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1. **PROJECT IDENTIFICATION**

PID: __93273____ State Project Number: _457792______
County: ___Fairfield (FAI)____ Route: ____22_____ Section: _____23.88_____
Local Route Name: ____Cincinnati-Zanesville Road__
Highway Functional Classification & Federal Aid System: _Minor Arterial & Other Fed-
Aid Highway_
Structure Identification: Bridge Number: _Fai-22-23.89_ 
Over: _NSRR & Little Rush Creek_ 
Structure File Number: _2300427___
Project Initiation Package located in Attachment A Project Initiation Package.

1.1 **Design Designation:**

Location:     Fai-22-23.88  
Current ADT:     5200  
Design Year ADT:    6400  
Design Hourly Volume:  520  
Directional Distribution:  0.50  
Trucks:    330  
Design Speed:    55  
Legal Speed:    55  
Design Functional Classification:  06 Minor Arterial
NHS Project:    Yes ___X__     No ______  
Design designation information located in Attachment B Design Designation.

1.2 **Existing plans:** The following existing plans are available for review at the District 
Office and can be found on the following ftp site (see Attachment C Existing Plans):

ftp://ftp.dot.state.oh.us/pub/districts/D05/Projects/FAI/93273/

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 **RAILROAD COORDINATION**

The DBT is responsible for all coordination with the affected Railroads. The DBT shall 
not charge or submit a claim against either the State or the Railroad Company for 
hindrance or delay due to railway traffic, any work done by the Railroad Company, or 
other delay incident to or necessary for safe maintenance or normal operation of railway 
traffic, or for any delays due to compliance with Railroad Agreements.

The Project will require the DBT to perform Work over an active rail lines during 
execution of the Work. The involved Railroad Company is Norfolk Southern. Norfolk 
Southern has indicated that rail operations will continue during construction of this 
Project. The DBT shall coordinate demolition and construction activities with the
Railroad and/or the Railroad’s General Engineering Consultant to ensure there will be no impacts to Railroad operations, property, or right-of-way. The Department will enter into Standard Construction Agreements with the Railroad. The DBT’s operations shall be conducted in accordance with these agreements and any applicable special provisions, special clauses, construction requirements, and demolition requirements. The Railroad Standard Construction Agreement can be found in Attachment D Railroad Agreement - Norfolk Southern Railroad Agreement Number: 25779.

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.

The DBT is to 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.

Demolition of the existing superstructure via an implosion technique may be allowed provided the Demolition Procedures contained in the “Special Provisions for Protection of Railroad Interests” are satisfied. For reference, the basic provisions are: (1) demolition is performed in accordance with a demolition plan approved by the railroad, (2) adequate track protection is provided, (3) the demolition and cleanup are completed within a specific window of track time, (3) railroad flagman is present during the demolition and cleanup, and (4) Railroad Engineer or his designated representative is present during the demolition and cleanup. If an implosion technique is utilized, the DBT assumes all risk associated with approval of the Demolition Procedure by the railroad, all risk associated with the availability of track time (inclusive of any and all railroad operational delay costs), and availability of railroad representatives during demolition and cleanup. The DBT shall assume all risk and liability of the surrounding and adjoining properties.

1.4 AIRWAY/HIGHWAY CLEARANCE:
None Required

2 PRE-BID MEETING

There will be no pre-bid meeting for this project.

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
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 perform all the design and construction work required in these Conceptual Documents. The Consultant will be required to be pre-qualified for Level 2 Bridge Design. If the 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 space(s) provided below. If the Contractor is going to submit an electronic bid, then the Consultant and all Sub-Consultant(s) must be listed on the following web-page:

http://www.dot.state.oh.us/DIVISIONS/PRODMGT/CONSULTANT/Pages/default.aspx.

The Contractor must list relevant prequalification categories for prime and sub-consultants to show the prequalification requirements listed below are satisfied. All Consultant names and addresses must be the same as that on file with the Department.

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

Consultant

Firm Name: ____________________________________________________________
Address:       ____________________________________________________________
List work types the Consultant will perform:
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

Sub-Consultant

Firm Name:       __________________________________________________________
Address:            __________________________________________________________
List work types the Sub-Consultant will perform:
_______________________________________________________________________
_______________________________________________________________________

Sub-Consultant
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.

6 SCOPE OF WORK

Work Length shall be determined by the DBT.

Estimated Project Limits: From 23.82 to 24.06.

Estimated Project Length: 0.24 miles.

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 in order to fulfill the intent of the contract.

Project Description: The design and construction for the Removal and Replacement of the existing truss bridge with new bridge, with new piers, abutments, and foundations, including all necessary roadway, MOT, and all other work necessary to fulfill the requirements of this contract.

Completion date: 6-30-2016

Warranties: None

7 FIELD OFFICE

Field office Type C, as required by Construction and Material Specification Item 619, shall be available and completely functional no later than 1 week prior to the start of construction work.

8 GENERAL PROVISIONS FOR THE WORK
8.1 **Governing Regulations:** All services, including but not limited to survey, design, MOT, 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 performed and all materials furnished 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 one month prior to the project sale date, 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 and Mapping Specifications
- 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
- Ohio Manual of Uniform Traffic Control Devices
- Real Estate Administration Policies and Procedures Manual:
  - Appraisal
  - Acquisition Property Management
  - Relocation
  - ROW Plans
  - Utilities
8.2 **Basis of Payment:** All Items covered by Construction and Material Specifications, Supplemental Specifications, Proposal and Special Provision notes with unit price as a basis of payment will be paid for under the appropriate Lump Sum bid item; unless a unit line price item has been established in the Scope Of Services. Work not specifically itemized, but necessary to complete the project, shall be included in the appropriate Lump Sum bid item.

The Consultant shall be required to furnish the Department with a complete breakdown of the lump sum bid items. The breakdown shall include materials to be used in the work, and shall be in sufficient detail to provide ODOT with a means to check partial payment requests.

8.3 **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. Record-Drawing Plans as required in section 8.4 below.

8.4 **Record-Drawing Plans:**

**A. General:** At the completion of the work, prior to final acceptance of the construction, the Consultant shall furnish the Department Record-Drawing construction plans. When the Record-Drawing plans are completed the Consultant shall professionally endorse (sign and seal) the title sheet.

