

**THE TOWNSHIP OF HILLSBOROUGH
MUNICIPAL UTILITIES AUTHORITY**

WASTEWATER CONVEYANCE SYSTEM

**YEAR 2021
REPORT ON PHYSICAL CONDITIONS**

A handwritten signature in blue ink, reading "Robert A. Hough, P.E.", positioned above a horizontal line.

Robert A. Hough, P.E.

***New Jersey Professional Engineer #33444
Executive Director***

Dated February 11, 2022

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I. EXECUTIVE SUMMARY

The purpose of this report is to provide a general assessment of the present condition of The Township of Hillsborough Municipal Utilities Authority (“Authority” or “TTHMUA”) wastewater collection and conveyance facilities.

Annually, until 2020, an inspection of the system and preparation of a maintenance and operations report in accordance with provisions of Section 609 and the Certification Letter in accordance with provisions of section 617 of the Township of Hillsborough Municipal Utilities Authority 1983 General Bond Resolution had been required. This inspection and the appropriate report and Certification Letter had been conducted and prepared by TTHMUA’s Consulting Engineer, Van Note – Harvey Associates, Inc. The Bonds have now been paid in full and there is no longer an obligation to provide the above stated documents.

The TTHMUA staff has continued the yearly assessment, as a result, during the months of October – December 2021, TTHMUA staff visited the site of various facilities, including all of the pump stations, to assess the general condition of the system. Although these observations did not include testing to witness operation or confirm capacities of major mechanical and electrical components, staff is at each station a minimum of twice a week and is aware of any operational or capacity issues.

Because of the weekly visits to all of the pump stations, the level of maintenance and general housekeeping practices are satisfactory. Based on the weekly visits and the efforts of TTHMUA staff to systematically inspect, maintain and repair the gravity and pumped segments of the system, the system is in serviceable condition.

The Authority currently operates and maintains over 181 miles of gravity sewer, 17 sewage pumping stations, 14.6 miles of force main, and conducts ongoing inspections to determine the condition of the system.

The Authority continues its program to locate the existing wastewater collection/conveyance system using Global Positioning System (GPS) and Geographic Information System data collection equipment with the eventual goal of incorporating this data into Somerset County base mapping. The Authority currently has approximately 60% of the sewer system located and continues to expand its data base.

II. INTRODUCTION / BACKGROUND

The Authority, established in 1965, has provided sanitary sewer service to the Township of Hillsborough since 1966 within a twenty (20) square mile service area situated in the Royce's Brook Drainage Basin and adjacent Hillsborough Township areas. Currently the Authority conveys an average daily flow of 3.78 million gallons generated by approximately 10,791 residential accounts and 436 miscellaneous (commercial, educational, hotel / motel, industrial, and municipal) accounts.

All wastewater collected by the Authority system is discharged to the Somerset-Raritan Valley Sewerage Authority (SRVSA) interceptor for treatment and disposal at the SRVSA plant in Bridgewater Township. The TTHMUA contribution represents approximately 21.82% of the wastewater volume received by the SRVSA.

SRVSA Meter Number 9H					
Flow from	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
	Flow in Million Gallons				
TTHMUA	426.263	334.563	346.186	273.058	1,380.070
Total received by SRVSA	1,896.800	1,488.367	1,609,539	1,329.838	6,324.544
TTHMUA Flow as a % of SRVSA Total	22.47%	22.48%	21.51%	20.53%	21.82%
	Charge in Dollars				
TTHMUA	1,101,468	864,515	894,548	705,585	3,566,115
Total charged by SRVSA	4,901,351	3,845,955	4,159,065	3,436,315	16,342,685
TTHMUA Charge as % of SRVSA Total	22.47%	22.48%	21.51%	20.53%	21.82%

Appendices A, B and C include a Sewerage Facility Inventory and Schedule of Cost for the Authority system, pumping station inspection reports, maintenance log forms and a sewerage facilities plan showing the Authority service area and collection system.

III. SUPPORT FACILITIES AND MAINTENANCE EQUIPMENT

The Authority administrative offices are located in Hillsborough Township at the New Center Village shopping center complex on Triangle Road. At this location, the Authority coordinates daily operation of the system, maintains plans and records concerning new construction, extensions and connections and schedules inspection / maintenance activities.

Maintenance functions are conducted out of the facility adjacent to the Sunnymead Pumping Station near Harrison Street consisting of a repair shop with crew quarters and a separate 7,200 square foot storage garage containing vehicles and equipment.

