155 East Broad Street
20th Floor
Columbus, Ohio, 43215

o: 614-222-1330
f: 614-222-1337

December 3, 2020

Ms. Tanowa M. Troupe
Ohio Power Siting Board
PUCO Docketing Division
180 East Broad Street, 11th Floor
Columbus, OH 43215-3716

Re: Case No. 16-253-GA-BTX
Staff Report Condition No. 8 – In Water Work Restriction Waiver

Dear Ms. Troupe:

Please find attached the in water work restriction waiver for the Central Corridor Pipeline project.

Duke Energy Ohio sets forth this communication to certify its adherence with Condition No. 8 of the OPSB's Opinion, Order and Certificate pertaining to Case No. 16-253-GA-BTX.

Please contact me if you have any questions.

Sincerely,

Emily A. Olive, CP
Paralegal

Olive, Emily A.

Subject: RE: [EXTERNAL] RE: Request for In-Water Work Restriction Waiver (Duke Energy Central Corridor Project) - LRH-2020-351

From: Nathan.Reardon@dnr.ohio.gov <Nathan.Reardon@dnr.ohio.gov>
Sent: Wednesday, December 2, 2020 2:43 PM
To: Frank, Mike/CIN <Mike.Frank@jacobs.com>; Moore, Kyle M CIV USARMY CELRH (USA) <Kyle.M.Moore@usace.army.mil>
Cc: Anna.Kamnyev@epa.ohio.gov; Lane, Steve <Steve.Lane@duke-energy.com>
Subject: [EXTERNAL] RE: Request for In-Water Work Restriction Waiver (Duke Energy Central Corridor Project) - LRH-2020-351

Mike,

The project is eligible for a full waiver. Therefore, in-water work can occur at any time during the restricted period of April 15 through June 30, 2021. However, in-water work should be limited to only that which is necessary, and completed as soon as possible once started.

Thank you,
Nathan

Nathan Reardon
Compliance Coordinator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6741
Email: nathan.reardon@dnr.ohio.gov

From: Frank, Mike/CIN <Mike.Frank@jacobs.com>
Sent: Wednesday, December 02, 2020 10:35 AM
To: Moore, Kyle M CIV USARMY CELRH (USA) <Kyle.M.Moore@usace.army.mil>

Cc: Reardon, Nathan <Nathan.Reardon@dnr.ohio.gov>; Kamnyev, Anna <Anna.Kamnyev@epa.ohio.gov>; Lane, Steve <steve.lane@duke-energy.com>
Subject: Request for In-Water Work Restriction Waiver (Duke Energy Central Corridor Project) - LRH-2020-351

Kyle,

On behalf of Duke Energy Ohio, please find attached a letter and supporting documents requesting a waiver to the in-water work restriction specifically for two intermittent streams that are part of the planned stream crossings for installation of the pipeline for Duke Energy Ohio's Central Corridor Project.

Nathan Reardon (ODNR) is on copy. Please let me know if you require any additional information.

Thanks,

Mike A. Frank | JACOBS | Project Manager | 513.900.7738 mobile | 2 Crowne Point Court, Cincinnati, OH

Jacobs

2 Crowne Point Court
Suite 100
Cincinnati, Ohio 45241
513.595.7500
www.jacobs.com

December 2, 2020

Mr. Kyle Moore
U.S. Army Corps of Engineers, Huntington District Regulatory Branch (OR-F)
10557 McKelvey Road
Cincinnati, OH 45240
Ph: 513-825-3444

Subject: **Request for Waiver of In-Water Work Restriction**
Duke Energy C314V Central Corridor Pipeline Extension, Hamilton Co., Ohio
LRH-2020-351

Dear Mr. Moore:

On behalf of Duke Energy Ohio, Inc. (Duke), Jacobs Engineering Group, Inc. (Jacobs) is submitting this letter requesting a waiver from the in-water work restriction for two intermittent streams. The Corps of Engineers' (Corps) authorized the Project on October 14, 2020 with issuance of the Nationwide Permit (NWP) No. 39 Verification letter. The Project involves the installation of approximately 13 miles of new 20-inch natural gas pipeline near Cincinnati, Ohio (Attachment 1).

In-water work restrictions for streams in the Project area were specified as one of several NWP 39 General Conditions in the permit issued by the Corps. Duke is requesting a waiver to allow for pipeline construction crossings of two intermittent streams with warm-water habitat during the period April 15 through June 30 (the restricted period).

Waiver Rationale and Planned Construction Dates: The two intermittent streams have been assessed using the Headwater Habitat Evaluation Index procedure in addition to a presence/absence survey and assessment for threatened and endangered mussels and Sloan's crayfish (formerly state-listed as threatened). A summary of the assessment findings is included below – in summary, the habitat was found to not likely be supportive of these two species. On the basis of the streams exhibiting lower quality warm-water habitat with low base flow rates, Duke and Jacobs are of the opinion that the restricted period for in-water work does not offer significant benefits in terms of protecting aquatic species at these two stream crossing locations. The waiver would afford the Project team flexibility of schedule to perform the stream crossing construction (pipe installation) and possibly take advantage of low-flow or no-flow conditions that may be present during the April 15 to June 30 window.

Additionally, the potential for construction crossings to occur during the restricted period allows for restoration and stabilization to be completed including seeding and full re-vegetation to be re-established prior to the early part of the winter season. The specific schedule for the planned construction dates at these two stream crossings is still under development.

Stream Descriptions: The location of the two intermittent streams (P-S029 and G-SRH08) are illustrated on the attached Figure 1 map (identified with a red circle on the Figure 1-3 sheet and the Figure 1-10 sheet). Photographs of each stream, the HHEI forms, and mussel habitat assessment form (for G-SRH08) are also included as an attachment. The characteristics for each stream and the assessment summary follows, based on observations made on June 15, 2020:

Jacobs

December 2, 2020

Stream P-S029

The stream reach is an Unnamed Tributary to Sharon Creek (headwater stream). Refer to Figure 1-3 map sheet for a map illustration. Approximately 54 meters of stream were assessed. The stream was dry and contained no flow or pools during the field review. Dominant substrates within the reach included cobble, gravel, and silt. Due to the small watershed size and lack of flow, the probability of this stream reach supporting mussels is not likely.

Stream G-SRH08

This stream reach is an Unnamed Tributary to Mill Creek (headwater stream). Refer to Figure 1-10 map sheet for a map illustration. Approximately 70 meters of stream were assessed. The stream contained flow during the field review. Dominant substrates within the reach included silt and gravel. Due to the presence of flow, a mussel reconnaissance survey was performed. No signs of mussels were present. Due to the small watershed size and results of the mussel reconnaissance survey, the probability of this stream reach supporting mussels is not likely.

Proposed Best Management Practices (BMPs): The following BMPs are included in the proposed project plans, specifications, and Stormwater Pollution Prevention Plan to minimize impacts to these streams during construction of the stream crossing for pipeline installation:

- Stream flows will not be allowed to stop flowing downstream. Continuous flow will be maintained with by-pass pumping procedures or flow diversion.
- Stabilization and regrading of steep or incised stream banks.
- Utilization of silt fence along the perimeters of disturbed construction areas.
- Installation of erosion control blanket on all stabilized stream slopes.
- Installation of mulch/seeding or straw matting/seeding on all disturbed areas that are not part of the bank stabilization work.

An in-water work waiver has not previously been requested for this Project. The BMPs will be implemented in accordance with the latest version of the Ohio EPA *Rainwater and Land Development Manual*.

Please contact Mike Frank with Jacobs at 513-900-7738 and mike.frank@jacobs.com or Steve Lane with Duke Energy Ohio at 513-477-1908 and steve.lane@duke-energy.com with any questions or if you require additional information.

Sincerely,

Jacobs Engineering Group, Inc.

