



VOLUME II

APPENDIX 10J

Route Modification Tables and Figures ***Update April 2016***



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TABLE 10J. Summary of Route Variations Incorporated into the Proposed Route Between June 2015 and March 2016 (Revised April 2016)

Pipeline Segment	Milepost		Total Length (miles)		Approx. Maximum Separation (feet)	Variation ID	Reason for Route Variation	Additional Information
	Begin	End	June 2015 Route	March 2016 Route				
Supply Laterals								
Berne Lateral	0.07	0.16	0.15	0.14	51	BE2	Eliminate landowner tract by removing workspace.	Figure 10J-1, Table 10J-1
Burgettstown Lateral	0.81	1.0	0.19	0.21	79	BG6	Avoid scrub-shrub wetland, new barn under construction, and well.	Figure 10J-2, Table 10J-2
	4.06	4.09	0.03	0.03	47	BG7	Avoid newly installed electrical transformer pole, box and underground cable.	Figure 10J-3, Table 10J-3
	4.21	4.51	0.29	0.3	43	BG8	Allow sufficient offset and workspace parallel to an existing Columbia Gas pipeline.	Figure 10J-4, Table 10J-4
	6.03	6.77	0.9	0.89	1,177	BG9	Address landowner request to avoid prime grazing pasture, underground aquifer, etc. (DB Farms).	Figure 10J-5, Table 10J-5
	6.83	7.28	0.45	0.48	294	BG10	Address landowner request to abut their eastern property line.	Figure 10J-6, Table 10J-6
	13.43	13.54	0.11	0.11	43	BG11	Avoid an existing well pad within the original construction workspace.	Figure 10J-7, Table 10J-7
	26.71	26.79	0.09	0.09	54	BG12	Avoid newly constructed house and septic system.	Figure 10J-8, Table 10J-8
	44.88	45.04	0.16	0.17	110	BG13	Avoid septic system.	Figure 10J-9, Table 10J-9
	45.50	45.8	0.3	0.31	114	BG14	Allow sufficient offset and workspace parallel to an existing Midstream pipeline.	Figure 10J-10, Table 10J-10
47.39	47.87	0.48	0.48	78	BG15	Allow sufficient offset and workspace parallel to an existing Midstream pipeline.	Figure 10J-11, Table 10J-11	

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Pipeline Segment	Milepost		Total Length (miles)		Approx. Maximum Separation (feet)	Variation ID	Reason for Route Variation	Additional Information
	Begin	End	June 2015 Route	March 2016 Route				
Burgettstown Lateral	47.87	48.16	0.26	0.29	324	BG16	Avoid northern long-eared bat 2015 documented roost trees.	Figure 10J-12, Table 10J-12
Cadiz Lateral	-	-	-	-	-		None	-
CGT Lateral	0.00	-	-	-	-	-	See Table 10K, Aboveground Facility Modifications for reroute of 0.31 mile of pipeline to new CGT Tie-In site to accommodate HDD of US 50.	Station Drawing P5-5-001 Table 10K-8, Figure 10K-8
	5..8	-	-	-	-	-	See Table 10K, Aboveground Facility Modifications for 0.1 mile pipeline extension to new CGT Meter Station site.	Station Drawing P5-6-001 Table 10K-4, Figure 10K-4
Clarrington Lateral	0.4	-	-	-	-	-	See Table 10K, Aboveground Facility Modifications for relocation of approximately 0.32 mile within Clarrington Compressor Station.	Station Drawing P6-3-001 Figure 10K-2
	4.73	4.92	0.19	0.19	166	CL2	Avoid bat cave portal and maintain mature trees between construction work space and the portal opening.	Figure 10J-13, Table 10J-13
	6.36	6.39	0.03	0.04	62	CL3	Remove angle.	Figure 10J-14, Table 10J-14
	9.22	9.63	0.41	0.42	677	CL4	Avoid landowner's main spring.	Figure 10J-15, Table 10J-15
	19.56	20.2	0.66	0.64	899	CL5	Avoid new Blue Racer/Domion/East Ohio pipeline and meter station and accommodate landowner request to save oak trees and homestead foundation under review as NRHP site.	Figure 10J-16, Table 10J-16
	20.80	20.91	0.1	0.1	78	CL6	Avoid northern long-eared bat 2015 documented roost tree.	Figure 10J-17, Table 10J-17
	29.85	30.21	0.37	0.35	259	CL7	Avoid landowner's main natural spring.	Figure 10J-18, Table 10J-18

