National Pollution Discharge Elimination System

Permit Application for Discharge of
Storm Water to Surface Water of the State from a
Municipal Separate Storm Sewer System

KALAMAZOO PUBLIC SCHOOLS
KALAMAZOO COUNTY, MICHIGAN

May 2018

Table of Contents

Chapter 1 – Storm Water Discharge Permit Application

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

State of Michigan

National Pollutant Discharge Elimination System

Permit Application for Discharge of Storm Water to Surface Waters of the State from a Municipal Separate Storm Sewer System

DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISION
PERMITS SECTION
P.O. BOX 30458
LANSING, MICHIGAN 48909-7958
TELEPHONE: 517-284-5568
FAX: 517-241-9003

STORM WATER DISCHARGE PERMIT APPLICATION

Do Not Return This Page with the Completed Application

PURPOSE AND AUTHORITY

The National Pollutant Discharge Elimination System (NPDES) Program protects the surface waters of the state by assuring that discharges of wastewater comply with state and federal regulations. Anyone discharging or proposing to discharge wastewater to the surface waters of the state are required to make application for and obtain a valid NPDES permit prior to wastewater discharge.

NPDES permits are required under Section 402 of the Federal Clean Water Act (the "Federal Act"), as amended (33 U.S.C. 1251 et seq., P.L. 92-500, 95-217), and under Part 31, Water Resources Protection, of Michigan's "Natural Resources and Environmental Protection Act", 1994 PA 451, as amended (NREPA). Part 31 of the NREPA also provides authority for the State to issue NPDES permits. The Michigan Department of Environmental Quality (DEQ) administers the NPDES permit program for the State of Michigan.

This Application should be used to apply for a storm water discharge from a regulated Municipal Separate Storm Sewer System (MS4) to the surface waters of the state.

ELIGIBLE PERMITTEES

Except as excluded below, any public body that owns or operates a regulated MS4 may be eligible for permit coverage including, but not limited to, the United States, the State of Michigan, a city, village, township, county, public school district, public college or university, a single purpose governmental agency, or any other governing body which is created by federal or state statute or law.

The DEQ will determine eligibility for permit coverage.

Nongovernmental entities, such as individuals, private schools, private colleges, and private universities, or industrial and commercial entities, are not eligible for permit coverage.

PENALTIES

The information in this Application is required by the Part 21 Rules of the NREPA. A municipality, business, or industry that violates the Part 21 Rules may be enjoined by action commenced by the Attorney General in a court of competent jurisdiction.

Federal and State laws provide penalties for submitting false application information. The laws imposing those penalties are cited below.

The Federal Act, Section 309(c)(4): "Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this chapter or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this chapter, shall upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or by both."

The NREPA, Section 3115(2): "A person who at the time of the violation knew or should have known that he or she discharged a substance contrary to this part, or contrary to a permit or order issued or rule promulgated under this part, or who intentionally makes a false statement, representation, or certification in an application form pertaining to a permit or in a notice or report required by the terms and conditions of an issued permit, or who intentionally renders inaccurate a monitoring device or record required to be maintained by the department, is guilty of a felony and shall be fined not less than $2,500.00 or more than $25,000.00 for each violation. The court may impose an additional fine of not more than $25,000.00 for each day during which the unlawful discharge occurred. If the conviction is for a violation committed after a first conviction of the person under this subsection, the court shall impose a fine of not less than $25,000.00 per day and not more than $50,000.00 per day of violation. Upon conviction, in addition to a fine, the court, in its discretion may sentence the defendant to imprisonment for not more than 2 years or impose probation upon a person for a violation of this part. With the exception of the issuance of criminal complaints, issuance of warrants, and the holding of an arraignment, the circuit court for the county in which the violation occurred has exclusive jurisdiction. However, the person shall not be subject to the penalties of this subsection if the discharge of the effluent is in conformance with and obedient to a rule, order, or permit of the department. In addition to a fine, the attorney general may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation."

Michigan Department of Environmental Quality – Water Resources Division

STORM WATER DISCHARGE PERMIT APPLICATION

PLEASE TYPE OR PRINT

Applicants for either new permit coverage or reissuance of a permit shall include all of the following requested information for Sections I-VIII.

SECTION I. APPLICANT NAME AND MAILING ADDRESS		Current Permit/COC Number (if applicable)
Kalamazoo Public Schools		MIG610383
Additional Applicant Name Information		
Street Address or P.O. Box 1220 Howard Street		e-mail startgl@kalamazoo.k12.mi.us
City or Village Kalamazoo	State Michigan	ZIP Code 49008
Telephone (with area code) 269-337-0115	FAX Number (with area code)	

SECTION II. CONTACTS

☒ Application Contact ☐ Storm Water Program Manager ☐ Storm Water Billing	First Name Gary	Last Name Start	
	Title Deputy Superintendent	Business	
	Address 1 1220 Howard Street	Address 2	
	City Kalamazoo	State MI	ZIP Code 49008
	Telephone (with area code) 269-337-0115	FAX (with area code)	e-mail startgl@kalamazoo.k12.
☐ Application Contact ☒ Storm Water Program Manager ☒ Storm Water Billing	First Name Karen	Last Name Jackson	
	Title Executive Assistant	Business	
	Address 1 600 West Vine Street	Address 2	
	City Kalamazoo	State MI	ZIP Code 49008
	Telephone (with area code) 269-337-0400	FAX (with area code) 269-337-0497	e-mail jacksonkj@kalamazoo.k
☐ Application Contact ☐ Storm Water Program Manager ☐ Storm Water Billing	First Name	Last Name	
	Title	Business	
	Address 1	Address 2	
	City	State	Zip Code
	Telephone (with area code)	FAX (with area code)	e-mail

SECTION III.

PERMIT ACTION REQUESTED:

☐ New Authorization

☒ Reissuance of Previous Authorization

☐ Modification of Current Permit

SECTION IV. REGULATED AREA

Provide a map identifying the urbanized area within the applicant's jurisdictional boundary as defined by the 2010 Census. The regulated municipal separate storm sewer system (MS4) means an MS4 owned or operated by a city, village, township, county, district, association, or other public body created by or pursuant to state law and the nested MS4 identified in Section VI. that is located in an urbanized area and discharges storm water into surface waters of the state. The 2010 Census maps are located at http://www.michigan.gov/documents/deq/wrd-stormwater-urbanizedareas_374344_7.pdf

SECTION V. OUTFALLS AND POINTS OF DISCHARGE

Identify and provide the surface water of the state that receives the discharge from each of the applicant's outfalls and points of discharge in Table 1 or an alternative format. Please note that an MS4 is not a surface water of the state. For example, an open county drain that is a surface water of the state is not an MS4.

SECTION VI. NESTED JURISDICTIONS

Submit the name and general description of each nested MS4 for which a cooperative agreement has been reached to carry out the terms and conditions of the permit for the nested jurisdiction. The applicant shall be responsible for assuring compliance with the permit for those nested jurisdictions with which they have entered into an agreement and listed as part of the Application. If the primary jurisdiction and the nested jurisdiction agree to cooperate so that the terms and conditions of the permit are met for the nested MS4, the nested jurisdiction does not need to apply for a separate permit. A city, village, or township shall not be a nested jurisdiction.

NESTED JURISDICTION NAME AND GENERAL DESCRIPTION:

NA - See Chapter 4

SECTION VII. STORM WATER MANAGEMENT PROGRAM

This Application requires a description of the Best Management Practices (BMPs) the applicant will implement for each minimum control measure and the applicable water quality requirements during this permit cycle. The applicant shall incorporate the BMPs to develop a Storm Water Management Program (SWMP) as part of the Application. The SWMP shall be developed, implemented, and enforced to reduce the discharge of pollutants from the MS4 to the Maximum Extent Practicable and protect water quality in accordance with the appropriate water quality requirements of the NREPA 451, Public Acts of 1994, Part 31, and the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 *et seq.*). The Maximum Extent Practicable may be met by implementing the BMPs identified in the SWMP and demonstrating the effectiveness of the BMPs. The applicant shall attach any appropriate and necessary documentation to demonstrate compliance with the six minimum control measures and applicable water quality requirements as part of the Application.

The applicant shall complete this Application to the best of its knowledge and ensure that it is true, accurate, and meets the minimum requirements for a SWMP to the Maximum Extent Practicable.

When answering the questions in this section of the Application, the applicant's MS4 encompasses what the applicant identified in Sections IV, V, and VI, above. The applicant shall include a measurable goal for each BMP. Each measurable goal shall include, as appropriate, a schedule for BMP implementation (months and years), including interim milestones and the frequency of the action. Each measurable goal shall have a measure of assessment to measure progress towards achieving the measurable goal. A United States Environmental Protection Agency (USEPA) guidance document on measurable goals is available at http://www.epa.gov/npdes/pubs/measurablegoals.pdf.

Several minimum control measures include a statement requesting the applicant to indicate in the response if you are, or will be, working collaboratively with watershed or regional partners on any or all activities to meet the minimum control measure requirements. If the applicant chooses to work collaboratively with watershed or regional partners to implement parts of the SWMP, each applicant will be responsible for complying with the minimum permit requirements.

For purposes of this Application a procedure means a written process, policy or other mechanism describing how the applicant will implement minimum requirements. It may be helpful to read all questions in each section first.

Enforcement Response Procedure (ERP)

The applicant shall describe the current and proposed enforcement responses to address violations of the applicant's ordinances and regulatory mechanisms identified in the SWMP. The following question represents the minimum requirement for the ERP. Please complete the question below.

1. Provide the ERP. The ERP shall include the applicant's expected response to violations to compel compliance with an ordinance or regulatory mechanism implemented by the applicant in the SWMP (e.g., written notices, citations, and fines). The ERP shall contain a method for tracking instances of non-compliance, including, as appropriate, the name of the person responsible for violating the applicant's ordinance or regulatory mechanism, the date and location of the violation, a description of the violation, a description of the enforcement response used, a schedule for returning to compliance, and the date the violation was resolved. The applicant may keep an electronic file or hard copy file of the enforcement tracking.

   ERP Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b.* See Chapter 5

Public Participation/Involvement Program (PPP)

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the PPP to the maximum extent practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are, or will be, working collaboratively with watershed or regional partners on any or all activities in the PPP during the permit cycle (i.e., identify collaborative efforts in the procedures). The following questions represent the minimum control measure requirements for the PPP. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP.

2. Provide the procedure for making the SWMP available for public inspection and comment. The procedure shall include a process for notifying the public when and where the SWMP is available and of opportunities to provide comment. The procedure shall also include a process for complying with local public notice requirements, as appropriate.

   Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b.* See Chapter 6

3. Provide the procedure for inviting public involvement and participation in the implementation and periodic review of the SWMP.

   Procedure Reference (page and paragraph of attachments): See Chapter 6

Public Education Program (PEP)
The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the PEP to the maximum extent practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are, or will be, working collaboratively with watershed or regional partners on any or all activities in the PEP during the permit cycle. The following questions represent the minimum requirements for the PEP. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

4. Provide the procedure with the assessment of high priority, community-wide issues and targeted issues to reduce pollutants in storm water runoff as part of the PEP. The assessment shall include a list of the priority issues.
   ☐ Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b* _____
   ☒ Not applicable – PEP topics will not be prioritized.

5. The applicant shall identify applicable PEP topics below and, if prioritizing topics, prioritize based on the assessment in Question 4. The PEP topics may be prioritized as high, medium, and low or in order from 1-11 based on the assigned priority level (e.g., 1 being the highest priority topic and 11 being the lowest priority topic). For each applicable topic, identify the target audience; key message; delivery mechanism; year and frequency the BMP will be implemented; and the responsible party.

   For each topic below, complete one or more of the following
   - Fill out Table 2 for each applicable PEP topic.
   - Reference the page number in your existing PEP document.
   - Explain why the PEP activity is not applicable or a priority issue.

   A. Promote public responsibility and stewardship in the applicant's watershed(s).
      Priority Ranking _____
      ☐ See Table 2
      ☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 1
      ☐ Not applicable. Provide explanation below.

   B. Inform and educate the public about the connection of the MS4 to area waterbodies and the potential impacts discharges could have on surface waters of the state.
      Priority Ranking _____
      ☐ See Table 2
      ☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 2
      ☐ Not applicable. Provide explanation below.

   C. Educate the public on illicit discharges and promote public reporting of illicit discharges and improper disposal of materials into the MS4.
      Priority Ranking _____
      ☐ See Table 2
      ☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 3
      ☐ Not applicable. Provide explanation below.

D. Promote preferred cleaning materials and procedures for car, pavement, and power washing.
Priority Ranking _____
☐ See Table 2
☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 4
☐ Not applicable. Provide explanation below.

E. Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers.
Priority Ranking _____
☐ See Table 2
☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 4
☐ Not applicable. Provide explanation below.

F. Promote proper disposal practices for grass clippings, leaf litter, and animal wastes that may enter into the MS4.
Priority Ranking _____
☐ See Table 2
☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 4
☐ Not applicable. Provide explanation below.

G. Identify and promote the availability, location, and requirements of facilities for collection or disposal of household hazardous wastes, travel trailer sanitary wastes, chemicals, and motor vehicle fluids.
Priority Ranking _____
☐ See Table 2
☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 5
☐ Not applicable. Provide explanation below.

H. Inform and educate the public on proper septic system care and maintenance, and how to recognize system failure.
Priority Ranking _____
☐ See Table 2
☐ Attach existing approved PEP (page and paragraph of attachments): _____
☒ Not applicable. Provide explanation below.

School sites are all on public sanitary sewer

I. Educate the public on, and promote the benefits of, green infrastructure and Low Impact Development.
Priority Ranking _____
☐ See Table 2
☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 4
☐ Not applicable. Provide explanation below.

J. Promote methods for managing riparian lands to protect water quality.
Priority Ranking _____
☐ See Table 2
☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 6
☐ Not applicable. Provide explanation on the next page.

K. Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to storm water runoff.
Priority Ranking _____
☐ See Table 2
☒ Attach existing approved PEP (page and paragraph of attachments): Chapter 7, Table 2, PEP Objective 2
☐ Not applicable. Provide explanation below.

6. Provide the procedure for evaluating and determining the effectiveness of the overall PEP. The procedure shall include a method for assessing changes in public awareness and behavior resulting from the implementation of the PEP and the process for modifying the PEP to address ineffective implementation.

Procedure Reference (page and paragraph of attachments): Chapter 7, page 3 and 4 and Table 2 "Measurable Goals"

Illicit Discharge Elimination Program (IDEP)
The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the IDEP to the Maximum Extent Practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are or will be working collaboratively with watershed or regional partners on any or all BMPs in the IDEP during the permit cycle (e.g., identify collaborative efforts in the procedures). The following questions represent the minimum control measure requirements for the IDEP. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

The following definitions apply to the terms used below:
- Illicit Discharge: Any discharge to, or seepage into, an MS4 that is not composed entirely of storm water or uncontaminated groundwater except discharges pursuant to an NPDES permit. A discharge that originates from the applicant's property and meets the illicit discharge definition is considered an illicit discharge.
- Illicit Connection: A physical connection to an MS4 that primarily conveys non-storm water discharges other than uncontaminated groundwater into the MS4; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

The Center for Watershed Protection has a guide on developing and implementing an IDEP available at http://www.epa.gov/npdes/pubs/idde_manualwithappendices.pdf. This guide is a useful tool to assist with completing the Application.

Storm Sewer System Map

7. Provide the location where an up-to-date storm sewer system map(s) is available. The map(s) shall identify the following: the storm sewer system, the location of all outfalls and points of discharge, and the names and location of the surface waters of the state that receive discharges from the permittee's MS4 (for both outfalls and points of discharge). A separate storm sewer system includes: roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, and man-made channels. A storm sewer system map(s) may include available diagrams, such as certification maps, road maps showing rights-of-way, as-built drawings, or other hard copy or digital representation of the storm sewer system.

The map (or maps) is available at the following location: *e.g., The Department of Public Works front office* KPS Facility's Office

Illicit Discharge Identification and Investigation

8. Provide the procedure for prioritizing the applicant's MS4 for detecting non-storm water discharges. The goal of the prioritization process is to target areas with high illicit discharge potential. The procedure shall document the process for selecting each priority area using the list below.
   - Areas with older infrastructure
   - Industrial, commercial, or mixed use areas
   - Areas with a history of past illicit discharges
   - Areas with a history of illegal dumping
   - Areas with septic systems
   - Areas with older sewer lines or with a history of sewer overflows or cross-connections
   - Areas with sewer conversions or historic combined sewer systems
   - Areas with poor dry-weather water quality
   - Areas with water quality impacts, including waterbodies identified in a Total Maximum Daily Load
   - Priority areas applicable to the applicant not identified above

☐ Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b* _____
☒ Not applicable – The applicant will perform illicit discharge identification and investigation throughout the entire MS4. Skip to Question 10.

9. Provide the geographical location of each prioritized area using either a narrative description or map and identify the prioritized areas that will be targeted during the permit cycle.

   IDEP Prioritized Areas (page and paragraph of attachments): _____

10. Provide the procedure for performing field observations at all outfalls and points of discharge in the priority areas as identified in the procedure above or for the entire MS4 during dry-weather at least once during the permit cycle. The procedure shall include a schedule for completing the field observations during the permit cycle or more expeditiously if the applicant becomes aware of a non-storm water discharge. *As part of the procedure, the applicant may submit an interagency agreement with the owner or operator of the downstream MS4 identifying responsibilities for ensuring an illicit discharge is eliminated if originating from the applicant's point(s) of discharge. The interagency agreement would eliminate the requirement for performing a field observation at that point(s) of discharge.*

    The focus of the field observation shall be to observe the following:
    - Presence/absence of flow
    - Deposits/stains on the discharge structure or bank
    - Vegetation condition
    - Structural condition
    - Biology, such as bacterial sheens, algae, and slimes
    - Water clarity
    - Color
    - Odor
    - Floatable materials

    Procedure Reference (page and paragraph of attachments): See Chapter 8, SOP, page 8

11. Provide the procedure for performing field screening if flow is observed at an outfall or point of discharge and the source of an illicit discharge is not identified during the field observation. Field screening shall include analyzing the discharge for indicator parameters (e.g., ammonia, fluoride, detergents, and pH). The procedure shall include a schedule for performing field screening.

    Procedure Reference (page and paragraph of attachments): See Chapter 8 page 2, SOP, page 9

12. Provide the procedure for performing a source investigation if the source of an illicit discharge is not identified by field screening. The procedure shall include a schedule for performing a source investigation.

    Procedure Reference (page and paragraph of attachments): See Chapter 8 page 2, SOP, page 11

13. Provide the procedure for responding to illegal dumping/spills. The procedure shall include a schedule for responding to complaints, performing field observations, and follow-up field screening and source investigations as appropriate.

    Procedure Reference (page and paragraph of attachments): See Chapter 8, pages 3-5

14. Provide the procedure for responding to illicit discharges upon becoming aware of such a discharge outside of the priority areas. The procedure shall include a schedule for performing field observations, and follow-up field screening and source investigations as appropriate.
    ☐ Procedure Reference (page and paragraph of attachments): _____
    ☒ Not applicable – Field observations will be conducted at all outfalls and points of discharge

15. Provide the procedure that includes a requirement to immediately report any release of any polluting materials from the MS4 to the surface waters or groundwaters of the state, unless a determination is made that the release is not in excess of the threshold reporting quantities in the Part 5 Rules, by calling the appropriate MDEQ District Office, or if the notice is provided after regular working hours call the MDEQ's 24-Hour Pollution Emergency Alerting System telephone number: 800-292-4706.

    Procedure Reference (page and paragraph of attachments): See Chapter 8, pages 4 and 5

16. If the procedures requested in Questions 8 through 14 do not accurately reflect the applicant's procedure(s), describe the alternative approach to meet the minimum requirements.

    ☒ Not applicable

17. Provide the procedure for responding to illicit discharges once the source is identified. The procedure shall include a schedule to eliminate the illicit discharge and pursue enforcement actions. The procedure shall also address illegal spills/dumping.

    Procedure Reference (page and paragraph of attachments): See Chapter 8 - Table 3, row 2

IDEP Training and Evaluation

18. Provide the program to train staff employed by the applicant on the following topics. The program shall include a training schedule for this permit cycle. *It is recommended that staff be trained more than once per permit cycle.*
    - Techniques for identifying an illicit discharge or connection, including field observation, field screening, and source investigation.
    - Procedures for reporting, responding to, and eliminating an illicit discharge or connection and the proper enforcement response.
    - The schedule and requirement for training at least once during the term of this permit cycle for existing staff and within the first year of hire for new staff.

    Program Reference (page and paragraph of attachments): See Chapter 8, page 1 and 4

19. Provide the procedure for evaluating and determining the overall effectiveness of the IDEP. The procedure shall include a schedule for implementation. *Examples of evaluating overall effectiveness include, but are not limited to, the following: evaluate the prioritization process to determine if efforts are being maximized in areas with high illicit discharge potential; evaluate the effectiveness of using different detection methods; evaluate the number of discharges and/or quantity of discharges eliminated using different enforcement methods; and evaluate program efficiency and staff training frequency.*

    Procedure Reference (page and paragraph of attachments): See Chapter 8 page 5, Table 3

Illicit Discharge Ordinance

20. Provide the ordinance or regulatory mechanism in effect that prohibits non-storm water discharges into the applicant's MS4 (except the non-storm water discharges addressed in Questions 21 and 22).

    Ordinance number(s) or regulatory mechanism title(s) (attach a copy): Chapter 13, Policy and Standards

21. Does the ordinance or other regulatory mechanism exclude prohibiting the discharges or flows from firefighting activities to the applicant's MS4 and require that these discharges or flows only be addressed if they are identified as significant sources of pollutants to waters of the State? The ordinance shall not authorize illicit discharges; however, the applicant may choose to exclude prohibiting the discharges and flows from firefighting activities if they are identified as not being significant sources of pollutants to waters of the state.
    ☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): Chapter 13, Policy and Standards, pages 5-7
    ☐ Not applicable – All non-storm water discharges into the applicant's MS4 will be prohibited.

22. Does the ordinance or other regulatory mechanism prohibit the following categories of non-storm water discharges or flows if identified as significant contributors to violations of Water Quality Standards? The ordinance shall not authorize illicit discharges; however, the applicant may choose to exclude prohibiting the following discharges or flows if they are identified as not being a significant contributor to violations of Water Quality Standards.
    a. Water line flushing and discharges from potable water sources
    b. Landscape irrigation runoff, lawn watering runoff, and irrigation waters
    c. Diverted stream flows and flows from riparian habitats and wetlands
    d. Rising groundwaters and springs
    e. Uncontaminated groundwater infiltration and seepage
    f. Uncontaminated pumped groundwater, except for groundwater cleanups specifically authorized by NPDES permits
    g. Foundation drains, water from crawl space pumps, footing drains, and basement sump pumps
    h. Air conditioning condensation
    i. Waters from noncommercial car washing
    j. Street wash water
    k. Dechlorinated swimming pool water from single, two, or three family residences. (A swimming pool operated by the permittee shall not be discharged to a separate storm sewer or to surface waters of the state without NPDES permit authorization from the MDEQ.)

    ☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): Chapter 13, Policy and Standards, pages 6-7
    ☐ Not applicable – All non-storm water discharges into the applicant's MS4 will be prohibited.

23. Provide the ordinance or regulatory mechanism that regulates the contribution of pollutants to the applicant's MS4.

    Ordinance or regulatory mechanism reference (page and paragraph of attachments): Chapter 13, Policy and Standards

24. Provide the ordinance or regulatory mechanism that prohibits illicit discharges, including illicit connections and the direct dumping or disposal of materials into the applicant's MS4.

Ordinance or regulatory mechanism reference (page and paragraph of attachments): Chapter 13, Policy and Standards page 5

25. Provide the ordinance or regulatory mechanism with the authority established to inspect, investigate, and monitor suspected illicit discharges into the applicant's MS4.

    Ordinance or regulatory mechanism reference (page and paragraph of attachments): Chapter 13, Policy and Standards pages 7-8

26. Provide the ordinance or regulatory mechanism that requires and enforces elimination of illicit discharges into the applicant's MS4, including providing the applicant the authority to eliminate the illicit discharge.

    Ordinance or regulatory mechanism reference (page and paragraph of attachments): Chapter 13, Policy and Standards pages 7-8

Construction Storm Water Runoff Control Program

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the construction storm water runoff control program to the maximum extent practicable, which shall be incorporated into the SWMP. Please indicate in your response if you are or will be working collaboratively with watershed or regional partners on any or all requirements of this program during the permit cycle. The following questions represent the minimum control measure requirements for the construction storm water runoff control program. Please complete all the questions below. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

Qualifying Local Soil Erosion and Sedimentation Control Programs

27. Is the applicant a Part 91 Agency? A list of Part 91 agencies is available at http://www.michigan.gov/deq/0,4561,7-135-3311_4113-8870--,00.html.
    Yes. Choose type: ☐ County Enforcing Agency ☐ Municipal Enforcing Agency ☐ Authorized Public Agency
    ☒ No, the applicant relies on the following Qualifying Local Soil Erosion and Sedimentation Control Program (Part 91 Agency)
    Kalamazoo County Soil Erosion Agent (KCDC) and City of Kalamazoo

Construction Storm Water Runoff Control

28. Provide the procedure with the process for notifying the Part 91 Agency or appropriate staff when soil or sediment is discharged to the applicant's MS4 from a construction activity. The procedure shall allow for the receipt and consideration of complaints or other information submitted by the public or identified internally as it relates to construction storm water runoff control. For non-Part 91 agencies, consideration of complaints may include referring the complaint to the qualifying local Soil Erosion and Sedimentation Control Program as appropriate. Construction activity is defined pursuant to Part 21, Wastewater Discharge Permits, Rule 323.2102 (K). The applicant may consider as part of their procedure when and under what circumstances the Part 91 Agency or appropriate staff will be contacted.

    Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b* See Chapter 9

29. Provide the procedure for when to notify the MDEQ when soil, sediment, or other pollutants are discharged to the applicant's MS4 from a construction activity. Other pollutants include pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed. The applicant may consider as part of their procedure when and under what circumstances the MDEQ will be contacted.

    Procedure Reference (page and paragraph of attachments): See Chapter 9

30. Provide the procedure for ensuring that construction activity one acre or greater in total earth disturbance with the potential to discharge to the applicant's MS4 obtains a Part 91 permit, or is conducted by an approved Authorized Public Agency as appropriate. Note: For applicants that conduct site plan review, the procedure must be triggered at the site plan review stage.

    Procedure Reference (page and paragraph of attachments): See Chapter 9

31. Provide the procedure to advise the landowner or recorded easement holder of the property where the construction activity will occur of the State of Michigan Permit by Rule (Rule 323.2190).

    Procedure Reference (page and paragraph of attachments): See Chapter 9

Post-Construction Storm Water Runoff Program

Post-construction storm water runoff controls are necessary to maintain or restore stable hydrology in receiving waters by limiting surface runoff rates and volumes and reducing pollutant loadings from sites that undergo development or significant redevelopment.
The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the post-construction storm water runoff program to the maximum extent practicable, which shall be incorporated into the SWMP. Please

complete the questions below as appropriate. If the "No" response is selected but a date is requested for the minimum requirement to

be available, please provide a date to meet the minimum requirement. All dates provided by the applicant in this Application should be on or before October 1, 2015. Some questions are set up to allow for additional responses to meet the minimum requirements. If space is not available for an additional response, then the minimum requirement must be met in accordance with the question. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

An applicant may reference in its ordinance or regulatory mechanism other technical documents used to implement the post-construction storm water runoff program. For example, an applicant may answer a question with a reference to a performance or technical standards document in the ordinance **and** the reference in the technical document. When referencing the ordinance, regulatory mechanism, or other technical documents, attach the document and provide the page and paragraph reference.

The MDEQ has the following resources available to assist with development of a Post-Construction Storm Water Runoff Program.

- A Post-Construction Storm Water Runoff Program Compliance Assistance Document available at www.michigan.gov/documents/deq/wrd-storm-MS4-ComplianceAssistance_470350_7.pdf
- A manual titled *Low Impact Development Manual for Michigan* available at http://www.semcog.org/LowImpactDevelopment.aspx. Chapter 9 of the manual provides a methodology for addressing post-construction storm water runoff.

Ordinance or Other Regulatory Mechanism

32. Is an ordinance or other regulatory mechanism in effect to address post-construction storm water runoff from new development and redevelopment projects, including preventing or minimizing water quality impacts? The ordinance or other regulatory mechanism shall apply to private, commercial, and public projects, including projects where the applicant is the developer. This requirement may be met using a single ordinance or regulatory mechanism or a combination of ordinances and regulatory mechanisms.
    ☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): *e.g., Attachment A, Pages 1-15 Chapter 10, and Chapter 13*
    ☐ No, the ordinance or regulatory mechanism will be available on _____

33. Does the ordinance or other regulatory mechanism apply to projects that disturb at least one or more acres, including projects less than an acre that are part of a larger common plan of development or sale and discharge into the applicant's MS4?
    ☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): by requirement of site plan review
    ☐ No, the ordinance or regulatory mechanism will be available on _____

Federal Facilities

Federal facilities are subject to the Energy Independence and Security Act of 2007. Section 438 of this legislation establishes post-construction storm water runoff requirements for federal development and redevelopment projects.

34. Is the applicant the owner or operator of a federal facility with a storm water discharge?
    ☐ Yes
    ☒ No, skip to Question 36

35. Is the applicant implementing the post-construction storm water runoff control requirements in Section 438 of the Energy Independence and Security Act? A guidance document is available at http://www.epa.gov/greeningepa/documents/epa_swm_guidance.pdf
    ☐ Yes, regulatory mechanism reference (page and paragraph of attachments): _____
    ☐ No, the regulatory mechanism will be available on _____

Water Quality Treatment Performance Standard

36. Does the ordinance or other regulatory mechanism include one or more of the following water quality treatment standards?
    ☒ Treat the first one inch of runoff from the entire project site. Ordinance or other regulatory mechanism reference (page and paragraph of attachments) Chapter 13, Page 9 of the standards Skip to Question 38.
    ☐ Treat the runoff generated from 90 percent of all runoff-producing storms for the project site. Ordinance or other regulatory mechanism reference (page and paragraph of attachments) _____
    ☐ No, the ordinance or other regulatory mechanism will be available on _____
    ☐ The ordinance or other regulatory mechanism is/will be available on _____ and includes the following water quality treatment standard. Provide an explanation as to how the water quality treatment standard will prevent or minimize water quality impacts.

37. What is the source of the rainfall data if the applicant has chosen the water quality treatment standard of requiring the treatment of the runoff generated from 90 percent of all runoff-producing storms?
☐ The MDEQ's memo dated March 24, 2006 providing the 90 percent annual non-exceedance storm statistics. The memo is available at http://www.michigan.gov/documents/deq/lwm-hsu-nps-ninety-percent_198401_7.pdf.
☐ An analysis of at least ten years of local published rain gauge data following the method in the March 25, 2006, MDEQ memo titled *90 Percent Annual Non-Exceedance Storms* cited above.
☐ Other rainfall data source (page and paragraph of attachments) _____

38. Does the ordinance or other regulatory mechanism require that BMPs be **designed** on a site-specific basis to reduce post-development total suspended solids loadings by 80 percent or achieve a discharge concentration of total suspended solids not to exceed 80 milligram per liter?
☒ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): Chapter 13, Page 9 of the standards
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism defines treatment as follows:

Channel Protection Performance Standard

39. Does the ordinance or other regulatory mechanism require that the post-construction runoff rate and volume of discharges not exceed the pre-development rate and volume for all storms up to the two-year, 24-hour storm at the project site? At a minimum, pre-development is the last land use prior to the planned new development or redevelopment. *A spreadsheet to assist with these calculations is available at www.michigan.gov/documents/deq/wb-storm-MS4-RunoffVolume_331235_7.xls*
☒ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): Chapter 13, Page 9 of the standards
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism is/will be available on _____and includes the following channel protection standard. Provide an explanation as to how the channel protection standard will prevent or minimize water quality impacts.

40. Does the ordinance or other regulatory mechanism exclude any waterbodies from the channel protection performance standard? The channel protection performance standard is not required for the following waterbodies: the Great Lakes or connecting channels of the Great Lakes; Rouge River downstream of the Turning Basin; Saginaw River; Mona Lake and Muskegon Lake (Muskegon County); and Lake Macatawa and Spring Lake (Ottawa County).
☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☒ Not applicable

Site-Specific Requirements

41. Provide the procedure for reviewing the use of infiltration BMPs to meet the water quality treatment and channel protection standards for new development or redevelopment projects in areas of soil or groundwater contamination in a manner that does not exacerbate existing conditions. The procedure shall include the process for coordinating with MDEQ staff as appropriate.

Procedure Reference (page and paragraph of attachments): Chapter 13, Pages 12-13 of the standards

42. Does the ordinance or other regulatory mechanism require BMPs to address the associated pollutants in potential hot spots as part of meeting the water quality treatment and channel protection standards for new development or redevelopment projects? Hot spots include areas with the potential for significant pollutant loading such as gas stations, commercial vehicle maintenance and repair, auto recyclers, recycling centers, and scrap yards. Hot spots also include areas with the potential for contaminating public water supply intakes.
☒ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): Chapter 13, Pages 12-13 of the standards
☐ No, the ordinance or other regulatory mechanism will be available on _____

Off-Site Mitigation and Payment in Lieu Programs

43. Does the ordinance or other regulatory mechanism allow for the approval of off-site mitigation for redevelopment projects that cannot meet 100 percent of the performance standards on-site after maximizing storm water retention? Off-site mitigation refers to BMPs

implemented at another location within the same jurisdiction and watershed/sewershed as the original project. *A watershed is the geographic area included in a10-digit Hydrologic Unit Code and a sewershed is the area where storm water is conveyed by the applicant's MS4 to a common outfall or point of discharge.*

☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☒ Not pursuing this option

44. Does the ordinance or other regulatory mechanism allow for the approval of payment in lieu for projects that cannot meet 100 percent of the performance standards on-site after maximizing storm water retention? A payment in lieu program refers to a developer paying a fee to the applicant that is applied to a public storm water management project within the same jurisdiction and watershed/sewershed as the original project in lieu of installing the required BMPs onsite. The storm water management project may be either a new BMP or a retrofit to an existing BMP and shall be developed in accordance with the applicant's performance standards. *A watershed is the geographic area included in a 10-digit Hydrologic Unit Code and a sewershed is the area where storm water is conveyed by the applicant's MS4 to a common outfall or point of discharge.*
☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☒ Not pursuing this option. If "not pursuing this option" was selected for both Questions 43 and 44, skip to Question 52.

45. Does the ordinance or other regulatory mechanism establish criteria for determining the conditions under which off-site mitigation and/or payment in lieu are available and require technical justification as to the infeasibility of on-site management? The determination that performance standards cannot be met on-site shall not be based solely on the difficulty or cost of implementing, but shall be based on multiple criteria related to the physical constraints of the project site, such as: too small of a lot outside of the building footprint to create the necessary infiltrative capacity even with amended soils; soil instability as documented by a thorough geotechnical analysis; a site use that is inconsistent with the capture and reuse of storm water; too much shade or other physical conditions that preclude adequate use of plants. The criteria shall also include consideration of the stream order and location within the watershed/sewershed as it relates to the water quality impacts from the original project site *(e.g., the water quality impact from a project site with a discharge to a small-sized stream would be greater than a project site on a large river and an offset downstream of the project site may provide less water quality benefit.*) The highest preference for off-site mitigation and in lieu projects shall be given to locations that yield benefits to the same receiving water that received runoff from the original project site.
☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____

46. Does the ordinance or other regulatory mechanism establish a minimum amount of storm water to be managed on-site as a first tier for off-site mitigation or payment in lieu? A higher offset ratio is required if off-site mitigation or payment in lieu is requested for the amount of storm water identified as the first tier. *For example, a minimum of 0.4 inches of storm water runoff shall be managed on-site as a first tier.*
☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism requires the following:

47. Does the ordinance or other regulatory mechanism require an offset ratio of 1:1.5 for the amount of storm water above the first tier (identified in Question 46) not managed on-site to the amount of storm water required to be mitigated at another site or for which in-lieu payments shall be made?
☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism requires the following:

48. Does the ordinance or other regulatory mechanism require that if demonstrated by the developer to the applicant that it is completely infeasible to manage the first tier of storm water identified in Question 47 on-site, the offset ratio for the unmanaged portion is 1:2?
☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism requires the following:

49. Does the ordinance or other regulatory mechanism require a schedule for completing off-site mitigation and in-lieu projects? *Off-site mitigation and in-lieu projects should be completed within 24 months after the start of the original project site construction.*
☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism requires the following:

50. Does the ordinance or other regulatory mechanism require that offsets and in-lieu projects be preserved and maintained in perpetuity, such as deed restrictions and long-term operation and maintenance?
☐ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): _____
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism requires the following:

51. Describe the tracking system implemented, or to be implemented, to track off-site mitigation and/or in-lieu projects.

52. Are there any other exceptions to the performance standards, other than off-site mitigation and payment in lieu, being implemented or to be implemented during the permit cycle? The applicant shall demonstrate how the exception provides an equivalent or greater level of protection as the performance standards.
☐ Yes, demonstration reference (page and paragraph of attachments): _____ ☒ No

Site Plan Review

53. Does the ordinance or other regulatory mechanism include a requirement to submit a site plan for review and approval of post-construction storm water runoff BMPs?
☒ Yes, ordinance or regulatory mechanism reference (page and paragraph of attachments): Chapter 13
☐ No, the ordinance or regulatory mechanism will be available on _____

54. Provide the procedure for site plan review and approval.

Procedure Reference (page and paragraph of attachments): Chapter 10

55. Provide the reference in the site plan review and approval procedure to the process for determining how the developer meets the performance standards and ensures long-term operation and maintenance of BMPs.

Procedure Reference (page and paragraph of attachments): Chapter 10 and Ch14 storm water work sheets

Long-Term Operation and Maintenance of BMPs

56. Does the ordinance or other regulatory mechanism require the long-term operation and maintenance of all structural and vegetative BMPs installed and implemented to meet the performance standards in perpetuity?
☒ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): Chapter 10
☐ No, the ordinance or other regulatory mechanism will be available on _____

57. Does the ordinance or other regulatory mechanism require a maintenance agreement between the applicant and owners or operators responsible for the long-term operation and maintenance of structural and vegetative BMPs installed and implemented to meet the performance standards?
☒ Yes, ordinance or other regulatory mechanism reference (page and paragraph of attachments): Chapter 10
☐ No, the ordinance or other regulatory mechanism will be available on _____
☐ The ordinance or other regulatory mechanism requires the following:

58. Does the maintenance agreement or other legal mechanism allow the applicant to complete the following? (Check if yes)
☒ Inspect the structural or vegetative BMP
☒ Perform the necessary maintenance or corrective actions neglected by the BMP owner or operator
☐ Track the transfer of operation and maintenance responsibility of the BMP (e.g., deed restrictions)

If any of the boxes above were not checked, provide a response explaining how the maintenance agreement or other legal mechanism allows the applicant to verify and ensure maintenance of the BMP.

KPS owns all parcels the utilities are located upon and would transfer upon sale of property

59. Provide the procedure for tracking compliance with a maintenance agreement or other legal mechanism to ensure the performance standards are met in perpetuity.

    Procedure Reference (page and paragraph of attachments): See Chapter 10, Table 4, records retention

Pollution Prevention and Good Housekeeping Program

The applicant shall describe the current and proposed BMPs to meet the minimum control measure requirements for the Pollution Prevention and Good Housekeeping Program to the maximum extent practicable, which shall be incorporated into the SWMP. The applicant shall develop and implement a Pollution Prevention and Good Housekeeping Program to prevent or reduce the discharge of pollutants from municipal facilities and operations.

The following definitions apply to the terms used below:

- Fleet: A group of vehicles owned or operated as a unit.
- Maintenance (includes, but not limited to): adding/changing vehicle fluids, fueling, lubrication, painting, mechanical repairs, parts degreasing, and vehicle/equipment washing.
- Storage Yard (includes, but not limited to): areas where vehicles are stored longer than overnight/weekend; areas where road maintenance materials are stored; areas where vehicle maintenance materials are stored; areas where chemicals in bulk are stored; areas where catch basin cleaning wastes are stored; and areas where maintenance equipment such as mowers, tractors, vactor trucks, and sweepers is stored.

Please complete the questions below as appropriate. A "Not Applicable" response is appropriate in cases where the applicant does not own or operate a municipal facility or storm water structural control or does not perform the operation in the question. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

Municipal Facility and Structural Storm Water Control Inventory

60. Provide an up-to-date inventory of applicant-owned or operated facilities and storm water structural controls with a discharge of storm water to surface waters of the state. The inventory shall include the location of each facility. **Provide an estimate of the number of structural storm water controls throughout the entire MS4 for each applicable category below (e.g., 100 catch basins and 7 detention basins).**

    Inventory Reference (Page and Paragraph of Attachments): *e.g., Attachment A, Page 3, Section b* Chapter 11, page 1

    Check all applicant-owned or operated facilities with a discharge of storm water to surface waters of the state:

☒ Administration buildings	☐ Animal Control Building
☐ Airports	☒ Bus Stations and Garages
☐ Cemeteries	☐ Composting facilities
☒ Equipment storage and maintenance facilities	☐ Fire Stations
☐ Fuel Farms	☐ Hazardous waste disposal facilities
☐ Hazardous waste handling and transfer facilities	☐ Landfills
☐ Landscape maintenance facilities	☐ Libraries
☐ Materials storage yards	☐ Mosquito Control Facility
☐ Parks	☐ Pesticide storage facilities
☐ Police stations	☐ Public golf courses
☐ Public parking lots	☒ Public schools
☐ Public works yards	☐ Recycling facilities
☒ Salt storage facilities	☐ Solid waste handling and transfer facilities
☒ Vacant land and open space	☐ Vehicle storage and maintenance yards
☐ Outdoor wash areas	☐ Other facilities – Provide a description below:

    Check all applicant-owned or operated structural storm water controls with a discharge of storm water to surface waters of the state:

☒ Catch basins	☒ Constructed wetlands Loy Norrix High School
☐ Detention basins	☐ Infiltration basins and trenches
☐ Oil/water separators	☐ Porous pavement

☐ Pump Stations
☐ Rain gardens
☐ Secondary containment
☐ Underground storage vaults or tanks
☐ Vegetated swales
☐ Other structural storm water controls – Provide a description below:

61. Provide the location where an up-to-date map (or maps) is available with the location of the facilities and structural storm water controls identified in Question 60. *The location of the facilities and structural storm water controls may be included on the storm sewer system map maintained for the IDEP.*

The map (or maps) is available at the following location: KPS Facility's Office

62. Provide the procedure for updating and revising the inventory in Question 60 and map (or maps) identified in Question 61 as facilities and structural storm water controls are added, removed, or no longer owned or operated by the applicant. *A suggested timeframe for updating/revising the inventory and map(s) is 30 days following adding/removing a facility or structural storm water control.*

Procedure Reference (page and paragraph of attachments): See Chapter 8, Table 3, Administrative proceedures

Facility-Specific Storm Water Management

63. Provide the procedure for assessing each facility identified in Question 60 for the potential to discharge pollutants to surface waters of the state. The procedure shall include a process for updating and revising the assessment. *A recommended timeframe for updating/revising the assessment is 30 days prior to discharging storm water from a new facility and within 30 days of determining a need to update/revise the facility assessment.*

The applicant should consider the following factors when assessing each facility:
- Amount of urban pollutants stored at the site (e.g., sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, or other site-specific pollutants)
- Identification of improperly stored materials
- The potential for polluting activities to be conducted outside (e.g., vehicle washing)
- Proximity to waterbodies
- Poor housekeeping practices
- Discharge of pollutants of concern to impaired waters

☒ Procedure Reference (page and paragraph of attachments): See Chapter 11, page 1
☐ Not Applicable – The applicant does not own a facility that discharges storm water to surface waters of the state. Skip to Question 71.

64. Provide the list of prioritized facilities using the assessment in Question 63. Each facility shall be prioritized based on having the high, medium, or low potential to discharge pollutants to surface waters of the state. Facilities with the high potential for pollutant runoff shall include, but are not limited to, the applicant's fleet maintenance and storage yards. The applicant may submit a demonstration with a description of how the applicant's fleet maintenance and storage yard has the low potential to discharge pollutants to surface waters of the state.

☒ Prioritized Facility List (page and paragraph of attachments): See Chapter 11, page 1 and 2
☒ Fleet Maintenance and Storage Yard Demonstrations (page and paragraph of attachments): See Chapter 11, page 1 and 2

65. Is a site-specific standard operating procedure (SOP) available identifying the structural and non-structural storm water controls implemented and maintained to prevent or reduce pollutant runoff at each facility with the high potential for pollutant runoff? The SOP shall be available at each facility with the high potential for pollutant runoff and upon request from the MDEQ. The SOP shall identify the person responsible for oversight of the facility. *The MDEQ may request the submission of the SOP during the application review process.*

☒ Yes, a site-specific SOP is available at each facility with the high potential for pollutant runoff
☐ Not Applicable – The applicant does not own or operate any facilities with the high potential for pollutant runoff. Skip to Question 70.

66. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, to the following: the list of significant materials stored on-site that could pollute storm water; the description of the handling and storage requirements for each significant material; and the potential to discharge the significant material.

SOP Reference (page and paragraph of attachments): See back section of Chapter 11

This space is available to reference multiple site-specific SOPs

67. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, identifying the good housekeeping practices implemented at the site. *Good housekeeping practices include keeping the facility neat and orderly, properly storing and covering materials, and minimizing pollutant sources to prevent or reduce pollutant runoff.*

    SOP Reference (page and paragraph of attachments): See back section of Chapter 11

    This space is available to reference multiple site-specific SOPs

68. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, to the description and schedule for conducting routine maintenance and inspections of storm water management and control devices to ensure materials and equipment are clean and orderly and to prevent or reduce pollutant runoff. *A biweekly schedule is recommended for routine inspections.*

    SOP Reference (page and paragraph of attachments): See back section of Chapter 11

    This space is available to reference multiple site-specific SOPs

69. Provide the reference in the SOP, for each facility with the high potential for pollutant runoff, to the description and schedule for conducting a comprehensive site inspection at least once every six months. The comprehensive inspection shall include an inspection of all structural storm water controls and a review of non-structural storm water controls to prevent or reduce pollutant runoff.

    SOP Reference (page and paragraph of attachments): See back section of Chapter 11

    This space is available to reference multiple site-specific SOPs

70. Provide the procedure identifying the BMPs currently implemented or to be implemented during the permit cycle to prevent or reduce pollutant runoff at each facility with the **medium and lower potential for the discharge of pollutants** to surface waters of the state using the assessment and prioritized list in Questions 63 and 64.

    Procedure Reference (page and paragraph of attachments): See Chapter 11, page 2

Structural Storm Water Control Operation and Maintenance Activities

71. Provide the procedure for prioritizing each catch basin for routine inspection, maintenance, and cleaning based on preventing or reducing pollutant runoff. The procedure shall include assigning a priority level for each catch basin and the associated inspection, maintenance and cleaning schedule based on preventing or reducing pollutant runoff. The procedure shall include a process for updating/revising the priority level for a catch basin giving consideration to inspection findings and citizen complaints. *A recommended timeframe for updating/revising the procedure is 30 days following the construction of a catch basin or a change in priority level.*

    ☒ Procedure Reference (page and paragraph of attachments): See Chapter 11, page 2-3
    ☐ Not Applicable – The applicant does not own or operate catch basins. Skip to Question 75.

72. Provide the geographic location of the catch basins in each priority level using either a narrative description or map.

    Catch Basin Priority Location (page and paragraph of attachments): See Chapter 11, page 2

73. Provide the procedure for inspecting, cleaning, and maintaining catch basins to ensure proper performance. Proper cleaning methods include ensuring accumulated pollutants are not discharged during cleaning and are removed prior to discharging to surface waters of the state. *A compliance assistance document titled Catch Basin Cleaning Activities Guidance Document is available at http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf.*

Procedure Reference (page and paragraph of attachments): See Chapter 11, page 2

74. Provide the procedure for dewatering, storage, and disposal of materials extracted from catch basins. *A compliance assistance document titled Catch Basin Cleaning Activities Guidance Document is available at http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf.*

    Procedure Reference (page and paragraph of attachments): See Chapter 11, page 2

75. Provide the procedure for inspecting and maintaining the structural storm water controls identified in Question 60, excluding the structural storm water controls included in an SOP as part of Question 65 and catch basins. The procedure shall include a description and schedule for inspecting and maintaining each structural storm water control and the process for disposing of maintenance waste materials. The procedure shall require that controls be maintained to reduce to the maximum extent practicable the contribution of pollutants to storm water. The procedure shall include a process for updating/revising the procedure to ensure a maintenance and inspection program for each structural storm water control. *A recommended timeframe for updating/revising the procedure is 30 days following the implementation of a new structural storm water control.*

    ☒ Procedure Reference (page and paragraph of attachments): See Chapter 11, Table 5
    ☐ Not Applicable – Applicant does not own or operate any structural storm water controls

76. Provide the procedure requiring new applicant-owned or operated facilities or new structural storm water controls for water **quantity** be designed and implemented in accordance with the post-construction storm water runoff control performance standards and long-term operation and maintenance requirements.

    Procedure Reference (page and paragraph of attachments): See Chapter 11, table 5, item D. These projects will comply with Kalamazoo Public Schools Standards

Municipal Operations and Maintenance Activities

77. Provide the procedure with the assessment of the applicant's operation and maintenance activities for the potential to discharge pollutants to surface waters of the state. The assessment shall identify all pollutants that could be discharged from each applicable operation and maintenance activity and the BMPs being implemented or to be implemented to prevent or reduce pollutant runoff. The procedure shall include a process for updating and revising the assessment. *A suggested timeframe for updating/revising the assessment is 30 days following adding/removing BMPs to address new and existing operation and maintenance activities.*

    At a minimum, the procedure shall include assessing the following municipal operation and maintenance activities if applicable (check all that apply):
    - ☒ Road, parking lot, and sidewalk maintenance (e.g., pothole, sidewalk, and curb and gutter repair)
    - ☐ Bridge maintenance
    - ☐ Right-of-way maintenance
    - ☐ Unpaved road maintenance
    - ☒ Cold weather operations (e.g., plowing, sanding, application of deicing agents, and snow pile disposal)
    - ☒ Vehicle washing and maintenance of applicant-owned vehicles (e.g., police, fire, school bus, public works)

    ☒ Procedure Reference (page and paragraph of attachments): See Chapter 11, Table 5
    ☐ Not Applicable – Provide an explanation below.

78. Provide the procedure for prioritizing applicant-owned or operated streets, parking lots, and other impervious infrastructure for street sweeping based on the potential to discharge pollutants to surface waters of the state. The procedure shall include assigning a priority level for each parking lot and street and the associated cleaning schedule (i.e., sweeping frequency and timing) based on preventing or reducing pollutant runoff. The procedure shall include a process for updating/revising the priority level giving consideration to street sweeping findings and citizen complaints. *A recommended timeframe for updating/revising the prioritization is 30 days following the construction of a new street, parking lot, or other applicant-owned or operated impervious surface or within 30 days of identifying a need to revise a priority level.*
    ☒ Procedure Reference (page and paragraph of attachments): See Chapter 11, page 2
    ☐ Not Applicable – The applicant does not own or operate any streets, parking lots, or other impervious infrastructure. Skip to Question 82.

