

**TOWN OF PETERBOROUGH
CAPITAL IMPROVEMENT PROGRAM
PROJECT PROPOSAL**

FY 2023 – 2028

DEPARTMENT: Fire & Rescue

I. Year Proposed for Construction or Purchase: FY2023

II. Project Cost: \$222,216

III. Title of Project: Refurbish Engine 1

IV. Description of Project: Refurbish Engine 1 to include cab, chassis, drive train, pump, and outdate equipment.

V. Location of Project: Fire Station

VI. Justification/Need/Vision: (Use a separate sheet if necessary)

Engine 1 has been in service for the Town of Peterborough since 2012 and currently serves as our Rescue Pumper responding to all motor vehicle accidents and EMS calls requiring assistance. It also serves as our second due engine for fire calls.

The request is to refurbish the vehicle and equipment including the cab, chassis, drive train, fire pump, and related equipment. Although a number of these items can be addressed piecemeal as we encountered issues, the approach of a total refurbishment is preferable to help minimize the time that the pump is not available to the town.

In order to compile the list of items to be included in the request, we worked with a number of known vendors for their recommendations on what to include. The attached backup sheets include a complete summary of those recommendations and our final list of items to include.

VII. Cost Summary (Ensuing Years):

<i>Project/Activity</i>	<i>Appr. to Date</i>	<i>FY23</i>	<i>FY24</i>	<i>FY25</i>	<i>FY26</i>	<i>FY27</i>	<i>FY28</i>
Refurbish Engine 1		\$122,216					
Capital Reserve Fund		\$110,000					
<i>Subtotal</i>							
Anticipated Revenues							
<i>Total</i>		\$122,216					

VIII. Needs Criteria (Check as many as apply):

X	1. Improving existing services.		8. Coordinating facilities development.
	2. Complying with legal mandates of state or federal government.		9. Meeting demands for service resulting from Town growth.
	3. Improving existing environment.		10. Guiding future town growth and development.
	4. Protecting the health and safety of the populace.		11. Improving the basis for intergovernmental and regional cooperation.
X	5. Achieving optimum and efficient use of municipal funds through cost savings, or avoidance of costs, or coordination of projects.		12. Enhancing opportunities for participation in federal or state grant-in-aid programs.
	6. Meeting demands for service resulting from population growth.		13. Maintaining a sound and stable financial program.
X	7. Preserving existing facilities through repair.		

IX. Project Ranking (Check only one):

	URGENT PROJECTS <ul style="list-style-type: none"> ▫ Meet emergencies threatening life, health, and safety ▫ Perform work required by state or federal law
X	NECESSARY PROJECTS <ul style="list-style-type: none"> ▫ Eliminate safety hazards ▫ Correct code violations ▫ Meet contractual obligations ▫ Perform required renovations, repair, or replacement
	DESIRED PROJECTS <ul style="list-style-type: none"> ▫ Improve equipment and efficiency ▫ Enhance service ▫ Match state or federal funds
	ON-GOING PROJECTS <ul style="list-style-type: none"> ▫ Continue work in progress
	NEW SERVICE <ul style="list-style-type: none"> ▫ Expand a public facility service to a new area ▫ Provide a new public service

X. Possible Alternatives:

As stated in the request, without this funding we will address these issues as they arrive through our regular operating budget.

XI. Impact, If Disapproved:

Although slight, there is the change of catastrophic failure of the Engine resulting in unknown downtime or forced replacement.

Description	Cost	In Request
Cab and Chasis		
Steam clean chassis, drivetrain, pump, body, generator	\$ 847	\$ 847
Evacuate & test AC recharge	\$ 834	\$ 834
Evaluate and Bake or Replace exhaust DPF after treatment system	\$ 11,500	\$ 11,500
Replace straps & Pipes	\$ 4,326	
Install new onspot tire chains	\$ 2,867	
Recore radiator, replace hoses & engine belts	\$ 25,113	\$ 25,113
Replace InterCooler	included	included
Replace Oil Cooler	included	included
Replace power steering pump	included	included
Replace water pump	\$ 2,123	\$ 2,123
Replace Heater Cores	\$ 2,754	\$ 2,754
Replace Thermostats	included	included
Replace Tie Rod Ends	included	included
Replace Drag Link Ends	included	included
Replace King Pins	\$ 7,042	
Replace Brakes- wheel bearings, wheel seals, can, slacks, S-cams etc	\$ 7,967	\$ 7,967
Joints	\$ 12,058	
Replace DEF Pump	\$ 6,446	\$ 6,446
Drive shafts, u-joints, carrier bearing	\$ 1,647	\$ 1,647
Air compressor/ Air dryer	\$ 4,682	\$ 4,682
Brake valves- modulating valve, treadle valve, relay valves	\$ 6,467	\$ 6,467
Cab lift pistons/ cab locks	\$ 6,106	
Batteries	\$ 917	\$ 917
EGR Cooler/ EGR valve	\$ 5,274	
Alternator	\$ 4,196	\$ 4,196
High PSI fuel pump	\$ 5,258	\$ 5,258
Starter- battery cables	\$ 5,136	\$ 5,136
Transmission oil & filters	included	included
Gear oil rear end	\$ 797	\$ 797
Complete Service	\$ 1,994	\$ 1,994
State Inspection	\$ 200	\$ 200
Springs/Suspension/Shocks	\$ 6,500	\$ 6,500
Fire Engine Related Work		
Pump test before and after	\$ 800	\$ 800
New impeller shaft with a mechanical seal,	\$ 14,839	\$ 14,839
Rebuild the gear box (pump transmission)	included	included
Inspecting the shift fork for wear replace if worn	included	included
All new bearings and seals in the gear box	included	included
New shift rail	\$ 2,947	\$ 2,947
New Hale switches on the back of the gear box	included	included
New drive shaft bolt using new Spicer drive shaft with locking nuts, not grade 8 bolts	\$ 156	\$ 156
Check all u-joints for stiffness or not able to move, if so replace them	included	included
Check the air tanks for excessive rust, if so replace them.	parts/labor	parts/labor
All new gauges on the pump panel	parts/labor	
rebuild all the discharge valves and inspect the check valve between the tank to pump valve and the pump.	\$ 4,462	\$ 4,462
Inspect the piping on the pump and if any leakage or wear, replace it.	parts/labor	parts/labor
Repair all air leaks behind the pump panel	parts/labor	parts/labor
Replace the anodes in the pump body.	\$ 138	\$ 138
Replace Engine Cooler Fire Pump Heat exchanger	\$ 2,075	\$ 2,075
Replace Pump house heater	\$ 890	\$ 890
Add FRC ultimate flow flowmeter to front 2" discharge with display in 2.5" pressure gauge	\$ 1,025	\$ 1,025

