



**We Energies**  
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October 19, 2021

Electronically Filed

Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

Dear Ms. Bose

**SUBJECT: Sediment Monitoring at Wilderness Shores Settlement Agreement (WSSA) Projects**

<u>Hydro</u>	<u>FERC Project No.</u>	<u>NATDAM No.</u>	<u>License Article</u>
<b>Way Dam</b>	<b>1759</b>	<b>MI-00205</b>	<b>409</b>
<b>Hemlock Falls</b>	<b>2074</b>	<b>MI-00172</b>	<b>408</b>
<b>Lower Paint</b>	<b>2072</b>	<b>MI-00179</b>	<b>407</b>
<b>Peavy Falls</b>	<b>11830</b>	<b>MI-00191</b>	<b>407</b>
<b>Michigamme Falls</b>	<b>2073</b>	<b>MI-00156</b>	<b>408</b>
<b>Twin Falls</b>	<b>11831</b>	<b>MI-00143</b>	<b>408</b>
<b>Kingsford</b>	<b>2131</b>	<b>MI-00177</b>	<b>408</b>
<b>Big Quinnesec Falls</b>	<b>1980</b>	<b>MI-00103</b>	<b>409</b>

Wisconsin Electric Power Company, doing business as We Energies, is submitting the results of sediment sampling conducted at the Projects listed above. As described in the water quality monitoring plan for the WSSA projects<sup>1</sup>, We Energies is required to monitor sediment for the following parameters during the 20<sup>th</sup> year of the new license period:

Oil and grease, percent volatile solids, total arsenic, total barium, total cadmium, total chromium, total copper, total lead, total manganese, total mercury, total nickel, total nitrogen, total organic carbon, total phosphorus, total selenium, total silver, total zinc, acid volatile sulfides and PCB.

Sediment samples were obtained from depositional areas in each impoundment near the dams at each of the eight hydroelectric facilities. Three spatially separate fine-grained sediment samples were collected and composited at each impoundment for analysis. Attachment A includes the sediment monitoring data. Attachment B includes maps depicting the sampling locations within each impoundment.

<sup>1</sup> Order Approving Modifications to Water Quality Monitoring Plans Under Articles 407, 408 and 409. Issued July 26, 2004

Ms. Kimberly D. Bose  
October 21, 2021  
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If you have any questions about this submittal, please feel free to contact Mr. Mark Metcalf at (920) 433-1833 or email at [mark.metcalf@wecenergygroup.com](mailto:mark.metcalf@wecenergygroup.com).

Sincerely,



Todd P. Jastremski  
Asset Manager Hydro Operations  
We Energies  
800 Industrial Park Drive  
Iron Mountain, MI 49801

MWM/ace

Enc: Attachment A – Sediment Monitoring Data (2 pages)  
Attachment B – Sediment Sampling Location Maps (10 pages)

cc: Mr. John Zygaj, FERC – CRO  
Ms. Elle Gulloty – MDNR  
Ms. Amira Oun – MDEQ  
Ms. Cheryl Laatsch, WDNR  
Mr. Darin Simpkins, USFWS

## Attachment A

### Wilderness Shores Settlement Agreement (WSSA) Projects

#### 2021 Sediment Monitoring Data

**We Energies - WSSA Hydroelectric Facilities - Sediment Monitoring**

**Article 407 - Lower Paint Project (FERC No. 2072), Peavy Falls Project (FERC No. 11830)**

**Article 408 - Michigamme Falls Project (FERC No. 2073), Hemlock Falls Project (FERC No. 2074), Kingsford Project (FERC No. 2131), Twin Falls Project (FERC No. 11831)**