79. Provide the geographic location of the streets, parking lots, and other impervious surfaces in each priority level using either a narrative description or map.

    Street Sweeping Priority Location (page and paragraph of attachments): NA, not prioritized

80. Provide the procedure identifying the sweeping methods based on the applicant's sweeping equipment and use of additional

resources in sweeping seasonal leaves or pick-up of other materials. *Proper sweeping methods include operating sweeping equipment according to the manufacturers' operating instructions and to protect water quality.*

Procedure Reference (page and paragraph of attachments): See Chapter 11, page 3

81. Provide the procedure for dewatering, storage, and disposal of street sweeper waste material. *A compliance assistance document titled Catch Basin Cleaning Activities Guidance Document is available at http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf,*

Procedure Reference (page and paragraph of attachments): See Chapter 11, page 3 and Table 5

Managing Vegetated Properties

82. Provide the procedure requiring the applicant's pesticide applicator to be certified by the State of Michigan as an applicator in the applicable category, to prevent or reduce pollutant runoff from vegetated land. A description of the categories is located at http://www.michigan.gov/mdard/0,4610,7-125-1569_16988_35289-11992--,00.html

☐ Procedure Reference (page and paragraph of attachments): _____
☒ Not Applicable – Provide an explanation below (e.g., the applicant's pesticide applicator only uses ready-to-use products from the original container).

See chapter 11 - Table 5 (e)

Contractor Requirements and Oversight

83. Provide the procedure requiring contractors hired by the applicant to perform municipal operation and maintenance activities comply with all pollution prevention and good housekeeping BMPs as appropriate. The procedure shall include the process implemented for providing oversight of contractor activities to ensure compliance.

Procedure Reference (Page and Paragraph of Attachments): See Chapter 11, page 4 (sidewalk, curb and gutter and pothole), page 5 Contractor Requirements

Employee Training

84. Provide the employee training program to train employees involved in implementing or overseeing the pollution prevention and good housekeeping program. The program shall include the training schedule. At a minimum, existing staff shall be trained once during the permit cycle and within the first year of hire for new staff.

Program Reference (Page and Paragraph of Attachments): See Chapter 11, page 5 and 6

Total Maximum Daily Load (TMDL) Implementation Plan

The following questions address discharges to impaired waters with a USEPA approved TMDL that includes a pollutant load allocation assigned to the permittee's MS4. BMPs shall be implemented to reduce the discharge of the TMDL pollutant from the MS4 to make progress in meeting Water Quality Standards. Applicable TMDLs are TMDLs approved prior to the applicant being notified of the need to apply for permit reissuance. Applicable TMDLs for the applicant were provided in the application notice letter.

The applicant shall describe the current and proposed BMPs to meet the minimum requirements for the TMDL Implementation Plan, which shall be incorporated into the SWMP. Please indicate in your response, if you are or will be working collaboratively with watershed or regional partners on any or all activities in the TMDL Implementation Plan during the permit cycle. The following questions represent the minimum requirements for a TMDL Implementation Plan. Please complete the following questions as appropriate. A measurable goal with a measure of assessment shall be included for each BMP, and, as appropriate, a schedule for implementation (months and years), including interim milestones and the frequency of the BMP. The responses shall reflect the nested MS4s identified in Section VI.

The USEPA has a document to assist with developing a TMDL Implementation Plan available at http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/region3_factsheet_tmdl.pdf.

85. Was a TMDL included in the applicant's application notice?
☒ Yes, the following approved USEPA TMDL(s) was included in my application notice letter:

phosphorus

☐ No, Skip to Section VIII.

86. Provide the procedure for identifying and prioritizing BMPs currently being implemented or to be implemented during the permit cycle to make progress toward achieving the pollutant load reduction requirement in each TMDL identified in Question 85. The procedure shall include a process for reviewing, updating, and revising BMPs implemented or to be implemented to ensure progress in achieving the TMDL pollutant load reduction.

    Procedure Reference (page and paragraph of attachments): *e.g., Attachment A, Page 3, Section b* See Chapter 12

87. Provide the list of prioritized BMPs currently being implemented or to be implemented during the permit cycle to make progress toward achieving the pollutant load reduction requirement in each TMDL identified in Question 85. Each BMP shall include a reference to the targeted TMDL pollutant.

    TMDL BMP Priority List (page and paragraph of attachments): See Chapter 12

88. Provide the monitoring plan for assessing the effectiveness of the BMPs currently being implemented, or to be implemented, in making progress toward achieving the TMDL pollutant load reduction requirement, including a schedule for completing the monitoring. Monitoring shall be specifically for the pollutant identified in the TMDL. Monitoring may include, but is not limited to, outfall monitoring, in-stream monitoring, or modeling. At a minimum, monitoring shall be conducted two times during the permit cycle or at a frequency sufficient to determine if the BMPs are adequate in making progress toward achieving the TMDL pollutant load reduction. *Existing monitoring data may be submitted for review as part of the plan to meet part of the monitoring requirement.*

    TMDL Monitoring Plan (page and paragraph of attachments): See Chapter 12

SECTION VIII. CERTIFICATION

Rule 323.2114(1-4), promulgated under the NREPA, requires that this Application be signed by either a principal executive officer or ranking elected official (e.g., mayor, village president, city or village manager, or clerk). Note: If the signatory is not a principal executive officer or ranking elected official, but is authorized to sign the Application, please provide documentation of the authorization.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision In accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for having knowledge of violations."

I understand that my signature constitutes a legal agreement to comply with the requirements of the NPDES Permit. I certify under penalty of law that I possess full authority on behalf of the legal owner/permittee to sign and submit this Application. I certify to the best of my knowledge that it is true, accurate and meets the minimum permit requirements for a SWMP to the MEP.

Print Name: Gary Start

Title: Deputy Superintendent

Representing: Kalamazoo Public Schools

Signature:	Date:

Please submit this completed Application and attachments to:

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISION
PERMITS SECTION
P.O. BOX 30458
LANSING, MICHIGAN 48909-7958

Chapter 2 – Regulated Area Map

Kalamazoo Public Schools

National Pollution Discharge Elimination System

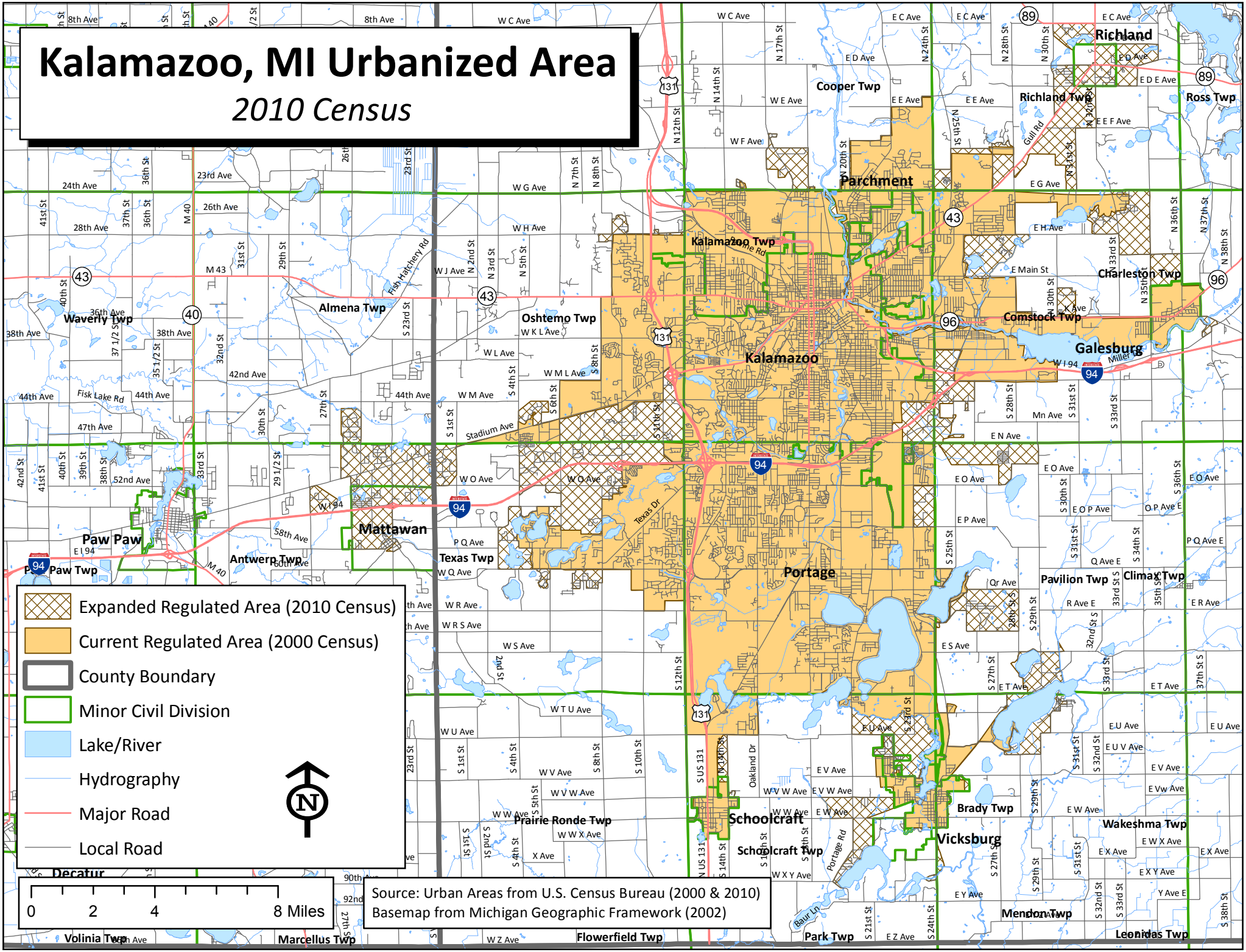
May 2018

2150104

Prein&Newhof

Regulated Area

All Kalamazoo Public School's facilities are within the urbanized area as defined by the 2010 Census. A copy of the 2010 urbanized area is included in this chapter and a copy of a larger facility location map is included in Chapter 3.


Kalamazoo, MI Urbanized Area
2010 Census
Expanded Regulated Area (2010 Census)
Current Regulated Area (2000 Census)
County Boundary
Minor Civil Division
Lake/River
Hydrography
Major Road
Local Road
N
0 2 4 8 Miles
Source: Urban Areas from U.S. Census Bureau (2000 & 2010)
Basemap from Michigan Geographic Framework (2002)
Kalamazoo
Portage
Parchment
Richland
Galesburg
Comstock Twp
Kalamazoo Twp
Oshtemo Twp
Cooper Twp
Richland Twp
Ross Twp
Charleston Twp
Almena Twp
Wayerly Twp
Paw Paw
Paw Paw Twp
Antwerp Twp
Mattawan
Texas Twp
Pavilion Twp
Climax Twp
Schoolcraft
Schoolcraft Twp
Prairie Ronde Twp
Brady Twp
Vicksburg
Wakeshma Twp
Mendon Twp
Leonidas Twp
Park Twp
Flowerfield Twp
Marcellus Twp
Volinia Twp
Decatur

Chapter 3 – Outfalls and Points of Discharge

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

HISTORY

Initial identification of outfalls within the jurisdiction of Kalamazoo Public Schools has been conducted. Identification had been done through review of maps, plots, printouts, files, NPDES permits, school and municipal records, other agencies and field inspections. This review indicates that known storm drains is primarily the type of system utilized by the School.

Kalamazoo Public Schools was confident that all outfalls have been discovered within Kalamazoo Public Schools Limits at that time; however, continued investigation and mapping of all storm sewers and structures within Kalamazoo Public Schools is ongoing via contracted services.

EXISTING SYSTEM

KPS owns and maintains 34 facilities within Kalamazoo County. The overall system infrastructure contains approximately the following:

- 64,266 of pipe
- 411 Storm Structures
- 6 Storm Treatment Units
- One wetland storm treatment system (Loy Norrix)

Of the 34 sites, 20 sites ultimate discharge to “waters of the state”. The remaining 14 sites stormwater infiltrates into the ground.

Per MS4 permit definitions, an outfall means a discharge from a MS4 directly to surface waters of the state and a Point of Discharge means a discharge from a MS4 to a MS4 owned or operated by another public body.

- KPS has one (1) outfall at 514 Lake Street (Lake Street Barnes) which discharges directly to a Water of the State and the outfall contains a Storm Treatment Unit on the outfall.
- KPS has thirty six (36) points of discharge at 19 facilities that connect to another MS4 jurisdiction. Five (5) of these points of discharge contain storm treatment units.

Overall site maps of the location of each known storm water point source at each of the KPS facilities has been included in this Chapter with the respective receiving water or drainage system.

MAP

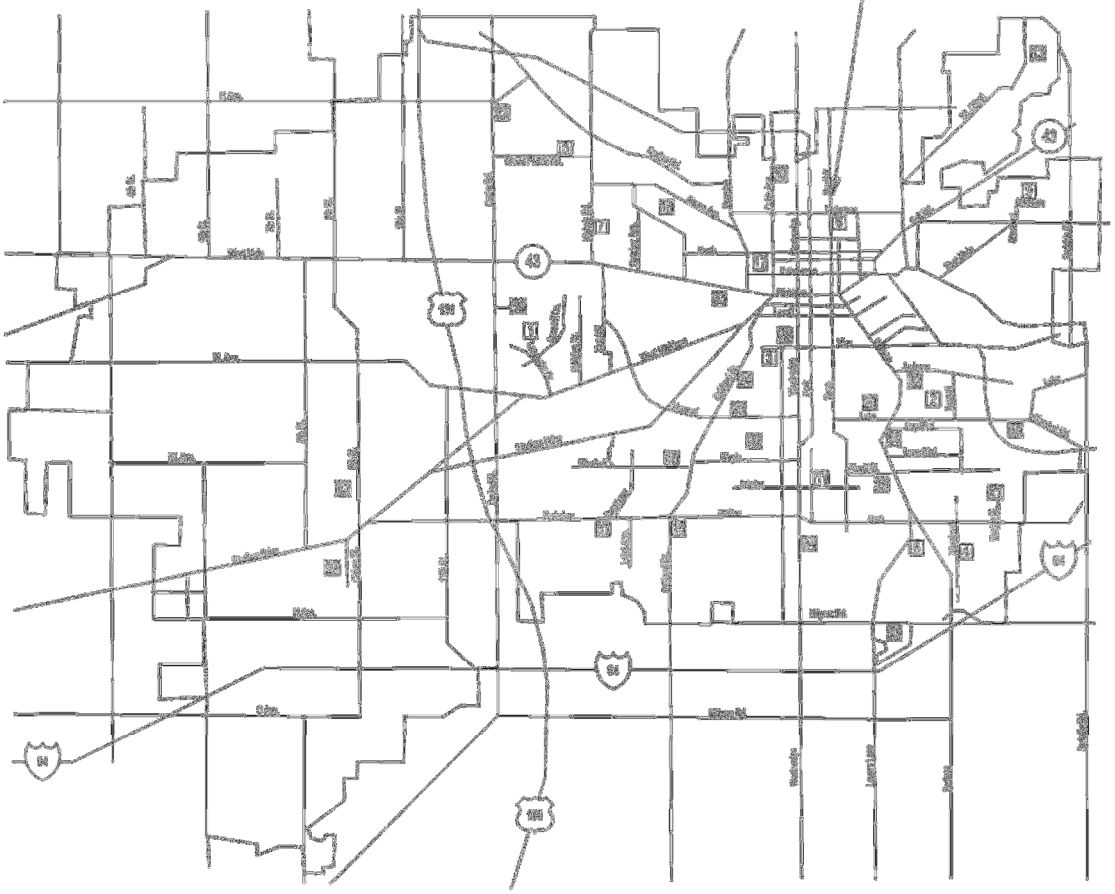
Elementary Schools
1. Arcadia
2. Edison Environmental Science Academy
3. El Sol
4. Greenwood
5. Indian Prairie
6. Lincoln International Studies School
7. Martin Luther King In Westwood
8. Milwood
9. Northeastern
10. Northglade Montessori Magnet School
11. Parkwood-Upjohn
12. Prairie Ridge
13. Spring Valley Center for Exploration
14. Washington Writers' Academy
15. Winchell
16. Woods Lake Elementary: A Magnet Center for the Arts
17. Woodward School for Technology and Research

Middle Schools
18. Hillside
19. Linden Grove
20. Maple Street Magnet School for the Arts
21. Milwood Magnet School: A Center for Math, Science, and Technology

High Schools
22. Kalamazoo Central
23. Loy Norrix
24. Phoenix

Facilities and Programs
25. Administration Building
26. Alcott Street Stockroom
27. Chime
28. Community Education Center
29. Lake Street Barns
30. Lakewood
31. Oakwood
32. Transportation
33. West Main School
34. Westnedge School

LINCOLN ELEMENTARY SCHOOL
912 N Burdick St, Kalamazoo, MI 49007



KALAMAZOO PUBLIC SCHOOLS DISTRICT MAP

SCALE: NONE

Kalamazoo Public Schools

Storm Water Discharge Permit Application

Table 1

Outfall and Point of Discharge Information

No	Name	Address	Designation (Outfall/POD)	Identification Number	Connecting Point MS4 Jurisdiction	Receiving Water	Latitude	Longitude	Pipe Size	MS4 Facility Site	Notes
	ELEMENTARY SCHOOLS										
1	Arcadia	932 Boswell Ln	POD	arcadia-1	City of Kalamazoo	Arcadia Creek			12"	Yes	municipal connection at Boswell Lane
1	Arcadia	932 Boswell Ln	POD	arcadia-2	City of Kalamazoo	Arcadia Creek			12"	Yes	municipal connection at Boswell Lane
2	Edison/Transportation	924 Russell St	POD	edison-1	City of Kalamazoo	Portage Creek				Yes	municipal connection at the Corner of Jackson and Cottage
2	Edison/Transportation	924 Russell St	POD	edison-2	City of Kalamazoo	Portage Creek				Yes	municipal connection west of the bus garage driveway to Jackson
2	Edison/Transportation	924 Russell St	POD	edison-3	City of Kalamazoo	Portage Creek				Yes	municipal connection at center of the driveway to the building right off Jackson in the middle of the block
2	Edison/Transportation	924 Russell St	POD	edison-4	City of Kalamazoo	Portage Creek				Yes	municipal connection at corner of Russel and Jackson
2	Edison/Transportation	924 Russell St	POD	edison-5	City of Kalamazoo	Portage Creek			10"	Yes	municipal connection at corner of Russel and Lake
2	Edison/Transportation	924 Russell St	POD	edison-6	City of Kalamazoo	Portage Creek			12"	Yes	municipal connection on Cottage Avenue
3	El Sol	604 West Vine St	POD	el sol/CEC-1	City of Kalamazoo	Portage Creek			8"	Yes	municipal connection at Oak Street
3	El Sol	604 West Vine St	POD	el sol/CEC-2	City of Kalamazoo	Portage Creek			12"	Yes	municipal connection at Dutton
3	El Sol	604 West Vine St	POD	el sol/CEC-3	City of Kalamazoo	Portage Creek			8" & 12"	Yes	3 - 8" PVC and 12" concrete municipal connection into a MH on Vine Street
4	Greenwood	3501 Moreland St	NA		NA	NA			NA	No	site outfalls at grade or to (2) 9,000 gallon storm water drywells north and east of the facility, no outfalls observed during site visit 7-19-10
5	Indian Prairie	3546 Grand Prairie Ave	NA		NA	NA			NA	No	grass spillway and concrete spillway to ditch, LB around site
6	Lincoln	912 North Burdick St	POD	Lincoln-1	City of Kalamazoo	Axtell Creek				Yes	municipal connection at the corner of Burdick and Frank Street, Aquaswirl in the parking lot
7	King-Westwood (MLK)	1100 Nichols Rd	POD	King-Westwood-1	Kalamazoo Twp	Monarch Mill Pond			12"	Yes	municipal connections at Nichols Road, east side has 5 drywells on site in the parking lots and several leaching basins east of the building
8	Milwood	3400 Lovers Lane	POD	Milwood-1	City of Kalamazoo	Monarch Mill Pond			24"	Yes	municipal connections at Lovers Lane - Has STU on system
8	Milwood	3400 Lovers Lane	POD	Milwood-2	City of Kalamazoo	Monarch Mill Pond			10"	Yes	municipal connections at Lovers Lane - Roof water only
8	Milwood	3400 Lovers Lane	POD	Milwood-3	City of Kalamazoo	Monarch Mill Pond			8"	Yes	municipal connections at Lovers Lane - Roof water only
8	Milwood	3400 Lovers Lane	POD	Milwood-4	City of Kalamazoo	Monarch Mill Pond			12"	Yes	municipal connections at Lovers Lane - Roof water only
9	Northeastern	2433 Gertrude St	POD	Northeastern-1	Kalamazoo Twp	Spring Valley Lake			12"	Yes	outfall to Gertrude at the southwest corner of the site, remainder flows to 7 storm water drywells located around the site
10	Northglade	1914 Cobb Ave	POD	Northglade-1	City of Kalamazoo	Zantman Drain			12"	Yes	municipal connections at Cobb Street west of circle drive, detention system in the parking lot to slow down the flow, 2 connected LB southeast of parking and 3 LB in the playgrounds
10	Northglade	1914 Cobb Ave	POD	Northglade-2	City of Kalamazoo	Zantman Drain			12"	Yes	municipal connection at Cobb Street west of parking lot
11	Parkwood-Upjohn	2321 South Park St	POD	Parkwood-Upjohn-1	City of Kalamazoo	Portage Creek			12"	Yes	municipal connection to Park Street, and 5 on site drywells
11	Parkwood-Upjohn	2321 South Park St	POD	Parkwood-Upjohn-2	City of Kalamazoo	Portage Creek			12"	Yes	municipal connection to Inkster
12	Prairie Ridge	2294 South 9th St	NA		NA	NA				No	on site storm water management / retention
13	Spring Valley	3530 Mt Olivet Rd	NA		NA	NA				No	flows to several storm drywells and perforated pipe around the site
14	Washington Writers Academy	1919 Portage St	NA		NA	NA				No	LB in SW parking lot. Underground Retention for north portion of site
15	Winchell	2316 Winchell Ave	NA		NA	NA				No	several drywells, perforated pipes and "infiltrator" drainage systems on site
16	Woods Lake	3215 Oakland Dr	NA		NA	NA				No	several drywells, relief wells and perforated clay tiles on site
17	Woodward	606 Stuart Ave	POD	Woodward-1	City of Kalamazoo	Portage Creek				Yes	municipal connections at North Street and Woodward
	MIDDLE SCHOOLS										
18	Hillside	1941 Alamo Ave	NA		NA	NA				No	flows to (2) large relief drywells located south of the building, overflow outfall to Hillsdale, a lot of water ponds there when it rains
19	Linden Grove	4241 Arboretum Pkwy	NA		NA	NA				No	on site storm water management / retention with City of Kalamazoo
20	Maple Street	922 West Maple	POD	Maple Street-1	City of Kalamazoo	Axtell Creek			15"	Yes	municipal connection south of large parking lot at West Maple Street with a large Aquaswirl upstream
20	Maple Street	922 West Maple	POD	Maple Street-2	City of Kalamazoo	Axtell Creek			18"	Yes	municipal connection south of small parking lot off West Maple Street
20	Maple Street	922 West Maple	POD	Maple Street-3	City of Kalamazoo	Axtell Creek			18"	Yes	municipal connection southwest of tennis courts on West Maple Street
21	Milwood Magnet	2916 Konkle St	POD	Milwood Magnet-1	City of Kalamazoo	Davis Creek			27"	Yes	municipal connection at Southern Avenue
	HIGH SCHOOLS										
22	Kalamazoo Central	2432 North Drake Rd	NA		NA	NA				No	on site storm water management I retention, small portion of east driveway drains off site
23	Loy Norrix	606 East Kilgore	POD	Loy Norrix-1	City of Kalamazoo	Portage Creek			12"	Yes	municipal connection at Kilgore (overflow)
23	Loy Norrix	606 East Kilgore	POD	Loy Norrix-2	City of Kalamazoo	Portage Creek			6"	Yes	municipal connection at Kilgore (overflow)
23	Loy Norrix	606 East Kilgore	POD	Loy Norrix-3	City of Kalamazoo	Portage Creek			30"	Yes	municipal connection at Kilgore
24	Phoenix	1411 Oakland Drive	NA		NA	NA				No	drains to north of site into a wooded area that infiltrates
	OTHER FACILITIES										
25	Administration Bldg	1220 Howard St	NA		NA	NA					flows to (3) storm water drywells east of the facility
26	Alcott Street Stock Room	504 East Alcott St	POD	Alcott-1	City of Kalamazoo	Portage Creek				Yes	municipal connection at the northwest corner of the site to Alcott
27	Chime	6750 Chime St	NA		NA	NA				No	on site; local infiltration
28	Community Education Center	7145 Westnedge	POD	see El Sol	City of Kalamazoo	Portage Creek				Yes	see El Sol
29	Lake Street Barns (Vehicle Barns)	514 Lake St	Outfall	Lake-1	Portage Creek	Portage Creek			24"	Yes	site drainage to Portage Creek, concrete outfall
30	Lakewood (Valley Center)	3122 Lake St	POD	Lakewood-1	Kalamazoo Twp	Davis Creek				Yes	inlet for ditch connects to municipal system at the corner of Lake and Olmstead
31	Oakwood	3410 Laird	POD	Oakwood-1	City of Kalamazoo	Portage Creek			12"	Yes	municipal connection at Laird Avenue, drywell in parking lot
32	Transportation/Edison	924 Russell St	POD	see Edison	City of Kalamazoo	Portage Creek				Yes	see Edison
33	West Main School PDC	1627 West Main St	NA		NA	NA				No	swale on the southeast corner
34	Westnedge - (Old K. Christian)	3333 S. Westnedge	POD	Westnedge-1	City of Kalamazoo	South Westnedge Drain			10"	Yes	municipal connection to City's 66" storm system at rear of parking lot

Outfall means a discharge point from an MS4 directly to surface waters of the state

Point of Discharge means a discharge from an MS4 to an MS4 owned or operated by another public body

MS4 Facility Site refers to the ultimate discharge location of site storm water is to a waters of the state.

Kalamazoo Public Schools

Storm Water Discharge Permit Application

Table 1a

Infrastructure Data

No	Name	Address	Number of Structures	Length of Pipe	Storm Treatment Unit	Onsite Retention	Notes
	ELEMENTARY SCHOOLS						
1	Arcadia	932 Boswell Ln	8	1,543	No	None	
2	Edison/Transportation	924 Russell St	14	915	No	None	
3	EI SoI	604 West Vine St	6	893	No	None	
4	Greenwood	3501 Moreland St	2	92	No	Drywells	
5	Indian Prairie	3546 Grand Prairie Ave	5	62	No	Leaching Basins and spillway to ditch	
6	Lincoln	912 North Burdick St	8	383	Yes	None	Aquaswirl in the parking lot
7	King-Westwood (MLK)	1100 Nichols Rd	12	275	No	None	
8	Milwood	3400 Lovers Lane	24	2,734	Yes	North 1/2 of site is contained under parking lot	Aquaswirl in the parking lot
9	Northeastern	2433 Gertrude St	11	306	No	None	
10	Northglade	1914 Cobb Ave	1		No	None	
11	Parkwood-Upjohn	2321 South Park St	6	316	No	None	
12	Prairie Ridge	2294 South 9th St	14	3,152	No	Retention Basin and Rain gardens	
13	Spring Valley	3530 Mt Olivet Rd	11	370	No	NA	
14	Washington Writers Academy	1919 Portage St	5	471	No	Yes	
15	Winchell	2316 Winchell Ave	13	188	No	several drywells, perforated pipes and “infiltrator” drainage systems on site	
16	Woods Lake	3215 Oakland Dr	9	795	No	NA	
17	Woodward	606 Stuart Ave	3	109	Yes	None	Aquaswirl in the NE corner of parking lot
	MIDDLE SCHOOLS						
18	Hillside	1941 Alamo Ave	21	3,546	No	None	
19	Linden Grove	4241 Arboretum Pkwy	38	5,509	No	Underground Storage with emergency overflows	
20	Maple Street	922 West Maple	33	1,735	Yes	None	Aquaswirl on Maple-02 connection
21	Milwood Magnet	2916 Konkle St	9	1,821	No	None	
	HIGH SCHOOLS						
22	Kalamazoo Central	2432 North Drake Rd	60	8,184	No	Yes	
23	Loy Norrix	606 East Kilgore	53	27,397	No	None	Wetlands Storm Treatment System
24	Phoenix	1411 Oakland Drive	5	493	Yes	NA	Catch Basin Inserts
	OTHER FACILITIES						
25	Administration Bldg	1220 Howard St			No		
26	Alcott Street Stock Room	504 East Alcott St			No	None	
27	Chime	6750 Chime St	2	91	No	Drywells	
28	Community Education Center	7145 Westnedge	6	917	No	None	
29	Lake Street Barns (Vehicle Barns)	514 Lake St	6	360	Yes	None	Aquaswirl in the parking lot
30	Lakewood (Valley Center)	3122 Lake St			No	None	
31	Oakwood	3410 Laird	2		No	None	
32	Transportation/Edison	924 Russell St	14	915	No	None	
33	West Main School PDC	1627 West Main St	6	473	No	Yes	
34	Westnedge - (Old K. Christian)	3333 S. Westnedge	4	221	No	None	
		TOTAL	411	64,266			

Kalamazoo Public Schools
Arcadia Elementary
-Site 1-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

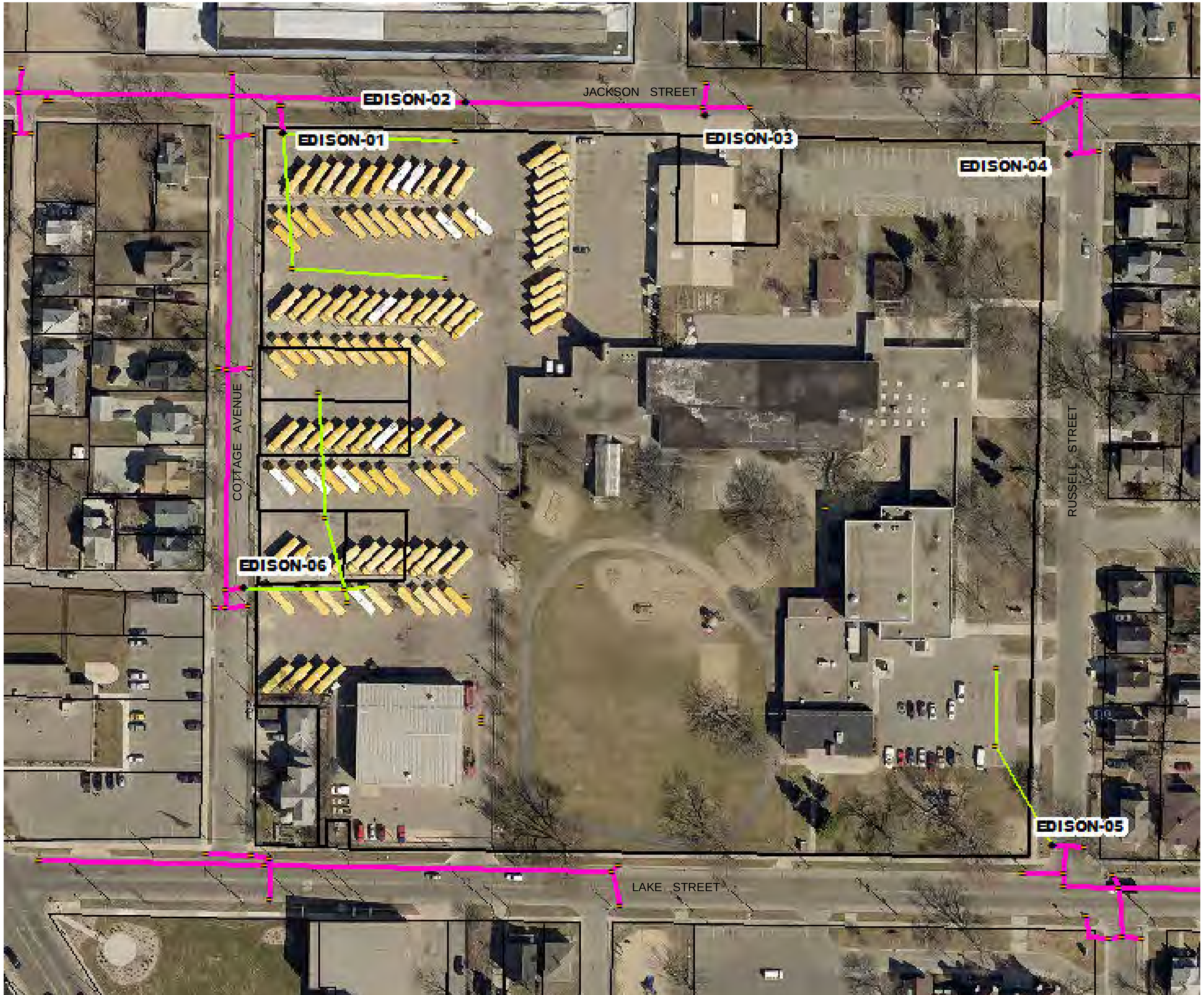
N
W E
S

LEGEND

Point of Discharge	Kalamazoo Public Schools
Outfall	City of Kalamazoo
Storm Structure	KCDC
Storm Treatment Unit	KCRC
Storm Infiltration Area	MDOT
	Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\01-ArcadiaElementary_StormOutfalls_11x17_L.mxd - plk - 3/5/2015 4:21:29 PM

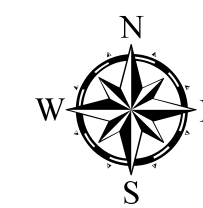


Kalamazoo Public Schools
Edison Elementary
-Site 2-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015



LEGEND

Point of Discharge
Outfall
Storm Structure
Storm Treatment Unit
Storm Infiltration Area
Kalamazoo Public Schools
City of Kalamazoo
KCDC
KCRC
MDOT
Abandoned

Phone: 269-372-1158
PN# 2150104

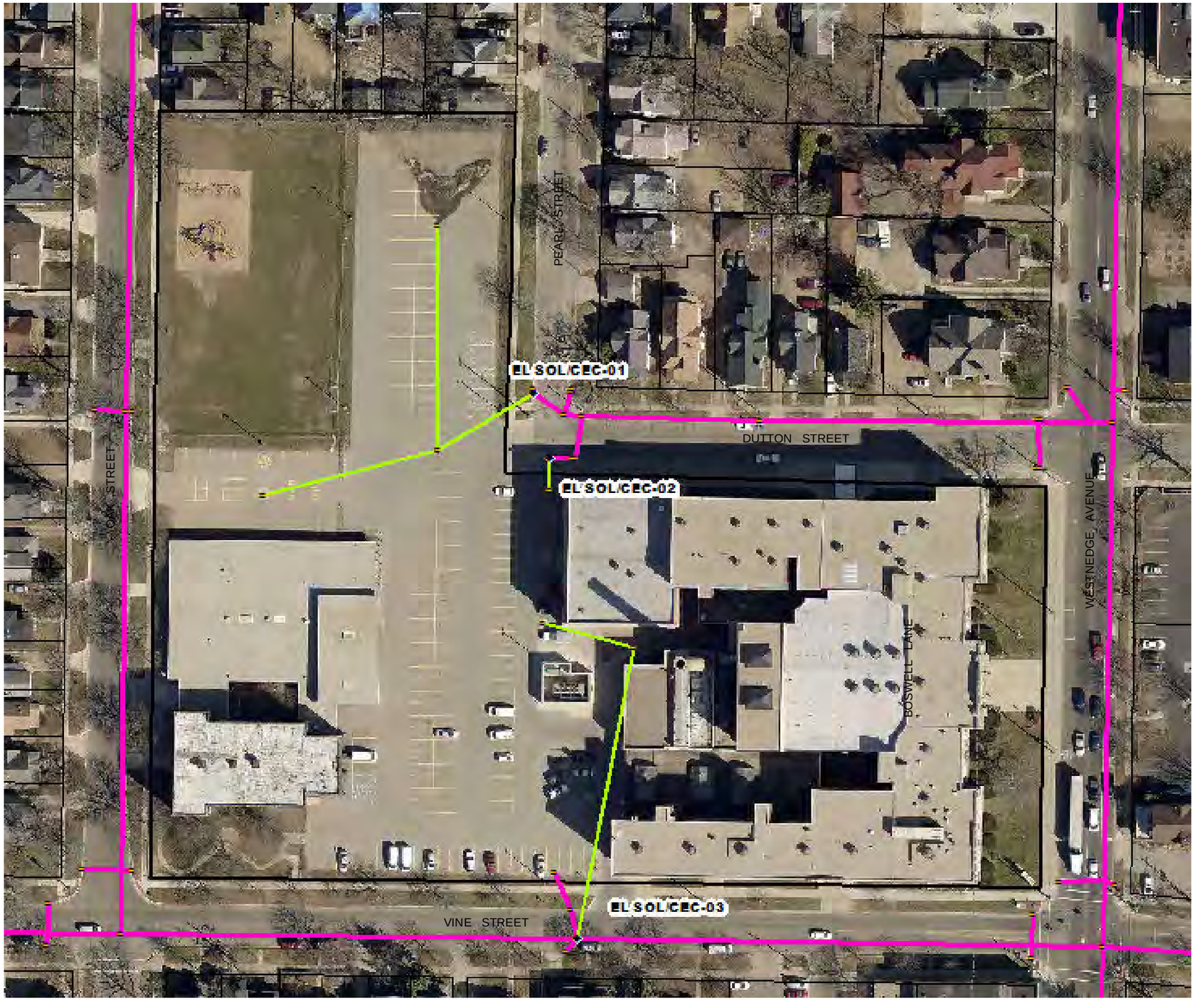
File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\02-EdisonElementary_StormOutfalls_11x17_L.mxd - pk - 3/5/2015 4:23:32 PM

Kalamazoo Public Schools
El Sol Elementary
-Site 3-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

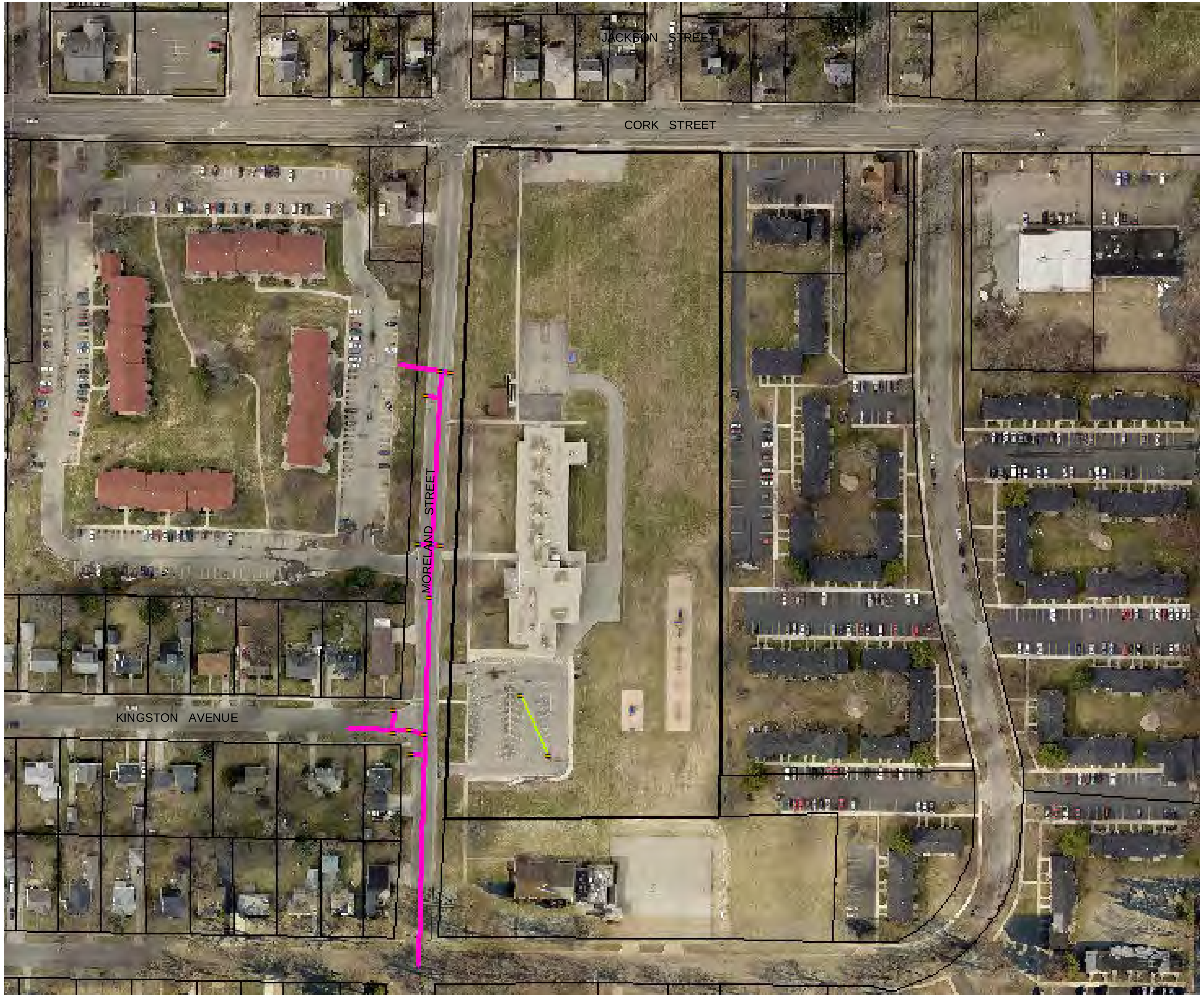


N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104



Kalamazoo Public Schools
Greenwood Elementary
-Site 4-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermitting\04-GreenwoodElementary_StormOutfalls_11x17_L.mxd - plk - 3/5/2015 10:49:25 AM

Kalamazoo Public Schools
Indian Prairie Elementary
-Site 5-

Located In
Kalamazoo Township, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

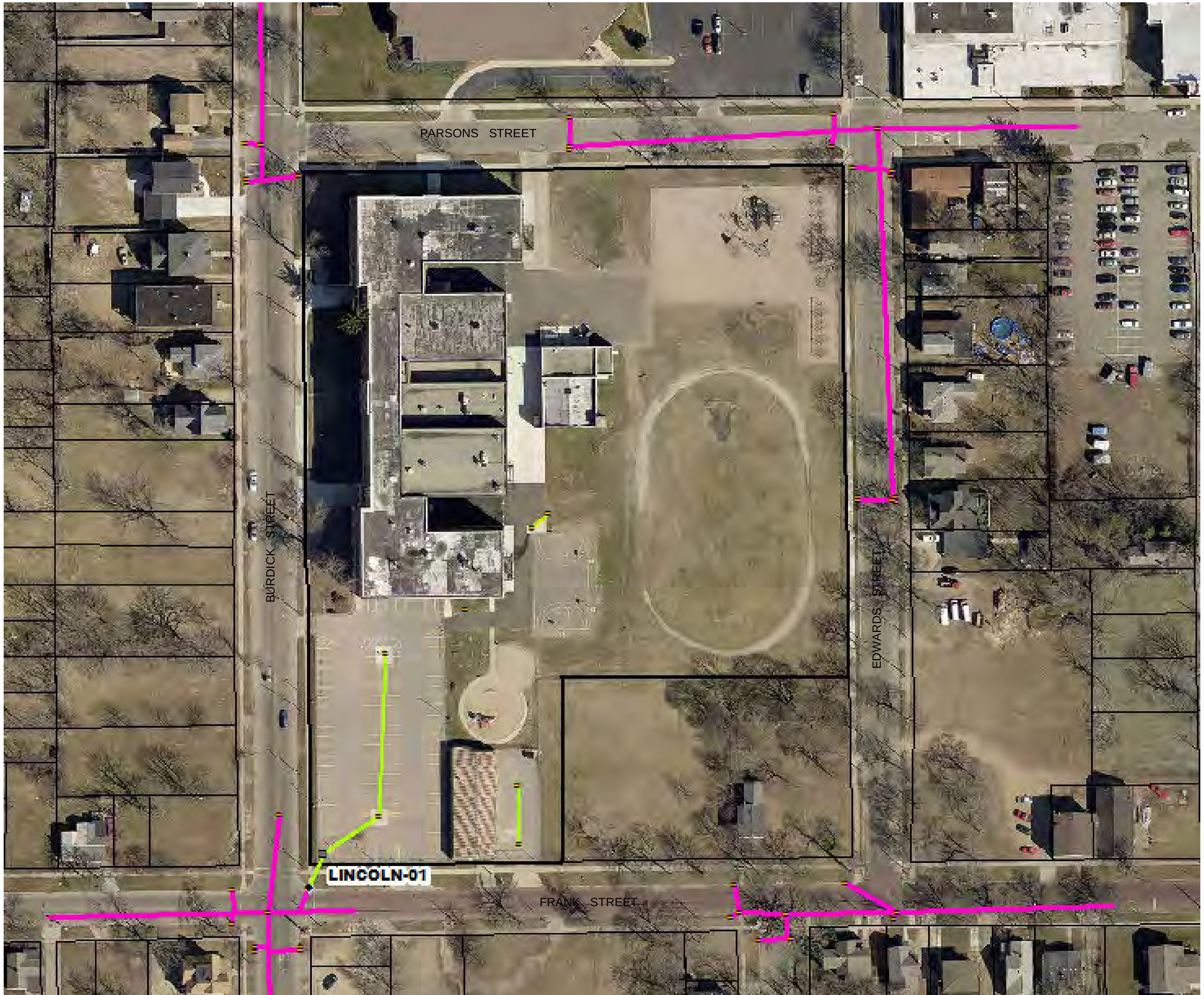
N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermitting\05-IndianPrairieElementary_StormOutfalls_11x17_L.mxd - plk - 3/3/2015 3:32:54 PM



Kalamazoo Public Schools
Lincoln Elementary
-Site 6-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

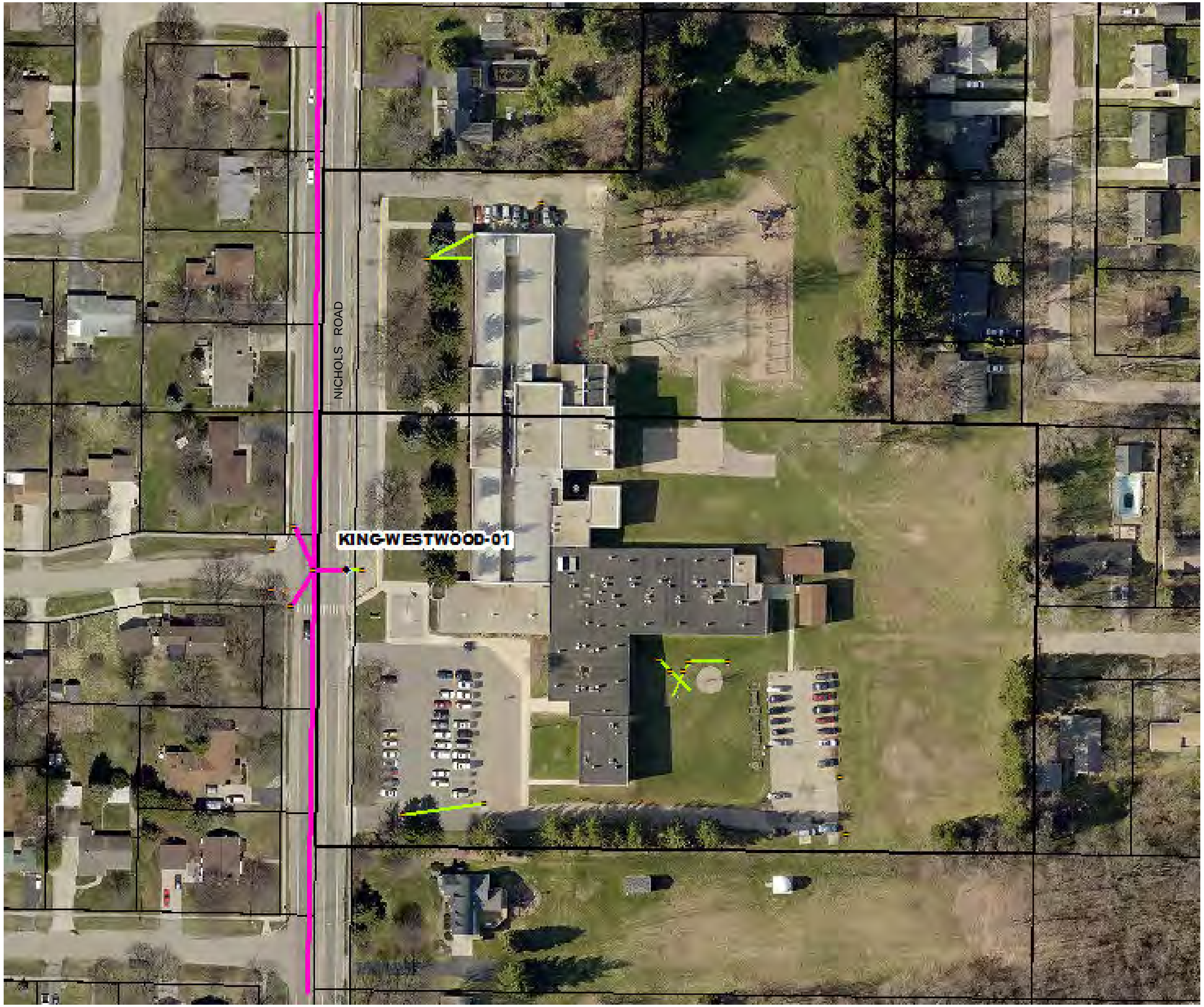
N
W E
S

LEGEND

Point of Discharge	Kalamazoo Public Schools
Outfall	City of Kalamazoo
Storm Structure	KCDC
Storm Treatment Unit	KCRC
Storm Infiltration Area	MDOT
	Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\06-LincolnElementary_StormOutfalls_11x17_L.mxd - plk - 3/5/2015 10:56:31 AM



Kalamazoo Public Schools
King-Westwood Elementary
-Site 7-

Located In
Kalamazoo Township, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\07-King-WestwoodElementary_StormOutfalls_11x17_L.mxd - pk - 3/5/2015 11:02:28 AM

Kalamazoo Public Schools
Milwood Elementary
-Site 8-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

