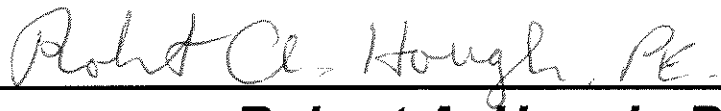


**THE TOWNSHIP OF HILLSBOROUGH
MUNICIPAL UTILITIES AUTHORITY**

WASTEWATER CONVEYANCE SYSTEM

**YEAR 2020
REPORT ON PHYSICAL CONDITIONS**

A handwritten signature in black 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 January 29, 2021

TABLE OF CONTENTS

	<u>PAGE</u>
I. EXECUTIVE SUMMARY	1
II. INTRODUCTION/BACKGROUND	2
III. SUPPORT FACILITIES AND MAINTENANCE EQUIPMENT.....	3
IV. AUTHORITY OPERATION AND MAINTENANCE PROCEDURES.....	5
V. PUMP STATION CONDITIONS / STATUS.....	6
VI. 5-YEAR CAPITAL IMPROVEMENTS PLAN	9
VII. RECOMMENDATIONS	12

APPENDIX A

SEWERAGE FACILITIES INVENTORY (Dated November 2020)
SCHEDULE OF COST (Balance as of November 30, 2020)

APPENDIX B

PUMPING STATION INSPECTION REPORT
PUMP STATION MAINTENANCE RECORD LOG

APPENDIX C

SEWERAGE FACILITIES PLAN (Revised April 2009)

APPENDIX D

PUMPING STATION INSPECTION REPORTS

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, 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 has been required. This inspection and the appropriate report and Certification Letter has 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.

As a result, during the months of October – November 2020, 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 179 miles of gravity sewer, 17 sewage pumping stations, and 14.6 miles of force main, including the Valley Road Sewerage Company system, 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 50% 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 3.8 million gallons (the first 3 quarters of 2020) 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 22.64% 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	391.134	328.139	319.530	411.318	1,450.091
Total received by SRVSA	1,659.67	1,568.71	1,360.347	1,738.477	6,327.204
TTHMUA Flow as a % of SRVSA Total	23.57%	20.92%	23.49	23.66%	22.91%
	Charge in Dollars				
TTHMUA	1,010,694	847,914	825,669	1,062,850	3,747,127
Total charged by SRVSA	4,288,599	4,053,558	3,515.151	4,492,242	16,349,550
TTHMUA Charge as % of SRVSA Total	23.57%	20.92%	23.49%	23.66%	22.91%

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:

- John Deere 310A backhoe/loader (1984)
- Ford F250 Pickup Truck (1999)
- Ford F250 Pickup Truck – 01 (2001)
- 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)
- 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. Since late summer (August), staff has been concentrating on the service areas that discharge into the Blackwell's Mills and Mulford Lane Pump Stations. Depending on the nature of the problem, pressure grouting, lining or replacement may be employed as a means of gravity sewer repair.

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 October and November 2020, 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, 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 this Fall, remaining issues will be resolved in the Spring.

9TH STREET PUMP STATION

- General Condition - Good
- Major Improvements Required – None at this time.
- Action Required – None at this time.

BLACKWELL’S MILLS PUMP STATION

- General Condition – Fair / Poor
- Major Improvements Required – Site, dry well and wet well issues.
- Action Required – Station requires replacement. Engineering proposals received and design services award. Anticipate construction replacement to begin by the end of 2021.

CARRIAGE HILL PUMP STATION

- General Condition – Good
- Major Improvements Required – Wet well ventilation fan requires replacement. Minor site issues related to landscaping and pavement.
- Action Required – Wet well ventilation fan to be replaced and site repairs to be made in 2021.

CLAREMOUNT PUMP STATION

- General Condition – Good
- Major Improvements Required – None at this time.
- Action Required – None at this time.

COUNTRY CLASSICS PUMP STATION

- General Condition – Good
- Major Improvements Required – None at this time.
- Action Required – None at this time.

GUMBLE PUMP STATION

- General Condition – Good
- Major Improvements Required – None at this time.
- Action Required – None at this time.

HIDDEN BROOK PUMP STATION

- General Condition – Good
- Major Improvements Required – None at this time.
- Action Required – Non at this time.

HODGE ROAD PUMP STATION

- General Condition – Good
- Major Improvements Required – Wet well ladder is loose.
- Action Required – Wet well ladder to be fixed.

IVY HILL PUMP STATION

- General Condition – Good
- Major Improvements Required – Wet well ladder handle is loose.
- Action Required – Wet well ladder handle to be fixed / replaced.

