



Environmental Assessment for the Village of Baldwin, Wisconsin's Wastewater System Improvements

Village of Baldwin, Wisconsin
BALDW 160244 | April 30, 2021



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Contents

A.	Purpose and Need	1
A.1	Project Location	1
A.2	Project Description	1
A.3	Purpose and Need.....	2
B.	Alternatives Evaluated Including the Proposed Action	3
B.1	Proposed Action	4
B.2	Other Alternatives Evaluated	4
C.	Affected Environment and Environmental Consequences	6
C.1	Land Ownership and Land Use	6
C.2	Important Farmlands	7
C.3	Formally Classified Lands	8
C.4	Floodplains	8
C.5	Wetlands	9
C.6	Cultural Resources	9
C.7	Biological Resources	10
C.8	Water Resources	12
C.9	Coastal Resources	12
C.10	Socioeconomic and Environmental Justice	13
C.11	Air Quality	14
C.12	Noise	15
C.13	Transportation	15
C.14	Aesthetics	15
C.15	Human Health and Safety	16
C.16	Corridor Analysis	17
D.	Cumulative Effects	17
E.	Summary of Mitigation	18
F.	Coordination, Consultation and Correspondence	19

Contents (continued)

G. References.....	20
H. List of Preparers.....	21
I. Attachments	21

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Prepared for the City of Osseo, Wisconsin

A. Purpose and Need

A.1 Project Location

The Village of Baldwin is in St. Croix County in northwestern Wisconsin and adjacent to Interstate 94. The wastewater treatment plant (WWTP) is west of the Village with continuous discharge of the treated effluent into Baldwin Creek which flows into the Rush River.

The location of the new WWTP will be constructed within municipal boundaries near 1610 Florence Street, approximately 1,900 feet east of the intersection of 200th Street and County Road J. The existing facility is across the street, 550 feet southwest of the proposed facility (see Attachment 1, Location Map). The WWTP is west of the Village in Township 29 North, Range 17 West, in Section 25, and discharges treated effluent into Baldwin Creek which flows into the Rush River (see Attachment 2, Topographic Map).

The area of potential effects (APE) for the referenced project consists of approximately 100 percent active agriculture. The approximate area of potential effects is an 11-acre portion of the 40-acre parcel the new WWTP will be constructed on.

A.2 Project Description

The Village of Baldwin, Wisconsin is seeking financial assistance from the U.S. Rural Utilities Service (RUS) under its USDA Rural Development Loan and Grant Program for construction of a new WWTP. Baldwin's WWTP is at the end of its useful life, therefore, the Village will be constructing a new WWTP within its municipal boundaries, west of the existing facility. New structures may be greater than 20 feet in height. Construction will include demolition of the existing facility and excavation of soil for the new facility but will not involve clearing of trees or foliage. Construction of the new facility will also include a paved driveway. All staging areas, laydown yards, and storage will be within the project area (see Attachment 3, Project Area Map).

The new WWTP will consist of similar components as the existing, including a vertical fine screen, grit removal, oxidation ditch, clarifiers, UV treatment, and sludge and centrate storage (see Attachment 4, WWTP North Site Plan). A new technology is proposed for thickening the sludge that will eliminate the use of polymer at the WWTP and does not require a building. The new process is more streamlined, effective, and automated than the existing method of thickening sludge. There will be a new tertiary treatment building to remove phosphorus down to

0.075 mg/L through the use of reactive sand filters. These filters have been shown to be a reliable and low maintenance solution.

A.3 Purpose and Need

The 2010 census reported Baldwin's population as 3,957, and the 2019 ACS population estimate is 4,016. The population is projected to continue to increase by 24.5% by 2040 (5,615). Treatment capacity, which is already near its maximum, must increase. The WWTP was designed for an average annual design flow of 0.392 mgd and biochemical oxygen demand (BOD) loading of 760 lb/day. The current average BOD loading to the plant is 965 lb/day and is above the design loading. The flow to the plant is increasing and while not over the design of the existing plant yet, will be soon.

Local business/industry wastewater is expected to increase at the same rate as the population over the next 20 years, but an additional 10 percent flow and loadings are projected for new business or unexpected growth. Septic tank and holding tank waste are accepted at the WWTP, but frequently turns away haulers due to the low remaining capacity of the plant and the high potential for upsets. The hauled waste dump site is located at the north end of the existing WWTP near the fine screen. Approximately 484,000 gallons of septic tank and 780,000 gallons of holding tank are accepted every year. Hauled waste only comprises less than one percent of the average daily flow to the WWTP. By 2040, an additional 9,000 gallons per week for hauled waste at an average strength of 600 mg/L for BOD and TSS, 15 mg/L for phosphorus, and 50 mg/L for ammonia is projected for new hauled waste.

The original plant was built in 1985, with major upgrades occurring in 2004 and 2006. A previous facility plan was performed in 2008, but it did not result in any construction due to a downturn in the national economy. The current Facility Plan was completed in December 2019. The construction of a new WWTP is necessary because the existing, 35-year-old facility is near the end of its useful life. It is generally accepted that most of the mechanical unit process treatment equipment has a 20-year design life, buried piping has a 50-year design life, structural items are assigned a 50-year design life, and control and major electrical equipment has a 15-year design life. Once a particular piece of equipment or structure exceeds a typical design life, more frequent maintenance and repair are often required to keep the equipment in good working order.

The existing WWTP (Attachment 27, Existing WWTP Schematic) is an oxidation ditch treatment system, consisting of screening, grit removal, an oxidation ditch, clarifiers, ultraviolet (UV) treatment, aerobic digestion, and sludge thickening. The WWTP must treat phosphorous to a much lower level, requiring an added treatment step. Several elements of the treatment system need replacement, including:

- An MCC is original to the plant and should be replaced.
- RAS pumps were new in 1988 and are nearing the end of their useful life.
- A grit classifier unit using an older, inefficient method of drying and removing grit. Consideration should be given if this is still needed and if the fine screen needs to be upsized.
- The main WWTP lift station pumps were replaced in 2006 and will be nearing the end of their useful life or in need of a re-build within the next few years. The overflow pumps, original to the plant, serve as a backup for the main pumps.

- The makeup air unit (MAU), for the Class 1, Division 1 areas, struggles to deliver the needed air changes in the winter months.
- The lab and office areas do not have air conditioning, and humidity interferes with lab tests.
- The oxidation ditches chain drives recently broke and needed to be repaired.
- The oxidation ditch has occasional filamentous bacteria during the spring.
- The UV unit consists of 16 bulbs and is hydraulically overloaded occasionally during high instantaneous flows.
- Two blowers aerate the sludge. One is original to the plant and the other was replaced in 2000.
- The gravity belt thickener (GBT) is located above the sludge tanks and is accessed by a two-story staircase. The building is a fiberglass structure and has moss and mold growing on the walls and floor due to the high humidity within the building.
- If the GBT needs repairs, the Village hauls lower percent solids to the regional biosolids facility.
- The gate is near the County Road and semi-trucks have trouble entering the WWTP. If the gates are closed, semi-trucks cannot enter or pull off of the highway until they are opened by another party.

Additionally, to meet the requirements of the Village's WPDES permit for phosphorous compliance, it's necessary that Baldwin constructs an improved WWTP to serve its population and reduce pollutant levels found in treated wastewater. The influent flow and BOD to the plant is now above the design conditions. Baldwin has fecal coliform violations as well during high flow (Attachment 26, WPDES Permit).

Another reason to reconstruct the WWTP is, compared to other communities, the WWTP experiences moderate to low inflow/infiltration (I/I) during snow melt and heavy rainfall events. The WWTP is designed to accommodate I/I, but the Village is still working to decrease the I/I to the WWTP as outlined in their CMOM report. More information about the collection system is outlined in the CMOM. Any work on lift stations or the collection system will be separate projects.

The WWTP continues to score poorly on their annual CMAR due to the influent flow and loading, receiving an 'F' in the category. The DNR recommended reducing the amount of I/I in the system, but as mentioned earlier, the WWTP is not receiving excessive I/I.

B. Alternatives Evaluated Including the Proposed Action

In December 2019, SEH completed a Facility Plan for the Village of Baldwin to identify ways the Village can achieve compliance by the November 2023 deadline (Attachment 5, WWTP Facility Plan, pg. 6-9). The Plan outlines five alternatives. Alternative 5, New WWTP at North Site, was recommended by the Plan.

B.1 Proposed Action

Alternative #1: New WWTP at the North Site

North of the existing WWTP site are 71 acres of farm field. The owner of the property offered the land to the Village for purchase. The Village has acquired and annexed a 36-acre parcel directly northeast of the existing site. The 36-acre parcel is the “North Site”, and the preferred site of the new WWTP. A benefit of this site worth noting is the northern acres of this site would still be available for farming or other uses until the WWTP needs another significant upgrade. The site is set back 500 feet from any residents and is an ideal location for the new WWTP. The existing gravity sewer is also located on the north side of the road and would be able to flow into the new site with very few modifications.

Effluent from the north site would still need to be returned to the existing Baldwin Creek discharge location. The remaining structures at the north site could be demolished during the construction of the new plant or left as is, depending on the Village’s wishes.

Additional care would be given to landscape screening to block sight lines from the school next door.

The cost estimate for this option is \$12,801,000. The 20-year present worth is estimated to be \$13,187,000, with additional annual O&M costs totaling \$30,000 (Attachment 28, North Site Oxidation Ditch Cost Estimates).

B.2 Other Alternatives Evaluated

Alternative #2: Upgrades to the Existing WWTP

The WWTP needs at least a larger, or additional, UV unit and new phosphorus treatment to comply with upcoming WPDES limits within the near future. To increase the amount of BOD the WWTP can treat, the oxidation ditch requires expansion by adding another ring. Adding a ring is not possible due to the proximity of the clarifiers.

A third clarifier would also likely need to be added to match the flow and loading from the added ring of the oxidation ditch if it were possible to add. The rest of the plant, while in relatively good condition for its age, will not last for the next 20 years without serious upgrades and repairs. This will be even harder if attempting to upgrade or replace equipment while concurrently continuing to operate the Village’s sole WWTP.

This alternative is not prudent and was dropped from further evaluation.

Alternative #3: New WWTP at the Existing Site

The existing site is constrained by Baldwin Creek to the south, County Road J to the north, and private property to the east. This option evaluates placing new structures north of Baldwin Creek and south of County Road J. From previous correspondence with WDNR, the discharge can be moved 1,000’ on the same stream without being considered as a new discharge location.

The closest existing structure to the edge of County Road J is approximately 25 feet away. The boundaries of Baldwin Creek were used as the existing tree line and all mowed areas are considered buildable. An electrical line passes overhead near the southern portion of the site and is assumed to be re-routed for the purposes of this evaluation. The existing WWTP must continue to operate during construction of a new WWTP, so construction would have to occur in phases, increasing the construction time and costs for the contractor.

This site plan shows that all structures can fit on the existing site with the removal of the existing structures to make room for new structures and connecting them with piping will be a significant challenge for the contractor.

Like the existing layout, this alternative does not allow room for expansion when capacity is reached and surpassed in 20-30 years. When this plant needs to be upgraded/replaced, there will be no room for expansion of the oxidation ditch, clarifiers, sludge storage, and more. The Village should retain control of the site to the south for their next WWTP if the community continues to grow as it is predicted to over the next 20 plus years.

Construction and engineering costs for this alternative will be significantly higher than other alternatives due to phasing of construction, general difficulty of construction, and pipe routing under/through existing structures.

Multiple preliminary layouts were evaluated for the existing site and all were extremely tight for the proposed plant and offered little to no room for expansion. Due to the cramped site and no room for future growth, this alternative was dropped from further evaluation.

Alternative #4: New WWTP at South Site

The Village owns approximately 90 acres to the south of the current WWTP that is currently rented to be farmed. The site would be accessed by 200th Street, a township road. There is an existing bridge crossing Baldwin Creek/Rush River on 200th Street, but this and the rest of the road, are weight limited. This road may need significant improvement prior to the new WWTP coming online as the centrate and sludge hauling trucks could violate the bridge weight limits. At the very least, an agreement between the Village of Baldwin and the township for the road access and future repairs would need to be developed.

There is adequate space for a new WWTP and future expansion on this site without encroaching upon any required setbacks.

The existing fine screen building would be converted into a fine screen and lift station building which would pump all influent flow to the new site. A small headworks building would be located at the new site housing the grit removal equipment. An oxidation ditch is proposed as this treatment technology has worked well for the Village in the past. Much of the plant will have the same components, including the administration building, UV treatment, sludge and centrate storage, and clarifiers. Tertiary treatment in the form of sand filters will be added to treat phosphorus. It's also proposed that a combination small aerobic digester and thickener system be implemented to eliminate polymer use and an additional structure. This digester/thickener will utilize membranes to thicken the sludge to 3 percent solids. Since the sludge is trucked to the Ellsworth Biosolids Facility, which produces Class A sludge, volatile solids destruction isn't needed at the Baldwin Facility.

Remaining structures at the existing site could be demolished during the construction of the new plant or left as is, depending on the owner's wishes.

The cost estimate for this option (not including the potential bridge upgrades) is \$12,868,000. The 20-year present worth is estimated to be \$13,254,000, with additional annual O&M costs totaling \$30,000.

This alternative is approximately \$70,000 higher than the Preferred Alternative due to the bridge upgrade to accommodate higher weight vehicles. As a result, this alternative was dropped from further evaluation.

No Action Alternative

The No Action Alternative is that the existing WWTP will continue to operate in its current condition. The WWTP was designed for an average annual design of 0.392 mgd and a BOD loading of 760 lb/day. The current average BOD loading to the plant is 965 lb/day and is above the design loading. The flow to the plant is increasing and while not over the design of the existing plant yet, will be soon.

To reduce flow and loading to the WWTP, the Village would have to stop taking any hauled waste and halt any new homes/businesses being constructed within the Village limits. This may slow the growth of the Village enough that the WWTP can continue to treat waste for the next few years.

The 2040 design year flow and loading will overload the plant. The existing plant cannot operate for the next 20 years in its current state. There are also compliance issues, such as fecal coliform violations during high flow and upcoming phosphorus limits. The UV unit is not able to keep up with peak flows seen at the end of the plant and so has occasional violations of the fecal coliform limit set out in the WPDES permit. For phosphorus, the new limit will be 0.075 mg/L, which the existing plant is not able to meet on its own. This was evaluated further in a separate phosphorus compliance report. Not meeting these limits will result in a notice of non-compliance and fines for the Village.

This alternative was dismissed as it does not meet the purpose and need of the project.

C. Affected Environment and Environmental Consequences

C.1 Land Ownership and Land Use

C.1.1 Land Ownership

All parcels within the project area, besides the easement around County Road J, are owned by the Village of Baldwin. The new WWTP will be located on Parcel #018-1057-90-000. The demolition of the existing WWTP will occur on Parcel # 018-1079-90-000.

C.1.2 General Land Use

The approximate area of potential effects is a 10.8-acre portion of total parcel area. The Village of Baldwin proposes that the area of potential effects (APE) at the sites of the new and existing WWTP's consist of approximately 77% active agriculture, 11.4% impervious surface area (pavement and existing WWTP structures), and 11.6% unfarmed grass areas. The geographic scope of the APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.4(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

C.1.2.1 Affected Environment

The site of the new WWTP and the easement area for the force main totals 53.64 acres. All parcels within the project area are tax exempt and have institutional (community facilities) or agricultural zoning and land use designations within the Village of Baldwin and Town of Hammond (Attachment 6, Village of Baldwin Zoning Map; Attachment 7, Town of Hammond Zoning Map).

C.1.2.2 Environmental Consequences

A reduction in approximately eight acres of farmland will occur as a result of the project. The remaining 32 acres within the parcel may continue to be farmed until WWTP expansion is necessary.

C.1.2.3 Mitigation

Only land uses within the area required for the footprint of the new WWTP will be altered. The area where the existing WWTP will be demolished may revert back to a lower intensity, natural land use.

C.2 Important Farmlands

C.2.1.1 Affected Environment

The site of the proposed WWTP is within the village boundary (Attachment 8, Meeting Minutes from Land Annexation). 100% of the affected soils are pilot silt loam (PIA) with 0 to 3 percent slopes (Attachment 9, NRCS Soil Survey).

C.2.1.2 Environmental Consequences

Approximately 8 acres of prime farmland will be affected by this project. 4 alternatives have been considered. Alternatives #2, #3, and #4 could result in potential construction in floodplain area. Additionally, alternatives #2 and #3 are only short-term improvements to the Villages inadequate wastewater treatment facilities which are not preferred. Alternative #4, construction of the new WWTP at the south site, would impact approximately the same amount of prime farmland area as alternative #1, construction of the new WWTP at the north site, the preferred alternative.

C.2.1.3 Mitigation

Remaining land on the parcel surrounding the WWTP would be leased for farming until further facilities expansion is necessary.

C.3 Formally Classified Lands

C.3.1.1 Affected Environment

No Formally Classified Lands are within or adjacent to the project area.

C.3.1.2 Environmental Consequences

No environmental consequences are anticipated.

C.3.1.3 Mitigation

No environmental risk is anticipated.

C.4 Floodplains

C.4.1 Affected Environment

Some Flood Zone A (1.9 acres) 100-year floodplain surrounding Baldwin Creek is on the southern side of the existing WWTP facility (Parcel # 018-1079-90-000), Zone A areas are subject to inundation by the 1-percent-annual-chance flood event generally determined using approximate methodologies. Because detailed hydraulic analyses have not been performed, no Base Flood Elevations (BFEs) or flood depths are shown.

No floodplain areas exist at the site of the propose new WWTP. Some demolition of the existing WWTP will occur within the floodplain area. No filling or grading is proposed within the floodplain. The only work proposed within the floodplain is the construction of a treated effluent discharge pipe from the WWTP to Baldwin Creek, but this will have no impact on floodplain elevations. The FIRM Panel 55109C0385E is effective 3/16/2009 (Attachment 9, Floodplain Map).

C.4.2 Environmental Consequences

It is not anticipated that construction activities will alter floodplain boundaries. All WWTP facilities will be constructed outside of 100-year floodplain boundaries. Existing WWTP facilities will be removed from the 100-year floodplain.

Alternatives that require construction in the floodplain, have been considered, but were not selected (Alternative #2 & Alternative #3).

C.4.3 Mitigation

If any action will occur in the floodplain, public notice will be given at the earliest possible time of the intent to carry out an action and involve the affected and interested public in the decision-making process (the public notification process will occur when the EA is published for public comment and review after the Agency accepts the EA as a Federal document).

Beyond demolition of some facilities existing in the floodplain and possible work on effluent discharge piping, no activities will occur in the floodplain. No WWTP structures will be constructed in the floodway or floodplain. For all new structures constructed, provisions will be made to set them at elevations that protect them from any potential flood damage.

C.5 Wetlands

C.5.1 Affected Environment

This project will not affect any mapped wetlands or areas with wetland soil indicators (Attachment 11, Wetlands Map).

C.5.2 Environmental Consequences

Construction of proposed structures and storage will not occur within or adjacent to any wetland areas and no impacts to adjacent wetlands are anticipated.

C.5.3 Mitigation

No alteration or impact to wetlands is anticipated.

C.6 Cultural Resources

C.6.1 Affected Environment

The DNR Surface Water Data Viewer indicates the nearest Station Points with Historic data are in the wetland area 1,300 feet west of the existing WWTP and 3,500 feet southwest of the proposed WWTP (Attachment 12, DNR SWDV Archaeological/Historical Map).

A request for State Historic Preservation Office (SHPO) review was made on behalf of the Village of Baldwin, by Joe Dorava, Community Programs State Office Engineer and Environmental Coordinator, USDA Rural Development (Attachment 13, Request for SHPO Review)

Findings from the SHPO indicate in 1983 an archaeological survey was performed at the site of the existing WWTP. The SHPO system also indicates a Phase I and Phase II was performed on the opposite, northeast side of the village for the expansion of Hwy 63 in 2002-2003. One historic structure is listed east of the project site (Attachment 14, SHPO Submittal).

17 Tribal Historic Preservation Officers (THPOs) for Native American Tribes with connection to St. Croix County were contacted on April 14, 2021 (Attachment 15, Letters Sent to THPOs). The Project Area Map was included with each letter (Attachment 3, Project Area Map).

C.6.2 Environmental Consequences

No environmental consequences are anticipated, as all locations of the SHPOs findings are distant from the project site. Additionally, an archaeological survey at the existing WWTP site prior to demolition would be redundant since one was already performed in 1983.

No tribes contacted responded with further comment.

C.6.3 Mitigation

No impact is anticipated.

C.7 Biological Resources

C.7.1 General Fish, Wildlife and Vegetation

C.7.1.1 Affected Environment.

The affected environments area 77% active agriculture, 11.4% impervious surface area (pavement and existing WWTP structures), and 11.6% unfarmed grass areas. There are no Wildlife Refuge lands near the project area. There are no fish hatcheries near the project area. Review of critical habitat and endangered or threatened resources was completed through consultations with US Fish and Wildlife Services (USFWS) IPaC and WDNR Endangered Resources Preliminary Assessment online.

C.7.1.2 Environmental Consequences

Based on the results from Wisconsin DNR's NHI Portal Endangered Resources Preliminary Assessment, no environmental consequences are anticipated. The NHI Assessment indicates no further assessment is required (Attachment 16, DNR NHI Preliminary Endangered Resources Review). This project is covered by the Broad Incidental Take Permit/Authorization for No/Low Impact Activities (No/Low BITP/A).

C.7.1.3 Mitigation

No impact to general fish, wildlife and vegetation is anticipated.

C.7.2 Listed Threatened and Endangered Species

C.7.2.1 Affected Environment.

The affected environments area 77% active agriculture, 11.4% impervious surface area (pavement and existing WWTP structures), and 11.6% unfarmed grass areas. NEPAassist doesn't identify any critical habitat areas near the Village (Attachment 17, NEPAassist Map).

Adjacent wooded areas south of the existing WWTP may be suitable habitat for the Northern Long-Eared Bat (Attachment 18, F&WS Species List). The project action is not located wholly outside the White-nose Syndrome Zone.

C.7.2.2 Environmental Consequences

Concurrence from U.S. Fish & Wildlife Service indicates that project activities "May Affect, Not Likely to Adversely Affect" Northern Long-Eared Bats (Attachment 19, F&WS Concurrence Letter). No clearing of trees or suitable roosting habitat will occur. No caves or mines are located near the project area. The project does not involve construction of wind turbines. Purposeful takes will not occur.

The USDA Web Soil Survey indicates 100% of the project area soils are unsuitable habitat for Karner Blue Butterfly (Attachment 20, NRCS Karner Blue Butterfly Suitability).

C.7.2.3 Mitigation

This project is covered by the Broad Incidental Take Permit/Authorization for No/Low Impact Activities (No/Low BITP/A). To avoid incidental takes, no tree clearing will be performed. Impacts to Northern Long-Eared Bats are not anticipated

C.7.3 Migratory Bird Treaty Act

C.7.3.1 Affected Environment.

The affected environments area 77% active agriculture, 11.4% impervious surface area (pavement and existing WWTP structures), and 11.6% unfarmed grass areas. Adjacent wooded areas south of the existing WWTP may be suitable habitat for the Bald Eagle, Bobolink, and Henslow's Sparrow (Attachment 18, F&WS Species List).

C.7.3.2 Environmental Consequences

Bobolink and Henslow's Sparrow are Birds of Conservation Concern (BCC). The project area does not contain wooded area, but it's adjacent to some wooded area. No environmental consequences are anticipated.

C.7.3.3 Mitigation

To avoid incidental takes, no tree clearing will be performed. The stressor of artificial lighting may be removed from the existing WWTP. The probability Bobolink and Henslow's Sparrow will be present is highest in early May. Demolition activities at the existing WWTP may be scheduled at a time other than early May. Impacts to migratory birds are not anticipated.

C.7.4 Bald and Golden Eagle Protection Act

C.7.4.1 Affected Environment.

The affected environments area 77% active agriculture, 11.4% impervious surface area (pavement and existing WWTP structures), and 11.6% unfarmed grass areas. Adjacent wooded areas south of the existing WWTP may be suitable habitat for the Bald Eagle (Attachment 18, F&WS Species List).

C.7.4.2 Environmental Consequences

The project area does not contain wooded area, but it's adjacent to some wooded area. Bald Eagle is not a Bird of Conservation Concern (BCC) in this area, but it warrants attention because of the Eagle Act. No disturbance to Bald Eagle or environmental consequences are anticipated.

C.7.4.3 Mitigation

To avoid incidental takes, no tree clearing will be performed. The stressor of artificial lighting may be removed from the existing WWTP. The probability of presence of the Bald Eagle is highest during early January and early May. Demolition activities at the existing WWTP may be scheduled at a time other than early January and early May. Impacts to Bald Eagle are not anticipated.

C.7.5 Invasive Species

C.7.5.1 Affected Environment.

The affected environments area 77% active agriculture, 11.4% impervious surface area (pavement and existing WWTP structures), and 11.6% unfarmed grass areas. DNR data

indicates no invasive species are at or near the project area (Attachment 21, Invasive Species Map).

C.7.5.2 Environmental Consequences

No environmental consequences are anticipated.

C.7.5.3 Mitigation

No environmental risk is anticipated.

C.8 Water Resources

C.8.1 Affected Environment

Existing discharge of treated effluent to Baldwin Creek, approximately 100 feet south of the existing WWTP will continue.

C.8.2 Environmental Consequences

While discharges will continue as the population increases over the coming decades, effluent will be treated further than it is currently to reduce phosphorous and fecal coliform bacteria violations and I/I. Construction of the WWTP will reduce negative impacts to Baldwin Creek by reducing phosphorous and fecal coliform bacteria levels in treated effluent. No environmental consequences are anticipated.

C.8.3 Mitigation

An EPA Water Monitor (STORET) is located along Baldwin Creek a quarter mile west of the WWTP effluent discharge (Attachment 17, NEPAssist Map). The Village has a valid WPDES permit (No. WI-0026891-10-0). No environmental risk is anticipated.

C.9 Coastal Resources

C.9.1 Affected Environment

St. Croix County is not classified as a Coast County, and CZMA and CBRA regulations do not apply near the project area (Attachment 22, Wisconsin CZMA Coastal Counties Map).

C.9.2 Environmental Consequences

No environmental consequences are anticipated.

C.9.3 Mitigation

No environmental risk is anticipated. This section does not apply.

