

SUMMARY OF BIG BUILD 4A PART 1 / 4H PART 2 / 6A PART 3 / 4B PART 4 / 1301R PART 5 MOT SEQUENCING			
STEP	MOT PHASE	*COORDINATION OF OVERLAP WORK	MOT SCHEMATIC PLAN SHEET # (SEE PART # PLANS FOR DETAILS)
1	4A PART 1 PHASE 1		67/1151
2	4A PART 1 PHASE 2	STRUCTURE 1405C (PART 2)	68/1151
3	4A PART 1 PHASE 3		69/1151
4	6A PART 3 PHASE 1		102/702 - 103/702
5	6A PART 3 PHASE 2	STRUCTURES 1322L (PART 3), 1323C (PART 3), 1301L (PART 5), 4B PART 4 PHASE 1	125/702 - 126/702
	1301 PART 5 (1301L)		12/137
6	6A PART 3 PHASE 3	STRUCTURE 1301R (PART 5), 4B PART 4 PHASE 1, 4B PART 4 PHASE 2	168/702 - 169/702
	1301 PART 5 (1301R)		12/137
7	4B PART 4 PHASE 1		41/855 , 78/855 , 79/855
8	4B PART 4 PHASE 2		41/855 , 80/855
9	4B PART 4 PHASE 3		41/855 , 81/855 , 82/855 , 83/855
10	4B PART 4 PHASE 4		41/855 , 84/855 , 85/855
11	4B PART 4 PHASE 5		41/855

I-70 EB AVAILABILITY CLAUSE

PHYSICAL CONSTRUCTION WORK FOR THE PART 1 MAINTENANCE OF TRAFFIC PHASE 1 PLAN PAGES 67 SCHEMATIC AND PAGES 98-112 WHERE I-70 EB AND I-71 NB TRAFFIC ARE MAINTAINED ONTO RAMP C5/C6 CANNOT START UNTIL JUNE 1, 2024. IN ADDITION, I-70 EB STRUCTURES 1321 R, 1358 R, AND 1373 R ALSO CANNOT START UNTIL JUNE 1, 2024. AFTER JUNE 1, 2024, THE CURRENT ONGOING PROJECT PID 105523 WILL HAVE TRAFFIC INTO THAT PROJECT'S PHASE 4 MOT SCHEME AS DESIGNED ON PID 105523'S PH. 4R PLAN PAGES 175-183. FURTHER, STRUCTURE FRA-70-1405C REAR ABUTMENT CONSTRUCTION AND THE CLOSURE OF THE EXISTING I-70 EB RAMP TO LIVINGSTON/4TH CANNOT START UNTIL RAMP C5 IS FULLY CONSTRUCTED IN PROJECT PID 105523 AND OPEN TO TRAFFIC TO FULTON STREET. STRUCTURE FRA-70-1405C ABUTMENT CONSTRUCTION CANNOT START UNTIL RAMP C5/1390C/1395C IS FULLY CONSTRUCTED WITH THE NEW CITY OF COLUMBUS DOP DUCT BANK CONSTRUCTED AND ACTIVE ON 1395C IN PROJECT PID 105523 AND THE 4R 105523 CONTRACTOR REMOVES THE TEMPORARY CITY OF COLUMBUS DOP ELECTRICAL POLES/LINES CROSSING I-70 ADJACENT TO THE 1405C HIGH STREET CROSSING. THESE RESTRICTIONS INCLUDE MAINTENANCE OF TRAFFIC INSTALLATIONS IN EXCESS OF 24 HOURS. DATA COLLECTION INCLUDING BUT NOT LIMITED TO FIELD SURVEYS AND GEOTECHNICAL INVESTIGATIONS ARE PERMITTED UPON SIGNED CONTRACT SUBJECT TO ENVIRONMENTAL AND THIRD-PARTY RESTRICTIONS.

I-70 WB AVAILABILITY CLAUSE

PHYSICAL CONSTRUCTION WORK FOR THE PART 3 MAINTENANCE OF TRAFFIC PHASE 2 I-70 WB BRIDGES CONSTRUCTION PLAN PAGES 125 SCHEMATIC AND PAGES 133-151 CANNOT START UNTIL NOVEMBER 1, 2025. AFTER NOVEMBER 1, 2025, THE CURRENT ONGOING PROJECT PID 105523 WILL HAVE TRAFFIC INTO THAT PROJECT'S PHASE 3B MOT SCHEME AS DESIGNED ON PID 105523'S PH. 6R PLAN PAGES 236-246 WHERE THE I-70 WB MOVEMENT TO I-71 SB WILL BE ON THE 15.03L STRUCTURE. THESE RESTRICTIONS INCLUDE MAINTENANCE OF TRAFFIC INSTALLATIONS IN EXCESS OF 24 HOURS. DATA COLLECTION INCLUDING BUT NOT LIMITED TO FIELD SURVEYS AND GEOTECHNICAL INVESTIGATIONS ARE PERMITTED UPON SIGNED CONTRACT SUBJECT TO ENVIRONMENTAL AND THIRD-PARTY RESTRICTIONS.

MOT CLOSURE NOTES, REFERENCES AND TABLES

PARTS 1 AND 2: SEE SHEETS 54/1151 - 63/1151
PART 3: SEE SHEETS 44/702 - 54/702
PART 4: SEE SHEETS 41/855 - 48/855
PART 5: SEE SHEETS 12/137

* ORIGINAL MOT PHASING BASED ON FOLLOWING PROJECT ORDER - PROJECT 4A-4H / 6A / 1301 / 4B - OVERLAP AREAS IDENTIFIED IN TABLE

SB-315 TO I-70 EB RAMP CLOSURE

COMPLETION OF CRITICAL WORK IS DEFINED AS HAVING SR-315 SB TO I-70 EB OPEN TO TRAFFIC. LANES MUST BE AVAILABLE FOR USE IN THEIR FINAL DESIGN, FINAL WIDTH, AND WITH ALL MARKINGS, RPM'S, AND SAFETY FEATURES INSTALLED.

IF THE WORK IS NOT COMPLETED BY THE INTERIM COMPLETION DATE, THE CONTRACTOR WILL BE SUBJECT TO DISINCENTIVES AS IDENTIFIED IN THE TABLE.

SR-315 SB TO I-70 EB RAMP CLOSURE					
DESCRIPTION OF CRITICAL WORK	INTERIM COMPLETION DATE	TIME PERIOD	DISINCENTIVE \$ PER DAY	INCENTIVE \$ PER TIME PERIOD	MAXIMUM INCENTIVE \$
SR-315 SB TO I-70 EB RAMP CLOSURE STEPS 1 THROUGH 5 ALL PHASES OF PART 1 (4A) PART 3 (6A) PHASE 1 & 2	6/1/2028	DAY	\$5000 PER DAY	N/A	N/A

NO.	DESCRIPTION	REV. BY	DATE
1	ADDED NOTES	CWL	10-2-23
7	ADDED NOTES	CWL	11-17-23
8	ADDED NOTES	CWL	11-22-23
14	ADDED NOTES & TABLE	CWL	12-28-23
17	REVISED NOTES & TABLE	CWL	1-12-24

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATION" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED:	7-17-15
AS-2-15	REVISED:	1-18-19
EXJ-4-87	REVISED:	1-19-18
GSD-1-19	REVISED:	1-15-21
PCB-91	REVISED:	7-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	DATED	1-20-23
867	DATED	4-15-22
894	DATED	4-16-21

DESIGN DATA

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

HL-93
FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT

DESIGN STRESSES

MASS CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE

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

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

CONSTRUCTION CONSTRAINTS:

FILL THE VOID CREATED BY EXCAVATION FOR THE ABUTMENT FOOTING WITH TYPE B GRANULAR MATERIAL, 703.16.C. AFTER THE FOOTING AND THE BREASTWALL HAVE BEEN CONSTRUCTED, FILL THE VOID BEHIND EACH ABUTMENT UP TO THE BEAM SEAT ELEVATION AND FROM THE BEAM SEAT UP ON A 1:1 SLOPE TO THE SUBGRADE ELEVATION PRIOR TO CONSTRUCTING THE BACK WALL AND SETTING THE GIRDERS ON THE ABUTMENT.

STRUCTURE GROUNDING

GROUND THE PROPOSED BRIDGE ACCORDING TO THE REQUIREMENTS OF ODOT STD. DWG. HL-50.21 - STRUCTURE GROUNDING. THE FOLLOWING BRIDGE COMPONENTS SHALL BE CONNECTED TO THE GROUNDING SYSTEM: ALL STRUCTURAL STEEL, UTILITY SUPPORTS, AND LIGHT POLES.

NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-5-23
7	NOTES REVISED	CWL	11-17-23

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTION OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.31 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 IN.

A MAXIMUM SPACING OF OVERHANG FALSEWORK OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDLE OF 65 IN.

FOUNDATION BEARING RESISTANCE

REAR ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 5.24 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 7.41 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 18.09 KIPS PER SQUARE FOOT.

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 3.93 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 5.26 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 16.42 KIPS PER SQUARE FOOT.

FORWARD ABUTMENT FOUNDATION, AS DESIGNED PRODUCE A MAXIMUM FACTORED LOAD OF 620 KIPS AT EACH DRILLED SHAFT. THIS LOAD IS RESISTED BY TIP RESISTANCE ONLY. THE FACTORED RESISTANCE DEVELOPED BY THE DRILLED SHAFT TIP IS 1,023 KIPS.

ITEM 503-COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

THE DESIGN SHOWN ON THE HIGH STREET PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN. ALL SHORING BEYOND THE LATERAL LIMITS OF THE HIGH STREET BRIDGE SHALL BE INCLUDED FOR PAYMENT WITH THE CAPS.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

FINISH TOP OF BACKWALL IN LOCATIONS ADJACENT TO SIDEWALKS WITH A BUFF WASH FINISH PER THE STRUCTURE AESTHETIC PLANS.

AFTER CONDUITS ARE PLACED THROUGH THE UTILITY BLOCKOUTS IN THE ABUTMENT BACKWALLS, FILL THE VOIDS USING NON-SHRINK MORTAR CONFORMING TO CMS 705.22.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN:

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SEE STRUCTURE AESTHETIC PLANS FOR DETAILS.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

THE COLOR FOR THE IZEU FINISH COAT FOR ALL STRUCTURAL STEEL SHALL BE FEDERAL COLOR No. 17038 (BLACK)

ABBREVIATIONS

ABUT.	ABUTMENT	SPA.	SPACES
BRG.	BEARING	EA.	EACH
BOT.	BOTTOM	P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
BTWN.	BETWEEN	MIN.	MINIMUM
CONST. JT., C.J.	CONSTRUCTION JOINT	ADDIT.	ADDITIONAL
B.S.	BOTH SIDES	FRWD.	FORWARD
N.S.	NEAR SIDE	SPL.	SPLICE
F.S.	FAR SIDE	CLR.	CLEAR
SER.	SERIES	P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
TYP.	TYPICAL	N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE
EQ.	EQUAL		
DIM.	DIMENSION		

NO.	DESCRIPTION	REV. BY	DATE
9	NOTES REVISED	CWL	12-2-23
17	NOTES REVISED	CWL	1-12-24

ITEM 524 - DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS PER ITEM 524 EXCEPT THE FOLLOWING: THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.

ALL DRILLED SHAFTS SHALL BE CONSTRUCTED FULL DEPTH FROM THE REQUIRED BOTTOM ELEVATION TO THE PROPOSED TOP PLAN ELEVATION USING THE TEMPORARY CASING CONSTRUCTION METHOD OF HOLE EXCAVATION AS DETAILED IN C&MS 524.04.C. NO OTHER METHODS OF HOLE EXCAVATION SHALL BE PERMITTED.

