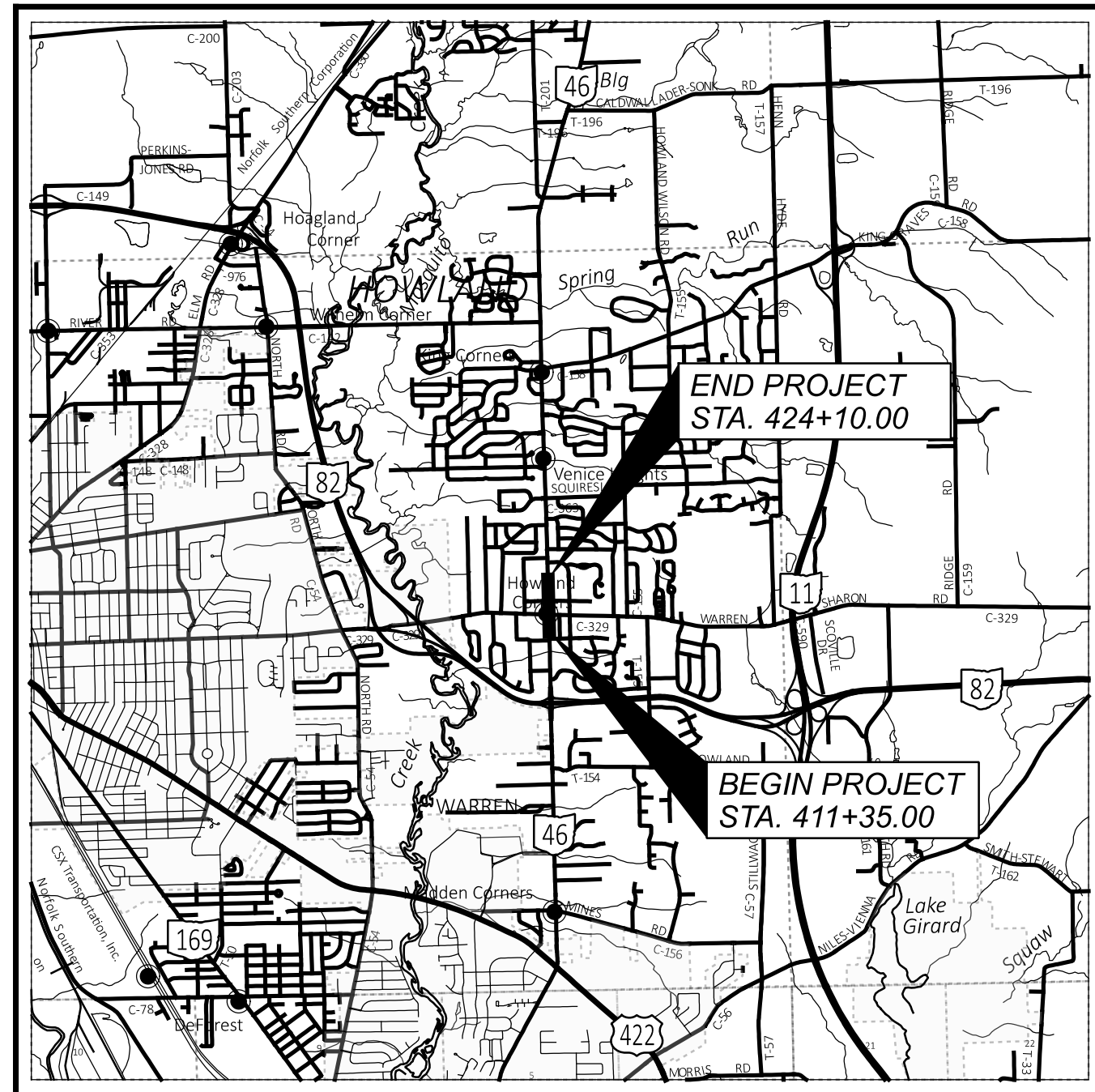


STATE OF OHIO DEPARTMENT OF TRANSPORTATION

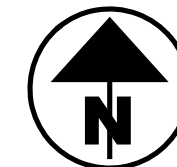
TRU-46-7.81 - PART 1

HOWLAND TOWNSHIP
TRUMBULL COUNTY
FOR PART 2, SEE TRU-82-18.64
FOR PART 3, SEE TRU-46-6.87
FOR PART 4, SEE TRU-46-7.39



LOCATION MAP

LATITUDE: 41°14'18" LONGITUDE: -80°44'26"



