

ODOT
PROGRESSIVE DESIGN BUILD
TECHNICAL REQUIREMENTS (SCOPE OF SERVICES)

PID: 117545 State Project Number: 243001

County: Wood Route: 23 Section: 17.88

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1 PROJECT IDENTIFICATION & GENERAL INFORMATION

Table 1-1: Project Identification

PID	117545
State Project Number	(24)3001
County-Route-Section	WOO-23-17.88
Local Route Name (if applicable)	
Highway Functional Classification & Federal Aid System	

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:	US-23 N	US-23 S	SR-105 E	SR-105 W
Current ADT:	3800	4800	1700	1400
Design Year ADT:	4500	5400	1800	1500
Design Hourly Volume:	500	550	200	200
Directional Distribution:	62%	59%	61%	65%
Trucks:	22%	16%	12%	10%
Design Speed:	60 MPH	60 MPH	60 MPH	60 MPH
Legal Speed:	55 MPH	55 MPH	55 MPH	55 MPH
Design Functional Classification:	Rural Principal Arterial	Rural Principal Arterial	Rural Major Collector	Rural Major Collector
NHS Project:	No			

1.2 Existing Plans and Project Information (RIDS)

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 because 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:

PID 85250 WOO-23/VAR-17.70/VAR

PID 93443 WOO-105-9.76

PID 25524 SAN/OTT-105-0.00/0.00

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/Construction/WOO23Rndabout-PDB-BIM-RFQ/RIDS/>

1.3 Airway/Highway Clearance

Not Applicable

2 MEETINGS

2.1 Pre-Proposal Meeting

Schedules of pre-proposal meetings will be per the Instructions to Offerors.

This meeting is to discuss and clarify all issues that the project may have. Offeror attendance at the pre-proposal meeting is mandatory.

Location: District 2 or Central Office
Date: January 16, 2024
Time: TBD

2.2 Phase 1 Meetings

The meetings described below are currently anticipated to occur during Phase 1. The meetings and their frequency, duration, and attendees are subject to modification based on discussions with the selected Contractor. This is not an exhaustive list of anticipated meetings, nor does this list intend to relieve the Contractor of any other PDBC-required meetings.

2.2.1 Pre-Sub-Phase 1A Meetings

- A. Immediately after PDBC Execution, the Contractor Project Manager, Contractor Model Design Manager, and Contractor Model Construction Manager shall attend weekly meetings with the Department to finalize the Sub-Phase 1A Project Scope.

2.2.2 Risk Management Meetings

- A. The Contractor shall participate in and attend risk management meetings with the Department monthly together with a kick-off risk management meeting within 30 Days of the Sub-Phase 1B NTP.
- B. The agenda for the kick-off risk management meeting will be set by the Department and will include a presentation of the then current Risk Register. The agenda for subsequent risk management meetings will be set by the Department in consultation with the Contractor.
- C. Each of the Parties shall ensure that each risk management meeting is attended by team members that:
 - 1. Are consistent across all risk management meetings (as practicable);
 - 2. Include the Department's Project Manager, ODOT Construction Leads, and ODOT Design Leads;
 - 3. Include the Contractor's Project Manager, the Model Construction Manager, the Model Design Manager; and any other Key Personnel requested by the Department (see Section 10 (Authorized Representative and Key Personnel));
 - 4. Include the Contractor's Scheduler as defined in Exhibit T (Critical Path Method Progress Schedule) and the person within the Contractor's organization responsible for generating the Cost Model and Opinions of Probable Cost;
 - 5. Have specialist knowledge to effectively consider key Project risks and complex matters relating to the Work;
 - 6. Are authorized to discuss key Project matters on behalf of their organization; and

- 7. If requested by the Department, or if requested by the Contractor and with the Department's approval, include representatives of a Subcontractor.
- D. Following the risk management meetings, the Contractor shall summarize the discussed risk and memorialize the Meeting's results.