THE CONSTRUCTION TOLERANCES FOR TANGENT SHAFT INSTALLATION UNDER SECTION 524.14 SHALL BE WITHIN 1/2" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT. DO NOT ALLOW THE VERTICAL ALIGNMENT OF THE SHAFT TO VARY FROM THE REQUIRED ALIGNMENT BY MORE THAN 1/16" PER FOOT OF DEPTH. TOLERANCES ARE NOT ADDITIVE.

THE DRILLED SHAFT CAP AND P.E.J.F. JOINTS SHALL BE ACCURATELY PLACED ACCORDING TO THE DESIGN PLAN. IF THE LOCATIONS OF THE INSTALLED DRILLED SHAFTS VARY FROM THE DESIGN PLAN AND RESULT IN THE P.E.J.F. IN THE DRILLED SHAFT CAP FALLING OVER A DRILLED SHAFT INSTEAD OF BETWEEN SHAFTS, ALL VERTICAL SHAFT BARS INTERFERING WITH, OR CROSSING, THE CAP JOINT SHALL BE CUT FLUSH WITH THE TOP OF THE DRILLED SHAFT SO THAT BOTH SIDES OF THE CAP ARE NOT TIED TOGETHER BY SHAFT REINFORCING STEEL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING ANY REINFORCING STEEL. THE DEPARTMENT WILL CONSIDER THIS WORK AS INCIDENTAL AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

ITEM 524-DRILLED SHAFTS, MISC.: CSL TESTING, 96" DIAMETER SHAFT

PERFORM INTEGRITY TESTING ON ONE OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT BY CROSSHOLE SONIC LOGGING (CSL). PERFORM CSL TESTING PER ASTM D6760, "STANDARD TEST METHOD FOR INTEGRITY TESTING OF CONCRETE DEEP FOUNDATIONS BY ULTRASONIC CROSSHOLE TESTING," AND PER THE PROJECT SPECIAL PROVISIONS

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON ALL OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER SUPPLEMENTAL SPECIFICATION 894

**ITEM SPECIAL-STRUCTURES: CITY OF COLUMBUS DUCT BANK COMPLETE
ITEM SPECIAL-STRUCTURES: CITY OF COLUMBUS (DEPARTMENT OF TECH)
DUCT BANK COMPLETE
ITEM SPECIAL -STRUCTURES: ODOT DUCT BANK COMPLETE**

GENERAL:

THIS WORK INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO INSTALL A COMPLETE DUCT BANK FOR USE BY CITY OF COLUMBUS, CITY OF COLUMBUS (DEPARTMENT OF TECH), AND ODOT DUCT BANK COMPLETE EXTENDING ACROSS THE BRIDGE AND THROUGH EACH ABUTMENT WALL, AS SHOWN IN THE PLANS. THE INSTALLATION SHALL INCLUDE CONDUIT RACK, FITTINGS, GALVANIZED STEEL SPLIT CASING PIPE SLEEVE, GALVANIZED STEEL CONDUIT THROUGH ABUTMENT WALLS, AND ALL OTHER INCIDENTALS AND GROUT TO COMPLETE THE INSTALLATION. FIBERGLASS CONDUIT AND ASSOCIATED FITTINGS AND COUPLINGS SHALL BE INCLUDED WITH ITEM 625 FIBERGLASS REINFORCED, ATTACHED TO STRUCTURE. STRUCTURAL STEEL SUPPORT MEMBERS CONNECTED TO BRIDGE BEAMS ARE PAID UNDER ITEM 513 STRUCTURAL STEEL MEMBERS, LEVEL UF. ADJACENT BURIED CONDUIT CONNECTED TO THE GALVANIZED STEEL CONDUIT AT BRIDGE APPROACH AREAS ARE PAID UNDER SEPARATE ITEMS.

MATERIALS

SUPPORT RACK, ACCESSORIES, ETC. SHALL BE FURNISHED BY THE SAME MANUFACTURER AND BE DESIGNED TO WORK TOGETHER AS A SYSTEM WITH THE FIBERGLASS CONDUIT. STEEL CONDUIT THROUGH ABUTMENT WALLS SHALL BE HOT-DIPPED GALVANIZED SCHEDULE 40 PIPE. GROUT USED AT ABUTMENT BACKWALLS SHALL BE NONSHRINK, NON-METALLIC TYPE.

BRIDGE CONDUIT AND ACCESSORIES SHALL BE FURNISHED BY ONE OF THE FOLLOWING OR APPROVED EQUAL.

UNITED FIBERGLASS OF AMERICA
2145 AIRPARK DRIVE
SPRINGFIELD, OHIO 45503
(937)-325-7305

OSBURN ASSOCIATES, INC
11931 STATE ROUTE 93N
LOGAN, OHIO 43138
(740) 385-6869

THE GALVANIZED STEEL SPLIT CASING PIPE SHALL BE FURNISHED BY:

PITTSBURGH PIPE & SUPPLY CORP.
170 HAMPTON AVENUE
SAINT LOUIS, MO 63139
1 (800) 325-2653
OR APPROVED EQUAL.

INSTALLATION:

INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS & INDUSTRY STANDARDS.

BASIS OF PAYMENT

THE DEPARTMENT WILL PAY LUMP SUM FOR ALL WORK, LABOR, MATERIAL, EQUIPMENT, & INCIDENTALS TO INSTALL A COMPLETE DUCT BANK FOR "ITEM SPECIAL - STRUCTURES: DUCT BANK COMPLETE"

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

SPECIAL DESIGN SPECIFICATIONS

THIS BRIDGE REQUIRED THE USE OF A TWO-DIMENSIONAL MODEL USING THE GRILLAGE DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MDX. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD WERE THE STEEL GIRDERS AND CROSSFRAMES. THE LOADS WERE DISTRIBUTED AS FOLLOWS:

DEAD LOAD DISTRIBUTION: ALL DEAD LOADS (COPOSITE AND NON-COPOSITE) INCLUDING WEIGHT OF GIRDERS, CROSSFRAMES, DECK, PARAPETS, PLANTER WALLS, SIDEWALKS, BENCHES, SOIL, TRELLIS, AND OTHER LANDSCAPING FEATURES WERE DISTRIBUTED TO TENTH POINTS ON EACH GIRDER USING THE TRIBUTARY AREA METHOD.

LIVE LOAD DISTRIBUTION: DISTRIBUTION FACTORS FOR LIVE LOAD MOMENT AND SHEAR AT INTERIOR AND EXTERIOR MEMBERS VARIED ACROSS THE STRUCTURE AND WERE BASED ON AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 4.

PEDESTRIAN LOAD DISTRIBUTION: A PEDESTRIAN LOAD WAS APPLIED TO THE ENTIRE DECK SURFACE EXCEPT FOR THE AREA UNDER THE PARAPET PLANTERS AND A FICTICIOUS 12-FOOT WIDE SINGLE LANE ON EACH CAP.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

EXJ-4-87 REVISED: 1-19-18
GSD-1-19 REVISED: 1-15-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800 DATED: 1-20-23
867 DATED: 4-15-22
894 DATED: 4-16-21

LRFD LOAD MODIFIERS

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

LIVE LOAD MAINTENANCE VEHICLE H-10 TRUCK
NO FUTURE WEARING SURFACE (FWS)
SATURATED SOIL UNIT WEIGHT OF 0.200 KIPS/CU.FT.
PRECAST AND CAST-IN-PLACE CONCRETE UNIT WEIGHT OF 0.150 KIPS/CU.FT.
TRELLIS COLUMN WEIGHT OF 2.2 KIPS.
SCREEN WALL UNIT WEIGHT OF 0.180 KIPS/FT.
MATURE ELM TREE UNIT WEIGHT OF 3.3 KIPS/EACH
MATURE SPRUCE TREE UNIT WEIGHT OF 1.0 KIPS/EACH
PEDESTRIAN LIVE LOAD OF 0.065 KIPS/SQ.FT.

DESIGN STRESSES

CONCRETE CLASS QC4 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
2 1/2" CONCRETE COVER
CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE

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

CONSTRUCTION CONSTRAINTS

FILL THE VOID CREATED BY EXCAVATION FOR THE ABUTMENT FOOTING WITH TYPE B GRANULAR MATERIAL, 703.16.C. AFTER THE FOOTING AND THE BREASTWALL HAVE BEEN CONSTRUCTED, FILL THE VOID BEHIND EACH ABUTMENT UP TO THE BEAM SEAT ELEVATION AND FROM THE BEAM SEAT UP ON A 1:1 SLOPE TO THE SUBGRADE ELEVATION PRIOR TO CONSTRUCTING THE BACK WALL AND SETTING THE GIRDERS ON THE ABUTMENT.

FOUNDATION BEARING RESISTANCE

REAR ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 5.57 (WEST CAP) AND 4.97 (EAST CAP) KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 7.71 (WEST CAP) AND 6.80 (EAST CAP) KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 18.09 KIPS PER SQUARE FOOT.

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 6.78 (WEST CAP) AND 6.66 (EAST CAP) KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 9.26 (WEST CAP) & 9.10 (EAST CAP) KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 16.42 KIPS PER SQUARE FOOT.

FORWARD ABUTMENT FOUNDATION, AS DESIGNED PRODUCE A MAXIMUM FACTORED LOAD OF 724 KIPS AT THE WEST CAP OF EACH DRILLED SHAFT AND 718 KIPS AT THE EAST CAP OF EACH DRILLED SHAFT. THIS LOAD IS RESISTED BY TIP RESISTANCE ONLY. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 1,023 KIPS.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.
AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.5 KIPS.
A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".
A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".
A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

STRUCTURE GROUNDING

GROUND THE PROPOSED BRIDGE ACCORDING TO THE REQUIREMENTS OF ODOT STD. DWG. HL-50.21 - STRUCTURE GROUNDING. THE FOLLOWING BRIDGE COMPONENTS SHALL BE CONNECTED TO THE GROUNDING SYSTEM: ALL STRUCTURAL STEEL, UTILITY SUPPORTS, STEEL SCREEN WALL COMPONENTS, STEEL TRELLISES, STEEL FIN WALLS, METAL BENCHES, ALUMINUM PLANTERS, AND LIGHT POLES.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

THE DESIGN SHOWN ON THE HIGHT STREET BRIDGE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN. ALL SHORING BEYOND THE LATERAL LIMITS OF THE HIGH STREET BRIDGE SHALL BE INCLUDED FOR PAYMENT WITH THE CAPS.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

PROVIDE BUFF WASH FINISH ON EDGES AND BOTTOM OF DECK OVERHANGS AS DETAILED IN THE PLANS.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN

ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
ITEM 607 - FENCE, MISC.: WALL MOUNTED TYPE A (W/ VANDAL MESH)

SEE STRUCTURE AESTHETIC PLANS FOR DETAILS.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

FINISH TOP OF BACKWALL IN LOCATIONS ADJACENT TO SIDEWALKS WITH A BUFF WASH FINISH PER THE STRUCTURE AESTHETIC PLANS.

AFTER CONDUITS ARE PLACED THROUGH THE UTILITY BLOCKOUTS IN THE ABUTMENT BACKWALLS, FILL THE VOIDS USING NON-SHRINK MORTAR CONFORMING TO CMS 705.22.

