	I-70 WB (Ramp A) to US-42 (Ramp B) to I-70 EB (Ramp C)	SR-29 EB to US-40 SB to US-42 NB to I-70 EB (Ramp C)
D	I-70 EB to SR-29	5AM-9AM & 3PM-6PM	No Restriction	I-70 EB to Plain City Georgesville Rd (Ramp D) to I-70 WB (Ramp A) to SR-29 (Ramp B)	I-70 EB to Hilliard-Rome Rd (Ramp E) to I-70 WB (Ramp A) to SR-29 (Ramp B)

Secondary Route: US Route 42 SLM along 70:					
Ramp	Movement	No Closures Allowed		Detour Routes	
		Mon to Fri	Sat to Sun	Primary Route	Secondary Route
A	US-42 to I-70 WB	5AM-9PM	8AM-7PM	US-42 to I-70 EB (Ramp C) to OH-29 WB (Ramp D) to I-70 WB (Ramp A)	US-42 NB to OH-29 EB to I-70 WB (Ramp A)
B	I-70 WB to US-42	5AM-9PM	8AM-7PM	I-70 WB to OH-56 SB (Ramp B) to I-70 EB (Ramp C) to US-42 (Ramp D)	I-70 WB to OH-54 SB (Ramp C) to I-70 EB (Ramp D) to US-42 (Ramp D)
C	US-42 to I-70 EB	5AM-9PM	8AM-7PM	US-42 NB to OH-29 EB to I-70 EB (Ramp C)	US-42 to I-70 WB (Ramp A) to OH-56 SB (Ramp B) to I-70 EB (Ramp C)
D	I-70 EB to US-42	5AM-9PM	8AM-7PM	I-70 EB to OH-29 (Ramp D) to OH-29 WB to US-42	I-70 EB to OH-29 (Ramp D) to I-70 WB (Ramp A) to US-42 (Ramp B)

11.6.6 Full Closures

Weather days that occur within the full closure period(s) will extend the closure duration "day for day".

SR-29

A minimum of one lane of traffic on SR-29 shall be maintained at all times, except for a period not to exceed 30 consecutive calendar days, when through traffic may be detoured. SR-29 shall be closed during the 45-day closure of Ramp D and during the 30-day closure of Ramp C. A disincentive shall be assessed in the amount of $5000 per day for each calendar day the roadway remains closed to traffic beyond the specified limit.

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The 30 consecutive day closure must occur within the last 30 days of the 45 consecutive day closure of Ramp D.

Ramp D – 70 EB to SR-29

Ramp D may be fully closed for a period not to exceed 45 consecutive calendar days, when through traffic may be detoured. A disincentive shall be assessed in the amount of $1,500 per day for each calendar day the roadway remains closed to traffic beyond the specified limit.

Signal timing adjustments must be made to the existing signal at I-70/SR-29 EB ramps during any period in which SR-29 and/or Ramp C are open when Ramp D is closed.

Ramp C – SR-29 to 70 EB

Ramp C may be fully closed for a period not to exceed 30 consecutive calendar days, when through traffic may be detoured. The ramp shall be closed during the 45-day closure of Ramp D. A disincentive shall be assessed in the amount of $3,000 per day for each calendar day the roadway remains closed to traffic beyond the specified limit.

The 30 consecutive day closure must occur within the last 30 days of the 45 consecutive day closure of Ramp D.

11.6.6.1 Local Detour Routes

In addition to the official, signed detour route, a local detour route has been determined to be the secondary, unsigned detour route or "Designated Local Detour Route". This route is shown in Appendix G. During the time that traffic is detoured, the DBT shall maintain the local detour route in a condition which is reasonably smooth and free from holes, ruts, ridges, bumps, dust, and standing water. Once the detour is removed and traffic returned to its normal pattern, the designated local detour route shall be restored to a condition that is equivalent to that which existed prior to its use for this purpose. Contingency quantity for this work is included with bid item "Item 614E13000 – ASPHALT CONCRETE FOR MAINTAINING TRAFFIC"

11.6.6.2 Detour Signing

Size and placement of detour signs (M4-9) shall follow the requirements of the OMUTCD Section 6F.03, Section 2A.11 and Table 6F.01.

In addition to the requirements in the OMUTCD, the designated detour shall be signed in accordance with the requirements below:

- Approximately 1500' prior to the tip of the painted gore at an interchange when exiting a high speed (45 MPH or greater) facility.
- At or near the existing sign in the gore of an interchange ramp.
- At or near the first existing lane assignment sign on an interchange exit ramp.
- At or near the existing lane assignment sign or existing route marker at the end of an exit ramp.
- Approximately 500' prior to a required turn at an intersection not controlled by a stop sign (for 45 MPH or higher only).

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- At or near the existing lane assignment sign or existing route marker at an intersection.
- Every 2 miles along a tangent section between turning movements outside a city.
- Every 2 blocks along a tangent section between turning movements within a city.
- At any other intersection or decision point where the detour route is contrary to the normal, expected turning maneuver or otherwise unclear.

Detour signs shall be placed, when possible, next to but not blocking existing route makers or lane assignment signs. Detour signs shall not obscure or be obscured by other existing or temporary signs.

Detour signs shall be erected and/or uncovered prior to the road or ramp being closed to traffic but no earlier than 4 hours prior to the closure. Detour signs shall be covered and/or removed no later than 4 hours following the road or ramp re-opening to traffic.

11.7 Notification

11.7.1 Notification of Construction Initiation

At least fourteen days prior to starting initial construction activities, the DBT shall advise the District 6 Public Information Office via email at d06.pio@dot.ohio.gov, the District Work Zone Traffic Manager via email at d06.mot@dot.ohio.gov and the Central Office Special Haul Permits section by fax at (614)728-4099 of the anticipated start date of any construction activities including but not limited to the placing of work zone signs. The notification shall also include the project number, PID, name and phone number of the DBT, a point of contact and the anticipated impact on traffic. The DBT will immediately inform the District Public Information Office and the District Work Zone Traffic Manager of any and all delays and/or changes regarding the construction initiation date.

11.7.2 Notification of Traffic Restrictions

Throughout the duration of the project, the DBT shall notify the project engineer in writing of all traffic restrictions and upcoming maintenance of traffic changes. The DBT shall ensure the written notification is submitted in a timely manner to allow the project engineer to meet the required time frames set forth in the table below to inform Special Hauling (hauling.permits@dot.ohio.gov) and the District Public Information Office (PIO). This notification shall be received by the project engineer prior to the physical setup of any applicable signs or message boards.

Information shall include but is not limited to all construction activities that impact or interfere with traffic and shall list the specific location, type of work, road status, date and time of restriction, duration of restriction, number of lanes maintained, number of lanes closed, detour routes if applicable, and any other information requested by the project engineer.

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Notification Time Frame Table			
Item	*Duration of Closure*	*Notification due to District 6 PIO*	*Sign Displayed to Public*
Ramp & Road Closures	*>= 2 weeks*	*21 calendar days prior to closure*	*14 calendar days prior to closure*
	> 12 hours & < 2 weeks	*14 calendar days prior to closure*	*7 calendar days prior to closure*
	<= 12 hours	*4 business days prior to closure*	*2 business days prior to closure*
Lane Closures & Restrictions	*>= 2 weeks*	*14 calendar days prior to closure*	
	< 2 weeks	*5 business days prior to closure*	
Start of Construction & Traffic Pattern Changes	*N/A*	*14 calendar days prior to implementation*	

11.7.3 Public Outreach and Notification

The DBT shall be responsible for contacting the District 6 Public Information office via email at d06.pio@dot.ohio.gov. ODOT District 6 PIO shall coordinate efforts to notify adjacent residents, businesses, and emergency services of the upcoming project. Advance notification to PIO shall occur no later than fourteen (14) days prior beginning work. All notifications shall be made utilizing the template provided by the District 6 Public Information Office.

11.7.4 Points of Contact

ODOT District 6 Public Information
Brook Ebersole
(740) 833-8222
Brooke.Ebersole@dot.ohio.gov

ODOT District 6, District 6 Work Zone Traffic Manager
Gary Fetherolf
(740) 833-8162
gary.fetherolf@dot.ohio.gov

ODOT District 6, Madison County Manager

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Mark Edwards
(740) 833-8120
Mark.Edwards@dot.ohio.gov

11.8 Pavement Markings and Delineation

Temporary work zone striping shall be Class I paint except on permanent surfaces. Work zone pavement markings which would conflict with the final traffic lanes shall be removable (CMS 740.06, Type I) tape unless the area will be resurfaced by the DBT prior to project completion.

