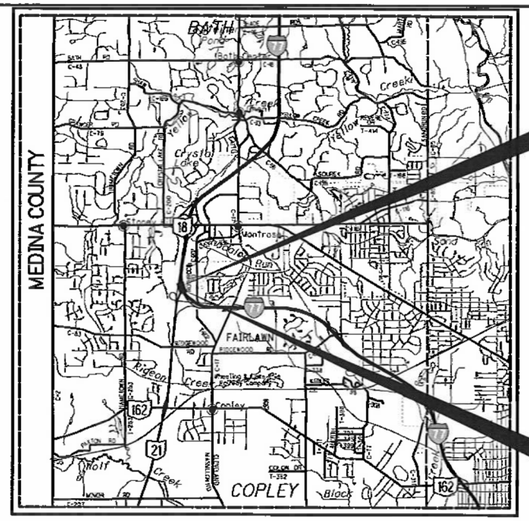

END PROJECT
@ I.R. 77 S.B.
STA. 507+25.00
SLM = 22.41

BEGIN PROJECT
@ I.R. 77 S.B.
STA. 502+79.68
SLM = 22.32

LOCATION MAP

LATITUDE: N41°07'07" LONGITUDE: W81°39'39"

SCALE IN MILES
0 1 2 3 4

N

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2023)	63,000
DESIGN YEAR ADT (2043)	72,000
DESIGN HOURLY VOLUME (2043)	6,500
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	9%
Td	8%
DESIGN SPEED	70 MPH
LEGAL SPEED	65 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
01 - INTERSTATE (URBAN)	
NHS PROJECT	YES

DESIGN EXCEPTIONS

DESIGN FEATURES	APPROVAL DATES	SHEET NUMBERS
HORIZONTAL CURVE RADIUS	10/01/2021	3
HORIZONTAL STOPPING SIGHT DISTANCE	10/01/2021	3,104,107
SUPERELEVATION	10/01/2021	104,107,140,141

ADA WAIVER
NON REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:
PALMER ENGINEERING
5745 MEDINA ROAD - SUITE A
ENGINEERING MEDINA, OH 44256
WINCHESTER • NASHVILLE • LOUISVILLE •
CINCINNATI • AKRON • TALLAHASSEE • ORLANDO

ENGINEERS SEAL:
FOR ENTIRE PLAN EXCEPT LIGHTING & STRUCTURES OVER 20' SPAN
STATE OF OHIO · DENNIS C JENNINGS · E-59444 · REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 7/25/22

ENGINEERS SEAL:
FOR LIGHTING EXCEPT SHEET 167
STATE OF OHIO · MITCHELL A. McCOY · E-53421 · REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 7/25/22

ENGINEERS SEAL:
FOR SHEET 167
CAROLINE F. DUFFY · REGISTERED · E-58016 · STATE OF OHIO · PROFESSIONAL ENGINEER
SIGNED:
DATE: 7/25/22

ENGINEERS SEAL:
FOR STRUCTURES OVER 20' SPAN
STATE OF OHIO · TRENT E. STEFFEN · E-80203 · REGISTERED PROFESSIONAL ENGINEER
SIGNED:
DATE: 7/25/22

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUM-77-22.30

COPLEY TOWNSHIP
SUMMIT COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

TOTAL REPLACEMENT OF THE EXISTING THREE SPAN TWIN BRIDGES SUM-00077-22.34L AND SUM-00077-22.350R OVER S.R. 21 N.B. WITH SINGLE SPAN WELDED STEEL PLATE GIRDERS WITH CONCRETE DECK ON REINFORCED CONCRETE STUB ABUTMNETS ON SPREAD FOOTINGS. INCLUDES S.R. 21 NORTHBOUND DRAINAGE IMPROVEMENTS ALONG WITH STORM SEWERS, ROCK CUT, EMBANKMENT, GUARDRAIL, LIGHTING, SIGNING AND STRIPING.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	4.7 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.9 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	6.5 ACRES