MOUNTAINVIEW PARK PUMP STATION

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

MULFORD LANE PUMP STATION

- General Condition – Fair / Poor
- 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 – Pump station requires replacement or significant rehabilitation.

OXFORD PUMP STATION

- General Condition – Good
- Major Improvements Required – Install a bar screen in the manhole next to the station.

- Action Required – Investigate the feasibility of installing a bar screen in the manhole upstream of the pump station.

PRESERVE PUMP STATION

- General Condition – Good
- Major Improvements Required – None at this time.
- Action Required – None at this time.

RIVER ROAD PUMP STATION

- General Condition – Good
- Major Improvements Required – None at this time.
- Action Required – None at this time.

ROHILL PUMP STATION

- General Condition – Good
- Major Improvements Required – Emergency generator and automatic transfer switch require replacement. Pump rails and lift crane require replacement.
- Action Required – New emergency generator and automatic transfer switch have been ordered. Replacement of pump rails and lift crane to be reviewed by staff and replaced accordingly.

ROUTE 206 PUMP STATION

- General Condition – Good
- Major Improvements Required – None at this time.
- Action Required – None at this time.

SUNNYMEANDE PUMP STATION

- General Condition – Poor
- 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.

VI. FIVE-YEAR CAPITAL IMPROVEMENT PLAN

The following Five-Year Capital Improvement Plan was adopted on August 26, 2020.

TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

2021 - 2025 CAPITAL IMPROVEMENT PLAN

<u>DEPARTMENT</u>	<u>ITEM</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</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	\$50,000.00	\$55,000.00	\$55,000.00	\$60,000.00	\$270,000.00
CONSTRUCTION PROJECTS	PROJECT - REHABILITATION OF SANITARY SEWER LINES	\$0.00	\$500,000.00	\$0.00	\$500,000.00	\$0.00	\$1,000,000.00
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)	\$0.00	\$25,000.00	\$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	\$12,000.00	\$15,000.00	\$15,000.00	\$66,000.00
EQUIPMENT EQUIPMENT	SAFETY EQUIPMENT	\$12,000.00	\$12,000.00	\$12,000.00	\$15,000.00	\$15,000.00	\$66,000.00
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	\$50,000.00	\$60,000.00	\$60,000.00	\$70,000.00	\$290,000.00
PUMP STATIONS	PORTABLE GENERATOR FOR USE AT PUMP STATIONS	\$0.00	\$0.00	\$25,000.00	\$0.00	\$0.00	\$25,000.00
PUMP STATIONS	9TH STREET - UPGRADE PUMPS	\$0.00	\$0.00	\$0.00	\$75,000.00	\$0.00	\$75,000.00
PUMP STATIONS	BLACKWELL'S MILL - REHABILITATION / REPLACEMENT OF PUMP STATION, NEW GENERATOR, SITE WORK	\$750,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$750,000.00
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)	\$10,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$10,000.00
PUMP STATIONS	GUMBLE COURT - INSTALL WET WELL WIZARD (AERATOR)	\$0.00	\$0.00	\$10,000.00	\$0.00	\$0.00	\$10,000.00
PUMP STATIONS	HIDDEN BROOK - BIOXIDE INOPERABLE (Not a TTHNUA issue.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	HODGE ROAD - REPLACE PUMPS	\$0.00	\$0.00	\$0.00	\$75,000.00	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
PUMP STATIONS	MULFORD LANE - REHABILITATION OF WET WELL	\$0.00	\$20,000.00	\$0.00	\$0.00	\$0.00	\$20,000.00
PUMP STATIONS	MULFORD LANE - INSTALL WET WELL WIZARD (AERATOR)	\$10,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$10,000.00
PUMP STATIONS	OXFORD PLACE - INSTALL WET WELL WIZARD (AERATOR)	\$10,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$10,000.00
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	\$30,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30,000.00
PUMP STATIONS	ROUTE 206 - REPLACE CHECK VALVE	\$0.00	\$25,000.00	\$0.00	\$0.00	\$0.00	\$25,000.00

TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

2021 - 2025 CAPITAL IMPROVEMENT PLAN

<u>DEPARTMENT</u>	<u>ITEM</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>TOTAL</u>
PUMP STATIONS	ROUTE 206 - REPAIR / REPLACE CONTROL SYSTEM / SOFTWARE	\$0.00	\$0.00	\$0.00	\$0.00	\$20,000.00	\$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.)	\$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.)	\$0.00	\$0.00	\$45,000.00	\$0.00	\$0.00	\$45,000.00
VEHICLES	2001 FORD F250 PICKUP TRUCK -01 (Transmission issue, replace with a F150.)	\$40,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$40,000.00
VEHICLES	2001 FORD F250 PICKUP TRUCK - 22 (Replace with a F150.)	\$0.00	\$40,000.00	\$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	\$0.00	\$65,000.00	\$65,000.00
VEHICLES	2006 FORD F250 PICKUP TRUCK (Used by I/I crew, replaced within next 5 years)	\$0.00	\$0.00	\$0.00	\$45,000.00	\$0.00	\$45,000.00
VEHICLES	2009 CHEVY SILVARADO PICKUP TRUCK (Used by EL, replaced in next 3 years.)	\$0.00	\$0.00	\$45,000.00	\$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	\$0.00	\$400,000.00	\$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	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2014 FORD F250 PICKUP TRUCK	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2014 JEEP PATRIOT (WHITE) (Used by DR.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
VEHICLES	2016 FORD EXPLORER (Used by RS.)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
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 F250 PICKUP (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	\$30,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$30,000.00
VEHICLES AND VEHICLE MAINTENANCE	GARAGE EQUIPMENT	\$25,000.00	\$25,000.00	\$25,000.00	\$30,000.00	\$30,000.00	\$135,000.00
VEHICLES AND VEHICLE MAINTENANCE	VEHICLE REPAIRS	\$25,000.00	\$25,000.00	\$25,000.00	\$30,000.00	\$30,000.00	\$135,000.00
TOTALS		\$10,764,000.00	\$969,000.00	\$899,000.00	\$1,085,000.00	\$490,000.00	\$14,207,000.00

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 2020)

SCHEDULE OF COST (Balance as of November 30, 2020)

Township of Hillsborough Municipal Utilities Authority
Sewerage Facilities Inventory – November 2020

Gravity Sewers Constructed by TTHMUA and PRIVATE Developers to Date:

PIPE DIA. (IN.)	HTMUA (L.F.)	PRIVATE (L.F.)	TOTALS (L.F.)
8	88,113	715,561	798,055
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:	197,673	753,393	945,447

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: **4,564**

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.**

2020	
Net Cost November 30, 2019	27,348,963.85
Added in Fiscal Year Ending November 30 , 2020	821,377.58
Net Cost November 30, 2020	28,170,341.43
<u>Additions Fiscal Year Ended November 30, 2020</u>	
<u>Equipment and Vehicles:</u>	
- 61" Cheetah 31 HP Kohler Riding Lawn Mower	8,850.00
	8,850.00
<u>Computer Upgrades</u>	
- Upgrade email to Microsoft Office	2,196.00
- Purchase / Setup / Installation of 8 DeskTop Computers	11,654.76
- Purchase / Setup / Installation of DATTO SIRIS X4X1 Network	3,224.99
- New Ricoh Wide Format Printer W6700	13,799.00
	30,874.75
<u>Sunnymeade Pump Station and Discharge Chamber Upgrade</u>	
- Emergency Repair of Fairbanks Morse Pump	21,190.00
- Van Note - Harvey Associates Engineering Services	287,976.68
- NS Railroad Permit Fee	2,500.00
- 2020 PEA Extension LOI Sunnymeade PS	500.00
- Advanced Infrastructure Design - Locate Force Mains at RR	8,731.43
- Stires Associates - Prep NJDEP LOI Documents for PS	5,800.00
	326,698.11
<u>Rehabilitation of Rt 206 Sewer Lines</u>	
- Contract Awarded - No Payments made by November 30, 2020	0.00
- Van Note - Harvey Associates Engineering Services	50,104.00
- NJDOT Permit Fees	1,065.00
	51,169.00
<u>Easement - Route 206 South to Valley Road - Sewer Repair</u>	
- Emergency Sewer Repair by Schilke Construction Co.	62,100.00
	62,100.00

