ROAD IMPROVEMENT PLANS FOR

QUIKTRIP STORE #7021

3778 SR 380

WILMINGTON, OH 45177

GENERAL NOTES:

1. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.
2. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL NECESSARY PERMITS HAVE BEEN OBTAINED FROM THE GOVERNING AGENCIES AND COORDINATING ALL GOVERNING AGENCY INSPECTIONS REQUIRED THROUGHOUT THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR RAZING AND REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED. REFERENCE SITE WORK SPECIFICATIONS.
4. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
5. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR DAMAGE TO ADJACENT PROPERTIES AND NEW CONSTRUCTION IN PLACE DURING THE CONSTRUCTION PHASES OF THIS PROJECT. ANY DISTURBED IMPROVEMENTS SHALL BE REPLACED IN KIND AT THE CONTRACTORS EXPENSE.
6. ANY QUANTITIES PROVIDED ON THESE PLANS ARE FOR GENERAL REFERENCE PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE QUANTITIES REQUIRED FOR CONSTRUCTION.
7. THE EXISTING FEATURES SHOWN ON THESE PLANS ARE THOSE NOTED IN THE FIELD AND THOSE TAKEN FROM RECORD DRAWINGS. THERE IS NO GUARANTEE THAT ALL FEATURES (ABOVE OR BELOW GROUND) ARE SHOWN ON THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING FEATURES PRIOR TO BIDDING THE PROJECT.
8. THE CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION BY CONTACTING THE LOCAL UTILITY COMPANIES AND/OR UTILIZING THE LOCAL ONE-CALL SYSTEM. ANY DAMAGE DONE TO EXISTING UTILITIES (THAT ARE TO REMAIN IN PLACE) DURING CONSTRUCTION OPERATIONS WILL BE THE CONTRACTOR'S RESPONSIBILITY AND REPAIRED AT THE CONTRACTOR'S EXPENSE.
9. ALL SITE WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE OWNERS CONTRACT DOCUMENTS AND SPECIFICATIONS. ALL WORK SHALL MEET OR EXCEED THE RELEVANT UTILITY COMPANIES AND REGULATORY AGENCIES, CONTRACT DOCUMENTS AND SPECIFICATIONS. ALL WORK WITHIN PUBLIC AND STATE RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE GOVERNING AGENCIES STANDARDS AND SPECIFICATIONS.
10. TRAFFIC CONTROL SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CURRENT EDITION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER TRAFFIC CONTROL IS IN PLACE FOR EACH PHASE OF CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR PROPERLY MAINTAINING TRAFFIC CONTROL DEVICES THROUGHOUT THE DURATION OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL PLANS TO THE CITY AND DEPARTMENT OF TRANSPORTATION AS REQUIRED.

WETLANDS NOTICE:

ANY DEVELOPMENT, EXCAVATION, CONSTRUCTION, OR FILLING IN A U.S. CORPS OF ENGINEERS DESIGNATED WETLAND IS SUBJECT TO LOCAL, STATE AND FEDERAL APPROVALS. THE CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS AND/OR RESTRICTIONS AND ANY VIOLATION WILL BE SUBJECT TO FEDERAL PENALTY. THE CONTRACTOR SHALL HOLD THE OWNER/ DEVELOPER, THE ENGINEER AND THE LOCAL GOVERNING AGENCIES HARMLESS AGAINST SUCH VIOLATION.

WARRANTY/DISCLAIMER:

THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER INSPECTS AND CONTROLS THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

NOTICE TO BIDDERS:

ALL QUESTIONS REGARDING THE PREPARATION OF THE GENERAL CONTRACTOR'S BID SHALL BE DIRECTED TO THE OWNER'S CONSTRUCTION REPRESENTATIVE. SUBCONTRACTORS MUST DIRECT THEIR QUESTIONS THROUGH THE GENERAL CONTRACTOR. THE CONSULTING ARCHITECT AND/OR THE CONSULTING ENGINEER SHALL NOT BE CONTACTED DIRECTLY WITHOUT PRIOR AUTHORIZATION FROM THE OWNER/DEVELOPER.

FLOOD CERTIFICATION:

PROPERTY SURVEYED IS LOCATED WITHIN ZONE X. ZONE X – AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN PER FEMA MAP NUMBER 39027C0125D. EFFECTIVE DATE: MAY 3, 2010.

BENCHMARKS:

BM-1 EXISTING MAG NAIL ON EAST SIDE OF HWY 380 ±740' FROM INTERSECTION WITH HWY 73. ELEVATION=1017.52'

BM-2 EXISTING TRAV PIN AT NORTHEAST CORNER OF INTERSECTION OF HWY 380 AND HWY 73. ELEVATION=1003.97'

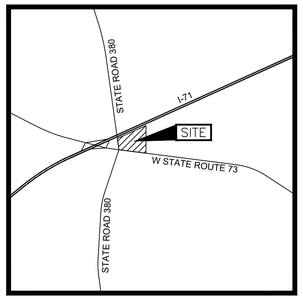
BM-3 EXISTING TRAV PIN NORTH SIDE OF HWY 73 ±391' FROM INTERSECTION WITH HWY 380. ELEVATION=1009.81'

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATE	SHEET NUMBERS
HORIZONTAL CURVATURE	07/07/2025, 07/24/2025	R014, R015, R024, R025
SUPERELEVATION RATE	07/07/2025, 07/24/2025	R014, R015, R024, R025

2023 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.



Vicinity Map
Not to Scale

MUNICIPAL CONTACT LIST:

CLINTON COUNTY

PLANNING AND INSPECTIONS DEPARTMENT
PLANNING DIVISION
CLINTON COUNTY REGIONAL PLANNING COMMISSION
69 N. SOUTH ST
WILMINGTON, OH 45177
TEL: 937-382-3585
CONTACT: CONNOR RIGNEY

CAPITAL IMPROVEMENT PROJECTS/ ENGINEERING DEPARTMENT
1326 FIFE AVE
WILMINGTON, OH 45177
TEL: 937-382-2078
CONTACT: ADAM FRICKE, P.E.

CHESTER TOWNSHIP FIRE DEPARTMENT
5580 STATE ROUTE 380
WILMINGTON, OH 45177
TEL: 937-283-1616
CONTACT:

TRANSPORTATION DEPARTMENT
505 S. STATE ROUTE 741
LEBANON, OH 45036
TEL: 513-933-6596
CONTACT: CHARLES ROWE

WESTERN WATER
3639 BENNETT RD
MORROW, OH 45152
TEL: 513-722-1682

ELECTRIC COMPANY
AES OHIO
TEL: 800-433-8500

TELEPHONE COMPANY
FRONTIER COMMUNIATIONS
TEL: 855-379-6546

PROJECT CONTACT LIST:

SURVEYOR OF RECORD
THOMAS GRAHAM ASSOCIATES, INC
803 COMPTON RD
CINCINNATI, OH 45231
TEL: 513-521-4760

ENGINEER OF RECORD
FREELAND AND KAUFFMAN
TODD BURNETT, P.E.
209 W STONE AVE
GREENVILLE, SC 29609
TEL: (864) 672-3407

QT REAL ESTATE PROJECT MANAGER
QUIKTRIP CORPORATION
JONATHAN HALEY
4705 SOUTH 129TH EAST AVE
TULSA, OK 74134
TEL: (918) 615-7652

QT CIVIL PROJECT MANAGER
QUIKTRIP CORPORATION
CHRIS CLOYDE, P.E.
4705 SOUTH 129TH EAST AVE
TULSA, OK 74134
TEL: (918) 615-7167

DESIGN DESIGNATION

	S.R.-73	S.R.-380
CURRENT ADT (2024)	10,000	2,800
DESIGN YEAR ADT (2034)	12,000	3,100
DESIGN HOUR VOLUME (2034)	1,400	300
DIRECTIONAL DISTRIBUTION	0.70	0.64
TRUCKS (24 HOUR B&C)	0.11	0.08
DESIGN SPEED	55 MPH	60 MPH
LEGAL SPEED	50 MPH	55 MPH

SHEET INDEX

STANDARD CONSTRUCTION DRAWINGS

TC-21.21	1/20/2023	TC-71.10	4/21/2023	MT-95.45	7/21/2023	HL-30.11	7/21/2023
TC-41.20	10/18/2013	TC-73.20	1/17/2025	MT-95.61	4/19/2019		
TC-41.30	4/21/2023	TC-81.11	1/19/2024	MT-97.10	4/19/2019	MH-3	7/19/2024
TC-41.41	7/19/2019	TC-83.10	1/17/2020	MT-98.28	1/17/2020		
TC-42.20	10/18/2013	TC-83.20	7/19/2024	MT-101.70	7/19/2024	CB-1	7/19/2024
TC-52.10	10/18/2013	TC-84.20	1/19/2024	MT-101.75	7/21/2023		
TC-52.20	1/15/2021	TC-85.10	1/19/2024	MT-101.90	7/17/2020	RM-3.1	7/20/2018
TC-64.10	7/21/2023	TC-85.21	1/19/2024	MT-105.10	1/17/2020	RM-4.2	7/19/2024
TC-65.10	1/17/2014	TC-85.22	4/21/2023	MT-120.00	7/19/2024		
TC-65.11	1/17/2025						

OHIO811 Before You Dig

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers • Landscape Architects
209 West Stone Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021
3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE: P-120 (11/01/24)
DIVISION:
VERSION: 001
DESIGNED BY:
DRAWN BY:
REVIEWED BY:

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
COVER

SHEET NUMBER:
R001

FILE LOCATION:L:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:ODOT Cover USER:jatelfe SAVED:8/15/2025 11:01 AM PLOTTED:8/15/2025 11:01 AM

TRAFFIC SIGNAL PROPOSED AT INTERSECTION

S.R. 73

END PROJECT STA. 8+70.30 (I.R. 71)

BEGIN PROJECT STA. 0+50.11 (I.R. 71)

END PROJECT STA. 16+26.86 (S.R. 380)

S.R. 380

BEGIN PROJECT STA. 9+65.50 (S.R. 380)

S.R. 73

BEGIN PROJECT STA. 39+17.30 (S.R. 73)

END PROJECT STA. 43+81.50 (S.R. 73)

N

120 60 0 120 240

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
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329 West Stow Avenue
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3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE: P-120 (11/01/24)
DIVISION:
VERSION: 001
DESIGNED BY:
DRAWN BY:
REVIEWED BY:

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
OVERALL SCHEMATIC

SHEET NUMBER:
R002

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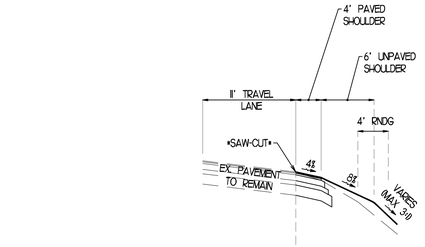
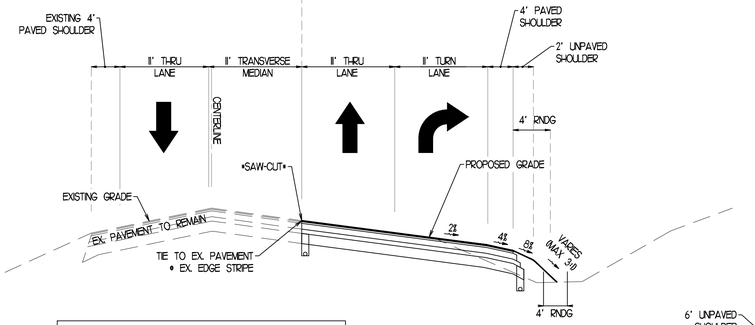
TYPICAL PAVEMENT SECTIONS

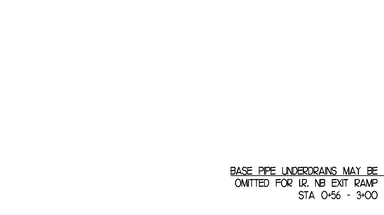
N.T.S.



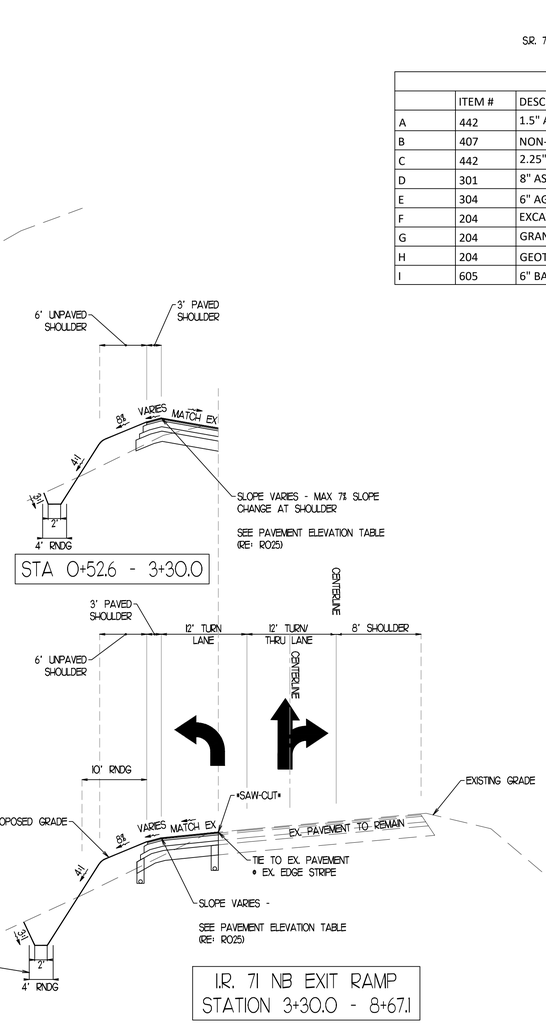
STA 14+18.9 - 14+84.9



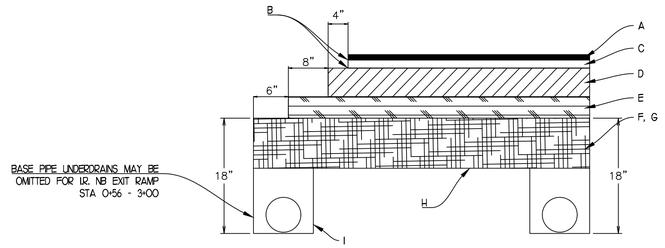
S.R. 380 - (RIGHT TURN LANE)
STATION 9+85.2 - 12+94.6



STA 0+52.6 - 3+30.0



I.R. 71 NB EXIT RAMP
STATION 3+30.0 - 8+67.1



S.R. 73, S.R. 380, I.R. NB EXIT RAMP - PAVEMENT END DETAIL (N.T.S.)

THIS PAVEMENT SECTION IS VALID FOR THE FOLLOWING CONDITIONS:

PROPOSED:	EXISTING:
S.R. 73	S.R. 73
S.R. 380	S.R. 380
I.R. 71	

*THE EXISTING PAVEMENT EDGES SHALL BE SAW CUT TO LOCATE A SOUND PAVEMENT EDGE

*ENTIRE WIDTH OF PAVEMENT TO BE RESURFACED WHERE ANY PAVEMENT MARKING SCARRING OCCURS DUE TO MOT ACTIVITIES

Pavement Section		
	ITEM #	DESCRIPTION
A	442	1.5" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448) PG76-22M
B	407	NON-TRACKING TACK COAT
C	442	2.25" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A, (446) PG76-22M
D	301	8" ASPHALT CONCRETE BASE, PG64-22, (2 LIFTS AT 4" EACH)
E	304	6" AGGREGATE BASE
F	204	EXCAVATION OF SUBGRADE, 14"
G	204	GRANULAR MATERIAL, TYPE C
H	204	GEOTEXTILE FABRIC
I	605	6" BASE PIPE UNDERDRAIN

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FRIEL AND and KAUFFMAN, INC.
Engineers • Landscape Architects
229 West Stow Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021
3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

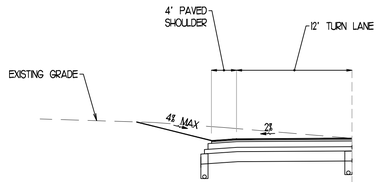
SHEET TITLE:
TYPICAL PAVEMENT SECTIONS

SHEET NUMBER:
R003

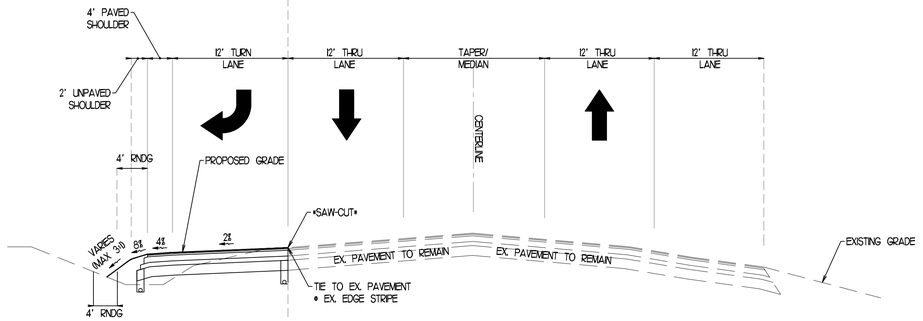
FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\69-7021 (Chester Township, OH)\69-7021 Civil.dwg TAB NAME:Typical Sections USER:jstelfie SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:33 AM

TYPICAL PAVEMENT SECTIONS

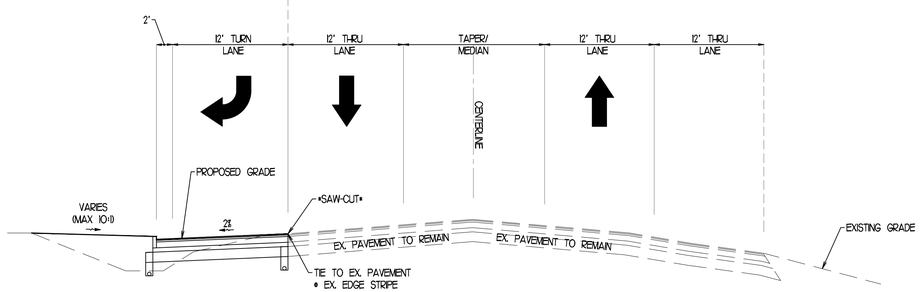
N.T.S.



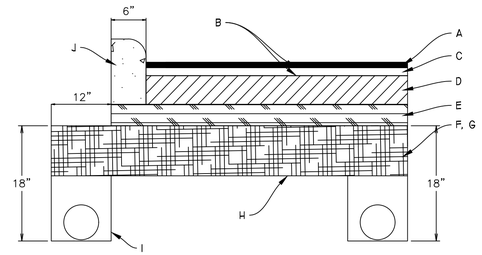
STA 40+00.0 - 40+96.4



S.R. 73 - (RIGHT TURN LANE)
STATION 41+97.5 - 43.81.5



S.R. 73 - (RIGHT TURN LANE)
STATION 40+96.4 - 41+97.5



S.R. 73 - PAVEMENT END DETAIL (N.T.S.)

THIS PAVEMENT SECTION IS VALID FOR THE FOLLOWING CONDITIONS:

PROPOSED: S.R. 73

EXISTING:

*THE EXISTING PAVEMENT EDGES SHALL BE SAW CUT TO LOCATE A SOUND PAVEMENT EDGE

*ENTIRE WIDTH OF PAVEMENT TO BE RESURFACED WHERE ANY PAVEMENT MARKING SCARRING OCCURS DUE TO MOT ACTIVITIES

Pavement Section		
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F	204	EXCAVATION OF SUBGRADE, 14"
G	204	GRANULAR MATERIAL, TYPE C
H	204	GEOTEXTILE FABRIC
I	605	6" BASE PIPE UNDERDRAIN
J	609	CURB, TYPE 4-C

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER
SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
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PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

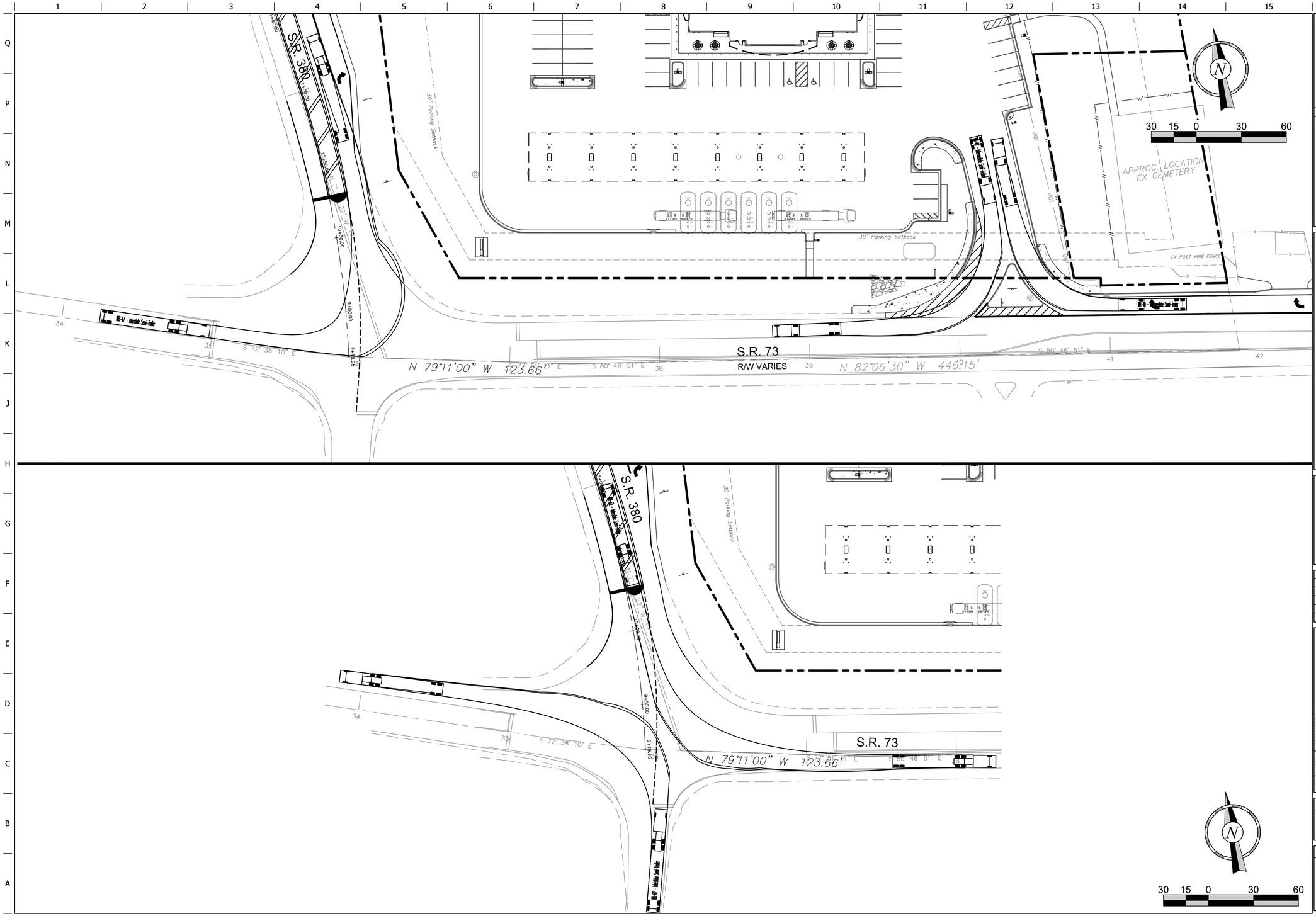
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
TYPICAL PAVEMENT SECTIONS II

SHEET NUMBER:
R004

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\69-7021 (Chester Township, OH)\69-7021 Civil.dwg TAB NAME:Typical Sections (2) USER:jstelfle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:33 AM



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STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
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229 West Stow Avenue
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664-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
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REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:

TURNING MOVEMENTS I

SHEET NUMBER:

R005

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER
SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
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DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
TURNING MOVEMENTS II

SHEET NUMBER:
R006

FILE LOCATION:z:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:Wheel path SR73 (2) USER:jatelfie SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:33 AM

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:Wheel path Exhibit (IR 71 Exit Ramp) USER:jatelle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:34 AM

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION

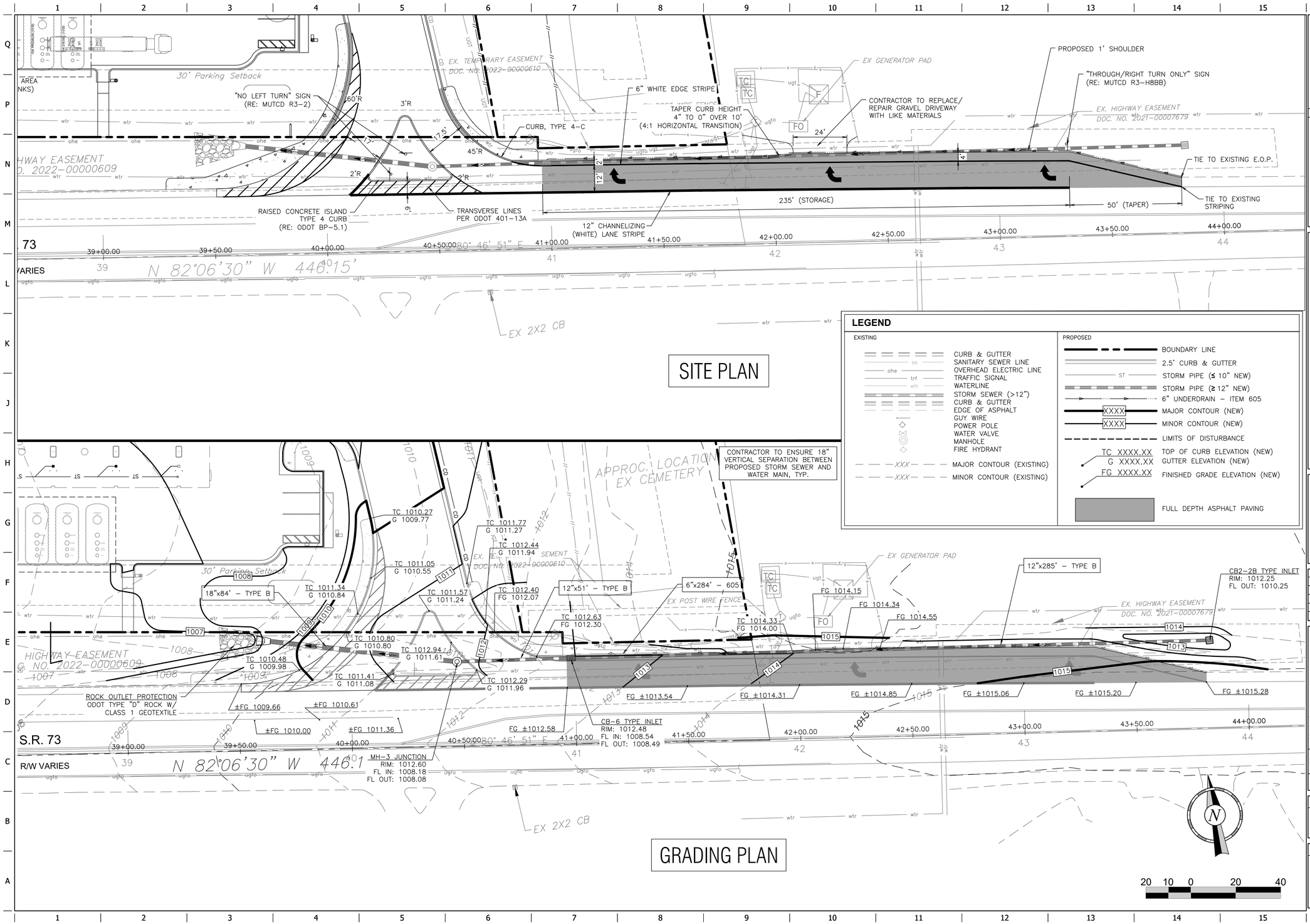
ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:

TURNING MOVEMENTS III

SHEET NUMBER:

R007



LEGEND

EXISTING		PROPOSED	
	CURB & GUTTER		BOUNDARY LINE
ss	SANITARY SEWER LINE		2.5' CURB & GUTTER
ohe	OVERHEAD ELECTRIC LINE	ST	STORM PIPE (≤ 10" NEW)
trf	TRAFFIC SIGNAL		STORM PIPE (≥ 12" NEW)
wtr	WATERLINE		6" UNDERDRAIN – ITEM 605
	STORM SEWER (>12")	XXXX	MAJOR CONTOUR (NEW)
	CURB & GUTTER	XXXX	MINOR CONTOUR (NEW)
	EDGE OF ASPHALT		LIMITS OF DISTURBANCE
	GUY WIRE	TC XXXX.XX	TOP OF CURB ELEVATION (NEW)
	POWER POLE	G XXXX.XX	GUTTER ELEVATION (NEW)
	WATER VALVE	FG XXXX.XX	FINISHED GRADE ELEVATION (NEW)
	MANHOLE		FULL DEPTH ASPHALT PAVING
	FIRE HYDRANT		
XXX	MAJOR CONTOUR (EXISTING)		
XXX	MINOR CONTOUR (EXISTING)		

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

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Engineers + Landscape Architects
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Greenville, Ohio 45331
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3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION
		ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
SITE & GRADING PLAN (S.R. 73)

SHEET NUMBER:
R008

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\69-7021 (Chester Township, OH)\69-7021 Civil.dwg TAB NAME:ODOT - Site & Grading (SR 73) USER:jstelfle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:34 AM