C.10 Socioeconomic and Environmental Justice

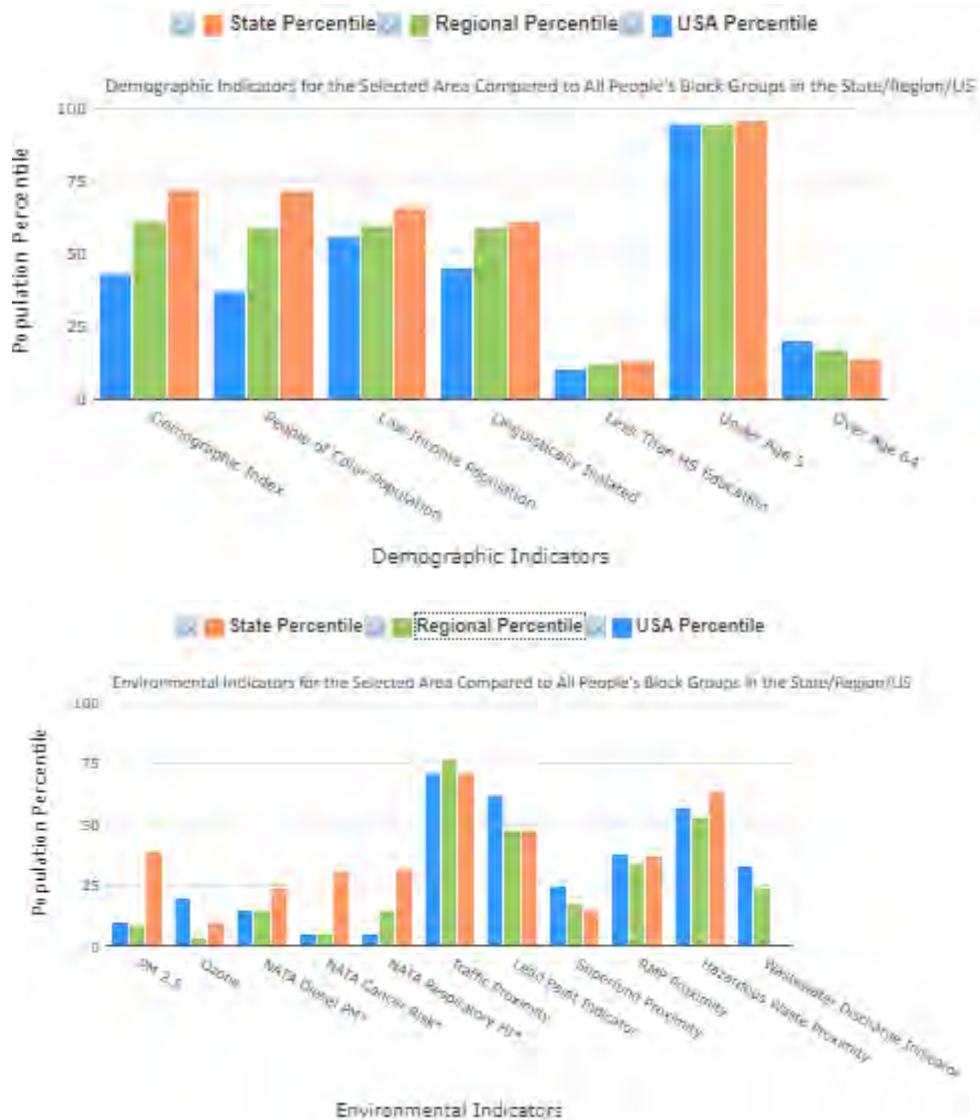
C.10.1 Affected Environment

No adverse effects are anticipated to be placed on low income or minority populations because of construction activities. The project area is in a low-density, rural location. There are three single family residential homes within 1,000 feet of the project area.

C.10.2 Environmental Consequences

Using the EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN), the project area was mapped to determine the extent minority or low-income populations may be affected by project activities. EJSCREEN indicated the study area is too small to identify demographic characteristics. This is likely due to the area surrounding the study area being mostly rural, with a low density of human dwellings in proximity to the new WWTP.

Table 1 & 2 - EJSCREEN Results



Instead of using the project area in EJSCREEN, the census block group boundary was used. The entirety of the project area is within block group 551091208004. Population characteristics can be observed on Table 1 which was produced by EJSCREEN. As indicated by Table 1, the block group is less diverse, has lower incomes than the state level population.

Considering the results of EJSCREEN and the low density, rural nature of the area, disproportionately high and adverse effects will not be borne by minority or low-income populations (Attachment 23, EJSCREEN Summary Report).

Reasonable means to limit all potential adverse effects will be incorporated. Baldwin is a community which prides itself on inclusivity in planning processes, and proper notice of public hearings regarding project activities will be given to adjacent property owners in effort to limit any adverse, concentrated effects.

C.10.3 Mitigation

No adverse effects are anticipated to be placed on low income or minority populations (Attachment 24, RD 2006-38 Environmental Justice (EJ) and Civil Rights Impact Analysis (CRIA) Certification). The Village intends to incorporate all reasonable means to avoid or minimize any adverse effects to minority communities and low-income communities. The Village will provide meaningful opportunities for public input from minority communities and low-income communities to identify potential effects and alternatives that may reduce disproportionate effects on certain populations.

C.11 Air Quality

C.11.1 Affected Environment

The proposed project is not located in a non-attainment area (Source: Wisconsin Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants, Green Book, US EPA). There are no anticipated effects on air quality resulting from the project.

C.11.2 Environmental Consequences

There are no long-term air emission and air quality concerns resulting from the project. During construction, engine exhaust and dust may result in short-term impacts to air quality. The nearest occupied structures are approximately 1,000 feet from the project site.

C.11.3 Mitigation

Equipment used during construction will be required to use all factory installed mufflers/exhaust appurtenances. No burning of construction debris will occur. Best practices will be enforced by the Village of Baldwin during the project.

C.12 Noise

C.12.1 Affected Environment

The nearest non-Village owned parcel is adjacent to the proposed WWTP to west and is owned by Baldwin Airport Properties and in the Town of Hammond.

The nearest occupied structures are approximately 1,000 feet from the project site.

C.12.2 Environmental Consequences

Noise generated during construction of the proposed project will be limited to the duration of construction. There will be no long-term environmental impacts resulting from any noise generated by construction activities.

C.12.3 Mitigation

Construction activities will be limited to the hours permitted by the Village's ordinance.

C.13 Transportation

C.13.1 Affected Environment

The project area is north and south of County Rd J/Florence Street. It's a rural, two-lane local road which isn't considered a major connector route.

C.13.2 Environmental Consequences

There will be no significant effects on transportation due to the project. Construction on piping beneath the road may occur near the roadway. Slight, short-term increases in vehicle trips along County Rd J/Florence Street will result from construction crews traveling to and from the project site.

C.13.3 Mitigation

Construction related traffic will exercise caution when entering and exiting the project site. Signs will be placed to warn traffic of on-going construction activities and the presence of construction vehicles.

C.14 Aesthetics

C.14.1 Affected Environment

The project area and surrounding areas are rural/agricultural in nature. Approximately 8 acres of agriculture area will be converted to wastewater facilities.

C.14.2 Environmental Consequences

No environmental consequences are anticipated.

C.14.3 Mitigation

No unique aesthetic resources will be affected by project activities. The site of the existing WWTP will be reverted to a state that more closely resembles the aesthetics of the surrounding area.

C.15 Human Health and Safety

C.15.1 Electromagnetic Fields and Interference

C.15.1.1 Affected Environment

This project will not increase EMF exposure. This assessment criteria does not apply to this project.

C.15.1.2 Environmental Consequences

No environmental consequences are anticipated.

C.15.1.3 Mitigation

No environmental risk is anticipated.

C.15.2 Environmental Risk Management

C.15.2.1 Affected Environment

Environmental due diligence requiring completion of ASTM documentation, described in 7 CFR 1970, Subpart J, is not required by this project. This project does not require a determination of security value and will not lead to acquisition of any real property. The Village already owns the site of the existing WWTP, which will be demolished, as well as the site where the new WWTP will be constructed.

A map of Remediation and Redevelopment (RR) Sites in the WDNR RR Sites Database is attached. The nearest RR site is approximately 3,400 feet east of the site of the proposed WWTP (Attachment 25, WDNR RR Sites Map).

C.15.2.2 Environmental Consequences

No environmental consequences are anticipated.

C.15.2.3 Mitigation

No environmental risk is anticipated.

C.16 Corridor Analysis

C.16.1 Affected Environment

This analysis does not apply to this project. This project is site specific and doesn't involve installation of major linear infrastructure installation along a corridor.

C.16.2 Environmental Consequences

No environmental consequences are anticipated.

C.16.3 Mitigation

This analysis does not apply to this project. No environmental risk is anticipated.

D. Cumulative Effects

Environmental Resource	Direct Effects	Indirect Effects	Cumulative Effects
Land Use	A reduction in approximately eight acres of farmland.	No effects anticipated.	A reduction in approximately eight acres of farmland.
Important Farmlands	A reduction in approximately eight acres of farmland.	No effects anticipated.	A reduction in approximately eight acres of farmland.
Formally Classified Lands	No effects anticipated.	No effects anticipated.	
Floodplains	Some existing wastewater facilities will be removed from floodplain area	No effects anticipated.	Less long-term activity in the floodplain
Wetlands	No effects anticipated.	No effects anticipated.	No effects anticipated.
Cultural Resources			
Biological Resources	Noise from construction may affect some wildlife activity, if present	No effects anticipated.	Noise from construction may affect some wildlife activity, if present
Water Resources	No effects anticipated.	Ability to increase effluent discharge to Baldwin Creek in the future. Reduction of phosphorous and fecal coliform bacteria violations and I/I.	Ability to increase effluent discharge to Baldwin Creek in the future. Reduction of phosphorous

			and fecal coliform bacteria violations and I/I.
Coastal Resources	N/A	N/A	
Socioeconomic & Environmental Justice	No effects anticipated.	No effects anticipated.	No effects anticipated.
Air Quality	No effects anticipated.	No effects anticipated.	No effects anticipated.
Noise	Temporary audible construction noise may occur.	No effects anticipated.	Temporary audible construction noise may occur.
Transportation	Construction equipment may temporarily affect traffic flow	No effects anticipated.	Construction equipment may temporarily affect traffic flow
Aesthetics	Some farmland will be converted to new WWTP. Some WWTP will be converted back to a natural state.	No effects anticipated.	Some farmland will be converted to new WWTP. Some WWTP will be converted back to a natural state.
Human Health & Safety	No effects anticipated.	No effects anticipated.	No effects anticipated.
Corridor Analysis	N/A	N/A	N/A

E. Summary of Mitigation

Environmental Resource	Past Actions	Proposed Mitigation Measures	Enforcement
Land Use	Land acquired for new WWTP	Only land uses within the area required for the footprint of the new WWTP will be altered., The area where the existing WWTP will be demolished may revert back to a lower intensity, natural land use.	Village/Engineer
Important Farmlands	Farmland acquired for new WWTP	Remaining 75% of land on the parcel surrounding the WWTP would be leased for farming until further facilities expansion is necessary.	Village

Formally Classified Lands	None known	None needed	N/A
Floodplains	None known	None needed. Public notice will be given if necessary.	N/A, Village
Wetlands	None known	None needed.	N/A
Cultural Resources	None known		
Biological Resources	None known	No tree clearing. Construction may be scheduled to avoid impact some species that may be present on the site.	Village/Contractor/Engineer
Water Resources	None known	None needed	N/A
Coastal Resources	N/A	None needed	N/A
Socioeconomic & Environmental Justice	None known	The Village will provide meaningful opportunities for public input from minority communities and low-income communities.	Village
Air Quality	N/A	Best management practices for equipment maintenance	Contractor/Engineer
Noise	None known	Construction activities will be limited to the hours permitted by the Village's ordinance.	Village
Transportation	None known	Signs will be placed to warn traffic of on-going construction activities and the presence of construction vehicles.	Village/Contractor
Aesthetics	None known	The site of the existing WWTP will be reverted to a state that more closely resembles the aesthetics of the surrounding area.	Village
Human Health & Safety	None known	None needed.	N/A
Corridor Analysis	N/A	None needed.	N/A

F. Coordination, Consultation and Correspondence

Environmental Resource	Agency Consulted/Contact	Date Contacted	Response attached
Land Use	None	N/A	N/A
Important Farmlands	None	N/A	N/A
Formally Classified Lands	None	N/A	N/A
Floodplains	None	N/A	N/A
Wetlands	None	N/A	N/A
Cultural Resources	SHPO; St. Croix County THPOs	N/A	N/A
Biological Resources	US Fish & Wildlife Service	4/20/2021	Yes
Water Resources	None	N/A	N/A
Coastal Resources	N/A	N/A	N/A

Socioeconomic & Environmental Justice	None	N/A	N/A
Air Quality	None	N/A	N/A
Noise	None	N/A	N/A
Transportation	None	N/A	N/A
Aesthetics	None	N/A	N/A
Human Health & Safety	None	N/A	N/A
Corridor Analysis	N/A	N/A	N/A

G. References

Section	Resource(s)
Land Use	Village of Baldwin Zoning Map; Town of Hammond Zoning Map; St. Croix County Parcel Explorer https://sccdd.maps.arcgis.com/apps/webappviewer/index.html?id=5c6de96e7ffe43d389e9cdde893dfe29
Important Farmlands	NRCS Web Soil Survey https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm
Formally Classified Lands	St. Croix County Parcel Explorer https://sccdd.maps.arcgis.com/apps/webappviewer/index.html?id=5c6de96e7ffe43d389e9cdde893dfe29
Floodplains	WDNR Surface Water Data Viewer https://dnr.wisconsin.gov/topic/SurfaceWater/swdv ; FEMA Flood Map Service Center https://msc.fema.gov/portal/home
Wetlands	WDNR Surface Water Data Viewer https://dnr.wisconsin.gov/topic/SurfaceWater/swdv
Cultural Resources	
Biological Resources	US Fish & Wildlife Service https://ecos.fws.gov/ipac/ ; EPA NEPAAssist https://nepassisttool.epa.gov/nepassist/nepamap.aspx ; WDNR NHI Portal https://dnr.wisconsin.gov/topic/erreview/PublicPortal.html
Water Resources	WDNR Surface Water Data Viewer https://dnr.wisconsin.gov/topic/SurfaceWater/swdv
Coastal Resources	Wisconsin Coastal Management Program https://doa.wi.gov/Pages/LocalGovtsGrants/CoastalManagement.aspx
Socioeconomic & Environmental Justice	EPA EJSCREEN https://ejscreen.epa.gov/mapper/
Air Quality	EPA NEPAAssist https://nepassisttool.epa.gov/nepassist/nepamap.aspx
Noise	N/A
Transportation	N/A
Aesthetics	Village of Baldwin Zoning Map; Town of Hammond Zoning Map

Human Health & Safety	WDNR Remediation and Redevelopment Sites Map https://dnrmaps.wi.gov/H5/?viewer=rrsites
Corridor Analysis	N/A

H. List of Preparers

Dillon Constant, Community Planner, Short Elliott Hendrickson (SEH), Inc.

Nate Day, Senior Planner, Short Elliott Hendrickson (SEH), Inc.

Katie Jo Jerzak, Professional Engineer, Short Elliott Hendrickson (SEH), Inc.

I. Attachments

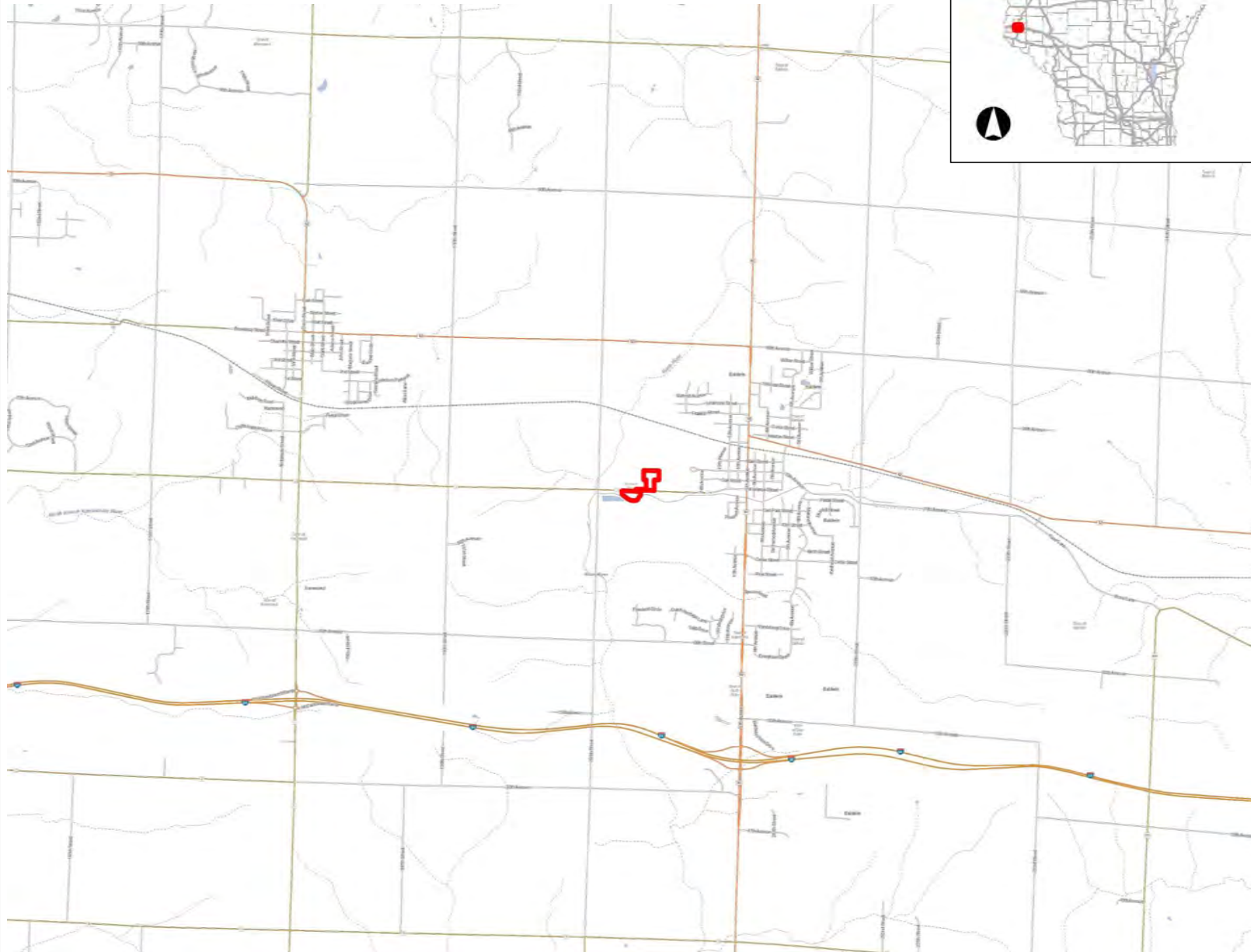
List of Attachments

1. Location Map
2. Topographic Map
3. Project Area Map
4. WWTP North Site Plan
5. WWTP Facility Plan
6. Village of Baldwin Zoning Map
7. Town of Hammond Zoning Map
8. Meeting Minutes from Land Annexation
9. NRCS Soil Survey
10. Floodplain Map
11. Wetlands Map
12. DNR SWDV Archaeological/Historical Map
13. Request for SHPO Review
14. SHPO Submittal
15. Letters Sent to THPOs
16. DNR NHI Preliminary Endangered Resources Review).
17. NEPAssist Map
18. F&WS Species List
19. F&WS Concurrence Letter
20. NRCS Karner Blue Butterfly Suitability
21. Invasive Species Map
22. Wisconsin CZMA Coastal Counties Map
23. EJSCREEN Summary Report
24. RD 2006-38 Environmental Justice (EJ) and Civil Rights Impact Analysis (CRIA) Certification
25. WDNR RR Sites Map

- 26. WPDES Permit
- 27. Existing WWTP Schematic
- 28. North Site Oxidation Ditch Cost Estimates



Baldwin WWTP Location Map



Legend

- Municipality
- State Boundaries
- County Boundaries
- Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
- County and Local Roads**
 - County HWY
 - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water



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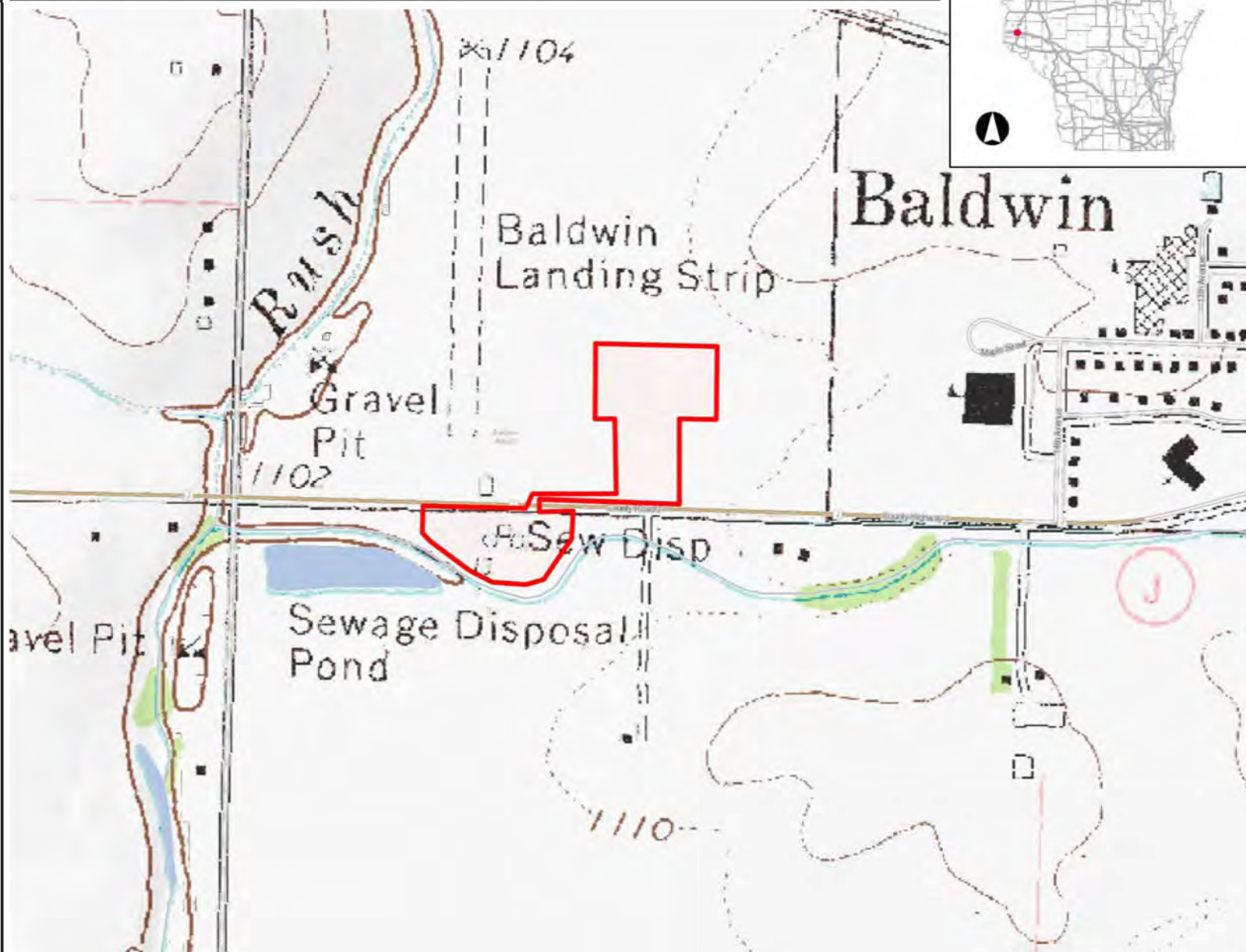
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Notes



Baldwin WWTP Topographic Map



Legend

- Municipality
- State Boundaries
- County Boundaries
- Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
- County and Local Roads**
 - County HWY
 - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water
- 24K USGS Quad Index - Level 7 - 16
- Index to EN_Image_Basemap_Leaf_Off



NAD_1983_HARN_Wisconsin_TM

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Notes



Baldwin WWTP Project Area



- Legend**
- Municipality
 - State Boundaries
 - County Boundaries
 - Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
 - County and Local Roads**
 - County HWY
 - Local Road
 - Railroads
 - Tribal Lands
 - Rivers and Streams
 - Intermittent Streams
 - Lakes and Open water
 - Index to EN_Image_Basemap_Leaf_Off

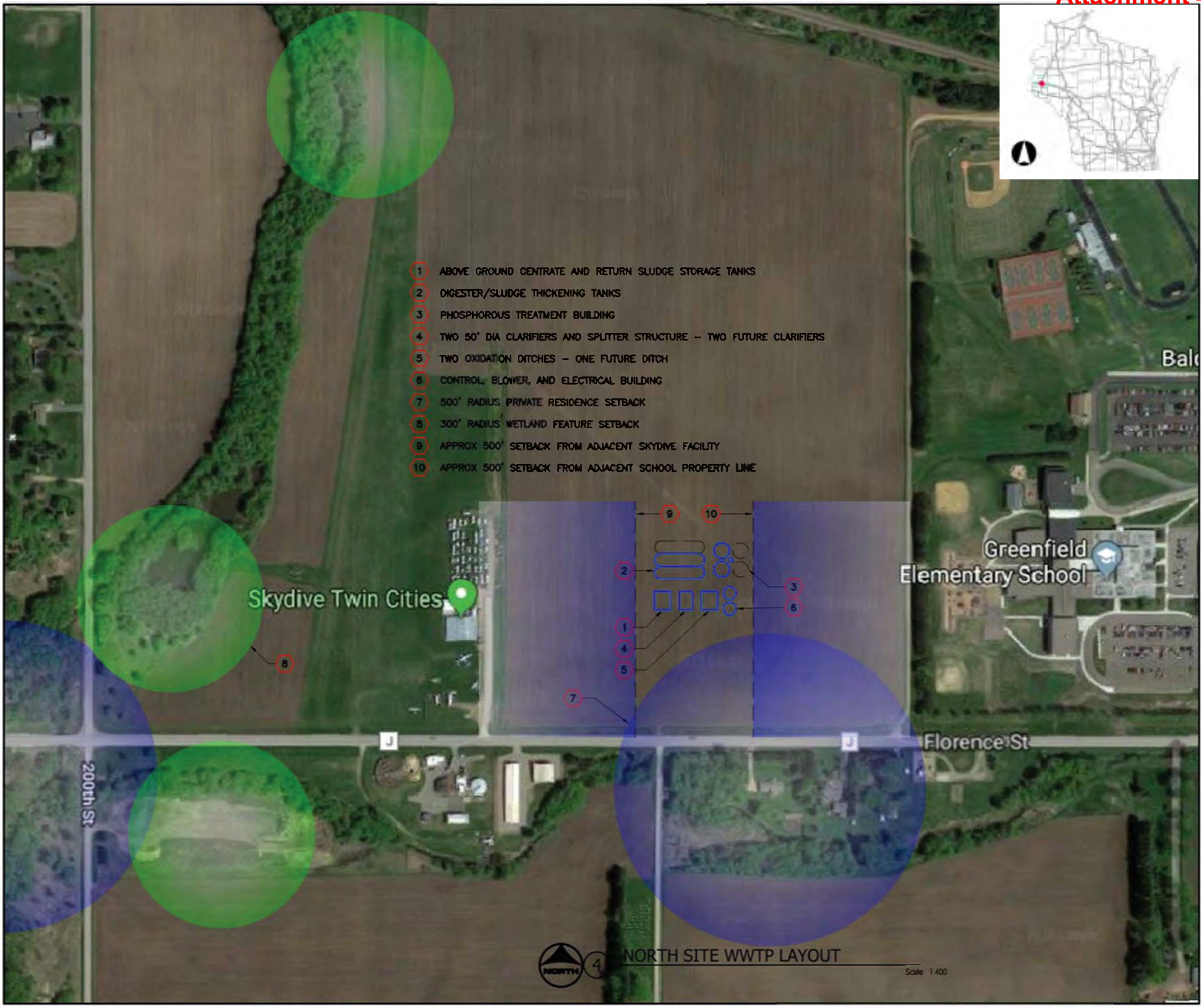


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Notes



- 1 ABOVE GROUND CENTRATE AND RETURN SLUDGE STORAGE TANKS
- 2 DIGESTER/SLUDGE THICKENING TANKS
- 3 PHOSPHOROUS TREATMENT BUILDING
- 4 TWO 50' DIA CLARIFIERS AND SPLITTER STRUCTURE - TWO FUTURE CLARIFIERS
- 5 TWO OXIDATION DITCHES - ONE FUTURE DITCH
- 6 CONTROL, BLOWER, AND ELECTRICAL BUILDING
- 7 500' RADIUS PRIVATE RESIDENCE SETBACK
- 8 300' RADIUS WETLAND FEATURE SETBACK
- 9 APPROX 500' SETBACK FROM ADJACENT SKYDIVE FACILITY
- 10 APPROX 500' SETBACK FROM ADJACENT SCHOOL PROPERTY LINE



DRAWING NO.
4

SHEET TITLE
NORTH SITE
WWTP LAYOUT

WWTP FACILITY PLAN
BALDWIN, WISCONSIN

SEH FILE NO. BALDW 148885
CITY PROJECT NO. 2019
ISSUE DATE KJ
DESIGNED BY LAP
DRAWN BY

3335 WADSWORTH CENTER DR
ST PAUL, MN 55110
PHONE: 651.490.2000
FAX: 651.490.2150
WWW: 651.320.3005
www.seh.com



NORTH SITE WWTP LAYOUT

Scale 1:400



Facility Plan

Baldwin WWTP Facility Plan

Baldwin, WI

BALDW 149865 | December 10, 2019



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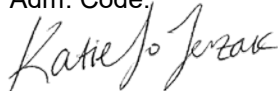
Facility Plan

Baldwin WWTP Facility Plan
Baldwin, WI

Prepared for:
Village of Baldwin
Baldwin, WI

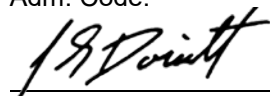
Prepared by:
Short Elliott Hendrickson Inc.
10 North Bridge Street
Chippewa Falls, WI 54729-2550
715.720.6200

I, Katie Jo Jerzak, PE, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



	47134	12/10/19
Katie Jo Jerzak	PE Number	Date
Project Engineer		

I, Jerry Doriott, PE, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



	28960	12/10/19
Jerry Doriott, PE	PE Number	Date
Project Manager		



Executive Summary

The Village of Baldwin has a wastewater treatment plant (WWTP) consisting of screening, grit removal, an oxidation ditch, clarifiers, ultraviolet (UV) treatment, aerobic digestion, and sludge thickening. The WWTP was constructed in 1985, with significant upgrades in 2004 and 2006 and still achieves good treatment. The influent flow and BOD to the plant is now above the design conditions and much of the equipment is reaching the end of its useful life. The WWTP also needs to treat phosphorus to a much lower level and requires an additional treatment step.