Mike A. Frank

Project Manager

Jacobs

December 2, 2020

Attachments:

Figure 1 (map) - Project Plan and Water Resources
Stream S-029 Supporting Documents
Stream S-GRH08 Supporting Documents

Copies to: Nathan Reardon, Ohio Department of Natural Resources
Anna Kamnyev, Ohio Environmental Protection Agency Division of Surface Water
James Olberding, Senior Project Manager Gas Operations; Duke Energy
Stephen R. Lane, Lead Environmental Scientist/Planner; Duke Energy

Map Figure 1

(Refer to Sheet 1-3 for location of Stream S-029 and Sheet 1-10 for Location of Stream G-SRH08)

LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
  - PEM
  - PFO
  - PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

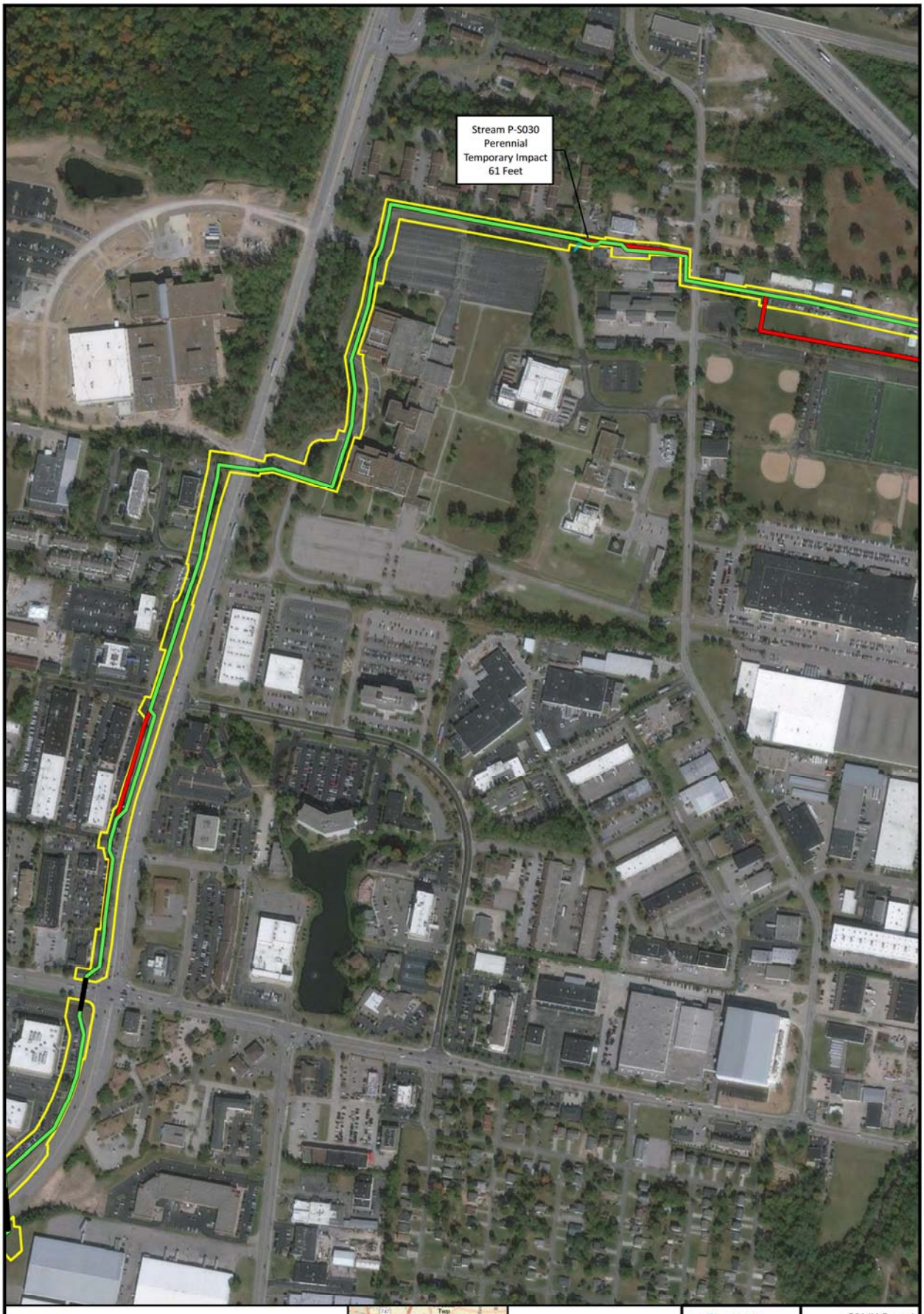
Scale in Feet

DUKE ENERGY.

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 1
PROJECT PLAN AND WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	
REVIEWED BY: MF	Jacobs



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
  - PEM
  - PFO
  - PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

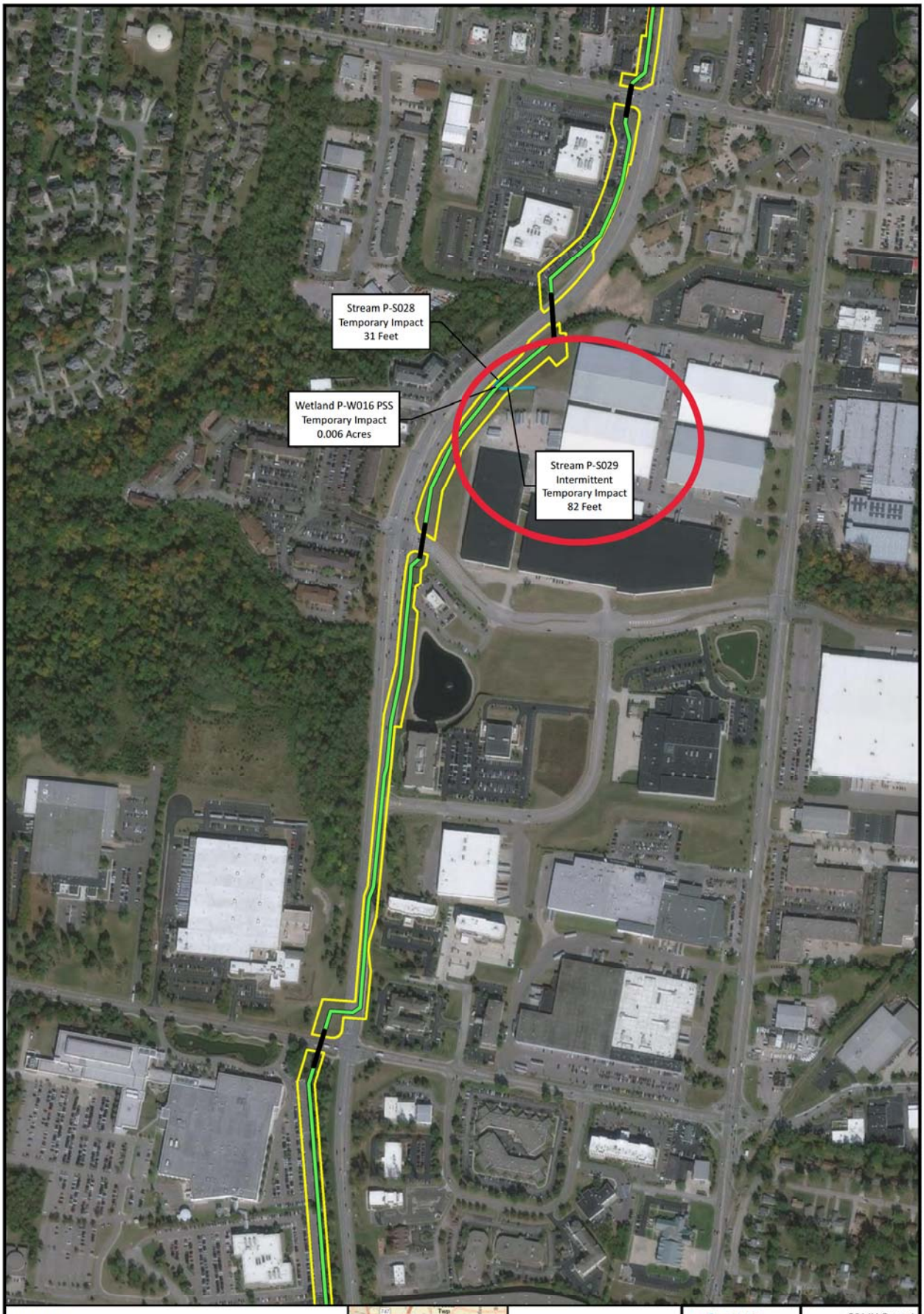
Scale in Feet

DUKE ENERGY

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 2
PROJECT PLAN AND
WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	
REVIEWED BY: MF	Jacobs



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
  - PEM
  - PFO
  - PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

Scale in Feet

DUKE ENERGY.

