



January 28, 2019

Waukesha Water Utility  
Dan Duchniak  
115 Delafield Street  
Waukesha, WI 53188

Dear Mr. Duchniak:

Thank you for continuing to work with the Department of Natural Resources (DNR) on the proposed Great Water Alliance-Great Lakes Water Supply project. This letter contains information regarding the DNR's environmental impact statement (EIS) for this project.

DNR has been drafting the EIS and determined additional information is needed to complete the analysis. Please see the attached table of information needs.

Information requested should be submitted to me as soon as possible so we can complete the EIS and move forward with other department approvals and decisions. Any additions or alterations to the project that differ from previous submittals should be noted for clarification purposes.

You will also receive DNR correspondence under a separate cover related to informational needs associated with the waterway and wetland permit application. Some of this information may be similar, although information for the EIS is needed for all water supply alternatives (M1, M2, and M3) as well as return flow pipeline alternatives (Oak Creek routes 2, 3, and 4). If a meeting is necessary prior to submitting additional information, please let us know.

Sincerely,

James D. Pardee  
Wisconsin Environmental Policy Act Coordinator

cc: Megan Bender - Jacobs  
Chris DeSilva - Greeley Hanson  
Callan, Radermacher, Clayton – DNR

Item Number	Section (for DNR reference only)	EIS Information Needs or Clarifications
1	2 (Fig. 2-1)	Need new map of proposed supply route (M1) and return flow route (OC 3).
2	2.1	Confirm figure 2-2 and caption is accurate. (Figure 2-2 attached)
3	2.1.2-2.1.5	Sections should be reviewed by Applicant for accuracy. (sections attached)
4	Figure 2-6	Which figure should be used for the Root River discharge site plan? For example, previous EIR submittal figure differs from the facilities plan.
5	2.1.1.13	Table of all project costs need to be updated. Conflicting costs in many of the documents we have received. Current cost data should be provided for all alternatives and consistent with that provided to PSCW.
6	Figures 3-2 & 3-3	Need separate maps showing alternative supply routes M2 and M3.
7	Figures 3-4 & 3-5	Need updated maps showing return flow pipeline routes only (no supply) for OC2 and OC4.
8	5.1.1.10	Confirm there are no threatened or endangered species at the RFDS.
9	5.1.1.11	What is the acreage of the land use impacts at the Water Supply Pump Station?
10	5.1.1.16	Did the applicant conduct archeology review for M1, M2, and M3? Where is this information?
11	5.1.2.1	Need clarification – Stream crossing effects of M1 – data differs in WWIPA, PAA.
12	5.1.2.2	If M1 pipeline changed since January 2018, endangered resources data needs to be updated to reflect new pipeline.
13	5.1.2.3	Would wetlands of special natural interest be affected by M1?
14	Table 5-7	For M1 - clarify forested and shrub/scrub wetland effects with second paragraph in Section 5.1.2.3. (Table and paragraph attached)
15	5.1.2.4	For M1 - clarify text and Tables 5-7 and 5-8 re: effects on woodlands and wooded wetlands. (Tables and text attached)
16	Table 5-8	For M1 - clarify definition of "open lands." How does this relate to grasslands?
17	5.1.2.7	Is the agricultural land use effect acreage in Table 5-8 still accurate for M1? Are the archeological and historical effects data still accurate for M1 (cite for data as this differs from previous EIR data submittal)? (Table 5-9 attached)
18	5.1.3.1	Stream crossing effects for OC3 needs clarification — data differs in WWIPA, PAA.
19	5.1.3.3	Conflicting wetland effects data provided for proposed return flow pipeline in the PAA/WWIPA, and tables provided Nov. 1 – Applicant should fill in table for OC3. (Table 5-13 attached)
20	5.1.3.7	OC3 Recreation and aesthetic resource effects – any additional information here regarding what recreational and aesthetic resources would be affected?
21	5.1.4.2	Need Endangered Resource data for M2.