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

- Tiff 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.

5. Right-of-way lines (existing and temporary) and property lines of the adjoining properties.

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 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 Record-Drawing plans, the original tracings and the associated electronic files shall be delivered to the District Production Administrator. Acceptance of these plans and delivery of the original tracings and the associated electronic files is required prior to the work being accepted and the final estimate approved.

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

B. CADD files supplied by Consultant:  X  Yes  No

If marked yes, the 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 Production’s 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.state.oh.us/Divisions/Engineering/CaddMapping/CADD/Pages/default.aspx

The following can be accessed from the above URL addresses:

1. ODOT CADD Standard files by selecting the “Microstation Downloads” link
2. ODOT’s Location and Design, Volume 3 by selecting the “L&D Manual Vol. 3” link
3. ODOT’s GEOPAK Standards by selecting the “GEOPAK Downloads” link
The Department will accept CADD files on CD ROM or DVD electronic media.

1. The Consultant shall submit all CADD information produced in the process of plan development. All CADD information shall be submitted in the current version of MicroStation (*.dgn) format as indicated in the CADD Engineering Standards Manual. This requirement ensures that ODOT receives an end product that is directly usable on ODOT’s CADD systems without additional work. The responsibility to provide the Department with correct and complete CADD data rests with the consultant.

2. The Consultant shall submit all GEOPAK information produced in the process of plan development according to L&D Volume 3, Section 1500. The submission shall include all files generated by GEOPAK as the result of the plan processing and these files shall include but are not limited to the following:
   a. Coordinate databases (*.gpk)
   b. Digital terrain models (*.tin)
   c. Original cross section (XS) cell design files
   d. Edited observation files (*.obs)
   e. ASCII text files containing all raw point data (PT #, X, Y, Z, Linking Code/Mapping Code)
   f. ASCII text files containing all adjusted point data (PT #, X, Y, Z, Linking Code/Mapping Code, Attribute data if any)
   g. ASCII text file(s) listing chain data for all existing and proposed horizontal alignments; including the centerline of construction, the centerline of right of way and ramp baselines.
   h. ASCII text file(s) listing vertical alignment data for all existing and proposed profiles.
   i. ASCII text files listing the Northing, easting, station, offset and elevation for all existing and proposed monuments.

A separate file name should be used for each horizontal or vertical alignment. The CADD Engineering Standards Manual provides specific requirements for the content of the required ASCII reports and provides directions on how to create these reports using GEOPAK software.

These requirements and procedures may be updated from time to time with notification in the Design Reference Resource Center (DRRC) website which is located at the following URL, http://www.dot.state.oh.us/drcc/. Organizations exchanging ODOT CADD data are responsible for ensuring they are using the current version of these requirements, CADD reference manuals, ODOT cell files and ODOT seed files.

8.5 Post-Letting Conference: Within 7 days after bid opening, the apparent low bidder DBT shall contact the Office of Estimating of the Division of Planning to discuss the Lump Sum estimate with the Department.
8.6 **Partnering Agreement:** The Contractor is invited to enter into a Self-Facilitated cooperative partnership agreement with the Department on this project per C&MS 108.02. 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 intended to establish an environment of cooperation between the parties.

8.7 **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: Curtis Zigan
Phone number: 740-323-5109 Fax: 740-323-5125
E-mail: CZigan@dot.state.oh.us

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.

8.8 **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.

8.9 **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 and Mapping Specifications. 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 and Mapping Specifications. 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 by the ODOT’s Project Manager to the DBT. 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.

9 **HAZARDOUS MATERIALS**
9.1 **Ohio EPA Notification of Demolition and Renovation**

The FAI-22-23.89 bridge structure was inspected for the presence of regulated asbestos containing materials (RACM) by a Certified Asbestos Hazard Evaluation Specialist on January 2, 2014. No asbestos containing materials were found on the bridge. A copy of the Asbestos Survey Report as well as a partially completed Ohio EPA Notification of Demolition and Renovation form are included in the scope documents (Attachment F Environmental Data). The DBT shall complete Sections V (Other Operator), VIII and XVIII of the Notification of Demolition form and submit the completed form and Asbestos Survey Report to Ohio-EPA Central District Office located at 50 W. Town Street, Suite 700, Columbus, OH 43215 with attention to Mr. Richard Fowler. The form must be submitted at least 10 working days prior to the initiation of any demolition activities. A copy of the completed Notification of Demolition and Renovation form shall be provided to Nasseem Ahmad in the ODOT District 5 Construction Department.

9.2 **Hazardous Materials Identification**

Environmental studies did not result in the identification of any areas within the project area that may contain hazardous materials/waste. In the event that any suspect materials are encountered during construction the DBT shall comply with 203.04 of the current ODOT CMS.

10 **ENVIRONMENTAL**

10.1 **Environmental Commitments**

The DBT shall be aware of and comply with the following NEPA environmental commitments:

Little Rush Creek is designated as a warm water habitat by Ohio EPA and has a drainage area greater than 20 square miles at the bridge structure. Therefore, in accordance with the Memorandum of Agreement between ODOT, the Federal Highway Administration, Ohio Department of Natural Resources and US Fish and Wildlife Service, no in stream work is permitted between April 15 and June 30.

The underside of the bridge shall be inspected for the presence of bats prior to demolition. The District 5 Environmental Coordinator, Amy Toohey (740) 323-5191, must be notified of the results.

To minimize potential impacts to the federally endangered Indiana bat, an isolated stream and an isolated wetland, several areas within the existing US22 right of way have been identified as avoidance areas. The DBT shall design and construct the project to avoid these areas. The avoidance areas, which are shown on the attached map, can be marked in the field by contacting the District 5 Environmental Coordinator, Amy Toohey at (740) 323-5191.
Tree removal shall occur between September 30, 2014 and April 1, 2015 to minimize impacts to the federally endangered Indiana bat.

The public playground area (Auditors parcel 0310808000) north of the project area along Rushville Rd. shall be avoided and not be used for access, borrow, waste or staging activities.

