Storm Water Pollution Prevention Plan

for the

Sanitary District of Decatur

501 Dipper Lane
Decatur, Illinois 62522

NPDES Permit IL0028321
Special Condition 19
November 2008
2nd Revision; June 2019
3rd Revision; June 2020
4th Revision; June 2021
5th Revision; June 2023

1. Site Description

This Storm Water Pollution Prevention Plan (SWPPP) was developed to meet the requirements of the NPDES program requiring permit coverage for storm water discharges from municipal wastewater treatment facilities with design flows of 1.0 MGD or more. The Sanitary District of Decatur (SDD, District) treatment plant occupies a site in the southwestern portion of Decatur (see Figure 1). Storm water from the site flows via surface drainage and underground pipes to one of five storm water pumping stations, and the pumping stations discharge collected storm water to either Stevens Creek or the Sangamon River.

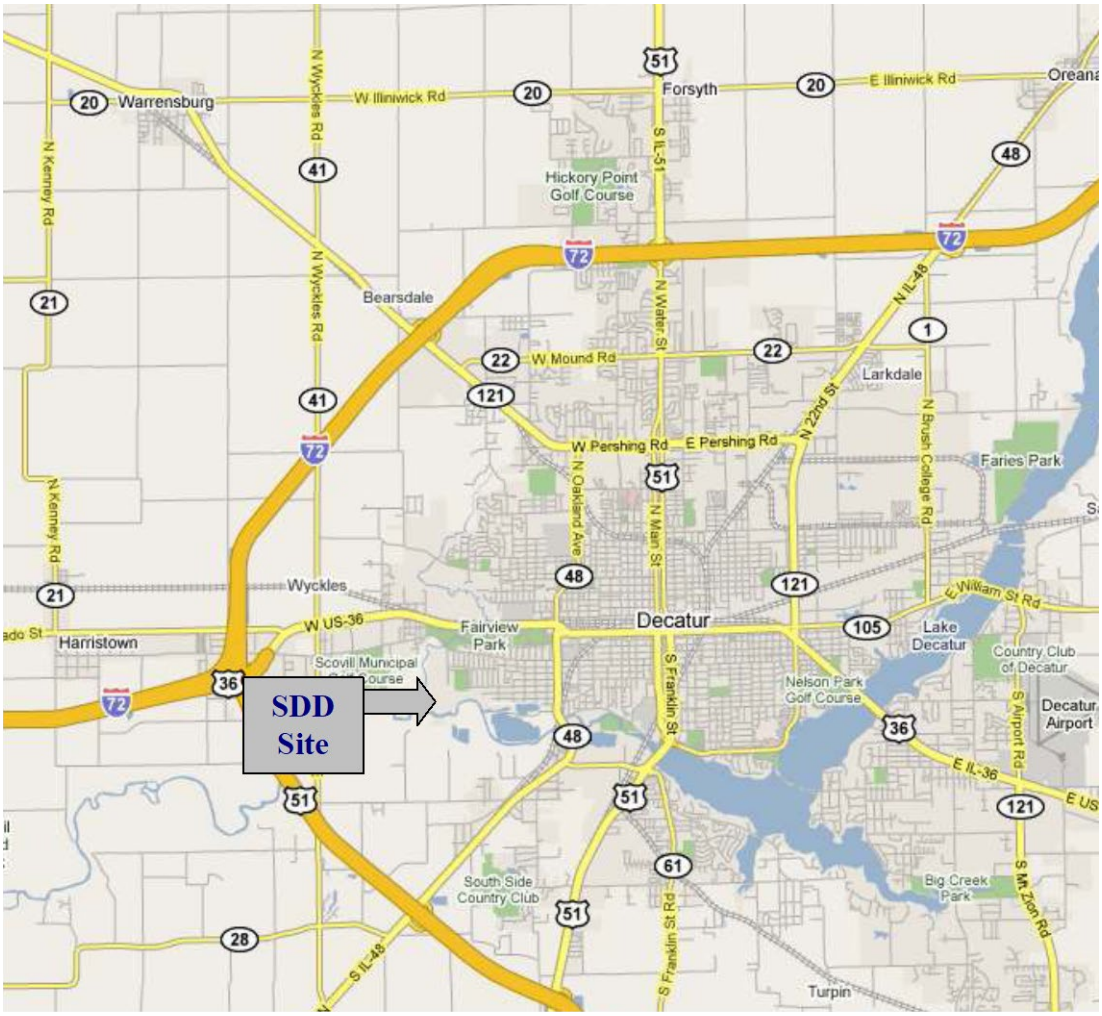

Figure 1. Location map

Designed to treat an average flow of 41 million gallons per day, the SDD facility includes screening, grit removal, primary settling, two stage activated sludge treatment, chloramination-dechloramination, and anaerobic sludge digestion. Treated effluent is discharged to the Sangamon River. District maintenance and administration facilities are also located at the site. Digested sludge is transferred to the Wyckles Road solids facility for storage prior to land application.