<b>Item Number</b>	<b>Section (for DNR reference only)</b>	<b>EIS Information Needs or Clarifications</b>
22	5.1.4.3	Verify wetland and woodland effects for M2.
23	5.1.4.4	Verify that no upland grasslands would be affected by M2.
24	5.1.4.6	Confirm transportation, recreational data and archeological data for M2. (Table 5-20 attached)
25	5.1.5.2	Need endangered resources data for M3.
26	5.1.5.3, 5.1.5.4 & 5.1.5.5	Verify wetland, woodland, upland grassland effects for M3. (Tables 5-25 and 5-26 attached)
27	5.1.5.7	Need archeological resource data for M3.
28	Table 5-31	Need breakdown of wetland acreage for OC2.
29	5.1.6.4	Describe and quantify woodland impacts for OC2.
30	5.1.6.5	Describe and quantify upland grassland effects for OC2
31	5.1.6.7	Need clarification on recreational aesthetic resource effects OC2. What resources would be affected?
32	5.1.7.3, 5.1.7.4 & 5.1.7.5	Verify wetland, woodland, upland grassland effects for OC4. (Tables 5-37 and 5-38 attached)
33	5.1.7.7	Transportation and recreational effects of OC4 – verify language is correct (more acreage impacted for this alternative). (text attached)
34	5.1.7.8	Applicant should confirm archeological impacts for OC4 (differ from 11/1/2018 submittal from Jacobs). (Table 5-39 attached)

For all alternatives:

- 35 Need air emissions data for each alternative (proposal (M1, OC 3), M2, M3, OC2, OC4).
- 36 Have applicant verify no Farmland Preservation Program Land would be impacted for all proposed and alternative infrastructure.

**Figure Error! No text of specified style in document.-1. Proposed water supply pump station site plan**



Source: Great Water Alliance, September 2018

### 2.1.2 Water supply pipeline

A 30-inch nominal-diameter supply line would convey water from the water supplier to the BPS and to the connection point in the existing Waukesha water distribution system. The proposed Milwaukee water supply pipeline would be approximately 12.75 miles long.

The proposed pipeline route would include a connection to the City of Milwaukee water distribution system near the intersection of West Oklahoma Avenue and South 76<sup>th</sup> Street. From this connection, the water supply pipeline would head west through the City of Milwaukee, the City of West Allis, City of New Berlin to the City of Waukesha. The pipeline would follow Oklahoma Avenue, National Avenue, Coffee Road and then Swartz Road to the proposed BPS. After the BPS, the proposed supply pipeline would follow Racine Avenue and Sunset Drive to the WSCB and a connection to the WWU distribution system. For a more detailed description of this proposed pipeline route, see Appendix A in Section **Error! Reference source not found..**

### **2.1.3 Booster Pump Station (BPS) Facility**

A Booster Pump Station (BPS) will be needed to boost pressure in the long pipeline. The proposed site of the BPS would be near S. Racine Avenue and Swartz Rd (Parcel 1224994, Waukesha County). The BPS would be on the southeast side of the parcel. The area required is approximately 196,000 square feet (4.49 acres). For a preliminary site layout, please see **Error! Reference source not found.** All supporting infrastructure for the operation of the BPS, including two aboveground storage reservoirs and chemical feed facilities, would be co-located on the site.

The firm capacity of the BPS will be 19 MGD to meet peak hour demand flow. The BPS would include pumps, butterfly and ball valves, three chemical feed rooms, a backup power generator building, and two water storage reservoirs. The chemical feed rooms would require day storage tanks and bulk storage tanks for the chemicals. The chemical storage tank size would vary depending on the chemical. Two water reservoirs will be required between the WSPS and the WWU to attenuate demands and provide for emergency storage and hold up to 9.0 million gallons each.

