

ODOT
DESIGN BUILD
SCOPE OF SERVICES

PID: 113325 State Project Number: 430125

County: RICHLAND Route: SR-13 Section: 11.01

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1 PROJECT IDENTIFICATION & GENERAL INFORMATION

Table 1-1: Project Identification

PID	113325
State Project Number	430125
County-Route-Section	RIC-13-11.01
Local Route Name (if applicable)	N/A
Highway Functional Classification & Federal Aid System	Urban Principal Arterial (11.01-11.135 & 14.382-14.40); Urban Freeway and Expressway (11.135-14.382);

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	RIC-13 11.01 to 11.135	RIC-13 11.135 to 14.382	RIC-13 14.382 to 14.40
Current ADT	11000	11000	9400
Design Year ADT	12000	12000	10000
Design Hourly Volume	1400	1400	1000
Directional Distribution	55%	55%	54%
Trucks	3%	3%	3%
Design Speed	50 MPH	55 MPH	35 MPH
Legal Speed	50 MPH	50/55 MPH	35 MPH
Design Functional Classification	Principal Arterial	Freeway and Expressway	Principal Arterial
NHS Project	Yes	Yes	Yes

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 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:

- EX-01_RIC-13-10.82 (1979) Resurfacing
- EX-02_RIC-13-10.83 (1964) Original Construction and ROW
- EX-03_RIC-13-11.01 (2010) Pavement Repair and Guardrail
- EX-04_RIC-13-11.01 (2020) Pavement Repair
- EX-05_RIC-13-17.332 (1999) Bridge, Drainage, Fence, Guardrail and Signing Improvements

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.

https://ftp.dot.state.oh.us/pub/districts/D03/113325_RIC-13-11.01/

Table 1-3: Document Inventory

Referenced As	Document	Contractual or Reference Document
Appendix EN - Environmental		
EN-01	Categorical Exclusion	Contractual
EN-02	Level 1 Ecological Survey Report	Reference
EN-03	Regulated Materials Screening	Reference
Appendix GE - Geotechnical		
GE-01	Boring Logs	Contractual
GE-02	Geotechnical Profile	Contractual
GE-03	Subgrade Analysis	Reference
Appendix GN - General		
GN-01	Crash Analysis Module	Reference
Appendix LD - Location and Design		
LD-01	Design Exceptions	Contractual
Appendix MT - Maintenance of Traffic		
MT-01	MOT Notes	Contractual
Appendix PA - Pavements		
PA-01	Pavement Type Approval	Reference
PA-02	Pavement Type Selection Request Form	Reference
Appendix SU - Survey		

Referenced As	Document	Contractual or Reference Document
SU-01	Survey Control	Contractual
SU-02	Survey Data	Reference
Appendix TC - Traffic Control		
TC-01	Traffic Forecast Table	Reference
TC-02	Traffic Forecast Summary - Mainline	Reference
TC-03	Traffic Forecast Summary - Ramps	Reference
TC-04	Signing and Pavement Marking Concept (City of Mansfield)	Reference
Appendix UT - Utilities		
UT-01	Existing Utility Data	Reference

1.3 Railroad Coordination

Railroad coordination is not needed for this project due to the lack of rail interaction on the project.

1.4 Airway/Highway Clearance

The DBT shall prepare and submit (file) the Airway/Highway Clearance Analysis in accordance with Federal Aviation Administration (FAA) requirements and the [FAA Notice Criteria Tool](#). The DBT shall convey all relevant documentation to ODOT and coordinate with the ODOT District 3 FAA Coordinator for review and obtain all necessary approvals. The DBT shall account for the required time to obtain approvals in their schedule and will not be able to start work until the approvals and documentation are received by the ODOT District 3 FAA Coordinator.

The FAA will reach determinations which may require additional actions from the DBT. The DBT shall comply with all requirements of the FAA put forward in the determination letters and maintain the determination letter as per the FAA's requirements for the duration of the Project.

The following airway facilities are within the vicinity of the Project:

1. Mansfield Lahm Regional Airport - 4.3 miles
2. Rall Field-320H - 5.3 miles
3. AU Heliport - 3.3 miles
4. Mansfield General Hospital Heliport - 1.1 miles

2 PRE-BID MEETING

The Department has determined that a pre-bid meeting will not be offered for the Project.

3 CONTRACTOR PRE-QUALIFICATION

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 (Designer) 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:

1. Basic Traffic Signal Design
2. Complex Roadway Design
3. Geotechnical Engineering Services
4. Level 1.1 Bridge Design
5. 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 or as a sub-consultant.

The following consultants have been identified as being precluded from participation:

- Chagrin Valley Engineering, Ltd.
- HNTB Ohio, Inc.

5 SCOPE OF WORK

Project Description:	Major rehabilitation of SR-13 from S.L.M. 11.01 (Hanley Rd) to 14.40 (0.02 miles south of East Raleigh Ave.) including full depth pavement replacement (using both full depth removal and rubblize and roll) with new underdrains, guardrail replacement, culvert repairs, bridge repair, signing and pavement markings, minor grading, and maintenance of traffic.
Completion Date:	May 14, 2027
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
SR-13	SLM 11.01 (90' south of centerline Hanley Road)	SLM 14.40 (0.02 miles south of East Raleigh Ave.)
Hanley Road	Perpendicular across Hanley Road from west end of westernmost return radius	Perpendicular across Hanley Road from east end of easternmost return radius
IR-71 Ramp	Perpendicular across IR-71 Ramp from west end of westernmost return radius	Perpendicular across IR-71 Ramp from east end of easternmost return radius
Straub Road	Perpendicular across Straub Road from west end of westernmost return radius	Perpendicular across Straub Road from east end of easternmost return radius
Cook Road Ramp W (On-Ramp to SR-13)	Cook Road edge of pavement	End ramp merge to SR-13
Cook Road Ramp E (Off-Ramp from SR-13)	Begin ramp merge from SR-13	Cook Road edge of pavement
Main Street Ramp A	350' north of the centerline of Ridgewood Blvd	End ramp to SR-13
Main Street Ramp C	Begin ramp merge from SR-13	350' north of the centerline of Ridgewood Blvd

Work Limits shall be determined by the DBT.

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

Field office Type C as required by Construction and Material Specification Item 619, except as modified below, shall be available and completely functional upon the request from the Department. The field office requirements are only applicable to the Department's personnel.

The field office shall have a suite type office (no trailer or modular office) with a minimum of 2,000 square feet and at ground level with a minimum ceiling height of eight (8) feet. The floor space will be divided into two restrooms, one general office area (minimum 400 square feet), not less than five individual offices (minimum 300 square feet each) as separate enclosed rooms (no cubical dividers will be accepted), refrigerator, and microwave.

Furnish neat, sanitary, enclosed toilet accommodation connected to an existing sanitary sewer line for the use of the occupants of the field office, meeting applicable state and local codes and ordinances. Furnish associated lavatory and sanitary supplies. Potable hot and cold running water will be provided in the restroom for sanitary purposes.

Furnish trash collection service/ dumpster. Furnish professional, bonded, and insured janitorial service with a weekly cleaning of the entire office to include the restroom facilities for the duration of the field office.

Furnish bottled drinking water service with a hot and cold dispenser and associated supplies.

Furnish a box for storing a nuclear density gauge with requirements as set forth in C&MS 619.02.

Furnish and maintain a broadband internet connection capable of minimum download speeds of 1.0Gb/S. Provide a wireless router that supports WI-FI standard 802.11Ax (Wi-Fi 6) and a minimum wireless data transfer rate of 4000 Mb/S. Provide pre-wired ethernet access for all individual offices and the general office area.

Furnish seven (7) desk and chair sets, thirty (30) stackable chairs, ten (10) work tables (30" X 72") and ten (10) 24-quart waste baskets with appropriate sized trash bags. Furnish and install six (6) wall mounted 8' X 4' dry erase boards.

The field office will be approved in advance by the engineer and fully operational within 30 days after the Engineer's request. The department will measure Field Office, Type C, As Per Plan by the number of months the office is maintained. A partial month at the end of the project will be paid as a full month.

The department will pay for accepted quantities at the contract price in months as follow:

Item 619 - Field Office, Type C, As Per Plan

30 MNTH

7 GENERAL PROVISIONS FOR THE WORK

7.1 Governing Regulations

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.

