

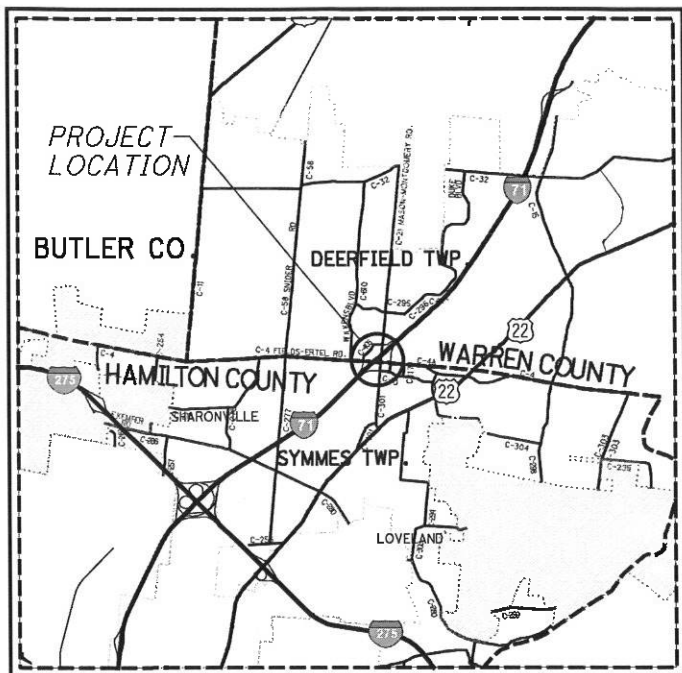
STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

HAM / WAR - 71 - 19.83 / 0.00

IR-71 RAMP C

SYMMES TOWNSHIP DEERFIELD TOWNSHIP  
HAMILTON COUNTY WARREN COUNTY



**LOCATION MAP**  
LATITUDE: N 39°17'36" LONGITUDE: W 084°18'57"  
SCALE IN MILES

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

DESIGN DESIGNATION	I-71 SB	RAMP C	CR-21 MASON MONTGOMERY ROAD
CURRENT ADT (2022)	39660	10090	43730
DESIGN YEAR ADT (2040)	44300	10380	52040
DESIGN HOURLY VOLUME (2040)	4420	880	4120
DIRECTIONAL DISTRIBUTION	100%	100%	57%
TRUCKS (24 HOUR B&C)	13%	2%	2%
DESIGN SPEED	70 MPH		35 MPH
LEGAL SPEED	65 MPH		35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	01 INTERSTATE (URBAN)	01 INTERSTATE (URBAN)	04 MINOR ARTERIAL (URBAN)
NHS PROJECT	YES	YES	NO