### **2.1.4 Water supply connection to the Waukesha Water Utility system**

From the BPS, a 36-inch connection would supply WWU's existing distribution system with potable Lake Michigan water. The proposed location of the connection is at the intersection of East Sunset Drive and Les Paul Parkway (Wis. Hwy 59) in Waukesha. See **Error! Reference source not found.**

### **2.1.5 Wastewater treatment**

Once used, water would be collected in the City of Waukesha's existing sanitary sewer collection system and conveyed to the existing wastewater treatment plant (WWTP) to be treated before discharging to the Root River. The Applicant's existing WWTP currently produces high-quality treated effluent. No significant treatment modifications at the WWTP, beyond construction of the return flow pump station, are needed for treating the water and returning it to the Root River.

To meet future phosphorus water quality based effluent limits for discharge from the existing Fox River outfall, the Applicant has proposed to construct a ballasted flocculation and settling process. The facility anticipates that the proposed process will be able to meet draft phosphorus limits for the proposed Root River outfall with process optimization. The Applicant selected ballasted flocculation and settling based on lowest total present worth of alternative technologies (Blue PRO, disc filtration) able to meet the draft limits. The Applicant pilot tested two ballasted flocculation and settling alternatives (CoMag and ACTIFLO) to meet the anticipated effluent limit of 0.06 mg/L (6-month average May-Oct., Nov-Apr.). The Applicant is pilot testing CoMag to verify performance and further refine facility and chemical usage costs for these alternatives (City of Waukesha Facility Plan, 2018).

**Table Error! No text of specified style in document.-1. Wetlands affected by the proposed water supply pipeline**

Wetland	ROW <sup>1</sup>			Buffer <sup>2</sup>			Wetland Totals
	WWI <sup>3</sup>	API <sup>4</sup>	Total	WWI	API	Total	
Number	12	25	38	18	17	35	73
Area (ac)	1.89	0.75	2.64	4.05	2.27	6.32	8.96
<b>Type (ac)</b>							
EWM <sup>5</sup>	0.24	0.70	0.94	0.08	1.94	2.02	
Shrub/Scrub	0	0	0	0	0	0	
Forested	0.19	0.02	0.21	0.85	0.33	1.18	
Open Water	0	0	0	0	0	0	
Other <sup>6</sup>	1.46	0.01	1.47	2.41	0	2.41	
<sup>1</sup> Excludes common corridor. The construction corridor, 50 feet in width, including non-ROW easements.							
<sup>2</sup> Additional 50 feet of width beyond the ROW.							
<sup>3</sup> Wisconsin Wetland Inventory.							
<sup>4</sup> Air photo interpreted.							
<sup>5</sup> Emergent/Wet Meadow.							
<sup>6</sup> Combinations of wetland categories, flats and unvegetated wet soil, and filled wetland.							
Source: Analysis: Jacobs, Email dated November 1, 2018.							

### 5.1.2.3 Wetland effects of the proposed supply pipeline (M1)

The right-of-way for the proposed water supply pipeline route contains a total of 37 potential wetlands based on 12 mapped WWI wetlands and 25 photo-interpreted wetlands. There are 1.89 acres of mapped wetlands per the WWI data, and an additional 0.75 acres of potential wetlands, based on desktop photo-interpretation. Of the mapped wetlands, approximately 52 percent are herbaceous plant-dominated wetlands and 48 percent are partially or fully forested or shrub-dominated wetlands (WWIPA PAA, January 2019).

### Woodland effects of the proposed supply pipeline (M1)

No significant tracts of forested area are anticipated to be impacted by the proposed supply pipeline. Trees would be removed in the pipeline project footprint along existing road ROW.