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Pipeline Segment	Milepost		Total Length (miles)		Approx. Maximum Separation (feet)	Variation ID	Reason for Route Variation	Additional Information
	Begin	End	June 2015 Route	March 2016 Route				
Majorsville Lateral	0.0	-	-	-	-		See Table 10K, Aboveground Facility Modifications for relocation of Majorsville Meter Station and elimination of 0.27 mile of pipeline.	Station Drawing P5-8-001 Table 10K-6, Figure 10K-6
	1.50	-	-	-	-	-	See Table 10K, Aboveground Facility Modifications for relocation of 0.1 mile of pipeline within Majorsville Compressor Station to accommodate station layout design. .	Station Drawing P8-12-001 Figure 10K-3
	11.83	12.21	0.36	0.41	270	MJ3	Reroute of Ohio HDD to accommodate landowner request (Marshall Land).	Figure 10J-19, Table 10J-19
Seneca Lateral	0.0	-	-	-	-	-	See Table 10K, Aboveground Facility Modifications for addition of 0.19 mile new interconnect pipeline to REX pipeline.	Station Drawing P5-1-001 Table 10K-1, Figure 10K-1
	8.89	9.12	0.24	0.24	282	SE2	Avoid northern long-eared bat 2015 documented roost tree and OH DOT planned future slip wall.	Figure 10J-20, Table 10J-20
	9.29	9.7	0.4	0.42	144	SE3	Avoid a potentially eligible cultural site.	Figure 10J-21, Table 10J-21
	21.53	21.61	0.07	0.07	40	SE4	Avoid northern long-eared bat 2015 documented roost tree.	Figure 10J-22, Table 10J-22
Sherwood Lateral	1.0A	-	-	-	-	-	See Table 10K, Aboveground Facility Modifications for reroute of 0.5 mile of pipeline to a new CGT Tie-In site and to accommodate HDD of US 50.	Station Drawing P5-5-001 Figure 10K-8, Table 10K-8
	12.76	13.62	0.88	0.85	155	SH6	Adjust the approach to the Middle Island Creek HDD to avoid a gas well.	Figure 10J-23, Table 10J-23
	15.95	16.18	0.22	0.23	146	SH7	Avoid area for future proposed cemetery expansion.	Figure 10J-24, Table 10J-24

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Pipeline Segment	Milepost		Total Length (miles)		Approx. Maximum Separation (feet)	Variation ID	Reason for Route Variation	Additional Information
	Begin	End	June 2015 Route	March 2016 Route				
Sherwood Lateral	23.53	24.4	0.9	0.92	164	SH8	Adjust Middle Island Creek HDD entry/exit sites to reduce need for false right-of-way and avoid placing HDD entry/exit site along intermittent stream.	Figure 10J-25, Table 10J-25
	33.46	33.9	0.47	0.44	412	SH9	Adjust Ohio River HDD to avoid future homesite on east bank.	Figure 10J-26, Table 10J-26
Supply Connector Lines A and B	4.86	6.02	1.18	1.17	305	SC3	Adjust centerline to avoid point of inflection under existing pipelines south of U.S. 250, and accommodate landowner requests to 1) avoid pasture and 2) parallel the property line.	Figure 10J-27, Table 10J-27
	9.50	9.96	0.46	0.47	96	SC4	Avoid placing permanent and temporary workspace in a newly constructed lease road.	Figure 10J-28, Table 10J-28
	10.90	11.21	0.31	0.32	164	SC5	Avoid Cardinal pipeline easement and associated lease road.	Figure 10J-29, Table 10J-29
	11.45	11.85	0.39	0.41	170	SC6	Avoid northern long-eared bat 2015 documented roost tree.	Figure 10J-30, Table 10J-30
	15.12	15.27	0.14	0.15	99	SC7	Avoid newly constructed barn.	Figure 10J-31, Table 10J-31
Mainlines								
Mainlines A and B	21.20	21.3	0.1	0.11	84	ML16	Adjust centerline to cross existing pipeline right-of-way at a 45 degree angle.	Figure 10J-32, Table 10J-32
	27.40	28.36	0.96	0.95	308	ML17	Avoid two crossings of proposed Marathon Petroleum pipeline.	Figure 10J-33, Table 10J-33
	31.28	31.54	0.26	0.26	55	ML18	Avoid placement of permanent right-of-way within existing pipeline easement.	Figure 10J-34, Table 10J-34

