

PROPOSAL NOTES:

COOPERATION WITH RAILROADS - NORFOLK & SOUTHERN RAILWAY COMPANY

STANDARD DRAWINGS:

REFERENCE SHALL BE MADE TO STANDARD DRAWING(S):
AS-1-81 REVISED 04-20-01
BR-2-98 DATED 12-29-98
EXJ-3-82 REVISED 04-20-01
PSBD-1-93 DATED 03-04-94
VPF-1-90M DATED 03-20-95

AND TO SUPPLEMENTAL SPECIFICATION(S):

842 DATED 1-6-99
844 DATED 1-6-99
846 DATED 9-9-97
849 DATED 6-14-95
864 DATED 7-11-00
865 DATED 2-22-00
899 DATED 10-21-98
954 DATED 9-9-97

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997 TO 1999 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL 2000 EDITION.

CONSTRUCTION AND MATERIAL SPECIFICATIONS STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DATED JANUARY 1, 1997.

DESIGN LOADING:

HS25 AND THE ALTERNATE MILITARY LOADING. FUTURE WEARING SURFACE (FWS) OF 60 PSF.

DESIGN DATA:

CONCRETE
HIGH PERFORMANCE CONCRETE HPC SS844 (DECK) - COMPRESSIVE STRENGTH 4,500 PSI

HIGH PERFORMANCE CONCRETE HPC SS844 (PARAPET) - COMPRESSIVE STRENGTH 4,500 PSI

HIGH PERFORMANCE CONCRETE HPC SS844 (SUBSTRUCTURE) - COMPRESSIVE STRENGTH 4,000 PSI.

REINFORCING STEEL - ASTM A615, A616 OR A617 GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

MILD REINFORCING STEEL FOR THE CONCRETE PRESTRESSED BEAMS GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

CONCRETE FOR PRESTRESSED BEAMS
COMPRESSIVE STRENGTH (FINAL) - 6500 PSI
COMPRESSIVE STRENGTH (RELEASE) - 5000 PSI
UNIT STRESS - 2600 PSI COMPRESSION,
242 PSI TENSION

PRESTRESSING STRAND ASTM A416

1/2" DIAMETER AREA = 0.153 SQ. IN.
F's = 270 KSI
INITIAL STRESS = 0.75 F's (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD:

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

PROPOSED WORK:

1. DETOUR TRAFFIC FROM US20
2. PROTECT & MAINTAIN ALL NORFOLK SOUTHERN RAIL TRAFFIC
3. PROTECT AND TEMPORARILY RELOCATE UTILITIES TO OUTSIDE OF PROPOSED STRUCTURE.
4. REMOVE APPROACH SLABS AND EXCAVATE BEHIND ABUTMENTS TO FACILITATE SUBSTRUCTURE REMOVAL.
5. REMOVE EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE TO 1 FOOT BELOW PROPOSED GROUNDLINE.
6. CONSTRUCTION OF THE LEFT WINGWALLS AND DEMOLITION OF THE EXISTING ABUTMENT WILL HAVE TO BE COORDINATED WITH THE WATERLINE INSTALLATION IN ORDER TO PROVIDE SUPPORT OF THE WATERLINE AT ALL TIMES.
7. CONSTRUCT NEW ABUTMENTS. INSTALL NEW PRESTRESSED BOX BEAMS AND CONSTRUCT NEW DECK, PARAPETS, AND SIDEWALKS.
7. INSTALL DRAINAGE SYSTEM AND BACKFILL BEHIND ABUTMENTS AND INSTALL NEW APPROACH SLABS.
8. INSTALL NEW VANDAL PROTECTION FENCE.
9. SEAL ALL SURFACES AS SHOWN IN THE PLANS.
10. RELOCATE UTILITIES TO PROPOSED LOCATION AS SHOWN IN THE PLANS.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02. CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

CONVERSION OF STANDARD BRIDGE DRAWINGS:

SOME OF THE STANDARD BRIDGE DRAWINGS REFERENCED IN THIS PLAN ARE METRIC. ANY CONVERSION OF DIMENSIONS REQUIRED TO CONSTRUCT THE ITEMS SHOWN ON THE STANDARDS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONVERSIONS SHALL BE MADE USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATIONS. THE APPENDIX OF ASTM E380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSION FACTORS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

