

**TOWN ADMINISTRATOR PROPOSED  
2020-2029 CAPITAL IMPROVEMENT PROGRAM**

104	WASTEWATER FUND	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
105	Wastewater Facilities Plan	425,000	425,000	425,000	425,000	425,000	425,000	425,000	425,000	425,000	425,000
106	WWTP Major Components Contingency	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
107	Collection System Repair/Upgrade (Town/UNH)	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
108	Collection System Repair/Upgrade (Town Only)	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000	65,000
109	Backhoe Replacement (Cost split w/Oper. & Water)			26,500							
110	Commercial Lawnmower			17,500							
111	WWTP Phase III					2,850,000					
	WASTEWATER FUND TOTALS	570,000	570,000	614,000	570,000	3,420,000	570,000	570,000	570,000	570,000	570,000

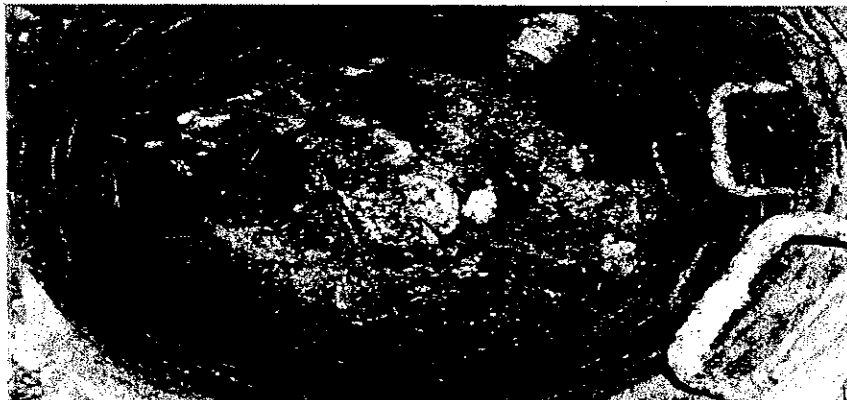
# CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR		2020-2026		PROJECT COST		YEAR 2020 - \$425,000	
DESCRIPTION		Wastewater Facilities Plan		DEPARTMENT		Public Works - Wastewater	
IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)							
Dépt Initiative							
DESCRIPTION (TO INCLUDE JUSTIFICATION)							
2020 - \$425,000 - Sludge Garage and Storage Tank Odor Control System Design							
2021 - \$425,000 - Sludge Storage Tank Design/ Sludge Garage Odor Control System							
2022 - \$425,000 - Sludge Storage Tank Design/ Sludge Garage Odor Control System							
2023 - \$425,000 - Facility Wide SCADA Upgrade							
2024 - \$425,000 - Primary Gates, Primary Mechanism 1 and 2							
2025 - \$425,000 - Overall Architectural/Structural Repairs/ Stucco, Plant Process Water.							
2026 - \$425,000 - Upgrade headworks ventilation, Investigate solar array for rooftops on buildings							
Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.							
ESTIMATED COSTS:		PRELIMINARY STUDY, DESIGN AND ENGINEERING		\$	-		
		FINAL DESIGN AND ENGINEERING		\$	-		
		CONSTRUCTION ENGINEERING OVERSIGHT		\$	-		
		CONSTRUCTION COSTS		\$	425,000		
		CONTINGENCY		\$	-		
		TOTAL PROJECT COST		\$	425,000		
FINANCING		OPERATING BUDGET		\$	-		
		UNH - CASH		\$	-		
		BOND - TOWN PORTION		\$	141,667		
		BOND - UNH PORTION		\$	283,333		
		FEDERAL/STATE GRANT		\$	-		
		CAPITAL RESERVE ACCOUNT		\$	-		
		TOTAL FINANCING COSTS		\$	425,000		
IF BONDED:		NUMBER OF YEARS			10		
		TOTAL PRINCIPAL		\$	425,000		
		TOTAL INTEREST		\$	39,600		
		TOTAL ESTIMATED COST		\$	464,600		