LEGEND

EXISTING

- CURB & GUTTER
- SANITARY SEWER LINE
- OVERHEAD ELECTRIC LINE
- TRAFFIC SIGNAL
- WATERLINE
- STORM SEWER (>12")
- CURB & GUTTER
- EDGE OF ASPHALT
- GUY WIRE
- POWER POLE
- WATER VALVE
- MANHOLE
- FIRE HYDRANT

PROPOSED

- BOUNDARY LINE
- 2.5' CURB & GUTTER
- EDGE OF ASPHALT

EXISTING LEGEND (ITEMS TO BE REMOVED)

- EDGE OF ASPHALT
- CURB AND GUTTER
- SIGN
- DIRECTIONAL ARROW
- ASPHALT (IF INADEQUATE EX. PAVEMENT)

EXISTING UTILITY POLE TO BE RELOCATED BY UTILITY PROVIDER

30' Parking Setback

EXISTING SIGN TO BE RELOCATED

EX TURN SIGN

INV 12" PIPE= 1009.89

EX SIGN (DIRECTIONAL/ JCT 380)

EXISTING SIGN TO BE REMOVED AND RELOCATED

EX GENERATOR PAD

EX TELEPHONE BOX

EX POST WIRE FENCE

INV 12" PIPE= 1012.30

EX POST WIRE FENCE

REMOVE HEADWALL, TYP. OF 2

EXISTING 12" RCP STORM PIPE TO BE REMOVED AND DISPOSED OF

EX ELEC BOX

EXISTING UTILITY BOXES TO BE RELOCATED BY UTILITY PROVIDER

UNLESS FIELD ALTERED, SAW-CUT INTERIOR SIDE OF EDGE STRIPE AND REMOVE PAVEMENT AS NECESSARY

S.R. 73

R/W VARIES

N 82°06'30" W 446.15'

S 80° 46' 51" E

EX 2X2 CB

DEMOLITION PLAN

20 10 0 20 40

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:ODOT - Demolition (SR 73) USER:jatefle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:34 AM

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, Ohio 45331
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

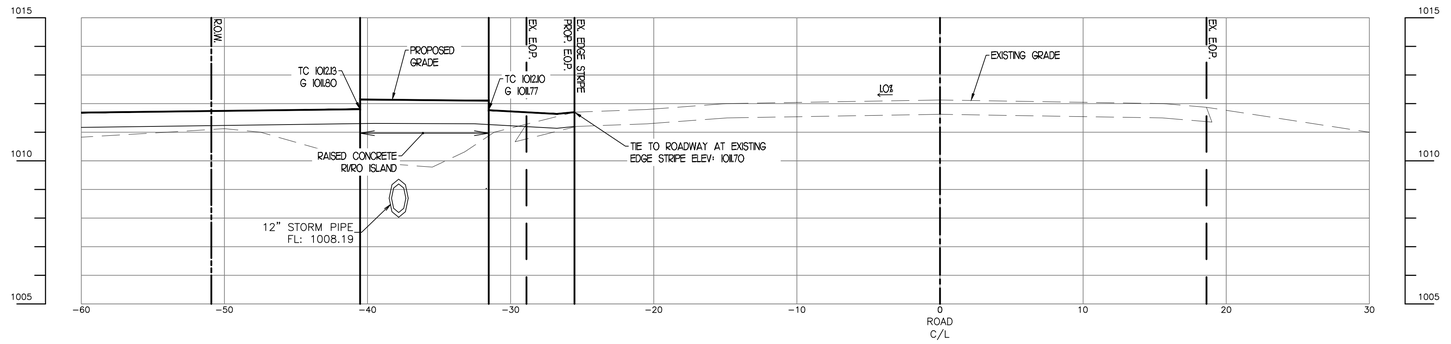
PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION

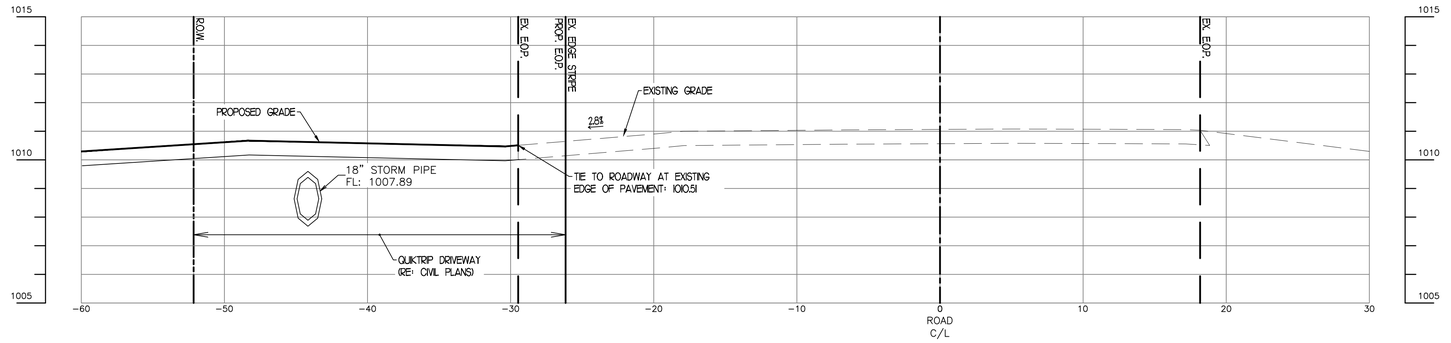
ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
DEMOLITION PLAN (S.R. 73)

SHEET NUMBER:
R009



S.R. 73
STA:40+50



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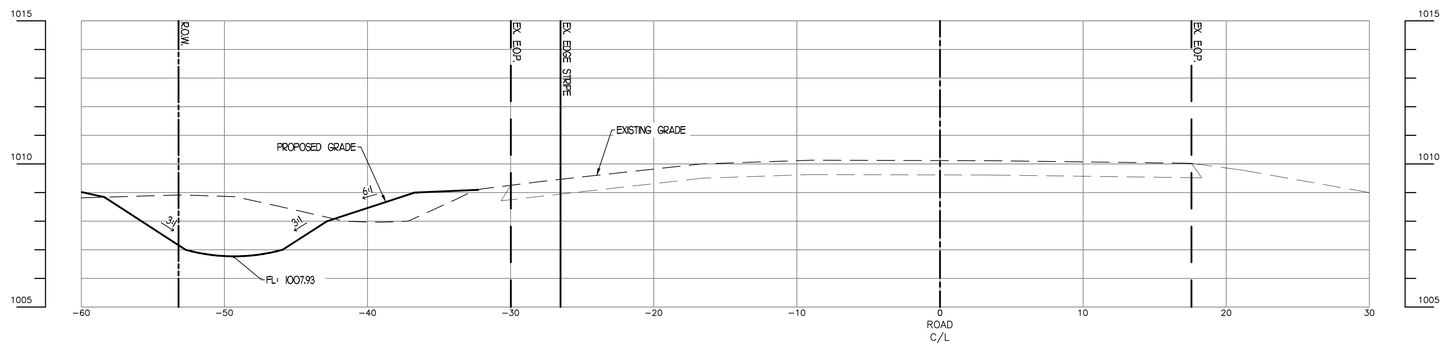

S.R. 73
STA:39+50

5 0 5 10

TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
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329 West Stow Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
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DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

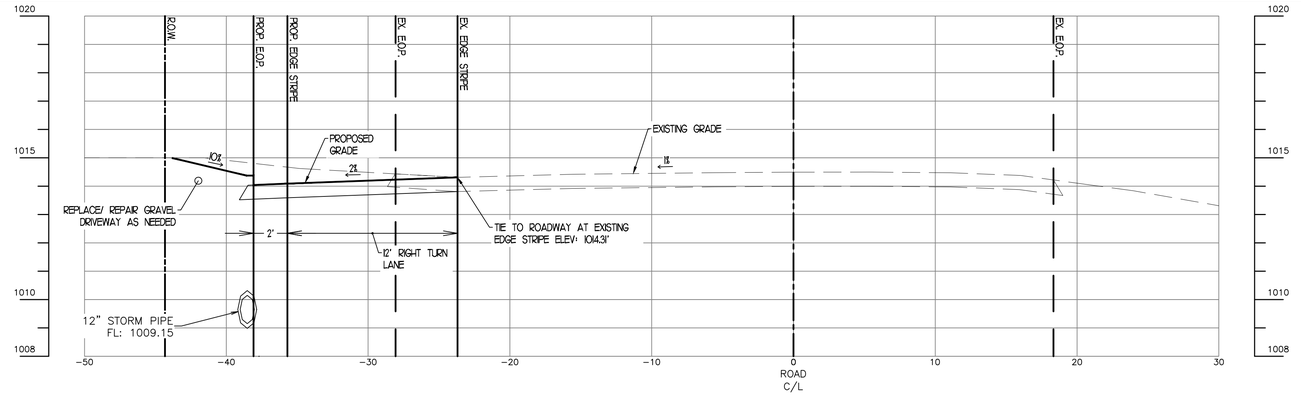
SHEET TITLE:

S.R. 73 CROSS SECTION I

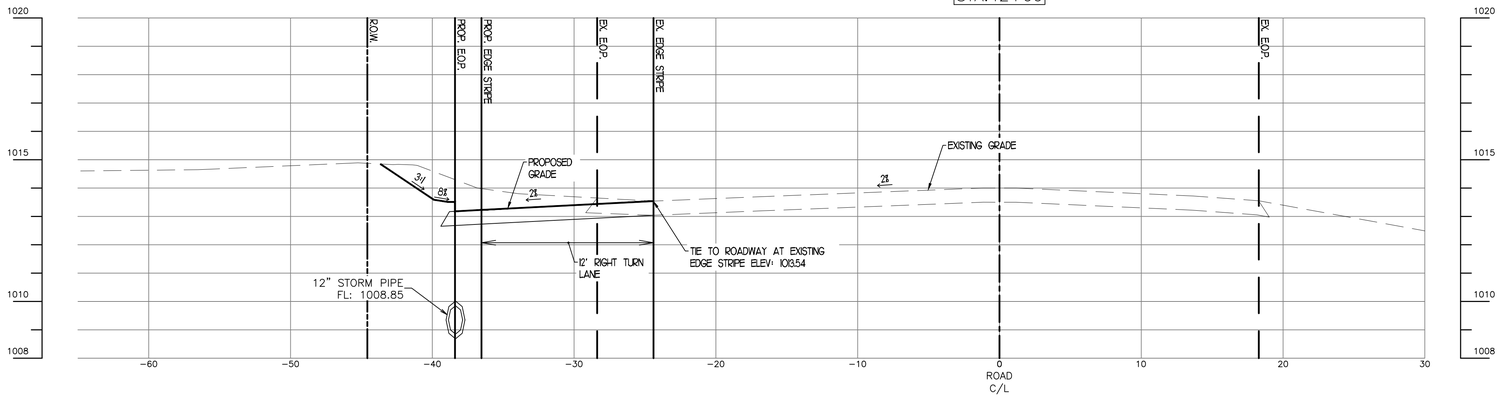
SHEET NUMBER:

R010

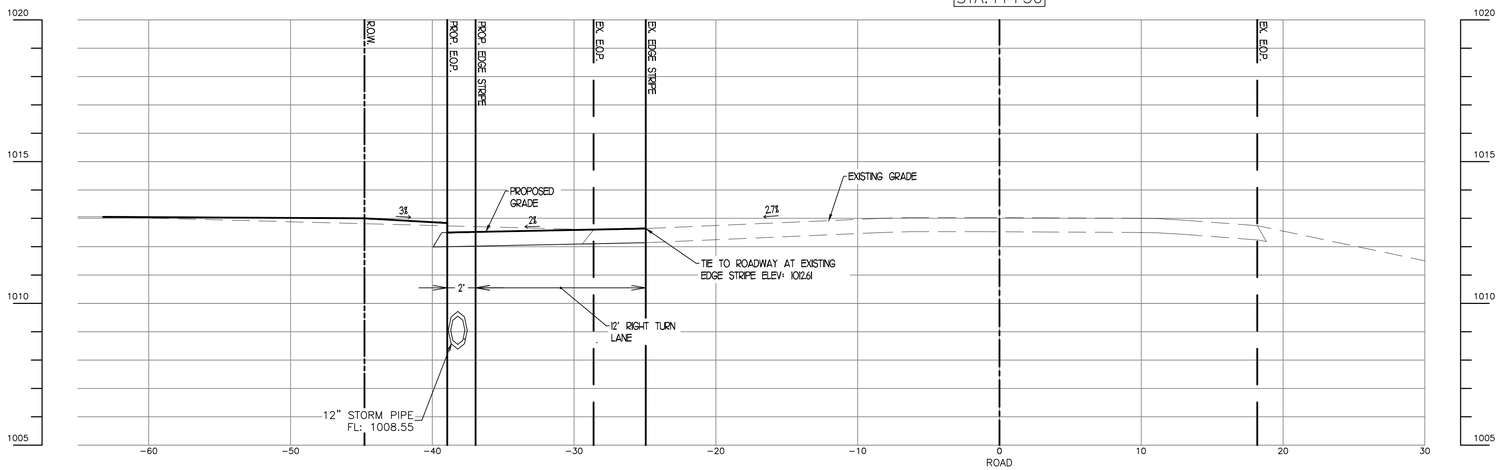
FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:SR 73 - XS USER:jsteiffe SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:34 AM



S.R. 73
STA:42+00



S.R. 73
STA:41+50



S.R. 73
STA:41+00

5 0 5 10

STATE OF OHIO
TODD BURNETT
86798
REGISTERED
PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
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229 West Stow Avenue
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3778 SR 380
WILMINGTON, OH 45177

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VERSION:	001
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REVIEWED BY:	

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

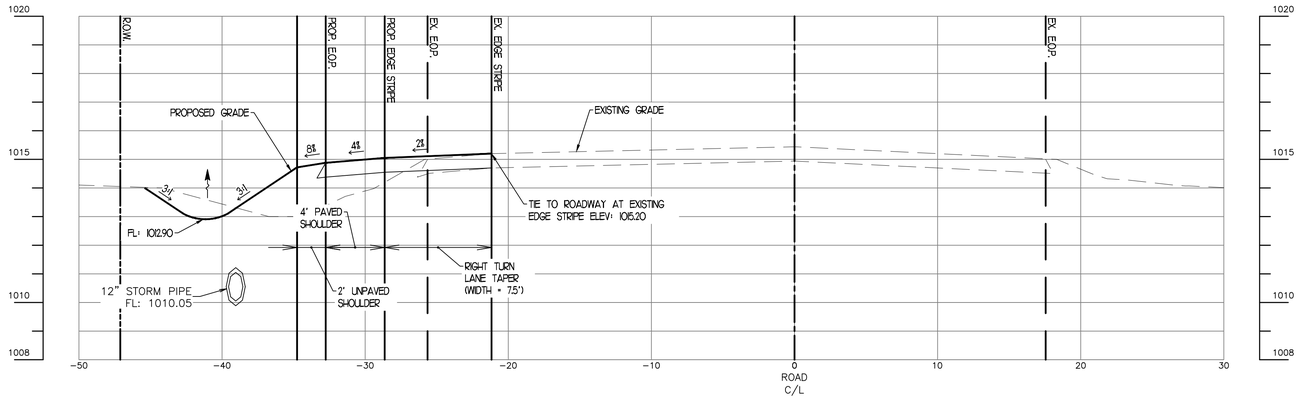
SHEET TITLE:

S.R. 73 CROSS SECTION II

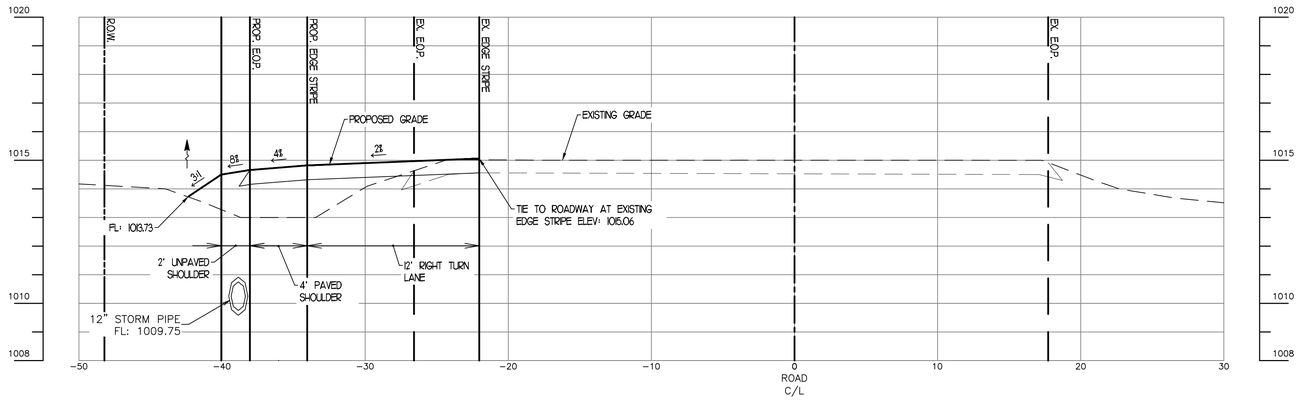
SHEET NUMBER:

R011

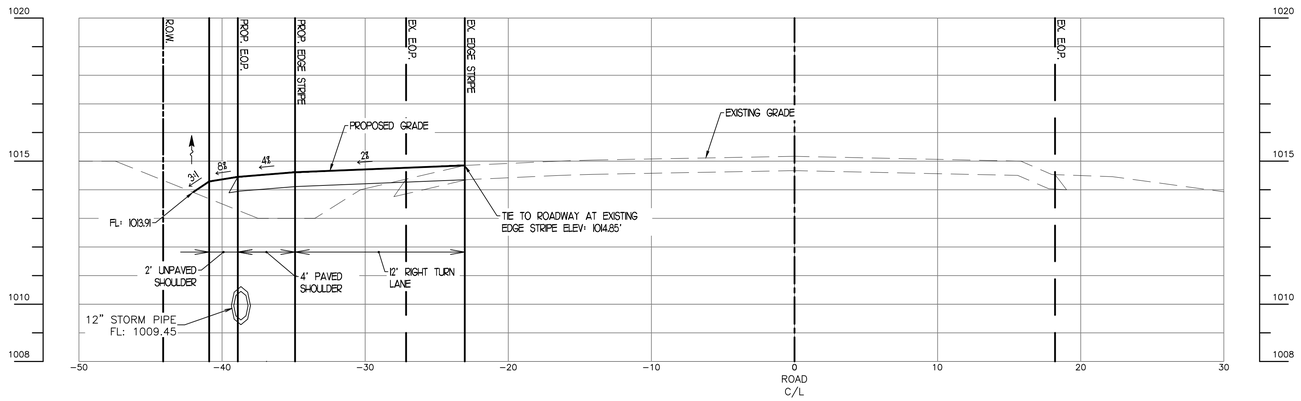
FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:SR 73 - XS (2) USER:jstelfle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:34 AM



S.R. 73
STA:43+50



S.R. 73
STA:43+00



S.R. 73
STA:42+50

5 0 5 10

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:SR 73 - XS (3) USER:jstefle SAVED:5/13/2025 10:29 AM PLOTTED:6/13/2025 10:34 AM

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

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3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
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REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:

S.R. 73 CROSS SECTION III

SHEET NUMBER:

R012

S.R. 73
STA:44+00

5 0 5 10

TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
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WILMINGTON, OH 45177

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DRAWN BY:	
REVIEWED BY:	

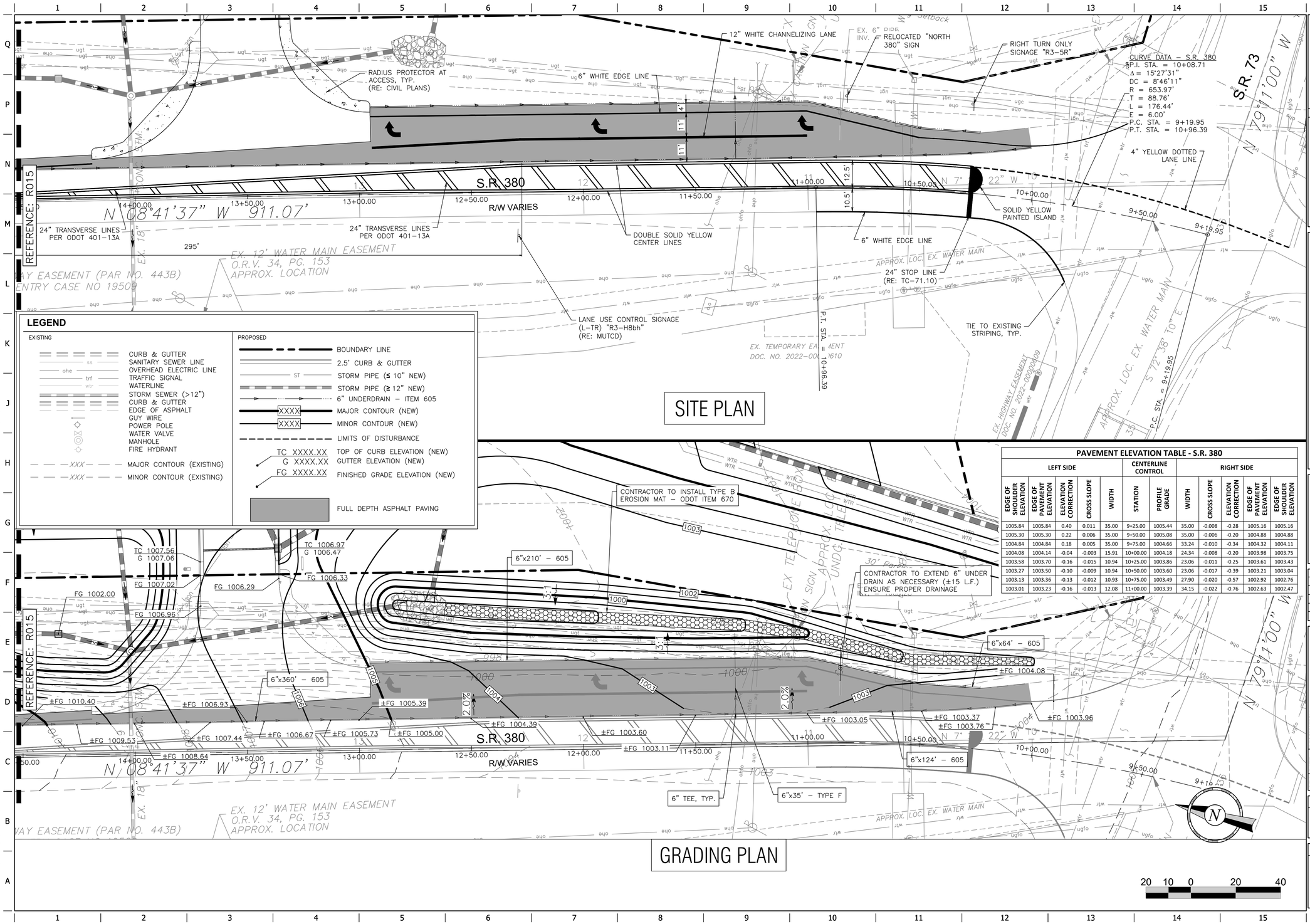
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
S.R. 73 CROSS SECTION IV

SHEET NUMBER:
R013

FILE LOCATION:u:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:SR 73 - XS (4) USER:jsteiffe SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:34 AM



LEGEND

EXISTING

- CURB & GUTTER
- SANITARY SEWER LINE
- OVERHEAD ELECTRIC LINE
- TRAFFIC SIGNAL
- WATERLINE
- STORM SEWER (>12")
- CURB & GUTTER
- EDGE OF ASPHALT
- GUY WIRE
- POWER POLE
- WATER VALVE
- MANHOLE
- FIRE HYDRANT
- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)

PROPOSED

- BOUNDARY LINE
- 2.5' CURB & GUTTER
- STORM PIPE (≤ 10" NEW)
- STORM PIPE (≥ 12" NEW)
- 6" UNDERDRAIN – ITEM 605
- MAJOR CONTOUR (NEW)
- MINOR CONTOUR (NEW)
- LIMITS OF DISTURBANCE
- TC XXXX.XX TOP OF CURB ELEVATION (NEW)
- G XXXX.XX GUTTER ELEVATION (NEW)
- FG XXXX.XX FINISHED GRADE ELEVATION (NEW)
- FULL DEPTH ASPHALT PAVING

PAVEMENT ELEVATION TABLE - S.R. 380

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE				
EDGE OF SHOULDER ELEVATION	EDGE OF PAVEMENT ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	EDGE OF PAVEMENT ELEVATION	EDGE OF SHOULDER ELEVATION
1005.84	1005.84	0.40	0.011	35.00	9+25.00	1005.44	35.00	-0.008	-0.28	1005.16	1005.16
1005.30	1005.30	0.22	0.006	35.00	9+50.00	1005.08	35.00	-0.006	-0.20	1004.88	1004.88
1004.84	1004.84	0.18	0.005	35.00	9+75.00	1004.66	33.24	-0.010	-0.34	1004.32	1004.11
1004.08	1004.14	-0.04	-0.003	15.91	10+00.00	1004.18	24.34	-0.008	-0.20	1003.98	1003.75
1003.58	1003.70	-0.16	-0.015	10.94	10+25.00	1003.86	23.06	-0.011	-0.25	1003.61	1003.43
1003.27	1003.50	-0.10	-0.009	10.94	10+50.00	1003.60	23.06	-0.017	-0.39	1003.21	1003.04
1003.13	1003.36	-0.13	-0.012	10.93	10+75.00	1003.49	27.90	-0.020	-0.57	1002.92	1002.76
1003.01	1003.23	-0.16	-0.013	12.08	11+00.00	1003.39	34.15	-0.022	-0.76	1002.63	1002.47

TODD BURNETT 86798 REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO
SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, Ohio 45309
664-255-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE: P-120 (11/01/24)
DIVISION:
VERSION: 001
DESIGNED BY:
DRAWN BY:
REVIEWED BY:

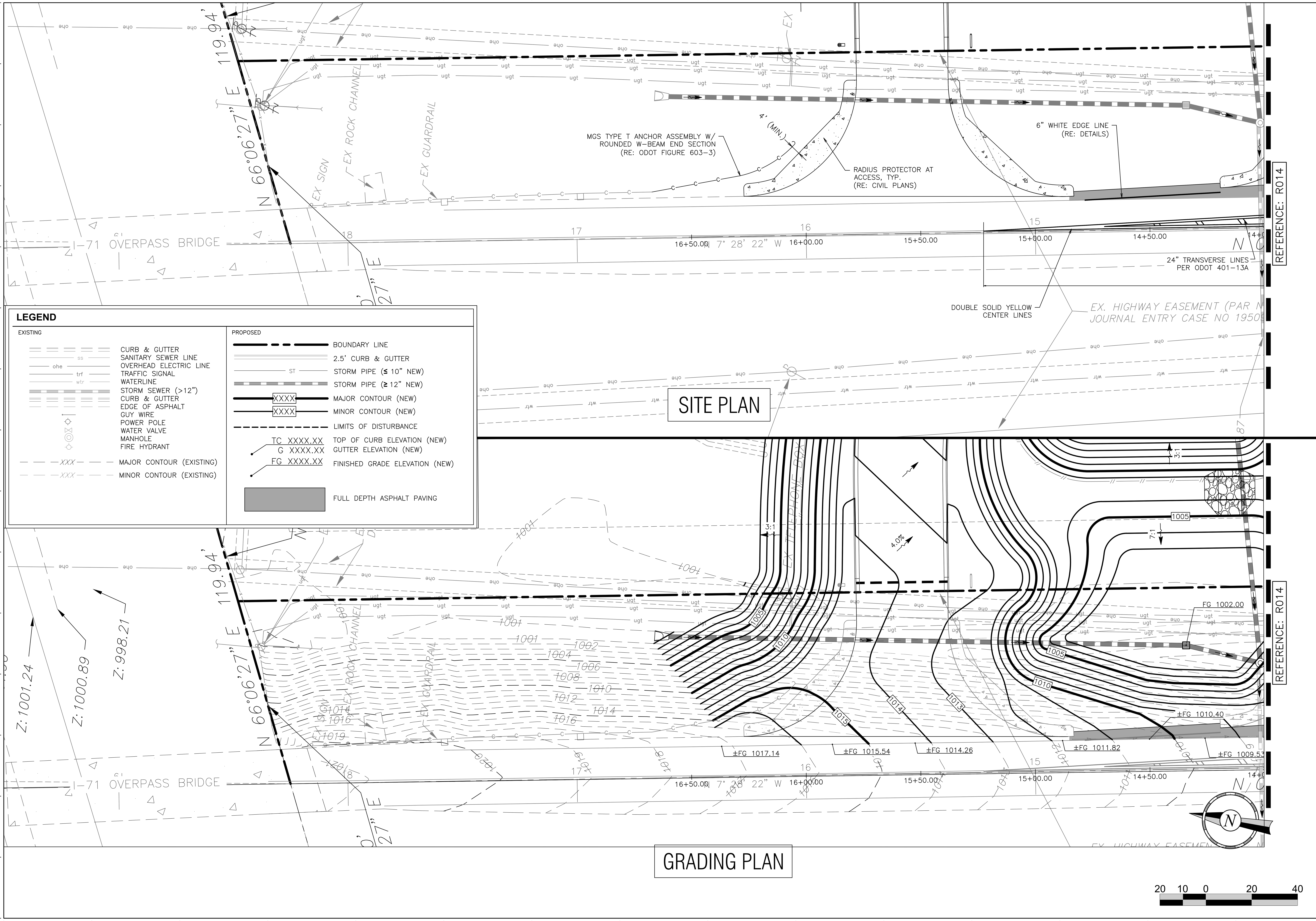
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
SITE & GRADING PLAN (S.R. 380) I