For the purpose of this project, "Moving Operation" shall be limited to pavement marking striping.

11.9 Use of Weighted Channelizers

The weighted channelizer may be used in accordance with this Section. The weighted channelizer shall be predominantly orange in color and shall be made of lightweight, flexible, and deformable material. They shall be at least 42" in height with a weighted base. They may have a handle or lifting device which extends above the 42 inches minimum height.

The markings on the weighted channelizer shall be horizontal, circumferential, alternating orange and white retroreflective stripes 6 inches wide. Each weighted channelizer shall have a minimum of two orange and two white stripes. Any non-retroreflective spaces between the horizontal orange and white stripes shall not exceed 2 inches wide. The weighted channelizer shall have a 4-inch minimum width, regardless of orientation.

Use of weighted channelizers on freeways shall be limited to short-term operations for either day or night. Upon completion of work, the weighted channelizers shall be removed. The weighted channelizers may again be placed on the highway when the work is to resume on the following day or night. Any lane closure using channelization devices expected to remain for more than twelve hours shall require the use of drums or portable barrier.

When used at night, weighted channelizers shall only be placed in the tangent area and at a maximum spacing of 40 feet. The tangent area is defined as the area after the transition taper where the work takes place. Drums shall be used in the transition tapers for night operations.

Steps shall be taken to ensure that the weighted channelizers will not be blown over or displaced by wind or moving traffic. Ballasts shall not present a hazard if the weighted channelizers are inadvertently struck, nor shall they affect the

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visibility of the weighted channelizers. All ballasts used shall be in accordance with the manufacturer's specifications.

11.10 Access to Private Property

Access to drives shall be maintained via existing pavement, temporary pavement or Item 410.

Commercial property with multiple drives may have one drive closed when working in the area of the drive. Commercial property with only one driveway or driveways with one direction traffic use will be constructed part width. Temporary widening may be required to ensure commercial vehicle access. The DBT will coordinate with the property owner to minimize the impact to the owner.

Maintain access to residential properties at all times. When a residential drive is closed for construction, maintain alternate access to the property. It may be required for the DBT to maintain one passable lane within a closure in order for vehicles to access residency with a vehicle.

The DBT will coordinate any closures, or partially closed during construction, with property owners and be responsible for any and all property use agreements for alternative access.

Notify and monitor the notification to the occupants/owners of commercial or residential drives to be closed, or partially closed during construction, and coordinate the closure at least 7 days before the closure begins (simply leaving a written notice or phone message is not sufficient). Coordinate alternate access to residential properties with the owner/occupant.

11.11 Wrecker and Emergency Vehicle Access

The DBT shall make provisions to assist in the access of wreckers and emergency vehicles throughout the work zone. This may include, but not limited to, providing flaggers or removing sections of barrier to allow emergency vehicles and wrecker to move through portions of the work zone to reach accidents and/or breakdowns. The intent is to minimize extended delays to the travelling public and to provide quicker response times for wreckers and emergency vehicles. All agents and employees of the DBT shall be made aware of this provision before work begins.

All activities associated with accommodating wrecker services and emergency vehicle access throughout the work zone shall be coordinated by the worksite traffic supervisor and the engineer.

11.12 Pre-Maintenance of Traffic Meeting

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A pre-maintenance of traffic meeting shall be held (minimum 10 work days) prior to work beginning or any change of phasing. This meeting shall include the district work zone traffic manager (d06.mot@dot.ohio.gov) as well as the DBT and any sub-contractors involved with temporary traffic control.

11.13 Coordination Between Contractors

Coordination will be required with adjacent ODOT projects. ODOT will have multiple ongoing projects in the area, including but not limited to:

MAD-29-5.98, PID 110375

MAD-42-12.35, PID 109072

The DBT must coordinate full-closures and significant MOT impacts with the Engineer & contractor(s) for all adjacent projects. The DBT shall contact Andrew Holloway for contact information for adjacent projects.

The DBT shall schedule all full-closures of interchange ramps and SR-29 so that they do not overlap with closures on adjacent projects that utilize the same detour route. The detour signage plan during the overlapping period must be designed to clearly direct motorists onto the "extended" detour route. This coordination shall occur during the design phase and development of the MOT plan.

11.14 Right of Way Permits

The DBT shall be responsible for obtaining all applicable right of way use permits to install maintenance of traffic signing.

11.15 I-70 Shoulder Width

Shoulders without barriers shall be either a minimum of 3 foot paved shoulder or a shoulder consisting of a minimum of 2 foot paved and a minimum of 2 foot of item 411 stabilized crushed aggregate placed a minimum of 6 inches deep.

11.16 Rumble Strips

In the scenario in which traffic is shifted on I-70, and the rumble strips fall within the temporary lane: The contractor shall mill 2 inches by 2 feet wide of the existing asphalt shoulder in order to remove the existing rumble strips along I-70 in the area where traffic is shifted. The contractor shall then coat all milled surfaces horizontal and vertical with approved ac liquid. Next the contractor shall place 2 inches of Item 448 Asphalt Concrete Surface Course, Type 1, PG 64-22 (449).

Once the project is complete, the contractor shall install new rumble strips as per the construction and material specifications section 618.

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11.17 Traffic Control Devices Quality

The DBT shall provide, erect, and maintain drums, signs, barriers, and other traffic control devices used for maintenance of traffic in acceptable condition, in accordance with ODOT's *Quality Guidelines for Temporary Traffic Control Devices*.

11.18 Winter Time Limitations

All existing lanes, including ramps, shall be open and available to traffic in the original or proposed final alignment between October 15 and April 1. Should the contractor fail to meet these requirements, a disincentive shall be assessed in the amount of $1000 per calendar day.

12 SURVEY

A. ODOT Survey Responsibilities

The Department survey crews have provided the following survey information, listed below:

1. Existing Survey Basemap in Appendix J

B. DBT Survey Responsibilities

The DBT shall submit all survey data using ODOT's standard field codes and ODOT's standard mapping codes. Reduced point data, in comma delimited ASCII text format, will be provided for all surveyed points. This data will include: point number, North (y) coordinate, East (x) coordinate, elevation and point ID.

The DBT shall not disturb existing monumentation. If the DBT disturbs the monumentation, then the DBT shall replace the monument, in-kind, using a Registered Surveyor, with current registration, recognized by the Ohio State Board of Registration for Professional Engineers and Surveyors. Costs associated with monument replacement caused by DBT disturbance shall be borne by the DBT. The DBT shall provide copies of all monumentation changes to the District Real Estate Administrator.

The DBT shall include all control points, provided by the Department, in the ASCII file supplied by the DBT to the Department. They should retain the original point numbers and coordinate values as assigned by the Department.

The DBT shall provide the following items prior to final acceptance of the Record-Drawing plans:

1. Copies of all field notes (written or electronic) which shall include the following information:
    a. Date
    b. Crew members
    c. Weather conditions, including temperature, barometric pressure, etc.

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d. Instrument(s) used (Serial Number)
e. Raw observation field data
f. Other notes as needed

2. Copies of all Deeds, Plats, Maps and other written evidence used to establish points related to the project including summaries of all parole evidence acquired as a part of the survey operation.
3. Listing of all found monumentation (Horizontal and Vertical).
4. Listing of all monumentation set as part of the project (Horizontal and Vertical) including reference ties for recovery.
5. All monumentation shall be located utilizing NAD 83 (Horizontal Data), NAVD 88 (Vertical Data).
6. Short report indicating adjustment factors and methods, signed and certified by a Registered Surveyor (State of Ohio). The Registered Surveyor (State of Ohio) shall include in the report the datum used and all associated adjustments used.

13 PAVEMENT

13.1 General

The southern driveway apron at Parcel 10 shall be replaced and shall follow the asphalt buildups shown in the ODOT Location and Design Manual Volume 1, Section 805.

Saw cut lines, widening limits, and curb shown in Appendix M (Preliminary Layout) are approximate.