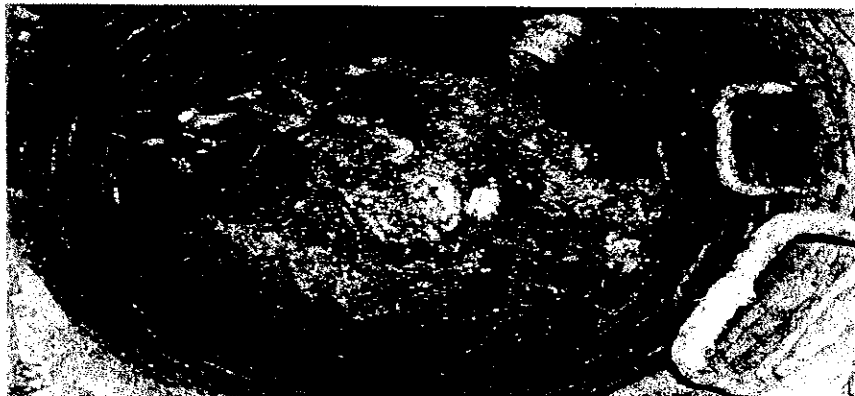
# CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR	2020-2029	PROJECT COST	\$50,000
DESCRIPTION	WWTP Major Components Contingency	DEPARTMENT	Public Works - Wastewater
IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)			
Dept Initiative			
DESCRIPTION (TO INCLUDE JUSTIFICATION)			
<p>Major Components are typically mechanical, laboratory or processing equipment replacements/upgrades necessary to continuing running the WWTP efficiently. The mechanical equipment within the wastewater division is used 24 hours a day - 7 days a week. This account is used for necessary replacements of these major components when they unexpectedly fail.</p>			
Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.			
ESTIMATED COSTS:	PRELIMINARY STUDY, DESIGN AND ENGINEERING	\$	-
	FINAL DESIGN AND ENGINEERING	\$	-
	CONSTRUCTION ENGINEERING OVERSIGHT	\$	-
	CONSTRUCTION COSTS	\$	50,000
	CONTINGENCY	\$	-
	TOTAL PROJECT COST	\$	50,000
FINANCING	OPERATING BUDGET	\$	16,667
	UNH - CASH	\$	33,333
	BOND - TOWN PORTION	\$	-
	BOND - UNH PORTION	\$	-
	FEDERAL/STATE GRANT	\$	-
	CAPITAL RESERVE ACCOUNT	\$	-
	TOTAL FINANCING COSTS	\$	50,000
IF BONDED:	NUMBER OF YEARS		N/A
	TOTAL PRINCIPAL	\$	-
	TOTAL INTEREST	\$	-
	TOTAL ESTIMATED COST	\$	-