Major items of maintenance equipment include the following:

- Ford F250 Pickup Truck – 22 (2001)
- Dodge van (TV Truck) (2002)
- John Deere 310SG backhoe/loader (2003)
- Sterling M8500 5/7 cubic yard dump truck (40,000 GVWR) (2004)
- Ford 3.5 cubic yard dump truck (2005)
- Ford F250 Pickup Truck (2006)
- Chevrolet Silverado Pickup Truck (2009)
- Jeep Patriot (2014)
- Jeep Patriot (2014)
- Ford F250 Pickup Truck (2014)
- Ford Explorer (2016)
- Ford F250 Pickup (Utility) Truck (2019)
- Ford F250 Pickup (Utility) Truck (2019)
- Ford F250 Pickup (Super Cab) Truck (2019)
- Jeep Cherokee Latitude 4 X 4 (2019)
- Ford Transit 350 Van 350 (2019)
- Chevrolet Silverado 2500HD (2021)
- Ford Transit Cargo Van (2021)
- 3,000 gallon vacuum tank truck
- EnviroSight CCTV System
- 50 KW trailer mounted emergency generator
- 2010 VAC CON Sewer Cleaning Truck
- 2010 CAM 20 Ton Tilt Bed Trailer
- A 4-inch Godwin centrifugal, solids handling bypass pump

- Trak-Star Inspection CCTV Camera System (installed in 2019 Ford Transit 350 Van)
- 2-Closed-circuit television systems for lateral and sewer connection inspection
- Envirosight Closed-circuit television system with pan/tilt self propelled camera.
- HammerHead Trenchless Point Repair Package and Packer
- 2 – FloWav Meters with flow sensors / accessories
- Two Toshiba Mag Flow Meters
- Two Flo-Dar Gravity Flow Meters
- John Deere Gator
- Billy Goat Brushcutter
- Kubota Track Loader SVL-95-2 SHFC
- One (1) Panametrics Transit Time Meter
- Geographic Information System (GIS) data collection equipment
- Quick Lock Mechanical Stainless Steel Point Repair System for I/I Repairs

The maintenance facility and equipment listed above is all considered to be in serviceable condition.

IV. AUTHORITY OPERATION AND MAINTENANCE PROCEDURES

As in past years and as a means of monitoring the condition of gravity sewers, the Authority periodically measures the volume of wastewater transported at key points throughout the system with portable metering equipment. Where metering results may not correlate with calculated flow estimates, selected sections of the sewers are visually inspected and / or examined with closed circuit television equipment to locate possible sources of extraneous flow.

This year, staff has continued to concentrate on the service areas that discharge into the Blackwell's Mills and Mulford Lane Pump Stations and have also inspected service areas along the "Triangle Trunk Line." Approximately 10 miles of sewer mains have been inspected this year. Depending on the nature of the problem, pressure grouting, lining or replacement may be employed as a means of gravity sewer repair. This past year, staff has completed 52 lateral repairs, 41 manhole repairs and 5 main line repairs (using the "Quick-lock" system).

The Authority utilizes a pumping station Inspection Report form to record basic station data such as pump running time, generator fuel consumption and general observations made during these routine inspections. Under normal conditions each station is inspected twice a week except for the Sunnymead station which is inspected daily.

In addition to daily / weekly inspection report forms, more specific Authority maintenance functions are identified on Maintenance Record Logs that include date entries for each item of work completed. Copies of the Pumping Station Inspection Report and Maintenance Record Log forms are included in Appendix B.

In order to proactively identify the need for less obvious replacement / repair needs at older stations, preventative maintenance programs are also being developed to audit mechanical / electrical system equipment conditions. These audits are typically performed by contractors specializing in this work.

With respect to safety procedures, Authority personnel have been trained in accordance with OSHA / PEOSHA regulations and are equipped with a full compliment of safety equipment.

V. PUMP STATION CONDITIONS / STATUS

During December 2021, staff evaluated each pump station and filled out an evaluation / inspection form (included as Appendix D). Below is a brief summary highlighting the general condition, improvements recently completed, major improvements required and a course of action that is required for each pump station.

It should be noted that during these inspections, a number of “housekeeping” issues were found, such as landscaping needs, pavement restoration, painting and lighting issues. Some of these issues / needs have been taking care of since the inspection, remaining issues will be resolved in the Spring / Summer of 2022.

9TH STREET PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – None.
- Major Improvements Required – Dry well should be painted.
- Action Required – Paint dry well in the summer.

BLACKWELL’S MILLS PUMP STATION

- General Condition – Fair / Poor.
- Improvements Recently Completed – None.
- Major Improvements Required – Site, dry well and wet well issues.
- Action Required – Station requires replacement. Engineering design has been completed. Currently pending approvals and permits. Anticipate construction to begin in 2022 (Second Quarter).