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

DESIGN DESIGNATION

	SR-46	CR-329
CURRENT ADT (2025)	17,080	14,280
DESIGN YEAR ADT (2040)	20,810	17,410
DESIGN HOURLY VOLUME (2040)	2,080	1,740
DIRECTIONAL DISTRIBUTION	53%	54%
TRUCKS (24 HOUR B&C)	3%	2%
DESIGN SPEED	45 MPH	40 MPH
LEGAL SPEED	40 MPH	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	MINOR ARTERIAL	MINOR ARTERIAL
NHS PROJECT	NO	

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

REQUIRED. SEE SHEET P.9

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:
Michael Baker
INTERNATIONAL

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GENERAL NOTES	P.8 - P.11
MAINTENANCE OF TRAFFIC	P.12 - P.42
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SUBSUMMARIES	P.46 - P.57
PROJECT SITE PLAN	P.58
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PAVEMENT PLAN	P.69 - P.72
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DRIVE DETAILS	P.118 - P.130
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DRAINAGE DETAILS	P.137
WATER WORK	P.138 - P.147
SIGNING & PAVEMENT MARKING	P.148 - P.155
TRAFFIC SIGNALS	P.156 - P.166
RIGHT-OF-WAY	

FEDERAL PROJECT NUMBER

E190 (529)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

THE PROJECT IMPROVES 0.24 MILES OF SR-46 AT THE CR-329 INTERSECTION IN HOWLAND TOWNSHIP BY WIDENING AND RESURFACING, INCLUDING NEW SIDEWALK, CURB, STORM SEWER SYSTEM, TRAFFIC SIGNS, PAVEMENT MARKINGS, AND TRAFFIC SIGNALS. THE PROJECT WILL ADD RIGHT TURN LANES ON SR-46 AND EXTEND EXISTING LEFT TURN LANES ON BOTH SR-46 AND CR-329 APPROACHING THE INTERSECTION.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 3.1 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA: 3.35 ACRES
NOTE: POST-CONSTRUCTION STORMWATER BMPS FOR THIS PROJECT WILL BE CONSTRUCTED WITH PART 2 (TRU-82-18.64) AND ARE NOT INCLUDED IN THESE PLANS.

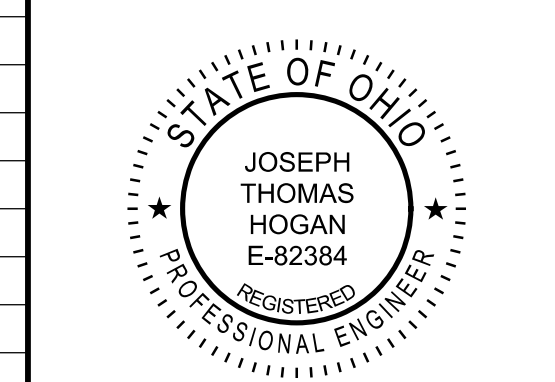
2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