10.2 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 or General 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 and General 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 as well as the ODOT Regional General Permit and conditions and should design the project 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/. A copy of the ODOT Regional General Permit can be found at:

http://www.dot.state.oh.us/Divisions/Planning/Environment/Ecological_Resources_Permits/WATERWAY_PERMITS/Pages/default.aspx

ODOT has determined that the project will meet the criteria for authorization under the ODOT Regional General Permit, however, the existing ODOT Regional General Permit (see Attachment F Environmental Data, Waterway Permit Conditions) will expire on October 24, 2014; therefore, a new permit determination will be necessary.

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

10.3 **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](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.

10.4 **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.

10.5 **Stream Crossing Investigations (flood plain analysis)**

The DBT shall perform a detailed flood plain analysis for the 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 any construction work.

The project area is located in a special flood hazard area as defined by FEMA, therefore, following approval of the floodplain analysis by the District; the DBT shall submit a copy of the flood plain analysis along with an application for a Special Flood Hazard Area Development Permit Application to the local floodplain administrator. A copy of the permit application is available at [http://www.co.fairfield.oh.us/rpc/flood.htm](http://www.co.fairfield.oh.us/rpc/flood.htm). The completed application and flood plain analysis shall be sent to the attention of James
Mako at 210 E. Main St., Lancaster Ohio, 43130. An approved Special Flood Hazard Area Development Permit must be obtained prior to any construction work within the special flood hazard area.

10.6 Construction noise

Activities and land use adjacent to this project may be affected by construction noise. In order to minimize any adverse construction noise impacts, do not operate power-operated construction type devices between the hours of 8:00 PM and 6:00 AM. In addition, do not operate any device in such a manner that the noise created substantially exceeds the noise customarily and necessarily attendant to the reasonable and efficient performance of such equipment.

11 RIGHT OF WAY (ROW)

All necessary construction work for the project will be performed within the existing right of way, as shown in Attachment G Right of Way Plans and Data.

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.

12 UTILITIES

Utilities Special Provisions in addition to the Governing Regulations listed in section 8.1 of this document and section 153.64 of the Ohio Revised Code.

12.1 Existing Utilities: The District Utility Coordinator, in concurrence with the registered Underground Utility Protection Services- Ohio Underground Protection Service (OUPS) and Oil and Gas Producers Underground Protection Service (OGUPS) and other utility owners that are non-members of any utility protection services, has determined that the following utilities are located in the area of the project:

NiSource Gas Transmission & Storage (Columbia Gas Transmission)
301 Maple Street, P.O. Box 330
Sugar Grove, Ohio, 43155
Attn: Jim Scott

12.2 Utility Coordination Responsibilities: As soon as it is feasible after the final plan is approved by the Department, the DBT shall stake the existing ROW in the field and shall perform clearing and grubbing within that ROW as required by the specifications and the
proposal documents, in order to allow utility relocation and reduce potential delays. ROW stakes shall be maintained and updated as needed throughout the project duration.

The DBT shall be cognizant of the project's impact on utility facilities. In the event utility rearrangements are required, the project shall not be designed to preclude legal occupancy of the highway ROW by the rearranged utility facilities.

Note: Refer to Attachment H Existing Utility Plans and Data, Right-of-Way Use Specifications for requirements for any and all work in proximity of the existing utility line.

The DBT shall coordinate all existing utilities with construction activities on this project. The DBT shall ensure that potential delays in coordination and relocation of the affected utilities are minimized. 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 preliminary review 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 a part of the project's expense but the utility company’s fiscal requirement. Determination of eligibility can be coordinated through the District Utility Coordinator. Payment for betterments or ineligible costs shall be made by the appropriated utility through ODOT to the Contractor.

The costs of all utility coordination shall be bid as a Lump Sum Item. ODOT will be responsible for any utility relocation reimbursement costs, if applicable.

12.3 Subsurface Utilities Engineering (SUE): _____ Yes X No

A SUE Level A survey was initiated in February 2014; however, due to site conditions and difficulty drilling through rock, the survey was not completed. All location and notes from survey are included in Attachment H Existing Utility Plan and Data.

13 DESIGN AND CONSTRUCTION REQUIREMENTS: MAINTENANCE OF TRAFFIC (MOT)

Maintenance of Traffic (MOT) Special Provisions N/A

13.1 General: All temporary MOT devices shall comply with the National Cooperative Highway Research Program (NCHRP) 350 Hardware report.

Notification of Construction and Road Closure or Restriction
The contractor will advise the Project Engineer a minimum of thirty (30) days prior to the following: the start of construction activities, lane restrictions, lane closures, and/or road closures. The Project Engineer will forward this information to the following:

District Public Information Officer (PIO) by fax at (614) 887-4510 or email at D05.PIO@dot.state.oh.us

District Permit Section by fax at (614) 887-4525 or email at Brian.Bosch@dot.state.oh.us

Central Office Special Haul Permits Section by fax at (614) 728-4099 or email at Hauling.Permits@dot.state.oh.us

The PIO will, in turn, notify the public, the local emergency services, affected schools and businesses, and any other impacted local public agency of any of the above mentioned items, via media sources.

**Detours**

In addition to the official, signed detour route, a local route has been determined to be the secondary, unsigned detour route or “Designated Local Detour Route.” The state detour and local detour routes have been included as an attachment (Attachment I Maintenance of Traffic) to the scope document. During the time that traffic is detoured, the contractor shall maintain this route in a condition which is reasonably smooth and free from holes, ruts, ridges, bumps, dust, and standing water. Once the detour is removed and traffic returned to its normal pattern, the designated local detour route shall be restored to a condition that is equivalent to that which existed prior to its use for this purpose. All such work shall be removed when and as directed by the Project Engineer.

