*Village of Menomonee Falls*
*W156 N8480 Pilgrim Road*
*Menomonee Falls, WI 53051-3140*
*Telephone: (262) 532-4200*

# STORMWATER MANAGEMENT FACILITIES OPERATION AND INSPECTION REPORT

Quarter Section: SW ¼ SEC 26
Property Tax ID Number: V0103985
Date: 8/07/2020
Name of Business/Subdivision: First Park
Address of Property: W156 N5384 Pilgrim Rd

| | |
|---|---|
| Dry Pond | |
| Wet Pond | X |
| Other | |

Pond ID: SWP
Basin A SWP26S003

Location of Pond: East of Pilgrim Rd, South of Shawn Circle

Year Pond Constructed: 2008
Year of Last Certification: 2015

| **Compliance Verification** | Design | Actual | Compliant Yes | Compliant No | Comments ( Condition of Structure) |
|---|---|---|---|---|---|
| ***Primary Outlet Pipe*** | | | | | Outlet Pipe Material |
| Opening Diameter (inches) | 36 in | 36 in | X | | Reinforced concrete pipe in fine condiditon with no obstructions in outlet. Downstream of outlet is silt fence which had likely been placed with original development. It should be removed so it doesn't cause an obstruction. |
| Upstream Invert | 780.89 | 780.93 | X | | |
| Downstream Invert | 780.61 | 780.80 | X | | |
| Length (feet) | 54.5 | 47 | X | | |
| Slope (%) | 1% | 0.28% | X | | |
| ***Secondary Outlet Pipe*** | (If Applicable) | | | | Outlet Pipe Material |
| Opening Diameter (inches) | N/A | | | | |
| Upstream Invert | N/A | | | | |
| Downstream Invert | N/A | | | | |
| Length (feet) | N/A | | | | |
| Slope (%) | N/A | | | | |
| ***Riser*** | (If Applicable) | | | | Riser Material |
| Opening Diameter (inches) | N/A | | | | |
| Elevation | N/A | | | | |
| ***Upper Discharge Control*** | (If Applicable) | | | | |
| Opening Diameter (inches) | 22 in | 22 in | X | | |
| Elevation | 782.60 | 782.85 | X | | |

| **Compliance Verification** | Design | Actual | Compliant Yes | Compliant No | Comments |
|---|---|---|---|---|---|
| ***Lower Discharge Control*** | (If Applicable) | | | | |
| Opening Diameter (inches) | 15 in | 15 in | X | | |
| Elevation | 780.89 | 780.93 | X | | |
| ***Other (Description)*** | | | | | |
| Opening Type and Size (inches) | N/A | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Elevation | N/A | | | | |
| ***Emergency Spillway*** | | | | | |
| Elevation | 785.20 | 785.28 | X | | Noted no obstructions at emergency overflow spillway |
| Length of spillway (feet) | 10 ft. | 25 ft. | X | | |

| ***Embankment*** | Present Yes | Present no | Comments/Maintenance Requirements |
|---|---|---|---|
| Unauthorized Plantings, trees, or woody vegetation | X | | Areas of invasive species present. Spot herbicide, mowing, and/or re-seeding as needed. |
| Animal burrows or slope erosion | X | | Muskrat burrows on south and west banks, use caution walking, consider no trespass signs w/ any potential safety hazards. |

| ***Storm Sewer Outfalls*** | Type & Size | Location | Comments |
|---|---|---|---|
| Outfall 1 | 42-inch RCCP | Northwest corner of basin, first outfall from west. | Good condition. |
| Outfall 2 | 30-inch RCCP | North side of basin, second outfall from west. | Good condition. |
| Outfall 3 | 18-inch RCCP | North side of basin, third outfall from west. | Good condition. |
| Outfall 4 | 12-inch RCCP | North side of basin, fourth outfall from east. | Good condition. |
| Outfall 5 | 36-inch RCCP | North side of basin third outfall from east. | Rip rap displaced and some scouring. Additional rip rap underlain with geotextile fabric needed. |
| Outfall 6 | 12-inch RCCP | North side of basin, second outfall from east. | Good condition. |
| Outfall 7 | 36-inch RCCP | Northeast corner of basin, first outfall from east. | Good condition. |