ITEM 511 - CLASS QC2 CONCRETE, MISC.: EXPANSION DEVICE SLAB

THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO INSTALL EXPANSION DEVICE SLABS AROUND EACH CAP AND AS DETAILED IN THE PLANS. CONCRETE FOR THIS ITEM REQUIRES QC/QA. FINISH TOP OF EXPANSION DEVICE SLAB WITH A BUFF WASH FINISH AND PLACE CONTROL JOINTS PER THE AESTHETIC ENHANCEMENT PLANS. ALL WORK SHALL BE IN ACCORDANCE WITH CMS 511. MEASUREMENT FOR ALL WORK DESCRIBED ABOVE SHALL BE CUBIC YARDS OF CONCRETE, AND PAYMENT SHALL BE INCLUDED AT THE CONTRACT UNIT BID PRICE FOR ITEM 511 - CLASS QC2 CONCRETE, MISC.: EXPANSION DEVICE SLAB.

ITEM 511 - CLASS QC2 CONCRETE, MISC.: TRELLIS & STAIR BASES

THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO INSTALL CAST-IN-PLACE TRELLIS & STAIR BASES AS DETAILED IN THE PLANS. TRELLIS & STAIR BASE REINFORCING STEEL IS INCLUDED WITH THIS ITEM FOR PAYMENT, AND CONCRETE FOR THIS ITEM REQUIRES QC/QA. ALL WORK SHALL BE IN ACCORDANCE WITH CMS 509 & 511. MEASUREMENT FOR ALL WORK DESCRIBED ABOVE SHALL BE CUBIC YARDS OF CONCRETE, AND PAYMENT SHALL BE INCLUDED AT THE CONTRACT UNIT BID PRICE FOR ITEM 511 - TRELLIS & STAIR BASES.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

ALL NEW STRUCTURAL STEEL SHALL BE PAINTED USING THE IZEU COATING SYSTEM. THE URETHANE TOP COAT SHALL BE TINTED TO MEET FEDERAL COLOR No. 17038 (BLACK).

ITEM 524 - DRILLED SHAFTS, 96" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS PER ITEM 524 EXCEPT THE FOLLOWING:
THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.

ALL DRILLED SHAFTS SHALL BE CONSTRUCTED FULL DEPTH FROM THE REQUIRED BOTTOM ELEVATION TO THE PROPOSED TOP PLAN ELEVATION USING THE TEMPORARY CASING CONSTRUCTION METHOD OF HOLE EXCAVATION AS DETAILED IN C&MS 524.04.C. NO OTHER METHODS OF HOLE EXCAVATION SHALL BE PERMITTED.

THE CONSTRUCTION TOLERANCES FOR TANGENT SHAFT INSTALLATION UNDER SECTION 524.14 SHALL BE WITHIN 1/2" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT. DO NOT ALLOW THE VERTICAL ALIGNMENT OF THE SHAFT TO VARY FROM THE REQUIRED ALIGNMENT BY MORE THAN 1/16" PER FOOT OF DEPTH. TOLERANCES ARE NOT ADDITIVE.

THE DRILLED SHAFT CAP AND P.E.J.F. JOINTS SHALL BE ACCURATELY PLACED ACCORDING TO THE DESIGN PLAN. IF THE LOCATIONS OF THE INSTALLED DRILLED SHAFTS VARY FROM THE DESIGN PLAN AND RESULT IN THE P.E.J.F. IN THE DRILLED SHAFT CAP FALLING OVER A DRILLED SHAFT INSTEAD OF BETWEEN SHAFTS, ALL VERTICAL SHAFT BARS INTERFERING WITH, OR CROSSING, THE CAP JOINT SHALL BE CUT FLUSH WITH THE TOP OF THE DRILLED SHAFT SO THAT BOTH SIDES OF THE CAP ARE NOT TIED TOGETHER BY SHAFT REINFORCING STEEL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING ANY REINFORCING STEEL. THE DEPARTMENT WILL CONSIDER THIS WORK AS INCIDENTAL AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

ITEM 524 - DRILLED SHAFTS, MISC.: CSL TESTING, 96" DIAMETER SHAFT

PERFORM INTEGRITY TESTING ON ONE OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT ON BOTH THE EAST AND WEST CAP, BY CROSSHOLE SONIC LOGGING (CSL). PERFORM CSL TESTING PER ASTM D6760, "STANDARD TEST METHOD FOR INTEGRITY TESTING OF CONCRETE DEEP FOUNDATIONS BY ULTRASONIC CROSSHOLE TESTING," AND PER THE PROJECT SPECIAL PROVISIONS

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON ALL OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER SUPPLEMENTAL SPECIFICATION 894

ABBREVIATIONS:

ABUT.	ABUTMENT
BRG.	BEARING
B.S.	BOTH SIDES
C.I.P.	CAST-IN-PLACE
CLR.	CLEAR
CONC.	CONCRETE
CONST.	CONSTRUCTION
DIA.	DIAMETER
DIM.	DIMENSION
EL.	ELEVATION
EXIST.	EXISTING
EXP.	EXPANSION
FIX.	FIXED
FRWD.	FORWARD
F.S.	FAR SIDE OR FIELD SPLICE
JT.	JOINT
N.P.C.P.P.	NON-PERFORATED CORRUGATED PLASTIC PIPE
N.S.	NEAR SIDE
P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F.	PREFORMED EXPANSION JOINT FILLER
PT.	POINT
SPA.	SPACED OR SPACES
STD. DWG.	STANDARD DRAWING
TYP.	TYPICAL
W/	WITH
W.P.	WORKING POINT

NO.	DESCRIPTION	REV. BY	DATE
6	NOTE REVISED	RSN	11-5-23
7	ADDED QC/QA	CWL	11-17-23
17	NOTE REVISED	CWL	1-12-24

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DESIGN AGENCY

GPD GROUP, Inc.
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DATE

4-21-23

REVIEWED

DGN

DRAWN

MOJ

DESIGNED

MOJ

CHECKED

RHC

STRUCTURE FILE NUMBER

2510032/2510034

GENERAL NOTES

BRIDGE NO. FRA-70-1405E/W - CAPS
S. HIGH STREET (U.S. 23D) OVER I-70/71

FRA-70-14.05C

PID No. 105596

2/52

258

395



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PHASE 2 SEQUENCE OF CONSTRUCTION

PHASE 2 (SHEETS 127 - 152)

1) CLOSE THE RAMP FROM 315 SB TO I-70 EB AND DETOUR TRAFFIC. DETOUR TRAFFIC USING I-670 EB TO I-71 SB TO I-70 EB TO COMPLETE THE DETOUR.

2) CLOSE RAMP TO I-70 EB FROM W. MOUND STREET, AND DETOUR TRAFFIC. TRAFFIC SHALL BE DETOURED USING CENTRAL AVE. TO SULLIVANT AVE.

3) CREATE MERGE CONDITION FROM W. BROAD STREET TO I-70 EB, AND SHIFT EB TRAFFIC TO THE TEMPORARY TRAFFIC PATTERN AND PLACE PORTABLE BARRIER.

4) CLOSE RAMP FROM I-70 WB TO SR 315 NB AND DETOUR TRAFFIC USING I-71 NB TO I-670 WB TO S.R. 315 NB TO COMPLETE THE DETOUR. MAXIMUM DURATION OF THE CLOSURE SHALL BE 360 DAYS.

5) CLOSE RAMP FROM I-70 WB TO RICH/TOWN ST AND DETOUR TRAFFIC USING EXIT 98A TOWARDS CENTRAL AVE./SULLIVANT AVE., THEN LEFT ON CENTRAL AVE. TO RICH ST. TO COMPLETE THE DETOUR. MAXIMUM DURATION OF THE CLOSURE SHALL BE 360 DAYS.

6) CLOSE THE RIGHT LANE OF I-71 SB. SHIFT I-71 SB ONTO THE SHOULDER. PLACE PORTABLE BARRIER AND SHIFT I-70 WB TRAFFIC TO CROSSOVERS AND ONTO THE EXISTING I-70 EB ROADWAY

7) BEGIN CONSTRUCTION ON I-70 WB BRIDGES AND APPROACHES.

8) CONSTRUCT THE I-70 WB TO SR-315 NB CONTRAFLOW CROSSOVER.

9) CLOSE AND DETOUR SHORT ST. FOR CONSTRUCTION.

10) PRIOR TO PROCEEDING TO PHASE 2A, COMPLETE THE I-70 WB MOT ROADWAY TIE-IN WITH A NIGHT TIME CLOSURE AND DETOUR OF I-71 SB ACCORDING TO THE TYPICAL DETOUR ON SHEET 99.

PHASE 2A (SHEETS 153 - 156)

1) MAINTAIN THE TRAFFIC PATTERNS FROM PHASE 2 EXCEPT AS DETAILED BELOW.

2) SHIFT I-71 SB ONTO THE PORTION OF THE ROADWAY COMPLETED IN PHASE 2 AND CONSTRUCT THE REMAINING HALF OF I-71 SB.

PHASE 2B (SHEETS 156A - 156F)

1) MAINTAIN THE TRAFFIC PATTERNS FROM PHASE 2 EXCEPT AS DETAILED BELOW.

2) OPEN RAMP BC IN THE CONTRAFLOW DIRECTION (I-70 WB TO SR-315 NB) UTILIZING THE SR-315 CROSSOVER CONSTRUCTED IN PHASE 2.

PHASE 2C (SHEETS 156G - 156L)

1) MAINTAIN THE TRAFFIC PATTERNS FROM PHASE 2B EXCEPT AS DETAILED BELOW.

2) WHEN I-70 WB IS COMPLETE AND READY TO BE OPENED, CLOSE THE CONTRAFLOW RAMP BC IN ORDER TO REMOVE THE CROSSOVER INSTALLED ON SR-315.

DISINCENTIVE AMOUNTS FOR TYPICAL ROAD CLOSURES AND LANE RESTRICTIONS						
ACTIVITY	AFFECTED ROADWAY(S)	RESTRICTION TYPE	SHEET	RESTRICTION TIME	TIMES	DISINCENTIVE
RAMP BC BRIDGE REMOVAL AND RAMP CONSTRUCTION. SR 315 CROSSOVER CONSTRUCTION	SR 315 SB TO I-70 EB RAMP*	ROAD CLOSURE	127	SEE SHEET 53 IN PART 1 4A		
SR 315 CROSSOVER REMOVAL						
I-70 WB CONSTRUCTION	W. MOUND ST. TO I-70 EB RAMP	ROAD CLOSURE	128	540 CALENDAR DAYS	1	\$9,000 PER DAY
I-70 WB CONSTRUCTION	I-70 WB TO SR 315 NB RAMP	ROAD CLOSURE	132	180 CALENDAR DAYS	1	\$5,000 PER DAY
I-70 WB CONSTRUCTION	W. MOUND ST. TO I-70 WB RAMP	ROAD CLOSURE	132A	540 CALENDAR DAYS	1	\$9,000 PER DAY
SHORT STREET CONSTRUCTION	SHORT STREET FROM MOUND ST. TO LIBERTY ST.	ROAD CLOSURE	152	60 CALENDAR DAYS	1	\$1,500 PER DAY

* RAMP WILL BE UTILIZED FOR I-70 WB TO SR 315 NB TRAFFIC BETWEEN CLOSURES.
ALL CLOSURES ARE TO BE CONSECUTIVE DAYS. CLOSURES MAY NOT BE SPLIT INTO SEPARATE CLOSURES.
NOTE: SEE SHEET 53 FOR DISINCENTIVE AMOUNTS ASSOCIATED WITH ANY MAINLINE ROADWAY OR SYSTEM RAMP OVERNIGHT CLOSURE REQUIRED IN THIS PHASE.