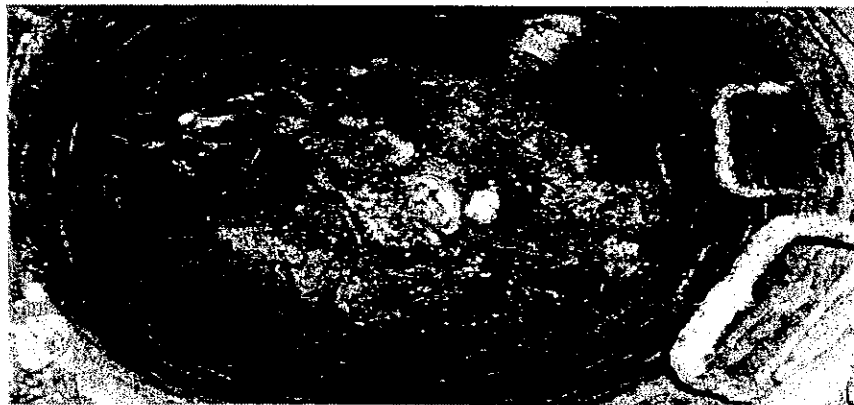
# **CAPITAL IMPROVEMENT PROGRAM**

<b>PROJECT YEAR</b>	2020-2029	<b>PROJECT COST</b>	\$30,000
<b>DESCRIPTION</b>	Collection System Repair/ Upgrade (Town/UNH)	<b>DEPARTMENT</b>	Public Works - Wastewater
<b>IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)</b>			
Dept Initiative			
<b>DESCRIPTION (TO INCLUDE JUSTIFICATION)</b>			
<p>Repairs will be made to the Town/UNH shared wastewater collection system including line replacement and line repairs, engineering investigation, sewer manhole rehabilitation or replacement. This project also includes inflow and infiltration within the wastewater collection system. Inflow is the illegal connection of plumbing such as a sump pump into the Wastewater Collection System and infiltration is the seepage of groundwater or stormwater into the Wastewater Collection System. The amount of staff time spent on collection system maintenance will decrease as these problem areas are corrected.</p> <p>Efforts will be focused on West End Sewer Study to look at wastewater capacity on the West side of town with the potential for future research park.</p>			
Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.			
<b>ESTIMATED COSTS:</b>	<b>PRELIMINARY STUDY, DESIGN AND ENGINEERING</b>	\$	-
	<b>FINAL DESIGN AND ENGINEERING</b>	\$	-
	<b>CONSTRUCTION ENGINEERING OVERSIGHT</b>	\$	-
	<b>CONSTRUCTION COSTS</b>	\$	30,000
	<b>CONTINGENCY</b>	\$	-
	<b>TOTAL PROJECT COST</b>	\$	30,000
<b>FINANCING</b>	<b>OPERATING BUDGET</b>	\$	10,000
	<b>UNH - CASH</b>	\$	20,000
	<b>BOND - TOWN PORTION</b>	\$	-
	<b>BOND - UNH PORTION</b>	\$	-
	<b>FEDERAL/STATE GRANT</b>	\$	-
	<b>CAPITAL RESERVE ACCOUNT</b>	\$	-
	<b>TOTAL FINANCING COSTS</b>	\$	30,000
<b>IF BONDED:</b>	<b>NUMBER OF YEARS</b>	N/A	
	<b>TOTAL PRINCIPAL</b>	\$	-
	<b>TOTAL INTEREST</b>	\$	-
	<b>TOTAL ESTIMATED COST</b>	\$	-



# **CAPITAL IMPROVEMENT PROGRAM**

<b>PROJECT YEAR</b>	2020-2029	<b>PROJECT COST</b>	\$65,000
<b>DESCRIPTION</b>	<i>Collection System Repair/ Upgrade (Town)</i>	<b>DEPARTMENT</b>	<i>Public Works - Wastewater</i>
<b>IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)</b>			
<i>Dept Initiative</i>			
<b>DESCRIPTION (TO INCLUDE JUSTIFICATION)</b>			
<p>Repairs will be made to the Town's wastewater collection system including line replacement and line repairs, engineering investigation, sewer manhole rehabilitation or replacement. This project also includes inflow and infiltration within the wastewater collection system. Inflow is the illegal connection of plumbing such as a sump pump into the Wastewater Collection System and infiltration is the seepage of groundwater or stormwater into the Wastewater Collection System. The amount of staff time spent on collection system maintenance will decrease as these problem areas are corrected.</p> <p>Various manholes within the collection system need to be rehabilitated or replaced, including those on Park Court, Madbury Road, and Hoitt Drive. Additionally, sewer tying work will continue in order to prioritize future sewer line rehab projects.</p>			
Per current Agreement, this project will be funded 100% by the Town.			
<b>ESTIMATED COSTS:</b>	<b>PRELIMINARY STUDY, DESIGN AND ENGINEERING</b>	\$	-
	<b>FINAL DESIGN AND ENGINEERING</b>	\$	-
	<b>CONSTRUCTION ENGINEERING OVERSIGHT</b>	\$	-
	<b>CONSTRUCTION COSTS</b>	\$	65,000
	<b>CONTINGENCY</b>	\$	-
	<b>TOTAL PROJECT COST</b>	\$	65,000
<b>FINANCING</b>	<b>OPERATING BUDGET</b>	\$	65,000
	<b>UNH - CASH</b>	\$	-
	<b>BOND - TOWN PORTION</b>	\$	-
	<b>BOND - UNH PORTION</b>	\$	-
	<b>FEDERAL/STATE GRANT</b>	\$	-
	<b>CAPITAL RESERVE ACCOUNT</b>	\$	-
	<b>TOTAL FINANCING COSTS</b>	\$	65,000
<b>IF BONDED:</b>	<b>NUMBER OF YEARS</b>	N/A	
	<b>TOTAL PRINCIPAL</b>	\$	-
	<b>TOTAL INTEREST</b>	\$	-
	<b>TOTAL ESTIMATED COST</b>	\$	-