Portions of concrete pavement at the existing roundabout and portions of the approaches to the existing roundabout may be reused if the existing cross-slope or profile does not need changed to meet the final design. Limits for pavement that can/cannot be salvaged are graphically shown in Appendix Q. No existing pavement along SR-29 through the proposed roundabout & widening limits (from bridges to Commerce Parkway) shall be reused. Additionally, no pavement at the I-70 EB to SR-29 SB exit approach (within new pavement limits of the project) shall be reused/widened. Stationing shown for reuse limits in Appendix Q is approximate, and replacement shall be taken to the nearest transverse joint.

For any locations in which the DBT reuses existing ramp or roundabout pavement, and proposes widening of the pavement:

- Old pavement and the widening shall, at a minimum, meet at the same subgrade elevation.
- Subsurface drainage is required.
- The widening must be the same material and buildup as the mainline.
- New pavement shall be the same type as the old and shall be tied to the old concrete using Type D Longitudinal joint according to BP-2.1.
- Longitudinal joints are to be located at lane lines

Commented [add4-6]:
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- Longitudinal joints shall not be located in the wheel path.
- A minimum 2' wide section shall be placed when widening rigid (concrete) pavement.
  - Replacement must go to the nearest transverse joint.
- A minimum 5' wide section shall be placed when widening asphalt pavement (can be a combination of new & replacement)

Commented [add4-7]:

Underdrains are required on SR-29 where new pavement is constructed.

Curb location and type requirements are provided in Appendix P (Contractual).

Deleted: Concrete curb shall be constructed along SR-29 from connection to the proposed & existing bridges to STA. 580+50. Concrete curb shall be constructed on ramp approaches through the approach curves. Concrete curb shall also be constructed at the proposed approach to the proposed bridge from the existing roundabout. Concrete curb shall be constructed along all bypass lanes.¶

Rigid pavement shall be used from the existing & proposed bridges to the roundabout and southeast of the proposed roundabout to STA. 575+00 (West Jefferson Corp. Limit). Rigid pavement shall be used at all ramp approaches. Rigid pavement shall be used at proposed approach to the proposed bridge from the existing roundabout. Rigid pavement shall be used on all bypass lanes.

Flexible pavement shall be used on SR-29 from STA. 575+00 to the end of the project limits. The cul-de-sac constructed at the termination of Byerly Rd shall be flexible pavement.

13.2 Subgrade Undercuts

DBT shall follow CMS 204. Contingency quantities for subgrade undercut items have been provided. The contingency quantity was calculated with the assumption that 12" deep undercuts will be required for roughly 25% of the proposed full depth pavement area. Undercuts include removal of subgrade, placement of geogrid for 10% of all undercut area and geotextile fabric for 100% of all undercut area, and granular material type B. Geogrid shall be placed in undercut areas if utility facilities are found to be near the bottom of the proposed subgrade.

13.3 Rigid Pavement Build-ups

SR 29 – Proposed Roundabout & Non-Ramp Approaches

Item 452 – 9.5" Non-Reinforced Concrete Pavement, Class QC 1P with QC/QA

Commented [add5-8]:

Item 304 – 6" Aggregate Base

Tied longitudinal joints at the shoulders are required.

Pressure relief joints are required at the bridges.

Concrete Jointing Diagrams shall be provided as part of the plans.

Shoulders shall be the same material and buildup as the mainline. For the shoulders, dowels are required for the transverse joints.

Edge course design shall extend to the locations specified in Section 303.6 of the PDM.

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SR 29/I-70 Ramp Approaches (See area outlined in red in Appendix O for approximate limits)

Item 452 – 13" Non-Reinforced Concrete Pavement, Class QC 1P with QC/QA

Item 304 – 6" Aggregate Base

Tied longitudinal joints at the shoulders are required.

Pressure relief joints are required at the bridges.

Concrete Jointing Diagrams shall be provided as part of the plans.

Shoulders shall be the same material and buildup as the mainline. For the shoulders, dowels are required for the transverse joints.

Edge course design shall extend to the locations specified in Section 303.6 of the PDM.

13.4 Flexible Pavement Build-ups

Mainline – SR 29

Item 442- 1.5" Asphalt Concrete Surface Course, 12.5MM, Type A, (446)

Item 442 – 2.0" Asphalt Concrete Intermediate Course, 12.5MM, Type A, (446)

Item 301 – 6.5" Asphalt Concrete Base, PG64-22 (449) (2 lifts)

Item 407 – Non-Tracking Tack Coat (Rate per CMS Table 407.06-1) – * to be used between each lift of AC

Item 304 – 6" Aggregate Base

Shoulder shall be the same material and buildup as mainline.

Byerly Rd Cul-De-Sac

Item 442- 1.5" Asphalt Concrete Surface Course, 12.5MM, Type A, (448)

Item 407 – Non-Tracking Tack Coat (Rate per CMS Table 407.06-1) – * to be used between each lift of AC

Item 301 – 4" Asphalt Concrete Base, PG64-22 (449)

Item 304 – 6" Aggregate Base

14 ROADWAY

DBT shall provide cross sections in the plans at 50' and any abrupt changes.

DBT shall replace any mailboxes that are impacted by construction.

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The DBT shall evaluate the need for guardrail, design and construct to current ODOT standards. This includes evaluating existing guardrail and updating to current ODOT standards.

Shoulder and Lane widths of all slip lanes (I-70 EB to SR-29 SB, SR-29 NB to I-70 EB, and I-70 WB to SR-29 NB) shall be per the "Ramp" interchange element in Figure 303-1 in Location and Design Volume 1. The design speed is 25 mph for the I-70 EB to SR-29 SB slip lane & the SR-29 NB to I-70 EB slip lane.

Commented [add3-11]:

SR-29 shall be widened to two lanes in each direction from the bridges to Commerce Parkway.

Deleted: proposed EB roundabout

The taper to two lanes for SR-29 NB shall begin at approximately STA. 584+52 and end taper at 584+02. SR-29 SB shall be two lanes all the way to the Commerce Parkway intersection, striped as one through lane and one right-turn. A two-way left turn lane (12' wide) shall be added from the end of the of the proposed splitter island that terminates at approx. 577+35 to the intersection of Commerce Parkway. The two-way left turn lane shall be striped off transversely from 583+50 to the intersection with Commerce Parkway.

Commented [add4-12]:

DBT shall extend the existing concrete splitter island between SR-29 NB and SB, that is located north of the existing roundabout, approximately 10'± towards the center of the roundabout, as shown in the preliminary layout (Appendix M). The inside lane of the roundabout will be reconstructed closer to the center of the roundabout through this section, and the existing truck apron will be shifted towards the center of the roundabout. The lanes will be realigned to improve the geometry of the left-turn movements from the I-70 WB exit ramp.

Pedestrian curb cuts shall be installed to accommodate pedestrians crossing all ramps and slip lanes along SR-29 at the SR-29/I-70 interchange. Curb cuts for crossing SR-29 are not required.

Splitter island material requirements:

Roundabout	Location	Material Requirement
WB (existing)	Between roundabout and bridges	Concrete
WB (existing)	Between roundabout and I-70 WB to SR-29 NB slip lane	Concrete
EB (proposed)	Between roundabout and bridges	Concrete
EB (proposed)	Between NB/SB SR-29 terminating at approx. STA 577+35	Concrete
EB (proposed)	Between roundabout and I-70 EB to SR-29 SB slip lane	Concrete
EB (proposed)	Between roundabout and SR-29 NB to I-70 EB slip lane	Grass

Minimum lane width for mainline SR-29 = 12'-0"

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Minimum shoulder width for mainline SR-29 = 4'-0"

The proposed cul-de-sac at Byerly Rd shall be designed to accommodate a school bus.

Deleted: roundabout

Each design submission (interim, final, released for construction) shall include a completed and updated copy of the Roundabout Critical Design Parameters Checklist (L&D Vol. 1 403-2) for the proposed roundabout.

Proposed roundabout shall adhere to the geometric requirements set forth in Appendix K and Appendix L. Appendix K has supplementary requirements to the ODOT Design Manuals and Guidelines listed in Section 7.1 and must be met in addition to the requirements within those Manuals and Guidelines.

The I-70 WB to SR-29 NB bypass lane shall begin the taper at approx. 541+46.67, and be full width at approx. 540+96.67. The existing left-turn length shall remain unchanged.

14.1 Design Exceptions

No design exceptions are anticipated for this project. The DBT shall notify ODOT regarding any design features that are believed to not meet the minimum design criteria and require a design exception.

