

Town of Casco Fire Department Study February 12, 2023



Purpose of the Study

Port City Architecture (PCA) was hired by the Town of Casco, Maine in the spring of 2022 to study the town's Fire and Rescue department's operational, staffing, apparatus, and facility needs in order to continue to provide high quality first responder services to the town.

The purpose of the study is to analyze the current staffing and apparatus, analyze call volumes and call locations, examine the current facilities, assess the department's current and future space needs required to provide safe and efficient modern firefighting and rescue services to the community, and recommend the best and most cost-effective facility improvement scenario to meet the town's future needs. PCA reviewed multiple scenarios including a renovation/addition to the current facility and the construction of a new facility on the current municipal site and elsewhere. We also reviewed the Brown Avenue substation and its importance to Casco's firefighting and rescue operations.

Study Process

To start the process Neil Courtney, our Municipal Fire Protection Consultant, worked with Chief Cole evaluating their fire and rescue department as a whole. PCA began a space needs programming evaluation for the department in order to determine their total square footage needs and provided a facility assessment of the existing fire station including functionality, structural suitability, building envelope quality, and the condition of its mechanical, electrical, plumbing, and fire protection systems. In conjunction with Neil Courtney's: Comprehensive Study of the Casco Fire Rescue Department (see appendix) and based on the recommended square footage needs, and the current building assessment, PCA provided our facility improvement recommendations including a schematic floor plan and a schematic site plan. We then provided an estimate of the total cost of the project. These materials can be utilized to document the department's space needs and validate the conceptual solution to the public for funding approval and construction.

Space Programming

Our initial task was to interview the Fire Department staff to determine the physical space requirements necessary to meet the needs of the department for the foreseeable future. We based the space program on current needs plus projected growth for the next twenty years. We sized individual rooms and spaces on the needs requested by the department and then compared them to benchmarks from

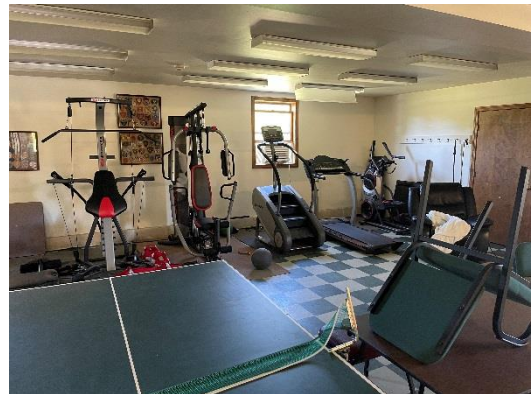


similar sized towns employing modern fire and EMS practices to get the appropriate space needs for current needs and future growth (see attached space program document.) The program was also based on the projected staffing needs and apparatus needs for the town as recommended by Neil Courtney.

Based on our space programming analysis, the current Fire Department facility has inadequate space for their needs. The Fire/Rescue Department requires 18,600 square feet, but the current facilities are only 9,950 square feet. The Fire Department needs to almost double their current space. The major deficiencies in square footage are due to a lack of apparatus bay space, storage space, administrative space, and staff health and safety spaces. Based on Neil's report, the Central Station should also be large enough to accommodate all of the department's staff and apparatus during the fall, winter, and spring seasons when the Brown Avenue station is inactive. In addition we are recommending they will need exterior space to park fifteen to twenty staff vehicles and five to ten public visitors at a minimum.

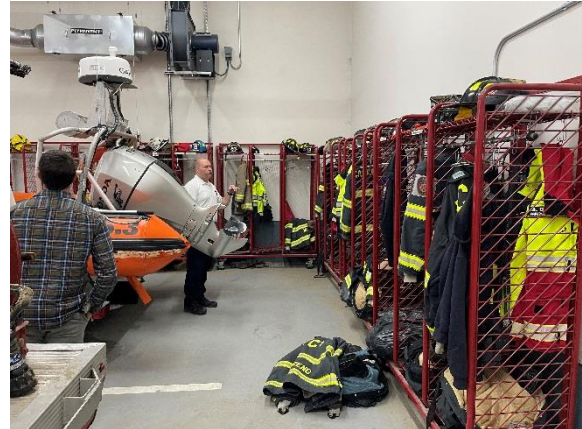
Initial Facility Assessment

Our second task was to provide an analysis of the existing buildings' current conditions, systems, code compliance, and energy usage. This was to begin an assessment of the suitability of the existing facilities to house a modern fire/EMS department. The central Station was constructed the late 1970's with an addition constructed in 1997. The Brown Avenue station appears to be of similar vintage. During the space programming sessions, we reviewed existing plans of the buildings, field measured the existing fire stations, drew a scaled digital base plan in CADD of both stations, and evaluated the building's functionality, envelope, and existing engineering systems (see existing conditions floor plans and site plan).