Arthur G. Noiro Jr., P.E.
District 04 Deputy Director

Pamela Boratyn
Director, Department of Transportation

ENGINEER'S SEAL



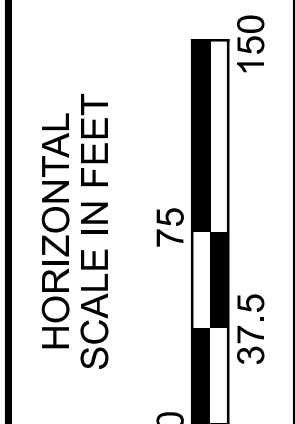
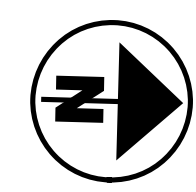
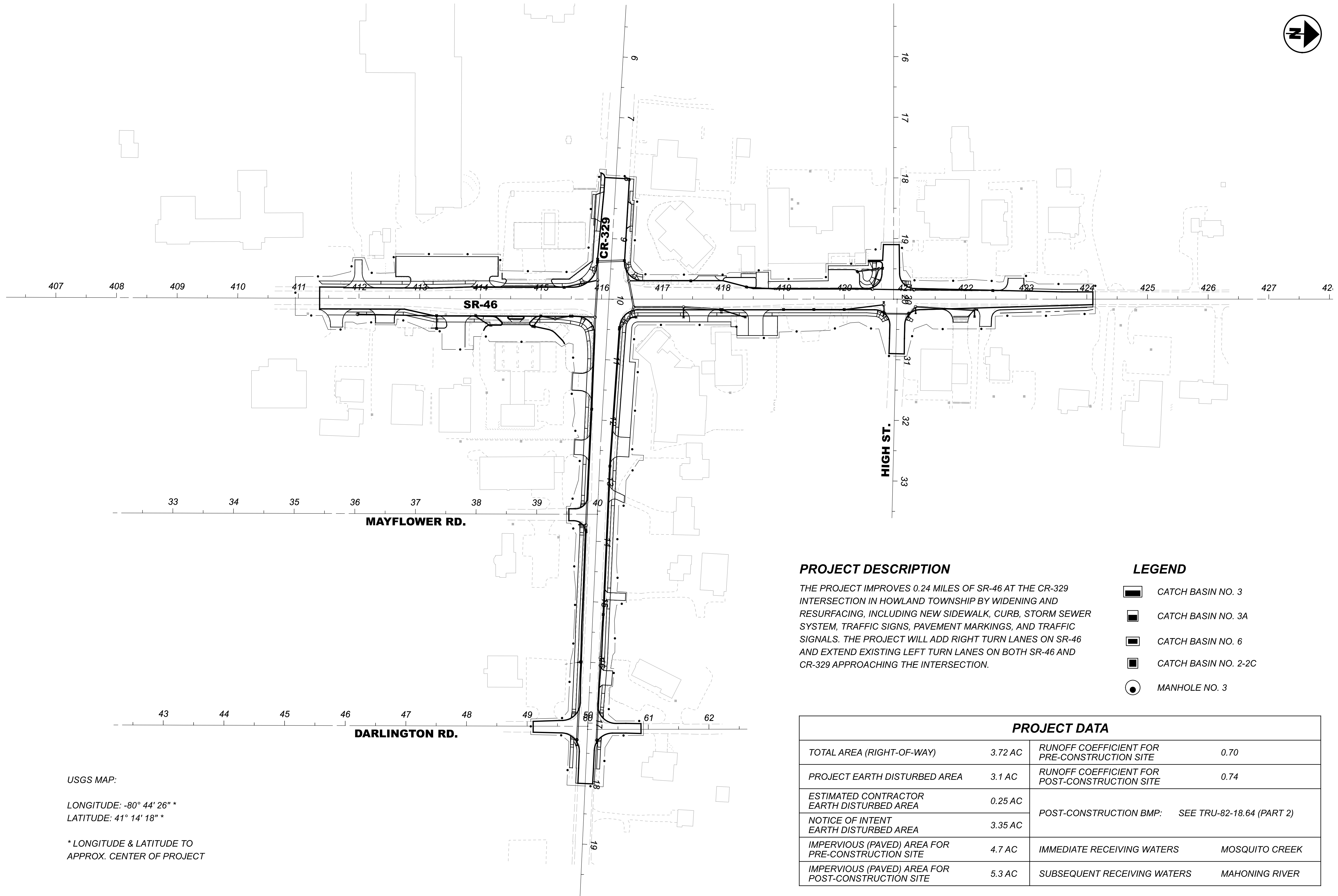
STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS		
BP-3.1	1/19/24	DM-4.4	1/15/16	MT-95.45	7/21/23	TC-17.11	1/19/24	TC-81.11	1/19/24	800-2023	7/19/24
BP-4.1	7/19/13			MT-95.50	7/21/17	TC-21.11	7/16/21	TC-81.22	7/21/23	807	1/21/22
BP-5.1	7/15/22	LA-1.1	10/15/10	MT-97.10	4/19/19	TC-21.21	1/20/23	TC-82.10	7/19/19	809	7/19/24
BP-6.1	7/19/13			MT-97.11	1/20/17	TC-41.20	10/18/13	TC-83.20	7/19/24	821	4/20/12
BP-7.1	7/19/24	MH-1	7/15/22	MT-97.12	1/20/17	TC-41.30	4/21/23	TC-84.20	1/19/24	825	7/19/24
		MH-3	7/19/24	MT-99.20	4/19/19	TC-41.40	10/18/13	TC-84.21	10/18/13	832	7/19/24
CB-2-2A, 2B, 2C	7/19/24			MT-101.60	4/21/23	TC-41.41	7/19/19	TC-85.20	4/21/23	839	7/16/21
CB-2-3, 2-4	7/19/24	RM-1.1	1/20/23	MT-101.70	7/19/24	TC-41.50	10/18/13			850	7/21/23
CB-3	7/19/24	RM-3.1	7/20/18	MT-101.75	7/21/23	TC-42.20	10/18/13			872	1/21/22
CB-3A	7/19/24			MT-101.90	7/17/20	TC-52.10	10/18/13			874	4/17/20
CB-6	7/19/24	HL-30.11	7/21/23	MT-102.20	4/19/19	TC-52.20	1/15/21			875	1/18/19
		HL-30.22	1/15/21	MT-105.10	1/17/20	TC-65.10	1/17/14			880	1/21/22
DM-1.1	7/17/20			MT-110.10	7/19/13	TC-65.11	1/19/24			905	4/17/20
DM-1.2	7/16/21	MT-95.30	7/19/19	MT-120.00	7/19/24	TC-71.10	4/21/23			909	7/19/24
DM-3.1	1/18/13	MT-95.31	7/19/19			TC-73.20	7/19/24			921	7/19/24
DM-4.3	1/15/16	MT-95.40	7/21/23	TC-16.22	7/21/23	TC-74.10	7/21/23				