Description	Cost	In Request
Add FRC ultimate flow flowmeter to front 4" discharge with display in 2.5" pressure gauge	\$ 1,025	
Replace left side 6" steamer with shorter	\$ 922	
Replace missing label on B foam educator	\$ 45	\$ 45
Install new FRC tank vision pro water level gauge & sender & 3 x FRC Maxvision large tank level gauges one each side & on rear body & recalibrate gauge	\$ 2,945	\$ 2,945
Add 2.5" direct tank fill with gauge	\$ 2,910	\$ 2,910
Replace pressure gauge on TFT crossfire monitor	\$ 130	\$ 130
Replace windshields (2)	\$ 1,551	\$ 1,551
Clean side windows with wire wool	\$ 1,300	\$ 1,300
Replace cab door hinges*	\$ 2,340	\$ 2,340
Add storage net to engine cover to secure bags etc.	\$ 250	\$ 250
Add 2 x straps under rear wall seats to secure bags etc.	\$ 400	\$ 400
Reupholster drivers & officers seat bases	\$ 822	\$ 822
Fabricate & install stainless cab corner protector	\$ 520	\$ 520
Replace side and bottom seals on all ROM roll up doors. Replace damaged left rear door track.	\$ 1,017	\$ 1,017
Replace hosebed & crosslay covers	\$ 1,500	\$ 1,500
Replace 4 x fold down steps	\$ 632	\$ 632
Rebuild tank fill & tank to pump ball valves	\$ 759	\$ 759
Replace front chock block holder	\$ 228	\$ 228
Replace any corroded bottom grab rail stanchions	\$ 800	\$ 800
Sand & polish rear fenderettes	\$ 340	\$ 340
Heated LED headights	\$ 2,587	\$ 2,587
Replace halogen brow lights with 2 x FRC spectra max 12v LED switched in drivers side cab	included	included
Replace halogen scene lights above drivers/officers cab doors with 2 x FRC spectra max 12v LED switched in drivers side cab	included	included
Replace cab pole light heads with FRC spectra max 110V LED lights on existing poles	\$ 11,039	\$ 11,039
Replace pump panel lights & pump compartment light with LED	\$ 310	\$ 310
Replace back up lights with tecniq K60 LED	\$ 175	\$ 175
Replace lens on right side brake/tail light	\$ 70	\$ 70
Replace rear light with a blue light and move the yellow to the red location	\$ 860	\$ 860
Replace 6 ground lights with tecniq LED, add 4 additional lights	\$ 1,145	\$ 1,145
Add hosebed & crosslay work lights	\$ 690	\$ 690
Crack & corrosion at bottom of right windshield (white paint), Right front cab door at hinge, Body at the rear of the right rear fenderette, Ladder rack cover, Right rear body corner at lolipop light, Left rear body corner at lolipop light and oany other noted during pre inspection	included	included
Alternative: The entire truck will be disassembled and the cab and the body will have all of the corrosion addressed. The truck will be primed, painted, and buffed. The truck will be reassembled.	\$ 78,207	
Replace any lettering/stripe removed for corrosion repair	Included	
Replace rear body reflective chevron stripes using 6" 3M diamond grade florescent yellow/red material	\$ 3,062	\$ 3,062
Paint & restripe front bumper add stainless edge protector	\$ 4,425	\$ 4,425
Remove o.s. discharge and add cover plate	\$ 500	\$ 500
Plumb the discharge to come up the front of the o.s. hosebed	included	included
Add a drain to the new plumbing	\$ 40	\$ 40
Replace velcro straps to hard suction	\$ 440	\$ 440
Replace all other Velcro Straps Longer	\$ 575	\$ 575
Add CL602A-FX Light Tower, with branch deflector wired to Generator AC power, Six Spectra MAX	\$ 40,649	
Generator service and PM	\$ 450	\$ 450
\$5,000 mounting and fabrication allowance	\$ 5,000	\$ 5,000

Description	Cost	In Request
Final Cleaning / Detailing	\$ 1,350	\$ 1,350
Unit to be picked up in Peterborough NH and Delvered Back when complete.	\$ 300	\$ 300
Outdated Equipment		
Replace Jaws	\$ 40,000	
Purchase CombiTool and additional Ram Hurst	\$ 25,000	\$ 25,000
Replace Handlights	\$ 3,000	\$ 3,000
Portable Radios	grant funded	grant funded
Contingencies		
Other issues	\$ 10,000	\$ 10,000
Price increases	\$ 10,000	\$ 10,000
Total Amount	\$ 420,693	\$ 222,216