Multiple options for a new WWTP were analyzed, including upgrading at the existing site, the agricultural field to the north, and the agricultural field to the south. The existing site is able to house new equipment, while keeping the existing plant running during construction, but would be a costly project and not allow the Village to easily expand the WWTP again in the future. The north and south sites would be comparable in costs, with one main difference. The site to the north is not currently owned by the Village, but the landowner is interested in a land swap. The site to the south requires access by the use of a Township road and a bridge that may not be able to handle the weight of sludge and centrate hauling trucks. Due to this road and bridge issue, it is recommended that the Village pursue acquiring the land to the north for their new WWTP.

The new WWTP would consist of similar components as the existing, including a vertical fine screen, grit removal, oxidation ditch, clarifiers, UV treatment, and sludge and centrate storage. A new, yet proven, technology is proposed for thickening the sludge that would eliminate the use of polymer at the WWTP and does not require a building. This process is more streamlined and automatic than the existing method of thickening sludge. There will also be a new tertiary treatment building to remove phosphorus down to 0.075 mg/L through the use of reactive sand filters. These filters have been shown to be a reliable and low maintenance solution.

The cost estimate for this recommendation is \$12,801,000 million dollars. This includes the purchase of equipment, installation, contractor mark ups, 10% construction contingency, design and construction engineering, funding administration, and legal fees. It is anticipated that the Village could receive up to 1.75 million dollars in grants, which will lower the cost to 11.05 million dollars. This plant will slightly increase the amount of hours needed at the WWTP and is expected to increase annual operation and maintenance cost mostly due to the treatment of phosphorus.

User fees will increase \$319 annually if no grants are received or \$277 annually if the best case grant scenario is achieved. This will approximately double the sewer costs realized by the users. As a percent of the median household income, sewer rates will be between 1.07 percent and 1.14 percent, still below the EPA "hardship indicator" of 2 percent.

After review and approval of this facility plan by the Village of Baldwin, it is to be submitted to the DNR for their review and approval. Design is expected to begin in January 2020, with plans and specifications submitted to the DNR by September 30, 2020 to meet funding deadlines. Construction would begin spring 2021, with completion by November 2023 to meet the WPDES deadline for phosphorus treatment.

Contents

Certification Page
Executive Summary
Contents

1	Introduction	1
1.1	Purpose and Scope	1
1.2	Location	1
1.3	Project History	1
1.4	Schedule	2
2	Existing Wastewater Conditions.....	2
2.1	Population	2
2.2	Existing Wastewater Loading	2
2.3	Existing Collection System	2
2.4	Existing WWTP	3
2.5	Existing WWTP Performance	4
3	Future Wastewater Conditions	5
3.1	Future Population	5
3.2	Future Wastewater Loading	5
3.3	Effluent Requirements	5
4	WWTP Upgrade Options.....	6
4.1	No Construction	6
4.2	Upgrades to the Existing WWTP	6
4.3	New WWTP at the Existing Site	7
4.4	New WWTP at South Site	7
4.5	New WWTP at North Site	8
5	WWTP Recommendations.....	9
6	User Charge Requirements.....	9
7	Public Hearing	9

Contents (continued)

List of Tables

Table 1 – WWTP Influent Characteristics.....	2
Table 2 – WWTP Influent Design Year 2040 Characteristics.....	5
Table 3 – Effluent Requirements.....	5

List of Figures

Figure 1 – Existing Oxidation Ditch and Clarifiers	6
Figure 2 – Existing WWTP Site Plan	
Figure 3 – Setbacks for South Site	
Figure 4 – South Site WWTP Layout	
Figure 5 – Setbacks for North Site	
Figure 6 – North Site WWTP Layout	

List of Appendices

Appendix A	WPDES Permit Information
Appendix B	Existing WWTP Schematic
Appendix C	Effluent Limits Request
Appendix D	Digester/Thickener Solution
Appendix E	South Site Estimates
Appendix F	North Site Estimates
Appendix G	NHI Screener for North Site
Appendix H	Parallel Costs for North Site
Appendix I	User Charge Information
Appendix J	Funding Memo
Appendix K	Public Meeting Minutes

Facility Plan

Baldwin WWTP Facility Plan

Prepared for Village of Baldwin

1 Introduction

1.1 Purpose and Scope

The Village of Baldwin has a Wastewater Treatment Plant (WWTP) that consists of a fine screen, grit removal, oxidation ditch, two clarifiers, and sludge processing. Chemical is not currently added to remove phosphorus. The original plant was built in 1985, with major upgrades occurring in 2004 and 2006. A facility plan was performed in 2008, but did not move forward with any construction due to a downturn in the economy.

The plant is now over 30 years old and is in need of upgrades due to biological overloading and larger flows than design. The plant also needs to treat phosphorus and after multiple reports and evaluating trading in-depth, the Village made the decision to move forward with a physical upgrade at the treatment plant. The schedule for this project is driven by the WPDES permit schedule regarding phosphorus upgrades. The WPDES permit is included as **Appendix A**.

Based on this Facility Plan and after approval from the Village and WDNR, design plans and specifications of the upgrade will be prepared. After approval of the design plans and specifications, the project will be bid for construction. The Village anticipates using DNR clean water fund low interest loans and principal forgiveness to fund the project.

This WWTP Facility Plan is prepared per the WDNR regulations (NR 110). A 20-year planning design life is used, with the design year being 2040. Cost estimates for the full plant and only the specific phosphorus portion will be prepared, along with parallel cost estimates.

1.2 Location

The Village of Baldwin is in St. Croix County in northwestern Wisconsin. It is located off of Interstate 94. The WWTP is west of the Village with continuous discharge of the treated effluent into Baldwin Creek which flows into the Rush River.

1.3 Project History

The WWTP was constructed over 20 years and ago and consists of an oxidation ditch treatment system. The WWTP was designed for an average annual design flow of 0.392 mgd and BOD loading of 760 lb/day. The 2010 census reported the population as 3,957. Septic tank and holding tank waste is accepted at the WWTP, but the WWTP turns away haulers due to the low remaining capacity of the plant and the high potential for upsets.

Comparable to other communities, the WWP experiences moderate to low inflow/infiltration (I/I) during snow melt and heavy rainfall events. The WWTP is designed to accommodate I/I, but the

Village is still working to decrease the I/I to the WWTP as outlined in their CMOM report. More information about the collection system are outlined in the CMOM. Any work on lift stations or the collection system will be/are separate projects and are included in this Facility Plan only for reference.

1.4 Schedule

The Village intends to use CWF, as well as meet the deadlines in their WPDES permit for phosphorus compliance. Design is expected to begin in January 2020, with plans and specifications submitted to the DNR by September 30, 2020 to meet funding deadlines. Construction would begin spring 2021, with completion by November 2023 to meet the WPDES deadline for phosphorus treatment.

2 Existing Wastewater Conditions

2.1 Population

Using the DOA's projection for 2020 as the current population, 4,510 people, the Village of Baldwin is projected to increase by 24.5 percent by 2040 (5,615 people). A hauled waste dump site is located at the north end of the WWTP near the fine screen. Approximately, 484,000 gallons of septic tank and 780,000 gallons of holding tank are accepted every year. Hauled waste makes up less than 1 percent of the average daily flow to the WWTP.

2.2 Existing Wastewater Loading

Wastewater flows and strengths are taken from an average of the last two years of data in the monthly DMRs supplied by the Village. The following table, **Table 1**, summarizes the existing loadings. Other than the minimal amount of septic tank waste, there are no large or heavy users in the system currently. There is a categorical discharger to the WWTP, but no unusual impacts have been realized at the WWTP.

Table 1 – WWTP Influent Characteristics

	Flow (MGD)	BOD (lb/day)	TSS (lb/day)
Average Daily	0.385	965	757
Average Monthly Max	0.553	1,261	1,032
Minimum Daily	0.293		
Maximum Daily	1.22	2,200	2,686

The average daily wastewater divided out over the population of Baldwin results in a per capita flow of 85.4 gpd, a per capita BOD of 0.21 lb/day, and 0.17 lb/day. These values are as expected with a mainly residential community.

2.3 Existing Collection System

The Village has 28 miles of sewer and 7 lift stations, not including the main lift station at the WWTP site.

I/I occurs in the collection system with most problems occurring with private laterals and illegal sump pump connections. Using the Maximum Daily Flow identified in Table 1, the per capita daily flow is 270 gpd. This is lower than the standardly used 275 gpd for determining excessive I/I.

The Village does still budget annually to televise and clean sections of sewers and is working towards reducing the amount of I/I at the WWTP. The Village's sewer use ordinance prevents the discharge of storm, drainage, ground, and unpolluted water into the sanitary sewers.

The Facility Plan will continue to address the improvements at the WWTP for the expected flows and loadings for the next 20-years, including I/I as it calculated today.

2.4 Existing WWTP

The original plant is now over 30 years old, with upgrades to the fine screen, sludge processing, and SCADA occurring more recently. Flow enters the fine screen manhole, located at the northeast portion of the site and flows through a vortex grit unit. Influent flow is measured by a Parshall flume. Pumps located in the basement of the administration building then pump the flow to the oxidation ditch. Blowers for the ditch are located in the administration building. Flow is split at the oxidation ditch and enters one of two final clarifiers. Effluent is sampled by an automatic sampler prior to entering the UV disinfection equipment. A channel based unit is installed in a building with room to install additional units. Prior to discharge to the Baldwin Creek, the flow is aerated by a concrete stair step structure. Baldwin Creek is an intermittent stream where flow disappears and reappears along its way to the Rush River.

Waste activated sludge from the clarifiers is sent to an aerobic sludge storage tank. This tank thickens sludge to approximately 1 percent. The aerated sludge is thickened with a gravity belt thickener (GBT) and stored. This thickened sludge is brought to the regional biosolids facility by a contract hauler. The hauler drops off a load of centrate from the biosolids facility at the Baldwin WWTP which is returned to the headworks for treatment.

A schematic diagram of the treatment system is attached as **Appendix B**.

The following are a summary from a site visit that occurred in April 2019.

- A 300-HP generator that is a backup for the WWTP has approximately 300 hours and is in good condition.
- An old chlorine contact tank is no longer used and could be removed for more space at the WWTP site.
- The 1/4 inch fine screen is still in good condition and is located in a fiberglass hut. The piping and doors within this hut are showing signs of corrosion.
- The MCC is original to the plant and should be replaced if staying at the current WWTP site.
- WAS pumps were replaced in 2015 and are in good condition. RAS pumps were new in 1988 and are nearing the end of their useful life.
- A vortex grit unit removes a significant amount of grit from the system and is still working well. The grit classifier unit uses an older method of drying and removing grit and should be upgraded to a more efficient unit.

- A manual bar screen is installed after the fine screen. Consideration should be given if this is still needed and if the fine screen needs to be upsized. Typically, a second screen is not needed after a 1/4 inch mechanical screen with exceptions for membrane bioreactor (MBR) plants.
- A lab is used to analyze BOD, TSS, and ammonia in house. The operator would prefer that the WWTP stay registered. The rest of the sampling requirements for the WPDES are sent to a third party laboratory.
- The main WWTP lift station pumps were replaced in 2006 and will be nearing the end of their useful life or in need of a re-build within the next few years. The overflow pumps, a backup for the main pumps, are original to the plant.
- The makeup air unit (MAU), for the Class 1, Division 1 areas, struggles to deliver the needed air changes in the winter months.
- The lab and office areas do not have air conditioning and humidity interferes with lab tests.
- The chain drives of the oxidation ditches recently broke and needed to be repaired.
- The oxidation ditch has occasional filamentous bacteria in the spring.
- The clarifier drives were replaced in 2017. According to the operator, the bottom of the clarifiers looks to be in good condition.
- The UV unit consists of 16 bulbs, but is hydraulically overloaded occasionally during high instantaneous flows.
- Two blowers aerate the sludge. One is original to the plant and the other was replaced in 2000.
- The GBT is located above the sludge tanks and is accessed by a nearly two-story staircase. The building is a fiberglass structure and has moss and mold growing on the walls and floor due to the high humidity within the room.
- If the GBT is in need of repairs, the Village hauls lower percent solids to the regional biosolids facility.
- The gate is very near the County Road and semi-trucks have trouble entering the WWTP. If the gates are closed, semi-trucks cannot enter or pull off of the highway until they are opened by another party.

2.5 Existing WWTP Performance

The WWTP continues to score poorly on their annual CMAR due to the influent flow and loading, receiving an 'F' in this category. The CMAR for the WWTP in all other categories is rated an 'A', showing proper treatment and certifications by the operator. The DNR recommended reducing the amount of I/I in the system, but as mentioned earlier, the WWTP is not receiving excessive I/I. It will be a very difficult challenge to identify and remediate the remaining I/I sources as water is likely coming in through private laterals and sump pumps.

3 Future Wastewater Conditions

3.1 Future Population

The future projection of population growth for the Village of Baldwin has been projected by the Wisconsin Department of Administration as increasing to 5,615 people in 2040. This accounts for an increase of 24.5 percent above the current population, 4,510 people as estimated by the DOA for 2020. Current local business/industry wastewater is expected to increase at the same rate over the next 20 years, but an additional 10 percent flow and loadings have been added for new business or unexpected growth. The WWTP is also currently turning away hauled waste due to the high potential of upsets at the plant. An additional 9,000 gallons per week for hauled waste at an average strength of 600 mg/L for BOD and TSS, 15 mg/L for phosphorus, and 50 mg/L for ammonia was added to account for new hauled waste.

3.2 Future Wastewater Loading

The future wastewater loading is calculated using the future population projections, estimated hauled wastewater, and unknown industry loads at 10 percent additional wastewater. The effluent limits request, used to calculate these flows and loadings, is included as **Appendix C** and goes into more detail on how these flows and loadings were calculated.

The flows and loadings estimated in the effluent limits request are shown in **Table 2**. Process items such as the fine screen and influent pumps are sized off of the maximum daily flows.

Table 2 – WWTP Influent Design Year 2040 Characteristics

	Flow (MGD)	BOD (lb/day)	TSS (lb/day)	Ammonia (lb/day)	Phosphorus (lb/day)
Average Daily	0.540	1,375	1,090	93.2	34.9
Average Monthly Max	0.771	1,780	1,622		
Maximum Daily	1.683	3,067	4,223		
Maximum Instantaneous Flow (gpm)	1,169				

3.3 Effluent Requirements

The current WPDES is expired and is in the process of being renewed. The expired permit is included as **Appendix A** and it is unlikely to significantly change. The permit fact sheet and renewal information is also included in **Appendix A**. The following are the likely requirements for the WWTP.

Table 3 – Effluent Requirements

Parameter	Limit
BOD	15 mg/L
TSS	20 mg/L
pH	6-9 su
Fecal Coliform	400 #/100 mL
Phosphorus	0.075 mg/L

4 WWTP Upgrade Options

4.1 No Construction

This option would keep the WWTP same as it is now. The WWTP was designed for an average annual design of 0.392 mgd and a BOD loading of 760 lb/day. The current average BOD loading to the plant is 965 lb/day and is above the design loading. The flow to the plant is increasing and while not over the design of the existing plant yet, will be soon.

To reduce flow and loading to the WWTP, the Village would have to stop taking any hauled waste and halt any new homes/businesses being constructed within the Village limits. This may slow the growth of the Village enough that the WWTP can continue to treat for the next few years.

The 2040 design year flow and loading will overload the plant and so the existing plant cannot last the Village for the next 20 years. There are also compliance issues, such as fecal coliform violations during high flow and upcoming phosphorus limits. The UV unit is not able to keep up with peak flows seen at the end of the plant and so has occasional violations of the fecal coliform limit set out in the WPDES permit. For phosphorus, the new limit will be 0.075 mg/L, which the existing plant is not able to meet on its own. This was evaluated further in a separate phosphorus compliance report. Not meeting these limits will result in a notice of non-compliance and fines for the Village.

This option is not a feasible alternative due to not allowing the Village to grow and was not evaluated further.

4.2 Upgrades to the Existing WWTP

As discussed in the previous section, the WWTP needs at least a larger or second UV unit and new phosphorus treatment to be in compliance with upcoming WPDES limits within the near future. To increase the amount of BOD the WWTP can treat, the oxidation ditch would need to be expanded by adding an additional ring. Unfortunately, this is not possible due to the close proximity of the clarifiers, see **Figure 1**.

Figure 1 – Existing Oxidation Ditch and Clarifiers



A third clarifier would also likely need to be added to match the flow and loading from the added ring of the oxidation ditch if it was possible to add. The rest of the plant, while in relatively good condition for its age, will not last for the next 20 years without serious upgrades and repairs. This will be made even harder while trying to upgrade or replace the equipment while keeping the WWTP running.

This option is not feasible for the Village for the next 20 years and so it was not evaluated further.

4.3 New WWTP at the Existing Site

The existing site is constrained by Baldwin Creek to the south, County Road J to the north, and private property to the east. This option will evaluate the feasibility of placing new structures north of Baldwin Creek and south of County Road J. From previous correspondence with WDNR, the discharge can be moved 1000' on the same stream without being considered as a new discharge location.

The closest existing structure to the edge of County Road J is approximately 25 feet away. This offset was used for all newly constructed buildings. The boundaries of Baldwin Creek were used as the existing tree line and all mowed areas considered buildable. An electrical line passes overhead near the southern portion of the site and is assumed to be re-routed for the purposes of this evaluation. The WWP must continue to treat during construction, so construction will have to occur during phases, increasing the construction time and costs for the contractor.

Figure 2 (at the end of the report) shows the proposed site plan.

This site plan shows that all structures are able to fit on the existing site with the removal of the maintenance garage and shoring of multiple other structures during construction. This layout uses the existing UV building as it is one of the newer structures on the site and is sized to house another UV unit. Connecting this structures with piping will be a significant challenge for the contractor.

Similar to the existing layout, this WWTP does not allow room for expansion when capacity is reached and surpassed in 20-30 years. When this plant needs to be upgraded/replaced, there will be no room for expansion of the oxidation ditch, clarifiers, sludge storage, and more. The Village should retain control of the site to the south for their next WWTP if the community continues to grow as it is predicted to over the next 20 plus years.

Multiple preliminary layouts were tried for the existing site and all were extremely tight for the proposed plant and offered little to no room for expansion. Due to the cramped site and no room for future growth, this is not a viable option. The two much more viable parcels of land to the north and south of the current WWTP should be considered prior to this option. Construction and engineering costs for this option are going to be significantly higher than for the following options due to phasing of construction, general difficulty of construction, and pipe routing under/through existing structures.

4.4 New WWTP at South Site

The Village owns approximately 90 acres to the south of the current WWTP. The land is currently rented to be farmed. The site would be accessed by 200th Street, a township road. There is an existing bridge crossing Baldwin Creek/Rush River on 200th Street, but this and the rest of the road are weight limited. This road may have to be improved prior to the new WWTP coming

online as the centrate and sludge hauling trucks could violate these weight limits. At the very least, an agreement between the Village of Baldwin and the township for the road access and future repairs would need to be developed.

Figure 3 shows the setbacks for the south site. The green circles show a 300-foot boundary from any wetlands or wetland indicators according to the WDNR Surface Water Data Viewer. The blue circles are 500-foot setbacks from the homes in the area. Without infringing on any of the setbacks, there is adequate space for a new WWTP and future expansion on this site.

The existing fine screen building would be converted into a fine screen and lift station building which would pump all influent flow to the new site. A small headworks building would be located at the new site housing the grit removal equipment. An oxidation ditch is proposed as this treatment technology has worked well for the Village in the past. Much of the plant will have the same components, including the administration building, UV treatment, sludge and centrate storage, and clarifiers. Tertiary treatment in the form of sand filters will be added to treat phosphorus. It is also proposed that a combination small aerobic digester and thickener system be used to eliminate polymer use and a building. This digester/thickener will utilize membranes to thicken the sludge to 3 percent solids. Since the sludge is trucked to the Ellsworth Biosolids Facility, which produces Class A sludge, volatile solids destruction isn't needed at the Baldwin Facility. Information on this digester/thickener solution is included in **Appendix D**.

The proposed layout for this option is shown in **Figure 4**. The remaining structures at the existing site could be demolished during the construction of the new plant or left as is, depending on the Owner's wishes.

The cost estimate for this option (not including the potential bridge upgrades) is \$12,868,000. The 20 year present worth is estimated to be \$13,254,000, with additional annual O&M costs totaling \$30,000. The estimates can be seen in **Appendix E**.

4.5 New WWTP at North Site

To the north of the WWTP site are 71 acres of farm field that are not currently owned by the Village, but may have the opportunity to purchase in the near future. The site is set back 500 feet from any residents and is an ideal candidate for the new WWTP from the desktop review. There is no wetlands or endangered species within the area and would allow adequate space for expansion unlike the existing site. See **Figure 5** for the setbacks. The existing gravity sewer is also located on the north side of the road and would be able to flow into the new site with very few modifications.

Effluent from the north site would still need to be returned to the existing Baldwin Creek discharge location. The remaining structures could be demolished during the construction of the new plant or left as is, depending on the Owner's wishes.

This option would utilize the same equipment as in Section 4.4. Additional care would likely be given to landscaping to block sight lines from the school next door.

Figure 6 shows a preliminary site plan. The cost estimate for this option is \$12,801,000. The 20 year present worth is estimated to be \$13,187,000, with additional annual O&M costs totaling \$30,000. The estimates can be seen in **Appendix F**.

5 WWTP Recommendations

20 year present worth estimates for both the north and south site are very close, with the north site being approximately \$70,000 lower. Due to the potential of a costly bridge upgrade, it is recommended the Village pursue acquiring the land to the north of the existing site. This site is likely free of historical and architectural protections being actively farmed, has no endangered species, no wetlands, and is set back the required distances from residential areas. The NHI portal results for the north site are included in **Appendix G**.

Additionally, the northern acres of this site would still be available for farming or other uses until the WWTP is in need of another significant upgrade.

A parallel cost estimate for the north site option is included as **Appendix H**. The parallel cost percentage is calculated at 98.6 percent.

6 User Charge Requirements

A new WWTP is a large investment to a community and will require a rate increase. At this point, we estimate that building the new site to the north would raise rates between \$277 and \$319 annually. Without grants or principal forgiveness, user charges will increase approximately \$27 monthly, while the best case grant scenario will increase rates by \$23/month. The calculations can be seen in **Appendix I**.

A memo outlining possible funding sources for the WWTP are included as **Appendix J**.

7 Public Hearing

A public hearing was held on December 11, 2019 at Village Hall. The minutes are attached in **Appendix K**.



