6.0 PROJECT MAPPING

6.1 Site Existing Conditions

6.1.1 Site Location and Vicinity

As shown on Exhibit 1, the subject property is located east of Harrison Road, south of Jug Street, west of Mink Street, and north of State Route 161 in Jersey Township, Licking County, Ohio. The site generally consists of active agricultural fields and forested areas. As shown on Exhibit 2, major surrounding land uses within one mile of the site include cultivated crops and pasture, forested land, woody wetlands, developed open space, and transportation corridors.

6.1.2 Topographic Features

As shown on Exhibit 3, the site is mapped between the elevations of 1,160 feet and 1,180 feet (National Geodetic Vertical Datum) according to the USGS 7.5' Series Jersey, Ohio quadrangle (USGS, 2013). One structure is depicted in the northwest corner of the property. An overhead powerline is shown crossing the northeast corner of the property. The South Fork Licking River is shown crossing the southeast corner of the property; one unnamed tributary is mapped within the south-central portion of the project area.

6.1.3 Mapped Soils

A hydric soil is *a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation* (USDA-SCS, 1985). Map units that are made up dominantly of hydric soils may have minor non-hydric components in higher positions on the landform, and map units that are made up dominantly of non-hydric soils may have minor hydric components in lower positions on the landform. According to the *Web Soil Survey* for Licking County, Ohio (USDA-NCRS, 2014) as shown on Exhibit 4A, the project area contains five (5) soil types. These soils are listed in Table 6 along with their hydric status. According to the *National Hydric Soil List* for Ohio, Pewamo silty clay loam and Condit silt loam are listed as hydric soils in Licking County, Ohio (USDA-NCRS, 2011).

TABLE 6
Mapped Onsite Soils

Mapped Soil Unit	Hydric Status	Hydric Inclusions %	Location of Hydric Inclusions
Bennington silt loam, 0 to 2 percent slopes (BeA)	Partially hydric	Pewamo, 10%	Depressions
Bennington silt loam, 2 to 6 percent slopes (BeB)	Partially hydric	Pewamo, 10%	Depressions
Centerburg silt loam, 6 to 12 percent slopes, eroded (CeC2)	Partially hydric	Pewamo, 5%	Depressions
Condit silt loam, 0 to 1 percent slopes (Cn)	Hydric	Condit, Pewamo, Condit fine-loamy 96%	Ground moraines
Pewamo silty clay loam (Pe)	Hydric	Pewamo, 100%	Flats

As shown on Exhibit 4B, there are multiple intermittent drainageways which are mapped on the site (USDA, 1992). The headwaters of two (2) streams are shown in the southern central portion of the site flowing generally southwest. Two (2) additional streams are shown flowing southwest across the southeastern portion of the property. No other ponds or water resources are mapped on the project site.

6.1.4 Hydrologic Conditions

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) was reviewed for the site (FEMA, 2008). As shown on Exhibit 5, the entirety of the project area lies within Zone X (unshaded) which are areas determined to be outside of the 500-year floodplain.

As shown on Exhibit 6, the United States Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) map was reviewed for the site (USFWS, 2014). The following features were mapped for the project area: four (4) palustrine, forested, broad-leaved deciduous, seasonally flooded (PFO1C) wetlands, four (4) palustrine, forested, broad-leaved deciduous, temporarily flooded (PFO1A) wetlands, one (1) palustrine, emergent, persistent, seasonally flooded (PEM1C) wetland, and one (1) palustrine, unconsolidated bottom, semi-permanently flooded pond (PUBF).

6.1.5 Surface Water Resources

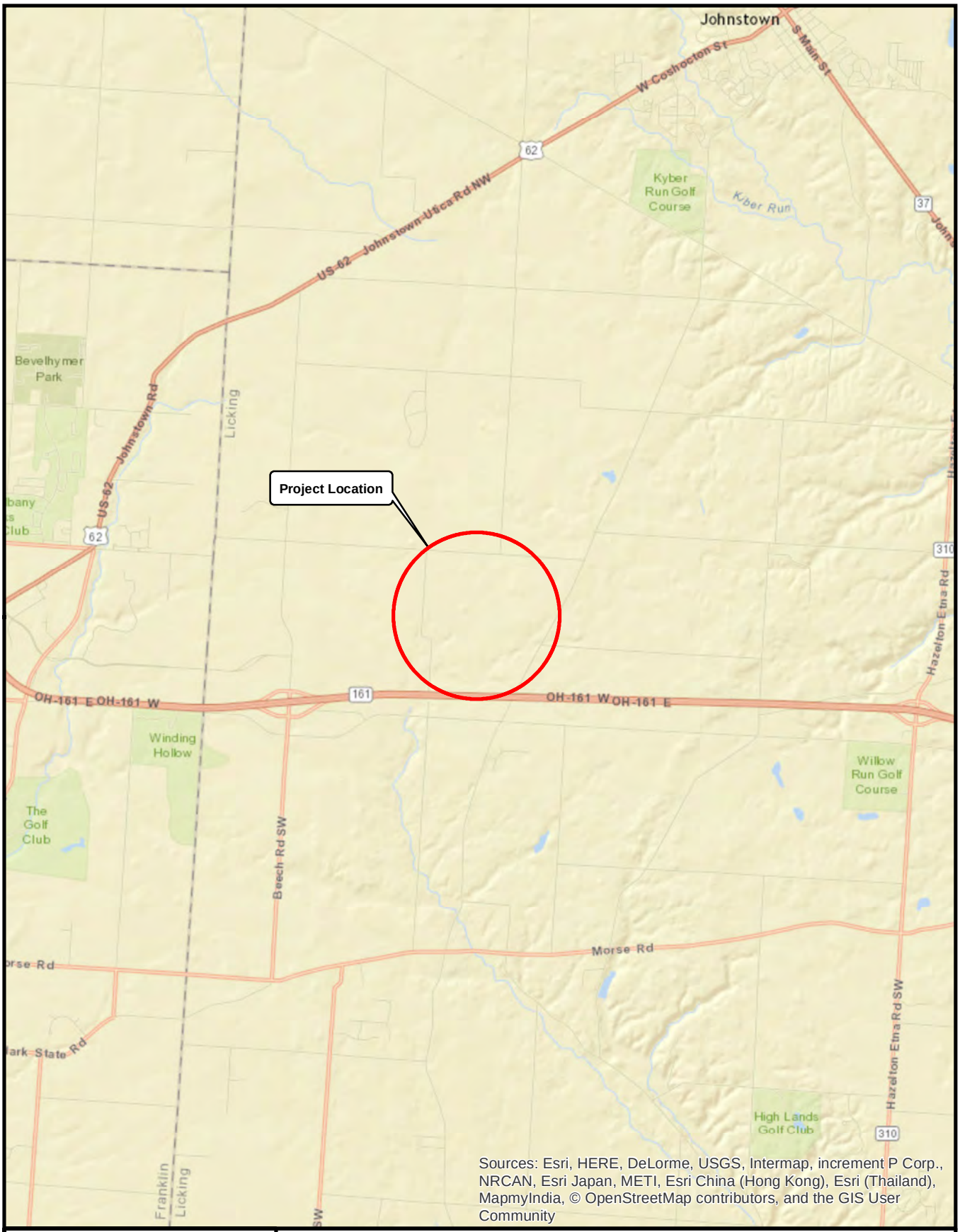
Exhibit 7 shows the location and extent of identified surface water features on the project site, overlaid on a scaled 2013 aerial photograph. As shown on Exhibit 7, the site includes 12 wetlands and eight (8) streams.