SHEET NUMBER:
R014

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\69-7021 (Chester Township, OH)\69-7021 Civil.dwg TAB NAME:ODOT – Site & Grading (SR 380) USER:jstelfie SAVED:6/13/2025 10:57 AM PLOTTED:6/13/2025 11:06 AM



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STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
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209 West Stone Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE: P-120 (11/01/24)
DIVISION:
VERSION: 001
DESIGNED BY:
DRAWN BY:
REVIEWED BY:

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
SITE & GRADING PLAN (S.R. 380) II

SHEET NUMBER:
R015

LEGEND

EXISTING

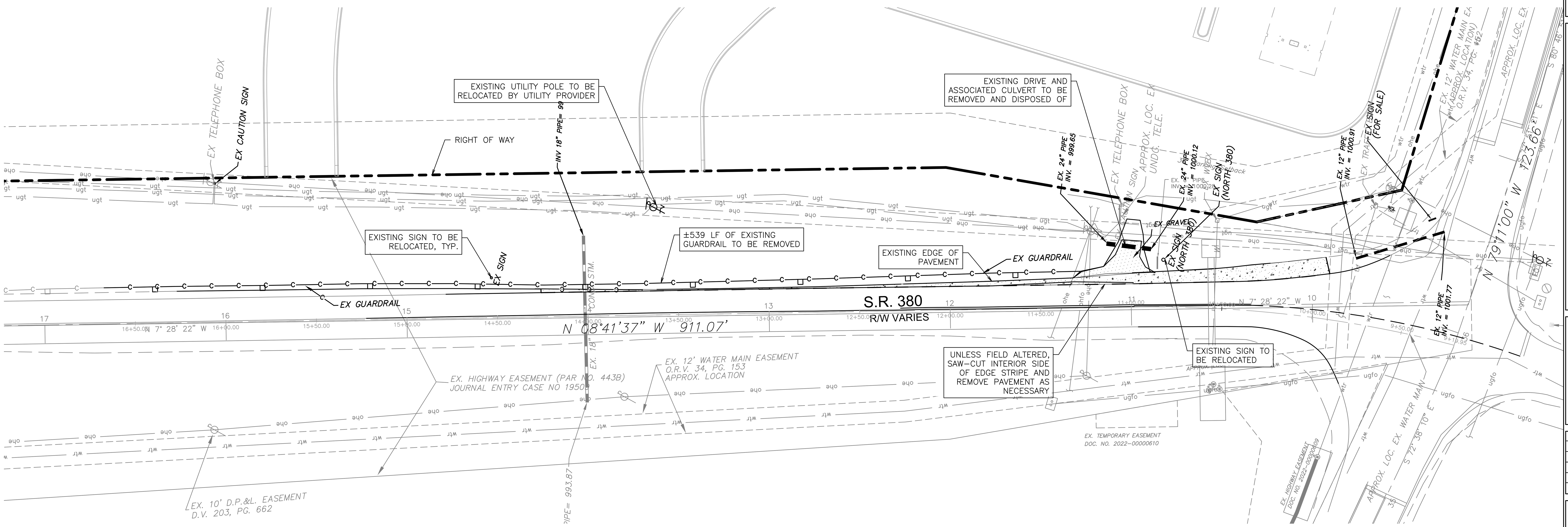
- CURB & GUTTER
- SANITARY SEWER LINE
- OVERHEAD ELECTRIC LINE
- TRAFFIC SIGNAL
- WATERLINE
- STORM SEWER (>12")
- CURB & GUTTER
- EDGE OF ASPHALT
- GUY WIRE
- POWER POLE
- WATER VALVE
- MANHOLE
- FIRE HYDRANT

PROPOSED

- BOUNDARY LINE
- 2.5' CURB & GUTTER
- EDGE OF ASPHALT

EXISTING LEGEND (ITEMS TO BE REMOVED)

- EDGE OF ASPHALT
- CURB AND GUTTER
- SIGN
- DIRECTIONAL ARROW
- ASPHALT (IF INADEQUATE EX. PAVEMENT)



DEMOLITION PLAN

40 20 0 40 80

TODD BURNETT 86798 STATE OF OHIO REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers • Landscape Architects
209 West Stone Avenue
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QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE: P-120 (11/01/24)
DIVISION:
VERSION: 001
DESIGNED BY:
DRAWN BY:
REVIEWED BY:

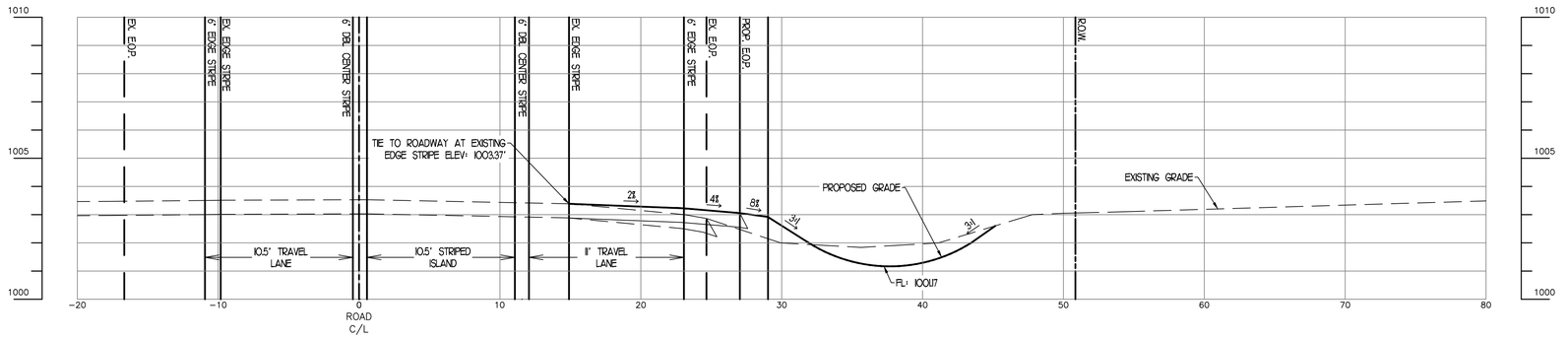
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

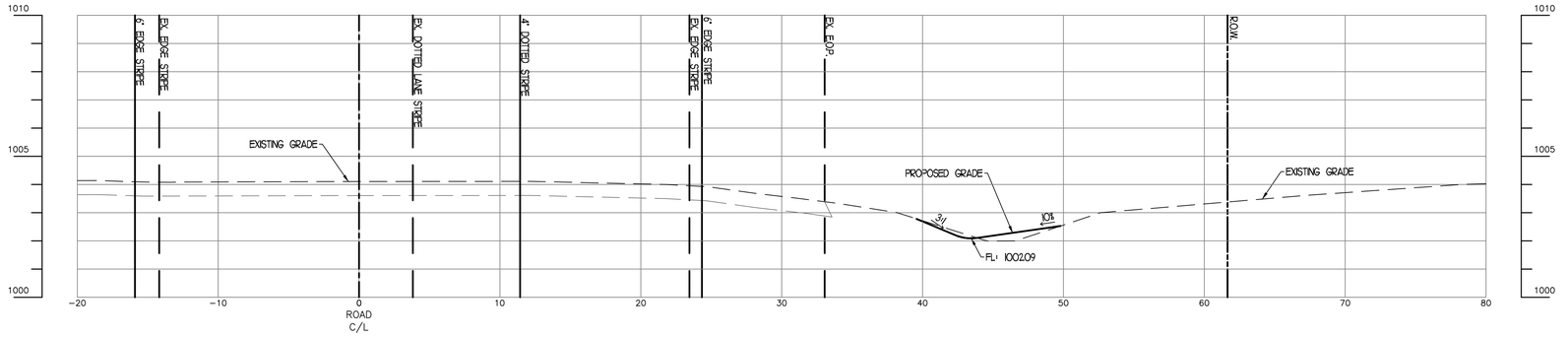
SHEET TITLE:
DEMOLITION PLAN (S.R. 380)

SHEET NUMBER:
R016

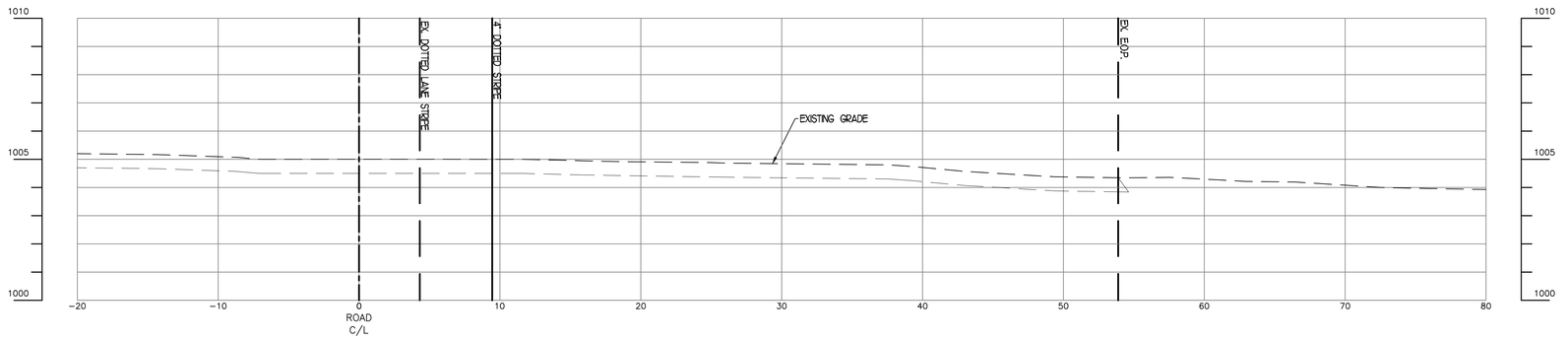
FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:ODOT - Demolition (SR 380) USER:jsteille SAVED:6/13/2025 10:57 AM PLOTTED:6/13/2025 11:07 AM



S.R. 380 – STA:10+50



S.R. 380 – STA:10+00



S.R. 380 – STA:9+50

5 0 5 10

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, Ohio 45331
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

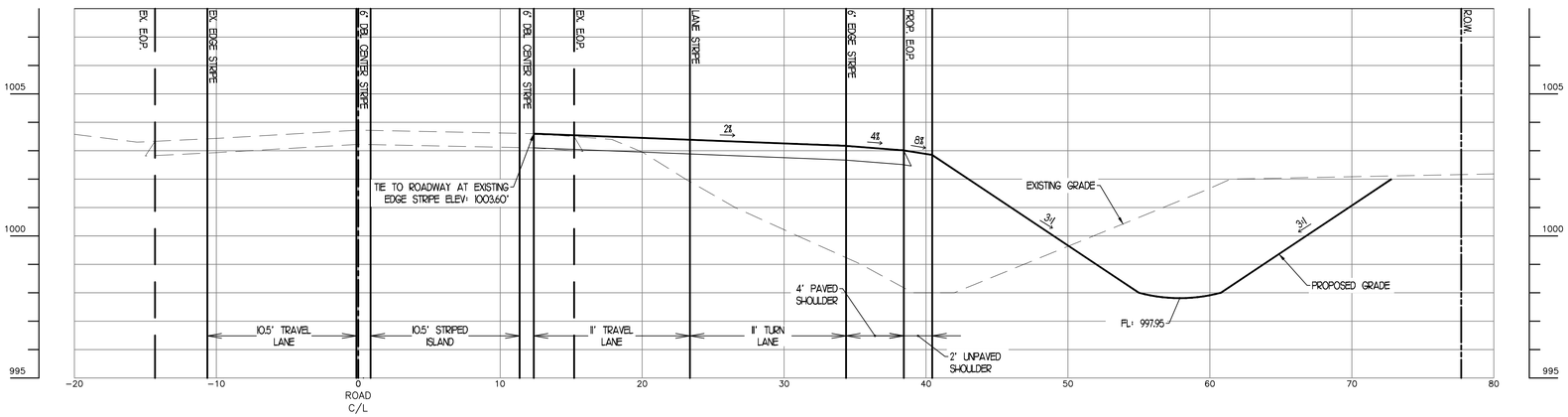
SHEET TITLE:

S.R. 380 CROSS SECTION I

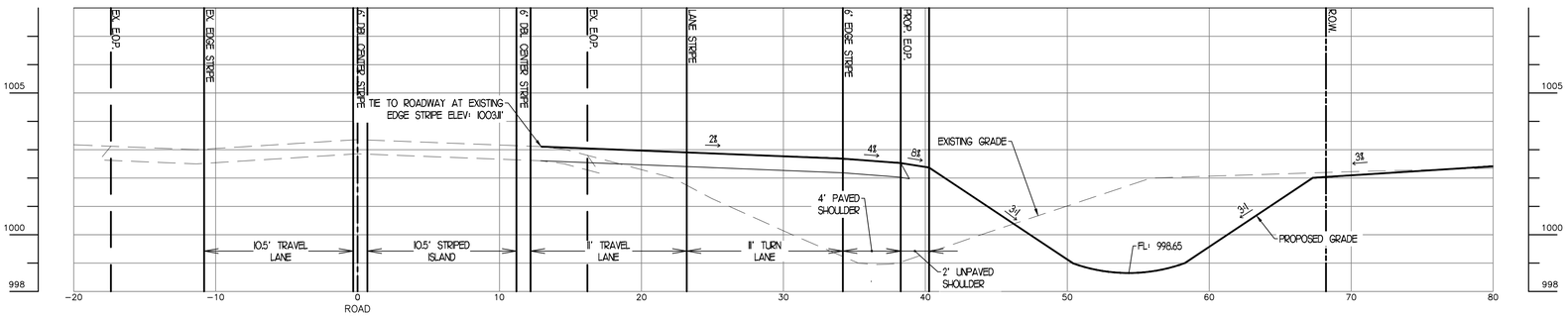
SHEET NUMBER:

R017

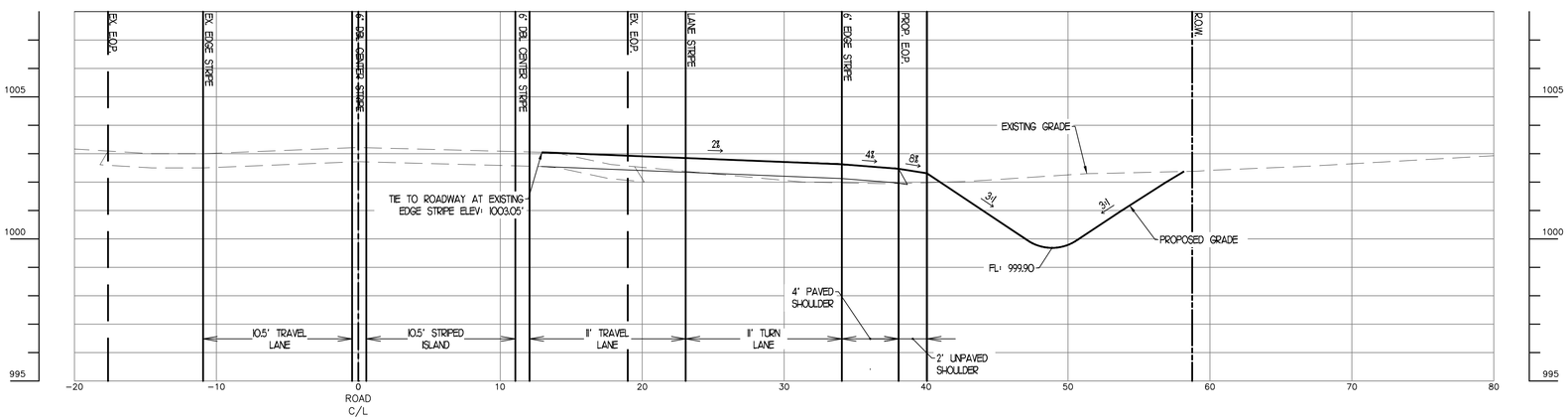
FILE LOCATION=J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME=SR 380 - XS USER=jstelfie SAVED=6/13/2025 10:29 AM PLOTTED=6/13/2025 10:35 AM



S.R. 380
STA:12+00



S.R. 380
STA:11+50



S.R. 380
STA:11+00

5 0 5 10

TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
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Greenville, South Carolina 29609
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QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
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DRAWN BY:	
REVIEWED BY:	

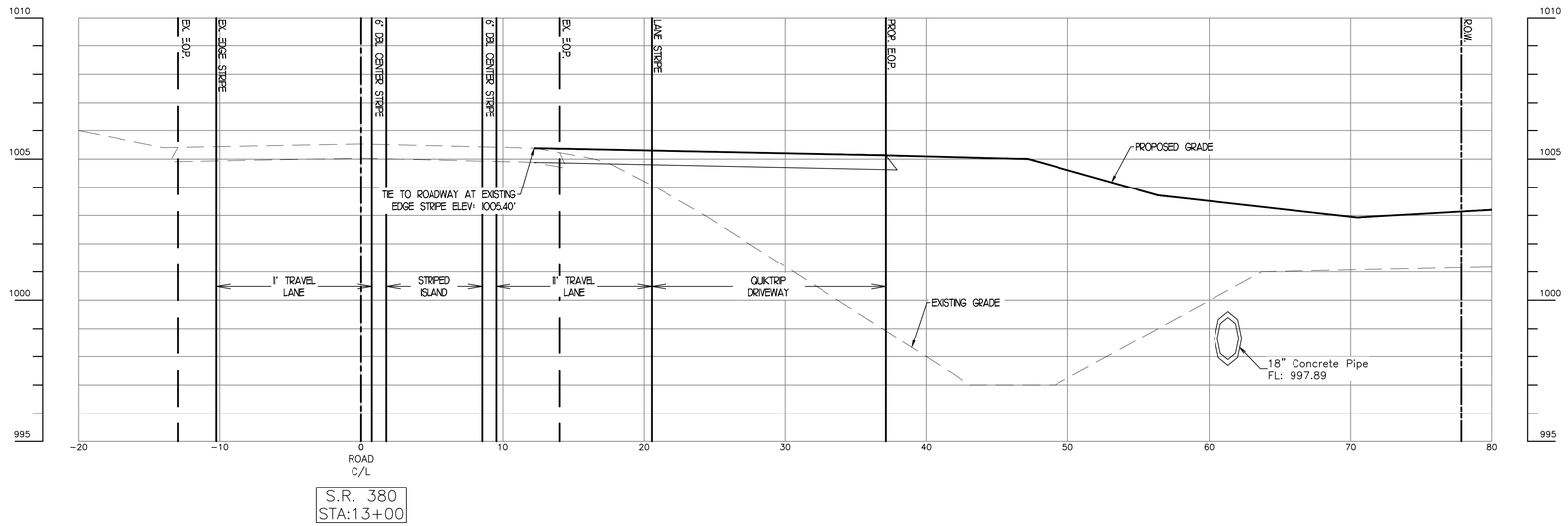
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

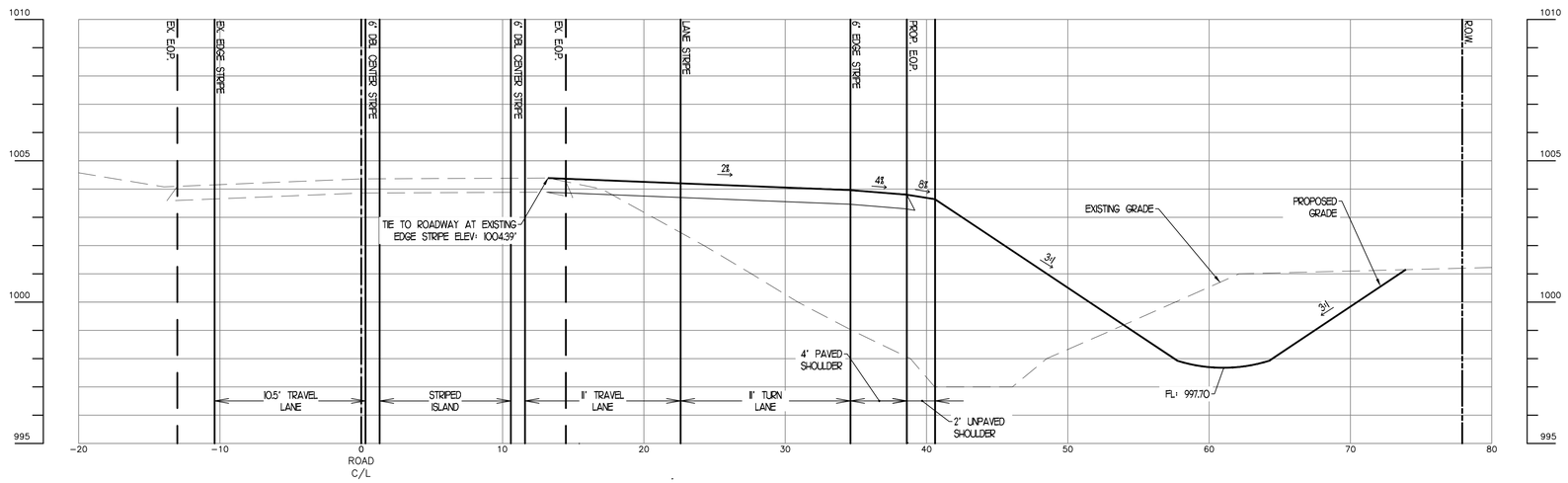
SHEET TITLE:
S.R. 380 CROSS SECTION II

SHEET NUMBER:
R018

FILE LOCATION=J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME=SR 380 - XS (2) USER=jstelfle SAVED=6/13/2025 10:29 AM PLOTTED=6/13/2025 10:35 AM



S.R. 380
STA:13+00



S.R. 380
STA:12+50

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FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:SR 380 - XS (3) USER:jstefie SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:35 AM

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
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229 West Stow Avenue
Greenville, Ohio 45331
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QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
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REVIEWED BY:	

REV	DATE	DESCRIPTION

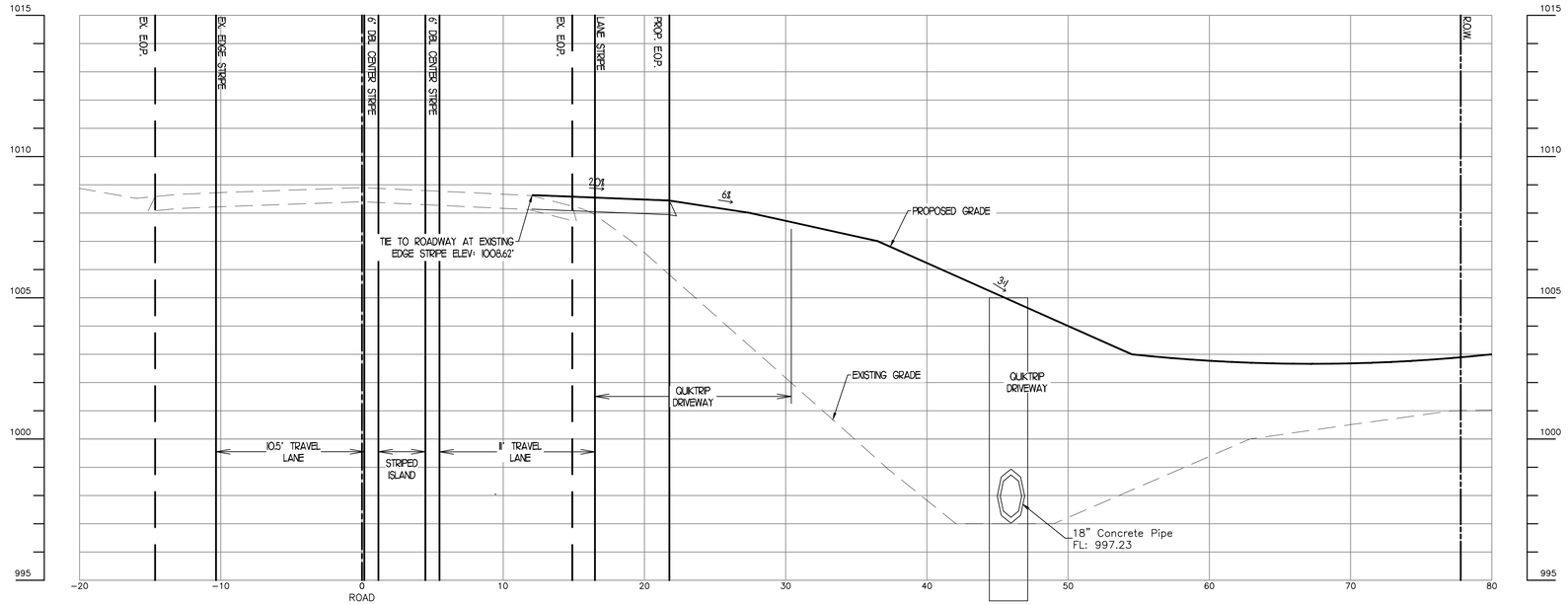
ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:

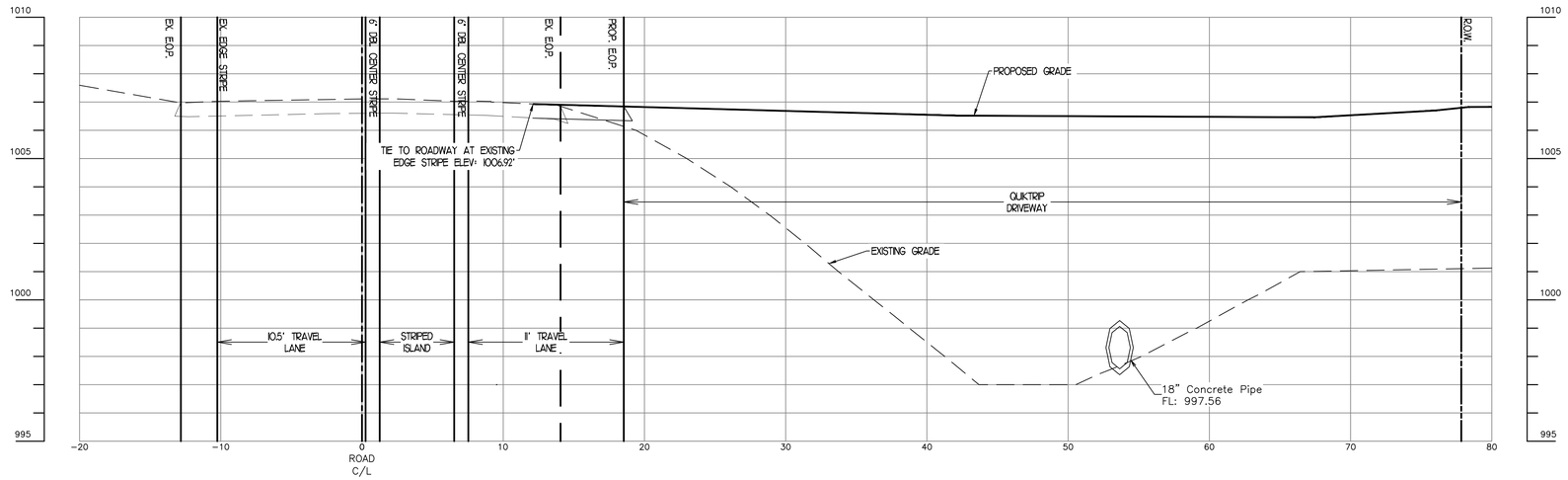
S.R. 380 CROSS SECTION III

SHEET NUMBER:

R019



S.R. 380
STA:14+00



S.R. 380
STA:13+50

5 0 5 10

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TODD BURNETT
86798
STATE OF OHIO
REGISTERED
PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, Ohio 45331
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

