ODOT

DESIGN BUILD

SCOPE OF SERVICES

PID: _112284_____ State Project Number: ____480967_____

County:_HAM/CLE_____ Route:__275_____ Section:10.57/32.21/10.36

1 PROJECT IDENTIFICATION

PID: _112284_____ State Project Number: _480967____
County: ___HAM/CLE____ Route: __275_ Section: _10.57/32.21/10.36
Local Route Name: __IR-275_____
Highway Functional Classification & Federal Aid System: Freeways and Expressways

1.1 DESIGN DESIGNATION:

Location: __CLE 275_____
Current ADT: _____69,000_____
Design Year ADT: ___70,000_____
Design Hourly Volume: ____6,300_____
Directional Distribution: ___0.52_____
Trucks: __0.13_____
Design Speed: ___70_____
Legal Speed: _____65_____
Design Functional Classification: __Urban Interstate Freeway_____
NHS Project: Yes __X___ No _____

1.2 EXISTING PLANS:

The following existing plans are available for review:

102061 HAM VAR Signal Upgrades
104135 275 at 8 Mile and 5 Mile
108847 275 at Kellogg and Loveland Maderia
275 at Montgomery Road
275 at Wesselman
275 at 74
275 at 32
96633 S98 HAR Upgrade

ftp://ftp.dot.state.oh.us/pub/Districts/D08/HAM_CLE_275_Fiber/Existing%20Plans/

The plans have been posted on the FTP site below for review by prospective contractors. In addition to the existing roadway plans, recent and historical geotechnical information developed by ODOT is posted on the FTP site.

These are **NOT** as-built plans. The Design-Build Team (DBT) is advised to verify the preceding referenced plans to determine if they accurately depict existing field conditions.

1.3 WORK ZONE SPEED LIMIT

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

1.4 RAILROAD COORDINATION

Railroad Coordination, including the processing and execution of Railroad Agreements, is handled through the State Rail Coordinator at Central Office. Technical coordination is handled through the District Railroad Coordinator.

Coordinate with the State Rail Coordinator prior to contacting the railroad(s) to verify the line(s) in question, necessary clearances for rail operations (both permanent and temporary), and/or to acquire the milepost and line identification information, etc.

Questions regarding requests by the railroad for future track accommodations within their Right-of-Way should be directed to the State Rail Coordinator.

1.5 AIRWAY/HIGHWAY CLEARANCE

The DBT will complete the Airway/Highway Clearance Analysis (Location and Design Manual Section 1407.1). The DBT is responsible for obtaining all necessary approvals from the District Planning & Engineering Administrator and/or the Federal Aviation Administration. The DBT will account for the required time for the approvals in their schedule and will not be able to start work until the approvals are received by the ODOT Project Manager.

The following airports are within the vicinity of the Project:

Southstead Airport
Cincinnati West Airport
Lost Bridge Airport
CVG
Lunken
Clermont County Airport
Sportys NDB PWF 245
Cincinnati NDB LUK 335

The DBT is responsible to verify that additional airports are not within range of the Airway/Highway Clearance Analysis.

2 PRE-BID MEETING

This meeting is to discuss and clarify all issues that the project may have.

Location: TBD
Date: TBD
Time: TBD

3 ADDENDA PROCESS

All questions prior to the letting date shall be directed to:

Web submittal form:

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

Answers, if required, will be posted at the following location:

http://www.dot.state.oh.us/Divisions/ContractAdmin/Contracts/Construction/PrebidQs.pdf

4 PRE-QUALIFICATION

It is required that the bidder be an ODOT pre-qualified Contractor who has engaged the services of an ODOT pre-qualified Consultant to constitute the DBT.

The DBT shall perform *all* the design and construction work required in these Conceptual Documents. If the Contractor, Consultant, and/or the Sub-Consultant(s) submitted do not meet all the required qualifications, the Office of Contracts may reject the bid.

5 CONTRACTOR'S CONSULTANT

The Contractor must name the Consultant and all 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

The Contractor must list relevant prequalification categories for prime and 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:

http://www.dot.state.oh.us/Divisions/Engineering/Consultant/Consultant/Prequalification%20publish.xlsm

The following work types must be performed by members of the Consultant team (combination of Consultant and Sub-consultant(s)):

TRAFFIC SIGNAL DESIGN:
- Basic Traffic Signal Design
- Traffic Signal System Design

ROADWAY:
- Complex

Failing to name the Consultant and Sub-Consultant(s) in the electronic form who are pre-qualified in the required Project work types may render the Bid nonresponsive and ineligible for award per CM&S 102.14 A and CM&S 102.14 Q.

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:

N/A

6 SCOPE OF WORK

Project Limits:

From:	I-74	To:	US-27 Along I-275 corridor
	Kellogg Ave		SR-32 Along I-275 corridor
	Montgomery RD		SR-28 Along I-275 corridor

Project Length: 24 Miles

Work Length 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 Conceptual Documents to fulfill the intent of the contract.

Project Description: The intent of this project is construction of three fully functional underground single mode fiber optic lines in three areas on I-275 and installation of six CCTV cameras for traffic surveillance. Conduit and fiber location shall be installed based on the environmental study and must be approved by ODOT.

Completion date: *5/1/2022*

If the DBT fails to meet the established Final Completion Date they will be subject to Liquidated Damages in accordance with Table 108.07-1 of the ODOT Construction and Material Specifications.

Warranties: N/A

7 FIELD OFFICE

No field office required for this project.

8 GENERAL PROVISIONS FOR THE WORK

8.1 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.

The fact that the bid items for this Design-Build project are general rather than specific shall not relieve the DBT of the requirement that all work be performed as required by the Contract and shall be in reasonable conformity with the specifications. The Contractor's Consultant shall reference in the plans the appropriate Construction and Material Specifications Item Number for all work to be performed and all materials to be furnished.