**Article 409 - Way Dam Project (FERC No. 1759) and Big Quinnesec Project (FERC No. 1980).**

Facility		Way Dam	Hemlock Falls	Lower Paint	Peavy Falls	Michigamme Falls	Twin Falls	Kingsford	Big Quinnesec
Sample Date		7/27/2021	7/27/2021	7/27/2021	7/26/2021	7/26/2021	7/26/2021	7/26/2021	7/26/2021
Parameter	Units								
Oil and Grease	mg/kg	998.0	<319	1,030 J	<1,490	3,370 J	812 J	739 J	1,220 J
Percent volatile solids	% (w/w)	9.6	2.6	18.8	11.7	23.4	6.8	6.0	11.3
Arsenic, total	mg/kg	5.8	3.5	12.4	8.0	18.4	8.8	5.3	13.4
Barium, total	mg/kg	88.5	25.5	106	97.8	211.0	100.0	70	122.0
Cadmium, total	mg/kg	0.64	<0.18	1.1 J	0.46	1.3	0.39 J	0.30	0.55 J
Chromium, total	mg/kg	26.1	8.5	46.0	23.9	46.7	22.7	18.6	27.8
Copper, total	mg/kg	17.5	4.7	23.8	13.5	35.3	23.4	10.7	21.9
Lead, total	mg/kg	25.1	3.4	24.7	13.6	45.3	10.6	6.4	13.2
Manganese, total	mg/kg	737	292	1,180	1,540	3,230	2,660	1,590	3,150
Mercury, total	mg/kg	0.07	<0.014	0.18	0.044	0.20	0.13	0.034 J	0.068 J
Nickel, total	mg/kg	17.5	6.2	17.9	14.8	28.9	23.4	13.8	18.2
Nitrogen, total	mg/kg	3,310	634	6,380	2,340	8,180	2,050	1,860	3,740
Total Organic Carbon	mg/kg	45,500	9,590	84,200	49,500	115,000	30,900	25,800	52,200
Phosphorus, total	mg/kg	578	153	857	527	1,800	506	401	800
Selenium, total	mg/kg	<3.2	<1.8	<4.8	<3.5	<7.2	3.0	<2.3	3.4 J
Silver, total	mg/kg	<0.76	<0.42	<1.1	<0.82	<1.7	<0.63	<0.55	<0.75
Zinc, total	mg/kg	89.4	24.4	149	56.7	163.0	83.1	56.5	96.7
Acid volatile sulfide	umoles/g	1.2	0.02 J	0.275	0.106	0.779	0.193	0.019	0.081
PCB, total	ug/kg	<37.9	<22.6	<60.0	<41.8	<86.4	<32.9	<29.4	<39.8
Sample Percent Moisture	%	59.9	32.8	74.7	63.6	82.4	53.6	48.3	62

**Sample Collection:** 3 spatially separate samples were collected from each impoundment and were composited for analysis.

**Sample Results:** All sample results reported on a dry weight basis. Sample percent moisture provided for reference.

**QA/QC Comments**

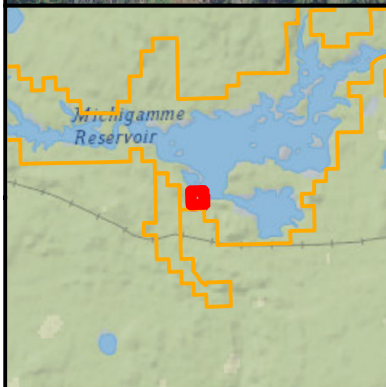
J - Estimated value between method level of detection (LOD) and level of quantitation (LOQ).

Way Dam - Manganese: Matrix Spike recovery was outside lab control limits due to a parent sample concentration notably higher than the spike level.