SPECIAL HAUL NOTIFICATIONS FOR PHASE RESTRICTIONS

I-70 EB TO I-71 SB
LANE WIDTH: 11'
AVAILABLE PAVEMENT WIDTH: 13.0'

I-70 WB TO I-71 SB
LANE WIDTH: 11'
AVAILABLE PAVEMENT WIDTH: 12.6'

I-71 SB MAINLINE
LANE WIDTH: 11'
AVAILABLE PAVEMENT WIDTH: 13.0'

SEE SHEET 45 FOR NOTIFICATION OF TRAFFIC RESTRICTIONS NOTE AND TABLE.

PROPOSED ROADWAY DESCRIPTIONS	
ROAD NAME	DESCRIPTION
TRANS RAMP D3 N	I-71 SB TO RICH & TOWN
TRANS RAMP D3 W	I-70 WB (WEST SIDE)
TRANS I-70 WB (WEST)	I-70 WB TO SR 315 NB
TRANS I-70 WB (EAST)	I-70 WB (EAST SIDE)
RAMP D7	W. MOUND STREET TO I-70 WB

TEMPORARY ROADWAY DESCRIPTIONS	
PLAN VIEW LABEL	DESCRIPTION
TR-ID	TEMP CROSSOVER (WEST END)
TR-IE	TEMP CROSSOVER (EAST END)

NO.	DESCRIPTION	REV. BY	DATE
14	NOTE AND TABLE REVISED	JML	12/20/23
17	NOTE AND TABLE REVISED	ACW	1/12/24

CALCULATED TAG CHECKED JML

PHASE 2 - SEQUENCE OF CONSTRUCTION

FRA-70-13.10

126
702

ITEM 511 - CLASS QC1 CONCRETE, MISC.: CAST-IN-PLACE CONCRETE WALL (4W16)

THIS ITEM SHALL INCLUDE THE CONSTRUCTION OF THE CONCRETE WALL AT THE LOCATIONS INDICATED IN THE PLANS FOR WALLS 4W16 AND 4W17. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH CMS 511. THE SHEAR STUDS INSTALLATION SHALL BE IN ACCORDANCE WITH ITEM 513.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE APPROPRIATE CONCRETE ITEM BY THE NUMBER OF CUBIC YARDS DETERMINED BY CALCULATIONS FROM PLAN DIMENSION, IN PLACE, COMPLETED AND ACCEPTED.

PAYMENT: ALL LABOR EQUIPMENT AND MATERIALS INCLUDING THE SHEAR STUDS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 511 - CLASS QC1 CONCRETE, MISC.: CAST-IN-PLACE CONCRETE WALL.

ITEM 511 - CLASS QC1 CONCRETE, MISC.: DRILLED SHAFT CAP WITH QC/QA (4W16, 4W17, 4W18)

THIS ITEM SHALL INCLUDE THE CONSTRUCTION OF THE REINFORCED CONCRETE DRILLED SHAFT CAP, RETAINING WALL, AND COPING ABOVE THE PRECAST FACADE PANELS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH CMS 511.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THE APPROPRIATE CONCRETE ITEM BY THE NUMBER OF CUBIC YARDS DETERMINED BY CALCULATIONS FROM PLAN DIMENSION, IN PLACE, COMPLETED AND ACCEPTED.

PAYMENT: ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 511-CLASS QC1 CONCRETE, MISC.: DRILLED SHAFT CAP WITH QC/QA.

ITEM 524 - DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN: (4W18)

ITEM 524 - DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN: (4W16, 4W17)

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS PER ITEM 524 EXCEPT THE FOLLOWING:
THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.

ALL DRILLED SHAFTS SHALL BE CONSTRUCTED FULL DEPTH FROM THE REQUIRED BOTTOM ELEVATION TO THE PROPOSED TOP PLAN ELEVATION USING THE TEMPORARY CASING CONSTRUCTION METHOD OF HOLE EXCAVATION AS DETAILED IN C&MS 524.04.C. NO OTHER METHODS OF HOLE EXCAVATION SHALL BE PERMITTED.

THE CONSTRUCTION TOLERANCES FOR TANGENT SHAFT INSTALLATION UNDER SECTION 524.14 SHALL BE WITHIN 1/2" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT. DO NOT ALLOW THE VERTICAL ALIGNMENT OF THE SHAFT TO VARY FROM THE REQUIRED ALIGNMENT BY MORE THAN 1/16" PER FOOT OF DEPTH. TOLERANCES ARE NOT ADDITIVE.

THE DRILLED SHAFT CAP AND P.E.J.F. JOINTS SHALL BE ACCURATELY PLACED ACCORDING TO THE DESIGN PLAN. IF THE LOCATIONS OF THE INSTALLED DRILLED SHAFTS VARY FROM THE DESIGN PLAN AND RESULT IN THE P.E.J.F. IN THE DRILLED SHAFT CAP FALLING OVER A DRILLED SHAFT INSTEAD OF BETWEEN SHAFTS, ALL VERTICAL SHAFT BARS INTERFERING WITH OR CROSSING, THE CAP JOINT SHALL BE CUT FLUSH WITH THE TOP OF THE DRILLED SHAFT SO THAT BOTH SIDES OF THE CAP ARE NOT TIED TOGETHER BY SHAFT REINFORCING STEEL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING ANY REINFORCING STEEL. THE DEPARTMENT WILL CONSIDER THIS WORK AS INCIDENTAL AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

ITEM 524 - DRILLED SHAFTS, 72" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN (4W16)

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS PER ITEM 524 EXCEPT THE FOLLOWING:
THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.

ALL DRILLED SHAFTS SHALL BE CONSTRUCTED FULL DEPTH FROM THE REQUIRED BOTTOM ELEVATION TO THE PROPOSED TOP PLAN ELEVATION USING THE TEMPORARY CASING CONSTRUCTION METHOD OF HOLE EXCAVATION AS DETAILED IN C&MS 524.04.C. NO OTHER METHODS OF HOLE EXCAVATION SHALL BE PERMITTED.

THE CONSTRUCTION TOLERANCES FOR TANGENT SHAFT INSTALLATION UNDER SECTION 524.14 SHALL BE WITHIN 1/2" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT. DO NOT ALLOW THE VERTICAL ALIGNMENT OF THE SHAFT TO VARY FROM THE REQUIRED ALIGNMENT BY MORE THAN 1/16" PER FOOT OF DEPTH. TOLERANCES ARE NOT ADDITIVE.

AT SHAFT NUMBERS 57, 58, 74, AND 75, STEEL CASING WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE WALL SHALL BE LEFT IN PLACE AND BE INCLUDED FOR PAYMENT WITH ITEM 524.

ITEM SPECIAL - STRUCTURE, MISC.: PRECAST WALL PANELS (4W13, 4W14, 4W15)

THIS BID ITEM CONSISTS OF PRECAST PANELS MANUFACTURED AND CONSTRUCTED IN ACCORDANCE WITH THIS SPECIFICATION AND DESIGNED IN ACCORDANCE WITH THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY AASHTO, AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

DESIGN STRESSES:

CONCRETE - COMPRESSIVE STRENGTH 4,000 PSI
REINFORCING STEEL - GRADE 60

MATERIALS - CONCRETE:

THE CONCRETE FOR THE WALL SECTIONS SHALL BE COMPOSED OF PORTLAND CEMENT, FINE & COARSE AGGREGATES, ADMIXTURES, AND WATER. PORTLAND CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION C150, TYPE I, II, OR III. THE AIR ENTRAINING ADMIXTURE SHALL CONFORM TO AASHTO M154. THE CONCRETE SHALL CONTAIN 6% ±2% ENTRAINING AIR, AND SLUMP SHALL BE MAINTAINED WITHIN THE RANGE OF 1" TO 4". THE SLUMP MAY BE INCREASED TO 7" PROVIDED THE INCREASE IS ACHIEVED BY THE ADDITION OF A CHEMICAL WATER-REDUCING ADMIXTURE APPROVED BY THE ENGINEER.

MATERIALS - REINFORCING AND HARDWARE:

REINFORCEMENT SHALL CONSIST OF WELDED WIRE FABRIC CONFORMING TO ASTM A185 OR A497, OR DEFORMED BILLET-STEEL BARS CONFORMING TO ASTM A615, A616, OR A617, GRADE 60.

SHOP DRAWING REQUIREMENTS:

THE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO MANUFACTURE. THE SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING:

- ALL STRUCTURAL DESIGN AND LOADING INFORMATION.
- A PLAN VIEW.
- ALL ELEVATION VIEWS.
- ALL DIMENSIONS.

MANUFACTURING SHALL NOT BEGIN UNTIL WRITTEN APPROVAL OF THE SUBMITTED SHOP DRAWINGS HAS BEEN RECEIVED.

TESTING AND INSPECTION:

ACCEPTABILITY OF THE CONCRETE FOR THE PRECAST PANELS WILL BE DETERMINED ON THE BASIS OF COMPRESSION TESTS, CERTIFICATIONS AND VISUAL INSPECTION. THE CONCRETE STRENGTH REQUIREMENTS FOR THE PRECAST PANELS SHALL BE CONSIDERED ATTAINED REGARDLESS OF CURING AGE WHEN COMPRESSION TEST RESULTS INDICATE STRENGTH WILL CONFORM TO 28-DAY SPECIFICATIONS AS STATED BELOW. THE MANUFACTURER SHALL FURNISH FACILITIES AND PERFORM ALL NECESSARY SAMPLING AND TESTING IN AN EXPEDITIOUS AND SATISFACTORY MANNER. PANELS UTILIZING TYPE I OR II CEMENT SHALL BE CONSIDERED ACCEPTABLE FOR PLACEMENT IN THE WALL WHEN 7-DAY INITIAL STRENGTHS EXCEED 85% OF 28-DAY REQUIREMENTS. PANELS UTILIZING TYPE III CEMENT SHALL BE CONSIDERED ACCEPTABLE FOR PLACEMENT IN THE WALL PRIOR TO 28 DAYS ONLY WHEN COMPRESSIVE STRENGTH TEST RESULTS INDICATE THAT THE STRENGTH EXCEEDS THE 28-DAY SPECIFICATION.

MANUFACTURE:

THE AGGREGATES, CEMENT, AND WATER SHALL BE PROPORTIONED AND MIXED IN A BATCH MIXER TO PRODUCE A HOMOGENEOUS CONCRETE MEETING THE STRENGTH REQUIREMENTS OF THESE NOTES. THE PROPORTION OF PORTLAND CEMENT IN THE MIXTURE SHALL NOT BE LESS THAN 564 POUNDS PER CUBIC YARD OF CONCRETE.

THE WALL SECTIONS SHALL BE CURED FOR A SUFFICIENT LENGTH OF TIME SO THAT THE CONCRETE WILL DEVELOP THE SPECIFIED COMPRESSIVE STRENGTH IN 28 DAYS OR LESS. ANY ONE OF THE METHODS OF CURING OR COMBINATION THEREOF SHALL BE USED:

STEAM CURING - THE SECTIONS MAY BE LOW PRESSURE, STEAM CURED BY A SYSTEM THAT WILL MAINTAIN A MOIST ATMOSPHERE.

WATER CURING - THE SECTIONS MAY BE WATER CURED BY ANY METHOD THAT WILL KEEP THE SECTIONS MOIST.