The attention of the Bidder is directed to the provisions of section 100 of the Construction and Material Specifications as modified in the design-build proposal.

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 or 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
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
Real Estate Administration Policies and Procedures Manual:
Appraisal
Acquisition Property Management
Relocation
ROW Plans
Utilities
Wireless Communication Tower Manual

Environmental Services Handbooks and Guidelines
Waterway Permit Manual
Design Mapping Specifications
CADD Engineering Standards Manual
Geotechnical Bulletins
Project Development Process Manual (Appendix B)

The design of the project shall meet or exceed the requirements of the design manuals. Interpret all references to guidelines, recommendations and considerations in the design manuals as minimum requirements except when specifically precluded within the Scope of Services. Perform recommended evaluations unless provided by the Department.

If a recommendation in any design manual cannot be met, perform an analysis and submit to the Department for review and concurrence. The analysis shall indicate the reasons for a deviation from design recommendation guidance and shall propose an acceptable solution. Cost or an incorrect design assumption shall not be a reason for a deviation. A deviation from a design recommendation shall not be included in the design without the ODOT Design Project Manager's concurrence.

9 Basis of Payment

9.1 GENERAL

All Items covered by Construction and Material Specifications, Supplemental Specifications, Proposal and Special Provision notes with unit price or Lump Sum as a basis of payment will be paid for under the most appropriate Lump Sum bid item, unless a unit line price item has been established in the Scope of Services. All costs for Work shall be included in the Project.

9.2 SCHEDULE OF VALUES

The DBT shall be required to furnish the Department with a Schedule of Values showing the complete breakdown (approximate cost and approximate work) of the Lump Sum bid items. The breakdown shall be in sufficient detail to depict reasonable elements of physical work items and in sufficient detail to provide ODOT with a means to check partial payment requests. It shall show estimated quantities of work in sufficient detail to determine testing and material reporting requirements per C&MS. It shall be submitted and agreed with the Engineer prior to physical Work. It may be (and is preferred to be) in an electronic format (i.e. Excel Spreadsheet).

The Engineer shall generate payment estimates upon receipt of a written request from the Contractor. This request shall correspond to the work performed for the payment estimate period. This request shall be in a format which utilizes the agreed Schedule of Values.

The DBT shall provide a general summary and submit the General Summary with and within the final As-Built Construction Record-Drawing plans.

9.3 (RESERVED)

9.4 FINAL PAYMENT

The DBT shall prepare and submit the following prior to the request for final payment:

1. All original project files and notes utilized in the preparation of the survey, design and construction of the project
2. As-Built Record-Drawings Plans as required in section 18.8 (AS-BUILT CONSTRUCTION RECORD-DRAWING PLANS).

9.5 CADD FILES SUPPLIED BY CONSULTANT

The DBT's Consultant shall comply with ODOT's CADD Standards, and supply files in accordance with the CADD Engineering Standards Manual. All data shall be provided to the Department according to the provisions as detailed under the appropriate CADD links accessed from the Department's Office of CADD Services web site. 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 web site can be accessed at the following URL address:

http://www.dot.tate.oh.us/Divisions/Engineering/CaddMapping/CADD_Services/Pages/default.aspx

The following can be accessed from the above link:
ODOT's CADD Engineering Standards Manual
ODOT's Guidelines for Electronic Design Deliverables
ODOT's Complete CADD Standards files for MicroStation and GEOPAK
ODOT's Location and Design, Volume 3

The Department will accept CADD files on CD ROM, DVD, or other electronic media as acceptable by the Project Manager.

The Consultant shall submit all CADD information produced in the process of plan development according to the Guidelines for Electronic Design Deliverables. All CADD information shall be submitted in the current version of MicroStation/GEOPAK formats as indicated in the CADD Engineering Standards Manual (ODOTcadd). The responsibility to provide the Department with correct and complete CADD data rests with the consultant.

9.6 PRE-AWARD CONFERENCE:

Within 7 days of after bid opening, the apparent successful DBT will attend a mandatory pre-award conference. This confidential meeting will be held with the Office of Estimating 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 Bid Item by the DBT, and general design approach and design concepts for the Work. Other ODOT representatives familiar with the Project may attend.

While not required, the DBT may prepare general engineering information to be presented to the Office of Estimating to help explain design concepts and quantities.

This information will be used only by the Office of Estimating 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, or acceptance or validation of any design concept or assumed quantities of Work.

9.7 PARTNERING AGREEMENT:

The Contractor is required to enter into a

☐ Facilitated

☑ Self-Facilitated

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 Contractor. Partnering will not affect the terms and conditions of the contract. It is a document which is solely intended to establish an environment of cooperation between the parties. The cost of the partnering workshop(s), if applicable, will be per the Partnering Note.

9.8 COMMUNICATION GENERAL:

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

District's Project Manager's Name:	Charlie Rowe
Phone number:	513-933-6596
Fax:	N/A
E-mail:	Charles.Rowe@dot.ohio.gov

The District Project Engineer shall be named at the pre-design meeting.

At the pre-design meeting, the Contractor shall name a Project Manager who will act as a liaison between the DBT and the Department.

9.9 TASK FORCE DESIGN MEETINGS REQUIRED: ☐ YES X NO

9.10 PERMITS

Contractor will be required to 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.

9.11 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 Section 102.6 (inclusive of Sections 102.61 through 102.66) of 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 102.6 of 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 survey was being 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.

10 HAZARDOUS MATERIALS

DBT shall ensure no excavation deeper than 6 feet will occur. If excavation deeper than 6 feet is needed, further approval will be required. Any open excavation within sites listed as Highly Regulated Sites shall be avoided during the construction of the conduit and pull boxes. Any excavation required within these areas needs to be immediately brought to the attention of the ODOT Project Engineer and subsequently coordinated with the appropriate ODOT Environmental Personnel.