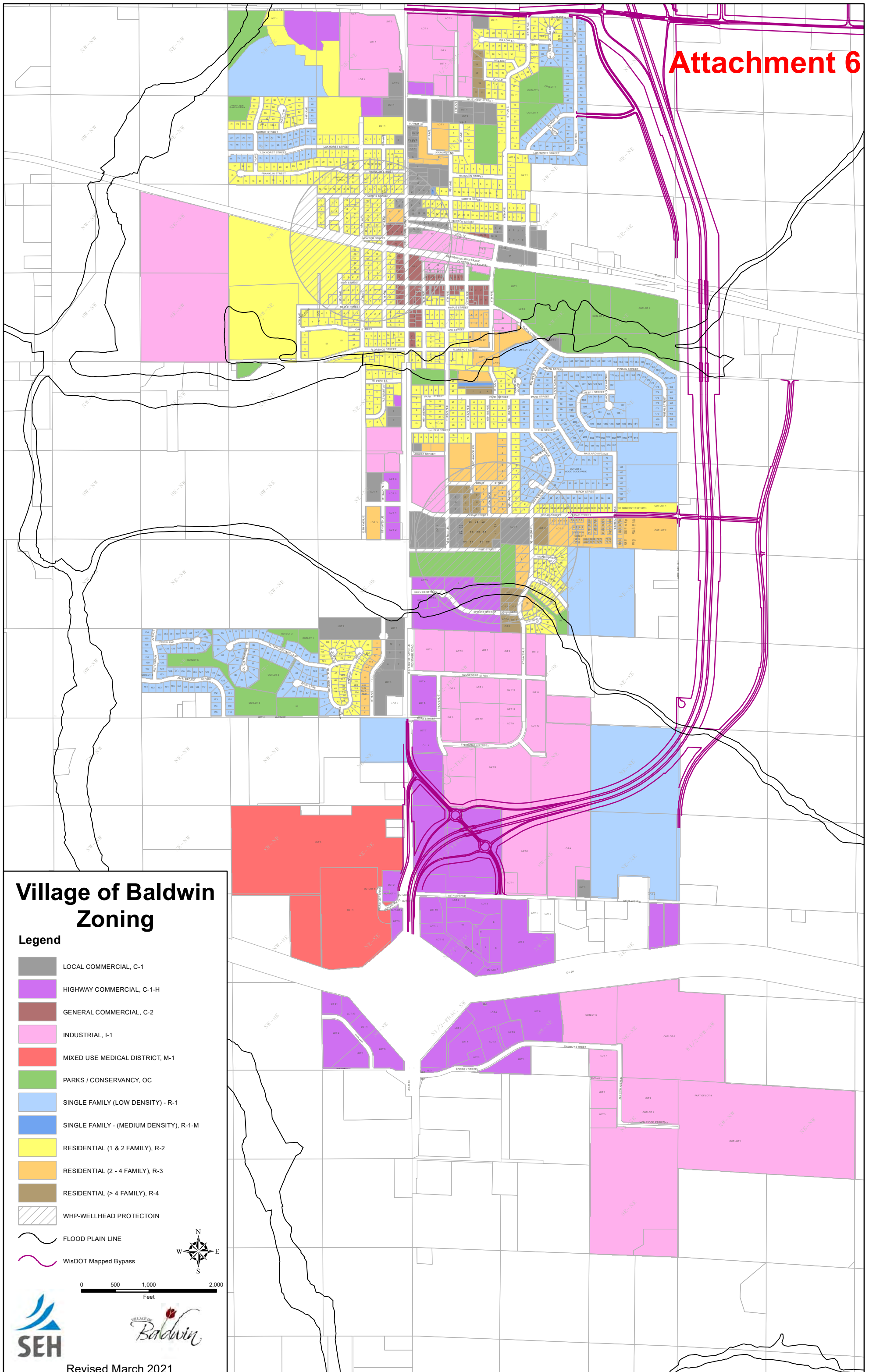
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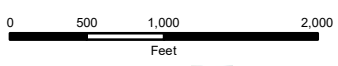




Village of Baldwin Zoning

Legend

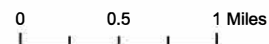
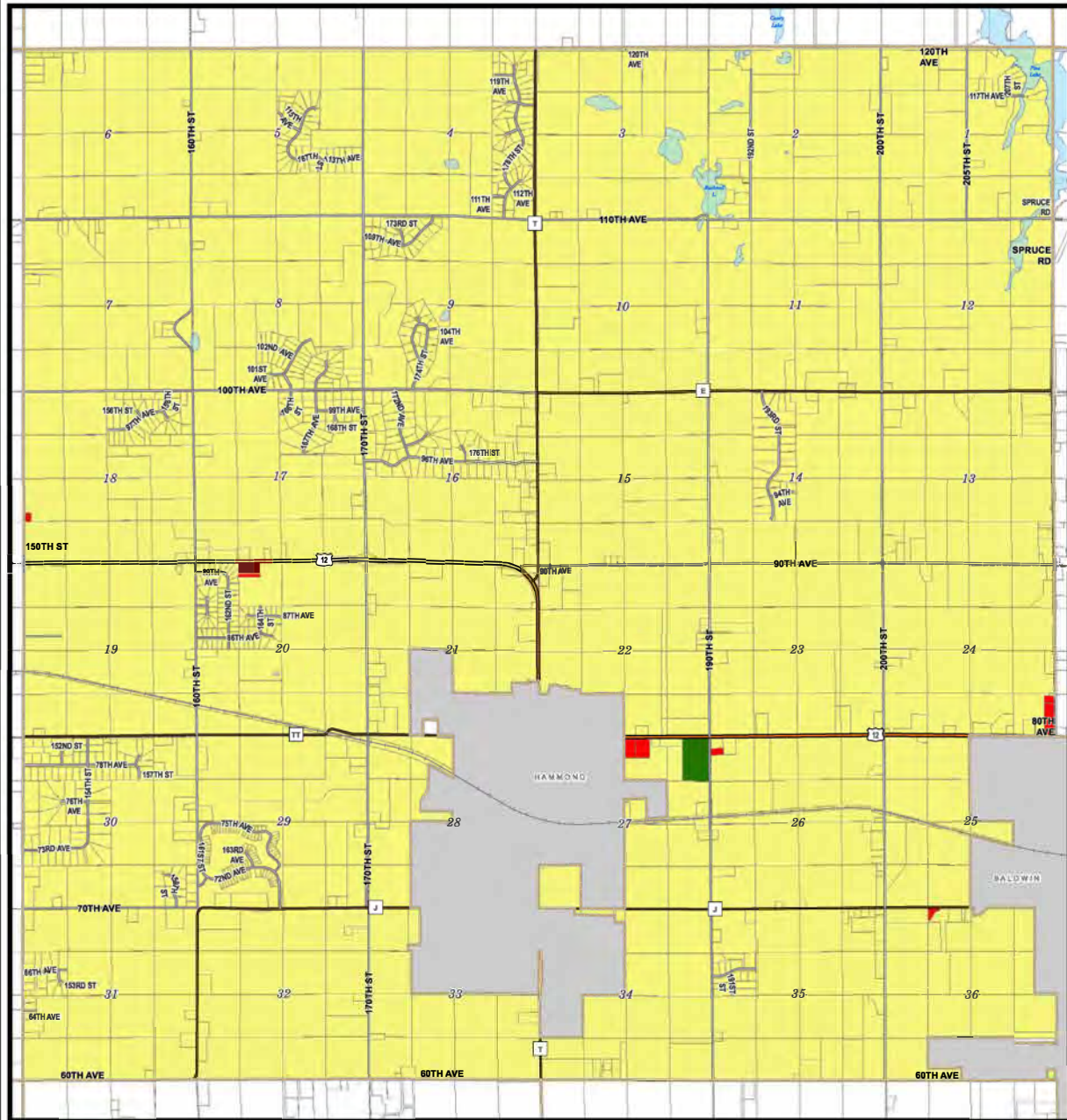
- LOCAL COMMERCIAL, C-1
- HIGHWAY COMMERCIAL, C-1-H
- GENERAL COMMERCIAL, C-2
- INDUSTRIAL, I-1
- MIXED USE MEDICAL DISTRICT, M-1
- PARKS / CONSERVANCY, OC
- SINGLE FAMILY (LOW DENSITY) - R-1
- SINGLE FAMILY - (MEDIUM DENSITY), R-1-M
- RESIDENTIAL (1 & 2 FAMILY), R-2
- RESIDENTIAL (2 - 4 FAMILY), R-3
- RESIDENTIAL (> 4 FAMILY), R-4
- WHP-WELLHEAD PROTECTOIN
- FLOOD PLAIN LINE
- WisDOT Mapped Bypass



Revised March 2021

Official County Zoning Map St. Croix County, Wisconsin

Town of Hammond
T29N, R17W



Zoning Districts

Residence	Conservancy
Rural Residential	Ag-1
Commercial	Ag-2
Industrial	



St. Croix County Planning & Zoning
1101 Carmichael Rd.
Hudson, WI
Phone: 715.386.4680
Email: pz@co.saint-croix.wi.us
www.co.saint-croix.wi.us

Contact the Planning & Zoning Department for floodplain, shoreland, and wetland zoning.

This official county zoning map is a visual representation of the zoning district boundaries as created and amended by the St. Croix County Board of Supervisors through county zoning ordinance amendments on file with the St. Croix County Clerk. 10/1/2014

**VILLAGE OF BALDWIN
ANNUAL CAUCUS/REGULAR BOARD MEETING MINUTES
January 13, 2021 – 6:00pm**

ANNUAL CAUCUS

The annual caucus, held at the Baldwin Municipal Building, was called to order by Village Board Trustee Duane Russett at 6:00pm. Village Clerk Tracy Carlson reminded those who are nominated to pick up a nomination packet prior to leaving the caucus.

Russett called for nominations for **village president** of which there is one position open for election. Nominations were as follows:

Matt Knegendorf nominated Lance Van Damme. Seconded by Sean Griffin

Russett called for nominees for village president an additional two times. Hearing no other nominations, Russett closed the nominations for village president.

Russett then called for nominations for **village trustee** of which there are three positions open for election. Nominations were as follows:

Lance Van Damme nominated Doug Newton (incumbent). Seconded by Sean Griffin

Brandon Greene nominated Amy Jurgens. Seconded by Rich Carlson

Chad Wernlund nominated Lance Van Damme (incumbent). Seconded by Sean Griffin.

Doug Newton nominated Willy Zevenbergen. Seconded by Lance Van Damme.

Russett called for nominees for village trustee an additional two times. Hearing no further nominations, Russett closed the nominations for village trustee and adjourned the caucus. Caucus adjourned at 6:04pm.

REGULAR BOARD MEETING

Following the annual caucus, President Willy Zevenbergen called the board meeting to order at 6:07pm.

Village Administrator/Clerk-Treasurer Tracy Carlson took roll call. Those present: President Willy Zevenbergen, Trustees Matt Knegendorf, Doug Newton, Duane Russett, Lance Van Damme, Austin Van Someren and Chad Wernlund.

Others present: Attorney Paul Mahler, Engineer Erik Henningsgard, Public Works Director Brad Boldt, Police Chief Darren Krueger, EMS Chief Tom Boyer, Sean Griffin, Eugene Zwald, Brant Moegenburg, Amy Jurgens, Brandon Greene, Rich Carlson, Jim Helmer, Jeff Plitzner and Mike Stoffel

CONSENT AGENDA

Newton requested the review of the bills be removed from the consent agenda for further discussion.

Van Damme requested that the impound agreement with Glenwood City Vet Clinic be discussed.

Van Damme **moved** to approve the remaining items on the consent agenda. Seconded by Knegeendorf. Motion carried to approve the following:

- Financial reports including budget comparisons for December 2020
- Minutes from Regular Board Meeting – December 9, 2020
- Class “C” Wine license as requested by Baldwin Perk (860 Main St.)
- Fireworks licenses for Fireworks City and Fireworks & More for 2021
- Municipal court report – December 2020

Newton questioned the check for Graphic House for the I94 Industrial Park Sign. He questioned the location of the sign, which in his opinion is in the right-of-way of Energy St.

Van Damme questioned if the impound agreement with Glenwood City Vet Clinic is beneficial. Police Chief Krueger stated that it has been used successfully for stray dogs and cats.

Van Damme **moved** to approve the checks written and the agreement with the Glenwood City Vet Clinic. Seconded by Knegeendorf. Motion carried. The checks written include those issued from 12/5/2020 – 1/8/2021 - #38364 - 38480; voided checks #38314 and 38168; payroll vouchers 24612-24751; online/manual checks for payroll taxes, HSA contributions, deferred comp/Roth IRA, payment systems network and WRS.

REGULAR AGENDA

Zevenbergen called for public comments three times. The owner of the Baldwin Airport (County Rd. J) expressed concerns about the new sewer plant being built adjacent to his property. He requested that the plant be moved further north to avoid the flight path of his sky-diving planes. No action taken by the board.

Van Damme updated the board on the Planning Commission recommendation to approve the site plan and two sign requests for new Baldwin Travel Plaza (955 Energy St.). Van Damme **moved** to approve the site plan and the sign located on Hwy 63 and the canopy sign, as recommended by the Planning Commission. Seconded by Van Someren. Motion carried. A second pylon sign will be reviewed at a later date.

Jeff Plitzner, Windmill Days Committee, presented an update for the 2021 festivities. The committee has a lot of things planned that will enhance the celebration. He requested a donation of \$5000 as in the past. Van Damme **moved** to approve the contribution from the tourism account. Seconded by Newton. Motion carried.

Brant Moegenburg, American Legion, has requested a beer garden permit for May 22, 2021 from 3-11pm and June 26, 2021 from 7pm-10pm. Van Someren **moved** to approve the request. Seconded by Newton. Motion carried. The American Legion will follow all the proper ordinances and regulations.

Attorney Mahler updated the board on the continued issues with the property located at 1150 7th Ave. (Owner - Gayle Lee). The renovation of this property has been incomplete for many years. Numerous contacts have been made with the owner and the owner's son to finish the house, with little to no action being taken.

Attorney Mahler sent a letter to instruct the property owner to finish the renovation or face citations. The owner has not responded. Van Someren **moved** to issue \$25/day citations to the owner until work commences to complete the renovations. Seconded by Newton. Motion carried. Police Chief Krueger will begin issuing citations which will be mailed to the owner.

Public Works Director Boldt asked for direction on whether or not to add sidewalks to the Franklin St. reconstruction project. The addition of sidewalks on the north side of Franklin St. are included in the 2006-2026 Comprehensive Plan. Boldt reminded the board that past street projects didn't include new sidewalks and in fact, some sidewalks were removed. Kneendorf **moved** to install sidewalks on the north side of Franklin St. as stated in the comprehensive plan. Motion failed due to a lack of a second. After further discussion, Van Damme **moved** that sidewalks not be added to the project. Seconded by Russett. Motion carried 6-1 with Kneendorf opposed.

The board, again, reviewed Ordinance 224-6 – Regulation of skateboards, roller skates and roller skis. Attorney Mahler questioned the way the revisions were stated and suggested that he be allowed to tweak it to make the intentions clear. Newton **moved** to allow rollerblades, skateboard and roller skis on the street. Seconded by Van Damme. Motion failed 1-6 with Newton being the only board member in favor of the motion. After much discussion and confusion, Attorney Mahler, again, suggested that he revise the ordinance and bring it back for review. Russett **moved** that Mahler revise the ordinance to clarify the intent. Seconded by Zevenbergen. Motion carried.

Kneendorf **moved** to approve Annexation Ordinance 2021-01, which allows for the annexation of village-owned property on County Rd. J, Town of Hammond, which will be used for the new sewer plant. Seconded by Wernlund. Motion carried.

Van Damme **moved** to approve Annexation Ordinance 2021-02, which allows for the annexation of approx. 10 acres of land known as the Nelson property at the southwest corner of Hwy. 63/60th Ave in the Town of Rush River. Seconded by Kneendorf. Motion carried.

An ad-hoc committee was created to review proposals from engineering firms for general engineering services. Van Damme **moved** that Kneendorf, Wernlund and Van Someren sit on the committee to review the proposals and hold interviews, as necessary. Seconded by Zevenbergen. Motion carried.

Van Someren **moved** to approve Resolution 2021-01 – Supporting the creation of the Chippewa-St. Croix Rail Commission with Counties and Municipalities. Seconded by Wernlund. Motion carried by roll call vote with Newton opposed. This resolution shows the village's support in creating a commission to review the need and possible creation of a passenger rail service from Eau Claire to the Twin Cities.

Van Someren **moved** to approve a wage adjustment for Graham Gausman, public works general laborer of 62 cents/hr increase for a positive 6-month review. Seconded by Wernlund. Motion carried.

Van Someren **moved** to approve a wage adjustment for Brad Boldt, Director of Public Works in the amount of \$2.00/hr for a positive 6-month review as director. A one-year review will occur in July which may or may not include an additional wage adjustment. Seconded by Kneendorf.

Motion carried.

Van Damme **moved** to table the discussion regarding increasing per gallon rate of disposal for sludge haulers to the sewer plant. Seconded by Knegendorf. Motion carried.

Administrator Carlson explained that the Families First Act policy, which allows employees to have an additional 80 hours of PTO time for COVID related issues expired on Dec. 31, 2020. The Federal government did not extend this provision; however, they suggested that employers could extend it through March 31, 2021 if desired. Van Damme **moved** to extend the policy through March 31, 2021. Seconded by Russett. Motion carried. The extension does not provide for employees who have already used a portion of or all of the 80-hour allotment to acquire an additional 80 hours of COVID time off.

Knegendorf reviewed the discussions that the Streets/Building Comm and staff had at their meeting held on Jan. 6 re: the facilities assessment needs report. He explained that the EMS garage is in dire need of a new building. The committee and staff agree, that to save money in the long run, a joint building for EMS/PD/Fire should be considered. After much discussion and to keep the process moving forward, Knegendorf **moved** to create a request for proposals to be sent to architectural/engineering firms who specialize in emergency service buildings to determine specific needs and costs in combining emergency services buildings. Seconded by Van Damme. Motion carried.

REPORTS -

Village Engineer – Erik Henningsgard (SEH) – Written report was submitted.

Dept. Heads

Public Works – Boldt reported that the water department van has been purchased. The public works department is exploring additional options for mapping services of hydrants, water mains, etc.

Police Department – Krueger submitted a written report. There were 113 calls for service in December 2020. The year ended with less calls than previous years. There were no major issues over the New Year holiday.

EMS – Boyer submitted a written report. There were 182 calls and 56 transfers in December 2020. The new interceptor has been purchased. Boyer publicly thanked his crew for their work during the last snowstorm in December. They handled 17 calls in a 24-hour period and all four ambulances were called out simultaneously at two different times.

Administrator/Clerk-Treasurer's Report – Tracy Carlson

Carlson reported on the following:

There is primary election in February for state school superintendent. Turn-out is expected to be low.

Kathy Jo Brihn has submitted her letter of resignation. Brihn serves as the clerk of courts (resignation effective March 31), Planning Commission secretary and chief election inspector (resignation effective April 6).

Judge McGee has been notified of the resignation of his clerk of courts. Carlson will work with him to get a job advertisement published, so a new clerk can be hired and trained before Brihn retires.

The Baldwin Farmers Market has received a \$1000 grant from Compeer Financial for the upcoming season.

CARES ACT dollars allocated to the village for COVID related expenses has been approved and received. All non-budgeted items that were submitted were reimbursed.

Deadline for proposals submitted by engineering firms is Jan. 22, 2021

Deadline for applications to be submitted for a new public works employee is Jan. 22, 2021.

Being no further business, the meeting adjourned at 7:36pm.

Willard Zevenbergen
Village President

Tracy Carlson
Administrator/Clerk-Treasurer



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for St. Croix County, Wisconsin

New Baldwin WWTP



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
St. Croix County, Wisconsin.....	13
PIA—Pilot silt loam, 0 to 3 percent slopes.....	13
References	14

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

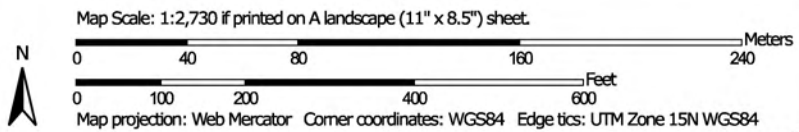
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map


The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map




MAP LEGEND


Area of Interest (AOI)

 Area of Interest (AOI)





Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: St. Croix County, Wisconsin
 Survey Area Data: Version 16, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 4, 2010—Jun 6, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
PIA	Pillot silt loam, 0 to 3 percent slopes	12.8	100.0%
Totals for Area of Interest		12.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Custom Soil Resource Report

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

St. Croix County, Wisconsin

PIA—Pillot silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: g59g
Elevation: 800 to 1,950 feet
Mean annual precipitation: 28 to 33 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 120 to 135 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Pillot and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pillot

Setting

Landform: Outwash plains, stream terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over sandy and gravelly outwash

Typical profile

Ap,A12 - 0 to 15 inches: silt loam
B1,B21t-2B3 - 15 to 37 inches: silty clay loam
2C - 37 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B
Forage suitability group: High AWC, adequately drained (G105XY008WI)
Other vegetative classification: High AWC, adequately drained (G105XY008WI)
Hydric soil rating: No

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

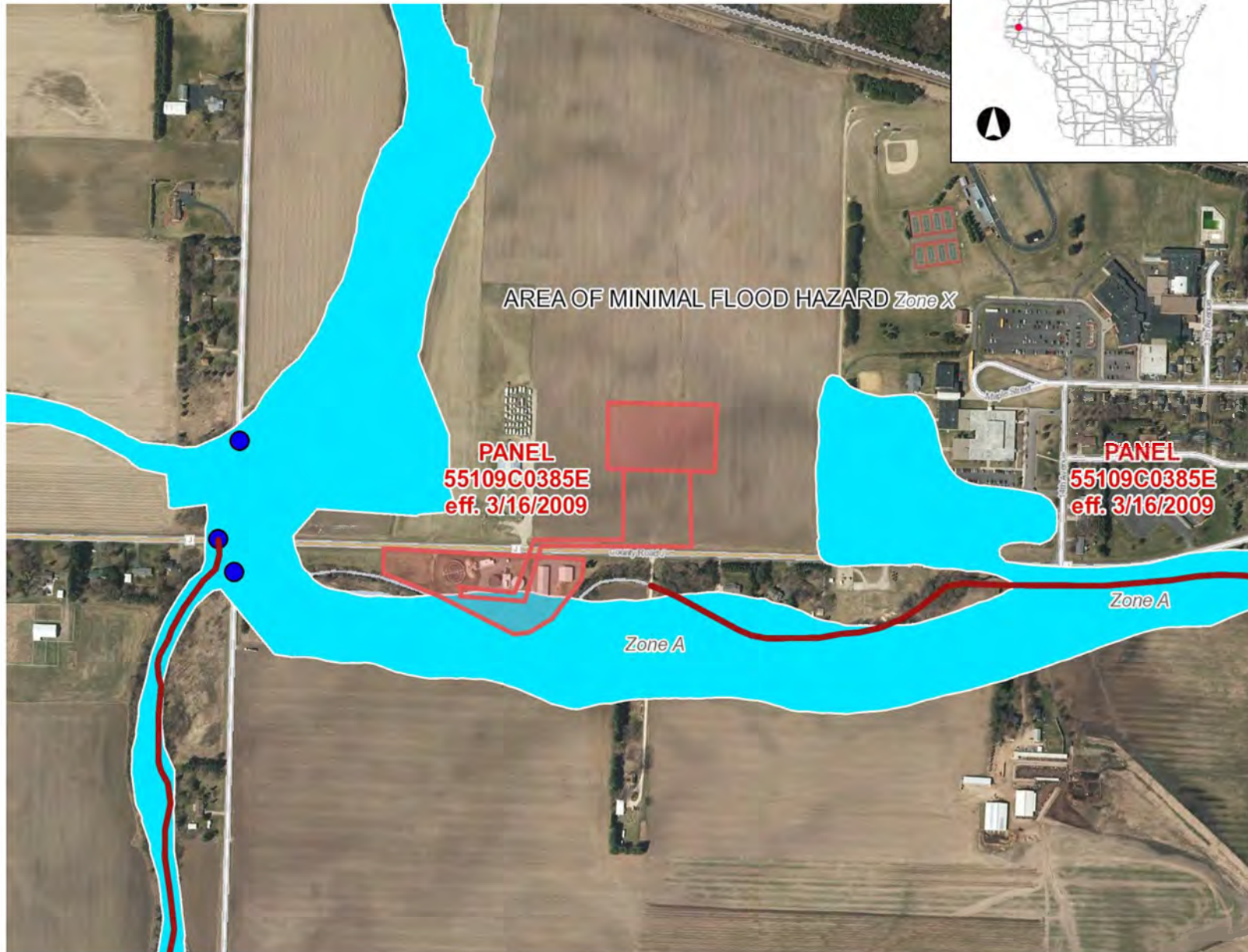
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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Baldwin WWTP Floodplain Area



Legend

- Dams**
 - Dams with FERC License
 - Dams
- Record Flood Levels**
 - Record Flood Levels
- Analysis Lines**
 - Other
 - Flood Insurance Study
 - Letter of Map Revision
 - Case By Case Analysis
 - Bridge
- Analysis Points**
 - Other
 - Flood Insurance Study
 - Letter of Map Revision
 - Case By Case Analysis
 - Bridge
- Analysis Catchments**
 - Analysis Catchments
- Floodplain Storage**
 - Floodplain Storage
- Cross Sections**
 - Cross Sections
- Floodplains**
 - Flood Fringe
 - Floodway
- FERC Project Area Boundaries**
 - FERC Project Area Boundaries
- DOT Bridges**
 - DOT Bridges
- Statewide Paper FIRM Index**
 - Statewide Paper FIRM Index
- FIRM Panels**
 - FIRM Panels
- Cross-Sections**
 - Cross-Sections
- Flood Hazard Boundaries**
 - Other Boundaries
 - Limit Lines
 - SFHA / Flood Zone Boundary
- Flood Hazard Zones**
 - 1% Annual Chance Flood Hazard



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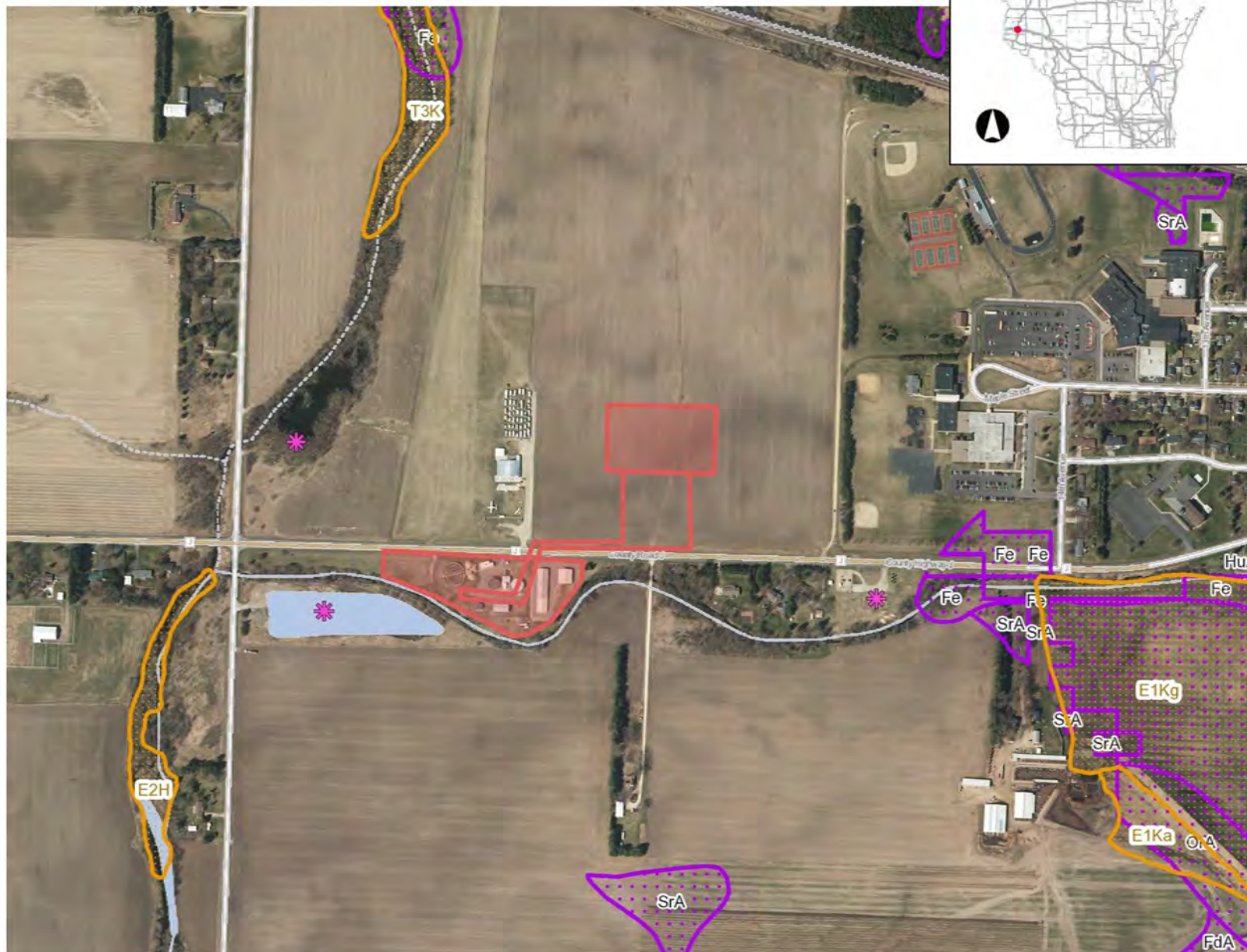
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Notes



Baldwin WWTP Wetlands



- Legend**
- ◆ Wetland Identifications and Confirmations
 - Wetland Class Points**
 - ▲ Dammed pond
 - ◻ Excavated pond
 - ◻ Filled excavated pond
 - ▲ Filled/draind wetland
 - ◻ Wetland too small to delineate
 - ▨ Filled Points
 - Wetland Class Areas**
 - ◻ Wetland
 - ◻ Upland
 - ▨ Filled Areas
 - Wetland Class Points**
 - ▲ Dammed pond
 - ◻ Excavated pond
 - ◻ Filled excavated pond
 - ▲ Filled/draind wetland
 - ◻ Wetland too small to delineate
 - ▨ Filled Points
 - Wetland Class Areas**
 - ◻ Wetland
 - ◻ Upland
 - ▨ Filled Areas
 - ✳ NRCS Wetspots
 - ◻ Maximum Extent Wetland Indicators
 - ◻ Municipality
 - ◻ State Boundaries
 - ◻ County Boundaries
 - Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
 - County and Local Roads