The following estimated quantities are provided for use as directed by the Project Engineer to maintain and subsequently restore the designated local detour route.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>209</td>
<td>Linear Grading</td>
<td>2 MILE</td>
</tr>
<tr>
<td>407</td>
<td>Tack Coat</td>
<td>1050 GAL.</td>
</tr>
<tr>
<td>448</td>
<td>1.25” Asphalt Concrete Surface Course, Type 1, PG 64-22</td>
<td>750 CU. YD.</td>
</tr>
<tr>
<td>616</td>
<td>Water</td>
<td>5M GAL</td>
</tr>
<tr>
<td>617</td>
<td>Compacted Aggregate</td>
<td>250 CU. YD.</td>
</tr>
<tr>
<td>642</td>
<td>Center line</td>
<td>1.28 MILE</td>
</tr>
<tr>
<td>642</td>
<td>Edge line, 4”</td>
<td>2.56 MILE</td>
</tr>
<tr>
<td>642</td>
<td>Stop line</td>
<td>36 FEET</td>
</tr>
<tr>
<td>253</td>
<td>Pavement Repair, as per plan</td>
<td>1050 SQ. YD.</td>
</tr>
</tbody>
</table>

Designated Local Detour
ITEM 253 – Pavement Repair, as per plan 1050 SQ. YD.

An estimated quantity for pavement repair has been included in the plan to be used as directed by the engineer, for the local detour route. The intent of this operation is to repair those areas of pavement which have failed and not to correct surface irregularities. The depth of excavation shall be approximately 6”. After pavement sawing and
excavation has been completed, the face of the repair shall be coated with 407 Tack Coat, as per 702.13. Replacement material will be 6” of ITEM 301 Asphalt Concrete Base, PG64-22 (Placed and compacted as directed).
All materials, labor, equipment, tools, and incidentals needed to complete the work described above shall be paid for under ITEM 253 Pavement Repair, as per plan.

The contractor shall not order materials or perform work for items designated by plan note to be used “As directed by the Project Engineer” unless authorized by the Project Engineer. The actual work locations and quantities used for such items shall be incorporated into the final change order governing completion of this project.

13.2 MOT Restrictions:
Minimum number of lanes in each direction to remain open during construction: __0__
Minimum lane width: ______0_____

US-22 may be closed to through traffic to remove and replace the FAI-22-2388 structure (over NSRR and Little Rush Creek). The contractor shall close US-22 no earlier than December 1, 2014 and all critical work items shall be completed by October 2, 2015. All provisions in PN 129 and CMS 108.07 apply to this project; however, the contractor will be assessed $6,000/day for each day FAI-22 is closed past the duration shown in the following table instead of the cost of liquidated damages in 108.07. The DBT shall provide 30 days notice to the Department prior to closure of US 22. The DBT shall install closure notice signs 30 days in advance to closure.

All critical work items shall be completed to open US 22 to unrestricted traffic. Unrestricted traffic is defined as all traffic lanes being available for use at their final design width with all markings, RPMs, and safety features installed, along with no restrictions within two (2) feet of the edge line shoulders. All roadway and bridge wearing courses shall be installed and any corrective work as per Proposal Note 555 and/or Proposal Note 420 performed prior to placement of pavement markings and RPMs.

For non-critical work items required after the 260 consecutive day time period, a minimum of one lane of traffic shall be maintained at all times by use of existing pavement and the completed pavement. Length and duration of lane closures and restrictions shall be at the approval of the Project Engineer. It is the intent to minimize the impact to the travelling public. The level of utilization of maintenance of traffic devices shall commensurate with the work in progress. All work and traffic control devices shall be in accordance with CMS 614 and other applicable portion of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices.
### 13.3 Additional Description of Required Work and special provisions:

After completion of work to open the bridge to traffic, any work that is to be performed after the closure duration and a lane closure is required, no work shall be performed and all existing lanes shall be open to traffic during the following designated holidays or events:

- New Year’s Day (January 1, 2016)
- Martin Luther King Jr. Day (January 18, 2016)
- Presidents’ Day (February 15, 2016)
- Memorial Day (May 30, 2016)

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:

<table>
<thead>
<tr>
<th>Day of holiday or event</th>
<th>Time all lanes must be open to traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>12:00N Friday through (6:00 AM or 12:00N) Monday</td>
</tr>
<tr>
<td>Monday</td>
<td>12:00N Friday through (6:00 AM or 12:00N) Tuesday</td>
</tr>
<tr>
<td>Tuesday</td>
<td>12:00N Monday through (6:00 AM or 12:00N) Wednesday</td>
</tr>
<tr>
<td>Wednesday</td>
<td>12:00N Tuesday through (6:00 AM or 12:00N) Thursday</td>
</tr>
<tr>
<td>Thursday</td>
<td>12:00N Wednesday through (6:00 AM or 12:00N) Friday</td>
</tr>
<tr>
<td>Friday</td>
<td>12:00N Thursday through (6:00 AM or 12:00N) Monday</td>
</tr>
<tr>
<td>Saturday</td>
<td>12:00N Friday through (6:00 AM or 12:00N) Monday</td>
</tr>
</tbody>
</table>

The following notes from the ODOT Traffic Engineering Manual will apply to this project:

1. 642-8 (Item 614, Maintaining Traffic (Notice of Closure Sign))
2. 642-9 (Item 614, Maintaining Traffic (Estimated Quantities))
3. 642-10 (Item 614, Maintaining Traffic (ROAD CLOSED Sign))
4. 642-22 (Item 614, Replacement Sign)
5. 642-23 (Item 614, Replacement Drum)
6. 642-34 (Extra Advance Warning Signs, Note B)

### 14 DESIGN AND CONSTRUCTION REQUIREMENTS: LOCATION & DESIGN
**Location & Design Special Provisions** in addition to the Governing Regulations listed in section 8.1 of this document:

### 14.1 Survey

**A. 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

**B. Survey Responsibilities:** The DBT shall perform all remaining surveying operations necessary to complete the design and construction. 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. Survey data and files are included in Attachment J Survey Plans and Data.

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.

7. Project Control:

   State Plane Grid - Ohio South NAD 83 (CORS96)
   Project Adjustment Factor – 0.99991814
   Horizontal Control Points:

   Concrete Monument  Sta. 299+00.80 79.99’ Lt.  N 641735.4902 E 1984287.9667
   5/8” Iron Pin w/Cap  Sta. 309+81.72 193.68’ Lt.  N 641773.6941 E 1985374.1769
   Concrete Monument  Sta. 315+22.00 57.38’ Lt.  N 641600.1273 E 1985903.6675

14.2 Vertical and Horizontal Alignment:
The existing horizontal and vertical alignment shall be maintained and consistent with the existing approach pavement. Minor profile corrections may be necessary to meet approach pavements.