TRU-46-7.81

MODEL: Sheet PAPER/DATE: 34x22 (in.) DATE: 10/29/2024 TIME: 10:50:03 AM USER: Joseph.Hogan
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TITLE SHEET

DESIGN AGENCY	
DESIGNER	Michael Baker INTERNATIONAL
REVIEWER	MZG
PROJECT ID	JTH 10/23/24
SHEET	109520
TOTAL	P.1 P.166








PROJECT SITE PLAN

USGS MAP:
 LONGITUDE: -80° 44' 26" *
 LATITUDE: 41° 14' 18" *
 * LONGITUDE & LATITUDE TO APPROX. CENTER OF PROJECT

PROJECT DESCRIPTION

THE PROJECT IMPROVES 0.24 MILES OF SR-46 AT THE CR-329 INTERSECTION IN HOWLAND TOWNSHIP BY WIDENING AND RESURFACING, INCLUDING NEW SIDEWALK, CURB, STORM SEWER SYSTEM, TRAFFIC SIGNS, PAVEMENT MARKINGS, AND TRAFFIC SIGNALS. THE PROJECT WILL ADD RIGHT TURN LANES ON SR-46 AND EXTEND EXISTING LEFT TURN LANES ON BOTH SR-46 AND CR-329 APPROACHING THE INTERSECTION.

LEGEND

-  CATCH BASIN NO. 3
-  CATCH BASIN NO. 3A
-  CATCH BASIN NO. 6
-  CATCH BASIN NO. 2-2C
-  MANHOLE NO. 3

PROJECT DATA

TOTAL AREA (RIGHT-OF-WAY)	3.72 AC	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.70
PROJECT EARTH DISTURBED AREA	3.1 AC	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.74
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0.25 AC	POST-CONSTRUCTION BMP: SEE TRU-82-18.64 (PART 2)	
NOTICE OF INTENT EARTH DISTURBED AREA	3.35 AC	IMMEDIATE RECEIVING WATERS	MOSQUITO CREEK
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	4.7 AC	SUBSEQUENT RECEIVING WATERS	MAHONING RIVER
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE	5.3 AC		