“No Exposure” certifications have been completed for the Wyckles Road site and four combined sewer overflow treatment facilities.

The treatment units and facility equipment are designed to contain wastewater and sludge so that storm water is not affected by wastewater treatment operations. However, a few areas exist where “industrial equipment” as described in federal regulations is exposed to storm water. A potential also exists for releases of wastewater, sludge, and chemicals used in the treatment process to occur in the event of a pipe, tank, or pump failure. This plan describes actions taken to prevent both normal operations and accidental releases from impacting storm water discharged to receiving waters.

2. Topographic Map

A topographic map of the SDD site is shown in Figure 2. Wells numbered 00258, 00259, 00857, 00858, and 00860 are shown on the plant site or within one-quarter mile of the plant boundary. These wells were installed by SDD for site dewatering and are not used as water supply wells.

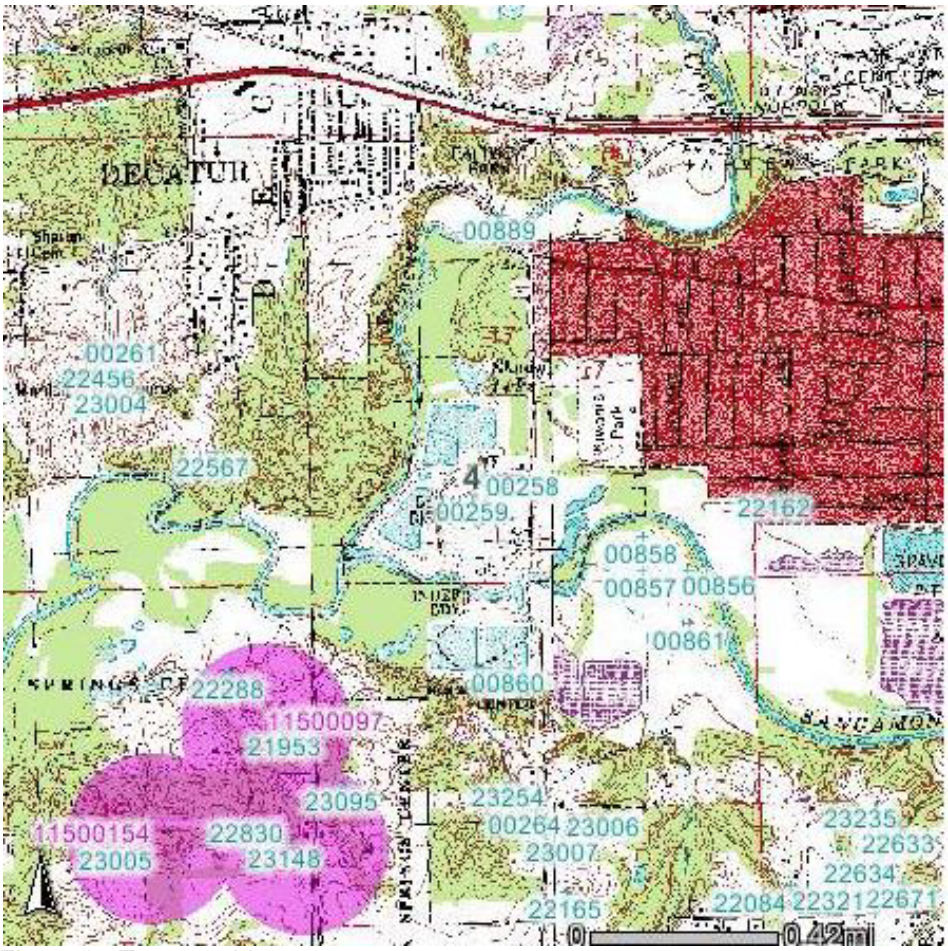

Figure 2. Topographic map

3. Site Map

A site map showing storm water piping, inlets, discharge points, paved areas, buildings, and drainage basins is attached (See Addendum A). Due to the size and complexity of the facility, areas used for material storage, loading, and handling are not shown on the map but are described in the narrative below.