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 date original advertisement, 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
- Specifications for Geotechnical Explorations
- Geotechnical Design Manual
- 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
- Pavement Design and Rehabilitation Manual
- State Highway Access Management Manual
- Standard Construction Drawings
- Plan Insert Sheets
- Traffic Engineering Manual
- Ohio Manual of Uniform Traffic Control Devices
- Sign Design and Markings Manual
- 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
- Federal Aviation Administration

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 websites can be accessed at the following URL address:

<https://www.transportation.ohio.gov/working/engineering/cadd-mapping/cadd/>

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 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

A partnering agreement with the Department on this Project. 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 Proposal Note 111 (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:	Nicholas Foster
Phone number:	419.207.7063
E-mail:	Nicholas.Foster@dot.ohio.gov

District's Project Engineer's Name:	The District Project Engineer will be named at the Pre-Design Meeting
Phone number:	TBD
E-mail:	TBD

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

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

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 in Table 8-1 unless otherwise specified in the Contract Documents.

Table 8-1: Environmental Commitments

Source	Description of Commitment
Environmental Document	Department will obtain the appropriate waterway permit prior to any work below the ordinary high water mark at channels.

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 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. Coordinate with the Department and prepare applications and other 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 required by the Contract 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.

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 8-2: Status of Department Activities for Environmental Permits

Agency	Permit/Approval	Status
Department	NOI	See Section 8.3. The Department will submit once information is provided by the DBT.
U.S. Army Corps of Engineers (USACE)	ODOT RGP-B Maintenance	The DBT shall provide the appropriate design information (i.e. plan detail sheets) to the Department for the waterway permit. Existing plan information is not sufficient for the waterway permit to be received prior to project sale.
Ohio Environmental Protection Agency (OEPA)	NPDES	If required, to be submitted by the Department to OEPA upon receipt of EDA from the DBT.

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.

8.3 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). For information about OEPA's NPDES Permit requirements, see: https://epa.ohio.gov/dsw/permits/GP_ConstructionSiteStormWater.

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. It is noted that rubblize and roll operations conducted in accordance with CMS Item 320 do NOT constitute an earth-disturbing activity. 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.

The NOI will be submitted by the Department to the OEPA within 10 days after information is received from the DBT. Approval from the OEPA takes 21 days and the ODOT Project Manager has 10 days to file the NOI.

For projects that require an NOI, the DBT must develop a Storm Water Pollution Prevention Plan in accordance with SS832 and the NPDES Permit. The DBT shall not initiate any earth disturbing activity until the SWPPP is approved.

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.

8.4.1 Asbestos

Based on the work being performed on this Project, an Asbestos Survey was not performed and is not required.

8.5 Wetlands

The DBT shall demarcate the wetland area located along the east side of SR-13 between Hanley Road and the I-71 SB exit ramp (SLM 11.15 to SLM 11.42) with orange snow fence and shall not place any temporary or permanent fill in the wetland area during construction of this Project. The DBT

shall not place any equipment within wetland boundaries. If debris enters wetland during construction, the DBT shall remove the debris immediately utilizing equipment staged outside of the wetland boundaries.

8.6 Noise Analysis and Noise Barriers

Based on the type of work being performed on this Project, neither a noise analysis or noise barriers are required.

9 RIGHT OF WAY (ROW)

The DBT shall perform all necessary construction work for the Project within the Project Right of Way (ROW).

The DBT shall locate existing right of way lines based on requirements specified in Chapter 4733-37 of the Ohio Revised Administrative Code (Board Rules) governed by regulations outlined in Chapter 4733, Ohio Revised Code (Regulation Laws). The DBT shall research existing right of way information from all available sources including but not limited to ODOT records, County road records, Commissioners’ Journals and records of other County offices to the extent necessary to provide an accurate basis for the establishment of the existing right of way.

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

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.

9.1 Temporary Easements - N/A

10 UTILITIES

Due to the nature of Project work, utility impacts are not anticipated by proposed construction activities. Utility contact information is provided in this section however utility coordination has not occurred. The DBT shall coordinate all permanent and temporary utility impacts with the respective utility owners, however the DBT shall only be responsible to relocate or adjust publicly owned utilities and utility appurtenances that are within public right of way that is not within limited access right of way. This applies to the west side of SR-13 at the north end of the Project.

10.1 Existing Utilities

The District Utility Coordinator, in coordination with the registered underground utility protection services, Ohio 811, and other utility owners that are non-members of any utility protection services, has determined that the utilities identified in Table 10-1 may be located in the area of the Project.

Table 10-1: Utility Contacts and Status

Utility Owner	Utility Contact	Relocation Status
Brightspeed	175 Ashland Rd. P.O. Box 3555	

Utility Owner	Utility Contact	Relocation Status
	Mansfield, OH 44907 (419.755.7956)	
Charter	1575 Lexington Ave. Mansfield, OH 44907 (419.756.3338)	
Everstream	1228 Euclid Ave., Suite 250 Cleveland, OH 44115 (234.521.2999)	
City of Mansfield	30 North Diamond, St. Mansfield, OH 44902 (419.755.9702)	
Columbia Gas of Ohio	1021 North Main St. Mansfield, OH 44903 (419.619.8029)	
Marathon Pipeline	539 South Main St. Findley, OH 45840 (419.884.0800)	
ODOT District 3 (traffic)	906 Clark Ave. Ashland, OH 44805 (419.207.2868)	
Ohio Edison	1717 Ashland Rd. Mansfield, OH 44905 (419.521.6214)	
Ohio Edison Transmission	76 South Main St. Akron, OH 44308 (330.384.5180)	
Richland County Sanitary Engineer	1740 Fleming Falls Road Mansfield, OH 44903 (419.774.5189)	

10.2 General Requirements

The DBT shall:

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

- D. 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 Section 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 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 required utility relocation work within limited access right of way shall be subject to the ODOT permitting process prior to the start of any relocation Work.

10.3 Governing Regulations for Utility Design and Construction

The DBT shall be responsible for the design and construction of utility adjustments for the following utilities:

Waterlines, storm sewers and sanitary sewers within public right of way that is not within limited access right of way and are impacted by the DBT's design or damaged by construction activities. This includes adjustment of utility appurtenances.

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:

- A. The utility owner's specifications, standards of practice and construction methods;
- B. Applicable ODOT design and construction standards;
- C. Local public agency specifications, standards of practice and construction methods; and/or

The DBT shall prepare utility relocation plans in accordance with the requirements of the Contract Documents for plan preparation and show, at a minimum, the following information: existing topography, right-of-way, lanes of travel, and the location of the existing utilities. When the DBT develops utility relocation plans, they shall be subject to review and approval by the utility owner and ODOT's District Utility Coordinator in accordance with the design submittal requirements of the Contract Documents.

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:

- A. Identify and locate all utility conflicts.
- B. 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.
- C. Minimize potential delays and coordinate the efficient relocation of affected utilities.
- D. Provide all Project construction documents, other utility relocation plans, subsurface utility engineering (SUE) information, and geotechnical information for relocation of utilities.
- E. Coordinate all Project work and utility work with the affected utility owners.
- F. Schedule and conduct utility coordination meetings during the Project design and construction process.
- G. 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, Ohio 811, 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 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 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 11.7 (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 (Scheduling of Utility Relocation Work).

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 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:

1. Maintain service continuity to the extent practicable while performing the utility relocation work.
2. 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.
3. Coordinate any changes with the utility owner.
4. 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.

10.14 Utility Conflicts

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, including reporting any unknown utilities to the District Utility Coordinator, 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

The DBT shall use an ODOT prequalified SUE location service to field verify all underground utilities prior to beginning any design work and shall incorporate the results in the design.

DBT shall have the SUE perform the following Quality Levels:

- SUE Level A (6 each, locations determined by the Department)
- SUE Level B (DBT to determine quantity)
- SUE Level C

SUE Level D

The DBT shall coordinate rubblize and roll operations over active utilities with the respective utility owner during design and construction activities to prevent damage to existing utilities.