DESIGN AGENCY

Michael Baker INTERNATIONAL

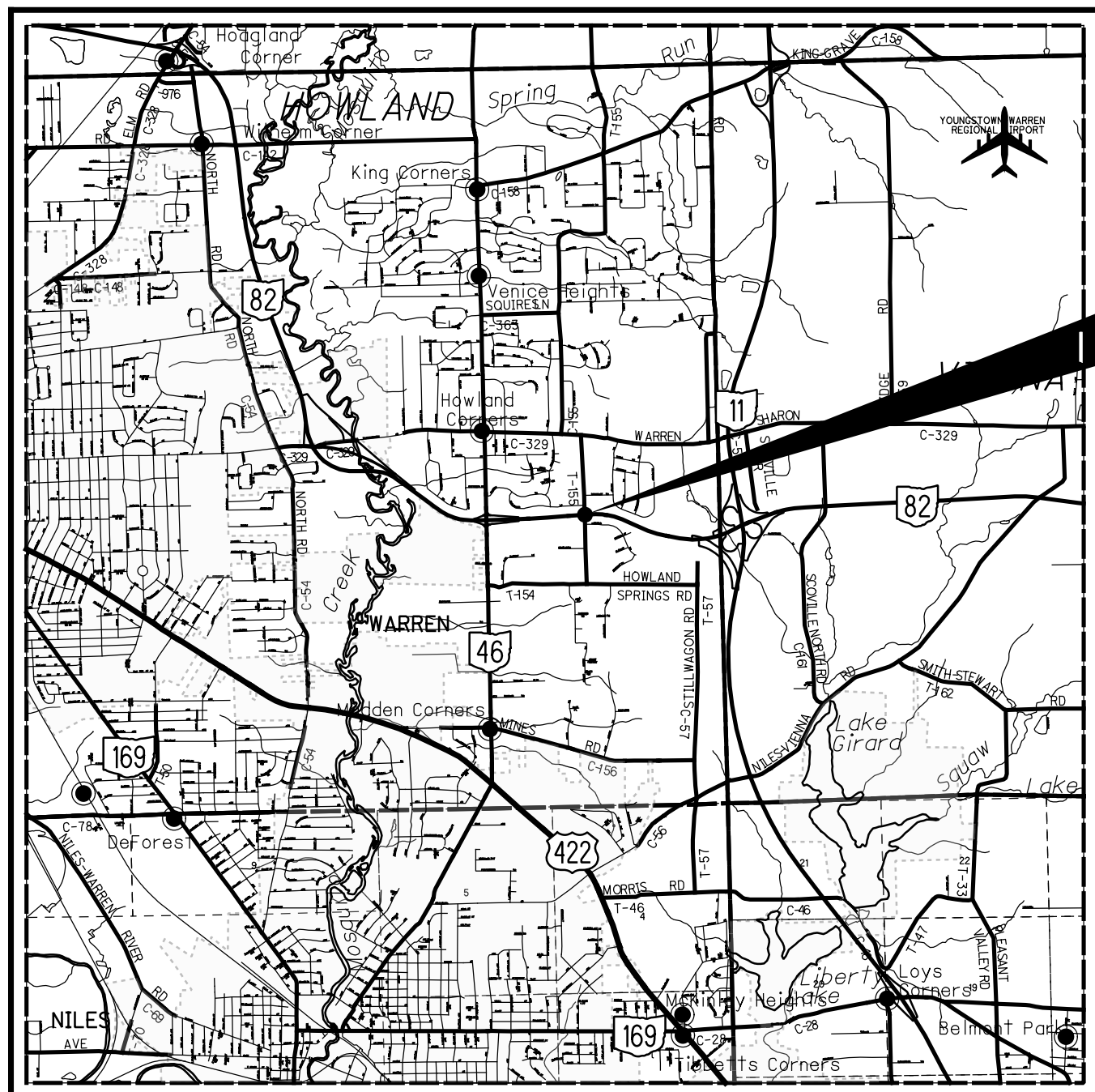
DESIGNER
JTH

REVIEWER
KGJ 03/25/22

PROJECT ID
109520

SHEET TOTAL
P.58 | P.166

**STATE OF OHIO
DEPARTMENT OF TRANSPORTATION**



PROJECT LOCATION
SR 82 @ HOWLAND-WILSON RD

TRU-82-18.64 PART 2

HOWLAND TOWNSHIP

TRUMBULL COUNTY

FOR PART 1 SEE TRU-46-07.81 (PID 109520)

FOR PART 3 SEE TRU-46-6.87 (PID 116869)

LOCATION MAP

LATITUDE: 41°13'49" LONGITUDE: 80°43'42"



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

DESIGN DESIGNATION

	SR 82	HOWLAND-WILSON RD
CURRENT ADT (2022)	40,770	4,160
DESIGN YEAR ADT (2042)	49,700	2,820
DESIGN HOURLY VOLUME (2042)	4,040	280
DIRECTIONAL DISTRIBUTION	53%	50%
TRUCKS (24 HOUR B&C)	10%	3%
DESIGN SPEED	60 MPH	45 MPH
LEGAL SPEED	55 MPH	40 MPH
DESIGN FUNCTIONAL CLASSIFICATION:		
URBAN FREEWAY & EXPRESSWAY (SR 82)		
NHS PROJECT	YES	

DESIGN EXCEPTIONS

PAVEMENT CROSS SLOPE

ADA DESIGN WAIVERS

N/A

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

OHIO811.org
Before You Dig

OHIO 811. 8-1-1. or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
ODOT DISTRICT 4 - CAPITAL PROGRAMS
2088 S. ARLINGTON ROAD
AKRON, OH 44306

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DRAINAGE DETAILS	P.54
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TRAFFIC CONTROL	P.57 - P.67

STANDARD CONSTRUCTION DRAWINGS SEE PART 1 FOR SCD LIST				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS

FEDERAL PROJECT NUMBER

E190(529)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

RECONFIGURING THE INTERSECTION OF SR 82 AND HOWLAND-WILSON ROAD LOCATED IN HOWLAND TOWNSHIP IN TRUMBULL COUNTY YO CLOSED WITH RIGHT-IN ACCESS ONLY FROM SR 82

EARTH DISTURBED AREAS

PROJECT EDA:	2.58 ACRES
ESTIMATED CONTRACTOR EDA:	0.25 ACRES
NOTICE OF INTENT EDA:	2.83 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