The DBT may develop a design requiring a design exception, subject to sole discretion approval of the Department and FHWA. The DBT shall prepare any proposed design exceptions and submit to the Department for coordination with FHWA and approval. Following submittal of the complete design exception submittal, the Department will provide a response within thirty (30) days. The DBT shall accept all cost and schedule risk associated with obtaining ODOT and FHWA approval of the design exception.

14.2 Interchange Modification/Justifications Studies

The DBT shall prepare a design compliant with the Interchange Modification Study (IMS) and Addendum provided in Appendix E.

15 DRAINAGE

Post-construction storm water Best Management Practices (BMP), vegetated bio-filters shall be installed as per Appendix B. Groundwater Mitigation and Riparian Setback Mitigation as shown in Appendix B will be completed prior to award by the Department from the Big Darby Mitigation Bank.

Existing drainage conduits and structures may be reused if not impacted by construction. Existing drainage structures being reused shall be adjusted to grade.

The DBT shall analyze the existing drainage system and remove, upgrade, modify, or install new drainage structures that meet the requirements of the Location Design Manual, Volume 2.

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The permeable portion of the grass splitter island between the roundabout and SR-29 NB to I-70 EB slip lane shall be sloped to a drainage structure (Catch Basin, No. 5) to be installed within the island and shall be connected to new or existing drainage facilities.

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Drainage of the existing bridge MAD-29-1063, SFN 4900243 shall be adjusted/changed to accommodate the adjacent bridge.

The DBT shall submit a final "as-built" plan to ODOT showing in plan view and table format the stormwater BMP outfall locations, description of BMP, description of outfall and BMP unit quantity. The table shall include latitude and longitude of each stormwater BMP outfall location as well as roadway station and offset.

15.1 Permanent Erosion Control

Permanent Erosion Control shall consist of soil analysis testing, minimum 4 inches of topsoil, preparing the seed bed, placing and incorporating seed, agricultural lime, commercial fertilizer, placing mulching material, repair seeding, inter-seeding, and water. Seeding and mulching shall be applied to all areas of exposed soil between the right-of-way lines, and within the construction limits for areas outside the right-of-way lines covered by work agreement or easement. This work shall be included in the Item 659 Permanent Erosion Control lump sum.

The DBT shall seed all disturbed areas with Class 4A or Class 4B seed mixes (listed under 659.09). The DBT shall use Class 4A at locations without site distance limitations.

16 LANDSCAPING

Landscaping Required: ☑ Yes ☐ No

The DBT shall permanently grade and seed all impacted areas.

For the proposed roundabout, landscaping and grading shall be provided to denote the roundabout feature by creating a visual barrier to the straight through movement while not impacting the sight distance or view of signs. Low-growth plants or grass shall be utilized. The earth mound in the central island formed by low-growth plants/grass & grading shall be 3.5'-6.0' in height measured from the circulatory roadway surface at the curb face. Refer to Section 905.3.3 of Location & Design Manual, Volume 1.

Full compensation for this item is to include all items that create the visual barrier within the central island of the proposed roundabout, including grading and all final seeding & mulching, as well as plantings will be paid under lump sum Item 661 – Special – Landscaping.

17 STRUCTURES

17.1 Existing Bridge Requirements

Structure Identification: MAD-29-1063, SFN 4900243

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Structure File Number: *4900243*

Feature Intersection: *I-70*

Bridge shall be restriped, raised pavement marker reflectors replaced, and barrier reflectors replaced to accommodate one-way NB traffic in both lanes.

17.2 Proposed Bridge Requirements

Structure Type:

Continuous steel composite, superstructure with reinforced concrete deck and substructure shall be used.

Alignment/Transverse Section:

Proposed bridge alignment shall be parallel to existing structure MAD-29-1063 alignment. Proposed bridge shall not connect to existing adjacent bridge, nor induce any settlement onto the existing foundation system. Separation distance between deck edges of existing bridge and proposed is limited to a maximum of 25 feet.

Bridge shall carry two lanes of one-way traffic SB on SR-29. The transverse bridge section shall consist of two lanes 12'-0" wide and 4'-0" shoulders.

Profile:

Proposed bridge profile shall be no more than 6" different than the existing profile of MAD-29-1063 at any point.

Minimum vertical clearance of 16'-6".

Span Configuration/Lengths:

Span configuration shall match length and skew of the existing adjacent bridge.

Spans: 104'-10"; 161'-4"; 161'-4"; 104'-10" c/c bearings

Skew: 59°39'00" Left Forward

Substructures:

Deep foundations are required for all substructure units. Use of spread footings are not permitted.

Abutments shall be semi-Integral, and the center pier shall be fixed. Provide a gap behind abutment diaphragms according to BDM 404.6.

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Single column piers are not permitted.

Coatings:

Structural steel shall be field painted (IZEU three-coat system), and the finish coat shall be Federal Color Number 16440 (Grey).

Seal all exposed concrete surfaces with non-epoxy sealer according to BDM 306.1.2 and 309.2.1

Superstructure/General:

42" single slope barriers on both sides per standard construction drawing SBR-1-20.

Approach slab installation Type A and Type B are not permitted.

Utilities:

DBT shall provide 4" raceway through western bridge railing and provide pull boxes within the railing at distances not to exceed 200 feet. The raceway shall be connected to handholes installed in the ground outside of the bridge limits.

No other utilities allowed on bridge without ODOT approval.

Sidewalk:

☐ Yes ☑ No

Fence:

☑ Yes ☐ No Type: Match ex. adjacent bridge (6'-0" vandal protection fencing throughout entire bridge limits on both sides)

Miscellaneous:

Investigate the need for Prefabricated Structure: ☐ Yes ☑ No

17.3 Noise Barrier

Noise Barrier Construction Required: ☐ Yes ☑ No

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18 TRAFFIC CONTROL

18.1 Pavement Markings and Delineators

The DBT shall perform Work related to pavement markings and delineators in accordance with Section 7.1 and the following sections.

A. Pavement Marking Requirements:

All pavement markings shall conform to Section 640 of the CMS and shall be placed in accordance with current design standards.

Item 644 Thermoplastic shall be used on all asphalt surfaces. Item 646 Epoxy shall be used on all concrete surfaces. Lane line contrast shall be applied as white on top of black as per option #1 of TEM 301-19.4 for all lane lines on concrete surfaces.

See OMUTCD Figure 3C-1 – White triangles before white dotted line are required for roundabout approaches.

See OMUTCD Figure 3C-14 – White chevron markings at roundabout entrance approaches are required.

Lane-use arrows at roundabout approaches shall be fish-hook arrows, either with or without an oval symbolizing the central island, as shown in OMUTCD Figure 3C-2.

B. Raised Pavement Markers:

All pavement markings shall conform to Item 621 and shall be placed in accordance with current design standards.

C. Delineators:

All flexible delineators shall conform to Item 620 and shall be placed in accordance with current design standards. Confirmation that no conflicts exist between the proposed locations of delineators and any underground utilities shall be made prior to the installation of the delineators.

D. Barrier Reflectors:

All barrier reflectors shall confirm to Item 626 and shall be placed on bridge parapets, concrete barrier walls, retaining walls and guardrail, in accordance with current design standards. Guardrail blockout reflectors shall be installed on the side of the blockout away from traffic.

E. Object Markers:

All object markers shall conform to Item 630, Sign, Flat Sheet.

18.2 Signing

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The DBT shall perform Work related to signs in accordance with Section 7.1 and the following sections.

If a raised splitter island is available on the left-hand side of a multi-lane roundabout approach, an additional YIELD sign shall be placed on the left-hand side of the approach.

At roundabouts, Intersection Lane Control (R3-5, R3-6, and R3-8 series) signs shall display the Fish-hook arrows shown in OMUTCD Figure 2B-5.

Where the central island of a roundabout allows for the installation of signs, ONE WAY signs shall be used instead of or in addition to Roundabout Directional Arrow (R6-4 series) signs (see OMUTCD Section 2B.43) to direct traffic counter-clockwise around the central island.

Where the central island of a roundabout allows for the installation of signs, Roundabout Directional Arrow (R6-4 series) signs (see Figure OMUTCD 2B-20) shall be used in the central island to direct traffic counter-clockwise around the central island, except as provided in Paragraph 11 in OMUTCD Section 2B.40.

If an approach to a roundabout has a statutory or posted speed limit of 40 mph or higher, the Circular Intersection (W2-6) symbol sign shall be installed in advance of the circular intersection.