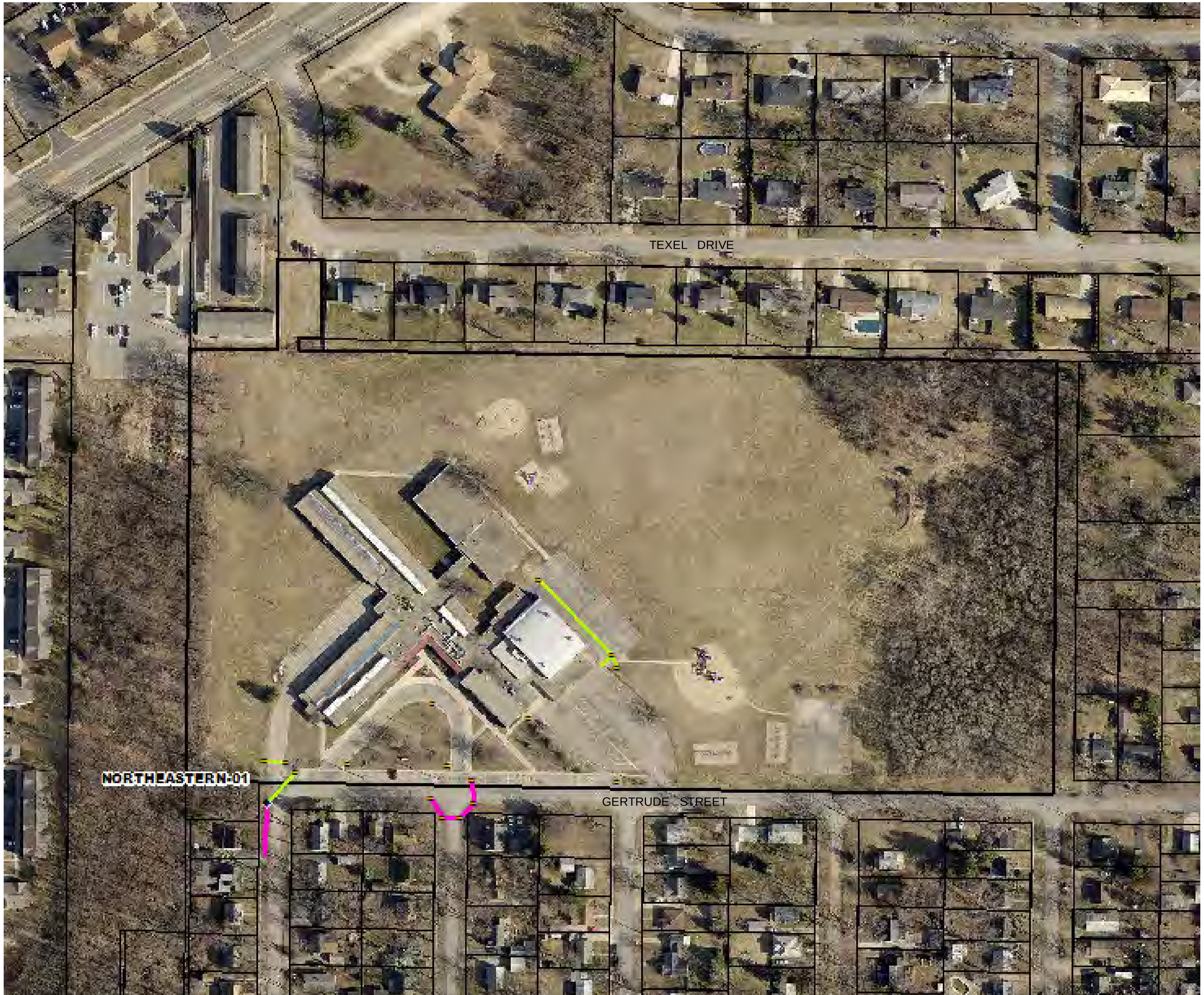
December 2017

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

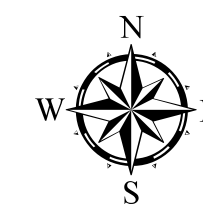


Kalamazoo Public Schools
Northeastern Elementary
-Site 9-

Located In
Kalamazoo Township, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

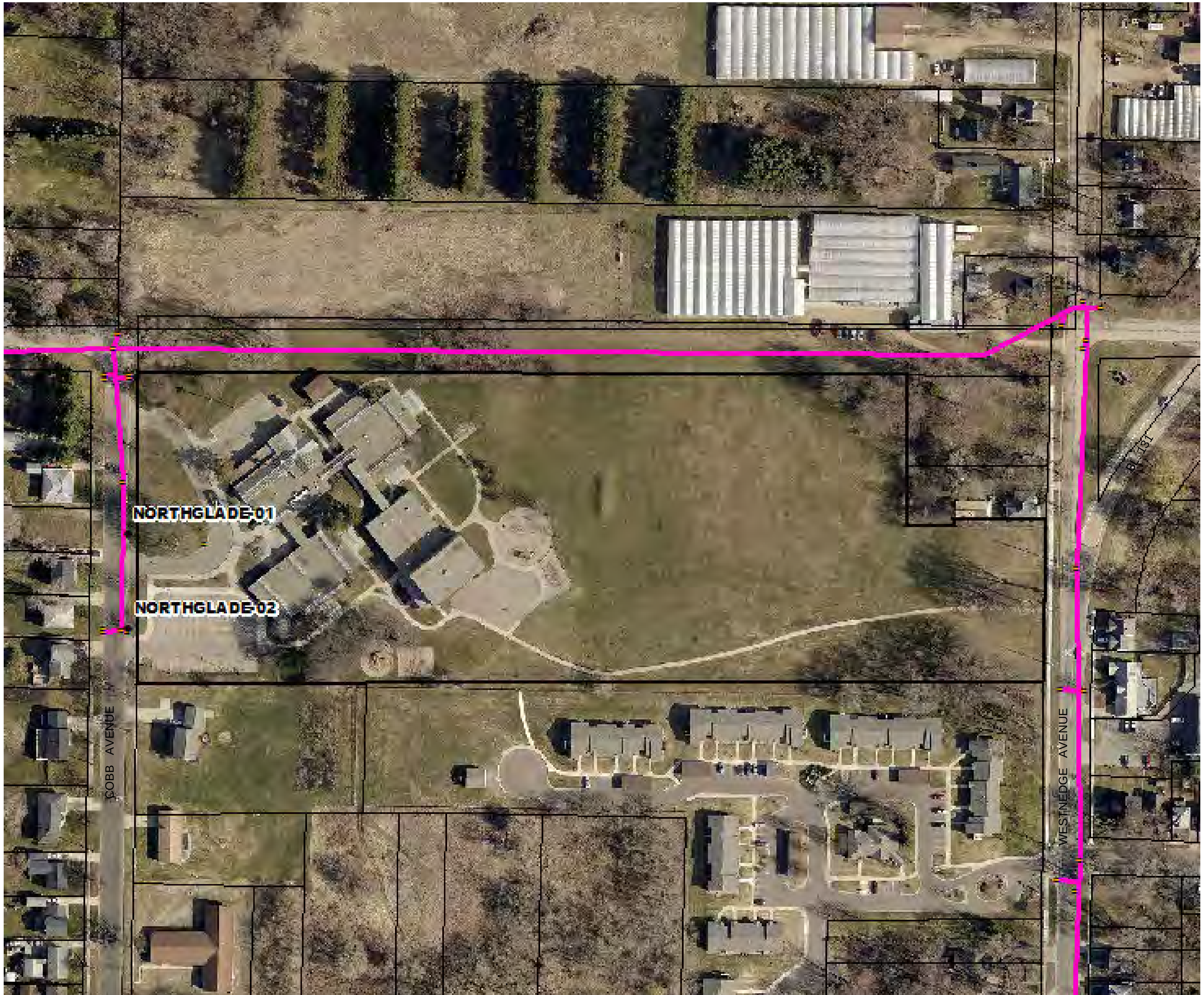


LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\09-NortheasternElementary_StormOutfalls_11x17_L.mxd - pk - 3/3/2015 3:45:58 PM



Kalamazoo Public Schools
Northglade Elementary
-Site 10-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

Point of Discharge
Outfall
Storm Structure
Storm Treatment Unit
Storm Infiltration Area
Kalamazoo Public Schools
City of Kalamazoo
KCDC
KCRC
MDOT
Abandoned

Phone: 269-372-1158
PN# 2150104

File: J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\10-NorthgladeElementary_StormOutfalls_11x17_L.mxd - plk - 3/3/2015 3:50:13 PM

Kalamazoo Public Schools
Parkwood-UpJohn Elementary
-Site 11-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

Kalamazoo Public Schools
Prairie Ridge Elementary
-Site 12-

Located In
Oshtemo Township, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

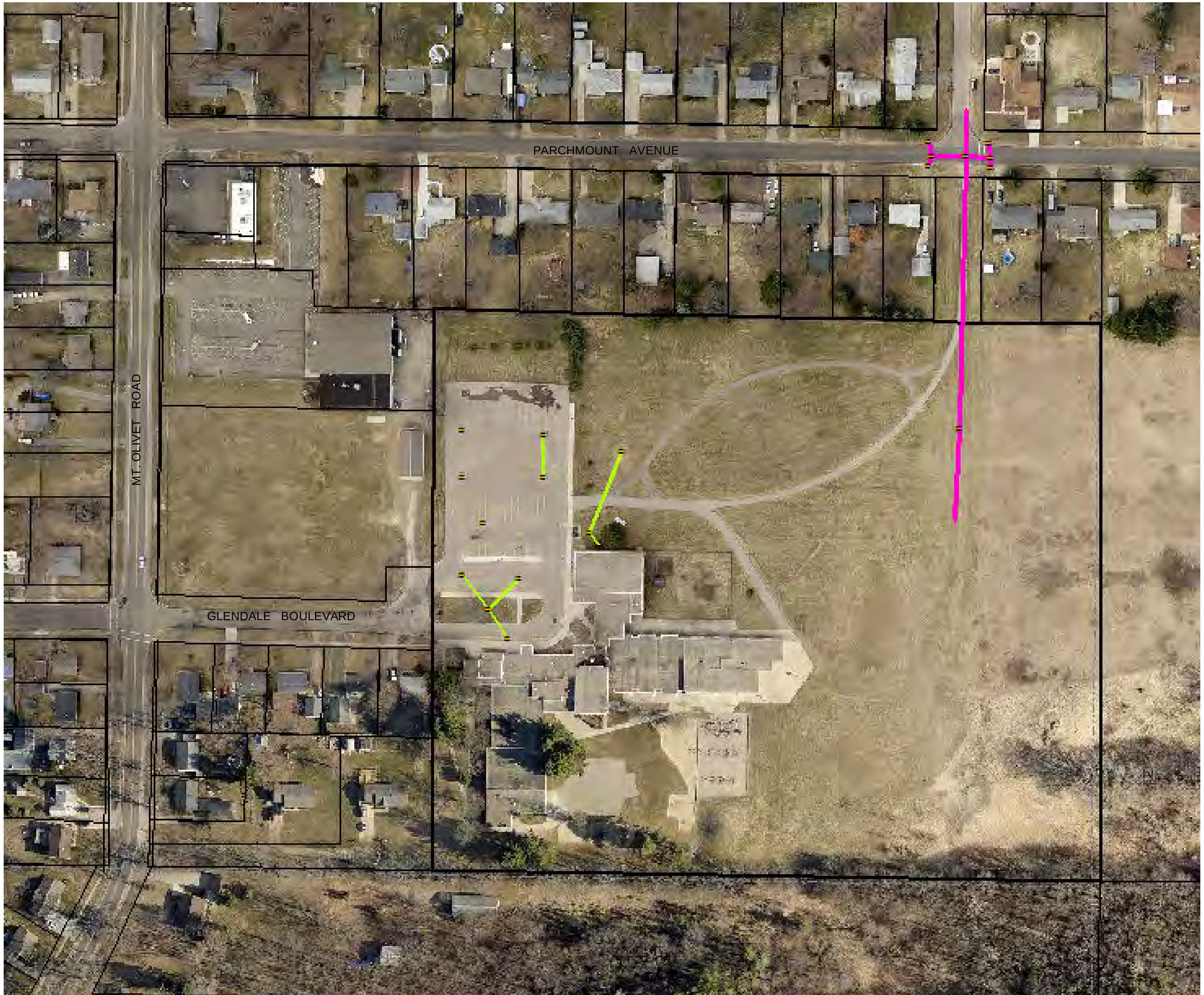
Phone: 269-372-1158
PN# 2150104

Kalamazoo Public Schools
Spring Valley Elementary
-Site 13-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015



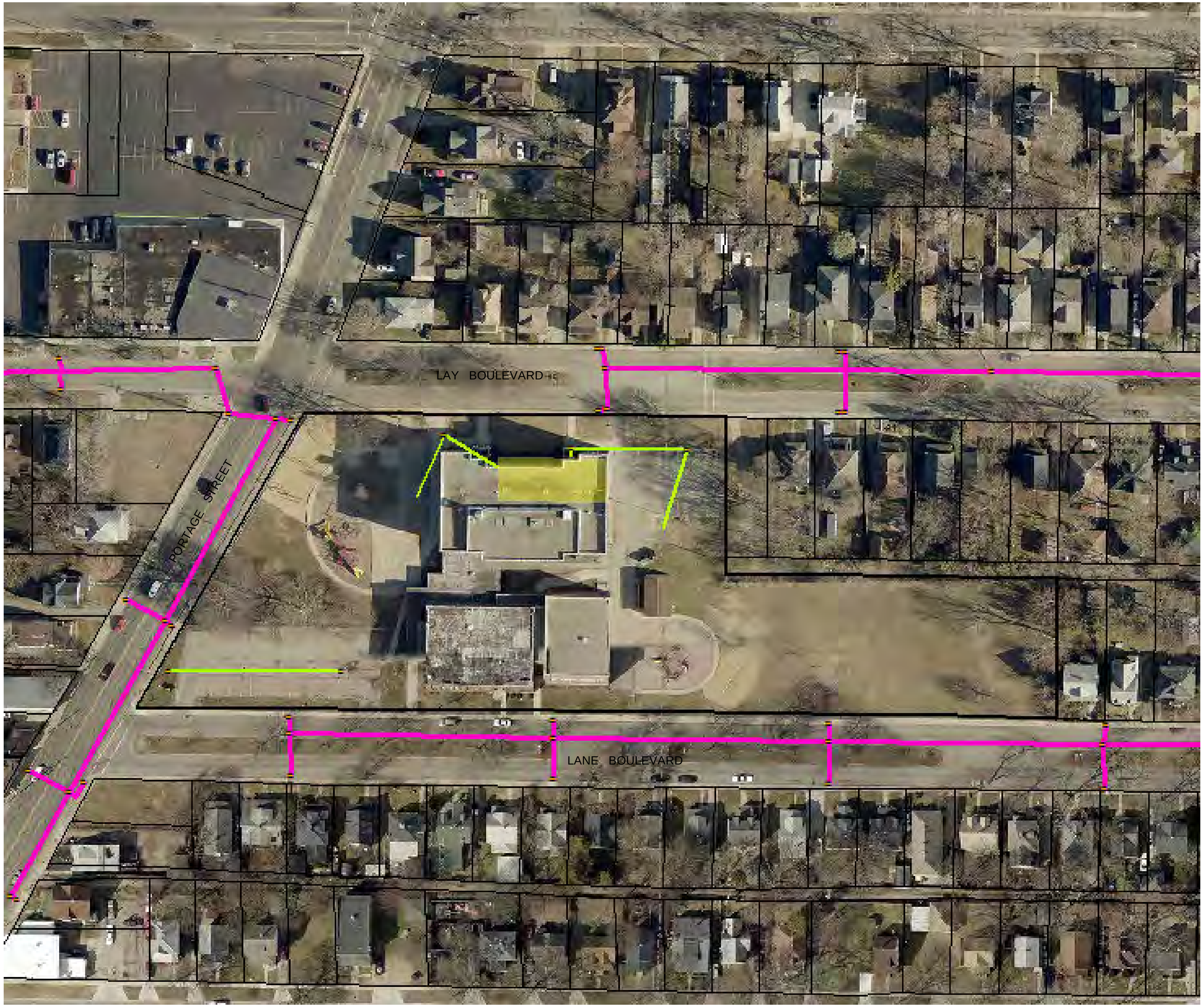
N
W E
S

LEGEND

Point of Discharge	City of Parchment
Outfall	Kalamazoo Public Schools
Storm Structure	KCDC
Storm Treatment Unit	KCRC
Storm Infiltration Area	MDOT
	Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\13-SpringValleyElementary_StormOutfalls_11x17_L.mxd - plk - 3/5/2015 11:07:07 AM



Kalamazoo Public Schools
Washington Elementary
-Site 14-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

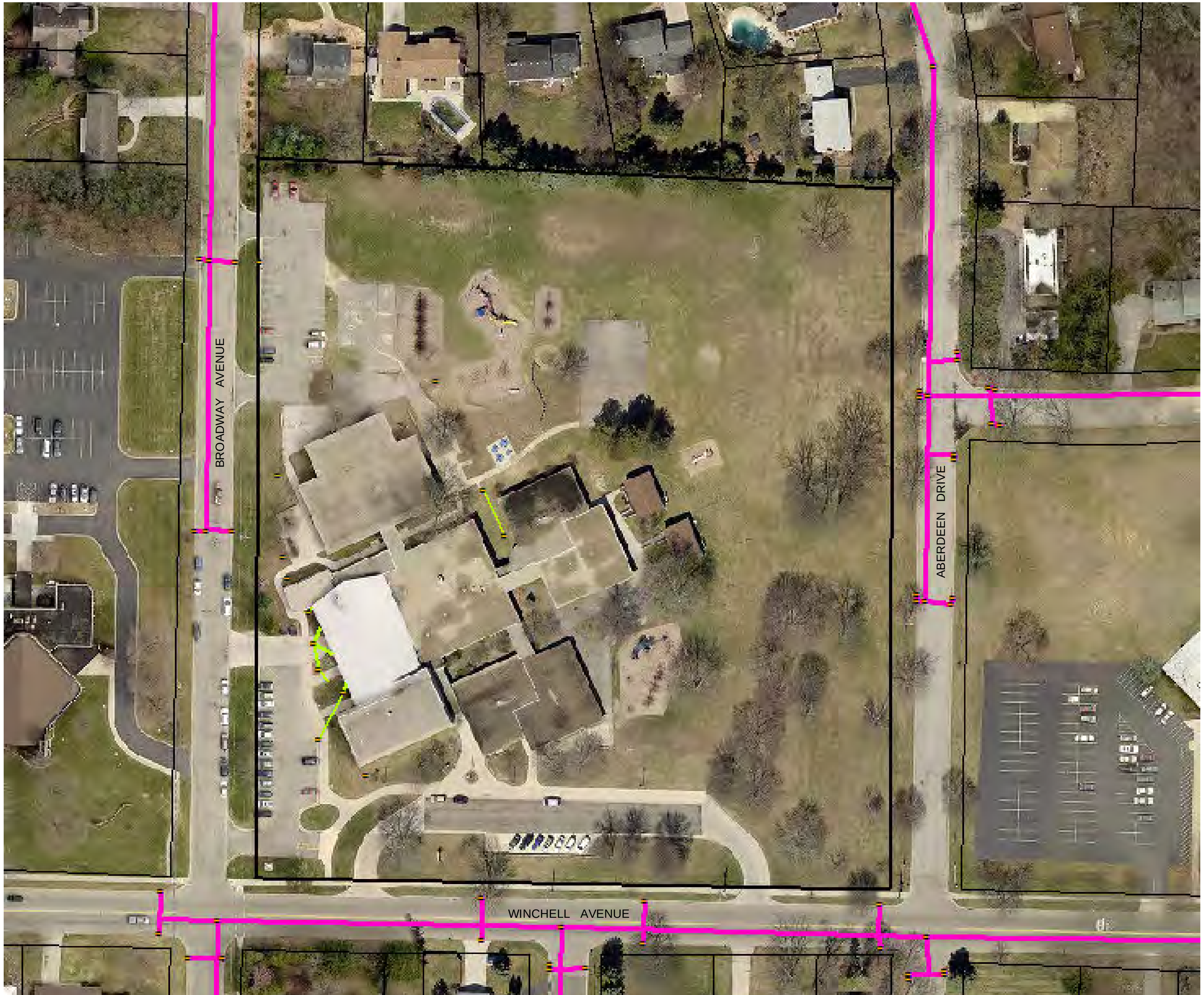
File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\14-WashingtonElementary_StormOutfalls_11x17_L.mxd - plk - 3/5/2015 11:09:55 AM

Kalamazoo Public Schools
Winchell Elementary
-Site 15-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015



N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\15-WinchellElementary_StormOutfalls_11x17_L.mxd - plk - 3/3/2015 3:58:11 PM

Kalamazoo Public Schools
Woods Lake Elementary
-Site 16-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

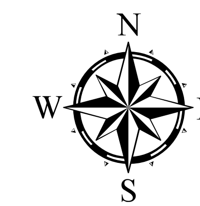
File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\16-WoodsLakeElementary_StormOutfalls_11x17_L.mxd - plk - 3/3/2015 3:59:36 PM

Kalamazoo Public Schools
Woodward Elementary
-Site 17-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015



LEGEND

◆	Point of Discharge		Kalamazoo Public Schools
⬟	Outfall		City of Kalamazoo
●	Storm Structure		KCDC
■	Storm Treatment Unit		KCRC
	Storm Infiltration Area		MDOT
		- -	Abandoned

Phone: 269-372-1158

PN# 2150104

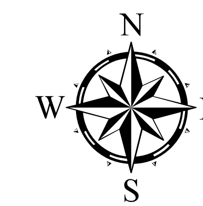
File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\17-WoodwardElementary_StormOutfalls_11x17_L.mxd - plk - 3/3/2015 4:04:49 PM

Kalamazoo Public Schools
Hillside Middle School
-Site 18-

Located In
KalamazooTownship, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

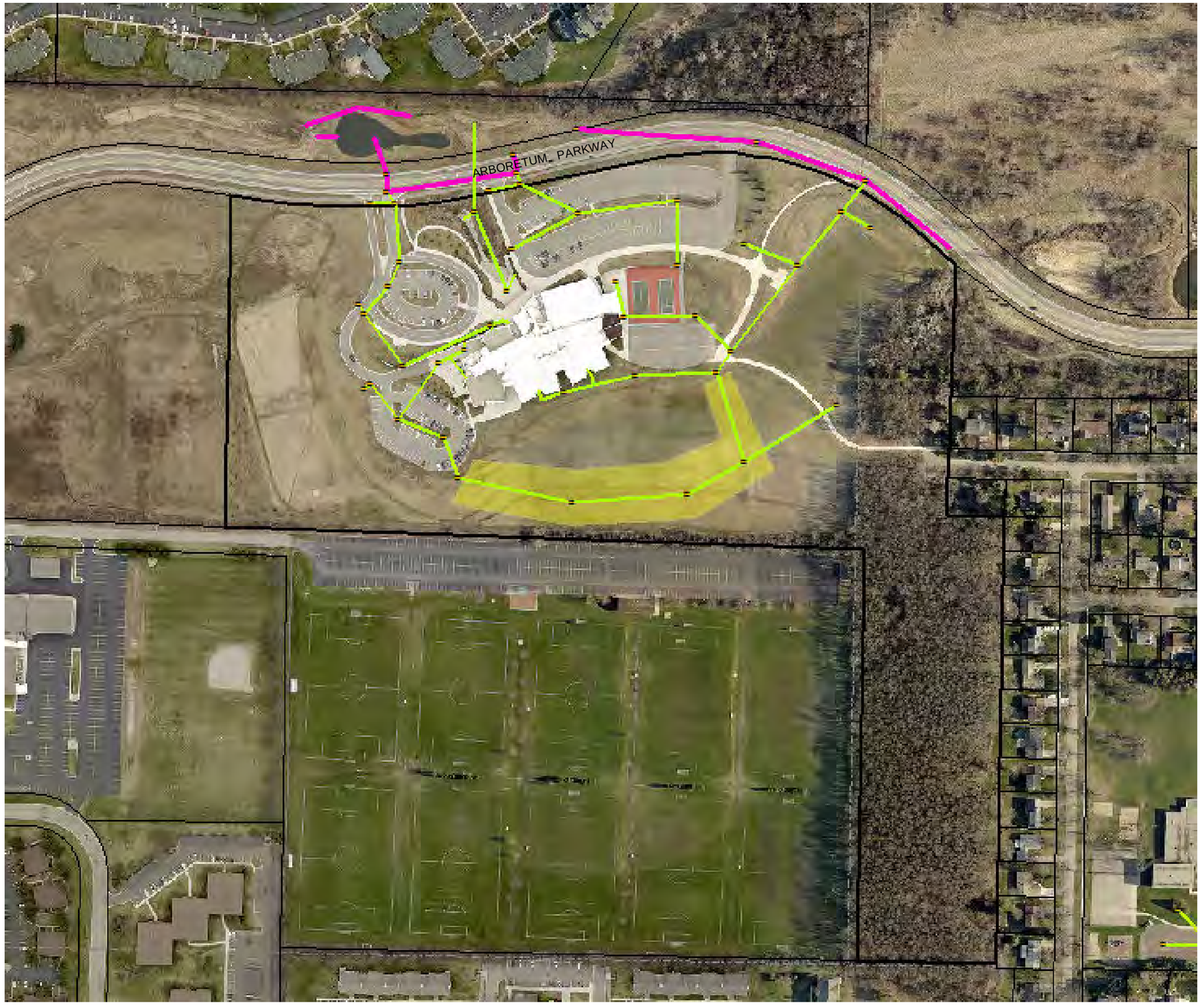


LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\18-HillsideMiddleSchod_StormOutfalls_11x17_L.mxd - plk - 3/5/2015 11:12:02 AM



Kalamazoo Public Schools
Linden Grove Middle School
-Site 19-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

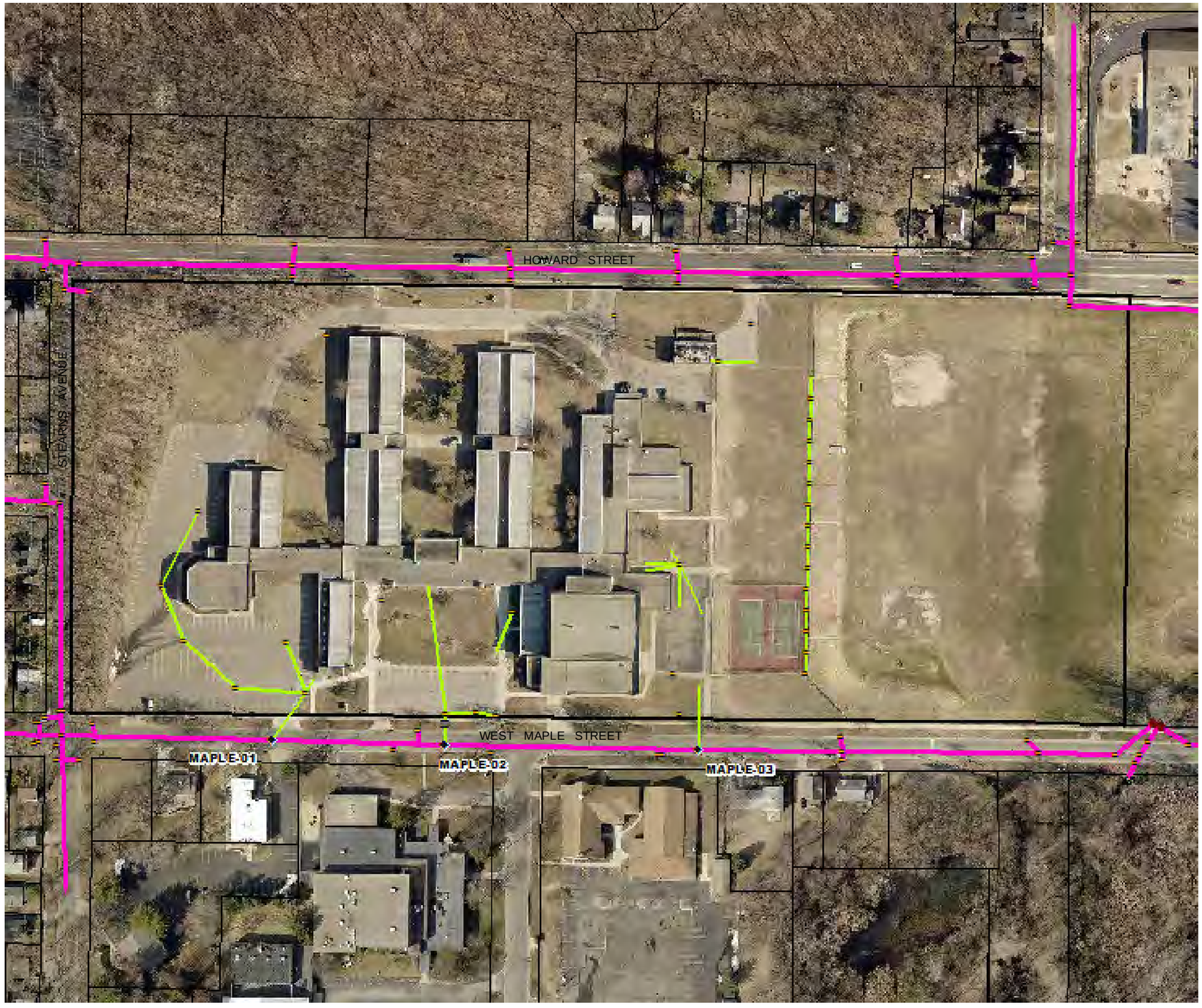
Phone: 269-372-1158
PN# 2150104

Kalamazoo Public Schools
Maple Street Middle School
-Site 20-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

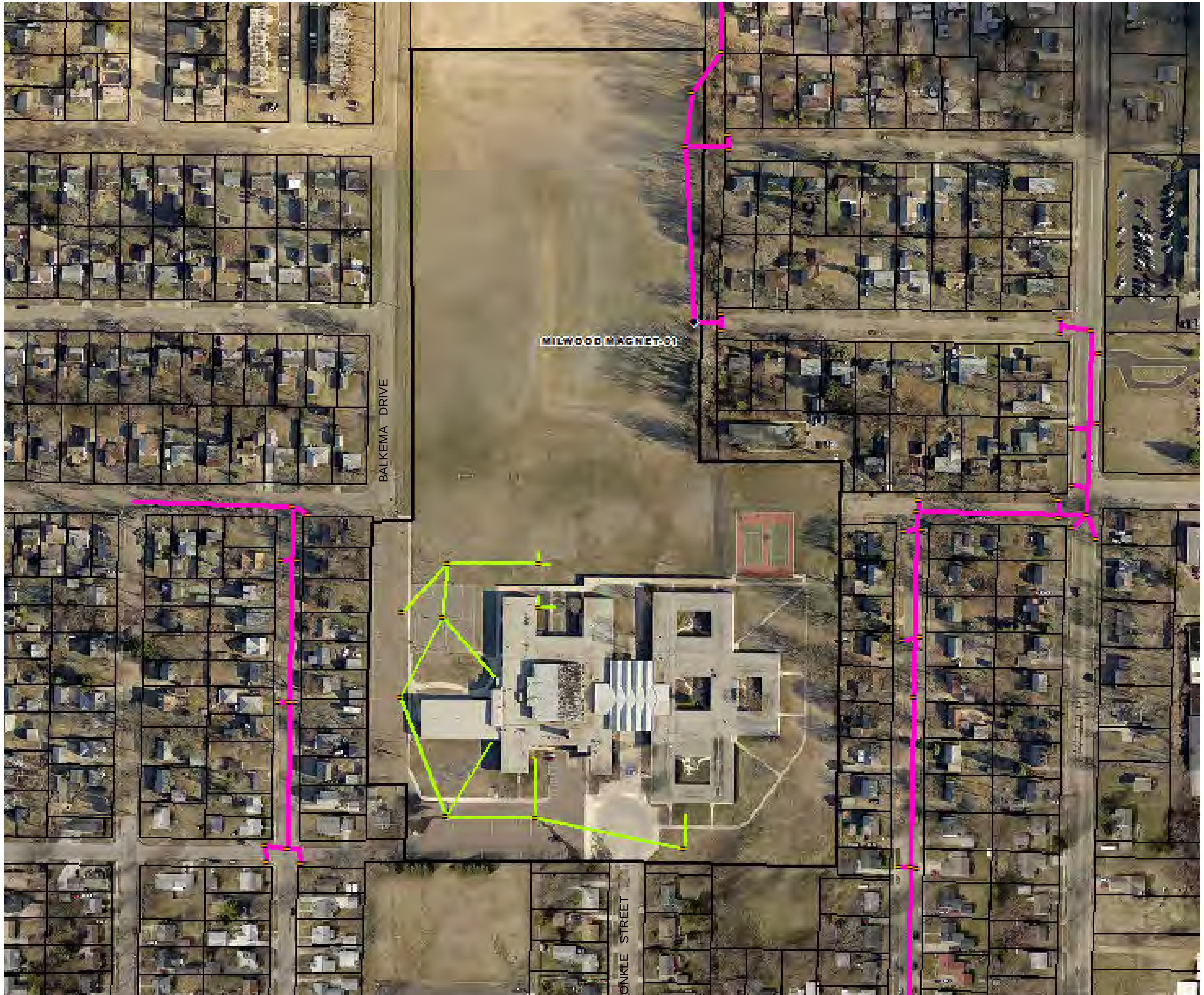


N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

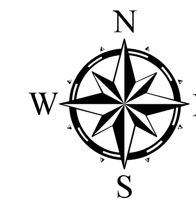


Kalamazoo Public Schools
Milwood Magnet Middle School
-Site 21-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015



LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158

PN# 2150104

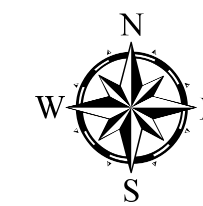
File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\21-MilwoodMagnetMiddleSchool_StormOutfalls_11x17_L.mxd - plk - 3/5/2015 4:08:34 PM

Kalamazoo Public Schools
Kalamazoo Central High School
-Site 22-

Located In
Kalamazoo Township, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

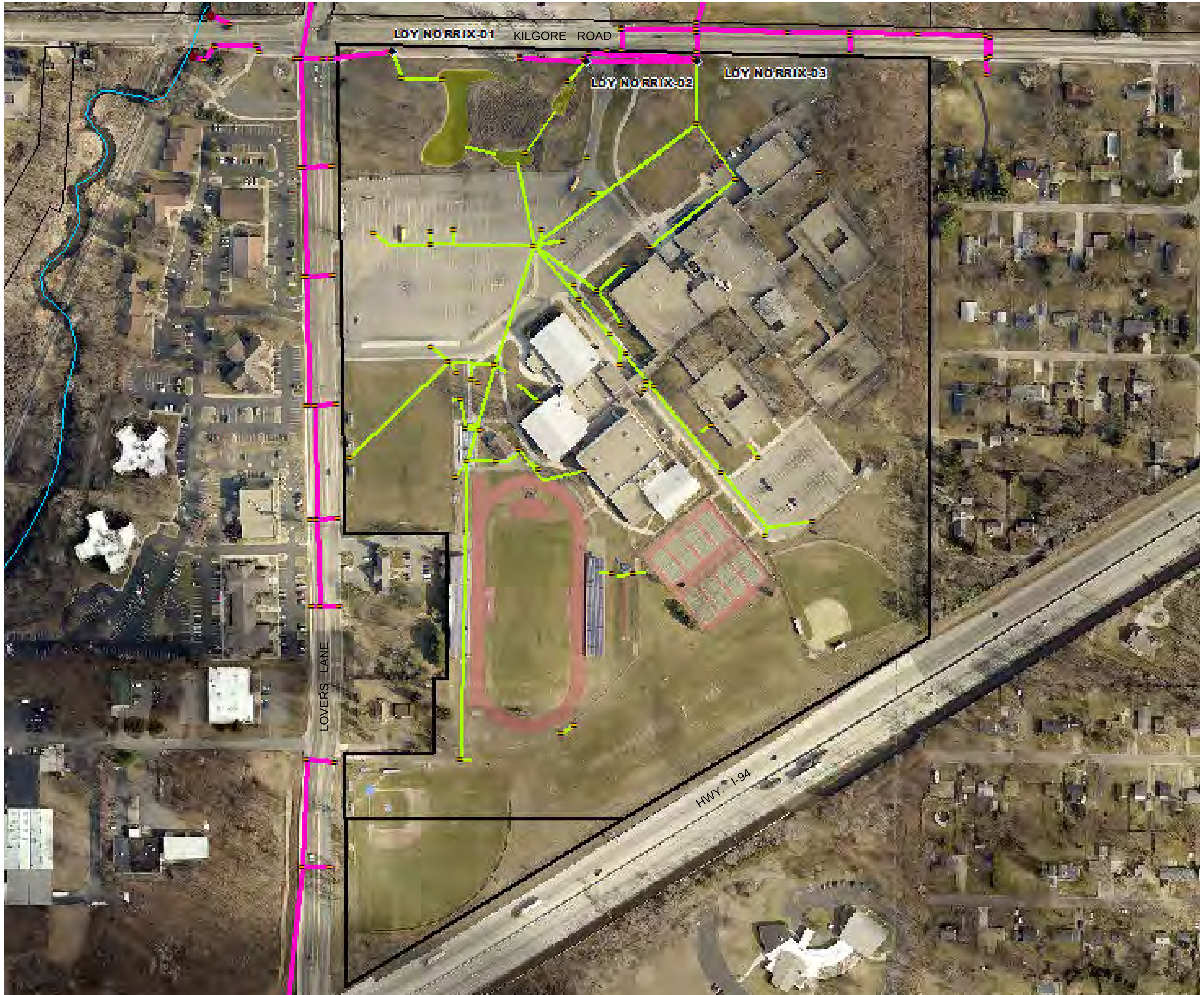


LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\22-KalamazooCentralHighSchool_StormOutfalls_11x17_L.mxd - plk - 3/9/2015 3:06:00 PM



Kalamazoo Public Schools
Loy Norrix High School
-Site 23-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermitting\23-LoyNorrixHighSchool_StormOutfalls_11x17_L.mxd - plk - 3/3/2015 4:22:42 PM

Kalamazoo Public Schools
Phoenix High School
-Site 24-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

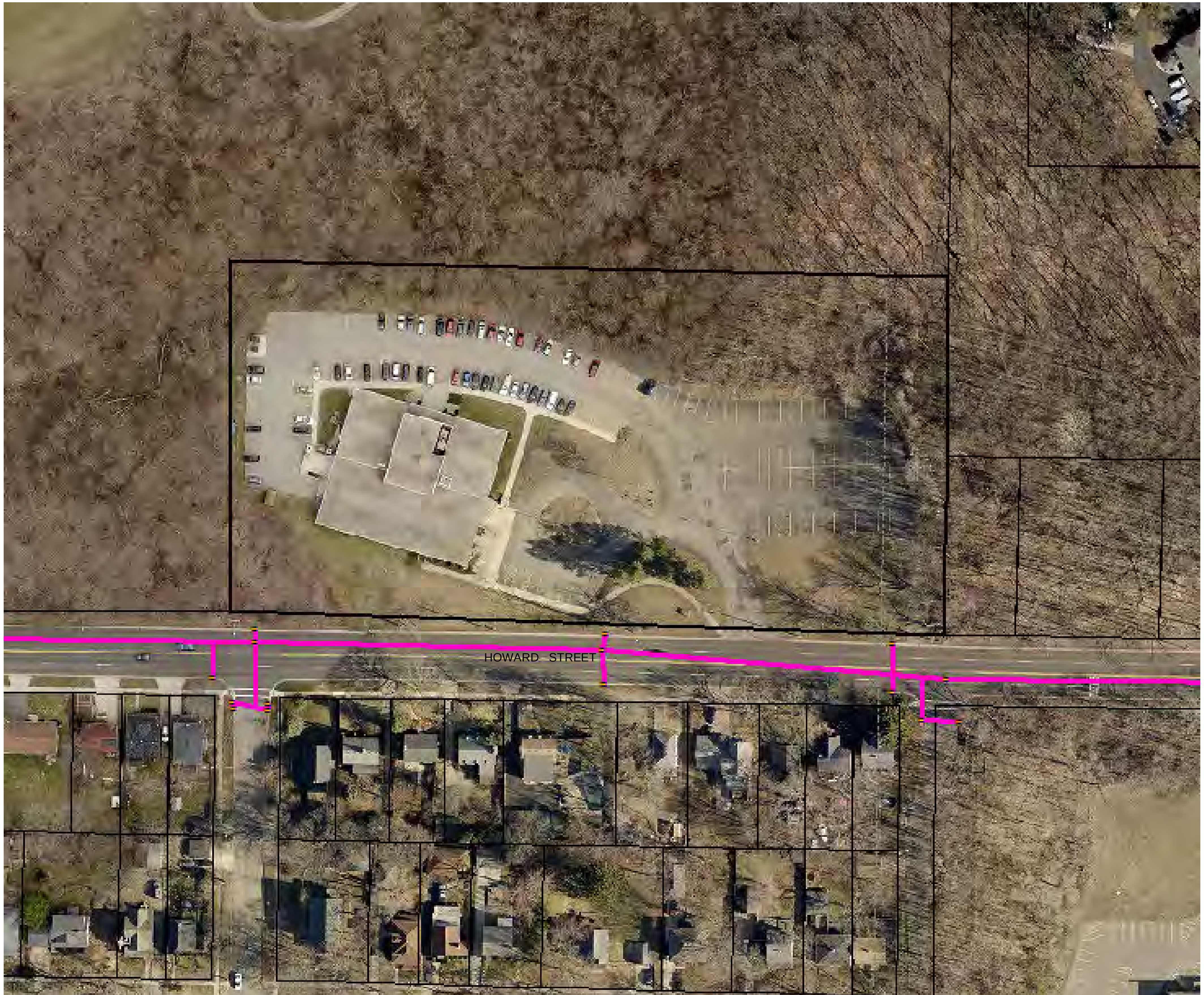
April 2015

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\24-PhoenixHighSchool_StormOutfalls_11x17_L.mxd - pk - 3/5/2015 11:38:01 AM



Kalamazoo Public Schools Administration Building -Site 25-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

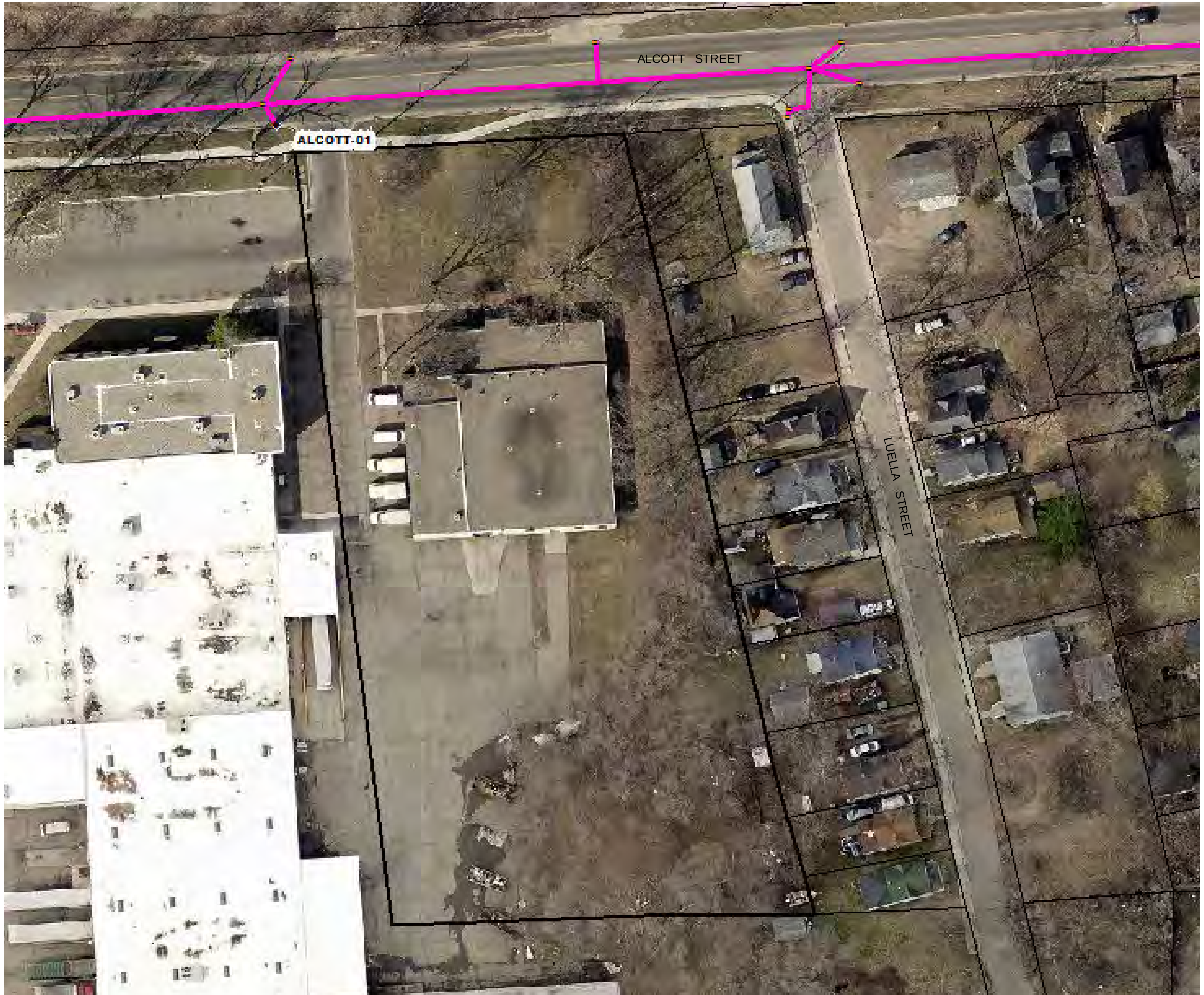
N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\25-AdministrationBuilding_StormOutfalls_11x17_L.mxd - plk - 2/25/2015 12:34:45 PM

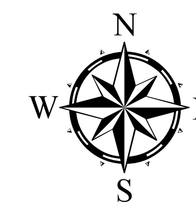


Kalamazoo Public Schools
Alcott Street Stock Room
-Site 26-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015



LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

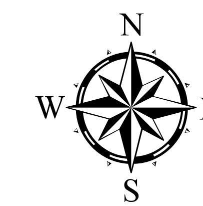
File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\26-AlcottStreetStockRoom_StormOutfalls_11x17_L.mxd - plk - 2/25/2015 12:21:46 PM

Kalamazoo Public Schools
Chime School
-Site 27-

Located In
Kalamazoo Township, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

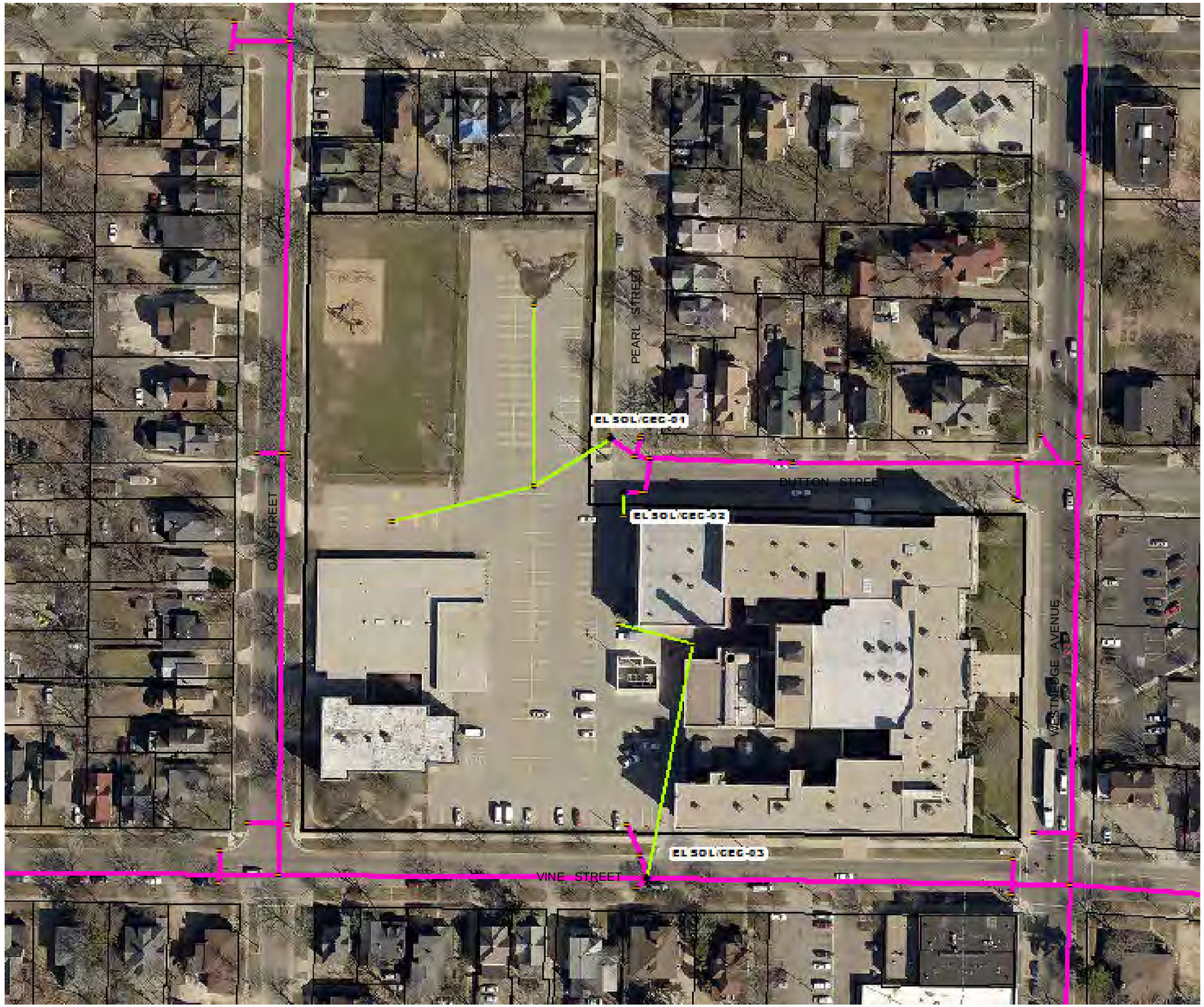


LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\27-ChimeSchool_StormOutfalls_11x17_L.mxd - pjk - 3/3/2015 4:28:38 PM



Kalamazoo Public Schools
Community Education Center
-Site 28-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