The treatment plant site is surrounded by a flood protection levee and nearly all storm water from the site is tributary to one of five storm water pump stations. The exceptions are the West Central

and Northwest drainage basins; limited amounts of storm water from these vegetated areas flows through surface ditches to Stevens Creek. For reference, the drainage basins and associated pump stations are shown in the following table.

Drainage Basin	Storm Water Pump Station
Northeast & City Park	Northeast Laydown & City Park (Structure 198) SW-1
Upper East Side	East Primary area (Structure 215) SW-2
East & Southeast	East (Structure 216) SW-3
West Central	Gravity flow to Stevens Creek SW-4
South Side	South (Structure 263) SW-5
West Side & Inner Plant	West (Structure 261) SW-6
Northside	North (Structure 218) SW-7

4. Narrative Description of Significant Materials and Chemicals

The following materials are present at the SDD treatment plant site and could, if improperly managed, contaminate storm water discharged from the plant site:

a. Wastewater; sludge

Under normal operating conditions, wastewater is contained in underground pipes or below-grade channels and tanks and will not be a source of storm water contamination. Various types of malfunctions could potentially result in overflows to the ground surface. Past incidents include an overflow from the old phase headworks influent channel following a power failure, and a break in sludge piping leading to pooling of sludge on the plant grounds. During these and similar occurrences, contamination of storm water discharges can be avoided by shutting down the impacted storm water pumping station or stations until the wastewater or sludge can be collected and returned to a process tank.

b. Septage

A location is provided at the new phase headworks for receiving septage and grease trap contents from waste haulers. Trucks bring materials to the plant park on a paved area adjacent to the influent channel and discharge them directly into the influent channel. Facilities for cleaning the area are readily available and used on a regular basis to keep the area clean. In the event of a spill both the Northeast and Southeast drainage basins could be impacted, depending on the volume released. Contamination of storm water discharges would be avoided by shutting down the impacted storm water pumping station or stations until the wastewater can be returned to a process tank.

c. Screenings; grit

Two separate screening and grit removal facilities exist, one each for the old phase and new phase. All screens, grit handling facilities (except for the grit settling tanks), and stored materials are indoors. Screenings and grit are collected in dumpsters and picked up by a commercial waste hauler.

d. Ferrous chloride

Ferrous chloride is utilized for hydrogen sulfide control in the new phase primary area. The solution is delivered in tank trucks and stored in a tank within a concrete secondary containment structure. A valved drain line from the secondary containment area is normally kept closed to retain any spills; uncontaminated storm water is released to the Underseepage and Storm Water Pumping Station (Structure 215). Any material spilled outside the structure during unloading

would flow along a plant roadway to the same location and would be managed by shutting down the pumping station until the spilled material was removed.

e. Sodium hypochlorite, sodium bisulfite, ammonia solution

Liquid sodium hypochlorite solution is used for effluent disinfection from April 1 through October 31. The solution is delivered by tank truck and unloaded into storage tanks located under roof in Building 44. A plant operator is present for deliveries of hypochlorite and other bulk chemicals. A spill during unloading would flow to storm water drains located in the roadway north of the building tributary in the Northside drainage area and would be managed by shutting down the pumping station until the spilled material was removed. Hypochlorite solution is pumped through underground piping to a second set of storage tanks in Building 264, located near the south plant levee. These tanks and pumps are under a roof and located within a concrete containment structure. A spill within the containment structure would not reach storm water.

In 2013 an incident occurred in which the tanks in Building 264 were overfilled while pumping from Building 44, due to a control system failure. The cleanup was completed without any storm water contamination. A reconstruction of Building 264 is underway to eliminate the need for transfer pumping.

Liquid ammonia solution (28 percent urea ammonium nitrate) is utilized as a disinfection aid, ensuring that the chlorination process is producing combined chlorine and not operating in breakpoint. The ammonia solution is delivered by tank truck and unloaded into storage tanks located under roof in Building 335.

Sodium bisulfate solution is also delivered by tank truck and is stored in tanks located inside Building 334. A spill during unloading would be in the South side drainage basin and would be managed by shutting down the pumping station until the spilled material was removed.

f. Polymer totes

Polymer used in the waste activated sludge DAF units is received in 2300-lb. polyethylene tote bins. Full totes are kept inside the polymer building. Empty totes are stored on the pavement outside Building 043 until picked up by the supplier. The empty totes are managed to meet the “no exposure” criteria in federal guidance.

g. Fuel; waste oil

Plant staff are trained in the containment of Fuels/waste oils spills should they occur, and the equipment used utilize containment systems throughout the facility.