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 3
PROJECT PLAN AND
WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	
REVIEWED BY: MF	Jacobs

LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
- PEM
- PFO
- PSS
- Delineated Pond

N

BASE MAP SOURCE: ESRI World Imagery 2019

0 300 600

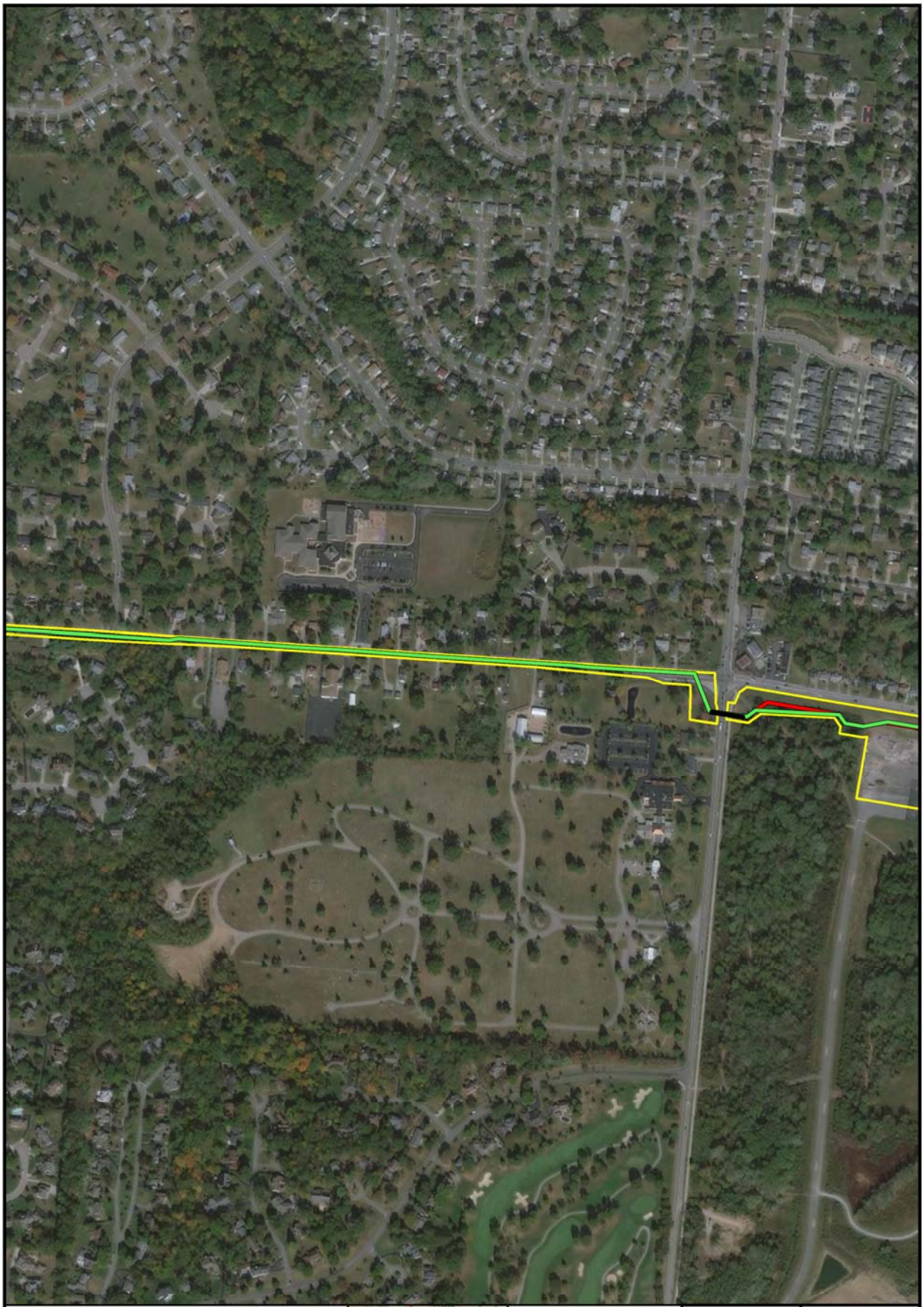
Scale in Feet

DUKE ENERGY

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 4
PROJECT PLAN AND WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	
REVIEWED BY: MF	Jacobs



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
  - PEM
  - PFO
  - PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