The diagrammatic route guide sign format, such as the D1-5 and D1-5a signs shown in Figure OMUTCD 2D-8, shall be used on all approaches to roundabouts.

- I-70 WB approach to existing roundabout - Existing overhead sign (TC-7.65 Design #6) – Update signs and reuse overhead truss if feasible/possible. If truss cannot support additional sign loading or if in conflict with proposed design – it shall be replaced in kind.
- SR-29 SB approach to existing roundabout – Update existing sign.
- SR-29 NB approach from existing bridge to existing roundabout – Update existing sign.
- I-70 EB approach to proposed roundabout – Overhead signage required.
- SR-29 NB approach to proposed roundabout – Install adjacent sign.
- SR-29 SB from proposed bridge to proposed roundabout – Install adjacent sign.

At locations where it is not readily apparent that traffic is required to keep to the right, a Keep Right (R4-7) sign shall be used.

18.2.1 Flat Sheet Signs

A. Flat Sheet Sign work required: ☑ Yes ☐ No.

1. The DBT shall design and construct all flat sheet signs required by the project
2. Existing flat sheet signs that are to remain but conflict with the proposed design shall be removed and replaced. This also includes all STOP signs on intersecting roads.
3. Size all proposed signs in accordance with the OMUTCD.
4. Removed flat sheet signs shall become the property of the DBT.

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18.2.2 Extrusheet Signs

A. Extrusheet Sign Work Required: ☑ Yes ☐ No.

1. Redesign and replace all existing extrusheet signs with new signs. This includes all signs on SR-29 and interchanges ramps (beginning at physical gores). Size the signs in accordance with the OMUTCD.
2. Tourist-Oriented Directional Signs (TODS) and logo signs: ☐ Yes ☑ No.
3. Removed extrusheet signs shall become the property of the Contractor.

18.2.3 Ground Mounted Post Supports

A. Replace: ☑ Yes ☐ No.
   1. Redesign and replace all existing ground mounted post supports with new supports for signs being relocated or replaced by the project. Do not disturb existing supports for signs that do not need to be relocated or replaced. All sign installations shall be on new supports.
   2. Removed ground mounted supports shall become the property of the Contractor.

18.2.4 Ground Mounted Beam Supports

Ground Mounted Beam required: ☑ Yes ☐ No.

1. Redesign and replace all existing ground mounted beam supports with new ones for all signs on SR-29 and interchange ramps (beginning at physical gores) in the project limits.
2. Supports subject to multidirectional impacts at intersections shall use the alternate connection on sizes larger than S4 x 7.7.
3. Removed ground mounted beam supports shall become the property of the Contractor. Remove all existing foundations.

18.2.5 Overhead Supports

Overhead Supports: ☑ Yes ☐ No.

1. Design all location of all supports per the Traffic Engineering Manual unless otherwise specified in the Scope of Services.
2. All overhead supports shall be reused in place unless in conflict with the proposed design. If existing overhead supports are found to be in conflict with the proposed design, they shall be removed and replaced.
3. At all locations, a minimum vertical clearance shall be per the Traffic Engineering manual unless otherwise listed.
4. Removed overhead supports and sign lighting components shall become the property of the Contractor.

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18.3 Lighting

The DBT shall perform Work related to lighting in accordance with Section 7.1 and the following sections.

Proposed Lighting

- DBT shall provide lighting for the existing and proposed roundabouts (including bypass lanes) in accordance with TEM 1140-4.6.10.
    - The roundabout intersections shall be classified as Major/Collector, with Low Pedestrian Area Classification.

Commented [add5-13]:

Existing Lighting

- The existing lighting is property of the utility provider.
- DBT shall coordinate the removal of this lighting with the owner/utility company.
- DBT shall maintain lighting throughout construction in the existing roundabout.

18.4 Traffic Signals

The DBT shall perform work related to traffic signals in accordance with Section 7.1 and the following section.

The DBT shall make adjustments to the existing signal at Commerce Parkway & SR-29 to accommodate the final design.

The DBT shall completely remove the existing signal at the I-70 & SR-29 EB exit/entrance ramps. Complete removal includes but is not limited to poles, signal heads, pull boxes, cabinet, wires, and cables. All salvageable materials shall be delivered to the district headquarters at 400 E William Street, Delaware, Ohio 43015. The DBT shall coordinate the delivery of the salvaged materials with the Project Engineer and David Carlin (see contact information below). Signs shall be erected that state "Signal to be Removed on MM/DD/YYYY" at the 3 approach legs of the intersection (29 NB, 29 SB, WB 70 Exit) a minimum of 30 days prior to removal of the signal.

David Carlin
Traffic Operations Engineer
David.Carlin@dot.ohio.gov
740-833-8198 (office)
740-815-6015 (cell)

18.5 Intelligent Transportation Systems (ITS)

A. ITS Work Required: ☑ Yes ☐ No

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ITS Requirements: Relocate camera pole at I-70 EB exit ramp to SR-29 infield if found to conflict with proposed work. Existing camera pole installation details can be found in the ITS Plan (page 455/470) of MAD-70-8.62, PID 107109.

If relocation is found to be necessary:

The camera pole, ground mounted cabinet, pull box, and other salvageable equipment shall be relocated to the west or southwest of the existing location and remain outside of the clear zone, or protected by barrier.

The DBT shall relocate the camera pole so that there is direct line-of-sight between other poles without being occluded by trees so that wireless point-to-point network connectivity can be achieved (all network equipment to be installed by ODOT Central Office Traffic Operations).

The DBT shall use the TEM guidelines and ITS Series of Standard Construction Drawings to design and install the dome-type camera assembly on a 70ft Concrete pole with lowering device, ground mounted ITS cabinet, and work pad. The DBT shall submit the proposed embedment depth and relocation plan to the Office of Geotechnical Engineering for approval prior to construction. If the existing pole cannot be salvaged for any reason, the DBT shall install a new pole. A contingency quantity for a new pole (ITEM 809E61000) has been included and shall be used as directed by the engineer.

All ITS equipment shall be installed per Supplemental Specification 809.

As-built drawings with GPS locations shall be provided per Supplemental Specification 809.

18.6 Remote Weather Information System (RWIS) Sensors

If any RWIS sensor is affected by the proposed design, the DBT shall furnish and install a new complete operational RWIS sensor at the same location as the existing, along with removing the existing sensor.

Any proposed sensor units shall be type vx21. Installation shall be in accordance with the manufacturer's written specifications and installation guidelines.

The DBT shall contact the sensor manufacturer's representative, who will be present while the proposed sensor is being installed:

Digital Traffic Systems, Inc
857 Warehouse Rd, Unit E
Toledo, Ohio 43615

Attn:
David Burnham, Technical Field Supervisor
989-619-0027
david.burnham@dtsits.com

Refer to Appendix N for typical vx21-2 installation information.

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The proposed sensor canister shall be installed using the proper canister installation tools per the manufacturer's written instructions and installation guidelines. It is the intent for the proposed sensor to be placed at the approximate location as the existing unless otherwise specified by the manufacturer's representative and/or the ODOT engineer.

DBT shall notify the ODOT District 6 Highway Management office (Sam Morrison, (740) 833-8023) when the sensors are removed, and when the proposed sensor installations are complete. The district will monitor the new sensor's performance for a minimum of five (5) working days to verify proper operation. If the sensor does not perform properly within this test period, the DBT (with assistance from the manufacturer) shall verify the installation is correct. If the sensor continues to malfunction, the contractor shall replace the unit.

Payment for the above work shall be made at the unit price bid of Item 632 - Signalization Misc.: RWIS Sensor, vx21-2, each, and shall include all labor, tools, equipment and materials necessary to remove the existing sensor and install a complete and functioning RWIS Sensor, vx-21-2.

19 GEOTECHNICAL ENGINEERING

Existing boring data is provided for reference in Appendix D.

The DBT shall determine the need for additional subsurface investigations necessary to complete the Project. Geotechnical explorations shall be performed and documented in accordance with the Specifications for Geotechnical Explorations.

Soil Profile Sheets are NOT required to be provided with plan submissions.