THE TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

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

2020	
Net Cost November 30, 2019	27,348,963.85
<u>Blackwell's Mill Pump Station Upgrade</u>	
- New Pump	<u>33,417.92</u>
	33,417.92
<u>Inflow / Infiltration Abatement Program</u>	
- Trak-Star Inspection CCTV Camera System	171,233.40
- 2020 CAM Superline 7x18 Utility Trailer	6,100.00
- Hammer Drill and Drill bit for Manhole Repairs	703.43
- Kubota Track Loaded SVL-95-2 SHFC	70,553.67
- 2 FlowWav Meters with Flow Sensors / Accessories	11,675.00
- Point Repair Package and Packer	13,321.14
- 12 Silt Bucket Inflow Preventer with Strap	900.00
- Replacement Wheels for the TV Crawler	1,112.58
- VDIE Grinder Kit and 12V Cordless Grease Gun	687.10
- New Rigid Sea Snake Camera	13,686.48
- 3 FlowWav Meters with Flow Sensors / Accessories	<u>18,295.00</u>
	308,267.80
TOTAL ADDED AS OF NOVEMBER 30, 2020	821,377.58

THE TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

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

2019	
Net Cost November 30, 2018	26,570,313.70
Added in Fiscal Year Ending November 30 , 2019	778,650.15
Net Cost November 30, 2019	27,348,963.85
<u>Additions Fiscal Year Ended November 30, 2019:</u>	
<u>Vehicles:</u>	
- 2019 International Sewer Vac Pump Truck	186,572.00
- 2016 Ford Transit 350 Van	39,500.00
- 2019 Ford F-250 Pickup Truck	27,165.00
- 2019 Jeep Cherokee	<u>22,993.51</u>
	276,230.51
<u>Sunnymead Pump Station and Discharge Chamber Upgrade</u>	
- Engineering Services	393,768.39
- DEP Review Fee	<u>1,000.00</u>
	394,768.39
<u>Rehabilitation of Rt 206 Sewer Lines</u>	
- Engineering Services	75,510.95
- Traffic Control	<u>3,283.00</u>
	78,793.95
<u>Mulford Pump Station Upgrade</u>	
- New Transfer Switch	<u>7,311.00</u>
<u>Inflo / Infiltration Abatement Program</u>	
- Manhole Repair System	13,723.00
- Manhole Repair	3,573.30
- Televis Easements	<u>4,250.00</u>
	21,546.30
TOTAL ADDED NOVEMBER 30, 2019	778,650.15

THE TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

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

2018	BALANCE		BALANCE
	NOVEMBER 30,2017	ADDITIONS	November 30, 2018
Plant and Facilities-Hillsborough Sewer Company	\$152,642.07		152,642.07
Royce Brook Interceptor	1,037,852.95		1,037,852.95
Royce Brook Plant	196,840.91		196,840.91
Triangle Road Trunk Sewer	235,806.85		235,806.85
Valley Road Trunk and Collector	662,285.59		662,285.59
Hillsborough-Somerville Trunk	570,794.90		570,794.90
Hillsborough Pumping Station	357,133.71		357,133.71
Hamilton Road Trunk Sewer	10,321.13		10,321.13
Country Club Infiltration	281,609.68		281,609.68
Falcon Road Collection System	314,690.23		314,690.23
Collector Line - Kimberwyck	31,477.82		31,477.82
Amwell Road Collector	150,294.82		150,294.82
Route 206 Collector	69,362.64		69,362.64
Valley Road Trunk Extension	334,133.33		334,133.33
Frankfort Trunk Sewer	817,036.04		817,036.04
Park Avenue Collector	20,677.70		20,677.70
New Amwell Road Collector	242,018.14		242,018.14
Valley Road Collector	9,918.02		9,918.02
Weston Road Collector	3,028.75		3,028.75
Camplain Road Extension	709.20		709.20
Flagtown Collection System	2,202,243.09	26,068.00	2,228,311.09
Frankfort Trunk Extension	139,682.18		139,682.18
Onandagua Extension	9,539.86		9,539.86
Garage-Maintenance Building	52,871.99		52,871.99
Pleasant's Landing Trunk Extension	19,427.32		19,427.32
On Site and Off Site Improvements:			
City Financial Corporation	67,413.39		67,413.39
U.S. Homes Corporation	94,226.67		94,226.67
J.L.D. Corporation	44,994.81		44,994.81
Various Collector Extensions	66,595.55		66,595.55
Starview Drive Extension	42,611.74		42,611.74
Underground Storage Tank Removal	8,530.00		8,530.00
Sunnymead Pump Station Rehabilitation	526,231.11	18,097.00	544,328.11
Garage/Maintenance Building Expansion	529,286.77		529,286.77
Royce Brook Trunk Dualization	2,062,317.76		2,062,317.76
Brooks Boulevard Force Main	382,937.44		382,937.44
Collection System Detention Facility	30,000.00		30,000.00
Acquisition of Valley Road Sewer Co.	808,940.99		808,940.99
Rehabilitation-Valley Road Sewer Co.	475,766.28		475,766.28
Televising and Grouting Equipment	187,584.17		187,584.17
Computer System	172,161.58		172,161.58
Sewer Cleaning Equipment	227,469.82		227,469.82
Septage Hauling Equipment	70,208.00		70,208.00
Equipment and Furniture	1,007,941.07	52,848.00	1,060,789.07
Carriage Hill Sewer Replacement	300,085.08		300,085.08
Hillsborough-Somerville Trunk Replacement	1,064,544.87		1,064,544.87
Generator/Pump Station Upgrade	672,834.65		672,834.65