14.3 Pavement:
Pavement Typical Sections shall be as per Attachment K Design Detail Sheets (Pavement Typical Section).

14.4 Roadway:

   Horizontal and vertical alignments are to remain same as existing with minor profile corrections. Lane width shall be 12’-0”, paved shoulder shall be 4’-0” (shoulder composition shall match the buildup as the pavement. Graded width shall be 10’-0”.

   Provide necessary approach work on the rear and forward ends of the structure. The purpose of this is to provide a smooth transition from the existing pavement to the structure.
Upon completion of structure installation and all temporary traffic control has been 
removed, Mill and Fill existing pavement (lanes and paved shoulders) beyond full depth 
pavement limits in order to eradicate all temporary maintenance of traffic pavement 
markings.

Remove and replace all guardrail within work limits. The new MGS guardrail shall be 
placed in accordance with Standard Drawing MGS-1.1.

### 14.5 Drainage: Yes ☒; No __

The contractor shall design and install new drainage as per L&D Manual Volume 2 
within the Project Limits for all impacted drainage installations. Reuse of existing 
drainage structures (including conduits), if impacted by construction, is not allowed. 
Impacted installations shall be removed and replaced.

The contractor shall design and install Post construction BMP’s per L&D Manual 
Volume 2.

### 14.6 Design Exceptions:

There shall be no design exceptions allowed for the project. The sag vertical curve shall 
be revised to meet the stated design speed.

### 14.7 Interchange Modification/Justifications Studies: N/A

### 14.8 Landscape: Yes ___; No ☒

### 14.9 Fencing: Yes _____; No ___

### 14.10 Additional Description of Required Work and Special Provisions:

#### 15 DESIGN AND CONSTRUCTION REQUIREMENTS : STRUCTURES

#### 15.1 Hydraulic data provided by ODOT: The Department has provided the following items 
listed below:

1. The waterway opening size of the upstream structure, if the structure is within a 
   half mile.
2. Slab or basement window elevation of an at risk upstream dwelling within a half 
   mile of the structure. An “at risk” dwelling would be at an elevation within two 
   feet above or below the proposed roadway grade.
3. Soil boring information in structure areas.

#### 15.2 Existing Structures Identification:

Structure File No.: 2300427 (Proposed SFN 2300419)
Bridge No.: Fai-22-23.89
Feature Intersection: NSRR and Little Rush Creek
Latitude: 39.761356
Longitude: -82.440728

15.3 Design and Construction Requirements of Structure Fai-22-2389, in addition to the Governing Regulations listed in section 8.1 of this document:

Existing Structure Data

Length: 515 ft.
Width o/o: 37'-2"
Design Loading = HS-20-44
Type: 343 (steel truss deck)
Spans = 3
Date Built: 1959

Existing Structure Data included in Attachment E Existing Structure Data. Existing plans (Attachment C) posted at: ftp://ftp.dot.state.oh.us/pub/districts/D05/Projects/FAI93273/

Alignment & Profile

Alignment: Existing ___ Relocated ___ ; By ODOT _____ ; By DBT ____X____:
Profile: Existing _____ Relocated _____ Feathered (Adjustment) __X__.
By ODOT _____ ; By DBT ____X____:

Proposed Transverse Sections

Bridge Width: 44'-0" (toe/toe of barrier)

Railing: Type Parapet Height 42" (ODOT Standard Drawing SBR-1-13)
Fence: Yes ____ No ___X__ Height/Configuration ____.
Sidewalks: Yes ____ No ___X__ Width ____.

All Shop Drawings shall comply with Item 501.

Bridge Removals

The contractor shall remain solely responsible for all aspects of safety, structural capacity, structural stability, applicable regulations, and permits associated with bridge removal work. The DBT shall assume all risk and liability of surrounding and adjoining properties.

At a minimum, the structure shall be removed to 2 feet below the existing or final grade, whichever is at a lower elevation.
The DBT shall prepare demolition plans for the removal of the bridge in accordance with C&MS 501.05. Demolition plans shall demonstrate the feasibility of all operations proposed to safely remove bridges and shall include the following:

- Details for all temporary supports and falsework.
- Detailed procedures and plans for the protection of traffic adjacent to and under the bridge, including vehicular, pedestrian and railroad
- Details for all devices and structures necessary to ensure such protection
- Description of and design computations for temporary structures (if used)
- Methods of demolition
- Location and type of equipment
- Sequence of removal
- Pick points on members
- Sizes of pieces removed
- Hauling method
- Location of hauling equipment
- Structural analysis of the bridge demonstrating that the bridge will remain structurally sound and stable during all phases of removal operations

The demolition plans shall indicate the method of protection for the track structure.

The uses of explosives may be allowed, See section 1B for railroad coordination.

Wrecking balls are not allowed for demolition of bridge substructures. Deck concrete shall be removed only by lift.

No debris shall be allowed to fall onto railway property or the Little Rush Creek. No staging of equipment or material is allowed on Railroad property without the express written permission of the Railroad.

Before construction equipment is mobilized over or operated on the existing bridge, the DBT shall analyze the capacity of the bridge to ensure it is structurally adequate for all loads induced by the equipment.

15.4 Governing Regulations

Governing regulations are listed in Section 8.1 and supplemental specifications are listed in Section 8.1. For cases where AASHTO Specifications conflict with ODOT Manuals or Standards, ODOT’s Manuals or Standards shall take precedence. For structural components not addressed by the standards listed in Section 8.1, other guidelines or specifications that reflect currently accepted industry practice can be used as agreed to by the Department.

All locations in the ODOT Bridge Design Manual (BDM) not identified below or not
otherwise restricted or clarified in the Project Scope, noted as “Consult with the Office of Structural Engineering” do not require a consultation with ODOT office of Structural Engineering.

15.5 General Bridge Criteria

The bridge on this project shall be new construction:

Replace bridge number FAI-22-2389 (SFN 2300427– Bridge over Little Rush Creek and Norfolk Southern Railroad) with a new structure. Construct new approach slabs at both the forward and rear abutments. The bridge piers and foundations shall be placed outside of the railroad right-of-way and outside of the ordinary high water elevation.

See Section 10.6 for construction noise specifications. The DBT shall assume risk and liability for any and all vibration monitoring and control requirements.