6.2 Alternatives Analysis Mapping

Exhibits 8, 9 and 10 show the layouts for Alternative #1 (Preferred), Alternative #2 (Minimal Degradation) and Alternative #3 (Non-Degradation Alternative), respectively. Exhibit 8, Sheet 2 includes the typical profiles for Alternative #1. Exhibit 11 shows the location and extent of the proposed off-site stream preservation area.

ATTACHMENT 6

EXHIBITS



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Path: J:\20150785\GIS\Level 3 Isolated Permit\Exhibit 1 - Location Map.mxd

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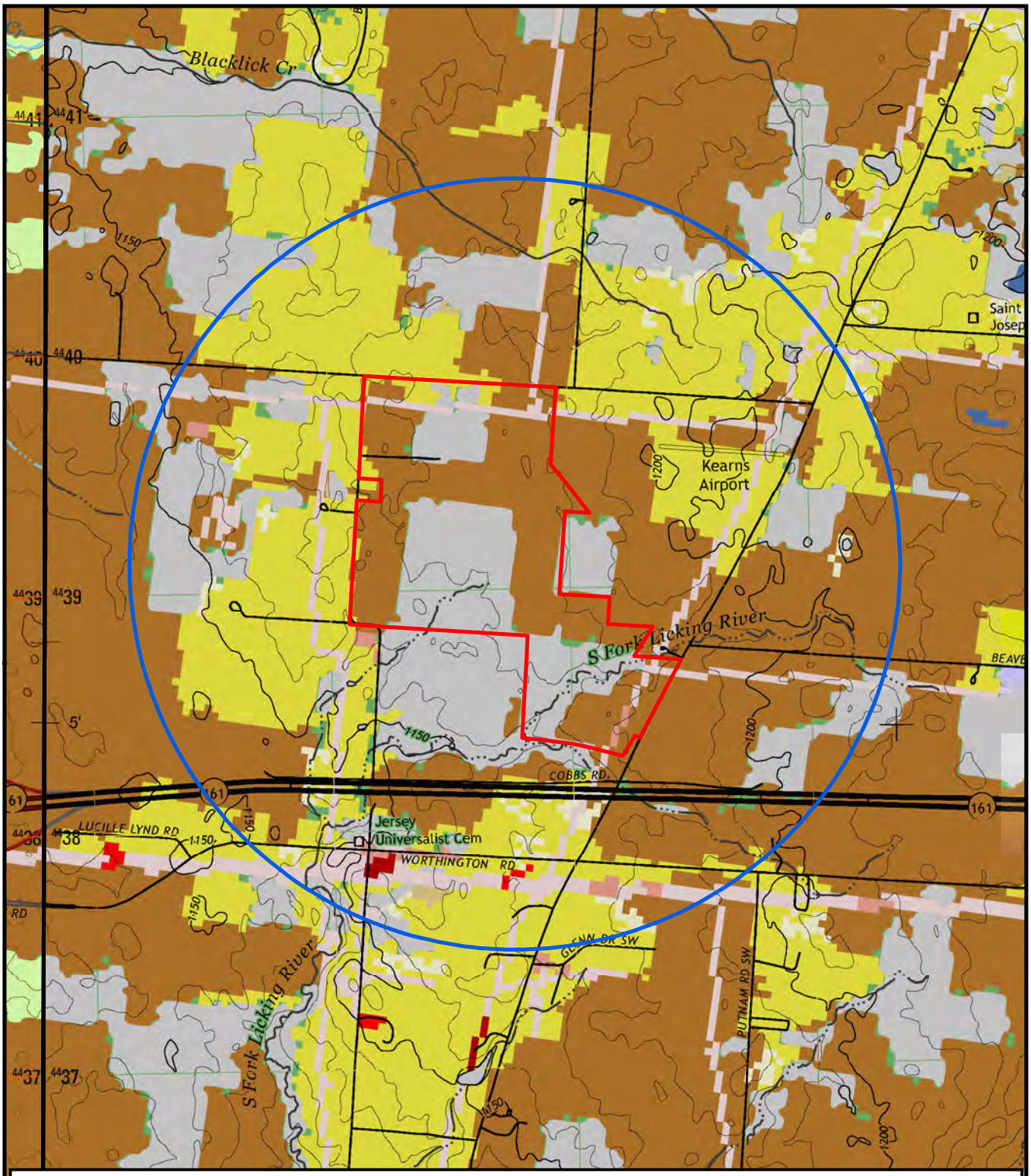
JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Harrison Road East Site
Location Map
Exhibit 1

SCALE: 1" = 1/2 Mile

0 0.5 1 2 Miles

N



Path: J:\20150785\GIS\Individual 404-401\Exhibit 2 - Vicinity Map .mxd

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JERSEY TOWNSHIP, LICKING COUNTY, OHIO

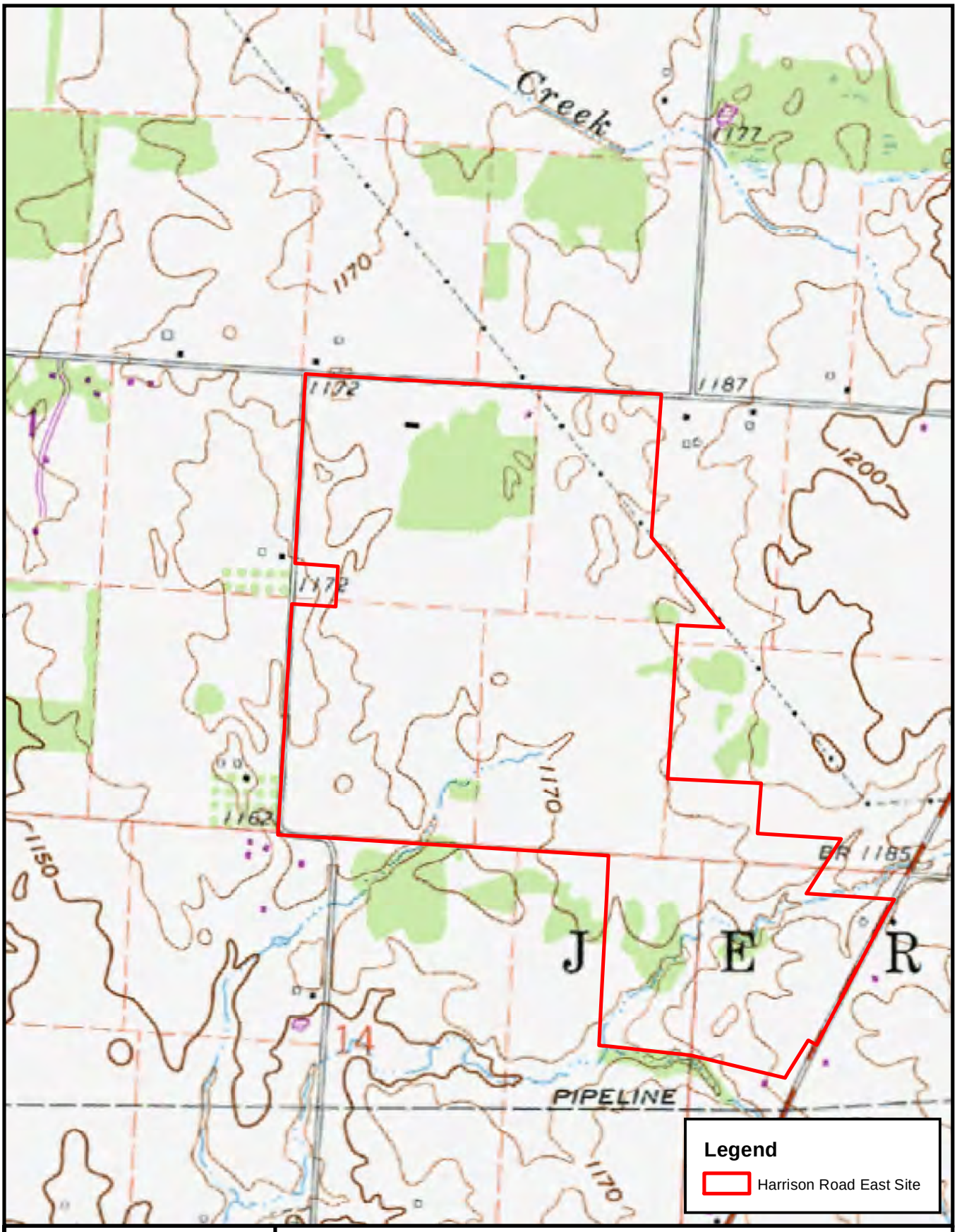
Harrison Road East Site
Vicinity Map
Exhibit 2