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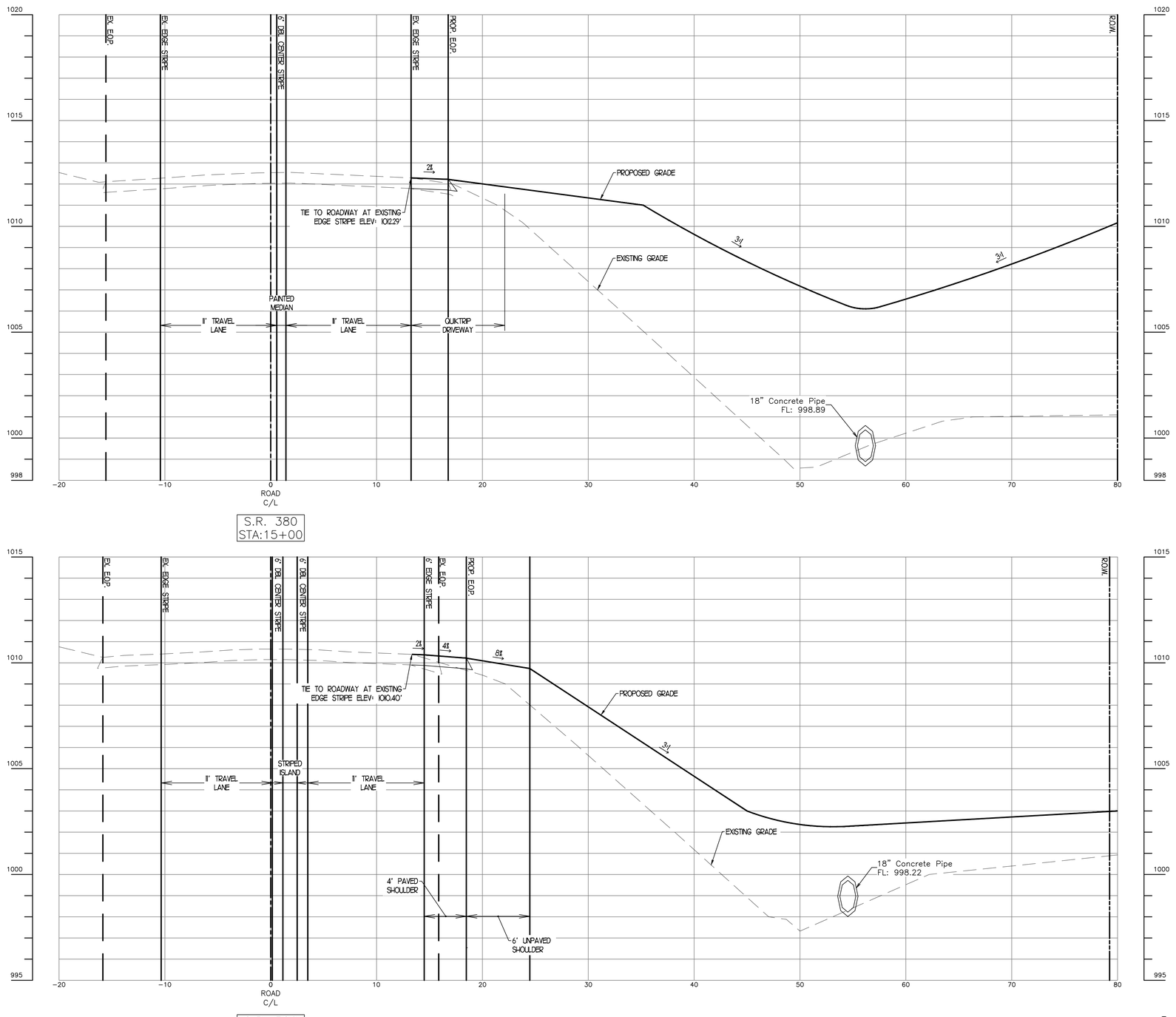
S.R. 380 CROSS SECTION IV

SHEET NUMBER:

R020



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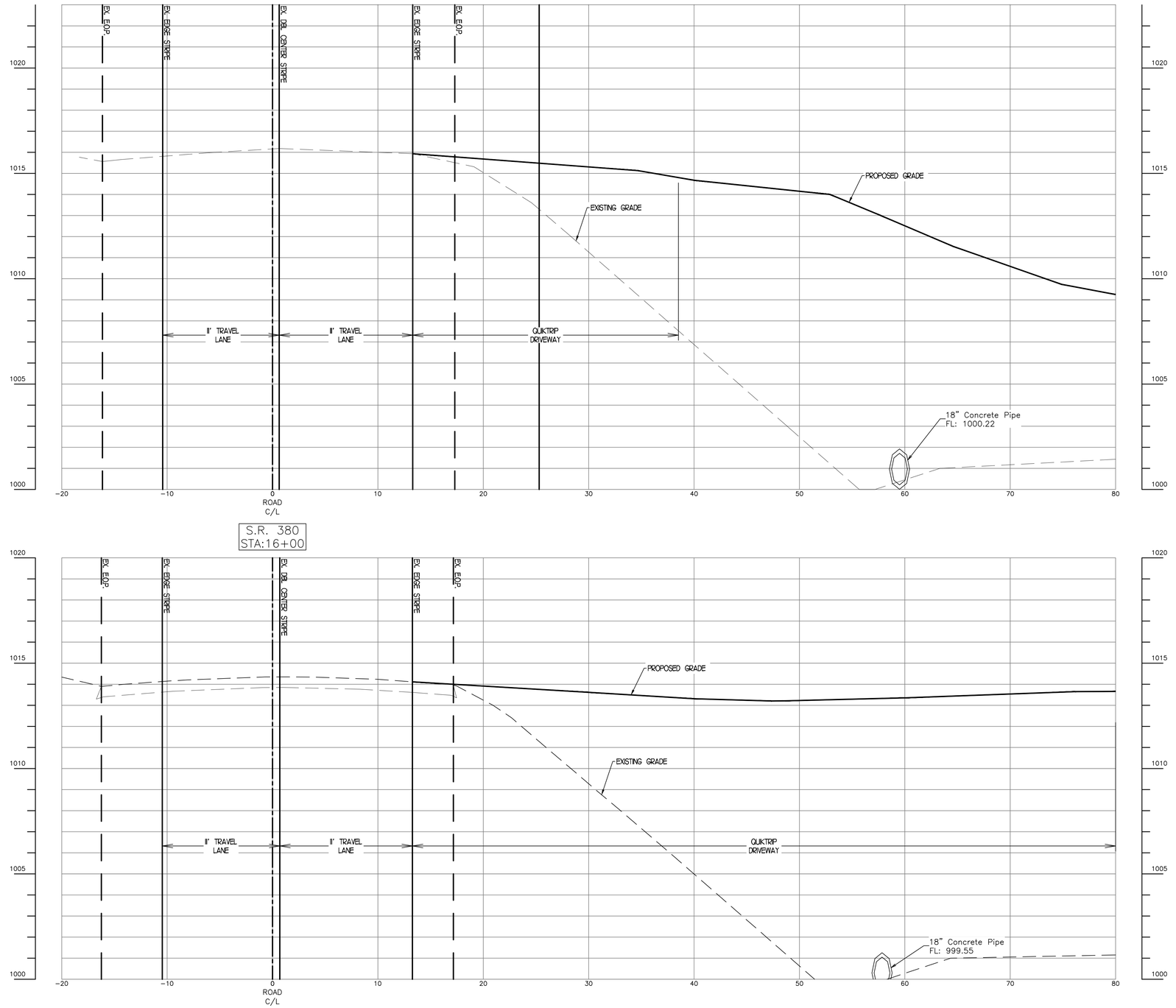
SHEET TITLE:

S.R. 380 CROSS SECTION V

SHEET NUMBER:

R021



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WILMINGTON, OH 45177

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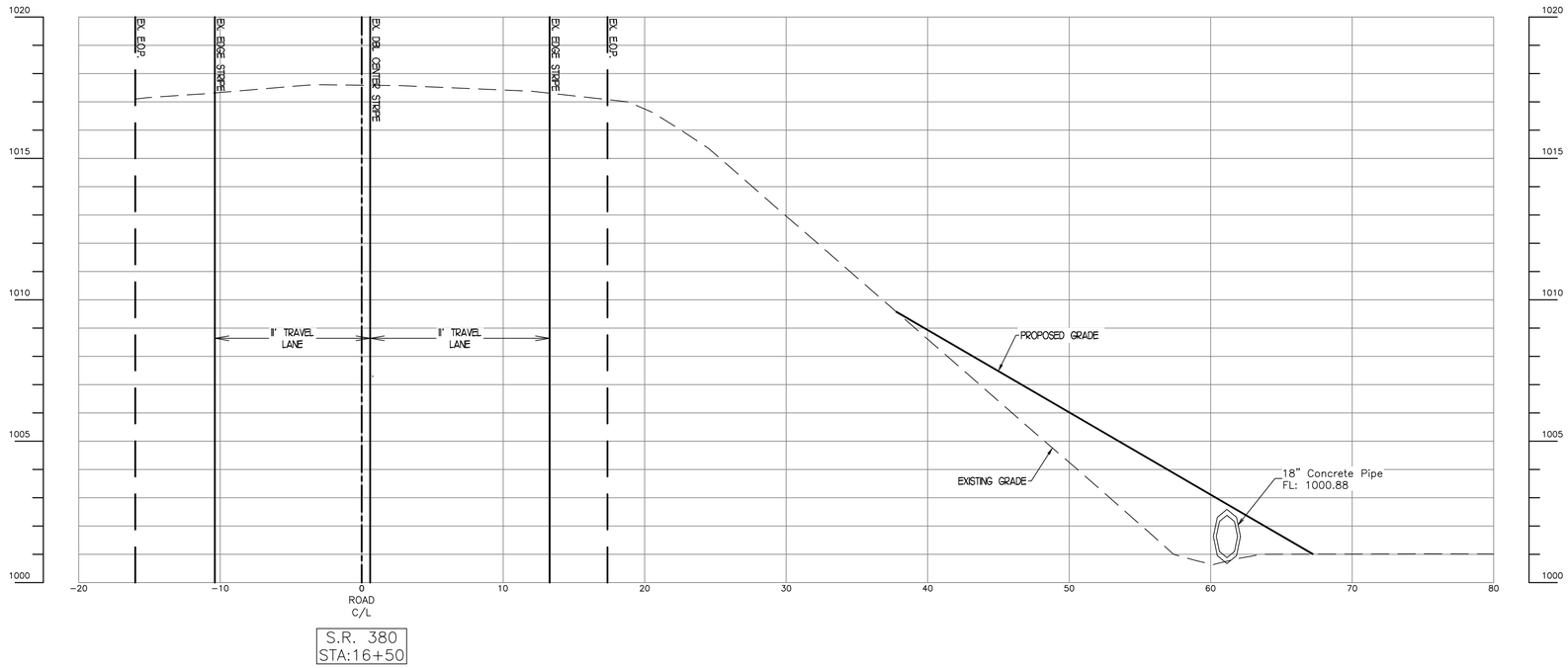
ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:

S.R. 380 CROSS SECTION VI

SHEET NUMBER:

R022



S.R. 380
STA:16+50

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REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
S.R. 380 CROSS SECTION VII

SHEET NUMBER:
R023

LEGEND

EXISTING

- CURB & GUTTER
- SANITARY SEWER LINE
- OVERHEAD ELECTRIC LINE
- TRAFFIC SIGNAL
- WATERLINE
- STORM SEWER (>12")
- CURB & GUTTER
- EDGE OF ASPHALT
- GUY WIRE
- POWER POLE
- WATER VALVE
- MANHOLE
- FIRE HYDRANT
- XXX — MAJOR CONTOUR (EXISTING)
- XXX — MINOR CONTOUR (EXISTING)

PROPOSED

- BOUNDARY LINE
- 2.5' CURB & GUTTER
- STORM PIPE (≤ 10" NEW)
- STORM PIPE (≥ 12" NEW)
- XXXX — MAJOR CONTOUR (NEW)
- XXXX — MINOR CONTOUR (NEW)
- LIMITS OF DISTURBANCE
- TC XXXX.XX — TOP OF CURB ELEVATION (NEW)
- G XXXX.XX — GUTTER ELEVATION (NEW)
- FG XXXX.XX — FINISHED GRADE ELEVATION (NEW)
- FULL DEPTH ASPHALT PAVING

I.R. 71 NB
R/W VARIES

S.R. 73
R/W VARIES

6" WHITE EDGE LINE

24" STOP LINE, TYP. OF 3 (RE: TC-71.10)

EX TRAFFIC SIGNAL

EX ELEC BOX

EX FIBER OPTIC MARKER

TRAFFIC STAND BOX

EX SIGN (DO NOT ENTER)

EX SIGN (NORTH 71)

EX SIGN (DO NOT ENTER)

EX NPS

INV 54"= 987.4

EX FIBER OPTIC MARKER

SAWCUT LINE

P.T. STA. = 7+42.28

EX CREEK

EX SIGN (CAMPGROUND DIRECTIONS)

CURVE DATA – I.R. 71 NB EXIT RAMP
P.I. STA. = 6+24.19
Δ = 58°50'00"
DC = 22°36'36"
R = 255.06'
T = 143.82'
L = 308.77'
E = 37.75'
P.C. STA. = 4+33.51
P.T. STA. = 7+42.28

P.C. STA. = 4+33.51

680' (STORAGE)

RELOCATED SIGNAL AHEAD SIGNAGE

EX SIGN (ARROW)

EX SIGN (DONT DRIVE ON SHOULDER)

EX SIGN (ARROW)

SIGNAL AHEAD SIGN (RE: MUTCD W3-3)

EX POST WIRE FENCE

"DO NOT ENTER" & "WRONG-WAY" SIGN, TYP. OF 2 (RE: MUTCD R5-1& R5-1A; ODOT TC-73.20)

CURVE DATA – I.R. 71 NB EXIT RAMP
P.I. STA. = 0+91.70
Δ = 12°41'12"
DC = 6°57'01"
R = 824.89'
T = 91.70'
L = 182.65'
E = 5.08'
P.C. STA. = 0+00.00
P.T. STA. = 1+82.65

WRONG-WAY ARROW PER ODOT TC-73.20

END TAPER @ STA 1+52.6

6" WHITE EDGE LINE

12" WHITE CHANNELIZING STRIPE

100' (TAPER)

BEGIN TAPER @ STA 0+52.6

12'

12'

SAWCUT LINE

EX SIGN (ARROW)

EX SIGN (DIRECTIONAL)

EX SIGN (ARROW)

EX SIGN (CEASAR CREEK)

EX SIGN (ARROW)

EX SIGN (GAS STATION)

EX CREEK

LANE USE SIGNAGE (L-TR) "R3-H8bh"

RELOCATED 15 MPH SIGNAGE (RE: MUTCD)

INV 24"= 984.97

P.C. STA. = 0+00.00

P.T. STA. = 1+82.65

EX POST WIRE FENCE

S 73° 57' 59" E

30 15 0 30 60

STATE OF OHIO
TODD BURNETT
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QuikTrip No. 7021

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VERSION:	001
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ORIGINAL ISSUE DATE: 01/29/2024

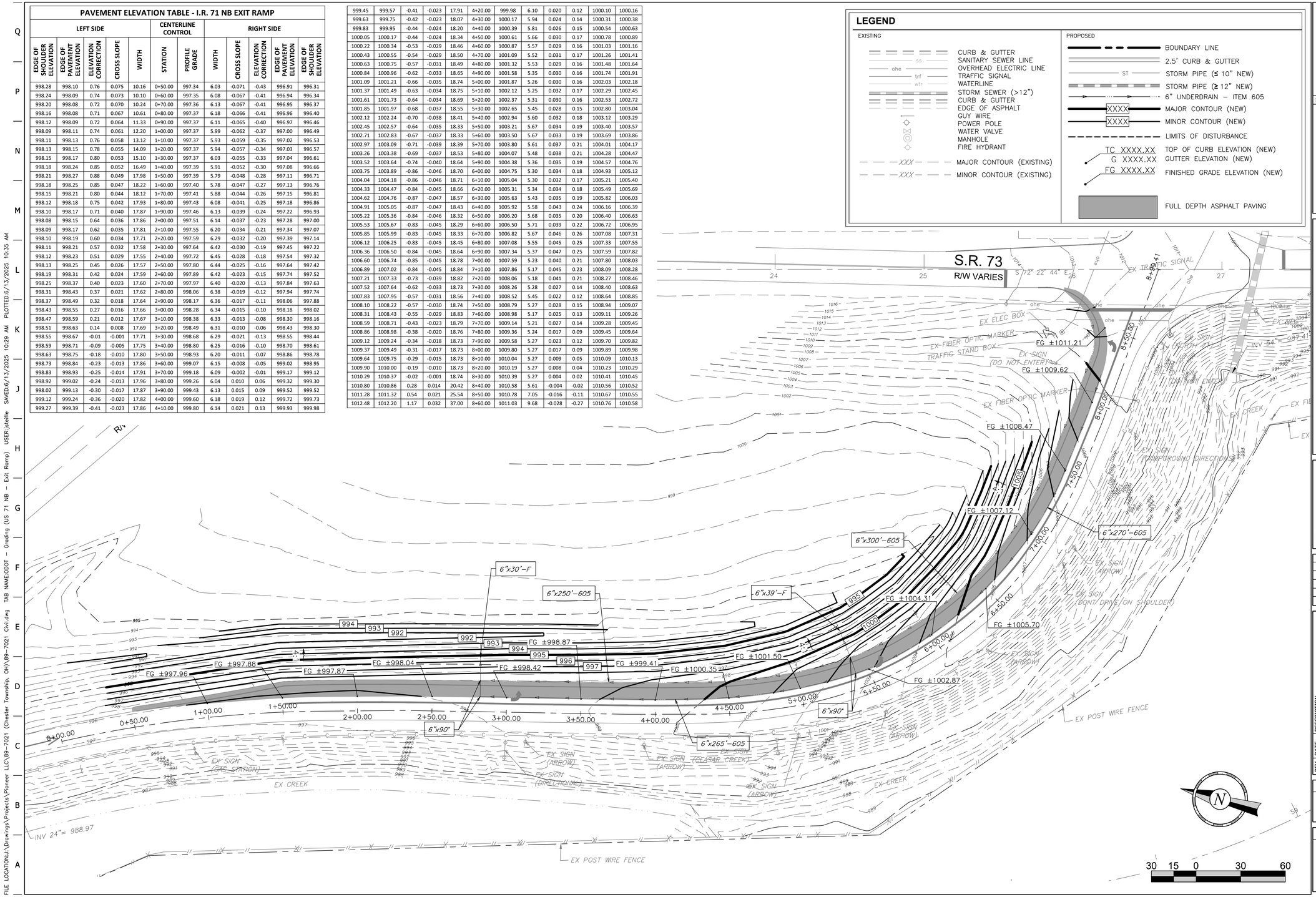
SHEET TITLE:
SITE PLAN (I.R. 71 NB EXIT RAMP)

SHEET NUMBER:
R024

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:ODOT - Site (US 71 NB - Exit Ramp) USER:jateiffe SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:35 AM

PAVEMENT ELEVATION TABLE - I.R. 71 NB EXIT RAMP

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE				
EDGE OF SHOULDER ELEVATION	EDGE OF PAVEMENT ELEVATION	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	EDGE OF PAVEMENT ELEVATION	EDGE OF SHOULDER ELEVATION
998.28	998.10	0.76	0.075	10.16	0+50.00	997.34	6.03	-0.071	-0.43	996.91	996.31
998.24	998.09	0.74	0.073	10.10	0+60.00	997.35	6.08	-0.067	-0.41	996.94	996.34
998.20	998.08	0.72	0.070	10.24	0+70.00	997.36	6.13	-0.067	-0.41	996.95	996.37
998.16	998.08	0.71	0.067	10.61	0+80.00	997.37	6.18	-0.066	-0.41	996.96	996.40
998.12	998.09	0.72	0.064	11.33	0+90.00	997.37	6.11	-0.065	-0.40	996.97	996.46
998.09	998.11	0.74	0.061	12.20	1+00.00	997.37	5.99	-0.062	-0.37	997.00	996.49
998.11	998.13	0.76	0.058	13.12	1+10.00	997.37	5.93	-0.059	-0.35	997.02	996.53
998.13	998.15	0.78	0.055	14.09	1+20.00	997.37	5.94	-0.057	-0.34	997.03	996.57
998.15	998.17	0.80	0.053	15.10	1+30.00	997.37	6.03	-0.055	-0.33	997.04	996.61
998.18	998.24	0.85	0.052	16.49	1+40.00	997.39	5.91	-0.052	-0.30	997.08	996.66
998.21	998.27	0.88	0.049	17.98	1+50.00	997.39	5.79	-0.048	-0.28	997.11	996.71
998.18	998.25	0.85	0.047	18.22	1+60.00	997.40	5.78	-0.047	-0.27	997.13	996.76
998.15	998.21	0.80	0.044	18.12	1+70.00	997.41	5.88	-0.044	-0.26	997.15	996.81
998.12	998.18	0.75	0.042	17.93	1+80.00	997.43	6.08	-0.041	-0.25	997.18	996.86
998.10	998.17	0.71	0.040	17.87	1+90.00	997.46	6.13	-0.039	-0.24	997.22	996.93
998.08	998.15	0.64	0.036	17.86	2+00.00	997.51	6.14	-0.037	-0.23	997.28	997.00
998.09	998.17	0.62	0.035	17.81	2+10.00	997.55	6.20	-0.034	-0.21	997.34	997.07
998.10	998.19	0.60	0.034	17.71	2+20.00	997.59	6.29	-0.032	-0.20	997.39	997.14
998.11	998.21	0.57	0.032	17.58	2+30.00	997.64	6.42	-0.030	-0.19	997.45	997.22
998.12	998.23	0.51	0.029	17.55	2+40.00	997.72	6.45	-0.028	-0.18	997.54	997.32
998.13	998.25	0.45	0.026	17.57	2+50.00	997.80	6.44	-0.025	-0.16	997.64	997.42
998.19	998.31	0.42	0.024	17.59	2+60.00	997.89	6.42	-0.023	-0.15	997.74	997.52
998.25	998.37	0.40	0.023	17.60	2+70.00	997.97	6.40	-0.020	-0.13	997.84	997.63
998.31	998.43	0.37	0.021	17.62	2+80.00	998.06	6.38	-0.019	-0.12	997.94	997.74
998.37	998.49	0.32	0.018	17.64	2+90.00	998.17	6.36	-0.017	-0.11	998.06	997.88
998.43	998.55	0.27	0.016	17.66	3+00.00	998.28	6.34	-0.015	-0.10	998.18	998.02
998.47	998.59	0.21	0.012	17.67	3+10.00	998.38	6.33	-0.013	-0.08	998.30	998.16
998.51	998.63	0.14	0.008	17.69	3+20.00	998.49	6.31	-0.010	-0.06	998.43	998.30
998.55	998.67	-0.01	-0.001	17.71	3+30.00	998.68	6.29	-0.021	-0.13	998.55	998.44
998.59	998.71	-0.09	-0.005	17.75	3+40.00	998.80	6.25	-0.016	-0.10	998.70	998.61
998.63	998.75	-0.18	-0.010	17.80	3+50.00	998.93	6.20	-0.011	-0.07	998.86	998.78
998.73	998.84	-0.23	-0.013	17.86	3+60.00	999.07	6.15	-0.008	-0.05	999.02	998.95
998.83	998.93	-0.25	-0.014	17.91	3+70.00	999.18	6.09	-0.002	-0.01	999.17	999.12
998.92	999.02	-0.24	-0.013	17.96	3+80.00	999.26	6.04	0.010	0.06	999.32	999.30
998.02	999.13	-0.30	-0.017	17.87	3+90.00	999.43	6.13	0.015	0.09	999.52	999.52
999.12	999.24	-0.36	-0.020	17.82	4+00.00	999.60	6.18	0.019	0.12	999.72	999.73
999.27	999.39	-0.41	-0.023	17.86	4+10.00	999.80	6.14	0.021	0.13	999.93	999.98
999.45	999.57	-0.41	-0.023	17.91	4+20.00	999.98	6.10	0.020	0.12	1000.10	1000.16
999.63	999.75	-0.42	-0.023	18.07	4+30.00	1000.17	5.94	0.024	0.14	1000.31	1000.38
999.83	999.95	-0.44	-0.024	18.20	4+40.00	1000.39	5.81	0.026	0.15	1000.54	1000.63
1000.05	1000.17	-0.44	-0.024	18.34	4+50.00	1000.61	5.66	0.030	0.17	1000.78	1000.89
1000.22	1000.34	-0.53	-0.029	18.46	4+60.00	1000.87	5.57	0.029	0.16	1001.03	1001.16
1000.43	1000.55	-0.54	-0.029	18.50	4+70.00	1001.09	5.52	0.031	0.17	1001.26	1001.41
1000.63	1000.75	-0.57	-0.031	18.49	4+80.00	1001.32	5.53	0.029	0.16	1001.48	1001.64
1000.84	1000.96	-0.62	-0.033	18.65	4+90.00	1001.58	5.35	0.030	0.16	1001.74	1001.91
1001.09	1001.21	-0.66	-0.035	18.74	5+00.00	1001.87	5.26	0.030	0.16	1002.03	1002.18
1001.37	1001.49	-0.63	-0.034	18.75	5+10.00	1002.12	5.25	0.032	0.17	1002.29	1002.45
1001.61	1001.73	-0.64	-0.034	18.69	5+20.00	1002.37	5.31	0.030	0.16	1002.53	1002.72
1001.85	1001.97	-0.68	-0.037	18.55	5+30.00	1002.65	5.45	0.028	0.15	1002.80	1003.04
1002.12	1002.24	-0.70	-0.038	18.41	5+40.00	1002.94	5.60	0.032	0.18	1003.12	1003.29
1002.45	1002.57	-0.64	-0.035	18.33	5+50.00	1003.21	5.67	0.034	0.19	1003.40	1003.57
1002.71	1002.83	-0.67	-0.037	18.33	5+60.00	1003.50	5.67	0.033	0.19	1003.69	1003.86
1002.97	1003.09	-0.71	-0.039	18.39	5+70.00	1003.80	5.61	0.037	0.21	1004.01	1004.17
1003.26	1003.38	-0.69	-0.037	18.53	5+80.00	1004.07	5.48	0.038	0.21	1004.28	1004.47
1003.52	1003.64	-0.74	-0.040	18.64	5+90.00	1004.38	5.36	0.035	0.19	1004.57	1004.76
1003.75	1003.89	-0.86	-0.046	18.70	6+00.00	1004.75	5.30	0.034	0.18	1004.93	1005.12
1004.04	1004.18	-0.86	-0.046	18.71	6+10.00	1005.04	5.30	0.032	0.17	1005.21	1005.40
1004.33	1004.47	-0.84	-0.045	18.66	6+20.00	1005.31	5.34	0.034	0.18	1005.49	1005.69
1004.62	1004.76	-0.87	-0.047	18.57	6+30.00	1005.63	5.43	0.035	0.19	1005.82	1006.03
1004.91	1005.05	-0.87	-0.047	18.43	6+40.00	1005.92	5.58	0.043	0.24	1006.16	1006.39
1005.22	1005.36	-0.84	-0.046	18.32	6+50.00	1006.20	5.68	0.035	0.20	1006.40	1006.63
1005.53	1005.67	-0.83	-0.045	18.29	6+60.00	1006.50	5.71	0.039	0.22	1006.72	1006.95
1005.85	1005.99	-0.83	-0.045	18.33	6+70.00	1006.82	5.67	0.046	0.26	1007.08	1007.31
1006.12	1006.25	-0.83	-0.045	18.45	6+80.00	1007.08	5.55	0.045	0.25	1007.33	1007.55
1006.36	1006.50	-0.84	-0.045	18.64	6+90.00	1007.34	5.37	0.047	0.25	1007.59	1007.82
1006.60	1006.74	-0.85	-0.045	18.78	7+00.00	1007.59	5.23	0.040	0.21	1007.80	1008.03
1006.89	1007.02	-0.84	-0.045	18.84	7+10.00	1007.86	5.17	0.045	0.23	1008.09	1008.28
1007.21	1007.33	-0.73	-0.039	18.82	7+20.00	1008.06	5.18	0.041	0.21	1008.27	1008.46
1007.52	1007.64	-0.62	-0.033	18.73	7+30.00	1008.26	5.28	0.027	0.14	1008.40	1008.63
1007.83	1007.95	-0.57	-0.031	18.56	7+40.00	1008.52	5.45	0.022	0.12	1008.64	1008.85
1008.10	1008.22	-0.57	-0.030	18.74	7+50.00	1008.79	5.27	0.028	0.15	1008.94	1009.07
1008.31	1008.43	-0.55	-0.029	18.83	7+60.00	1008.98	5.17	0.025	0.13	1009.11	1009.26
1008.59	1008.71	-0.43	-0.023	18.79	7+70.00	1009.14	5.21	0.027	0.14	1009.28	1009.45
1008.86	1008.98	-0.38	-0.020	18.76	7+80.00	1009.36	5.24	0.017	0.09	1009.45	1009.64
1009.12	1009.24	-0.34	-0.018	18.73	7+90.00	1009.58	5.27	0.023	0.12	1009.70	1009.82
1009.37	1009.49	-0.31	-0.017	18.73	8+00.00	1009.80	5.27	0.017	0.09	1009.89	1009.98
1009.64	1009.75	-0.29	-0.015	18.73	8+10.00	1010.04	5.27	0.009	0.05	1010.09	1010.13
1009.90	1010.00	-0.19	-0.010	18.73	8+20.00	1010.19	5.27	0.008	0.04	1010.23	1010.29
1010.29	1010.37	-0.02	-0.001	18.74	8+30.00	1010.39	5.27	0.004	0.02	1010.41	1010.45
1010.80	1010.86	0.28	0.014	20.42	8+40.00	1010.58	5.61	-0.004	-0.02	1010.56	1010.52
1011.28	1011.32	0.54	0.021	25.54	8+50.00	1010.78	7.05	-0.016	-0.11	1010.67	1010.55
1012.48	1012.20	1.17	0.032	37.00	8+60.00	1011.03	9.68	-0.028	-0.27	1010.76	1010.58



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SIGNATURE DATE: 05/29/2025

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REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
GRADING PLAN (I.R. 71 NB EXIT RAMP)

SHEET NUMBER:
R025

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\69-7021 (Chester Township, OH)\69-7021 Civil.dwg TAB NAME:ODOT – Grading (US 71 NB – Exit Ramp) USER:jstelfie SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:35 AM

LEGEND

EXISTING

- CURB & GUTTER
- SANITARY SEWER LINE (ss)
- OVERHEAD ELECTRIC LINE (ohe)
- TRAFFIC SIGNAL (trf)
- WATERLINE (wtr)
- STORM SEWER (>12")
- CURB & GUTTER
- EDGE OF ASPHALT
- GUY WIRE
- POWER POLE
- WATER VALVE
- MANHOLE
- FIRE HYDRANT

PROPOSED

- BOUNDARY LINE
- 2.5' CURB & GUTTER
- EDGE OF ASPHALT

EXISTING LEGEND (ITEMS TO BE REMOVED)

- EDGE OF ASPHALT
- CURB AND GUTTER
- SIGN
- DIRECTIONAL ARROW
- ASPHALT (IF INADEQUATE EX. PAVEMENT)

I.R. 71 NB
R/W VARIES

S.R. 73
R/W VARIES

EXISTING EDGE LINES AND CENTER LINES TO BE REMOVED VIA WATER BLASTING OR SIMILAR METHOD, TYP.