Notes



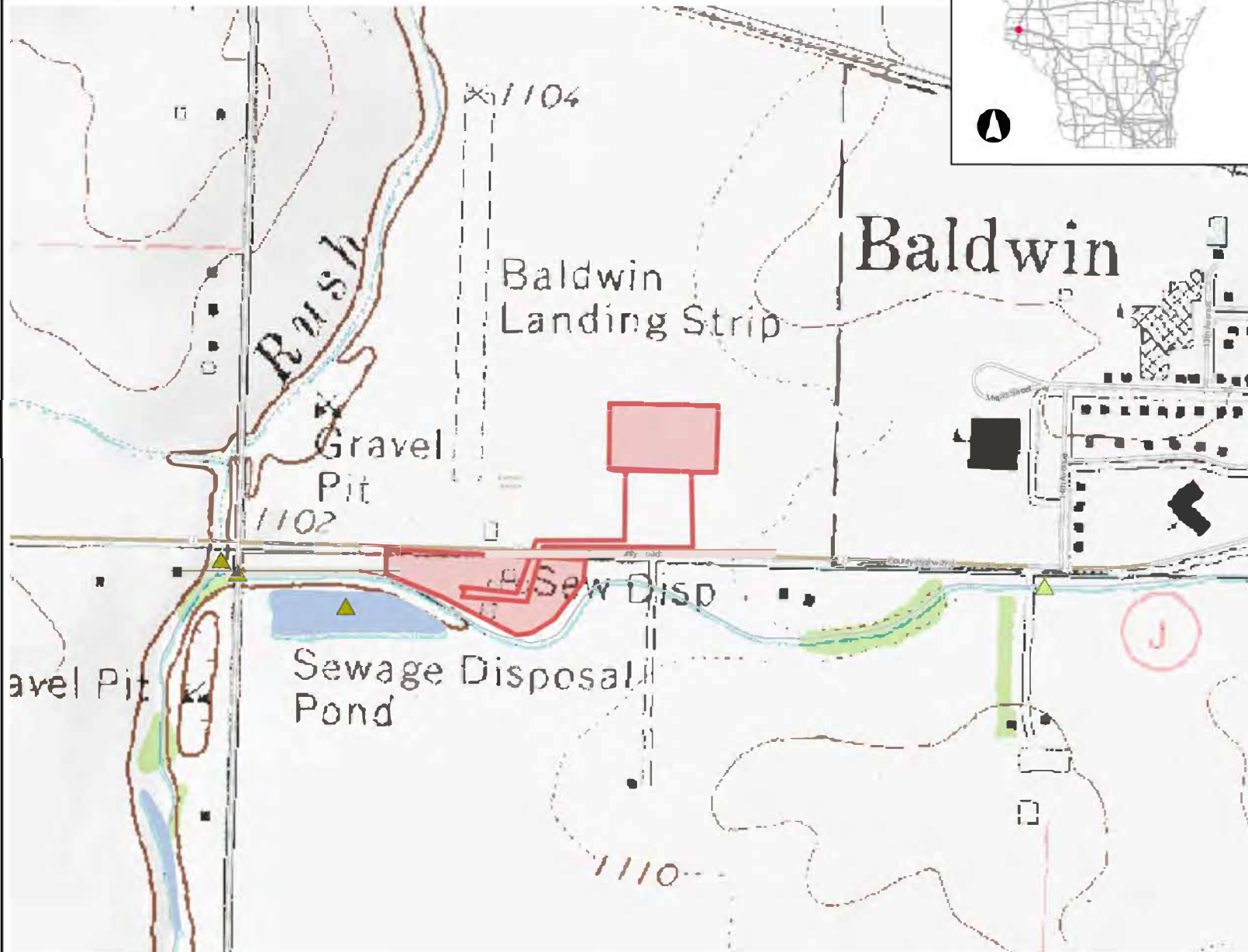
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Baldwin WWTP Archaeological/Historical Sites



- Legend**
- ▲ Station Points with Historic Data
 - ▲ Station Points with Recent Data (10 years)
 - ▲ Station Points without Data (Active, Usable)
 - ☆ Station Points without Data (New Station, Pending)
 - Station Lines with Historic Data
 - Station Lines with Recent Data (10 years)
 - Station Lines without Data (Active, Usable)
 - + Station Lines without Data (New Station, Pending)
 - Station Areas with Historic Data
 - Station Areas with Recent Data (10 years)
 - Municipality
 - State Boundaries
 - County Boundaries
 - Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
 - County and Local Roads**
 - County HWY
 - Local Road
 - + Railroads
 - Tribal Lands
 - Rivers and Streams
 - Intermittent Streams
 - Lakes and Open water
 - 24K USGS Quad Index - Level 7 - 16



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1: 7,920

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Notes

From: [Compliance WHS](#)
To: [Dorava, Joseph - RD, Stevens Point, WI](#)
Subject: Re: Request for SHPO Review for Baldwin Wastewater Treatment Plant
Date: Monday, April 26, 2021 11:01:41 AM

Dear Mr. Dorava,

I am writing to confirm the receipt of your project. It has been filed under case number 21-0553 and will be reviewed shortly by our staff.

Best,

Drew Barnhart
Compliance Reviewer
State Historic Preservation Office

Wisconsin Historical Society
816 State Street, Madison, WI 53703
(724) 504-4447 (Mobile)
drew.barnhart@wisconsinhistory.org

[Wisconsin Historical Society](#)

Collecting, Preserving, and Sharing Stories Since 1846

From: Dorava, Joseph - RD, Stevens Point, WI <joseph.dorava@usda.gov>
Sent: Monday, April 19, 2021 7:44 AM
To: Compliance WHS <compliance@wisconsinhistory.org>
Subject: Request for SHPO Review for Baldwin Wastewater Treatment Plant

Please accept this request to review for the subject WWTP in St Croix County.

Joe

Follow us on Twitter [@RD Wisconsin](#)

Joseph M. Dorava P.E.

Community Programs State Office Engineer and Environmental Coordinator
Rural Development
United States Department of Agriculture
5417 Clem's Way, Stevens Pont WI 54482
Phone: 715-345-7649 Cell 715-572-0149
www.rd.usda.gov

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REQUEST FOR SHPO COMMENT AND CONSULTATION ON A FEDERAL UNDERTAKING

Submit one copy with each undertaking for which our comment is requested. Please print or type. Return to:

Wisconsin Historical Society, Division of Historic Preservation, Office of Preservation Planning, 816 State Street, Madison, WI 53706

Please Check All Boxes and Include All of the Following Information, as Applicable:

I. GENERAL INFORMATION

- Checkboxes for new submittal, supplemental information, and interagency agreement. Includes a line for the title of the agreement.

- Form fields for Federal Agency Jurisdiction (USDA RD RUS WEP), contact persons (Joseph Dorava), project address (5417 Clem's Way), email (joseph.dorava@usda.gov), project name (Baldwin Wastewater System Improvements), street address (2021 Highway J), county (St. Croix), city (Baldwin), zip code (54002), and project location (Township N29, Range 17W, Section 25).

II. IDENTIFICATION OF HISTORIC PROPERTIES

- Checkboxes for historic properties located within or not located within the project APE.

III. FINDINGS

- Checkboxes for findings: no historic properties affected, no adverse effect on historic properties, or adverse effect with a proposed plan to resolve it.

Authorized Signature: JOSEPH DORAVA. Digitally signed by JOSEPH DORAVA. Date: April 19, 2021. Type or print name: Joseph M. Dorava.

IV. STATE HISTORIC PRESERVATION OFFICE COMMENTS

- Checkboxes for comments: Agree with the finding, Object to the finding, or Cannot review until information is sent as follows.

Authorized Signature: _____ Date: _____

USDA RD Review of Historical and Cultural Resources near Baldwin WI

USDA RD completed a review of historical properties, cultural sites and archeological reports near Baldwin as part of the proposed project to construct improvements to the wastewater treatment facility a lift station and connecting sewer mains. Baldwin is in northwestern Wisconsin, approximately 25 miles east of the City of Minneapolis MN and approximately 40 miles west of the City of Eau Claire WI

The proposed work will be completed in Sec 25, T29N, R17W, St. Croix County across Highway J from the existing Wastewater Treatment Plant which is at 2021 Highway J, Baldwin, WI.

The database review indicated some historical properties are present in Baldwin, but no properties are listed on the National or State Historical Registers for landmarks and there are also no properties that are eligible for listing. A few cultural sites are near the proposed project, but the project work does not take place near any burial sites. The known reports near the work site indicate no features were found or the sites are a great distance from the proposed work site.

It is the determination of USDA RD that there will be no disturbance to historical properties, cultural sites or burial sites in Baldwin because of this project.



Baldwin WWTP Site



Legend

- Township
- Section
- Quarter-Quarter
- County Boundary
- Cities, Towns & Villages
- City
- Village
- Civil Town
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
- Interstate Highway
- State Highway
- US Highway
- County and Local Roads
- County HWY
- Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water
- Index to
- EN_Image_Basemap_Leaf_
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Notes

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[#23795]

Historic Name:

Other Name:

COMMUNITY NURSERY SCHOOL

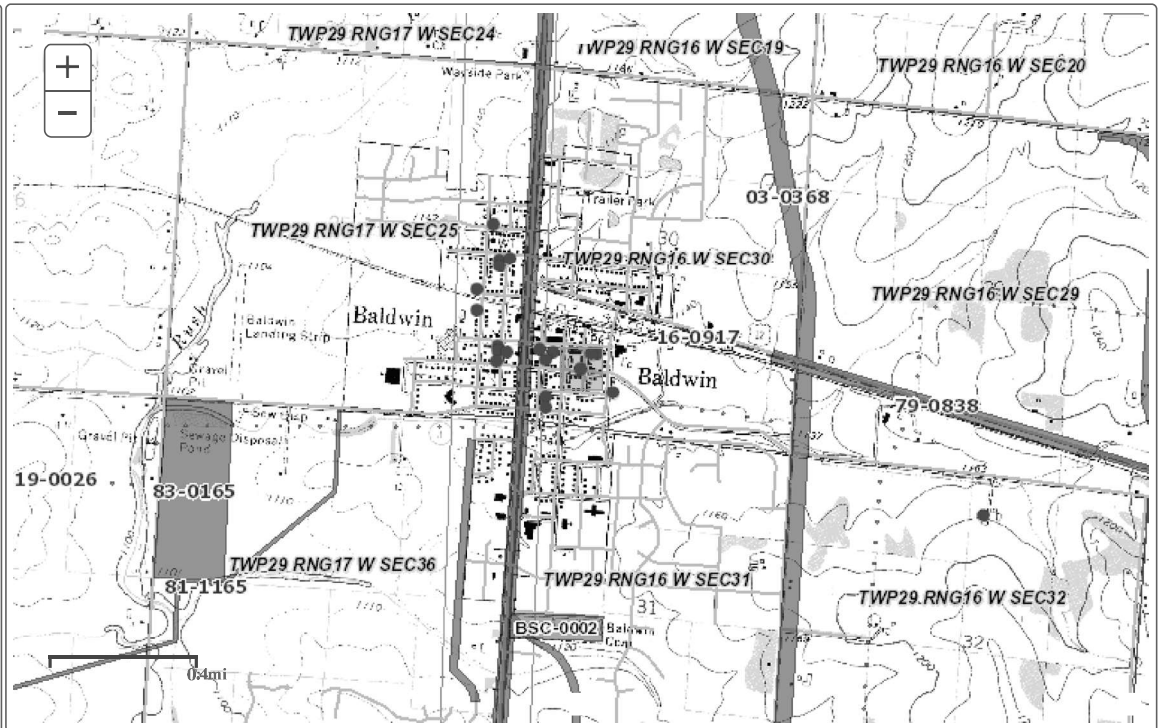
Created By:

Created On: 10/14/2011

Updated By:

Updated On:

- AHI
- Historic Districts
- Arch Districts
- ASI
- Burial Sites
- ART
- Major Roads
- Roads
- Roads - labeled
- Tribal Land (no THPO)
- Tribal Land (THPO)
- Open Water
- County Boundaries
- Cities
- Township/Range
- Sections
- Counties
- States
- Great Lakes
- img24topo





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[Next Record ▶](#)

Primary Info

Abstract

Map



WHS Project #	03-0368	ARI #	12449
Report Title	Phase I and Phase II Archaeological Investigations For the Proposed Expansion of USH 63, St. Croix County, Wisconsin		
Author	LaRonge, Michael, Kent Taylor and Kathryn Egan-Bruhly	Report Location	Archives Box #164

Other Info

Abstract

In 2002 and 2003 CCRG conducted Phase I archaeological survey along portions of USH 63 and several proposed alternative corridors in St. Croix County, Wisconsin. Phase I survey identified three post-contact Euro-American sites (SC-0126, SC-0129, SC-0130), two lithic scatters (SC-0127 and SC-0128) and two isolated finds. The Walsh Farmstead site (SC-0126) was considered potentially eligible for the NRHP. Phase II excavations conducted at the site indicated that it has been badly disturbed by plowing and demolition activities. It is CCRG's recommendation that the site not be subjected to additional excavation.

Series Type		Series Number	WR-0139
Series Investigator	Commonwealth Cultural Resource Group		
Sites Investigated	SC-0126, SC-0127, SC-0128, SC-0129, SC-0130		
Map Description	Map in Project Report		
Acreage Covered	306.40	Place Published	Minocqua, WI
Month Published	February	Year Published	2004
Is Report On File	Yes	Date Filed	02/26/2004
Date Entered	05/11/2004	Date Modified	01/29/2015



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[Next Record ▶](#)

Primary Info

Abstract

Map



WHS Project #	83-0165	ARI #	114
Report Title	An Archaeological Survey Of The Proposed Baldwin Wastewater Treatment Plant Addition, Town Of Hammond, St. Croix County, Wisconsin.		
Author	Barth, Robert J.	Report Location	Archives - Box #64

Other Info

Abstract

Series Type

Series Number

Series Investigator

Sites Investigated

Map Description

Acreage Covered	80.00	Place Published	Eau Claire, WI
Month Published	May	Year Published	1983
Is Report On File	No	Date Filed	
Date Entered	01/29/2014	Date Modified	03/19/2003



Building a Better World
for All of Us®

April 12, 2021

Bad River Band of the Lake Superior Tribe of Chippewa
Indians of the Bad River Reservation, Wisconsin
Edith Leoso
THPO
PO Box 39
Odanah WI 54861

Subject: Finding of No Historic Properties Affected
Wastewater Treatment Plant
Village of Baldwin, Wisconsin

Dear: Ms. Leoso

The Village of Baldwin, Wisconsin is seeking financial assistance from the Rural Utilities Service (RUS) under its USDA Rural Development Water and Environmental Loan & Grant Program for construction of a new village wastewater treatment plant (WWTP). The Village of Baldwin is adjacent to Interstate 94, in St. Croix County in northwestern Wisconsin. Baldwin will be constructing a new wastewater treatment facility within municipal boundaries at 1610 Florence Street, approximately 1,900 feet east of the intersection of 200th Street and County Road J. The existing facility is across the street, 550 feet southwest of the proposed facility. The WWTP is west of the Village in Township 29 North, Range 17 West, in Section 25, and discharges treated effluent into Baldwin Creek which flows into the Rush River.

The construction of a new WWTP is necessary because the existing, 35-year-old facility is at the end of its useful life. Some proposed structures may be greater than 20-foot in height. Construction will include demolition of the existing facility, excavation of soil for the new facility but will not involve clearing of trees or foliage.

If RUS elects to fund this application, it will become an undertaking subject to review under Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, and its implementing regulations, 36 CFR Part 800. Pursuant to 7 CFR § 1970.5(b)(2) of the regulations, "Environmental Policies and Procedures" (7 CFR Part 1970), RUS has issued a blanket delegation to its applicants to initiate and proceed through Section 106 review. In accordance with this blanket delegation, Baldwin is initiating Section 106 review on behalf of RUS.

In delegating this authority, RUS is advocating for the direct interaction between its Rural Development Water and Environmental Loan & Grant Program applicants and Indian tribes. RUS believes this interaction, prior to direct agency involvement, will support and encourage the consideration of impacts to historic properties of importance to Indian tribes earlier in project planning.

The Village of Baldwin proposes that the area of potential effects (APE) for the referenced project consists of approximately 100 percent active agriculture. The approximate area of potential effects is an 11-acre portion of the 40-acre parcel the new WWTP will be constructed on. The geographic scope of the

Engineers | Architects | Planners | Scientists

Short Elliott Hendrickson Inc., 6808 Odana Rd Ste 200, Madison, WI 53719

715.720.6200 | 800.472.5881 | 888.908.8166 fax | sehinc.com

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APE will not be final until a determination is made by RUS pursuant to 36 CFR § 800.4(a)(1). The APE does not include any tribal lands as defined pursuant to 36 CFR § 800.16(x).

The Village of Baldwin is notifying you about the referenced project because of the possible interest of the [Name of Indian Tribe] in [Insert County Name(s)]. Whether or not the [Name of Indian Tribe] elects to participate in Section 106 review of the referenced project, please notify me in writing via letter or email as soon as possible at the following addresses – at nday@sehinc.com or 6808 Odana Rd Ste 200, Madison, WI 53719.

Please include with your affirmative response, a description of any specific historic properties or important tribal resources in the APE and your recommendations about the level of effort needed to identify additional historic properties which might be affected by the referenced project. The Village of Baldwin will respect the confidentiality of the information which you provide to the fullest extent possible.

If at any time you wish to share your interests, recommendations and concerns directly with RUS, as the agency responsible for conducting Section 106 review, or to request that RUS participate directly in Section 106 review, please notify me at once, preferably via email. However, you may contact RUS directly. If you wish to do so, please submit your request to Joe Dorava at joseph.dorava@usda.gov.

Please submit your response to me by May 13th, 2021. Prior to this date, a USDA and/or SEH representative will follow-up to ensure your receipt of this notification and to identify any constraints which might delay your timely response. Baldwin has been advised by RUS to proceed to the next step in Section 106 review if you fail to provide a timely response. Should you have any questions or require additional information you may contact me at nday@sehinc.com or 6808 Odana Rd Ste 200, Madison, WI 53719.

Sincerely,
SHORT ELLIOTT HENDRICKSON INC.

A handwritten signature in black ink that reads "Nate Day". The signature is written in a cursive, flowing style.

Nate Day
Community Development

Enclosures: Project Area Map

List of THPOs Contacted

Street Address	City	State	Zip-Code	Work Phone	Fax Number	Cell Phone	Email	THPO	URL	County Name	State Name
PO Box 39	Odanah	WI	54861	(715) 682-7123	(715) 682-7118		thpo@badriver-nsn.gov	Y	www.badriver-nsn.gov	St. Croix	Wisconsin
P.O. Box 249	Watersmeet	MI	49969	(906) 358-0137	(906) 358-4850		daisy.mcgeshick@lvdtribal.com	Y	http://www.lvdtribal.com/	St. Croix	Wisconsin
656 Agency Main Street	Harlem	MT		(406) 353-8471	(406) 353-2889		mblackwolf@ftbelknap.org	Y	http://www.ftbelknap.org/	St. Croix	Wisconsin
88385 Pike Road, Highway 13	Bayfield	WI	54814	(715) 779-3700 ext.	(715) 779-3701		marvin.defoe@redcliff-nsn.gov	Y	http://www.redcliff-nsn.gov	St. Croix	Wisconsin
425 Frazier Ave. N. Suite 2	Niobrara	NE		(402) 857-2772	(402) 857-2779		pegasixx@yahoo.com	Y	http://santeesiouxnation.net/index.html	St. Croix	Wisconsin
PO Box 428	Grand Portage	MN	55605	(218) 475-0111	(218) 475-2292		maryanng@grandportage.com	Y	http://www.grandportage.com	St. Croix	Wisconsin
1720 Big Lake Rd	Cloquet	MN	55720	(218) 878-7129	(218) 878-7169		JillHoppe@fdirez.com	Y	www.fdirez.com	St. Croix	Wisconsin
PO Box 283	Flandreau	SD	57028	(605) 864-1236	(605) 997-3878		garrie.killsahundred@FSST.org	Y	www.santeesioux.com	St. Croix	Wisconsin
5636 Sturgeon Lake Road	Welch	MN	55089	(651) 385-4175	(651) 385-4180		noah.white@pilc.org	Y	http://prairieisland.org/	St. Croix	Wisconsin
PO Box 1326	Miami	OK	74355	(260) 639-0600	(918) 542-7260		dhunter@miamination.com	Y	http://www.miamination.com	St. Croix	Wisconsin
43408 Oodena Drive	Onamia	MN	56359	(320) 532-7450	(320) 532-7514		natalie.weyaus@millelacsband.com	Y	www.millelacsband.com	St. Croix	Wisconsin
43408 Oodena Drive	Onamia	MN	56359	(320) 532-4181	(320) 532-5800		melanie.benjamin@millelacsband.com	N	www.millelacsband.com	St. Croix	Wisconsin
PO Box 308	Morton	MN	56270	(507) 697-6321	(507) 697-6310		cheyanne.stjohn@lowersioux.com	Y	www.lowersioux.com	St. Croix	Wisconsin
PO Box 418	White Earth	MN	56591	(218) 983-3285, ext	(218) 573-3009		Jaime.Arsenault@whiteearth-nsn.gov	Y	www.whiteearth.com	St. Croix	Wisconsin
PO Box 147	Granite Falls	MN		(320) 564-6334	(320) 564-4482		samanthao@uppersiouxcommunity-nsn.gov	Y	http://www.uppersiouxcommunity-nsn.gov	St. Croix	Wisconsin
16429 Beartown Rd.	Baraga	MI	49908	(906) 353-6623, ext	(906) 353-7540		Aconnor@kbic-nsn.gov	Y	http://www.kbic-nsn.gov	St. Croix	Wisconsin
13394 West Trepania Road	Hayward	WI	54843	(715) 634-8934	(715) 634-4797		Brian.Bisonette@lco-nsn.gov	Y	https://www.lcotribe.com/	St. Croix	Wisconsin



Endangered Resources Preliminary Assessment

Created on **4/20/2021**. This report is good for one year after the created date.

DNR staff will be reviewing the ER Preliminary Assessments to verify the results provided by the Public Portal. ER Preliminary Assessments are only valid if the project habitat and waterway-related questions are answered accurately based on current site conditions. If an assessment is deemed invalid, a full ER review may be required even if the assessment indicated otherwise.

Results

A search was conducted of the NHI Portal within a 1-mile buffer (for terrestrial and wetland species) and a 2-mile buffer (for aquatic species) of the project area. Based on these search results, below are your follow-up actions.

No further action is necessary.

This project is covered by the Broad Incidental Take Permit/Authorization for No/Low Impact Activities (No/Low BITP/A) (<https://dnr.wi.gov/topic/ERReview/ITNoLowImpact.html>). This BITP/A covers projects that the DNR has determined will have no impact or a minimal impact to endangered and threatened species in the state. Due to this coverage under the No/Low BITP/A, a formal review letter is not needed and there are no actions that need to be taken to comply with state and/or federal endangered species laws, any take that may result from the proposed project is permitted/authorized.

A copy of this document can be kept on file and submitted with any other necessary DNR permit applications to show that the need for an ER Review has been met. This notice only addresses endangered resources issues. This notice does not constitute DNR authorization of the proposed project and does not exempt the project from securing necessary permits and approvals from the DNR and/or other permitting authorities.

Project Information

Landowner name	Village of Baldwin
Project address	1601 Florence Street, Baldwin, WI 54002
Project description	New WWTP

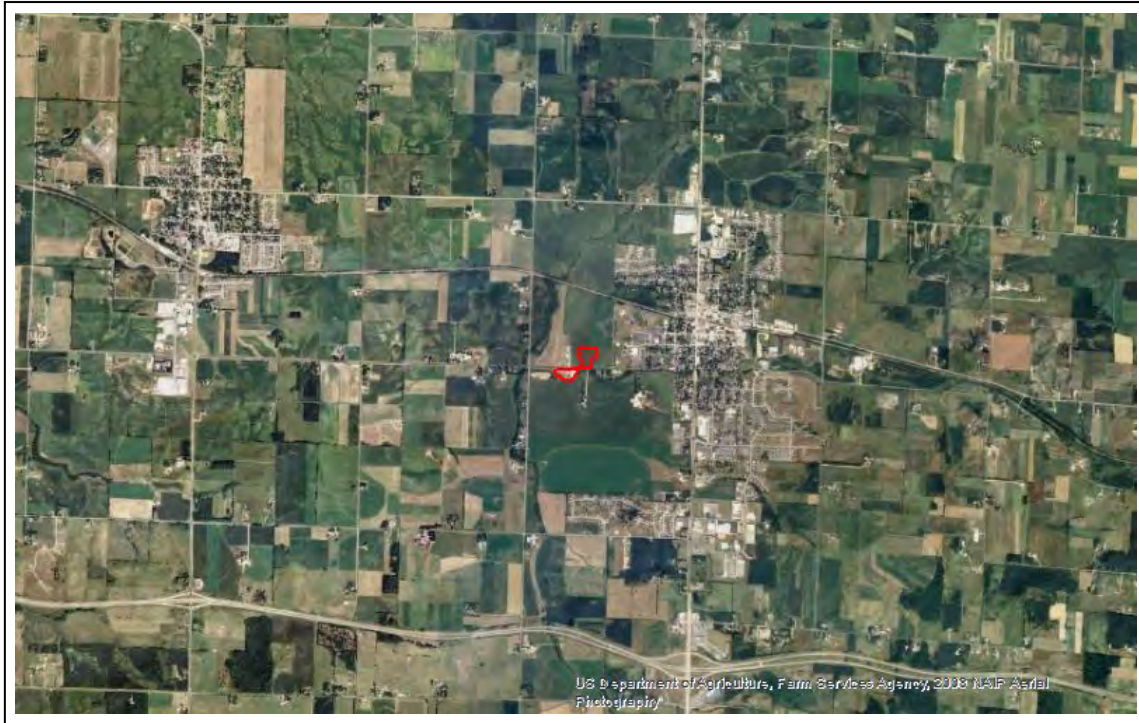
Project Questions

Does the project involve a public property?	Yes
Is there any federal involvement with the project?	Yes
Is the project a utility, agricultural, forestry or bulk sampling (associated with mining) project?	Yes
Is the project property in Managed Forest Law or Managed Forest Tax Law?	No
Project involves tree removal?	No
Is project near (within 300 ft) a waterbody or a shoreline?	Yes
Is project within a waterbody or along the shoreline?	No

Does the project area (including access routes, staging areas, laydown yards, select sites, source/fill sites, etc.) occur **entirely within** one or more of the following habitats?