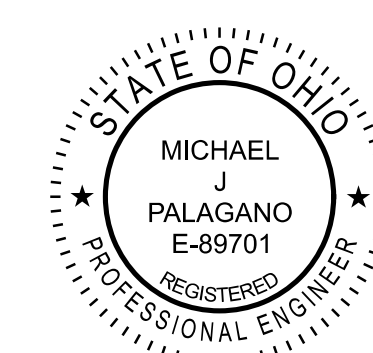
THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT FOR THE SIDE ROADS AS DESCRIBED ON SHEET 11 AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

Arthur G. Noiro Jr., P.E.
District 04 Deputy Director

Pamela Boratyn
Director, Department of Transportation

ENGINEER'S SEAL



TITLE SHEET

DESIGN AGENCY



DESIGNER

MJP

REVIEWER

EMS 09-22-23

PROJECT ID

109520

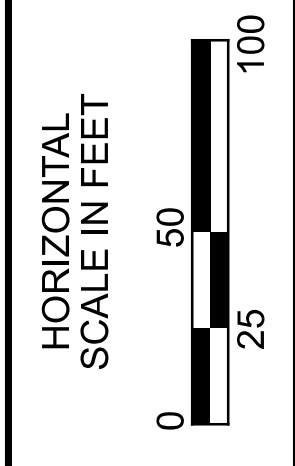
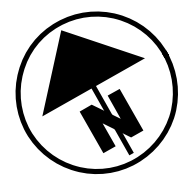
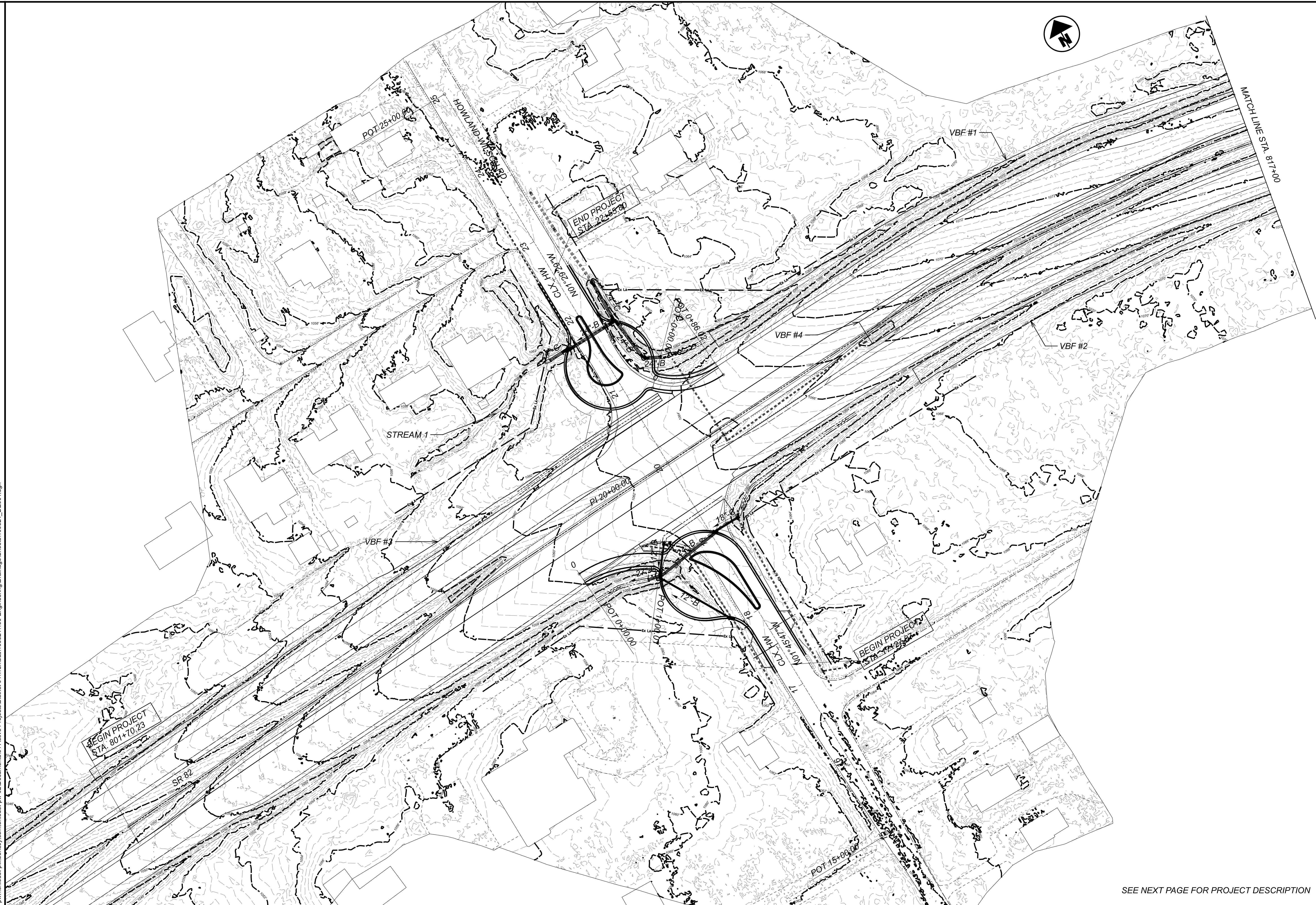
SHEET