| **Storage Properties** | Design | Actual | Compliant Yes | Compliant No | Not Applicable | Equipment Used |
|---|---|---|---|---|---|---|
| Normal Water Elevation *(Wet Ponds)* | 780.90 | 780.93 | X | | | Trimble R8 GPS for all survey. |
| Design High Water Elevation | 785.13 | 785.13 | X | | | |
| Area at Normal Water Elevation (Ac) (Wet Ponds) | 3.3 Ac. | 3.3 Ac. | X | | | |
| Area at Design High Water Elevation (Ac) | 4.9 Ac. | 4.8 Ac. | X | | | |
| Active Storage Available (Ac-Ft)* | 22.0 Ac.-Ft. | 22.5 Ac.-Ft. | X | | | |
| Lowest Elevation at Top of Embankment (If Applicable) | 787.00 | 785.85 | X | | | |
| Average Elevation at Top of Embankment (If Applicable) | | | | | N/A | |
| Maximum Bottom Elevation | 775.89 | 773.45 | X | | | |
| Average Pond Bottom Elevation | 775.89 | 775.58 | X | | | |
| Pond Bottom Area (Ac) | 1.5 Ac. | 1.5 Ac. | X | | | |
| Maximum Pond Depth | 5.0 ft. | 7.48 ft. | X | | | |
| Average Pond Depth | 5.0 ft. | 5.35 ft. | X | | | |
| Average Permanent Pool Depth *(Wet Ponds)* | 5.0 ft. | 5.35 ft. | X | | | |

*To Determine Active Storage V=H/3(A1+A2+(A1xA2)1/2)
Wet Ponds Use *H = Height of Section , A1= area at normal water elevation, A2=area at top section*
Dry Ponds Use *H= Height of Section, A1= pond bottom area, A2=area at top section*

| *Sketch Outlet or Attach to Document* | *Place Photograph of Pond or Attach to Document* |
|---|---|
| Please see attached for exhibit of storm pond A certification survey. | Please see attached for site photos from inspection on 8/07/2020. |
| | *Place Photograph of Pond or Attach to Document* |
| | Please see attached for site photos from inspection on 8/07/2020. |

*Attach As-built Survey to the Document for the first report submission*

Inspection Firm: Kapur, Inc.
Phone Number: 414-751-7200
Address: 7711 N. Port Washington Rd.
Milwaukee, WI 53217