SCALE: 1" = 2,000'

0 1,000 2,000 4,000 Feet

N

Source: USGS Jersey Quad Map (Pub. 2013)



Path: J:\20150785\GIS\Individual 404-401\Exhibit 3 - USGS.mxd

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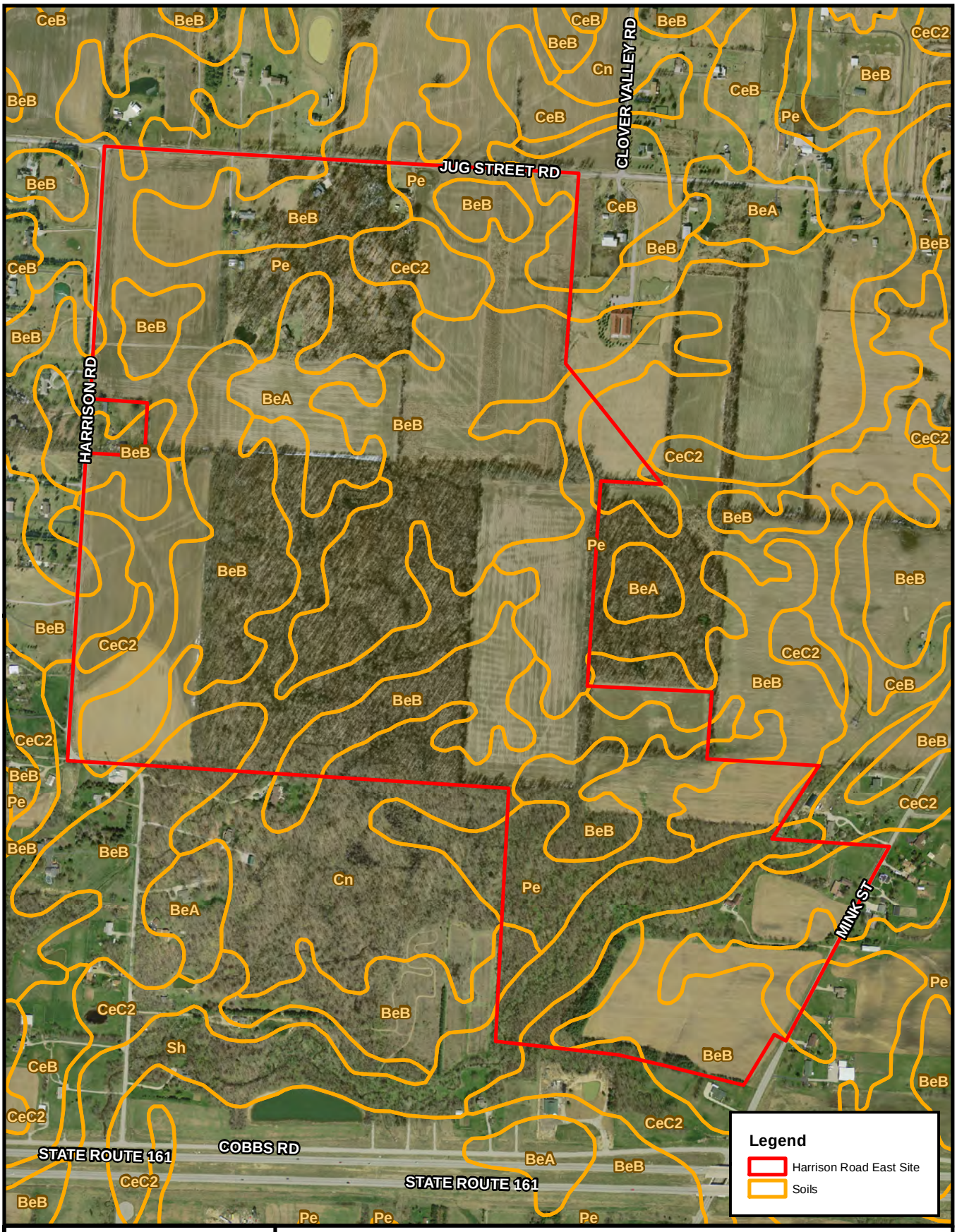
Harrison Road East Site
USGS Topographic Map
Exhibit 3

SCALE: 1" = 1,000'

0 500 1,000 2,000 Feet

N

Source: USGS Jersey Quad Map (Pub. 1975)



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JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Harrison Road East Site
Soil Survey of Licking County
Exhibit 4A

N

SCALE: 1" = 750'

0 375 750 1,500 Feet

Source: Soils - NRCS, 2014; Aerial - OSIP, 2013

Path: J:\20150785\GIS\Individual 404-401\Exhibit 4B - Soils.mxd

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JERSEY TOWNSHIP, LICKING COUNTY, OHIO