CONTRACTOR TO REMOVE EXISTING EX STOP BAR VIA WATER BLASTING OR SIMILAR METHOD, TYP. OF 3

SIGN TO BE RELOCATED PER ODOT STANDARDS

UNLESS FIELD ALTERED, SAW-CUT INTERIOR SIDE OF EDGE STRIPE AND REMOVE PAVEMENT AS NECESSARY

EXISTING WRONG WAY SIGNS TO BE REMOVED

SAWCUT LINE

EX SIGN (25 MPH)
EX SIGN (GAS STATION)
EX SIGN (ARROW)
EX SIGN (DIRECTIONAL)
EX SIGN (CEASAR CREEK)
EX SIGN (SIGNAL AHEAD)
EX SIGN (WRONG WAY)
EX SIGN (DO NOT ENTER)
EX SIGN (NORTH 71)
EX SIGN (CAMPGROUND DIRECTIONS)
EX SIGN (DONT DRIVE ON SHOULDER)
EX TRAFFIC SIGNAL
EX ELEC BOX
EX NPS
EX FIBER OPTIC MARKER
EX CREEK
EX POST WIRE FENCE
INV 54"= 988.41
INV 54"= 987.41
988.97

30 15 0 30 60

STATE OF OHIO
TODD BURNETT
86798
REGISTERED
PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, Ohio 45331
664-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

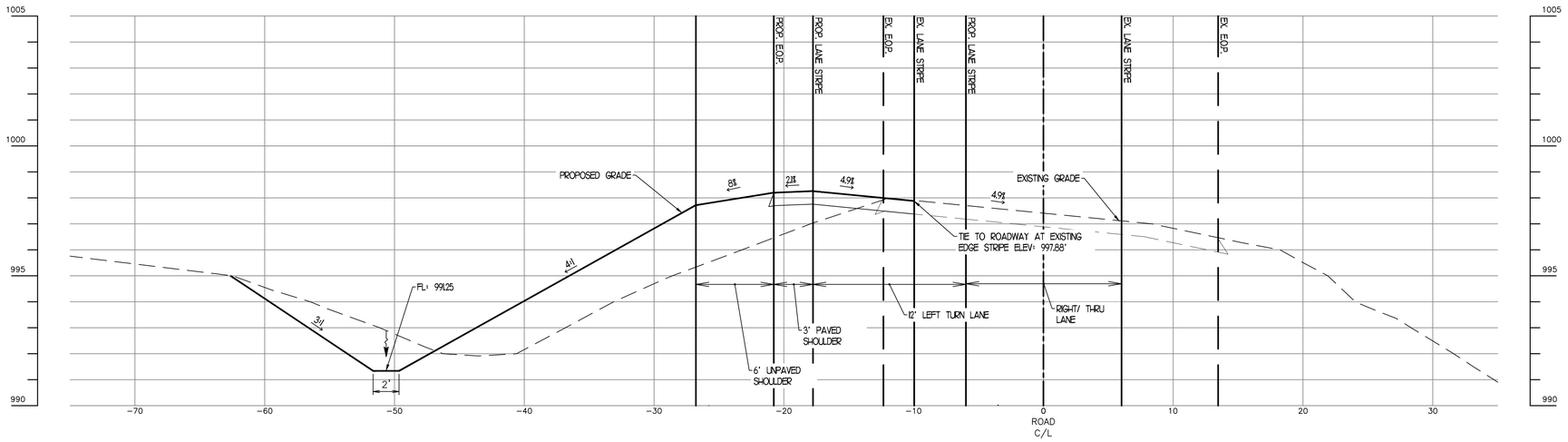
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

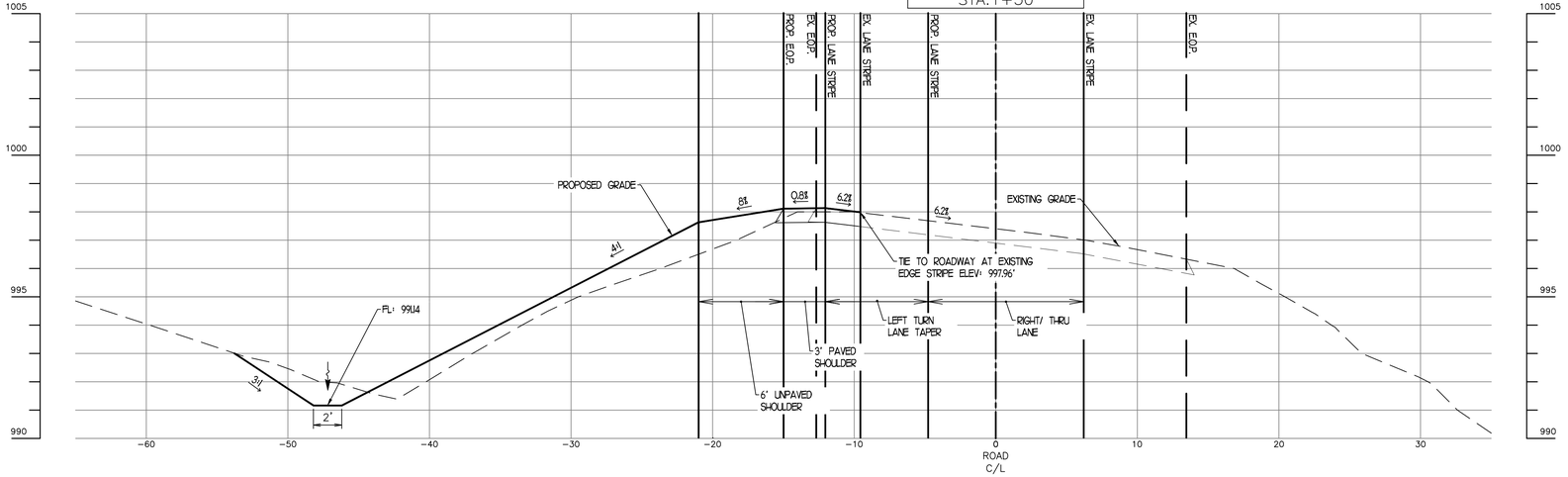
SHEET TITLE:
DEMOLITION PLAN (I.R. 71 NB EXIT RAMP)

SHEET NUMBER:
R026

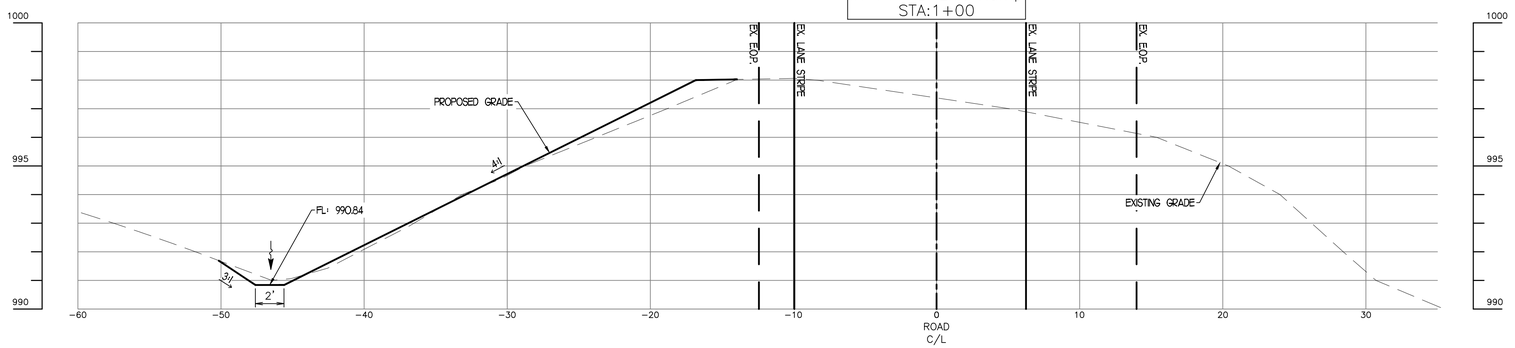
FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:ODOT - Demolition Plan (US 71 NB - Exit Ramp) USER:jsteifle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:35 AM



IR 71 NB Exit Ramp
STA:1+50



IR 71 NB Exit Ramp
STA:1+00



IR 71 NB Exit Ramp
STA:0+50

5 0 5 10

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
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REVIEWED BY:	

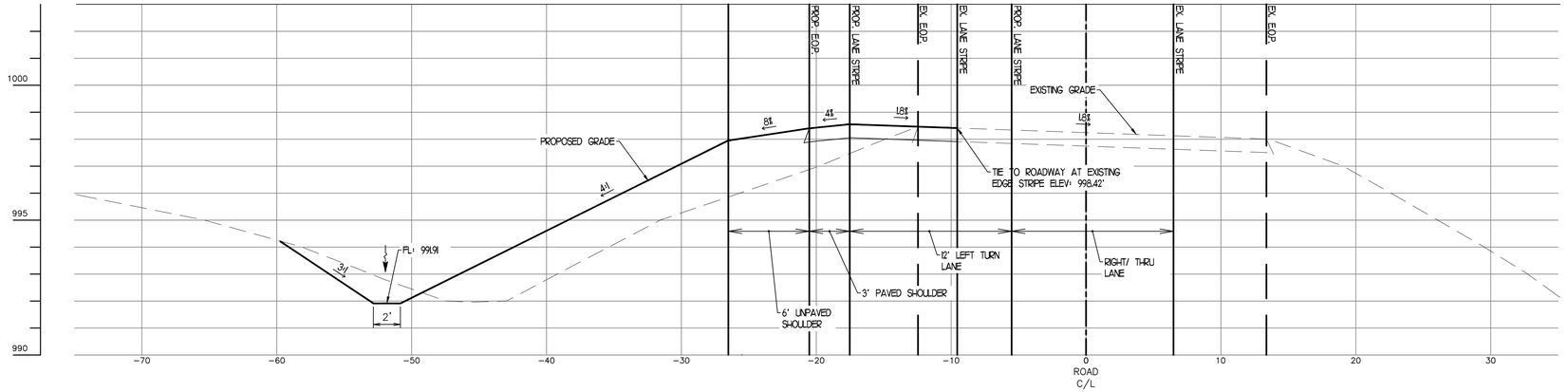
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

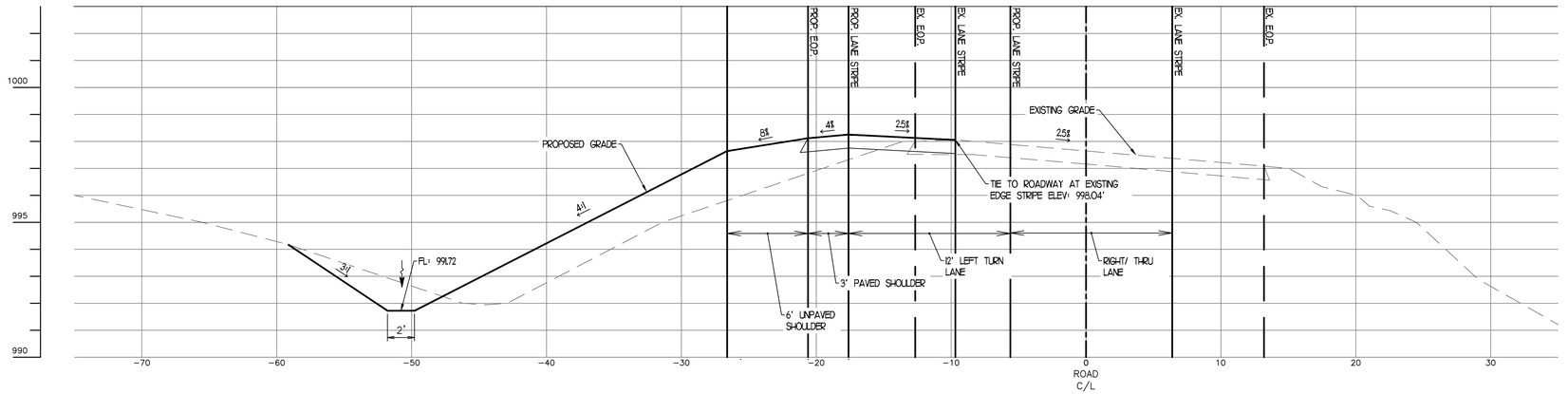
SHEET TITLE:
I.R. 71 NB EXIT - CROSS SECTION I

SHEET NUMBER:
R027

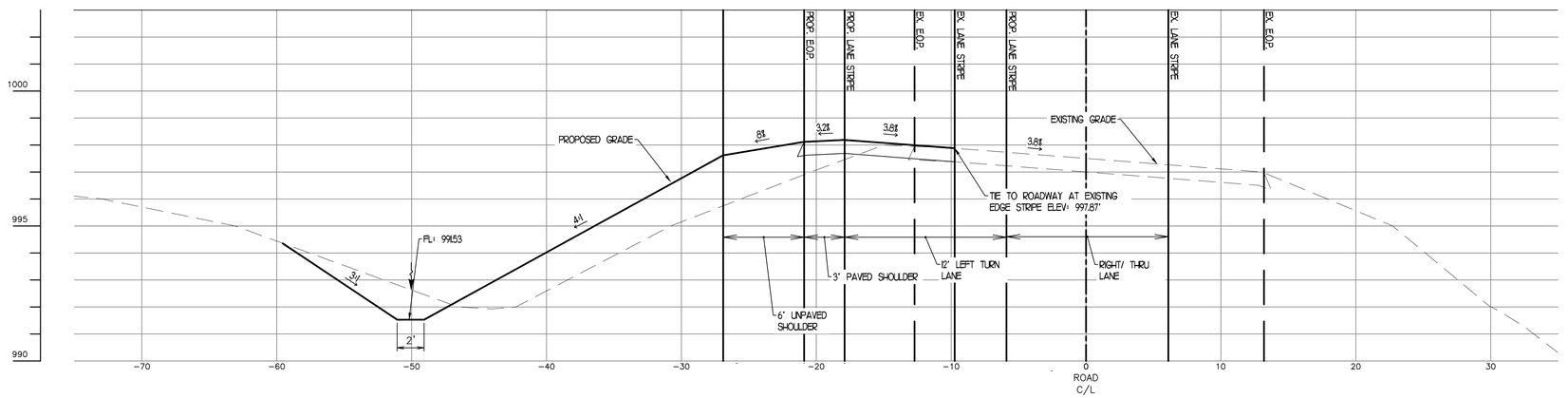
FILE LOCATION=J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME=US 71 Exit - XS USER=jstelfie SAVED=6/13/2025 10:29 AM PLOTTED=6/13/2025 10:36 AM



IR 71 NB Exit Ramp
STA:3+00



IR 71 NB Exit Ramp
STA:2+50



IR 71 NB Exit Ramp
STA:2+00

5 0 5 10

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

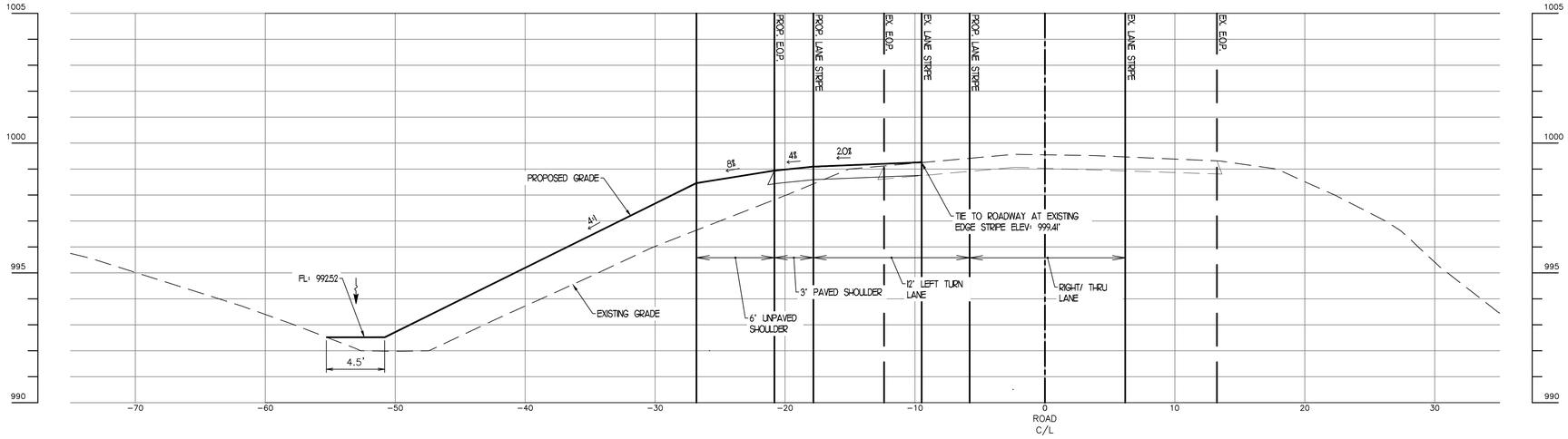
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

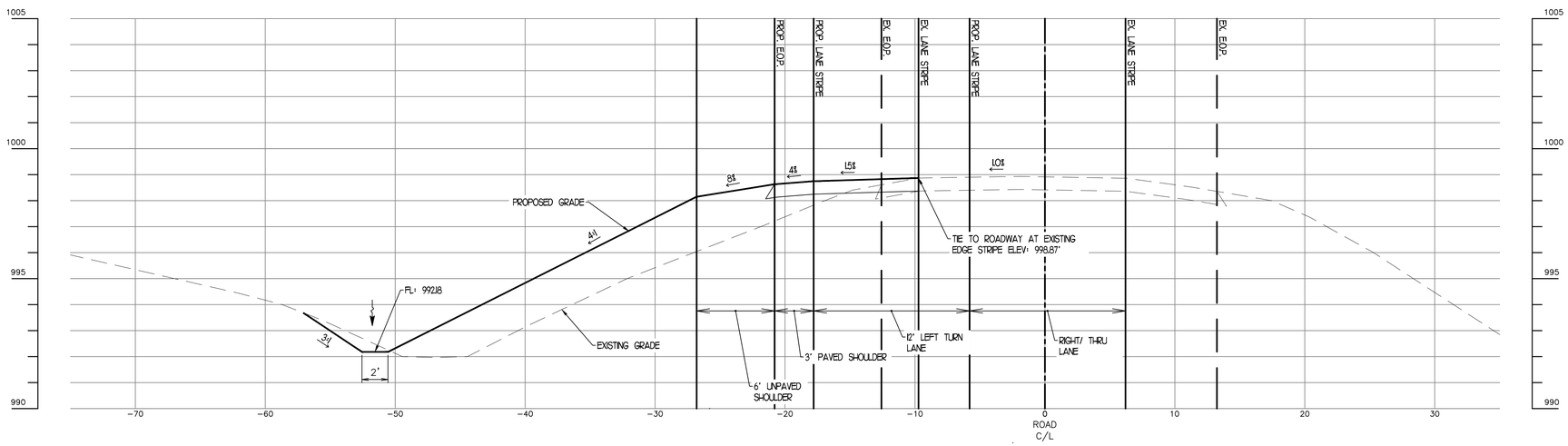
SHEET TITLE:
I.R. 71 NB EXIT - CROSS SECTION II

SHEET NUMBER:
R028

FILE LOCATION:c:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:US 71 Exit - XS (2) USER:jatefle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:36 AM



IR 71 NB Exit Ramp
STA:4+00



IR 71 NB Exit Ramp
STA:3+50

5 0 5 10

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:US 71 Exit - XS (3) USER:jstelfie SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:36 AM

STATE OF OHIO
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86798
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SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Stow Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

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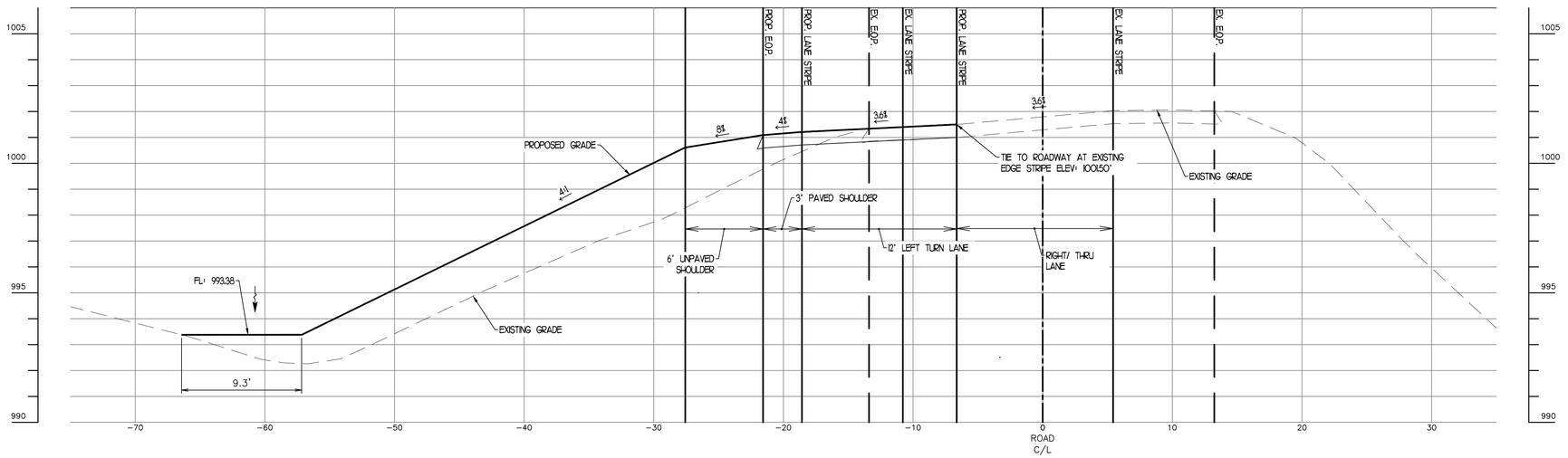
REV	DATE	DESCRIPTION

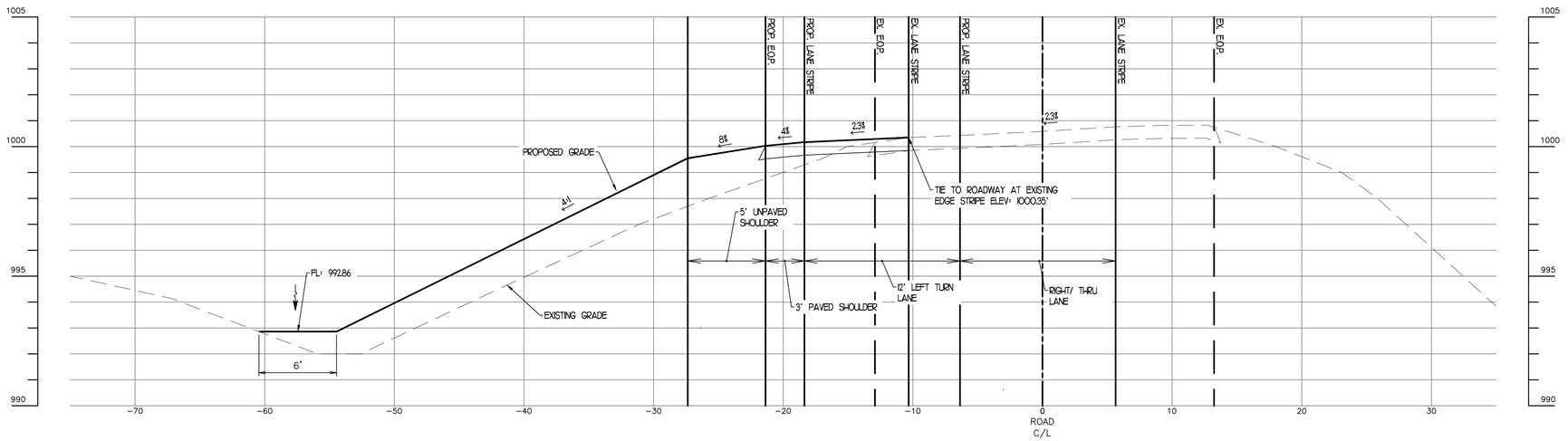
ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
I.R. 71 NB EXIT - CROSS SECTION III

SHEET NUMBER:
R029



IR 71 NB Exit Ramp
STA:5+00



IR 71 NB Exit Ramp
STA:4+50

5 0 5 10

TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
329 West Stow Avenue
Greenville, Ohio 45331
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

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DIVISION:	
VERSION:	001
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DRAWN BY:	
REVIEWED BY:	

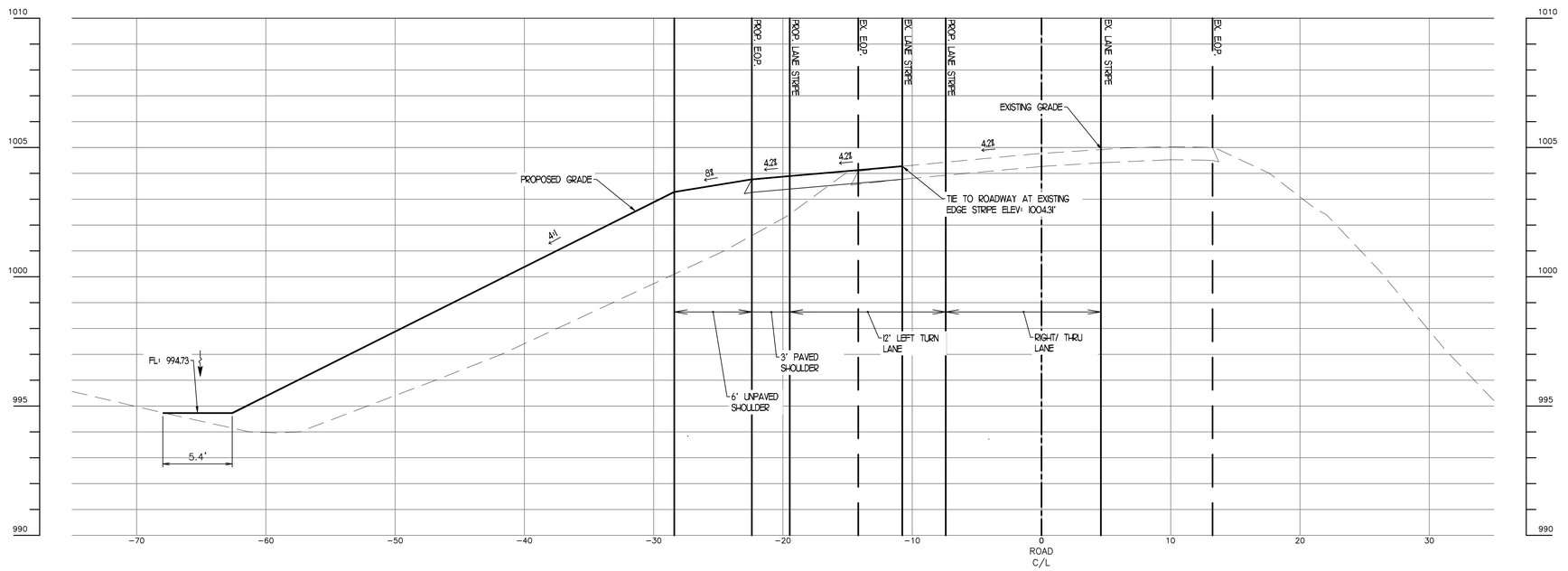
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