**Table Error! No text of specified style in document.-2. Proposed supply pipeline ROW land use effects**

Land use <sup>1</sup>	Area (ac)	Percent
Residential	2.33	3.57
Commercial & industrial	0.02	0.03
Transportation <sup>2</sup>	58.49	89.54
Utilities	0.04	0.06
Government & institutional	0.01	0.02
Recreation	0.00	0.00
Agricultural <sup>2,3</sup>	2.17	3.32
Open lands <sup>2</sup>	2.26	3.46
Woodlands <sup>2</sup>	0.00	0.00
Surface Water <sup>2</sup>	0.00	0.00
Totals <sup>4</sup>	65.32	100.00

<sup>1</sup> Represents the total that had a specific land use designation within the SEWRPC Digital Land Use Inventory for Waukesha and Milwaukee Counties.

<sup>2</sup> May include wetlands.

<sup>3</sup> Taken from Table G-3-1 Agricultural Evaluation Summary from GWA documents 4-170 D1 and 4-170 D2 Agricultural Impact Technical Memorandum.

<sup>4</sup> Percentage total includes rounding errors.

Sources: Land use data: SEWRPC, 2010. Analysis: Jacobs, Email dated November 1, 2018.

**Table Error! No text of specified style in document.-3. Proposed supply pipeline cultural resources summary<sup>1</sup>**

Route	No. of Archaeological sites	No. of burial sites	No. of Historic structures	No. NRHP listed
Supply	2	4	11	--

<sup>1</sup> Includes sites and structures that would be located within proposed pipeline ROW and within 100 feet of the proposed pipeline ROW.

**Table Error! No text of specified style in document.-4. Wetlands affected by the proposed return flow pipeline**

Wetland Number	ROW <sup>1</sup>			Easement			Buffer <sup>2</sup>			Total
	WWI <sup>3</sup>	API <sup>4</sup>	Total	WWI	API	Total	WWI	API	Total	
Area (ac)										
Type (ac)										
EWM <sup>5</sup>										
Shrub/Scrub										
Forested										
Open Water										
Other <sup>6</sup>										

<sup>1</sup> The construction corridor, 50 feet in width.

<sup>2</sup> Additional 50 feet of width beyond the ROW.

<sup>3</sup> Wisconsin Wetland Inventory.

<sup>4</sup> Air photo interpreted.

<sup>5</sup> Emergent/Wet Meadow.

<sup>6</sup> Combinations of wetland categories, flats and unvegetated wet soil, and filled wetland.

Source: 4-130 D1 Wetland and Waterway Technical Memorandum January 2018

**Table Error! No text of specified style in document.-5. Milwaukee Supply Route alternative M2 ROW land use effects**

Land use <sup>1</sup>	Area (ac)	Percent
Residential	1.30	2.06
Commercial & industrial	0.08	0.13
Transportation <sup>2</sup>	58.25	92.50
Utilities	0.00	0.00
Government & institutional	2.80	4.45
Recreation	0.00	0.00
Agricultural <sup>2,3</sup>	0.00	0.00
Open lands <sup>2</sup>	0.44	0.70
Woodlands <sup>2</sup>	0.10	0.16
Surface Water <sup>2</sup>	0.00	0.00
Totals <sup>4</sup>	62.97	100.00

<sup>1</sup> Represents the total that had a specific land use designation within the SEWRPC Digital Land Use Inventory for Waukesha and Milwaukee Counties.

<sup>2</sup> May include wetlands.

<sup>3</sup> Taken from Table G-3-1 Agricultural Evaluation Summary from GWA documents 4-170 D1 and 4-170 D2 Agricultural Impact Technical Memorandum.

<sup>4</sup> Percentage total includes rounding errors.

Sources: Land use data: SEWRPC, 2010. Analysis: Jacobs, Email dated November 1, 2018.