2.2.3 Approach to Cost Model Meeting

- A. No later than 30 Days after the Sub-Phase 1B NTP, the Contractor shall convene, attend, and actively participate in a meeting to discuss and develop an initial approach to costing the Project with the Department. The purpose of this meeting is to establish the baseline Cost Model for the development of OPCs and GMP Price Proposals, including design and construction cost and Project Schedule estimates. This initial meeting will also establish the plan to communicate changes in scope, quantity, risk, and other information required to affirm a consistent foundation for cost and schedule estimation.

2.2.4 Design Progress Meetings

- A. No later than 14 Days after the Sub-Phase 1B NTP, the Contractor shall convene, attend, and actively participate in meetings to discuss anticipated BIM Model format and requirements, design approaches, anticipated submissions, and status of design submissions being reviewed by the Department.

2.2.5 [RESERVED FOR ADDITIONAL MEETINGS]

3 CONTRACTOR PRE-QUALIFICATION

The Design Build Team must meet all "By Project Award" Contractor Prequalifications at the time of submitting a bid. These Prequalifications include:

A. Roadway Excavation & Embankment Construction

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

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

4 DESIGNER

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

Bicycle Facilities and Enhancement Design Roadway

Non-Complex Roadway Design

~~Safety Study~~

Limited Lighting Design

Complex Lighting Design

- Geotechnical Engineering Services
- Geotechnical Testing Laboratory
- Geotechnical Field Exploration Services
- Geotechnical Drilling Inspection Services

Complex ROW Plan Development
Subsurface Utility Location Services

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:

5 SCOPE OF WORK

Project Description:	<i>Construct a single lane roundabout at the intersection of US 23 and SR 105 in Wood County and Sandusky County. The roundabout will need to meet the requirements in the Location and Design Manual, Volume 1 concerning all geometrics. Special consideration in the design of the roundabout needs to be given to the accommodation of large vehicles (Farm Equipment, Construction Equipment, WB-67 Semis).</i>
Completion Date:	<i>Sub-Phase 1A (BIM Proof-of-Concept) Interim Completion Date: 8-21-24 Sub-Phase 1B (Project Development) Proposal NTP: 409-20-24 Sub-Phase 1B (Project Development) Interim Completion Date: 3-19-25 Phase 2 (Engineering & Construction) Proposal NTP: 4-1-25 Substantial Construction Completion Deadline: 10-15-25</i>
Warranties:	<i>None</i>

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-105 (WOO)	SLM 12.1	SLM 12.225
SR-105 (SAN)	SLM 0.00	SLM 0.2

US-23	SLM 17.8	SLM 18.04
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Work Limits shall be determined by the DBT.

The Consultant shall provide for the engineering services, design, and preparation of detail construction digital model 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.

The Project will require Building Information Modeling (BIM) processes to be incorporated and will require usage of a digital model during the construction of the Project. This digital information format shall be agreed through a cooperative mutual iterative process during Phase 1 of the Project as defined in the PDBC.

6 FIELD OFFICE

Field office will not be required.

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 of original RFP release, 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. For clarity, the Governing Regulations in effect at the time of the GMP submittal shall control, subject to any Standards Deviations in accordance with PDBC Section 4.1.5:

- Bridge Design Manual
- CADD Engineering Standards Manual
- CADD Standards for MicroStation and GEOPAK and other applications
- Construction and Material Specifications
- Environmental Services Handbooks and Guidelines
- Geotechnical Design Manual
- Geotechnical: Manual for Abandoned Underground Mine - Inventory and Risk Assessment
- Geotechnical: Specifications for Geotechnical Explorations
- Item Master
- Lighting Design Reference Packet (LDRP)
- Location and Design Manual, Volume One - Roadway Design