Bridge carrying US 22 traffic shall be considered as Interstate bridges for Fatigue Resistance as per section 1006 S6.6.1.2.5 of the AASHTO Manual.

Conform to “Connection Details for Prefabricated Bridge Elements and Systems” FHWA-IF-090919 for details on connecting bridge prefabricated elements.

No permanent wood structural elements will be allowed.

Foundations

Initial foundation investigation is provided in Attachment C Existing Plans. Special attention by the DBT shall be considered for site conditions related to slope stability. Slope stability on the western bank was mitigated with 1962 grouting project (see Attachment C Existing Plans). Web links to ODOT Office of Geotechnical historical investigations have been included in Attachment C Existing Plans.

Note: Collection of additional soils information shall be the responsibility of the DBT and considered incidental to this design effort.

Note: The DBT’s design shall be cognizant of and give attention to site conditions related to slope stability. The western bank has demonstrated Slope stability issues and was mitigated with 1962 grouting project (see Attachment C Existing Plans). The eastern bank is constructed of roadway fill which has not had any significant surcharge.

Drilled shafts developing their load carrying capacity through skin friction and end bearing in soil will be permitted. The capacity developed by the drilled shaft shall be determined in accordance with the requirements of AASHTO LRFD Bridge Design Specifications.

For drilled shafts, the minimum clear distance for longitudinal and lateral reinforcement shall not be less than five (5) times the maximum aggregate size.
A substructure foundation with less than four drilled shafts shall be considered non-redundant. A substructure foundation with less than four drilled shafts shall have a capacity reduction factor of 20% applied to each drilled shaft.

The following items will not be permitted:

- Under-reamed drilled shafts,
- Bellied drilled shafts,
- Auger-cast piles or continuous flight auger (CFA) piles
- Timber piles.

Perform a drivability analysis using the wave equation method to select the pile driving impact hammer for installing the piles to the required ultimate bearing value.

When new embankment is constructed over a compressible layer of soil and long-term settlement is anticipated, the possibility of down-drag loads on the piles shall be considered. The potential down-drag load shall be computed according to AASHTO LRFD Bridge Design Specifications.

The drilled shaft maximum resistance factor shall be limited to 0.6 for any testing method.

Spread footings can only be used if the footing is socketed into rock. All other footings are to be founded on deep foundations.

Substructures

All substructures shall be Cast-In-Place reinforced concrete or pre-cast reinforced concrete.

The following items are not permitted:

- Steel box beam pier caps
- Steel abutment and pier caps
- Capped pile type piers
- Piers inside the railroad right-of-way.

All substructures shall be sealed with non-epoxy sealer.

Refer to the BDM 209.8 for all minimum clearances.

Superstructure

The entire limits of the structure shall have a consistent superstructure material (steel or concrete).
The following structure types are not permitted:

A. Precast prestressed concrete box beams.
B. Trusses of any type.
C. Non-redundant designs.
D. Precast reinforced concrete three sided flat topped culverts or arched sections
E. Structures designs using precast prestressed/pretensioned concrete I-beams with a web thickness less than 8-inches.
F. Structure designs that require fracture critical members including straddle bent.

**Structural Steel Considerations**

Structural Steel shall be A709 or A588.

All new structural non-weathering (A709) steel shall be painted using IZEU coating system. The urethane top coat shall be tinted to meet Federal color # 15526 (Blue).

All new structural weathering (A588) steel shall be painted as per Section 302.4.1.5a in the BDM, except the beams/girders shall be partial painted 30’ from the each abutment instead of the 10’ listed in the BDM.

A bridge with stringer/girder type superstructure shall have a minimum of five (5) stringer/girder lines when completed. The DBT shall consider the number of beams and beam spacing such that at least one lane of traffic can be maintained on structure for future maintenance projects.

For haunched girders, the intersection of the flat bottom flange bearing seat area and the curved section of the bottom flange shall be detailed as two plates with a full penetration weld.

Skewed cross-frames at intermediate support points are not permitted.

For the steel ductility requirements of AASHTO LRFD Article 6.10.7.3, the design haunch shall not be included in the determination of Dp and Dt.

For all steel girder bridges with a web depth of 5’-6” or greater as measured at any location along the girder, provide inspection hand-hold rod on both sides of all girders at locations with a web depth of 5’6” or greater, except on the outside of fascia girder. The hand-hold rod and all associated supports and attachments shall be galvanized steel according to C&MS 711.02. See Attachment K Detail Design Sheets for example detail sheet for inspection hand hold rod.
Concrete Considerations

All new concrete beams shall be sealed with non-epoxy sealer.

Items cast into prestressed concrete beams to facilitate bridge construction shall be galvanized or epoxy coated.

Bearing Considerations

Elastomeric bearings shall be designed based on a selected durometer of either 50 or 60. Field welding of a beam or girder to the bearing load plate shall be controlled so the temperature the elastomer is subjected to, does not exceed 300°F.

In addition to general design criteria, all bearing devices shall be designed to accommodate any lateral deflection of wall type abutments that occurs after the superstructure is erected.

AASHTO LRFD Bridge Design Specifications have both a design and construction section for pot type bearings, disc type bearings and spherical type bearings. The DBT shall use these LRFD sections and the current BDM as a guide in designing, selecting and specifying these bearing types.

The moment redistribution provisions of AASHTO LRFD Bridge Design Specifications Appendix B will not be allowed.

Deck

All bridge decks shall be full depth cast-in-place concrete with a concrete wearing surface.

Barriers shall not be considered part of the superstructure cross section for calculation of structural capacity.

Stay-In-Place (SIP) deck forms are permitted. SIP forms are not to be used as a structural component of the bridge. The beams/girders must be designed to carry the additional load due to the SIP forms. Concrete shall completely fill the flutes of the SIP forms. Fillers shall not be used. The SIP forms used must be galvanized (G260) and a minimum 20 gage panel. Designer shall calculate SIP form thickness that is required for construction loading and permanent loading and use greater thickness of two gage panels.

Structure Expansion Joints

Open-type joints that accept bridge deck surface drainage, such as finger joints, are not permitted.