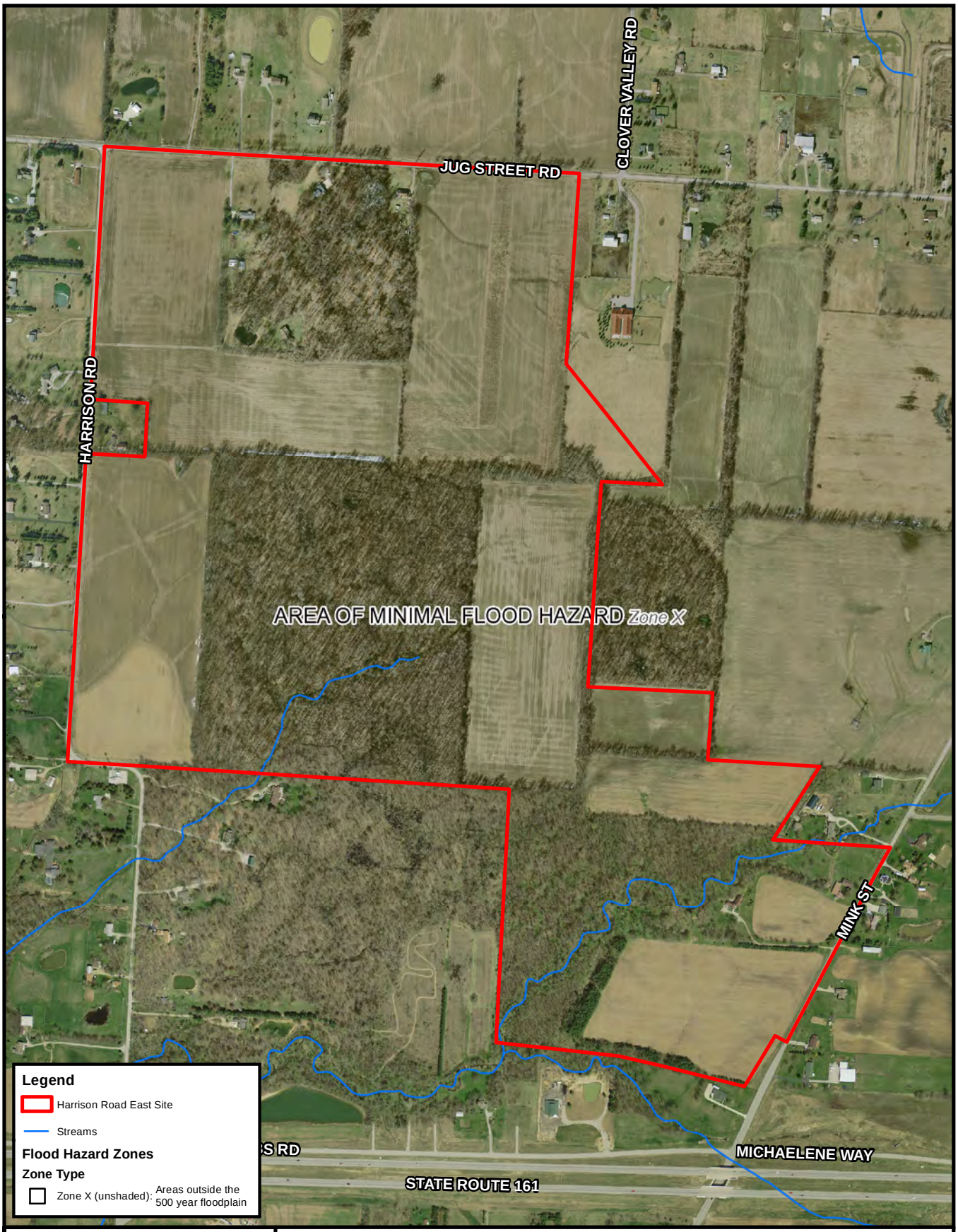
Harrison Road East Site
Soil Map
Exhibit 4B

N

SCALE: 1" = 750'

0 375 750 1,500 Feet

Source: Soils - USDA, 1992



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JERSEY TOWNSHIP, LICKING COUNTY, OHIO

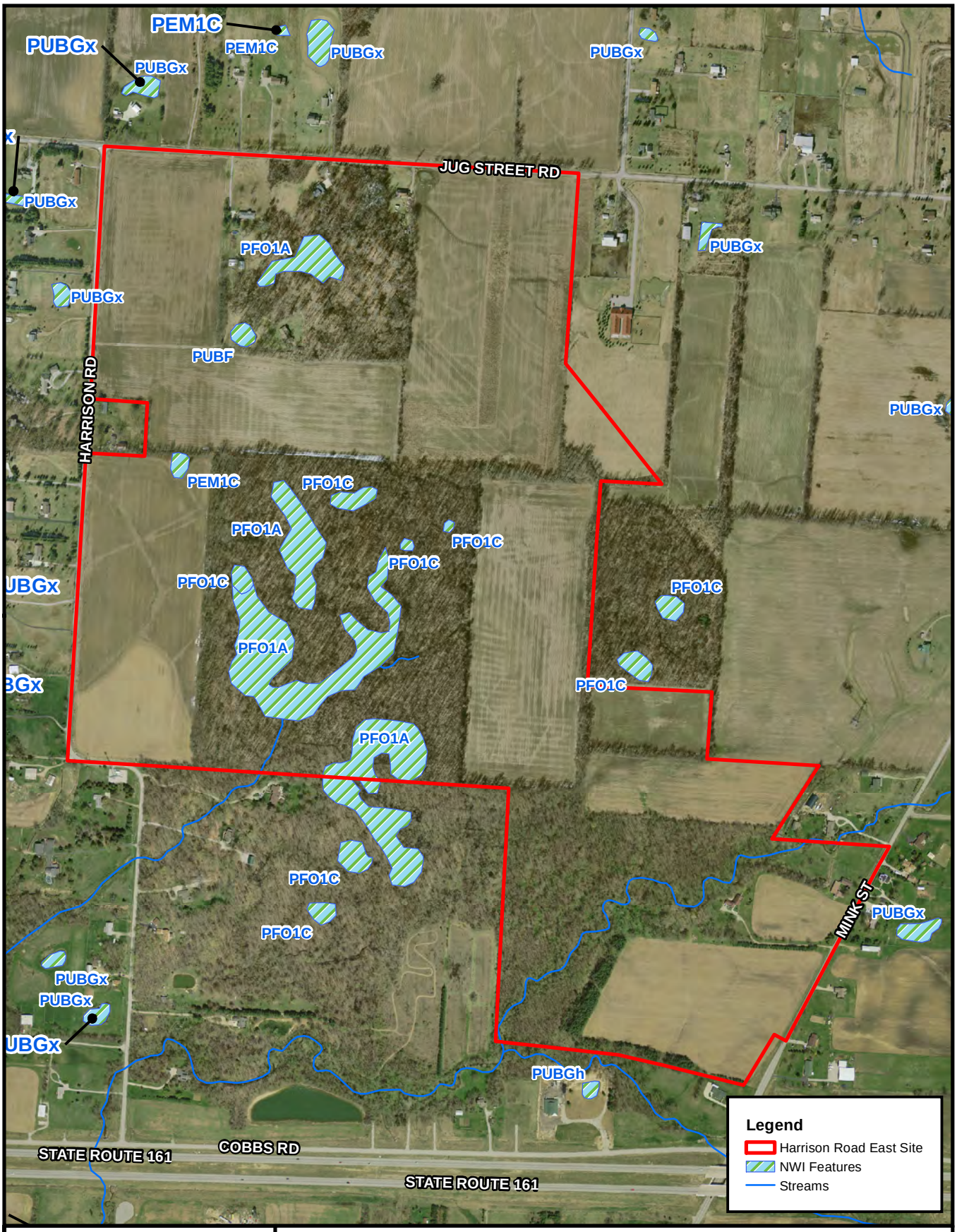
Harrison Road East Site
Flood Insurance Rate Map
Exhibit 5