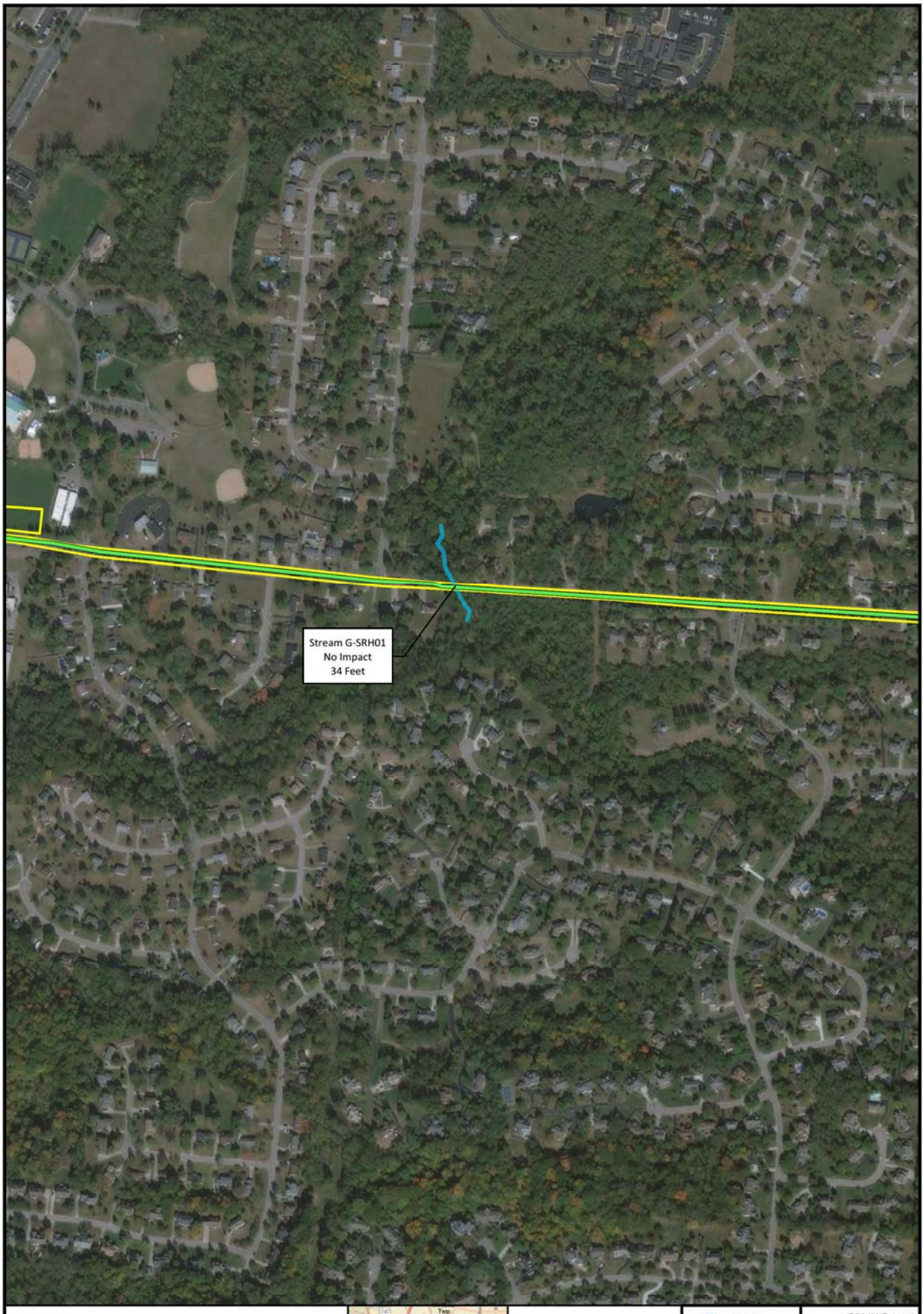
Scale in Feet

DUKE ENERGY

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 5
PROJECT PLAN AND
WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	
REVIEWED BY: MF	Jacobs



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
- PEM
- PFO
- PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

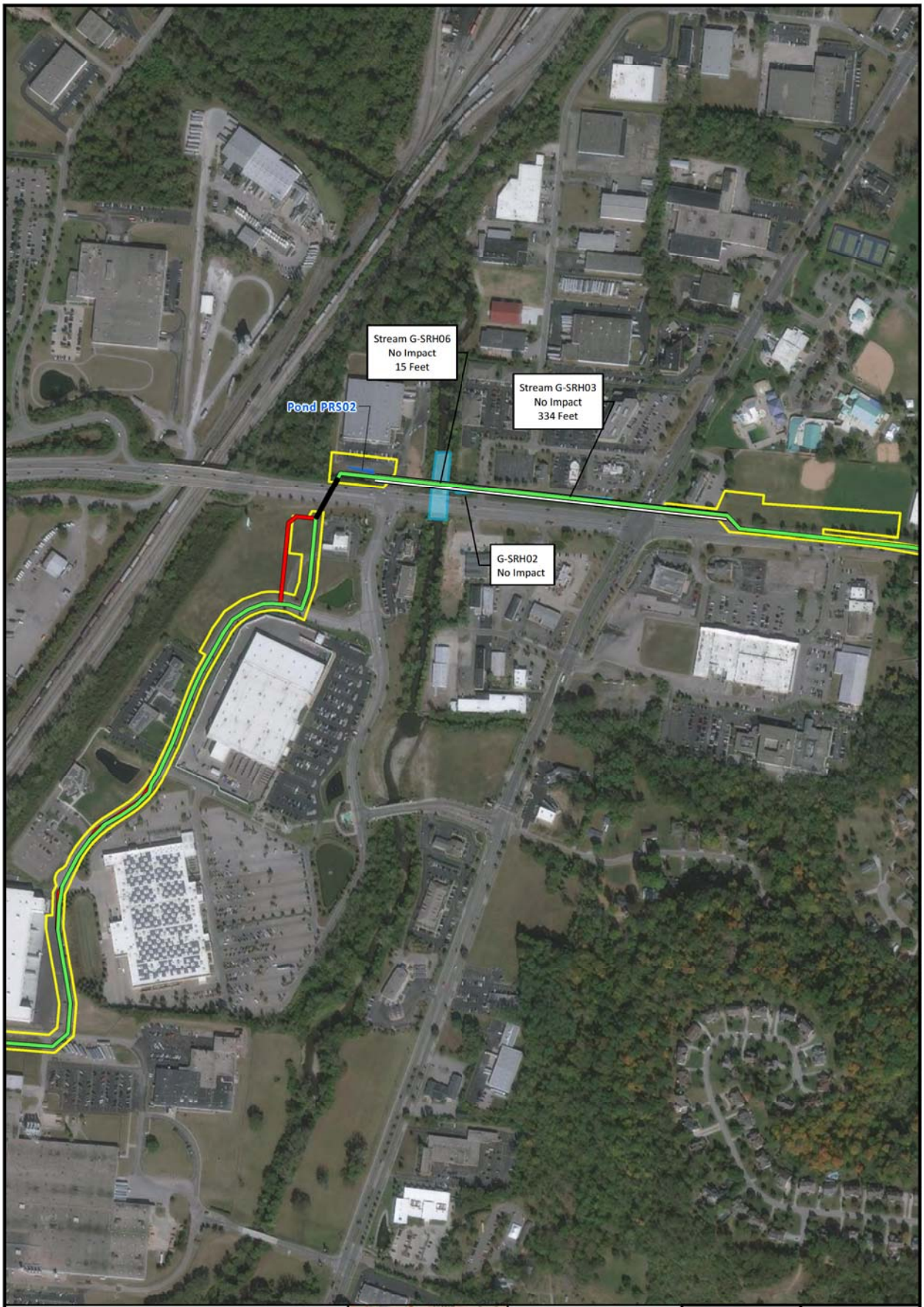
Scale in Feet

DUKE ENERGY

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 6
PROJECT PLAN AND
WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	
REVIEWED BY: MF	Jacobs



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
  - PEM
  - PFO
  - PSS
- Delineated Pond