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	1/21/22	MH-3	7/16/21	HW-2.1	7/20/18	MT-95.50	7/21/17	TC-21.21	7/15/22	800-2019	7/15/22
BP-5.1	7/15/22			HW-2.2	7/20/18	MT-95.71	1/17/20	TC-41.20	10/18/13	807	1/21/22
BP-9.1	1/18/19	MGS-1.1	7/16/21	PCB-91	7/17/20	MT-99.20	4/19/19	TC-41.30	10/18/13	808	1/18/19
		MGS-2.1	1/19/18	SBR-1-20	7/17/20	MT-99.30	1/17/20	TC-41.50	10/18/13	813	10/19/18
CB-2-2A,2B,2C	7/15/22	MGS-3.1	1/19/18	SBR-2-20	1/15/21	MT-99.60	7/15/16	TC-42.20	10/18/13	821	4/20/12
CB-3	7/16/21	MGS-3.2	1/18/13	SICD-2-14	1/15/21	MT-100.00	7/16/21	TC-64.10	7/16/21	825	1/17/20
CB-5	7/16/21	MGS-4.2	7/19/13			MT-101.60	1/17/20	TC-65.10	1/17/14	832	7/15/22
CB-6	1/21/22	MGS-5.3	7/15/16	HL-30.11	1/15/21	MT-101.70	1/17/20	TC-65.11	7/15/22	843	10/18/19
CB-4A,5A,8A	7/16/21	MGS-6.1	1/19/18	HL-30.21	4/17/20	MT-101.75	1/17/20	TC-72.20	1/20/18	850	4/15/22
				HL-30.22	1/15/21	MT-101.80	1/17/20			863	7/16/21
DM-1.1	7/17/20	RM-4.2	4/17/20	HL-30.31	4/17/20	MT-101.90	7/17/20			902	7/19/19
DM-1.2	7/16/21	RM-4.3	1/21/22	HL-30.32	4/17/20	MT-102.10	1/17/20			905	4/17/20
DM-1.3	7/18/14	RM-4.5	7/21/17	HL-30.33	1/21/22	MT-102.20	4/19/19			908	10/20/17
DM-4.1	7/17/20	RM-4.6	7/19/13	HL-30.41	1/21/22	MT-102.30	10/16/15			913	4/16/21
DM-4.3	1/15/16			HL-50.21	7/15/22	MT-104.10	10/16/15			921	4/20/12
DM-4.4	1/15/16	AS-1-15	7/17/15			MT-105.10	1/17/20			867	4/15/22
		AS-2-15	1/18/19	MT-95.30	7/19/19						
I-3B,3B1	7/15/22	GSD-1-19	1/15/21	MT-95.40	1/17/20	TC-15.116	7/16/21				
		HW-1.1	7/20/18	MT-95.45	1/17/20	TC-21.11	7/16/21				

SUPPLEMENTAL SPECIFICATIONS

800-2019	7/15/22
807	1/21/22
808	1/18/19
813	10/19/18
821	4/20/12
825	1/17/20
832	7/15/22
843	10/18/19
850	4/15/22
863	7/16/21
902	7/19/19
905	4/17/20
908	10/20/17
913	4/16/21
921	4/20/12
867	4/15/22

SPECIAL PROVISIONS

ASBESTOS INSPECTION REPORT 11/12/19

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING OF MAINLINE I.R. 77 TO TRAFFIC AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

THE IMPROVEMENTS WILL REQUIRE PART-TIME CLOSING TO TRAFFIC OF S.R. 21 NORTHBOUND, AND THE RAMP FROM I.R. 77 NORTHBOUND TO S.R. 21 SOUTHBOUND (RAMP 8) AS NOTED ON SHEETS 70 AND 69, RESPECTIVELY. ALSO ACCESS FROM S.R. 18 WESTBOUND TO I.R. 77 SOUTHBOUND WILL REQUIRE PART-TIME CLOSING TO TRAFFIC AS NOTED ON SHEET 71. DETOURS WILL BE PROVIDED AS INDICATED IN THE PLANS.