11 MAINTENANCE OF TRAFFIC (MOT)

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 written notice to the Department fourteen (14) days in advance of modifications in MOT or traffic patterns, including modifications to the following:

- A. MOT configuration
- B. Access
- C. Detours
- D. Schedule
- E. Duration

In addition to the Department, please also copy the following with all MOT notifications:

- Ohio State Highway Patrol (Mansfield Post)
- Richland County Engineer
- Richland County Sherriff’s Office
- Richland County Transit
- City of Mansfield (Engineer, Police, Fire)
- Mansfield City School District (if detours during school year)
- Washington Township (Fire)

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

11.2 MOT Requirements

The DBT shall be 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	<ul style="list-style-type: none"> • SR-13 - maintain one northbound and one southbound lane of traffic in each direction at all times. Maintain existing left turn lanes on SR-13 at Hanley Road, the length provided should not be less than the existing turn lane length, lengths may be reduced based on required length

Requirement	Detailed Requirement Information
	<p>per Section 400 of the L&D Manual; Maintain existing left turn lanes on SR-13 at Straub Road except when Straub Road traffic is detoured. Portable concrete barrier shall be used between opposing travel directions when clear zone offsets cannot be provided. Pedestrian traffic shall be maintained on the west side of SR-13 at all times from the north Project Limit to approximately 130' south of Chilton Ave.</p> <ul style="list-style-type: none"> • Hanley Road - maintain one through lane in each direction at all times. • I-71 Southbound Off-Ramp - maintain one lane of traffic to northbound and southbound SR-13 at all times except when traffic is detoured. • Straub Road - maintain one lane of traffic in each direction to maintain all existing traffic movements at all times except when traffic is detoured. • SR-13 Northbound Exit Ramp to E. Cook Road - maintain one lane of traffic at all times except when traffic is detoured. • SR-13 Southbound Entrance Ramp to E. Cook Road - maintain one lane of traffic at all times except when traffic is detoured. • E. Cook Road - maintain one lane of traffic in each direction except during bridge repairs when two-way traffic shall be maintained using flagging operations. • Malone Road - maintain one lane of traffic in each direction except during bridge repairs when traffic will be detoured. • S. Main Street Northbound Entrance Ramp to SR-13 - maintain one lane of traffic at all times except when traffic is detoured. • SR-13 Southbound Exit Ramp to E. Cook Road - maintain one lane of traffic at all times except when traffic is detoured. • Chilton Ave. - Chilton Ave. May be closed and vehicular traffic detoured during construction. See detour restrictions.
Minimum lane width	11' through lanes; 10' turn lanes
SR-13 Part Width Construction	SR-13 construction phase lines shall occur on the permanent edge of lanes following the lane lines. Lane and buffer widths may be reduced when existing conditions create "pinch points", but portable barrier will be required and shall be anchored as design dictates. Lane widths shall not be less than 10 ft at any time and shall be limited, as approved by the Department.

Requirement	Detailed Requirement Information
Restrictions on Night Work	Night work will be permitted outside the City of Mansfield Corp. limits and within the Mansfield Corp. limit between the IR-71SB ramp and Hanley Rd. The northern portion of the Project within the Mansfield Corp. limit (SLM 13.12 to End Project) shall not have work performed between 9PM and 8AM.
Restriction related to hospitals, fire and police, schools, etc.	The DBT shall provide 14-day written advance notice to all agencies listed within Section 11.1 (General) prior to implementing each detour.
Phase Changes	Phase changes shall not occur during weekday peak hour periods. Phase change/traffic pattern change restrictions not to occur weekdays from 6 AM - 9 AM or 3 PM - 6 PM.
Additional lane closures for holidays or special events	Other than long-term lane and ramp closures and restrictions already in-place, no additional or short-term restrictions, or phase changes shall be installed on holidays or special events. Holidays and special events are as-listed in TEM note 642-6.
Closures or Restrictions	No short-term closures or restrictions shall remain in-place when not required for an active work zone or to protect a hazard. Existing or proposed facilities shall be opened as soon as possible, even if allowed by PLCS or other requirements.
Storage of Portable Barrier over Winter Shutdown	Median barrier storage is not permitted. Storage within ramp infield areas is permitted.

If the DBT requires any exceptions to the above table, they shall contact the District Work Zone Traffic Manager (DWZTM) for approval prior to proceeding:

Jared Feller, P.E.
 ODOT District 3 - Work Zone Traffic Manager
 Phone: (419) 207-7058
 Email: Jared.Feller@dot.ohio.gov

Prior to the bid date, if an exception to the above table is anticipated during construction, the DBT is required to submit a pre-bid question for approval. If approval is not received prior to bid, the DBT shall assume that they will have to comply with all requirements of the above table and all MOT requirements below, except as approved by the DWZTM.

11.2.1 Detours

All detour routes have been provided by the Department below and shall be signed by the DBT.

The DBT shall not install conflicting or overlapping detour routes. For any interchange ramps and intersections that are closed, black on orange “Closed” plaques shall be mounted to the face of any associated existing, proposed, or temporary guide signs.

All facilities shall remain open, except when the following ramps and intersections may be detoured using the following routes:

Table 11-2: Ramp Detour Routes

Facility	Description	Detour Route
I-71 Ramp	Exit ramp from SB I-71	I-71 South to SR-97 to I-71 North to SR-13
Straub Rd.		S. Main St. to Hanley Rd. to Woodville Rd. to Straub Rd.
Ramp E	NB exit to Cook Rd.	SR-13 to First St. to S. Diamond St. to Woodville Rd. to Cook Rd.
Ramp W	SB entrance from Cook Rd.	S. Main St. to Hanley Rd. to SR-13
Malone Rd.		S. Main St. to E. Cook Rd. to Woodville Rd. to Malone Rd.
Ramp A	NB entrance from Main St.	South Main St. to W. Cooke Rd. to US-42 (Lexington Ave.) to SR-13
Ramp C	SB exit to Main St.	SR-13 to Hanley Rd. to S. Main St.
Chilton Ave.		W. Raleigh Ave. to Marquis Ave. to S. Main St.

All turning movements from SR 13 to closed side streets will also be detoured using the routes specified in Table 11-2 above and utilizing SR 13. If only one leg of the above intersections is closed at a time, the detour shall be shortened by utilizing SR 13 to the opposite leg of the intersection, if possible.

11.2.2 Window Contract

Disincentives for violations of MOT durations shall be assessed per proposal note PN 129 and the window contract table below:

Table 11-3: Window Contract Table

Description of Critical Work	Days to Complete	Disincentive	Work Window	
		\$ Per Day	Start	End
I-71 Ramp	14 days per phase/ 28 days total	\$10,000	Contract Execution Date	Project Completion Date
Straub Rd.	30 days per phase/ 60 days total	\$1,500		
Ramp E	60 days/1 phase	\$6,000		
Ramp W	60 days/1 phase	\$1,000		
Malone Rd.	14 days	\$500		
Ramp A	60 days/1 phase	\$1,500		
Ramp C	60 days/1 phase	\$6,000		
Chilton Ave.	See Work Window	No Disincentive		
All lanes on all roads returned to original or final configuration with all signs and long-term or final pavement markings installed	See Work Window	\$5,000	Second Friday in November	First Monday in April

Description of Critical Work	Days to Complete	Disincentive	Work Window	
		\$ Per Day	Start	End
(Winter Shut-Down)				
SR-13 Holiday Restrictions		\$60/minute		

11.2.3 Additional MOT Requirements

In addition to the requirements and restrictions listed within this section, the DBT shall also meet the following Project-specific MOT requirements:

- A. All temporary MOT devices will comply with the Manual for Assessing Safety Hardware (MASH) report and NCHRP-350 report if devices are manufactured prior to 12/31/2019 and meet the Quality Standards for Temporary Traffic Control Devices as applicable.
- B. The limits of the Construction Zone include the length of roadway where work is being performed as well as the limits of the roadway where lane and shoulder restrictions are in-place using pavement markings or channelizing devices, etc.
- C. All intersections within the Project shall always maintain stopping sight distance and intersection sight distance per design standards, or at a minimum, sight distance shall not be restricted to less than what is available in the pre-construction condition.
- D. Work zone Class I pavement markings on any existing multi-lane facility, including all ramps, shall comply with wet-reflective requirements per SS 807 and/or SS 873. Wet-reflective work zone pavement markings are not required for any Winter Shut-Down periods. Grooving for recessed pavement markings per SS 850 shall not be used for work zone wet-reflective pavement markings.
- E. The DBT shall resurface all transition areas within the Construction Zone at the time the associated surface course is being applied (or at the end of the Project). No temporary markings or MOT phase changes are to be placed on final surface course. The resurfacing shall use asphalt concrete surface course and tack coat per Pavement Treatment C in Section 13 (Pavement). The existing pavement shall be removed to a depth necessary to reach the level of the intermediate course of the existing pavement. The resurfacing of all transition areas shall also include the tangent area extending beyond the proposed work limits to the limits of any temporary pavement markings. The resurfacing shall include the entire width of the roadway, including shoulders.
- F. The DBT shall provide temporary pavement wedges where traffic is required to travel from or onto a pavement surface of a different elevation, including bridge decks. It is not necessary to provide a temporary wedge along lane lines between two thru lanes for a drop-off in conformance with SCD MT-101.90. The minimum slope of the temporary pavement wedge shall be 3:1 along longitudinal joints and 120:1 at transverse joints. These wedges shall be removed prior to placing the specified pavement course. Elevation differences along longitudinal joints located within the traveled lane, between traveled lanes, or between the shoulder and a traveled lane are not permitted during the Winter Shut-down periods.
- G. The DBT shall include three (3) work days for repairs in their schedule each construction season in order to complete work zone pavement repairs prior to reducing traffic to one

lane. Repairs to the existing pavement within the Construction Zone may be required throughout the Project to ensure that existing pavement is traffic-worthy. If the Engineer determines that repairs are required, they shall identify the locations and types of pavement repairs that are required and notify the DBT. The DBT shall make repairs as identified by the Engineer within 7 calendar days of notification. The DBT shall be compensated for these repairs, including maintenance of traffic and mobilization cost, by force account, through the Item 615 Pavement Repairs allowance budget. If the DBT does not make repairs as identified within 7 calendar days, the DBT shall not be compensated for this work, although the performance of this work is still required. Any remaining Item 615 Pavement Repairs allowance budget not utilized will be non-performed, and the allowance budget will be increased as required and as directed by the Engineer.