Underground storage tanks are provided for gasoline and diesel fuel used in plant vehicles near the fueling station west of Building 117. A spill during bulk delivery of fuel or during vehicle fueling would enter a storm drain in the Inner plant drainage basin and would be managed by shutting down the West storm water pump station until the spilled material was removed.

An above-ground diesel tank is located within a concrete containment structure south of Building 325. The fuel is used in a standby generator for the effluent pumps. A spill during bulk delivery of fuel would enter a storm drain tributary to the south storm water pumping station.

Diesel fuel for the Building 013 generator and for the bypass structure generator is stored in tanks integrated with the bases of the generators. A release from the 013generator tank would be tributary drive lane to the East side of the building, however this unit has double wall containment for the fuel and meets requirements for exterior service.

Diesel fuel for the Building 203 generator and for the bypass structure generator is stored in tanks integrated with the bases of the generators. A release from both the small bypass structure generator tank and the Building 203 tank tributary to Southeast side storm water pump station would likely be contained in and immediately around the building driveway. This unit also has double wall containment for the fuel and meets requirements for exterior service.

An above-ground kerosene storage tank is used to store fuel for small portable heaters used at various locations as needed. The tank is on the west side of Building 117 and a release would be tributary to a drain in the Inner plant drainage basin and the West Side storm water pump station. The storage tank provides secondary containment.

Waste oil is stored in an above-ground tank west of the DAF building. A significant spill would likely occur only if the tank ruptured or was overturned. Spilled oil would enter a storm drain tributary to the west storm water pumping station and would be managed by shutting down the pumping station until the spilled material was removed. Secondary containment is provided for the tank.

h. Other Materials

A number of other materials and chemicals including lubricants, paint, solvents, cleaners, and pesticides, are used in plant operations and maintenance. Numerous laboratory reagents are utilized in the District lab. All these smaller quantity items are stored within buildings and are not exposed to storm water.

5. Narrative Description of Equipment and Vehicle Management

The majority of process equipment is either inside buildings (i.e., most pumps, blowers, piping, etc.) or in locations where storm water that contacts the equipment enters process wastewater treatment units (for example clarifier drives and flow control gates). Exceptions are as follows:

a. Odor Control Units

The odor control system for the facility now consists of Four Integrity Biofilter units only. These units use biological treatment to consume the Hydrogen Sulfide which off-gasses from the primary treatment units and conveyance channels. The make-up water is supplied from the plant water system and commercial liquid fertilizer products supplies the nutrients needed to sustain the process. Any excess liquid discharged from this system goes back into the primary effluent for treatment in the activated sludge systems downstream.

b. Stored Equipment

Several locations exist for storage of unused plant equipment and supplies. A laydown area near the plant entrance is used to store materials such as pipe, fittings, pallets, and some used equipment. The equipment and materials in this area have been observed to contribute few if any contaminants to storm water. Runoff from this area is tributary to the Northeast storm water pump station and flow could be retained in the event of a potential release.

Unused gratings and railings from various locations are stored near the old Unox aeration tank. Also, unused piping and hose are stored along the north side and south side of the waste sludge holding tanks. No significant potential for storm water contamination exists from this stored equipment.

c. Vehicles

The district utilizes several vehicles for plant operations, maintenance, and administration. The total includes approximately 60 licensed vehicles and trailers ranging in size from automobiles,

pickup trucks, and vans to semi tractors and trailers used for land application of sludge, equipment hauling, and sewer or pump station maintenance. Smaller vehicles and equipment include lawn mowers, tractors, and forklifts.

The majority of maintenance and repair for over-the-road vehicles is performed off-site at commercial facilities. Any minor maintenance done at the plant is completed in the maintenance shop or vehicle storage building. Maintenance on other vehicles is also performed indoors under a roof. Vehicles are kept in good repair and, except for semi tractors and trailers, stored indoors when not in use. Vehicle storage, maintenance and repair are not a significant source of storm water contamination.

6. Waste materials

a. Trash dumpster

A roll off box for general refuse from the plant is located within a fenced area at the west side of the plant, in an area tributary to the West storm water pump station. The potential for contaminated storm water from this area is minimal.

b. Vactor drain area.