Location and Design Manual, Volume Three - Plan Preparation
Location and Design Manual, Volume Two - Drainage Design
Multimodal Design Guide
ODOT Analysis and Traffic Simulation (OATS) Manual
Ohio Manual of Uniform Traffic Control Devices
Pavement Design Manual
Proposal Notes for Construction and Material Specifications
Quality Standards for TTCs & Acceptable Delineation Methods for Vehicles
Real Estate Policies and Procedures Manual: Acquisition Manual
Real Estate Policies and Procedures Manual: Appraisal
Real Estate Policies and Procedures Manual: Certification of Right of Way Control
Real Estate Policies and Procedures Manual: Property Management
Real Estate Policies and Procedures Manual: Railroad Coordination
Real Estate Policies and Procedures Manual: Relocation
Real Estate Policies and Procedures Manual: ROW Plans
Real Estate Policies and Procedures Manual: Utilities
Sign Designs & Markings Manual (SDMM)
Signal Design Reference Packet
Standard Drawings: Bridges | Plan Insert Sheets
Standard Drawings: Construction - Hydraulics | Plan Insert Sheets
Standard Drawings: Construction - Pavement | Plan Insert Sheets
Standard Drawings: Construction - Roadway and Roadside | Plan Insert Sheets
Standard Drawings: Traffic | Plan Insert Sheets
State Highway Access Management Manual
Supplemental Specifications for Construction and Material Specifications
Survey & Mapping Specifications
Traffic Engineering Manual
Waterway Permits Manual

The above required design requirements shall be modified, as agreed, through the iterative model development process in Phase 1 of the PDBC.

7.2 CADD files supplied by the DBT

The Project shall be designed using a digital model and Building Information Modeling state of the art techniques.

Standards of the BIM modeling shall be coordinated and determined in cooperation with the Department after project award.

7.3 [RESERVED]

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 *Section 108.02 of PN 126*.

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:	John Erford
Phone number:	419-373-4313
E-mail:	john.erford@dot.ohio.gov

District’s Project Engineer’s Name:	The District Project Engineer will be named at the Pre-Design Meeting.
Phone number:	[Insert Text - if known]
E-mail:	[Insert Text - if known]

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

7.5.1 Task Force Design Meetings

- Required
- Not Applicable

The DBT shall conduct Task Force Design meetings. These meetings will be held to discuss specific DB solutions, resolve issues with the design and update the Department with the status of the design. These meetings shall be ongoing during the Phase 1 portion of the Contract.

These meetings shall determine the BIM standards and expectations to be followed during the design and construction of the Project. The DBT shall develop a BIM Execution Plan for review and approval through ongoing coordination with the Department during Phase 1.

At a minimum, these meetings shall include the Designer (and specifically the design element lead engineer or representative) and the Contractor. The DBT shall invite the Department to each Task Force Design meeting. The Task Force Design meetings shall be held every other week for the duration of the design or until mutually agreed by the Department and the DBT.

The Task Force Design meetings shall be integrated multi-discipline design meetings, led by the DBT, focusing on integrating design elements into a single, comprehensive, and buildable design. The Department will participate, but the Department's participation will be limited to general opinions and suggestions which shall not be deemed to be direction. The DBT shall maintain its responsibility to ensure adherence to the contract, including design requirements and schedule.

During the design process, these meetings shall occur at a location agreeable and accessible to all parties. If the co-located field offices are utilized and operational, these meetings should be held at the Department's or DBT's Field Office. The DBT shall provide an agenda two days prior to the meeting.

The DBT shall be responsible to notify any interested or affected third-parties at least two days prior to the meeting . "On-line" meetings (i.e. Skype, WebEx) may be acceptable, if approved by 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 because 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

NEPA Status to be finalized. [See PDBC Section 1.6.C for more information.](#)

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 of the Conceptual Design 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 permits approval are obtained from the regulatory agencies.

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

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

Agency	Permit/Approval	Status
OEPA	NOI	Information Required from 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 because 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. 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.

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 and response plan that will address the proper storage and management of all fuels, oils, and chemicals being stored and/or used on the project and the actions to be taken if a release occurs on the project including notifying reportable releases and spills to the National Response Center and Ohio EPA Spill Hotline. The DBT is to address the project's known areas of regulated materials in their health and safety plan. The DBT is to take reasonable actions to prevent the general public from accessing the regulated materials areas to prevent an exposure and/or a release of the regulated materials.