11 ENVIRONMENTAL

11.1 WATERWAY PERMITS:

It is required that the bidder be aware of Section 404/401 Permits/Certifications for all projects impacting "waters of the US". The level of permit, that is Nationwide versus Individual 404 and 401, is determined by the exact amount of impact to "waters of the US", (i.e., acreage of fill activities in a stream or wetland or linear feet of work in a stream) and in some cases the waters impacted. All individual 404 Permits require 401 Water Quality Certification. Nationwide Permits are activity specific permits used to authorize projects with minor impacts. Projects with more than minor impacts require individual review by the U.S. Army Corps of Engineers and the Ohio Environmental Protection Agency.

The DBT should be aware of the Nationwide Permits and conditions as issued for the State of Ohio and should design projects to meet the requirements of these general permits to avoid the requirements for Individual 404/401 Permits if possible. The Nationwide Permits for the State of Ohio can be found at the various Corps of Engineers' web sites. The Huntington District's web site can be found at: http://www.lrh.usace.army.mil/.

Coordination of the waterway permits can take up to six (6) months for Individual 404 Permits. It is imperative that the DBT submit plans (i.e., plan & profile, cross-section and detail sheets for any bridges, culverts, or fill areas in waters) to the District and the Office of Environmental Services, for permit determination, no less than 90 days prior to any in stream or wetland work. The review of plans, any required coordination or the processing of permit applications must be accomplished by the Office of Environmental Services prior to the commencement of construction activities. The DBT shall be responsible for completing applications for 404 Permits

and 401 Water Quality Certification if they are required. At no time will the DBT coordinate waterway permit issues directly with the permitting agencies unless directed to do so by the Office of Environmental Services.

All Waterway Permit requirements are found in the ODOT Waterway Permits Manual.

11.2 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT:

The DBT shall submit to the ODOT Project Manager the total number of acres of earth disturbance activities for both off project and on project work in a timely manner. This information will be used to develop the NOI if required. The NOI will be submitted to the OEPA within 10 days after this 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 so these 31 days will be counted for in the project.

All temporary erosion control is the responsibility of the Contractor even if a SWPPP is not required. Earth disturbing activity is not permitted prior to the OEPA permit approval. For projects that require an NOI, the SWPPP must be in place prior to the initiation of any earth disturbing activity. All temporary erosion control work and the SWPPP if required will be per SS832. For information about OEPA's NPDES permit requirements see http://www.epa.state.oh.us/dsw/storm/index.html.

Items used to implement the DBT's Erosion Control requirements are paid from an encumbered amount included in the proposal as a non-bid reference number. The proposal specifies the unit prices for the erosion control items. Payments for erosion control items that exceed the encumbered amount will be made by an Extra Work Change Order using the specified unit prices. The specified unit prices are fixed for the contract and may not be negotiated or adjusted for inflation or claimed changed condition.

The preparation of the SWPPP, along with all requirements of SS832 for maintaining, inspecting, modifying and updating the SWPPP are considered incidental to the Project.

11.3 REMOVAL OF TEMPORARY EROSION CONTROL ITEMS

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

11.4 STREAM CROSSING INVESTIGATIONS (FLOOD PLAIN ANALYSIS)

The Consultant shall perform a detailed flood plain analysis for each waterway crossing. The analysis shall be as per the Location & Design Manual and The Bridge Design Manual and as follows: 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.

11.5 TREE CUTTING

The DBT should avoid tree removal related to this project. For the purposes of this scope, a tree is defined as a live, dying, or dead woody plant with a trunk three inches or greater in diameter at a height of 4.5 feet above the ground surface, and with a minimum height of 13 feet. If tree removal is unavoidable, the DBT will be responsible for obtaining a pre-qualified ecological consultant to field delineate the area to be removed. The pre-qualified consultant will contact ODOT District 8 Environmental and the ODOT Central Office, Office of Environmental Services to coordinate with the regulating agency(s). Refer to the ecological survey report in the Attachment Documents for the identified ecological resources to avoid.

11.6 ENVIRONMENTAL COMMITMENTS

The DBT shall avoid all environmental commitments described below.

1)If the Design Build Contractor determines that excavation deeper than 6 feet will be required, the contractor must contact the Project Manager and the District 8 Environmental Coordinator prior to these action for evaluation of the areas that require deep excavation.

2) Ecological resources including wetlands, streams, jurisdictional ditches, etc will be avoided during project construction. If impacts to any ecological resource is unavoidable, the contractor will secure a pre qualified ecological consultant to delineate the resource and secure permits and/or authorization as needed. Please also notify the Project Manager and the District 8 Environmental Coordinator prior to securing the consultant.

3) If the Design Build Contractor determines that new ROW must be acquired for the project, they must contact the Project Manager and the District 8 Environmental Coordinator prior to acquisition.

4) If the Design Build Contractor determines that work is necessary within waters of the United States, the contractor will secure a pre-qualified consultant to delineate the area and secure permits and/or authorization as needed. Please also notify the Project Manager and the District 8 Environmental Coordinator prior to securing the consultant.

5) If any trees that meet the definition of suitable wooded habitat are required to be cleared as a result of the project, all trees that require clearing will be cleared within the allowable seasonal dates of Oct 1 - March 31.

12 RIGHT OF WAY (ROW)

All necessary construction work for the project will be performed within the existing or proposed right of way. The DBT shall not access proposed right of way until right of entry is obtained.

Existing right of way lines will be located by the DBT 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). It is the responsibility of the DBT to 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 said stakes and flags throughout the duration of the project.

The Consultant will identify and show all right of way encroachments on the construction plans at the Conceptual Review Submission. ODOT's Project Manager will be responsible for clearing all encroachments on Federal-aid projects in accordance with standard encroachment removal

13 UTILITIES

It is the intent of this contract that ALL existing utilities be avoided by the proposed Fiber Optic Facilities. The DBT shall be responsible for coordinating with utilities throughout the Design and Construction phase of this contract. In-field adjustments of proposed fiber optic locations may be required. Field adjustments due to unexpected utility locations shall not be considered a revision to the contracts. Field adjustments must be included in the As-Built drawings.