CARRIAGE HILL PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – New LED lights installed.
- Major Improvements Required – Wet well ventilation fan requires replacement. Minor site issues related to landscaping, pavement and painting the exterior of the building. Within next 5 years, pumps, odor control system and electrical system should be upgraded / replaced.
- Action Required – Wet well ventilation fan to be replaced and site repairs to be made in 2022.

CLAREMOUNT PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – New air mixer installed, new LED lights installed, and exterior fence painted.

- Major Improvements Required – None at this time.
- Action Required – None at this time.

COUNTRY CLASSICS PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – New air mixer installed.
- Major Improvements Required – Some minor pavement cracking.
- Action Required – Clean and seal pavement cracks this summer.

GUMBLE PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – New air mixer installed.
- Major Improvements Required – Replace dead trees around the site and some minor pavement cracking.
- Action Required – Purchase and install new air mixer, purchase and plant new trees, and clean and seal pavement cracks this summer.

HIDDEN BROOK PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – None.
- Major Improvements Required – Install new air mixer and some minor pavement cracking.
- Action Required – Purchase and install new air mixer and clean and seal pavement cracks this summer.

HODGE ROAD PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – None.
- Major Improvements Required – None.
- Action Required – None.

IVY HILL PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – None.
- Major Improvements Required – Wet well ladder handle is loose. Convert existing lights to LED. Existing concrete and pavement around site needs to be replaced.

- Action Required – Wet well ladder handle to be fixed / replaced, convert existing lights to LED and replace existing concrete this summer.

MOUNTAINVIEW PARK PUMP STATION

- General Condition – New Pump Station.
- Improvements Recently Completed – None.
- Major Improvements Required – None at this time.
- Action Required – None at this time.

MULFORD LANE PUMP STATION

- General Condition – Fair / Poor.
- Improvements Recently Completed – None.
- Major Improvements Required – Wet well in poor condition (rust), new control floats needed, flow meter is not working, and control system / electrical requires updating.
- Action Required – Engineering design services awarded to H2M Associates. Design work has begun. Anticipate construction could start by the end of 2022.

OXFORD PUMP STATION

- General Condition – Good.
- Improvements Recently Completed - None.
- Major Improvements Required – Install a bar screen in the manhole next to the station.
- Action Required – Unfortunately, a review of the existing pump station configuration found that it is not feasible to install a bar screen in the manhole upstream of the pump station.

PRESERVE PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – None.
- Major Improvements Required – Existing fence and gate require some minor repair.
- Action Required – Repair the existing fence and gate this summer.

RIVER ROAD PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – None.

- Major Improvements Required – Existing generator doesn't work and requires replacement.
- Action Required – New generator and automatic transfer switch have been ordered and delivery is pending.

ROHILL PUMP STATION

- General Condition – Good.
- Improvements Recently Completed - Emergency generator and automatic transfer switch replaced in 2021
- Major Improvements Required – Pump rails and lift crane require replacement.
- Action Required – Replacement of pump rails and lift crane to be reviewed by staff and replaced accordingly.

ROUTE 206 PUMP STATION

- General Condition – Good.
- Improvements Recently Completed – Repairs to Bioxide System completed in November 2021.
- Major Improvements Required – None at this time.
- Action Required – None at this time.

SUNNYMEADE PUMP STATION

- General Condition – Poor
- Improvements Recently Completed – None.
- Major Improvements Required – Dry well, wet well, meter chamber and building issues.
- Action Required – Station requires replacement. Design and permitting of a new pump station is pending completion. Financing anticipated through the New Jersey Environmental Financing I- Bank.

VI. FIVE-YEAR CAPITAL IMPROVEMENT PLAN

The following Five-Year Capital Improvement Plan was adopted on October 27, 2021.

TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

2022 - 2026 CAPITAL IMPROVEMENT PLAN

<u>DEPARTMENT</u>	<u>ITEM</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>TOTAL</u>
ADMINISTRATION	COMPUTER SYSTEM UPGRADES (SOFTWARE & HARDWARE)	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$50,000.00
ADMINISTRATION	CONSULTING ENGINEERING SERVICES	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$250,000.00
CONSTRUCTION PROJECTS	SANITARY SEWER MATERIALS FOR SYSTEM REPAIRS	\$50,000.00	\$55,000.00	\$55,000.00	\$60,000.00	\$60,000.00	\$280,000.00
CONSTRUCTION PROJECTS	PROJECT - REHABILITATION OF SANITARY SEWER LINES	\$500,000.00	\$0.00	\$500,000.00	\$0.00	\$500,000.00	\$1,500,000.00
CONSTRUCTION PROJECTS	REHABILITATION OF SANITARY SEWER MAINS / LATERALS	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$250,000.00
EASEMENT MAINTENANCE	CLEARING OPERATIONS BY OTHERS (Not required at this time.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EASEMENT MAINTENANCE	EASEMENT CLEANING MACHINE (SANITARY SEWERS)	\$25,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25,000.00
EASEMENT MAINTENANCE	EASEMENT CLEARING EQUIPMENT (TREES AND BRUSH)	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$25,000.00
EASEMENT MAINTENANCE	INSPECTION AND CLEANING OF SEWERS SITUATED IN MISCELLANEOUS EASEMENTS BY OTHERS (Not required at this time.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
EQUIPMENT EQUIPMENT	MISC. EQUIPMENT	\$12,000.00	\$12,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$69,000.00
EQUIPMENT EQUIPMENT	SAFETY EQUIPMENT	\$12,000.00	\$12,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$69,000.00
INFILTRATION / INFLOW PROGRAM	INFILTRATION / INFLOW EVALUTION STUDY / METERING BY OTHERS	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$250,000.00
INFILTRATION / INFLOW PROGRAM	INFILTRATION / INFLOW EVALUTION EQUIPMENT	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	\$100,000.00
PUMP STATIONS	PUMPING STATIONS - ANNUAL ALLOCATION FOR REPLACEMENT OF SEALS, SHAFTS, IMPELLARS, ELECTRICAL PARTS, MOTORS, ETC.	\$50,000.00	\$60,000.00	\$60,000.00	\$70,000.00	\$70,000.00	\$310,000.00
PUMP STATIONS	PORTABLE GENERATOR FOR USE AT PUMP STATIONS	\$0.00	\$25,000.00	\$0.00	\$0.00	\$0.00	\$25,000.00
PUMP STATIONS	PUMPING STATIONS - SYSTEM AUTOMATION	\$0.00	\$0.00	\$0.00	\$100,000.00	\$100,000.00	\$200,000.00
PUMP STATIONS	9TH STREET - UPGRADE PUMPS	\$0.00	\$0.00	\$75,000.00	\$0.00	\$0.00	\$75,000.00
PUMP STATIONS	BLACKWELL'S MILL - REHABILITATION / REPLACEMENT OF PUMP STATION, NEW GENERATOR, SITE WORK	\$1,200,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,200,000.00
PUMP STATIONS	CARRIAGE HILL (No work required at this time.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	CLAREMONT (No work required at this time.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	COUNTRY CLASSICS - INSTALL WET WELL WIZARD (AERATOR) (Completed in 2021.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	GUMBLE COURT - INSTALL WET WELL WIZARD (AERATOR)	\$0.00	\$10,000.00	\$0.00	\$0.00	\$0.00	\$10,000.00
PUMP STATIONS	HIDDEN BROOK (No work required at this time.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	HODGE ROAD - REPLACE PUMPS	\$0.00	\$0.00	\$75,000.00	\$0.00	\$0.00	\$75,000.00
PUMP STATIONS	IVY HILL - CONCRETE AND PAVING WORK	\$25,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25,000.00
PUMP STATIONS	MOUNTAINVIEW PARK (No work required at this time.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	MULFORD LANE - PUMP STATION REPLACEMENT	\$1,000,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,000,000.00
PUMP STATIONS	MULFORD LANE - INSTALL WET WELL WIZARD (AERATOR) (Completed in 2021.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	OXFORD PLACE - INSTALL WET WELL WIZARD (AERATOR) (Completed in 2021.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	PRESERVE (No work required at this time.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	RIVER ROAD (No work required at this time.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	ROHIL - REPLACE GENERATOR (Completed in 2021)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