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

8.5 Noise Analysis and Noise Barriers

Not Applicable

9 RIGHT OF WAY (ROW)

RW Status Matrix to be finalized

The DBT shall perform all necessary construction work for the project within the Project Right of Way (ROW). The Department desires the ROW Plans to be complete as early in Phase 1B as possible.

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. (Necessary?)~~

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 digital model 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

To be finalized

10 UTILITIES

10.1 Existing Utilities

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

List all known utilities on the Project site in Table 10-1.

Table 10-1: Utility Contacts and Status

Utility Owner	Utility Contact	Relocation Status
[Insert utility owner name and mailing address]	[Insert contact person name, phone, and email]	[Describe utility relocation status and any committed completion dates]
Amplex Electric	Kathy Baugher 22690 Pemberville Rd. Luckey, OH 43443 419-837-5015 kbaugher@amplex.net	Utility conflicts to be determined
Buckeye CATV	Michael Sheahan 2700 Oregon Rd. Northwood, OH 43619 419-724-3713 msheahan@sharedsvcs.com	Utility conflicts to be determined
Brightspeed	Bill Parsons 1120 South Tyron St. Suite 700 Charlotte, NC 28203 952-500-1596 Bill.parsons@brightspeed.com	Utility conflicts to be determined
Frontier Com (Former Verizon)	Amy Roth	Utility conflicts to be determined

	3126 N McCord Rd. Toledo, OH 43617 419-631-2823 Amy.l.roth@ftr.com	
North Coast Gas Transmission	Jason Hill 445 Hutchinson Ave #810 Columbus, OH 43235 419-217-1722 JHill@somersetgas.com	Utility conflicts to be determined
Toledo Edison	Andrew Stambaugh 6099 Angola Rd. Holland, OH 43528 419-249-5178 astambaugh@firstenergycorp.com	Utility conflicts to be determined

10.2 Utility Coordination Responsibilities

The DBT shall coordinate all utility adjustments for construction activities on the Project.

As soon as it is feasible, the DBT shall stake the existing ROW (and new ROW, if additional ROW has been acquired) in the field and shall perform clearing and grubbing within that ROW in accordance with the Contract Documents to facilitate utility relocation. The DBT shall maintain and update ROW stakes as needed throughout the Project Limits for the duration of the Project.

The DBT shall design the project and perform construction work in a manner that minimizes the scope and extent of utility conflicts and adjustments. 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. The DBT shall minimize potential delays and coordinate efficient adjustments of utilities.

The DBT shall copy the ODOT Project Manager and the District Utility Coordinator on all correspondence or phone calls between the DBT and each utility. This shall include the submittal of plans to each utility. A meeting at or near the 30% OPC shall be held between the DBT, the District Utility Coordinator and the utility owners to determine if any significant utility relocations can be eliminated or mitigated.

Any betterment to the utility's facility and ineligible, or unnecessary, work shall not be included in the Project without Department approval. The Department will not compensate

for betterments or other ineligible utility work. The DBT shall coordinate determination of eligibility through the District Utility Coordinator.

10.3 Subsurface Utilities Engineering (SUE)

Subsurface Utility Engineering Required: Yes No

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:

1. MOT configuration
2. Access
3. Detours
4. Schedule
5. Duration

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

All detour routes will be provided by the Department and shall be signed by the DBT. The designated local detour will be provided by the Department.

Final requirements to be determined during Phase 1 of the Contract.

11.2 MOT Requirements

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

Table 11-1: MOT Requirements

Requirement	Detailed Requirement Information	
ROUTE	SR-105	US-23
Minimum number of lanes open during construction	0	1 lane
Minimum lane width	N/A	11'

Maximum duration of lane closure	TBD during Phase 1B	TBD during Phase 1B
Restrictions on lane closures during special events (sports events, fairs, concerts, etc.)	None	None
Restriction related to hospitals, fire and police, schools, etc.	None	None

Final Requirements to be determined during Phase 1 of the Contract.