COLORS:

THE TOP COAT COLOR FOR ITEM 864 - SEALING OF CONCRETE SURFACES SHALL BE FEDERAL COLOR NUMBER 595B-27722, BUFF.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATION (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY(IES). THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

ITEM 202 - STRUCTURE REMOVED, AS PER PLAN

REMOVAL OF EXISTING STRUCTURE:
WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER. BECAUSE OF THE STRUCTURAL UNCERTAINTY OF THE EXISTING STRUCTURE, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT DETAILED REMOVAL PLANS THAT ARE PREPARED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, PRIOR TO COMMENCEMENT OF THIS WORK.

REFER TO THE SPECIAL CLAUSES IN THE PROPOSAL FOR REQUIREMENTS REGARDING WORK ON OR ABOVE RAILWAY PROPERTY.

PROTECTION OF TRAFFIC:
PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC AND TRACK STRUCTURE (VEHICULAR, PEDESTRIAN, RAIL, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE DIRECTOR AND THE RAILWAY FOR APPROVAL. THESE PLANS SHALL INCLUDE SEQUENCE OF DEMOLITION AND PROCEDURES AND EQUIPMENT TO BE USED AS WELL AS PROVISIONS FOR ANY DEVICES AND STRUCTURE THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE DIRECTOR. NO DEBRIS SHALL BE ALLOWED TO INTENTIONALLY FALL TO RAILWAY PROPERTY.

THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER AND THE RAILWAY DETAILED EXCAVATION PLANS, TEMPORARY SHORING PLANS AND CALCULATIONS ALL PREPARED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF OHIO SHOWING SIZES OF ALL TEMPORARY SHORING STRUCTURAL MEMBERS, DETAILS OF CONNECTIONS, AND EMBEDMENT DEPTH. THE PLANS SHALL INCLUDE A PLAN VIEW SHOWING ALL THE PROPOSED EXCAVATIONS AND THE DISTANCES FROM THE CENTERLINE OF TRACK. THE PLANS MUST BE COMPLETE AND ACCURATELY DESCRIBE THE WORK. THE PLANS AND CALCULATIONS MUST BE APPROVED BY THE RAILWAY AND THE ENGINEER BEFORE EXCAVATION BEGINS.

LOADING LIMITATIONS: NO PART OF THE STRUCTURE SHALL BE SUBJECTED TO UNIT STRESSES THAT EXCEED 136.5% OF ALLOWABLE UNIT STRESSES AS DEFINED IN THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DUE EITHER TO DEMOLITION, ERECTION OR CONSTRUCTION METHOD OR TO THE USE OR MOVEMENT OF DEMOLITION OR ERECTION EQUIPMENT ON OR ACROSS THE STRUCTURE. STRUCTURAL ANALYSIS COMPUTATIONS, BY A OHIO REGISTERED PROFESSIONAL ENGINEER, SHOWING THE ALLOWABLE STRESSES AND THE MAXIMUM STRESSES PRODUCED BY THE CONTRACTOR'S METHODS OR EQUIPMENT SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE START OF THE WORK.

UPON COMPLETION OF THE WORK ON RAILROAD PROPERTY, THE CONTRACTOR SHALL REQUEST THE ENGINEER TO ARRANGE A FINAL INSPECTION OF THE PROJECT WITH THE RAILWAY'S DIVISION ENGINEER OR HIS AUTHORIZED REPRESENTATIVE.

PAYMENT: THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF 202, AND TO THE SATISFACTION OF THE ENGINEER.

CONSTRUCTION CLEARANCE OF 10 FEET HORIZONTALLY FROM THE CENTER OF TRACKS AND 21 FEET VERTICALLY FROM A POINT LEVEL WITH THE TOP OF THE HIGHER RAIL SHALL BE MAINTAINED AT ALL TIMES.

ITEM 503 - COFFERDAMS, CRIBS AND SHEETING, AS PER PLAN:

TEMPORARY SHEETING SHALL BE USED WHERE NECESSARY TO ACCOMPLISH THE PROPOSED CONSTRUCTION. THE DESIGN OF THE TEMPORARY SHEETING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, BE DESIGNED BY AN OHIO-REGISTERED PROFESSIONAL ENGINEER, AND CONFORM TO 501.05. FIVE COPIES OF THE DRAWINGS SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL. CONSTRUCTION OF THE SHEETING SHALL NOT BEGIN UNTIL AFTER WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE DIRECTOR.