2022 - 2026 CAPITAL IMPROVEMENT PLAN

<u>DEPARTMENT</u>	<u>ITEM</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>TOTAL</u>
PUMP STATIONS	ROUTE 206 - REPLACE CHECK VALVE	\$25,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$25,000.00
PUMP STATIONS	ROUTE 206 - REPAIR / REPLACE CONTROL SYSTEM / SOFTWARE	\$0.00	\$0.00	\$0.00	\$20,000.00	\$0.00	\$20,000.00
PUMP STATIONS	SUNNYMEADE - PUMP STATION UPGRADE	\$5,000,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,000,000.00
PUMP STATIONS	SUNNYMEADE - THIRD FORCE MAIN INSTALL	\$4,500,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$4,500,000.00
VEHICLES	1984 JOHN DEERE HOE / LOADER #1 (Should be auctioned, does not work, not worth repairing.) (Existing equipment to be auctioned in late 2021.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	1999 FORD F250 PICKUP TRUCK (Replace with a F150 in the next 3 years.) (Existing vehicle to be auctioned in late 2021.)	\$0.00	\$45,000.00	\$0.00	\$0.00	\$0.00	\$45,000.00
VEHICLES	2001 FORD F250 PICKUP TRUCK -01 (Transmission issue, replace with a F150.) (Existing vehicle to be auctioned in late 2021.) (New pickup truck purchased in 2021.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2001 FORD F250 PICKUP TRUCK - 22 (Replace with a F150.)	\$40,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40,000.00
VEHICLES	2002 DODGE RAM VAN (TV van)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2002 STAR TRAILER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2003 JOHN DEERE BACKHOE #2	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2003 TRAILER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2004 STIRLING DUMP TRUCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	DIESEL FUEL TANK (Currently at Gumble Court Pump Station)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	DIESEL FUEL TANK (Currently in the 1999 F250)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2005 FORD F350 DUMP TRUCK	\$0.00	\$0.00	\$0.00	\$65,000.00	\$0.00	\$65,000.00
VEHICLES	2006 FORD F250 PICKUP TRUCK (Used by I/I crew, replaced within next 5 years)	\$0.00	\$0.00	\$45,000.00	\$0.00	\$0.00	\$45,000.00
VEHICLES	2009 CHEVY SILVERADO PICKUP TRUCK (Used by EL, replaced in next 3 years.) (September 2021 - 134,000 miles)	\$45,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$45,000.00
VEHICLES	2010 TRAILER (MAKER CAM)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2011 INTERNATIONAL VAC CON JET	\$0.00	\$400,000.00	\$0.00	\$0.00	\$0.00	\$400,000.00
VEHICLES	2013 TRAILER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2014 JEEP PATRIOT (Used by JR.)	\$0.00	\$30,000.00	\$0.00	\$0.00	\$0.00	\$30,000.00
VEHICLES	2014 FORD F250 PICKUP TRUCK	\$0.00	\$0.00	\$0.00	\$55,000.00	\$0.00	\$55,000.00
VEHICLES	2014 JEEP PATRIOT (WHITE) (Used by DR.)	\$0.00	\$30,000.00	\$0.00	\$0.00	\$0.00	\$30,000.00
VEHICLES	2016 FORD EXPLORER (Used by RS.)	\$0.00	\$0.00	\$0.00	\$0.00	\$45,000.00	\$45,000.00
VEHICLES	2019 FORD F250 PICKUP (UTILITY) TRUCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2019 FORD F250 PICKUP TRUCK (SUPER CAB)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2019 INTERNATIONAL (NEW) PUMP TRUCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2019 FORD F250PICKUP (UTILITY) TRUCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2019 JEEP CHEROKEE LATITUDE 4X4	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2019 FORD TRANSIT 350 VAN 350	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2020 CAM TRAILER	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	PURCHASE NEW ADMINISTRATION VEHICLE (new vehicle purchased in 2021.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES AND MAINTENANCE	GARAGE EQUIPMENT	\$25,000.00	\$25,000.00	\$30,000.00	\$30,000.00	\$30,000.00	\$140,000.00
VEHICLES AND MAINTENANCE	VEHICLE REPAIRS	\$25,000.00	\$25,000.00	\$30,000.00	\$30,000.00	\$30,000.00	\$140,000.00
TOTALS		\$12,719,000.00	\$914,000.00	\$1,085,000.00	\$645,000.00	\$1,050,000.00	\$16,413,000.00

VII. RECOMMENDATIONS

Given the age of older components of the wastewater conveyance system, TTHMUA staff continues to put increased emphasis on prioritizing and implementing preventative maintenance programs and proceeding with repair and replacement work where required and permissible. This particularly applies to the more complex power distribution, emergency power, sewage pumping equipment and control systems. Potential operation and maintenance, and energy cost savings afforded by newer technologies will continue to be a consideration.

APPENDIX A

SEWERAGE FACILITIES INVENTORY (Dated November 2021)

SCHEDULE OF COST (Balance as of November 30, 2021)

Township of Hillsborough Municipal Utilities Authority
Sewerage Facilities Inventory – November 2021

Gravity Sewers Constructed by TTHMUA and PRIVATE Developers to Date:

PIPE DIA. (IN.)	HTMUA (L.F.)	PRIVATE (L.F.)	TOTALS (L.F.)
8	89,945	715,561	805,506
10	1,230	9,553	10,783
12	16,827	16,838	33,665
14	0	2,408	2,408
15	1,223	0	1,223
16	8,598	2,030	10,628
18	23,623	7,003	30,626
21	5,678	0	5,678
24	29,677	0	29,677
27	5,669	0	5,669
30	15,464	0	15,464
36	1,571	0	1,571
Totals:	199,505	753,393	952,898