## Attachment B

### Wilderness Shores Settlement Agreement (WSSA) Projects

#### 2021 Sediment Monitoring Location Maps



● Sediment Sample Location

— Roadway

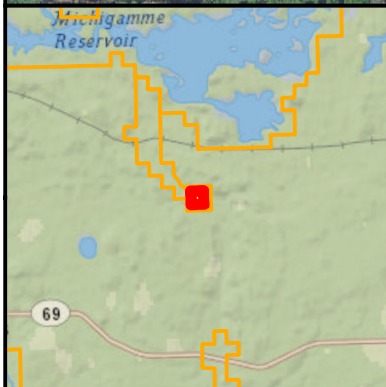
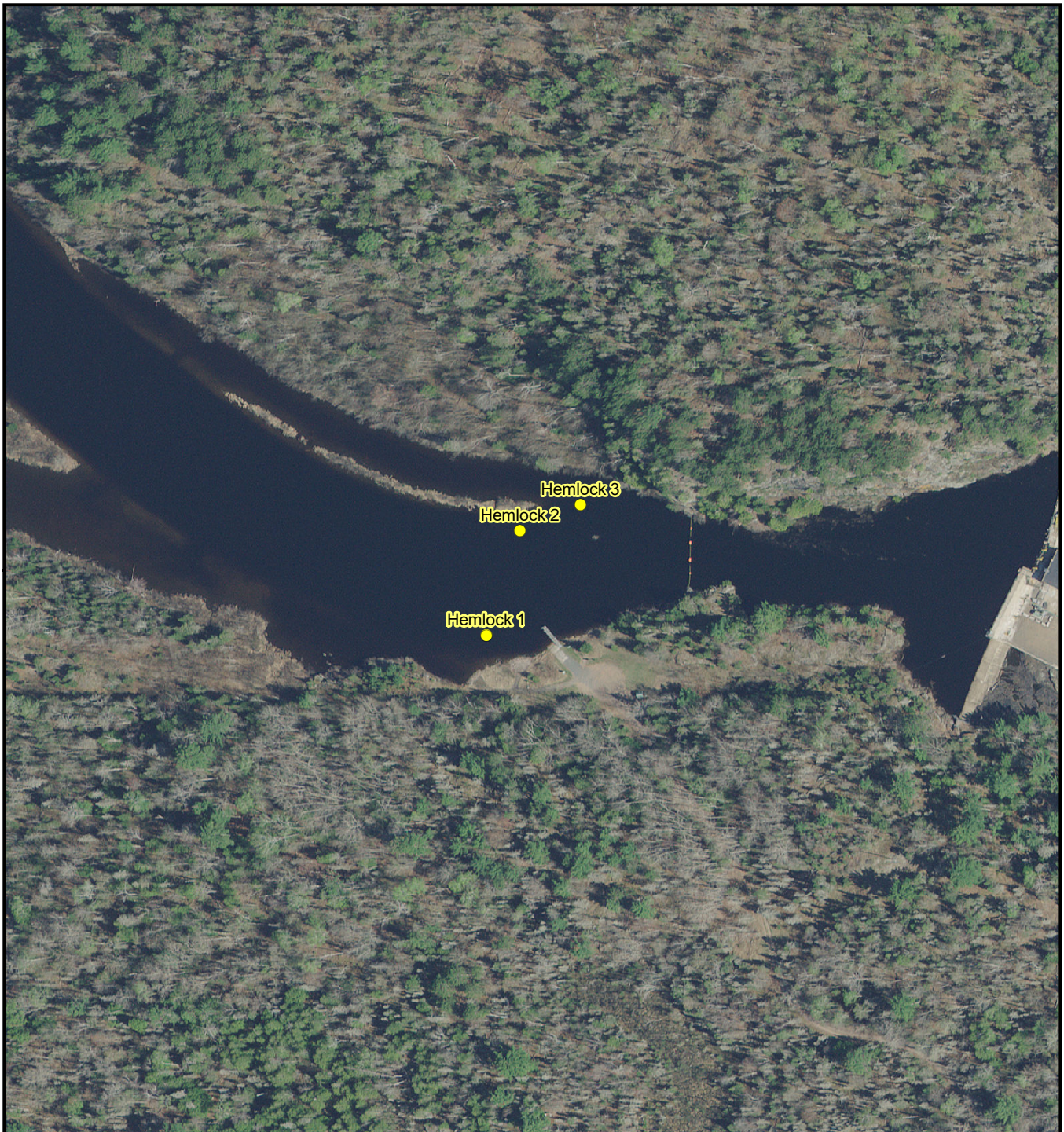