N

SCALE: 1" = 750'

0 375 750 1,500 Feet

Source: Flood Hazard Zones - FEMA;
Aerial - OSIP, 2013; Streams - USGS/NHD, 2015



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JERSEY TOWNSHIP, LICKING COUNTY, OHIO

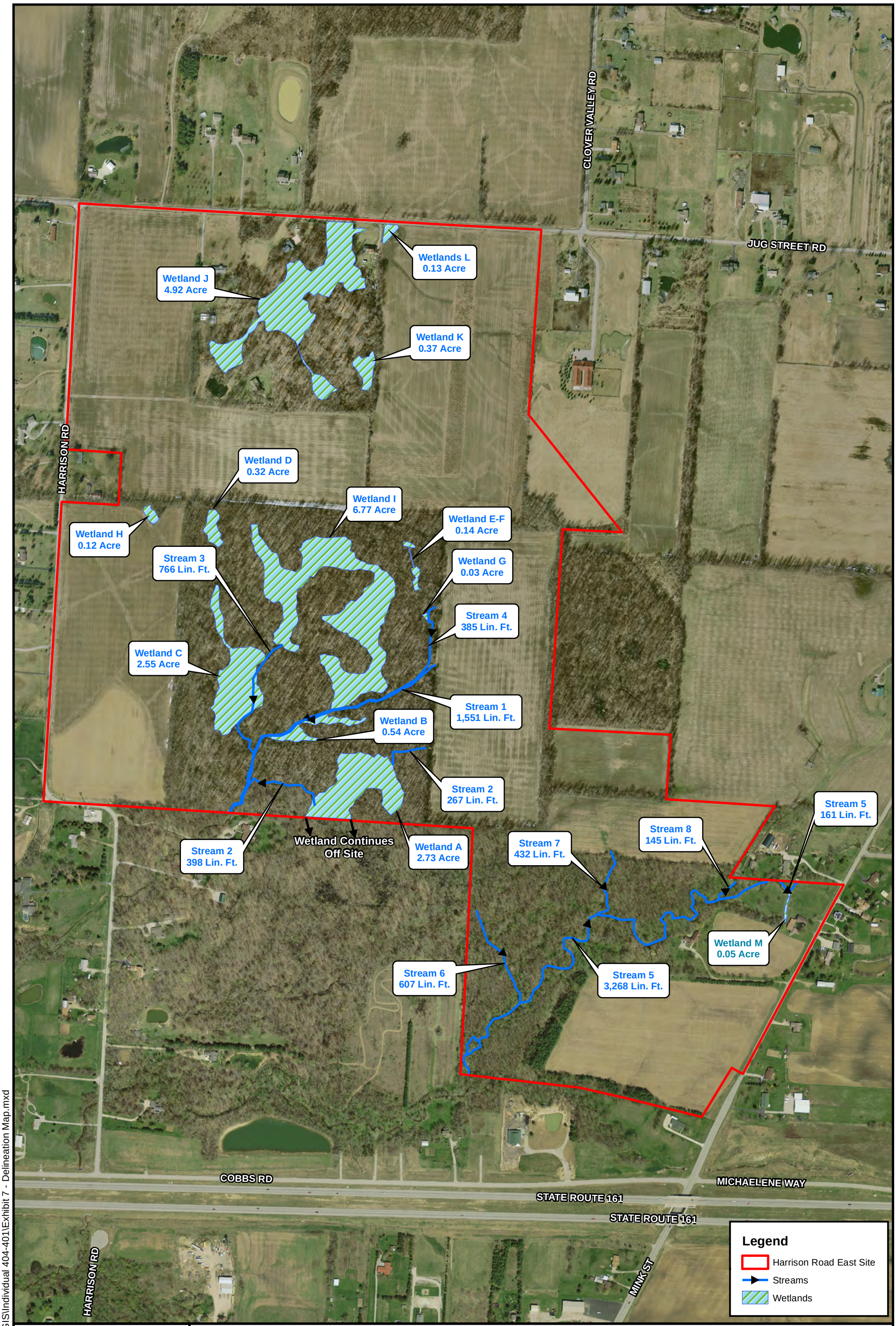
Harrison Road East Site
National Wetland Inventory Map
Exhibit 6

N

SCALE: 1" = 750'

0 375 750 1,500 Feet

Source: NWI Features - FWS, 2014; Aerial - OSIP, 2013; Streams - USGS/NHD, 2015



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SCALE: 1" = 500'