- H. If the DBT determines that existing guide signs be removed for construction phasing purposes, they shall either be re-erected or replaced with ground-mounted guide signs on temporary supports and replaced at the end of the project per the requirements of Section 19 (Traffic Control).
- I. Two portable changeable message signs (PCMS) shall be provided each construction season. The PCMS should be utilized on either end of the project limits to alert the traveling public of lane closures ahead or of any accidents/detours if necessary.
- J. If any existing lighting is taken out of service for longer than 24 hours, temporary lighting shall be provided by the DBT, including crossover lighting (if applicable).
- K. The assumed depth of the existing asphalt shoulders is not adequate for maintenance of traffic purposes. If the DBT elects to maintain traffic on existing asphalt shoulders, the existing shoulder pavement shall be removed and replaced with Item 615, Pavement for Maintaining Traffic, Class A.
- L. The DBT shall submit the location of work zone access/egress points for Department review and approval before installation. Design of such access/egress points and acceleration/deceleration areas shall be in accordance with SCD MT-101.30 and the TEM.
- M. The length of acceleration or deceleration lanes for ramps or access points shall be maximized using existing and proposed pavement as much as possible and shall be installed and signed according to appropriate SCDs. If the minimum required acceleration or deceleration distance cannot be achieved by use of existing or proposed pavement, temporary pavement shall be installed.
- N. Where not stated elsewhere in this document, drop-offs in work zones shall be maintained per SCD MT-101.90, including conformance to Condition II in all full-depth pavement replacement locations where the posted speed limit is less than 45 mph.
- O. When developing MOT plans, the DBT shall ensure that drainage is maintained during all phases of construction, and for any temporary pavement that is constructed, and shall include any grading, conduit, and/or structures required to do so.
- P. When opening pavement to traffic, traffic shall only be placed on existing full-depth pavement or new intermediate or surface course asphalt, and all pavement markings shall be in-place.
- Q. When opening traffic for the winter shut-down period on existing pavement, new pavement markings conforming with CMS 642 shall be installed on all existing pavement, whether they were removed for MOT purposes or not.
- R. Work zone pavement markings placed on final pavement surfaces which conflict with permanent traffic configuration pavement markings shall be temporary tape per CMS 740.06.

- S. The DBT shall perform a pre-construction video and a post-construction video for all detour routes and off-state-system haul routes, and identified local maintenance detour routes. Post construction videos shall be obtained as soon as the affected routes are no longer used as a detour or haul route.
- T. The DBT shall provide and use LEOs for the following situations in accordance with TEM note 642-55:
- For lane closures, the use of LEOs is required during initial setup periods, tear down periods, substantial shifts of a closure point, or when new lane closure arrangements are initiated. LEOs shall be positioned in advance of and on the same side of the lane restrictions or at the point of road closure, and to manually control traffic movements through intersections in work zones.
 - Use of LEOs is required during the entire advance preparation and closure sequence where complete blockage of traffic is required, and at traffic signal installation when impacting the normal function of the signal or the flow of traffic, or when traffic needs to be directed through an energized traffic signal contrary to the signal display.

The above LEO work shall be included in the DBT's base bid for Item 614E11110 - Special Law Enforcement Officer With Patrol Car For Assistance. A quantity of 1000 hours of LEO time shall be included as the basis of bidding for this item.

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 SCD MT-104.10 and the TEM.

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 Additional Plan Submittal Requirements

The DBT shall prepare and submit, as part of each Buildable Unit submittal, a Maintenance of Traffic Plan (MOTP) to the Department for each Buildable Unit. In addition to compliance with all referenced design standards, the MOTP shall also address all aspects of MOT and shall contain specific MOT phasing plans and shall comply with the requirements listed below:

- Cover page/title sheet sealed by an Ohio registered Professional Engineer (P.E.)
- A schedule showing MOT phases and durations. All long-term (as defined in TEM 606-3) lane closures and lane restrictions shall be included and identified. All complete directional roadway closures shall also be identified.
- Discussion of sequence of operations and MOT procedures
- Comply with ODOT Standard Procedure 123-001(SP) Traffic Management in Work Zones
- Plans at 40-scale showing:

- The work area
- Horizontal Lane and Pavement begin/end tapers
- Temporary pavements and/or structures
- Location of signs (existing, proposed, covered, and modified, and PCMS units)
- Locations of typical sections
- References to applicable Standard Construction Drawings (SCD), Plan Insert Sheets (PIS), and Plan Notes
- Typical sections showing lane widths, pavements markings, drums, portable barrier (PB), limiting stations, work area, drop-offs, etc.
- Sign details for proposed signs and overlays/modifications of existing signs
- Summaries/ Sub-Summaries of item quantities to be completed.

11.6 Traffic Engineering Manual Notes

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

- 642-3 Maintaining Traffic (At All Times)
- 642-4 Maintaining Traffic (Time Limitation on a Detour)
- 642-5 Maintaining Traffic (Winter Time Limitations - use dates in Table 11-3)
- 642-6 Maintaining Traffic (Lanes Open During Holidays or Special Events)
- 642-7 Maintaining Traffic (Lane Closure/Reduction Required)
- 642-8 Maintaining Traffic (Notice of Closure Sign)
- 642-12 Maintain Traffic (Closing Paragraph)
- 642-17 Drum Requirements
- 642-19 Dust Control
- 642-22 Replacement Sign (incidental to Item 614, Maintaining Traffic)
- 642-23 Replacement Drum (incidental to Item 614, Maintaining Traffic)
- 642-24 Work Zone Speed Zones
- 642-25 Designated Local Detour Route (See Section 11.6.1 for additional details)
- 642-27 Work Zone Increased Penalties Sign
- 642-28 Earthwork for Maintaining Traffic
- 642-29 Floodlighting
- 642-30 Work Zone Impact Attenuator for 24" wide hazards
- 642-41 Portable Changeable Message Sign
- 642-42 Maintenance of Traffic Signal/Flasher Installation
- 642-44 Worksite Traffic Supervisor (WTS)
- 642-45 TIM During MOT
- 642-51 Barrier Delineation
- 642-52 Guardrail Delineation
- 642-55 Law Enforcement Officer (with Patrol Car)
- 642-58 Notification of Traffic Restrictions

Depending on the maintenance of traffic plan implemented by the DBT, these TEM notes shall be used as applicable:

- 642-14 Trench for Widening
- 642-15 Overnight Trench Closing (no more than the depth of the surface course of asphalt)
- 642-21 Portable Barrier, 50", As Per Plan

- 642-31 Work Zone Impact Attenuator for Hazards Over 24” and Less than 36” Wide
- 642-35 Work Zone Crossover Lighting System
- 642-43 Advance Work Zone Information
- 642-48 Work Zone RPM, As Per Plan

11.6.1 District MOT Notes

The DBT shall design and implement the MOT in accordance with District 3 MOT notes and requirements as shown in MT-01 (MOT Notes). Some of these District requirements are modifications to MOT notes found in the TEM and referenced in Section 11.6 (Traffic Engineering Manual Notes). These modifications shall be incorporated into the MOT plans.

12 SURVEY

A. ODOT Survey Responsibilities

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

1. Primary Project Controls Monuments (7-Type A)
2. Centerline control monuments
3. Beginning and ending centerline points for the Project
4. Critical points such as P.C., P.I., P.T., T.S., C.S. and a centerline of RW alignment and basemap.