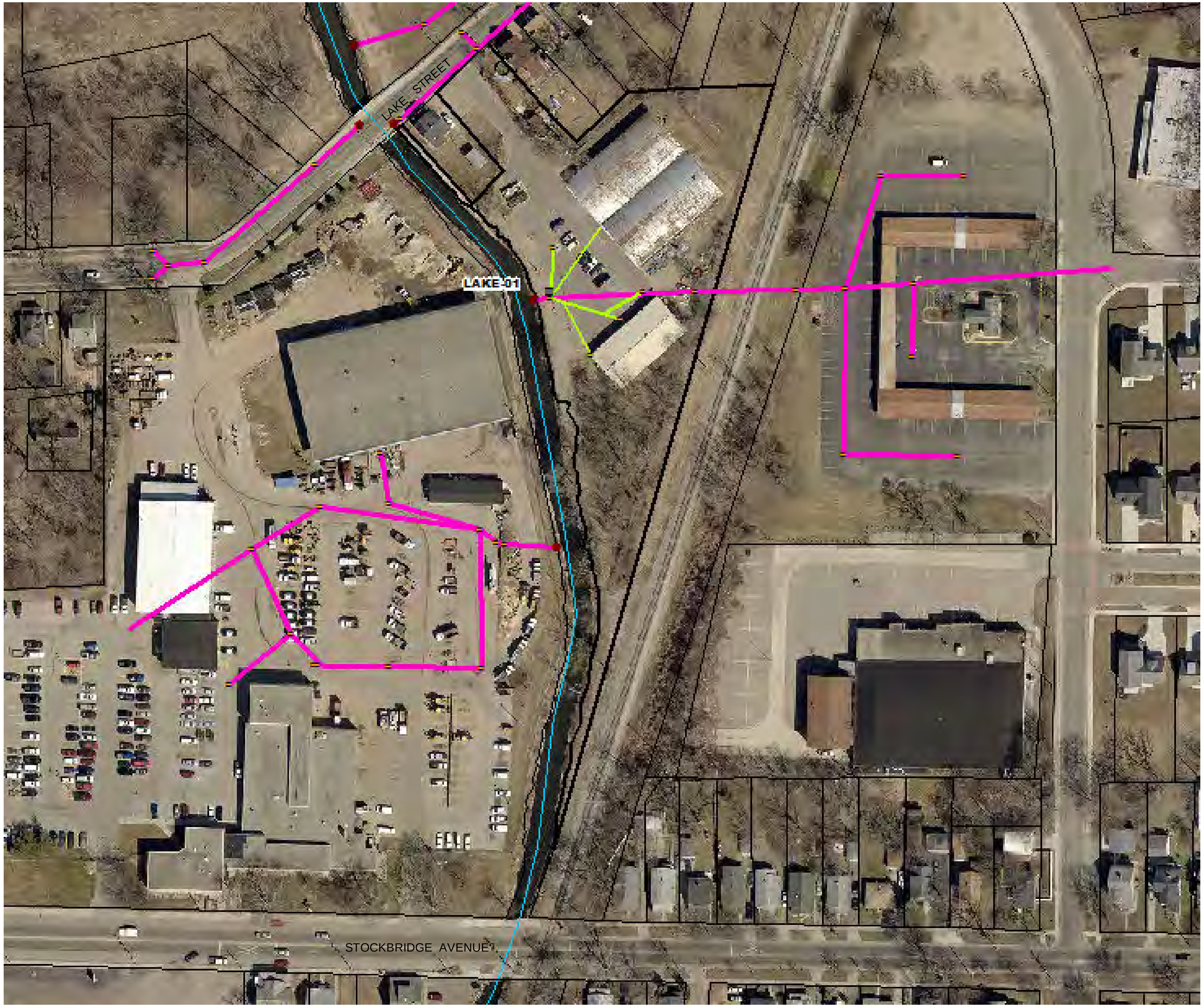
April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104



Kalamazoo Public Schools
Lake Street Barns
-Site 29-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\29-LakeStreetBarns_StormOutfalls_11x17_L.mxd - plk - 3/5/2015 11:40:51 AM

Kalamazoo Public Schools
Lakewood (Valley Center)
-Site 30-

Located In
Kalamazoo Township, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

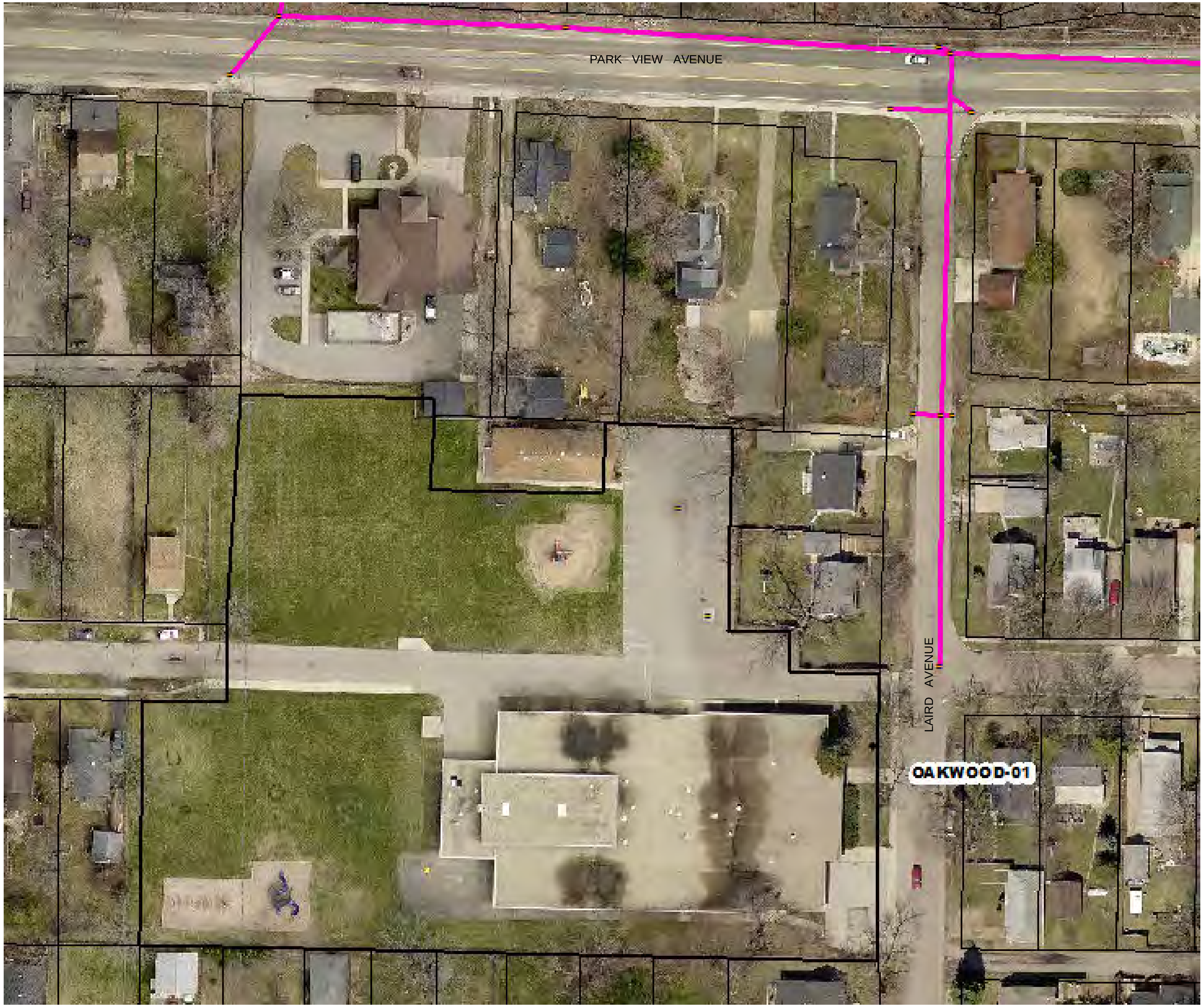
N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\30-Lakewood_ValleyCenter_StormOutfalls_11x17_L.mxd - pk - 3/3/2015 4:35:42 PM



Kalamazoo Public Schools
Oakwood
-Site 31-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

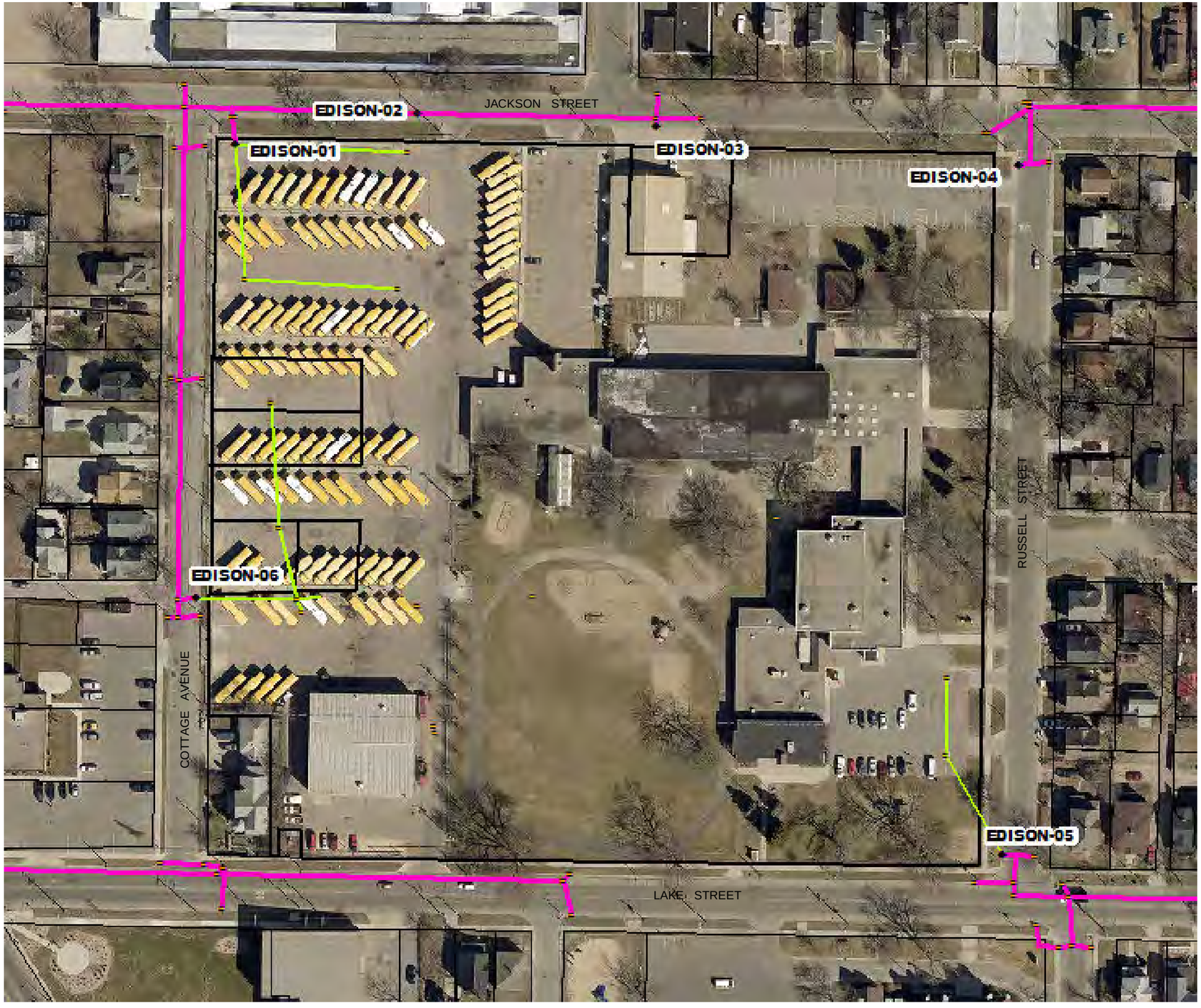
File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermitting\31-Oakwood_StormOutfalls_11x17_L.mxd - plk - 3/3/2015 4:36:08 PM

Kalamazoo Public Schools
Transportation
-Site 32-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015



N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

Kalamazoo Public Schools
West Main School PDC
-Site 33-

Located In
City of Kalamazoo& Kalamazoo Township,
Kalamazoo County, Michigan

Storm Sewers, Outfalls & Points of Discharge

April 2015

N
W E
S

LEGEND

Point of Discharge	Kalamazoo Public Schools
Outfall	City of Kalamazoo
Storm Structure	KCDC
Storm Treatment Unit	KCRC
Storm Infiltration Area	MDOT
	Abandoned

Phone: 269-372-1158
PN# 2150104

File:J:\GIS_Client\KalGD\00-Client\2150104_KPS_StormwaterPermiting\33-WestMainSchoolPDC_StormOutfalls_11x17_L.mxd - plk - 3/5/2015 11:42:58 AM

Kalamazoo Public Schools
Westnedge (Old K. Christian)
-Site 34-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

Storm Sewers, Outfalls
& Points of Discharge

April 2015

N
W E
S

LEGEND

- Point of Discharge
- Outfall
- Storm Structure
- Storm Treatment Unit
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- KCRC
- MDOT
- Abandoned

Phone: 269-372-1158
PN# 2150104

Chapter 4 – Nested Jurisdictions

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

NESTED JURISDICTIONS

Kalamazoo Public Schools has not entered into any nesting agreements under this individual permit or a certificate of coverage since its inception.

Chapter 5 – Enforcement Response Procedure (ERP)

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

Enforcement Response Procedure (ERP)

Illicit connections are prevented by utilizing site plan review, field staff reporting, and the state plumbing inspector for new construction and redevelopment. There is also a "Stormwater Policy and Performance Standards for Stormwater Management" that also addresses the following:

- Rights of Entry
- Operation and Maintenance
- Notification of Spills

If an illicit connection were found or reported, the School would evaluate the problem and issue a work order for corrective action. The time from for corrective action would be depended upon the extent of the issues and required corrective action. The goal of KPS is to resolve any non-compliance issues within 60 days.

To date no illicit discharges have been found and no reports have been reported via the County-wide 1-800 reporting hotline.

OTHER

Any questions on this policy and procedure should be directed to the Storm Water Program Manager.

PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Storm Water Program Manager for any updates to improve effectiveness.

Kalamazoo Public Schools
Enforcement Response Reporting Form

Date of Notification of Violation: _____

School Name with Violation: _____

Site Location of Violation: _____

Description of Violation: _____

_____

_____

_____

Date KPS issued work order for resolution: _____

Description of work order (copy attached, if applicable): _____

_____

_____

_____

Schedule for returning to compliance: _____

Date the violation was resolved: _____

Chapter 6 – Public Participation/Involvement Program (PPP)

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Public Participation Program

POLICY

This policy is to establish procedures for Kalamazoo Public School's Public Participation/Involvement Program (PPP).

BACKGROUND

The MDEQ NPDES MS4 Stormwater Discharge Permit Application requires a procedure for public participation/involvement program as identified in the Application. This procedure includes a description of the opportunities for the public to provide comment on the Stormwater Management Plan and inviting public involvement and participation in the implementation and period review of the Stormwater Management Plan.

PROCEDURE

Stormwater Management Plan Available for Public Inspection and Comment

The stormwater management plan will be posted on the Kalamazoo Public School's web site for review and comment by the public when the application is submitted to MDEQ. This information will include the contact information of the storm water program manager to forward comments. The storm water program manager will compile and track comments from the public including: commenter name, date, and comment.

Public Involvement and Participation in the Implementation and Periodic Review of the Stormwater Management Plan

The following BMPs will be utilized to allow for public involvement and participation in the implementation and periodic review of the stormwater management plan.

BMP	Description	Schedule	Method of Assessment
Public Notice	KPS will publicize the document is available for review and comment in the Excelsior	1st Year	Number of Comments
Web Site	The web site will be utilized to explain the program and opportunities for public involvement and participation.	Ongoing	Number of hits on community web site. Number of comments.
Community Newsletter-Excelsior	KPS will promote events put together by the Kalamazoo River Watershed, TMDL, or other relevant group, such as "Rain Barrel Sale", Kanoe the Kazoo", "Krazy for the Kazoo", etc.	Ongoing	Number of events published in the newsletter
Community Newsletter-Excelsior	The newsletter is circulated to residents and will include information on the SWMP.	Twice during permit cycle	Number of residents receiving newsletter
Public Participation Survey	This effort is in partnership with regional efforts for stakeholders to provide input into the priorities and implementation of stormwater planning.	Ongoing	Survey results

OTHER

Any questions on this policy and procedure should be directed to the Storm Water Program Manager.

PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Storm Water Program Manager for any updates to improve effectiveness.

Chapter 7 – Public Education Program (PEP)

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

Public Education Program (PEP)

OVERVIEW

The PEP with associated tables is included as within this Chapter of the permit application. Stormwater education is distributed thru the use of the Excelsior publication. Additional stormwater educational information is made available year round at the Facility's office.

INTRODUCTION

Background

The unique purpose of the public education portion of the NPDES MS4 permit is to increase the awareness of residents about how their everyday activities contribute pollutants to their community's water resources. Most citizens recognize the recreational and aesthetic benefits they receive from water, and most even recognize that water quality degradation is a serious concern in the Great Lakes Region. However, most people have not made the connection that the majority of this pollution can be generated from their normal everyday actions and not simply from large commercial and industrial sources.

This PEP is jurisdictional base; however, portions may be performed in conjunction, cooperation, and coordination with the other water quality educational efforts within the watershed, such as MS4 permit holders, partners within the Kalamazoo Area Stormwater Working Group (KASWG), Wellhead Protection Programs, and the TMDL Implementation Committee. It is recognized that some existing educational components were designed to address groundwater, certain watersheds, stretches of streams, particular audiences, to convey a specific message, or to implement a particular type of educational strategy or technique. However, many of the on-going educational efforts share certain general water quality messages and strategies that are relevant to the stormwater program.

As KPS is required to implement Best Management Practices (BMP) to meet the minimum requirements of the TMDL Implementation plan, this is most efficiently accomplished if MS4s within the Kalamazoo River Watershed attend the quarterly TMDL meetings and partner on BMP implementation. KPS will participate in the TMDL group's educational activities by attending quarterly meetings and promoting educational activities thru the Excelsior. The current educational activities of the TMDL group are the Kanoe the Kazoo (paddle events), Krazy for the Kazoo (stream cleanup and riparian plantings) and the water festival; however the water festival at this point has not become an annual event.

PEP Educational Components

The following six educational components are PEP requirements of the MS4 program**:**

1. Educate the general public about personal watershed stewardship.
2. Educate residents concerning the ultimate stormwater discharge locations and the potential impacts of pollution from the separate stormwater drainage system.
3. Encourage the public reporting of the presence of illicit discharges or improper disposal of materials into the community's separate stormwater drainage systems.
4. Educate residents concerning personal actions that can impact the watershed, such as cleaning materials, procedures for residential or community organization car washing,

application and disposal of pesticides, herbicides, and fertilizers; promote proper disposal of grass clippings, leaf litter, and animal waste; educate and promote benefits of green infrastructure and Low Impact Development.

5. Educate the citizens in the community of the availability, location, and requirements of facilities for disposal or drop-off of household hazardous waste, travel trailer sanitary wastes, chemicals, grass clippings, leaf litter, animal wastes and motor vehicle fluids.
6. Educate the citizens about the management of riparian lands and the importance of stream buffers.

KALAMAZOO PUBLIC SCHOOLS PEP TASK ELEMENTS

The Kalamazoo Public Schools planned educational activities are specified in Table 2. More specifically, these are the educational tasks to be undertaken by the Kalamazoo Public Schools as a component of its Individual Permit.

Table 2 is intended to illustrate the relationship between the 6 components listed above and the desired messages, delivery mechanisms, evaluation methods, measurable goals, and an associated timetable for implementation. It is recognized that results of the PEP are difficult to measure and are somewhat subjective. It is debatable what is more significant in measuring the success of a PEP - aspects of quantity, quality, or a combination of the two; it is likely that it is dependent on the specific action item. Tons and type of trash collected and/or the number and type of people that participated in the process could measure the success of stream cleanup efforts. Furthermore, it is easy to measure the number of new signs or catch basin markings installed but it does not address the quality aspect of the marking design process, location selection process, or even perhaps a creative financing strategy to fund the cost of implementation. The measurable goals in Table 2 were selected to balance both the quantity and quality aspects of success of the subject action items.

Typically, PEP's also identifies commercial, industrial, and institutional entities likely to contribute to pollutant to storm water run-off. KPS is an institutional facility with numerous sites and will educate appropriate staff on a case-by-case basis as the need or issues occur.

SUMMARY

The Kalamazoo Public Schools will increase public education by the following:

1. Participate in the Kalamazoo Area Stormwater Working Group, TMDL, or other active group. (Attend meetings, promote educational activities, etc.)
2. Publish articles to distribute to staff, students, and community containing storm water information via "The Excelsior" or other similar mechanism/publications
3. Provide Employee Training / Education by signage, poster, and/or brochures to targeted staff:
    - *Cafeteria* (Topics – grease, cleaning chemicals disposal and handling, food waste disposal, etc.)
    - *Custodial* (Topics – cleaning chemicals disposal and handling, food waste disposal, wash water and/or floor cleaning water disposal, etc.)
    - *Teachers* (Topics – disposal of science and art materials, etc.)

4. Provide Employee Training / Education by signage, poster, and/or brochures to targeted staff along with additional training provided by internal staff, outside consultants, and/or videos during group training sessions held at various times of the year:
   - *Maintenance – carpentry, electricians, HVAC, etc.* (Topics – vehicle washing, fueling, chemicals disposal and handling, etc.)
   - *Grounds / Facility - mowing, snowplowing, etc.* (Topics - vehicle washing, fueling, oil and chemical disposal, etc., along with procedures and policies related to fertilizers and pesticides)
   - *Fleet / Auto / Bus* (Topics – vehicle washing, fueling, oil and chemical disposal, etc.)
5. Bring stormwater awareness to Staff via placing posters and/or literature in the teacher's lounge (examples may be from MDEQ website and/or Stormwater Savvy Resources or similar educational resources.)
6. Bring stormwater awareness to students via publication in the Excelsior, posters around the school buildings, such as, in the cafeteria or hallways, and signage around the school properties. Examples of articles/posters may be from SEMCOG website and/or Stormwater Savvy Resources or similar educational resources. Examples of signs may be "pick up after your pet", various LEED signage related to stormwater (Prairie Ridge and Linden Grove are LEED certified), or BMP signage indicating rain gardens or buffer strips.
7. Bring stormwater awareness to parents via publication in the Excelsior, placing brochures at each school at the display racks located at the offices or at the entrances to the building facilities, and signage around the school properties. Examples of brochures would be the Household Hazardous Waste disposal locations, IDEP hotline brochure, and/or Stormwater Savvy Resources or similar educational resources. Examples of signs may be "pick up after your pet" and various LEED signage related to stormwater.
8. Conduct annual public survey
9. Evaluate the effectiveness of the PEP at time of annual report

A successful Public Education Plan should not only be designed to meet a regulatory obligation but be dynamic and flexible enough to adjust to numerous and diverse audiences, and new opportunities for outreach. True success of a PEP results in a positive change in human behavior. Behavior includes a wide range of activities, such as how the general public disposes of its household waste or how an industry handles its stormwater.

This PEP strives to recognize and extend on-going educational efforts regarding water resources protection. It strives to learn from their successes as well as those activities that yielded limited results. It is a principle of this PEP to coordinate with current educational programs, to optimize opportunities to reach targeted audiences via planned events, organizational contacts, and to share staff expertise, equipment and materials.

KALAMAZOO PUBLIC SCHOOL PEP - MEASURE OF ASSESSMENT

KPS will conduct an annual public survey at an event within the community (School Open House, Football game, Parent Teacher Conference, etc.). This survey will be a brief and is intended to measure delivery mechanism effectiveness along with change in knowledge and behavior among residents. KPS will assess at a staff level, the effectiveness of the overall PEP at the time of the annual report and make changes to improve the PEP for the remaining years within the permit cycle

as it relates to the measurable goals for each Best Management Practice (BMP). The procedure for evaluating and determining the effectiveness of the overall PEP will be at the discretion of the Storm Water Program Manager at the time of evaluation based on survey responses and other data available (website counter, brochure distributed, etc.).

OTHER

Any questions on this policy and procedure should be directed to the Storm Water Program Manager.

PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Storm Water Program Manager for any updates to improve effectiveness. If current procedures or portions of the PEP are determined by the Storm Water Program Manager to be ineffective, KPS will make changes to the PEP based on input from the MDEQ and recommendations of the Storm Water Program Manager to improve delivery mechanism effectiveness along with increasing knowledge and behavior among residents.

Table 2 – PUBLIC EDUCATION PROGRAM (PEP)

STORM WATER MANAGEMENT PROGRAM (SWMP)
PROGRAM ELEMENTS, TASKS AND DELIVERABLES

PUBLIC EDUCATION PROGRAM ELEMENTS						
PEP Objective	**Task**	**Delivery Mechanism / Methodology**	**Time Table**	**Evaluation/ Measured Element**	**Content of Message(s) and Supplemental Message**	**Measurable Goals**
1	Watershed Stewardship Awareness	A representative from KPS participates in the TMDL, Kalamazoo Area Stormwater Working Group or other active group with education activities and promote such event thru the City's website	As Needed	Meeting Attendance and participation in KASWG activities Meeting attendance and participation in TMDL, KASWG or other applicable active group	Definition of a Watershed; Identification of Watershed Lived In (Work In); Purpose of Protecting the Watershed; Ways people affect the watershed	Representative present at 50% or more of TMDL, KASWG, or other meetings. Participation by volunteering manpower, materials, or promoting educational activities on the website.
		Publish Article in School Newspaper "The Excelsior" or similar publication to educate both parents and students.	Annually	Minimum one article per year addressing various PEP topics		Newspaper has an article each devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle.
		Install posters, signage, and brochures at and around school buildings and school properties to educate staff, parents and student.	Annually	List of brochures and/or educational material provided in teacher's lounge Number of signs installed. List of brochures provided at each school's entrance/office display racks. List of Posters and locations installed.		Brochures or other educational items are available in every teacher's lounge at the beginning of each school year devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle. Signs related to stormwater are installed on school sites within 2-years of construction of a LEED building. Signs related to picking up pet waste are installed at 100% of the sites by 2018. Posters at school buildings located in cafeterias, hallways, etc. are changed / updated every 2-year devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle. Display racks at each building will have storm water literature for parents at the beginning of each school year devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle.
2	Storm Water Discharge Awareness	Publish Article in School Newspaper "The Excelsior" or similar publication.	Annually	Minimum one article per year addressing various PEP topics	Storm sewers discharges to water bodies; Storm sewers (unlike wastewater) are untreated;	Newspaper has an article each devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle.

PUBLIC EDUCATION PROGRAM ELEMENTS						
PEP Objective	**Task**	**Delivery Mechanism / Methodology**	**Time Table**	**Evaluation/ Measured Element**	**Content of Message(s) and Supplemental Message**	**Measurable Goals**
		Training / Education of staff utilizing signage, posters, and/or brochures for cafeteria, custodial, and teachers. Training / Education of staff utilizing signage, posters, and/or brochures along with additional training provided by internal staff, outside consultants, and/or videos during group training sessions held at various times of the year for Maintenance, Grounds / Facility, and Fleet / Auto / Bus groups.	Annually	Staff Education Maintenance (carpentry, electricians, HVAC, etc.) – vehicle washing, fueling, chemicals disposal and handling, etc. Cafeteria – grease, cleaning chemicals disposal and handling, food waste disposal, etc. Grounds / Facility (mowing, snowplowing, etc.) - vehicle washing, fueling, oil and chemical disposal, etc., along with procedures and policies related to fertilizers and pesticides Fleet / Auto / Bus – vehicle washing, fueling, oil and chemical disposal, etc. Custodial – cleaning chemicals disposal and handling, food waste disposal, wash water and/or floor cleaning water disposal, etc. Teachers – disposal of science and art materials, etc.	Storm water carries pollutants; Adverse impacts of storm water discharges; Local storm sewer drainage system Identify and educate commercial, industrial, and institutional entities likely to contribute pollutants to storm water runoff.	Signs and/or posters installed at all school buildings and/or class rooms (where applicable) to educate Maintenance, Cafeteria, Grounds/Facility, Fleet, Custodial, and Teachers regarding topics/issues of concern. Maintenance, Grounds/Facility, and Fleet/Auto/Bus group had additional training session regarding topics/issues of concern.
3	Illicit Discharge Awareness & Reporting	IDEP Hotline Brochure Available throughout school buildings (Display racks, teacher's lounge, etc.) to educate staff and parents	Annually	List contact information to report illicit discharge. Number of calls received for illicit discharges	What is an illicit discharge; Why and how-to report illicit discharges; Water Quality impacts of illicit discharges and improper waste disposal; Consequences and penalties of illicit discharges	Document number of reported calls to the hotline Contact information provided to staff members and/or departments
		Publish Article in School Newspaper "The Excelsior" or similar publication.	Annually	Minimum one article per year addressing various PEP topics		Newspaper has an article each devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle.

PUBLIC EDUCATION PROGRAM ELEMENTS						
PEP Objective	**Task**	**Delivery Mechanism / Methodology**	**Time Table**	**Evaluation/ Measured Element**	**Content of Message(s) and Supplemental Message**	**Measurable Goals**
4	Promotion of Best Management Practices (BMP's) to reduce contaminates discharging to storm sewer or Water of the State	BMP literature, guides and brochures to educated parents and staff	Annually	List of brochures and/or educational material provided in teacher's lounge List of brochures provided at each school's entrance/office display racks.	Promote preferred cleaning materials and procedures for car, pavement, and power washing; Inform and educate the public on proper application and disposal of pesticides, herbicides, and fertilizers; Promote proper disposal practices for grass clippings, leaf litter, and animal wastes; Educate the public on and promote the benefits of green infrastructure and Low Impact Development	Brochures or other educational items are available in every teacher's lounge at the beginning of each school year devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle. Display racks at each building will have storm water literature for parents at the beginning of each school year devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle.
		Publish Article in School Newspaper "The Excelsior" or similar publication to educate parents and student	Annually	Minimum one article per year addressing various PEP topics		Newspaper has an article each devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle.
		Install signage at and around school buildings and school properties.	Annually	Number of signs installed.		Signs related to stormwater are installed on school sites within 2-years of construction of a LEED building. Signs (where applicable) related to picking up pet waste, rain gardens, buffer strips, etc. are installed at 100% of the sites by 2018.
5	Promotion of Proper Waste Management	Kalamazoo Household Hazardous Waste Disposal Program literature available at various school building	Annually	Materials at various school facilities / buildings	Awareness and identification of household hazardous waste; Identification HHW disposal service locations Improper waste disposal impacts water quality; Available alternatives	Display racks at each building will have storm water literature for parents at the beginning of each school year devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle.
		Publish Article in School Newspaper "The Excelsior" or similar publication.	Annually	Minimum one article per year addressing various PEP topics		Newspaper has an article each devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle.
		Install signage and/or posters in at and around school buildings regarding disposal of chemical and waste materials	Annually	Number of signs and/or poster installed		Signs / posters installed in all science and art rooms by 2018 related to disposal of materials

PUBLIC EDUCATION PROGRAM ELEMENTS						
PEP Objective	**Task**	**Delivery Mechanism / Methodology**	**Time Table**	**Evaluation/ Measured Element**	**Content of Message(s) and Supplemental Message**	**Measurable Goals**
6	Riparian Land Stewardship	Publish Article in School Newspaper "The Excelsior" or similar publication.	Annually	Minimum one article per year addressing various PEP topics	Promote methods for managing riparian lands to protect water quality; Preservation of riparian buffers; Shoreline stabilization; Conservation easements	Newspaper has an article each devoted to stormwater education and all PEP topics are covered over the 5-year permit cycle.
1,2,3, 4,5, 6	Public Survey	Conduct Survey on a one-on-one bases at a community event	Annually	To have a minimum of 50 people complete survey per event	Questions to determine delivery mechanism effectiveness along with change in knowledge and behavior among residents. Also allows interaction with residents to answer questions on various topics and educate the respondent on storm water.	Obtain new ideas on how to reach out and educate residents Increase in the number of respondents with correct answers to storm water questions.

Chapter 8 – Illicit Discharge Elimination Program (IDEP)

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

ILLICIT DISCHARGE ELIMINATION PLAN (IDEP)

The IDEP with associated tables and forms is included within this Chapter.

Stormwater Policy and Performance Standards

When KPS modifies, changes, constructs, or renovates building, parking lots, or athletic facilities, their site plans conform to the requirements of the local municipality they are located within and also the State of Michigan's Bureau of Construction Codes requirements for site plans. KPS has an in-house storm water policy and performance standards that they follow as a minimum guide related to storm water, unless the local municipality has a more stringent ordinance. This storm water policy is included in as part of this Chapter.

Program to Find and Eliminate Illicit Discharges

As stated in the IDEP, at least once per 5-year permit cycle all of the discharge points are observed during dry weather to determine if there is the potential for an illicit discharge. A form is completed for each discharge point and a photo is taken. Of the 34 KPS facility sites, 20 facilities have an Outfall or Point of Discharge. Dry weather screen was last completed in September, 2015 for these facilities. The forms and pictures are available at the Kalamazoo Public Schools, Office of Facility Management.

Staff Training

KPS Staff generally fall within 6 distinct groups: maintenance, cafeteria, grounds/facility, fleet/auto/bus, custodial, and teachers. Training of staff will vary among the 6 groups with different topics of importance as follows: Maintenance - carpentry, electricians, HVAC, etc. (vehicle washing, fueling, chemicals disposal and handling, etc.), Cafeteria (grease, cleaning chemicals disposal and handling, food waste disposal, etc.), Grounds/Facility - mowing, snowplowing, etc. (vehicle washing, fueling, oil and chemical disposal, etc., along with procedures and policies related to fertilizers and pesticides), fleet/auto/bus (vehicle washing, fueling, oil and chemical disposal, etc.), Custodial (cleaning chemicals disposal and handling, food waste disposal, wash water and/or floor cleaning water disposal, etc.), Teachers (disposal of art and science materials, etc.). Other training materials available from the MDEQ website and You-Tube may be added in future training / education.

Staff training and education is completed within the first year a new employee is hired and ongoing training/education for staff is completed once per 5-year permit cycle. Training of cafeteria, custodial, and teachers will be performed with brochures, signs and posters indicating the various topics of importance. The other 3 groups, maintenance, grounds/facility, and fleet/auto/bus will also have signs, posters and posters; however, they will have additional training, such as, how to use spill kits, understand where surface water goes at various location via site visits and walk around the facility, vehicle washing practices, fueling training to stay with the busses while fueling, maps and specifications for snowplows to where to place snow, and mowers to look for certain items while out on the sites and not to place grass mulch in streets and storm basin areas. Training may be performed by internal staff, outside consultants and/or videos, as appropriate, and is expected to be incorporated into a training sessions that occur at various times of the year.

Method for Determining Effectiveness

Methods for determining the effectiveness of the IDEP tasks are listed in Table 3. It is difficult to show effectiveness in the KPS facility site because the storm system is not very extensive. To date, no illicit connections were identified by staff or reported.

REVIEW AND ESTABLISHMENT OF LEGAL ENFORCEMENT AUTHORITY

This activity involved reviewing current legal authority and enforcement procedures of Kalamazoo Public Schools to assure that it has adopted policy language necessary to fulfill its requirements under the MS4 program, and under the proposed work elements of the Storm Water NPDES Permit Application. Kalamazoo Public Schools has integrated a storm water policy, found in Chapter 13, to implement and enforce the MS4 program.

OUTFALL IDENTIFICATION

Initial identification of outfalls within the jurisdiction of Kalamazoo Public Schools has been conducted. Identification had been done through review of maps, plots, printouts, files, NPDES permits, school and municipal records, other agencies and field inspections. This review indicates that known storm drains is primarily the type of system utilized by the School.

Kalamazoo Public Schools was confident that all outfalls have been discovered within Kalamazoo Public Schools Limits at that time; however, continued investigation and mapping of all storm sewers and structures within Kalamazoo Public Schools is ongoing via contracted services.

Updated maps of the location of each known storm water point source at each of the KPS facilities has been included in Chapter 3with the respective receiving water or drainage system.

OUTFALL SCREENING PROGRAM

Kalamazoo Public Schools utilizes consultants and/or contracted services to perform Outfall Screening. The screening program identifies indicators of illicit and/or environmentally damaging discharges at storm drain outfalls. If screening indicators persist thorough follow-up evaluations (see attached Screening/Investigation SOP), then an illicit discharge will be presumed. As KPS has limited number of Outfalls and Points of Discharge, these items are not prioritized.

If during dry weather screening a previous unknown dry weather flow is discovered, the consultants and/or contracted services will immediately begin a field investigating of upstream manholes in an attempt to determine the source. If the source is not identified during this field screening, the consultants and/or contracted services will take a water sample during the day of initial investigation for analyzing the discharge for indicator parameters. If field screening does not determine a source, KPS will within 45 days begin dye testing, smoke testing and/or televising to help determine the source. If the discharge is hazardous to public health, KPS will immediately begin searching for the source.

INVESTIGATION OF ILLICIT DISCHARGES (CONTRACTED SERVICES)

Should outfall screening, sampling, citizen complaints or other mechanisms lead to discovery of suspected illicit discharge by Kalamazoo Public Schools, then an illicit discharge investigation will be initiated. Due to limited staffing, equipment, etc., a detailed investigation will likely entail contracted services. These services shall be generally conducted in accordance with the Standard Operating Procedures (including forms) that are attached [i.e. based upon City of Kalamazoo investigative model].

SANITARY SEWER OPERATION & MAINTENANCE

Sanitary sewers on Kalamazoo Public Schools' properties are operated and maintained by Kalamazoo Public Schools until the point of connection to a municipal agencies sanitary system (generally the City of Kalamazoo's sewer system). Standard operating procedures are designed to prevent the release of sanitary wastes to the environment. Inflow and Infiltration (I&I) of sanitary waste is significantly addressed by the routine installation of storm sewer above the sanitary sewer. By maintaining a vertical separation, the chance of cross-contamination is greatly reduced.

New service connections to the system are visually inspected. All new public sewer installation is inspected on-site and full-time during construction. Prior to acceptance, new sewers are air tested, deflection tested and video taped. Furthermore, in response to known or suspected trouble areas, sanitary sewer mains are typically video inspected. Infrastructure inspection and service records are maintained.

Cracked sanitary or storm water main can also be discovered by utility or facility personnel by noticing a change in the physical integrity or flow characteristics within the infrastructure systems. Noted concerns are investigated in a timely manner and any failings repaired. Strategies for discovery include those discussed herein, visual and olfactory observations, and citizen complaints, etc. Incident tracking, field investigations, sampling and testing, and repair/resolution will be documented using standard forms (see attached).

INDIRECT CONNECTIONS (DUMPING, SPILLS AND SURFACE SOURCES)

Illegal dumping directly or indirectly into storm catch basins and inlets, and spills collected by drain catch basins and inlets, are typically discovered by either visual and/or olfactory observations, and are subsequently reported by school staff, parents, municipal agents and field crews. An on-going effort to educate the citizens about water quality issues is critical to the success of decreasing illegal dumping into the storm water catch basins/inlets, and is included in the public education plan. If KPS receives a complaint related to illegal dumping or spills, they will investigate the complaint within 24-hours of receiving the notice.

PUBLIC AGENCY 'CUSTOMER INTERACTIONS'

Because of soil erosion concerns, construction sites and related activities are recognized as major potential contributors to storm water pollution. Soil erosion control enforcement within the City of Kalamazoo, along with soil erosion control permitting and inspection is performed by the City of Kalamazoo. Soil erosion control enforcement in Kalamazoo County (outside the City of

Kalamazoo's municipal boundary), along with soil erosion control permitting and inspection has been delegated to the office of the Kalamazoo County Drain Commissioner. Kalamazoo Public Schools staff also will call the City of Kalamazoo and/or Kalamazoo County Soil Erosion agent with any SESC concerns. Work by utilities, contractors and other parties must comply with RCKC, City of Kalamazoo, KCDC and Kalamazoo Public Schools policies, including erosion control and site stabilization.

KPS will support and promote program requirements of the local Soil Erosion and Sedimentation Control Authority. During the site plan review, a KPS representative is in contact with the local SESC Authority (City of Kalamazoo if the site is within City limits, or KCDC if the site is outside the City of Kalamazoo limits) for permitting when appropriate. In addition, a KPS representative also notifies the SESC agent or local authority if KPS notices any issues that need to be addressed by the local SESC staff.

IDEP TRAINING

The intent is to have Select School Employees and Contractors educated regarding IDEP. Specifically KPS intends to have select employee training, which may consist of DVD, off-site workshop, in-house training, or new employee orientation. The schedule for this training would be the existing employees (select personnel) to be trained once per permit cycle, and new employees (if applicable) to have one (1) training within 1-year of employment. Contractors would be provided training materials and information in bid documents and/or preconstruction meetings and would be as needed when new contractors are hired.

COMPLAINTS & INCIDENT RESPONSE PROCEDURES

A procedure has been developed to respond to public complaints, or other reports of suspected improper connection or illicit discharges. At a minimum, the procedures include an administrative record keeping mechanism to assure full and proper resolution to the maximum extent practicable. Steps will include (1) documenting/recording the complaint or suspicion, (2) investigation, (3) source identification (4) voluntary and/or enforced corrective action, and (5) administrative tracking of steps 1 through 4 to assure remedy and closure.

A tracking system is important because locating and correcting a known or suspected discharge may not be immediately achievable. Full and prompt resolution of a reported incident may be problematic due to the episodic nature of some releases, or due to the difficulty in locating the source within an extensive and complex drainage service area. Therefore, the incident procedure will include a DSA-based reporting system focused upon tracking both short- and long-term resolution of known and suspected concerns.

The overall goals of the tracking system are generally identified as being (a) confirmation of a concern, (b) location and identification of the source, (c) assurance that appropriate corrective action has been taken, and (d) on-going IDEP program prioritization for long-term resolution.

If a significant illicit discharge is identified, KPS shall notify DEQ within 24-hours of being found. KPS will document the pollutant of concern, estimated volume, load discharge, and the locations of discharge into both the KPS's storm sewer system and the waters of the state. This information will

be also reported in the KPS's annual progress reports. A "significant illicit discharge" will be defined as a discharge that shows evidence of impairing water quality in the receiving water.

SPILL OR RELEASE PROCEDURE

If a spill or release of any polluting materials from the MS4 to the surface waters or ground waters of the state, unless a determination is made that the release is not in excess of the threshold reporting quantities in the Part 5 Rules, the City will meet the following requirements:

1. Call to report releases exceeding threshold reporting quantities:
   - Kalamazoo District Office (269) 567-3500 (to be called immediately upon discovering the release) – during normal business hours; or
   - Pollution Emergency Alerting System (PEAS) at 800-292-4706, during non-business hours and weekends

2. Submit written report within 10 days after the release to:
   - DEQ, Water Resources Division, District Supervisor via MiWaters

3. Report releases as required under other regulations.

The written report will explain the cause of the release, the discovery of the release, response (clean-up and/or recovery) measures takes, and preventative measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.

SCREENING EVALUATION & ANNUAL PROGRAM PRIORITIZATION

The screening results and the incident reports will be collectively reviewed by Kalamazoo Public Schools' facility manager as part of an annual storm water program evaluation and prioritization effort. The purpose of this review will be to identify and prioritize proactive initiatives in areas of known concerns. This review will be based upon the outfall screening forms and the incident response forms. Program prioritization decisions will be made among all the component activities of the storm water management program.

IDEP TASKS, DELIVERABLES AND EVALUATION

The preceding discussion outlines the activities of Kalamazoo Public Schools initiatives and the tasks, deliverables and evaluation are found on Table 3.

OTHER

Any questions on this policy and procedure should be directed to the Storm Water Program Manager.

PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Storm Water Program Manager for any updates to improve effectiveness.

Table 3 - ILLICIT DISCHARGE ELIMINATION PROGRAM ELEMENTS (IDEP)

STORM WATER MANAGEMENT PROGRAM (SWMP)
PROGRAM ELEMENTS, TASKS AND DELIVERABLES

ILLICIT DISCHARGE ELIMINATION PROGRAM ELEMENTS					
Task	**Methodology**	**Time Table**		**Evaluation/ Measured Element**	**Measurable Goals**
		Implementation	**Evaluation**		
Outfall (point source) dry-weather screening	Periodic outfall re-screening	Ongoing	Annually	Outfall screening records	100% known outfall screened per permit cycle via contracted services (i.e. a maximum interval of 5 years between investigations (re-screening)
Illicit discharge investigation and elimination	Elimination of identified illicit discharges	Ongoing	Annually	Contact forms and correspondence records	100% of notices submitted to facilities director within 10 days (24 hours if the illicit discharge is significant) of illicit discharge being identified.
				Work Order Generated	Work Order generated within 10 days of notification and pasted on the appropriate personnel/contractor for corrective action.
				Conformation of corrective action	Work Order returned to Facility Director with findings and confirmation of corrective action.
					100% of conformation inspections are found to have adequately corrected the known deficiency
Public sanitary sewer seepage	Inspections and video taping of sanitary sewer structures and storm sewer mains.	As-Needed Based on complaints and/or inspection results	Annually	Inspection and maintenance records	100% resolution of any complaint or findings based on inspection results.
Administrative procedures	Update MS4 system mapping as additional discharge points are discovered or constructed	Ongoing	30-days from discovery	Mapped MS4 system	Updates and/or revisions within applicable timeframe

ILLICIT DISCHARGE ELIMINATION PROGRAM ELEMENTS					
Task	**Methodology**	**Time Table**		**Evaluation/ Measured Element**	**Measurable Goals**
		Implementation	**Evaluation**		
	Update and revising municipal facility inventory along with prioritization and up-to-date structural storm water control inventory as inventories are added, removed, or no longer owned or operated by KPS.	Ongoing	30-days from facility use changes or a new facility or structural storm water controls are added / removed/ or no longer owned.	Up-to-date Municipal Facility Inventory and Up-to-date structural storm water control inventory.	Updates and/or revisions within applicable timeframe
	6 distinct groups have training: • Maintenance • Cafeteria • Grounds/facility • Fleet/auto/bus • Custodial • Teachers	Existing employees – trained 1 per Permit Cycle New Employees – Trained during 1 year of employment	Annually	Training attendance records	All applicable staff trained according to the training schedule and applicable information • Maintenance - carpentry, electricians, HVAC, etc. (vehicle washing, fueling, chemicals disposal and handling, etc.) • Cafeteria (grease, cleaning chemicals disposal and handling, food waste disposal, etc.) • Grounds/Facility - mowing, snowplowing, etc. (vehicle washing, fueling, oil and chemical disposal, etc., along with procedures and policies related to fertilizers and pesticides) • Fleet/auto/bus (vehicle washing, fueling, oil and chemical disposal, etc.) • Custodial (cleaning chemicals disposal and handling, food waste disposal, wash water and/or floor cleaning water disposal, etc.) • Teachers (disposal of art and science materials, etc.).

STANDARD OPERATION PROCEDURES
For
OUTFALL SCREENING &
INVESTIGATION OF ILLICIT DISCHARGES*

I. Definitions

The following are key terms and their definitions for municipal separate storm sewer systems (MS4) and procedures to perform outfall screening and the investigation of illicit discharges:

> Illicit discharge: Any discharge (or seepage) to the separate storm water drainage system that is not composed entirely of storm water or uncontaminated groundwater.
>
> Illicit connection: A physical connection to the separate storm water drainage system that 1) primarily conveys illicit discharges into the system and/or 2) is not authorized or permitted by the local authority (where a local authority requires such authorization or permit).
>
> Point source: An outfall from a drainage system to waters of the state, or a point where a storm water drainage system discharges into a system operated by another public body.

II. Outfall Screening

The primary method to confirm the *presence of illicit discharges* will be to perform a physical inspection (screening) of the outfalls. All outfalls will initially be categorized as either having a dry weather flow or not. Figure 1: Flow Chart for Outfall Field Evaluation is designed to provide procedural guidance to upstream field investigations. A collection of Field Observations Forms (Attachment) has been prepared to record information such as weather conditions, discharge characteristics (presence and rate of dry weather flow), visual and olfactory observations of discharge characteristics (odor, color, turbidity, and floatable matter). Physical characteristics along the land/water interface will also be noted, including deposits, stains, and vegetative type and stress adjacent to the outfall, and structure condition. The form will be used to record both field and laboratory water quality results. If a dry weather flow does not exist and there is no evidence of an illicit discharge, that outfall will be revisited two additional times before the end of the initial permit period (i.e. April 1, 2008). Outfalls shall be screened at least once every five years thereafter.

If a dry weather flow exists, the discharge water will be tested for parameters such as temperature, pH, specific conductivity or total dissolved solids, total chlorine, and fluoride using appropriate field sampling/indicator kits. Each outfall will also be sampled for laboratory

* This Model SOP for the Investigation of Illicit Discharges was developed by the Kalamazoo Area Storm Water Working Group and is based upon a preliminary draft and model forms provided by the City of Kalamazoo.

analysis of fluoride and phosphorus for field confirmation and the TMDL, respectively. Additional sampling for laboratory analysis will be used only if other methods are unsuccessful in determining the source of the discharge. Additional laboratory parameters will be selected on a case-to-case basis based on the indicators best indicative of the most likely source sin the area but may include surfactants/detergents, phenols, ammonia/ammonium, toxicity, and E-coli. The following describes proposed general strategies for various initial flow situations.

Dry Weather flow Indicating Groundwater

If a dry weather flow exists and initial field visual indications, olfactory observations, and field analysis indicate the lack of negative discharge characteristics discussed above, the source will initially be field investigated as being from the public water supply system or natural untreated groundwater. Since groundwater services 100 percent of the source of the Public Water Supply System and fluoride is an additive, a sample will be collected to determine if fluoride levels exist within the common range of the water system: 0.7 to 1.0 mg/L (ppm). If it is, the reason will be determined and recorded, such as from a temporary scheduled activity such as the routine flushing of the water mains, landscape irrigation runoff, dechlorinated swimming pool discharges, emergency fire fighting, or a broken water main, etc. If the fluoride levels are within the typical range of area groundwater of 0.2 to 0.3 mg/L (ppm), the possibility of in-flow/infiltration of the storm water infrastructure, pumped groundwater/dewatering activities, etc. will be investigated, categorized, and recorded. If the investigation indicates that the source is not solely groundwater, the strategy described below will be followed.

Dry Weather Flow Not Indicating Groundwater

If a dry weather flow exists and it exhibits unnatural and/or negative characteristics such as odor, color, sheen, staining, floatables and other deposits, vegetative stress or excessive growth, etc., or the discharge was determined not to be from the public water supply system or natural untreated groundwater, then further discharge samples will be collected for analysis to help indicate the type and origin of the flow. To the extent practicable, screening techniques shall be undertaken at the nearest upstream manhole. If indications of a dry weather flow, illicit discharge persist, then in like manner the screening shall continue upstream to determine the section of storm main from which the illicit discharge originates. Results will be recorded on the Field Investigation Form.

III. Investigation of Illicit Discharge(s).

When outfall screening techniques indicate the existence of a potential illicit discharge, additional administrative and field investigations shall be undertaken to identify and locate the suspected source. Field Investigation Forms shall be reviewed and collected samples (if any) analyzed to help indicate the type and origin of the flow. Land use familiarity and storm sewer records will be reviewed for known connections in the upstream vicinity of the apparent segment or point of origin. Property and facility ownership will be reviewed. If potential sources are not apparent, additional field investigation shall be initiated to further refine the

location of the segment (if still undetermined) of the storm main from which the suspected illicit discharge is originating.

Source Investigation.