THE FORMS USED IN MANUFACTURE SHALL BE SUFFICIENTLY RIGID AND ACCURATE TO MAINTAIN THE SECTION DIMENSIONS WITHIN THE PERMISSIBLE VARIATIONS GIVEN IN THESE NOTES. ALL CASTING SURFACES SHALL BE OF SMOOTH MATERIAL.

THE WALL SECTIONS SHALL BE STORED IN SUCH A MANNER TO PREVENT CRACKING OR DAMAGES.

THE FRONT FACE OF THE REINFORCED CONCRETE PANELS SHALL HAVE A SMOOTH CONCRETE FINISH AND INCORPORATE THE PATTERNS SHOWN IN THE STRUCTURE AESTHETIC DETAIL PLANS. CAULKING BETWEEN PRECAST PANELS SHALL BE IN ACCORDANCE WITH THE PLAN DETAILS. THE BACK SIDE OF THE REINFORCED CONCRETE PANELS SHALL HAVE AN UNFORMED SURFACE FINISH AND SHALL BE ROUGH SCREED TO ELIMINATE OPEN POCKETS OF AGGREGATE AND SURFACE DISTORTIONS IN EXCESS OF 1/4".

ALL PANELS SHALL BE MANUFACTURED WITH ALL PANEL DIMENSIONS WITHIN 1/4"

COMPRESSIVE STRENGTH:

ACCEPTANCE OF THE CONCRETE PANELS WITH RESPECT TO COMPRESSIVE STRENGTH WILL BE DETERMINED ON THE BASIS OF PRODUCTION LOTS. A PRODUCTION LOT IS DEFINED AS A GROUP OF PANELS THAT WILL BE REPRESENTED BY A SINGLE COMPRESSIVE STRENGTH SAMPLE AND WILL CONSIST OF EITHER 6 PANELS OR A SINGLE DAY'S PRODUCTION, WHICHEVER IS LESS.

DURING THE PRODUCTION OF THE CONCRETE PANELS, THE MANUFACTURER WILL RANDOMLY SAMPLE THE CONCRETE IN ACCORDANCE WITH ASTM C172. A SINGLE COMPRESSIVE STRENGTH SAMPLE, CONSISTING OF A MINIMUM OF FOUR CYLINDERS, WILL BE RANDOMLY SELECTED FOR EVERY PRODUCTION LOT.

CYLINDERS FOR COMPRESSIVE STRENGTH TESTS SHALL BE 6" DIA. X 1'-0" SPECIMENS PREPARED IN ACCORDANCE WITH ASTM C31. FOR EVERY COMPRESSIVE STRENGTH SAMPLE, A MINIMUM OF 2 CYLINDERS WILL BE CURED IN THE SAME MANNER AS THE PANELS AND TESTED AT APPROXIMATELY 7 DAYS. THE AVERAGE COMPRESSIVE STRENGTH OF THESE CYLINDERS, WHEN TESTED IN ACCORDANCE WITH ASTM C39, WILL PROVIDE A TEST RESULT WHICH WILL DETERMINE THE INITIAL STRENGTH OF THE CONCRETE. IN ADDITION, 2 CYLINDERS SHALL BE CURED IN ACCORDANCE WITH ASTM C31 AND TESTED AT 28 DAYS. THE AVERAGE COMPRESSIVE STRENGTH OF THESE TWO CYLINDERS, WHEN TESTED IN ACCORDANCE WITH ASTM C39, WILL PROVIDE A COMPRESSIVE STRENGTH TEST RESULT WHICH WILL DETERMINE THE COMPRESSIVE STRENGTH OF THE PRODUCTION LOT.

IF THE INITIAL STRENGTH TEST RESULTS INDICATE A COMPRESSIVE STRENGTH IN EXCESS OF 4,000 PSI, THEN THESE TEST RESULTS WILL BE UTILIZED AS THE COMPRESSIVE STRENGTH TEST RESULT FOR THE PRODUCTION LOT AND THE REQUIREMENT FOR TESTING AT 28 DAYS WILL BE WAIVED FOR THAT PARTICULAR PRODUCTION LOT.

REJECTION:

PANELS SHALL BE SUBJECT TO REJECTION BECAUSE OF FAILURE TO MEET ANY OF THE REQUIREMENTS SPECIFIED ABOVE. IN ADDITION, ANY OR ALL OF THE FOLLOWING DEFECTS MAY BE SUFFICIENT CAUSE FOR REJECTION:

- DEFECTS THAT INDICATE IMPERFECT MOLDING.
- DEFECTS INDICATING HONEYCOMBED OR OPEN TEXTURED CONCRETE.
- DEFECTS IN THE PHYSICAL CHARACTERISTICS OF THE CONCRETE, SUCH AS BROKEN OR CHIPPED CONCRETE.
- STAINED FORM FACE, DUE TO EXCESS FORM OIL OR OTHER CONTAMINATIONS.
- SIGNS OF AGGREGATE SEGREGATION.
- BROKEN OR CRACKED CORNERS.
- LIFTING INSERTS NOT USABLE.
- EXPOSED REINFORCING STEEL.
- INSUFFICIENT CONCRETE COMPRESSIVE STRENGTH.

THE ENGINEER WILL DECIDE IF AN ATTEMPT MAY BE MADE TO REPAIR A DEFECTIVE PANEL. THE CONTRACTOR OR MANUFACTURER SHALL MAKE THE REPAIRS. IF THE REPAIRS ARE MADE TO THE ENGINEER'S SATISFACTION, THE PANEL WILL BE ACCEPTABLE.

MARKING:

THE DATE OF MANUFACTURE, THE PRODUCTION LOT NUMBER, AND THE PIECE MARK SHALL BE CLEARLY SCRIBED ON THE BACK SURFACE OF EACH PANEL.

CONCRETE LEVELING PAD:

THE CONCRETE LEVELING PAD (MUD SLAB) SHALL BE CONSTRUCTED AS SHOWN IN THE PLANS WITH CONCRETE HAVING A STRENGTH THAT IS NOT LESS THAN 3,500 PSI AND SHALL HAVE SUFFICIENT STRENGTH TO ADEQUATELY SUPPORT THE PANELS AT THE BOTTOM OF THE WALL IN A LEVEL POSITION DURING INSTALLATION. THE PAD SHALL BE CURED A MINIMUM OF 24 HOURS BEFORE PLACING WALL PANELS ON THE LEVELING PAD.

FOUNDATION PREPARATION:

PRIOR TO WALL CONSTRUCTION, THE FOUNDATION, IF NOT IN ROCK, SHALL BE LEVELED AND ROLLED WITH A SMOOTH WHEEL VIBRATORY ROLLER. ANY FOUNDATION SOILS FOUND TO BE UNSUITABLE SHALL BE REMOVED AND REPLACED, AS DIRECTED BY THE ENGINEER.

WALL ERECTION:

PANELS ARE HANDLED BY MEANS OF A LIFTING DEVICE CONNECTED TO THE LIFTING INSERT WHICH IS CAST INTO THE UPPER EDGE OR BACK SIDE OF THE PANELS. ALL PANELS SHALL BE BRACED TO RESIST THE TEMPORARY CONSTRUCTION LOADS INCLUDING WIND LOADS, PRIOR TO FOOTING CONSTRUCTION.

PAYMENT:

PAYMENT FOR ITEM SPECIAL - STRUCTURE, MISC.: PRECAST WALL PANELS COVERS ALL LABOR, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK DESCRIBED ABOVE.

ITEM 511 - CONCRETE, MISC.: CLASS QC1 CONCRETE WITH QC/QA, FOOTING (FOR OPTION B)

THIS ITEM CONSISTS OF ALL STRUCTURAL DESIGN, PREPARING ENGINEERED DRAWINGS AND CONSTRUCTION OF CAST-IN-PLACE CONCRETE FOOTINGS ASSOCIATED WITH PRECAST CONCRETE RETAINING WALL STEMS FOR OPTION B OF WALLS 4W13, 4W14 AND 4W15. THIS WORK SHALL INCLUDE ALL REQUIRED EXCAVATION FOR THE FOOTING AND FURNISHING AND INSTALLING ALL REINFORCING STEEL AND CONCRETE. ALL WORK SHALL BE IN ACCORDANCE WITH CMS ITEMS 503, 509 AND 511. DESIGN AND SUBMITTAL OF ENGINEERED DRAWINGS SHALL BE IN ACCORDANCE WITH CMS 501.

PAYMENT WILL BE MADE AT THE LUMP SUM PRICE BID FOR ASSOCIATED WALL FOOTINGS UNDER ITEM 511 - CONCRETE, MISC.: CLASS QC1 CONCRETE WITH QC/QA, FOOTING (FOR OPTION B) AND INCLUDE ALL ENGINEERING DESIGN, LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS FOR CONSTRUCTION OF FOOTER.

NO.	DESCRIPTION	DATE	REV. BY
3	REVISED ITEM DESCRIPTION	10-23-23	DJC
6	REVISED NOTES	11-6-23	RSN
8	ADDED NOTES	11-22-23	CWL
17	ADDED NOTES	1-12-24	CWL

01-2015-2015370 VFR 96053 STRUCTURES GENERAL SHEETS 96053_WALL NOTES.DGN
 1/12/2024 11:29:20 AM
 ODOT\B15TD_USER

DESIGN AGENCY
GPD GROUP
 1500 Westwood Drive, Suite 200, Coon Rapids, MN 55433
 (763) 429-1000

DATE
 4-21-23

REVIEWED
 DGN

DRAWN
 MOJ

DESIGNED
 MOJ

STRUCTURE FILE NUMBER

CHECKED
 DJC

REVISIONS

RETAINING WALL GENERAL NOTES

DRILLED SHAFT AND/OR PRECAST PANEL WALLS

FRA - 70 - 14.05

PID No. 96053

5 / 6

304
855

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATION" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

AS-1-15 REVISED: 7-17-15
 AS-2-15 REVISED: 1-18-19
 EXJ-4-87 REVISED: 1-19-18
 GSD-1-19 REVISED: 1-15-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800 DATED 1-20-23
 894 DATED 4-16-21

DESIGN DATA

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

HL-93
 FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS PER SQUARE FOOT

DESIGN STRESSES

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
 CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
 CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
 REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
 STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
 2 1/2" CONCRETE COVER
 CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE

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

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTANTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

CONSTRUCTION CONSTRAINTS:

FILL THE VOID CREATED BY EXCAVATION FOR THE ABUTMENT FOOTING WITH TYPE B GRANULAR MATERIAL, 703.16.C. AFTER THE FOOTING AND THE BREASTWALL HAVE BEEN CONSTRUCTED, FILL THE VOID BEHIND EACH ABUTMENT UP TO THE BEAM SEAT ELEVATION AND FROM THE BEAM SEAT UP ON A 1:1 SLOPE TO THE SUBGRADE ELEVATION PRIOR TO CONSTRUCTING THE BACKWALL AND SETTING THE GIRDERS ON THE ABUTMENT.

STRUCTURE GROUNDING

GROUND THE PROPOSED BRIDGE ACCORDING TO THE REQUIREMENTS OF ODOT STD. DWG. HL-50.21 - STRUCTURE GROUNDING. THE FOLLOWING BRIDGE COMPONENTS SHALL BE CONNECTED TO THE GROUNDING SYSTEM: ALL STRUCTURAL STEEL, UTILITY SUPPORTS, AND LIGHT POLES.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTION OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.54 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 IN.

A MAXIMUM SPACING OF OVERHANG FALSEWORK OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDLE OF 65 IN.