N

BASE MAP SOURCE: ESRI World Imagery 2019

0 300 600

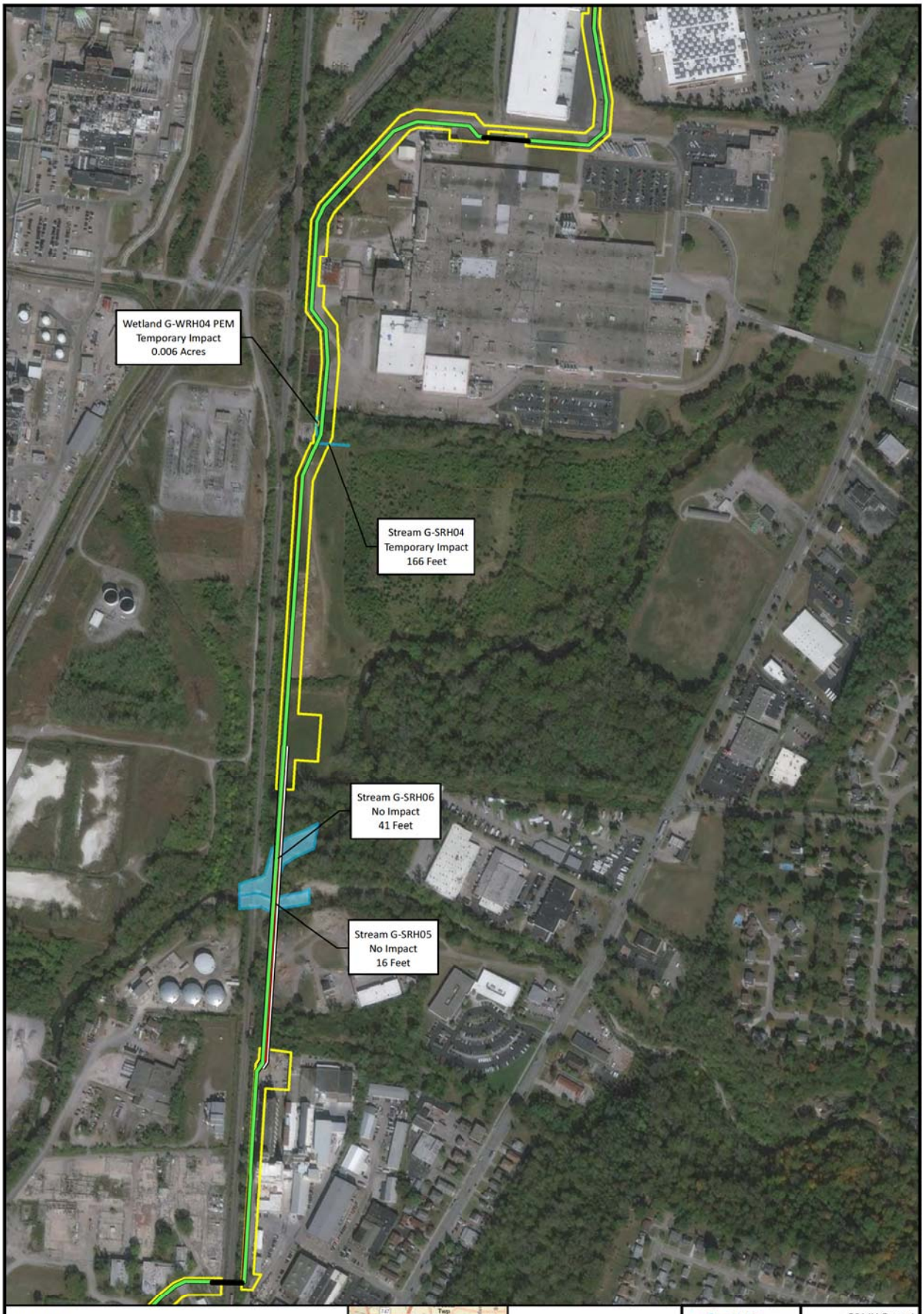
Scale in Feet

DUKE ENERGY.

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 7
PROJECT PLAN AND WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	Jacobs
REVIEWED BY: MF	



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
  - PEM
  - PFO
  - PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

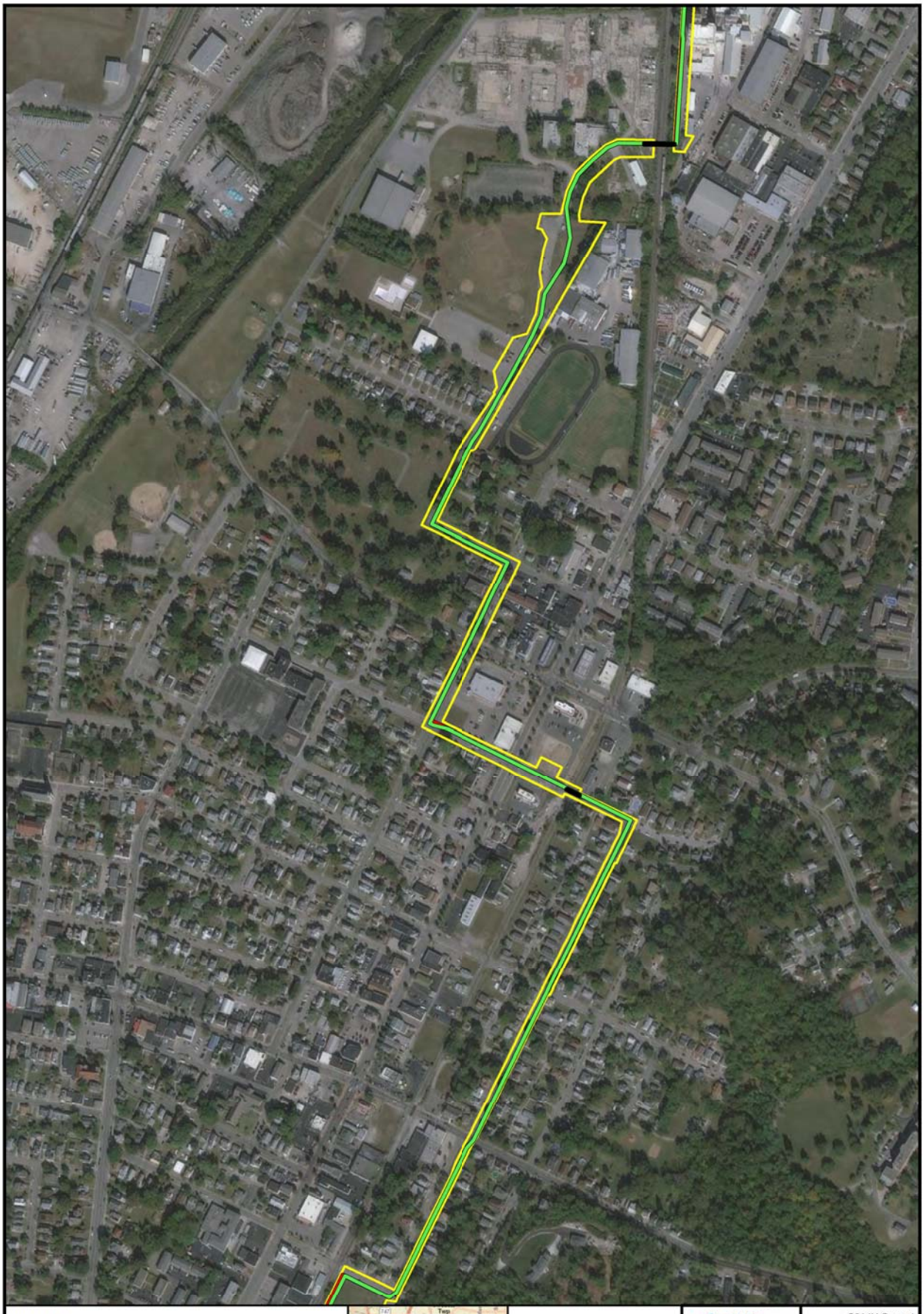
Scale in Feet

DUKE ENERGY

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 8
PROJECT PLAN AND
WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	Jacobs
REVIEWED BY: MF	



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
  - PEM
  - PFO
  - PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