Inspector Name : Kathryn McNelly
Inspection Date: 8/07/2020

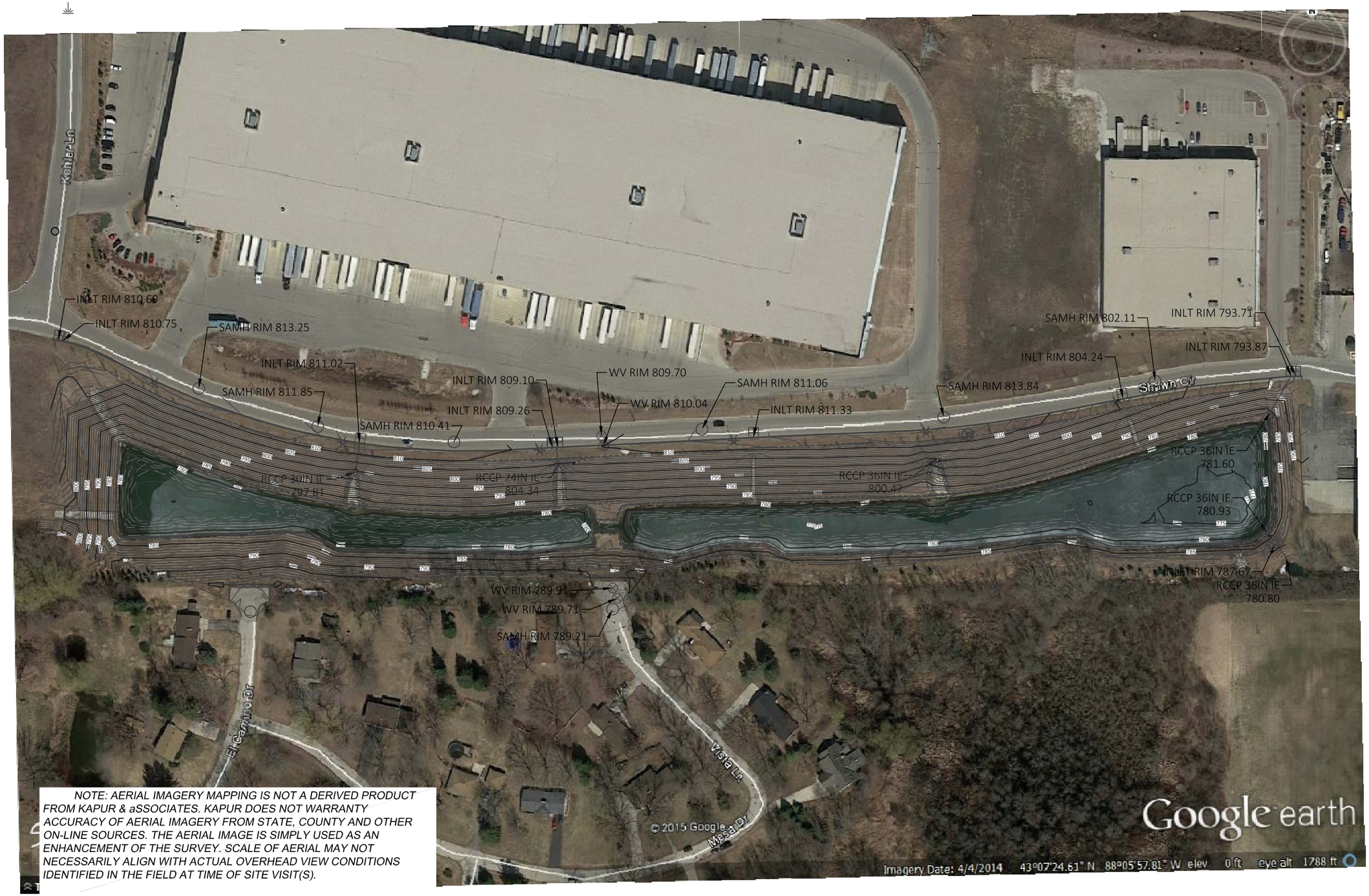
Certifying Professional Name: *Jeremy Schwartz, P.E.*
Phone Number: *414-751-7200*

WISCONSIN
JEREMY L. SCHWARTZ
E-40478
MILWAUKEE, WISCONSIN
PROFESSIONAL ENGINEER

*Affix Seal Here*

| *Date:* | *Signature:* |
|---|---|
| 8-13-2020 | |

10-3-2012




*NOTE: AERIAL IMAGERY MAPPING IS NOT A DERIVED PRODUCT FROM KAPUR & aSSOCIATES. KAPUR DOES NOT WARRANTY ACCURACY OF AERIAL IMAGERY FROM STATE, COUNTY AND OTHER ON-LINE SOURCES. THE AERIAL IMAGE IS SIMPLY USED AS AN ENHANCEMENT OF THE SURVEY. SCALE OF AERIAL MAY NOT NECESSARILY ALIGN WITH ACTUAL OVERHEAD VIEW CONDITIONS IDENTIFIED IN THE FIELD AT TIME OF SITE VISIT(S).*

KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
7711 N. PORT WASHINGTON ROAD
MILWAUKEE, WISCONSIN 53217
Phone: 414.351.5668 Fax: 414.351.4117
www.kapurengineers.com

PROJECT:

FIRST INDUSTRIAL POND A SURVEY

LOCATION:

VILLAGE OF MENOMONEE FALLS, WAUKESHA CO, WI

CLIENT:

FIRST INDUSTRIAL

REALTY- TRUST

REVISIONS:

| # | DATE | DESCRIPTION |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

NORTH ARROW:

SCALE:

0 37.5 75 150

IF NOT ONE INCH ADJUST SCALE ACCORDINGLY

SEAL:

we listen. we innovate.
we turn your vision into reality.