Intermediate deck expansion joints are not allowed.
Drainage System

Furnish a drainage design that will reduce the need for scuppers. Intercept the roadway drainage flow prior to the bridge. The bridge deck surface drainage design shall conform to the following:

Scupper and Conduit Requirements on the structure:

Deck drainage shall be collected at the gutter lines (toe of parapet) by scuppers. Over-the-side drainage is not permitted. Provide erosion control at bridge ends according to Section 1113 of the ODOT L & D Manual, Volume 2.

Transverse deck drains are not permitted.

Welding of scuppers, downspouts, or drainage supports to main steel members in tension zones is not allowed.

Use a closed deck drainage system per section 209.3 of the ODOT Bridge Design Manual. A free fall of two (2) feet above ground is permitted. The drainage shall be controlled at the point of discharge (i.e. bottom of the vertical conduit) by permanent features that completely contain the discharge and prevent erosion to the adjacent ground while discharging up to the 25-year design storm.

Encasing drainage conduit in substructures is not permitted.

Locate vertical conduit runs at piers.

The maximum permissible conduit bend angle is 45 degrees, from the vertical, per bend. Consecutive conduit bends are not permissible.

Clean outs shall be provided upstream of each bend and on vertical downspouts.

Material used to make the scuppers shall be as per CMS 707.10.

If protrusions are located where the SIP forms are located; the deck shall be conventionally formed for at least 5’ around each protrusion.

Clearance Requirements

Refer to the BDM 209.8 for all minimum horizontal and vertical clearances.

Approach Slabs

Approach slabs shall be placed at both abutments. Refer to Attachment K Detail Design Sheets, Buried Approach Slab for detail on buried approach slab.

Material Properties
Concrete shall conform to the Specifications for QC/QA Concrete.

The design concrete compressive strengths listed in the ODOT BDM shall be considered minimum values.

Lightweight concrete of any kind is not permitted for use in cast-in-place concrete decks.

**Sealing of Concrete Surfaces**

Non-epoxy sealer shall be applied to all precast prestressed/pretensioned concrete beams, the bottom and side surfaces of the deck superstructure concrete, the superstructure parapet and the required top deck surface (9") along each side of the deck. The entire limits of sealing for the superstructure shall be per ODOT BDM Figure 302.1.4.3-1. The sealer shall be applied to the underside and outside edge of the deck, superstructure parapet, and top of deck (9").

For steel beams or steel I-girders bridge structures, non-epoxy sealer shall be used for the bottom and side surfaces of the deck superstructure concrete, the superstructure parapet and the required top deck surface (9") along each side of the deck. The entire limits of sealing for the superstructure shall be per ODOT BDM Figure 302.1.4.3-2, except that the limits of sealing for the underside of the deck overhang shall extend to the flange of the fascia beam or girder.

All exposed concrete surfaces of substructures shall be sealed with non-epoxy sealer. See ODOT BDM Figures 303.1-1, 303.1-2, and 303.1-3 for sealing limits of substructures. The sealer shall be Federal Color #17778.

**Bridge Load Ratings**

Bridge shall be load rated per Section 900 of the ODOT BDM with the following clarifications and exceptions:

A. Rate bridge using both the Load Factor Rating (LFR) method and the Load and Resistance Factor Rating (LRFR) method.

B. The bridge load rating shall be based on the final as built configuration of the bridge.

C. The DBT shall provide a rating manual for any bridge type that is not compatible with BARS-PC or AASHTO Virtis software. The rating manual shall include a Microsoft Excel compatible spreadsheet in electronic format to load rate the bridge for future permit vehicles (i.e. overweight or super-load vehicles). Such vehicles may weigh up to 600,000 pounds; have as many as 25 axles, two to eight tires per axle to a width of 20 feet, and a length of 200 feet. The spreadsheet must be capable of rating the structure with the permit vehicle isolated on the bridge in addition to rating the structure with a combination of legal loads on the bridge and the permit vehicle.
D. Each bridge loading rating submission shall include the computer files in electronic format.

E. The bridge load rating report and rating manual shall be submitted to ODOT before the bridge is open to traffic.

15.6 Criteria for All Retaining Walls

The following criteria are for all retaining walls:

- Slopes above retaining walls cannot exceed a 3:1 slope.
- Incorporate a paved gutter above all retaining walls to control drainage over the wall. The paved gutter shall be sized for a 5 year flood event.
- The lateral deflection shall be limited to 1% of the exposed wall height or 3 inches, whichever is less.
- Reinforced concrete facing is required. The minimum thickness of concrete facing shall be ten (10) inches with two mats of steel reinforcements.
- All pre-cast concrete panels attached to retaining walls, if used, shall be structurally connected with the main members supporting lateral loads.
- No Foundations elements outside of permanent Right-of-Way

See Attachment K Design Detail Sheets (MSE Wall with adjacent slope) for detail sheet pertaining to adjacent slope and gutter. All retaining walls shall have same detail as shown in Attachment K.

MSE Walls
PEJF material shall be placed between the edge of the concrete paved gutter and the MSE wall coping. Hydraulically size the concrete paved gutter to prevent overtopping of the MSE wall for the 5-year storm event.

Any storm sewer conduits located in or under any MSE walls shall use reinforced concrete pipe per CMS 706.02 with resilient and flexible gasket joint per CMS 706.11 with the following additions:

- Conduits shall have integral bell gasket joint.
- The backfill and bedding shall meet the requirements of the wall embankment material.
- Conduit construction shall be performed in corporation with MSE wall construction.

Roadway water runoff shall be collected and controlled prior to reaching the limits of an MSE wall reinforcing mass.

Retaining Wall Types (Other than MSE Walls or Casted-in-Place)
The following items are not permitted:

- Modular block walls
- Tie-backs

15.7 **Noise Barrier:** Yes ___ ; No X ___.

16 DESIGN AND CONSTRUCTION REQUIREMENTS: TRAFFIC CONTROL

16.1 **Pavement Markings and Delineators Special Provisions** in addition to the Governing Regulations listed in section 8.1 of this document:

A. **Pavement Marking Requirements and Locations:** Yes, placement on US 22 throughout the project limits and as per Standard Construction Drawings. Use Item 644 to replace all existing pavement markings within the disturbed areas of the project limits.