**DESIGN EXCEPTIONS**      **ADA DESIGN WAIVERS**  
NONE REQUIRED                      NONE REQUIRED

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

PLAN PREPARED BY:  
**AECOM**  
525 VINE STREET, SUITE 1800 CINCINNATI, OHIO 45202  
(513) 651-3440

**ENGINEERS SEAL:**  
  
SIGNED: *David L. Wormald*  
DATE: 02/01/2021

**ENGINEERS SEAL:**  
  
SIGNED: *Vanessa M. Nghiem*  
DATE: 02/01/2021

**ENGINEERS SEAL:**  
  
SIGNED: *Evan Robert Mutch*  
DATE: 02/01/2021

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STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
BP-2.1	7/17/15	DM-4.4	1/15/16	HW-2.1	7/20/18	MT-101.70	1/17/20	TC-71.10	1/19/18	800-2019	01/15/21
BP-2.2	7/18/08			HW-2.2	7/20/18	MT-101.75	1/17/20	TC-72.20	7/20/18	804	1/15/21
BP-3.1	01/17/20	F-1.1	7/19/13			MT-101.80	1/17/20	TC-81.11	1/15/21	809	1/15/21
BP-3.2	1/18/19	F-2.1	7/20/18	PCB-91	1/18/13	MT-101.90	7/21/17	TC-81.22	7/17/20	813	10/19/18
BP-6.1	7/19/13	F-3.1	7/19/13	SBR-1-20	1/17/20	MT-102.10	1/17/20	TC-83.10	1/17/20	832	10/19/18
BP-8.2	1/18/19	F-3.2	7/18/14			MT-103.10	1/19/18	TC-83.20	7/21/17	840	1/15/21
BP-4.1	7/19/13	F-3.3	7/19/13	HL-10.11	1/15/21	MT-105.10	1/17/20	TC-84.20	10/18/13	846	4/17/15
BP-5.1	1/18/19	F-3.4	7/19/13	HL-10.12	1/20/17	MT-110.10	7/19/13	TC-85.10	4/17/20	863	10/17/14
BP-7.1	7/17/20			HL-10.13	4/17/20			TC-85.20	7/20/18	878	1/17/20
BP-9.1	1/18/19	MGS-1.1	1/19/18	HL-20.11	1/15/21	TC-12.31	1/15/21	TC-85.21	4/17/20	904	1/15/21
		MGS-2.1	1/19/18	HL-30.11	1/15/21	TC-16.22	7/17/20	TC-85.22	1/19/18	913	4/21/17
CB-1.1	7/19/19	MGS-3.1	1/19/18	HL-30.21	4/17/20	TC-21.21	1/15/21			921	4/20/17
CB-2.1	7/20/18	MGS-3.2	1/18/13	HL-30.22	7/17/20	TC-22.10	4/17/20	ITS-11.10	1/15/21		
CB-2.2	7/20/18	MGS-4.2	7/19/13	HL-40.10	7/21/17	TC-22.20	1/17/14	ITS-11.11	1/15/21		
CB-2.3	1/15/16	MGS-5.3	7/15/16	HL-60.11	7/21/17	TC-41.20	10/18/13	ITS-12.50	1/15/21		
CB-4.2	1/18/13			HL-60.12	1/15/21	TC-41.40	10/18/13	ITS-13.10	1/15/21		
		RM-1.1	1/15/21			TC-41.41	7/19/19	ITS-14.10	1/15/21		
MH-1.2	1/15/16	RM-4.2	7/17/20	MT-95.30	7/19/19	TC-42.20	10/18/13	ITS-14.11	1/15/21		
		RM-4.3	7/18/14	MT-95.31	7/19/19	TC-51.11	1/15/16	ITS-15.11	1/15/21		
DM-1.1	7/21/17	RM-4.4	7/19/19	MT-95.32	4/19/19	TC-51.12	1/15/16				
DM-1.2	1/18/13	RM-4.6	7/19/13	MT-95.41	1/17/20	TC-52.10	10/18/13				
DM-1.3	7/18/14			MT-95.45	1/17/20	TC-52.20	1/15/21				
DM-2.1	1/18/13	AS-1-15	7/17/15	MT-95.50	7/21/17	TC-61.30	7/19/19				
DM-4.2	7/20/12	AS-2-15	1/18/19	MT-99.30	1/17/20	TC-65.10	1/17/14				
DM-4.3	1/15/16	GSD-1-19	1/18/19	MT-101.60	1/17/20	TC-65.11	7/21/17				

**SPECIAL PROVISIONS**  
WATERWAY PERMIT  
4/12/21

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 15, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH IN THE PLANS AND ESTIMATES.

APPROVED: *Tony K. Capwell*  
DATE: 2-5-2021 DISTRICT DEPUTY DIRECTOR  
APPROVED: \_\_\_\_\_  
DATE: \_\_\_\_\_ DIRECTOR, DEPARTMENT OF TRANSPORTATION

**PROJECT DESCRIPTION**  
CONSTRUCTION OF A 0.22 MILE ENTRANCE RAMP "C" FROM MASON-MONTGOMERY ROAD (CR-21) TO SB I-71, INCLUDING A NEW BRIDGE OVER FIELDS ETEL ROAD. ALONG MASON-MONTGOMERY ROAD, CONSTRUCTION OF A NEW SOUTHBOUND TURN LANE FROM ESCORT DRIVE TO RAMP C. ALONG SB I-71, CONSTRUCTION OF AN ENTRANCE TAPER BETWEEN THE FIELDS ETEL ROAD BRIDGE AND EXISTING ENTRANCE RAMP B FROM FIELDS ETEL ROAD.

**EARTH DISTURBED AREAS**  
PROJECT EARTH DISTURBED AREA: 4.20 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: 4.45 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.

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FEDERAL PROJECT NO. E-170-851  
CONSTRUCTION PROJECT NO. 104844  
RAILROAD INVOLVEMENT NONE  
HAM / WAR - 71 19.83 / 0.00  
1 146

**ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E, MASH 2016**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**ITEM 606 - IMPACT ATTENUATOR, TYPE 2 (35 MPH) HAZARD WIDTH (24 INCHES) (BIDIRECTIONAL)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE TYPE 2 IMPACT ATTENUATORS AS LISTED ON THE OFFICE OF ROADWAY ENGINEERING'S WEB PAGE (REFER TO THE POSTED SHOP DRAWINGS FOR THE MOST CURRENT APPROVED PRODUCT MODELS). WHEN BI-DIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS. THE FACE OF THE IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 2 (35 MPH), HAZARD WIDTH (24 INCHES), (BIDIRECTIONAL), EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS/BACKSTOPS, TRANSITIONS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