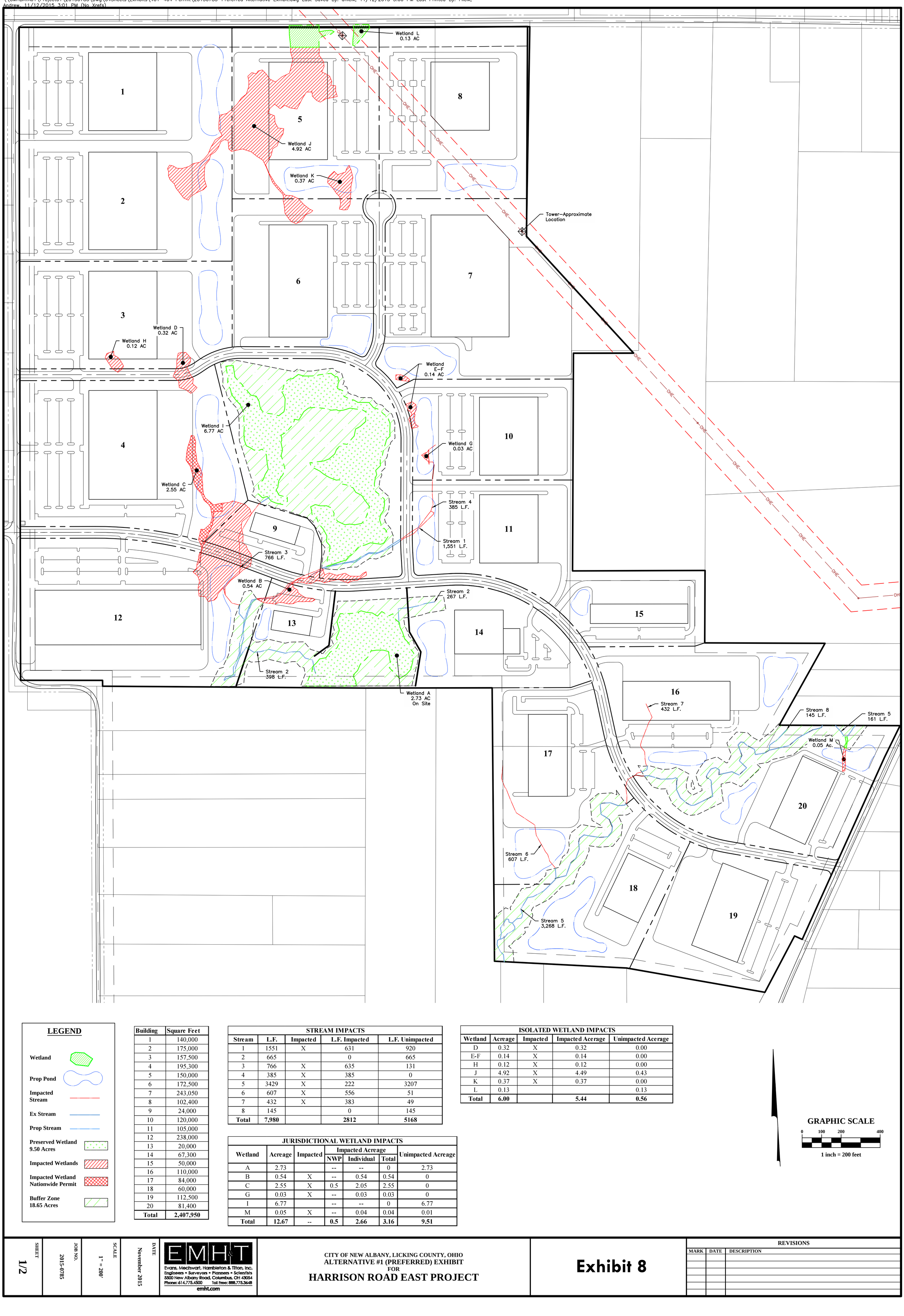
0 250 500 1,000 Feet

JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Harrison Road East Site
Delineation Map
Exhibit 7

N

Source: Aerial - OSIP, 2013



LEGEND

- Wetland
- Prop Pond
- Impacted Stream
- Ex Stream
- Prop Stream
- Preserved Wetland 9.50 Acres
- Impacted Wetlands
- Impacted Wetland Nationwide Permit
- Buffer Zone 18.65 Acres

Building	Square Feet
1	140,000
2	175,000
3	157,500
4	195,300
5	150,000
6	172,500
7	243,050
8	102,400
9	24,000
10	120,000
11	105,000
12	238,000
13	20,000
14	67,300
15	50,000
16	110,000
17	84,000
18	60,000
19	112,500
20	81,400
Total	**2,407,950**

STREAM IMPACTS

Stream	L.F.	Impacted	L.F. Impacted	L.F. Unimpacted
1	1551	X	631	920
2	665		0	665
3	766	X	635	131
4	385	X	385	0
5	3429	X	222	3207
6	607	X	556	51
7	432	X	383	49
8	145		0	145
Total	**7,980**		**2812**	**5168**

JURISDICTIONAL WETLAND IMPACTS

Wetland	Acreage	Impacted	Impacted Acreage			Unimpacted Acreage
			NWP	Individual	Total	
A	2.73		--	--	0	2.73
B	0.54	X	--	0.54	0.54	0
C	2.55	X	0.5	2.05	2.55	0
G	0.03	X	--	0.03	0.03	0
I	6.77		--	--	0	6.77
M	0.05	X	--	0.04	0.04	0.01
Total	**12.67**	**--**	**0.5**	**2.66**	**3.16**	**9.51**

ISOLATED WETLAND IMPACTS

Wetland	Acreage	Impacted	Impacted Acerage	Unimpacted Acerage
D	0.32	X	0.32	0.00
E-F	0.14	X	0.14	0.00
H	0.12	X	0.12	0.00
J	4.92	X	4.49	0.43
K	0.37	X	0.37	0.00
L	0.13			0.13
Total	**6.00**		**5.44**	**0.56**

GRAPHIC SCALE

0 100 200 400

1 inch = 200 feet

SHEET 1/2

JOB NO. 2015-0785

SCALE 1" = 200'

DATE November 2015

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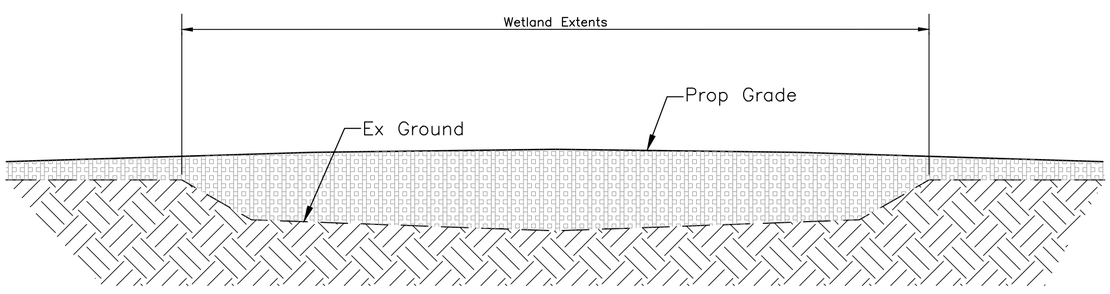
ALTERNATIVE #1 (PREFERRED) EXHIBIT
FOR
HARRISON ROAD EAST PROJECT

Exhibit 8

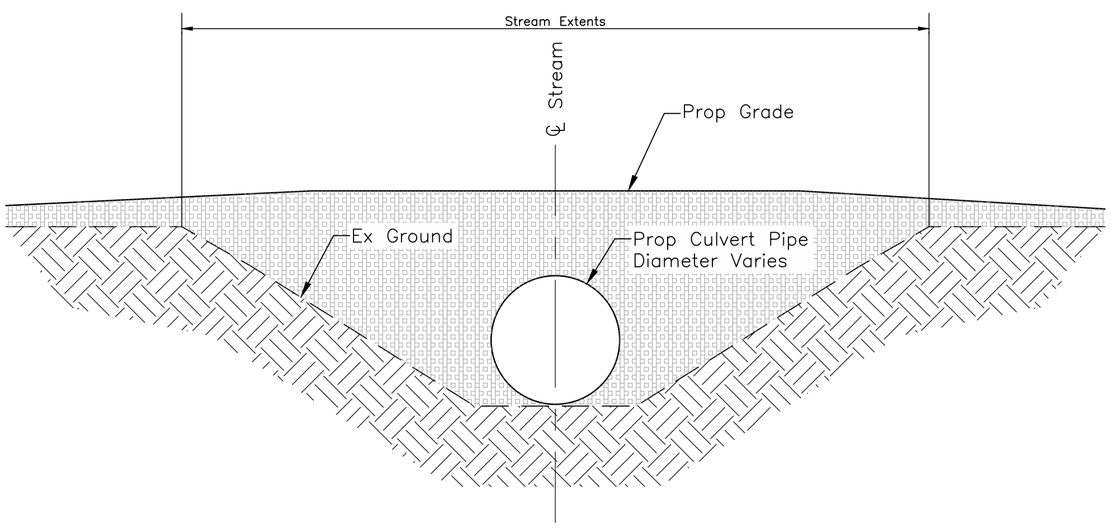
REVISIONS

MARK	DATE	DESCRIPTION



IMPACTED WETLAND
TYPICAL SECTION

(No Scale)



IMPACTED STREAM CROSSING
TYPICAL SECTION

(No Scale)

