Stoughton Fire Department

Capital Budget Request

FY 2021

Capital Expenditure Request 2021

1) **PPE for firefighters**
   A) Structural Firefighting Gear - Ongoing rotation/replacement
   B) Wildland Firefighting Gear – New expenditure, with grant funds
   C) Swiftwater Rescue Gear – Continuing, expanding on previous purchase in 2019/2020.

2) **Breathing Air Compressor – Refilling Self Contained Breathing Apparatus Tanks**

3) **Portable Radio Purchase**

4) **Ladder 4 Tire replacement**

5) **Mobile Data Computers**

6) **Knox Key Secure Devices**

Stoughton Fire Dept

Operations Today

Stoughton Fire is called to to the Following Call types

- Structure Fires
- Alarms (Fire, Carbon Monoxide, etc)
- Car Accidents
- EMS Assists
- Wildland/Brush Fire
- Technical/Rescue
- Water Rescue
  - Lake Rescue (surface and dive rescue)
  - Swiftwater Rescue
- Other Calls, as assigned

#1 - PPE (Personal Protective Equipment) $43,000

- Specific to the Job/duties
- PPE can be inappropriate for other duties
  - Structural Gear keeps heat out, but also keeps heat in
  - Wildland Gear doesn't have insulation, but is lighwieght
  - Water Rescue Gear is designed to keep water out, add flotation, but also keeps heat in
- Different Standards for different Jobs
  - Structural Firefighting Gear – NFPA 1971
  - Wildland Firefighting Gear – NFPA 1977
  - Surface Water Rescue Gear – NFPA 1952

Stoughton Fire Dept

What SFD has Proper PPE to Handle

****

- Structure Fires
- Car Accidents
- Water Rescue
  - Surface Rescue in static water
  - Ice Rescue

What SFD is doing w/o proper PPE

****

- Wildland/Brush Fire (Larger Incidents)
- Technical/Rescue
- Swiftwater Rescue

PPE (Personal Protective Equipment)

- Most PPE is sized specific to the person
- Especially true of bunker gear and Water Rescue Gear
- Bunker Gear PPE cost is about $2K per person
- Wildland Gear PPE is pricing out about $1k
- Water Rescue PPE is getting close to $1k

Structural Gear

- Sized to each Firefighter
- Protects against heat for Structural firefighting
- Also has barrier for Bloodborne Pathogens and Moisture
- These features also hold in heat/moisture, causing FF stress
- Max Life of 10 years
- Generally takes minimum of 4 hours to wash and dry gear, putting that FF out of service

Wildland Gear

- Fire Resistant Clothing (Treated Cotton material).
- Lightweight and abrasion resistant
- Better for long walking/hiking, working outdoors in warm weather
- Typically DOESN’T have a barrier for Bloodborne Pathogens and Moisture
- Max Life of 10 years (Per NFPA Standards)
- Sized for each person, but more flexible

Ice/Cold Water Rescue PPE

- Provides Protection from Temperature extremes
- Provides Flotation for rescuer
- Provides connections for safety ropes
- Suits do not allow good movement in open water (swimming)
- Thermal insulation causes heat stress issues for rescuers in warmer weather

Swiftwater Water Rescue PPE

- Provides Protection from water contaminants
- Flotation provided by additional flotation vest, not internal insulation
- Provides connections for safety ropes
- Suits are designed for increased mobility in water, and allow swimming, rope work, not floating a rescuer completely on top of the water

Stoughton Fire Dept Call Risks

Wildland Firefighting Risks

****

- Farm Fields in the township
- Any of the privately owned properties with wooded, marsh or grassy areas (especially in the spring
- Badfish Creek Wildlife Area
- Mutual Aid Responses to larger incidents
- Large areas to cover, not always able to use vehicles (marshes especially)

Swiftwater Risks

****

- Part of Multiple Dept Team/Effort
- Yahara River
  - Existing Dams (Dunkirk, Stoughton)
  - Proposed Whitewater Park
- Previous Flooding issues (2017)
- Closest Swiftwater Teams are in
  - NW Dane (Black Earth, Mazomanie, Sauk City)
  - Lafayette and Grant County's

#2 - Breathing Air Compressor : $55,000

- Requesting the Breathing Air Compressor approved for the 2020 budget, get re-approved for 2021
- Allows SFD to refill our air packs in the station, as needed, and get back in service as quickly.
- Allows us to also refill the storage tanks on our rescue squad and ladder truck, allowing us to refill air pack bottles on site
- Current compressor was purchased while we had older air packs, with lower pressure air tanks
- Current air packs have higher pressure bottles for longer duration use (safety margins increased), but compressor can’t fill all the way full