**DRAINAGE NOTES**

**CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES**

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

**REVIEW OF DRAINAGE FACILITIES**

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE STATE, REPRESENTATIVES OF THE STATE AND THE CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCE SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE STATE.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE STATE.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN CONDITION DUE TO THE CONTRACTOR'S WORK OR OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

**ITEM 611 15", SLOTTED DRAIN, TYPE 2**

THIS ITEM SHALL CONSIST OF 15 INCH DIAMETER SLOTTED DRAIN ALUMINUM COATED STEEL CONDUIT 707.01 WITH 6 INCH TRAPEZOIDAL GALVANIZED SOLID BAR GRATE AS APPROVED BY THE ENGINEER. ALL COSTS FOR LABOR AND MATERIALS, INCLUDING TYPE 2 BEDDING, AND BACKFILLING AS DETAILED ON STANDARD CONSTRUCTION DRAWING DM-1.3 SHALL BE INCLUDED IN THE PRICE BID PER FOOT FOR ITEM 611 - 15" SLOTTED DRAIN, TYPE 2.

**EXISTING SUBSURFACE DRAINAGE**

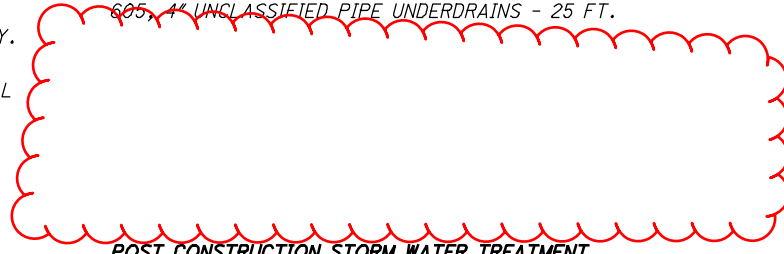
PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

- 601, TIED CONCRETE BLOCK MAT, TYPE 2 - 4 SQ. YD.
- 611, 6" CONDUIT, TYPE F - 10 FT.
- 611, PRECAST REINFORCED CONCRETE OUTLET - 1 EACH
- 605, 4" UNCLASSIFIED PIPE UNDERDRAINS - 25 FT.



**POST CONSTRUCTION STORM WATER TREATMENT**

THIS PLAN UTILIZES STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) FOR POST CONSTRUCTION STORM WATER TREATMENT.

**VEGETATED BIOFILTER**

THIS PLAN UTILIZES VEGETATED BIOFILTER(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AS SHOWN IN THE PLANS TO ANY DISTURBED AREA ON THE SHOULDER AND FORESLOPE DRAINING TO A VEGETATED BIOFILTER. THE DITCH FOR EACH VEGETATED BIOFILTER SHALL BE TRAPEZOIDAL, AS SHOWN IN THE PLANS. PROVIDE ITEM 670 AS SPECIFIED IN THE PLANS.

**VEGETATED FILTER STRIP**

THIS PLAN UTILIZES VEGETATED FILTER STRIP(S) FOR POST CONSTRUCTION STORM WATER TREATMENT. PLACE EITHER ITEM 660 SODDING OR ITEM 659 SEEDING AND MULCHING WITH A 4-INCH LIFT OF TOPSOIL AND ITEM 670, SLOPE EROSION PROTECTION TO ALL DISTURBED AREAS DESIGNATED AS VEGETATED FILTER STRIPS, THE EDGE OF SHOULDER, AND THE FORESLOPE AS SPECIFIED IN THE PLANS.

**ITEM 619 FIELD OFFICE, TYPE B AS PER PLAN,**

THIS PAY ITEM IS TO FOLLOW THE REQUIREMENTS OF ITEM 619 EXCEPT THAT THE CONTRACTOR SHALL ONLY BE RESPONSIBLE FOR MAINTAINING THE FIELD OFFICE AND PROVIDING APPLICABLE ITEMS INDICATED IN TABLE 619.02-1. THE WARREN COUNTY TRANSPORTATION IMPROVEMENT DISTRICT (WCTID) WILL PROVIDE AND SUBSEQUENTLY REMOVE THE FIELD OFFICE FOR THE PROJECT. THE FIELD OFFICE WILL BE THE ADJACENT BP GAS STATION WHICH HAS BEEN ACQUIRED BY THE WCTID.

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CALCULATED  
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**GENERAL NOTES**

HAM / WAR-71  
19.83 / 0.00