Architectural Assessment

There are two existing buildings that were assessed: The central station at 637 Meadow Road and the sub-station at 20 Brown Ave. The current Fire Department facilities do not meet modern firefighting and Rescue needs or health and safety requirements, and do not contain many required support spaces. The current facilities have limited bunk rooms, small dayrooms, and inadequate office spaces. The apparatus bays are missing the support spaces that they need. There is turnout gear and other personal gear stored in the apparatus bays. Current practice is to keep personal gear out of the bays and away from potential carcinogenic contamination.



The apparatus bays at both locations are non-drive through, which limits the way apparatus equipment can be stored in each bay. Apparatus equipment could be blocking other pieces of equipment that could be needed on a call when time is of the highest importance. The apparatus aprons are not separated from the public access which can cause dangerous traffic incidents when emergency calls come through. Storage is at a bare minimum and does not meet their current needs, much less for the department's future needs. The administration space is limited or non-existent causing potential HIPPA violations from incident reporting in the open areas.

Upon initial inspection, the building envelope at both locations look to be poorly insulated. This would need further investigation in the wall cavities to verify. Additional insulation and possibly new windows should be provided if the buildings are renovated.

The facilities are both lacking modern safety features. There is no sprinkler system in either building. With a sprinkler system missing in these buildings, IBC code requires a one hour separation and egress door to the outside located in each bunkroom. None of the current bunkrooms at both facilities are code compliant. There is no decontamination room. The central station has access to exercise equipment, but it is in their kitchen space.

Circulation at the central station is confusing. The main door to the facility is on the side of the building. Visitors enter into a stair vestibule that brings you up to the training room or into the kitchen/dayroom. The building is split between two levels and provides ADA accessibility with an elevator. The overall design of the building

does not allow for good movement/flow during active calls.

Mechanical Assessment

Mechanically, the central station building has two boilers, but only one is in service. The other boiler is defunct. A dual zone heat pump has been recently added to aid in the heating and cooling. The system could be upgraded to a more efficient system if the building was to be renovated. Mechanical systems can last well beyond their expected lifespans when maintained properly with a good maintenance schedule and replacing older parts and pieces as needed.



Electrical Assessment

Electrically, the two building's electrical services appear adequate. The lighting is fluorescent strip lighting in most areas and should be replaced with LED fixtures for energy efficiency and better lighting within the spaces. There is an overly abundant number of light fixtures in the spaces that should be reduced for better energy efficiency. The electrical services of both facilities will need to be replaced if they are expanded. A new 45kW generator was installed at the central station that runs the whole building and would suffice for a renovation. The sub-station generator would have to be upsized for any expansion to the electrical system.



Structural Assessment

Both facilities are wood framed structures with wood truss roofs, slab -on-grade foundations, and some masonry veneer accent walls. It is unlikely that the existing buildings comply with current IBC structural requirements. In addition, fire stations are deemed essential facilities and are held to higher seismic structural requirements. This is to ensure that they remain active during an earthquake or other extreme weather events.

Because they were built in the late 70's, it is unlikely that the wood framing and/or the roof trusses will comply with the code. If a renovation scenario is selected, the structures would have to be analyzed by our engineers to recommend ways to bring each of the facilities up to code. This could potentially be a costly proposition, and will be exacerbated by the insulation upgrades required in a major renovation which will increase snow loading on the structure.

Options to renovate with a building addition

Using the call location information collected from our attached operational report (see appendix 6) about site location recommendations for the station, we examined how the new space needs program could be accommodated on the existing main building site. The site has the space needed to provide the required square footage needed for the addition. With the recommendation of making the Brown Ave. location seasonal, most apparatus equipment would need to be relocated to the Central Station Meadow Road site. This would require renovations to the existing apparatus bays as well as additional bays being built. Since the current apparatus bays are single entry and not drive-through, it limits those bays usages.

As noted above, the facility most likely does not meet the essential facility code requirements for the structure and would need to be re-supported. With extensive renovations, the building envelope would need to be brought up to energy code. The current building setup would need to be extensively renovated to create a modern and viable solution for the Fire Department's needs. The current facility has an elevator, but only one stair that is not fire-rated, with the extensive renovations and addition, an additional stair would be needed as well as the original stair would need to be rebuilt to meet code. The renovations would require temporary housing for the staff which has additional costs.

We examined some very preliminary ideas of how the site might be arranged for safe egress of emergency vehicles and separated public parking. Currently, visitors and staff all use the same parking lot to the right of the building with no separation from the apron of the apparatus bays. New parking and separation from the apparatus apron would be required to create a safer environment for the public and staff.