Screening and sampling techniques will be repeated until the apparent storm sewer segment or point of origin of the illicit discharge is reasonably ascertained. Results of these activities will be recorded on the Field Investigation Form. Names and addresses of facilities/residences along the storm main segment between the "wet" and "dry" manholes will be recorded on the Source Investigation Form. MS4 System Records will be reviewed for third-party connection listings in the upstream vicinity of the apparent segment or point of origin. Property and facility ownership will be determined. If potential sources are not apparent, the suspected segment of the storm main will be televised.

Televising the storm main will be used to visually observe and note illicit connections, pipe condition, and create a permanent record of conditions at a specific time. Conditions such as heavily stained pipe, grease build-up on pipe walls, food scraps, toilet and other paper products, soapsuds, chemicals, paint, and other waste products will be looked for and recorded. If illicit connections are still not apparent, the search for illicit connections using other strategies such as sampling for additional parameters for laboratory analysis, televising of additional storm main, smoke testing, etc. will be performed as deemed appropriate. Laboratory analysis parameters will be selected on the basis of area land use and the presence/non-presence of septic systems, and may include surfactants/detergents, phenols, ammonia/ammonium, E-coli, and toxicity screening tests.

If there is a high level of confidence regarding the source(s) of the illicit discharge based on results from this approach, the property and/or facility owner will be contacted to arrange for testing at and near the suspected illicit connection origin, as discussed in the following section.

Correspondence and Site Inspections

All contacts and correspondence will be recorded on a Contact & Correspondence Form. The property/business owners of suspected illicit connection sources would be notified by certified letter that an investigation of illicit discharges is ongoing in their vicinity, and their facility is required to be inspected on a specific date and time. An explanation of the project and inspection and testing procedures will be provided and they will be requested to contact the municipal agent if another date and time are necessary. Other sources of information regarding the property may be researched in preparation for the site inspection, including inspection reports associated with Occupancy Permits, Building Permits, Industrial Pretreatment Program inspections and will be requested to increase their observation and reporting of poor housekeeping and suspicious plumbing connections.

An inspection will target evidence of illicit connections, illegal dumping, or poor housekeeping practices that could be a source of illicit discharges. A Facility Inspection Form will be completed to document the results of the inspection. Once an inspection has been made, an-

other letter will be sent informing them of the results, including a list of any necessary corrective actions/observed violations and/or recommendations for improved best management practices. They will be given 60 days to correct any listed illicit connections and improve poor house-keeping practices as necessary. The property owner and/or facility owner is responsible for the elimination of all illicit connections/discharges and the subsequent contacting of appropriate municipal agents to arrange for a follow-up inspection.

If violations had been found and the illicit connections and poor best management practices are reportedly eliminated and improved, respectively, a follow-up letter will be sent or a phone call will be made by the municipal agent to schedule a confirmatory inspection. After the inspections are completed and the facility is found in compliance, a final letter will be sent as a notification of compliance and appreciation. If the property/business owners do not eliminate the illicit connections as directed, a notification of non-compliance letter discussing the initiation of the legal process to complete the necessary work, citing existing code or the future IDEP Ordinance, when completed.

Testing Procedures

Generally, color dye will serve as the primary investigative means to investigate suspected illicit connections. Use of colored dyes shall be performed in accordance with MDEQ guidance and directives. Prior to use, the types of dyes will be approved by MDEQ. In addition, the municipal agent will notify MDEQ prior to dye use in case calls regarding visual observance of color discharges to the Public Emergency Assistance System (PEAS) occur.

Until such time that the Storm Water Work Group adopts a Standard Operating Procedure (SOP) for Dye, the Wayne County Department of Environmental Watershed Management Division, Dye Testing Procedures will be considered as a general guide.

Arrangements will be made for property and facility access as necessary. A crew of two or more will perform the dye inspections after a review is performed of the municipal storm water system adjacent to the subject site and a reasonable understanding of the facility plumbing configuration is achieved. If smoke testing is determined as a necessary means for source identification, the municipal agent will utilize practices consistent with industry standards. The municipal agent will contact MDEQ prior to dye or smoke testing and a reasonable effort will be made to contact all property and facility owners that may witness the effects of the testing.

Colored dye will be placed in selected plumbing fixtures at the suspected source location and downstream sanitary and storm water manholes will be monitored for the presence of dye. If dye is observed in the sanitary manhole(s) but not in the storm water system under adequate viewing conditions, it will initially be assumed that the source(s) of the illicit discharge is elsewhere and the investigation will continue. If no dye is observed in the sanitary or storm systems, another investigative method such as televising or smoke testing, etc. will be implemented to locate the illicit connection or additional dye applications may be attempted.

If dye is observed in the storm water system, a source of the illicit discharge will be considered confirmed. Subsequently, the property owner and facility owner will be formally notified directing them to eliminate the illicit connection within 60 days and to contact the city when completed to arrange for a confirmatory inspection. If dry weather flows are no longer visible after confirmation of the illicit connection elimination, it will be assumed that the illicit connection has been corrected unless evidence to the contrary exists. If dry weather flows continues, other potential sources will be investigated.

Suspected Intermittent Illicit Flows

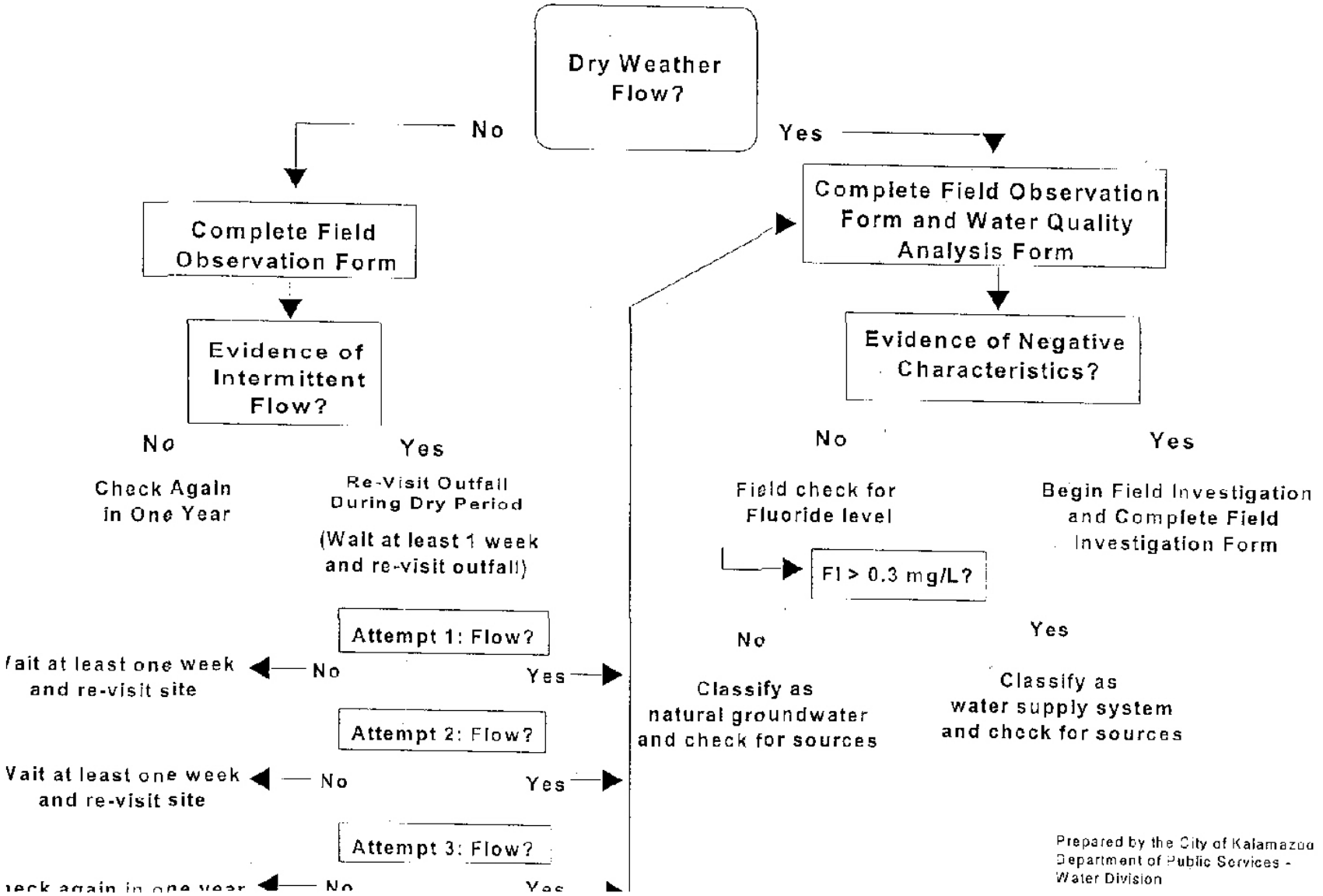
If dry weather flows were not observed at the outfall but evidence of deposits, stains, unusual vegetative type and stress, and odor adjacent to the outfall exist, an intermittent flow investigation will be initiate (Figure 1). Up to three subsequent visits will be made within one year (at least one week apart) during a dry period to document and sample a discharge. The investigative sequence of events and methodology will be similar to that with the dry weather flow but may also include wet weather sampling if the intermittent flows are not observed. Intermittent flows will be second in priority to dry weather flows.

Forms and Diagrams*

- Decision Tree – Suspected Illicit Discharge
- Outfall Evaluation/Field Observation Form
- Water Quality Analysis Form
- Field Investigation Form (Upstream Manhole Reconniassance)
- Field Investigation Form (Potential Sources)
- Source Investigation Form
- Facility Inspection Form
- Contact and Correspondence Form
- Phone Conversation Log
- General Comment Form

* These Model forms and diagrams (preliminary drafts) of the Kalamazoo Area Storm Water Working Group were provided by the City of Kalamazoo.

FIGURE 1
FLOW CHART FOR OUTFALL FIELD EVALUATION



Prepared by the City of Kalamazoo Department of Public Services - Water Division

THE CITY OF Kalamazoo

OUTFALL EVALUATION
FIELD OBSERVATION FORM

Outfall ID: _____ **Discharge Water Body:** _____

Date: _____ **Time:** _____ **Inspector(s):** _____

WEATHER

Temperature(°F) : _____ ☐ Clear ☐ Partly Cloudy

☐ Overcast ☐ Rain ☐ Snow

DISCHARGE CHARACTERISTICS

Flow Rate

☐ Dry, no water present ☐ Trace, insufficient to quantify ☐ Intermittent

☐ Measurable, Gallons per minute = _____ Method Used _____

Odor

☐ In flow ☐ At structure ☐ within 6 feet of structure

☐ None ☐ Gasoline ☐ Oil ☐ Solvent ☐ Sewage ☐ Sulfur/Rotten Egg

☐ Rancid/Sour ☐ Other _____

Color

☐ In flow ☐ At structure ☐ within 6 feet of structure

☐ Clear ☐ Yellow ☐ Green ☐ Red ☐ Gray ☐ Black

☐ Light Brown ☐ Medium Brown ☐ Dark Brown ☐ Other _____

Turbidity/Clarity

☐ In flow ☐ At Structure ☐ within 6 feet of structure

☐ Clear ☐ Slightly Cloudy ☐ Moderately Cloudy ☐ Highly Cloudy ☐ Opaque

Floatables

☐ In flow ☐ At structure ☐ within 6 feet of structure

☐ None ☐ Trash ☐ Sewage ☐ Oily Sheen ☐ Scum ☐ Other _____

PHYSICAL CHARACTERISTICS

Deposits/Stains

☐ In flow ☐ At structure ☐ within 6 feet of structure

☐ None ☐ Sediment ☐ Oily ☐ Grease ☐ Crystalline Powder

☐ Fragments ☐ Other _____

Vegetation

☐ In flow ☐ At structure ☐ within 6 feet of structure

☐ None ☐ Normal ☐ Excessive ☐ Algae ☐ Other _____

Structural

☐ In flow ☐ At structure ☐ within 6 feet of structure

☐ Normal ☐ Cracking ☐ Settlement ☐ Corrosion ☐ Other _____

COMMENTS

_____

_____

(SEE BACK FOR WATER QUALITY ANALYSIS FORM)

THE CITY OF Kalamazoo

OUTFALL EVALUATION
WATER QUALITY ANALYSIS FORM

Outfall ID: _____ **Discharge Water Body:** _____

Date: _____ **Time:** _____ **Inspector(s):** _____

DISCHARGE CHARACTERISTICS

Field Analysis (required for every sample)

Temperature (°F): _____ **pH:** _____

Specific Conductivity (micromhos): _____ **OR Total Dissolved Solids (ppm):** _____

Total Chlorine (ppm): _____ **Flouride (mg/L):** _____

Laboratory Analysis

Only required for Flouride and Phosphorus unless approved by supervisor.
Record result and place Laboratory Analytical Reports in appropriate outfall file.

Flouride (mg/L): _____ **Total Phosphorus (ug/L):** _____

Surfactants/Detergents: _____ **Phenols:** _____ **Ammonia/Ammonium:** _____

Toxicity Screening: _____ **E-Coli:** _____

Other: _____

Note: If outfall is underwater or not safe to access, obtain sample from first available upstream manhole using an in-line sampling device ("sampling stick").

THE CITY OF Kalamazoo

ILLICIT DISCHARGE ELIMINATION PLAN
FIELD INVESTIGATION FORM

Outfall ID with Dry Weather Flow: _____

Date: _____ **Time:** _____ **Inspector(s):** _____

Upstream Manhole Reconaissance

Start with immediate upstream manhole on primary storm main and work consecutively upstream. Indicate manholes inspected on field map(s).

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

If yes, continue to next up-gradient manhole.
If no, check field maps for connections within subject storm main segment between outfall and first upstream "dry"manhole. Proceed up-gradient manhole reconaissance in each secondary storm main segment, repeating same procedure until the main segment contributing the flow is identified. List two manhole I.D.'s defining segment and indicate on field map.

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

Manhole I.D.: _____ Dry Weather Flow? ☐ Yes ☐ No

over

THE CITY OF Kalamazoo

ILLICIT DISCHARGE ELIMINATION PLAN
SOURCE INVESTIGATION FORM

Outfall ID with Dry Weather Flow: _____

Investigator(s): _____

Pipe Segment To Investigate

"Wet" Manhole ID: _____ **"Dry" Manhole ID:** _____

Pipe Segment ID: _____

Sources To Be Investigated

List facilities/residences and associated addresses along storm main segment between "wet" and "dry"manholes, starting with most downstream and proceeding upstream:

1. Name _____ Address: _____
2. Name _____ Address: _____
3. Name _____ Address: _____
4. Name _____ Address: _____
5. Name _____ Address: _____
6. Name _____ Address: _____
7. Name _____ Address: _____
8. Name _____ Address: _____
9. Name _____ Address: _____
10. Name _____ Address: _____
11. Name _____ Address: _____
12. Name _____ Address: _____
13. Name _____ Address: _____
14. Name _____ Address: _____
15. Name _____ Address: _____

THE CITY OF Kalamazoo

DISCHARGE TO STORM SEWER
FIELD INVESTIGATION FORM

Storm Sewer Structure Entry Point ID: _____

Downstream Outfall ID: _____

Inspector(s): _____ **Date:** _____ **Time:** _____

Observations

Observed Conditions: _____

Results

Action Taken: _____

Followup Needed: _____

Comments

Environmental Services 10/03

THE CITY OF Kalamazoo

ILLICIT DISCHARGE ELIMINATION PLAN
FACILITY INSPECTION FORM

Outfall ID with Dry Weather Flow: _____

Date: _____ **Time:** _____ **Inspector(s):** _____

FACILITY INFORMATION

Name of Facility: _____ Address: _____

Facility Contact: _____ Phone Number: _____

ILLICIT DISCHARGE TESTING

Type of Test: ☐ Dye ☐ Smoke ☐ Other _____

Test Results

☐ Proper Connection - The fixtures tested in this establishment have been found to be properly connected to the sanitary sewer system. No problems were noticed at time of inspection.

☐ Incomplete/unfinished (state reason): _____

☐ Unsuccessful attempt (state reason): _____

☐ Violation/Illicit Connection/Improper discharge:

- ☐ Illicit Connection
- ☐ Improper Discharge
- ☐ Poor Housekeeping

List All Fixtures Tested: _____

_____

_____

_____

Comments: _____

_____

_____

THE CITY OF Kalamazoo

ILLICIT DISCHARGE ELIMINATION PLAN
CONTACT & CORRESPONDENCE FORM

Outfall ID with Dry Weather Flow: _____

Inspector(s): _____ **Date:** _____

Contact/Correspondence (check type):

☐ Phone Log (describe or attach separate log)

Contact: _____

Discussion: _____

☐ Letters (attach)

- ☐ Notification of Inspection/Testing Schedule
- ☐ Notification of Inspection Follow-up Results/Necessary Corrective Actions
- ☐ Notification of Illicit Connection Elimination Confirmation Inspection Schedule
- ☐ Notification of Compliance/Appreciation
- ☐ Notification of Non-Compliance/Legal Procedures
- ☐ Other (Describe):

Owner/Operator: _____

Address: _____

City: _____ Zip Code: _____

Regarding Business: _____

Address: _____

City: _____ Zip Code: _____

THE CITY OF Kalamazoo

ILLICIT DISCHARGE ELIMINATION PLAN
PHONE CONVERSATION LOG

Date: _____ **Time:** _____

City Representative: _____

Person Talked With

Name: _____ Title: _____

Address: _____ Organization: _____

Phone Number(s): _____ _____

Illicit Discharge or Connection

Location: _____

Description of Discharge: _____

_____

Illicit discharge or connection observation: _____ _____
(Date) (Time)

Other notes: _____

Message Referral

Message referred to: _____ on _____
(City Representative) (Date & Time)

How was referral made? (check all that apply)

☐ Phone Conversation ☐ Phone Message ☐ Email ☐ In Person

Provide copy of log to appropriate City contact

Confirmation of Phone Log Receipt: _____ _____
(signature) (Date)

Action taken or to be taken: _____

_____

_____

(To be filed in outfall file)

Environmental Services 10/03

THE CITY OF Kalamazoo

ILLICIT DISCHARGE ELIMINATION PLAN
GENERAL COMMENT FORM

Outfall I.D. with Dry Weather Flow: _____

Inspector(s): _____ **Date:** _____

Comments:

Michigan Department of Environmental Quality

SPILL OR RELEASE REPORT

Issued by authority of the Michigan Department of Environmental Quality.

NOTE: Some regulations require a specific form to use and procedures to follow when reporting a release. Those forms and procedures **MUST** be used and followed if reporting under those regulations. This report form is to aid persons reporting releases under regulations that do not require a specific form. This report form is not required to be used. **To report a release, some regulations require a facility to call the PEAS Hotline at 800-292-4706 (or the DEQ District Office that oversees the county where it occurred) and other agencies and provide information that is included in this form. A written follow-up report might be required. This form may be used for the written follow-up report and to document the initial report. If you prefer to submit this report electronically by FAX or e-mail, contact the regulating agency for the correct telephone number or e-mail address.** Go to www.michigan.gov/chemrelease for more information.

Please print or type all information.

Name and Title of Person Submitting Written Report	Telephone Number (provide area code) ( )

Name of Business Street Address City, State, ZIP Business Telephone Number (provide area code) ( )	**RELEASE LOCATION** (Provide address if different than business, if known, and give directions to the spill location. Include nearest highway, town, road intersection, etc.)

SITE IDENTIFICATION NUMBER AND OTHER IDENTIFYING NUMBERS (if applicable)	County	Township	Tier/Range/Section (if known)

RELEASE DATA: Complete all applicable categories. Check all the boxes that apply to the release. Provide the best available information regarding the release and its impacts. Attach additional pages if necessary.

DATE & TIME OF RELEASE (if known)	**DATE & TIME OF DISCOVERY**	**DURATION OF RELEASE** (if known)	**TYPE OF INCIDENT**
____/____/____ ____ am/pm	____/____/____ ____ am/pm	____ days ____ hours ____ minutes	☐ Explosion ☐ Fire ☐ Leaking container ☐ Other ____ ☐ Loading/unloading release ☐ Pipe/valve leak or rupture ☐ Vehicle accident

MATERIAL RELEASED (chemical or trade name) ☐ **CHECK HERE IF ADDITIONAL MATERIALS LISTED ON ATTACHED PAGE.**	**CAS NUMBER OR HAZARDOUS WASTE CODE**	**ESTIMATED QUANTITY RELEASED** (indicate unit e.g. lbs, gals, cu ft or yds)	**PHYSICAL STATE RELEASED** (indicate if solid, liquid, or gas)

FACTORS CONTRIBUTING TO RELEASE

☐ Equipment failure ☐ Operator error ☐ Faulty process design ☐ Training deficiencies ☐ Unusual weather conditions ☐ Other ____

SOURCE OF LOSS

☐ Container ☐ Railroad car ☐ Pipeline ☐ Ship ☐ Tank ☐ Other ____ ☐ Tanker ☐ Truck

TYPE OF MATERIAL RELEASED

☐ Agricultural: manure, pesticide, fertilizer
☐ Chemicals
☐ Flammable or combustible liquid
☐ Hazardous waste
☐ Liquid industrial waste
☐ Oil/petroleum products or waste
☐ Salt
☐ Sewage
☐ Other ____
☐ Unknown

MATERIAL LISTED ON OR DEFINED BY

☐ CAA Section 112(r) list (40 CFR Part 68)
☐ CERCLA Table 302.4 (40 CFR Part 302)
☐ EPCRA Extremely Hazardous Substance (40 CFR Part 355)
☐ NREPA Part 31, Part 5 Rules polluting material
☐ NREPA Part 111 or RCRA hazardous waste
☐ NREPA Part 121 liquid industrial waste
☐ Other list ____
☐ Unknown

IMMEDIATE ACTIONS TAKEN

☐ Containment
☐ Dilution
☐ Evacuation
☐ Hazard removal
☐ Neutralization
☐ System shut down
☐ Other ____
☐ Diversion of release to treatment
☐ Decontamination of persons or equipment
☐ Monitoring

RELEASE REACHED

Distance from spill location to surface water, in feet ____

☐ Surface waters (include name of river, lake, drain involved) ____
☐ Drain connected to sanitary sewer (include name of wastewater treatment plant and/or street drain, if known) ____
☐ Drain connected to storm sewer (include name of drain or water body it discharges into, if known) ____
☐ Groundwater (indicate if it is a known or suspected drinking water source and include name of aquifer, if known) ____
☐ Soils (include type e.g. clay, sand, loam, etc.) ____
☐ Ambient Air
☐ Spill contained on impervious surface

EXTENT OF INJURIES (if any)	**WAS ANYONE HOSPITALIZED?** ☐ Yes Number Hospitalized: _____ ☐ No	**NUMBER OF INJURIES TREATED ON SITE**

Describe the incident, the type of equipment involved in the release, how the volume of loss was determined, along with any resulting environmental damage caused by the release. Identify who immediately responded to the incident (own employees or contractor — include cleanup company name, contact person, and telephone number). Also identify who did further cleanup activities if performed or known when report submitted.

☐ **CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE**

Estimated quantity of any recovered materials and a description of how those materials were managed (include disposal method if applicable)

☐ **CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE**

Assessment of actual or potential hazards to human health (Include known acute or immediate and chronic or delayed effects, and where appropriate, advice regarding medical attention necessary for exposed individuals.)

☐ **CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE**

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY NOTIFIED:

INITIAL CONTACT BY: ☐ **Telephone** ☐ **FAX** ☐ **Email** ☐ **Other**

DATE/TIME INITIAL CONTACT: _____

☐ PEAS: 800-292-4706 Log Number Assigned _____

☐ DEQ District or Field Office

- ☐ Bay City
- ☐ Cadillac
- ☐ Calumet
- ☐ Crystal Falls
- ☐ Detroit
- ☐ Gaylord
- ☐ Grand Rapids
- ☐ Gwinn
- ☐ Jackson
- ☐ Kalamazoo
- ☐ Lansing
- ☐ Newberry
- ☐ Warren

Divisions or Offices Contacted:

- ☐ Air Quality
- ☐ Remediation & Redevelopment
- ☐ Office of Oil Gas & Minerals
- ☐ Water Resources
- ☐ Office of Waste Management & Radiological Protection
- ☐ Office of Drinking Water & Municipal Assistance

NOTE: DEQ Office locations are subject to change

NAME AND TITLE OF PERSON MAKING INITIAL REPORT:

_____

DEQ STAFF CONTACTED & TELEPHONE NUMBER:

_____

_____

_____

OTHER ENTITIES NOTIFIED:

	Date:	**Time:**
☐ National Response Center (NRC): 800-424-8802	_____	_____
☐ US Coast Guard Office: ☐ Detroit ☐ Grand Haven ☐ Sault Ste. Marie	_____	_____
☐ US Department of Transportation	_____	_____
☐ US Environmental Protection Agency	_____	_____
☐ 911 (or primary public safety answering point)	_____	_____
☐ Local Fire Department	_____	_____
☐ Local Police/State Police/Sheriff Dept	_____	_____
☐ Local Emergency Planning Committee	_____	_____
☐ State Emergency Response Commission via MI SARA Title III Program	_____	_____
☐ Wastewater Treatment Plant Authority	_____	_____
☐ Hazmat Team	_____	_____
☐ Local Health Department	_____	_____
☐ MIOSHA	_____	_____
☐ Bureau of Fire Services Fire Marshal Division	_____	_____
☐ MI Dept of Agriculture & Rural Dev: 800-405-0101	_____	_____
☐ Other _____		

PERSON CONTACTED & TELEPHONE NUMBER:

_____

_____

_____

DATE WRITTEN REPORT SUBMITTED	**SIGNATURE OF PERSON SUBMITTING WRITTEN REPORT**

Chapter 9 – Construction Storm Water Runoff Control Program

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

Construction Storm Water Runoff Control Program

POLICY

This policy is to establish procedures for Kalamazoo Public School's Construction Storm Water Runoff Control Program.

BACKGROUND

Kalamazoo Public Schools is not a Part 91 Qualifying Soil Erosion Control Agency. KPS relies on the Kalamazoo County Soil Erosion Agent (KCDC) for its rules and regulations outside the City of Kalamazoo and the City of Kalamazoo if the site is within the City limits.

PROCEDURE

KPS will support and promote program requirements of the local Soil Erosion and Sedimentation Control Authority.

During the site plan review, a KPS representative is in contact with the local SESC Authority (City of Kalamazoo if the site is within City limits, or KCDC if the site is outside the City of Kalamazoo limits) for permitting when appropriate. If the site is larger than 1 acre and contains a point source discharge of storm water from a construction activity, then KPS will to comply with State of Michigan, Permit by Rule (Rule 323.2190), which includes the contractor providing a certified storm water operator and conducting regular inspections in compliance with Permit by Rule.

In addition, a KPS representative also notifies the SESC agent or local authority if KPS notices any issues that need to be addressed by the local SESC staff.

If soil, sedimentation, or other pollutants are discharged to KPS's MS4 from a construction activity, KPS will notify the MDEQ with 24-hours of discovery. Other pollutants may include, but not limited to pesticides, petroleum derivatives, construction chemicals, and solid wastes that may become mobilized when land surfaces are disturbed.

Additionally, KPS will notify the MDEQ within 24-hours per part 4, Rule 50 (R 323.1050 – Physical characteristics) if the surface waters of the state have any of the following physical properties in unnatural quantities which are or may become injurious to any designated use: turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits.

OTHER

Any questions on this policy and procedure should be directed to the Storm Water Program Manager.

PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Storm Water Program Manager for any updates to improve effectiveness.

Chapter 10 – Post-Construction Storm Water Runoff Program

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

Post-Construction Storm Water Runoff Program

OVERVIEW

When KPS modifies, changes, constructs, or renovates building, parking lots, or athletic facilities, their site plans conform to the requirements of the local municipality they are located within and also the State of Michigan's Bureau of Construction Codes requirements for site plans. Kalamazoo Public Schools has an in-house storm water policy and performance standards that they follow as a minimum guide related to storm water, unless the local municipality has a more stringent ordinance.

The requirements of these Performance Standards shall apply to all new and redeveloped sites with projects that require site plan review, regardless of the size of the parcel or area that is disturbed. These requirements shall apply to all KPS sites, regardless of whether the storm water outlet(s) from the site discharge to a designated county drain, municipal storm sewer system, waters of the state or any other types of conveyance. All water quantity structurers will be subject to post-construction water requirements.

Problematic retention, detention, and infiltrative areas are reviewed after rainfall events to ensure infiltration and reported to the Office of Facilities Management.

As mentioned earlier, KPS has an in-house storm water policy and performance standards that they follow as a minimum guide related to storm water, unless the local municipality has a more stringent ordinance.

a) Minimum Treatment Volume Standard

The "performance standard" also defines the minimum treatment volume standard.

b) Channel Protection

The "performance standard" also defines the channel protection criteria.

c) Operation and Maintenance for Water Quality Treatment

All structural and vegetative best management practices installed as a performance standard for storm water management for KPS sites shall include a plan for maintaining maximum performance through long-term operation and maintenance (O&M). The plan shall include a schedule for O&M procedures and recordkeeping provisions such as periodic inspections. KPS uses the plans to ensure operation and maintenance is continued for installed BMP's.

SITE-SPECIFIC REQUIREMENTS (CONTAMINATED SITES) – IF NECESSARY

Sites which are contaminated (soil and/or groundwater) require special consideration during site plan design and are expected to still comply with the KPS's stormwater performance standards unless the local municipality has a more stringent ordinance. Typical solutions would be to use proprietary treatment systems for storm water treatment and vaults and/or lined detention systems with controlled outlets for reducing flow rates to comply with such requirements. Additionally the projects will be coordinate with MDEQ staff as appropriate. The ultimate goal of the KPS would be to not exacerbate existing conditions.

SITE-SPECIFIC REQUIREMENTS (HOT SPOT SITES)

If the subject property is a potential "Hot Spot" area with the potential for significant pollutant loading or with the potential for contaminating public water supply (wells), additionally site-specific requirements may apply to address the contaminate(s) of concern. Example of typical "hot spots" areas included, but not limited to gas stations, commercial vehicle maintenance and repair, auto recyclers, recycling centers, and scrap yards.

OTHER

Any questions on this policy and procedure should be directed to the Storm Water Program Manager.

PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Storm Water Program Manager for any updates to improve effectiveness.

Table 4 – POST CONSTRUCTION

STORM WATER MANAGEMENT PROGRAM (SWMP)
PROGRAM ELEMENTS, TASKS AND DELIVERABLES

POST CONSTRUCTION					
Task	**Methodology**	**Time Table**		**Evaluation/ Measured Element**	**Measurable Goals**
		Implementation	**Evaluation**		
Site Appropriate BMP's	Site plans for all new and redeveloped Kalamazoo Public Schools sites shall be reviewed by the facilities manager. Review shall include appropriate storm water BMP's such as: on-site management (no additional runoff standard); isolation of storm water from pollutants; secondary containment when required; and protection of central environmental resource areas, and long term operations and maintenance along with the requirements of the Performance Standards. Site plans include a Stormwater Management Plan Site Plans include KPS worksheets for Water Quality Treatment Volume, Channel Protection, and where applicable, Flood Control. All water quantity structurers will be subject to post-construction water requirements.	On-going	On-going	Site plans are reviewed and conform to applicable Performance Standards, such as, minimum treatment volume, channel protection, riparian buffers operation and maintenance	All site plans reviewed and conform to applicable Performance Standards. All new water quantity structurers met post-construction water requirements.
Long-term operation and maintenance and enforcement	Respond to complaints of storm water or local flooding issues promptly.	On-going	On-going	Number of complaints	Number of complaints vs. number of complaints resolved
	Informal observation of problematic retention and detention ponds after rainfall events to ensure infiltration.	On-going	On-going	Number of ponds that are not functioning properly	Fewer ponds that are not functioning properly
	Site plans provide O&M procedures related to site specific Stormwater Treatment Units (STUs) and/or BMPs	On-going	On-going	Information provided on site plan and installed per municipal approval.	100% site plan conformance
	Site plans provide provisions such as periodic inspections related to Stormwater Treatment Units (STUs) and/or BMPs.	On-going	On-going	Information provided on site plan and inspected per approved schedule.	BMPs installed per plan and inspection records available upon request.
	Record Retention – Inspections and other records pertaining to O&M of best management practices are maintained by the Kalamazoo Public Schools and retained for a minimum of five years	On-going	On-going	5 years of records available	Records available from Kalamazoo Public Schools upon request

Chapter 11 – Pollution Prevention and Good Housekeeping Program

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

Pollution Prevention and Good Housekeeping

MUNICIPAL FACILITIES & FACILITY-SPECIFIC STORM WATER MANAGEMENT

KPS owns and maintains 34 facilities within Kalamazoo County. Twenty (20) of these facilities have storm water outfall to other receiving water bodies or municipalities. The map showing the KPS's storm sewer system outfalls and points of discharge are included in Chapter 3.

KPS maintenance building and transportation yard is located in the City of Kalamazoo at 924 Russell Street where washing, fueling and maintenance of vehicles are performed. Storm water is managed through four (4) municipal connections to the City of Kalamazoo's storm sewer system.

The facilities above are reviewed and prioritized by KPS based on having the high, medium, or low potential of discharging pollutants to surface waters of the state. The prioritization of the KPS's facilities are as follows:

ELEMENTARY SCHOOLS		
Arcadia	932 Boswell Ln	Low Priority
Edison/Transportation	924 Russell St	Low Priority
El Sol	604 West Vine St	Low Priority
Greenwood	3501 Moreland St	Low Priority
Indian Prairie	3546 Grand Prairie Ave	Low Priority
Lincoln	912 North Burdick St	Low Priority
King-Westwood (MLK)	1100 Nichols Rd	Low Priority
Milwood	3400 Lovers Lane	Low Priority
Northeastern	2433 Gertrude St	Low Priority
Northglade	1914 Cobb Ave	Low Priority
Parkwood-Upjohn	2321 South Park St	Low Priority
Prairie Ridge	2294 South 9th St	Low Priority
Spring Valley	3530 Mt Olivet Rd	Low Priority
Washington Writers Academy	1919 Portage St	Low Priority
Winchell	2316 Winchell Ave	Low Priority
Woods Lake	3215 Oakland Dr	Low Priority
Woodward	606 Stuart Ave	Low Priority
MIDDLE SCHOOLS		
Hillside	1941 Alamo Ave	Low Priority
Linden Grove	4241 Arboretum Pkwy	Low Priority
Maple Street	922 West Maple	Low Priority
Milwood Magnet	2916 Konkle St	Low Priority
HIGH SCHOOLS		
Kalamazoo Central	2432 North Drake Rd	Low Priority
Loy Norrix	606 East Kilgore	Low Priority
Phoenix	1411 Oakland Drive	Low Priority

OTHER FACILITIES

Administration Bldg	1220 Howard St	Low Priority
Alcott Street Stock Room	504 East Alcott St	Low Priority
Chime	6750 Chime St	Low Priority
Community Education Center	7145 Westnedge	Low Priority
Lake Street Barns (Vehicle Barns)	514 Lake St	High Priority
Lakewood (Valley Center)	3122 Lake St	Low Priority
Oakwood	3410 Laird	Low Priority
Transportation/Edison	924 Russell St	High Priority
West Main School PDC	1627 West Main St	Low Priority
Westnedge - (Old K. Christian)	3333 S. Westnedge	Low Priority

Considerations in prioritizing each facility included:

- Amount of urban pollutants stored at the site (sediment, nutrients, metals, hydrocarbons, pesticides, fertilizers, herbicides, chlorides, trash, bacteria, and other site-specific pollutants)
- Identification of improperly stored materials
- The potential of polluting activities to be conducted outside (vehicle washing)
- Proximity to waterbodies
- Poor housekeeping practices
- Discharge of pollutants of concern to impaired waters

If a facilities use changes or a new facility is obtained by KPS, the Storm Water Program Manager shall update/revise the facility assessments a minimum of 30 days prior to discharging stormwater from a new facility and within 30 days of determining a need to update/revise the facility assessment. At a minimum, KPS will identify the BMPs currently implemented or to be implemented during the permit cycle to prevent or reduce pollutant runoff at each facility to surface waters of the state using the assessment and prioritization list identified in the above paragraphs.

A standard operating procedure has been developed for the two “high priority” sites and is included at the back of this chapter. KPS currently implements typical BMPs at all of its “low priority” sites to prevent or reduce pollutant runoff to surface waters of the state. These include periodically cleaning catch basins and storm treatment units, not applying pesticides at any of their sites/ facilities, using only phosphorus-free fertilizers, stock piling snow in grass areas, not performing vehicle washing at these sites, visual inspection of dumpster and surrounding areas and keep lids closed and clean up if necessary.

STORM WATER CONTROL INVENTORY

Kalamazoo Public Schools owns and maintains parking lots and storm systems at their facility sites. The storm system primarily buildings, access drives and parking lots, but inevitably collects overflows and runoff from adjacent lands. Maps showing the KPS's overall storm sewer system at each site and a list of assets are included in Chapter 3.

STRUCTURAL STORM WATER CONTROL AND MAINTENANCE ACTIVITIES

Kalamazoo Public Schools does prioritize the catch basins within the system for routine inspection, maintenance, and cleaning based on preventing or reducing pollutant runoff. Approximately 50% (220 of 441 structures) of storm structures discharge to the waters of the state and are located at the 20. These structures are given higher priority over the 221 that do not discharge to waters of the state. Storm water structural controls are evaluated as complaints from contracted service, staff or residents are received. KPS performs a visual inspection of STUs annually, leaching basins drywells on a 2-year cycle and catch basins on a 5-year cycle. STUs and catch basin are cleaned on an as needed basis. Catch basins are cleaned when the depth of sedimentation exceeds 1/3 the sump depth of the structure. Storm treatment units are cleaned when they exceed the manufacturer's recommendations. Currently, KPS is having all storm treatment units cleaned on an annual basis and with these services are contracted-out, with vendor records retained for verification that the waste was disposed of properly. During cleaning, visual inspections is performed by the contracted service provider. Cleaning, dewatering, storage, and disposal of materials and sediment complies with MDEQ's "Catch Basin Cleaning Activities Guidance Document". Currently no storm structures at KPS have warranted a more frequent inspection than outlined above.

If KPS determines during the inspection of catch basins or via citizen complaint that more routine maintenance or cleaning is necessary, KPS will revise its frequency for inspection of a specific structure accordingly by inspecting the structure yearly to determine an acceptable inspection frequency. KPS will inspect all newly constructed storm structures at 1-year and 3-years from installation to determine if once per 5-year routine inspection is applicable or if a more frequent inspection is warranted.

MUNICIPAL OPERATIONS AND MAINTENANCE ACTIVITIES

Parking Lot Sweeping

Parking lot sweeping is done on an as needed basis (typically greater than 3-year frequency). If KPS determines a parking lot requires more routine sweeping is necessary, based on citizen comments or if the surface waters of the state develop any of the following physical properties in unnatural quantities which are or may become injurious to any designated use: turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits caused by pollutants upon City streets and parking lots, KPS will revise its frequency for sweeping of that parking lot to an acceptable frequency. Currently no parking lots at KPS facilities have warranted a more frequent sweeping than once per 3-years. These services are contracted-out, with vender records retained for verification that the waste was disposed of properly. Proper sweeping methods include operating sweeping equipment according to the manufacturer's operating instructions and to protect water quality. Cleaning, dewatering, storage, and disposal of street sweeper waste materials complies with MDEQ's "Catch Basin Cleaning Activities Guidance Document".

Salt & Winter Operations

During the winter, KPS has their parking lots plowed. These services are contracted-out in four regions. Contractor's salt trucks and spreaders are manually calibrated based on conditions. As part of the bidding contracts, the contractors are informed where they are allowed to place the snow.

Typically the snow is plowed/ stockpiling to the side of the lots and not moved with trucks or other equipment to off-site locations. Where applicable, the school's preferred practice is to snow plow the snow into areas where the snowmelt infiltrates into the ground, but is on a site-by-site basis. A Pollution Incident Prevention Plan (PIPP) is included in this Chapter.

Vehicle Washing

KPS subcontracts to an outside company that washes the busses in the bus parking lot where they are typically parked. The company plugs the storm drains and collects the wash water and disposes of it off-site. KPS is in the process of evaluating a new transportation facility location and would be constructing a wash bay as part of this facility project, which they hope to be in operation by fall of 2018. Potential pollutants are not expected to be discharged from this operation and maintenance activity.

Vehicle Fueling

KPS busses are fueled in the parking lot where they are typically parked. A tanker truck is fueled at the on-site fueling pumps and then delivers the fuel to each bus. Employees are instructed to stay by and monitor their vehicle when fueling and have fuel spill kits available for use if a spill were to occur. Potential pollutants would be gasoline or diesel fuel, but are not expected to be discharged from this operation and maintenance activity.

Vehicle Maintenance

Kalamazoo Public School busses are maintained in the transportation maintenance garage where the water drains into floor drains and sand trap that are connected to the sanitary sewer system. Potential pollutants are not expected to be discharged from this operation and maintenance activity.

Household Hazardous Waste Recycling Program

KPS provides literature related to the Household Hazardous Waste program at various buildings.

Sidewalk, Curb and Gutter repair and pothole patching

Kalamazoo Public Schools typically performs small quantity repairs to sidewalk, curb and gutters, and patching of potholes. The staff blocks catch basins during the course of work to prevent pollutants (such as saw cutting fluids) from reaching nearby structures. Potential pollutants are not expected to be discharged from this operation and maintenance activity with proper preventative procedures.

Large scale sidewalk removal and replacement, along with curb and gutter replacement is typically in conjunction with building, road or utility projects and are contracted out and are part of the Contractors agreements. Contractors are provided information in bid documents and/or preconstruction meetings regarding BMPs associated with preventing pollutants from reaching catch basins and water bodies. Concrete washout from cement trucks is typically limited to single sites, away from catch basins and water bodies.

Municipal Operations and Maintenance Activity Assessment

Kalamazoo Public Schools will assess on an annual basis its municipal operation and maintenance activities, related to roads, parking lots, and sidewalk maintenance; cold weather operations; and vehicle washing and maintenance of municipal owned vehicles. The assessment shall identify all pollutants that could be discharged from each O&M activity. KPS shall implement BMPs and/or procedures to prevent or reduce pollutant run-off. If current practices are determined to be ineffective in preventing or reducing pollutant run-off, KPS will update or revise its existing BMPs O&M procedures to an effective BMPs method or activity within 30 days of determine current procedures are ineffective.

Lake Street Barns (Vehicle Barns)

A standard operating procedure, SOP, has been developed for the Lake Street Barns and is included in the back of this chapter.

Transportation/Edison

A standard operating procedure, SOP, has been developed for the Transportation Facility and is included in the back of this chapter.

MANAGING VEGETATABLE PROPERTIES

Fertilizers are only applied to the high school stadium athletic fields, in which phosphorus-free fertilizer is utilized. Pesticides are not applied to any of the KPS facility locations and grass clippings are mulched in place, not bagged. In the event a pesticide is required, KPS only uses ready-to-use products from the original container.

CONTRACTOR REQUIREMENTS AND OVERSITE

Contractors are hired by KPS on an as-needed basis for catch basin / storm treatment unit cleaning, parking lot sweeping, snow plowing and less frequently for sidewalk and curb and gutter construction. These services that are contracted-out with vendors require records to be retained for verification that the waste was disposed of properly. Contractors are required to comply with MDEQ's "Catch Basin Cleaning Activities Guidance Document" and operate equipment according to the manufacturer's operating instructions and to protect water quality. Contractors are provided information in bid documents and/or preconstruction meetings regarding disposal of debris from catch basin and storm pipe cleaning, or parking lot sweeping.

EMPLOYEE TRAINING

KPS educates select employees and Contractors regarding Pollution Prevention and Good Housekeeping BMPs. Specifically the KPS provides employee training, which may consist of DVD, YouTube Videos, off-site workshop, in-house training, posters, literature, or new employee orientation. The schedule for this training is the existing employees are trained once per permit cycle, and new employees have one (1) training event within 1-year of employment. Contractors are provided training materials and information in bid documents and/or preconstruction meetings and as

needed when new contractors are hired. Training of staff will vary among the 6 groups with different topics of importance as follows: Maintenance - carpentry, electricians, HVAC, etc. (vehicle washing, fueling, chemicals disposal and handling, etc.), Cafeteria (grease, cleaning chemicals disposal and handling, food waste disposal, etc.), Grounds/Facility - mowing, snowplowing, etc. (vehicle washing, fueling, retention basin observation, oil and chemical disposal, etc., along with procedures and policies related to fertilizers and pesticides), fleet/auto/bus (vehicle washing, fueling, oil and chemical disposal, etc.), Custodial (cleaning chemicals disposal and handling, food waste disposal, wash water and/or floor cleaning water disposal, etc.), Teachers (disposal of art and science materials, etc.).

TABLE 5

Table 5 shows the overall storm water pollution prevention activities of the Permittee and outlines the overall Pollution Prevention Program Elements (i.e. MS4 owner/operator best management practices (BMP) for system operation and maintenance).

OTHER

Any questions on this policy and procedure should be directed to the Storm Water Program Manager.

PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Storm Water Program Manager for any updates to improve effectiveness.

Table 5 – POLLUTION PREVENTION & GOOD HOUSEKEEPING

STORM WATER MANAGEMENT PROGRAM (SWMP)
PROGRAM ELEMENTS, TASKS AND DELIVERABLES

POLLUTION PREVENTION & GOOD HOUSEKEEPING FOR MUNICIPAL OPERATION - MS4 OWNER/OPERATOR BMP's (Operation & Maintenance Program Elements)					
Task	**Methodology**	**Time Table**		**Evaluation/ Measured Element**	**Measurable Goals**
		Implementation	**Evaluation**		
(a) maintenance activities, maintenance schedules, and inspection procedures for storm water structural controls to reduce pollutants (including floatables) in discharges from our permitted separate storm water drainage system					
Evaluate storm water structural controls, KPS owned infiltration areas / retention ponds, and Stormwater Treatment Units (STUs).	Visually observe catch basin's sediment traps to assess if maintenance is required.	Approximately 1/5 of all catch basins annually	Annually	Number of Catch Basins Observed	All catch basins observed every 5 years
	Visually observe infiltration areas/ retention ponds to verify they are functioning as intended. Cleaning needs and any significant erosion or infrastructure wear or damage is reported to the KPS Facility Manager for follow up	Annually – All infiltration areas / retention ponds	Annually	Infiltration areas / retention ponds are visually inspected annually by the grounds department for functionality and erosion.	All infiltration areas / retention ponds are observed annually
	Visually observe Stormwater Treatment Units (STUs) to assess if maintenance is required. Cleaning needs is reported to the KPS Facility Manager for follow up.	Annually – All STUs	Annually	STUs are visually inspected	All STUs are observed annually and cleaned as required
Maintenance of storm water structural controls.	Removal of sedimentation and floatables from catch basin sedimentation traps via contracted service.	As-Needed	Annually	Depth of sediment exceeds 1/3 of sump depth	100% of catch basins found to contain excessive sedimentation to be cleaned within 6 months.
	Restore erosion issues within infiltration areas / retention ponds	As-Needed	At time of mowing	Case-by-case, based on visual observation by grounds department.	100% of the KPS's infiltration areas / retention ponds are stabilized and show no signs of significant erosion.
	Remove sedimentation from pond bottoms	As-Needed	Annually	Infiltration areas have stopped working properly. Sedimentation is covering 50% of the outfall pipe. Sedimentation exceeds 12 inches.	100% of the KPS's infiltration areas / retention ponds are working properly and outfall pipe into the ponds are unobstructed.
	Removal of sedimentation and floatables from Stormwater Treatment Units (STUs) via contracted service.	As-Needed Based on yearly inspection	Annually	Sedimentation or floatables exceeds the manufacturer's recommendation for the STU. STUs have not been cleaned within the last 3 years.	All sedimentation and floatables have been removed from the STU's within the last 3 years (maximum duration) or has had all sedimentation and floatables removed when pollutants exceed STUs manufacturer's recommendation.
	Operate controls and/or valves for rain gardens	As-Needed Spring & Fall	Annually	Valves are operated as scheduled	Rain Gardens are functioning as intended per the design

POLLUTION PREVENTION & GOOD HOUSEKEEPING FOR MUNICIPAL OPERATION - MS4 OWNER/OPERATOR BMP's (Operation & Maintenance Program Elements)					
Task	**Methodology**	**Time Table**		**Evaluation/ Measured Element**	**Measurable Goals**
		Implementation	**Evaluation**		
(b) controls for reducing or eliminating the discharges of pollutants from streets, roads, highways and parking lots, and maintenance garages					
Ensure that pollutants are not disposed into surface waters	KPS procedures for pavement sweeping. Pavement sweeping is done but contracted services on an infrequent basis throughout the KPS sites, with sweepings taken to a landfill.	On-going	Annually	records of receipts from the landfill; Track amount if sedimentation collected and the frequency of sweeping contracts and locations	Achieving the recommended pavement sweeping frequency to minimize debris from entering surface water (i.e. once every other year school-wide, more frequency in targeted areas) No citizen complaints which would require pavement sweeping.
	KPS procedures for - snow and ice removal operations. KPS contracts its snow plowing out based on 4 zones which are awarded in individual contracts. The preferred practice is to avoid discharge of plowed snow into waters of the state, due to the associated pollutants. Salt trucks used by contractors are calibrated based on weather conditions.	On-going	Annually	Salt trucks are calibrated based on weather conditions. Snow is plowed/ stockpiling to the side of the lots and not moved with trucks or other equipment to off-site locations. Where applicable, the school's preferred practice is to snow plow the snow into areas where the snowmelt infiltrates into the ground, but is on a site-by-site basis.	100% of contracted services conform with school's procedures
	Maintenance vehicles and school bus washing	On-going	Annually	KPS subcontracts to an outside company that washes the busses in the bus parking lot where they are typically parked. The company plugs the storm drains and collects the wash water and disposes of it off-site.	100% of contracted services conform with school's procedures
	Maintenance vehicles and school bus maintenance	On-going	Annually	Vehicles maintained in workshop type bay or shop with floor drain connected to sanitary sewer	100% of vehicles repaired / maintained at approved site.
	Fueling of maintenance vehicles and equipment	On-going	Annually	Vehicles and equipment are fueled at KPS fueling pump. All employees are instructed to stay by and monitor their vehicles when fueling	No fuel spills entered the storm system
	Fueling of school buses	On-going	Annually	School buses are fueled at school fueling area only. Personnel fueling the busses visual observe the fueling operation. Personnel fueling the busses know where fuel spill kits are located and how to use them.	No fuel spills entered the storm system

POLLUTION PREVENTION & GOOD HOUSEKEEPING FOR MUNICIPAL OPERATION - MS4 OWNER/OPERATOR BMP's (Operation & Maintenance Program Elements)					
Task	**Methodology**	**Time Table**		**Evaluation/ Measured Element**	**Measurable Goals**
		Implementation	**Evaluation**		
	Staff Education Maintenance (carpentry, electricians, HVAC, etc.) – vehicle washing, fueling, chemicals disposal and handling, etc. Cafeteria – grease, cleaning chemicals disposal and handling, food waste disposal, etc. Grounds / Facility (mowing, snowplowing, etc.) - vehicle washing, fueling, retention basin observation, oil and chemical disposal, etc., along with procedures and policies related to fertilizers and pesticides Fleet / Auto / Bus – vehicle washing, fueling, oil and chemical disposal, etc. Custodial – cleaning chemicals disposal and handling, food waste disposal, wash water and/or floor cleaning water disposal, etc. Teachers – disposal of science and art materials, etc.	On-going	Annually	Number of signs and/or poster installed. Number of training sessions held for additional training	All applicable staff trained according to the training schedule with the appropriate knowledge Signs and/or posters installed at all school buildings and/or class rooms (where applicable) to educate Maintenance, Cafeteria, Grounds/Facility, Fleet, Custodial, and Teachers regarding topics/issues of concern. Maintenance, Grounds/Facility, and Fleet/Auto/Bus group had additional training session regarding topics/issues of concern.
(c) procedures for the proper disposal of operation and maintenance waste from the permitted separate storm water drainage system (dredge spoil, accumulated sediments, floatables, and other debris)					
Ensure that pollutants are not disposed into surface waters	Collected catch basin sediments shall be contracted to a responsible party. Sediments and water shall be tested and disposed of properly in a licensed Type II municipal landfill unless contaminated then sediment shall be disposed of properly.	On-going	Annually	Collected/ tabulated data Cleaning the inside of the catch basin is done as needed, and is performed by a contractor. Records in the form of waste manifests, which contain the volume of waste and disposal location.	100% of sedimentation tested and disposed of properly
	Pavement Sweeping debris is disposed of properly in a licensed Type II municipal landfill by contracted service provider.	As-Needed	Annually	KPS contracts out with outside services with contract language or specifications for how to properly dispose of materials.	Documentation the debris was properly disposed.
	Dredged material and/or accumulated sediments found within retention ponds / infiltration areas is stabilized on site adjacent to infiltration areas	As-Needed	Annually	90% of sediment is removed for infiltration / pond areas and 100% properly stabilized on site within 14 days.	Infiltration areas / retention ponds function properly and all material from dredging operation is stabilized.
(d) ways to ensure that new flood management projects assess the impacts on the water quality of the receiving waters and, whenever possible, examine existing projects for incorporation of additional water quality protection devices or practices					
Properly design, engineer and permit new flood management projects.	KPS initiated flood control projects does not typically apply to any existing KPS site; however, if appropriate, KPS will include provisions to reduce pollutants to water bodies to maximize extent practicable by including such criteria in all RFP's for flood control engineering services.	On-going through site plan review	Annually	Track and compare the number of flood control projects that include water quality criteria.	Utilizing new technologies to reduce pollutants in storm water All new projects implement Performance Standards for water quantity
	Examine existing water quantity structures for incorporation of additional water quality protection devices or practices.	Consider when such structures are scheduled for major repair or replacement	Annually	New technologies are considered when planning for major repair or replacement of existing structures.	All major repaired or replacement of existing storm quantity water structures, consider potential incorporation of new technology for water quality features.