The DBT shall contact the Underground Utility Protection Services - Ohio Underground Protection Service (OUPS) at 1-800-362-2764 and Oil and Gas Producers Underground Protection Service (OGPUPS) at 1-800-925-0988 and any other utility owners.

Additionally, the DBT shall contact ODOT Central Office ITS Lab by fax (614-887-4134), email (cen.its.lab@dot.state.oh.us), or phone (614-387-4113) to get the utilities marked.

As noted below the DBT shall make use of Subsurface Utilities Engineering services to facilitate avoidance of all existing utilities as part of this project.

The cost of all utility coordination shall be considered incidental to the project.

14 MAINTENANCE OF TRAFFIC (MOT)

Maintenance of Traffic (MOT) Special Provisions in addition to the Governing Regulations listed in section 8.1 (GOVERNING REGULATIONS) of this document:

14.1 GENERAL

All temporary MOT devices shall comply with the National Cooperative Highway Research Program (NCHRP) 350 or the AASHTO Manual for Assessing Safety Hardware (MASH), as applicable.

14.2 MOT RESTRICTIONS

All existing lanes of traffic in each direction shall be maintained at all times, except as permitted by the Permitted Lane Closure Times note, by use of the existing pavement.

The following criteria shall be used in development of maintenance of traffic plans for all roadways within the project limits:

Minimum lane width:	12 feet
Minimum barrier/curb offset:	2 foot*
Minimum edge of pavement offset:	2 feet

*The minimum barrier/curb offset may be reduced to 1 foot when necessary in spot locations. Spot locations include on bridge decks, on approach slabs, and between bridge piers only. Standard taper rates shall apply in the shoulder transition from 2 foot to 1 foot; and vice-versa.

No work shall be performed and all existing lanes shall be open to traffic during the following designated holidays or events:

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

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

Day of holiday or event	Time all lanes must be open to traffic
Sunday	12:00N Friday through 6:00 AM Monday
Monday	12:00N Friday through 6:00 AM Tuesday
Tuesday	12:00N Monday through 6:00 AM Wednesday
Wednesday	12:00N Tuesday through 6:00 AM Thursday
Thursday	12:00N Wednesday through 6:00 AM Friday
Thursday (Thanksgiving only)	6:00 AM Wednesday through 6:00 AM Monday
Friday	12:00N Thursday through 6:00 AM Monday
Saturday	12:00N Friday through 6:00 AM Monday

If the DBT fails to meet any of these requirements, the DBT shall be assessed a disincentive as specified in the Unauthorized Lane Use Table, Appendix A, for each minute the above described lane closure restrictions are violated.

Length and duration of lane closures and restrictions shall be at the approval of the Engineer. It is the intent to minimize the impact to the traveling public. Lane closures or restrictions over segments of the project in which no work is anticipated within a reasonable time frame, as determined by the Engineer, shall not be permitted. The

level of utilization of maintenance of traffic devices shall be commensurate with the work in progress.

All work and traffic control devices shall be in accordance with C&MS 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices.

14.3 MAINTENANCE OF TRAFFIC PLAN NOTES

The DBT shall incorporate the following MOT notes into the plans.

14.3.1 TRAFFIC ENGINEERING MANUAL NOTES

642-15, 642-29, 642-44, 642-58

The DBT shall determine and include all other TEM notes required to meet the intent of the Scope and applicable notes per the DBT's Maintenance of Traffic plan.

14.3.2 PERMITTED LANE CLOSURE TIMES

Short term lane closures are those which are permitted by the Permitted Lane Closure Note. These times shall not be revised without prior approval from the District 8 Work Zone Traffic Engineer. Short term lane closures shall only be implemented when work is being continuously performed in the lane. The closure shall be removed as soon as possible after work has stopped. Permitted lane closures shall only be allowed during the times specified in the Unauthorized Lane Use Table, see Appendix A.

14.4 ADDITIONAL DESCRIPTION OF REQUIRED WORK AND SPECIAL PROVISIONS

Long term maintenance of traffic schemes using contra flow are not permitted. Long term maintenance of traffic schemes using lane shifts are not anticipated. The following provisions are required, if the DBT's elects to use a lane shift maintenance of traffic scheme.

14.4.1 ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC

The DBT shall verify the existing pavement composition of any shoulder or gore area used to maintain traffic. Any existing pavement composition that does not meet or exceed the requirements of Item 615 Pavement for Maintaining Traffic Class A, shall be replaced with Item 615 Pavement for Maintaining Traffic Class A. Any existing pavement composition that meets or exceeds the requirements of Item 615 Pavement for Maintaining Traffic Class A, shall be milled the full width of the shoulder or gore at 1½" depth and paved with 1½" Item 448 Asphalt Concrete Surface Course, Type 1, in order to remove existing pavement markings including edge lines and existing rumble strips.

14.4.2 TRANSITION AREA RESURFACING

The DBT shall resurface all transition areas. In preparation for resurfacing, 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 within the shifted limits. The resurfacing shall

include the entire width of the roadway, including shoulders no matter where the pavement impacts are located and will be a 1.5" surface course mill and fill.

14.5 PAYMENT

All labor, materials, equipment, and incidentals to complete all items described in this Section shall be paid as follows:

ITEM 614E99000 SPECIAL – MAINTAINING TRAFFIC, LUMP SUM

15 LOCATION & DESIGN

Location & Design Special Provisions in addition to the Governing Regulations listed in section 8.1(GOVERNING REGULATIONS) of this document:

15.1 SURVEY

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

1. Centerline control and bench marks
2. Beginning and ending centerline points for the project
3. At least two bench marks 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

Survey Responsibilities: All survey data shall be submitted using ODOT's standard field codes and GEOPAK'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, x coordinate, y coordinate, elevation and point ID. Customized GEOPAK information is available on the ODOT CADD web site.