Commented [add1-14]:

20 PROJECT SCHEDULE REQUIREMENTS

The DBT shall develop and maintain a project schedule in accordance with the selected note:

☐ CM&S 108.03 A. Progress Schedule

☐ Proposal Note 105 - Critical Path Method Progress Schedule for Single Season Projects

☐ Proposal Note 107 - Critical Path Method Progress Schedule for Multi-Season Projects

☑ Proposal Note 132 - Critical Path Method Progress Schedule for Design/Build Multi-Season Projects including updates released on or before the prebid meeting date, shall be met or exceeded.

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21 PLAN SUBMITTALS AND REVIEW REQUIREMENTS

21.1 Plan Components

All plans submitted by the DBT shall be in conformance with the following ODOT manuals:

1. Real Estate Policies and Procedures Manual Section 3100.

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The DBT shall also identify all topographic features within the existing and proposed Right-Of-Way limits, including underground utilities.

2. Bridge Design Manual.
   Note: Bridge subsummaries are required.

3. Location and Design Manual, Volume 3:
   The following sections of the Location and Design Manual, Volume 3 are NOT required:

1302.13	Plan Signatures
1307.4	Quantity Calculations
1310.3	Earthwork and Seeding Quantities

Units of measure are **NOT** required.

Simplified plans (section 1301.2) are **NOT** allowed.

MOT Phasing plans shall be drawn at 1"=20', 1"=30' or 1"= 40'.

21.2 Quality Control

The DBT is responsible for the professional quality, technical accuracy and adherence to the Governing Regulations listed in Section 7.1 (Governing Regulations) of this document, for all plan submittals required under this contract.

The DBT shall immediately notify the Department of any apparent discrepancy between the various design and construction manuals and the Contract Documents.

The Department shall have the discretion to dictate the level of Design review. The Department's acceptance of the design or failure to identify improper design does not, in any way, relieve the DBT of the responsibility for the quality, accuracy, or feasibility of the Design.

In the event the Department determines that any required submission is incomplete, contains inaccuracies which preclude a meaningful review, or does not adhere to the Governing Regulations listed in Section 7.1 (Governing Regulations) of this document, the Department will advise the DBT of the shortcomings and direct the DBT to revise and resubmit the plan. No time extension will be granted as a result of such action. The Department will schedule a review meeting or issue review comments as appropriate.

21.3 Comment Resolution Process

This section establishes transmittal processes and interaction between the Department and the DBT during submittal reviews in addition to the requirements found within the Scope of Services and other Contract Documents. The process can be modified upon mutual agreement between the DBT and the Department with the intention of meeting the requirements of the

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Contract or specific submission needs. This process may be revised by mutual agreement of both parties.

Specific identified procedures may be amended, revised, eliminated, or added to address project specific needs or mutual party understanding.

This process shall utilize electronic transmittals for all design submissions unless otherwise specified in the Scope of Services. Plan and design submissions shall be in PDF format, Microsoft Excel, Microsoft Word, or other document types as mutually agreed and appropriate to and for the submission.

Submissions should generally conform to the Scope of Service and other specification included in the Contract Documents, as appropriate, with variations as mutually agreed.

The Department shall establish a file transfer website (typically, an ODOT Project SharePoint, ProjectWise site, or other appropriate file transfer and storage site), with controlled and controllable access, for uploading design submissions and subsequent transmittal of design review comments.

Project specific process details shall be discussed at the Pre-Design Meeting. These details include the responsible contacts (Department and DBT), file server location/IP address, known required persons needing access, and login requirements.

A. Procedure

The Department will grant access to an identified DBT representative who will have authority and responsibility to create Buildable Unit Submission (BUS) folders and other folders within the transfer website. Each folder shall be logically named. Within each BUS folder, additional folders representing each stage of review (i.e. Interim/Final/Construction) will be created. If mutually agreeable, the DBT may perform this role if management by the DBT facilitates submissions.

With each Buildable Unit with each Design Submission, the DBT shall include a transmittal sheet describing the BUS, the BUS stage (Interim/Final/Construction), the contractual review response date (from the Department as well as any other third-party reviewer, if applicable), critical assumptions made for the BUS impacting subsequent BUS submissions, and any information which could facilitate review.

The DBT shall develop and utilize a Comment Resolution Spreadsheet (CRS) for each Buildable Unit with each Design Submission (Interim, Final, Construction) for use in logging and tracking review comments. The DBT shall provide a blank CRS to the Department and other third-party reviewers at Interim Design Submission. The Department and applicable reviewing agencies shall review for Contract requirements. The Department will utilize the CRS document to centralize all Department employee Buildable Unit Design Submission comments.

Department review comments will primarily focus on compliancy with the Contract Documents. The Department will refrain from making excessive preferential and formatting comments. Reviewer preferential comments shall be marked “Preference” within the CRS. While formatting comments do not need responded to, the Department reserves it’s right to

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reject a submission which, in its judgement, is not reasonably following required ODOT CADD standards.

An updated copy of the CRS shall be provided to all reviewers at the Final Submission. With the Final Submission on the transmittal page, the DBT shall identify major design revisions and design approaches made between Interim and Final Submission being outside the course of typical design progression and were not made to address Interim Review comments. The updated copy shall include all comments received at Interim submittal along with the DBT's written disposition of all Non-Compliant comments made during formal Interim design submittals. The Department and other appropriate third-party reviewing agencies will review the DBT's formal disposition to Interim Submittal review comments as well as revised plans to respond to previous comments. The Department will include any additional comments based on the Final Design Submittal review within the CRS.

The DBT shall clearly identify if an ODOT Interim review comment responded with an "Accept" by the DBT is not being corrected within a Final submission. If an "Accept" comment is not being addressed, the DBT shall clearly describe the intended resolution for the RFC submission. The Department may require additional information before the Construction Plan submission, or may request a Comment Resolution meeting (or phone call if appropriate) to understand the DBT's design direction. The DBT shall memorialize the time of the Comment Resolution Meeting within the CRS submitted with the Construction Plans.

In the event the DBT believes that any review comment, or direction issued by the Department or other third-party review, require a change to a Contract, the DBT shall first contact the Department for clarification and shall, within 10 days of receipt of the comments or direction, provide written notice to the District Project Manager and Project Engineer concerning the reasons why the DBT believes the scope has been changed.

The DBT is not required to comment nor respond to ODOT identified Preference comments.

For comments considered substantial to the Department or the DBT, the DBT shall schedule a Comment Resolution Meeting with the Department to discuss.

1. The Department shall notify the DBT, either within the CRS or other notice, if the Department requires a Comment Resolution Meeting.
2. The DBT shall notify the Department within seven days of any "Non-Compliant" comments they intend to "Dismiss" or "Resolve". The DBT shall schedule a Comment Resolution Meeting prior to the next stage submittal.
3. For less substantial comments and as agreed by the Department and the DBT, a comment resolution conference call may be sufficient.

The DBT shall obtain Department concurrence with the "Non-Compliant" comment dismissal and this concurrence shall be documented on the CRS.

The DBT shall resolve all outstanding issues and comments from the Final Submittal (or other outstanding comments) and prepare a full set of Design Documents stamped "Checked and Ready for Released for Construction" (RFC). The Department's expectation is that no revisions shall be made except for those required to address Final review comments. In the

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event that other revisions are required unrelated to review comments, the DBT shall notify the Department and coordinate revisions for concurrence.

The Department shall review to ensure all comments from final reviews have been resolved or "Closed" to the satisfaction of the Department. There is no formal review period for Construction submission.

The DBT has the responsibility for ensuring the RFC meets all contract requirements. If upon Department review it is determined that it is questionable as to whether comments received from the Department or other agencies have been resolved or addressed appropriately, the DBT shall stop construction of the portion of the Buildable Unit in question, consult with the commenter to resolve such comments. The DBT shall document resolution of the comment within the CRS.

The DBT continues to be liable for design accuracy regardless of ODOT review.

B. General Third-Party Requirements

A "Third-Party", in regard to the Design-Build Comment Resolution process, is any overseeing agency with oversight and design approval authority of relevant portions of the design as identified in the Contract.

Other third-party reviewers may not utilize the CRS.

It is the DBT's responsibility to reasonably add all third-party markups and comments received; the DBT shall consolidate third-party comments into the CRS corresponding to each Buildable Unit and save on the ODOT Project SharePoint site. Any plan markups shall also be scanned by the DBT and included on SharePoint within the appropriate BUS folder.

The DBT shall address all third-party review comments. All third-party review comments shall be, initially, considered as a "Non-compliant" comment type, as identified below.