Urban/residential	No
Manicured lawn	Yes

Artificial/paved surface	Yes
Agricultural land	Yes
Areas covered in crushed stone or gravel	Yes

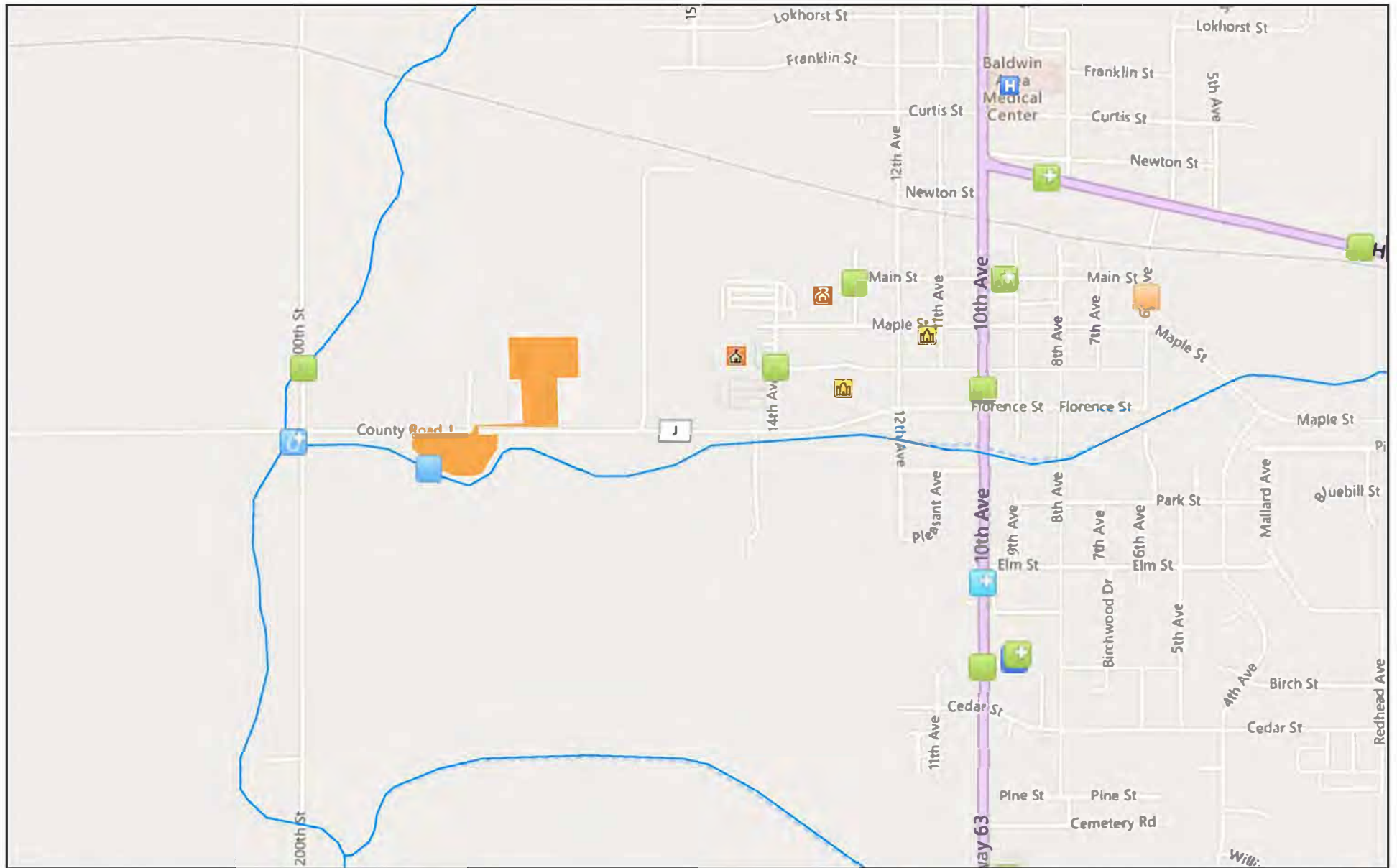


The information shown on these maps has been obtained from various sources, and is of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. Users of these maps should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>.

<https://dnrx.wisconsin.gov/nhiportal/public>

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921

NEPAssist Map



April 21, 2021

- | | | | | | | | |
|--|-----------------------------|--|---------------------------|--|-----------------------------|--|-------------------|
| | EPA Water Monitors (STORET) | | Brownfields (ACRES) | | Toxic Releases (TRI) | | Schools |
| | Hazardous Waste (RCRAInfo) | | Water Dischargers (NPDES) | | Toxic Releases (TRI) | | Places of Worship |
| | Hazardous Waste (RCRAInfo) | | Air Pollution (ICIS-AIR) | | village of baldwin new wwtp | | Hospitals |

Scale: 1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Green Bay Ecological Services Field Office
2661 Scott Tower Drive
New Franken, WI 54229-9565
Phone: (920) 866-1717 Fax: (920) 866-1710

In Reply Refer To:
Consultation Code: 03E17000-2021-SLI-1123
Event Code: 03E17000-2021-E-03819
Project Name: Village of Baldwin New WWTP

April 20, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*).

Threatened and Endangered Species

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS IPaC system by completing the same process used to receive the enclosed list.

Consultation Technical Assistance

Please refer to the Midwest Region [S7 Technical Assistance](#) website for step-by-step instructions for making species determinations and for specific guidance on the following types of projects: projects in developed areas, HUD, CDBG, EDA, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of “There are no listed species found within the vicinity of the project,” then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example ["No Effect" document](#) also can be found on the S7 Technical Assistance website.
2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project – other than bats (see below) – then project proponents must determine if proposed activities will have **no effect** on or **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain [Life History Information for Listed and Candidate Species](#) through the S7 Technical Assistance website. If no impacts will occur to a species on the IPaC species list (e.g., there is no habitat present in the project area), the appropriate determination is **No Effect**. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example ["No Effect" document](#) also can be found on the S7 Technical Assistance website.
3. Should you determine that project activities **may affect** any federally listed, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

Northern Long-Eared Bats

Northern long-eared bats occur throughout Minnesota and Wisconsin and the information below may help in determining if your project may affect these species.

This species hibernates in caves or mines only during the winter. In Minnesota and Wisconsin, the hibernation season is considered to be November 1 to March 31. During the active season (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches dbh for northern long-eared bat that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas,
- Trees found in highly developed urban areas (e.g., street trees, downtown areas),
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees, and
- A stand of eastern red cedar shrubby vegetation with no potential roost trees.

If IPaC returns a result that northern long-eared bats are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** this species **IF** one or more of the following activities are proposed:

- Clearing or disturbing suitable roosting habitat, as defined above, at any time of year,
 - Any activity in or near the entrance to a cave or mine,
 - Mining, deep excavation, or underground work within 0.25 miles of a cave or mine,
 - Construction of one or more wind turbines, or
 - Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.
-

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on the northern long-eared bat. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example "[No Effect](#)" [document](#) also can be found on the S7 Technical Assistance website.

If any of the above activities are proposed, please use the northern long-eared bat determination key in IPaC. This tool streamlines consultation under the 2016 rangewide programmatic biological opinion for the 4(d) rule. The key helps to determine if prohibited take might occur and, if not, will generate an automated verification letter. No further review by us is necessary. Please visit the links below for additional information about "may affect" determinations for the northern long-eared bat.

[NLEB Section 7 consultation](#)

[Key to the NLEB 4\(d\) rule for federal actions that may affect](#)

[Instructions for the NLEB 4\(d\) assisted d-key](#)

[Maternity tree and hibernaculum locations by state](#)

Other Trust Resources and Activities

Bald and Golden Eagles - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds,

especially some 350 species of night-migrating birds. However, the Service has developed [voluntary guidelines for minimizing impacts](#).

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to [guidelines](#) developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's [Wind Energy Guidelines](#). In addition, please refer to the Service's [Eagle Conservation Plan Guidance](#), which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

State Department of Natural Resources Coordination

While it is not required for your Federal section 7 consultation, please note that additional state endangered or threatened species may also have the potential to be impacted. Please contact the Minnesota or Wisconsin Department of Natural Resources for information on state listed species that may be present in your proposed project area.

Minnesota

[Minnesota Department of Natural Resources - Endangered Resources Review Homepage](#)

Email: Review.NHIS@state.mn.us

Wisconsin

[Wisconsin Department of Natural Resources - Endangered Resources Review Homepage](#)

Email: DNRERReview@wi.gov

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Green Bay Ecological Services Field Office

2661 Scott Tower Drive

New Franken, WI 54229-9565

(920) 866-1717

Project Summary

Consultation Code: 03E17000-2021-SLI-1123

Event Code: 03E17000-2021-E-03819

Project Name: Village of Baldwin New WWTP

Project Type: WASTEWATER FACILITY

Project Description: Baldwin's WWTP is at the end of its useful life, therefore, the Village will be constructing a new WWTP within its municipal boundaries, west of the existing facility. New structures may be greater than 20 feet in height. Construction will include demolition of the existing facility and excavation of soil for the new facility but will not involve clearing of trees or foliage. Construction of the new facility will also include a new service road to connect Honey Lane, the new facility, and 5th Street . All staging areas, laydown yards, and storage will be within the project area.

The new WWTP will consist of similar components as the existing, including a vertical fine screen, grit removal, oxidation ditch, clarifiers, UV treatment, and sludge and centrate storage. A new technology is proposed for thickening the sludge that will eliminate the use of polymer at the WWTP and does not require a building. The new process is more streamlined, effective, and automated than the existing method of thickening sludge. There will be a new tertiary treatment building to remove phosphorus down to 0.075 mg/L through the use of reactive sand filters. These filters have been shown to be a reliable and low maintenance solution.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.9640375,-92.38815025764791,14z>



Counties: St. Croix County, Wisconsin

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Karner Blue Butterfly <i>Lycaeides melissa samuelis</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6656	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Green Bay Ecological Services Field Office
2661 Scott Tower Drive
New Franken, WI 54229-9565
Phone: (920) 866-1717 Fax: (920) 866-1710

In Reply Refer To:
Consultation code: 03E17000-2021-TA-1123
Event Code: 03E17000-2021-E-03822
Project Name: Village of Baldwin New WWTP

April 20, 2021

Subject: Verification letter for the 'Village of Baldwin New WWTP' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Dillon Constant:

The U.S. Fish and Wildlife Service (Service) received on April 20, 2021 your effects determination for the 'Village of Baldwin New WWTP' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"^[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Karner Blue Butterfly *Lycaeides melissa samuelis* Endangered

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

Village of Baldwin New WWTP

2. Description

The following description was provided for the project 'Village of Baldwin New WWTP':

Baldwin's WWTP is at the end of its useful life, therefore, the Village will be constructing a new WWTP within its municipal boundaries, west of the existing facility. New structures may be greater than 20 feet in height. Construction will include demolition of the existing facility and excavation of soil for the new facility but will not involve clearing of trees or foliage. Construction of the new facility will also include a new service road to connect Honey Lane, the new facility, and 5th Street . All staging areas, laydown yards, and storage will be within the project area.

The new WWTP will consist of similar components as the existing, including a vertical fine screen, grit removal, oxidation ditch, clarifiers, UV treatment, and sludge and centrate storage. A new technology is proposed for thickening the sludge that will eliminate the use of polymer at the WWTP and does not require a building. The new process is more streamlined, effective, and automated than the existing method of thickening sludge. There will be a new tertiary treatment building to remove phosphorus down to 0.075 mg/L through the use of reactive sand filters. These filters have been shown to be a reliable and low maintenance solution.

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@44.9640375,-92.38815025764791,14z>

**Determination Key Result**

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?
Yes
2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")
No
3. Will your activity purposefully **Take** northern long-eared bats?
No
4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?
Automatically answered
No
5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?
No
 7. Will the action involve Tree Removal?
No
-

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below.

Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below.

Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below.

Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

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Suitabilities and Limitations Ratings

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- Construction Materials
- Disaster Recovery Planning
- Land Classifications
- Land Management
- Military Operations
- Recreational Development
- Sanitary Facilities
- Soil Health
- Vegetative Productivity
- Waste Management
- Water Management

Wildlife Management

Soil Suitability - Karner Blue Butterfly (WI)

View Description | View Rating

View Options

Map

Table

Component Breakdown and Rating Reasons

Numeric Values

Description of Rating

Rating Options

Detailed Description

Advanced Options

View Description | View Rating

Map - Soil Suitability - Karner Blue Butterfly (WI)

Scale (not to scale)



Warning: Soil Ratings Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used, Map 1:15,800. The design of map units and the level of detail shown in the resulting soil map are dependent on the scale. Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of map that could have been shown at a more detailed scale.

Tables - Soil Suitability - Karner Blue Butterfly (WI) - Summary By Map Unit

Summary by Map Unit - St. Croix County, Wisconsin (WI109)

Summary by Map Unit - St. Croix County, Wisconsin (WI109)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
PIA	Pilot silt loam, 0 to 3 percent slopes	Poor	Pilot (100%)	Available water storage (0.00)	10.8	100.0%
Totals for Area of Interest					10.8	100.0%

Summary by Map Unit — St. Croix County, Wisconsin (WI109)						
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
				Component interpretable (0.00)		
				Reaction, Soil (pH) (0.00)		
				Saturated Hydraulic Conductivity (KSAT) (0.03)		
				Depth to Min Water Table (0.05)		
Totals for Area of Interest					10.8	100.0%

Summary by Rating Value		
Rating	Acres in AOI	Percent of AOI
Poor	10.8	100.0%
Totals for Area of Interest	10.8	100.0%

Description — Soil Suitability - Karner Blue Butterfly (WI)

The Karner blue butterfly (KBB) is a federally listed endangered species present in small patches across the North Central and North Eastern U.S. The KBB usually occupies open barrens, savannas and prairies that contain wild lupine. This plant is widespread in Wisconsin's central and northwest sands. The pale green caterpillar of the KBB feeds exclusively on the leaves of wild lupine.

Rating Options — Soil Suitability - Karner Blue Butterfly (WI)

Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified
Tie-break Rule: Higher



Baldwin WWTP - Invasive Species Map



Legend

- County Boundary
- Municipality
- State Boundaries
- County Boundaries
- Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
- County and Local Roads**
 - County HWY
 - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Open Water
- Great Lakes

1: 7,920



0.3 0 0.13 0.3 Miles

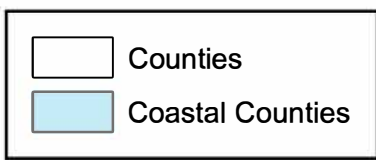
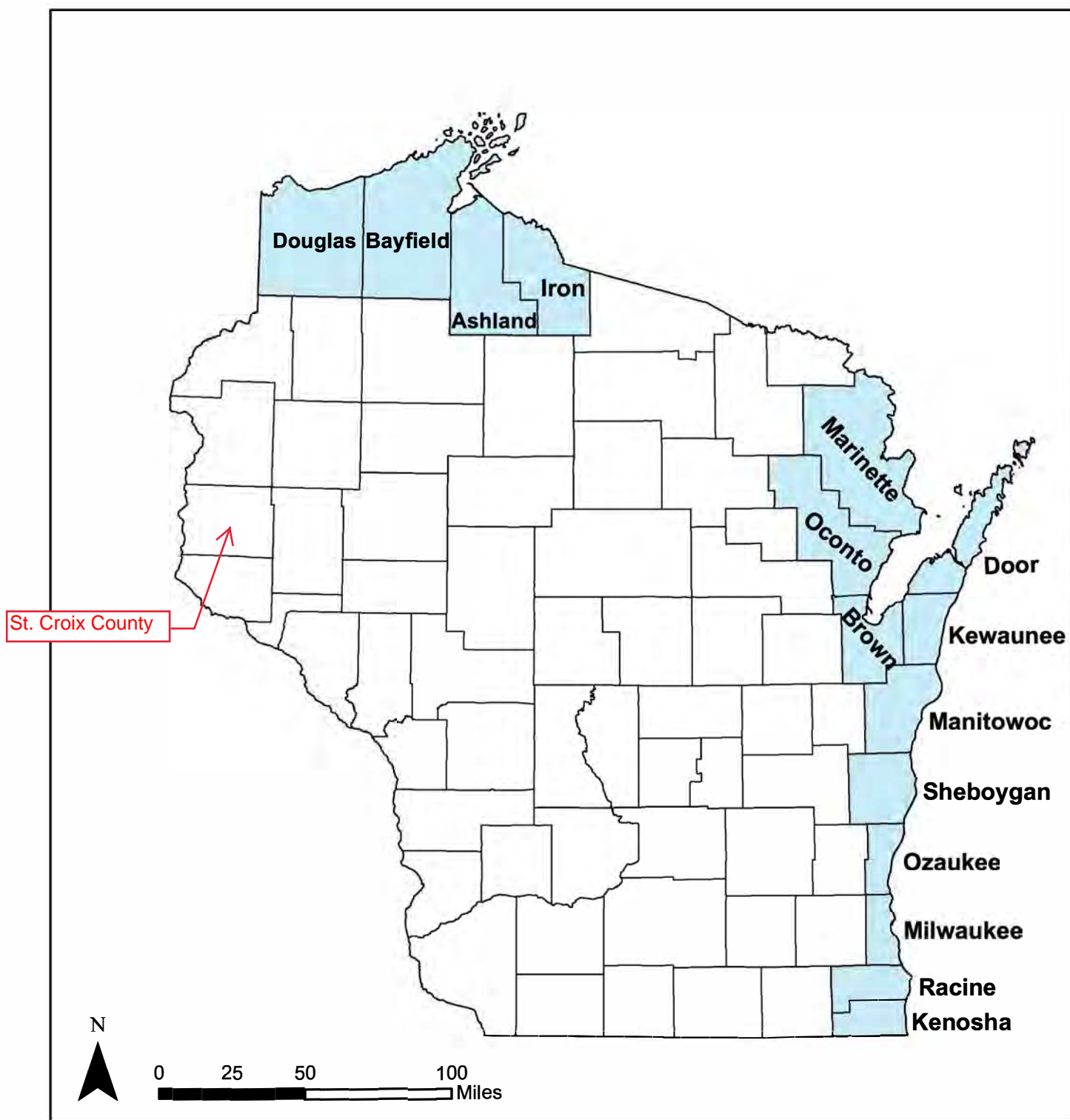
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Notes

No Invasive Species present.

Wisconsin's Coastal Counties





EJSCREEN ACS Summary Report



Location: Blockgroup: 551091208004
 Ring (buffer): 0-mile radius
 Description:

Summary of ACS Estimates	2014 - 2018
Population	1,479
Population Density (per sq. mile)	901
People of Color Population	293
% People of Color Population	20%
Households	628
Housing Units	666
Housing Units Built Before 1950	139
Per Capita Income	25,123
Land Area (sq. miles) (Source: SF1)	1.64
% Land Area	100%
Water Area (sq. miles) (Source: SF1)	0.00
% Water Area	0%

	2014 - 2018 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	1,479	100%	292
Population Reporting One Race	1,359	92%	327
White	1,359	92%	282
Black	0	0%	9
American Indian	0	0%	9
Asian	0	0%	9
Pacific Islander	0	0%	9
Some Other Race	0	0%	9
Population Reporting Two or More Races	120	8%	96
Total Hispanic Population	180	12%	125
Total Non-Hispanic Population	1,299		
White Alone	1,186	80%	264
Black Alone	0	0%	9
American Indian Alone	0	0%	9
Non-Hispanic Asian Alone	0	0%	9
Pacific Islander Alone	0	0%	9
Other Race Alone	0	0%	9
Two or More Races Alone	113	8%	95
Population by Sex			
Male	636	43%	138
Female	843	57%	200
Population by Age			
Age 0-4	192	13%	123
Age 0-17	442	30%	160
Age 18+	1,037	70%	209
Age 65+	119	8%	81

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
 N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2014 - 2018 .



Location: Blockgroup: 551091208004
 Ring (buffer): 0-mile radius
 Description:

	2014 - 2018 ACS Estimates	Percent	MOE (±)
Population 25+ by Educational Attainment			
Total	891	100%	184
Less than 9th Grade	16	2%	26
9th - 12th Grade, No Diploma	0	0%	9
High School Graduate	300	34%	105
Some College, No Degree	397	45%	144
Associate Degree	168	19%	101
Bachelor's Degree or more	178	20%	82
Population Age 5+ Years by Ability to Speak English			
Total	1,287	100%	239
Speak only English	1,232	96%	204
Non-English at Home ¹⁺²⁺³⁺⁴	55	4%	54
¹ Speak English "very well"	55	4%	54
² Speak English "well"	0	0%	9
³ Speak English "not well"	0	0%	9
⁴ Speak English "not at all"	0	0%	9
³⁺⁴ Speak English "less than well"	0	0%	9
²⁺³⁺⁴ Speak English "less than very well"	0	0%	9
Linguistically Isolated Households*			
Total	0	0%	9
Speak Spanish	0	0%	9
Speak Other Indo-European Languages	0	0%	9
Speak Asian-Pacific Island Languages	0	0%	9
Speak Other Languages	0	0%	9
Households by Household Income			
Household Income Base	628	100%	120
< \$15,000	68	11%	50
\$15,000 - \$25,000	73	12%	76
\$25,000 - \$50,000	131	21%	94
\$50,000 - \$75,000	188	30%	98
\$75,000 +	168	27%	69
Occupied Housing Units by Tenure			
Total	628	100%	120
Owner Occupied	323	51%	83
Renter Occupied	305	49%	106
Employed Population Age 16+ Years			
Total	1,037	100%	185
In Labor Force	820	79%	150
Civilian Unemployed in Labor Force	13	1%	20
Not In Labor Force	217	21%	93

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of anyrace.

N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS)

*Households in which no one 14 and over speaks English "very well" or speaks English only.



EJSCREEN ACS Summary Report



Location: Blockgroup: 551091208004

Ring (buffer): 0-mile radius

Description:

	2014 - 2018 ACS Estimates	Percent	MOE (±)
Population by Language Spoken at Home*			
Total (persons age 5 and above)	N/A	N/A	N/A
English	N/A	N/A	N/A
Spanish	N/A	N/A	N/A
French	N/A	N/A	N/A
French Creole	N/A	N/A	N/A
Italian	N/A	N/A	N/A
Portuguese	N/A	N/A	N/A
German	N/A	N/A	N/A
Yiddish	N/A	N/A	N/A
Other West Germanic	N/A	N/A	N/A
Scandinavian	N/A	N/A	N/A
Greek	N/A	N/A	N/A
Russian	N/A	N/A	N/A
Polish	N/A	N/A	N/A
Serbo-Croatian	N/A	N/A	N/A
Other Slavic	N/A	N/A	N/A
Armenian	N/A	N/A	N/A
Persian	N/A	N/A	N/A
Gujarathi	N/A	N/A	N/A
Hindi	N/A	N/A	N/A
Urdu	N/A	N/A	N/A
Other Indic	N/A	N/A	N/A
Other Indo-European	N/A	N/A	N/A
Chinese	N/A	N/A	N/A
Japanese	N/A	N/A	N/A
Korean	N/A	N/A	N/A
Mon-Khmer, Cambodian	N/A	N/A	N/A
Hmong	N/A	N/A	N/A
Thai	N/A	N/A	N/A
Laotian	N/A	N/A	N/A
Vietnamese	N/A	N/A	N/A
Other Asian	N/A	N/A	N/A
Tagalog	N/A	N/A	N/A
Other Pacific Island	N/A	N/A	N/A
Navajo	N/A	N/A	N/A
Other Native American	N/A	N/A	N/A
Hungarian	N/A	N/A	N/A
Arabic	N/A	N/A	N/A
Hebrew	N/A	N/A	N/A
African	N/A	N/A	N/A
Other and non-specified	N/A	N/A	N/A
Total Non-English	N/A	N/A	N/A

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
 N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2014 - 2018.
 *Population by Language Spoken at Home is available at the census tract summary level and up.

Form RD 2006-38
(Rev. 07-07)

Rural Development
Environmental Justice (EJ) and Civil Rights Impact Analysis (CRIA)
Certification

1. Applicant's name and proposed project description: Village of Baldwin. Construction of New WWTP

2. Rural Development's loan/grant program/guarantee or other Agency action: USDA Rural Development .
Rural Utility Service (RUS) .

3. Attach a map of the proposal's area of effect identifying location or EJ populations, location of the proposal, area of impact or

Attach results of EJ analysis from the Environmental Protection Agency's (EPAs) EnviroMapper with proposed project location and impact footprint delineated.

4. Does the applicant's proposal or Agency action directly, indirectly or cumulatively affect the quality and/or level of services provided to the community?

Yes No N/A

5. Is the applicant's proposal or Agency action likely to result in a change in the current land use patterns (types of land use, development densities, etc)?

Yes No N/A

6. Does a demographic analysis indicate the applicant's proposal or Agency's action may disproportionately affect a significant minority and/or low-income populations?

Yes No N/A

If answer is no, skip to item 12. If answer is yes, continue with items 7 through 12.

7. Identify, describe, and provide location of EJ population _____

8. If a disproportionate adverse affect is expected to impact an EJ population, identify type/level of public outreach implemented. _____

9. Identify disproportionately high and adverse impacts on EJ populations. _____

10. Are adverse impacts appreciably more severe or greater in magnitude than the adverse impacts expected on non-minority/low-income populations?

Yes No N/A

11. Are alternatives and/or mitigation required to avoid impacts to EJ populations?

Yes No N/A

If yes, describe _____

12. I certify that I have reviewed the appropriate documentation and have determined that:

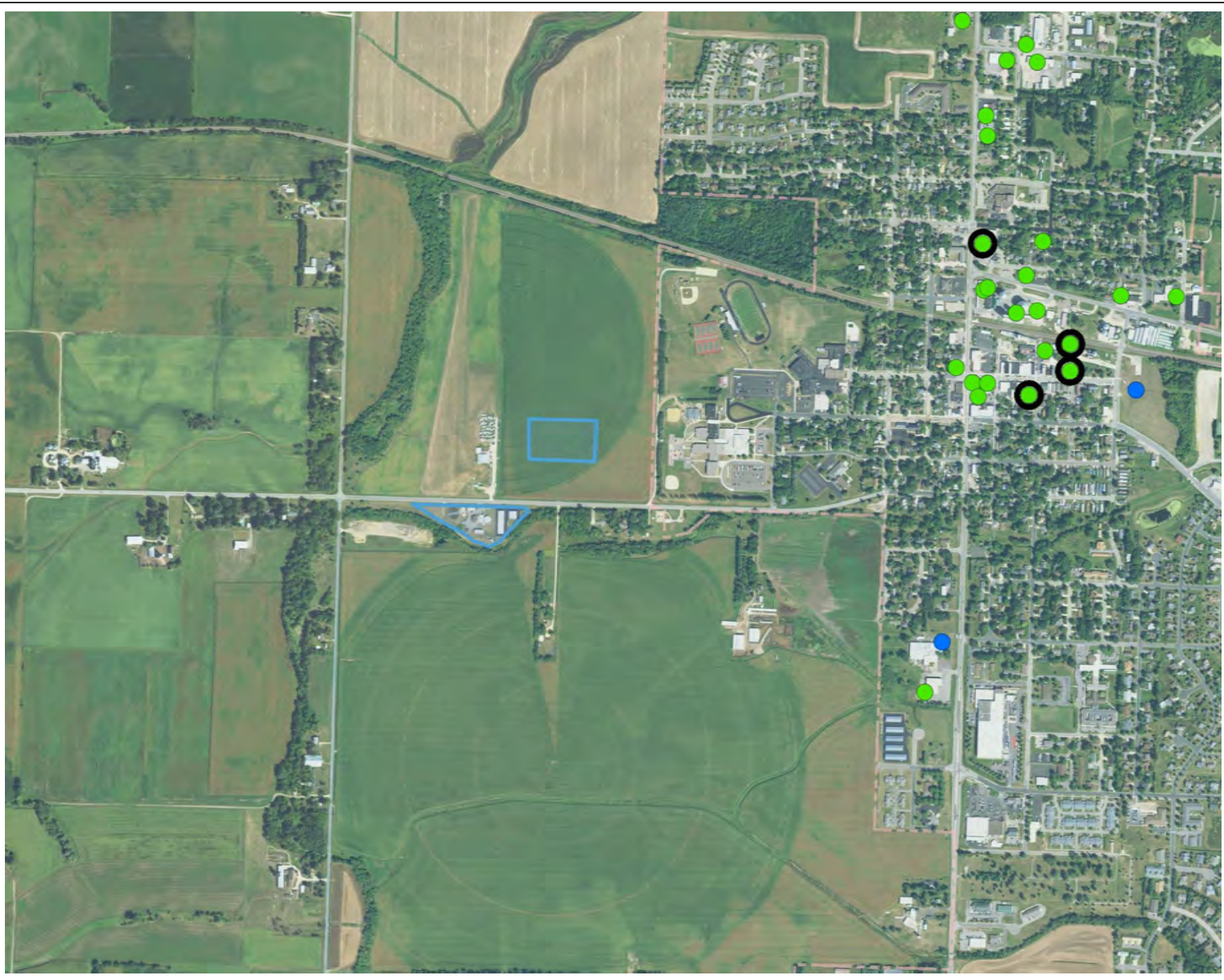
No major EJ or civil rights impact is likely to result if the proposal is implemented.
 A major EJ or civil rights impact is likely to result if the proposal is implemented.