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Pipeline Segment	Milepost		Total Length (miles)		Approx. Maximum Separation (feet)	Variation ID	Reason for Route Variation	Additional Information
	Begin	End	June 2015 Route	March 2016 Route				
Mainlines A and B	38.82	39.56	0.75	0.72	639	ML19	Avoid proposed realignment of the entrance road into the Republic Services Facility.	Figure 10J-35, Table 10J-35
	40.28	40.78	0.5	0.5	135	ML20	Avoid power pole and hillsides along a ravine.	Figure 10J-36, Table 10J-36
	49.08	49.19	0.11	0.12	50	ML21	Avoid tank battery pad.	Figure 10J-37, Table 10J-37
	50.33	50.72	0.39	0.39	53	ML22	Avoid below-ground spring box identified by the landowner and contractor.	Figure 10J-38, Table 10J-38
	53.52	53.72	0.2	0.2	32	ML23	Avoid newly constructed gas distribution line.	Figure 10J-39, Table 10J-39
	67.15	67.65	0.51	0.51	59	ML24	Allow for increase in workspace for topsoil segregation.	Figure 10J-40, Table 10J-40
	70.98	72.51	1.53	1.53	44	ML25	Minor realignments to improve constructability and adjust location of eastern HDD site at Hwy 3 crossing.	Figure 10J-41, Table 10J-41
	74.26	74.64	0.38	0.38	146	ML26	Avoid First Energy gas well.	Figure 10J-42, Table 10J-42
	83.32	83.69	0.43	0.43	48	ML27	Avoid power pole at Hwy 89 crossing and plugged well in permanent easement near MP 83.7.	Figure 10J-43, Table 10J-43
	86.02	87.22	1.2	1.21	65	ML28	Realignment to increase workspace for topsoil segregation.	Figure 10J-44, Table 10J-44
	89.23	89.81	0.58	0.58	71	ML29	Avoid First Energy gas well.	Figure 10J-45, Table 10J-45
	93.34	93.88	0.56	0.53	310	ML30	Avoid clearing through forested tract in response to landowner request.	Figure 10J-46, Table 10J-46
	157.22	157.94	0.73	0.76	318	ML31	Realignment to relocate mainline valve #16 in the northwest corner of property in response to landowner request.	Figure 10J-47, Table 10J-47

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Pipeline Segment	Milepost		Total Length (miles)		Approx. Maximum Separation (feet)	Variation ID	Reason for Route Variation	Additional Information
	Begin	End	June 2015 Route	March 2016 Route				
Mainlines A and B	186.17	186.42	0.24	0.25	116	ML32	Adjust angle of H1 road crossing.	Figure 10J-48, Table 10J-48
	195.94	196.55	0.60	0.61	85	ML35	Accommodate landowner request.	Figure 10J-48a; Table 10J-48a
	201.09	201.84	0.75	0.76	350	ML33	Avoid forested wetland tract.	Figure 10J-49, Table 10J-49
Mainline A	202.14	202.71	0.58	0.59	67	ML34	Adjust angle of existing pipeline crossing.	Figure 10J-50, Table 10J-50
	206.41	207.27	0.85	0.91	55085	ML36	Accommodate landowner request.	Figure 10J-50a; Table 10J-50a
Market Segment	0.15	0.34	0.19	0.2	43	MS26	Avoid concrete bulkhead at drain tile header.	Figure 10J-51, Table 10J-51
	11.85	12.21	0.34	0.36	229	MS27	Adjust angle of Township Road 21-3 crossing and avoid a water well.	Figure 10J-52, Table 10J-52
	29.65	30.42	0.76	0.78	678	MS28	Avoid planned new barn and other expansion of dairy farm facilities at landowner request.	Figure 10J-53, Table 10J-53
	56.17	56.31	0.14	0.14	101	MS29	Avoid potentially eligible cultural site.	Figure 10J-54, Table 10J-54
	58.30	58.72	0.42	0.42	300	MS30	Realignment to parallel property line at landowner request.	Figure 10J-55, Table 10J-55
	75.10	75.74	0.63	0.64	54	MS31	Increase distance from three residences.	Figure 10J-56, Table 10J-56
	78.25	79.46	1.28	1.22	262	MS32	Realignment into ITC fee-owned utility corridor.	Figure 10J-57, Table 10J-57
	82.29	83.46	1.17	1.17	50	MS33	Realignment through the Pinckney State Recreational Area into the ITC utility corridor.	Figure 10J-58, Table 10J-58
	86.77	86.99	0.23	0.22	271	MS34	Avoid proposed development.	Figure 10J-59, Table 10J-59
93.21	95.26	2.04	2.05	355	MS35	Realignment into ITC fee-owned utility corridor.	Figure 10J-60, Table 10J-60	