SHEET:

STORM POND A EXHIBIT

| | |
|---|---|
| DESIGNED BY: | |
| DRAWN BY: | RK |
| CHECKED BY: | ..... |
| APPROVED BY: | -- |
| PROJECT NUMBER: | 20.0466 |

SHEET NUMBER:

1 of 1

FILENAME: S:_NaturalRes\200466-FirstParkBasinAStormwater2020\Survey\200466_JT.dwg

# Storm Water Detention Facilities
# Operation, Maintenance and Inspection Agreement
## First Park, Menomonee Falls, Wisconsin

Pursuant to the requirements of that certain Declaration of Development Standards and Protective Covenants for First Park Menomonee Falls, which is recorded as Instrument No. 3680700 in the Registrar's Office of Waukesha County, Wisconsin, First Park Menomonee Falls Owner's Assn, Inc. is responsible for maintaining the detention pond located on Outlot 1 and the owner of record of Lot 2 is responsible for maintaining the dry pond that it is located entirely on Lot 2. FR Menomonee Falls LLC is the owner of record of Lot 2 as of the date of this application.

# Operation, Maintenance and Inspection Schedule and Practices

## First Park, Menomonee Falls, Wisconsin

This document explains the basic function of each of the storm water management facilities and prescribes the minimum inspection and maintenance requirements necessary in order for the facilities to continue functioning as intended. The inspection and maintenance requirements listed herein are not all inclusive, but rather indicate the minimum type of inspection and maintenance activities that can be expected for these particular facilities.

**System Description:**

Basin A is located south of Shawn Circle on Outlot 1 of Certified Survey Map 10722. Basin A is a wet detention basin designed to hold back storm water during storm events. The basin receives runoff from a 55.76 acre drainage area. During high rainfall or snow melts, the water level will temporarily rise and then slowly drain down to the normal water elevation. The water level is controlled by an outlet control manhole structure located at the southeast corner of the basin. Unusually high flows may enter the emergency spillway also located at the southeast corner of the basin.

Basin B is located north of Shawn Circle on Lot 2 of Certified Survey Map 10722. Basin B is a normally dry detention basin designed to hold back storm water during storm events. The basin receives runoff from a 13.3 acre drainage area. During high rainfall or snow melts, the water level will temporarily rise and then slowly drain down to the bottom of the basin. The water level is controlled by a 30" diameter concrete culvert pipe located along the south side of the basin. The 30" diameter culvert receives water from Basin B and discharges it into Basin A. Unusually high flows may enter the emergency spillway located at the southeast corner of the basin.

**Minimum Inspection and Maintenance Requirements**

To assist with ensuring proper function of the storm water management facilities described above, an itemized schedule of inspection and maintenance practices has been prepared for Basin A and Basin B.

# Basin A - Large Basin South of Shawn Circle
## Schedule of Inspection and Maintenance Practices

Inspected By: Kathryn McNelly-Bell, Megan Ruemler, Greggory DuBois (Name of Inspector)

Date: August 7, 2020 (Date of Inspection)

| Inspection Items | Minimum Frequency | Inspected (Yes/No/NA) | Maintenance Needed (Yes/No/NA) | Remarks |
|---|---|---|---|---|
| **I. General Vegetation and Ground Cover** | | | | |
| 1. Adequate vegetative cover * | Annually | Yes | Yes | Spot herbicide, mowing, and/or re-seeding as needed (see section hi-lited below a part of Village recommendations). |
| 2. Presence of erosion | Annually | Yes | Yes | Some sediment accumulation near pond inlets. |
| 3. Cracking, bulging, or sliding of slopes/ embankments | Annually | Yes | No | |
| 4. Unauthorized addition of trees or other landscaping | Annually | Yes | No | |
| 5. Unauthorized placement of fill material | Annually | Yes | No | |
| 6. Riprap obstruction or failures | Annually | Yes | No | Replace areas of stone that have been displaced with high flow events at pond inlets. |
| **II. Discharge Pipes, Outlet Control Structure and Emergency Spillway** | | | | |
| 1. Condition of pipes that discharge into the basin. Presence of any obstructions. | Monthly | Yes | No | |
| 2. Condition of pipes at outlet control structure. Presence of any obstructions. | Monthly | Yes | Yes | Silt fence downstream of outlet may be removed (note - it is not causing an obstruction at time of inspection). Open manhole cover creating safety concern. |
| 3. Condition of outlet control structure and its internal orifice plate. Presence of any obstructions. | Monthly | Yes | No | |
| 4. Condition of emergency spillway. Presence of any obstructions. | Monthly | Yes | No | |
| **III. Ponded Water Area** | | | | |
| 1. Sediment or debris buildup in bottom of basin. Record sediment elevation at time of inspection. Remove and properly dispose of accumulated sediment when an average of 2 feet of accumulated sediment is present at bottom of basin; this will be when the top of the sediment reaches an elevation of approximately 777.9 ft. | Annually | No | N/A | |
| 2. Floating trash or debris | Monthly | Yes | Yes | Minimal debris along pond banks can be cleaned during next mow/ maintenance event. |
| **IV. Other (Please Specify)** | | | | |
| | | | | |
| | | | | |