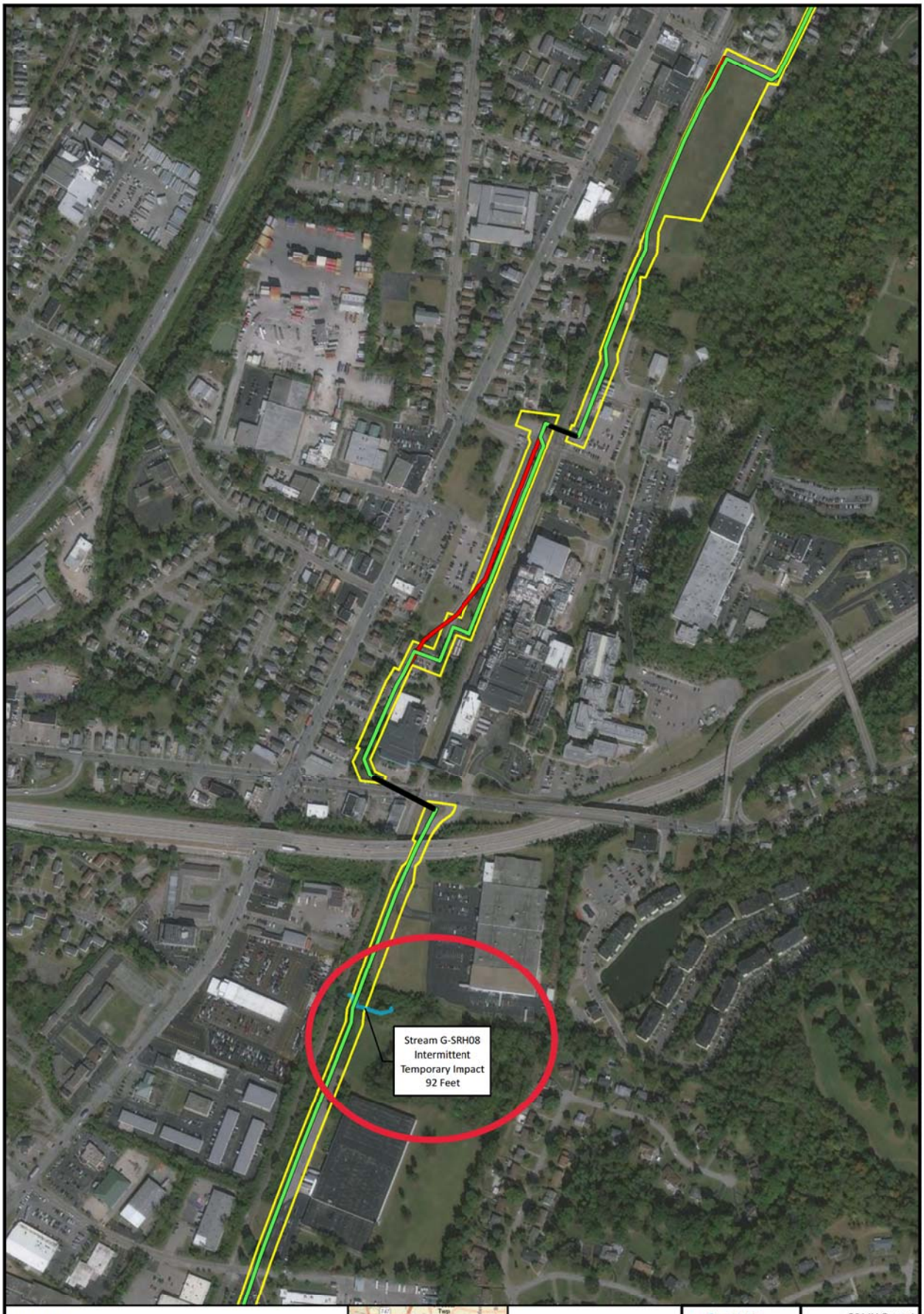
Scale in Feet

DUKE ENERGY

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 9
PROJECT PLAN AND
WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	
REVIEWED BY: MF	Jacobs



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
- PEM
- PFO
- PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

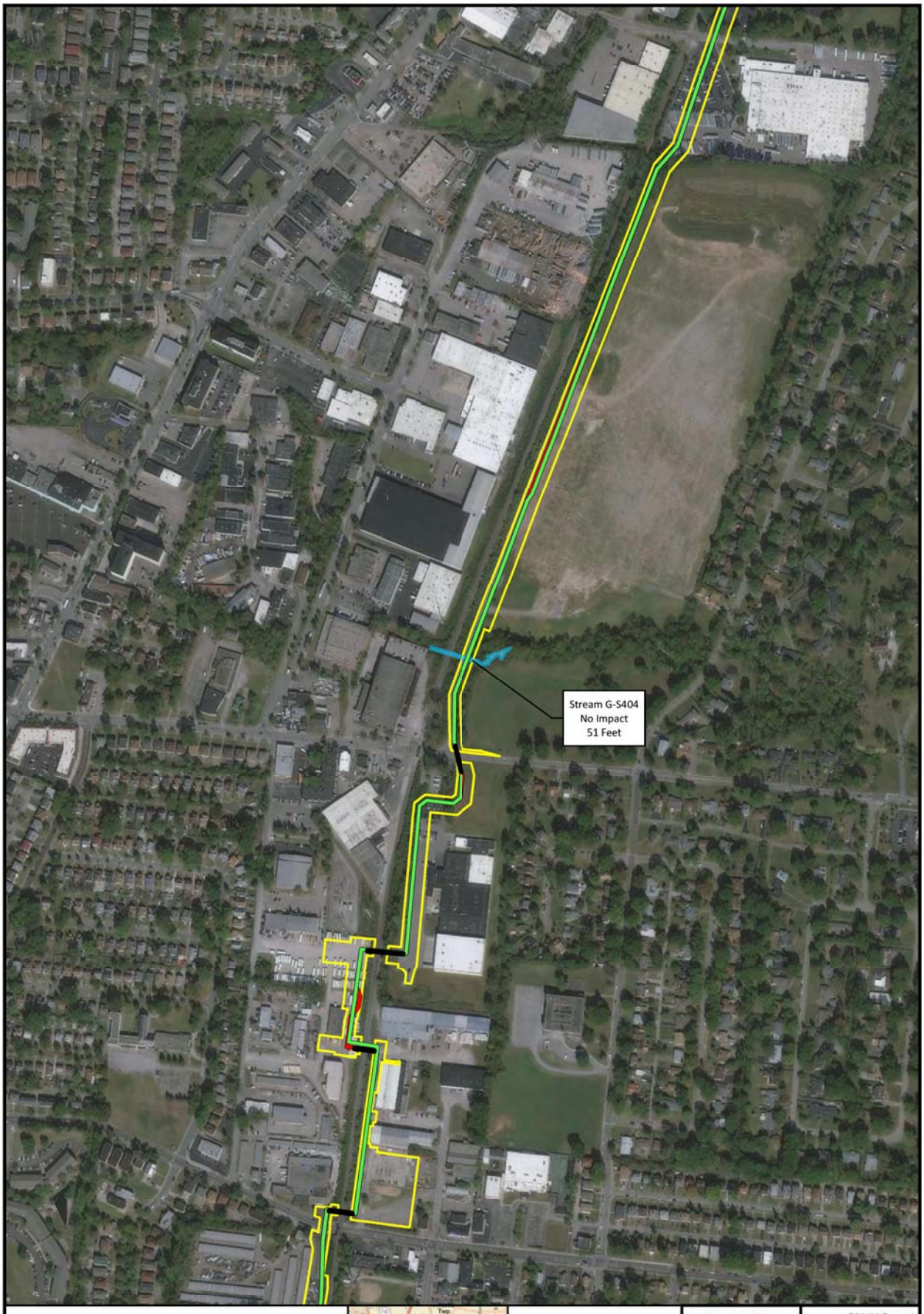
Scale in Feet

DUKE ENERGY

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 10
PROJECT PLAN AND
WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	Jacobs
REVIEWED BY: MF	



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
- PEM
- PFO
- PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