Force Mains Constructed to Date:

PIPE DIA. (IN.)	TOTALS (L.F.)
1.5	1,196
2	3,470
4	7,052
6	53,185
8	2,600
10	3,630
12	1,233
14	3,630
16	1,233
Total	77,229

Total Number of Manholes: **4,576**

Pump Stations:

9 th Street	Blackwell's Mill	Carriage Hill
Claremount	Country Classics	Gumble
Hidden Brook	Hodge Road	Ivy Hill
Mountainview Park	Mulford Lane	Oxford
Preserve	River Road	Rohill
Route 206	Sunnymeade	

Meter Chambers:

Chamber #9H (Flume) - Southside Avenue, Somerville
12" Parshall Flume (o/o by SRVSA)

Chamber #9H (Pipe) – Hillsborough-Somerville Trunk
Transit-Time Open Channel Flowmeter (o/o by SRVSA)

Inverted Siphons:

345 L.F. each of 8, 14 & 16-Inch Diameter
Polyethylene Pipe and Siphon Inlet Chamber

THE TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

**SCHEDULE OF COST OF SEWERAGE SYSTEM TREATMENT PLANT,
SEWERS, PUMPING STATION, ETC.**

2021	
Net Cost November 30, 2020	28,205,332.46
Added in Fiscal Year Ending November 30 , 2021	905,269.41
Net Cost November 30, 2021	29,110,601.87
<u>Additions Fiscal Year Ended November 30, 2021</u>	
<u>Equipment and Vehicles:</u>	
- A & K Equipment Co., Inc. - 2-8' Prop Plus Snowplow Assemblies	12,450.00
- National Auto Fleet Group - 2021 Chevy Silverado 2500HD 4WD	46,964.76
- National Auto Fleet Group - 2021 Ford Transit Cargo Van T-250	34,010.64
	93,425.40
<u>Computer Upgrades</u>	
- LookFirst Technology, LLC - Purchase New Computer Server	9,279.89
	9,279.89
<u>Sunnymeade Pump Station and Discharge Chamber Upgrade</u>	
- Van Note - Harvey Associates Engineering Services - Dec. Invoices	16,831.30
- Treasurer, State of NJ, NJDEP Permit Fee Wetlands Permit Mod.	500.00
- Troup Environmental - Wet well Wizard Aeration System	11,157.00
- Van Note - Harvey Associates Engineering Services - Jan.. Invoices	9,429.75
- North East Technical Sales - Purchase/Install 2 of 3 Sierra Flow Meters	13,592.00
- Van Note - Harvey Associates Engineering Services - Feb. Invoices	30,509.80
- Law Offices Peter Cipparulo Legal Services - April Invoices	833.00
- Norfolk Southern Railway Co. - License Fee Railroad Crossing	37,000.00
- Van Note - Harvey Associates Engineering Services - April Invoices	66,825.78
- Van Note - Harvey Associates Engineering Services - May Invoices	4,347.00
- Van Note - Harvey Associates Engineering Services - May Invoices	12,359.20
- North East Technical Sales - Purchase/Install 1 of 3 Sierra Flow Meters	4,671.00
- Van Note - Harvey Associates Engineering Services - May / June Invoices	26,065.10
- Law Offices Peter Cipparulo Legal Services - July Invoices	374.00
- Van Note - Harvey Associates Engineering Services - July Invoices	16,559.60
- Van Note - Harvey Associates Engineering Services - NJEIT Plan Doc - Aug Inv	6,149.80
- Norfolk Southern Railway Co. - Railroad Crossing Risk Management Fee	1,900.00
- Richard Grubb Associates - Consultant for NJDEP Cultural Resources Study	375.00
- Van Note - Harvey Associates Engineering Services - PS - Invoices	19,496.85
- Van Note - Harvey Associates Engineering Services - FM - Invoices	5,110.25
- Richard Grubb Associates - Consultant for NJDEP CRS - Stage I	501.16