FOUNDATION BEARING RESISTANCE

REAR ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 6.00 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 8.67 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 16.76 KIPS PER SQUARE FOOT.

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 6.10 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 9.60 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 20.88 KIPS PER SQUARE FOOT.

6 FORWARD ABUTMENT FOUNDATION, AS DESIGNED PRODUCE A MAXIMUM FACTORED LOAD OF 226 KIPS AT EACH DRILLED SHAFT. THIS LOAD IS RESISTED BY TIP RESISTANCE ONLY. THE FACTORED RESISTANCE DEVELOPED BY THE DRILLED SHAFT TIP IS 530 KIPS.

6 ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
 THE NEED TO PROVIDE TEMPORARY SHORING BEHIND THE DRILLED SHAFTS TO CONSTRUCT THE CONCRETE CAP SHALL BE DETERMINED BY THE CONTRACTOR BASED ON THEIR MEANS AND METHODS.
 DESIGN, LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO INSTALL THE TEMPORARY SHORING SHALL BE COMPENSATED UNDER ITEM 503 -COFFERDAM AND EXCAVATION BRACING, AS PER PLAN.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

FINISH TOP OF BACKWALL IN LOCATIONS ADJACENT TO SIDEWALKS WITH A BUFF WASH FINISH PER THE STRUCTURE AESTHETIC PLANS.

AFTER CONDUITS ARE PLACED THROUGH THE UTILITY BLOCKOUTS IN THE ABUTMENT BACKWALLS, FILL THE VOIDS USING NON-SHRINK MORTAR CONFORMING TO CMS 705.22.

**ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN:
 ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
 ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)**

SEE STRUCTURE AESTHETIC PLANS FOR DETAILS.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

ALL NEW STRUCTURAL STEEL SHALL BE PAINTED USING THE IZEU COATING SYSTEM. THE URETHANE TOP COAT SHALL BE TINTED TO MEET FEDERAL COLOR No. 17038 (BLACK)

ITEM 518 - PIPE HORIZONTAL CONDUCTOR, AS PER PLAN (8")

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING 8" DIAMETER PIPE HORIZONTAL CONDUCTOR WITHIN THE BRIDGE SUPERSTRUCTURE AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE REQUIREMENTS OF CMS ITEM 518. THIS WORK INCLUDES THE CONDUCTOR PIPE, ELBOWS, CLEANOUTS, REDUCER FITTINGS, EXPANSION JOINT COUPLING, PIPE HANGERS AND ALL OTHER INCIDENTALS TO COMPLETE THE INSTALLATION TO THE SATISFACTION OF THE ENGINEER. PIPE HANGER ASSEMBLIES SHALL BE HOT-DIP GALVANIZED STEEL. ALL MATERIALS SHALL BE SUBMITTED FOR REVIEW IN ACCORDANCE WITH CMS 501.04.

THE METHOD OF MEASUREMENT SHALL BE BY THE FOOT ALONG THE CENTERLINE OF MAIN CONDUCTOR PIPE. PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER FOOT AND SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS AND INCIDENTALS FOR A COMPLETE FUNCTIONING SYSTEM.

ITEM 524 - DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN

6 THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS PER ITEM 524 EXCEPT THE FOLLOWING:
 THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.

ALL DRILLED SHAFTS SHALL BE CONSTRUCTED FULL DEPTH FROM THE REQUIRED BOTTOM ELEVATION TO THE PROPOSED TOP PLAN ELEVATION USING THE TEMPORARY CASING CONSTRUCTION METHOD OF HOLE EXCAVATION AS DETAILED IN C&MS 524.04.C. NO OTHER METHODS OF HOLE EXCAVATION SHALL BE PERMITTED.

THE CONSTRUCTION TOLERANCES FOR TANGENT SHAFT INSTALLATION UNDER SECTION 524.14 SHALL BE WITHIN 1/2" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT. DO NOT ALLOW THE VERTICAL ALIGNMENT OF THE SHAFT TO VARY FROM THE REQUIRED ALIGNMENT BY MORE THAN 1/16" PER FOOT OF DEPTH. TOLERANCES ARE NOT ADDITIVE.

STEEL BEAMS SHALL BE ACCURATELY SET AT THE CENTER OF THE DRILLED SHAFT IMMEDIATELY BEFORE PLACING CONCRETE.

THE DRILLED SHAFT CAP AND P.E.J.F. JOINTS SHALL BE ACCURATELY PLACED ACCORDING TO THE DESIGN PLAN. IF THE LOCATIONS OF THE INSTALLED DRILLED SHAFTS VARY FROM THE DESIGN PLAN AND RESULT IN THE P.E.J.F. IN THE DRILLED SHAFT CAP FALLING OVER A DRILLED SHAFT INSTEAD OF BETWEEN SHAFTS, ALL VERTICAL SHAFT BARS INTERFERING WITH, OR CROSSING, THE CAP JOINT SHALL BE CUT FLUSH WITH THE TOP OF THE DRILLED SHAFT SO THAT BOTH SIDES OF THE CAP ARE NOT TIED TOGETHER BY SHAFT REINFORCING STEEL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING ANY REINFORCING STEEL. THE DEPARTMENT WILL CONSIDER THIS WORK AS INCIDENTAL AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

ITEM 625 - LIGHT POLE ANCHOR BOLTS, MISC.: LIGHT POLE ANCHOR BOLT ASSEMBLIES EMBEDDED IN CONCRETE BRIDGE DECK

FURNISH ONE ANCHOR BOLT ASSEMBLY FOR EACH LIGHT POLE MOUNTED ON THE BRIDGE. EACH ASSEMBLY INCLUDES A STEEL PLATE AND ALL STEEL ANCHOR RODS, LEVELING RODS, NUTS, AND WASHERS AS SHOWN ON THE DRAWINGS OR AS REQUIRED FOR INSTALLATION. FABRICATE THE ASSEMBLY IN ACCORDANCE WITH CMS 513 AND 730. GALVANIZE THE ASSEMBLY AFTER FABRICATION IN ACCORDANCE WITH CMS 711.02. ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO INSTALL EACH POLE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 625 - LIGHT POLE ANCHOR BOLTS, MISC.: LIGHT POLE ANCHOR BOLT ASSEMBLIES EMBEDDED IN CONCRETE BRIDGE DECK.

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON ALL OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER SUPPLEMENTAL SPECIFICATION 894

ASBESTOS ABATEMENT AND NOTIFICATION

ASBESTOS SURVEYS OF THE FRA-33-1747C BRIDGE SCHEDULED FOR REPLACEMENT WAS CONDUCTED BY CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALISTS. COPIES OF THE ASBESTOS INSPECTION REPORTS ARE INCLUDED IN THE PLAN SET FOR THIS PROJECT.

THE ASBESTOS SURVEYS DETERMINED THAT 55 SQUARE FEET OF ASBESTOS CONTAINING MATERIAL IS PRESENT ON THE BRIDGE DECK IN EXCESS OF THE ALLOWABLE REGULATORY LIMITS AND REQUIRES ABATEMENT.

THE CONTRACTOR SHALL ENSURE THAT ASBESTOS CONTAINING MATERIALS DO NOT BECOME FRITABLE (BROKEN UP OR DISPERSED) AND THAT NO VISIBLE FIBER EMISSIONS WILL OCCUR. ADDITIONALLY, THE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL SHALL COMPLY WITH CHAPTER 3745-20 OF THE OHIO ADMINISTRATIVE CODE, THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHA) AND APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS (29 CFR 1926.1101).

THE CONTRACTOR SHALL SUBMIT A COMPLETED ELECTRONIC NOTIFICATION OF DEMOLITION AND RENOVATION FORM (NDRF), APPLICABLE FEES, AND THE ASBESTOS INSPECTION REPORT TO THE OEPA AT LEAST 10 DAYS PRIOR TO ANY DEMOLITION ACTIVITY, RENOVATION ACTIVITY, OR BOTH. SUBMIT THE NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT USING THE OEPA BUSINESS CENTER. SUBMIT ONE ELECTRONIC PDF COPY TO THE ENGINEER. THE ENGINEER WILL PROVIDE ONE COPY TO THE DISTRICT ENVIRONMENTAL COORDINATOR AT MARCI.LININGER@DOT.OHIO.GOV.

BASIS OF PAYMENT - THE CONTRACTOR SHALL FURNISH ALL THE FEES, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE OEPA NOTIFICATION OF DEMOLITION AND RENOVATION FORM AND PROPERLY REMOVE, ENCAPSULATE, HANDLE, TRANSPORT AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN A LANDFILL LICENSED BY THE LOCAL HEALTH DEPARTMENT AND PERMITTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF AIR POLLUTION CONTROL TO ACCEPT ASBESTOS CONTAINING MATERIAL. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID OF LUMP SUM.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

NO.	DESCRIPTION	DATE	REV. BY
6	REVISED NOTES	11-6-23	RSN
8	REVISED NOTES	11-21-23	CWL
17	REVISED NOTES	1-12-24	CWL

01-2015-2015370\FRA\96055\STRUCTURES\FRA093_1747C\96055\093_1174CON001.DGN
 1/12/2024
 11:12:44 AM
 ODOT\B1STD\USER

DESIGN AGENCY: **GPD GROUP**
 1801 Waterfront Drive, Columbus, OH 43215
 (614) 221-0751
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DATE	4-21-23
REVIEWED	DGN
STRUCTURE FILE NUMBER	2501554
DRAWN	RPR
CHECKED	DJC

GENERAL NOTES - 1
 BRIDGE NO. FRA-33-1747C
 S. 3RD STREET (U.S. 33) OVER I-70/71

FRA-70-14.05
PID No. 96053

3 / 42
 561
 855

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017 AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

SPECIAL DESIGN SPECIFICATIONS

THIS BRIDGE REQUIRED THE USE OF A THREE-DIMENSIONAL FINITE ELEMENT MODEL TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MIDAS. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD WERE THE STEEL GIRDERS AND CROSSFRAMES. THE LOADS WERE DISTRIBUTED AS FOLLOWS:

DEAD LOAD DISTRIBUTION: FOR GREEN CAP OPTION. ALL DEAD LOADS (COMPOSITE AND NON-COMPOSITE) INCLUDING WEIGHT OF GIRDERS, CROSSFRAMES, DECK, PARAPETS, PLANTER WALLS, SIDEWALKS, BENCHES, SOIL, TRELLIS, AND OTHER LANDSCAPING FEATURES WERE INPUT AS LINEAR VARYING DISTRIBUTED LOADS WITH MAGNITUDES CALCULATED USING THE TRIBUTARY AREA METHOD AT TENTH POINTS OF EACH SPAN ALONG EACH GIRDER.

LIVE LOAD DISTRIBUTION: DISTRIBUTION FACTORS FOR LIVE LOAD MOMENT AND SHEAR AT INTERIOR AND EXTERIOR MEMBERS VARIED ACROSS THE STRUCTURE AND WERE BASED ON AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 4.

PEDESTRIAN LOAD DISTRIBUTION: A PEDESTRIAN LOAD WAS APPLIED TO THE ENTIRE DECK SURFACE EXCEPT FOR THE AREA UNDER THE PARAPET PLANTERS. PEDESTRIAN LOAD WAS NOT APPLIED SIMULTANEOUSLY WITH LIVE LOAD.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

- EXJ-4-87 REVISED: 1-19-18
- GSD-1-19 REVISED: 1-15-21
- PCB-91 REVISED 7-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

- 800 DATED 1-20-23
- 894 DATED 4-16-21

LRFD LOAD MODIFIERS

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2007.