Breathing Air Compressor

Older Equipment Features

****

- Air Packs were 2216 or 3000 psi
- Considered “30 minute” tanks, but real world use showed 15 minutes of working time on average
- Older(Current Compressor) fills to 4500 psi
- Squad’s storage tanks rated for 4500 psi

Operational Issues caused by old/new ratings

****

- New Air packs are 4500 psi air tanks. Considered “45 min” tanks
- Provide time increase closer to 30 minutes working time
- The lack of difference between storage tanks pressure and SCBA tanks rated pressure, means we truly only get a little over 4000 psi actually in the SCBA tanks, which decreases the effectiveness of upgrade

Breathing Air Compressor

- New Compressor would fill to 6000 psi, giving us the difference in pressure needed to top off SCBA tanks to the full designed pressure, and giving FF's the maximum available amount of air when going into a fire
- Would also fill the Cascade on the new squad, to the higher designed pressure, giving us more capacity on a scene to fill tanks.
- New Compressor has a design that also deadens some of the noise when its running. The current location in the bays with the open compressor design is extremely loud in the entire bay

#3 - Portable Radio Purchase : $25,000

- Proposal to purchase approximately 3 portable radios, from different vendors, to feed into our radio replacement investigation

- This test would feed into our request for a complete fleet replacement in (Estimated 2022, to coincide with another municipality purchase for better costs).

Portable Radio Purchase

- Current Portable Radios were purchased in 2010 as part of a county wide grant program
- The manufacturer has announced a few years ago that they will no longer be supporting the radio. There have been no Software updates for 4 years, and repair parts are expensive, with cost of any repair starting at $700
- There are numerous models, features and setups available
- One significant technology gain is the ability to connect a voicebox via Bluetooth from the SCBA mask of a Firefighter, to a radio, to get much better audio quality of the Firefighter speaking. Audio is very difficult to hear from firefighters in an SCBA mask today.
- The SFD is looking at a fleet of 50 radios to meet our needs
  - 42 Firefighters
  - 2 sets of 4 radios as spare/cache radios, assigned to the command vehicles

Portable Radio Purchase

- My proposal for 2021 is to purchase a few test radios meeting the following standards
  - P25 Phase 2 compliant (DaneCom requirement for new radios)
  - Dual band (VHF and 800 mhz).
  - Durable/built for public safety use
  - Bluetooth Connectivity for SCBA mounted voice boxes

- This would allow us to use the radios, test them out in real world scenarios for us, and have firefighters give feedback on how they work for actual use

- As a note, when we get test radios from most vendors, we aren't allowed to keep them more than a few weeks, and definitely not take them into structure fires, on car accidents, etc, to really test how they work in the real world

- There are 3 Brands we would be looking at, right now:
  - EFJ/Kenwood
  - Harris
  - Motorola

#4 - Ladder 4 Tire Replacement : $6,200

- Vehicle Tires are required to be replaced at 10 maximum, with recent information pulling that back to 7 years.
- This is based on tire compound breakdown, and extreme use by fire apparatus
- The tires on the front of Ladder 4 will reach 10 years old next year.
- The tires need to be done as a matching set, so all 10 tires need to be done

#5 – Mobile Data Computers : $12,000

- This computer connects to the Dane County CAD (computer aided dispatch) to get information to responders
- This also provides mapping for places in Dane County that is as up to date as we can get, as it comes from Dane County Land information office
- Going into 2021, we will be short computers in 2 vehicles, Tender 6 and Engine 2.
- This proposal would complete the fleet, and purchase the necessary software

#6 – Knox Key Secure : $4400

- Knox Keys are a system we use to ensure access to businesses after hours for calls. We have an ordinance in place requiring them for specific situations
- The Key Secure device locks the key in the truck, and creates an audit trail of when that key is installed, removed, and by whom removed it
- Each firefighter is assigned a code to enter into the box, to retrieve the key
- This purchase would complete putting a key secure in all our frontline apparatus, ensuring access for our responders, no matter which vehicle responds

#7 – Station Architect : $5000

- In my plans for the SFD, I want to investigate adding a capability of sleeping/living quarters.
- This would be hiring an architect to start investigating possibilities for modifying the fire station for living quarters
- This would be to accomplish the following
  - Develop an intern program to help with staffing (could be available for EMS)
  - Provide quarters for staff to stay at the station, when necessary (severe weather events)
  - Ultimately, reducing response times for SFD