POLLUTION PREVENTION & GOOD HOUSEKEEPING FOR MUNICIPAL OPERATION - MS4 OWNER/OPERATOR BMP's (Operation & Maintenance Program Elements)					
Task	**Methodology**	**Time Table**		**Evaluation/ Measured Element**	**Measurable Goals**
		Implementation	**Evaluation**		
(e) Implementation of controls to reduce the discharge of pollutants related to application of pesticides, herbicides, and fertilizers applied in our permitted jurisdiction.					
Proper use of lawn chemicals and pesticides.	KPS currently fertilizes only the High School Athletic stadium fields. KPS uses a phosphorus-free fertilizer. KPS does not use pesticides at any of their sites/facilities.	On-going	Annually	If KPS applies fertilizer, evaluate and document what type of fertilizer was used.	All areas that the KPS applied fertilizer, a phosphorus-free fertilizer are used.

Catch Basin Cleaning

Catch Basin Cleaning Activities Guidance Document

Catch Basin Cleaning Activities

Catch basins are included in storm sewer system designs in order to remove solids such as gravel, sand, oils, and organic material carried by storm water. Catch basins also contain elevated concentrations of metals (attached to the solids) from street runoff or drainage from industrial, commercial and residential properties. In order to maintain the storm sewer systems effectiveness, catch basins must be periodically cleaned out. The Department of Environmental Quality (DEQ) Water Bureau (WB) and Waste and Hazardous Materials Division (WHMD) oversee environmental regulations pertaining to this activity. The Michigan Occupational Safety and Health Administration (MIOSHA) within the Department of Labor and Economic Growth oversee confined space entry and other worker health and safety standards.

In the past, the waste generated from the catch basin cleaning activities was typically discharged back into the storm sewer system. This type of discharge is unauthorized per Part 31, Water Resources Protection (Part 31) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) and is therefore illegal. The combined solid and liquid waste stream (solid/liquid waste) from cleaning storm sewers systems is legally defined as “liquid industrial waste” pursuant to Part 121, Liquid Industrial Wastes (Part 121) of NREPA.

The following are options recommended to properly deal with the waste stream generated from catch basin cleaning activities:

1. Have the waste transported to drying beds to separate the solid/liquid waste. This is usually performed at a publicly owned treatment plant or at a privately owned permitted facility where the liquid portion of the waste stream is separated from the solids and treated.

2. Request permission from the local wastewater treatment plant operator to discharge the combined solid/liquid waste into the sanitary system. Most treatment plants will require pre-treatment prior to the discharge. All applicable local ordinance provisions must be followed.

3. When conducting catch basin maintenance activities where the above options are not available, the following method can be used as long as there are no discharges to surface waters during dry weather conditions.

- Conduct visual inspection to ensure the water in the sump has not been contaminated. If necessary, collect a grab sample of the water and look for signs of contamination such as visible sheen, discoloration, obvious odor, etc. See the EPA Visual Inspection guidance for more tips. If there is any doubt of the quality of the water, it should be collected into the Vactor truck and treated as waste under Part 121 or Part 115 Solid Waste Management (Part 115) of NREPA.

- Using a sump pump, or any other pumping mechanism, remove the majority of water in the sump of the basin without disturbing the solid material below. Do not use pumps connected to the Vactor truck's holding tank.

- The clear water may then be directly discharged to one of the following:
  - Sanitary system (with prior approval from local sewer authority)
  - Curb and gutter
  - Back into the storm sewer system as long as it is contained within the system during dry weather condition to ensure no discharge into surface water
  - Applied to the ground adjacent to the catch basin (evenly distributed at a maximum rate of 250 gallons/acre/year)

- The remaining liquid/solid in the sump should be collected with a Vactor truck and disposed of off-site in accordance with Parts 115 or 121.

The entity whose catch basin is being cleaned is responsible for meeting the generator requirements under Part 121. See the Liquid Industrial Waste Generator guidance for more information.

The entity transporting the solid/liquid waste must meet the applicable transporter requirements. A local, state, or federal government may use its own vehicle to service catch basins or other parts of the sewer system without being a permitted and registered transporter under the provisions of the Hazardous Materials Transportation Act, 1998 PA 138, as amended (HMTA).

If the local government contracts with a private company to transport the liquids generated from cleaning the catch basins or other parts of the sewer system, that entity must be registered and permitted as a uniform liquid industrial waste transporter under the provisions of HMTA.

The transporter must notify the WHMD about their activity and obtain a site identification number. Follow the instructions and links to the form EQP5150 and online paying option posted at www.deq.state.mi.us/wdspi. There is a fee.

A uniform hazardous waste manifest must accompany the load, or a consolidated manifest may be used per Operational Memo 121-3, when the liquid waste is transported over public roadways by the local government or by a contract transporter. Keep the records at least three years from shipment. The waste transporting portion of the vehicle and/or containers used to

transport the waste must be kept closed except when adding or removing the waste, and the exteriors must be kept free of the liquid waste and residue.

The facility accepting the solid/liquid waste must meet operating requirements:

- They must notify the WHMD that they are operating a liquid industrial waste designated facility, obtain a site identification number, and meet operating requirements under Part 121. This includes practices to prevent unauthorized discharge of the waste, sign manifests, and keep required records. If waste containers are used, they must be kept closed and protected from the weather, fire, physical damage and vandals.

- The discharge of the liquids into the treatment plant that is permitted by the WB must meet the wastewater treatment plant requirements. Any other discharge of the liquids would require a separate DEQ discharge permit.

- The resulting solid waste must be managed under Part 115 requirements. Dispose of the solid waste in a licensed landfill. Contact the landfill authority for their specific disposal requirements, including any tests they require to document the solids are not hazardous or liquid waste. Do not use the solids as fill on local government or private property, or for any other use, unless it meets the conditions of being an inert material according to the solid waste rules R299.4114 through R299.4118. See the Waste Characterization Guidance for information how to determine if the waste is hazardous or not.

Street sweeping activities are also subject to the above solid waste requirements. Street sweeping involves the use of specialized equipment to remove litter, loose gravel, soil, pet waste, vehicle debris and pollutants, dust, de-icing chemicals, and industrial debris from road surfaces. See the BMPs for Street Sweeping and Parking Lot and Street Cleaning.

Follow-up Answers Can be Found as Follows:	
Topic	**Contact:**
Using the solids as fill or other use under Part 115	Duane Roskoskey at 517-335-4712
Part 121 transportation requirements and HMTA	WHMD District Office
Managing waste under Part 31, or general questions regarding this guidance	Mark Fife at 517-241-8993
Confined space entry requirements	MIOSHA Consultation, Education and Training Division at 517-322-1809

KALAMAZOO PUBLIC SCHOOLS

Pollution Incident Prevention Plan

June 22, 2017

FACILITY IDENTIFICATION:

KALAMAZOO PUBLIC SCHOOLS

Department of Facilities Management (Main Office)
600 W. Vine Street
Kalamazoo, MI 49008
(269-337-0400)

Lake Street Barns (Facility Name)
514 Lake Street
Kalamazoo, MI 49001
(269) 337-0400

Hours of Operation: Monday – Friday – 7:00 AM – 4:30 PM

Administration Building (Administrative Offices)
1220 Howard Street
Kalamazoo, MI 49008
(269) 337-0100

Hours of Operation: Monday – Friday – 7:00 AM – 5:00 PM

DESIGNATED SPILL PREVENTION and CONTROL COORDINATOR:

Al Tyler, Executive Supervisor
Office – (269) 337-0400
Cell – (269) 929-3522
Home – (269) 624-5058

Karen Jackson, Executive Assistant
Office – (269) 337-0400
Cell – (269) 207-3782
Home – (269) 329-3337

NOTIFICATION PROCEDURES:

1. Michigan Department of Environmental Quality
   District Office – Ryan Blazic – (269) 270-2008
   PEAS Hotline – 1-800-292-4706
2. Appropriate Municipal Officials
   City of Kalamazoo – Environmental Services Department – (269) – 337-8660
   Kalamazoo County Environmental Health – (269) 373-5210
   Kalamazoo Department of Public Safety – 911 – for both police and fire departments
3. Clean up contractor (if necessary) – Clean Earth – (269) 381-2400

SITE INFORMATION:

The School District has a salt/sand mixture in an enclosed barn with a concrete loading area. Any spill will be swept back into the barn by on-site equipment.
(See attached map for information on location)

FACILITY NAME:

Kalamazoo Public Schools
Lake Street Barns

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Department of Environmental Quality (DEQ)
Water Resources Division (WRD)
Storm Water Pollution Prevention Plan (SWPPP) Template
Template Revision Date: 3/12/2015

TABLE OF CONTENTS

1.0 GENERAL FACILITY INFORMATION

Facility Information:

- Name of Facility: ***Kalamazoo Public Schools Lake Street Barns***
- Facility Address:
- County: ***Kalamazoo***
- Standard Industrial Classification (SIC) Code:
- Owner or Authorized Representative:

Facility Contact Information:

- Name: ***Al Tyler***
- Title: ***Executive Supervisor, Facilities Management***
- Telephone: ***269-337-0400***
- Email Address: ***tylerap@kalamazoopublicschools.net***
- Mailing Address: ***600 W. Vine Street, Kalamazoo, MI 49008***

Facility Contact information to be aware of:
The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing within 10 days after replacement (including the name, address, email address, if available, and telephone number of the new facility contact).

a) The facility contact shall be (or a duly authorized representative of this person):
- *for a corporation, a principal executive officer of at least the level of vice president, or a designated representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the permit application or other NPDES form originates,*
- *for a partnership, a general partner,*
- *for a sole proprietorship, the proprietor, or*
- *for a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager, or other duly authorized employee.*

b) A person is a duly authorized representative only if:
- *the authorization is made in writing to the Department by a person described in paragraph a. of this section; and*
- *the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).*

Certified Storm Water Operator Information:

- Name:
- Certification Number & Expiration Date:
- Telephone:
- Email Address:
- Is the Certified Operator an employee at the facility: ☐ Yes ☐ No
  - If the answer to the above question is "No" then include the Certified Operator's business name and mailing address:

Permit Information:

- General Permit Number:
- Certificate of Coverage (COC) or Individual Permit Number:
- COC or Individual Permit Effective Date of Coverage:
- Receiving Waters:
- Required Monitoring: ☐ Yes ☐ No
- Identify the Total Daily Maximum Load (TMDL) listed on COC:

Brief Industrial Activity Description: ***Maintenance vehicles for the district are parked here. It also houses salt for use on our parking lots.***

If this facility is a seasonal facility describe the seasonal operation and what months the facility will be operating:

2.0 STORM WATER POLLUTION PREVENTION TEAM

The storm water pollution prevention team is responsible for developing, implementing, maintaining, and revising this SWPPP. The members of the team and their primary responsibilities (i.e. implementing, maintaining, record keeping, submitting reports, conducting inspections, employee training, conducting the annual compliance evaluation, testing for non-storm water discharges, signing the required certifications) are as follows:

Name & Title	Responsibility
Al Tyler	***Implementing***
Karen Jackson	***Record keeping***
Earl Mortimore	***Conducts inspections***
Space to list additional members and their responsibility if necessary:	

3.0 SITE MAP

Preparing a site map or sketch is the first step in assessing the facility. See the DEQ Industrial Storm Water Certified Operator Training Manual for additional information.

The facility's site map includes all applicable items listed in the permit, which include:

1) Buildings and other permanent structures
2) Storage or disposal areas for significant materials
3) Secondary containment structures and descriptions of what they contain in the primary containment structures
4) Storm water discharge points (which include outfalls and points of discharge), numbered or otherwise labeled for reference
5) Location of storm water and non-storm water inlets (numbered or otherwise labeled for reference) contributing to each discharge point
6) Location of NPDES permitted discharges other than storm water
7) Outlines of the drainage areas contributing to each discharge point
8) Structural runoff controls or storm water treatment facilities
9) Areas of vegetation (with brief description such as lawn, old field, marsh, wooded, etc.)
10) Areas of exposed and/or erodible soils and gravel lots
11) Impervious surfaces (roofs, asphalt, concrete, etc.)
12) Name and location of receiving waters
13) Areas of known or suspected impacts on surface waters as designated under Par 201 (Environmental Response) of the NREPA.

SEE FIGURE 1 FOR FACILITY SITE MAP

4.0 SIGNIFICANT MATERIALS

Definition: Significant materials are any material which could degrade or impair water quality, including but not limited to:

- ✓ Raw Materials - ***Salt***
- ✓ Fuels
- ✓ Solvents
- ✓ Detergents

- ✓ Plastic pellets
- ✓ Finished materials (i.e. metallic products)
- ✓ Hazardous Substances designated under section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), see 40 CFR 372.65
- ✓ Any chemical the facility is required to report pursuant to section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA)
- ✓ Polluting Materials – Oil and any material, in solid or liquid form, identified as polluting material under the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code)
- ✓ Hazardous Wastes as defined in Part 111 of the Michigan Act
- ✓ Fertilizers
- ✓ Pesticides
- ✓ Waste Products (i.e. ashes, slag, sludge, plant waste, animal waste)

During the significant materials identification phase, all sources of potential storm water contamination need to be identified. Both the inside and outside of the facility must be inventoried to determine the materials and practices that may be sources of contamination to storm water runoff. Note the identification phase must address residual contaminants which may be found on items stored outside.

4.1 Inventory of Exposed Significant Materials

The permit requires a general inventory of significant materials that could enter storm water. For each material listed the SWPPP shall include the ways in which each type of material has been or has reasonable potential to become exposed to storm water (e.g. spillage during handling; leaks from pipes, pumps, or vessels; contact with storage piles, contaminated materials or soils; waste handling and disposal; deposits from dust or overspray; etc.). In addition, the SWPPP must identify the inlet(s) spilled significant materials may enter and the discharge point(s) through which the spilled significant material may be discharged.

SEE TABLE 1 FOR SIGNIFICANT MATERIAL INVENTORY

4.2 Description of Industrial Activities & Significant Material Storage Areas

The permit requires industrial facilities to evaluate the reasonable potential for contribution of significant materials to storm water runoff from at least the following areas or activities:

1) Loading, unloading, and other material handling operations
2) Outdoor storage including secondary containment structures
3) Outdoor manufacturing or processing activities
4) Significant dust or particulate generating processes
5) Discharge from vents, stacks, and air emission controls
6) On-site waste disposal practices
7) Maintenance and cleaning of vehicles, machines, and equipment
8) Areas of exposed and/or erodible soils
9) Sites of Environmental Contamination listed under Part 201 (Environmental Response) of the NREPA
10) Areas of significant material residues
11) Areas where animals congregate (wild or domestic) and deposit wastes
12) Other areas where storm water may contact significant materials

For each applicable item, the permit requires a written description of the specific activity or storage area. Along with the written description of the activities or storage areas, a description of the significant materials associated with those items must be included.

SEE TABLE 1 FOR INDUSTRIAL ACTIVITY AND SIGNIFICANT MATERIAL STORAGE AREA DESCRIPTIONS

4.3 List of Significant Spills

The permit requires a list of significant spills and significant leaks of polluting materials that occurred at areas that are exposed to precipitation or that otherwise discharge to a point source at the facility. The listing shall include spills that occurred over the three years prior to the effective date of a certificate of coverage authorizing discharge under the General Permit. The listing shall include the date, volume, exact location of release, and actions taken to clean up the material and/or prevent exposure to storm water runoff or contamination of surface waters of the state. Any release that occurs after the SWPPP has been developed shall be controlled in accordance with the SWPPP and is cause for the SWPPP to be updated as appropriate within 14 calendar days of obtaining knowledge of the spill or loss. If there have been no spills of polluting materials, state that in this section.

Question: Have there been any significant spills or significant leaks of polluting materials in the last 3 years?
☐ Yes **X** No

- If the answer above is "Yes" then input the applicable information in the table below:

Significant Spills and Significant Leaks of Polluting Materials Table		
Location & Date	Material & Volume	Corrective Actions Taken

4.4 Summary of Sampling Data

The permit requires a summary of existing storm water discharge sampling data (if available) describing pollutants in storm water discharges associated with industrial activity at the facility. The summary shall be accompanied by a description of the suspected sources of the pollutants detected. (If there is no storm water discharge sampling data, state that in this section.)

Question: Is there any storm water discharge sampling data available? ☐ Yes X☐ No

- If the answer to the above question is "Yes" then summarize the information below and maintain the data with the SWPPP file.

Summary of Sampling Information:

4.5 Actions Taken to Investigate Illicit Connections

The permit requires that the SWPPP include a description of the actions taken to identify and eliminate illicit connections to the storm sewer system. All illicit connections to Municipal Separate Storm Sewer Systems (MS4s) or waters of the state should be permanently plugged or re-routed to the sanitary sewer system, in accordance with the authorization from the local Wastewater Treatment Plant. Any discharge from an illicit connection is a violation of the conditions of this permit.

Actions taken to investigate and eliminate any illicit connections to the storm sewer system:

5.0 NON-STRUCTURAL CONTROLS

Non-structural controls are practices that are relatively simple, fairly inexpensive, and applicable to a wide variety of industries or activities. Non-structural controls are intended to reduce the amount of pollution getting into the surface waters of the state and are generally implemented to address the problem at the source. They do not require any structural changes to the facility. These are typically everyday types of activities undertaken

by employees at the facility. Many facilities may already have nonstructural controls in place for other reasons. The permit requires that the SWPPP shall, at a minimum, include each of the following non-structural controls:

5.1 Preventative Maintenance Program (Routine Inspection Program)

The permit requires written procedures and a schedule for routine preventive maintenance which includes inspection and maintenance of storm water management and control devices (e.g. cleaning of oil/water separators and catch basins) as well as inspecting and testing plant equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters. Generally the focus of this permit requirement is on exterior items. A written report of the inspection and corrective actions shall be maintained on file and shall be retained for three years. See the DEQ Industrial Storm Water Certified Operator Training Manual for additional information.

The Routine Inspection Form is in Section 16.0.

If this requirement is addressed in other facility procedures, reference those procedures here:

5.2 Housekeeping Procedures (Routine Inspection Program)

The permit requires that the SWPPP include written procedures and a schedule to implement routine good housekeeping inspections to maintain a clean, orderly facility. Good housekeeping inspections are intended to reduce the potential for significant materials to come in contact with storm water. The routine good housekeeping inspections should be combined with the routine inspection for the preventative maintenance program. Generally the focus of this permit requirement is on exterior areas. A written report of the inspection and corrective actions shall be maintained on file and shall be retained for three years. See the DEQ Industrial Storm Water Certified Operator Training Manual for additional information.

The Routine Inspection Form is in Section 16.0.

If this requirement is addressed in other facility procedures, reference those procedures here:

The table below describes the Routine Inspection Program Procedures:

Routine Inspection Program Procedures Table		
Description of Area or Equipment Inspected	Tasks Performed During Inspection	Frequency of Inspection
2 Dumpsters	***Visual inspection and clean up, if required***	***Bi-weekly***
Salt	***Make sure it is contained in enclosure***	***Weekly thru salt season***

5.3 Comprehensive Site Inspection & Visual Assessments of Storm Water Discharges

The permit requires written procedures and a schedule for comprehensive site inspection. The inspections shall include but not be limited to, the areas and equipment identified in the preventive maintenance program and good housekeeping procedures. The inspection shall also include a review of the routine preventive maintenance reports, good housekeeping inspections reports, and any other paperwork associated with the SWPPP. The comprehensive site inspection shall be conducted by the Industrial Storm Water Certified

Operator quarterly. At a minimum one inspection shall be performed within each of the following quarters: January – March, April – June, July – September, and October – December.

The permittee may request Department approval of an alternate schedule for comprehensive site inspections. Such a request may be made if the permittee meets the following criteria: the permittee is in full compliance with the permit, the permittee has an acceptable SWPPP, the permittee has installed and/or implemented adequate structural controls at the facility, the permittee has all required inspection reports available at the facility, and the permittee has an Industrial Storm Water Certified Operator at the facility.

A report of the comprehensive site inspection results shall be prepared and retained for three years. The report shall include the following information:

- ✓ Date of the inspection
- ✓ Name(s), title(s), and certification number(s) of the personnel conducting the inspection
- ✓ Precipitation information (i.e. a description of recent rainfall or snow met events)
- ✓ All observations relating to the implementation of control measures
- ✓ Any required revisions to the SWPPP resulting from the inspection
- ✓ A certification stating the facility is in compliance with this permit and the SWPPP, or, if there are instances of noncompliance, they are identified

The Comprehensive Site Inspection Form is in Section 17.0.

Comprehensive site inspection schedule:

Comprehensive site inspection written procedures: *The Industrial Storm Water Certified Operator will perform the comprehensive site inspections. All areas and items identified in Routine Inspection Procedures Table are included in the comprehensive site inspections. In addition all paper work associated with the routine inspections will be reviewed. The comprehensive site inspection report form will include a compliance certification statement. List any additional details (if necessary) related to the comprehensive site inspection procedures here:*

Visual Assessments of Storm Water Discharges
****CHECK YOUR GENERAL PERMIT FOR APPLICABILITY****

The permit requires written procedures and a schedule for quarterly visual assessments of storm water discharges. The visual assessments shall be conducted by the Industrial Storm Water Certified Operator. At a minimum one visual assessment shall be performed within each of the following quarters: January – March, April – June, July – September, and October – December. If the Department has approved an alternate schedule for the comprehensive site inspection, the visual assessment may likewise be conducted in accordance with the same approved alternate schedule.

Visual assessment training/informational tutorials are available on the DEQ, WRD Industrial Storm Water webpage or by clicking on the following links:

- Part 1: https://www.youtube.com/watch?v=rhXbA1R_VZk&feature=youtu.be
- Part 2: https://www.youtube.com/watch?v=_AdGziksz_g&feature=youtu.be
- Part 3: https://www.youtube.com/watch?v=ZiajZM6Avlg&feature=youtu.be

The Visual Assessment Report Form is in Section 18.0.

Visual Assessment schedule:

5.4 Material Handling & Spill Prevention / Clean-Up Procedures

The permit requires a description of material handling procedures and storage requirements for significant materials. Equipment and procedures for cleaning up spills shall be identified in the SWPPP and made available to the appropriate personnel. The procedures shall identify measures to prevent spilled materials or material residues on the outside of the containers from being discharged into storm water.

The SWPPP may include, by reference, requirements of either a Pollution Incident Prevention Plan (PIPP) prepared in accordance with the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code); a Hazardous Waste Contingency Plan (HWCP) prepared in accordance with 40 CFR 264 and 265 Subpart D, as required by Part 111 of the Michigan Act; or a Spill Prevention Control and Countermeasure (SPCC) plan prepared in accordance with 40 CFR 112.

Question: Does the facility have any additional material handling & spill / clean-up procedures on file in addition to the SWPPP? ☐ No X☐ Yes

- If the answer is "No" complete the table below
- If the answer is "Yes" then reference the procedures and where they are located here and complete the table below as necessary: ***Pollution Incident Prevention Plan on file in the Office of Facilities Management, 600 W. Vine Street, Kalamazoo.***

Spills and leaks together are the largest industrial source of storm water pollution. Thus, this SWPPP specifies material handling procedures and storage requirements for significant materials. Equipment and procedures necessary for cleaning up spills and preventing the spilled materials from being discharged have also been identified. All employees have been made aware of the proper procedures. See the DEQ Industrial Storm Water Certified Operator Training Manual for additional information.

The DEQ, WRD Industrial Storm Water program spill report compliance assistance document should be kept with the SWPPP. Download the document from the DEQ, WRD Industrial Storm Water webpage or by clicking on the following link: http://www.michigan.gov/documents/deq/wrd-isw-permit_info-spill-reporting_398791_7.pdf

If material handling and spill prevention / clean-up procedures are not addressed in other facility documents (referenced above) then the table below needs to be completed:

Material Handling & Spill Prevention / Clean-up Procedures Table		
Potential Spill Area	Material Handling & Storage Procedures	Spill Response Procedures & Equipment

SEE TABLE 2 FOR SPILL KIT INVENTORY

5.5 Soil Erosion & Sedimentation Control Measures

The permit requires the identification of areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion. Areas commonly prone to soil erosion are: gravel lots, bare earth or gravel

at material handling areas around storm water inlets, areas with concentrated storm water runoff into streams or ditches, and access roads over open streams or ditches. Control measures must be implemented in areas prone to soil erosion and sedimentation. More information on soil erosion and sedimentation control may be obtained from the DEQ, Water Resources Division District Office.

Question: Is dust suppression material used on site? ☐ Yes X☐ No

- If "Yes" then describe the actions implemented to prevent an unauthorized discharge to the storm sewer system or surface waters of the state:

Question: Are there areas of the site that are prone to soil erosion and/or sedimentation? ☐ Yes X☐ No

- If "Yes" then complete the table below:

Soil Erosion & Sedimentation Control Measures Table	
Areas Prone to Soil Erosion or Sedimentation	Control Measures Implemented
Portage Creek bank	***No mow zone – area left natural***
Dumpsters	***Sweep up parking lot as needed***
Space to list additional areas of concerns and control measures if necessary:	

5.6 Employee Training Program

The permit requires a description of employee training programs have been implemented to inform appropriate personnel at all levels of responsibility of the components and goals of the SWPPP. Recent modifications to the General Permits have included a requirement for annual employee training. An employee training video is available at the DEQ, WRD, Industrial Storm Water webpage or by clicking on the following link: https://www.youtube.com/watch?v=IGqvsztguRA&feature=youtu.be

Employee training will be a major component in ensuring the success of the facility's SWPPP. The more knowledgeable all employees are about the facility's SWPPP and what is expected of them, the greater the chance that the plan will be effective. The following is a description of the employee training programs to be implemented to inform appropriate personnel at all levels of responsibility of the components and goals of the SWPPP (i.e. good housekeeping practices, spill prevention and response procedures, waste minimization practices, informing customers of facility policies, etc.).

The Employee Training Form is in Section 19.0.

Employee Training Frequency: ***Training for new employees is on the job. Updated training is every five years***

Employee Training Program Description: ***Youtube videos, webinars, and hands-on training of inspections***

5.7 TMDL Requirements

The permit requires that if there is a Total Maximum Daily Load (TMDL) established by the Department for the receiving water, which restricts the discharge of any of the identified significant materials or constituents of those materials, then the SWPPP shall identify the level of control for those materials necessary to comply with the TMDL.

The TMDL means the amount of pollutant load a water body, such as a lake or stream, can assimilate and still meet water quality standards. If a receiving water body does not meet the water quality standards for a specific pollutant, the DEQ will establish the appropriate daily maximum load for that pollutant to allow the water body to again meet water quality standards. If a permitted facility is expected to discharge that specific

pollutant in its storm water to that water body, the General Permit requires the facility to list actions it will take to meet that TMDL requirement.

The applicable TMDLs will be identified on the Certificate of Coverage (COC).

See the DEQ, WRD, Industrial Storm Water Webpage for additional TMDL information or click this link for the TMDL compliance assistance document: http://www.michigan.gov/documents/deq/wrd-isw-permit-info-tmdl_398790_7.pdf

Question: Is there a TMDL Requirement listed on the COC? ☐ Yes ☐ No

- If the answer to the above question is "Yes" then complete the table below:

TMDL Pollutant:	Best Management Practices Implemented to reduce the discharge of the TMDL pollutant:
N/A	
Space to list additional TMDL pollutants and BMPs implemented onsite if necessary:	

5.8 List of Significant Materials Still Present

The permit requires the identification of significant materials expected to be present in storm water discharges following implementation of non-structural preventative measures and source controls. Non-structural controls are used to reduce pollutants at the source before they can get into the storm water runoff. In some cases, these types of controls will not be enough. A list of significant materials expected to be present in storm water discharges after implementation of nonstructural controls must be included in the SWPPP. The materials listed below will be addressed through the use of structural controls. (If there will be no significant materials present after the implementation of non-structural controls, state that in this section.)

Significant Material	Location and Control Measure:	Impacted Inlet(s):	Impacted Discharge Point(s):
Salt	***Inside storage barn – concrete barriers***	***B***	***LAKE-01***
Space available to add addition information if necessary:			

6.0 STRUCTURAL CONTROLS

The permit requires that where implementation of non-structural controls does not control storm water discharges in accordance with water quality standards, the SWPPP shall provide a description of the location, function, and design criteria of structural controls for prevention and treatment.

Structural controls may be necessary:

1) To prevent uncontaminated storm water from contacting or being contacted by significant materials; or
2) If preventive measures are not feasible or are inadequate to keep significant materials at the site from contaminating storm water. Structural controls shall be used to treat, divert, isolate, recycle, reuse, or otherwise manage storm water in a manner that reduces the level of significant materials in the storm water and provides compliance with the Water Quality Standards

Examples of structural controls include the following:

- ✓ Signs and Labels
- ✓ Safety Posts
- ✓ Fences
- ✓ Security Systems
- ✓ Temporary and Permanent Coverings
- ✓ Storm Water Conveyances
- ✓ Diversion Dikes
- ✓ Grading
- ✓ Paving
- ✓ Curbing
- ✓ Drip Pans
- ✓ Secondary Containment
- ✓ Catch Basin Inserts
- ✓ Detention and Retention Ponds
- ✓ Vegetative Filters
- ✓ Oil/Water Separators

These types of controls are physical features that control and prevent storm water pollution. They can range from preventive measures to collection structures to treatment systems. Structural controls will typically require construction of a physical feature or barrier. Below is a description of the structural controls used at the facility. See the DEQ Industrial Storm Water Operator Training Manual for additional details on structural controls.

Question: Are structural control measures used at the facility? ☐ No X☐ Yes

- If answer above is "Yes" then complete the appropriate information in the table below.

Structural Controls Used at the Facility		
Description of structural control(s)	Location of structural control(s)	Significant Materials intended to be managed by the structural control(s)
Concrete barrier walls	***Inside facility***	***Salt***

7.0 NON-STORM WATER DISCHARGES

The permit requires that all discharge locations be evaluated for the presence of non-storm water discharges. Any unauthorized storm water discharges must be eliminated, or covered under another NPDES permit.

Storm water shall be defined to include all of the following non-storm water discharges provided pollution prevention controls for the non-storm water component are identified in the SWPPP.

Question: Is any of the 10 non-storm water discharges listed below applicable to the facility? X☐ No ☐ Yes

- If the answer is "Yes" then complete the appropriate sections of the table below:

Check the Applicable Non Storm Water Discharges at the Facility:		Pollution Prevention Controls Implemented:	Impacted Inlet(s):	Impacted Discharge Point(s):
☐	1. Discharges from fire hydrant flushing			
☐	2. Potable water sources including water line flushing			
☐	3. Water from fire system testing and fire fighting training without burned			

	materials or chemical fire suppressants			
☐	4. Irrigation drainage			
☐	5. Lawn watering			
☐	6. Routine building wash-down that does not use detergents or other compounds			
☐	7. Pavement wash waters where contamination by toxic or hazardous materials has not occurred (unless all contamination by toxic or hazardous materials has been removed) and where detergents are not used			
☐	8. Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids			
☐	9. Uncontaminated ground water			
☐	10. Foundation or footing drains where flows are not contaminated with process materials such as solvents			

Discharges from fire fighting activities are authorized by the permit, but are exempted from the requirement to be identified in the SWPPP.

8.0 ANNUAL REVIEW

The permit requires that the permittee shall review the SWPPP annually after it is developed and maintain written summaries of the reviews. Based on the review, the permittee shall amend the SWPPP as needed to ensure continued compliance with the terms and conditions of the permit. The annual review is to be retained on site for three years and depending on the general permit is required to be submitted to the DEQ district office on or before January 10th of each year.

The Annual Review Report Form is in Section 20.0.

Specify the month the Annual SWPPP Review will be performed: ***December***

9.0 INDUSTRIAL STORM WATER CERTIFIED OPERATOR UPDATE

The permit requires that if the Industrial Storm Water Certified Operator is changed or an additional Industrial Storm Water Certified Operator is added, the permittee shall provide the name and certification number of the new Industrial Storm Water Certified Operator to the Department. If a facility has multiple Industrial Storm Water Certified Operators, the name and certification number of the Industrial Storm Water Certified Operators shall be included in the SWPPP.

10.0 RECORD KEEPING

The permit requires that the permittee shall maintain records of all SWPPP related inspection and maintenance activities. Records shall also be kept describing incidents such as spills or other discharges that can affect the quality of storm water runoff. All such records shall be retained for three years. The following records are required by the permit:

- ✓ Routine preventive maintenance inspection reports
- ✓ Routine good housekeeping inspection reports
- ✓ Comprehensive site inspection reports
- ✓ Documentation of visual assessments
- ✓ Employee training records
- ✓ Written summaries of the annual SWPPP review
- ✓ Short Term Storm Water Characterization Study data

11.0 SWPPP CERTIFICATION

The permit requires that the SWPPP shall be reviewed and signed by the Certified Storm Water Operator(s) and by either the permittee or an authorized representative in accordance with 40 CFR 122.22. The SWPPP shall be retained on-site at the facility which generates the storm water discharge.

I certify under penalty of law that the storm water drainage system in this SWPPP has been tested or evaluated for the presence of non-storm water discharges either by me, or under my direction and supervision. I certify under penalty of law that this SWPPP has been developed in accordance with the General Permit and with good engineering practices. To the best of my knowledge and belief, the information submitted is true, accurate, and complete. At the time this plan was completed no unauthorized discharges were present. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

Permittee or Authorized Representative
Printed Name & Title:
Signature & Date:

Industrial Storm Water Certified Operator
Printed Name & Certification Number:
Signature & Date:

Space to list additional Industrial Storm Water Certified Operators if Necessary	
Printed Name & Certification Number	Signature & Date

12.0 FIGURE 1 – FACILITY SITE MAP (Use separate sheet if necessary)

13.0 TABLE 1 – SIGNIFICANT MATERIAL INVENTORY AND DESCRIPTION OF INDUSTRIAL ACTIVITY OR SIGNIFICANT MATERIAL STORAGE AREAS

Instructions - Fill out the applicable areas or activities in the corresponding sections. Add more lines as needed. Once you have described the area or activity, list the significant materials that are associated with the areas or activities, the exposure methods, and evaluate the level of exposure. Once that is completed indicate the inlet(s) and discharge point(s) that would be impacted if significant materials were discharged from the areas or activities described.

Section Listed in General Permit	Storage Areas / Activity Areas	Significant Materials	Exposure Method	Reasonable Potential Evaluation (high,medium,low)	Inlet(s)	Discharge Point(s)
1) Loading, unloading, and other material handling operations	***Inside storage barn***	***Salt***	***Tracking***	***Medium during season***	***B***	***LAKE-01***
2) Outdoor storage including secondary containment structures	***N/A***					
3) Outdoor manufacturing or processing activities	***N/A***					
4) Significant dust or particulate generating processes	***N/A***					
5) Discharge from vents, stacks, and air emission controls	***N/A***					
6) On-site waste disposal practices	***Dumpsters***	***1 garbage and 1 yard waste***	***Blowing out of dumpsters***	***Low***	***B***	***Lake-01***

13.0 TABLE 1 CONTINUED

Section Listed in General Permit	Storage Areas / Activity Areas	Significant Materials	Exposure Method	Reasonable Potential Evaluation (high,medium,low)	Inlet(s)	Discharge Point(s)
7) Maintenance and cleaning of vehicles, machines and equipment	***N/A***					
8) Areas of exposed and/or erodible soils	***N/A***					
9) Sites of Environmental Contamination listed under Part 201	***N/A***					
10) Areas of significant material residues	***N/A***					
11) Areas where animals congregate (wild or domestic) and deposit wastes	***N/A***					
12) Other areas where storm water may contact significant materials	***N/A***					

14.0 VISUAL ASSESSMENT PROCEDURES

1. List the discharge point(s) (as indicated on the SWPPP map):
   Lake-01

   a) Is there substantially identical discharge points? X☐ Yes ☐ No
   If "Yes" then complete a) and b) below, if "No" go to Number 2.

   b) Describe the justification for the substantially identical discharge points determination? **Solid waste interceptor**

   c) List the schedule for alternating the substantially identical discharge points:

2. Describe the monitoring (sampling) location for each discharge point:

3. List the Qualified Personnel that will collect the water sample:

4. Training for the Qualified Personnel includes viewing the Visual Assessment Webinar and/or the 3 Visual Assessment Tutorials on the DEQ, WRD Industrial Storm Water webpage. Check the appropriate box below:

   ☐ Yes

   ☐ No, however a copy of the training materials used are included with this procedure.

5. List the sampling equipment used for the collecting the water sample(s):

6. Complete a) through c) below to describe the storm event information.

   a) Describe how qualifying storm events are determined (including nature of the event):

   b) Describe how each discharge point was evaluated to determine when a discharge would begin:

   c) Describe what would constitute an adverse weather condition that would prevent sample collection:

7. Describe how the samples will be collected (Determine the timing sequence for water sample collection from the discharge points):

8. Describe the water sampling instructions that the Qualified Personnel will follow:

9. Described how observations made by the Qualified Personnel will be documented during the discharge (include nature of the event):

10. Describe the sample storage procedures if applicable:

11. Describe the procedures the Industrial Storm Water Certified Operator will follow to perform the visual assessment(s) of the water sample(s):

12. List the name(s) of the Industrial Storm Water Certified Operator that will be performing the water sample visual assessment(s):

13. The DEQ, WRD Visual Assessment Report form should be used to document each water sample visual assessment. Check the appropriate box below:

    ☐ Yes, the DEQ, WRD Visual Assessment Report form is used.

    ☐ No, the DEQ, WRD Visual Assessment Report form is not used however the form being used to meet this requirement is included with this procedure.

14. Colored Photos shall be used to record the visual assessment(s). If other methods of recording observations will be used describe those methods:

15. All visual assessment documentation should be kept with the SWPPP file. If documentation will be kept at an alternate location state that location:

16. Describe the follow-up actions that will be taken if unusual characteristics are observed during the visual assessment(s):

15.0 TABLE 2 – SPILL KIT INVENTORY

List the spill response equipment that will be maintained in each location or locker (refer to MSDSs to determine recommended clean-up methods and supplies):

Person responsible for maintaining this inventory:

Locker number or location	Absorbents (pads, booms, kitty litter, etc.)	Tools (shovels, brooms, squeegees, etc.)	Personal Protective Equipment (rubber gloves, boots, masks, etc.)	Other Supplies (warning tape, labels, markers, MSDSs, etc.)
N/A		***Shovels, brooms***		

Label each spill kit with the words "SPILL KIT" and the necessary emergency telephone number(s) or pager number(s) of persons to be contacted in case of a spill or leak that is beyond the training and equipment available on or near each spill locker:

Facility Responsible Person/Phone Number: ***269-337-0400***
Spill Response Contractor (if any)/Phone Number:
DEQ District Office Phone Number: ***269-567-3500***
DEQ 24-Hour Emergency Spill Reporting Hot-Line: ***1-800-292-4706 (PEAS Number)***

Stencil the following warning on each spill kit:

"WARNING: NEVER HOSE DOWN A SPILL!
CLEAN IT UP PROMPTLY AND DISPOSE OF THE WASTE PROPERLY."

16.0 ROUTINE INSPECTION FORM

Date:	Time:

Inspector Information	
Print Name:	Signature:

Areas Inspected	Observation	Corrective Actions Taken
Salt storage area		
Dumpsters		

17.0 COMPREHENSIVE SITE INSPECTION FORM

Date:	Time:

Certified Operator Information	
Print Name:	Signature:

Precipitation Information
Check the most appropriate box that represents the weather condition during the inspection: ☐ Dry ☐ Rain ☐ Snow ☐ Other, explain:

Compliance Certification Statement
Based on the results of this inspection the facility is in compliance with the general permit and the SWPPP: ☐ Yes ☐ No, explain:

Areas Inspected	Observation	Corrective Actions Taken
Routine Inspection Report Paperwork		
Salt area		
Dumpsters		

18.0 VISUAL ASSESSMENT REPORT FORM

Visual Assessment Sample Information			
Facility Name:		COC No. or NPDES Permit No:	
Industrial Storm Water Certified Operator Name:			
Name / Title of person collecting sample if other than Cert. Operator:			
Date of Comprehensive Inspection:	Is this a substitute sample? ☐ No ☐ Yes Explain:		
Discharge Point # / Name:	Substantially Identical Discharge Point? ☐ No ☐ Yes List:		
Description of sample collection location:			
Date / Time Discharge Began:	Date / Time Sample Collected:	Date / Time Sample Examined:	
For rain events - if sample was collected > 30 minutes from start of discharge, provide explanation:			
Snowmelt ☐	Rainfall ☐ Inches:	If rain event - previous storm ended > 72 hours prior to start of this event? ☐ No ☐ Yes	

Observations	
Color: ☐ None ☐ Yes (describe):	Floating Solids: ☐ No ☐ Yes (describe):
Oil Films / Sheens: ☐ None ☐ Flecks ☐ Globs ☐ Sheen ☐ Other Describe appearance of film/sheen:	
Foam (gently shake sample): ☐ No ☐ Yes	Suspended Solids: ☐ No ☐ Yes (describe):
Settleable Solids: ☐ No ☐ Yes (describe):	
Odor: ☐ None ☐ Musty ☐ Sewage ☐ Sulfur ☐ Sour ☐ Hydrocarbons ☐ Chemical ☐ Other (describe):	
Turbidity/Clarity: ☐ Clear ☐ Slightly Cloudy ☐ Cloudy ☐ Milky ☐ Other (describe):	
Picture of sample taken (required): ☐ No ☐ Yes Storage location:	
Receiving waters observed? ☐ N/A ☐ No ☐ Yes (describe):	

Follow-up:
Based on the visual observation, are there unnatural characteristics in the discharge (cloudiness, color, sheen, etc.)? ☐ No ☐ Yes
Potential sources of observed unnatural characteristics ☐ N/A or describe:
Implemented / recommended corrective action(s) ☐ N/A or describe: Scheduled date for correction:

I certify that the above information is correct	
Certified Operator Signature	Date

RETAIN THIS FORM FOR A MINIMUM OF 3 YEARS

19.0 EMPLOYEE TRAINING FORM

Date of Session:

Trainer Information	
Print:	Signature:

Training Session Information
Topics Covered:

Attendee Name	Attendee Signature

20.0 ANNUAL SWPPP REVIEW REPORT FORM

Facility Information	
Designated Name:	Certificate of Coverage No. or Individual Permit No.:
Facility Address:	County:
Facility Contact Information	
Name:	Telephone No.:
Email Address:	Certification No.:
Backup Facility Contact Information	
Name:	Telephone No.:
Email Address:	Certification No.:
Industrial Storm Water Certified Operator Information	
Name:	Telephone No.:
Email Address:	Certification No.:
Space to list additional operators if applicable:	

The SWPPP Checklist on the DEQ, WRD Industrial Storm Water webpage should be used to review the facility's SWPPP and before the following 10 questions are completed.			
1. Facility general information is current and accurate	Yes ☐	No ☐	
2. Site map is current and accurate	Yes ☐	No ☐	
3. Significant material inventory is current and accurate	Yes ☐	No ☐	
4. New exposures, processes and related controls have been documented appropriately in the SWPPP	Yes ☐	No ☐	NA ☐
5. Spills have been recorded and reported as appropriate	Yes ☐	No ☐	NA ☐
6. Employee SWPPP training was conducted and documented	Yes ☐	No ☐	
7. Records of routine preventative maintenance and housekeeping inspections are available in the SWPPP file	Yes ☐	No ☐	
8. Comprehensive site inspections have been completed, certified and filed in the SWPPP file	Yes ☐	No ☐	
9. Visual Assessments have been completed and the reports have been filed in the SWPPP file	Yes ☐	No ☐	NA ☐
10. Corrective actions noted in the inspection reports have been completed	Yes ☐	No ☐	
11. The SWPPP is compliant with the permit and has been reviewed and signed by the Certified Storm Water Operator and the permittee or designated representative	Yes ☐	No ☐	
Additional Comments:			

I certify that the above information is correct:	
Name:	Signature / Date:

SUBMIT THIS FORM TO THE DEQ, WRD DISTRICT OFFICE IDENTIFIED ON YOUR CERTIFICATE OF COVERAGE ON OR BEFORE **JANUARY 10TH** OF EACH YEAR

21.0 DEQ SPILL OR RELEASE REPORT

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

SPILL OR RELEASE REPORT

NOTE: Some regulations require a specific form to use and procedures to follow when reporting a release. Those forms and procedures **MUST** be used and followed if reporting under those regulations. This report form is to aid persons reporting releases under regulations that do not require a specific form. This report form is not required to be used. **To report a release, some regulations require a facility to call the PEAS Hotline at 800-292-4706, or DEQ District Office that oversees the county where it occurred, and other regulating agencies and provide the following information. A follow-up written report may be required. Keep a copy of this report as documentation that the release was reported. If you prefer to submit this report electronically by FAX or e-mail, contact the regulating agency for the correct telephone number or e-mail address.** See the DEQ website on Spill/Release Reporting for more reporting information.

Please print or type all information.

NAME AND TITLE OF PERSON SUBMITTING WRITTEN REPORT

TELEPHONE NUMBER (provide area code)

NAME OF BUSINESS

STREET ADDRESS

CITY | STATE | ZIP CODE

BUSINESS TELEPHONE NUMBER (provide area code)

RELEASE LOCATION (provide address if different than business, if known, and give directions to the spill location. Include nearest highway, town, road intersection, etc.)

SITE IDENTIFICATION NUMBER AND OTHER IDENTIFYING NUMBERS (if applicable)

COUNTY | TOWNSHIP | TIER/RANGE/SECTION (if known)

RELEASE DATA. Complete all applicable categories. Check all the boxes that apply to the release. Provide the best available information regarding the release and its impacts. Attach additional pages if necessary.

DATE & TIME OF RELEASE (if known)
____/____/____ _____am/pm

DATE & TIME OF DISCOVERY
____/____/____ _____am/pm

DURATION OF RELEASE (if known)
_____ days
_____ hours
_____ minutes

TYPE OF INCIDENT
- ☐ Explosion
- ☐ Fire
- ☐ Leaking container
- ☐ Loading/unloading release
- ☐ Pipe/valve leak or rupture
- ☐ Vehicle accident
- ☐ Other _____

MATERIAL RELEASED (Chemical or trade name)
☐ CHECK HERE IF ADDITIONAL MATERIALS LISTED ON ATTACHED PAGE.