Survey control has been provided in using the following parameters:

Coordinate System:	Ohio State Plane, South Zone
Horizontal Reference Datum:	NAD83 (2011)
Ellipsoid:	GRS80
Grid to Ground Multiplier (1/CSF):	1.00009441
Origin of Combined Scale Factor:	(0,0)
Vertical Reference Datum:	NAVD88
Geoid Model:	Geoid 18
Units:	US Survey Feet (sft)

The DBT will retain and utilize these parameters for all project related work.

B. DBT Survey Responsibilities

Verify the condition, usability and coordinates of all provided primary project control monuments and provide a Preconstruction Survey Monument Verification Report (CMS 623.04a) prior to beginning any additional survey work. 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 (centerline, control). 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.
 - 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 the horizontal and vertical coordinate parameters listed above.
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.

The DBT will replace all centerline monumentation damaged or destroyed by construction activity.

Upon completion of construction activities, the DBT will verify the location of all survey monumentation within the project limits and provide a Post Construction Monument Verification Report (CMS 623.04b).

13 PAVEMENT

Full Depth Pavement and Shoulder Replacement Limits:

- SR-13 - from SLM11.01 (90' south of centerline Hanley Road) to SLM 14.40 (70 north of centerline Chilton Ave)
- East and West Hanley Road - from SR-13 edge of pavement to the far side of the furthest curb returns
- Straub Road - from SR-13 edge of pavement to the far side of the furthest curb returns
- Cook Road Ramps - full ramp replacements from SR-13 to Cook Road edge of pavement
- Main Street Ramps A&C - full ramp replacement from SR-13 to 350' north of the centerline of Ridgewood Blvd.
- Chilton Ave. - no pavement replacement required unless impacted by SR-13 construction.

The following pavement designs have been approved for the Project:

A. Design 1: Applies to mainline travel lanes

- Item 202 - Wearing Course Removed, 6" +/- Avg. Thickness
- Item 442 - 1.25" Asphalt Concrete Surface Course, 9.5mm, Type A (447)
- Item 407 - Tack Coat
- Item 442 - 1.75" Asphalt Concrete Intermediate Course, 12.5mm, Type A (446)
- Item 407 - Tack Coat
- Item 301 - 4" Asphalt Concrete Base, PG64-22, (449)
- Item 320 - Filler Aggregate
- Item 320 - Rubblize and Roll

B. Design 2: Applies to mainline and sideroad travel lanes and paved shoulders, and emergency vehicle paved crossover areas

- Item 202 - Pavement Removed, (6" +/- Asph. + 9" +/- Conc. Avg. Thickness (concrete pavement not present under mainline shoulders)
- Item 442 - 1.25" Asphalt Concrete Surface Course, 9.5mm, Type A (447)
- Item 407 - Tack Coat
- Item 442 - 1.75" Asphalt Concrete Intermediate Course, 12.5mm, Type A (446)
- Item 407 - Tack Coat
- Item 301 - 4" Asphalt Concrete Base, PG64-22, (449)
- Item 304 - 6" Aggregate Base
- Item 204 - Subgrade Compaction

C. Design 3: Applies to pavement areas that are impacted by removal of temporary pavement markings

- Item 254 - Pavement Planing, 1.25"
- Item 407 - Tack Coat
- Item 442 - 1.25" Asphalt Concrete Surface Course, 9.5mm, Type A (447)

D. Design 4: Applies to ramp travel lanes and shoulders to the physical gore of mainline SR-13

- Item 452 - 7" Non-Reinforced Concrete Pavement, Class QC1P with QA/QC
- Item 304 - 6" Aggregate Base
- Item 204 - Subgrade Compaction

Asphalt concrete for the intermediate and surface course installed on the project shall use anti-segregation equipment per 401.03 C. Lapping of longitudinal joints, per SCD BP-3.1 are required at all phase joints.

Pavement Designs 1-4 shall be used as follows:

- Design 1 or Design 2 for mainline travel lanes, however Design 2 must be used within 100' of waterline crossings at Hanley Rd, Cook Rd, and Malone Rd.
- Design 1 may be utilized for sideroad intersections if rigid concrete underlayment is present.
- Design 2 for mainline shoulders, median crossover, and sideroad pavements that do not contain rigid concrete pavement.
- Design 2 for the SR-13 approaches to the bridges over Ramp C with pavement replacement limits based on a 250:1 profile transition rate.
- Design 3 pavement to restore pavement surfaces within and beyond the Project limits that are impacted by temporary pavement removal scarring or cross over construction. Additional resurfacing beyond the Project limits may also be required to transition the profile due to variation between existing and Design 1 pavement thickness. Design 3 pavement restorations shall be for the full width of the pavement or the direction of travel for divided roadways.
- Design 4 for all ramp pavements from the beginning/end of the ramp to the physical gore of SR-13.

Aggregate maintenance crossovers are present in the median at some drainage structures. The DBT shall restore aggregate cross overs impacted by construction.

The DBT shall install longitudinal rumble strips along the inside and outside shoulders of SR-13 in accordance with CMS 618 and standard construction drawing BP-9.1 within the Project limits and for resurfacing areas outside of the Project limits.

13.1.1 Geotechnical Requirements

- A. The DBT shall prepare stable subgrade conforming to CMS 204. Stable subgrade is defined as subgrade where proof rolling results in permanent rutting of 1 inch or less and elastic (rebound) movement of 1 inch or less.
- B. The DBT shall assume that 10% of the project subgrade area (combined rubblize and roll and pavement and shoulder replacement locations) shall require stabilization consisting of Item 204 - Excavation of Subgrade and replacement with Item 204 - Granular Material, Type B (undercut) at an assumed depth of 12".
 - o The DBT shall locate and verify the depth of all existing underground utilities and sewers present in areas of subgrade stabilization to ensure no impacts or damage during construction. Stabilization depths may be adjusted or non-performed with Approval of the Department to accommodate utilities. Specific attention is directed to all existing waterlines. A 12-inch depth of undisturbed

earth shall be kept above all water lines during subgrade construction. If utilizing the undercutting method over utilities, the DBT shall include plan note G121 from the ODOT L&D Volume 3 - Plan Preparation manual in plan submittals. However, when the stabilization is complete this area shall pass the proof rolling. Rollers shall be used for subgrade and subbase compaction in areas of existing water lines. Vibratory equipment over water lines is strictly prohibited.

- o The DBT shall be responsible for up to 5% of the repair areas failing proof roll after undercutting. Should the total of the repair areas exceed 5% of the total subgrade treated area, ODOT will compensate the DBT per CMS 109.05 for the area more than 5%. The Department will only compensate the DBT once for each repair area.

14 ROADWAY

The following geometric and typical section elements shall be retained in the final condition:

- Horizontal Alignments
- Vertical Alignments (with minor adjustments for pavement transition areas and to maintain existing minimum vertical clearance under the SR-13 bridge over Ramp A)
- Pavement and lane widths
- Shoulder widths (paved and graded)
- Turn lane lengths
- Median width
- Median crossover (1 paved cross over)
- Median aggregate sewer maintenance cross overs
- Crown location
- Cross slopes/Superelevation rates
- Curb Return radii
- Curbing (where present)

Remove all existing guardrail, including anchor assemblies and end treatments. Redesign and construct new guardrail, anchor assemblies and end treatments within the project limits. The DBT shall design and construct new per ODOT L&D Manual Volume 1, Section 600 and MASH compliant within the proposed project and existing right of way limits.

- Any new guardrail that is installed shall comply with Midwest Guardrail System (MGS) requirements.
- If the replacement of a guardrail within the pavement replacement limits is part of guardrail that extends outside the pavement replacement limits, the entire run of guardrail shall be replaced.
- If there are any existing or proposed roadside objects or drop-offs that require protection, the DBT shall design and install adequate protection for those warranting features, even if those features are not currently protected.
- It is noted that the graded shoulder width as some locations may require deep-post guardrail installation.

The DBT shall remove and reconstruct concrete barrier protection under the Cook Road and Malone Road bridges.

The DBT shall replace limited access fencing where impacted by construction activities.

The DBT shall remove existing curbing and construct Type 6 curb along the west side of SR-13 from Chilton Avenue to the north Project limit.

Class 1 Seeding shall be utilized on the west frontage of SR-13 from addresses 618 South Main Street through 632 South Main Street.

Safety grading shall be used for all rubblize and roll areas and where full-depth pavement is being replaced with the following exceptions:

- Common grading shall be used where safety grading would require the installation of new drainage conduit, barrier or guardrail, right of way encroachment or additional environmental impacts,
- If common grading in the above condition would require the installation of new drainage conduit, barrier or guardrail, right of way encroachment or additional environmental impacts, barrier grading shall be used.
- Where existing barrier or guardrail is present, barrier grading may be used.