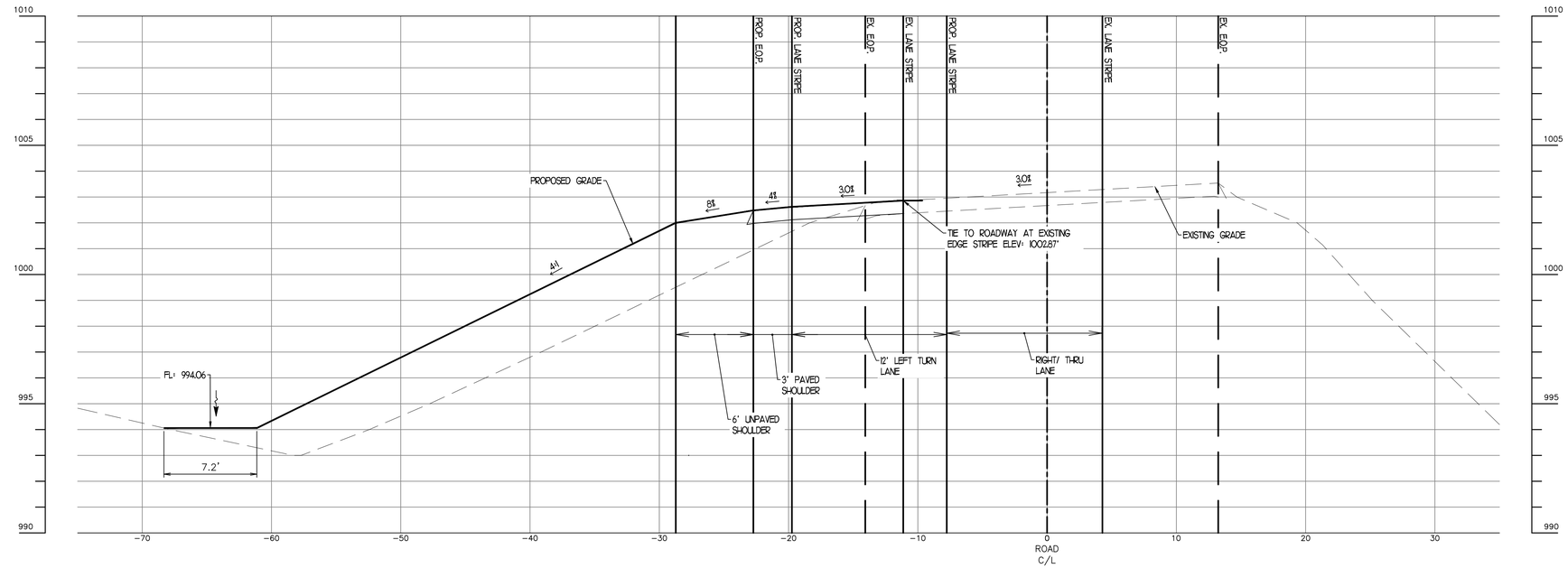
SHEET TITLE:
I.R. 71 NB EXIT - CROSS SECTION IV

SHEET NUMBER:
R030

FILE LOCATION:c:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:US 71 Exit - XS (7) USER:jatefle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:36 AM



IR 71 NB Exit Ramp
STA:6+00



IR 71 NB Exit Ramp
STA:5+50

5 0 5 10

STATE OF OHIO
TODD BURNETT
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SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
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329 West Stow Avenue
Greenville, Ohio 45331
664-233-5497

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WILMINGTON, OH 45177

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DIVISION:	
VERSION:	001
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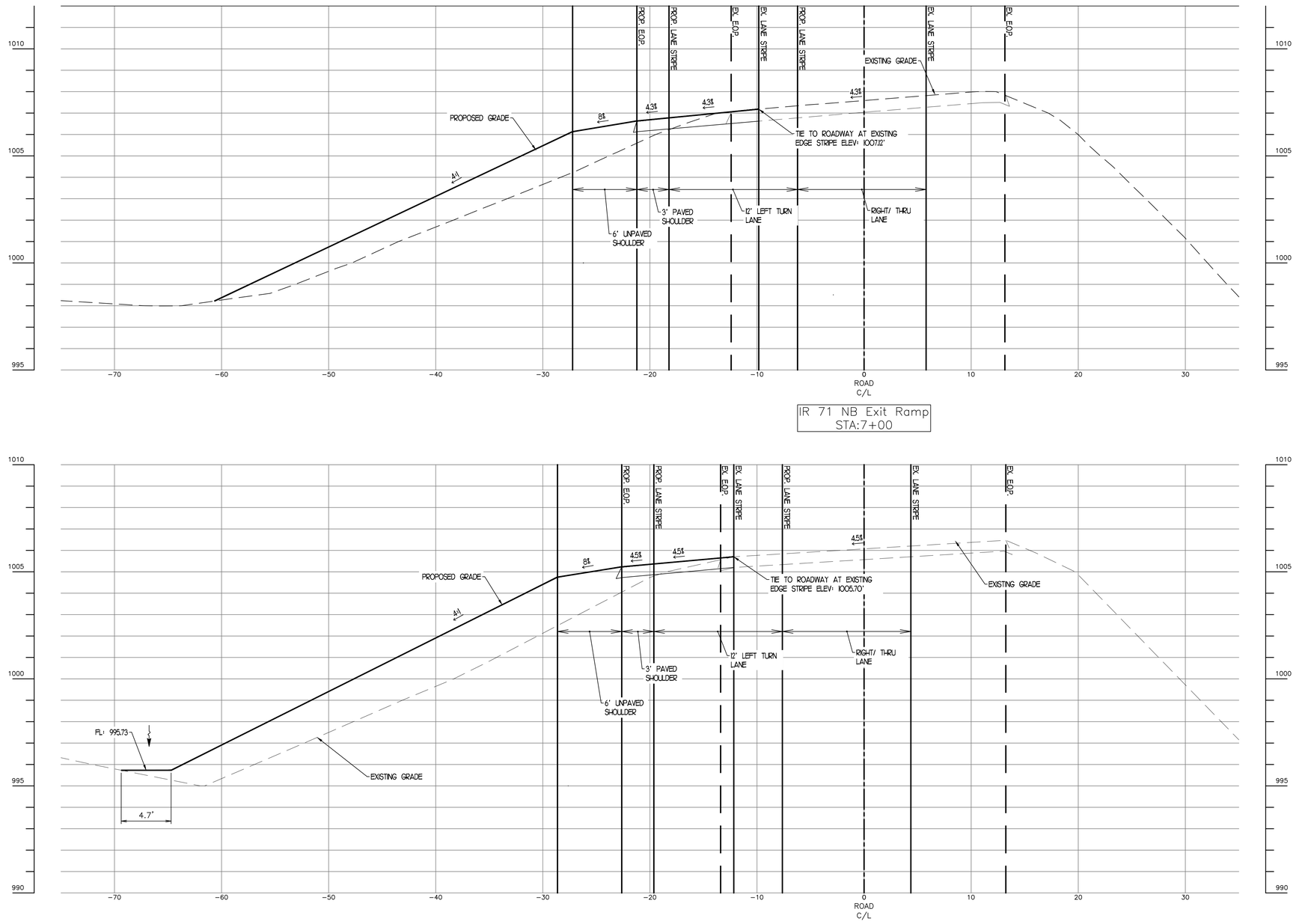
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
I.R. 71 NB EXIT - CROSS SECTION V

SHEET NUMBER:
R031

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\69-7021 (Chester Township, OH)\69-7021 Civil.dwg TAB NAME:US 71 Exit - XS (4) USER:jstelfie SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:36 AM



IR 71 NB Exit Ramp
STA:7+00

IR 71 NB Exit Ramp
STA:6+50

5 0 5 10

FILE LOCATION:L:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:US 71 Exit - XS (5) USER:jatefile SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:36 AM

TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER
STATE OF OHIO

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
329 West Stone Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
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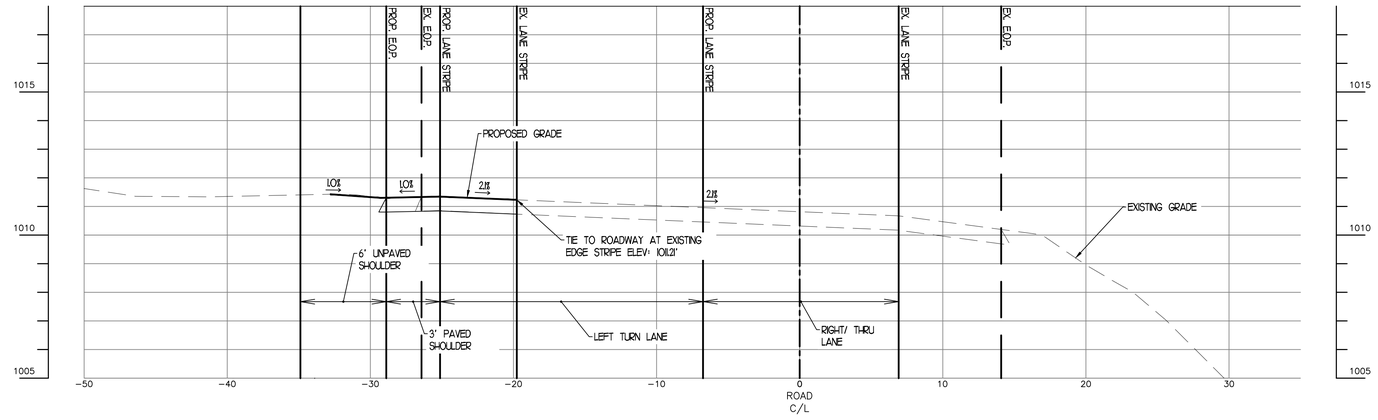
REV	DATE	DESCRIPTION

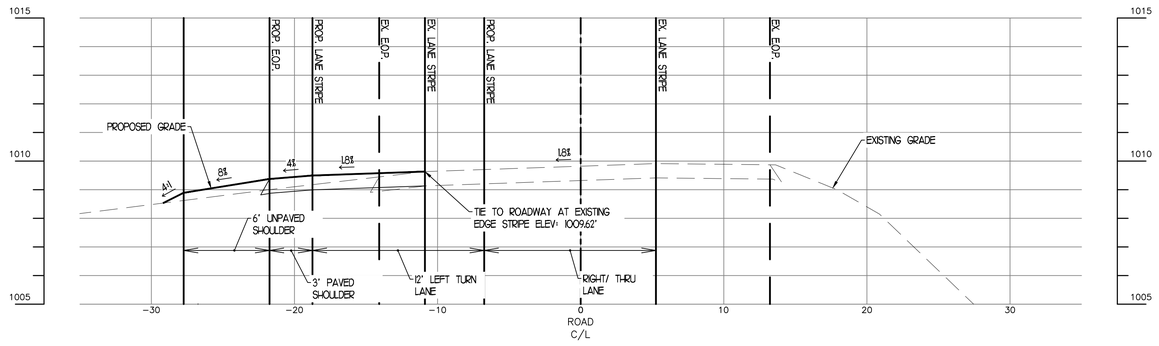
ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
I.R. 71 NB EXIT - CROSS SECTION VI

SHEET NUMBER:
R032



IR 71 NB Exit Ramp
STA:8+50



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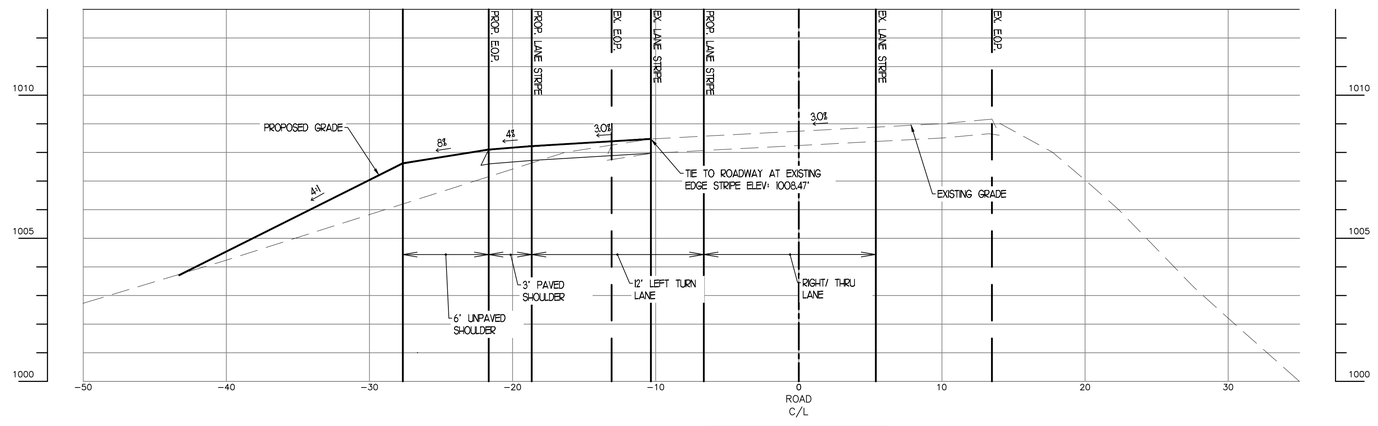
STA:8+00



IR 71 NB Exit Ramp
STA:7+50

5 0 5 10

STATE OF OHIO
TODD BURNETT
86798
REGISTERED
PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
229 West Pike Avenue
Washington Court House, Ohio 43160
614-253-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION
		ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
I.R. 71 NB EXIT - CROSS SECTION VII

SHEET NUMBER:
R033

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:US 71 Exit - XS (6) USER:jstelfle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:36 AM

PRIOR TO BEGINNING ROADWORK, CONTRACTOR TO IMPLEMENT PERIMETER WORK ZONE SIGNAGE. SIGNAGE TO REMAIN UNTIL ROADWORK HAS BEEN COMPLETED

ROAD WORK AHEAD
W20-1-48

END ROAD WORK
G20-2-48

ROAD WORK AHEAD
W20-1-48

END ROAD WORK
G20-2-48

ROAD WORK AHEAD
W20-1-48

REFER TO R022 FOR SIGNAGE ALONG INTERSTATE

WORKZONE

WORKZONE

WORKZONE

ROAD WORK AHEAD
W20-1-48

END ROAD WORK
G20-2-48

ROAD WORK AHEAD
W20-1-48

END ROAD WORK
G20-2-48

Denny Rd

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP &	> 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
ROAD	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURES	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE	> 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
CLOSURES & RESTRICTIONS	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

200 100 0 200 400

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
329 West Stow Avenue
Greenville, Ohio 45331
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
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REVIEWED BY:	

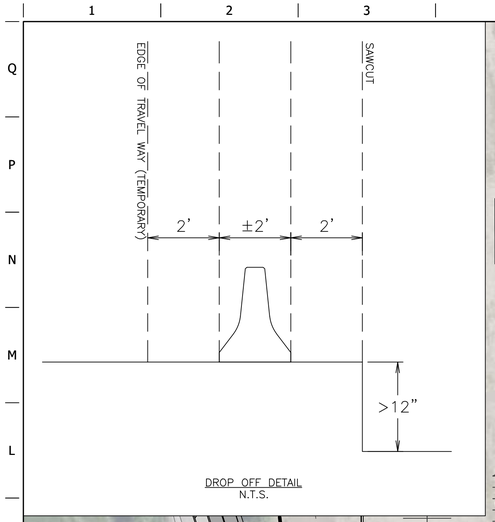
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
MAINTENANCE OF TRAFFIC - OVERALL

SHEET NUMBER:
R034

FILE LOCATION=J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME=Overall MOT USER=jstelfie SAVED=6/13/2025 10:29 AM PLOTTED=6/13/2025 10:36 AM



DROP OFF DETAIL
N.T.S.

NOTES:

- CONTRACTOR TO REFERENCE OHIO DOT SCD #MT-95.61 FOR ADDITIONAL INFORMATION.
- WORK ZONE MARKINGS SHALL BE 740.06 REMOVABLE TAPE AND CONFLICTING MARKINGS SHALL BE COVERED USING BLACK OUT TAPE PER CMS 614.11.G.1b; UNLESS THE ENTIRE WIDTH OF PAVEMENT IS RESURFACED.
- ENTIRE WIDTH OF PAVEMENT TO BE RESURFACED WHERE ANY PAVEMENT MARKING SCARRING OCCURS.

LEGEND

- WORK AREA
- COVER EXISTING MARKINGS
- PORTABLE CONCRETE BARRIER
- IMPACT ATTENUATOR
- DIRECTION OF TRAVEL

W24-1L-36

*PERIMETER SIGNAGE PER R032

ROAD WORK AHEAD
W20-1-48

50:1 TAPER REQUIRED. (±4' LANE SHIFT, REQUIRES 200' TAPER DISTANCE), TYP. OF 4.

WORK ZONE

WORK ZONE IMPACT ATTENUATOR

±200'

±500'

S.R. 73

N 79°11'00" W 123.66'

N 82°48'00" W 446.15'

PORTABLE CONCRETE BARRIER, TYP.

6" WORK ZONE CENTERLINE (DOUBLE SOLID)

PROVIDE 10' MINIMUM TRAVEL LANE DURING CONSTRUCTION, TYP.

6" WORK ZONE EDGE LINE (WHITE)

*PERIMETER SIGNAGE PER R032

END ROAD WORK
W20-1-48

50 25 0 50 100

STATE OF OHIO
TODD BURNETT
86798
REGISTERED
PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FREELAND and KAUFFMAN, INC.
Engineers + Landscape Architects
329 West Stow Avenue
Greenville, South Carolina 29609
864-233-5497

QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

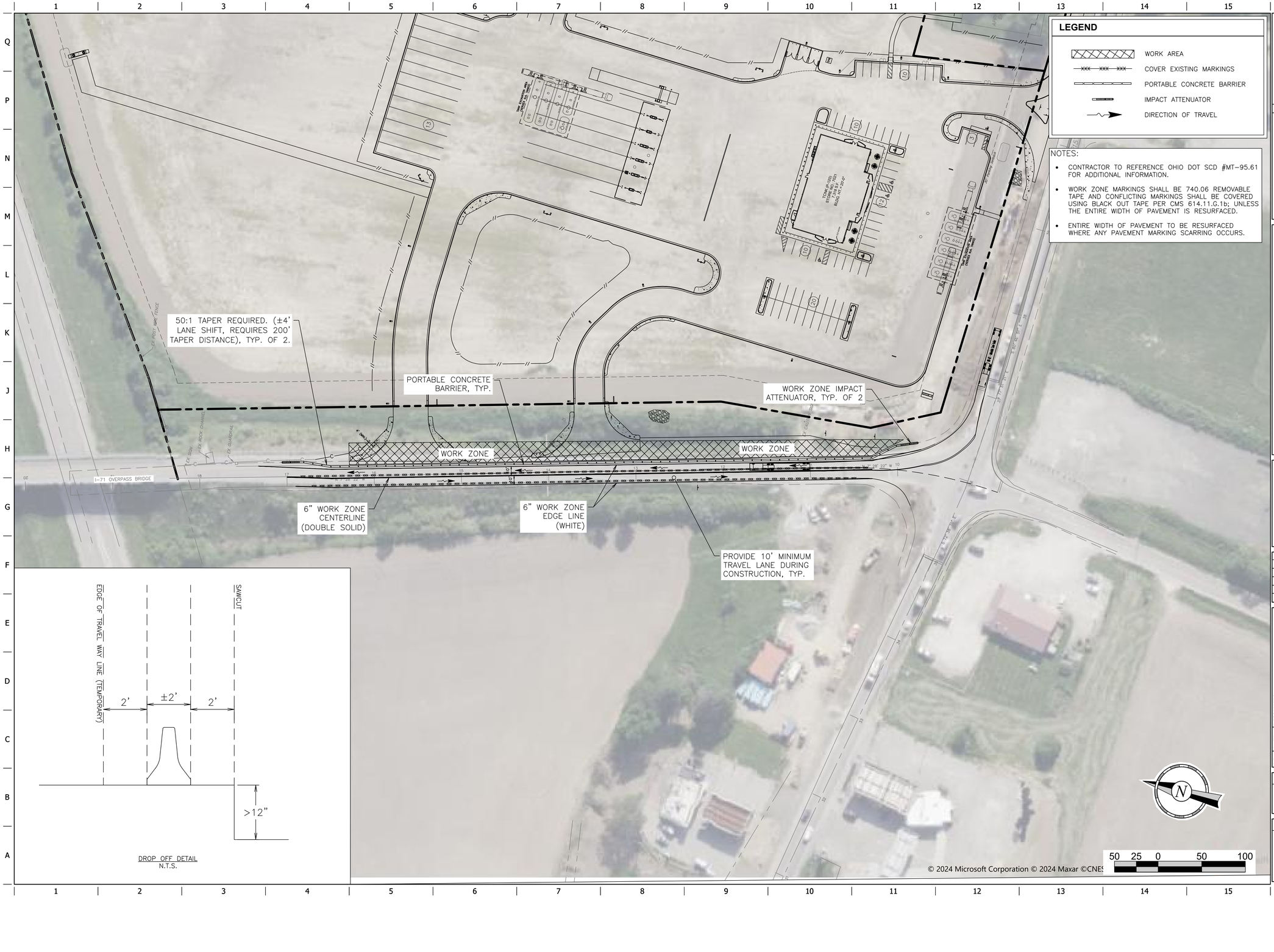
REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
MAINTENANCE OF TRAFFIC - S.R. 73

SHEET NUMBER:
R035

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\69-7021 (Chester Township, OH)\69-7021 Civil.dwg TAB NAME:TCP - SR 73 USER:jateife SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:36 AM



LEGEND

- WORK AREA
- COVER EXISTING MARKINGS
- PORTABLE CONCRETE BARRIER
- IMPACT ATTENUATOR
- DIRECTION OF TRAVEL

NOTES:

- CONTRACTOR TO REFERENCE OHIO DOT SCD #MT-95.61 FOR ADDITIONAL INFORMATION.
- WORK ZONE MARKINGS SHALL BE 740.06 REMOVABLE TAPE AND CONFLICTING MARKINGS SHALL BE COVERED USING BLACK OUT TAPE PER CMS 614.11.G.1b; UNLESS THE ENTIRE WIDTH OF PAVEMENT IS RESURFACED.
- ENTIRE WIDTH OF PAVEMENT TO BE RESURFACED WHERE ANY PAVEMENT MARKING SCARRING OCCURS.

STATE OF OHIO
TODD BURNETT
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REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

FRIELAND and KAUFFMAN, INC.
Engineers • Landscape Architects
329 West Stow Avenue
Greenville, Ohio 45331
664-233-5497

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WILMINGTON, OH 45177

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REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
MAINTENANCE OF TRAFFIC - S.R. 380

SHEET NUMBER:
R036

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:TCP - SR 380 USER:jatelfie SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:36 AM

LEGEND

- WORK AREA
- ~~XXX XXX XXX~~ COVER EXISTING MARKINGS
- DRUMS
- PORTABLE CONCRETE BARRIER
- DIRECTION OF TRAVEL

NOTES:

- CONTRACTOR TO REFERENCE OHIO DOT SCD #MT-95.61 FOR ADDITIONAL INFORMATION.
- WORK ZONE MARKINGS SHALL BE 740.06 REMOVABLE TAPE AND CONFLICTING MARKINGS SHALL BE COVERED USING BLACK OUT TAPE PER CMS 614.11.G.1b; UNLESS THE ENTIRE WIDTH OF PAVEMENT IS RESURFACED.
- ENTIRE WIDTH OF PAVEMENT TO BE RESURFACED WHERE ANY PAVEMENT MARKING SCARRING OCCURS.

END ROAD WORK
G20-2-48

TEMPORARY SHADOW VEHICLE (TSV)

END ROAD WORK
G20-2-48

EXIT OPEN AHEAD
E5-H2b-48

WORK IN EXIT LANE
W20-H8-48

±1000'

±1800'

±1500'

±2640'

ROAD WORK AHEAD
W20-1-48

PORTABLE BARRIER, TYP.

60:1 TAPER REQUIRED. (±6' LANE SHIFT, REQUIRES 360' TAPER DISTANCE).

WORK ZONE

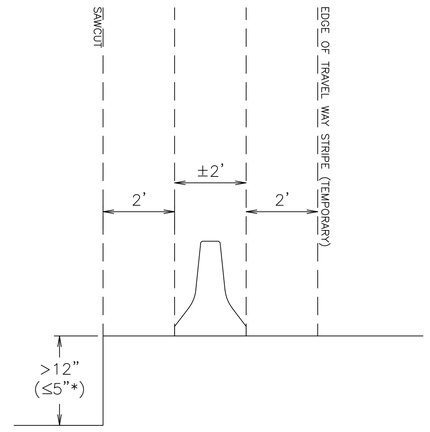
WORK ZONE IMPACT ATTENUATOR

6" WORK ZONE EDGE LINE (WHITE)

PROVIDE 12' TRAVEL LANE DURING CONSTRUCTION, TYP.

60 30 0 60 120

*THE DROP OFF DEPTH MUST NOT EXCEED 5" IN LOCATIONS WHERE PORTABLE BARRIERS ARE UNABLE TO BE INSTALLED,



DROP OFF DETAIL
N.T.S.

STATE OF OHIO
TODD BURNETT
86798
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE DATE: 05/29/2025

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QuikTrip No. 7021

3778 SR 380
WILMINGTON, OH 45177

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

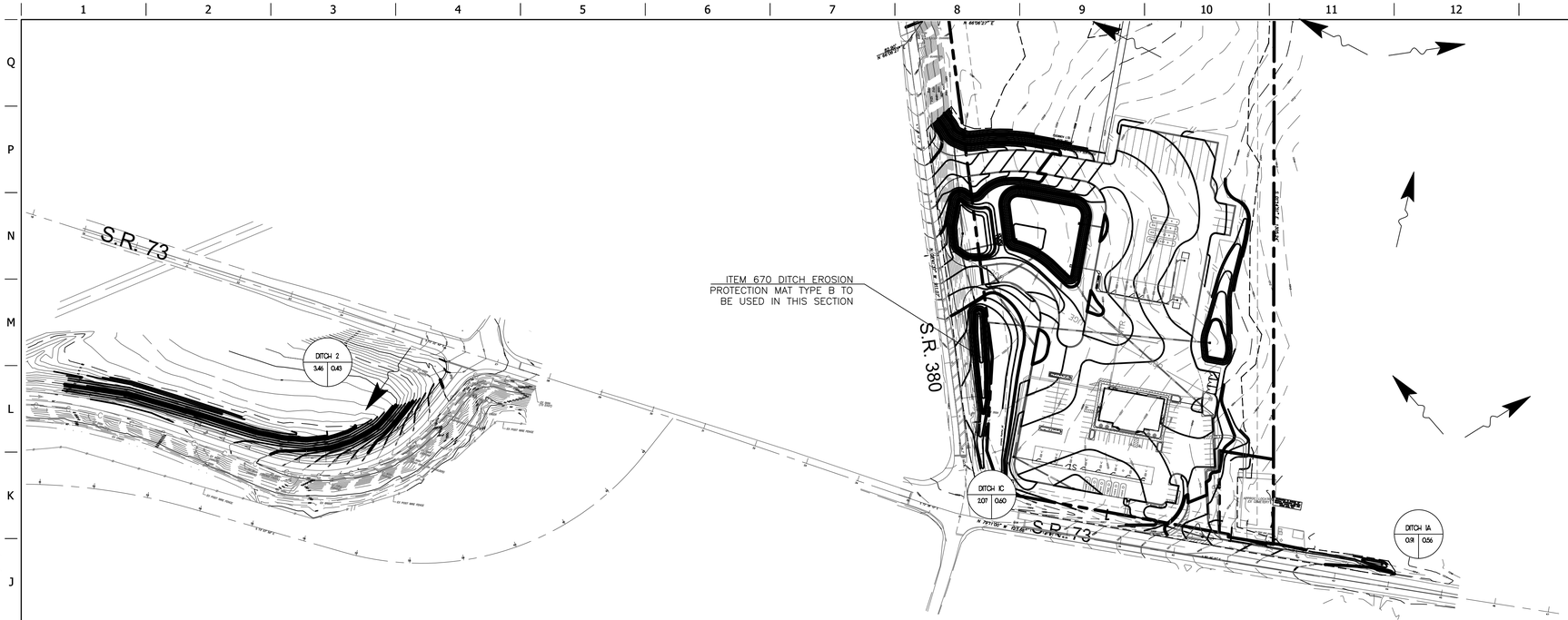
SHEET TITLE:

MAINTENANCE OF TRAFFIC - I.R. 71 NB EXIT RAMP

SHEET NUMBER:

R037

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:TCP - 71 USER:jstefie SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:37 AM



TODD BURNETT
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SIGNATURE DATE: 05/29/2025

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DITCH ANALYSIS

PID : **Date :** 02/04/2025 **Project :** QT 7021 **Location :** Wilmington, OH

Description : I.R. 71 Exit Ramp - Ditch **Designer :**

Rainfall Area : C

Allowable Shears

	Seed:	0.40	**Jute Mat:** 0.45	**Temporary Mat:**	1.00
Permanent Mat	**Type 1:**	2.00	**Type 2:** 3.00	**Type 3:**	5.00
RCP	**Type B:**	6.00			

(*) Warning: Grade is steeper than allowable. If value is parantheses, design parameters have been exceeded. - See user manual.

	STATION BEGIN	STATION END	SIDE	LENGTH (ft.)	RADIUS WIDTH (ft.)	IN SLOPE (ft./ft.)	BACK SLOPE (ft./ft.)	GRADE (ft./ft.)	AREA (acres)	AREA SUM (acres)	RUNOFF COEFF.	CA (Sum)	PROTECT TYPE	RAIN INT. (in./hr.)	STORM FREQ. (yrs.)	MANN. COEFF.	TIME FLOW (min.)	VEL. FLOW (fps.)	SHEAR (lbs./ sq.ft.)	DESIGN FLOW (cfs.)	DEPTH FLOW (ft.)	WIDTH FLOW (ft.)
2	0+50	7+23	L	673.10	2.00	4.00	3.00	0.0106	3.59	3.59	0.45	1.62	Seed	3.52	5	0.030	19.18	2.59	0.37	5.68	0.56	5.89
													Seed	3.87	10	0.040	20.02	2.15	0.44	6.25	0.67	6.68

Grate Inlet Capacity

Ditch Section	DA (acres)	C	Q10-5min (cfs)	Q*2 (cfs)	HEAD* (ft.)
1A	0.909	0.562	3.56	7.12	0.54

*HYDRAULIC HEAD PER ODOT FIG. 1102-1. PER OBSERVED VALUES, NO EXCESSIVE PONDING, OR SPREAD ONTO PAVED SURFACES IS EXPECTED DURING THE REQUIRED DESIGN STORM FREQUENCIES.