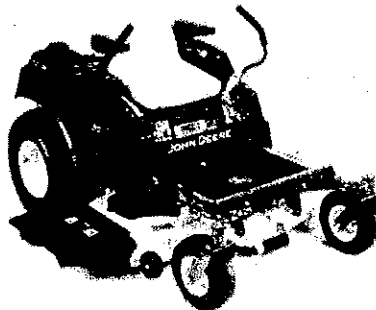
# CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR2022		PROJECT COST\$26,500	
DESCRIPTIONBackhoe Replacement		DEPARTMENTPublic Works- Operations, Water, WW	
DESCRIPTION (TO INCLUDE JUSTIFICATION):			
Replace the 2006 JCB 4 Wheel Drive Backhoe. This piece of equipment is scheduled for replacement in 2022. The 2006 JCB was on a 12 year replacement schedule, however with the purchase of the rubber tired excavator in 2013, we were able to push this out further due to the excavator picking up a good percentage of the jobs. The machine is an essential piece of equipment for all Public Works Divisions and programs and is used year round. FUNDING: 50% Operations (\$53,000), 25% Water (\$26,500), 25% Wastewater (\$26,500 of which is 2/3 is funded by UNH) will fund this purchase.			
Vehicle to be Replaced: 2006 JCB Backhoe			
Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.			
ESTIMATED COST	PURCHASE PRICE	\$ 26,500	Wastewater Portion Only
	ACCESSORIES*	\$ -	
	LESS TRADE-IN**	\$ -	
	NET PURCHASE PRICE	\$ 26,500	
	*Accessories include lighting, radios, striping, misc. equipment.		
FINANCING	OPERATING BUDGET	\$ -	
	UNH - CASH	\$ -	
	BOND - TOWN PORTION	\$ 8,833	
	BOND - UNH PORTION	\$ 17,667	
	FEDERAL/STATE GRANT	\$ -	
	CAPITAL RESERVE ACCOUNT	\$ -	
	TOTAL FINANCING COSTS	\$ 26,500	
IF BONDED:	NUMBER OF YEARS	\$ 7	
	TOTAL PRINCIPAL	\$ 26,500	
	TOTAL INTEREST (EST'D)	\$ 3,180	
	TOTAL PROJECT COST	\$ 29,680	