The DBT shall provide ditch calculations for any ditch modifications. Any new fill materials placed in FEMA floodplains shall be coordinated, as required by Section 15 (Drainage) and Section 8 (Environmental).

The DBT shall provide cross sections at 50' (max.) intervals for evaluation of grading changes, and guardrail length of need confirmation.

All existing infrastructure items removed or made obsolete by the Project shall become the property of the DBT and shall be removed from the Project site.

The disposal of any material from the Project within state right of way shall not be permitted.

14.1 Design Exceptions

The Department has obtained approval for the following design exceptions:

- SR-13 Outside Shoulder Width - 8' (NDC = 10')
- Ramp Right Shoulder Width (Cook and E. Main Street interchanges) - 3' (NDC = 6')
- Maximum Superelevation (SR-13 and ramps) - 0.083 (NDC = 0.60)
- Horizontal Curvature (Main Street Ramp C) - 51.2 degree curve

Approved design exceptions are included in LD-01.

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 - N/A

15 DRAINAGE

The existing drainage system along SR-13, ramps and side roads shall be retained with miscellaneous repairs/replacements to improve drainage system conditions. Drainage repairs or replacements shall be completed by the DBT as identified in Section 15.1 (Culverts) and as required based on the DBT's design and construction activities. The DBT shall adjust to grade, or reconstruct to grade drainage structures, as required by the DBT's design and construction activities. The DBT shall regrade all ditches (and remove and replace paved gutters) where impacted by the DBT's design or construction activities. The DBT shall provide advance notice, in accordance with Section 8 (Environmental), for any work within a FEMA floodplain.

The DBT shall provide underdrains (base pipe, shallow pipe, deep pipe) and underdrain outlets in accordance with Section 205.1 of the ODOT Pavement Design Manual for all new pavement areas within the Project limits. All underdrains shall be 6" diameter.

Existing sewers (storm and sanitary) and culverts impacted by the zone of influence of construction activity shall be video inspected per C&MS 611 twice in the course of this Project: first, before construction begins; and second, after construction is completed and prior to final Acceptance of the Work. Construction activity as it relates to storm sewer, sanitary sewer and culvert inspection shall be defined as roadway, pavement and drainage construction activities crossing or adjacent to an existing sewer. The zone of influence areas shall be determined by the DBT and approved by the Department. The video inspection requirement shall apply to all impacted trunk sewers regardless of size, depth, or type. The paved gutter in the Ramp A infield is excluded from these requirements as no cleaning, inspection, or proposed repairs are required.

Unless otherwise specified in this Scope of Services, video inspection limits shall include the length of sewer within the influence area and extend 50 feet upstream and downstream beyond the influence area limits. Video inspection limits shall be approved by the Department and the maintaining agency of the sewer prior to commencement of Work. The DBT shall provide DVD copies of all video/inspection reports to the Department of all inspections performed.

Sewers to be video inspected shall be cleaned to facilitate the video inspection. The cleaning limits may exceed the video inspection limits based upon point of access for inspection equipment. The DBT shall also bypass pump any flow as necessary to access the sewer to perform the video inspection.

The Department shall determine the necessary amount of casting replacements on existing drainage structures to be retained. The DBT shall include a contingency quantity of 15,000 pounds of Miscellaneous Metal per C&MS 611 within the Item Drainage Structure, Misc.: Miscellaneous Metal (each) work for structures requiring casting replacement. If the quantity of Miscellaneous Metal per C&MS 611 exceeds 15,000 pounds, the Department will pay for additional quantities in accordance with the Contract Documents. This shall include, but is not limited, to any structure located within the proposed roadway that is not already being modified or addressed within the proposed drainage

work or a structure which is within MOT resurfacing limits, which is not being affected by any proposed drainage work.

Post-construction storm water Best Management Practices (BMP) are required as per Location and Design Manual, Volume 2. The following BMP's are approved for use on this Project:

- Vegetated biofilters
- Vegetated filter strips

Areas of the project using Pavement Design 2 or 4 (see Pavement section of scope) are required to be evaluated for post-construction BMPs. Areas of the Project using Pavement Design 1 or 3 are not required to be evaluated for post-construction BMPs.

The DBT shall perform a detailed flood plain analysis for all new highway embankment materials that encroach on floodplains, bodies of water or streams. The analysis shall be in accordance with the Location & Design Manual Volume 2 and the Bridge Design Manual. The extent of the analysis shall be from a minimum of 500' downstream, to the greater of either one bridge opening/width upstream, or to the limits of the area inundated by the 100-year event.

The results of the detailed flood plain study, supporting hydraulic calculations, and recommendations shall be submitted to the Department for review and comment prior to construction of the drainage structure. If the proposed crossing is in a special flood hazard area as defined by FEMA, the detailed flood plain analysis shall be submitted concurrently to the local flood plain coordinator.

City of Mansfield Floodplain Administrator Contact Information:

Marc Milliron
 Zoning Administrator, City of Mansfield
 30 N. Diamond Street
 Mansfield, OH 44902
 419.755.9688

In addition, the DBT shall prepare all floodplain coordination documents per the L&D Volume 2, Section 1005. This includes, but is not limited to, hydrologic and hydraulic calculations, no-rise certification (if applicable), associated FEMA FIRM mapping showing the area of impact to the floodplain, and completed Interim plans (roadway, drainage, and structure plans with review comments addressed). These documents shall be submitted to the District 3 Hydraulic Engineer.

15.1 Culverts

The DBT shall perform work on RIC-13 culverts within the Project limits as described in Table 16-1 below:

Table 16-1: Culvert Information

C-R-S	Station	CFN	Existing Conduit	Proposed Feature
RIC-13-11.298	597+00	1810699	15" RCP	Install half height headwall at outlet
RIC-13-11.411	603+00	1810700	24" RCP	Install half height headwalls at inlet and outlet

C-R-S	Station	CFN	Existing Conduit	Proposed Feature
RIC-13-11.513	608+37	1810701	36" RCP	Replace conduit and clean out ditch
RIC-13-11.621	614+16	1810702	15" RCP	Clean out ditch
RIC-13-11.624	614+50	1810703	54" RCP	Replace CMP portion of conduit under the earthen dike. Clean out culvert under the mainline and the outlet channel
RIC-13-11.806	624+00	1811937	15" RCP	Replace conduit due to RCP sections having longitudinal cracks
RIC-13-12.125	640+40	1811941	15" RCP	Replace due to shallow cover.
RIC-13-12.220	645+66	1811942	48" CMP	Pipe rehabilitation using liner, spincast, or CIPP. Dumped rock fill along outlet channel.
RIC-13-12.252	647+00	1811943	15" RCP	Broken back pipe. Replace the CMP section from the guardrail to the outlet.
RIC-13-12.397	655+00	1811944	30" RCP	Place dumped rock at the outlet to control scour.
RIC-13-12.418	655+50	1811945	15" RCP	Pipe rehabilitation of RCP pipe using CIPP.
RIC-13-12.543	662+50	1811946	21" RCP	Replace due to shallow cover.
RIC-13-12.657	668+40	1811947	36" RCP	Replace or rehabilitate pipe using CIPP or spincast the CMP portion under the earthen dike. Replace outlet half height headwall. Repair median catch basin.
RIC-13-12.805	676+35	1811948	30" RCP	Replace or rehabilitate the pipe using CIPP or spincast the CMP portion under the earthen dike. Repair/reseal the west side catch basin due to infiltration.
RIC-13-13.034	688+00	1811949	15" RCP	Replace last four sections of conduit at the outlet.

16 LANDSCAPING

Landscaping Required: Yes No

The DBT shall permanently grade and seed all impacted areas.