APPROVED
DATE 8/3/22 DISTRICT DEPUTY DIRECTOR

APPROVED
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. E180 (535)
PID NO. 105861
CONSTRUCTION PROJECT NO. TBD
RAILROAD INVOLVEMENT NONE
SUM-77-22.30
1 / 284

J:\ODOT\105861_SUM-77-22.30\Design\Roadway\Sheets\105861_GT001.dgn Sheet 8/2/2022 3:05:12 PM david-m

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

AS-1-15	REVISED	7/17/15
AS-2-15	REVISED	1/18/19
GSD-1-19	REVISED	1/15/21
PCB-91	REVISED	7/17/20
SBR-1-20	REVISED	7/17/20
SBR-2-20	REVISED	1/15/21
SICD-2-14	REVISED	1/15/21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	REVISED	07/15/22
867	REVISED	04/15/22

DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, AND THE ODOT BRIDGE DESIGN MANUAL, 2020. THE FATIGUE DESIGN OF THE CROSS-FRAME MEMBERS IS IN ACCORDANCE WITH THE RECOMMENDATIONS FROM NCHRP REPORT 962.

SPECIAL DESIGN SPECIFICATONS

THIS BRIDGE REQUIRED THE USE OF A THREE DIMENSIONAL MODEL USING THE FINITE ELEMENT DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS CSIBRIDGE VERSION 23.1.0. THE BRIDGE COMPONENTS DESIGNED BY THIS METHOD WERE THE GIRDERS AND CROSSFRAMES. ANALYSIS OF THE SUPERSTRUCTURE FOR THE DECK POUR WAS ALSO PERFORMED.

DEAD LOAD DISTRIBUTION: THE DEAD LOAD OF THE GIRDERS, CROSSFRAMES, AND DECK SLAB WAS CALCULATED BY THE PROGRAM BASED ON THE UNIT WEIGHT PROPERTY ASSIGNED TO THE FINITE ELEMENTS. ADDTIONAL LINE LOADS AND LINE MOMENTS WERE APPLIED TO THE TOP FLANGE OF THE EXTERIOR GIRDERS TO ACCOUNT FOR THE ADDITIONAL SLAB OVERHANG THICKNESS, AND LINE LOADS WERE APPLIED TO THE GIRDERS TO ACCOUNT FOR THE SACRIFICAL HAUNCH. AN ADDITIONAL LINE LOAD ON EACH GIRDER WAS APPLIED FOR STEEL DETAIL MATERIAL.

THE LOADS FROM THE CONCRETE BRIDGE RAILINGS WERE CALCULATED AND APPLIED AS LINE LOADS TO THE GIRDERS AS FOLLOWS: 3/4 OF THE LOAD WAS DISTRIBUTED EQUALLY TO THE EXTERIOR GIRDER AND FIRST INTERIOR GIRDER, AND THE REMAINING 1/4 THE LOAD WAS APPLIED TO THE NEXT TWO INTERIOR GIRDERS. THE FUTURE WEARING SURFACE LOAD WAS CALCULATED AND APPLIED AS LINE LOADS TO THE GIRDERS BASED ON AN EQUAL DISTRIBUTION.

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.

DESIGN LOADING

VEHICULAR LIVE LOAD: HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KSF

DESIGN DATA

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

MONOLITHIC WEARING SURFACE

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

MAINTENANCE OF TRAFFIC

REFERENCE BRIDGE NO. SUM-77-22.344L SHEETS 7/54 THROUGH 13/54 FOR PHASE CONSTRUCTION NOTES AND DETAILS.

ITEM 203 EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN THE EXISTING AND PROPOSED ABUTMENTS.

FOUNDATION BEARING RESISTANCE

ABUTMENT FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 13.2 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 20.7 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 45 KIPS PER SQUARE FOOT.

FOOTINGS

PLACE ABUTMENT FOOTINGS IN BEDROCK AT THE ELEVATION SHOWN OR BELOW THE BOTTOM OF THE EXISTING PIER FOOTINGS, WHICHEVER IS LOWER.

WINGWALL FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK. IF NECESSARY DUE TO POOR BEDROCK MATERIAL, THE FOOTINGS SHOULD BE LOWERED. IF THE LOW POINT OF THE BEDROCK SURFACE OCCURS 2 FEET OR MORE ABOVE PLAN ELEVATION, THE FINAL FOOTING ELEVATIONS MAY BE RAISED, UPON APPROVAL BY THE OFFICE OF GEOTECHNICAL ENGINEERING, BUT A MINIMUM OF 4 FEET OF COVER TO THE FINISHED GROUND LINE SHALL BE MAINTAINED. STEPPING OF INDIVIDUAL FOOTINGS WILL NOT BE PERMITTED UNLESS SHOWN ON THE PLANS.