0 200 400 Feet

## Way Dam

2021  
Sediment Sample Locations

Source: UMERL Imagery, 2018



● Sediment Sample Location

— Roadway

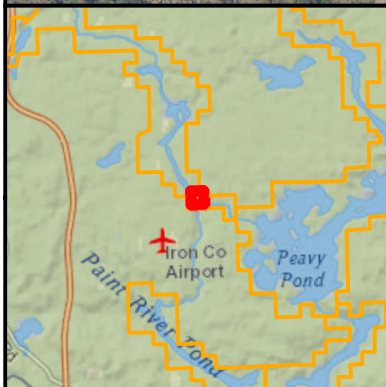


0 200 400 Feet

## Hemlock Falls

2021  
Sediment Sample Locations

Source: UMERL Imagery, 2018



● Sediment Sample Location

— Roadway



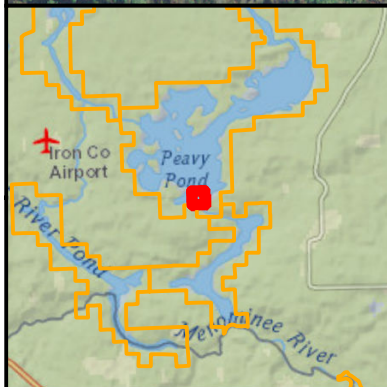
0 200 400 Feet

## Lower Paint

2021  
Sediment Sample Locations

Source: UMERG Imagery, 2018





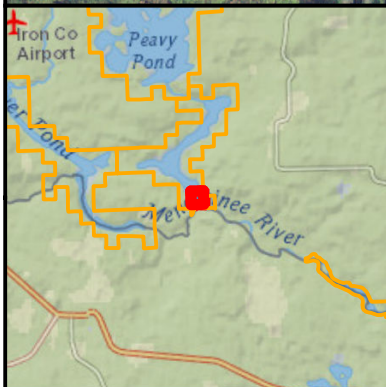
● Sediment Sample Location  
 Roadway

0                      200                      400 Feet

**Peavy Falls**

2021  
Sediment Sample Locations

Source: UMERG Imagery, 2018



- Sediment Sample Location
- Roadway

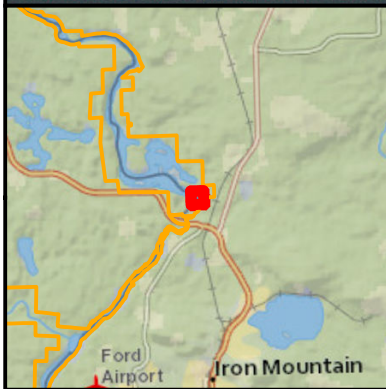
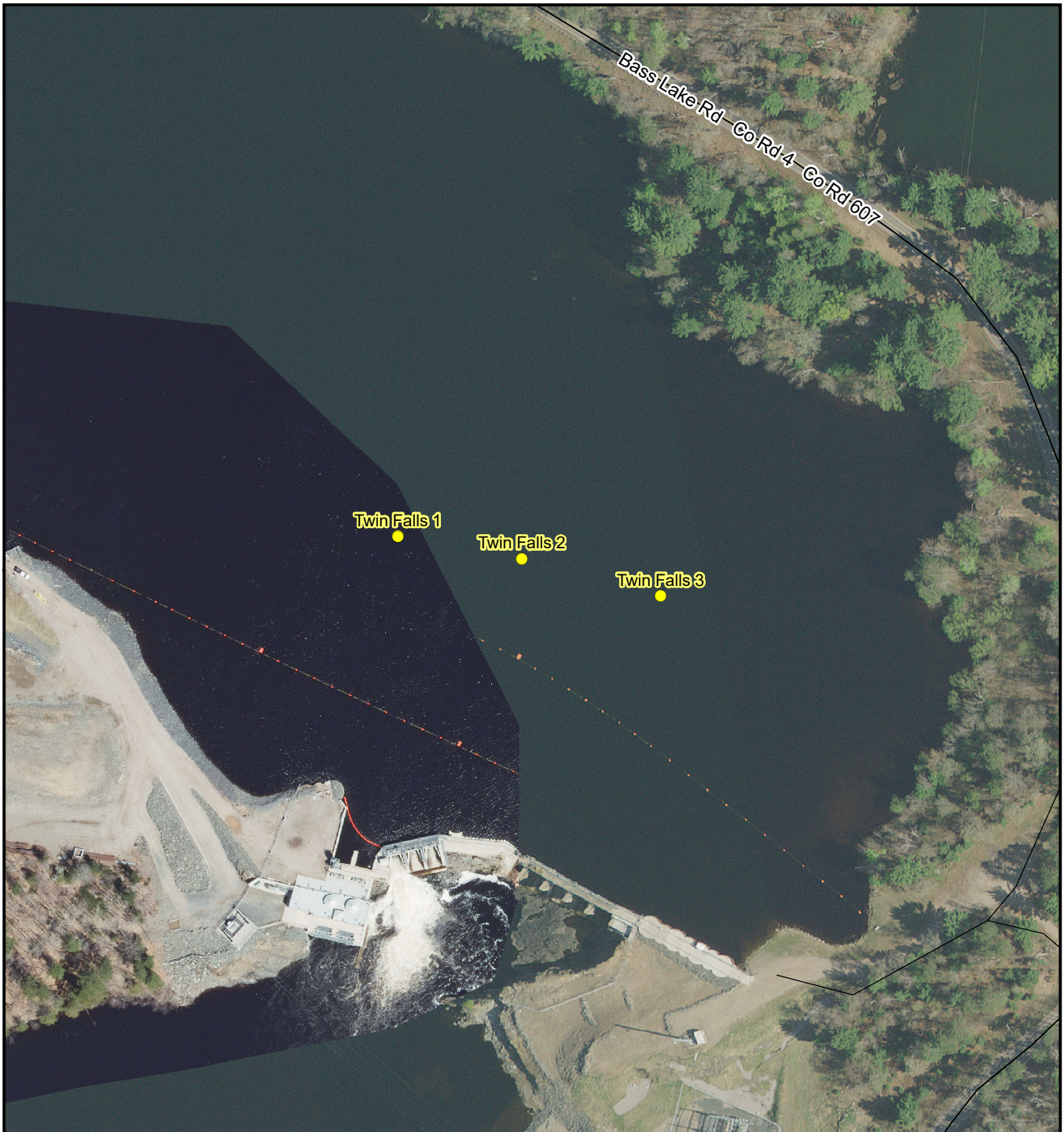