The District uses a Vactor truck for sewer cleaning and maintenance, and an area is provided at the north side of the plant for receiving the truck's contents after completion of a job. A three-sided concrete structure is provided to contain large solids (i.e., plastic bottles, bags, sticks) and underdrains collect the water, conveying it to a pump station tributary to the plant influent. The potential for contaminated storm water from this area is minimal. The District is currently planning on upgrades for this facility to improve its functionality which will also improve groundwater protection afforded by this unit.

7. Existing Storm Water Controls

Specific controls are described above as they relate to potential contamination sources. In general, good housekeeping is the primary control employed. Materials are stored and used in a manner to prevent storm water contamination. A high level of maintenance minimizes equipment failure that could lead to contaminant releases. Virtually all storm water from the plant site is from vegetated yard areas and from relatively clean pavement, roofs, and roadway areas.

8. Facility Size and Impervious Area

The area within the plant fence is approximately 90 acres. Less than seven percent of this area is impervious surfaces such as roadways and roofs.

9. Existing Storm Water Sampling Data

Storm water sampling is conducted in accordance with the requirements of NPDES Permit #IL0028321 Special Condition 18 (SC 18). Records of sampling/monitoring are kept on-site at the District Offices and are available upon request.

10. SWPPP Coordinator and Spill Prevention Team

The member roster and list of responsibilities for the pollution prevention team can be found in Addendum B of this document.

The SWPPP Team is responsible for implementing and maintaining all aspects of the Plan.

11. Proposed Storm Water Management Controls

a. Preventive Maintenance

Preventive maintenance of all plant facilities and equipment is well established and documented in a computerized maintenance management system. Equipment is kept in good repair to prevent leaks, and storage tanks and other containers are routinely checked for leaks. Paved areas and plant grounds are kept clean to prevent storm water contamination.

b. Good Housekeeping

In general, good housekeeping practices have been employed at the facility. These include returning of vehicle and equipment wash water to the treatment process, secondary containment for bulk chemicals, indoor storage of materials, indoor fluid changes, timely cleanup of any spills, and proper waste material storage.

c. Spill Response

Storm water runoff from nearly all areas of the plant must be pumped to the receiving stream since a levee surrounds the plant. In most cases, therefore, the response to a release would be to suspend pumping until the released material can be collected and removed.

d. Sediment and erosion protection

The treatment plant site is relatively level and vegetation is maintained so that erosion and sediment loss from the site is minimal. Should construction activities on the site expose vegetated areas, a plan incorporating applicable requirements of the construction site NPDES general permit will be implemented.

e. Employee Training

Employee training will be completed upon completion of the spill response plan described above, and annual refresher training will also be instituted at that time. Training will be provided for all plant operations and maintenance personnel. In addition, any significant modification of the spill response plan will be followed by an employee training session.

12. Facility Inspection Schedule

NPDES permit conditions require an annual inspection of the facility to verify conditions described in this SWPPP. The annual inspection deadline is July 1, and the written report is due at Illinois EPA by September 1. In addition, ongoing reviews will be conducted during the year to ensure that operations do not result in storm water contamination. Appropriate inspection documentation will be maintained as required by permit conditions.

Quarterly inspections during rainfall events are conducted as per SC 18 of the current NPDES Permit.

13. Other Program Requirements

While good spill prevention practices are followed and spill control planning is a part of this SWPPP, the SDD does not have oil storage facilities that would trigger the SPCC plan requirements under Section 311 of the Clean Water Act. Also, the District's current NPDES permit does not contain any BMP requirements as described in 40 CFR 125.100.

14. Plan Date and Signature

This Storm Water Pollution Prevention Plan has been prepared in accordance with good engineering practices. Qualified personnel properly gathered and evaluated information submitted for this plan. The information in this plan, to the best of my knowledge, is accurate and complete.