DECK PLACMENT 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 3.16 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 IN.

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

STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

REMOVE ABUTMENTS AND ABUTMENT WINGWALLS DOWN TO THE BEAM SEAT CONSTRUCTION JOINT AS SHOWN ON SHEET 6/50.

PHASE 2 SUPERSTRUCTURE REMOVAL: THE FOLLOWING REQUIREMENTS APPLY ONLY TO REMOVAL OF THE MEDIAN (LEFT) PARAPET AND DECK EDGE DURING PHASE 2 REMOVAL, AS SHOWN ON BRIDGE NO. SUM-77-22.344L PLAN SHEET 9/54. PERFORM REMOVALS CAREFULLY TO PROTECT THE FASCIA GIRDER SUPPORTING TRAFFIC AND TO AVOID DAMAGING THE SLAB EDGE TO REMAIN FOR MAINTAINING TRAFFIC. THE USE OF HEADACHE BAALS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING IS PERMITTED, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF THE DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF THE FLANGE EDGES. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS SUPPORTING TRAFFIC.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. HAMMERS SHALL BE LIMITED TO 35 LB CLASS. DO NOT REMOVE CONCRETE OVER THE TOP OF THE FASCIA GIRDER.

ITEM SPECIAL - FORM LINER

CONCRETE WALL SURFACES DESIGNATED TO RECEIVE A FORM LINER IN THE PLANS SHALL BE FORMED USING A DRY STACK OR ASHLAR STONE MASONRY FORM LINER WITH A MINIMUM RELIEF OF 1⅜" AND A MAXIMUM RELIEF OF 1½". THE FORM LINER SHALL BE ONE OF THE FOLLOWING PATTERNS OR AN APPROVED EQUAL:

SAN DIEGO DRYSTACK #17911
GEORGETOWN ASHLAR #16986
FITZGERALD FORMLINERS
714-547-6710

NEW ENGLAND DRYSTACK #2209
ASHLAR #2017
CUSTOM ROCK FORMLINER
651-699-1345

ASHLAR STONE D #167D
SCOTT SYSTEM
518-886-3940

ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NESCESSARY TO COMPLETE THIS WORK SHALL BE INCLUDED FOR PAYMENT WITH THE CONTRACT UNIT PRICE BID FOR ITEM SPECIAL - FORM LINER.

ITEM 503 - UNCLASSIFED EXCAVATION, AS PER PLAN
ITEM 503 - ROCK EXCAVATION, AS PER PLAN

WHERE PROPOSED SLOPES ARE STEEPER THAN 2:1 IN FRONT OF A PROPOSED ABUTMENT OR WINGWALL, BACKFILL THE EXCAVATION WITH TYPE A OR TYPE B MATERIAL CONFORMING TO CMS 703.19, TYPE 2 LOW STRENGTH MORTAR PER CMS 613, OR CLASS QC1 CONCRETE. PAYMENT FOR THE BACKFILL SHALL BE INCIDENTAL TO THE RESPECTIVE ITEM 503 PAY ITEM.

PLAN ABBREVIATIONS

ABUT.	ABUTMENT
℄	BASELINE
BRG.	BEARING
BOTT.	BOTTOM
C/C	CENTER TO CENTER
℄	CENTERLINE
CLR.	CLEAR
CONST.	CONSTRUCTION
DIA.	DIAMETER
EA.	EACH
E.F.	EACH FACE
ELEV.	ELEVATION
EQ.	EQUAL
EXP.	EXPANSION
F.F.	FAR FACE
FTG.	FOOTING
FWD.	FORWARD
I.R.	INTERSTATE ROUTE
LT.	LEFT
N.F.	NEAR FACE
NO.	NUMBER
N.P.C.P.P.	NON PERFORATED CORRUGATED PLASTIC PIPE
O/O	OUT TO OUT
P.C.P.P.	PERFORATED CORRUGATED PLASTIC PIPE
ℙ	PLATE
RT.	RIGHT
SPA.	SPACE, SPACED, SPACES
TYP.	TYPICAL
W/	WITH