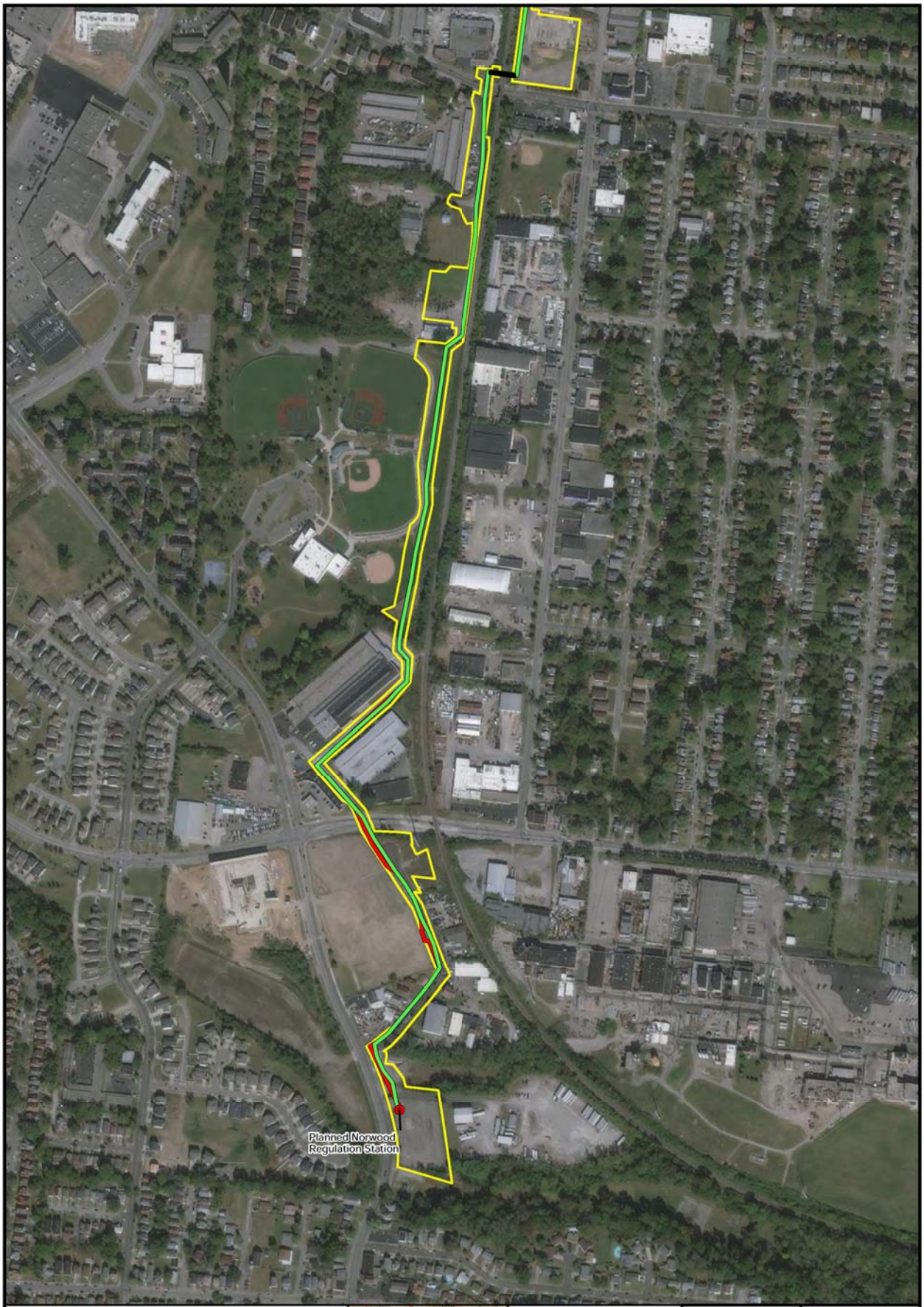
Scale in Feet

DUKE ENERGY

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 11
PROJECT PLAN AND
WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	Jacobs
REVIEWED BY: MF	



LEGEND:

- Regulation Station
- Proposed Amended Certificated Route
- Former Route (6/5/2020)
- Construction Work Area
- Bore Location
- HDD Location
- Delineated Stream
- Delineated Wetland
- PEM
- PFO
- PSS
- Delineated Pond

N

BASE MAP SOURCE:
ESRI World Imagery 2019

0 300 600

Scale in Feet

DUKE ENERGY.

C314V Central Corridor Pipeline Extension Project

FIGURE 1 - 12
PROJECT PLAN AND
WATER RESOURCES

PN: 672247	DATE: 11/19/2020
CREATED BY: RD	
REVIEWED BY: MF	Jacobs

Supporting Documents for Stream S-029 and G-SRH08

Photo 6: P-S029. Upstream view along representative intermittent waterbody.

Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 40

SITE NAME/LOCATION: Duke C314 Project - Pink Route

SITE NUMBER: P-S029 RIVER BASIN: Mill Creek DRAINAGE AREA (mi²): <0.01

LENGTH OF STREAM REACH (ft): 200 LAT.: 39.26673 LONG.: -84.37818 RIVER CODE: _____ RIVER MILE: _____

DATE: 05/02/16 SCORER: S. Miloski COMMENTS: _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☑ RECOVERING ☐ RECENT OR NO RECOVERY

Culverted

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐☐	BLDR SLABS [16 pts]	0%	☑☐	SILT [3 pt]	50%
☐☐	BOULDER (>256 mm) [16 pts]	0%	☐☑	LEAF PACK/WOODY DEBRIS [3 pts]	30%
☐☐	BEDROCK [16 pt]	0%	☐☐	FINE DETRITUS [3 pts]	0%
☐☐	COBBLE (65-256 mm) [12 pts]	10%	☐☐	CLAY or HARDPAN [0 pt]	0%
☐☐	GRAVEL (2-64 mm) [9 pts]	10%	☐☐	MUCK [0 pts]	0%
☐☐	SAND (<2 mm) [6 pts]	0%	☐☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 10.00% (A)

Substrate Percentage Check: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 **TOTAL NUMBER OF SUBSTRATE TYPES:** 4

HHEI Metric Points

Substrate Max = 40

10

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☑ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: _____ **MAXIMUM POOL DEPTH (centimeters):** 12

Pool Depth Max = 30

25

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☑ ≤ 1.0 m (<=3' 3") [5 pts]

COMMENTS: _____ **AVERAGE BANKFULL WIDTH (meters):** 0.60

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L R	FLOODPLAIN QUALITY (Most Predominant per Bank) L R	L R
☐☐ Wide >10m	☑☑ Mature Forest, Wetland	☐☐ Conservation Tillage
☐☐ Moderate 5-10m	☐☐ Immature Forest, Shrub or Old Field	☐☐ Urban or Industrial
☑☑ Narrow <5m	☐☐ Residential, Park, New Field	☐☐ Open Pasture, Row Crop
☐☐ None	☐☐ Fenced Pasture	☐☐ Mining or Construction

COMMENTS: _____

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS: _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☐ None
- ☑ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☑ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: **Sharon Creek** Distance from Evaluated Stream **14,011.00**

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: **Glendale** NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: **Hamilton** Township / City: **Sycamore Twp.**

MISCELLANEOUS

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **05/02/16** Quantity: **0.07**

Photograph Information: **Upstream, Upstream**

Elevated Turbidity? (Y/N): **N** Canopy (% open): **10%**

Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) **Y** If not, please explain: _____

Additional comments/description of pollution impacts: _____

Green scum

BIOTIC EVALUATION

Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

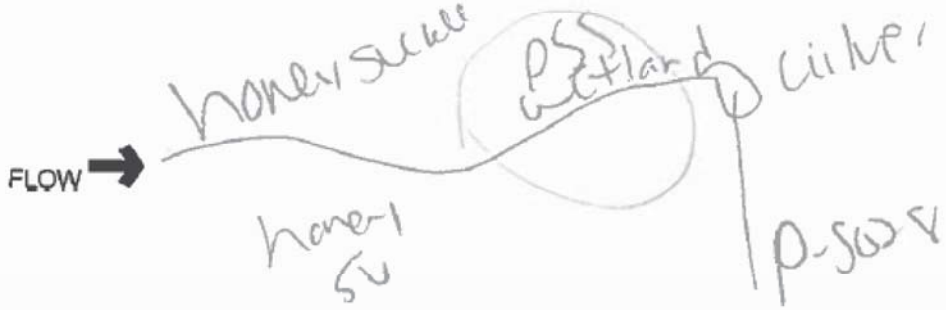
Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**

Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Save as pdf Reset Form

Stream G-SRH08- downstream with present flow.

Strean G-SRH08- upstream with present flow.

Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 63

SITE NAME/LOCATION: Duke c314v

SITE NUMBER: G-SRH08 RIVER BASIN: Mill Creek DRAINAGE AREA (mi²): 0.36

LENGTH OF STREAM REACH (ft): 150 LAT.: 39.20900 LONG.: -84.44660 RIVER CODE: _____ RIVER MILE: 0

DATE: 07/22/16 SCORER: R. Hook COMMENTS: _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☑ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐☐	BLDR SLABS [16 pts]	0%	☑☐	SILT [3 pt]	50%
☐☐	BOULDER (>256 mm) [16 pts]	0%	☐☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐☐	BEDROCK [16 pt]	0%	☐☐	FINE DETRITUS [3 pts]	0%
☐☐	COBBLE (65-256 mm) [12 pts]	10%	☐☐	CLAY or HARDPAN [0 pt]	0%
☐☐	GRAVEL (2-64 mm) [9 pts]	25%	☐☐	MUCK [0 pts]	0%
☐☑	SAND (<2 mm) [6 pts]	15%	☐☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 10.00% (A)

Substrate Percentage Check: 100% (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 **TOTAL NUMBER OF SUBSTRATE TYPES:** 4

HHEI Metric Points

Substrate Max = 40

13

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☑ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS: _____ **MAXIMUM POOL DEPTH (centimeters):** 14

Pool Depth Max = 30

25

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) **(Check *ONLY* one box):**

- ☐ > 4.0 meters (> 13') [30 pts]
- ☑ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (<=3' 3") [5 pts]

COMMENTS: _____ **AVERAGE BANKFULL WIDTH (meters):** 3.00

Bankfull Width Max=30

25

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☑	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☑	☐	Narrow <5m	☑	☑	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS: Mowed grass areas in light industrial area to each side of narrow wooded corridor

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☐ Stream Flowing
- ☑ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS: _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☐ None
- ☐ 0.5
- ☑ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☑ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: **Mill Creek** Distance from Evaluated Stream **0.90**

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: **Cincinnati East** NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: **Hamilton** Township / City: **Reading**

MISCELLANEOUS

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **06/15/16** Quantity: **0.40**

Photograph Information: _____

Elevated Turbidity? (Y/N): **N** Canopy (% open): **25%**

Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number: _____

Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (µmhos/cm) _____

Is the sampling reach representative of the stream (Y/N) **Y** If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**

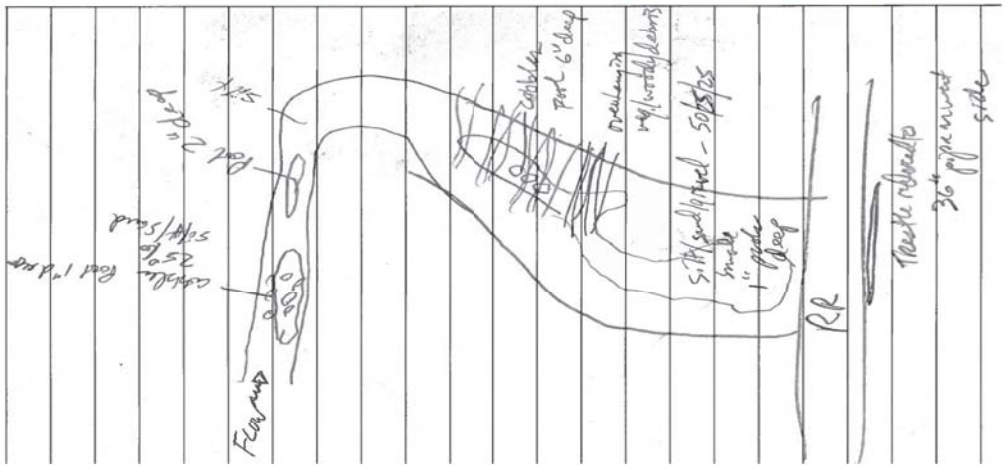
Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

FLOW ➔



Save as pdf Reset Form

Ohio Mussel Habitat Assessment Form

Project Information

Project Name: Duke Energy Central Corridor Pipeline / C-SRH08

County: Hamilton Township:

Latitude (DD.DDDD): 39.208877° Longitude (DD.DDDD): -84.446654°

Stream Name: Unnamed tributary Mill Creek Group # (From Appendix A): NA

Methods

Name of Surveyor(s): Haggarty, Loew + Morris

Qualification of Surveyor(s): ☑ USFWS Approved ☑ ODNR Approved ☑ Aquatic Biologist (minimum)

Date of Survey: 15 June 2020 Distance Surveyed (ft.): 200

Total Survey Time (min. x people): 20 Scientific Collector's Permit Number(s): 23-022

Note any deviations from the Ohio Mussel Habitat Assessment Methods:

Habitat Description of Survey Area

Drainage Area at Survey Location (mi²): 0.36 Water Temp. (°F): 71 Air Temp. (°F): 65°

Substrate Types (include %): 624 us pH. 7.3 9.9 NTU

☐ Boulder ____ ☒ Gravel ____ ☐ Bedrock ____ ☐ Detritus ____ ☒ Silt ____

☒ Cobble ____ ☒ Sand ____ ☐ Hardpan ____ ☐ Muck ____ ☐ Artificial ____

leaf pack, wood

Water Level: ☐ High ☐ Up ☐ Normal ☑ Low ☐ Dry/Interstitial

Visibility: ☐ 0-15 cm ☐ 15-30 cm ☐ 30-50 cm ☐ >50 cm ☑ Visible to Bottom

Average Depth (cm): Riffle ____ Run ____ Pool ____

Max Depth (cm): Riffle ____ Run ____ Pool ____

Results

Evidence of Mussels: Presence of fresh dead mussel shells and living mussels will trigger a full mussel survey

☑ None ☐ Mussel Shell Only - Subfossil ☐ Mussel Shell Only - Weathered Dead ☐ Mussel Shell Only - Fresh Dead ☐ Living Mussels

Site Sketch. Approximate numbers and locations of shells and live mussels. Include species list if possible.

1 Cambarus sp ♀

NO mussels

No Strauss Crayfish

Required Attachments 1) Location Map and 2) Photo Log

Olive, Emily A.

From: Moore, Kyle M CIV USARMY CELRH (USA) <Kyle.M.Moore@usace.army.mil>
Sent: Wednesday, December 2, 2020 2:14 PM
To: Frank, Mike/CIN
Cc: nathan.reardon@dnr.state.oh.us; Anna.Kamnyev@epa.ohio.gov; Lane, Steve
Subject: [EXTERNAL] RE: Request for In-Water Work Restriction Waiver (Duke Energy Central Corridor Project) - LRH-2020-351

*** CAUTION! EXTERNAL SENDER *** STOP & THINK! Do you know and trust this sender? Were you expecting this email? Are grammar and spelling correct? Does the content make sense? If suspicious, then do not click links, open attachments or enter your ID or password.

Hi Mike,

After Mr. Reardon reviews the submission and determines if a waiver is or isn't appropriate, the Corps will follow his recommendation.

Nathan, could you cc the group when you reach a decision? If you need anything let me know.

Thank you,

Kyle Moore
U.S. Army Corps of Engineers
Huntington District
Cincinnati Field Office
10557 McKelvey Road
Cincinnati, OH 45240
Office:513-825-3444
Cell:606-202-0861

-----Original Message-----
From: Frank, Mike/CIN <Mike.Frank@jacobs.com>
Sent: Wednesday, December 02, 2020 10:35 AM
To: Moore, Kyle M CIV USARMY CELRH (USA) <Kyle.M.Moore@usace.army.mil>
Cc: nathan.reardon@dnr.state.oh.us; Anna.Kamnyev@epa.ohio.gov; Lane, Steve <steve.lane@duke-energy.com>
Subject: [Non-DoD Source] Request for In-Water Work Restriction Waiver (Duke Energy Central Corridor Project) - LRH-2020-351

Kyle,

On behalf of Duke Energy Ohio, please find attached a letter and supporting documents requesting a waiver to the in-water work restriction specifically for two intermittent streams that are part of the planned stream crossings for installation of the pipeline for Duke Energy Ohio's Central Corridor Project.

Nathan Reardon (ODNR) is on copy. Please let me know if you require any additional information.

Thanks,

Mike A. Frank | JACOBS | Project Manager | 513.900.7738 mobile | 2 Crowne Point Court, Cincinnati, OH