Options to build to a new facility

Because the Meadow Road site is central to a majority of the emergency response calls, and because the town owns the site, it is a good location for a new station. It



is expansive enough to accommodate a new facility without tearing down the existing building. A benefit of providing a new fire station on the current municipal site is that it would allow the current fire station to be converted for use as a much-needed Public Works building. The Apparatus bays are large enough to hold Public Works equipment, and it could be converted to Public Works with little to no renovation costs.

There are many advantages with a new station. A one-story building is more cost effective, as a second floor would require two stair towers and an elevator, adding additional cost. The layout of the new building will be more efficient including movement through the building and apparatus circulation. Drive-through bays will be provided to prevent accidents with the apparatus equipment. It can be tailor designed for Casco with maximum efficiency and will include everything required for a modern station. Designated parking for staff and visitors would keep the apparatus apron clear and keep the flow of traffic controlled. The overall site would become a municipal complex for the town of Casco. The Town Hall, Public Works, and Fire/Rescue Departments would all be tied together on one site which saves overall operational costs.

Recommendation

Based on the information presented above, our recommendation is to pursue a new building scenario at the existing site and keep the Brown Ave location as a seasonal call company facility. The costs of renovating the existing building to meet all modern EMS and firefighting and be code compliant is not a cost efficient option. A new fire station option provides the most efficient design for the fire and rescue departments which will comply with all required codes.

It also allows Public Works to inherit the old building with minimal renovations. The new building will allow for modern EMS and firefighting practices to be implemented. The new apparatus bays will provide the space required to run an efficient and safe station and provide a better living environment within the building for the staff. New mechanical and electrical systems and a high-performance thermal envelope will minimize annual operational costs for the fire department. As shown by the following rough cost estimates, a new station is worth the investment. Minor renovations to the Brown Ave location could be made to help better the overall performance of the station while it is seasonally in use.

Rough Costs



The current estimated costs for similar recent turn-key public safety projects are approximately \$525 a square foot. This cost includes construction, design and engineering, permitting, furnishings, fixtures, and equipment, contingencies, and all other fees required for a move in ready project.

New Station Costs including a 5,500sf Public Works facility

- The rough total project cost of a new Turn-Key Fire Station of 18,650 square feet: **\$9,791,250**
- Minor renovations to existing 5,500 square foot building for Public Works **\$50,000**
- **Total Cost for a 18,650 sqft new station & 5,500 sqft public works building** **\$9,841,250**

Due to the required code upgrades, the total project costs for an addition/renovation scenario would be close to, if not equal to, the same costs of a new station, but would not include the benefit of a 5,500sf public works building and would be less functional than a new facility on site.

Conclusion

The new building option proposed by this report would provide a brand-new facility designed to accommodate modern firefighting and rescue/EMS procedures. It will be centrally located for rapid response to the majority of emergency calls in the community. It will provide a safe and healthy work environment for the staff and will enhance recruiting of the most talented first responders in the state. The fire station will be adequately sized for their current needs and future growth. The new apparatus bays on the site will reduce risk of accidents and give the Fire Department an easy drive-in/out to respond to calls more efficiently. It will create a municipal complex area with the old building being taken over by the Public Works Department. It allows the Public Works department to grow with the ability to expand later on towards the rear of the site.