With ODOT's concurrence, the DBT may subsequently identify comments as potentially a "Preference" or "Recommendation". The DBT shall obtain Department concurrence with the "Non-Compliant" comment dismissal and this concurrence shall be documented on the CRS.

C. Comment Resolution Spreadsheet

Minimum requirements of the CRS along with information on content is included below. The DBT may modify format or include additional information with Department concurrence.

Reviewer	
Comment ID No	Consecutive listing
Document	Submittals may include multiple components including plans, reports, calculations, etc. This column will list which item the comment is on.
Page	Page reference/location comment refers to

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Comment type	Either “Non-compliant”, “Preference”, or “Recommendation”. Non-compliant – elements that do not meet requirements of the Contract. Preference – elements which depict the owner’s preferred design method or result but are not required by the Contract. Recommendation – a general noted item intended to make the designer aware of potential troublesome design methods.
Contract Section	If Comment Type is Non-compliant to the Contract, the reviewer shall include the Contract Document of the requirement that is non-compliant (for example, Scope Section 8.2, L&D Volume 1, BDM, etc)
Reviewer Note	A Reviewer Note is optional but is recommended to ensure the designer understands the intent to the comment made. Reviewer shall note if a Comment Resolution Meeting or discussion is desired.
Reviewer Agency	Representing Agency
Reviewer Name	Name of reviewer
DBT Response	
Resolution Code (Approve, Dismiss, or Resolve)	Accept – DBT agrees with the comment and addressed the comments Dismiss – DBT disagrees with the comment based on comment no longer applying because the design has changed, reviewer error, or other reasons. Resolve – DBT needs additional clarification and/or coordination to address the comment accordingly. Comment may also reflect a change to the Contract Documents which will require additional discussion and direction by the Department due to the financial/schedule impacts.
DBT Comment/Disposition	The DBT shall provide a more detailed response to the comment as necessary. Response shall note if a Comment Resolution Meeting or discussion is desired.
Reviewer Response	

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Status	Open – the submittal did not address the original comment made. Closed – the submittal or disposition addresses the original comment. The DBT shall schedule a comment resolution meeting with the Department to discuss any comments from previous submittals that remain "Open" according to the reviewer. The DBT and the Department will also discuss whether review comments are in conformance with the Contract Document requirements or preferential comments. For less substantial comments and as agreed by the Department and the DBT, a comment resolution conference call may be sufficient.
Reviewer Name	Name of reviewer
Date Closed	Date that the reviewer responded to the comment.
Comments	Provide a more detailed response clarifying why comment remains "Open" or other information

21.4 Document Management

The DBT shall create and maintain a BUS Log sheet to facilitate submission tracking. The BUS Log shall identify the name of the Buildable Unit, brief description of the BUS, Interim Design submission date, Interim Submission review comments transmittal date, Final Submission date, Final Submission comments transmittal date, Released for Construction date, and a BUS Comments field. The BUS Comments field shall note any necessary resubmissions, dates of Comment Resolution meetings with noted submission stages, Over-the-Shoulder meeting dates resulting in design adjustments, or any other needed summarized data to help understand the BU submission process. The BUS Log Sheet may be modified as necessary to facilitate review. The BUS Log shall be maintained in the master project folder, or in a location mutual agreeable and accessible to the DBT and the Department.

The DBT shall create a folder for each BU on the Department's Project SharePoint Site. Each BU folder shall have an "Interim", "Final", and "RFC" folder. All Design Documents (plans, calculations, reports, etc) submitted at each phase (Final, Interim, RFC) shall be uploaded by the DBT to the Project SharePoint Site. An updated CRS at each submittal shall be included in each folder with the latest including all comments "closed". Meeting minutes from comment resolution meetings or over-the-shoulder reviews shall be prepared by the DBT and also saved to SharePoint.

21.5 Optional Pre-submission Meeting

The DBT may request a Pre-submission Meeting to be held prior to, or concurrent with, the submission of a buildable unit. The intention of the Pre-submission meeting is an opportunity for the DBT to explain design intent to facilitate owner review. Formal assembly and submittal of drawings or other documents will not be required, but the DBT is encouraged to provide informal submittals to facilitate reviews.

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21.6 Optional Over-the-Shoulder Reviews

The DBT or the Department may request "Over-The-Shoulder" (OTS) review of designs at any time in the design process. The OTS is an informal review of a partial design during development. This may include in-progress drawings, calculations, sketches, design concepts, proposed specifications, or any other document used or created during the design. They are to facilitate communication and the design process. These can be in the form of a phone call, meeting, correspondence, or any other means of information sharing between the DBT and the Department.

An Over-the-Shoulder review may be necessary to discuss direction on potential design changes. An OTS may be requested during any period in the design development. Appropriate third-party agencies, as well as the DBT and Department, may also participate in these meetings. The DBT or the Department may include the decision or direction given in an OTS within the applicable CRS submission.

The OTS reviews shall not replace the formal Interim and Final Review. Likewise, the Department may also request an OTS review during any stage of design to facilitate review or design development.

21.7 Major Design Decision

Separate submittals for concurrence with major design decisions are required. The submittals may be required during any phase of Design. Major design decisions involve significant utility relocation, unforeseen acquisition of ROW by the Department, traffic operation or geometric decisions that involve two or more viable solutions, designs not typical nor standards not ordinarily exercised by members of the engineering profession practicing under similar conditions at the same time and locality, and any other decision that impacts the public, operation of the facility or designs which require future long term excessive maintenance. The level of development of the submittal is dependent upon the level of detail necessary to accurately depict the major design decision.

When the DBT becomes aware of additional decisions during the design, they must advise the District Project Manager in writing.

21.8 Interim Design Review Submission

For each Buildable Unit, the DBT shall submit the Interim Design submission for review by the Department and other third-party agencies as appropriate.

Interim Design Submission is defined as followed:

A. Maintenance of traffic, traffic signals, lighting, utilities (water, power, sanitary, etc.), and landscaping shall be developed to Stage 2 level of detail as defined the ODOT Location & Design, Volume 3.
    a. Maintenance of Traffic

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B. Full signing plans are not required at Interim, however, all overhead signage and major ground mounted signage shall be shown on plan sheets (may be shown on pavement marking plans if signing plans are not submitted).
C. All other plan components and supplemental submittal requirements as defined as Stage 1 per the ODOT Location & Design, Volume 3.

The Department, West Jefferson, and utilities will have 25 Calendar Days to review complete submissions. This review time must be shown on the required Progress Schedule.

The start of the review period will begin the day after the submittal is received by the Department except if submitted on a Friday in which case the review period will begin the following Monday (unless Monday is a State holiday in which case the review period will begin on the following Tuesday).

Following this review, the DBT shall correct any errors, incorporate modifications, perform required investigations and make related changes to the plans and supporting documents prior to submitting the plans for Final Design review.

Plan Review Distribution Table**:** The DBT shall supply an electronic version (in PDF format) along with half size (11" x 17") paper prints simultaneously to the parties indicated below, except that **each affected utility company shall receive one full size (22"x34") plans.**

	Number of half size Sets
ODOT District Production	1
ODOT District Construction	1
ODOT Central Office, Division of Highway Operations	1
Village of West Jefferson	1
Each affected utility	1

21.9 Final Design Review Submission

For each Buildable Unit the DBT shall submit the Final Design submission for review by the Department and other third-party agencies as appropriate.

The Final Design submission shall include submittal requirements as defined as Stage 3 per the ODOT Location & Design, Volume 3, however, subsummary and general summary sheets are not required. Quantity summaries shall be provided in electronic format (Excel and PDF) prior to construction for the Department's use in establishing testing requirements.

The Department, West Jefferson, and utilities shall have 25 Calendar Days from receipt to review complete submissions. This review time must be shown on the required Progress Schedule.

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The start of the review period will begin the day after the submittal is received by the Department except if submitted on a Friday in which case the review period will begin the following Monday (unless Monday is a State holiday in which case the review period will begin on the following Tuesday).

Following the review, the Department will return to the DBT marked plans noted 'ACCEPTED', 'ACCEPTED AS NOTED' or 'NOT ACCEPTED' as described in section 105.02 of the Construction and Material Specifications. The DBT shall correct errors, incorporate changes, perform investigations and make related changes to the plans and supporting documents prior to submitting construction plans.