SHEET 2/2

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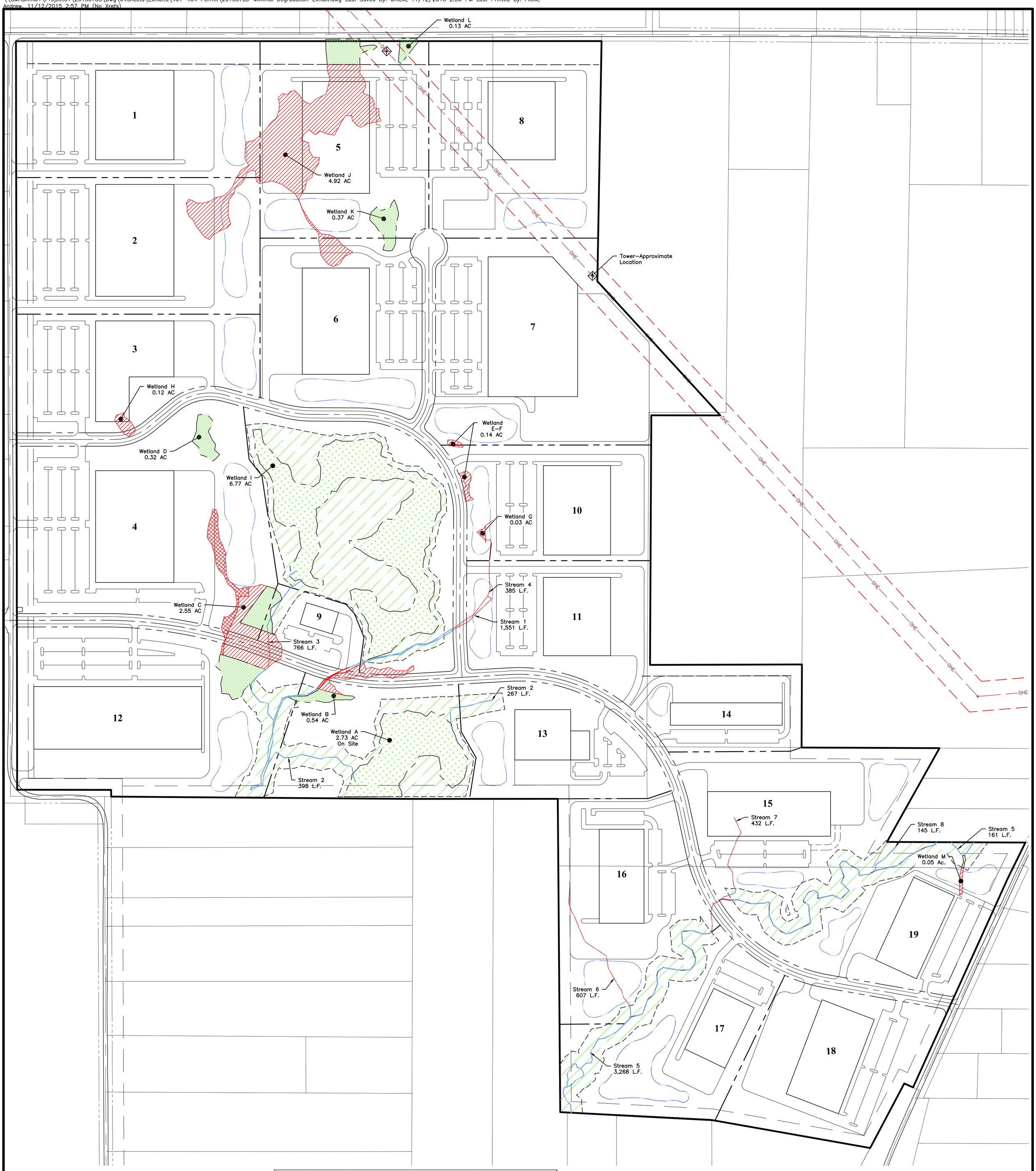
FOR
HARRISON ROAD EAST PROJECT

Exhibit 8

REVISIONS

MARK	DATE	DESCRIPTION

\\CMHDATA01\Project01\20150785\Dwg\04Sheets\Exhibits\401-404 Permit\20150785-Minimal Degradation Exhibit.dwg Last Saved By: afilcik, 11/12/2015 2:56 PM Last Printed By: Filcik, Andrew, 11/12/2015 2:57 PM (No Xrefs)



LEGEND

- Wetland
- Prop Pond
- Impacted Stream
- Ex Stream
- Prop Stream
- Preserved Wetland 9.50 Acres
- Impacted Wetlands
- Impacted Wetland Nationwide Permit
- Buffer Zone 19.38 Acres

Building	Square Feet
1	140,000
2	175,000
3	117,500
4	175,000
5	150,000
6	142,500
7	243,050
8	102,400
9	15,000
10	120,000
11	105,000
12	210,000
13	67,300
14	50,000
15	110,000
16	84,000
17	60,000
18	112,500
19	81,400
Total	**2,260,650**

STREAM IMPACTS

Stream	L.F.	Impacted	L.F. Impacted	L.F. Unimpacted
1	1551	X	247	1304
2	665		0	665
3	766	X	173	593
4	385	X	385	0
5	3429	X	222	3207
6	607	X	556	51
7	432	X	383	49
8	145		0	145
Total	**7,980**		**1966**	**6014**

ISOLATED WETLAND IMPACTS

Wetland	Acreage	Impacted	Impacted Acreage	Unimpacted Acreage
D	0.32		0.00	0.32
E-F	0.14	X	0.14	0.00
H	0.12	X	0.12	0.00
J	4.92	X	4.49	0.43
K	0.37		0.00	0.37
L	0.13		0.00	0.13
Total	**6.00**		**4.75**	**1.25**

JURISDICTIONAL WETLAND IMPACTS

Wetland	Acreage	Impacted	Impacted Acreage			Unimpacted Acreage
			NWP	Individual	Total	
A	2.73		--	--	0	2.73
B	0.54	X	--	0.33	0.33	0.21
C	2.55	X	0.5	1.1	1.6	0.95
G	0.03	X	--	0.03	0.03	0
I	6.77		--	--	0	6.77
M	0.05	X	--	0.04	0.04	0.01
Total	**12.67**		**0.5**	**1.5**	**2**	**10.67**