DESIGN AGENCY
Palmer ENGINEERING
3745 MEDINA ROAD, SUITE A, MEDINA, OH 44256

DESIGNED	DRAWN	REVIEWED	DATE
TES	TES	MLJ	3/9/2022
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JPR		7704047	

GENERAL NOTES
BRIDGE NO. SUM-00077-22.350R
OVER STATE ROUTE 21 NORTHBOUND

SUM-77-22.30
PID No. 105861

ESTIMATED QUANTITIES

CALCULATED: AJL — DATE: 10/24/22 | CHECKED: JPR — DATE: 10/24/22

ITEM	ITEM EXT.	TOTAL 01/IMS/BR	UNIT	DESCRIPTION	ABUT.	SUPER	GENERAL	MEDIAN	SHEET
202	11003	LS		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					3/50
202	22900	222	SY	APPROACH SLAB REMOVED			222		
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING					
503	21101	300	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	300				3/50
503	31101	884	CY	ROCK EXCAVATION, AS PER PLAN	884				3/50
509	10000	265,860	LB	EPOXY COATED REINFORCING STEEL	152,452	105,435		7,973	
509	30020	3,840	FT	NO. 4 GFRP DEFORMED BARS		3,840			
509	30040	2,333	FT	NO. 6 GFRP DEFORMED BARS		2,333			
511	33501	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	4				9/50, 12/50
511	34446	448	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK		448			
511	34450	77	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)		77			
511	44112	631	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	631				
511	46012	185	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING	185				
511	46212	67	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL INCLUDING FOOTING	67				
511	46512	451	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	451				
512	10050	1,307	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	685	622			
512	33000	68	SY	TYPE 2 WATERPROOFING	68				
513	10281	461,788	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN		461,788			26/50
513	20000	3,612	EACH	WELDED STUD SHEAR CONNECTORS		3,612			
514	00060	18,970	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT		18,970			
514	00066	18,970	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT (FEDERAL STANDARD COLOR 15526)		18,970			
514	10000	10	EACH	FINAL INSPECTION REPAIR		10			
516	10010	203	FT	ARMORLESS PREFORMED JOINT SEAL			203		
516	13600	210	SF	1" PREFORMED EXPANSION JOINT FILLER	125	45		40	
516	13900	835	SF	2" PREFORMED EXPANSION JOINT FILLER	625	150		60	
516	14020	267	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL		267			
516	44301	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN		16			40/50
				(20" DIA. X 4.52", 1'-4" x 1'-11" x 1.5" TOP LOAD PLATE, 1'-9" X 1'-9" X 1.5" BOTTOM LOAD PLATE, HP14X73 PEDESTAL)					
518	21200	636	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	636				
518	21201	9	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	9				44/50
518	40000	395	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	395				
518	40010	40	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	40				
526	30011	422	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN	422				41-42/50
526	90031	203	FT	TYPE C INSTALLATION, AS PER PLAN	203				41/50, 43/50
SPECIAL	53000400	1	EACH	STRUCTURES - CONDUIT SLEEVE	1				4/50
SPECIAL	53013000	4,800	SF	FORM LINER	4,800				3/50
613	41251	2,890	CY	LOW STRENGTH MORTAR BACKFILL (TYPE 1), AS PER PLAN	2,890				4/50
867	00100	LS		TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL					43/50

DESIGN AGENCY
Palmer ENGINEERING
3745 MEDINA ROAD, SUITE A, MEDINA, OH 44256

DESIGNED AJL | DRAWN AJL | CHECKED JPR | REVIEWED MLJ | DATE 3/9/2022 | REVISED | STRUCTURE FILE NUMBER 7704047

ESTIMATED QUANTITIES
BRIDGE NO. SUM-00077-22.350R
OVER STATE ROUTE 21 NORTHBOUND

SUM-77-22.30
PID No. 105861

5 / 50

226
284

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