Signed: Ashley K Bailey Date: June 1, 2023

Title: Director of Compliance and Innovation

Addendum A – Site Map

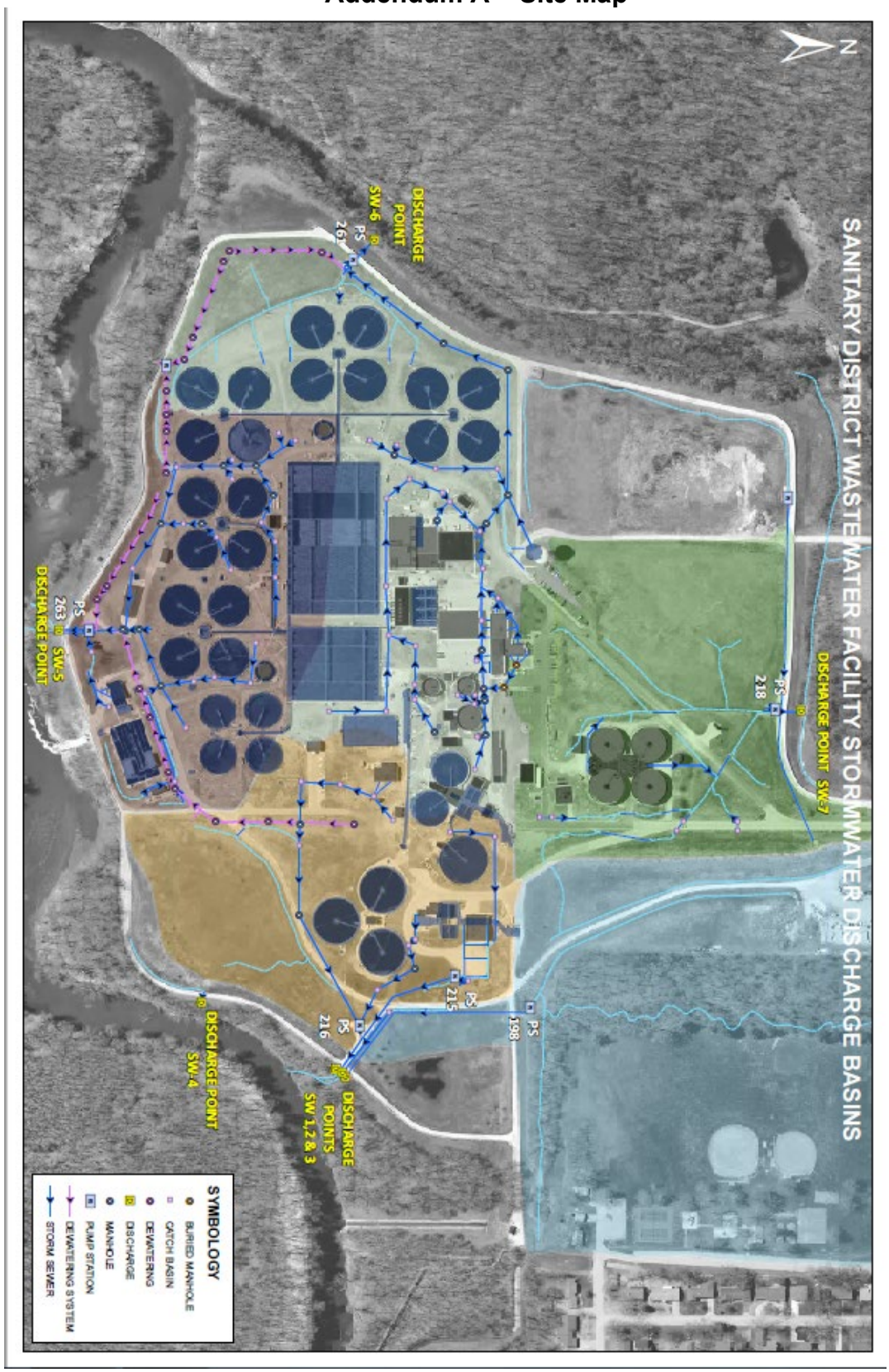

Figure 3. Site Map

Addendum B – Spill Prevention Team List

This is the member roster and list of responsibilities for the pollution prevention team. The team is responsible for implementing the Storm Water Pollution Prevention Plan.

Leader: Ashley Bailey Office Phone: (217) 422-6931 ext. 214

Title: Director of Compliance and Innovation Cell Phone: (217) 620-1433

Responsibilities: Coordinate all stages of plan development, inspections and implementation; keep all records and ensure that reports are submitted, conduct inspections and oversee sampling program, oversee good housekeeping activities.

Member: Tim Gorden Office Phone: (217) 422-6931 ext. 221

Title: Operations Supervisor Cell Phone: N/A

Responsibilities: Operate the storm water pumping stations in accordance with the SWPPP; conduct operations staff training, serve as spill response coordinator; assist with inspections.

Member: Keith Richard Office Phone: (217) 422-6931 ext. 258

Title: Laboratory Supervisor Cell Phone: N/A

Responsibilities: Assist with inspections, and conduct sampling.

Member: David Boys Office Phone: (217) 422-6931 ext. 237

Title: Safety and Training Coordinator Cell Phone: N/A

Responsibilities: Assist with the training program.