17 ADDITIONAL DESCRIPTION OF REQUIRED WORK AND SPECIAL PROVISIONS (N/A)

18 STRUCTURES

18.1 Existing Structures Identification

Structure Identification: RIC-CR134-4749
 Structure File Number: 7000391
 Feature Intersection: Cook Road over SR-13

Structure Identification: RIC-005555-0247
 Structure File Number: 7000421
 Feature Intersection: Malone Road over SR-13

Structure Identification: RIC-13-1416BRRAMP
 Structure File Number: 7000480
 Feature Intersection: SR-13 NB over S. Main Street Ramp

Structure Identification: RIC-13-1416BLRAMP
 Structure File Number: 7000456
 Feature Intersection: SR-13 SB over S. Main Street Ramp

18.2 General Requirements - N/A

18.3 Design and Construction Requirements of Structure

A. Str: RIC-CR-134-4749

Existing Structure Data:

Overall Length:	207'
Width o/o:	40.7'
Design Loading:	H15
Type:	Steel Continuous/Stringer/Multi-beam
Spans:	4
Date Built:	1965

Alignment & Profile

- Alignment: Follow Existing
 Relocated: Per ODOT Per DBT
- Profile: Follow Existing

Relocate: Per ODOT Per DBT

Feathered (Adjustment): Per ODOT Per DBT

Span Configuration: Per Original

Span Lengths: Per ODOT Per DBT

Variable

Transverse Sections

Roadway Width: 30' curb to curb

Railing: Yes No Type: (existing)

Fence: Yes No Height/Type: (existing)

Sidewalks: Yes No Width: (existing)

Investigate the need for Prefabricated Structure: Yes No

Investigate the need for Retaining Walls: Yes No

Scope of Work:

1. Remove existing approach slab joint seals per CMS 202 and apply new hot applied joint seal full width of both approach slabs per CMS 516.06.
2. Perform concrete patching of pier columns per CMS 519 (Estimated Quantity = 12 S.F. for Pier 3, Columns 2 and 3)
3. Patch bridge deck per CMS 519 and PN 512 Type B or C (Estimated Quantity = 20 S.Y. for backwall and misc. deck areas)
4. Seal full length and width of the bridge deck and approach slabs in accordance with CMS 512.05 (Soluble Reactive Silicate (SRS) Concrete Treatment).

B. Str: RIC-005555-0247

Existing Structure Data:

Overall Length:	210'
Width o/o:	34.7'
Design Loading:	H15
Type:	Steel Continuous/Stringer/Multi-beam
Spans:	4
Date Built:	1965

Alignment & Profile

- Alignment: Follow Existing
 Relocated: Per ODOT Per DBT
- Profile: Follow Existing
 Relocate: Per ODOT Per DBT
 Feathered (Adjustment): Per ODOT Per DBT
- Span Configuration: Per Original
- Span Lengths: Per ODOT Per DBT
 Variable

Transverse Sections

- Roadway Width: 24' curb to curb
- Railing: Yes No Type: (existing)
- Fence: Yes No Height/Type: (existing)
- Sidewalks: Yes No Width: (existing)

Investigate the need for Prefabricated Structure: Yes No

Investigate the need for Retaining Walls: Yes No

Scope of Work:

1. Clean out both joint seals and apply new hot applied joint seal full width of both approach slabs per CMS 516.06.
2. Patch bridge deck per CMS 519 and PN 512 Type B or C (Estimated Quantity = 12 S.Y.)
3. Seal full length and width of the bridge deck in accordance with CMS 512.05 (Soluble Reactive Silicate (SRS) Concrete Treatment)

C. Str: RIC-SR-13-1416BRRAMP

Existing Structure Data:

Overall Length:	116'
Width o/o:	52.3'
Design Loading:	H20
Type:	Steel Continuous/Stringer/Multi-beam
Spans:	3

Date Built: 1965

Alignment & Profile

- Alignment: Follow Existing
 Relocated: Per ODOT Per DBT
- Profile: Follow Existing
 Relocate: Per ODOT Per DBT
 Feathered (Adjustment): Per ODOT Per DBT
- Span Configuration: Per Original
- Span Lengths: Per ODOT Per DBT
 Variable

Transverse Sections

- Roadway Width: 47' curb to curb
- Railing: Yes No Type: (existing)
- Fence: Yes No Height/Type: (existing)
- Sidewalks: Yes No Width: (existing)

Investigate the need for Prefabricated Structure: Yes No

Investigate the need for Retaining Walls: Yes No

Scope of Work:

1. Remove existing raised pavement markers (Estimated Quantity = 5 Each) and fill voids with epoxy filler
2. Seal individual cracks in the bridge deck with HMWM resin in accordance with CMS 512.04 as directed by the Engineer. Quantity not to exceed 15 S.Y.)
3. Remove and replace portions of approach slab deflector parapets with guardrail attachment. This work shall include full replacement of the transition sections and any additional length required to ensure proper reinforcement lap lengths. New parapets shall be in accordance with BR-1-13 with MGS-3.1 and MGS 3.2 attachments. Structure plan details will be required for this work.

D. Str: RIC-SR-13-14.16BLRAMP

Existing Structure Data:

Overall Length:	116'
Width o/o:	37.8'
Design Loading:	H20
Type:	Steel Continuous/Stringer/Multi-beam
Spans:	3
Date Built:	1965

Alignment & Profile

- Alignment: Follow Existing
 Relocated: Per ODOT Per DBT
- Profile: Follow Existing
 Relocate: Per ODOT Per DBT
 Feathered (Adjustment): Per ODOT Per DBT
- Span Configuration: Per Original
- Span Lengths: Per ODOT Per DBT
 Variable

Transverse Sections

- Roadway Width: 37.8' curb to curb
- Railing: Yes No Type: (existing)
- Fence: Yes No Height/Type: (existing)
- Sidewalks: Yes No Width: (existing)

Investigate the need for Prefabricated Structure: Yes No

Investigate the need for Retaining Walls: Yes No

Scope of Work:

1. Remove existing raised pavement markers (Estimated Quantity = 1 Each) and fill voids with epoxy filler
2. Seal individual cracks in the bridge deck with HMWM resin in accordance with CMS 512.04 Quantity not to exceed 15 S.Y.)
3. Remove and replace portions of approach slab deflector parapets with guardrail attachment. This work shall include full replacement of the transition sections and any additional length required to ensure proper reinforcement lap lengths. New parapets

shall be in accordance with BR-1-13 with MGS-3.1 and MGS 3.2 attachments. Structure plan details will be required for this work.

All Shop Drawings shall comply with Item 501.

18.4 Noise Barrier

Noise Barrier Construction Required: Yes No

19 TRAFFIC CONTROL

19.1 Pavement Markings and Delineators

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

A. Pavement Marking Yes No.

Longitudinal pavement markings shall be Recessed Wet Reflective per SS 807 unless on bridge decks where epoxy markings (CMS 646) shall be utilized. Auxiliary pavement markings shall be thermoplastic (CMS 644). Provide dotted line markings to separate/delineate southbound SR-13 from the South Main Street exit ramp.

B. Raised Pavement Markers: Yes No.

Provide raised pavement markers along SR-13 and all ramps within the Project limits in accordance with the OMUTCD and applicable standard construction drawings, including TC 73.20. Two blue raised pavement markers shall be installed in the SB shoulder adjacent to the fire hydrant near Chilton Ave.

C. Delineators: Yes No.

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: Yes No.

All barrier reflectors shall conform 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 and shall be Type 3 or Type 5. All existing barrier reflectors on barrier sections that are to remain in-place shall also be replaced.

E. Object Markers: Yes No.

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

19.2 Signing

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

19.2.1 Flat Sheet Signs

A. Flat Sheet Sign work required: Yes No.

1. Redesign and replace all existing flat sheet signs with new signs, except as indicated below. This includes all signs on the mainline and interchange ramps. This also includes all STOP signs on intersecting roads. Size the signs in accordance with the OMUTCD.
2. The following signs shall remain in place and not be replaced:
 - City of Mansfield multi-sign installation located along SR-13 in northbound direction approximately 520' south of Chilton Ave. Sign installation to remain but DBT to remove landscape rocks at base of sign.
 - Advance lead-in and route trailblazing signs on Cook Road.
 - Custom "Wal-Mart" sign installation located along SR-13 in the southbound direction near Hanley Road - DBT shall remove the signs and reinstall on new post supports.

Removed flat sheet signs shall become the property of the Contractor.

19.2.2 Tourist-Oriented Directional Signs (TODS)

Tourist-Oriented Directional Signs (TODS) and logo signs: Yes No.

Tourist-Oriented Directional Signs (TODS) and logo signs are installed and maintained by Ohio Logos, Inc., under contract with and in locations approved by ODOT. Under the terms of the contract, the DBT shall be required to temporarily relocate the signs during construction. Provide temporary suitable supports, adjust the location with the Engineer's approval, and temporarily re-erect the signs. Signs shall be re-erected within 72hrs of removal. Remove and dispose of the existing foundations. The DBT shall visually document the condition of the signs prior to disturbance by the DBT. The DBT is responsible for any damage to the sign during construction. Upon completion of the Project, the DBT shall contact Ohio Logos at 1-800-860-5646 to coordinate permanent relocations of TODS and logo signs.