TOTAL

P.1 | 67

TRU-82-18.64

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PROJECT SITE PLAN

DESIGN AGENCY



DESIGNER
MJP

REVIEWER
EMS 09-22-23

PROJECT ID
109520

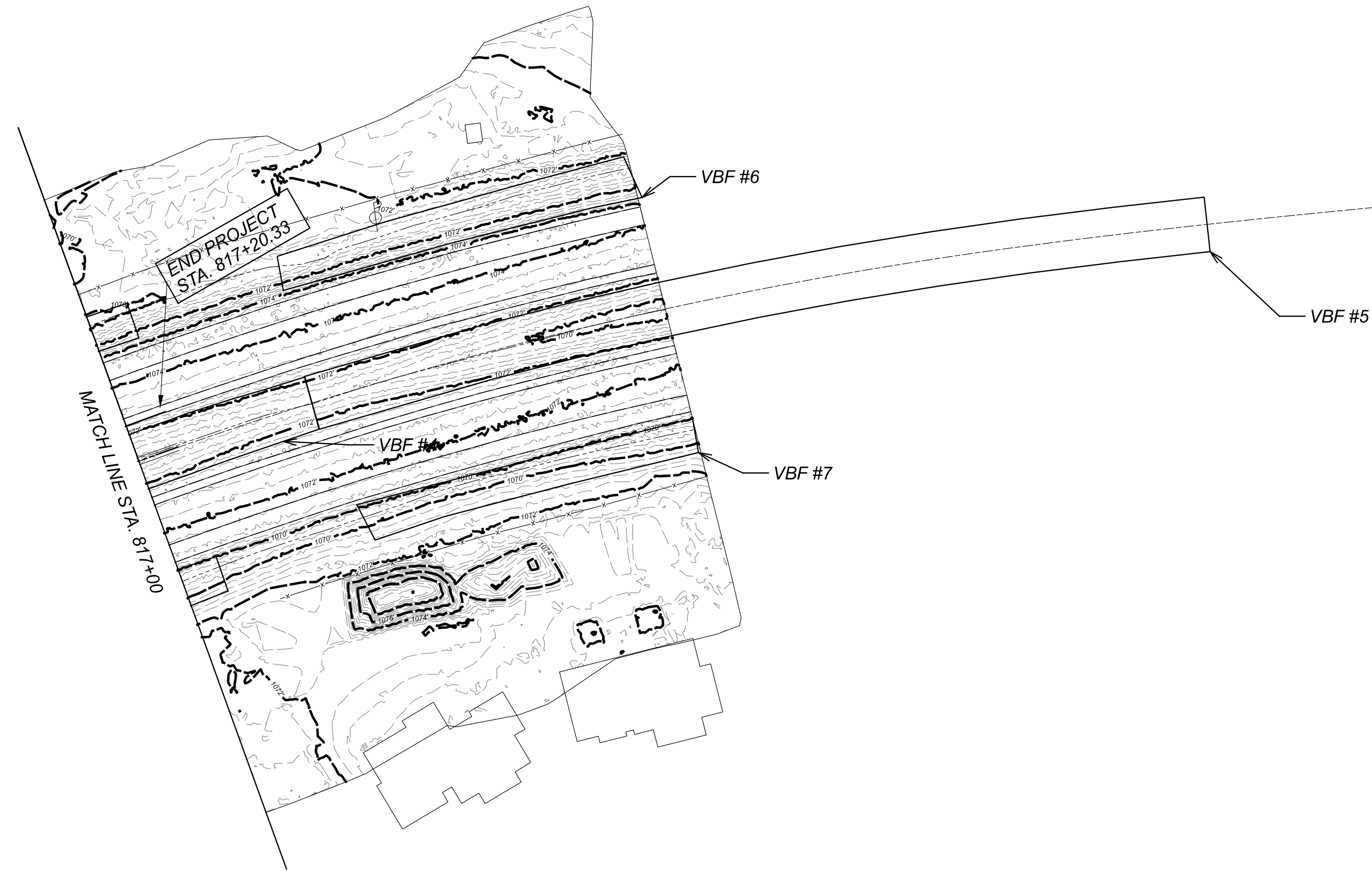
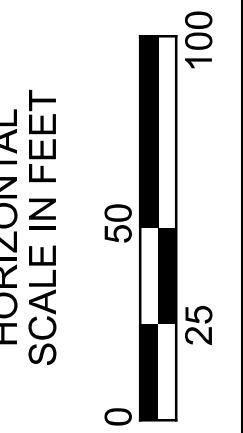
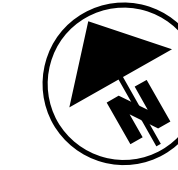
SHEET	TOTAL
P.16	67