The embankment areas surrounding Basin A were seeded with a native prairie seed mix, which in the long term, should require less maintenance than a typical grass seeding. In the short term special care will need to be given to Basin A to ensure the proper establishment of the native prairie vegetation. In the long term, some special care such as spot herbicide treatments to keep weedy species in check and periodic spring mowing may be necessary. It is recommended that the services of a professional landscaping firm that specializes in native vegetation maintenance be utilized to annually inspect and ensure the proper short term and long term maintenance of the native prairie vegetation on the embankments of Basin A.

# PHOTOGRAPHIC LOG

| Photo # | Date |
|---|---|
| 1 | 08/07/20 |

**Description**

Facing east towards Basin A. Vegetation along basin provides adequate cover.

| Photo # | Date |
|---|---|
| 2 | 08/07/20 |

**Description**

Facing south towards Basin A.

# PHOTOGRAPHIC LOG

| Photo # | Date |
|---|---|
| 3 | 08/07/20 |

**Description**

Facing north east towards an area of scouring near the northern pond inlet.

| Photo # | Date |
|---|---|
| 4 | 08/07/20 |

**Description**

Facing north towards the northern pond inlet adjacent to scouring.

# PHOTOGRAPHIC LOG

| Photo # | Date |
|---|---|
| 5 | 08/07/20 |

**Description**

Facing east towards a northern pond inlet. Inspection staff observed inlets for any possible obstructions.

| Photo # | Date |
|---|---|
| 6 | 08/07/20 |

**Description**

Facing south towards the northwest pond inlet which is heavily vegetated.

* NOTE: The DNR's BMPs pertaining to NR 40 vegetative control management should be implemented by a licensed, professional landscape contractor as part of the basin's ongoing maintenance plan.

# PHOTOGRAPHIC LOG

| Photo # | Date |
|---|---|
| 7 | 08/07/20 |

**Description**

Facing north towards an area in the bank where muskrats have created burrows causing holes approximately 12” deep. Use caution walking and consider no trespass signs with any potential safety hazards.

| Photo # | Date |
|---|---|
| 8 | 08/07/20 |

**Description**

Facing northeast towards the shallow middle section of Basin A.

# PHOTOGRAPHIC LOG

| Photo # | Date |
|---|---|
| 9 | 08/07/20 |

**Description**

Facing east towards Basin A which has dense tree cover (a natural condition, these trees were not planted) and vegetation to the south.

| Photo # | Date |
|---|---|
| 10 | 08/07/20 |

**Description**

Facing southeast towards stormwater pond outlet located at southeast end of pond.

# PHOTOGRAPHIC LOG

| Photo # | Date |
|---|---|
| 11 | 08/07/20 |

**Description**

Uncovered manhole at southeast stormwater pond outlet.

| Photo # | Date |
|---|---|
| 12 | 08/07/20 |

**Description**

Stormwater pond outlet structure located on southeast end of pond. Downstream of outlet is silt fence which had likely been places with original development. It should be removed so it doesn't cause an obstruction.

# PHOTOGRAPHIC LOG

| Photo # | Date |
|---|---|
| 13 | 08/07/20 |

**Description**

Facing southeast, view is looking down at the stormwater pond outlet structure.

| Photo # | Date |
|---|---|
| 14 | 08/07/20 |

**Description**

Facing north view of survey crew completing sediment survey and inspection crew.