Monumentation shall not be disturbed. If the Contractor does disturb the monumentation, then it shall be replaced, in-kind, by a Registered Surveyor, with a current registration, recognized by the Ohio State Board of Registration for Professional Engineers and Surveyors. Costs associated for this item shall be borne by the Contractor. Copies of all monumentation changes shall be forwarded to the District Real Estate Administrator.

All control points, provided by ODOT, shall be included in the ASCII file supplied by the DBT to ODOT. They should retain the original point numbers and coordinate values as assigned by ODOT.

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 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.

15.2 VERTICAL AND HORIZONTAL ALIGNMENT

The existing vertical and horizontal alignment of all roadways shall be maintained.

15.3 PAVEMENT

Pavement Work Required:

Any pavement damaged by the project shall be replaced matching the composition of the existing pavement. All pavement repairs shall have a pavement makeup accepted by the Project Engineer.

Any pavement work shall be incidental to the project

15.4 ROADWAY

Pavement Work Required:

The goal of the project is to install fiber option infrastructure outside the clearzone of I-275 to the maximum extent possible.

Any required barrier or guardrail required due to this project shall be incidental.

15.5 DRAINAGE

Drainage Work Required:

Any existing drainage infrastructure damaged by this project shall be repaired or replaced to a condition equal or exceeding condition prior to the start of the project.

All proposed work to existing drainage infrastructure shall be accepted by the Project Engineer.

Any required drainage work is considered incidental to the project.

15.6 DESIGN EXCEPTIONS

Previously approved Design Exceptions:

N/A

No design exceptions allowed.

15.7 INTERCHANGE MODIFICATION/JUSTIFICATIONS STUDIES

N/A

15.8 LANDSCAPING

Landscaping Required: ☑ Yes ☐ No

Any existing landscaping damaged by the project shall be repaired/replaced with landscaping material equal to or exceeding the pre-existing landscaping.

All Landscaping shall be incidental to the project.

Note: The DBT shall be required to permanently grade and seed all impacted areas.

15.9 FENCING

All fencing is to be maintained during the placement of the proposed conduit and fiber optic cable. Removed fence must be replaced within 24 hours or temporary fence installed.

Any fencing work shall be incidental to the project.

15.10 ADDITIONAL DESCRIPTION OF REQUIRED WORK AND SPECIAL PROVISIONS

N/A

16 DESIGN AND CONSTRUCTION REQUIREMENTS: STRUCTURES

16.1 HYDRAULIC DATA PROVIDED BY ODOT

N/A

16.2 EXISTING STRUCTURES IDENTIFICATION:

N/A

16.3 DESIGN AND CONSTRUCTION REQUIREMENTS OF STRUCTURE

N/A

16.4 STRUCTURES GENERAL:

N/A

16.5 NOISE BARRIER

Noise Barrier Construction Required: ☐ Yes ☑ No

17 DESIGN AND CONSTRUCTION REQUIREMENTS: TRAFFIC CONTROL

17.1 PAVEMENT MARKINGS AND DELINEATORS SPECIAL PROVISIONS

In addition to the Governing Regulations listed in section 8.1 (GOVERNING REGULATIONS) of this document:

A. Pavement Marking Requirements and Locations:

N/A

B. Raised Pavement Markers: ☐ Yes ☑ No.

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

E. Object Markers: ☐ Yes ☑ No.

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

17.2 SIGNING SPECIAL PROVISIONS

In addition to the Governing Regulations listed in section 8.1(GOVERNING REGULATIONS) of this document:

N/A

17.3 FLAT SHEET SIGNS

Flat Sheet Sign work required: ☐ Yes ☑ No.

17.4 EXTRUSHEET SIGNS

Extrusheet Sign Work Required: ☐ Yes ☑ No.

17.5 GROUND MOUNTED POST SUPPORTS

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. Except the following: *Specify*

17.6 GROUND MOUNTED BEAM SUPPORTS

Ground Mounted Beam required: ☐ Yes ☑ No.

Overhead Supports: ☐ Yes ☑ No.

17.7 LIGHTING SPECIAL PROVISIONS

Lighting in addition to the Governing Regulations listed in Section 8.1(GOVERNING REGULATIONS) of this document:

N/A

17.8 SIGNAL SUPPORTS AND SIGNAL HEADS

Signal Support work required: ☐ Yes ☑ No.

Vehicle Signal Heads: ☐ Yes ☑ No

Pull box: ☐ Yes ☑ No

Conduit: ☐ Yes ☑ No

Cable and Wire: ☐ Yes ☑ No

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

17.9 INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

ITS Work Required: ☑ Yes ☐ No

Other ITS Requirements:
All ITS materials and work shall be provided and installed per ODOT Standards, including but not limited to Supplemental Specifications 804, 809, 904, the Traffic Authorized Products (TAP) List, and all applicable ITS Standard Construction drawings.

General Project Requirements: The intent of this project is construction of three fully functional underground fiber optic lines providing connectivity in three separate areas along I-275, one between I-74 to US-27/Colerain Ave on the west side of Cincinnati, one between Montgomery Rd to SR-28 on the northeast side of Cincinnati, and one from Kellogg Ave to SR-32 on the east side of Cincinnati. The project shall also install ITS cameras at the locations specified. The ITS cameras shall be of type "CCTV IP-Camera System, Enhanced", and installed on 70 foot concrete poles with lowering units.