SEE NEXT PAGE FOR PROJECT DESCRIPTION

PROJECT DESCRIPTION

ELIMINATION OF A 4-WAY INTERSECTION BY CLOSING ACCESS TO SR 82 FROM HOWLAND-WILSON ROAD AND ADDING RIGHT-IN LANES FROM SR 82 TO HOWLAND-WILSON ROAD. LEFT TURN ACCESS FROM SR 82 TO HOWLAND-WILSON ROAD SHALL BE ELIMINATED. PROJECT INCLUDES STORM SEWER, PAVEMENT MARKING, AND SIGNAGE UPGRADES.

- ITEM 832 LUMP STORM WATER POLLUTION PREVENTION PLAN
- ITEM 832 LUMP STORM WATER POLLUTION PREVENTION PLAN INSPECTIONS
- ITEM 832 LUMP STORM WATER POLLUTION PREVENTION PLAN INSPECTION SOFTWARE



USGS QUADRANGLE: N4107.5 W8037.5/7.5
GIRARD, OHIO

LATITUDE: 41°13'49"N
LONGITUDE: 80°43'42"

PROJECT DATA			
TOTAL AREA (RIGHT OF WAY)	8.84 AC	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.68
PROJECT EARTH DISTURBED AREA	1.76 AC	RUNOFF COEFFICIENT FOR POST-CONSTRUCTION SITE	0.66
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	0.25 AC	POST-CONSTRUCTION BMP	PROVIDE VEGETATED BIOFILTERS WHICH MEET NPDES POST-CONSTRUCTION REQUIREMENTS.
NOTICE OF INTENT EARTH DISTURBED AREA	2.01 AC		
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	4.10 AC	IMMEDIATE RECEIVING WATERS	MOSQUITO CREEK
IMPERVIOUS (PAVED) AREA FOR POST-CONSTRUCTION SITE	3.58 AC	SUBSEQUENT RECEIVING WATERS	MAHONING RIVER

BMP	Start Lat./Long.	End Lat./Long.	Length	Width	Treatment Credit
VBF #1	41°13'50.64" -80°43'37.38"	41°13'50.08" -80°43'28.75"	697'	20'	0.33 Ac
VBF #2	41°13'49.08" -80°43'35.03"	41°13'48.66" -80°43'28.75"	485'	20'	0.22 Ac
VBF #3	41°13'50.00" -80°43'48.87"	41°13'50.39" -80°43'38.53"	795'	12.5'	0.38 Ac
VBF #4	41°13'49.81" -80°43'35.36"	41°13'49.21" -80°43'27.58"	605'	30'	0.42 Ac
VBF #5	41°13'49.21" -80°43'27.58"	41°13'47.56" -80°43'21.41"	500'	30'	0.34 Ac
VBF #6	41°13'49.89" -80°43'35.36"	41°13'49.36" -80°43'24.77"	200'	20'	0.10 Ac
VBF #7	41°13'48.50" -80°43'27.68"	41°13'47.99" -80°43'25.33"	185'	20'	0.08 Ac
Total Treatment Credit					1.87 Ac

BMPs SHOWN COVER EROSION CONTROL REQUIREMENTS FOR PARTS 1 AND 2 OF PROJECT.

PROJECT SITE PLAN

TRU-82-18.64

MODEL: Sheet 2 PAPER SIZE: 34x22 (in.) DATE: 10/29/2024 TIME: 1:26:25 PM USER: shayes
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DESIGN AGENCY



DESIGNER
SPH

REVIEWER
MJP 09-22-23

PROJECT ID
109520

SHEET TOTAL
P.17 67