0                      200                      400 Feet

## Michigamme Falls

2021  
Sediment Sample Locations

Source: UMERC Imagery, 2018



● Sediment Sample Location

— Roadway

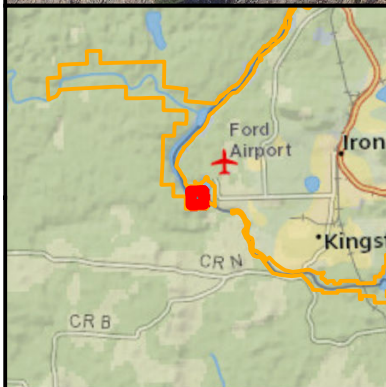


0 200 400 Feet

## Twin Falls

2021  
Sediment Sample Locations

Source: UMERC Imagery, 2018



● Sediment Sample Location

— Roadway

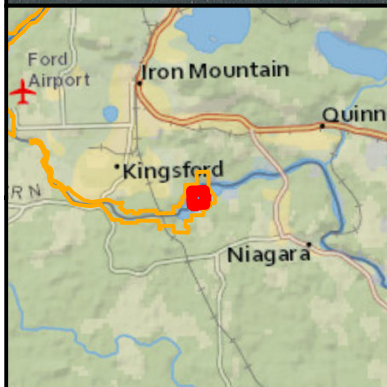
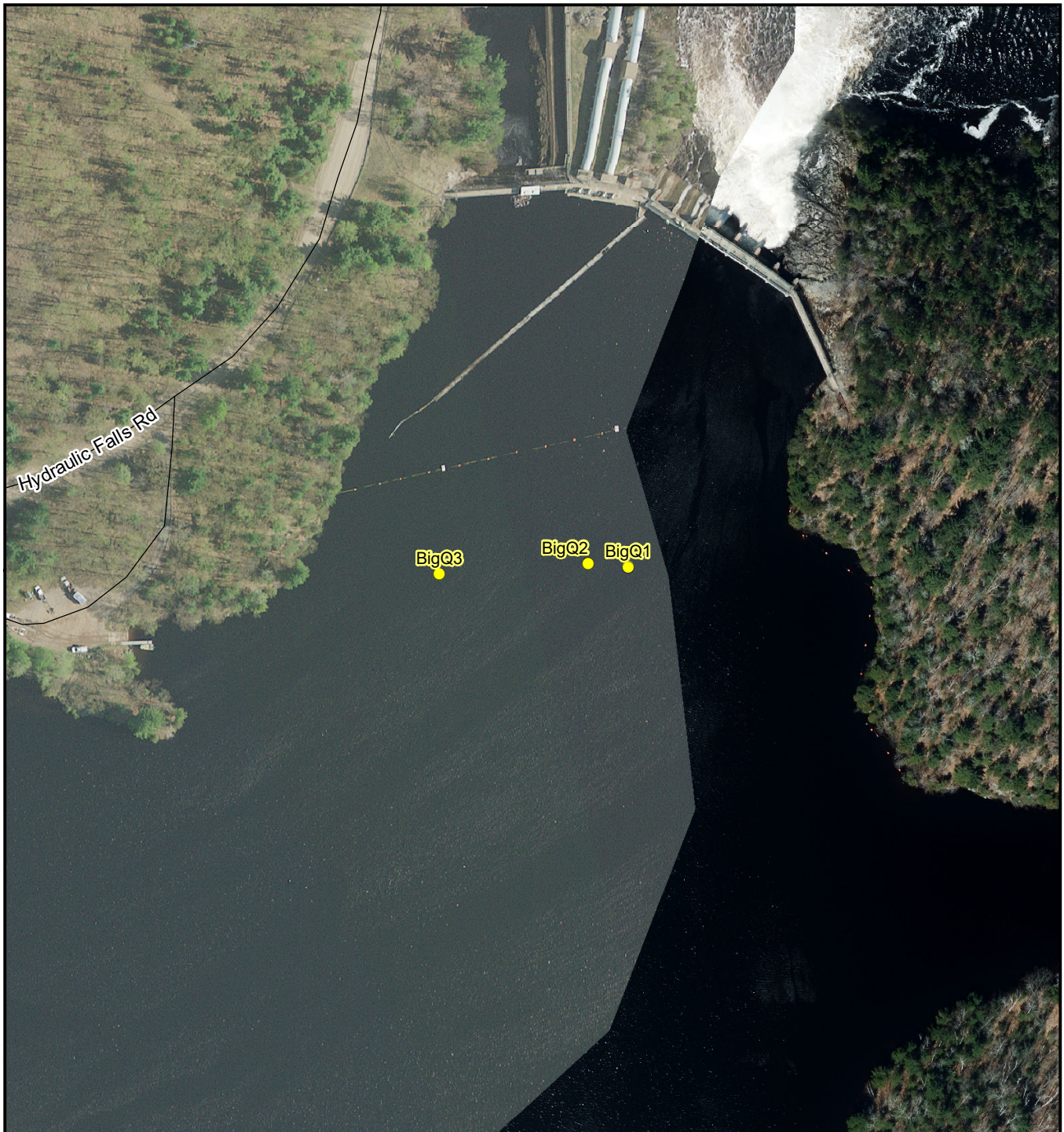


0 200 400 Feet

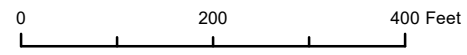
## Kingsford

2021  
Sediment Sample Locations

Source: UMERC Imagery, 2018



- Sediment Sample Location
- Roadway



## Big Quinnesec Falls

2021  
Sediment Sample Locations

Source: UMERG Imagery, 2018

**We Energies - WSSA Projects  
2021 Sediment Sampling Locations**

<b>Location</b>	<b>Northing</b>	<b>Easting</b>
Big Q 1	5070792.54	419093.008
Big Q 2	5070793.952	419076.758
Big Q 3	5070789.751	419016.499
Hemlock 1	5109315.241	405130.985
Hemlock 2	5109357.547	405144.574
Hemlock 3	5109368.003	405168.926
Kingsford 1	5073297.314	412449.09
Kingsford 2	5073357.498	412523.172
Kingsford 3	5073384.962	412505.38
Lower Paint 1	5097194.585	402547.195
Lower Paint 2	5097203.732	402579.103
Lower Paint 3	5097252.109	402599.613
Mich Falls 1	5089877.98	407134.053
Mich Falls2	5089886.278	407201.392
Mich Falls 3	5089879.613	407258.649
Peavy 1	5093801.27	406197.229
Peavy 2	5093823.085	406317.376
Peavy 3	5093807.298	406409.757
Twin Falls 1	5080618.153	416913.305
Twin Falls 2	5080608.992	416963.196
Twin Falls 3	5080594.023	417019.406
Way Dam 1	5112563.515	404583.44
Way Dam 2	5112532.478	404618.277
Way Dam 3	5112490.802	404653.054

**Coordinates are: UTM Zone 16N, NAD1983, Meters**