The proposed fiber shall be terminated at each new or existing ODOT ITS device or ODOT Traffic Signal location along the routes and connected with the existing infrastructure by ODOT ITS. The DBT shall not terminate/splice any fiber cables or provide any termination panels. The DBT shall install the fiber lines to the nearest 32" pull box next to the ODOT ITS location or Traffic Signal location and coil 150 feet of slack in the 32" pull box. A new 32" pull box shall be installed at any location where there is not an existing 32" pull box, such as existing traffic signal locations. At traffic signal locations, the 32" pull box shall be installed next to the existing Traffic Signal pull box which has existing conduit into the signal cabinet, and a new 2" conduit shall be installed to connect the 32" pull box to the signal pull box. There shall be a conduit path into the cabinet for ODOT use.

Planview information related to this project shall be at a scale of no larger than 1"=200'.

1. I-275 Fiber Routes:

a) The first I-275 route is approximately 5.7 miles long and shall be a single mode 48 strand fiber optic cable of the air-blown / pushable type per Supplemental Specifications 804 and 904 and shall be listed on the ODOT Traffic Authorized Products (TAP) List. The route shall coil fiber in an existing Vehicle Detection Station (VDS) pull box with the existing ODOT fiber at the I-74/Wesselman Rd CCTV site (MM 9.2 on I-74) and continue along I-275 to US-27/Colerain Ave (MM 33.9 on I-275) and coil fiber in an existing pull box beside the exit ramp from I-275 SB to US-27/Colerain Ave with the existing ODOT

fiber near the CCTV location. At I-74/Wesselman Rd, the new conduit shall be coiled in the existing 32" pull box next to the northern most wood pole with a vehicle detection device, where the fiber will be coiled next to the existing fiber. Also, the DBT shall intercept the existing 4" conduit between the existing ground mounted ITS cabinet and the Highway Advisory Radio (HAR) pole and run 4" conduit to the existing 32" pull box near the CCTV pole, in order to provide a path through the existing conduit into the existing ground mounted cabinet. A 2" conduit shall additionally be installed between the HAR pole and the existing 32" pull box next to the CCTV pole. One existing 32" pull box at I-74/Wesselman Rd shall have the broken ring/lid replaced with new and all existing 32" pull boxes at these locations shall have concrete pads installed around them per SCD ITS-14.11.

The first I-275 fiber route shall also include the installation of 2 new ITS cameras at the approximate locations below. Exact locations shall be coordinated with ODOT ITS during the design phase. The new camera locations shall connect to the new fiber for communication per ODOT standards.

I-275 at Ronald Reagan Cross County Highway
I-275 at Brehm Rd

b) The second I-275 fiber route is approximately 7 miles long and shall primarily be a single mode 48 strand fiber optic cable, with 24 strand single mode fiber optic cable being routed to some traffic signals per the fiber block diagram provided. All fiber optic cable shall be of the air-blown / pushable type per Supplemental Specifications 804 and 904 and shall be listed on the ODOT Traffic Authorized Products (TAP) List. The route shall start along I-275 at the Montgomery Rd CCTV site (MM 50.1) and continue to the SR-28 signal CCTV site (MM 56.9). New fiber shall be coiled in pull boxes at any existing ITS devices along the route. This route shall be primarily installed along the eastbound or westbound outside shoulder, to the extent possible based on environmental conditions, to avoid any future widening projects toward the median or outside shoulders.

When the fiber crosses the Little Miami River the fiber shall be placed in a conduit attached to the backside of the parapet. On either end of the structure the DBT shall place a pull box with 200 ft of slack. All work shall be completed from the deck of these structures.

The second I-275 fiber route shall also include the installation of four new ITS cameras at the approximate locations below. Exact locations shall be coordinated with ODOT ITS during the design phase. The new camera locations shall connect to the new fiber for communication per ODOT standards.

I-275 at Weil Rd
I-275 at Hopewell Rd

I-275 at Wards Corner Rd
I-275 at Price Rd/Loveland-Milford Rd

c) The third I-275 fiber route is approximately 9.5 miles long and shall be a single mode 48 strand fiber optic cable of the air-blown / pushable type per Supplemental Specifications 804 and 904 and shall be listed on the ODOT Traffic Authorized Products (TAP) List. The route shall start along I-275 at the Kellogg Ave CCTV site (MM 72.6) and continue to the SR-32 CCTV site (MM 63.5). New fiber shall be coiled in pull boxes at any existing ITS devices along the route. There is existing 4" multicell conduit between the existing CCTV's at I-275/East of Kellogg Ave (MM 71.6) to US-52 (MM 70.9) which was installed on PID 84492, HAM-275-39.81, and shall be used to install the new fiber through it. There is also existing 4" multicell near the existing CCTV at SR-32 which was installed on PID 108847, D06-STW-CCTV FY19, which shall be utilized. The fiber path shall be mostly restricted to the median for this fiber route, except for where it needs to connect out to existing infrastructure/devices.

All single mode fiber optic cable shall be installed according to the provided block diagram and plans of existing devices to coil fiber next to. A Google Earth file of the preliminary fiber path with new CCTV locations and existing devices to connect to has also been provided. The documents/files can be found in Section 21.

All fiber optic cable shall comply with ODOT Supplemental Specifications 804.05.B.1 and 904.02. The DBT shall test the fiber to assure compliance with SS804.05.B.1 and 904.02 prior to acceptance from the supplier for new material to be procured and from ODOT for the material be provided to DBT. Upon acceptance, the DBT shall assume the acceptability of the fiber optic cable.

The DBT shall be certified by the cable manufacturer for installation and splicing of the cable.

The DBT shall install the fiber optic cable. Utilizing an air-blown method is recommended by the manufacturer of the pathway and the fiber optic cable but is not required. Installation of fiber optic cable within existing conduit will be required to be done with conventional pulling techniques as this conduit is not suitable for air-blown installation.

150 feet of slack fiber shall be installed in each pull-box. This fiber slack shall be installed utilizing the manufacturer's recommended procedures.