DITCH ANALYSIS

PID : **Date :** 02/04/2025 **Project :** QT 7021 **Location :** Wilmington, OH

Description : SR 73 - Ditch 1A **Designer :**

Rainfall Area : C

Allowable Shears

	Seed:	0.40	**Jute Mat:** 0.45	**Temporary Mat:**	1.00
Permanent Mat	**Type 1:**	2.00	**Type 2:** 3.00	**Type 3:**	5.00
RCP	**Type B:**	6.00			

(*) Warning: Grade is steeper than allowable. If value is parantheses, design parameters have been exceeded. - See user manual.

	STATION BEGIN	STATION END	SIDE	LENGTH (ft.)	RADIUS WIDTH (ft.)	IN SLOPE (ft./ft.)	BACK SLOPE (ft./ft.)	GRADE (ft./ft.)	AREA (acres)	AREA SUM (acres)	RUNOFF COEFF.	CA (Sum)	PROTECT TYPE	RAIN INT. (in./hr.)	STORM FREQ. (yrs.)	MANN. COEFF.	TIME FLOW (min.)	VEL. FLOW (fps.)	SHEAR (lbs./ sq.ft.)	DESIGN FLOW (cfs.)	DEPTH FLOW (ft.)	WIDTH FLOW (ft.)
1A	42+46	44+00	L	153.30	1.00	3.00	3.00	0.0128	0.91	0.91	0.56	0.51	Seed	5.79	5	0.030	6.02	2.47	0.39	2.95	0.49	3.92
													Seed	6.23	10	0.040	6.23	2.04	0.46	3.18	0.57	4.44

DITCH ANALYSIS

PID : **Date :** 02/04/2024 **Project :** QT 7021 **Location :** Wilmington, OH

Description : SR 380 - Ditch 1C **Designer :**

Rainfall Area : C

Allowable Shears

	Seed:	0.40	**Jute Mat:** 0.45	**Temporary Mat:**	1.00
Permanent Mat	**Type 1:**	2.00	**Type 2:** 3.00	**Type 3:**	5.00
RCP	**Type B:**	6.00			

(*) Warning: Grade is steeper than allowable. If value is parantheses, design parameters have been exceeded. - See user manual.

	STATION BEGIN	STATION END	SIDE	LENGTH (ft.)	RADIUS WIDTH (ft.)	IN SLOPE (ft./ft.)	BACK SLOPE (ft./ft.)	GRADE (ft./ft.)	AREA (acres)	AREA SUM (acres)	RUNOFF COEFF.	CA (Sum)	PROTECT TYPE	RAIN INT. (in./hr.)	STORM FREQ. (yrs.)	MANN. COEFF.	TIME FLOW (min.)	VEL. FLOW (fps.)	SHEAR (lbs./ sq.ft.)	DESIGN FLOW (cfs.)	DEPTH FLOW (ft.)	WIDTH FLOW (ft.)
1C	9+97	12+86	R	288.51	4.00	3.00	3.00	0.0160	2.07	2.07	0.60	1.24	Seed	5.64	5	0.030	6.54	3.06	0.43	7.00	0.43	6.59
													Jute Mat	5.54	5	0.040	6.88	2.49	0.50	6.89	0.50	7.01
													Temp. Mat	5.54	5	0.040	6.88	2.49	0.50	6.89	0.50	7.01
													Temp. Mat	6.07	10	0.040	6.83	2.56	0.53	7.53	0.53	7.17

NOTE: ITEM 670 DITCH EROSION PROTECTION MAT TYPE B TO BE USED IN THIS SECTION

PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:

DRAINAGE CALCULATIONS I

SHEET NUMBER:

R038

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\69-7021 (Chester Township, OH)\69-7021 Civil.dwg TAB NAME:Ditch Calcs USER:jatelfle SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:37 AM

S.R. 380 – EXISTING 18" PIPE

IN THE POST-DEVELOPED CONDITION, THE DETENTION POND OUTFALLS TO THE EXISTING 18" PIPE. AS SUCH, FLOW RATES WERE TAKEN DIRECTLY FROM THE STORMWATER MANAGEMENT REPORT FOR QUIKTRIP STORE NO. 7021. THIS ALLOWS FOR THE DETENTION EFFECTS TO BE SIMULATED IN THE PIPE ANALYSIS.

	10-YR	25-YR
PRE (CFS)	16.83	21.93
POST(CFS)	8.61	13.76

HYDRAFLOW STORM SEWERS EXTENSION FOR CIVIL3D WAS UTILIZED TO MODEL THE PIPE IN BOTH PRE-DEVELOPMENT AND POST-DEVELOPMENT CONDITION. THE FOLLOWING ARE THE RESULTS FROM THE MODEL:

Pipe Cap 10-YR

Line No.	Line ID	Flow Rate (cfs)	Capac Full (cfs)	HGL Up (ft)	HGL Dn (ft)	Line Size (in)	Line Slope (%)	Sf Ave (%)	n-val Pipe
1	POST	8.61	8.95	996.11	995.37	18	0.97	0.844	0.015
2	PRE	16.83	8.95	998.55	995.37	18	0.97	3.421	0.015

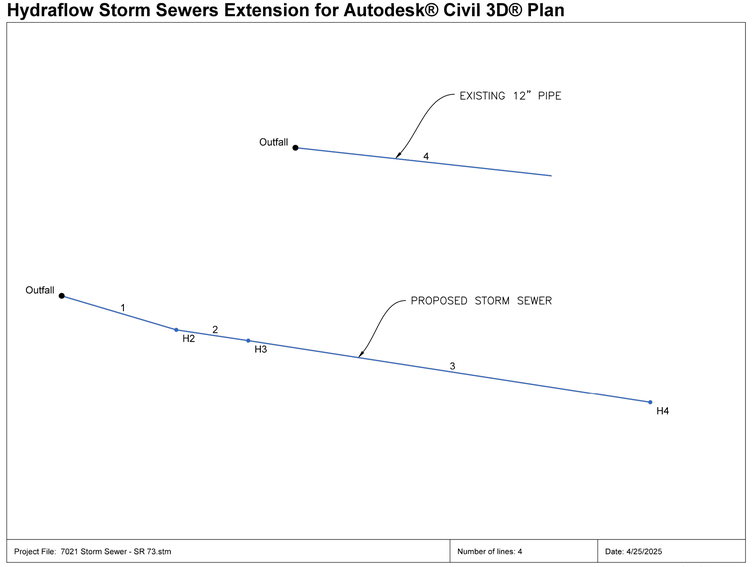
Pipe Cap 25-YR

Line No.	Line ID	Flow Rate (cfs)	Capac Full (cfs)	HGL Up (ft)	HGL Dn (ft)	Line Size (in)	Line Slope (%)	Sf Ave (%)	n-val Pipe
1	POST	13.76	8.95	997.50	995.37	18	0.97	2.286	0.015
2	PRE	21.93	8.95	1000.77	995.37	18	0.97	5.808	0.015

AS DISPLAYED IN THE ABOVE TABLES, THE DEVELOPMENT WILL REDUCE PEAK DISCHARGE EXPERIENCED BY THE 18" PIPE. ADDITIONALLY, THE PROPOSED H.G.L. WILL BE REDUCED FOR BOTH THE 10-YR AND 25-YR STORM EVENTS. THE NEAREST PAVEMENT ELEVATION AT THE UPSTREAM END OF THE PIPE IS ±1007.50'. THEREFORE, ACHIEVING THE REQUIRED 12" SEPARATION.

S.R. 73 – EXISTING AND PROPOSED STORM SEWER

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: 7021 Storm Sewer - SR 73.stm | Number of lines: 4 | Date: 4/25/2025

Storm Sewers v2023.00

Pipe Cap 10-YR

Line No.	Line ID	Total Area (ac)	Drng Area (ac)	Runoff Coeff (C)	Flow Rate (cfs)	Capac Full (cfs)	HGL Up (ft)	HGL Dn (ft)	Line Size (in)	Line Length (ft)	Line Slope (%)	n-val Pipe
1	H.1	1.08	0.00	0.00	2.32	5.71	1008.88	1008.79	18	83.738	0.39	0.015
2	H.2	1.08	0.17	0.75	2.34	2.41	1009.28	1008.97	12	50.929	0.61	0.015
3	H.3	0.91	0.91	0.48	1.91	2.39	1010.88	1009.38	12	284.728	0.60	0.015
4	Ex. 12 Inch Culvert	1.29	1.29	0.43	2.43	3.57	1012.97 j	1010.56	12	179.900	1.34	0.015

Pipe Cap 25-YR

Line No.	Line ID	Total Area (ac)	Drng Area (ac)	Runoff Coeff (C)	Flow Rate (cfs)	Capac Full (cfs)	HGL Up (ft)	HGL Dn (ft)	Line Size (in)	Line Length (ft)	Line Slope (%)	n-val Pipe
1	H.1	1.08	0.00	0.00	2.71	5.71	1008.91	1008.79	18	83.738	0.39	0.015
2	H.2	1.08	0.17	0.75	2.73	2.41	1009.58	1009.18	12	50.929	0.61	0.015
3	H.3	0.91	0.91	0.48	2.23	2.39	1011.09	1009.67	12	284.728	0.60	0.015
4	Ex. 12 Inch Culvert	1.29	1.29	0.43	2.83	3.57	1013.02	1010.56	12	179.900	1.34	0.015

DISCUSSION:

PER ODOT L&D MANUAL, VOL II – 1104, STORM SEWERS ARE TO BE SIZED USING THE 10-YR DESIGN STORM.

ADDITIONALLY, THE 25-YR STORM EVENT SHALL BE USED TO ANALYZE THE HYDRAULIC GRADE LINE. THE HGL SHALL BE 12" BELOW THE NEAR EDGE OF PAVEMENT

AS DEMONSTRATED BY THE 25-YR STORM ROUTING RESULTS, THE H.G.L. AT THE UPSTREAM END OF THE PIPE WAS CALCULATED TO BE 1011.09', WHICH PROVIDES A SEPARATION OF ±4' TO THE NEAREST EDGE OF PAVEMENT, WHICH HAS AN ELEVATION OF 1015.28'.

STATE OF OHIO
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PROTOTYPE: P-120 (11/01/24)
DIVISION:
VERSION: 001
DESIGNED BY:
DRAWN BY:
REVIEWED BY:

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
DRAINAGE CALCULATIONS II

SHEET NUMBER:
R039

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\89-7021 (Chester Township, OH)\89-7021 Civil.dwg TAB NAME:Pipe Calcs USER:jstelfe SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:37 AM

LEGEND

EXISTING

- CURB & GUTTER
- SANITARY SEWER LINE
- OVERHEAD ELECTRIC LINE
- TRAFFIC SIGNAL
- WATERLINE
- STORM SEWER (>12")
- CURB & GUTTER
- EDGE OF ASPHALT
- GUY WIRE
- POWER POLE
- WATER VALVE
- MANHOLE
- FIRE HYDRANT
- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)

PROPOSED

- BOUNDARY LINE
- 2.5' CURB & GUTTER
- STORM PIPE (≤ 10" NEW)
- STORM PIPE (≥ 12" NEW)
- MAJOR CONTOUR (NEW)
- MINOR CONTOUR (NEW)
- LIMITS OF DISTURBANCE
- TC XXXX.XX — TOP OF CURB ELEVATION (NEW)
- G XXXX.XX — GUTTER ELEVATION (NEW)
- FG XXXX.XX — FINISHED GRADE ELEVATION (NEW)
- FULL DEPTH ASPHALT PAVING

S.R. 73

R/W VARIES

EX SIGN (NPS)

EX SIGN (I-71)

EX SIGN (STOP)

EX SIGN (ONE)

EX SIGN (CEASER CREEK)

EX. INV (18")

OHW

10 5 0 10 20

STATE OF OHIO
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PROTOTYPE:	P-120 (11/01/24)
DIVISION:	
VERSION:	001
DESIGNED BY:	
DRAWN BY:	
REVIEWED BY:	

REV	DATE	DESCRIPTION
		ORIGINAL ISSUE DATE: 01/29/2024

SHEET TITLE:
S.R. 73 - INTERSECTION GRADING DETAIL

SHEET NUMBER:
R040

FILE LOCATION:J:\Drawings\Projects\Pioneer LLC\69-7021 (Chester Township, OH)\69-7021 Civil.dwg TAB NAME:ODOT - 73 Intersection Grading USER:jsteiffe SAVED:6/13/2025 10:29 AM PLOTTED:6/13/2025 10:37 AM

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 120 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION, THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLER, CABINET, UNINTERRUPTIBLE POWER SUPPLY, VEHICLE DETECTION EQUIPMENT, LED LAMP UNITS, NETWORK AND COMMUNICATION/INTERCONNECT EQUIPMENT.

CUSTOMARY MANUFACTURERS' GUARANTEES FOR THE AFOREMENTIONED ITEMS SHALL BE TURNED OVER TO THE ODOT DISTRICT 8 TRANSPORTATION AND TRAFFIC ENGINEER FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO, AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

SIGNAL ACTIVATION

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL TO STOP-AND-GO MODE ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E., VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC). IF THERE ARE CONSTRUCTABILITY ISSUES (I.E., ROADWAY WIDENING, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIOR TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER. THE DISTRICT TRAFFIC ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED DISTRICT TRAFFIC PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUE WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE TRAVELING PUBLIC AND/OR THE EFFICIENCY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALL BE CORRECTED AND REINSPECTED BY DISTRICT TRAFFIC PERSONNEL PRIOR TO FINAL ACCEPTANCE. ODOT FORCES SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

WORK INSPECTION

BEFORE ANY WORK IS STARTED ON THE TRAFFIC SIGNAL, THE DISTRICT EIGHT TRAFFIC ENGINEER (513-933-6607) AND THE CONTRACTOR'S REPRESENTATIVE SHALL REVIEW AND RESOLVE ANY POTENTIAL PROBLEMS AT THE LOCATION WHERE THE NEW SIGNAL WILL BE CONSTRUCTED.

THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER WITH 72 HOUR NOTICE OF ANY SIGNAL WORK TO BE PERFORMED AT THE INTERSECTION SITE(S) SO THAT INSPECTION SERVICES CAN BE SUPPLIED.

POWER SUPPLY FOR TRAFFIC SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FROM THE UTILITY POLE AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120/240 VOLTS.

STRAIN POLE AND PEDESTAL FOUNDATION ELEVATIONS

ELEVATIONS SHOWN IN THE PLANS FOR STRAIN POLE AND PEDESTAL FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH TRAFFIC SCD TC-21.21 PROVIDED THE EXISTING SLOPE IS LESS THAN 6:1.

AT LOCATIONS WHERE THE EXISTING SLOPE IS 6:1 OR GREATER, THE BURIED DEPTH OF FOUNDATION, AS SHOWN IN SCD TC-21.21 SHALL APPLY TO THE LOW SIDE OF THE SLOPE. THE TOP OF THE FOUNDATION SHALL BE SET 2 INCHES ABOVE THE EXISTING SURFACE ON THE HIGH SIDE OF THE SLOPE. THE ADDITIONAL DEPTH OF FOUNDATION NECESSARY TO MEET THESE REQUIREMENTS SHALL BE ADDED TO THE FORMED TOP.

MAINTENANCE OF TRAFFIC SIGNAL/FLASHER INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES INSTALLED BY THE CONTRACTOR: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION. IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS FOR POLICE SERVICES AND MAINTENANCE SERVICES BY STATE (CITY) FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	> 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	> 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

ITEM 614 - MAINTAINING TRAFFIC

ON SR 73 AND SR 380, A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION INCLUDING ALL EXISTING TURN LANES SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND THE COMPLETED PAVEMENT. LANE CLOSURES ARE PROHIBITED FROM 6:00 AM TO 8:30 AM AND FROM 3:30 PM TO 6:00 PM.

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR SPECIAL EVENTS:

- NEW YEAR'S (OBSERVED)
- MEMORIAL DAY
- FOURTH OF JULY (OBSERVED)
- LABOR DAY
- RENAISSANCE FESTIVAL
- GENERAL/REGULAR ELECTION DAY (NOV)
- THANKSGIVING
- CHRISTMAS (OBSERVED)

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR SPECIAL EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF HOLIDAY OR SPECIAL EVENT	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WED
TUESDAY (GEN./REG. ELECTION)	5:00 AM TUESDAY THROUGH 12:00 AM WED
WEDNESDAY	12:00N TUES THROUGH 6:00 AM THURS
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM FRI
THURSDAY (THANKSGIVING ONLY)	6:00 AM WED THROUGH 6:00 AM MON
FRIDAY	12:00N THURS THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE IN THE AMOUNT OF $100 PER MINUTE THE ROADWAY OR LANE REMAINS CLOSED BEYOND THE SPECIFIED LIMIT.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 625 - LUMINAIRE, CONVENTIONAL, SOLID-STATE (LED), AS PER PLAN, 120V, 12500-13000 LUMENS

IN ADDITION TO THE REQUIREMENTS OF THE ODOT C&MS, CONVENTIONAL LUMINAIRES WITH TYPE II DISTRIBUTION INSTALLED ON THIS PROJECT SHALL BE AS FOLLOWS:

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS SHALL BE ONE OF THE FOLLOWING:

1. EVOLVE ERL1 AS MANUFACTURED BY CURRENT LIGHTING SOLUTIONS, LLC (CATALOG #: ERL1-0-13-C5-30-GRAY)
2. AUTOBAHN ATBM AS MANUFACTURED BY AMERICAN ELECTRIC LIGHTING (CATALOG #: ATBM-P20-MVOLT-R3-4B-3K)
3. VERDEON AS MANUFACTURED BY COOPER *LIGHTING* SOLUTIONS (CATALOG #: VERD-CA2-90-730-U-T3-AP)
4. OR EQUAL (FROM ODOT APPROVED LIST)

LUMINAIRES SHALL HAVE A COLOR TEMPERATURE OF 3000K.

ANY SUBMITTED EQUALS MUST BE APPROVED BY THE ENGINEER.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT BID PRICE FOR EACH "ITEM 625 - LUMINAIRE, CONVENTIONAL, SOLID-STATE (LED), AS PER PLAN, 120V, 12500-13000 LUMENS" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 632 - SIGNAL SUPPORT FOUNDATION, AS PER PLAN

PRIOR TO ORDERING THE SIGNAL SUPPORTS, THE CONTRACTOR SHALL CONTACT OUPS TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD. THEN, THE CONTRACTOR SHALL MEET THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATIONS TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORTS.

DUE TO THE FURTHER POSSIBILITY OF CONFLICT WITH EXISTING OR PROPOSED UNDERGROUND OBSTRUCTIONS (INCLUDING THE POSSIBILITY OF UNRECORDED OBSTRUCTIONS) WHICH COULD AFFECT THE LOCATION OF THE FOUNDATION FOR THIS ITEM, AND CONSEQUENTLY, THE DESIGN OF THE SUPPORT AND/OR ARMS, THE CONTRACTOR SHALL NOT PLACE FINAL ORDERS FOR THE ITEM UNTIL THE FOUNDATIONS HAVE BEEN INSTALLED, AT FINAL GRADE, AND THE CONTRACTOR HAS RECEIVED, FROM ENGINEER, WRITTEN NOTICE TO PROCEED WITH THE ORDERS FOR THE ITEM.

IF ANY FOUNDATION LOCATIONS MUST BE ADJUSTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND MAINTAINING AGENCY, WHO WILL DETERMINE THE REVISED LOCATION AND IF NEEDED, THE SUPPORT DESIGN. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DETERMINING THE REVISED DESIGN. THE ENGINEER WILL INFORM THE CONTRACTOR OF ANY CHANGES NECESSARY AND AUTHORIZE THE CONTRACTOR TO ORDER THE SUPPORT.

THE CONTRACTOR SHALL, WHEN DEVELOPING THE PROGRESS SCHEDULE, AND THOSE OF SUBCONTRACTORS, ENSURE THAT THE FOUNDATIONS ARE INSTALLED AT THE EARLIEST TIME AS IS FEASIBLE AND PRACTICAL, AND SHALL INCLUDE SUFFICIENT TIME IN THE PROGRESS SCHEDULE FOR ORDERING, MANUFACTURING, DELIVERY, AND INSTALLATION OF THE SUPPORT ITEMS AFTER THE FOUNDATIONS ARE IN PLACE.

NO PAYMENTS FOR DELIVERED MATERIALS FOR THE FOUNDATION OR SUPPORT ITEMS SHALL BE MADE UNTIL THE FOUNDATIONS ARE IN PLACE, AND IF CHANGES IN THE DESIGN OF THIS ITEM ARE REQUIRED, NO PAYMENT SHALL BE MADE FOR THE ITEMS MANUFACTURED TO THE ORIGINAL DESIGN.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

TRAFFIC SIGNAL NOTES
SR 73 & SB I-71 RAMPS

DESIGN AGENCY
TEC Engineering,Inc
PLAN PREPARED BY:
TEC Engineering, Inc.
7288 Central Parke Blvd.
Mason, OH 45040

DESIGNER	SMS
REVIEWER	MJH 4/2/25
PROJECT ID	24446002
SHEET	TS001
TOTAL	TS006

ITEM 632 - POWER SERVICE, AS PER PLAN
TRAFFIC SIGNAL POWER SERVICE SHALL BE AS PER SPECIFICATION 632 AND STANDARD CONSTRUCTION DRAWING TC-83.10 WITH THE FOLLOWING EXCEPTIONS:

1. THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN FIVE (5) FEET HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND.
2. THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES.
3. ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.
4. THE POWER SERVICE BLIND HALF COUPLING SHALL BE TWENTY-SEVEN [27] INCHES ABOVE THE BOTTOM OF THE STRAIN POLE BASE PLATE AND SHALL BE WELDED TO THE STRAIN POLE.
5. CONDUIT FROM THE BOTTOM OF THE DISCONNECT SWITCH ENCLOSURE INTO THE BOTTOM OF THE CONTROLLER CABINET WILL NOT BE PERMITTED. POWER SERVICE WIRES FROM THE DISCONNECT SWITCH ENCLOSURE TO THE CONTROLLER CABINET SHALL BE ROUTED THROUGH THE STRAIN POLE.
6. IF INTERSECTION LIGHTING IS SPECIFIED THEN SEPARATE DISCONNECT SWITCHES SHALL BE INSTALLED AND LABELED “LIGHTING” AND “TRAFFIC SIGNAL” WITH A WEATHER PROOF STICKER. MARKER ON THE OUTSIDE OF THE ENCLOSURE IS NOT ACCEPTABLE.
7. THE CONTRACTOR SHALL FURNISH AND INSTALL AN ADDRESS STICKER WITH 4-INCH LETTERING TO THE CABINET. ADDRESS MUST BE VISIBLE FROM THE STREET.

DISCONNECT SWITCH ENCLOSURES FURNISHED SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL CONTACT ODOT DISTRICT 8 TRAFFIC OPERATIONS TO OBTAIN THE POWER SERVICE ADDRESS TO BE USED FOR ON ALL INSPECTIONS. ONCE THE SIGNAL HAS PASSED INSPECTION, THE CONTRACTOR WILL NOTIFY THE PROJECT ENGINEER WHO WILL IN TURN NOTIFY ODOT DISTRICT 8 TRAFFIC OPERATIONS. ODOT DISTRICT 8 TRAFFIC OPERATIONS WILL THEN MAKE APPLICATION FOR POWER FROM THE UTILITY.

UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE EXISTING METER, IF APPLICABLE, IS THE PROPERTY OF THE POWER COMPANY AND SHALL NOT BE REMOVED BY THE CONTRACTOR. PRIOR TO THE EXISTING TRAFFIC SIGNAL REMOVAL, ODOT DISTRICT 8 TRAFFIC OPERATIONS WILL REQUEST THE REMOVAL OF THE METER AND CLOSURE OF THE ACCOUNT.

THE DEPARTMENT WILL MEASURE ITEM 632, POWER SERVICE, AS PER PLAN, BY THE NUMBER OF COMPLETE UNITS AND WILL INCLUDE: WEATHERHEAD, CONDUIT, FITTINGS, CLAMPS, AND OTHER NECESSARY HARDWARE, INSTALLATION OF METER BASE, GROUND WIRE CONNECTIONS, DISCONNECT SWITCH WITH ENCLOSURE, AND COORDINATION WORK WITH UTILITIES.

ANY ADDITIONAL CABLE OR WOOD POLES NECESSARY TO ESTABLISH A POWER SERVICE WITH THE UTILITY COMPANY SHALL BE COVERED UNDER THE PERTINENT PAY ITEMS.

ITEM 632, SIGNALIZATION, MISC. CDMA MODEM, FURNISH ONLY
FURNISH A CDMA MODEM AND A 3-IN-1 SHARKFIN CELLULAR ANTENNA WITH CABLES FOR REMOTE WIRELESS CELLULAR COMMUNICATION. REQUIRED ETHERNET CABLES QUANTIFIED SEPARATELY. FOR NETWORK CONSISTENCY CDMA MODEMS SHALL BE THE SIERRA WIRELESS AIRLINK MP70 MODEL CONFIGURED FOR THE AT&T NETWORK.

THIS ITEM SHALL INCLUDE THE FURNISHING OF A COMTROL ROCKETLINX ES8108 ETHERNET SWITCH WITH ALL POWER SUPPLIES NECESSARY TO FUNCTION.

THIS ITEM SHALL INCLUDE THE FURNISHING AND INSTALLATION OF A MOUNTING BRACKET FOR THE ANTENNA WITH ALL NECESSARY HARDWARE INCLUDING BUT NOT LIMITED TO SPRING NUTS, WASHERS, AND BOLTS THAT INSTALLS TO THE MOUNTING CHANNEL ON THE SIDE OF THE SIGNAL CABINET.

THE CDMA MODEM EQUIPMENT SHALL BE DELIVERED TO ODOT DISTRICT 8 TRAFFIC FOR PROGRAMMING AND INSTALLATION.

ODOT DISTRICT 8 TRAFFIC
ATTN:MARC GRAKE
505 S. STATE ROUTE 741
LEBANON, OH 45036

THE CONTRACTOR SHALL PROVIDE THE MODEM SERIAL NUMBERS AND NECESSARY ESN NUMBERS FOR ODOT TO ESTABLISH WIRELESS SERVICE.

THE DEPARTMENT WILL MEASURE “SIGNALIZATION, MISC.: COMA MODEM, FURNISH ONLY” BY THE NUMBER OF COMPLETE UNITS FURNISHED AND RECEIVED BY ODOT DISTRICT 8 TRAFFIC.

ITEM 633 - CABINET, TYPE 332, AS PER PLAN:
THE CABINET SHALL BE FURNISHED AND INSTALLED ACCORDING TO CMS 633 AND 733 AND LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS LIST (TAP).

THE CABINET SHALL BE FURNISHED WITH AN EDI MONITOR AS ALLOWED ON THE TAP/APPROVED PRODUCTS LIST.

THE CABINET SHALL ALSO COME EQUIPPED WITH AN AUXILIARY OUTPUT FILE.

THE CONTRACTOR SHALL NOT REASSIGN THE CABINET DETECTOR INPUTS IN ORDER TO REDUCE THE NUMBER OF 2-CHANNEL DETECTOR UNITS SUPPLIED AND SHALL USE THE STANDARD CALTRANS INPUT FILE DESIGNATIONS FOLLOWING PLAN INSERT SHEET 203324.

PAYMENT FOR ITEM 633 - CABINET, TYPE 332, AS PER PLAN, WILL BE AT THE CONTRACT BID PRICE PER EACH COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 633 - CABINET FOUNDATION, AS PER PLAN
THIS ITEM SHALL CONSIST OF CONSTRUCTING A MODIFIED CONTROLLER CABINET FOUNDATION IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING TC-83.20 AND ODOT CONSTRUCTION MATERIAL SPECIFICATIONS 633.10, 499, AND 511, EXCEPT THE FOUNDATION SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE THE PROPOSED COMBINED SIGNAL CONTROLLER AND UPS BATTERY BACKUP CABINET.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH "ITEM 633 - CABINET FOUNDATION, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 633 - UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN
IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, POLE ATTACHMENT HARDWARE WILL BE INCLUDED FOR POLE-MOUNTED CABINETS, AND A CABINET RISER (8-INCH MINIMUM) AND ANCHOR BOLTS WILL BE PROVIDED FOR BASE-MOUNTED CABINETS. BEFORE PERFORMING THE WORK, THE CONTRACTOR, THE DISTRICT TRAFFIC ENGINEER AND THE PROJECT ENGINEER WILL PERFORM A SITE INSPECTION TO ESTABLISH THE LOCATION OF THE UPS CABINET AND FOUNDATION.

THE UPS CABINET SHALL INCLUDE A GENERATOR POWER PANEL WITH A HEAVY-DUTY POWER RELAY VERSUS THE LINE VOLTAGE GENERATOR SWITCH. THE GENERATOR INLET SHALL BE A RECESSED PANEL WITH A DOOR THAT IS FLUSH WITH THE EXTERNAL SIDE OF THE UPS CABINET. IT SHALL INCLUDE A RECESSED PLUG, AUTOMATIC TRANSFER SWITCH AND A DOOR THAT SECURELY CLOSES OVER THE POWER CORD.

THE CABINET SHALL HAVE A DOOR STOP MECHANISM AND THERMOSTATICALLY CONTROLLED FAN. ADDITIONALLY, THE CABINET SHALL BE BUILT WITH ALL BATTERIES ALWAYS BELOW THE INVERTER TO AVOID POTENTIAL FURTHER BATTERY LEAKAGE ISSUES.