11.3 Work Zone Speed Reduction

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

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

11.4 Haul Routes

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

11.5 Traffic Engineering Manual Notes

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

Final Requirements to be determined during Phase 1 of the Contract.

12 SURVEY

A. ODOT Survey Responsibilities

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

1. Centerline control and benchmarks
2. Beginning and ending centerline points for the project
3. At least two benchmarks for the project (the datum used was that which the project was originally laid out by)
4. Critical points such as P.C., P.I., P.T., T.S., C.S.

5. Vertical clearances for the overhead structures, to serve as a check for the existing vertical clearances

B. DBT Survey Responsibilities

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

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

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

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

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 NAD 83 (Horizontal Data), NAVD 88 (Vertical Data).
6. Short report indicating adjustment factors and methods, signed and certified by a Registered Surveyor (State of Ohio). The Registered Surveyor (State of Ohio) shall include in the report the datum used and all associated adjustments used.

13 PAVEMENT

Full Depth Pavement Replacement shall occur within the limits needed to tie each leg of the roundabout into the existing roadway. Pavement buildup shall be provided by the DBT utilizing the Pavement Design Manual. The splitter islands and truck aprons shall be a 8” non-reinforced concrete that is stamped and integrally stained.

Soil restoration data shall be provided by the DBT. The DBT will analyze the subgrade according to the Geotechnical Bulletin 1 (GB1): Plan subgrades. Collection of additional soils information if needed, should be performed by the DBT. Provide type, locations, and limits of any subgrade stabilization needed.

Final Requirements to be determined during Phase 1 of the Contract.

14 ROADWAY

Horizontal and vertical alignments are provided in the existing survey and as per the existing plans. Proposed horizontal and vertical alignments shall follow the Location and Design Manual, Vol. 1 utilizing the design speeds and volumes provided in Table 1-2.

The roundabout geometrics shall follow the Location and Design Manual, Vol. 1 with the exception that the design vehicle shall be a WB-67. Splitter island and truck apron curbing should be mountable to help accommodate larger vehicles and farm machinery. Consideration shall be taken into account for large vehicles and farm machinery during the design of the roundabout.

Final Requirements to be determined during Phase 1 of the Contract.

15 DRAINAGE

The DBT shall perform a detailed flood plain analysis for all highways 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 District 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.

Final Requirements to be determined during Phase 1 of the Contract.

16 LANDSCAPING

Landscaping Required: Yes No

The DBT shall permanently grade and seed all impacted areas.

Landscaping in the center of the roundabout shall be permanently graded and seeded per the Location & Design Manual Volume 1. The center landscape area should try to have a max slope of 6:1 and a min slope of 12:1.

Final Requirements to be determined during Phase 1 of the Contract.

17 ADDITIONAL DESCRIPTION OF REQUIRED WORK AND SPECIAL PROVISIONS

Location and design of this roundabout shall be to minimize the impacts to the NE property.

18 STRUCTURES

18.1 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 and the following sections.

A. Pavement Marking Requirements and Locations

Item 644-paint

B. Raised Pavement Markers: Yes No.

Requirements and Locations: Along SR 105 and US 23

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.

Locations and requirements: *Beginning of each splitter island*

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.

E. Object Markers: Yes No.

Final Requirements to be determined during Phase 1 of the Contract.

19.2 Signing

The DBT shall perform Work related to signs in accordance with Section 7.1 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.

Removed flat sheet signs shall become the property of the Contractor. Except for the Flashing LED Stop Signs which will remain the property of ODOT.

Final Requirements to be determined during Phase 1 of the Contract.

19.2.2 Extrusheet Signs

1. Extrusheet Sign Work Required: Yes No.

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

Final Requirements to be determined during Phase 1 of the Contract.

19.2.4 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.

Final Requirements to be determined during Phase 1 of the Contract.