All installation, splicing, testing, and other cable specifications as listed in ODOT Supplemental Specifications 804 / 904 shall apply.

2. **I-275 Conduit Routes:** New conduit shall be installed in a location determined after the environmental studies are completed and approved by ODOT. It may be installed along the shoulder or the median or both depending on what is the most appropriate location.

   New duct shall be Micro-duct Pathway, 4 Cell Pathway and shall be listed on ODOT's Traffic Authorized Products list (TAP).

   The micro-duct pathway material and installation shall comply with ODOT Supplemental Specifications 804.05.B.1 and 904.03.

   Prior to installation, The DBT shall be certified by the cable manufacturer and micro-duct manufacturer for installation of fiber optic cable through micro-duct.

   To the maximum extent possible along the I-275 Routes, the duct shall be installed at a location along the shoulder or median that is a minimum of 6 feet from the outside edge of the pavement and/or a minimum of 6 feet from the existing right-of-way, and shall be routed to make as few roadway, waterway, and railroad crossings as possible. The DBT shall work with ODOT to install the duct pathway so it's outside of being impacted, to the greatest extent possibly, by any future roadway work or construction projects being planned or designed.

   All proposed conduit that crosses an existing culvert that is greater than 36" diameter (or greater than 36" on any dimension if box or elliptical or other culvert shape) MUST be installed underneath the existing culvert a minimum of 2'-0" clear distance between bottom of culvert and top of conduit.

   All proposed conduit that crosses an existing culvert that is less than or equal to 36" diameter may be installed over top of existing culvert as long as a minimum of 1'-0" distance between top of culvert and bottom of conduit can be maintained.

   Parallel installation of conduit underneath existing roadway pavement WILL NOT be permitted.

   In order for a faster installation, the duct may be plowed in, at a minimum depth of 36 inches. Other forms of acceptable installation include trenching and boring. A Frac-Out contingency plan will be required to cover all proposed horizontal directional drilling activities. A template Frac-Out contingency plan has been provided as an attachment document. See Design Build Scope Section 21.

Any duct that is within 6’ of existing guardrail shall be trenched and encased with concrete.

No duct shall cross underneath guardrail at any point within the project without prior approval from the engineer. Any locations where duct crosses under guardrail is required to be a minimum of 10 feet below existing grade.

The duct shall be connected together via manufacturer recommended connectors / procedures and routed through each pull box, as approved by the Engineer.

The duct shall be installed in a manner that does not impact the integrity of the system during freeze / thaw.

Tracer wire shall be furnished and installed according to ODOT Supplemental Specification 804 and 904.

The project shall involve bridge structure crossings. The project preference shall be to avoid attaching conduit to bridge structures unless it’s the most feasible method based on environmental conditions The preferred path shall generally include trenching down to a location where the conduit can be bored, jacked, or drilled underneath the local side street or obstruction. In these situations, all conduit shall be located outside of all bridge footprints which is defined as 15’ horizontally from all bridges and associated approach slabs and conduit shall not be attached to existing bridge components unless approved by the Engineer.

There is a few known locations where conduit will likely need to be attached to the bridge on I-275. One location is at Taylor Creek/Harrison Ave (MM 28.7). Another location is at Loveland Madeira Rd (MM 52.9) and the Little Miami River (MM 53.1). In these bridge attachment situations, 4” multicell conduit shall be installed and shall be rigid galvanized per CMS 725.04 or fiberglass per Nema TC 14, and shall be attached to the inside of a beam or crossframes, as approved by ODOT. ODOT shall provide the DBT with previous plan examples and design guidance.

3. **Pull Boxes:** All pull boxes containing fiber optic cable shall be round 32-inch diameter in size. 32-inch pull boxes shall comply with ODOT Standard Construction Drawing ITS-14.11.

   Pull box placement criteria is provided below:

- Pull boxes shall be spaced at a maximum distance of 1,500 feet in rural areas (outside City of Cincinnati Corp) and 500 feet in urban areas (within City of Cincinnati Corp) for the I-275 Route. Additionally, along the I-275 Route, the maximum spacing of pull boxes around horizontal curves and interchanges (ramp to ramp) shall be no greater than 500 feet.
- Pull boxes shall be placed on both sides of the crossing of any waterway, railroad, or roadway.
- Pull boxes shall be placed at any point where the conduit changes horizontal (plan view) direction by an angle greater than or equal to 30 degrees.

4. **Fiber Optic Cable Markers:** Fiber optic cable markers shall be furnished and installed per ODOT Supplemental Specification 804 and 904. The Name of the Owning Agency to be placed on the Marker shall be provided to DBT after contract award. Fiber optic cable markers shall be spaced no further than 500 feet apart.

5. Power Services: The DBT shall coordinate with the power companies for supplying power to all new CCTV site locations. The power services shall be designed per ITS Standard Construction Drawing ITS-15.11 or ITS-15.10, as well as other applicable ODOT standards and national electric code. The maximum allowable voltage drop shall be 5% with an ITS cabinet design load of 30 amps with 120 VAC. The conductor cable size shall be no larger than 1/0 AWG and no smaller than 6 AWG to feed the ITS cabinet. The DBT shall setup the power service initially and then work with ODOT to transfer it into ODOT's name. For each power service, the DBT shall supply ODOT with account number, meter number, site address, location/devices being fed, and a copy of the initial bill. The power service size and other design information shall be presented in the plans.

6. As-Built
In addition to other as-built requirements in the scope, the DBT shall provide GPS coordinates and depths ever 100ft for all fiber installed.

GPS coordinates and as-built plans shall also be provided for all ITS components per Supplemental Specification 809, section 809.16.

All labor, materials, equipment, and incidentals to complete all items described in this Section shall be paid as follows:

ITEM 690E20260 SPECIAL – TRAFFIC SURVEILLANCE, LUMP SUM

The following is to pay for the fiber optic cable installation.