# **CAPITAL IMPROVEMENTS PROGRAM**

<b>PROJECT YEAR</b>	2022	<b>EQUIPMENT COST</b>	\$17,500
<b>DESCRIPTION</b>	Commercial Lawnmower Replacement	<b>DEPARTMENT</b>	Public Works - Wastewater
<b>DESCRIPTION (TO INCLUDE JUSTIFICATION):</b>			
<p>Replacement of 2013 zero turning radius commercial lawn mower needed to maintain the five acre Wastewater Treatment site. The current mower will be 9 years old in 2022 and due to wear and tear and reduced performance needs to be replaced. Minor routine maintenance is estimated at \$300/year.</p> <p>Equipment to Replace: 2013 John Deere</p>			
Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.			
<b>ESTIMATED COST</b>	<b>PURCHASE PRICE</b>	\$	17,500
	<b>ACCESSORIES*</b>	\$	-
	<b>LESS TRADE-IN**</b>	\$	-
	<b>NET PURCHASE PRICE</b>	\$	17,500
	*Accessories include lighting, radios, striping, misc. equipment.		
<b>FINANCING</b>	<b>OPERATING BUDGET</b>	\$	5,833
	<b>UNH - CASH</b>	\$	11,667
	<b>BOND - TOWN PORTION</b>	\$	-
	<b>BOND - UNH PORTION</b>	\$	-
	<b>FEDERAL/STATE GRANT</b>	\$	-
	<b>CAPITAL RESERVE ACCOUNT</b>	\$	-
	<b>TOTAL FINANCING COSTS</b>	\$	17,500
<b>IF BONDED:</b>	<b>NUMBER OF YEARS</b>	N/A	
	<b>TOTAL PRINCIPAL</b>	\$	-
	<b>TOTAL INTEREST (EST'D)</b>	\$	-
	<b>TOTAL PROJECT COST</b>	\$	-



# CAPITAL IMPROVEMENT PROGRAM

PROJECT YEAR		2024	PROJECT COST		\$2,850,000		
DESCRIPTION		WWTP Phase III	DEPARTMENT			Public Works - Wastewater	
IMPETUS FOR PROJECT (IE. MANDATED, COUNCIL GOAL, DEPT INITIATIVE, ETC.)							
Mandated							
DESCRIPTION (TO INCLUDE JUSTIFICATION)							
<p>The NPDES discharge permit is a federal permit which allows the Town of Durham Wastewater Treatment Facility to safely discharge (treated) effluent into the Oyster River.</p> <p>NPDES Permit renewal was due in 2005. EPA should have issued a new draft and final NPDES permit in 2004 for the 2005-2010 time frame. As of the writing of this document the town has still not received a new NPDES Permit. Stricter limits on Copper, Zinc, Nitrogen and Ammonia are expected. The Wastewater Facilities Plan update prepared by Wright-Pierce recommended upgrading the Treatment Plan to an enhanced biological nutrient removal process and carry out a pilot test to evaluate the best treatment options. This was completed in 2014 with the Sludge Dewatering and Four Stage Bardenpho Nutrient Removal Pilot Project. Results of the pilot are still being studied. The final phase of this project is the full conversion of the treatment process for enhanced nutrient removal based on the NPDES permit utilizing results of the pilot study.</p> <p>The Town is in serious discussion about combining our stormwater management permit, MS4 and this NPDES permit into one integrated permit.</p>							
Per current Agreement, these projects would be funded 2/3 UNH and 1/3 Town.							
ESTIMATED COSTS:		PRELIMINARY STUDY, DESIGN AND ENGINEERING				\$	-
		FINAL DESIGN AND ENGINEERING				\$	350,000
		CONSTRUCTION ENGINEERING OVERSIGHT				\$	-
		CONSTRUCTION COSTS				\$	2,500,000
		CONTINGENCY				\$	-
		TOTAL PROJECT COST				\$	2,850,000
FINANCING		OPERATING BUDGET				\$	-
		UNH - CASH				\$	-
		BOND - TOWN PORTION				\$	950,000
		BOND - UNH PORTION				\$	1,900,000
		FEDERAL/STATE GRANT				\$	-
		CAPITAL RESERVE ACCOUNT				\$	-
		TOTAL FINANCING COSTS				\$	2,850,000
IF BONDED:		NUMBER OF YEARS					20
		TOTAL PRINCIPAL				\$	2,850,000
		TOTAL INTEREST				\$	1,167,000
		TOTAL ESTIMATED COST				\$	4,017,000