THE TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

**SCHEDULE OF COST OF SEWERAGE SYSTEM TREATMENT PLANT,
SEWERS, PUMPING STATION, ETC.**

2021	
Net Cost November 30, 2020	28,205,332.46
- Van Note - Harvey Associates Engineering Services - PS - November Invoices	2,500.50
- Van Note - Harvey Associates Engineering Services - FM - November Invoices	11,816.40
	298,904.49
<u>Rehabilitation of Rt 206 Sewer Lines</u>	
- SWERP Inc. - Pay Estimate No. 1	195,216.00
- Van Note - Harvey Associates Engineering Services - Dec. Invoices	18,913.00
- SWERP Inc. - Pay Estimate No. 2	78,378.64
- Van Note - Harvey Associates Engineering Services - Jan. Invoices	23,395.00
- SWERP Inc. - Pay Estimate No. 3	5,583.56
- Van Note - Harvey Associates Engineering Services - Feb. Invoices	9,744.00
- Van Note - Harvey Associates Engineering Services - April Invoices	2,901.00
	334,131.20
<u>Rehabilitation of Route 206 Sewer Laterals (11 Laterals) - Contract No. 52</u>	
- NJDOT Permit Application Fees - Highway Occupancy and Utility Opening	1,415.00
- H2M Associates, Inc. - Engineering Services - July Invoices	9,313.00
- H2M Associates, Inc. - Engineering Services - August Invoices	1,112.00
- NJDOT Permit Fees - Highway Occupancy Permit	65.00
- NJDOT Permit Fees - Utility Opening Permit	395.00
- H2M Associates, Inc. - Engineering Services - September Invoices	1,390.00
- H2M Associates, Inc. - Engineering Services - September Invoices	669.20
- H2M Associates, Inc. - Engineering Services - October Invoices	2,241.90
- H2M Associates, Inc. - Engineering Services - November Invoices	1,016.30
	17,617.40
<u>Blackwell's Mill Pump Station Upgrade</u>	
- H2M Associates, Inc. Engineering Services - Feb. Invoices	7,740.00
- H2M Associates, Inc. Engineering Services - April Invoices	9,546.00
- H2M Associates, Inc. Engineering Services - May Invoices	5,934.00
- H2M Associates, Inc. Engineering Services - May Invoices	1,530.00
- H2M Associates, Inc. Engineering Services - June Invoices	2,160.00
- NJDEP TWA Review Fee	10,648.00
- H2M Associates, Inc. Engineering Services - August & September Invoices	2,250.00
- H2M Associates, Inc. - Engineering Services - September Invoices	960.00
- H2M Associates, Inc. Engineering Services - October Invoices	480.00
	41,248.00

THE TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

**SCHEDULE OF COST OF SEWERAGE SYSTEM TREATMENT PLANT,
SEWERS, PUMPING STATION, ETC.**

2021	
Net Cost November 30, 2020	28,205,332.46
<u>Country Classics Pump Station</u>	
- Pumping Services Inc. - Air Bubbler Mixer System	4,296.53
	4,296.53
<u>Rohill Pump Station Generator Replacement</u>	
- Genserve, Inc. - Duct Work for Ventilation for New Generator	1,898.28
- Genserve, Inc. - Purchase of New Generator w/start up	24,405.00
	26,303.28
<u>Mulford Lane Pump Station Replacement</u>	
- H2M Associates, Inc. - Engineering Services - November Invoices	2,292.00
	2,292.00
<u>Inflow / Infiltration Abatement Program - Equipment</u>	
	0.00
<u>Inflow / Infiltration Abatement Program - Materials and Supplies</u>	
- Hammered Head Trenchless - Mule Tape	111.62
- Fastenal Company - Magnatrak with Soft Case	519.99
- Hammered Head Trenchless - 35 Winter Point Repair Systems	10,569.79
- Pipeline Renewal Technologies - 10 High Grade Steel Quick Lock Sleeves	5,642.11
- Hammered Head Trenchless - 2 Elbow Point Repair Systems	1,813.70
- Hammered Head Trenchless - 12 Summer Point Repair Systems	5,252.79
- Hammered Head Trenchless - Mule Tape	116.61
- Hammered Head Trenchless - Purchase 2 Elbow Point Repair Kits	893.02
- All Industrial Safety Products - Tripod with a 3 Way Retrieval Rescue Winch	5,798.00
- Hammered Head Trenchless - Purchase 12 Summer Point Repair Sleeves	3,757.85
- Hammered Head Trenchless - Purchase 12 Winter Point Repair Sleeves	3,763.25
	38,238.73
<u>Miscellaneous Sewer System Repairs</u>	
- Ace Plumbing & Heating - 10 Beverly Drive Repair / Replace Lateral in ROW	17,288.00
- Pumping Services, Inc. - Four (4) Air Bubbler Mixer Systems for Pump Stations	17,270.44

THE TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

**SCHEDULE OF COST OF SEWERAGE SYSTEM TREATMENT PLANT,
SEWERS, PUMPING STATION, ETC.**

2021		
Net Cost November 30, 2020		28,205,332.46
- SWERP Inc. - Manhole Infiltration Repair - Grout Manhole Inv #92821-1		3,791.05
- TJC Development - Per March 22, 2012 Developer's Agreement - New Sewer		3,475.00
		41,824.49
TOTAL ADDED AS OF NOVEMBER 30, 2021		905,269.41