Plan Review Distribution Table: The DBT shall supply an electronic version (in PDF format) along with half size (11" x 17") paper prints simultaneously to the parties indicated below except that each affected utility company shall receive one full size (22"x34") plans:

	Number of half size Sets
ODOT District Production	1
ODOT District Construction	1
ODOT Central Office, Division of Highway Operations	1
Village of West Jefferson	1
Each affected utility	1

21.10 Released for Construction Plans

After the review comments for the Final Design review submission have been complied with, and following approval of the design documentation, the DBT shall prepare plan sets for use during construction. All review comments shall be resolved in writing by the DBT to the satisfaction of the Department and appropriate third-party agencies before the DBT submits the construction plans. No revisions shall be made except for those revisions needed to address Final Design review comments.

Each plan sheet shall have its last revised date noted on the sheet and clearly marked 'Released for Construction'. The 'Released for Construction' plan set shall be signed, dated and sealed by a Professional Engineer. Physical construction shall not begin until the plans marked 'Released for Construction' are delivered to each party on the Plan Distribution Table below.

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No time extensions will be approved by the District Construction Engineer if the plan distribution is not completed and project delays occur as a result.

Plans Distribution Table: The DBT shall supply an electronic version (in PDF format) along with full size (22" x 34") and/or half size (11" x 17") paper prints of the each plan submission simultaneously to the parties indicated below:

	# of Full Sets	# of Half Sets
ODOT District Production	1 (electronic)	1
ODOT District Construction		1
ODOT Central Office, Division of Highway Operations		1
ODOT Central Office, Division of Construction Management		1
Federal Highway Administration		1
Madison County Engineer		1
Village of West Jefferson		1
Each affected utility	1	1

21.11 Plan Distribution Addresses

Ohio Department of Transportation, District 6 Production
400 East William St.
Delaware, Ohio 43015
Attn: Andrew Holloway

Ohio Department of Transportation Central Office
Division of Highway Management
1980 West Broad Street
Columbus, Ohio 43223
Attn: Dean Otworth

Ohio Department of Transportation Central Office
Division of Construction Management
1980 West Broad Street
Columbus, Ohio 43223
Attn: Eric Kahlig

Federal Highway Administration

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200 North High Street
Room 328
Columbus, Ohio 43215-2408
Attn: Adam Johnson

Madison County Engineer
825 US 42 NE
London, Ohio 43140
Attn: Bryan Dhume

Village of West Jefferson
28 E Main St
West Jefferson, OH 43162
Attn: John Mitchell

Utility Companies

21.12 As-Built Construction Record-Drawing Plans

At the completion of the construction work for each respective Buildable Unit, the DBT shall provide a "Red-Line" set of drawings that clearly identify all changes made to the Construction Documents. They may be noted by hand markup of the revisions, utilizing the Clouding command in MicroStation (or other CAD software) or the Clouding command in PDF editing software. The red-lined drawings shall have a Contractor signed verification on the title sheet indicating all field changes are being incorporated into the red-lined drawings.

Prior to Final Acceptance of the Work, the DBT shall furnish the Department formal As-Built Construction Record-Drawing plans. The DBT shall provide a general summary within the final As-Built Construction Record-Drawing plans. The formal As-Built Construction Record-Drawing shall include all red-lined changes. Red-line change shall be denoted utilizing the Clouding command in MicroStation (or other CAD software) or the Clouding command in PDF editing software. The As-Built Construction Record-Drawing shall have a signed verification on the title sheet from the Designer and the Contractor indicating that all red-lined and field changes have been incorporated into the As-Built Construction Record-Drawing.

Note: The Contractor's verification statement indicates all known field modifications made after the RFC plans where sealed by the Designer have been included in the formal Record-Drawing. The Contractor's verification statement shall be signed by the Contractor's Project Manager (or acceptable representative).

Note: The Designer's verification indicates the Designer's acknowledgement of the red-line and field changes, the presented field changes have been included within the As-Built Construction Record-Drawing and is the Designer's concurrence that these changes meet the design intent of the Contract. The Designer's verification statement shall be signed by the Lead Designer's representative.

The DBT may choose to omit the "Red-Line" submission and submit only formal As-Built Construction Record-Drawing.

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As-Built Construction Record-Drawing plans shall be submitted using the following method:

PDF Images created according to the documentation on the Office of Contracts website

http://www.dot.state.oh.us/DIVISIONS/CONTRACTADMIN/CONTRACTS/Pages/TIFF.aspx

In addition to the information shown on the construction plans, the Record-Drawing plans shall show the following:

1. All deviations from the original approved construction plans which result in a change of location, material, type or size of work.
2. Any utilities, pipes, wellheads, abandoned pavements, foundations or other major obstructions discovered and remaining in place which are not shown, or do not conform to locations or depths shown in the plans. Underground features shall be shown and labeled on the Record-Drawing plan in terms of station, offset and elevation.
3. The final option and specification number selected for those items which allow several material options under the specification (e.g., conduit).
4. Additional plan sheets may be needed if necessary to show work not included in the construction plans.

Notation shall also be made of locations and the extent of use of materials, other than soil, for embankment construction (rock, broken concrete without reinforcing steel, etc.).

The Plan index shall show the plan sheets which have changes appearing on them.

Two copies of the As-Built Construction Record-Drawing plans shall be delivered to the Project Engineer for approval upon completion of the physical work but prior to the request for final payment. After the Department has approved the As-Built Construction Record-Drawings, the associated electronic files shall be delivered to the District Capital Programs Administrator. Acceptance of these plans and delivery of the associated electronic files is required prior to the work being accepted and the final estimate approved.

The plans shall be prepared in conformance with the Location and Design Manual, Volume 3, Section 1200 - Plan Preparation.

22 BUILDABLE UNITS (BU)

Buildable Units are portions of the projects which can be designed, reviewed and built with only limited controls and assumptions coming from the design of other portions of the project. Often a Buildable Unit will be defined by a geographic area within the plan, but it may also be defined by types of work or construction stages which may require or permit similar, nearby work to be divided into separate Buildable Units. All Buildable Units shall summarize the materials required to construct that portion of the project. The summary shall include the Construction and Material Specifications Item Number, and a description of the materials to be used.

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For the Interim and Final Design submittals, the DBT may break the project work into two or more separate BU which can be progressed through design and construction with minimal or known effect on each other and/or which can be dealt with sequentially such that sufficient data is available for design and review of each BU. In order that the design and construction of one BU may proceed without significant approved information from an associated BU, the DBT may develop and propose assumptions which will allow for the first BU to proceed through design and/or construction. These assumptions shall be submitted for review and comment but their accuracy and effort upon the final design are the sole responsibility of the DBT. Should error in these assumptions result in additional work, remedial work or other changes to assure an acceptable design or should they result in the need to remove work and substitute additional work, the DBT shall be responsible for all such costs including, removal of unacceptable materials from the site, modification, additional work, repairs, etc. as necessary to produce an acceptable result.

If the DBT elects to develop Buildable Units, the DBT shall prepare, for review by the Department, a table of Buildable Units for the project with each BU described in detail. If the table is approved, the DBT shall modify the Progress Schedule to show a separate group of activities for BU and these activities shall encompass all of the design and construction work in each BU. The Progress Schedule for design review shall be developed such that information from other dependent BUs is available at the time of submission of the BU at hand. Work activities shall be further separated in the Progress Schedule to show a meaningful completion status (i.e. separate activities comprising the placement of a bridge deck on steel beams shall describe; shoring, form building, steel placement, placement of conduit & joints, pouring concrete, forming parapets, pouring or slip forming parapets, provision of membranes, provision of wearing surfaces, curing, repair, form removal, cleaning, etc.).

The Final Review Submission and Construction Plans shall specifically be identified by the Buildable Unit code. If the design of a BU requires input information from an adjacent or related BU, the source for that information in previously approved plans shall be cited or the DBT shall provide an estimated value of the data. The input data shall also be carefully identified. In the same way any assumption, calculations or results from the stage and BU which are used as input to another BU shall be similarly identified, and where appropriate, compared back to that BU to verify previous assumptions. Should assumptions not match values calculated later, the DBT shall re-analyze all affected components and determine appropriate changes. Should those elements have already been constructed, the DBT shall recommend repairs, adjustments, modifications or replacement of the existing work as necessary to comply with the Scope of Work. All costs for re-design, re-submissions, modifications, removals, disposal of materials and new work needed to remedy the project and bring it to compliance shall be borne by the DBT and no time extensions shall be approved for this.

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