19.3 Lighting

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

Luminaires for conventional lighting provide a solid state (LED) luminaire with a B-U-G Up-Lighting rating of U2 or less. The Luminaire is intended for external on/off control and shall not include a photocell socket. Assure the Luminaire has a nominal color temperature of 3000K. Units shall have an IES Type II Distribution and be 120 Volts.

Supply one of the following luminaires:

American Electric “Autobahn Series with Photometric Distribution:
ATBM P30 MVOLT120 R2 4B 3K, With Input Wattage of 118W

General Electric “Evolve” Series with Photometric Distribution:
ERLH 0 15 B3 30 Gray LR, With Input Wattage of 136W

Cooper “VERDEON” Series with Photometric Distribution:
VERD-CA2-130-730-U-T2-AP-10K, With Input Wattage of 131.8W

Or equal as approved by the engineer.
Distribution will be made at the unit bid price for each C&MS.

The Engineer shall ensure that each power service electrical energy account is in the name of and that the billing address listed below is to the maintaining agency. This shall be done not only for each new power service established by this project but also for each existing power service, since there may be a reassignment of the responsibility for an existing service as a result of the work performed by this project.

Lighting shall be installed and functioning prior to opening roundabout to traffic. If the proposed lighting is not in place at time of opening to traffic install temporary lighting meeting the lighting requirements of the final lighting design.

Final Requirements to be determined during Phase 1 of the Contract.

19.4 Traffic Signals

- 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

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

20 PROJECT SCHEDULE REQUIREMENTS

[RESERVED]

21 PLAN SUBMITTALS AND REVIEW REQUIREMENTS

21.1 Plan Components

The final BIM plan format, requirements, level of detail, submission methods, and any other details necessary for the proper transmission, usage, and incorporation of the design intent for transmittal to the contractor shall be determined during Phase 1 of the Contract.

The Project will utilize the digital BIM model for the design, review, and construction of the Project.

The DBT shall cooperate with the Department during the development of the BIM requirements, will revise the BIM requirements as necessary, and will provide information as requested by the Department.

21.2 Quality Control

The DBT is responsible for the professional quality, technical accuracy 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) as applicable of this document, the Department will advise the DBT of the shortcomings and direct the DBT to revise and resubmit

the model. No time extension will be granted because of such action. The Department will schedule a review meeting or issue review comments as appropriate.

21.3 Buildable Units

Buildable Units (BUs) 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.

The DBT shall cooperate and coordinate with the Department during Phase 1 of the Contract to develop the process.

21.4 Comment Resolution Process

The DBT shall cooperate and coordinate with the Department during Phase 1 of the Contract to develop the process.

21.5 Document Management

The DBT shall cooperate and coordinate with the Department during Phase 1 of the Contract to develop the process.

21.6 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.

21.7 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.

21.8 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.

21.9 Interim Design Review Submission

The DBT shall cooperate and coordinate with the Department during Phase 1 of the Contract to develop the process.

If acceptable to all reviewers, electronic submissions are acceptable. Coordinate the anticipated media type.

21.10 FINAL DESIGN Review Submission

The DBT shall cooperate and coordinate with the Department during Phase 1 of the Contract to develop the process.

21.11 Released for Construction Digital model

The DBT shall cooperate and coordinate with the Department during Phase 1 of the Contract to develop the process.

21.12 [RESERVED]

21.13 Plan Distribution Addresses

The DBT shall cooperate and coordinate with the Department during Phase 1 of the Contract to develop the process.

21.14 Plan Revisions

The DBT shall cooperate and coordinate with the Department during Phase 1 of the Contract to develop the process.

21.15 As-Built Construction Record-Drawing Digital Plans and Model

The DBT shall cooperate and coordinate with the Department during Phase 1 of the Contract to develop the process.

Prior to Final Acceptance of the Work, the DBT shall furnish the Department formal As-Built Construction Record-Drawing Model and plans. The DBT shall provide a general summary within the final As-Built Construction Record-Drawing plans.