TABLE 10J. Summary of Route Variations Incorporated into the Proposed Route Between June 2015 and March 2016 (Revised April 2016)

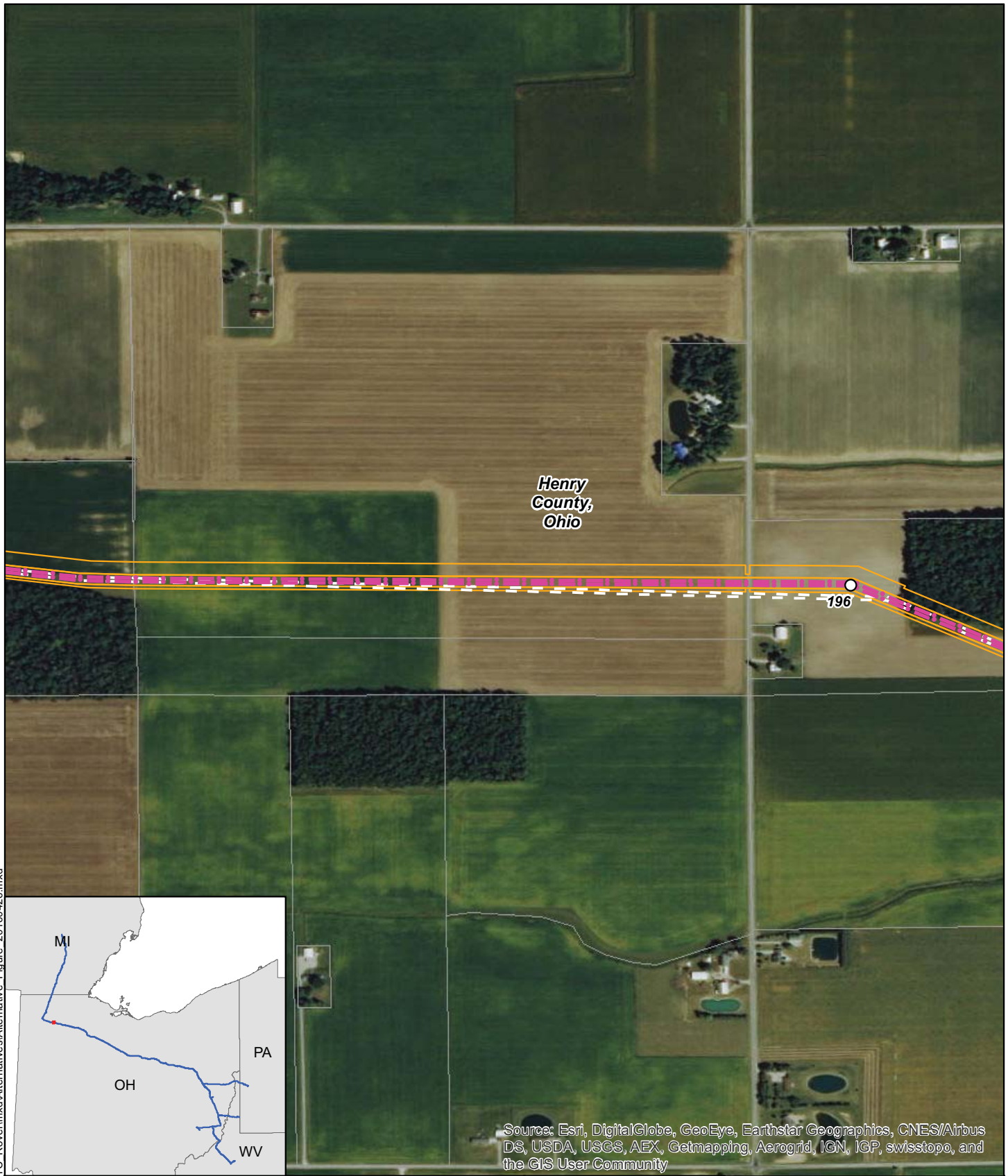
Pipeline Segment	Milepost		Total Length (miles)		Approx. Maximum Separation (feet)	Variation ID	Reason for Route Variation	Additional Information
	Begin	End	June 2015 Route	March 2016 Route				
Market Segment	95.26	96.44	1.17	1.17	103	MS36	Realignment into ITC fee-owned utility corridor.	Figure 10J-61, Table 10J-61
	96.44	97.8	1.4	1.33	577	MS37	Realignment into ITC fee-owned utility corridor.	Figure 10J-62, Table 10J-62
	100.04	-	-	-	-	-	Reroute 0.5 mile of pipeline to relocated Vector meter station location.	Station Drawing P5-18-001 Figure 10K-7, Table 10K-7