CAS NUMBER or HAZARDOUS WASTE CODE

ESTIMATED QUANTITY RELEASED (indicate unit e.g. lbs, gals, cu ft or yds)

PHYSICAL STATE RELEASED (indicate if solid, liquid, or gas)

FACTORS CONTRIBUTING TO RELEASE
- ☐ Equipment failure
- ☐ Operator error
- ☐ Faulty process design
- ☐ Training deficiencies
- ☐ Unusual weather conditions
- ☐ Other _____

SOURCE OF LOSS
- ☐ Container
- ☐ Railroad car
- ☐ Pipeline
- ☐ Ship
- ☐ Tank
- ☐ Tanker
- ☐ Truck
- ☐ Other _____

TYPE OF MATERIAL RELEASED
- ☐ Agricultural: manure, pesticide, fertilizer
- ☐ Chemicals
- ☐ Flammable or combustible liquid
- ☐ Hazardous waste
- ☐ Liquid industrial waste
- ☐ Oil/petroleum products or waste
- ☐ Salt
- ☐ Sewage
- ☐ Other _____
- ☐ Unknown

MATERIAL LISTED ON or DEFINED BY
- ☐ CAA Section 112(r) list (40 CFR Part 68)
- ☐ CERCLA Table 302.4 (40 CFR Part 302)
- ☐ EPCRA Extremely Hazardous Substance (40 CFR Part 355)
- ☐ Michigan Critical Materials Register or permit
- ☐ NREPA Part 31, Part 5 Rules polluting material
- ☐ NREPA Part 111 or RCRA hazardous waste
- ☐ NREPA Part 121 liquid industrial waste
- ☐ Other list _____
- ☐ Unknown

IMMEDIATE ACTIONS TAKEN
- ☐ Containment
- ☐ Dilution
- ☐ Evacuation
- ☐ Hazard removal
- ☐ Neutralization
- ☐ System shut down
- ☐ Diversion of release to treatment
- ☐ Decontamination of persons or equipment
- ☐ Monitoring
- ☐ Other _____

RELEASE REACHED
- ☐ Surface waters (include name of river, lake, drain involved) _____ Distance from spill location to surface water, in feet _____
- ☐ Drain connected to sanitary sewer (include name of wastewater treatment plant and/or street drain, if known) _____
- ☐ Drain connected to storm sewer (include name of drain or water body it discharges into, if known) _____
- ☐ Groundwater (indicate if it is a known or suspected drinking water source and include name of aquifer, if known) _____
- ☐ Soils (include type e.g. clay, sand, loam, etc.) _____
- ☐ Ambient Air
- ☐ Spill contained on impervious surface

EXTENT OF INJURIES, IF ANY	WAS ANYONE HOSPITALIZED?	TOTAL NUMBER OF INJURIES TREATED ON-SITE:
	☐ Yes NUMBER HOSPITALIZED:___ ☐ No	

DESCRIBE THE INCIDENT, THE TYPE OF EQUIPMENT INVOLVED IN THE RELEASE, HOW THE VOLUME OF LOSS WAS DETERMINED, ALONG WITH ANY RESULTING ENVIRONMENTAL DAMAGE CAUSED BY THE RELEASE. IDENTIFY WHO IMMEDIATELY RESPONDED TO THE INCIDENT (own employees or contractor — include cleanup company name, contact person, and telephone number). ALSO IDENTIFY WHO DID FURTHER CLEANUP ACTIVITIES, IF PERFORMED OR KNOWN WHEN REPORT SUBMITTED

☐ CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE

ESTIMATED QUANTITY OF ANY RECOVERED MATERIALS AND A DESCRIPTION OF HOW THOSE MATERIALS WERE MANAGED (include disposal method if applicable)

☐ CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE

ASSESSMENT OF ACTUAL OR POTENTIAL HAZARDS TO HUMAN HEALTH (include known acute or immediate and chronic or delayed effects, and where appropriate, advice regarding medical attention necessary for exposed individuals.)

☐ CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY NOTIFIED:

INITIAL CONTACT BY: ☐ Telephone ☐ Fax ☐ Email ☐ Other

DATE/TIME INITIAL CONTACT:_____

☐ PEAS: 800-292-4706 Log Number Assigned _____

☐ DEQ District or Field Office

- ☐ Baraga
- ☐ Bay City
- ☐ Cadillac
- ☐ Crystal Falls
- ☐ Detroit
- ☐ Gaylord
- ☐ Grand Rapids
- ☐ Gwinn
- ☐ Jackson
- ☐ Kalamazoo
- ☐ Lansing
- ☐ Newberry
- ☐ Warren
- ☐ Wyoming

DEQ Office locations are subject to change

Divisions or Offices Contacted:

- ☐ Air Quality
- ☐ Land & Water Management
- ☐ Office Geological Survey
- ☐ Remediation and Redevelopment
- ☐ Waste and Hazardous Materials
- ☐ Water Bureau

NAME AND TITLE OF PERSON MAKING INITIAL REPORT:

_____

DEQ STAFF CONTACTED & PHONE NUMBER:

_____

_____

OTHER ENTITIES NOTIFIED:

	Date:	Time:
☐ National Response Center (NRC): 800-424-8802		
☐ US Coast Guard Office: ☐ Detroit ☐ Grand Haven ☐ Sault Ste. Marie		
☐ US Department of Transportation		
☐ US Environmental Protection Agency		
☐ 911 (or primary public safety answering point)		
☐ Local Fire Department		
☐ Local Police and/or State Police		
☐ Local Emergency Planning Committee		
☐ State Emergency Response Commission via MI SARA Title III Program		
☐ Wastewater Treatment Plant Authority		
☐ Hazmat Team		
☐ Local Health Department		
☐ Department of Labor & Economic Growth MIOSHA		
☐ Department of Labor & Economic Growth Fire Safety		
☐ Michigan Department of Agriculture: 800-405-0101		
☐ Other _____		

PERSON CONTACTED & PHONE NUMBER:

_____

_____

DATE WRITTEN REPORT SUBMITTED	SIGNATURE OF PERSON SUBMITTING WRITTEN REPORT

FACILITY NAME:

Kalamazoo Public Schools Transportation facility

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

Department of Environmental Quality (DEQ)
Water Resources Division (WRD)
Storm Water Pollution Prevention Plan (SWPPP) Template
Template Revision Date: 3/12/2015

TABLE OF CONTENTS

1.0 GENERAL FACILITY INFORMATION

Facility Information:

- Name of Facility: ***Kalamazoo Public Schools Bus Lot***
- Facility Address: ***824 Jackson St. Kalamazoo MI 49001***
- County: ***Kalamazoo***
- Standard Industrial Classification (SIC) Code:
- Owner or Authorized Representative:

Facility Contact Information:

- Name: ***Michael Champion***
- Title: ***Maintenance Foreman***
- Telephone***: 269-337-0506***
- Email Address: ***championmc@kalamazoopublicschools.net***
- Mailing Address: ***824 Jackson St. Kalamazoo, MI 49001***

Facility Contact information to be aware of:
The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing within 10 days after replacement (including the name, address, email address, if available, and telephone number of the new facility contact).

a) The facility contact shall be (or a duly authorized representative of this person):
- *for a corporation, a principal executive officer of at least the level of vice president, or a designated representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the permit application or other NPDES form originates,*
- *for a partnership, a general partner,*
- *for a sole proprietorship, the proprietor, or*
- *for a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager, or other duly authorized employee.*

b) A person is a duly authorized representative only if:
- *the authorization is made in writing to the Department by a person described in paragraph a. of this section; and*
- *the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).*

Certified Storm Water Operator Information:

- Name:
- Certification Number & Expiration Date:
- Telephone:
- Email Address:
- Is the Certified Operator an employee at the facility: ☐ Yes ☐ No
  - If the answer to the above question is "No" then include the Certified Operator's business name and mailing address:

Permit Information:

- General Permit Number:
- Certificate of Coverage (COC) or Individual Permit Number:
- COC or Individual Permit Effective Date of Coverage:
- Receiving Waters:
- Required Monitoring: ☐ Yes ☐ No
- Identify the Total Daily Maximum Load (TMDL) listed on COC:

Brief Industrial Activity Description:

If this facility is a seasonal facility describe the seasonal operation and what months the facility will be operating:

2.0 STORM WATER POLLUTION PREVENTION TEAM

The storm water pollution prevention team is responsible for developing, implementing, maintaining, and revising this SWPPP. The members of the team and their primary responsibilities (i.e. implementing, maintaining, record keeping, submitting reports, conducting inspections, employee training, conducting the annual compliance evaluation, testing for non-storm water discharges, signing the required certifications) are as follows:

Name & Title	Responsibility
Space to list additional members and their responsibility if necessary:	

3.0 SITE MAP

Preparing a site map or sketch is the first step in assessing the facility. See the DEQ Industrial Storm Water Certified Operator Training Manual for additional information.

The facility's site map includes all applicable items listed in the permit, which include:

1) Buildings and other permanent structures
2) Storage or disposal areas for significant materials
3) Secondary containment structures and descriptions of what they contain in the primary containment structures
4) Storm water discharge points (which include outfalls and points of discharge), numbered or otherwise labeled for reference
5) Location of storm water and non-storm water inlets (numbered or otherwise labeled for reference) contributing to each discharge point
6) Location of NPDES permitted discharges other than storm water
7) Outlines of the drainage areas contributing to each discharge point
8) Structural runoff controls or storm water treatment facilities
9) Areas of vegetation (with brief description such as lawn, old field, marsh, wooded, etc.)
10) Areas of exposed and/or erodible soils and gravel lots
11) Impervious surfaces (roofs, asphalt, concrete, etc.)
12) Name and location of receiving waters
13) Areas of known or suspected impacts on surface waters as designated under Par 201 (Environmental Response) of the NREPA.

SEE FIGURE 1 FOR FACILITY SITE MAP

4.0 SIGNIFICANT MATERIALS

Definition: Significant materials are any material which could degrade or impair water quality, including but not limited to:

- ✓ Raw Materials **Oils and Coolants**
- ✓ Fuels **Diesel and No Lead Gasoline**
- ✓ Solvents **Windshield Washer Solvent**
- ✓ Detergents **N/A**
- ✓ Plastic pellets **N/A**
- ✓ Finished materials (i.e. metallic products) **Scrap metal west side of bus garage**

- ✓ Hazardous Substances designated under section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), see 40 CFR 372.65 **N/A**
- ✓ Any chemical the facility is required to report pursuant to section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) **N/A**
- ✓ Polluting Materials – Oil and any material, in solid or liquid form, identified as polluting material under the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code) **N/A**
- ✓ Hazardous Wastes as defined in Part 111 of the Michigan Act **N/A**
- ✓ Fertilizers **N/A**
- ✓ Pesticides **N/A**
- ✓ Waste Products (i.e. ashes, slag, sludge, plant waste, animal waste) **N/A**

During the significant materials identification phase, all sources of potential storm water contamination need to be identified. Both the inside and outside of the facility must be inventoried to determine the materials and practices that may be sources of contamination to storm water runoff. Note the identification phase must address residual contaminants which may be found on items stored outside.

4.1 Inventory of Exposed Significant Materials

The permit requires a general inventory of significant materials that could enter storm water. For each material listed the SWPPP shall include the ways in which each type of material has been or has reasonable potential to become exposed to storm water (e.g. spillage during handling; leaks from pipes, pumps, or vessels; contact with storage piles, contaminated materials or soils; waste handling and disposal; deposits from dust or overspray; etc.). In addition, the SWPPP must identify the inlet(s) spilled significant materials may enter and the discharge point(s) through which the spilled significant material may be discharged.

SEE TABLE 1 FOR SIGNIFICANT MATERIAL INVENTORY

4.2 Description of Industrial Activities & Significant Material Storage Areas

The permit requires industrial facilities to evaluate the reasonable potential for contribution of significant materials to storm water runoff from at least the following areas or activities:

1) Loading, unloading, and other material handling operations
2) Outdoor storage including secondary containment structures
3) Outdoor manufacturing or processing activities
4) Significant dust or particulate generating processes
5) Discharge from vents, stacks, and air emission controls
6) On-site waste disposal practices
7) Maintenance and cleaning of vehicles, machines, and equipment
8) Areas of exposed and/or erodible soils
9) Sites of Environmental Contamination listed under Part 201 (Environmental Response) of the NREPA
10) Areas of significant material residues
11) Areas where animals congregate (wild or domestic) and deposit wastes
12) Other areas where storm water may contact significant materials

For each applicable item, the permit requires a written description of the specific activity or storage area. Along with the written description of the activities or storage areas, a description of the significant materials associated with those items must be included.

SEE TABLE 1 FOR INDUSTRIAL ACTIVITY AND SIGNIFICANT MATERIAL STORAGE AREA DESCRIPTIONS

4.3 List of Significant Spills

The permit requires a list of significant spills and significant leaks of polluting materials that occurred at areas that are exposed to precipitation or that otherwise discharge to a point source at the facility. The listing shall include spills that occurred over the three years prior to the effective date of a certificate of coverage

authorizing discharge under the General Permit. The listing shall include the date, volume, exact location of release, and actions taken to clean up the material and/or prevent exposure to storm water runoff or contamination of surface waters of the state. Any release that occurs after the SWPPP has been developed shall be controlled in accordance with the SWPPP and is cause for the SWPPP to be updated as appropriate within 14 calendar days of obtaining knowledge of the spill or loss. If there have been no spills of polluting materials, state that in this section.

Question: Have there been any significant spills or significant leaks of polluting materials in the last 3 years?
☐ Yes **X** No

- If the answer above is "Yes" then input the applicable information in the table below:

Significant Spills and Significant Leaks of Polluting Materials Table		
Location & Date	Material & Volume	Corrective Actions Taken

4.4 Summary of Sampling Data

The permit requires a summary of existing storm water discharge sampling data (if available) describing pollutants in storm water discharges associated with industrial activity at the facility. The summary shall be accompanied by a description of the suspected sources of the pollutants detected. (If there is no storm water discharge sampling data, state that in this section.)

Question: Is there any storm water discharge sampling data available? ☐ Yes **X** No

- If the answer to the above question is "Yes" then summarize the information below and maintain the data with the SWPPP file.

Summary of Sampling Information:

4.5 Actions Taken to Investigate Illicit Connections

The permit requires that the SWPPP include a description of the actions taken to identify and eliminate illicit connections to the storm sewer system. All illicit connections to Municipal Separate Storm Sewer Systems (MS4s) or waters of the state should be permanently plugged or re-routed to the sanitary sewer system, in accordance with the authorization from the local Wastewater Treatment Plant. Any discharge from an illicit connection is a violation of the conditions of this permit.

Actions taken to investigate and eliminate any illicit connections to the storm sewer system:

5.0 NON-STRUCTURAL CONTROLS

Non-structural controls are practices that are relatively simple, fairly inexpensive, and applicable to a wide variety of industries or activities. Non-structural controls are intended to reduce the amount of pollution getting into the surface waters of the state and are generally implemented to address the problem at the source. They do not require any structural changes to the facility. These are typically everyday types of activities undertaken by employees at the facility. Many facilities may already have nonstructural controls in place for other reasons. The permit requires that the SWPPP shall, at a minimum, include each of the following non-structural controls:

5.1 Preventative Maintenance Program (Routine Inspection Program)

The permit requires written procedures and a schedule for routine preventive maintenance which includes inspection and maintenance of storm water management and control devices (e.g. cleaning of oil/water separators and catch basins) as well as inspecting and testing plant equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters. Generally the focus of this permit requirement is on exterior items. A written report of the inspection and corrective actions shall be maintained on file and shall be retained for three years. See the DEQ Industrial Storm Water Certified Operator Training Manual for additional information.

The Routine Inspection Form is in Section 16.0.

If this requirement is addressed in other facility procedures, reference those procedures here:

5.2 Housekeeping Procedures (Routine Inspection Program)

The permit requires that the SWPPP include written procedures and a schedule to implement routine good housekeeping inspections to maintain a clean, orderly facility. Good housekeeping inspections are intended to reduce the potential for significant materials to come in contact with storm water. The routine good housekeeping inspections should be combined with the routine inspection for the preventative maintenance program. Generally the focus of this permit requirement is on exterior areas. A written report of the inspection and corrective actions shall be maintained on file and shall be retained for three years. See the DEQ Industrial Storm Water Certified Operator Training Manual for additional information.

The Routine Inspection Form is in Section 16.0.

If this requirement is addressed in other facility procedures, reference those procedures here:

The table below describes the Routine Inspection Program Procedures:

Routine Inspection Program Procedures Table		
Description of Area or Equipment Inspected	Tasks Performed During Inspection	Frequency of Inspection
120 International School Buses	***Inspect for fluid leaks***	***Daily***
2 Fuel tanker trucks	***Inspect for fluid leaks***	***Daily***
1 Freightliner wrecker	***Inspect for fluid leaks***	***Weekly***
3 ¾ T Service trucks	***Inspect for fluid leaks***	***Weekly***
4 Dumpsters	***Secure dumpster lids***	***Daily***
1 Fuel pump and UST	***Inspect for leaks from pump, hoses, and piping.***	***Monthly***
Inside bus garage	***Inspect for spills and leaks of fluids in garage.***	***Daily***
Inspect		

5.3 Comprehensive Site Inspection & Visual Assessments of Storm Water Discharges

The permit requires written procedures and a schedule for comprehensive site inspection. The inspections shall include but not be limited to, the areas and equipment identified in the preventive maintenance program and good housekeeping procedures. The inspection shall also include a review of the routine preventive maintenance reports, good housekeeping inspections reports, and any other paperwork associated with the SWPPP. The comprehensive site inspection shall be conducted by the Industrial Storm Water Certified Operator quarterly. At a minimum one inspection shall be performed within each of the following quarters: January – March, April – June, July – September, and October – December.

The permittee may request Department approval of an alternate schedule for comprehensive site inspections. Such a request may be made if the permittee meets the following criteria: the permittee is in full compliance with the permit, the permittee has an acceptable SWPPP, the permittee has installed and/or implemented adequate structural controls at the facility, the permittee has all required inspection reports available at the facility, and the permittee has an Industrial Storm Water Certified Operator at the facility.

A report of the comprehensive site inspection results shall be prepared and retained for three years. The report shall include the following information:

- ✓ Date of the inspection
- ✓ Name(s), title(s), and certification number(s) of the personnel conducting the inspection
- ✓ Precipitation information (i.e. a description of recent rainfall or snow met events)
- ✓ All observations relating to the implementation of control measures
- ✓ Any required revisions to the SWPPP resulting from the inspection
- ✓ A certification stating the facility is in compliance with this permit and the SWPPP, or, if there are instances of noncompliance, they are identified

The Comprehensive Site Inspection Form is in Section 17.0.

Comprehensive site inspection schedule:
Inspect sight the first week of January and July

Comprehensive site inspection written procedures:
The Industrial Storm Water Certified Operator will perform the comprehensive site inspections. All areas and items identified in Routine Inspection Procedures Table are included in the comprehensive site inspections. In addition all paper work associated with the routine inspections will be reviewed. The comprehensive site inspection report form will include a compliance certification statement. List any additional details (if necessary) related to the comprehensive site inspection procedures here:

Visual Assessments of Storm Water Discharges
****CHECK YOUR GENERAL PERMIT FOR APPLICABILITY****

The permit requires written procedures and a schedule for quarterly visual assessments of storm water discharges. The visual assessments shall be conducted by the Industrial Storm Water Certified Operator. At a minimum one visual assessment shall be performed within each of the following quarters: January – March, April – June, July – September, and October – December. If the Department has approved an alternate schedule for the comprehensive site inspection, the visual assessment may likewise be conducted in accordance with the same approved alternate schedule.

Visual assessment training/informational tutorials are available on the DEQ, WRD Industrial Storm Water webpage or by clicking on the following links:

- Part 1: https://www.youtube.com/watch?v=rhXbA1R_VZk&feature=youtu.be
- Part 2: https://www.youtube.com/watch?v=_AdGziksz_g&feature=youtu.be
- Part 3: https://www.youtube.com/watch?v=ZiajZM6Avlg&feature=youtu.be

The Visual Assessment Report Form is in Section 18.0.

Visual Assessment schedule:

SEE SECTION 14.0 FOR THE VISUAL ASSESSMENT PROCEDURES

5.4 Material Handling & Spill Prevention / Clean-Up Procedures

The permit requires a description of material handling procedures and storage requirements for significant materials. Equipment and procedures for cleaning up spills shall be identified in the SWPPP and made available to the appropriate personnel. The procedures shall identify measures to prevent spilled materials or material residues on the outside of the containers from being discharged into storm water.

The SWPPP may include, by reference, requirements of either a Pollution Incident Prevention Plan (PIPP) prepared in accordance with the Part 5 Rules (Rules 324.2001 through 324.2009 of the Michigan Administrative Code); a Hazardous Waste Contingency Plan (HWCP) prepared in accordance with 40 CFR 264 and 265 Subpart D, as required by Part 111 of the Michigan Act; or a Spill Prevention Control and Countermeasure (SPCC) plan prepared in accordance with 40 CFR 112.

Question: Does the facility have any additional material handling & spill / clean-up procedures on file in addition to the SWPPP? X No Yes

- If the answer is "No" complete the table below
- If the answer is "Yes" then reference the procedures and where they are located here and complete the table below as necessary:

Spills and leaks together are the largest industrial source of storm water pollution. Thus, this SWPPP specifies material handling procedures and storage requirements for significant materials. Equipment and procedures necessary for cleaning up spills and preventing the spilled materials from being discharged have also been identified. All employees have been made aware of the proper procedures. See the DEQ Industrial Storm Water Certified Operator Training Manual for additional information.

The DEQ, WRD Industrial Storm Water program spill report compliance assistance document should be kept with the SWPPP. Download the document from the DEQ, WRD Industrial Storm Water webpage or by clicking on the following link: http://www.michigan.gov/documents/deq/wrd-isw-permit_info-spill-reporting_398791_7.pdf

If material handling and spill prevention / clean-up procedures are not addressed in other facility documents (referenced above) then the table below needs to be completed:

Material Handling & Spill Prevention / Clean-up Procedures Table		
Potential Spill Area	Material Handling & Storage Procedures	Spill Response Procedures & Equipment
UST and fuel pump area	***Per MI UST regulations***	***Per MI UST regulations***
Fuel tanker transfer from supplier. NE corner of bus garage in lot.	***Transfer of Diesel and No Lead gasoline to tanker truck from supplier's truck.***	***Stop transfer. Contain spill, and clean up spill***
SE corner of bus garage	***Delivery of oils, solvents, and coolants.***	***Stop delivery. Contain spill, and clean up spill.***

SEE TABLE 2 FOR SPILL KIT INVENTORY

5.5 Soil Erosion & Sedimentation Control Measures

The permit requires the identification of areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion. Areas commonly prone to soil erosion are: gravel lots, bare earth or gravel at material handling areas around storm water inlets, areas with concentrated storm water runoff into streams or ditches, and access roads over open streams or ditches. Control measures must be implemented in areas

prone to soil erosion and sedimentation. More information on soil erosion and sedimentation control may be obtained from the DEQ, Water Resources Division District Office.

Question: Is dust suppression material used on site? ☐ Yes X No

- If "Yes" then describe the actions implemented to prevent an unauthorized discharge to the storm sewer system or surface waters of the state:

Question: Are there areas of the site that are prone to soil erosion and/or sedimentation? ☐ Yes X No

- If "Yes" then complete the table below:

Soil Erosion & Sedimentation Control Measures Table	
Areas Prone to Soil Erosion or Sedimentation	Control Measures Implemented
Space to list additional areas of concerns and control measures if necessary:	

5.6 Employee Training Program

The permit requires a description of employee training programs have been implemented to inform appropriate personnel at all levels of responsibility of the components and goals of the SWPPP. Recent modifications to the General Permits have included a requirement for annual employee training. An employee training video is available at the DEQ, WRD, Industrial Storm Water webpage or by clicking on the following link: https://www.youtube.com/watch?v=IGqvsztguRA&feature=youtu.be

Employee training will be a major component in ensuring the success of the facility's SWPPP. The more knowledgeable all employees are about the facility's SWPPP and what is expected of them, the greater the chance that the plan will be effective. The following is a description of the employee training programs to be implemented to inform appropriate personnel at all levels of responsibility of the components and goals of the SWPPP (i.e. good housekeeping practices, spill prevention and response procedures, waste minimization practices, informing customers of facility policies, etc.).

The Employee Training Form is in Section 19.0.

Employee Training Frequency: ***Training for new employees is on the job as they are partnered with existing employee when hired and once every permit cycle. Certified Operator updates his license every 5 years.***

Employee Training Program Description: ***You Tube videos, Webinars, hands on training of inspections.***

5.7 TMDL Requirements

The permit requires that if there is a Total Maximum Daily Load (TMDL) established by the Department for the receiving water, which restricts the discharge of any of the identified significant materials or constituents of those materials, then the SWPPP shall identify the level of control for those materials necessary to comply with the TMDL.

The TMDL means the amount of pollutant load a water body, such as a lake or stream, can assimilate and still meet water quality standards. If a receiving water body does not meet the water quality standards for a specific pollutant, the DEQ will establish the appropriate daily maximum load for that pollutant to allow the water body to again meet water quality standards. If a permitted facility is expected to discharge that specific pollutant in its storm water to that water body, the General Permit requires the facility to list actions it will take to meet that TMDL requirement.

The applicable TMDLs will be identified on the Certificate of Coverage (COC).

See the DEQ, WRD, Industrial Storm Water Webpage for additional TMDL information or click this link for the TMDL compliance assistance document: http://www.michigan.gov/documents/deq/wrd-isw-permit-info-tmdl_398790_7.pdf

Question: Is there a TMDL Requirement listed on the COC? ☐ Yes ☐ No

- If the answer to the above question is "Yes" then complete the table below:

TMDL Pollutant:	Best Management Practices Implemented to reduce the discharge of the TMDL pollutant:
N/A	
Space to list additional TMDL pollutants and BMPs implemented onsite if necessary:	

5.8 List of Significant Materials Still Present

The permit requires the identification of significant materials expected to be present in storm water discharges following implementation of non-structural preventative measures and source controls. Non-structural controls are used to reduce pollutants at the source before they can get into the storm water runoff. In some cases, these types of controls will not be enough. A list of significant materials expected to be present in storm water discharges after implementation of nonstructural controls must be included in the SWPPP. The materials listed below will be addressed through the use of structural controls. (If there will be no significant materials present after the implementation of non-structural controls, state that in this section.)

Significant Material	Location and Control Measure:	Impacted Inlet(s):	Impacted Discharge Point(s):
Diesel fuel and No Lead Gasoline	***Fuel pump and UST East side of bus lot. Spill containment kit.***	***I***	***Edison-06***
Diesel fuel and No Lead Gasoline	***Tanker truck transfer area NE side of bus garage. Spill containment kit.***	***I,M,N***	***Edison-06***
Oil & Anti-freeze delivery, and waste oil pick up area.	***SE corner of bus garage. Spill containment kit.***	***N***	***?***
Dumpsters at bus garage	***NW corner of bus garage. Keep lids closed.***	***L***	***Edison-06***
Dumpsters at Edison school.	***NW corner of Edison school in bus lot. Keep lids closed.***	***C***	***Edison-01***
Road Grime (Washing school buses)	***School Bus Lot. Seal drains and reclaim wash water.***	***ALL***	***Edison-01 & 06***

6.0 STRUCTURAL CONTROLS

The permit requires that where implementation of non-structural controls does not control storm water discharges in accordance with water quality standards, the SWPPP shall provide a description of the location, function, and design criteria of structural controls for prevention and treatment.

Structural controls may be necessary:

1) To prevent uncontaminated storm water from contacting or being contacted by significant materials; or
2) If preventive measures are not feasible or are inadequate to keep significant materials at the site from contaminating storm water. Structural controls shall be used to treat, divert, isolate, recycle, reuse, or

otherwise manage storm water in a manner that reduces the level of significant materials in the storm water and provides compliance with the Water Quality Standards

Examples of structural controls include the following:

- ✓ Signs and Labels
- ✓ Safety Posts
- ✓ Fences
- ✓ Security Systems
- ✓ Temporary and Permanent Coverings
- ✓ Storm Water Conveyances
- ✓ Diversion Dikes
- ✓ Grading
- ✓ Paving
- ✓ Curbing
- ✓ Drip Pans
- ✓ Secondary Containment
- ✓ Catch Basin Inserts
- ✓ Detention and Retention Ponds
- ✓ Vegetative Filters
- ✓ Oil/Water Separators

These types of controls are physical features that control and prevent storm water pollution. They can range from preventive measures to collection structures to treatment systems. Structural controls will typically require construction of a physical feature or barrier. Below is a description of the structural controls used at the facility. See the DEQ Industrial Storm Water Operator Training Manual for additional details on structural controls.

Question: Are structural control measures used at the facility? ☐ No X Yes

- If answer above is "Yes" then complete the appropriate information in the table below.

Structural Controls Used at the Facility		
Description of structural control(s)	Location of structural control(s)	Significant Materials intended to be managed by the structural control(s)
UST Spill containers	***At UST fill openings***	***Diesel fuel and No lead gasoline***
Safety posts	***Around fuel pump***	***Diesel fuel and No lead gasoline***
Fences	***Around bus lot***	***Diesel fuel and No lead gasoline***
Water/oil separator	***North side of bus garage***	***Fluids and solids coming from inside of bus garage.***
Storm drain covers	***Bus lot***	***Wash water***
Spill containment floor.	***Bus garage***	***Oils, coolants, and solvents.***
Dumpster lids	***Bus lot***	***Trash and recyclable materials***

7.0 NON-STORM WATER DISCHARGES

The permit requires that all discharge locations be evaluated for the presence of non-storm water discharges. Any unauthorized storm water discharges must be eliminated, or covered under another NPDES permit.

Storm water shall be defined to include all of the following non-storm water discharges provided pollution prevention controls for the non-storm water component are identified in the SWPPP.

Question: Is any of the 10 non-storm water discharges listed below applicable to the facility? X No ☐ Yes

- If the answer is "Yes" then complete the appropriate sections of the table below:

Check the Applicable Non Storm Water Discharges at the Facility:		Pollution Prevention Controls Implemented:	Impacted Inlet(s):	Impacted Discharge Point(s):
☐	1. Discharges from fire hydrant flushing			
☐	2. Potable water sources			

	including water line flushing			
☐	3. Water from fire system testing and fire fighting training without burned materials or chemical fire suppressants			
☐	4. Irrigation drainage			
☐	5. Lawn watering			
☐	6. Routine building wash-down that does not use detergents or other compounds			
☐	7. Pavement wash waters where contamination by toxic or hazardous materials has not occurred (unless all contamination by toxic or hazardous materials has been removed) and where detergents are not used			
☐	8. Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids			
☐	9. Uncontaminated ground water			
☐	10. Foundation or footing drains where flows are not contaminated with process materials such as solvents			

Discharges from fire fighting activities are authorized by the permit, but are exempted from the requirement to be identified in the SWPPP.

8.0 ANNUAL REVIEW

The permit requires that the permittee shall review the SWPPP annually after it is developed and maintain written summaries of the reviews. Based on the review, the permittee shall amend the SWPPP as needed to ensure continued compliance with the terms and conditions of the permit. The annual review is to be retained on site for three years and depending on the general permit is required to be submitted to the DEQ district office on or before January 10th of each year.

The Annual Review Report Form is in Section 20.0.

Specify the month the Annual SWPPP Review will be performed: ***December***

9.0 INDUSTRIAL STORM WATER CERTIFIED OPERATOR UPDATE

The permit requires that if the Industrial Storm Water Certified Operator is changed or an additional Industrial Storm Water Certified Operator is added, the permittee shall provide the name and certification number of the new Industrial Storm Water Certified Operator to the Department. If a facility has multiple Industrial Storm

Water Certified Operators, the name and certification number of the Industrial Storm Water Certified Operators shall be included in the SWPPP.

10.0 RECORD KEEPING

The permit requires that the permittee shall maintain records of all SWPPP related inspection and maintenance activities. Records shall also be kept describing incidents such as spills or other discharges that can affect the quality of storm water runoff. All such records shall be retained for three years. The following records are required by the permit:

- ✓ Routine preventive maintenance inspection reports
- ✓ Routine good housekeeping inspection reports
- ✓ Comprehensive site inspection reports
- ✓ Documentation of visual assessments
- ✓ Employee training records
- ✓ Written summaries of the annual SWPPP review
- ✓ Short Term Storm Water Characterization Study data

11.0 SWPPP CERTIFICATION

The permit requires that the SWPPP shall be reviewed and signed by the Certified Storm Water Operator(s) and by either the permittee or an authorized representative in accordance with 40 CFR 122.22. The SWPPP shall be retained on-site at the facility which generates the storm water discharge.

I certify under penalty of law that the storm water drainage system in this SWPPP has been tested or evaluated for the presence of non-storm water discharges either by me, or under my direction and supervision. I certify under penalty of law that this SWPPP has been developed in accordance with the General Permit and with good engineering practices. To the best of my knowledge and belief, the information submitted is true, accurate, and complete. At the time this plan was completed no unauthorized discharges were present. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

Permittee or Authorized Representative
Printed Name & Title:
Signature & Date:

Industrial Storm Water Certified Operator
Printed Name & Certification Number:
Signature & Date:

Space to list additional Industrial Storm Water Certified Operators if Necessary	
Printed Name & Certification Number	Signature & Date

12.0 FIGURE 1 – FACILITY SITE MAP (Use separate sheet if necessary)

Kalamazoo Public Schools
Transportation
-Site 32-

Located In
City of Kalamazoo, Kalamazoo County, Michigan

S. O. P.

March 2018

N
W E
S

LEGEND

- Point of Discharge
- Storm Structure
- Storm Treatment Unit
- Outfall
- Storm Infiltration Area
- Kalamazoo Public Schools
- City of Kalamazoo
- KCDC
- RCKC
- MDOT
- Abandoned

Prein&Newhof
Phone: 269-372-1158
PN# 2150104

13.0 TABLE 1 – SIGNIFICANT MATERIAL INVENTORY AND DESCRIPTION OF INDUSTRIAL ACTIVITY OR SIGNIFICANT MATERIAL STORAGE AREAS

Instructions - Fill out the applicable areas or activities in the corresponding sections. Add more lines as needed. Once you have described the area or activity, list the significant materials that are associated with the areas or activities, the exposure methods, and evaluate the level of exposure. Once that is completed indicate the inlet(s) and discharge point(s) that would be impacted if significant materials were discharged from the areas or activities described.

Section Listed in General Permit	Storage Areas / Activity Areas	Significant Materials	Exposure Method	Reasonable Potential Evaluation (high,medium,low)	Inlet(s)	Discharge Point(s)
1) Loading, unloading, and other material handling operations	***Tanker Truck***	***Diesel fuel No Lead Gasoline***	***Spill***	***Low***	***I,M,N***	***Edison-01 & 06***
	UST East side of bus lot	***Diesel fuel No Lead Gasoline***	***Spill***	***Low***	***I***	***Edison-06***
	Fluids delivery SE corner of bus garage.	***Oils & anti-freeze***	***Spill***	***Low***	***N***	***?***
2) Outdoor storage including secondary containment structures	***N/A***					
3) Outdoor manufacturing or processing activities	***N/A***					
4) Significant dust or particulate generating processes	***N/A***					
5) Discharge from vents, stacks, and air emission controls	***N/A***					
6) On-site waste disposal practices	***Dumpster & recycling bin. NW corner of bus garage***	***Garbage and recyclables.***	***Blowing out of bins***	***Low***	***L***	***Edison-06***
	Dumpster & recycling bin. NW corner of Edison school.	***Garbage and recyclables.***	***Blowing out of bins***	***Low***	***C***	***Edison-01***

13.0 TABLE 1 CONTINUED

Section Listed in General Permit	Storage Areas / Activity Areas	Significant Materials	Exposure Method	Reasonable Potential Evaluation (high,medium,low)	Inlet(s)	Discharge Point(s)
7) Maintenance and cleaning of vehicles, machines and equipment	***Bus Lot***	***Road grime***	***Run off***	***Low***		***Edison-01&06***
8) Areas of exposed and/or erodible soils						
9) Sites of Environmental Contamination listed under Part 201						
10) Areas of significant material residues						
11) Areas where animals congregate (wild or domestic) and deposit wastes						
12) Other areas where storm water may contact significant materials						

14.0 VISUAL ASSESSMENT PROCEDURES

1. List the discharge point(s) (as indicated on the SWPPP map):

   a) Is there substantially identical discharge points? ☐ Yes ☐ No
   If "Yes" then complete a) and b) below, if "No" go to Number 2.

   b) Describe the justification for the substantially identical discharge points determination?

   c) List the schedule for alternating the substantially identical discharge points:

2. Describe the monitoring (sampling) location for each discharge point:

3. List the Qualified Personnel that will collect the water sample:

4. Training for the Qualified Personnel includes viewing the Visual Assessment Webinar and/or the 3 Visual Assessment Tutorials on the DEQ, WRD Industrial Storm Water webpage. Check the appropriate box below:

   ☐ Yes

   ☐ No, however a copy of the training materials used are included with this procedure.

5. List the sampling equipment used for the collecting the water sample(s):

6. Complete a) through c) below to describe the storm event information.

   a) Describe how qualifying storm events are determined (including nature of the event):

   b) Describe how each discharge point was evaluated to determine when a discharge would begin:

   c) Describe what would constitute an adverse weather condition that would prevent sample collection:

7. Describe how the samples will be collected (Determine the timing sequence for water sample collection from the discharge points):

8. Describe the water sampling instructions that the Qualified Personnel will follow:

9. Described how observations made by the Qualified Personnel will be documented during the discharge (include nature of the event):

10. Describe the sample storage procedures if applicable:

11. Describe the procedures the Industrial Storm Water Certified Operator will follow to perform the visual assessment(s) of the water sample(s):

12. List the name(s) of the Industrial Storm Water Certified Operator that will be performing the water sample visual assessment(s):

13. The DEQ, WRD Visual Assessment Report form should be used to document each water sample visual assessment. Check the appropriate box below:

    ☐ Yes, the DEQ, WRD Visual Assessment Report form is used.

    ☐ No, the DEQ, WRD Visual Assessment Report form is not used however the form being used to meet this requirement is included with this procedure.

14. Colored Photos shall be used to record the visual assessment(s). If other methods of recording observations will be used describe those methods:

15. All visual assessment documentation should be kept with the SWPPP file. If documentation will be kept at an alternate location state that location:

16. Describe the follow-up actions that will be taken if unusual characteristics are observed during the visual assessment(s):

15.0 TABLE 2 – SPILL KIT INVENTORY

List the spill response equipment that will be maintained in each location or locker (refer to MSDSs to determine recommended clean-up methods and supplies):

Person responsible for maintaining this inventory:

Locker number or location	Absorbents (pads, booms, kitty litter, etc.)	Tools (shovels, brooms, squeegees, etc.)	Personal Protective Equipment (rubber gloves, boots, masks, etc.)	Other Supplies (warning tape, labels, markers, MSDSs, etc.)
Bus Garage	***Oil Dry***	***Shovel, broom, spill container***	***Rubber gloves***	***Warning Tape***

Label each spill kit with the words "SPILL KIT" and the necessary emergency telephone number(s) or pager number(s) of persons to be contacted in case of a spill or leak that is beyond the training and equipment available on or near each spill locker:

Facility Responsible Person/Phone Number: ***269-337-0506***
Spill Response Contractor (if any)/Phone Number:
DEQ District Office Phone Number: 269-567-3500
DEQ 24-Hour Emergency Spill Reporting Hot-Line: ***1-800-292-4706 (PEAS Number)***

Stencil the following warning on each spill kit:

**"WARNING: NEVER HOSE DOWN A SPILL!
CLEAN IT UP PROMPTLY AND DISPOSE OF THE WASTE PROPERLY."**

16.0 ROUTINE INSPECTION FORM

Date:	Time:

Inspector Information	
Print Name:	Signature:

Areas Inspected	Observation	Corrective Actions Taken
School Bus Lot		
Bus Garage		
Fuel Pump and Storage Tank Area		
Dumpster and recycling Containers		

17.0 COMPREHENSIVE SITE INSPECTION FORM

Date:	Time:

Certified Operator Information	
Print Name:	Signature:

Precipitation Information
Check the most appropriate box that represents the weather condition during the inspection: ☐ Dry ☐ Rain ☐ Snow ☐ Other, explain:

Compliance Certification Statement
Based on the results of this inspection the facility is in compliance with the general permit and the SWPPP: ☐ Yes ☐ No, explain:

Areas Inspected	Observation	Corrective Actions Taken
School Bus Lot		
School Bus Garage		
Fuel Pump and Storage Tank Area		
Fuel Transfer Area		
Fluid Delivery Area		
Dumpsters & Recycling Containers		
All Buses and Vehicles in Lot		

18.0 VISUAL ASSESSMENT REPORT FORM

Visual Assessment Sample Information		
Facility Name:	COC No. or NPDES Permit No:	
Industrial Storm Water Certified Operator Name:		
Name / Title of person collecting sample if other than Cert. Operator:		
Date of Comprehensive Inspection:	Is this a substitute sample? ☐ No ☐ Yes Explain:	
Discharge Point # / Name:	Substantially Identical Discharge Point? ☐ No ☐ Yes List:	
Description of sample collection location:		
Date / Time Discharge Began:	Date / Time Sample Collected:	Date / Time Sample Examined:
For rain events - if sample was collected > 30 minutes from start of discharge, provide explanation:		
Snowmelt ☐	Rainfall ☐ Inches:	If rain event - previous storm ended > 72 hours prior to start of this event? ☐ No ☐ Yes

Observations	
Color: ☐ None ☐ Yes (describe):	Floating Solids: ☐ No ☐ Yes (describe):
Oil Films / Sheens: ☐ None ☐ Flecks ☐ Globs ☐ Sheen ☐ Other Describe appearance of film/sheen:	
Foam (gently shake sample): ☐ No ☐ Yes	Suspended Solids: ☐ No ☐ Yes (describe):
Settleable Solids: ☐ No ☐ Yes (describe):	
Odor: ☐ None ☐ Musty ☐ Sewage ☐ Sulfur ☐ Sour ☐ Hydrocarbons ☐ Chemical ☐ Other (describe):	
Turbidity/Clarity: ☐ Clear ☐ Slightly Cloudy ☐ Cloudy ☐ Milky ☐ Other (describe):	
Picture of sample taken (required): ☐ No ☐ Yes Storage location:	
Receiving waters observed? ☐ N/A ☐ No ☐ Yes (describe):	

Follow-up:
Based on the visual observation, are there unnatural characteristics in the discharge (cloudiness, color, sheen, etc.)? ☐ No ☐ Yes
Potential sources of observed unnatural characteristics ☐ N/A or describe:
Implemented / recommended corrective action(s) ☐ N/A or describe: Scheduled date for correction:

I certify that the above information is correct	
Certified Operator Signature	Date

RETAIN THIS FORM FOR A MINIMUM OF 3 YEARS

19.0 EMPLOYEE TRAINING FORM

Date of Session:

Trainer Information	
Print:	Signature:

Training Session Information
Topics Covered:

Attendee Name	Attendee Signature

20.0 ANNUAL SWPPP REVIEW REPORT FORM

Facility Information	
Designated Name:	Certificate of Coverage No. or Individual Permit No.:
Facility Address:	County:
Facility Contact Information	
Name:	Telephone No.:
Email Address:	Certification No.:
Backup Facility Contact Information	
Name:	Telephone No.:
Email Address:	Certification No.:
Industrial Storm Water Certified Operator Information	
Name:	Telephone No.:
Email Address:	Certification No.:
Space to list additional operators if applicable:	

The SWPPP Checklist on the DEQ, WRD Industrial Storm Water webpage should be used to review the facility's SWPPP and before the following 10 questions are completed.			
1. Facility general information is current and accurate	Yes ☐	No ☐	
2. Site map is current and accurate	Yes ☐	No ☐	
3. Significant material inventory is current and accurate	Yes ☐	No ☐	
4. New exposures, processes and related controls have been documented appropriately in the SWPPP	Yes ☐	No ☐	NA ☐
5. Spills have been recorded and reported as appropriate	Yes ☐	No ☐	NA ☐
6. Employee SWPPP training was conducted and documented	Yes ☐	No ☐	
7. Records of routine preventative maintenance and housekeeping inspections are available in the SWPPP file	Yes ☐	No ☐	
8. Comprehensive site inspections have been completed, certified and filed in the SWPPP file	Yes ☐	No ☐	
9. Visual Assessments have been completed and the reports have been filed in the SWPPP file	Yes ☐	No ☐	NA ☐
10. Corrective actions noted in the inspection reports have been completed	Yes ☐	No ☐	
11. The SWPPP is compliant with the permit and has been reviewed and signed by the Certified Storm Water Operator and the permittee or designated representative	Yes ☐	No ☐	
Additional Comments:			

I certify that the above information is correct:	
Name:	Signature / Date:

SUBMIT THIS FORM TO THE DEQ, WRD DISTRICT OFFICE IDENTIFIED ON YOUR CERTIFICATE OF COVERAGE ON OR BEFORE **JANUARY 10TH** OF EACH YEAR

21.0 DEQ SPILL OR RELEASE REPORT

DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

SPILL OR RELEASE REPORT

NOTE: Some regulations require a specific form to use and procedures to follow when reporting a release. Those forms and procedures **MUST** be used and followed if reporting under those regulations. This report form is to aid persons reporting releases under regulations that do not require a specific form. This report form is not required to be used. **To report a release, some regulations require a facility to call the PEAS Hotline at 800-292-4706, or DEQ District Office that oversees the county where it occurred, and other regulating agencies and provide the following information. A follow-up written report may be required. Keep a copy of this report as documentation that the release was reported. If you prefer to submit this report electronically by FAX or e-mail, contact the regulating agency for the correct telephone number or e-mail address.** See the DEQ website on Spill/Release Reporting for more reporting information.

Please print or type all information.

NAME AND TITLE OF PERSON SUBMITTING WRITTEN REPORT

TELEPHONE NUMBER (provide area code)

NAME OF BUSINESS

STREET ADDRESS

CITY | STATE | ZIP CODE

BUSINESS TELEPHONE NUMBER (provide area code)

RELEASE LOCATION (provide address if different than business, if known, and give directions to the spill location. Include nearest highway, town, road intersection, etc.)

SITE IDENTIFICATION NUMBER AND OTHER IDENTIFYING NUMBERS (if applicable)

COUNTY | TOWNSHIP | TIER/RANGE/SECTION (if known)

RELEASE DATA. Complete all applicable categories. Check all the boxes that apply to the release. Provide the best available information regarding the release and its impacts. Attach additional pages if necessary.

DATE & TIME OF RELEASE (if known) ___/___/___ _____am/pm

DATE & TIME OF DISCOVERY ___/___/___ _____am/pm

DURATION OF RELEASE (if known) _____ days _____ hours _____ minutes

TYPE OF INCIDENT
- ☐ Explosion
- ☐ Fire
- ☐ Leaking container
- ☐ Loading/unloading release
- ☐ Pipe/valve leak or rupture
- ☐ Vehicle accident
- ☐ Other _____

MATERIAL RELEASED (Chemical or trade name) ☐ CHECK HERE IF ADDITIONAL MATERIALS LISTED ON ATTACHED PAGE.	CAS NUMBER or HAZARDOUS WASTE CODE	ESTIMATED QUANTITY RELEASED (indicate unit e.g. lbs, gals, cu ft or yds)	PHYSICAL STATE RELEASED (indicate if solid, liquid, or gas)

FACTORS CONTRIBUTING TO RELEASE
- ☐ Equipment failure
- ☐ Operator error
- ☐ Faulty process design
- ☐ Training deficiencies
- ☐ Unusual weather conditions
- ☐ Other _____

SOURCE OF LOSS
- ☐ Container
- ☐ Railroad car
- ☐ Pipeline
- ☐ Ship
- ☐ Tank
- ☐ Tanker
- ☐ Truck
- ☐ Other _____

TYPE OF MATERIAL RELEASED
- ☐ Agricultural: manure, pesticide, fertilizer
- ☐ Chemicals
- ☐ Flammable or combustible liquid
- ☐ Hazardous waste
- ☐ Liquid industrial waste
- ☐ Oil/petroleum products or waste
- ☐ Salt
- ☐ Sewage
- ☐ Other _____
- ☐ Unknown

MATERIAL LISTED ON or DEFINED BY
- ☐ CAA Section 112(r) list (40 CFR Part 68)
- ☐ CERCLA Table 302.4 (40 CFR Part 302)
- ☐ EPCRA Extremely Hazardous Substance (40 CFR Part 355)
- ☐ Michigan Critical Materials Register or permit
- ☐ NREPA Part 31, Part 5 Rules polluting material
- ☐ NREPA Part 111 or RCRA hazardous waste
- ☐ NREPA Part 121 liquid industrial waste
- ☐ Other list _____
- ☐ Unknown

IMMEDIATE ACTIONS TAKEN
- ☐ Containment
- ☐ Dilution
- ☐ Evacuation
- ☐ Hazard removal
- ☐ Neutralization
- ☐ System shut down
- ☐ Diversion of release to treatment
- ☐ Decontamination of persons or equipment
- ☐ Monitoring
- ☐ Other _____

RELEASE REACHED

Distance from spill location to surface water, in feet _____

- ☐ Surface waters (include name of river, lake, drain involved) _____
- ☐ Drain connected to sanitary sewer (include name of wastewater treatment plant and/or street drain, if known) _____
- ☐ Drain connected to storm sewer (include name of drain or water body it discharges into, if known) _____
- ☐ Groundwater (indicate if it is a known or suspected drinking water source and include name of aquifer, if known) _____
- ☐ Soils (include type e.g. clay, sand, loam, etc.) _____
- ☐ Ambient Air
- ☐ Spill contained on impervious surface

EXTENT OF INJURIES, IF ANY

WAS ANYONE HOSPITALIZED?
☐ Yes NUMBER HOSPITALIZED:___
☐ No

TOTAL NUMBER OF INJURIES TREATED ON-SITE:

DESCRIBE THE INCIDENT, THE TYPE OF EQUIPMENT INVOLVED IN THE RELEASE, HOW THE VOLUME OF LOSS WAS DETERMINED, ALONG WITH ANY RESULTING ENVIRONMENTAL DAMAGE CAUSED BY THE RELEASE. IDENTIFY WHO IMMEDIATELY RESPONDED TO THE INCIDENT (own employees or contractor — include cleanup company name, contact person, and telephone number). ALSO IDENTIFY WHO DID FURTHER CLEANUP ACTIVITIES, IF PERFORMED OR KNOWN WHEN REPORT SUBMITTED

☐ CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE

ESTIMATED QUANTITY OF ANY RECOVERED MATERIALS AND A DESCRIPTION OF HOW THOSE MATERIALS WERE MANAGED (include disposal method if applicable)

☐ CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE

ASSESSMENT OF ACTUAL OR POTENTIAL HAZARDS TO HUMAN HEALTH (include known acute or immediate and chronic or delayed effects, and where appropriate, advice regarding medical attention necessary for exposed individuals.)

☐ CHECK HERE IF DESCRIPTION OR ADDITIONAL COMMENTS ARE INCLUDED ON ATTACHED PAGE

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY NOTIFIED:

INITIAL CONTACT BY: ☐ Telephone ☐ Fax ☐ Email ☐ Other

DATE/TIME INITIAL CONTACT:_____

☐ PEAS: 800-292-4706 Log Number Assigned _____

☐ DEQ District or Field Office

- ☐ Baraga
- ☐ Bay City
- ☐ Cadillac
- ☐ Crystal Falls
- ☐ Detroit
- ☐ Gaylord
- ☐ Grand Rapids
- ☐ Gwinn
- ☐ Jackson
- ☐ Kalamazoo
- ☐ Lansing
- ☐ Newberry
- ☐ Warren
- ☐ Wyoming

DEQ Office locations are subject to change

Divisions or Offices Contacted:

- ☐ Air Quality
- ☐ Land & Water Management
- ☐ Office Geological Survey
- ☐ Remediation and Redevelopment
- ☐ Waste and Hazardous Materials
- ☐ Water Bureau

NAME AND TITLE OF PERSON MAKING INITIAL REPORT:

DEQ STAFF CONTACTED & PHONE NUMBER:

OTHER ENTITIES NOTIFIED:

	Date:	Time:
☐ National Response Center (NRC): 800-424-8802		
☐ US Coast Guard Office ☐ Detroit ☐ Grand Haven ☐ Sault Ste. Marie		
☐ US Department of Transportation		
☐ US Environmental Protection Agency		
☐ 911 (or primary public safety answering point)		
☐ Local Fire Department		
☐ Local Police and/or State Police		
☐ Local Emergency Planning Committee		
☐ State Emergency Response Commission via MI SARA Title III Program		
☐ Wastewater Treatment Plant Authority		
☐ Hazmat Team		
☐ Local Health Department		
☐ Department of Labor & Economic Growth MIOSHA		
☐ Department of Labor & Economic Growth Fire Safety		
☐ Michigan Department of Agriculture: 800-405-0101		
☐ Other _____		

PERSON CONTACTED & PHONE NUMBER:

DATE WRITTEN REPORT SUBMITTED	SIGNATURE OF PERSON SUBMITTING WRITTEN REPORT

Chapter 12 – Total Maximum Daily Load (TMDL) Implementation Plan

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Prein&Newhof

Total Maximum Daily Load (TMDL) Implementation Plan

BACKGROUND AND EFFORT

Kalamazoo Public Schools (KPS) discharges storm water via municipal connection that ultimately discharges to the Kalamazoo River which has a TMDL for phosphorus limits. The TMDL anticipated implementation of the communities/agencies MS4 programs as part of the storm water loading reductions to help achieve this phosphorus limit. As such, storm water is part of the non-point source load allocation in the TMDL.