DESIGN LOADING

- GREEN CAP OPTION
- LIVE LOAD MAINTENANCE VEHICLE H-10 TRUCK
- NO FUTURE WEARING SURFACE (FWS)
- SATURATED SOIL UNIT WEIGHT OF 0.130 KIPS/CU.FT.
- AGGREGATE FILL UNIT WEIGHT OF 0.100 KIPS/CU.FT.
- PRECAST AND CAST-IN-PLACE CONCRETE UNIT WEIGHT OF 0.150 KIPS/CU.FT.
- TRELLIS COLUMN WEIGHT OF 2.5 KIPS.
- SCREEN WALL UNIT WEIGHT OF 0.095 KIPS/FT.
- MATURE TREE UNIT WEIGHT OF 2.1 KIPS/EACH
- PEDESTRIAN LIVE LOAD OF 0.090 KIPS/SQ.FT.

FOR BUILDING OPTION
THE SUPERIMPOSED DEAD LOAD IS 140 PSF, UTILITY LOAD 80 #/LF PER GIRDER AND LIVE LOAD IS 90 PSF FOR ENTIRE SLAB OF THE CAP.

THE DESIGN OF THE BRIDGE STRUCTURAL COMPONENTS WERE CONTROLLED BY THE GREEN CAP OPTION. THE BUILDING ENGINEER SHALL PERFORM AN INDEPENDENT ANALYSIS BASED ON THEIR COLUMN LAYOUT AND MAKE ANY NECESSARY MODIFICATIONS TO THE GIRDERS AT NO COST TO THE OWNER, IF NEEDED.

DESIGN STRESSES

- CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
- CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
- CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
- REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
- STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

- EPOXY COATED REINFORCING STEEL
- 2 1/2" CONCRETE COVER
- CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE

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

CONSTRUCTION CONSTRAINTS

FILL THE VOID CREATED BY EXCAVATION FOR THE ABUTMENT FOOTING WITH TYPE B GRANULAR MATERIAL, 703.16.C. AFTER THE FOOTING AND THE BREASTWALL HAVE BEEN CONSTRUCTED, FILL THE VOID BEHIND EACH ABUTMENT UP TO THE BEAM SEAT ELEVATION AND FROM THE BEAM SEAT UP ON A 1:1 SLOPE TO THE SUBGRADE ELEVATION PRIOR TO CONSTRUCTING THE BACK WALL AND SETTING THE GIRDERS ON THE ABUTMENT.

FOUNDATION BEARING RESISTANCE

WEST CAP REAR ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 8.08 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 11.31 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 22.45 KIPS PER SQUARE FOOT.

WEST CAP PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 5.99 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 8.29 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 36.93 KIPS PER SQUARE FOOT.

EAST CAP REAR ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 8.35 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 11.71 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 17.06 KIPS PER SQUARE FOOT.

EAST CAP PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 5.99 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 8.29 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 21.09 KIPS PER SQUARE FOOT.

FORWARD ABUTMENT FOUNDATION, AS DESIGNED PRODUCE A MAXIMUM FACTORED LOAD OF 410 KIPS AT EACH DRILLED SHAFTHIS LOAD IS RESISTED BY TIP RESISTANCE ONLY. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 530 KIPS.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.
AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.5 KIPS.
A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".
A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".
A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

STRUCTURE GROUNDING

GROUND THE PROPOSED BRIDGE ACCORDING TO THE REQUIREMENTS OF ODOT STD. DWG. HL-50.21 - STRUCTURE GROUNDING. THE FOLLOWING BRIDGE COMPONENTS SHALL BE CONNECTED TO THE GROUNDING SYSTEM: ALL STRUCTURAL STEEL, UTILITY SUPPORTS, STEEL SCREEN WALL COMPONENTS, STEEL TRELLISES, STEEL FIN WALLS, METAL BENCHES, ALUMINUM PLANTERS, AND LIGHT POLES.

ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN

FINISH TOP OF EXPANSION DEVICE SLAB WITH A BUFF WASH FINISH PER THE STRUCTURE AESTHETIC PLANS.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

FINISH TOP OF BACKWALL IN LOCATIONS ADJACENT TO SIDEWALKS WITH A BUFF WASH FINISH PER THE STRUCTURE AESTHETIC PLANS.

AFTER CONDUITS ARE PLACED THROUGH THE UTILITY BLOCKOUTS IN THE ABUTMENT BACKWALLS, FILL THE VOIDS USING NON-SHRINK MORTAR CONFORMING TO CMS 705.22.

- ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)
- ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
- ITEM 607 - FENCE, MISC.: WALL MOUNTED TYPE A (W/ VANDAL MESH)

SEE STRUCTURE AESTHETIC PLANS FOR DETAILS.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

ALL NEW STRUCTURAL STEEL SHALL BE PAINTED USING THE IZEU COATING SYSTEM. THE URETHANE TOP COAT SHALL BE TINTED TO MEET FEDERAL COLOR No. 17038 (BLACK).

ITEM 518 - PIPE HORIZONTAL CONDUCTOR, AS PER PLAN (6")

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING 6" DIAMETER PIPE HORIZONTAL CONDUCTOR WITHIN THE BRIDGE SUPERSTRUCTURE AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE REQUIREMENTS OF CMS ITEM 518. THIS WORK INCLUDES THE CONDUCTOR PIPE, ELBOWS, CLEANOUTS, REDUCER FITTINGS, EXPANSION JOINT COUPLING, PIPE HANGERS AND ALL OTHER INCIDENTALS TO COMPLETE THE INSTALLATION TO THE SATISFACTION OF THE ENGINEER. PIPE HANGER ASSEMBLIES SHALL BE HOT-DIP GALVANIZED STEEL. ALL MATERIALS SHALL BE SUBMITTED FOR REVIEW IN ACCORDANCE WITH CMS 501.04.
THE METHOD OF MEASUREMENT SHALL BE BY THE FOOT ALONG THE CENTERLINE OF MAIN CONDUCTOR PIPE. PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER FOOT AND SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS AND INCIDENTALS FOR A COMPLETE FUNCTIONING SYSTEM.

ITEM 524 - DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS PER ITEM 524 EXCEPT THE FOLLOWING:
THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.
THE CONSTRUCTION TOLERANCES FOR TANGENT SHAFT INSTALLATION UNDER SECTION 524.14 SHALL BE WITHIN 1/2" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT. DO NOT ALLOW THE VERTICAL ALIGNMENT OF THE SHAFT TO VARY FROM THE REQUIRED ALIGNMENT BY MORE THAN 1/16" PER FOOT OF DEPTH. TOLERANCES ARE NOT ADDITIVE.

STEEL BEAMS SHALL BE ACCURATELY SET AT THE CENTER OF THE DRILLED SHAFT IMMEDIATELY BEFORE PLACING CONCRETE.

THE DRILLED SHAFT CAP AND P.E.J.F. JOINTS SHALL BE ACCURATELY PLACED ACCORDING TO THE DESIGN PLAN. IF THE LOCATIONS OF THE INSTALLED DRILLED SHAFTS VARY FROM THE DESIGN PLAN AND RESULT IN THE P.E.J.F. IN THE DRILLED SHAFT CAP FALLING OVER A DRILLED SHAFT INSTEAD OF BETWEEN SHAFTS, ALL VERTICAL SHAFT BARS INTERFERING WITH, OR CROSSING, THE CAP JOINT SHALL BE CUT FLUSH WITH THE TOP OF THE DRILLED SHAFT SO THAT BOTH SIDES OF THE CAP ARE NOT TIED TOGETHER BY SHAFT REINFORCING STEEL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING ANY REINFORCING STEEL. THE DEPARTMENT WILL CONSIDER THIS WORK AS INCIDENTAL AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON ALL OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER SUPPLEMENTAL SPECIFICATION 894

ABBREVIATIONS:

- ABUT. ABUTMENT
- BRG. BEARING
- B.S. BOTH SIDES
- C.I.P. CAST-IN-PLACE
- CLR. CLEAR
- CONC. CONCRETE
- CONST. CONSTRUCTION
- DIA. DIAMETER
- DIM. DIMENSION
- EL. ELEVATION
- EXIST. EXISTING
- EXP. EXPANSION
- FIX. FIXED
- FRWD. FORWARD
- F.S. FAR SIDE OR FIELD SPLICE
- JT. JOINT
- N.P.C.P.P. NON-PERFORATED CORRUGATED PLASTIC PIPE
- N.S. NEAR SIDE
- P.C.P.P. PERFORATED CORRUGATED PLASTIC PIPE
- P.E.J.F. PREFORMED EXPANSION JOINT FILLER
- PT. POINT
- SPA. SPACED OR SPACES
- STD. DWG. STANDARD DRAWING
- TYP. TYPICAL
- W/ WITH
- W.P. WORKING POINT

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NO.	DESCRIPTION	DATE	REV. BY
6	REVISED NOTE	11-6-23	RSN
8	REVISED NOTE	11-21-23	CWL
17	REVISED NOTE	1-12-24	CWL

DESIGN AGENCY
GPD GROUP
 1800 Westwood Drive, Suite 200, Coon Rapids, MN 55433
 (763) 434-1234

GENERAL NOTES - 1
 BRIDGE NO. FRA-33-1747C - CAPS
 S. 3RD STREET (U.S. 33) OVER I-70/71

DESIGN NO. 96053
 PID No. 96053

DATE: 4-21-23
 REVISED: T J W
 DRAWN: R P R
 DESIGNED: D G N

STRUCTURE FILE NUMBER: 2501554
 CHECKED: R H C

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855

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 8TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2017, AND THE ODOT BRIDGE DESIGN MANUAL, 2019.

STANDARD DRAWINGS

REFER TO THE FOLLOWING ODOT STANDARD BRIDGE DRAWINGS:

- AS-1-15 REVISED: 7-17-15
- AS-2-15 REVISED: 1-18-19
- EXJ-4-87 REVISED: 1-19-18
- GSD-1-19 REVISED: 1-15-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

- 800 DATED 1-20-23
- 894 DATED 4-16-21

DESIGN DATA

OPERATIONAL IMPORTANCE: A LOAD MODIFIER OF 1.00 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

HL-93
 FUTURE WEARING SURFACE (FWS) OF 0.060 KIPS PER SQUARE FOOT
 SATURATED SOIL UNIT WEIGHT OF 0.130 KIPS PER CUBIC FOOT
 PRECAST AND C.I.P. CONCRETE UNIT WEIGHT OF 0.150 KIPS PER CUBIC FOOT
 SCREEN WALL UNIT WEIGHT OF 0.095 KIPS PER LINEAR FOOT

DESIGN STRESSES

- CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
- CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
- CONCRETE CLASS QC5 - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)
- REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
- STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD

EPOXY COATED REINFORCING STEEL
 2 1/2" CONCRETE COVER
 CLASS QC2 CONCRETE

MONOLITHIC WEARING SURFACE

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

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, 105.02, AND 513.04.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

DECK PLACEMENT DESIGN ASSUMPTIONS

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.81 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 IN.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65 IN.

FOUNDATION BEARING RESISTANCE

REAR ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 5.90 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 8.46 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 12.66 KIPS PER SQUARE FOOT.

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LOAD PRESSURE OF 1.75 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LOAD PRESSURE OF 2.60 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 16.47 KIPS PER SQUARE FOOT.

△ FORWARD ABUTMENT FOUNDATION, AS DESIGNED PRODUCE A MAXIMUM FACTORED LOAD OF 214 KIPS AT EACH DRILLED SHAFT. THE FACTORED RESISTANCE PROVIDED BY THE DRILLED SHAFT TIP IS 530 KIPS.