**Table Error! No text of specified style in document.-6. Wetlands affected by Milwaukee Supply Route alternative M3 pipeline**

Wetland	ROW <sup>1</sup>			Easement			Buffer <sup>2</sup>			Total
	WWI <sup>3</sup>	API <sup>4</sup>	Total	WWI	API	Total	WWI	API	Total	
Number	15	95	110	0	0	0	25	53	78	188
Area (ac)	0.44	2.45	2.89	0	0	0	4.4	1.46	5.86	8.75
<b>Type (ac)</b>										
EWM <sup>5</sup>	0.12	2.42	2.54	0	0	0	0.49	1.12	1.61	
Shrub/Scrub	0.01	0	<0.01	0	0	0	0.25	0.06	0.31	
Forested	0.25	0.03	0.03	0	0	0	1.29	0.27	1.56	
Open Water	0	0	0	0	0	0	0.13	0.01	0.14	
Other <sup>6</sup>	0.07	0	0.07	0	0	0	2.24	0	2.24	

<sup>1</sup> The construction corridor, 50 feet in width.

<sup>2</sup> Additional 50 feet of width beyond the ROW.



<sup>3</sup> Wisconsin Wetland Inventory.

<sup>4</sup> Air photo interpreted.

<sup>5</sup> Emergent/Wet Meadow.

<sup>6</sup> Combinations of wetland categories, flats and unvegetated wet soil, and filled wetland.

Source: Analysis: Jacobs, Email dated November 1, 2018.

**Table Error! No text of specified style in document.-7. Milwaukee Supply Route alternative M3 ROW land use effects**

<b>Land use<sup>1</sup></b>	<b>Area (ac)</b>	<b>Percent</b>
Residential	1.74	2.54
Commercial & industrial	0.17	0.25
Transportation <sup>2</sup>	65.10	94.87
Utilities	0.00	0.00
Government & institutional	0.55	0.80
Recreation	0.00	0.00
Agricultural <sup>2,3</sup>	0.00	0.00
Open lands <sup>2</sup>	1.02	1.49
Woodlands <sup>2</sup>	0.04	0.06
Surface Water <sup>2</sup>	0.00	0.00
Totals <sup>4</sup>	68.62	100.01

<sup>1</sup> Represents the total that had a specific land use designation within the SEWRPC Digital Land Use Inventory for Waukesha and Milwaukee Counties.

<sup>2</sup> May include wetlands.

<sup>3</sup> Taken from Table G-3-1 Agricultural Evaluation Summary from GWA documents 4-170 D1 and 4-170 D2 Agricultural

Impact Technical Memorandum.

<sup>4</sup>Percentage total includes rounding errors.

Sources: Land use data: SEWRPC, 2010. Analysis: Jacobs,  
Email dated November 1, 2018.

**Table Error! No text of specified style in document.-8. Wetlands affected by Oak Creek Route Alternative 4 return flow pipeline**

Wetland	ROW <sup>1</sup>			Buffer			Total
	WWI <sup>2</sup>	API <sup>3</sup>	Total	WWI	API	Total	
Number	86	111	197	123	110	233	430
Area (ac)	17.13	12.4	29.53	37.35	5.48	42.83	71.36

**Type (ac)**

EWM <sup>4</sup>	3.88	11.94	15.82	14.46	4.73	19.19	
Shrub/Scrub	0.13	0.01	0.14	0.71	0.31	1.02	
Forested	0.31	0.03	0.34	2.57	0.19	2.76	
Open Water	0.04	0.04	0.08	0.62	0.06	0.68	
Other <sup>5</sup>	12.76	0.36	13.12	18.76	0.17	18.93	

<sup>1</sup> The construction corridor, 50 feet in width. Also includes Easement and Electrical Easement Corridor Data

<sup>2</sup> Wisconsin Wetland Inventory.

<sup>3</sup> Air photo interpreted.

<sup>4</sup> Emergent/Wet Meadow.

<sup>5</sup> Combinations of wetland categories, flats and unvegetated wet soil, and filled wetland.

Source: Analysis: Jacobs, Email dated November 1, 2018.