GRAPHIC SCALE

0 100 200 400

1 inch = 200 feet

SHEET	JOB NO.	SCALE	DATE
1/1	2015-0785	1" = 200'	November 2015

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ALTERNATIVE #2 EXHIBIT
FOR
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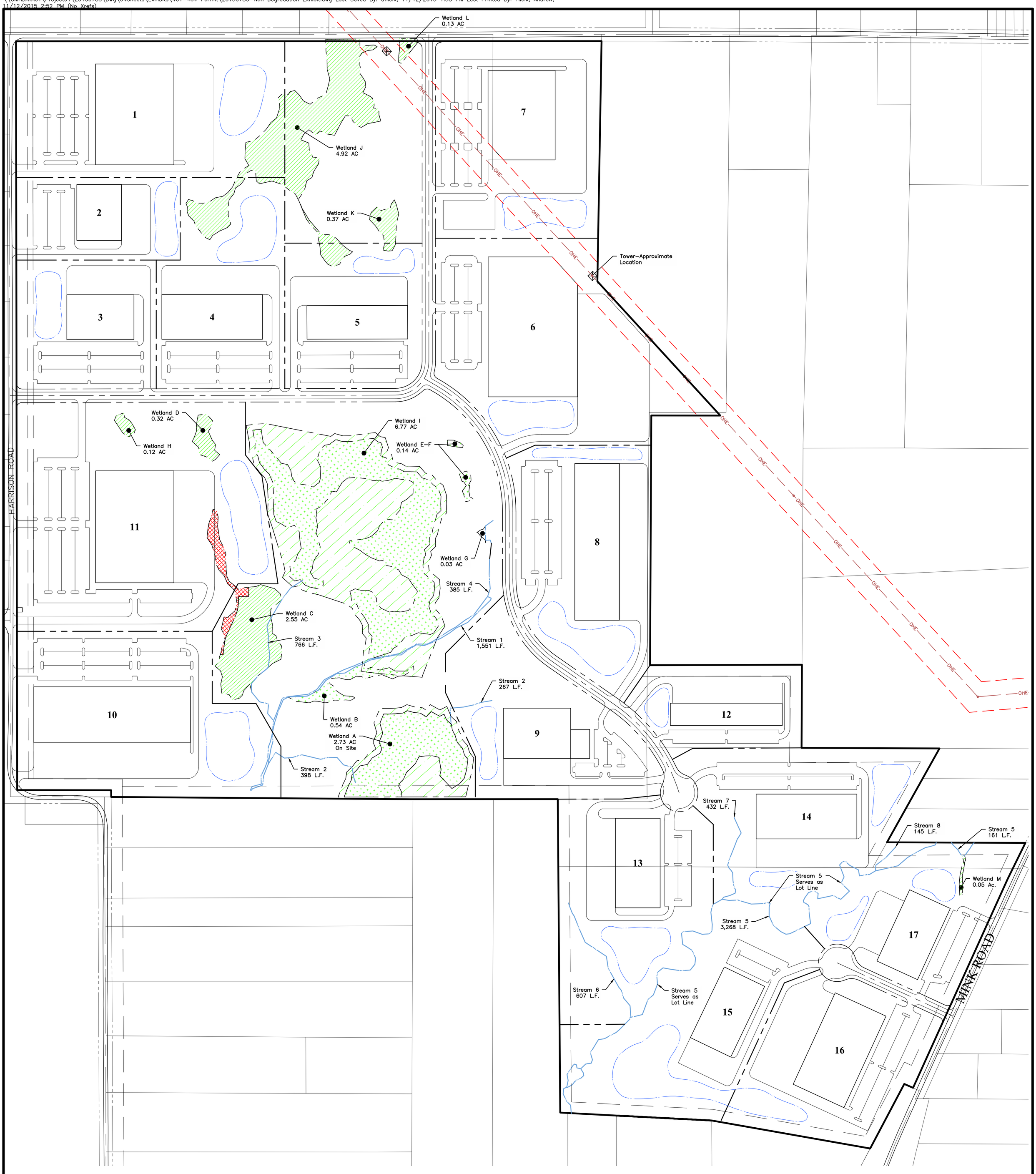
Exhibit 9

REVISIONS

MARK	DATE	DESCRIPTION



LEGEND

- Wetland
- Prop Pond
- Ex Stream
- Prop Stream
- Preserved Wetland 9.50 Acres
- Impacted Wetland Nationwide Permit
- Buffer Zone 9.3 Acres

Building	Square Feet
1	157,500
2	50,000
3	60,000
4	90,000
5	67,500
6	233,000
7	115,350
8	100,000
9	67,300
10	175,000
11	175,000
12	50,000
13	80,000
14	90,000
15	70,000
16	112,500
17	70,000
Total	**1,763,150**

STREAM IMPACTS

Stream	L.F.	Impacted	L.F. Impacted	L.F. Unimpacted
1	1551		0	1551
2	665		0	665
3	766		0	766
4	385		0	385
5	3429		0	3429
6	607		0	607
7	432		0	432
8	145		0	145
Total	**7,980**	**0**	**0**	**7980**

ISOLATED WETLAND IMPACTS

Wetland	Acreage	Impacted Acreage	Unimpacted Acreage
D	0.32	0.00	0.32
E-F	0.14	0.00	0.14
H	0.12	0.00	0.12
J	4.92	0.00	4.92
K	0.37	0.00	0.37
L	0.13	0.00	0.13
Total	**6.00**	**0.00**	**6.00**

JURISDICTIONAL WETLAND IMPACTS

Wetland	Acreage	Impacted Acreage *	Unimpacted Acreage
A	2.73	0	2.73
B	0.54	0	0.54
C	2.55	0.5	2.05
G	0.03	0	0.03
I	6.77	0	6.77
M	0.05	0	0.05
Total	**12.67**	**0.5**	**12.17**

*Impacted under previously submitted Nationwide Permit.

GRAPHIC SCALE

0 100 200 400

1 inch = 200 feet

SHEET 1/1

JOB NO. 2015-0785

SCALE 1" = 200'

DATE November 2015

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ALTERNATIVE #3 EXHIBIT
FOR
HARRISON ROAD EAST PROJECT

Exhibit 10

REVISIONS

MARK	DATE	DESCRIPTION

STATE ROUTE 161

Kripel Creek

South Fork Licking River

HARRISON RD

WORTHINGTON RD

N

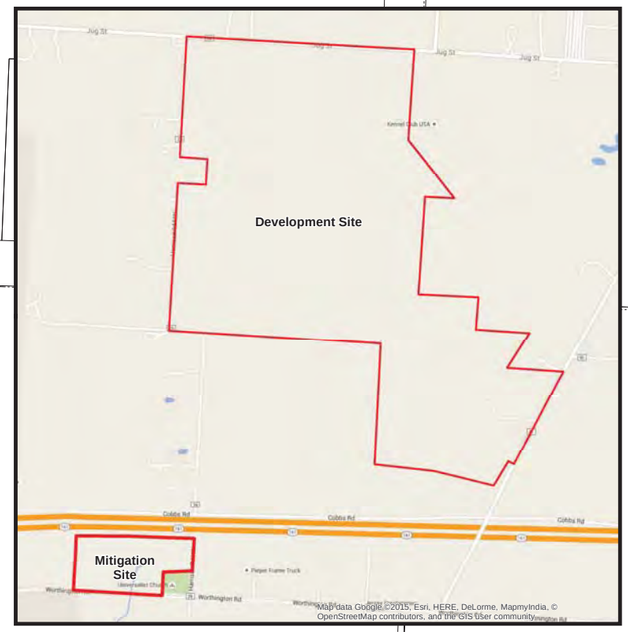
GRAPHIC SCALE

0 25 50 100

1 inch = 100 feet

LEGEND

- Site Boundary - 18.39 Acres
- Conservation Easement - 4.19 Acres
- Streams - 1,987 Lin. Ft.



REVISIONS

MARK	DATE	DESCRIPTION

JERSEY TOWNSHIP, LICKING COUNTY, OHIO

EXHIBIT 11

FOR

HARRISON ROAD EAST PROJECT

OFFSITE STREAM MITIGATION

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DATE

November 13, 2015

SCALE

1" = 100'

JOB NO.

2015-0785

SHEET

1/1

Path: J:\2015\0785\GIS\Offsite Stream Mitigation\Exhibit 11 - Offsite Stream Mitigation - HalfSize.mxd