Dillon Constant, SEH, Inc.
Name and Title of Certifying Official

04-20-2021
Date



Baldwin RR Sites



Legend

- Open Site
- Closed Site
- Continuing Obligations Apply
- Facility-wide Site



NAD_1983_HARN_Wisconsin_TM

1: 15,840



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Note: Not all sites are mapped.

Notes

Project area: blue polygons

Received 1-28-20

WPDES Permit No. WI-0026891-10-0



WPDES PERMIT

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
**PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE
 ELIMINATION SYSTEM**

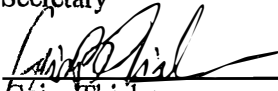
Village of Baldwin

is permitted, under the authority of Chapter 283, Wisconsin Statutes, to discharge from a facility
 located at
 2021 Highway J, Baldwin, WI 54002
 to
**Baldwin Creek, a tributary to the Rush River, in the Rush River Watershed
 of the Lower Chippewa River Basin in St. Croix County**

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit.

The permittee shall not discharge after the date of expiration. If the permittee wishes to continue to discharge after this expiration date an application shall be filed for reissuance of this permit, according to Chapter NR 200, Wis. Adm. Code, at least 180 days prior to the expiration date given below.

State of Wisconsin Department of Natural Resources
For the Secretary

By 
 Geisa Thielen
 Wastewater Field Supervisor

November 26, 2019
 Date Permit Signed/Issued

PERMIT TERM: EFFECTIVE DATE - December 01, 2019

EXPIRATION DATE - September 30, 2024

TABLE OF CONTENTS

1 INFLUENT REQUIREMENTS	1
1.1 SAMPLING POINT(S)	1
1.2 MONITORING REQUIREMENTS	1
1.2.1 <i>Sampling Point 701 - INFLUENT TO PLANT</i>	1
2 SURFACE WATER REQUIREMENTS	2
2.1 SAMPLING POINT(S)	2
2.2 MONITORING REQUIREMENTS AND EFFLUENT LIMITATIONS	2
2.2.1 <i>Sampling Point (Outfall) 001 – EFFLUENT to BALDWIN CREEK</i>	2
3 LAND APPLICATION REQUIREMENTS	5
3.1 SAMPLING POINT(S)	5
3.2 MONITORING REQUIREMENTS AND LIMITATIONS	5
3.2.1 <i>Sampling Point (Outfall) 005 - SLUDGE HAULED TO WCWBF</i>	5
4 SCHEDULES	7
4.1 WATER QUALITY BASED EFFLUENT LIMITS (WQBELs) FOR TOTAL PHOSPHORUS	7
4.2 ANNUAL WATERWAY INSPECTION ANNUAL WATERWAY INSPECTION	7
5 STANDARD REQUIREMENTS	8
5.1 REPORTING AND MONITORING REQUIREMENTS	8
5.1.1 <i>Monitoring Results</i>	8
5.1.2 <i>Sampling and Testing Procedures</i>	8
5.1.3 <i>Recording of Results</i>	8
5.1.4 <i>Reporting of Monitoring Results</i>	8
5.1.5 <i>Compliance Maintenance Annual Reports</i>	9
5.1.6 <i>Records Retention</i>	9
5.1.7 <i>Other Information</i>	10
5.1.8 <i>Reporting Requirements – Alterations or Additions</i>	10
5.2 SYSTEM OPERATING REQUIREMENTS	10
5.2.1 <i>Noncompliance Reporting</i>	10
5.2.2 <i>Flow Meters</i>	11
5.2.3 <i>Raw Grit and Screenings</i>	11
5.2.4 <i>Sludge Management</i>	11
5.2.5 <i>Prohibited Wastes</i>	11
5.2.6 <i>Bypass</i>	11
5.2.7 <i>Scheduled Bypass</i>	11
5.2.8 <i>Controlled Diversions</i>	12
5.2.9 <i>Proper Operation and Maintenance</i>	12
5.2.10 <i>Operator Certification</i>	12
5.3 SEWAGE COLLECTION SYSTEMS	12
5.3.1 <i>Sanitary Sewage Overflows and Sewage Treatment Facility Overflows</i>	12
5.3.2 <i>Capacity, Management, Operation and Maintenance (CMOM) Program</i>	14
5.3.3 <i>Sewer Cleaning Debris and Materials</i>	14
5.4 SURFACE WATER REQUIREMENTS	15
5.4.1 <i>Permittee-Determined Limit of Quantitation Incorporated into this Permit</i>	15
5.4.2 <i>Appropriate Formulas for Effluent Calculations</i>	15
5.4.3 <i>Effluent Temperature Requirements</i>	15
5.4.4 <i>Visible Foam or Floating Solids</i>	16
5.4.5 <i>Surface Water Uses and Criteria</i>	16
5.4.6 <i>Percent Removal</i>	16
5.4.7 <i>Fecal Coliforms</i>	16
5.4.8 <i>Year Round Disinfection</i>	16

5.5 LAND APPLICATION REQUIREMENTS	16
<i>5.5.1 Sludge Management Program Standards And Requirements Based Upon Federally Promulgated Regulations</i>	<i>16</i>
<i>5.5.2 General Sludge Management Information</i>	<i>16</i>
<i>5.5.3 Sludge Samples</i>	<i>17</i>
<i>5.5.4 Land Application Characteristic Report</i>	<i>17</i>
<i>5.5.5 Calculation of Water Extractable Phosphorus</i>	<i>17</i>
<i>5.5.6 Monitoring and Calculating PCB Concentrations in Sludge</i>	<i>17</i>
<i>5.5.7 Annual Land Application Report</i>	<i>18</i>
<i>5.5.8 Other Methods of Disposal or Distribution Report</i>	<i>18</i>
<i>5.5.9 Approval to Land Apply</i>	<i>18</i>
<i>5.5.10 Soil Analysis Requirements</i>	<i>18</i>
<i>5.5.11 Land Application Site Evaluation</i>	<i>19</i>
<i>5.5.12 Sludge Hauling</i>	<i>19</i>
6 SUMMARY OF REPORTS DUE	20

1 Influent Requirements

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
701	Representative influent samples shall be collected after the fine screen and prior to the Parshall flume.

1.2 Monitoring Requirements

The permittee shall comply with the following monitoring requirements.

1.2.1 Sampling Point 701 - INFLUENT TO PLANT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Continuous	Continuous	
BOD ₅ , Total		mg/L	5/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	5/Week	24-Hr Flow Prop Comp	

2 Surface Water Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
001	Representative effluent samples shall be collected downstream from the final clarifier prior to discharge to Baldwin Creek. Fecal coliform and pH samples shall be collected after disinfection.

2.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point (Outfall) 001 – EFFLUENT to BALDWIN CREEK

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
BOD ₅ , Total	Daily Max	30 mg/L	3/Week	24-Hr Flow Prop Comp	
BOD ₅ , Total	Monthly Avg	15 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Daily Max	30 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	20 mg/L	3/Week	24-Hr Flow Prop Comp	
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
Dissolved Oxygen	Daily Min	4.0 mg/L	Daily	Grab	
Phosphorus, Total	Monthly Avg	4.7 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective through 11/30/2023. See phosphorus section below & compliance schedule.
Phosphorus, Total	6-Month Avg	0.075 mg/L	Weekly	24-Hr Flow Prop Comp	Limit effective 12/01/2023. See phosphorus section below & compliance schedule.
Phosphorus, Total	Monthly Avg	0.225 mg/L	Weekly	24-Hr Flow Prop Comp	See phosphorus section below & compliance schedule.
Nitrogen, Ammonia Variable Limit		mg/L	Weekly	24-Hr Flow Prop Comp	Limit varies with effluent pH. See ammonia subsection below for details.
Nitrogen, Ammonia (NH ₃ -N) Total	Daily Max - Variable	mg/L	Weekly	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH ₃ -N) Total	Weekly Avg	16 mg/L	Weekly	24-Hr Flow Prop Comp	Limits effective Oct-April
Nitrogen, Ammonia (NH ₃ -N) Total	Monthly Avg	10 mg/L	Weekly	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH ₃ -N) Total	Weekly Avg	5.6 mg/L	Weekly	24-Hr Flow Prop Comp	Limits effective May-Sept

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Nitrogen, Ammonia (NH ₃ -N) Total	Monthly Avg	2.2 mg/L	Weekly	24-Hr Flow Prop Comp	
Fecal Coliform	Geometric Mean - Monthly	400 #/100 ml	2/Week	Grab	
Fecal Coliform	Geometric Mean - Wkly	780 #/100 ml	2/Week	Grab	
Nitrogen, Organic Total		mg/L	Quarterly	Calculated	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total Kjeldahl		mg/L	Quarterly	24-Hr Flow Prop Comp	
Chloride		mg/L	Quarterly	24-Hr Flow Prop Comp	
Solids, Total Dissolved		mg/L	Quarterly	24-Hr Flow Prop Comp	
Temperature Maximum		deg F	Weekly	Multiple Grab	Monitoring required in 2023. See temperature section below.

2.2.1.1 Annual Average Design Flow

The annual average design flow of the permittee's wastewater treatment facility is 0.392 million gallons per day (MGD).

2.2.1.1 Variable Daily Maximum Ammonia Limits

In addition to the seasonal weekly and monthly average ammonia limits, daily maximum limits that vary with effluent pH apply year-round. When possible total ammonia (NH₃-N) sampling shall occur on the same day pH levels are monitored. Report the applicable variable limit on the Discharge Monitoring Report (DMR) in the Ammonia Variable Limit column. Note that pH values should be rounded to the 0.1 s.u. before using the table below. For example, if the pH field reading is 8.04, the value of 8.0 should be used. If the pH field reading is 8.06, the value of 8.1 should be used.

Daily Maximum Ammonia Nitrogen Limits

Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L
6.0 ≤ pH ≤ 6.1	54	7.0 < pH ≤ 7.1	33	8.0 < pH ≤ 8.1	6.9
6.1 < pH ≤ 6.2	53	7.1 < pH ≤ 7.2	30	8.1 < pH ≤ 8.2	5.7
6.2 < pH ≤ 6.3	52	7.2 < pH ≤ 7.3	26	8.2 < pH ≤ 8.3	4.7
6.3 < pH ≤ 6.4	51	7.3 < pH ≤ 7.4	23	8.3 < pH ≤ 8.4	3.9
6.4 < pH ≤ 6.5	49	7.4 < pH ≤ 7.5	20	8.4 < pH ≤ 8.5	3.2
6.5 < pH ≤ 6.6	47	7.5 < pH ≤ 7.6	17	8.5 < pH ≤ 8.6	2.7
6.6 < pH ≤ 6.7	45	7.6 < pH ≤ 7.7	14	8.6 < pH ≤ 8.7	2.2
6.7 < pH ≤ 6.8	42	7.7 < pH ≤ 7.8	12	8.7 < pH ≤ 8.8	1.8
6.8 < pH ≤ 6.9	39	7.8 < pH ≤ 7.9	10	8.8 < pH ≤ 8.9	1.6
6.9 < pH ≤ 7.0	36	7.9 < pH ≤ 8.0	8.4	8.9 < pH ≤ 9.0	1.3

2.2.1.2 Phosphorus

The monthly average interim phosphorus limit of 4.7 mg/L is effective through 11/30/2023. The final phosphorus limits of 0.225 (monthly average) and 0.075 mg/L (six month average) become effective 12/01/2023 per the associated phosphorus compliance schedule.

Effluent results shall be calculated as follows:

Monthly Average Concentration (mg/L) = the sum of all daily results for that month, divided by the number of results during that time period.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. The applicable periods are May through October and November through April.

2.2.1.3 Effluent Temperature Monitoring

Effluent temperature monitoring is required January – December in 2023. For manually measuring effluent temperature, grab samples should be collected at 6 evenly spaced intervals during the 24-hour period. Alternative sampling intervals may be approved if the permittee can show that the maximum effluent temperature is captured during the sampling interval. For monitoring temperature continuously, collect measurements in accordance with s. NR 218.04(13). This means that discrete measurements shall be recorded at intervals of not more than 15 minutes during the 24-hour period. In either case, report the maximum temperature measured during the day on the DMR. For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR.

3 Land Application Requirements

3.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)
005	As long as sludge is shipped to the West Central Wisconsin Biosolids Facility (WCWBF) for disposal, representative sludge samples shall be collected once per year and monitored for List 1. Sludge samples shall be collected prior to hauling and test results shall be reported on Form 3400-49 "Waste Characteristics Report". Hauled sludge reports shall be submitted on Form 3400-52 "Other Methods of Disposal or Distribution Report" following each year that sludge is hauled.

3.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 005 - SLUDGE HAULED TO WCWBF

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	

3.2.1.1 List 1

List 1	
TOTAL SOLIDS AND METALS	
See the Monitoring Requirements and Limitations table above for monitoring frequency and limitations for the List 1 parameters	
Solids, Total (percent)	
Arsenic, mg/kg (dry weight)	
Cadmium, mg/kg (dry weight)	
Copper, mg/kg (dry weight)	
Lead, mg/kg (dry weight)	
Mercury, mg/kg (dry weight)	
Molybdenum, mg/kg (dry weight)	
Nickel, mg/kg (dry weight)	
Selenium, mg/kg (dry weight)	
Zinc, mg/kg (dry weight)	

4 Schedules

4.1 Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus

No later than 30 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance with the required action. If a submittal is part of the required action then a timely submittal fulfills the written notification requirement.

Required Action	Due Date
Progress Report on Plans & Specifications: Submit progress report regarding the progress of preparing final plans and specifications.	06/30/2020
Final Plans and Specifications: The permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with final phosphorus WQBELs, and a schedule for completing construction of the upgrades by the complete construction date specified below.	12/31/2020
Treatment Plant Upgrade to Meet WQBELs: The permittee shall initiate construction of the upgrades. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41, Stats. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications.	06/01/2021
Submit Progress Report #1: Submit a progress report related to construction of the wastewater treatment facility.	03/31/2022
Submit Progress Report #2: Submit a progress report related to construction of the wastewater treatment facility.	03/31/2023
Complete Construction: Complete construction of the wastewater treatment facility upgrade. The final total phosphorus water quality based effluent limits go into effect December 1, 2023.	11/30/2023

4.2 Annual Waterway Inspection Annual Waterway Inspection

Required Action	Due Date
Maintenance: If swallets, sinkholes or fractured bedrock are observed during the waterway inspection or at other times, the permittee shall report presence of swallets or sinkholes to the Department within 24 hours. Implement a temporary remedy as soon as possible but not later than 7 days from discovery of the problem. Implement a permanent remedy within 60 days of discovery.	
Annual Inspection: Inspect waterway once per year from point of discharge to point effluent seeps into the ground. The inspection should be done at a time of year when snow or excessive vegetation does not interfere with the inspection. Document on an 8 1/2 x 11 inch map the location where effluent seeps into the bed of the waterway. Mark locations of any swallets, sinkholes, fractured bedrock or similar features on the map. Submit a report that summarizes the results of the inspection to the Department. Due Date: Within 30 days of the date of the inspection but not later than October 31 of each year.	

5 Standard Requirements

NR 205, Wisconsin Administrative Code: The conditions in ss. NR 205.07(1) and NR 205.07(2), Wis. Adm. Code, are included by reference in this permit. The permittee shall comply with all of these requirements. Some of these requirements are outlined in the Standard Requirements section of this permit. Requirements not specifically outlined in the Standard Requirement section of this permit can be found in ss. NR 205.07(1) and NR 205.07(2).

5.1 Reporting and Monitoring Requirements

5.1.1 Monitoring Results

Monitoring results obtained during the previous month shall be summarized and reported on a Department Wastewater Discharge Monitoring Report. The report may require reporting of any or all of the information specified below under 'Recording of Results'. This report is to be returned to the Department no later than the date indicated on the form. A copy of the Wastewater Discharge Monitoring Report Form or an electronic file of the report shall be retained by the permittee.

Monitoring results shall be reported on an electronic discharge monitoring report (eDMR). The eDMR shall be certified electronically by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

If the permittee monitors any pollutant more frequently than required by this permit, the results of such monitoring shall be included on the Wastewater Discharge Monitoring Report.

The permittee shall comply with all limits for each parameter regardless of monitoring frequency. For example, monthly, weekly, and/or daily limits shall be met even with monthly monitoring. The permittee may monitor more frequently than required for any parameter.

5.1.2 Sampling and Testing Procedures

Sampling and laboratory testing procedures shall be performed in accordance with Chapters NR 218 and NR 219, Wis. Adm. Code and shall be performed by a laboratory certified or registered in accordance with the requirements of ch. NR 149, Wis. Adm. Code. Groundwater sample collection and analysis shall be performed in accordance with ch. NR 140, Wis. Adm. Code. The analytical methodologies used shall enable the laboratory to quantitate all substances for which monitoring is required at levels below the effluent limitation. If the required level cannot be met by any of the methods available in NR 219, Wis. Adm. Code, then the method with the lowest limit of detection shall be selected. Additional test procedures may be specified in this permit.

5.1.3 Recording of Results

The permittee shall maintain records which provide the following information for each effluent measurement or sample taken:

- the date, exact place, method and time of sampling or measurements;
- the individual who performed the sampling or measurements;
- the date the analysis was performed;
- the individual who performed the analysis;
- the analytical techniques or methods used; and
- the results of the analysis.

5.1.4 Reporting of Monitoring Results

The permittee shall use the following conventions when reporting effluent monitoring results:

- Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 0.1 mg/L, report the pollutant concentration as < 0.1 mg/L.
- Pollutant concentrations equal to or greater than the limit of detection, but less than the limit of quantitation, shall be reported and the limit of quantitation shall be specified.
- For purposes of calculating NR 101 fees, the 2 mg/l lower reporting limits for BOD₅ and Total Suspended Solids shall be considered to be limits of quantitation
- For the purposes of reporting a calculated result, average or a mass discharge value, the permittee may substitute a 0 (zero) for any pollutant concentration that is less than the limit of detection. However, if the effluent limitation is less than the limit of detection, the department may substitute a value other than zero for results less than the limit of detection, after considering the number of monitoring results that are greater than the limit of detection and if warranted when applying appropriate statistical techniques.

5.1.5 Compliance Maintenance Annual Reports

Compliance Maintenance Annual Reports (CMAR) shall be completed using information obtained over each calendar year regarding the wastewater conveyance and treatment system. The CMAR shall be submitted and certified by the permittee in accordance with ch. NR 208, Wis. Adm. Code, by June 30, each year on an electronic report form provided by the Department.

In the case of a publicly owned treatment works, a resolution shall be passed by the governing body and submitted as part of the CMAR, verifying its review of the report and providing responses as required. Private owners of wastewater treatment works are not required to pass a resolution; but they must provide an Owner Statement and responses as required, as part of the CMAR submittal.

The CMAR shall be certified electronically by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The certification verifies that the electronic report is true, accurate and complete.

5.1.6 Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings or electronic data records for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit for a period of at least 3 years from the date of the sample, measurement, report or application. All pertinent sludge information, including permit application information and other documents specified in this permit or s. NR 204.06(9), Wis. Adm. Code shall be retained for a minimum of 5 years.

5.1.7 Other Information

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or correct information to the Department.

5.1.8 Reporting Requirements – Alterations or Additions

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

- The alteration or addition to the permitted facility may meet one of the criteria for determining whether a facility is a new source.
- The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification requirement applies to pollutants which are not subject to effluent limitations in the existing permit.
- The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use of disposal sites not reported during the permit application process nor reported pursuant to an approved land application plan. Additional sites may not be used for the land application of sludge until department approval is received.

5.2 System Operating Requirements

5.2.1 Noncompliance Reporting

Sanitary sewer overflows and sewage treatment facility overflows shall be reported according to the 'Sanitary Sewer Overflows and Sewage Treatment Facility Overflows' section of this permit.

The permittee shall report the following types of noncompliance by a telephone call to the Department's regional office within 24 hours after becoming aware of the noncompliance:

- any noncompliance which may endanger health or the environment;
- any violation of an effluent limitation resulting from a bypass;
- any violation of an effluent limitation resulting from an upset; and
- any violation of a maximum discharge limitation for any of the pollutants listed by the Department in the permit, either for effluent or sludge.

A written report describing the noncompliance shall also be submitted to the Department's regional office within 5 days after the permittee becomes aware of the noncompliance. On a case-by-case basis, the Department may waive the requirement for submittal of a written report within 5 days and instruct the permittee to submit the written report with the next regularly scheduled monitoring report. In either case, the written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and if the noncompliance has not been corrected, the length of time it is expected to continue.

A scheduled bypass approved by the Department under the 'Scheduled Bypass' section of this permit shall not be subject to the reporting required under this section.

NOTE: Section 292.11(2)(a), Wisconsin Statutes, requires any person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance to notify the Department of Natural Resources immediately of any discharge not authorized by the permit. **The discharge of a hazardous substance that is not authorized by this permit or that violates this permit may be a hazardous substance spill. To report a hazardous substance spill, call DNR's 24-hour HOTLINE at 1-800-943-0003.**

5.2.2 Flow Meters

Flow meters shall be calibrated annually, as per s. NR 218.06, Wis. Adm. Code.

5.2.3 Raw Grit and Screenings

All raw grit and screenings shall be disposed of at a properly licensed solid waste facility or picked up by a licensed waste hauler. If the facility or hauler are located in Wisconsin, then they shall be licensed under chs. NR 500-555, Wis. Adm. Code.

5.2.4 Sludge Management

All sludge management activities shall be conducted in compliance with ch. NR 204 "Domestic Sewage Sludge Management", Wis. Adm. Code.

5.2.5 Prohibited Wastes

Under no circumstances may the introduction of wastes prohibited by s. NR 211.10, Wis. Adm. Code, be allowed into the waste treatment system. Prohibited wastes include those:

- which create a fire or explosion hazard in the treatment work;
- which will cause corrosive structural damage to the treatment work;
- solid or viscous substances in amounts which cause obstructions to the flow in sewers or interference with the proper operation of the treatment work;
- wastewaters at a flow rate or pollutant loading which are excessive over relatively short time periods so as to cause a loss of treatment efficiency; and
- changes in discharge volume or composition from contributing industries which overload the treatment works or cause a loss of treatment efficiency.

5.2.6 Bypass

This condition applies only to bypassing at a sewage treatment facility that is not a scheduled bypass, approved blending as a specific condition of this permit, a sewage treatment facility overflow or a controlled diversion as provided in the sections titled 'Scheduled Bypass', 'Blending' (if approved), 'SSO's and Sewage Treatment Facility Overflows' and 'Controlled Diversions' of this permit. Any other bypass at the sewage treatment facility is prohibited and the Department may take enforcement action against a permittee for such occurrences under s. 283.89, Wis. Stats. The Department may approve a bypass if the permittee demonstrates all the following conditions apply:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance. When evaluating feasibility of alternatives, the department may consider factors such as technical achievability, costs and affordability of implementation and risks to public health, the environment and, where the permittee is a municipality, the welfare of the community served; and
- The bypass was reported in accordance with the Noncompliance Reporting section of this permit.

5.2.7 Scheduled Bypass

Whenever the permittee anticipates the need to bypass for purposes of efficient operations and maintenance and the permittee may not meet the conditions for controlled diversions in the 'Controlled Diversions' section of this permit,

the permittee shall obtain prior written approval from the Department for the scheduled bypass. A permittee's written request for Department approval of a scheduled bypass shall demonstrate that the conditions for bypassing specified in the above section titled 'Bypass' are met and include the proposed date and reason for the bypass, estimated volume and duration of the bypass, alternatives to bypassing and measures to mitigate environmental harm caused by the bypass. The department may require the permittee to provide public notification for a scheduled bypass if it is determined there is significant public interest in the proposed action and may recommend mitigation measures to minimize the impact of such bypass.

5.2.8 Controlled Diversions

Controlled diversions are allowed only when necessary for essential maintenance to assure efficient operation. Sewage treatment facilities that have multiple treatment units to treat variable or seasonal loading conditions may shut down redundant treatment units when necessary for efficient operation. The following requirements shall be met during controlled diversions:

- Effluent from the sewage treatment facility shall meet the effluent limitations established in the permit. Wastewater that is diverted around a treatment unit or treatment process during a controlled diversion shall be recombined with wastewater that is not diverted prior to the effluent sampling location and prior to effluent discharge;
- A controlled diversion does not include blending as defined in s. NR 210.03(2e), Wis. Adm. Code, and as may only be approved under s. NR 210.12. A controlled diversion may not occur during periods of excessive flow or other abnormal wastewater characteristics;
- A controlled diversion may not result in a wastewater treatment facility overflow; and
- All instances of controlled diversions shall be documented in sewage treatment facility records and such records shall be available to the department on request.

5.2.9 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training as required in ch. NR 114, Wis. Adm. Code, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

5.2.10 Operator Certification

The wastewater treatment facility shall be under the direct supervision of a state certified operator. In accordance with s. NR 114.53, Wis. Adm. Code, every WPDES permitted treatment plant shall have a designated operator-in-charge holding a current and valid certificate. The designated operator-in-charge shall be certified at the level and in all subclasses of the treatment plant, except laboratory. Treatment plant owners shall notify the department of any changes in the operator-in-charge within 30 days. Note that s. NR 114.52(22), Wis. Adm. Code, lists types of facilities that are excluded from operator certification requirements (i.e. private sewage systems, pretreatment facilities discharging to public sewers, industrial wastewater treatment that consists solely of land disposal, agricultural digesters and concentrated aquatic production facilities with no biological treatment).

5.3 Sewage Collection Systems

5.3.1 Sanitary Sewage Overflows and Sewage Treatment Facility Overflows

5.3.1.1 Overflows Prohibited

Any overflow or discharge of wastewater from the sewage collection system or at the sewage treatment facility, other than from permitted outfalls, is prohibited. The permittee shall provide information on whether any of the following conditions existed when an overflow occurred:

- The sanitary sewer overflow or sewage treatment facility overflow was unavoidable to prevent loss of life, personal injury or severe property damage;
- There were no feasible alternatives to the sanitary sewer overflow or sewage treatment facility overflow such as the use of auxiliary treatment facilities or adequate back-up equipment, retention of untreated wastes, reduction of inflow and infiltration, or preventative maintenance activities;
- The sanitary sewer overflow or the sewage treatment facility overflow was caused by unusual or severe weather related conditions such as large or successive precipitation events, snowmelt, saturated soil conditions, or severe weather occurring in the area served by the sewage collection system or sewage treatment facility; and
- The sanitary sewer overflow or the sewage treatment facility overflow was unintentional, temporary, and caused by an accident or other factors beyond the reasonable control of the permittee.

5.3.1.2 Permittee Response to Overflows

Whenever a sanitary sewer overflow or sewage treatment facility overflow occurs, the permittee shall take all feasible steps to control or limit the volume of untreated or partially treated wastewater discharged, and terminate the discharge as soon as practicable. Remedial actions, including those in NR 210.21 (3), Wis. Adm. Code, shall be implemented consistent with an emergency response plan developed under the CMOM program.