THE TOWNSHIP OF HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

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

Carriage Hill Pump Station Upgrade	170,512.26		170,512.26
River Road Pump Station Upgrade	170,319.98	20,130.96	190,450.94
Royce Brook Trunk Dualization - Phase II	4,406,068.08		4,406,068.08
Ivy Hill/Oxford Pump Station Upgrades	240,755.81	46,082.50	286,838.31
Blackwells Pump Station Upgrade	31,207.98		31,207.98
Fox Chase Sewer Replacement	41,482.87		41,482.87
Scott Drive Rehabilitation	132,839.75		132,839.75
Lateral Repairs	14,232.95		14,232.95
Sewer Main Repairs	18,927.14		18,927.14
Easement Maintenance	26,000.00		26,000.00
Engineering Surveys	19,187.68		19,187.68
Financial and Legal Expense	239,248.33		239,248.33
Bonding Expense	252,001.03		252,001.03
Interest and Discount on Bonds	7,678,753.85		7,678,753.85
Interest on Notes	987.43		987.43
Trustee's Fees	32,066.94		32,066.94
Total	30,239,672.75	163,226.46	30,402,899.21
Deductions:			
Interest on Investments	3,832,585.51		3,832,585.51
NET COST	\$26,407,087.24	\$163,226.46	\$26,570,313.70

APPENDIX B

PUMP STATION INSPECTION REPORT

PUMP STATION MAINTENANCE LOG

Township of Hillsborough Municipal Utilities Authority

Pump Station Inspection Report

Facilities Inspection Report

Pump Station/Facility: _____

Date of Inspection: _____

Inspection By: _____

General Overall Condition:

Checklist: **Give a detailed description of each of the following:**

Check Box
If Applicable

Overall Site

☐

Signage:

☐

Pavement:

☐

Landscaping:

☐

Gate:

☐

Is Lock/Gate Functional:

☐

Overall condition of site pavement: (inside the fence, excessive cracks, pot holes, etc.)

☐

Fencing:

Wet Well

☐ Wet Well: (overall exterior condition, do locks work, needs painting, etc.)

☐ Hatchway: (Operational locks, etc.)

☐ Ventilation Fan:

☐ Ladder:

☐ Lighting:

☐ Systems: (electrical, bubbler, pumps, overall condition of wet well, davit, etc.)

☐ Bar Screen/Grating Platform:

☐ General maintenance items and items in need of repair in the near future:

☐

Bioxide Tank and Containment:

Dry Well

☐

Dry Well: (overall exterior condition, do locks work, needs painting, etc.)

☐

Hatchway: (Operational locks, etc.)

☐

Fan:

☐

Ladder:

☐

Lighting:

☐

Systems: (electrical, valves, overall condition of dry well)

Meter Chamber

☐

Meter Chamber: (overall exterior condition, do locks work, needs painting, etc.)

☐

Overall Interior condition: (condition of valves, excessive water, etc.)

Control Building

☐

Control Building: (overall exterior condition, do locks work, needs painting, etc.)

☐

Exterior of Building: (overall exterior condition, do locks work, needs painting, roof condition, siding condition, etc.)

☐

Interior of Building:

☐

Lighting:

☐

Floor:

☐

Heaters: (Water and Space)

☐

Generator:

☐

Electrical Systems:

☐

Lighting:

☐

General Comments:

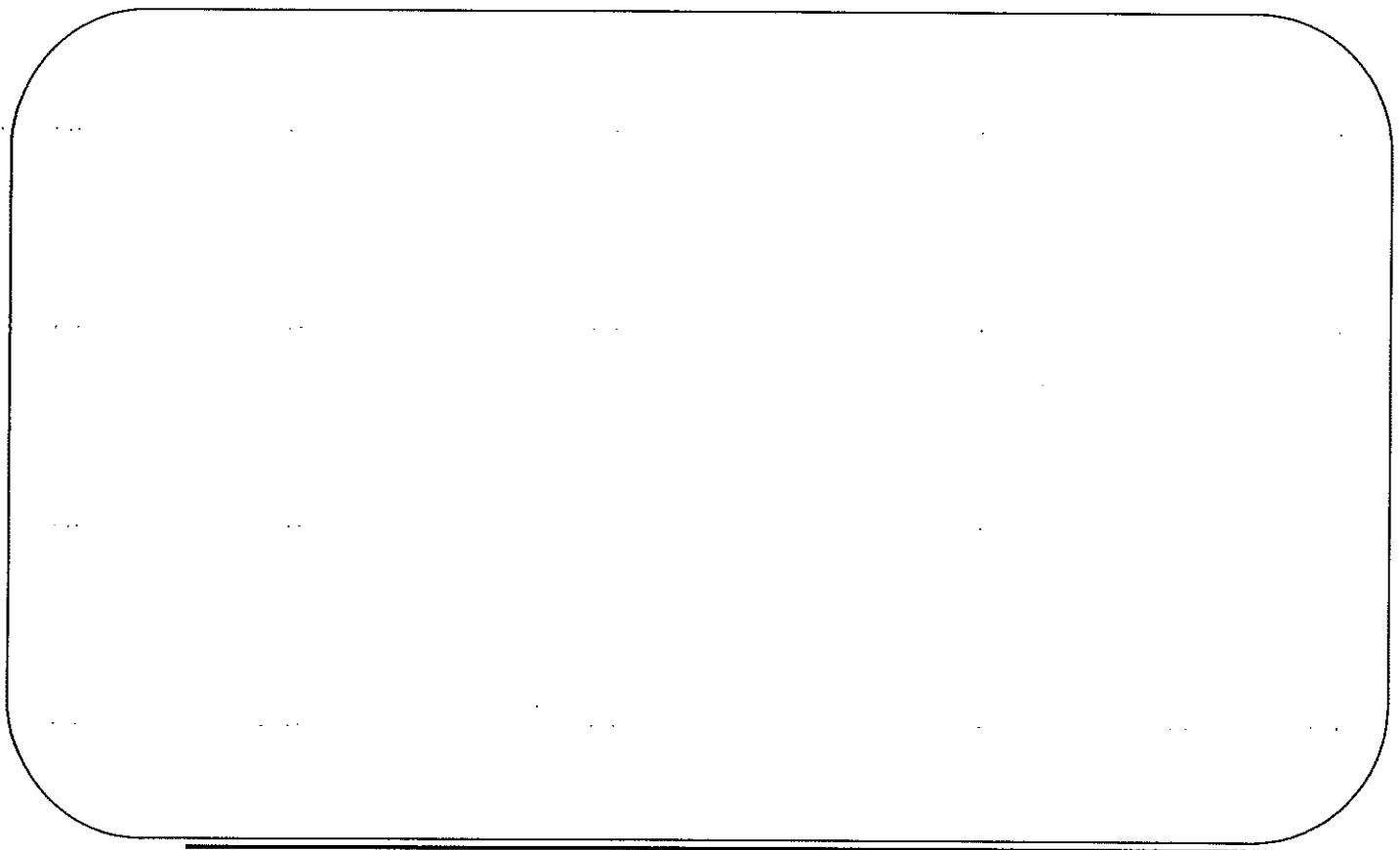
STORM DAMAGE:

Name or Storm (if named) _____

Date of Storm: _____

Report Storm Damage:

Sketch Diagram (if need be):



HOUR READINGS

[illegible]

COMMENTS

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be from a notebook or a standard ruled sheet of paper. There is no handwriting or other markings on the page.

HILLSBOROUGH MUNICIPAL UTILITIES AUTHORITY

MAINTENANCE RECORD LOG

[illegible]

PUMPING STATION:-

MONTH:

[illegible]

Reason For Operation, T/M Testing or Maintenance, PO Power Outage, VR Voltage Reduction
Air Quality Index, G Good, M Moderate, USG Unhealthy for Sensitive Groups, U Unhealthy, VU Very Unhealthy, H Hazardous
Running for testing or maintenance can only be done under Good or Moderate conditions.

PUMPING STATION:

MONITOR

20

MAINTENANCE RECORD LOG

[illegible]

APPENDIX C

SEWERAGE FACILITIES PLAN (REVISED APRIL 2009)

THE TOWNSHIP OF HILLSBOROUGH MUNICIPAL
UTILITIES AUTHORITY

— Sewerage Facilities Plan —