19.2.3 Extrusheet Signs

1. Extrusheet Sign Work Required: Yes No.

Redesign and replace all existing extrusheet signs with new signs, except at the locations indicated below. This includes all signs on the mainline and interchanges ramps. Size the signs in accordance with the OMUTCD (exceptions are noted below):

- Interchange signing at the Cook Road and South Main Street interchanges shall be designed in accordance with OMUTCD Section 2E, however exit panels shall be omitted and exit gore signs shall not indicate exit numbers.
 - All interchange signing shall be ground mounted
 - Advance signage for the S. Main Street exit shall not be provided.
 - A new Kingwood Center/Fairgrounds sign and support shall be retained in the final condition
2. The following signs shall be removed and not replaced:
The overhead truss installation for SR-13 southbound at South Main Street shall be removed and replaced with ground mounted exit signage.

Removed extrusheet signs shall become the property of the Contractor.

19.2.4 Ground Mounted Post Supports

A. Replace: Yes No.

1. Redesign and replace all existing ground mounted post supports with new supports. New sign installations shall be on new supports. No reuse of existing ground mounted supports shall be allowed.
2. All post-mounted signs shall be 3# posts 72 inch stub with 18 inches above ground using aluminum bolts, stainless steel washers, stainless steel lock washers, and stainless steel nuts.

Removed ground mounted supports shall become the property of the Contractor.

19.2.5 Ground Mounted Beam Supports

A. Ground Mounted Beam required: Yes No.

1. Redesign and replace all existing ground mounted beam supports with new ones.
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.

B. Overhead Supports: Yes No.

Removed overhead supports and sign lighting components shall become the property of the Contractor.

19.3 Lighting

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

Existing highway lighting is present within the Project limits at Hanley Road, SR-13 at the I-71 interchange, Cook Road ramp intersections, Main Street ramps and SR-13 at the northern Project limits. The existing lighting system is not anticipated to be impacted by the Project. The DBE shall

replace any lighting system components impacted by design or construction activities. The DBT shall meet with representative from the Department and maintaining agency, including but not limited to the Roadway service Traffic Manager and Roadway Service Traffic Engineer, to discuss lighting specifications, preferences, and other related details.

19.4 Traffic Signals

The DBT shall perform Work related to traffic signals in accordance with Section 7.1 (Governing Regulations) and the following sections.

Maintenance of traffic operations may require the modification of signal head locations, signal timing/phasing, vehicle detection positioning, or covering of signal heads. The DBT shall be responsible for the operation and maintenance of any signal installation from the time of modification until such time that the DBT restores the signal to the original conditions. If signal head or detection equipment relocations require the addition of new splices in signal conductors, then the DBT shall replace the affected conductors to the controller, prior to Project acceptance. Care shall be used while operating existing signal equipment. Any equipment damaged as a result of DBT negligence shall be replaced at the expense of the DBT. The DBT shall document all existing conditions prior to making modifications.

- A. Signal Support work required: Yes No
- B. Vehicle Signal Heads: Yes No
- C. Pull box: Yes No
- D. Conduit: Yes No
- E. Cable and Wire: Yes No
- F. General

All signal installations shall be designed and equipped for “approach monitoring”. If a two-phase signal is used, a dual ring controller and cabinet wiring utilizing phases 2+6 and 4+8 will be furnished and installed.

Signal(s) part of an Intelligent Transportation System (as defined by the Traffic Engineering Manual, Part 13): Yes No

19.5 Intelligent Transportation Systems (ITS)

- A. ITS Work Required: Yes No

19.6 Northbound Drop Left Turn Lane to Chilton Ave

At the north end of the Project limits, the current northbound lane configuration for merging two lanes down to one is a left lane merge. The City of Mansfield requires that when northbound lanes are in their final configuration, the left lane shall be changed to a drop left turn lane to Chilton Ave. All signing and pavement markings required to make this change shall be incidental to their respective bid items. Advance notification of this change using static and dynamic signs shall be incidental to Item 614 Maintaining Traffic. A conceptual signing and pavement marking plan

developed by the City of Mansfield is included as Appendix TC-04. The DBT shall incorporate the intent of this concept, while ensuring compliance with the Traffic Engineering Manual.

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

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:

- A. Real Estate Policies and Procedures Manual Section 3100.
The DBT shall also identify all topographic features within the existing and proposed Right-Of-Way limits, including underground utilities.
- B. Bridge Design Manual.
Note: Bridge subsummaries are required.
- C. Location and Design Manual, Volume 3:

1302.13	Plan Signatures	NOT Required
1307.2	General summary sheet	Required
1307.4	Quantity Calculations	Required
1310.3	Earthwork and Seeding Quantities	Required

Units of measure ARE required.

Simplified plans (section 1301.2) are NOT allowed.

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 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 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 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 in Table 16-1. The DBT may modify format or include additional information with Department concurrence.

Table 16-1: Comment Resolution Spreadsheet Requirements

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
Comment type	<p>Either “Non-compliant”, “Preference”, or “Recommendation”.</p> <p>Non-compliant - elements that do not meet requirements of the Contract.</p> <p>Preference - elements which depict the owner’s preferred design method or result but are not required by the Contract.</p> <p>Recommendation - a general noted item intended to make the design aware of potential troublesome design methods.</p>
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 design 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)	<p>Accept - DBT agrees with the comment and addressed the comments</p> <p>Dismiss - DBT disagrees with the comment based on comment no longer applying because the design has changed, reviewer error, or other reasons.</p> <p>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.</p>
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	
Status	<p>Open - the submittal did not address the original comment made.</p> <p>Closed - the submittal or disposition addresses the original comment.</p> <p>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</p>

	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.

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.
- 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.

Unless indicated below, the Department will have 10 Work Days from receipt to review complete submissions. The following are excluded as Work Days: State Holidays, Federal Holidays, Saturdays, Sundays, the Friday after Thanksgiving, Christmas Eve, and the days between Christmas and New Year's Day. This review time must be shown on the required Progress Schedule.

Submittal	Adjusted Review Time
Utility Companies	30 calendar days

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	Electronic PDF Submission
ODOT District Construction	Electronic PDF Submission
ODOT Central Office, Division of Highway Operations	Electronic PDF Submission
Each affected utility	Electronic PDF Submission (or single paper copy if requested by utility company)

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 shall have 10 Work Days from receipt to review complete submissions. The following are excluded as Work Days: State Holidays, Federal Holidays, Saturdays, Sundays, the Friday after Thanksgiving, Christmas Eve, and the days between Christmas and New Year’s Day. This review time must be shown on the required Progress Schedule.

Submittal	Adjusted Review Time
Utility Companies	30 calendar days

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	Electronic PDF Submission
ODOT District Construction	Electronic PDF Submission
ODOT Central Office, Division of Highway Operations	Electronic PDF Submission
District Utility Coordinator	Electronic PDF Submission
Each affected utility	Electronic PDF Submission One single paper copy (if requested) by utility company

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.

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:

	Number of full/half size Sets
ODOT District Production	Electronic PDF Submission
ODOT District Construction	Electronic PDF Submission
ODOT Central Office, Division of Highway Operations	Electronic PDF Submission
ODOT Central Office, Division of Construction Management	Electronic PDF Submission
District Utility Coordinator	Electronic PDF Submission
Federal Highway Administration	Electronic PDF Submission
Each affected utility	Electronic PDF Submission One paper copy (if requested by utility company)

21.11 Plan Distribution Addresses

Ohio Department of Transportation, District 3
906 Clark Avenue
Ashland, Ohio 44805
Attn: Nicholas Foster

Ohio Department of Transportation Central Office
Division of Construction Management
1980 West Broad Street
Columbus, Ohio 43223
Attn: Eric Kahlig, P.E.
Eric.Kahlig@dot.ohio.gov
(notification only)

Ohio Department of Transportation Central Office
Office of Environmental Services
1980 West Broad Street
Columbus, Ohio 43223
Attn: Timothy Hill
Tim.Hill@dot.ohio.gov

Federal Highway Administration
200 North High Street
Room 328
Columbus, Ohio 43215-2408
Attn: Charmagne' Crook
Charmagne.Crook@dot.ohio.gov

Utility Companies
(As shown in Section 10)

21.12 As-Built Construction Record-Drawing Plans

Within 60 Calendar Days of 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.

The DBT shall prepare As-Built Documents in conformance with ODOT's Location and Design Manual, Volume 3, Section 1200 - Plan Preparation, and submit them in both hardcopy and electronic (PDF, TIFF, and CADD) format, including MicroStation and Open Roads Designer (ORD) files, conforming to ODOT CADD standards. As-Built Documents shall include quantities for the Work associated with each Buildable Unit.

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.

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.

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.