△ **ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN**

THE NEED TO PROVIDE TEMPORARY SHORING BEHIND THE DRILLED SHAFTS TO CONSTRUCT THE CONCRETE CAP SHALL BE DETERMINED BY THE CONTRACTOR BASED ON THEIR MEANS AND METHODS.

DESIGN, LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS NECESSARY TO INSTALL THE TEMPORARY SHORING SHALL BE COMPENSATED UNDER ITEM 503 -COFFERDAM AND EXCAVATION BRACING, AS PER PLAN.

ITEM 511 - CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN

FINISH TOP OF BACKWALL IN LOCATIONS ADJACENT TO SIDEWALKS WITH A BUFF WASH FINISH PER THE STRUCTURE AESTHETIC PLANS.

AFTER CONDUITS ARE PLACED THROUGH THE UTILITY BLOCKOUTS IN THE ABUTMENT BACKWALLS, FILL THE VOIDS USING NON-SHRINK MORTAR CONFORMING TO CMS 705.22

- ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN**
- ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN**
- ITEM 512 - SEALING OF CONCRETE SURFACES (NON-EPOXY)**
- ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)**
- ITEM 607 - FENCE, MISC.: WALL MOUNTED TYPE A (W/ VANDAL MESH)**
- ITEM 607 - FENCE, MISC.: WALL MOUNTED TYPE A (W/O VANDAL MESH)**

SEE STRUCTURE AESTHETIC PLANS FOR DETAILS.

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

ALL NEW STRUCTURAL STEEL SHALL BE PAINTED USING THE IZEU COATING SYSTEM. THE URETHANE TOP COAT SHALL BE TINTED TO MEET FEDERAL COLOR No. 17038 (BLACK)

ITEM 518 - PIPE HORIZONTAL CONDUCTOR, AS PER PLAN (8")

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING 8" DIAMETER PIPE HORIZONTAL CONDUCTOR WITHIN THE BRIDGE SUPERSTRUCTURE AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE REQUIREMENTS OF CMS ITEM 518. THIS WORK INCLUDES THE CONDUCTOR PIPE, ELBOWS, CLEANOUTS, REDUCER FITTINGS, EXPANSION JOINT COUPLING, PIPE HANGERS AND ALL OTHER INCIDENTALS TO COMPLETE THE INSTALLATION TO THE SATISFACTION OF THE ENGINEER. PIPE HANGER ASSEMBLIES SHALL BE HOT-DIP GALVANIZED STEEL. ALL MATERIALS SHALL BE SUBMITTED FOR REVIEW IN ACCORDANCE WITH CMS 501.04. THE METHOD OF MEASUREMENT SHALL BE BY THE FOOT ALONG THE CENTERLINE OF MAIN CONDUCTOR PIPE. PAYMENT WILL BE MADE AT THE UNIT PRICE BID PER FOOT AND SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS AND INCIDENTALS FOR A COMPLETE FUNCTIONING SYSTEM.

△ **ITEM 524 - DRILLED SHAFTS, 60" DIAMETER, ABOVE BEDROCK WITH QC/QA, AS PER PLAN**

△ THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS PER ITEM 524 EXCEPT THE FOLLOWING:
THE COARSE AGGREGATE SIZE FOR ALL DRILLED SHAFTS SHALL BE A MAXIMUM OF NO. 8.

ALL DRILLED SHAFTS SHALL BE CONSTRUCTED FULL DEPTH FROM THE REQUIRED BOTTOM ELEVATION TO THE PROPOSED TOP PLAN ELEVATION USING THE TEMPORARY CASING CONSTRUCTION METHOD OF HOLE EXCAVATION AS DETAILED IN C&MS 524.04.C. NO OTHER METHODS OF HOLE EXCAVATION SHALL BE PERMITTED.

△ THE CONSTRUCTION TOLERANCES FOR TANGENT SHAFT INSTALLATION UNDER SECTION 524.14 SHALL BE WITHIN 1/2" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT. DO NOT ALLOW THE VERTICAL ALIGNMENT OF THE SHAFT TO VARY FROM THE REQUIRED ALIGNMENT BY MORE THAN 1/16" PER FOOT OF DEPTH. TOLERANCES ARE NOT ADDITIVE.

△ STEEL BEAMS SHALL BE ACCURATELY SET AT THE CENTER OF THE DRILLED SHAFT IMMEDIATELY BEFORE PLACING CONCRETE.

THE DRILLED SHAFT CAP AND P.E.J.F. JOINTS SHALL BE ACCURATELY PLACED ACCORDING TO THE DESIGN PLAN. IF THE LOCATIONS OF THE INSTALLED DRILLED SHAFTS VARY FROM THE DESIGN PLAN AND RESULT IN THE P.E.J.F. IN THE DRILLED SHAFT CAP FALLING OVER A DRILLED SHAFT INSTEAD OF BETWEEN SHAFTS, ALL VERTICAL SHAFT BARS INTERFERING WITH, OR CROSSING, THE CAP JOINT SHALL BE CUT FLUSH WITH THE TOP OF THE DRILLED SHAFT SO THAT BOTH SIDES OF THE CAP ARE NOT TIED TOGETHER BY SHAFT REINFORCING STEEL. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO CUTTING ANY REINFORCING STEEL. THE DEPARTMENT WILL CONSIDER THIS WORK AS INCIDENTAL AND SHALL BE INCLUDED WITH ITEM 524 FOR PAYMENT.

ITEM 625 - LIGHT POLE ANCHOR BOLTS, MISC.: LIGHT POLE ANCHOR BOLT ASSEMBLIES EMBEDDED IN CONCRETE BRIDGE DECK

FURNISH ONE ANCHOR BOLT ASSEMBLY FOR EACH LIGHT POLE MOUNTED ON THE BRIDGE. EACH ASSEMBLY INCLUDES A STEEL PLATE AND ALL STEEL ANCHOR RODS, LEVELING RODS, NUTS, AND WASHERS AS SHOWN ON THE DRAWINGS OR AS REQUIRED FOR INSTALLATION. FABRICATE THE ASSEMBLY IN ACCORDANCE WITH CMS 513 AND 730. GALVANIZE THE ASSEMBLY AFTER FABRICATION IN ACCORDANCE WITH CMS 711.02. ALL MATERIALS, LABOR, AND INCIDENTALS NECESSARY TO INSTALL EACH POLE SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 625 - LIGHT POLE ANCHOR BOLTS, MISC.: LIGHT POLE ANCHOR BOLT ASSEMBLIES EMBEDDED IN CONCRETE BRIDGE DECK.

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON ALL OF THE DRILLED SHAFTS AT THE FORWARD ABUTMENT BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER SUPPLEMENTAL SPECIFICATION 894

STRUCTURE GROUNDING

GROUND THE PROPOSED BRIDGE ACCORDING TO THE REQUIREMENTS OF ODOT STD. DWG. HL-50.21 - STRUCTURE GROUNDING. THE FOLLOWING BRIDGE COMPONENTS SHALL BE CONNECTED TO THE GROUNDING SYSTEM: ALL STRUCTURAL STEEL, UTILITY SUPPORTS, STEEL SCREEN WALL COMPONENTS, AND LIGHT POLES.

ASBESTOS ABATEMENT AND NOTIFICATION

ASBESTOS SURVEYS OF THE FRA-23-1075C BRIDGE SCHEDULED FOR REPLACEMENT WAS CONDUCTED BY CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALISTS. COPIES OF THE ASBESTOS INSPECTION REPORTS ARE INCLUDED IN THE PLAN SET FOR THIS PROJECT.

THE ASBESTOS SURVEYS DETERMINED THAT 70 SQUARE FEET OF ASBESTOS CONTAINING MATERIAL IS PRESENT ON THE BRIDGE DECK IN EXCESS OF THE ALLOWABLE REGULATORY LIMITS AND REQUIRES ABATEMENT.

ADDITIONALLY, 6,804 SQUARE FEET OF ASBESTOS CONTAINING TRANSITE UTILITY PIPE AND 880 SQUARE FEET OF ASBESTOS CONTAINING PIPE RACK WAS IDENTIFIED UNDER THE BRIDGE DECK. THIS PIPE WILL BE SUPPORTED AND REMAIN IN PLACE DURING THE BRIDGE DEMOLITION AND RECONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE ASBESTOS CONTAINING MATERIAL IS PROTECTED AND NOT DISTURBED THROUGHOUT THE PROJECT BY PROVIDING ADEQUATE SHIELDING TO PREVENT THE DISTURBANCE OF THE ASBESTOS MATERIAL. FOLLOWING THE RELOCATION OF THE UTILITIES IN THIS PIPE, THE PIPE AND PIPE RACK WILL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS.

THE CONTRACTOR SHALL ENSURE THAT ASBESTOS CONTAINING MATERIALS DO NOT BECOME FRIABLE (BROKEN UP OR DISPERSED) AND THAT NO VISIBLE FIBER EMISSIONS WILL OCCUR. ADDITIONALLY, THE REMOVAL AND DISPOSAL OF THE ASBESTOS CONTAINING MATERIAL SHALL COMPLY WITH CHAPTER 3745-20 OF THE OHIO ADMINISTRATIVE CODE, THE NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHA) AND APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS (29 CFR 1926.1101).

THE CONTRACTOR SHALL SUBMIT A COMPLETED ELECTRONIC NOTIFICATION OF DEMOLITION AND RENOVATION FORM (NDRF), APPLICABLE FEES, AND THE ASBESTOS INSPECTION REPORT TO THE OEPA AT LEAST 10 DAYS PRIOR TO ANY DEMOLITION ACTIVITY, RENOVATION ACTIVITY, OR BOTH. SUBMIT THE NDRF AND PAYMENT ALONG WITH THE ASBESTOS INSPECTION REPORT USING THE OEPA BUSINESS CENTER. SUBMIT ONE ELECTRONIC PDF COPY TO THE ENGINEER. THE ENGINEER WILL PROVIDE ONE COPY TO THE DISTRICT ENVIRONMENTAL COORDINATOR AT MARCI.LININGER@ODOT.OHIO.GOV.

BASIS OF PAYMENT - THE CONTRACTOR SHALL FURNISH ALL THE FEES, LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE OEPA NOTIFICATION OF DEMOLITION AND RENOVATION FORM AND PROPERLY REMOVE, ENCAPSULATE, HANDLE, TRANSPORT AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN A LANDFILL LICENSED BY THE LOCAL HEALTH DEPARTMENT AND PERMITTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY - DIVISION OF AIR POLLUTION CONTROL TO ACCEPT ASBESTOS CONTAINING MATERIAL. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID OF LUMP SUM.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

NO.	DESCRIPTION	DATE	REV. BY
6	REVISED NOTES	11-6-23	RSN
8	REVISED NOTES	11-21-23	CWL
17	REVISED NOTES	1-12-24	CWL

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DESIGN AGENCY: **GPD GROUP**
GPD GROUP, Inc. 600 Westwood Drive, Suite 700, Columbus, Ohio 43260-1421
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DATE: 4-21-23
 REVIEWED: TJW
 DRAWN: RPR
 DESIGNED: DGN
 CHECKED: RHC
 STRUCTURE FILE NUMBER: 2502620
 GENERAL NOTES - 1
 BRIDGE NO. FRA-23-1075C
 S. 4TH STREET (U.S. 23) OVER I-70/71
 PID No. 96053
 2 / 54
 640
 855