APPENDIX B

PUMP STATION INSPECTION REPORT

PUMP STATION MAINTENANCE LOG

**PUMPING STATION
INSPECTION REPORT**

[illegible]

PUMP STATION:

MONTH: 20

10

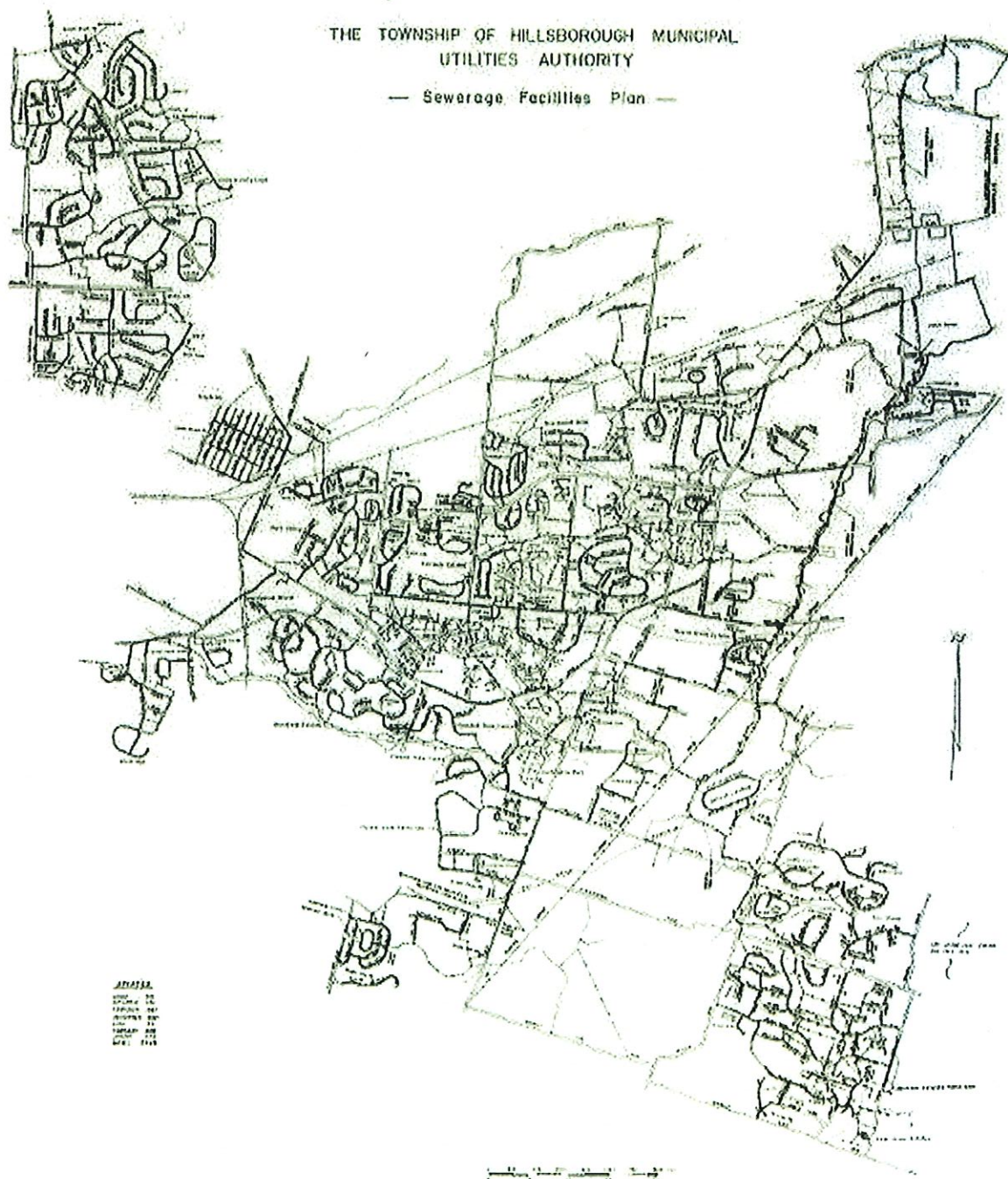
MAINTENANCE RECORD LOG

[illegible]

APPENDIX C

SEWERAGE FACILITIES PLAN (REVISED APRIL 2009)

— Sewerage Facilities Plan —



APPENDIX D

PUMPING STATION INSPECTION REPORTS – DECEMBER 2021