TABLE 10J-48a
Comparison of the Mainlines A and B (June 2016) and Proposed Route (Variation ML35)

Environmental Factor	Unit	Mainlines A and B - MPs 195.94 - 196.55		Variance ¹
		Mainlines A and B June 2015	Proposed Route (Variation ML35)	
Total length:	miles	0.60	0.61	0.00
Length adjacent to existing rights-of-way	miles	0.00	0.00	0.00
Total construction right-of-way	acres	10.97	11.04	0.07
Emergent wetlands	acres	0.00	0.00	0.00
Scrub-shrub wetlands	acres	0.00	0.00	0.00
Forested wetlands	acres	0.00	0.00	0.00
Forest	acres	0.00	0.00	0.00
Agricultural land	acres	10.72	10.82	0.10
Open land	acres	0.26	0.22	-0.04
Permanent right-of-way	acres	4.39	4.42	0.03
Intermittent streams crossed	number	0	0	0.00
Perennial streams crossed	number	0	0	0.00
NRHP Listed Properties within 500 feet	number	0	0	0.00
Roads crossed	number	0	0	0.00
Railroads crossed	number	0	0	0.00
Tracts crossed	number	2	2	0.00
Residences within 50 feet of the centerline	number	0	0	0.00
NSAs (e.g., schools, hospitals) within 500 feet	number	0	0	0.00
Public lands crossed	miles	0.00	0.00	0.00

¹ Variance calculated by subtracting June 2015 route from Proposed Route.

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Henry County, Ohio


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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

	Mileposts		Surveyed Streams
	June 2015 Route (Eliminated)		Public and Protected Lands
	Proposed Route		Tracts
	Workspace (June 2015)		
	Workspace (March 2016)		
	Aboveground Facilities		
	Surveyed Wetlands		

N

0 0.075 0.15
Miles



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Rover Pipeline Project
Figure 10J-48a
Mainlines A and B Variation ML35

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TABLE 10J-50a
Comparison of the Mainline A (June 2016) and Proposed Route (Variation ML36)

Environmental Factor	Unit	Mainline A - MPs 206.41 - 207.27		Variance ¹
		Mainline A June 2015	Proposed Route (Variation ML36)	
Total length:	miles	0.85	0.91	0.05
Length adjacent to existing rights-of-way	miles	0.00	0.00	0.00
Total construction right-of-way	acres	15.54	16.38	0.84
Emergent wetlands	acres	0.00	0.00	0.00
Scrub-shrub wetlands	acres	0.00	0.00	0.00
Forested wetlands	acres	0.00	0.00	0.00
Forest	acres	0.00	0.00	0.00
Agricultural land	acres	15.21	16.07	0.86
Open land	acres	0.34	0.32	-0.02
Permanent right-of-way	acres	5.23	5.49	0.26
Intermittent streams crossed	number	1	0	-1
Perennial streams crossed	number	0	0	0
NRHP Listed Properties within 500 feet	number	0	0	0
Roads crossed	number	0	0	0
Railroads crossed	number	0	0	0
Tracts crossed	number	5	4	-1
Residences within 50 feet of the centerline	number	0	0	0
NSAs (e.g., schools, hospitals) within 500 feet	number	0	0	0
Public lands crossed	miles	0.00	0.00	0.00

¹ Variance calculated by subtracting June 2015 route from Proposed Route.

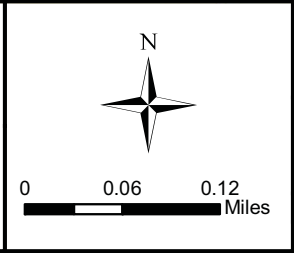
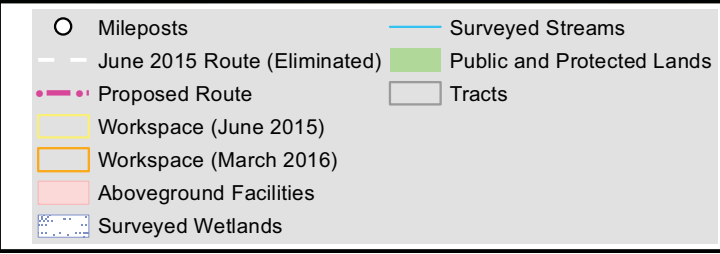
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County,
Ohio*

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community





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Figure 10J-50a
Mainline A Variation ML36

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