**Table Error! No text of specified style in document.-9. Oak Creek Route Alternative 4 return flow pipeline ROW land use effects**

Land use <sup>1</sup>	Area (ac)	Percent
Residential	3.35	2.63
Commercial & industrial	0.76	0.60
Transportation <sup>2</sup>	104.07	81.75
Utilities	1.02	0.80
Government & institutional	0.26	0.20
Recreation	13.06	10.26
Agricultural <sup>2,3</sup>	0.00	0.00
Open lands <sup>2</sup>	3.83	3.01
Woodlands <sup>2</sup>	0.91	0.71
Surface Water <sup>2</sup>	0.04	0.03
Totals	127.30	99.99

<sup>1</sup> Represents the total that had a specific land use designation within the SEWRPC Digital Land Use Inventory for Waukesha and Milwaukee Counties. Wetland acreage differs from WWI data.

<sup>2</sup> May include wetlands.

<sup>3</sup> Taken from Table G-3-1 Agricultural Evaluation Summary from GWA documents 4-170 D1 and 4-170 D2 Agricultural Impact Technical Memorandum.

<sup>4</sup>Percentage total includes rounding errors.

Sources: Land use data: SEWRPC, 2010. Analysis: Jacobs,  
Email dated November 1, 2018.

### ***Transportation land use effects of Oak Creek Route Alternative 4 return flow pipeline***

Approximately 81.75 percent of this alternative's pipeline alignments would be within existing road rights-of-way. In addition, this alternative would require crossing three railroads. One railroad is owned by CN and the crossing would be approximately 480 feet west of the intersection of South West Avenue and West Sunset Drive. The second railroad is abandoned, and the crossing would be approximately 390 feet north of the intersection of Chapman Drive and Sentry Drive. Both of these locations are within the City of Waukesha. The third railroad is also abandoned and the crossing would be approximately 350 feet south of the intersection of Philip Drive and Sentry Drive. Applicable railroad crossing permits would be obtained by the City and construction activities would be coordinated with CN.

### ***Recreation and aesthetic resource effects of Oak Creek Route Alternative 4 return flow pipeline***

Table Error! No text of specified style in document.-9 includes recreational land that would be affected by this alternative.

Three conservation easements were identified by the City near this alternative's project sites using the National Conservation Easement Database. No impacts to conservation easements are anticipated. The Scattered Wildlife conservation easement is approximately 2,170 feet from this alternative's proposed pipeline route and therefore far enough away to not be impacted by construction. The Big Muskego Lake Wildlife Area conservation easement is approximately 690 feet from the proposed pipeline route and therefore far enough away to not be impacted by construction. The Big Muskego Lake Wildlife Area 9 conservation easement is approximately 2,415 feet away from the proposed pipeline route and therefore far enough away to not be impacted by construction.

This alternative would not impact a Coastal Zone Management Area. Visual impacts from this alternative are expected to be minor.

There is one bike trail, owned and maintained by the City of Muskego, that is parallel or overlapping the ROW along this alternative return flow pipeline route. The trail and pipeline alignments coincide on Durham Drive, which changes names to Moorland Road and continues for a total length of approximately 19,553 feet. The bike trail and proposed return flow pipeline route cross the roadway multiple times, resulting in them being on opposite sides of the road in some areas in and overlapping in others.

The bike trail could be affected by pipeline construction or disturbances where this alternative return flow pipeline route would be within 25 feet. This distance would account for any disturbance of grade, as well as any construction equipment necessary. Where the bike path and the alternative return flow pipeline route overlap, the bike path would be removed and replaced in-kind. This alternative return flow pipeline alignment would be less than 25 feet away from the bike path for approximately 12,350 feet.

**Table Error! No text of specified style in document.-10. Oak Creek Route Alternative 4 return flow pipeline cultural resources summary<sup>1</sup>**

<b>Route</b>	<b>No. of Archaeological sites</b>	<b>No. of burial sites</b>	<b>No. of Historic structures</b>	<b>No. NRHP listed</b>
Return	7	6	18	--

<sup>1</sup> Includes sites and structures that would be located within proposed pipeline ROW and within 100 feet of the proposed pipeline ROW.

Source: Clean Water Alliance 4-140 D1 Cultural Resources, January 2018