THE TEMPORARY SHEETING SHALL BE REMOVED PRIOR TO COMPLETION OF WORK.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 304 AGGREGATE BASE PLACED IN 6 INCH LIFTS AND COMPACTED IN ACCORDANCE WITH 304.05.

ALL EXCAVATION BETWEEN STA. 9+75.24 AND STA. 10+24.76 IS TO BE INCLUDED IN THE LUMP SUM BID FOR ITEM 503

REESTABLISHING DITCHES TO MATCH EXISTING CONDITIONS SHALL BE INCLUDED WITH UNCLASSIFIED EXCAVATION, AS PER PLAN.

ITEM 516 - ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE), 7"x11"x1 3/4", AS PER PLAN:

1/8" THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 7 INCHES BY 11 INCHES SHALL BE PLACED UNDER THE ELASTOMERIC BEARING PADS. PAYMENT WILL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 516 ELASTOMERIC BEARING PADS.

PILES TO BEDROCK

PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK. REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL INCHES WITH A MINIMUM RESISTANCE OF 20 BLOWS PER INCH OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS. THE CONTRACTOR IS RESPONSIBLE FOR SELECTING THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE ULTIMATE BEARING VALUE IS 138.6 TONS PER PILE FOR THE ABUTMENT PILES.

ABUTMENT PILES:

- 16 PILES 21 FEET LONG, ESTIMATED LENGTH (FORWARD VERTICAL)
- 40 PILES 22 FEET LONG, ESTIMATED LENGTH (FORWARD BATTERED)
- 16 PILES 23 FEET LONG, ESTIMATED LENGTH (REAR VERTICAL)
- 40 PILES 24 FEET LONG, ESTIMATED LENGTH (REAR BATTERED)

- 16 PILES OF ORDER LENGTH 26 FEET LONG (FORWARD VERTICAL)
- 40 PILES OF ORDER LENGTH 27 FEET LONG (FORWARD BATTERED)
- 16 PILES OF ORDER LENGTH 28 FEET LONG (REAR VERTICAL)
- 40 PILES OF ORDER LENGTH 29 FEET LONG (REAR BATTERED)

56 SPLICES

ITEM SPECIAL - STRUCTURE, MISC.: PROTECTION OF UTILITIES

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION.

THE CONTRACTOR IS REMINDED THAT ALL THE EXISTING COMPONENTS AND SYSTEMS TO REMAIN IN USE DURING AND AFTER THIS PROJECT REQUIRE PROTECTION. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO:

- WATER MAIN
- GAS MAIN
- CEI

IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THESE SYSTEMS AND COMPONENTS FOR THE DURATION OF THE CONTRACT. THE CONTRACTOR IS DIRECTED TO SECTION 107 AND PARTICULARLY TO SECTION 107.12 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM SPECIAL - STRUCTURE, MISC.: PROTECTION OF UTILITIES. THIS SHALL INCLUDE ALL NECESSARY TOOLS, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO SUCCESSFULLY PERFORM THIS ITEM OF WORK.

ITEM SPECIAL - VANDAL PROTECTION FENCE, 6 FEET STRAIGHT, COATED FABRIC

ANCHOR BOLTS FOR VANDAL PROTECTION FENCE SHALL BE CAST IN PLACE WITH THE CONCRETE PARAPET, THE COLOR OF THE FABRIC SHALL BE COATED BLACK. SEE SHEET 2/22 FOR LIMITS OF PLACEMENT.

DESIGN AGENCY: Baker
2000 EAST NINTH STREET, SUITE 1220
CLEVELAND, OHIO 44115

DATE: 8-29-02
RBP
STRUCTURE FILE NUMBER: 4302503

DRAWN: CDC
REVISED: REVISED

DESIGNED: CDC
CHECKED: SCT

STRUCTURE NOTES 1 OF 7
BRIDGE NO. LAK-20-1807
OVER NORFOLK SOUTHERN FAIRPORT LINE.

LAK-20-18.07

2 / 22

43
72