B. **Raised Pavement Markers Requirements and Locations:** Yes, placement on US 22 throughout the project limits as per Standard Construction Drawings within the disturbed areas of the project limits.

C. **Delineators:** Yes ___ ; No X ___.

D. **Barrier Reflectors:** Yes X ___ ; 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 X ___ ; No ___.
All object markers shall conform to Item 630, Sign, Flat Sheet.

Locations and requirements: Type 3 Object Markers will be placed near the bridge end terminal assemblies at the end of each parapet. There will be a total of four object marker signs installed (Two each of OM3-L and OM3-R).

16.2 **Signing Special Provisions** in addition to the Governing Regulations listed in section 8.1 of this document:

A. **Flat Sheet Signs:** Yes ___ ; No ___.

1. Replace all existing flat sheet signs with new signs within the Project Limits. This includes all signs on the mainline. Size the signs in accordance with the OMUTCD

B. **Extrusheet Signs:** Yes ___ ; No X __.
C. **Ground Mounted Post Supports**: Yes ___ ; No ___.

1. Replace all existing ground mounted post supports with new supports throughout the project limits. New sign installations shall be on new supports. No reuse of existing ground mounted supports shall be allowed.

D. **Ground Mounted Beam Supports**: Yes ___ ; No ___.

E. **Overhead Supports**: Yes ___ ; No ____.

16.3 **Lighting Special Provisions**: N/A

16.4 **Traffic Signals Special Provisions** in addition to the Governing Regulations listed in Section 8.1 of this document:

A. **Signal Supports**: Yes ___ ; No ____.

B. **Vehicle Signal Heads**: Yes ___ ; No ____

C. **Pull box**: Yes ___ ; No ____

D. **Conduit**: Yes ___ ; No ____

E. **Cable and Wire**: Yes ___ ; No ____

F. **Signal(s) is part of an Intelligent Transportation System** (as defined by the Traffic Engineering Manual, Part 13): Yes ___ ; No ___

16.5 **Intelligent Transportation Systems (ITS)**: Yes___ ; No___

17 **PROJECT SCHEDULE REQUIREMENTS**

The current edition of Proposal Note 107, including updates released one month before the project sale date, shall be met or exceeded.

18 **PLAN SUBMITTALS AND REVIEW REQUIREMENTS**

18.1 **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 Right-Of-Way limits, including underground utilities.


3. Location and Design Manual, Volume 3: The following sections of the Location and Design Manual, Volume 3 are **NOT** required:
Simplified plans (section 1301.2) are **NOT** allowed.

**18.2 Quality Control:** The DBT will be responsible for the professional quality, technical accuracy and adherence to the Governing Regulations listed in section 8.1 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.

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 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.

**18.3 Stage 1 Plan Review Submission:** 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 30 calendar days from receipt to review complete submissions. This review time must be shown on the required Progress Schedule.

<table>
<thead>
<tr>
<th>Submittal</th>
<th>Adjusted Review Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>14 Days</td>
</tr>
<tr>
<td>Stage 2</td>
<td>14 Days</td>
</tr>
<tr>
<td>Stage 3</td>
<td>14 Days</td>
</tr>
</tbody>
</table>
Following this review, the DBT shall correct any errors, incorporate modifications, perform required investigations and make related changes to the plans and supporting documents prior to submitting the plans for final 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:

<table>
<thead>
<tr>
<th>Number of half size Sets</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODOT District Planning and Engineering</td>
</tr>
<tr>
<td>ODOT District Construction</td>
</tr>
<tr>
<td>ODOT Central Office, Division of Highway Operations</td>
</tr>
<tr>
<td>District 5 Real Estate</td>
</tr>
<tr>
<td>Each affected utility or railroad company</td>
</tr>
</tbody>
</table>

**18.4 Major Design Decision:** Separate submittals for concurrence with major design decisions made after the Stage 1 Review are required. Major design decisions involve significant utility relocation, unforeseen acquisition of ROW, traffic operation or geometric decisions that involve two or more viable solutions, and any other decision that impacts the public, operation of the facility or future maintenance.

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

**18.5 Stage 2 Plan Review Submission:** 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 14 calendar days from receipt to review complete submissions. 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:
18.6 **Construction Plans:** After the review comments for the final 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. 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:

<table>
<thead>
<tr>
<th></th>
<th># of Full Sets</th>
<th># of Half Sets</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODOT District Planning and Engineering</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>ODOT District Construction</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>ODOT Central Office, Division of Construction Management</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Federal Highway Administration</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>District 5 Real Estate</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Each affected utility or railroad company</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
18.7 **Plan Distribution Addresses:**

Ohio Department of Transportation, District 5 Planning and Engineering  
9600 Jacksontown Road, P.O. Box 306  
Jacksontown, Ohio, 43030  
Attn: Curtis Zigan PE

Ohio Department of Transportation, District 5 Construction  
9600 Jacksontown Road, P.O. Box 306  
Jacksontown, Ohio, 43030  
Attn: Nasseem Ahmad PE

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

Federal Highway Administration  
200 North High Street  
Room 328  
Columbus, Ohio 43215-2408  
Attn: Matt Shamis and Jim DeSanto

Ohio Department of Transportation, District 5 Real Estate  
9600 Jacksontown Road, P.O. Box 306  
Jacksontown, Ohio, 43030  
Attn: Laura Philabaum

Utility Companies  
NiSource Gas Transmission & Storage (Columbia Gas Transmission)  
301 Maple Street, P.O. Box 330  
Sugar Grove, Ohio, 43155  
Attn: Jim Scott

Railroad Company  
Norfolk Southern Corporation  
1200 Peachtree Street, NE  
Atlanta, GA 30309  
Attn: Mr. D. Shawn Starling, Systems Engineer

19 **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.
INDEX OF ATTACHMENTS:

A. Project Initiation Package
B. Design Designation
C. Existing Plans
D. Norfolk Southern Railroad Agreement Number: 25779
E. Existing Structure Data
F. Environmental Data
G. Right of Way Plans and Data
H. Existing Utility Plans and Data
I. Maintenance of Traffic
J. Survey Plans and Data
K. Design Detail Sheets
L. Geotechnical

Attachments are located at: ftp://ftp.dot.state.oh.us/pub/districts/D05/Projects/FAI/93273/