Kalamazoo Public School's goal is to have a 50% Total Phosphorus removal as a compliance target. During this permit cycle, KPS intends to develop a baseline level of Total Phosphorus for the outfalls within the owner facility sites along with developing concepts to achieve this goal for each of the outfalls.

KPS's short term goal and priority is to continue with parking lot sweeping, catch basin cleaning and public education to reduce the Phosphorus loading to the maximum extent practical. KPS will also review funding sources to implement long term solutions to phosphorus removal at individual outfalls.

MODELING

Kalamazoo Public Schools (KPS) will model the phosphorus reduction within the facilities, as storm treatment systems are implemented on the outfalls at each site. Modeling shall be performed twice per permit cycle, unless there have been no changes to the MS4 that would influence phosphorus loadings.

OTHER

Any questions on this policy and procedure should be directed to the Storm Water Program Manager.

PROCESS FOR UPDATING/REVISING THIS PROCEDURE

This procedure shall be reviewed on an annual basis by the Storm Water Program Manager for any updates to improve effectiveness.

Chapter 13 – Stormwater Policy and Performance Standards

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

Kalamazoo Public Schools

Stormwater Policy and Performance Standards for Stormwater Management

General

The purpose of this document is to protect the public health, safety and welfare of residents and to protect property values, quality of life, and natural systems relating to storm water runoff control and management. Kalamazoo Public Schools finds it is a matter of public concern and benefit to protect water bodies and properties within their control and to reduce the future need for public expenditures relating to flooding, water quality, and storm water system maintenance. Both the quality and quantity of storm water runoff are a matter of public concern. In addition to the requirements herein, Kalamazoo Public Schools shall comply with the requirements pertaining to Site Plan approval and Building Permit approval required by the local municipality and state authority.

Applicability

The requirements of these Performance Standards shall apply to all new and redeveloped site projects.

These requirements shall apply to all Kalamazoo Public School sites, regardless of whether the stormwater outlet(s) from the site discharge to a designated county drain, municipal storm sewer system, waters of the state or any other types of conveyance.

Definitions

For the purpose of this article, the following words and phrases shall have the meanings respectively ascribed to them by this section unless the context in which they are used specifically indicates otherwise.

AUTHORIZED ENFORCEMENT AGENCY The municipality or agency with which the KPS facility is located within or discharging to and/or any persons or agencies designated to act as the authorized enforcement agency by such municipality of agency.

BEST MANAGEMENT PRACTICES (BMPs) Structural devices or nonstructural practices that are designed to prevent pollutants from entering stormwater flows, to direct the flow of stormwater, or to treat polluted stormwater flows. BMPs may include, but shall not be limited to, those described in the Michigan Department of Environmental Quality Guidebook of BMPs for Michigan watersheds. Equivalent practices and design criteria that accomplish the purposes of this part (including, but not limited to, minimizing stormwater runoff and preventing the discharge of pollutants into stormwater) shall be as determined by the Kalamazoo Public School's Engineer and, when applicable, the standards of the Kalamazoo County Drain Commissioner.

CLEAN WATER ACT The Federal Water Pollution Control Act, 33 U.S.C. § 1251 et seq., as amended, and the applicable regulations promulgated thereunder.

DETENTION BASIN A structure or facility, natural or artificial, which stores stormwater on a temporary basis and releases it at a predetermined rate. A detention basin may drain completely after a storm event, or it may be a pond with a fixed minimum water elevation between runoff events.

DISCHARGE The introduction (intentionally or unintentionally, directly or indirectly) of any liquid, substance, pollutant or other material into a stormwater drainage system or natural water body.

DISCHARGE The rate of flow or volume of water passing a given point. Expressed as cubic feet per second.

DISCHARGE PERMIT — A permit issued by the owner of the municipal separate storm sewer system (MS4) to a user for a discharge into the MS4.

DISCHARGER Any person or entity who directly or indirectly discharges stormwater from any premises or property. "Discharger" also includes any employee, officer, director, partner, contractor or other person who participates in, or is legally or factually responsible for, any act or omission that is, or results in, a violation of this part.

DISTURBED AREA An area of land subject to the removal of vegetative cover and/or earthmoving activities.

DRAIN Any and all conduits, facilities, measures, areas and structures that serve to convey, catch, hold, filter, store and/or receive stormwater or groundwater, either on a temporary or permanent basis.

DRAINAGE The collection, conveyance or discharge of groundwater and/or surface water.
DRAINAGE SYSTEM All facilities, areas, and structures which serve to convey, store, or receive stormwater, either on a temporary or permanent basis.

DRAINAGEWAY A natural or artificial facility, area, or structure which conveys or transports stormwater runoff from one location to a different location. This may include a drain, water body or floodplain.

EARTH CHANGE Any human activity which removes ground cover, changes the slope or contours of the land, or exposes the soil surface to the actions of wind and rain. Earth change includes, but is not limited to, any excavating, surface grading, filling, landscaping, or removal of vegetative roots.

EPA The U.S. Environmental Protection Agency.

EROSION The removal of soil particles from the land by the action of water, wind, ice, or other geological agents.

FLOODPLAIN The area, usually low lands, adjoining the channel of a river, stream or watercourse or lake or other body of standing water, that has been or may be covered by floodwater.

GRADING Any stripping, excavating, filling, and stockpiling of soil or any combination thereof and the land in its excavated or filled condition.

HAZARDOUS MATERIALS Any solid, liquid, semisolid or gaseous substance or material that because of its quantity, quality, concentration or physical, chemical or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible illness or serious incapacitating but reversible illness, or may pose a substantial present or potential hazard to human health or the environment if improperly treated, stored, transported, disposed of, or otherwise managed.

ILLICIT CONNECTION Any method or means or conduit for conveying an illicit discharge into a natural water body or a stormwater drainage system.

ILLICIT DISCHARGE Any discharge to a water body or a stormwater drainage system that does not consist entirely of stormwater, that is not allowed by the terms of an NPDES permit, or that is not an allowable discharge as defined by this part.

INFILTRATION The percolation and movement of water downward into and through the soil column. The rate of this movement is expressed in inches per hour.

MDEQ Michigan Department of Environmental Quality.

MS4 Municipal separate storm sewer system, as defined by federal and state laws.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT A permit issued by the EPA or a state under authority delegated pursuant to the Clean Water Act that allows the discharge of pollutants to waters of the United States.

NONSTORMWATER DISCHARGE Any discharge to the stormwater drainage system or a water body that is not composed entirely of stormwater.

OFFSITE FACILITY Any potion of a stormwater management system which is located off the development site which it serves.

100-YEAR STORM That water occupation adjacent to a body of water which results from a storm event having a 1 percent probability of occurrence in any given year. Thus, a 50-year storm has a 2 percent probability, a ten-year storm a 10 percent probability, etc.

PERFORMANCE STANDARD The technical standard or set of standards to be met. Performance standards may be periodically revised by the Kalamazoo Public Schools in response to state and federal regulatory requirements, changed scientific knowledge, or similar changed conditions and/or enhanced knowledge.

PERSON An individual, firm, partnership, association, public or private corporation, public agency, instrumentality or any other legal entity.

POLLUTANT Includes, but is not limited to, the following: any dredged spoil, solid waste, vehicle fluids, yard wastes, animal wastes, agricultural waste products, sediment, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological wastes, radioactive materials, hazardous materials, wrecked or discharged equipment, rock, sand, cellar dirt and industrial, municipal, commercial and agricultural waste, or any other contaminant or other substance defined as a pollutant under the Clean Water Act. "Pollutant" also includes properties or

characteristics of water, including, but not limited to, pH, heat, TSS, turbidity, color, BOD, COD, toxicity and odor.

PREMISES Any building, structure, lot, parcel of land or portion of land, or property, whether improved or unimproved, including adjacent sidewalks and parking strips.

PRIMARY DRAINAGE SYSTEM Facilities, structures, and areas which convey, store, or receive runoff from storms up to a 10-year frequency.

PROPERTY OWNER Any person having legal or equitable title to property or premises or any person having or exercising care, custody or control over any property or premises.

RECEIVING BODY OF WATER Any watercourse or wetland into which surface waters are directed, either naturally or artificially.

RETENTION BASIN A holding area for stormwater, either natural or constructed, which does not have a positive outlet. Water is removed from retention basins through infiltration and/or evaporation processes, and may or may not have a permanent pool of water.

RUNOFF The portion of precipitation which does not infiltrate or percolate into the ground, but rather moves over the land, eventually reaching a body of water, wetland, or low area.

SECONDARY DRAINAGE SYSTEM Facilities, structures, and areas which convey, store or receive runoff from storms up to a 100-year frequency without causing serious damage to adjacent properties.

SEDIMENT Any solid particulate matter, both mineral and organic, which has been moved from the site of origin by erosion, is being transported by water, is in suspension in water, or has been deposited in a body of water, wetland or floodplain.

SITE Any tract, lot, or parcel of land or combination of tracts, lots, or parcels, which compose an area proposed for development and/or earth change.

SOIL EROSION The stripping of soil and weathered rock from land creating sediment for transportation by water, wind or ice, and enabling formation of new sedimentary deposits.

STATE OF MICHIGAN WATER QUALITY STANDARDS All applicable state rules, regulations, and laws pertaining to water quality, including the provisions of Section 3106 of Part 31 of 1994 P.A. 451, as amended.

STORM DRAIN A system of open or enclosed conduits and appurtenant structures intended to convey or manage stormwater runoff, groundwater and drainage.

STORMWATER DRAINAGE SYSTEM Storm sewers, conduits, curbs, gutters, catch basins, drains, ditches, pumping devices, parking lots, roads or other man-made channels that are designed or used, singly or together in combination with one another, for collecting or conveying stormwater.

STORMWATER FACILITY Methods, structures, BMP's, areas, or related items, which are used to control, store, receive, infiltrate, or convey runoff.

STORMWATER MANAGEMENT PLAN Maps and written information which describe the way in which stormwater will be controlled, both during and after construction.

STORMWATER POLLUTION PREVENTION PLAN A document that describes the BMPs and activities to be implemented by a person or business to identify sources of pollution or contamination at a site, and the actions to eliminate or reduce pollutant discharges to stormwater, a storm drain or stormwater drainage system, and/or a water body to the maximum extent practicable.

STORMWATER RUNOFF (or STORMWATER) The runoff and drainage of precipitation resulting from rainfall, snowmelt or other natural event or process.

TOXIC MATERIAL Any pollutant or combination of pollutants that is or can potentially be harmful to the public health or the environment, including without limitation those listed in 40 CFR 401.15 as toxic under the provisions of the Clean Water Act or listed in the Critical Materials Register promulgated by the Michigan Department of Environmental Quality, or as otherwise provided by local, state or federal laws, rules or regulations.

WASTEWATER Any water or other liquid, other than uncontaminated stormwater, discharged from a property or premises. The term includes any water that has in any way been used and degraded or physically or chemically altered.

WATER BODY A river, lake, stream, creek or other watercourse or wetlands.

WATERCOURSE Any waterway or other body of water having reasonably well defined banks, including rivers, streams, creeks and brooks, whether continually or intermittently flowing; and lakes and ponds, as shown on the official maps of the Michigan Department of Natural Resources and Kalamazoo County Drain Commissioner.

WETLAND Land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation and/or aquatic life. Also known as a bog, swamp, marsh, etc. (from § 324.30301 of Michigan Complied Laws, Part 303 of NREPA, Wetlands Protection). The Michigan Department of Environmental Quality is the authority on the presence and regulatory status of wetlands.

Prohibited Discharges

A. It is unlawful for any person to discharge, or cause to be discharged, to a stormwater drainage system or water body, directly or indirectly, any substance or material, including, but not limited to, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater or an allowable discharge. This prohibition includes the commencement, conducting or continuance of any illicit discharge by any person to a stormwater drainage system or water body.

B. Any person discharging stormwater shall effectively prevent pollutants from being discharged with the stormwater, except in accordance with BMPs.

C. The authorized enforcement agency is authorized to require dischargers to implement pollution prevention measures, using stormwater pollution prevention plans and BMPs, as determined necessary by the authorized enforcement agency to prevent or reduce the discharge of pollutants to a stormwater drainage system or water body.

D. The discharge prohibitions of this section shall not apply to any non-stormwater discharge allowed under an NPDES permit, waiver or waste discharge order issued to the discharger and administered under the authority of the EPA, provided the discharger is in full compliance with all requirements of the permit, waiver or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the stormwater drainage system.

Prohibited Illicit Connections

A. It is unlawful for any person to construct, use, maintain (or to allow the construction, use, maintenance or continued existence of) an illicit connection.

B. This prohibition expressly includes, without limitation, illicit connections made prior to the effective date of this part, and regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

Allowable Discharges

The following non-stormwater discharges are permissible provided they are not significant contributors to violations of Water Quality Standards and provided that they are undertaken in compliance with any applicable or required BMPs:

A. Water supply line flushing.

B. Landscape irrigation runoff.

C. Diverted stream flows.

D. Rising groundwater.

E. Uncontaminated groundwater infiltration to storm drains.

F. Uncontaminated pumped groundwater.

G. Discharges from potable water sources.

H. Foundation drains.

I. Air-conditioning condensate.

J. Irrigation water.

K. Springs.

L. Water from crawl space pumps.

M. Footing drains and basement sump pumps.

N. Lawn watering runoff.

O. Flows from riparian habitats and wetlands.

P. Residual street or parking lot wash water.

Q. Discharges or flows from emergency firefighting activities.

R. Dye testing using MDEQ approved dyes, so long as authorized by a DEQ Rule 97 Certificate of Approval, and preceded by a written notification to and approval from the Stormwater Protection Administrator

Storage of Hazardous or Toxic Materials in Drainageway

Except as permitted by law, it shall be unlawful for any person to store or stockpile within a drainageway any hazardous or toxic materials, unless adequate protection and/or containment has been provided so as to prevent any such materials from entering a stormwater drainage system or water body.

Inspection and Sampling

The authorized enforcement agency may inspect and/or obtain samples from a discharger's property or premises as necessary to determine compliance with the requirements of this part. Upon request, the discharger shall allow the properly identified representatives of the authorized enforcement agency to enter the property or premises of the discharger at all hours necessary for the purposes of such inspection, investigation or monitoring, including, but not limited to, smoke/dye testing, televising pipes, examination and/or copying of records that are required by this chapter to be maintained, sampling and excavation. The authorized enforcement agency shall provide the discharger reasonable advance notice of the need for such access, if possible and consistent with protection of public health and safety and the environment. The properly identified representatives may place on the discharger's property or premises the equipment or devices used for such sampling or inspection. Unreasonable delays in allowing access to a property or premises is a violation of this part.

Stormwater-Monitoring Facilities

If directed in writing to do so by the authorized enforcement agency, a discharger of stormwater runoff from any property or premises shall provide and operate equipment or devices for the monitoring of stormwater runoff to provide for inspection, sampling and flow measurement of each discharge to a water body or a stormwater drainage system, as specified by the authorized enforcement agency. The authorized enforcement agency may require a discharger to provide and operate such equipment and devices if it is necessary or appropriate for the inspection, sampling and flow measurement of discharges in order to determine whether adverse effects from, or as a result of,

such discharges may occur. All such equipment and devices for the inspection, sampling and flow measurement of discharges shall be installed and maintained at the discharger's expense in accordance with applicable laws, ordinances and regulations.

Accidental discharges

Any discharger who accidentally discharges into a stormwater drainage system or a water body any substance other than stormwater or an allowable discharge shall immediately notify the authorized enforcement agency of the discharge. If the notification is given orally, a written report concerning the discharge shall be filed with the authorized enforcement agency within five days. The written report shall specify all of the following:

A. The composition of the discharge and the cause thereof.

B. The exact date, time and estimated volume of the discharge.

C. All measures taken to clean up the discharge, all measures taken or proposed to be taken to mitigate any known or potential adverse impacts of the discharge, and all measures proposed to be taken to reduce and prevent any recurrences.

D. The names and telephone numbers of the individual making the report and (if different) the individual who may be contacted for additional information regarding the discharge.

Recordkeeping Requirement

Any person that violates the requirement of this part or that is subject to monitoring under this part shall retain and preserve for no less than five (5) years any and all books, drawings, plans, prints, documents, memoranda, reports, correspondence and records, including records on magnetic or electronic media, and any and all summaries of such records relating to monitoring, sampling and chemical analysis of any discharge or stormwater runoff from any property or premises connected with the violation or subject to monitoring.

Responsibility to Implement BMPs

Kalamazoo Public Schools shall provide, at the owner's or operator's own expense, reasonable protection from an accidental discharge of prohibited materials or other wastes from entering into the stormwater drainage system or natural water body through the use of structural and nonstructural BMPs. Further, any person responsible for a property or premises that is, or may be, the source of an illicit discharge may be required to implement, at his expense, additional structural and nonstructural BMPs to prevent the further discharge of pollutants to the stormwater drainage system or natural water body. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section.

Performance Standards

1. Stormwater management areas and facilities, whether on-site or off-site, shall be designed, constructed, and maintained to prevent flooding and protect water quality. The design of any stormwater management system shall be based upon a 25-year frequency 24-hour duration storm

event. In order to be approved, all stormwater management plans must meet the following performance standards:

A. Runoff leaving the site shall be controlled to a non-erosive velocity, both during and after construction.

B. Minimum Treatment Volume. A minimum treatment volume is established to provide pollutant removal (pre-treatment) for prevalent precipitation events. The minimum treatment volume standard shall be one inch of runoff from the entire site. Use of the US Geological Service (USGS) runoff curve number method is the preferred means to calculate site runoff.

Treatment methods shall be designed on a site-specific basis to achieve a minimum of 80 percent removal of total suspended solids (TSS), as compared with uncontrolled runoff, or discharge concentrations of TSS not to exceed 80 milligrams per liter (mg/l).

A minimum treatment volume standard is not required where site conditions are such that TSS concentrations in storm water discharges will not exceed 80 mg/l.

C. Channel Protection Criteria. Channel protection criteria is established to protect stream channel bed and banks from excessive flows. The channel protection criteria is to maintain post-development site runoff volume and peak flow rate at or below existing levels for all storms up to the 2-year, 24-hour event. “Existing levels” means the runoff flow volume and rate for the last land use prior to the planned new development or redevelopment.

An acceptable source of rainfall data for calculating runoff volume and peak flow rate is: Rainfall Frequency Atlas of the Midwest, Huff & Angel, NOAA Midwest Climate Center and Illinois State Water Survey, 1992. Methods for estimating pre- and post-development runoff shall follow the USGS runoff curve number method.

Curve number evaluation is described in a document titled "Computing Flood Discharges for Small Ungauged Watersheds", July 2003, which can be found at *www.michigan.gov/deqstormwater* under "Municipal Program/MS4 Permit Guidance" (go to "Storm Water Control Resources" and select "Guidance for Calculating Runoff Volume and Peak Flow Rate").

D. Flood Control. A flood control performance standard is required to ensure stormwater entering the MS4 is $\leq$ than the existing (pre-development) conditions and on-site retainage is properly designed to protect neighboring properties. The KPS Engineer or designee will review each site plan for approval on a case-by-case basis to determine if the proposed strategy meets industry standards and is appropriate for the specific site.

E. Riparian Buffers. A riparian buffer shall be provided for lands adjacent to streams and rivers and wetlands which are contiguous to these natural features. Riparian buffers shall also be required for noncontiguous wetlands if the full extent of the wetland as a natural feature is five (5) acres or greater.

The riparian buffer shall serve as a natural conservation area, where the principle best management practice is vegetative filtering and the conservation of trees, shrubs and herbaceous vegetation. The riparian buffer is a stormwater management measure to control soil loss and reduce water quality degradation caused by nutrients, animal wastes, toxics, sediment and runoff.

The riparian buffer shall begin at the edge of the stream bank of the active channel or the wetland boundary. The riparian buffer shall be composed of two distinct management zones in order to proscribe both permitted and restricted uses that provide progressive best management practices for stormwater quality protection.

(1) Zone 1 – Stream Side Protection. Zone 1 begins at the edge of the stream bank or wetland and extends 25 feet upgradient and perpendicular to the protected natural feature. Zone 1 shall contain undisturbed natural vegetation. Allowable uses within this zone are restricted to flood control structures, utility right of ways, foot paths, and road crossings where permitted. Highly restricted vegetative trimmings and removal of woody brush/trees is allowed to provide a limited viewshed of the protected natural feature.

(2) Zone 2 – Outer Zone. The Outer Zone (Zone 2) begins at the outer limit of the Stream Side Protection Zone (Zone 1) and extends 25 feet. Allowable uses within the Outer Zone are biking or hiking paths, approved storm water management facilities, approved recreational facilities, and removal of mature tree cover. Shrub and herbaceous ground cover are to be protected from disturbance.

(3) Permitted Activities. The following actions are permitted within Zones 1 and 2, provided the activity is undertaken in accordance with recognized best management practices. Other regulatory restrictions may apply, such as actions that may require separate federal, state or local permit or permit-by-rule provisions.

(a) Stream restoration projects conducted with advice and guidance of the county conservation district.

(b) Removal of individual trees that are in danger of falling, causing damage to structures, or causing blockage of the stream.

(c) Timber cutting techniques approved by state agencies, under advice and guidance, for purposes of forest management due to pest infestation, disease or threat from fire.

(d) Riparian buffers are intended to grow into their vegetative target state naturally, however active methods to enhance successional process, reforestation or to ensure preservation and propagation of the buffer are allowed.

(4) The width of each Zone may need to be increased if steep slopes are within close proximity of the protected natural feature. Guidelines of the US Geological Service may be used to determine the required equivalent length of vegetative filter capacity needed for slopes in excess of 15%.

(5) Encouragement of voluntary measures. Lands adjacent to the outer edge of the Outer Zone (Zone 2) are hereby defined as riparian lands. Riparian property owners have a unique and critical role in protecting water quality, preserving critical natural features and accommodating wildlife whose survival depends upon water features and conservation corridors. For example, some studies suggest that riparian buffers of 150 feet may be required for certain Michigan threatened species to successfully move between larger conservation areas and maintain healthy breeding populations. Therefore, it is a policy of the Kalamazoo Public Schools to educate, outreach and

otherwise assist riparian lands owned by the School to implement additional voluntary stormwater best management practices.

2. Storm water storage facilities which protect water quality and prevent adverse flooding on-site and off-site shall be required for all sites of one acre or more. In order to improve the quality of stormwater runoff and reduce the discharge of sediment into wetlands, watercourses, roadways, structures and other property within, and downstream of the Kalamazoo Public School properties, the following techniques A through F and standards G through I shall be used:

A. Infiltration of runoff provided that soils and groundwater conditions are suitable.

B. Retention basins with a fixed minimum water elevation between runoff events (e.g., wet ponds).

C. Detention basins which drain completely after a storm event (e.g., dry basins) but which discharge stormwater to wetlands or constructed basins which trap sediment carried by stormwater runoff.

D. Detention basins which hold stormwater for more than 24 hours before completely draining to become a dry basin (Extended detention basins).

E. Detention basins with a positive outlet shall be designed to hold runoff from a 10-year storm event, as a minimum. Retention basins without a positive outlet shall be designed to hold runoff from a 100-year storm event.

F. The banks of detention basins shall not exceed a 1:5 slope unless a fence is constructed.

G. Natural watercourses shall not be dredged, cleared of vegetation, deepened, widened, straightened, stabilized or otherwise altered without approval from the Michigan Department of Environmental Quality and Kalamazoo County Drain Commissioner.

H. Discharge of runoff from commercial and industrial sites which may contain oil, grease, toxic chemicals, or other polluting materials shall be prohibited unless approval has been obtained from the Michigan Department of Environmental Quality and Kalamazoo County Drain Commissioner.

I. The use of stormwater management areas and vegetated buffer areas as open space, recreation, and conservation areas shall be encouraged.

J. *Right of entry; furnishing information.* Representatives of the municipality, State of Michigan DEQ, and Kalamazoo County Drain Commission shall have the right to enter at any reasonable time any property served by a storm water drainage facility for inspections that discharge to their facilities. On request, Kalamazoo Public Schools shall furnish to the inspection agency any pertinent information regarding the drainage system or systems on such property.

3. Pipes, conduits, ditches, drains, or other conveyance facilities shall not discharge directly to the following receiving waters without providing the minimum treatment volume and channel protection criteria:

A. Any natural watercourses, including lakes, ponds, rivers and streams.

B. Wetlands with unique or natural wildlife or habitat characteristics as defined by a professional wetlands delineation specialist, biologist or ecologist.

C. Wetlands which are within a 500 foot distance of any natural lake or pond.

D. Wetlands which are within a 100 foot distance of any river or stream.

4. Discharges from storm water conveyance facilities shall be routed through swales, vegetated buffer strips, stormwater basins, non-regulated hydrologically isolated wetlands, and other facilities designed to decrease runoff velocity and volume, allow for natural infiltration, allow suspended solids to settle, and remove pollutants.

5. If wetlands are proposed for stormwater detention, runoff must be diffused to non-erosive velocities before it reaches the wetlands.

6. Operation and Maintenance. All structural and vegetative best management practices installed as a performance standard for stormwater management shall include a plan for maintaining maximum performance through long-term operation and maintenance (O&M). The plan shall include a schedule for O&M procedures and recordkeeping provisions such as periodic inspections.

7. Records Retention. Inspections and other records pertaining to the O&M of best management practices for stormwater water quality protection shall be maintained by the Kalamazoo Public Schools and retained for a minimum of five years.

8. No storm water management plan shall be approved if Kalamazoo Public Schools finds that the action will or is likely to pollute, impair or destroy air, water or other natural resources or the public trust therein, provided that there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety and welfare.

Design Standards

Kalamazoo Public Schools shall maintain design standards on file at the Facilities office. If specific BMPs design standards are not on file, design for such BMPs shall be in accordance with acceptable engineering practices and current design manuals.

"Hot Spots" Properties

If the subject property is a potential "Hot Spot" area with the potential for significant pollutant loading or with the potential for contaminating public water supply (wells), additionally site-specific requirements may apply to address the contaminate(s) of concern. Example of typical "hot spots" areas included, but not limited to gas stations, commercial vehicle maintenance and repair, auto recyclers, recycling centers, and scrap yards.

Contaminated Properties

If the subject property contains soil and/or groundwater contamination, site-specific requirements may apply. See MDEQ Post-Construction Storm Water Runoff Controls Program Compliance

Assistance Document (MDEQ, 2014) for specifics regarding stormwater. Kalamazoo Public School or Kalamazoo Public School's representative shall contact the Kalamazoo District MDEQ Office Remediation and Redevelopment staff prior to approval of the site plan for answers to questions regarding all state environmental regulations and requirements pertaining to site specific requirements. Kalamazoo Public Schools will make any site plan comply to meeting the MDEQ requirements.

Compliance with Other Permits

Any person subject to a NPDES stormwater discharge permit, Kalamazoo County soil erosion and sedimentation control permit, or site plan review shall comply with all provisions of such permit or approvals.

Requirement to Prevent, Control, and Reduce Stormwater Pollutants by the Use of Best Management Practices

1. Kalamazoo Public Schools shall provide reasonable protection from illicit discharge, including consideration of best management practices (BMP's) and/or stormwater pollution prevention plans (SWPPP's) for a facility that discharges, or is reasonably suspected of discharging, pollution into the stormwater system. A BMP shall be consistent with the guidelines set forth in the most current MDEQ Guidebook of BMP's for Michigan Watersheds, or equivalent practices and design criteria that accomplish the purposes of this document, as approved by the Department.

Notification of Spills

1. Notwithstanding other requirements of law, as soon as any person responsible for a facility, or responsible for emergency response for a facility, has information of a release, or suspected release, of pollutants into the stormwater system, said person shall take all reasonable and necessary steps to discover, contain, and clean up such release, including, if necessary, contacting emergency response agencies. Said person shall also notify the Kalamazoo Public Schools' facility manager of the discharge either in person, by telephone, or by facsimile as soon as possible, but in no event more than six hours after learning of the release.

2. All spill notifications provided to the Kalamazoo Public Schools' facility manager in person or by telephone shall be documented by said person in writing and mailed to the School's Superintendent within five business days of said incident. Such written notice shall specify the following: the composition of the discharge and the cause thereof; the exact date, time, and estimated volume of the discharge; all measures taken to clean up the discharge, and all measures proposed to be taken to reduce and prevent any recurrence; the name and telephone number of the person making the report, and the name of the person who may be contacted for additional information on the matter. The person shall also provide the School's Superintendent with copies of all documents the person submits to state or federal agencies relating to the same release.

Chapter 14 – Stormwater Design Standards

Kalamazoo Public Schools

National Pollution Discharge Elimination System

May 2018

2150104

KALAMAZOO PUBLIC SCHOOLS - SECTION 19

STORMWATER DESIGN STANDARDS

19.01 INTRODUCTION

This document provides Design Standards related to stormwater quality management throughout the Kalamazoo Public Schools (KPS), Michigan. The objectives of this document are to define technical standards for site development to protect surface water quality by establishing acceptable stormwater quality management strategies throughout KPS. The Standards are designed to be consistent with the objectives of the Kalamazoo Public School's municipal separate storm sewer system (MS4) National Pollutant Discharge Elimination System (NPDES) Permit Certificate of Coverage.

These Standards were developed primarily for use in Site Plan Design and Review and to supplement the Kalamazoo Public Schools Stormwater Policy and Performance Standards for Stormwater Management.

This document includes a variety of Best Management Practices (BMPs) related to groundwater and surface water protection and are considered commonly-accepted practices associated with groundwater and/or surface water protection. These BMPs were derived from a variety of sources, including "Low Impact Development Manual for Michigan - A Design Guide for Implementers and Reviewers" (SEMCOG, 2008), and "Michigan Nonpoint Source Best Management Practices Manual" (MDEQ, 2014).

19.02 STORMWATER MANAGEMENT CRITERIA

The general objectives of stormwater quality management in KPS are to achieve predevelopment conditions with respect to stormwater runoff rates and volume to reduce/control flooding, maintain or increase the quality of surface water and groundwater resources and maintain compliance with its Municipal Separate Storm Sewer System (MS4) Stormwater Program National Pollutant Discharge Elimination System (NPDES) Permit and associated Certificate of Coverage (COC). It is also recognized that the quality and sustainability of KPS's drinking water (groundwater) resources can depend to some extent on the management of stormwater runoff.

Some general strategies for minimizing stormwater volume and improving stormwater quality management that should be included wherever possible are listed below:

- Accommodate stormwater that complements the natural drainage patterns, maintains the integrity of stream channels for both their drainage and

biological functions, and protects wetlands.

- Reduce or maintain impervious surface area.
- Prevent erosion and sedimentation.
- Provide naturalized stormwater treatment for parking lot runoff using bioretention basins, rain gardens, filter strips, and/or other practices that can be integrated into landscaped areas and traffic islands where allowed and appropriate.
- Direct rooftop runoff to pervious areas such as yards, open areas, or vegetated areas (e.g., rain gardens), thus avoiding rooftop runoff to the roadway and stormwater collection system.
- Use native vegetation, where practical, to reduce the need for chemical applications and to enhance plant root absorption of Infiltrated stormwater. Non-vegetative stormwater treatment structures will be incorporated, if naturalized treatment systems are not practical or consistent with the Standards discussed below.
- Maintain or increase groundwater recharge by allowing non-polluted stormwater infiltration in designated areas.

19.03 KEY DEFINITIONS

Best Management Practice (BMP): A structural or non-structural practice or combination of practices that are designed to prevent or reduce stormwater runoff and/or associated pollutants.

Bioretention (Rain Gardens): Shallow surface depressions planted with specially selected native vegetation to capture and treat stormwater runoff from rooftops, parking lots, and streets.

Buffer Strip: A defined zone of selected plantings along a surface water features capable of filtering stormwater.

Catch Basin: A solid-walled stormwater inlet to the stormwater collection system that includes a sump to capture coarse sediments.

Channel Protection Performance Standard: Criteria that requires maintaining at the post-development project site runoff volume and peak flow rate at or below pre-development levels for all storms up to the 2-year.24-hour event

Constructed Filter: Structures or an excavated area containing a layer of sand, compost, organic material peat, or other media that reduces pollutant levels in stormwater runoff by filtering sediments, metals, hydrocarbons, and other pollutants.

Detention: The temporary storage of stormwater runoff to control peak discharge rates and provide gravity settling of sediments.

Detention Basin: A constructed basin that temporarily stores water before discharging 1nto a surface water feature (e.g., dry basin: <24 hour drain-time; extended dry basin: 24-40 hours drain time; and wet detention basin: permanent pool of water).

First Flush: The delivery of a highly concentrated pollutant loading during the early stages of a storm due to the washing effect of runoff on pollutants that accumulated on the land.

Flood Control Volume: The stormwater volume detained or infiltrated to protect downstream areas from flooding.

Green Roofs: Conventional rooftops that include a thin covering of vegetation allowing the roof to function more like a vegetated surface.

Groundwater Recharge: The replenishment of existing natural water bearing subsurface layers of porous stone, sand, gravel, silt or clay via infiltration.

Impervious Surface: A surface that prevents the infiltration of water into the ground such as roofs, streets, sidewalks, driveways, parking lots, and highly compacted soils.

Infiltration Practices: Natural or constructed land areas using permeable soils that capture, store, and infiltrate the volume of stormwater runoff into surrounding soil. Examples include but are not limited to dry wells, infiltration basins, infiltration trenches, and subsurface infiltration beds.

Infiltration/Retention Basin: A facility without a positive outlet in which stormwater runoff is collected and allowed to infiltrate into the ground.

Manufactured Treatment Devices (MTDs): A pre-fabricated stormwater treatment structure utilizing settling, filtration, absorptive/absorptive materials, vortex separation (hydrodynamic separator), vegetative components, and/or other appropriate technology to remove pollutants from stormwater runoff.

New Jersey Corporation for Advanced Technology (NJCAT) Program: A private/public partnership that pools the best talents and diverse resources of business and industry, entrepreneurs, university research centers, utilities and government to promote the development and commercialization of exciting, new energy and environmental technologies, including the verification of stormwater MTDs.

New Jersey Department of Environmental Protection (NJDEP) Standard for Manufactured Treatment Devices: A list of third-party certified Manufactured Treatment Devices (MTDs) that were laboratory and/or filed tested by the NJCAT Program and approved by the NJDEP to serve as acceptable BMPs. The most current listing available will be used as the list of acceptable MTDs for use in KPS of Vicksburg for removing pollutants from stormwater runoff.

Peak Discharge Rate: The maximum instantaneous rate of flow (volume of water passing a given point over a specific duration (such as cubic feet per second) during a storm, usually in reference to a specific design storm event.

Pervious Pavement: Infiltration technique that combines stormwater infiltration, storage, and structural pavement consisting or a permeable surface underlain by a storage reservoir.

Pretreatment: The additional measures taken to protect groundwater and/or surface water quality by removing pollutants from collected stormwater beyond those required to adequately collect and remove stormwater. Typically, pretreatment is accomplished by a BMP designed to provide controlled removal of oils and grease, course to fine sediments, and may provide for a containment area in the case of an accidental spill or other release.

Runoff: That portion of precipitation that does not infiltrate or evaporate but runs off to a surface water feature or stormwater collection system.

Sediment Basin: A man-made depression in the ground surface where runoff is collected and stored to allow suspended solids to settle out. Sediment basins may be wet or dry.

Sediment Forebay: A small, separate storage area located upstream to the inlet to a stormwater facility used to trap and settle incoming sediments.

Sediment Sump: A constructed sump or surface depression used to trap and settle incoming sediments. Generally smaller than a sediment basin or forebay.

Spill Containment Cell: A BMP designed to provide controlled removal of oils and grease, course to fine sediments, and other subject pollutants to protect groundwater and surface water resources, and to provide for a containment area in the case of a spill or other pollutant release.

Spill Containment Volume: The containment volume of stormwater required to protect groundwater and surface water from a release of regulated substances.

Stormwater Filter: An open drainage channel or depression, explicitly designed to filter runoff through a self-contained bed of sand to provide water quality treatment and spill containment.

Vegetated Filter Strip: A permanent, maintained strip of vegetation designed to slow runoff velocities and filter out sediment and other pollutants from stormwater

Water Quality Swale: An open drainage channel or depression with an impermeable liner, explicitly designed to filter runoff through a self-contained bed of sand to provide water quality treatment and spill containment.

Water Quality Treatment Volume Standard: Criteria that requires a stormwater treatment volume that is intended to reduce or prevent water quality impacts of stormwater runoff by capturing and treating the initial "first flush" volume expected to contain the majority of pollutants.

19.04 STORMWATER DESIGN STANDARDS

The preferred method of stormwater management within KPS facilities is to maintain their stormwater on-site and utilize infiltration. Infiltration systems should be designed to accommodate the 100-yr storm event.

For all projects with off-site stormwater discharges, the Stormwater Standard 1: Water Quality Treatment Volume Worksheet and the Stormwater Standard 2: Channel Protection Volume Worksheet is required to be completed.

Also, if Manufactured Treatment Devices (MTDs) are being proposed for the site, the (MTD) Worksheet is required. In addition, the following information must also be provided on the Site Plan or as an attachment to the Site Plan: Percentage and volume of stormwater runoff proposed to be infiltrated; percentage and volume of stormwater runoff to be discharged to KPS storm sewer; percentage and volume of stormwater runoff to be discharged *directly* to surface water: and off-site surface water features (river, creek, pond) to *directly* receive stormwater runoff.

19.04.01 Stormwater Standard 1 – Water Quality Treatment Volume

A water quality treatment volume of one-inch generated from the entire site that contributes to runoff is required for all sites, and parking areas. One inch also equals the 90 Percent Non-Exceedance Storm based on the closest weather station (Gull Lake).

To calculate the *volume* in cubic feet of one inch of stormwater runoff: Multiply area contributing stormwater runoff (square feet) by 1/12 feet (0.083).

For the purpose of selecting the appropriate size of a stormwater Manufactured Treatment Device (MTD), the Water Quality Treatment *Flow Rate* (Wq) shall be calculated based on the Rational Method Equation: Wq = CIA, where

Wq = Discharge in cubic feet per second (cfs)

C = Runoff coefficient depending on the characteristics of the drainage area
I = Rainfall intensity in inches/hour
A= Drainage area in acres

The runoff coefficient (C) shall be a weighted average that is based on the percentage of different surface types shown in the Stormwater Standard 1: Water Quality Treatment Volume Worksheet.

The rainfall intensity (I) to be used shall be 1.44 inches/hour (using 0.72 inches of the 1-year/30- minute storm for the area that represents a treatment volume equivalent to the 90 percent annual non-exceedance storm)

The drainage area (A) means the entire upstream land area which drains to and from that location (in acres).

In addition:

- The MTD shall be designed to treat 100% of the flow without bypass at the calculated water quality treatment flow rate.
- The storm pipe shall be designed at a 10-year storm event.
- The MTD shall have the capacity to handle the designed 10-year storm pipe flows without losing floatables or sediment.

KPS-approved catch basin inserts may only be used on sites as a water quality treatment BMP and when hydrodynamic separators and other BMPs are not physically practical due to site characteristics, such as depth to storm sewer, hydraulics, etc.

To meet the objective of Standard 1, the BMP method(s) selected to treat the water quality volume shall be designed on a site-specific basis to achieve a minimum of 80 percent removal of Total Suspended Solids (TSS), as compared with uncontrolled runoff, or a discharge concentration of TSS that does not exceed 80 mg/L. Many BMPs are sufficient individually to achieve the required removal of TSS, or compliance can also be achieved through the use of a system of BMPs that communality, reach the 80% reduction factor. If MTDs are selected as BMPs, they are required to be NJCAT verified and NJDEP certified to satisfy the Water Quality Treatment Volume Standard. The model/size of the certified unit shall be selected on the basis to effectively pre-treat stormwater at the calculated

water quality now rate. The NJDEP 50% Certified TSS Removal Rate approximates 80% net TSS reduction for the Kalamazoo region.

The effective removal of TSS and implementation of other stormwater control strategies by other proposed BMPs will be estimated by reference sources such as: “Low Impact Development Manual for Michigan,” SEMCOG, 2008; “Non-Point Source Best Management Practices Manual,” MDEQ, 2014; "Urban Runoff BMP Pollutant Load Reduction Worksheet Calculator," MDEQ,1999; and any other Kalamazoo Public School acceptable industry standard technical manuals used for estimating stormwater pollutant load reductions by BMPs. The Stormwater Standard 1: Water Quality Treatment Volume Worksheet must be prepared and submitted to demonstrate compliance with this Standard.

19.04.02 Stormwater Standard 2 – Channel Protection Volume

A Channel Protection Performance Standard is required to maintain the post-development project site *runoff volume and peak flow rote* at or below pre-development levels for all storms up to the 2-year, 24-hour event, or 2.37 inches (Source: Rainfall Frequency Atlas of the Midwest, Bulletin 71, Midwestern Climate Center, 1992). If the post-development volume of runoff is equal to or less than the volume of runoff from the existing site then the channel protection performance standard is met. The intent of the Channel Protection Performance Standard is to prevent excess sediment and channel instability caused by the increased rate and volume of stormwater runoff that can result from development.

Compliance with this requirement is determined by calculating the existing ("pre-development") and post-development runoff volume and rate for the 2-year and smaller events. If the post-development volume or rate exceeds the existing volume or rate, then appropriate controls or design changes shall be implemented to make post-development runoff volume and rate equal to or less than the existing levels for all storms up to the 2-year, 24-hour event. If site conditions challenge or prohibit feasibility of meeting this standard, the applicant should consider the incorporation of green infrastructure requirements. If extended detention is used as a post-construction stormwater runoff control, additional BMPs will likely be needed to maintain the pre-development volume and peak rate levels for all storms up to the 2-year, 24-hour event. The Rational Method Equation will be used to calculate whether BMPs are necessary to meet the Channel Protection Performance Standard.

The appropriate use, implementation, and estimated effectiveness stormwater control strategies by proposed BMPs will be determined by reference sources such as: "Low Impact Development Manual for Michigan,” SEMCOG, 2008, and "Non-Point Source Best Management Practices Manual," MDEQ, 2014, and any other acceptable industry standard technical manuals. The Stormwater Standard 2: Channel Protection Volume Worksheet is required to demonstrate compliance with this Standard.

19.04.03 Stormwater Standard 3 – Flood Control

A flood control performance standard is required to ensure stormwater entering KPS MS4 is ≤ than the existing (pre-development) conditions and on-site retainage is properly designed to protect neighboring properties. KPS Engineer or designee will review each site plan for approval on a case-by-case basis to determine if the proposed strategy meets industry standards and is appropriate for the specific site.

19.05 MANUFACTURED TREATMENT DEVICES (MTDs)

If Manufactured Treatment Devices (MTDs) are proposed to be used, the MTD Worksheet is required to be prepared and submitted to determine compliance with these Standards.

19.05.01 Catch Basin/Inlet Inserts

Only by review and approval of KPS, a site may be allowed to use Kalamazoo Public School-approved catch basin inlet inserts that provide treatment through vertical (gravity-based) flow *only.* These systems require a suitable treatment media (filter) for the subject contaminants of concern at the subject site. Typically, these systems are used for small higher-risk sites (e.g., gasoline stations or larger parking lots) where the larger hydrodynamic separators are not practical. Detailed hydraulic calculations shall be provided to demonstrate that the system will treat the first one inch of rainfall (the first flush) and have the capacity to allow flows from the 10-year storm to pass without causing surface ponding.

19.05.02 Hydrodynamic Separators

Many proprietary stormwater systems may not achieve full spill containment volumes as a stand-alone practice. Proprietary stormwater treatment systems can be used alone or in combination with other BMPs to meet the treatment criteria. Acceptable proprietary stormwater treatment systems must be NJCAT verified and NJDEP certified. See the Manufactured Treatment Device requirements in the Stormwater Standard 1 section.

19.06 "HOT SPOTS" PROPERTIES

If the subject property is a potential "Hot Spot" area with the potential for significant pollutant loading or with the potential for contaminating public water supply (wells), additionally site-specific requirements may apply to address the contaminate(s) of concern. Example of typical "hot spots" areas included, but not limited to gas stations, commercial vehicle maintenance and repair, auto recyclers, recycling centers, and scrap yards.

STORMWATER STANDARD 1: WATER QUALITY TREATMENT VOLUME WORKSHEET	
Option 1: Based on Volume Calculation	
Applies to all development/re-development sites and parking lots	
Developer must treat first 1-inch of stormwater runoff to remove 80% of total suspended solids (TSS) and any other identified pollutant of concern. One-inch of runoff also equals the 90% non-exceedance storm, based on the closest weather station (Gull Lake).	
	Result
1. Calculate the *volume* of one inch of stormwater runoff, multiply area contributing runoff (ft^2 by 1/12 foot (0.083).	ft^3
2. List and provide a Figure showing the locations of all proposed BMPs to meet the Water Quality Treatment Volume.	**BMP Treatment Volume (ft^3)**
Constructed Wetlands	
Wet Ponds/Retention Basins	
Extended Detention / Dry Pond	
Vegetated Filter Strip	
Vegetated Filter Swale	
Constructed Filters	
Vegetated Roofs	
Other (List)	
Total Treatment Volume (ft^3):	
If Treatment Volume ≥ 1-inch volume for the project site, Stormwater Standard 1 is met.	
PROJECT NAME:	
PROJECT ADDRESS: **DATE**	

STORMWATER STANDARD 1: WATER QUALITY TREATMENT VOLUME WORKSHEET	
Option 2: Based on Flow-Rate Calculation (MTD)	
Applies to all development/re-development sites and parking lots	
	Result
The Rational Method Equation will be used to calculate BMP design flow rates: Wq = CIA, where C = Runoff Coefficient; I = Rainfall Intensity (inches per hour); A = Drainage Area (Acres)	
1. Calculate Area (A) of the site in square feet and divide by 43,560 ft².	acres
2. Rainfall intensity (I) in inches/hour by using 1.44 inches/hour (1-year/30 minute storm).	1.44 inches/hour
3. Calculate Runoff Coefficient by using a weighted average that is based on the appropriate percentage of different surface types existing at the site. Runoff Coefficient ranges for various ground cover are shown in table below.	
4. Use the Rational Method Equation: Wq = Area (acres) x 1.44 inches/hour x Runoff Coefficient =	ft³/sec
	(treatment rate)
Simplified Table of Rational Method Runoff Coefficients (C)	Runoff Coefficient, c
Surface Cover	0.1
Lawns	0.15
Forest	0.25
Cultivated land/gardens	0.3
Meadow	0.9
Asphalt Streets and parking lots	0.8
Brick Streets	0.9
Roofs	0.9
Concrete street and parking lots	
5. List and provide a Figure showing the locations of all proposed BMPs to meet the Water Quality Treatment Volume.	**BMP Treatment Rate (ft³/sec)**
Manufactured Treatment Device (MTD) (e.g. Hydrodynamic Separators)[See MTD WORKSHEET]	
Other (List)	
Total Treatment Rate (ft³/sec):	
If MTD Certified Treatment Rate ≥ Calculated Rate for the project site, Stormwater Standard 1 is met.	
PROJECT NAME:	
PROJECT ADDRESS: **DATE**	

MANUFACTURED TREATMENT DEVICE WORKSHEET	
Applies to all projects that propose to use Manufactured Treatment Devices (MTDs).	
1. All MTDs must be verified by the New Jersey Corporation for Advance Technology (NJCAT) and certified by the New Jersey Department of Environmental Protection (NJDEP)	
2. The NJDEP 50% Certified TSS Removal Rate approximates 80% TSS reduction for the Kalamazoo area (the required TSS removal rate)	
3. All MTDs are based on treatment flow rates. The required MTD flow rate will be determined by the completion of the Stormwater Standard 1: Water Quality Treatment Volume Worksheet.	
4. The MTS shall be designed to treat 100% of the flow without bypass at the calculated water quality treatment flow rate.	
5. The storm pipe shall be designed at a 10-year storm event	
6. The MTD shall have the capacity to handle the design 10-year storm pipe flows without losing floatables or sediment.	
7. MTD Selection Details	**Result**
Selected MTD Manufacturer(s)	
Selected MTD Manufacturer Model(s)	
Selected MTD Water Quality Treatment Flow Rate(s) (cfs)	
Cumulative MTD Water Treatment Flow Rate	
Total BMP Treatment Flow Rate from Water Quality Volume Worksheet	
Required Water Quality Treatment Volume from Water Quality Volume Worksheet	
NJDEQ Certified Flow Rate for selected manufacturer and model selection	
PROJECT NAME:	
PROJECT ADDRESS: **DATE:**	

STORMWATER STANDARD 2: CHANNEL PROTECTION VOLUME WORKSHEET	
Applies to all development/re-development sites and parking lots	
	Result
1. Calculate pre-development stormwater runoff volume.	ft^3
2. Calculate post-development stormwater runoff volume.	ft^3
3. Difference in pre and post development stormwater runoff volume.	ft^3
If post-development stormwater runoff volume is ≤ pre-development stormwater runoff volume, Stormwater Standard 2 is met (#4 and #5 below are not necessary)	
If post-development stormwater runoff volume is > pre-development stormwater runoff volume, appropriate controls/BMPs or site design changes have to be implemented to make post-development runoff volume and rate ≤ the site pre-development levels for all storms up to the 2-year, 24-hour event, or 2.37 inches.	
4. Calculate the *volume* of 2.37 inches of stormwater runoff by multiplying area contributing runoff (ft^2) by 0.2 feet	ft^3
5. List and provide a Figure showing the locations of all proposed BMPs to meet the Channel Protection Volume.	**BMP Treatment Volume (ft^3)**
Bioretention (e.g. rain gardens)	
Vegetated Filter Strip	
Vegetated Filter Swale	
Vegetated Roofs	
Infiltration Basin	
Infiltration Trench	
Subsurface Infiltration Bed	
Dry Well	
Pervious Pavement	
Capture/Reuse	
Other (List)	
Total Protection Volume (ft^3):	
If Protection Volume ≥ 2.37 inches for the project site, Stormwater Standard 2 is met.	
PROJECT NAME:	
PROJECT ADDRESS: **DATE**	