THE CABINET SHALL INCLUDE A BATTERY BALANCING DEVICE THAT REGULATES THE BATTERIES AND OPTIMIZES PERFORMANCE.

THE UPS FURNISHED SHALL BE AN ALPHA MANUFACTURED UNIT AND LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS (TAP) LIST.

AFTER FOUR (4) HOURS OF BATTERY RUNTIME, THE SYSTEM SHALL BE PROGRAMMED TO SWITCH THE INTERSECTION FROM FULL OPERATION TO CONTROLLER AUTOMATIC FLASH OPERATION THROUGH THE MONITOR. THE CONTROLLER SHALL BE PROGRAMMED SO THAT FLASH OPERATION SHALL BEGIN ONCE THE INTERSECTION RUNS MINOR STREET GREEN (TYP. PH. 4 &8), ALL-RED CLEARANCE, AND THEN FLASH OPERATION.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL OR THROUGH THE CONTROLLER WITH A C11 TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

THIS ITEM SHALL INCLUDE A RED LED STATUS INDICATOR LAMP TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, RATED FOR OUTDOOR USE AND BE TAMPER/ SHATTER RESISTANT. IT SHALL BE A DOMED ENCLOSURE CONTAINING A RED LENS WITH LED THAT IS VISIBLE FROM 100 FOOT MINIMUM. THE ENCLOSURE AND LED MODULE SHOULD BE PLACED ON THE SIDE OF THE UPS CABINET FACING TOWARDS THE MAINLINE ROADWAY AND SEALED FROM WATER INTRUSION. IT SHOULD BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED “BACKUP POWER STATUS DISPLAY,” WITH WIRE POLARITY INDICATED. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE “BACKUP” OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED.

ITEM 633 - UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN (CONTINUED)

PAYMENT FOR "ITEM 633 - UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN", FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE AT THE CONTRACT EACH BID PRICE AND SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 809 - ADVANCE RADAR DETECTION, AS PER PLAN
THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR ADVANCE DETECTION UNIT (MODEL SS-200E). THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.
8. THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO MILLING/DISABLING EXISTING LOOPS.
9. THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.

PAYMENT FOR ITEM 809 ADVANCE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

ITEM 809 - STOP-LINE RADAR DETECTION, AS PER PLAN
THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.
8. THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO MILLING/DISABLING EXISTING LOOPS.
9. THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.

PAYMENT FOR ITEM 809 STOP LINE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

ITEM 809 - ATC CONTROLLER, AS PER PLAN
THE CONTROLLER UNIT SHALL BE FURNISHED AND INSTALLED PER SS 809 AND BE LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS (TAP) LIST.

THE CONTROLLER SHALL BE AN ECONOLITE COBALT AND COMPATIBLE WITH THE CABINET TYPE BEING INSTALLED.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT BID PRICE FOR EACH "ITEM 809- ATC CONTROLLER, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

GROUNDING AND BONDING
THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

   A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

   B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.

   C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.

   D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.

   E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.

   F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS.

   A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.

   B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.

   C. BOTH ENDS OF THE METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

   D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRING FOR GROUNDING AND BONDING.

   A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:

      I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLERS OR FLASHER CABINETS.

      II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

      III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

TRAFFIC SIGNAL DESIGN - SR 73 & SB I-71 RAMPS

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TRAFFIC SIGNAL NOTES
SR 73 & SB I-71 RAMPS

DESIGN AGENCY
TEC Engineering,Inc
PLAN PREPARED BY:
TEC Engineering, Inc.
7256 Corporate Blvd.
Mason, OH 45040

DESIGNER SMS
REVIEWER MJH 4/2/25
PROJECT ID 24446002
SHEET TS002 TOTAL TS006

GROUNDING AND BONDING (CONTINUED)

IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD.

A. 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

COND NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	BLACK	GREEN BALL	#1 WALK
2	WHITE	AC NEUTRAL	AC NEUTRAL
3	RED	RED BALL	#1 DW/FDW
4	GREEN	EQUIP. GROUND	EQUIP. GROUND
5	ORANGE	YELLOW BALL	#2 DW/FDW
6	BLUE	GREEN ARROW	#2 WALK
7	WHITE/BLACK STRIPE	YELLOW ARROW	NOT USED

6. POWER SERVICE AND DISCONNECT SWITCH.

A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.

B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.

II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.

TRAFFIC SIGNAL DESIGN - SR 73 & SB I-71 RAMPS

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TRAFFIC SIGNAL NOTES
SR 73 & SB I-71 RAMPS

DESIGN AGENCY

TEC Engineering,Inc
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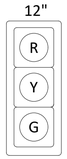
MJH 4/2/25

PROJECT ID
24446002

SHEET TS003 | TOTAL TS006

PROPOSED SIGNAL HEADS*



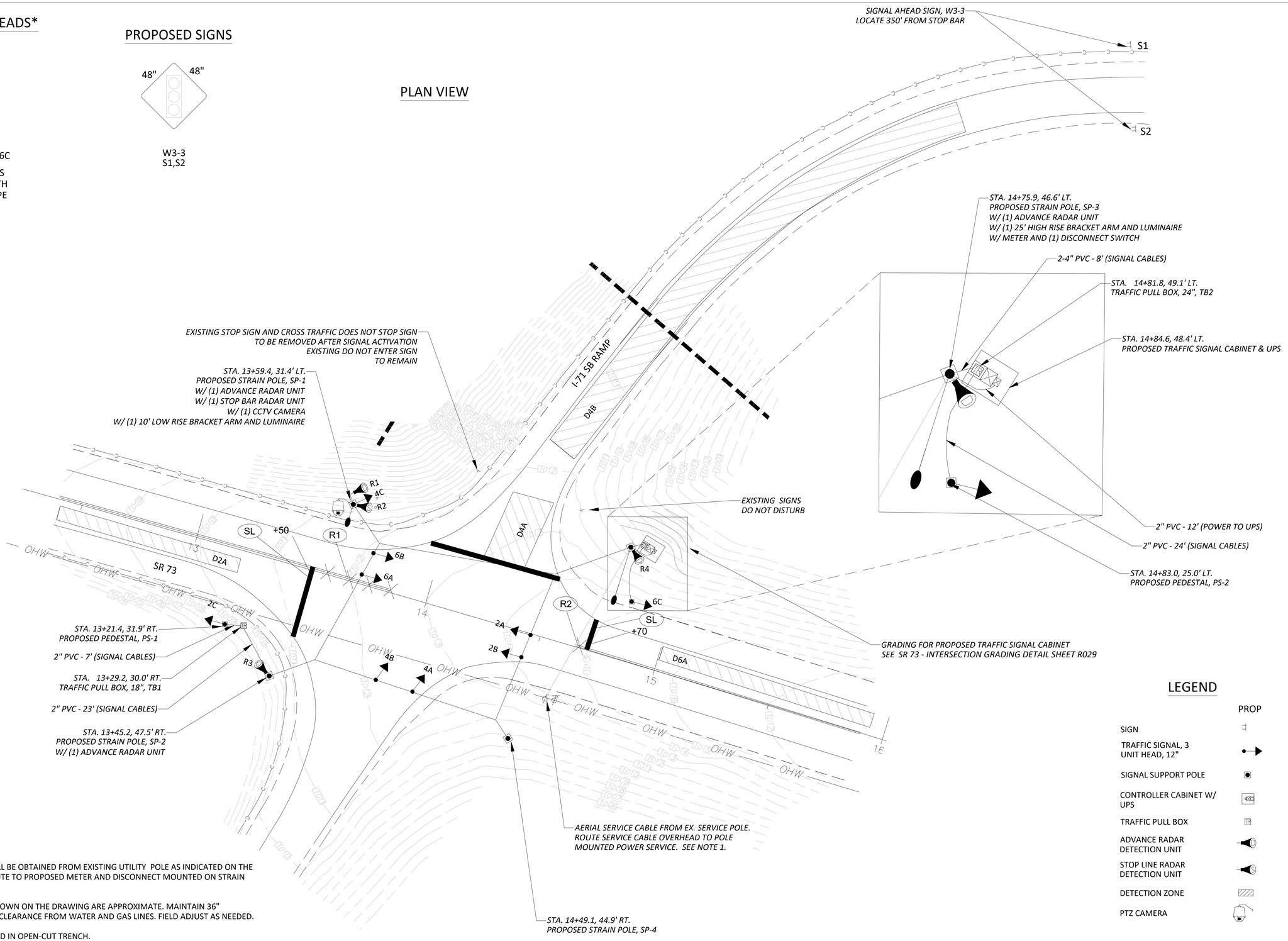
2A,2B,2C,4A,4B,4C,6A,6B, 6C

* - VEHICLE SIGNAL HEADS INCLUDE BACKPLATES WITH YELLOW REFLECTIVE STRIPE

PROPOSED SIGNS

W3-3
S1,S2

PLAN VIEW



NOTES

1. 120/240V ELECTRIC POWER SHALL BE OBTAINED FROM EXISTING UTILITY POLE AS INDICATED ON THE PLANS. PROVIDE OVERHEAD ROUTE TO PROPOSED METER AND DISCONNECT MOUNTED ON STRAIN POLE, SP-3 AS SHOWN.
2. LOCATION OF CONDUIT RUNS SHOWN ON THE DRAWING ARE APPROXIMATE. MAINTAIN 36" HORIZONTAL AND 12" VERTICAL CLEARANCE FROM WATER AND GAS LINES. FIELD ADJUST AS NEEDED.
3. ALL CONDUIT SHALL BE INSTALLED IN OPEN-CUT TRENCH.
4. INTERSECTION LIGHTING DISCONNECT SWITCH AND ASSOCIATED EQUIPMENT SHALL BE INCLUDED IN THE SIGNAL POWER SERVICE ITEM.
5. ALL EXISTING WRONG WAY, ONE WAY, AND DO NOT ENTER SIGNAGE TO REMAIN.

LEGEND

	PROP
SIGN	
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"	
SIGNAL SUPPORT POLE	
CONTROLLER CABINET W/ UPS	
TRAFFIC PULL BOX	
ADVANCE RADAR DETECTION UNIT	
STOP LINE RADAR DETECTION UNIT	
DETECTION ZONE	
PTZ CAMERA	
STOP LINE MARKING	SL
REMOVE PAVEMENT MARKING	R

HORIZONTAL SCALE IN FEET
0 10 20 40

TRAFFIC SIGNAL PLAN
SR 73 & SB I-71 RAMPS

DESIGN AGENCY
TEC Engineering,Inc
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Mason, OH 45040

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MJH	4/2/25
PROJECT ID	
24446002	
SHEET	TOTAL
TS004	TS006

TRAFFIC SIGNAL DESIGN - SR 73 & SB I-71 RAMPS

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TRAFFIC SIGNAL CONTROLLER TIMING CHART

INTERSECTION: SR 73 & I-71 SB RAMP
MAINTAINING AGENCY: ODOT

START UP

START IN: Y/R FLASH O ; ALL RED Ø
TIME FOR FLASH OR ALL RED: 5 SEC.
FIRST PHASE(S): 2 & 6
COLOR DISPLAYED: GREEN Ø ; YELLOW O

DUAL ENTRY: ON | PHASES: 2 & 6
REST IN RED: RING 1 - | RING 2 -

OVERLAP	A	B	C	D
PHASES	-	-	-	-

INTERVAL OR FEATURE			CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)			1	2	3	4	5	6	7	8
DIRECTION			-	EB	-	SB	-	WB	-	-
MINIMUM GREEN (INITIAL)		(SEC.)	-	20	-	10	-	20	-	-
ADDED INITIAL		*(SEC./ACTUATION)	-	-	-	-	-	-	-	-
MAXIMUM INITIAL		(SEC.)	-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP)		(SEC.)	-	3.0	-	3.0	-	3.0	-	-
TIME BEFORE REDUCTION		*(SEC.)	-	-	-	-	-	-	-	-
MINIMUM GAP		*(SEC.)	-	-	-	-	-	-	-	-
TIME TO REDUCE		*(SEC.)	-	-	-	-	-	-	-	-
MAXIMUM GREEN I		(SEC.)	-	50	-	30	-	50	-	-
MAXIMUM GREEN II		(SEC.)	-	-	-	-	-	-	-	-
YELLOW CHANGE		(SEC.)	-	5.5	-	4.0	-	5.5	-	-
ALL RED CLEARANCE		(SEC.)	-	2.0	-	2.0	-	2.0	-	-
WALK		(SEC.)	-	-	-	-	-	-	-	-
PEDESTRIAN CLEARANCE		(SEC.)	-	-	-	-	-	-	-	-
RECALL	MAXIMUM	(ON/OFF)	-	OFF	-	OFF	-	OFF	-	-
	MINIMUM	(ON/OFF)	-	ON	-	OFF	-	ON	-	-
	PEDESTRIAN	(ON/OFF)	-	OFF	-	OFF	-	OFF	-	-
MEMORY		(ON/OFF)	-	-	-	-	-	-	-	-

*VOLUME DENSITY CONTROLS

NOTES
1. ALL MOVEMENTS SHALL BE ACTUATED. THE PRIMARY THROUGH MOVEMENT SHALL HAVE MIN RECALL ACTIVE TO REST IN GREEN.
2. RADAR DETECTION UNITS FOR DILEMMA ZONE DETECTION SHALL PLACE A CONSTANT CALL TO THE CONTROLLER WHEN VEHICLE TRAVEL TIMES TO THE STOP BAR ARE BETWEEN 2.5 AND 6.0 SECONDS. SPEED TRIGGER SHALL BE SET FOR VEHICLES TRAVELING 35MPH AND GREATER.
3. RADAR SHALL HAVE QUEUE DETECTION CONFIGURED AND A A ZONE PLACED AT 100-200 FEET FROM THE STOP BAR FOR SLOW MOVING VEHICLE EXTENSIONS. SPEED TRIGGER SHALL BE SET AT 1-35MPH.
4. ALL DETECTOR DELAYS SHALL BE PLACED ON THE CONTROLLER.
5. FOR ANY ENTRY TO FLASHING OPERATION, PROGRAMMING SHALL RUN MINOR STREET GREEN (TYP. Φ4 & Φ8), ALL RED CLEARANCE AND THEN FLASHING OPERATION.

COORDINATION TIMING CHART

	SPLITS (G+Y+AR) IN SECONDS								OFFSET 1 (SEC)	OFFSET 2 (SEC)
PHASE	1	2 (COORD)	3	4	5	6 (COORD)	7	8		
DIRECTION		EB		SB		WB				
PLAN	INTERSECTION - SR 73 & I-71 SB RAMP									
1	-	56	-	24	-	56	-	-	11	-
2	-	62	-	28	-	62	-	-	4	-
3	-	70	-	30	-	70	-	-	4	-
4	-	70	-	30	-	70	-	-	4	-

DAY(S) OF WEEK	PLAN NAME	HOURS	ACTION PLAN	CYCLE LENGTH (SEC)
MON-FRI	FREE	0:00-6:30	100	FREE
	AM	6:30-9:00	2	90
	OFF	9:00-15:00	1	80
	PM	15:00-19:00	3	100
	FREE	19:00-0:00	100	FREE
DAY(S) OF WEEK	PLAN NAME	HOURS	ACTION PLAN	CYCLE LENGTH (SEC)
SAT-SUN	FREE	0:00-7:00	100	FREE
	SAT	7:00-19:00	4	100
	FREE	19:00-0:00	100	FREE

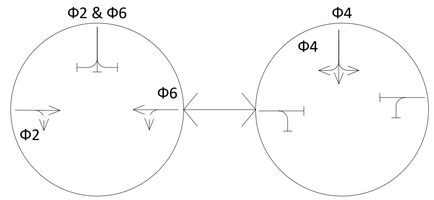
SUMMARY

ITEM	EXT	TOTAL	UNIT	DESCRIPTION
625	00450	2	EACH	CONNECTION, FUSED PULL APART
625	00460	4	EACH	CONNECTION, UNFUSED PULL APART
625	18000	1	EACH	BRACKET ARM, 10'
625	18500	1	EACH	BRACKET ARM, 25'
625	23306	120	FT	NO. 10 AWG 600 VOLT DISTRIBUTION CABLE
625	23400	1000	FT	NO. 10 AWG POLE AND BRACKET CABLE
625	25408	65	FT	CONDUIT, 2", 725.051
625	25604	16	FT	CONDUIT, 4", 725.051
625	26253	2	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), AS PER PLAN, 120V, 12500-13000 LUMENS
625	29002	75	FT	TRENCH, 24" DEEP
625	30700	1	EACH	PULL BOX, 725.08, 18"
625	30706	1	EACH	PULL BOX, 725.08, 24"
625	32000	10	EACH	GROUND ROD
630	03100	64	FT	GROUND MOUNTED SUPPORT, NO. 3 POST
630	80100	32	SF	SIGN, FLAT SHEET
630	84900	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
632	05007	9	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN
632	25000	9	EACH	COVERING OF VEHICULAR SIGNAL HEAD
632	30200	370	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES
632	30600	370	FT	TETHER WIRE, WITH ACCESSORIES
632	40700	1110	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG
632	64000	4	EACH	STRAIN POLE FOUNDATION
632	64020	2	EACH	PEDESTAL FOUNDATION
632	68300	60	FT	POWER CABLE, 3 CONDUCTOR, NO. 6 AWG
632	69800	75	FT	SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG
632	70001	1	EACH	POWER SERVICE, AS PER PLAN
632	86140	4	EACH	STRAIN POLE, TYPE TC-81.11, DESIGN 12
632	90008	2	EACH	PEDESTAL, 15', TRANSFORMER BASE
632	90400	1	EACH	SIGNALIZATION, MISC.: CDMA MODEM, FURNISH ONLY
633	65521	1	EACH	CABINET, TYPE 332, AS PER PLAN
633	67101	1	EACH	CABINET FOUNDATION, AS PER PLAN
633	67200	1	EACH	CONTROLLER WORK PAD
633	75001	1	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN
644	00500	50	FT	STOP LINE
644	30000	50	FT	REMOVAL OF PAVEMENT MARKING
809	60000	1	EACH	CCTV IP-CAMERA SYSTEM, PTZ
809	64550	250	FT	ETHERNET CABLE, OUTDOOR-RATED
809	69000	3	EACH	ADVANCE RADAR DETECTION
809	69100	1	EACH	STOP LINE RADAR DETECTION
809	69123	1	EACH	ATC CONTROLLER, AS PER PLAN

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
2A,2B, 2C (EB)	R	Φ2 R	R
	Y	Φ2 Y	
	G	Φ2 G	
4A,4B,4C (SB)	R	Φ4 R	R
	Y	Φ4 Y	
	G	Φ4 G	
6A,6B,6C (WB)	R	Φ6 R	R
	Y	Φ6 Y	
	G	Φ6 G	
LS = LOAD SWITCH			

SIGNAL PHASING DIAGRAM



LEGEND

VEHICLE Φ
PERMITTED Φ

DETECTOR TABLE

DETECTION ZONE	DETECTOR NO.	MOVEMENT	PULSE OR PRESENCE	ASSOCIATED PHASE	DELAY IN CONTROLLER (SEC)	EXTENSION IN CONTROLLER (SEC)	DELAY INHIBIT PHASE	PURPOSE	DETECTION ZONE LENGTH (FT)
D2A	R3	EB ADV	PRESENCE	2	0	0	2	EXTEND PHASE 2	ADVANCE
D4A	R2	SB L/TH/R	PRESENCE	4	0	0	4	CALL/EXTEND PHASE 4	30
D4B	R1	SB ADV	PRESENCE	4	0	0	4	EXTEND PHASE 4	ADVANCE
D6A	R4	WB ADV	PRESENCE	6	0	0	6	EXTEND PHASE 6	ADVANCE

TRAFFIC SIGNAL DESIGN - SR 73 & SB I-71 RAMPS

TRAFFIC SIGNAL DETAILS
SR 73 & SB I-71 RAMPS

DESIGN AGENCY
TEC Engineering,Inc
PLAN PREPARED BY:
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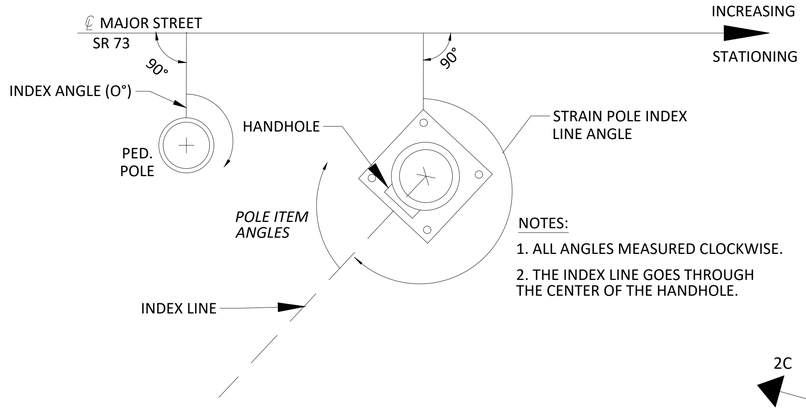
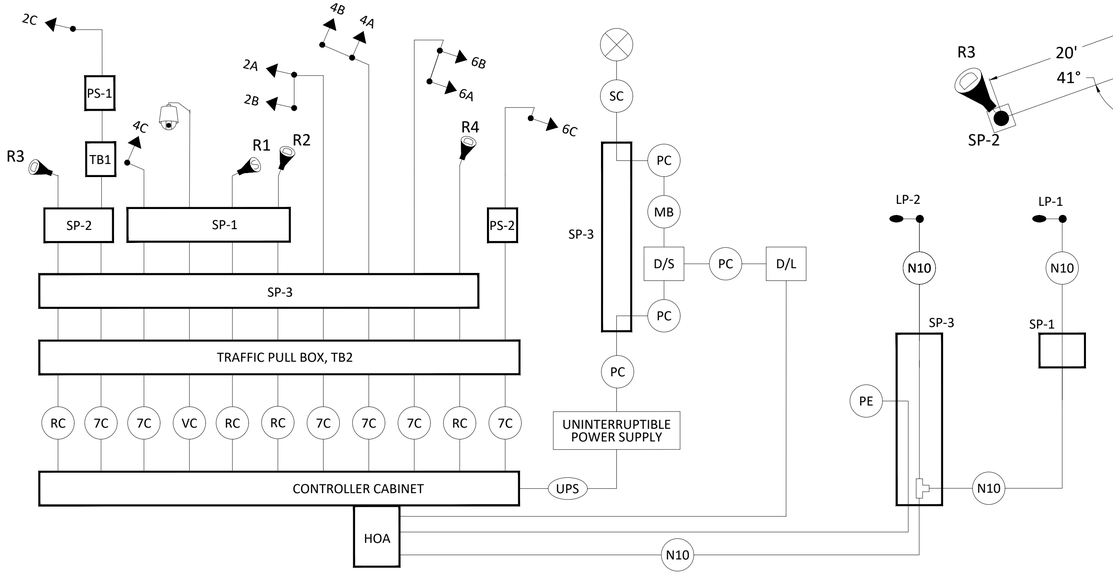
DESIGNER SMS
REVIEWER MJH 4/2/25
PROJECT ID 24446002
SHEET TS005 TOTAL TS006

STRAIN POLE ORIENTATION



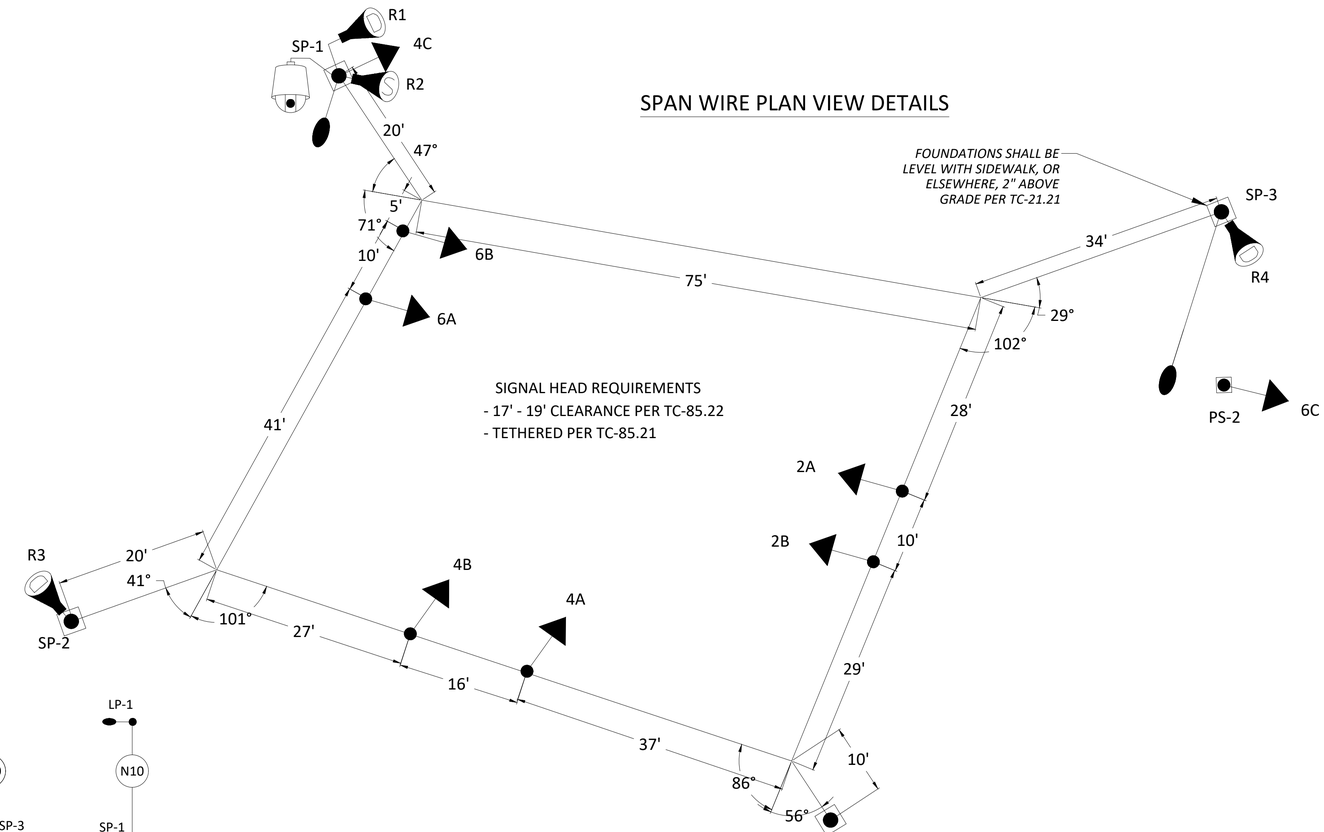
WIRING DIAGRAM



LEGEND

- 3 SECTION VEHICULAR SIGNAL HEAD, 1-WAY
- STOP LINE RADAR DETECTOR UNIT
- ADVANCE RADAR DETECTOR UNIT
- UTILITY POLE (POWER)
- PTZ CAMERA
- LUMINAIRE
- UPS — UNINTERRUPTIBLE POWER SUPPLY CABLE
- #C — SIGNAL CABLE, # CONDUCTOR, NO. 14 AWG
- D/S — SIGNAL DISCONNECT SWITCH
- POWER SOURCE
- PC — POWER CABLE, 3 CONDUCTOR, NO. 6 AWG
- SC — SERVICE CABLE, 3 CONDUCTOR, NO. 6 AWG
- VC — ETHERNET CABLE
- RC — RADAR DETECTION CABLE
- MB — METER BASE
- SP-1 — SIGNAL SUPPORT POLE NO. __
- HOA — HAND/ OFF/ AUTO SWITCH

SPAN WIRE PLAN VIEW DETAILS



POLE DETAILS

REFERENCE SHEET NO.*	POLE NO.	STATION*	OFFSET*	DESIGN NO. (TC-81.11)	POLE HEIGHT (FT.)	FOUNDATION ELEVATION*	SPAN WIRE ATTACHMENT HEIGHT*	CABLE ENTRANCE DISTANCE FROM TOP (IN.)	INDEX LINE ANGLE (DEG.)	POLE ITEM ANGLES (DEG.) FROM INDEX LINE						
										POWER SERVICE METER & DISCONNECT	CABLE ENTRANCE	BRACKET ARM	SUPPLEMENTAL SIGNAL HEAD	RADAR DETECTION UNIT	COMMUNICATIONS ANTENNA	PTZ CAMERA
-	SP-1	13+59.4	31.4' LT.	12	37'	1009.00	33.8'	48"	130	-	180	230	90	90,135	-	180
-	SP-2	13+45.2	47.5' RT.	12	35'	1009.00	33.1'	36"	235	-	180	-	-	60	-	-
-	SP-3	14+75.9	46.6' LT.	12	35'	1010.75	33.2'	36"	235	45	180	125	-	60	-	-
-	SP-4	14+49.1	44.9' RT.	12	33'	1010.00	31.2'	36"	130	-	180	-	-	-	-	-
-	PS-1	13+21.4	31.9 RT.	-	15'	1008.50	-	-	0	-	-	-	270	-	-	-
-	PS-2	14+83.0	25.0' LT.	-	15'	1014.50	-	-	0	-	-	-	270	-	-	-

* SEE TEM SECTION 441-8

TRAFFIC SIGNAL DESIGN - SR 73 & SB I-71 RAMPS

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REVIEWER: MJH 4/2/25
PROJECT ID: 24446002
SHEET: TS006 TOTAL: TS006