ITEM 804E99000 LS SPECIAL - FIBER OPTIC CABLE AND COMPONENTS

18 PROJECT SCHEDULE REQUIREMENTS

The current edition of the selected note:

☑ CM&S 108.03 A. Progress Schedule

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

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

☐ Proposal Note 132 - Critical Path Method Progress Schedule For Design/Build Multi-Season Projects

including updates released on or before the prebid meeting date, shall be met or exceeded.

19 PLAN SUBMITTALS AND REVIEW REQUIREMENTS

19.1 PLAN COMPONENTS

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

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

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

1302.13	Plan Signatures
1307.2	General summary sheet
1307.3	Subsummaries
1307.4	Quantity Calculations
1310.3	Earthwork and Seeding Quantities

Units of measure are **NOT** required.

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

19.2 QUALITY CONTROL:

The DBT will be responsible for the professional quality, technical accuracy and adherence to the Governing Regulations listed in section 8.1 (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 Conceptual Documents.

Unless stated otherwise, review comments do not revise the scope or intent of the project and do not constitute a request for changes beyond the current contracted Scope of Services.

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.

Plan submittals shall address Department review comments from previous submissions, if applicable. The DBT shall notify the Department prior to dismissing comments from 3rd party reviewers (for example: Municipalities, Railroads, Utility owners, etc). The Department must concur with the comment dismissal.

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 8.1 (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.

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

Prior to formal design stage submission, the DBT may request a Pre-Submittal Conference to describe the intent of the submission, describe any known irregularities within the submission, describe any portions of the submission which is not yet complete, or to describe any portion of the submission to assist the Department in understanding the submission intent.

The DBT may request the Department to do a cooperative "Over-the-Shoulder" review of any portion of a design during the development of a submission. The Department will make every attempt to cooperate with the request. The Department may also request to perform an "Over-the-Shoulder" review. These informal reviews shall be utilized to assist in the further development of the Design, and to help the Department understand an upcoming submission. These reviews shall not replace the formal staged submissions and shall be non-binding.

19.3 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.

19.4 STAGE 1 PLAN REVIEW SUBMISSION (PRELIMINARY DESIGN):

The DBT shall submit the Stage 1 detailed design plan submissions as per Location & Design Manual, Volume 3 for review by ODOT. These submission milestones must be shown on the Progress Schedule.

Unless indicated below, 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

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 Stage 2 Plan review.

Plan Review Distribution Table**:** The DBT shall supply 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	pdf
ODOT District Construction	pdf
ODOT Central Office, Division of Highway Operations	pdf

Each affected utility or railroad company	pdf

19.5 STAGE 2 PLAN REVIEW SUBMISSION (FINAL DESIGN):

For each Buildable Unit the Consultant shall submit Stage 2 detailed design plans as per Location & Design Manual, Volume 3 for review by ODOT. All submissions must be shown on the required Progress Schedule.

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.

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 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	pdf
ODOT District Construction	pdf
ODOT Central Office, Division of Highway Operations	pdf

19.6 CONSTRUCTION PLANS:

After the review comments for the Stage 2 plan 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 before the DBT submits the construction plans. No revisions shall be made except for those revisions needed to address Stage 2 review comments.

Each plan sheet shall have its last revised date noted on the sheet and clearly marked 'Approved for Construction'. The 'Approved for Construction' plan set shall be signed, dated and sealed by a Professional Engineer. Physical construction shall not begin until the plans marked 'Approved 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 full size (22" x 34") and/or half size (11" x 17") paper prints of the each plan submission simultaneously to the parties indicated below:

	# of Full Sets	# of Half Sets
ODOT District Production	pdf	
ODOT District Construction	pdf	
ODOT Central Office, Division of Highway Operations	pdf	
ODOT Central Office, Division of Construction Management	pdf	
Each affected utility or railroad company	pdf	

19.7 PLAN DISTRIBUTION ADDRESSES:

Ohio Department of Transportation, District 8.
505 SR 741
Lebanon Ohio 45036

Ohio Department of Transportation Central Office
Division of Highway Management
1980 West Broad Street
Columbus, Ohio 43223
Attn: (Contact Person)

Ohio Department of Transportation Central Office
Division of Construction Management
1980 West Broad Street
Columbus, Ohio 43223
Attn: (Contact Person)

Utility Companies
(As shown in section 12)

19.8 AS-BUILT CONSTRUCTION RECORD-DRAWING PLANS

At the completion of the construction work for each respective Buildable Unit, the DBT shall provide a "Red-Line" set of drawings that clearly identify all changes made to the Approved for 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 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.

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

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

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

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

1. All deviations from the original approved construction plans which result in a change of location, material, type or size of work.

2. Any utilities, pipes, wellheads, abandoned pavements, foundations or other major obstructions discovered and remaining in place which are not shown, or do not conform to locations or depths shown in the plans. Underground features shall be shown and labeled on the Record-Drawing plan in terms of station, offset and elevation.

3. The final option and specification number selected for those items which allow several material options under the specification (e.g., conduit).

4. Additional plan sheets may be needed if necessary to show work not included in the construction plans.

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

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

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

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

20 BUILDABLE UNITS (BU)

Definition: 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.

General: For the Stage 1 and Stage 2 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 Contractor 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. 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 Contractor and no time extensions shall be approved for this.

21 INDEX OF ATTACHMENTS

ftp://ftp.dot.state.oh.us/pub/Districts/D08/HAM_CLE_275_Fiber/Appendix/

Appendix A	Unauthorized Lane Use Table	Contractual
Appendix B	Google Earth conceptual locations	Reference
Appendix C	I-275 East Side, North Section Block Diagram	Contractual
Appendix D	I-275 East Side, South Section Block Diagram	Contractual
Appendix E	I-275 West Side Block Diagram	Contractual
Appendix F	Sample Fraction mitigation plan	Reference