5.3.1.3 Permittee Reporting

Permittees shall report all sanitary sewer overflows and sewage treatment overflows as follows:

- The permittee shall notify the department by telephone, fax or email as soon as practicable, but no later than 24 hours from the time the permittee becomes aware of the overflow;
- The permittee shall, no later than five days from the time the permittee becomes aware of the overflow, provide to the department the information identified in this paragraph using department form number 3400-184. If an overflow lasts for more than five days, an initial report shall be submitted within 5 days as required in this paragraph and an updated report submitted following cessation of the overflow. At a minimum, the following information shall be included in the report:
 - The date and location of the overflow;
 - The surface water to which the discharge occurred, if any;
 - The duration of the overflow and an estimate of the volume of the overflow;
 - A description of the sewer system or treatment facility component from which the discharge occurred such as manhole, lift station, constructed overflow pipe, or crack or other opening in a pipe;
 - The estimated date and time when the overflow began and stopped or will be stopped;
 - The cause or suspected cause of the overflow including, if appropriate, precipitation, runoff conditions, areas of flooding, soil moisture and other relevant information;
 - Steps taken or planned to reduce, eliminate and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
 - A description of the actual or potential for human exposure and contact with the wastewater from the overflow;
 - Steps taken or planned to mitigate the impacts of the overflow and a schedule of major milestones for those steps;
 - To the extent known at the time of reporting, the number and location of building backups caused by excessive flow or other hydraulic constraints in the sewage collection system that occurred

concurrently with the sanitary sewer overflow and that were within the same area of the sewage collection system as the sanitary sewer overflow; and

• The reason the overflow occurred or explanation of other contributing circumstances that resulted in the overflow event. This includes any information available including whether the overflow was unavoidable to prevent loss of life, personal injury, or severe property damage and whether there were feasible alternatives to the overflow.

NOTE: A copy of form 3400-184 for reporting sanitary sewer overflows and sewage treatment facility overflows may be obtained from the department or accessed on the department's web site at <http://dnr.wi.gov/topic/wastewater/SSOreport.html>. As indicated on the form, additional information may be submitted to supplement the information required by the form.

- The permittee shall identify each specific location and each day on which a sanitary sewer overflow or sewage treatment facility overflow occurs as a discrete sanitary sewer overflow or sewage treatment facility overflow occurrence. An occurrence may be more than one day if the circumstances causing the sanitary sewer overflow or sewage treatment facility overflow results in a discharge duration of greater than 24 hours. If there is a stop and restart of the overflow at the same location within 24 hours and the overflow is caused by the same circumstance, it may be reported as one occurrence. Sanitary sewer overflow occurrences at a specific location that are separated by more than 24 hours shall be reported as separate occurrences; and
- A permittee that is required to submit wastewater discharge monitoring reports under NR 205.07 (1) (r) shall also report all sanitary sewer overflows and sewage treatment facility overflows on that report.

5.3.1.4 Public Notification

The permittee shall notify the public of any sanitary sewer and sewage treatment facility overflows consistent with its emergency response plan required under the CMOM (Capacity, Management, Operation and Maintenance) section of this permit and s. NR 210.23 (4) (f), Wis. Adm. Code. Such public notification shall occur promptly following any overflow event using the most effective and efficient communications available in the community. At minimum, a daily newspaper of general circulation in the county(s) and municipality whose waters may be affected by the overflow shall be notified by written or electronic communication.

5.3.2 Capacity, Management, Operation and Maintenance (CMOM) Program

- The permittee shall have written documentation of the Capacity, Management, Operation and Maintenance (CMOM) program components in accordance with s. NR 210.23(4), Wis. Adm. Code. Such documentation shall be available for Department review upon request. The Department may request that the permittee provide this documentation or prepare a summary of the permittee's CMOM program at the time of application for reissuance of the WPDES permit.
- The permittee shall implement a CMOM program in accordance with s. NR 210.23, Wis. Adm. Code.
- The permittee shall at least annually conduct a self-audit of activities conducted under the permittee's CMOM program to ensure CMOM components are being implemented as necessary to meet the general standards of s. NR 210.23(3), Wis. Adm. Code.

5.3.3 Sewer Cleaning Debris and Materials

All debris and material removed from cleaning sanitary sewers shall be managed to prevent nuisances, run-off, ground infiltration or prohibited discharges.

- Debris and solid waste shall be dewatered, dried and then disposed of at a licensed solid waste facility.
- Liquid waste from the cleaning and dewatering operations shall be collected and disposed of at a permitted wastewater treatment facility.

- Combination waste including liquid waste along with debris and solid waste may be disposed of at a licensed solid waste facility or wastewater treatment facility willing to accept the waste.

5.4 Surface Water Requirements

5.4.1 Permittee-Determined Limit of Quantitation Incorporated into this Permit

For pollutants with water quality-based effluent limits below the Limit of Quantitation (LOQ) in this permit, the LOQ calculated by the permittee and reported on the Discharge Monitoring Reports (DMRs) is incorporated by reference into this permit. The LOQ shall be reported on the DMRs, shall be the lowest quantifiable level practicable, and shall be no greater than the minimum level (ML) specified in or approved under 40 CFR Part 136 for the pollutant at the time this permit was issued, unless this permit specifies a higher LOQ.

5.4.2 Appropriate Formulas for Effluent Calculations

The permittee shall use the following formulas for calculating effluent results to determine compliance with average concentration limits and mass limits and total load limits:

Weekly/Monthly/Six-Month/Annual Average Concentration = the sum of all daily results for that week/month/six-month/year, divided by the number of results during that time period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Weekly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the week.

Monthly Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the month.

Six-Month Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the six-month period. [Note: When a six-month average effluent limit is specified for Total Phosphorus the applicable periods are May through October and November through April.]

Annual Average Mass Discharge (lbs/day): Daily mass = daily concentration (mg/L) x daily flow (MGD) x 8.34, then average the daily mass values for the entire year.

Total Monthly Discharge: = monthly average concentration (mg/L) x total flow for the month (MG/month) x 8.34.

Total Annual Discharge: = sum of total monthly discharges for the calendar year.

12-Month Rolling Sum of Total Monthly Discharge: = the sum of the most recent 12 consecutive months of Total Monthly Discharges.

5.4.3 Effluent Temperature Requirements

Weekly Average Temperature – The permittee shall use the following formula for calculating effluent results to determine compliance with the weekly average temperature limit (as applicable): Weekly Average Temperature = the sum of all daily maximum results for that week divided by the number of daily maximum results during that time period.

Cold Shock Standard – Water temperatures of the discharge shall be controlled in a manner as to protect fish and aquatic life uses from the deleterious effects of cold shock. ‘Cold Shock’ means exposure of aquatic organisms to a rapid decrease in temperature and a sustained exposure to low temperature that induces abnormal behavior or physiological performance and may lead to death.

Rate of Temperature Change Standard – Temperature of a water of the state or discharge to a water of the state may not be artificially raised or lowered at such a rate that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state.

5.4.4 Visible Foam or Floating Solids

There shall be no discharge of floating solids or visible foam in other than trace amounts.

5.4.5 Surface Water Uses and Criteria

In accordance with NR 102.04, Wis. Adm. Code, surface water uses and criteria are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all surface waters including the mixing zone meet the following conditions at all times and under all flow and water level conditions:

- a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.
- b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.
- c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.
- d) Substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

5.4.6 Percent Removal

During any 30 consecutive days, the average effluent concentrations of BOD₅ and of total suspended solids shall not exceed 15% of the average influent concentrations, respectively. This requirement does not apply to removal of total suspended solids if the permittee operates a lagoon system and has received a variance for suspended solids granted under NR 210.07(2), Wis. Adm. Code.

5.4.7 Fecal Coliforms

The weekly and monthly limit(s) for fecal coliforms shall be expressed as a geometric mean.

5.4.8 Year Round Disinfection

Disinfection shall be provided year round. Monitoring requirements and the limitation for fecal coliforms apply during the period in which disinfection is required. Whenever chlorine is used for disinfection or other effluent uses, the limitations and monitoring requirements for residual chlorine shall apply. A dechlorination process shall be in operation whenever chlorine is used for disinfection or other effluent uses.

5.5 Land Application Requirements

5.5.1 Sludge Management Program Standards And Requirements Based Upon Federally Promulgated Regulations

In the event that new federal sludge standards or regulations are promulgated, the permittee shall comply with the new sludge requirements by the dates established in the regulations, if required by federal law, even if the permit has not yet been modified to incorporate the new federal regulations.

5.5.2 General Sludge Management Information

The General Sludge Management Form 3400-48 shall be completed and submitted prior to any significant sludge management changes.

5.5.3 Sludge Samples

All sludge samples shall be collected at a point and in a manner which will yield sample results which are representative of the sludge being tested, and collected at the time which is appropriate for the specific test.

5.5.4 Land Application Characteristic Report

Each report shall consist of a Characteristic Form 3400-49 and Lab Report. The Characteristic Report Form 3400-49 shall be submitted electronically by January 31 following each year of analysis.

Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report is true, accurate and complete. The Lab Report must be sent directly to the facility's DNR sludge representative or basin engineer unless approval for not submitting the lab reports has been given.

The permittee shall use the following convention when reporting sludge monitoring results: Pollutant concentrations less than the limit of detection shall be reported as < (less than) the value of the limit of detection. For example, if a substance is not detected at a detection limit of 1.0 mg/kg, report the pollutant concentration as < 1.0 mg/kg.

All results shall be reported on a dry weight basis.

5.5.5 Calculation of Water Extractable Phosphorus

When sludge analysis for Water Extractable Phosphorus is required by this permit, the permittee shall use the following formula to calculate and report Water Extractable Phosphorus:

Water Extractable Phosphorus (% of Total P) =

$$\left[\frac{\text{Water Extractable Phosphorus (mg/kg, dry wt)}}{\text{Total Phosphorus (mg/kg, dry wt)}} \right] \times 100$$

5.5.6 Monitoring and Calculating PCB Concentrations in Sludge

When sludge analysis for "PCB, Total Dry Wt" is required by this permit, the PCB concentration in the sludge shall be determined as follows.

Either congener-specific analysis or Aroclor analysis shall be used to determine the PCB concentration. The permittee may determine whether Aroclor or congener specific analysis is performed. Analyses shall be performed in accordance with the following provisions and Table EM in s. NR 219.04, Wis. Adm. Code.

- EPA Method 1668 may be used to test for all PCB congeners. If this method is employed, all PCB congeners shall be delineated. Non-detects shall be treated as zero. The values that are between the limit of detection and the limit of quantitation shall be used when calculating the total value of all congeners. All results shall be added together and the total PCB concentration by dry weight reported. **Note:** It is recognized that a number of the congeners will co-elute with others, so there will not be 209 results to sum.
- EPA Method 8082A shall be used for PCB-Aroclor analysis and may be used for congener specific analysis as well. If congener specific analysis is performed using Method 8082A, the list of congeners tested shall include at least congener numbers 5, 18, 31, 44, 52, 66, 87, 101, 110, 138, 141, 151, 153, 170, 180, 183, 187, and 206 plus any other additional congeners which might be reasonably expected to occur in the particular sample. For either type of analysis, the sample shall be extracted using the Soxhlet extraction (EPA Method 3540C) (or the Soxhlet Dean-Stark modification) or the pressurized fluid

extraction (EPA Method 3545A). If Aroclor analysis is performed using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.11 mg/kg as possible. Reporting protocol, consistent with s. NR 106.07(6)(e), should be as follows: If all Aroclors are less than the LOD, then the Total PCB Dry Wt result should be reported as less than the highest LOD. If a single Aroclor is detected then that is what should be reported for the Total PCB result. If multiple Aroclors are detected, they should be summed and reported as Total PCBs. If congener specific analysis is done using Method 8082A, clean up steps of the extract shall be performed as necessary to remove interference and to achieve as close to a limit of detection of 0.003 mg/kg as possible for each congener. If the aforementioned limits of detection cannot be achieved after using the appropriate clean up techniques, a reporting limit that is achievable for the Aroclors or each congener for the sample shall be determined. This reporting limit shall be reported and qualified indicating the presence of an interference. The lab conducting the analysis shall perform as many of the following methods as necessary to remove interference:

3620C - Florisil	3611B - Alumina
3640A - Gel Permeation	3660B - Sulfur Clean Up (using copper shot instead of powder)
3630C - Silica Gel	3665A - Sulfuric Acid Clean Up

5.5.7 Annual Land Application Report

Land Application Report Form 3400-55 shall be submitted electronically by January 31, each year whether or not non-exceptional quality sludge is land applied. Non-exceptional quality sludge is defined in s. NR 204.07(4), Wis. Adm. Code. Following submittal of the electronic Annual Land Application Report Form 3400-55, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

5.5.8 Other Methods of Disposal or Distribution Report

The permittee shall submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied. Following submittal of the electronic Report Form 3400-52, this form shall be certified electronically via the 'eReport Certify' page by a responsible executive or municipal officer, manager, partner or proprietor as specified in s. 283.37(3), Wis. Stats., or a duly authorized representative of the officer, manager, partner or proprietor that has been delegated signature authority pursuant to s. NR 205.07(1)(g)2, Wis. Adm. Code. The 'eReport Certify' page certifies that the electronic report form is true, accurate and complete.

5.5.9 Approval to Land Apply

Bulk non-exceptional quality sludge as defined in s. NR 204.07(4), Wis. Adm. Code, may not be applied to land without a written approval letter or Form 3400-122 from the Department unless the Permittee has obtained permission from the Department to self approve sites in accordance with s. NR 204.06 (6), Wis. Adm. Code. Analysis of sludge characteristics is required prior to land application. Application on frozen or snow covered ground is restricted to the extent specified in s. NR 204.07(3) (l), Wis. Adm. Code.

5.5.10 Soil Analysis Requirements

Each site requested for approval for land application must have the soil tested prior to use. Each approved site used for land application must subsequently be soil tested such that there is at least one valid soil test in the four years prior to land application. All soil sampling and submittal of information to the testing laboratory shall be done in accordance with UW Extension Bulletin A-2100. The testing shall be done by the UW Soils Lab in Madison or

Marshfield, WI or at a lab approved by UW. The test results including the crop recommendations shall be submitted to the DNR contact listed for this permit, as they are available. Application rates shall be determined based on the crop nitrogen recommendations and with consideration for other sources of nitrogen applied to the site.

5.5.11 Land Application Site Evaluation

For non-exceptional quality sludge, as defined in s. NR 204.07(4), Wis. Adm. Code, a Land Application Site Request Form 3400-053 shall be submitted to the Department for the proposed land application site. The Department will evaluate the proposed site for acceptability and will either approve or deny use of the proposed site. The permittee may obtain permission to approve their own sites in accordance with s. NR 204.06(6), Wis. Adm. Code.

5.5.12 Sludge Hauling

The permittee is required to submit Form 3400-52 to the Department. If sludge is hauled to another facility, information shall include the quantity of sludge hauled, the name, address, phone number, contact person, and permit number of the receiving facility. Form 3400-52 shall be submitted annually by January 31 each year whether or not sludge is hauled.

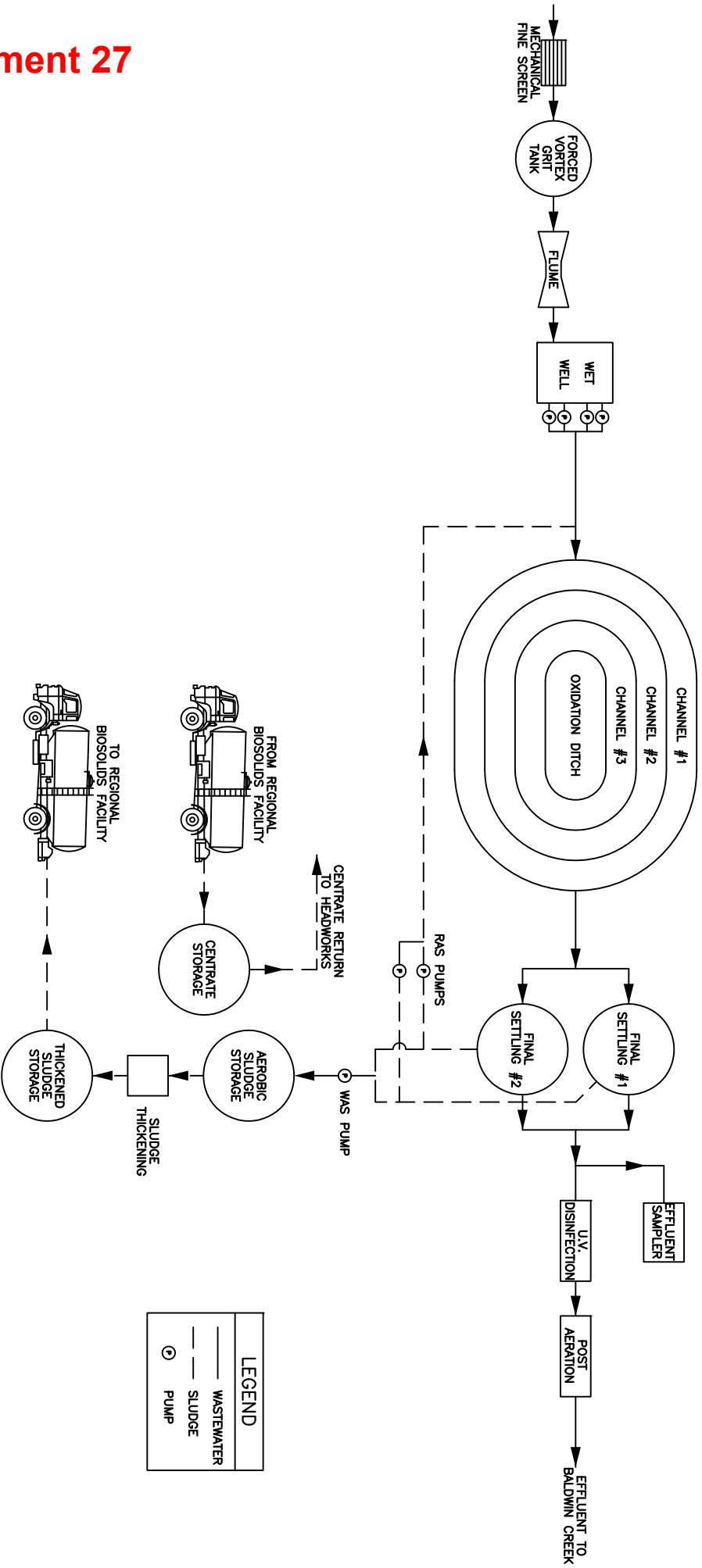
6 Summary of Reports Due

FOR INFORMATIONAL PURPOSES ONLY

Description	Date	Page
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Progress Report on Plans & Specifications	June 30, 2020	7
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Final Plans and Specifications	December 31, 2020	7
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Treatment Plant Upgrade to Meet WQBELs	June 1, 2021	7
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Submit Progress Report #1	March 31, 2022	7
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Submit Progress Report #2	March 31, 2023	7
Water Quality Based Effluent Limits (WQBELs) for Total Phosphorus - Complete Construction	November 30, 2023	7
Annual Waterway Inspection Annual Waterway Inspection -Maintenance	See Permit	7
Annual Waterway Inspection Annual Waterway Inspection -Annual Inspection	See Permit	7
Compliance Maintenance Annual Reports (CMAR)	by June 30, each year	9
General Sludge Management Form 3400-48	prior to any significant sludge management changes	17
Characteristic Form 3400-49 and Lab Report	by January 31 following each year of analysis	17
Land Application Report Form 3400-55	by January 31, each year whether or not non-exceptional quality sludge is land applied	18
Other Methods of Disposal or Distribution Report Form 3400-52	by January 31, each year whether or not sludge is hauled, landfilled, incinerated, or exceptional quality sludge is distributed or land applied	18
Wastewater Discharge Monitoring Report	no later than the date indicated on the form	8

Report forms shall be submitted electronically in accordance with the reporting requirements herein. Any facility plans or plans and specifications for municipal, industrial, industrial pretreatment and non industrial wastewater systems shall be submitted to the Bureau of Water Quality, P.O. Box 7921, Madison, WI 53707-7921. All other submittals required by this permit shall be submitted to: West Central Region - Baldwin, 890 Spruce Street, Baldwin, WI 54002

BALDWIN WWTP SCHEMATIC DIAGRAM OF TREATMENT SYSTEM



LEGEND	
	WASTEWATER
	SLUDGE
	PUMP



Village of Baldwin
North Site - WWTP
Capital Cost Estimate
12/5/2019

Attachment 2,

North Site Oxidation Ditch

Does not include land swap/purchase

Item	Quantity	Units	Unit Cost	Total Cost	Parallel Costs
Lift Station	1	LS	\$360,000.00	\$360,000	\$350,000
Fine Screen	1	LS	\$120,000.00	\$120,000	\$120,000
Grit Removal Equipment	1	LS	\$100,000.00	\$100,000	\$100,000
Grit Removal Installation	1	LS	\$25,000.00	\$25,000	\$25,000
Influent Mag meter on forcemain	1	Ea	\$4,000.00	\$4,000	\$4,000
Influent Sampler	1	Ea	\$6,000.00	\$6,000	\$6,000
Headworks Concrete	200	CY	\$1,000.00	\$200,000	\$200,000
Headworks Building	700	SF	\$175.00	\$122,500	\$122,500
Mechanical, HVAC	1	LS	\$120,000.00	\$120,000	\$120,000
Oxidation Ditch Equipment	1	LS	\$895,000.00	\$895,000	\$850,250
Installation of Equipment	1	LS	\$268,500.00	\$268,500	\$268,500
Concrete Tanks for Oxidation Ditch	900	CY	\$1,000.00	\$900,000	\$855,000
Clarifier Equipment	1	LS	\$285,000.00	\$285,000	\$285,000
Installation of Equipment	1	LS	\$71,250.00	\$71,250	\$71,250
Concrete Tanks for Clarifiers	500	CY	\$1,000.00	\$500,000	\$500,000
Sand Filters for Phos Removal	1	LS	\$550,000.00	\$550,000	\$522,500
Equipment Install	1	LS	\$137,500.00	\$137,500	\$137,500
Concrete Tanks for Sand Filters	200	CY	\$1,000.00	\$200,000	\$200,000
Tertiary Treatment Building	1,350	SF	\$175.00	\$236,250	\$236,250
Coatings	1	LS	\$10,000.00	\$10,000	\$10,000
Chemical Feed Room	200	SF	\$175.00	\$35,000	\$35,000
Chemical Feed Equipment	1	LS	\$15,000.00	\$15,000	\$15,000
Aerobic Digester Concrete	400	CY	\$1,000.00	\$400,000	\$400,000
Aerobic Digester and Thickening Equipment	1	Ea	\$595,000.00	\$595,000	\$595,000
Aerobic Digester Installation	1	LS	\$178,500.00	\$178,500	\$178,500
Sludge Transfer Pumps	4	Ea	\$20,000.00	\$80,000	\$80,000
Administration/UV/Blower Building	2,000	SF	\$225.00	\$450,000	\$450,000
Lab and Office equipment	1	LS	\$10,000.00	\$10,000	\$10,000
Effluent flow meter	1	Ea	\$4,000.00	\$4,000	\$4,000
Effluent sampler	1	Ea	\$6,000.00	\$6,000	\$6,000
Process Piping	1	LS	\$200,000.00	\$200,000	\$200,000
Sludge Holding Tank (24,000 gallons)	1	LS	\$24,000.00	\$24,000	\$24,000
Centrate Holding Tank (16,000 gallons)	1	LS	\$16,000.00	\$16,000	\$16,000
UV Equipment	1	LS	\$160,000.00	\$160,000	\$152,000
Excavation/Fill/Site Work	1	LS	\$50,000.00	\$50,000	\$50,000
Plumbing, NPW Included	1	LS	\$120,000.00	\$120,000	\$120,000
Pavement/Parking	70	Ton	\$70.00	\$4,900	\$4,900
Aggregate	100	CY	\$12.00	\$1,200	\$1,200
Misc metals	1	LS	\$85,000.00	\$85,000	\$85,000
Erosion control	1	LS	\$10,000.00	\$10,000	\$10,000
Electrical/SCADA	1	LS	\$800,000.00	\$800,000	\$800,000
Turf Establishment	6,000	SY	\$2.00	\$12,000	\$12,000
Landscaping	1	LS	\$20,000.00	\$20,000	\$20,000
Fence	1,200	LF	\$75.00	\$90,000	\$90,000
Vehicle Gates	1	Ea	\$2,000.00	\$2,000	\$2,000
Emergency Generator	1	Ea	\$100,000.00	\$100,000	\$100,000
Subtotal				\$8,579,600	\$8,444,350

Smallest equipment, no change
Smallest equipment, no change

Smallest equipment, no change

Contractor Mobilization/General Conditions	7%	\$600,572	\$591,105
Contractor Overhead/Profit	12%	\$1,029,552	\$1,013,322
Subtotal		\$10,209,724	\$10,048,777

Construction Contingency	10%	\$1,020,972	\$1,004,878
Estimated Construction Total (w/o Engineering)		\$11,230,696	\$11,053,654

Design and Construction Engineering	10%	\$1,123,070	\$1,123,070	No change, same effort required
RPR	4%	\$393,074	\$393,074	No change, same effort required
Funding Administration		\$28,000	\$28,000	No change, same effort required
Administration and Legal	2%	\$20,419	\$20,419	No change, same effort required
Soil Borings		\$6,000	\$6,000	
Estimated Construction Total (w/ Engineering)		\$12,801,260	\$12,624,218	

Parallel Cost = Reduced Capacity Cost/Design Capacity Cost **98.6%**



Village of Baldwin
 WWTP User Charge Increase
 12/5/2019

North Site Oxidation Ditch

Based on the 2018 PSC report, the Village of Baldwin has
1611 residential class users

63,857,000 gallons of water used per year within the residential class

Average Residential Water Use

39,638 Per Year

3303 Per Month

Total Water Use

97,664,000 gallons of water

Residential percentage of total water use

65%

Additional Annual Costs (No Grants)

Annual Debt Payment on WWTP and Lift Station, 1.65% low interest loan, no grants
 \$756,690

Additional Annual Operations and Maintenance Costs
 \$30,000

Total Annual WWTP Costs
\$786,690

Residential Portion of Annual WWTP Costs
 \$514,373

Estimated Increase to Average Residential User Rates After Upgrade

Average Residential User's Increase Due to WWTP Upgrade
\$319.29

Quarterly **\$79.82**
Monthly **\$26.61**

Total Annual Residential Bill After Upgrade \$653.42

Median Household Income \$ 57,134
 Sewer Rates as % of MHI 1.14%

Best Case Scenario for CWF Financing

Capital Cost \$12,801,260

Grants

-Phosphorus Treatment \$ (1,000,000)

-Principal Forgiveness \$ (750,000)

Total \$11,051,260

Additional Annual Costs (Best Case Grants)

Annual Debt Payment on WWTP and Lift Station, best grant scenario
 \$653,247

Additional Annual Operations and Maintenance Costs
 \$30,000

Total Annual WWTP Costs
\$683,247

Residential Portion of Annual WWTP Costs
 \$446,737

Estimated Increase to Average Residential User Rates After Upgrade

Average Residential User's Increase Due to WWTP Upgrade
\$277.30

Quarterly **\$69.33**
Monthly **\$23.11**

Total Annual Residential Bill After Upgrade \$611.43

Median Household Income \$ 57,134
 Sewer Rates as % of MHI 1.07%



Building a Better World for All of Us[®]

Sustainable buildings, sound infrastructure, safe transportation systems, clean water, renewable energy and a balanced environment. Building a Better World for All of Us communicates a company-wide commitment to act in the best interests of our clients and the world around us.

We're confident in our ability to balance these requirements.

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