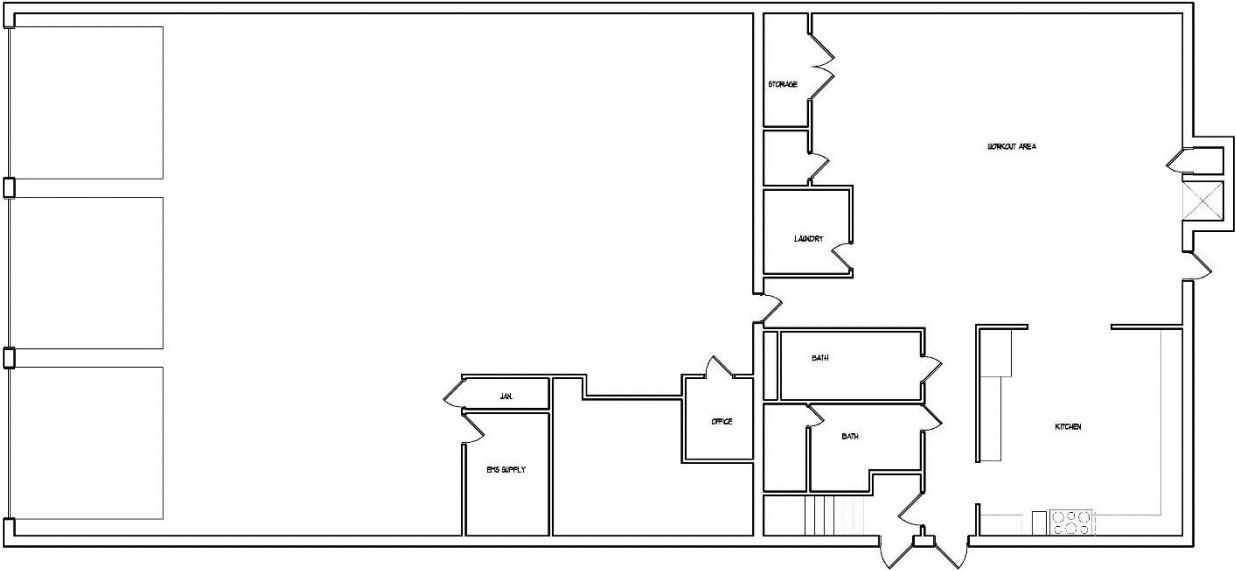
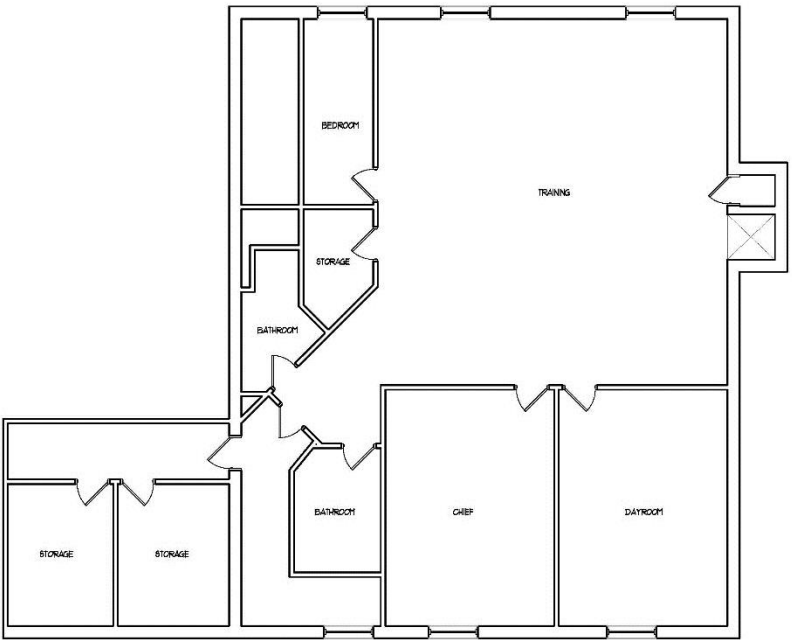
APPENDIX 1

Site Plan - Existing



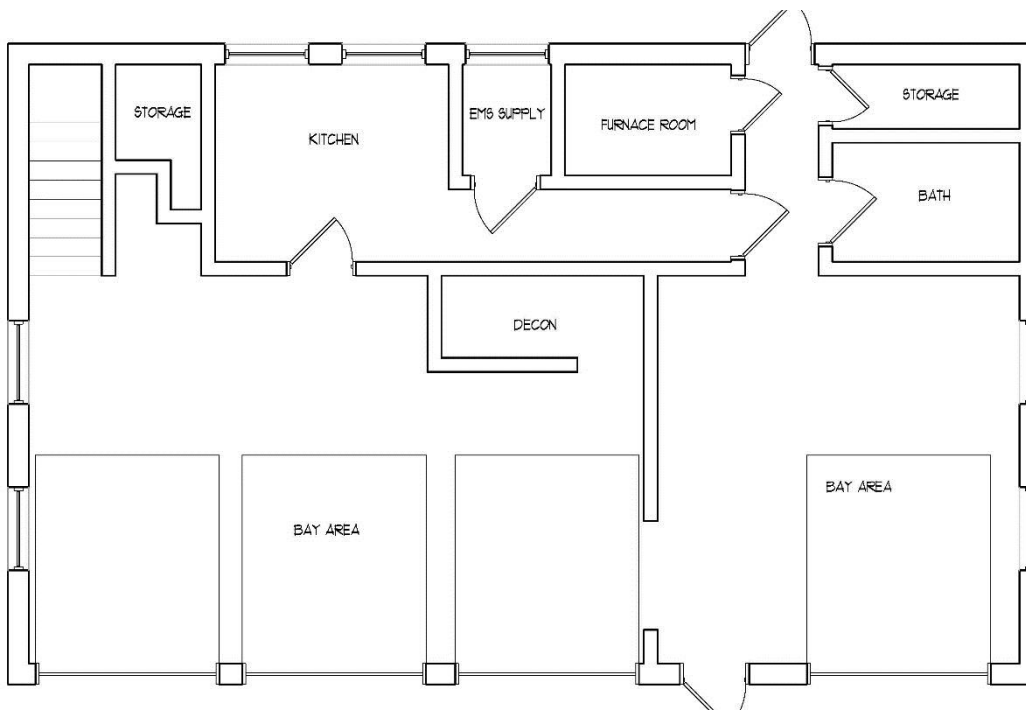
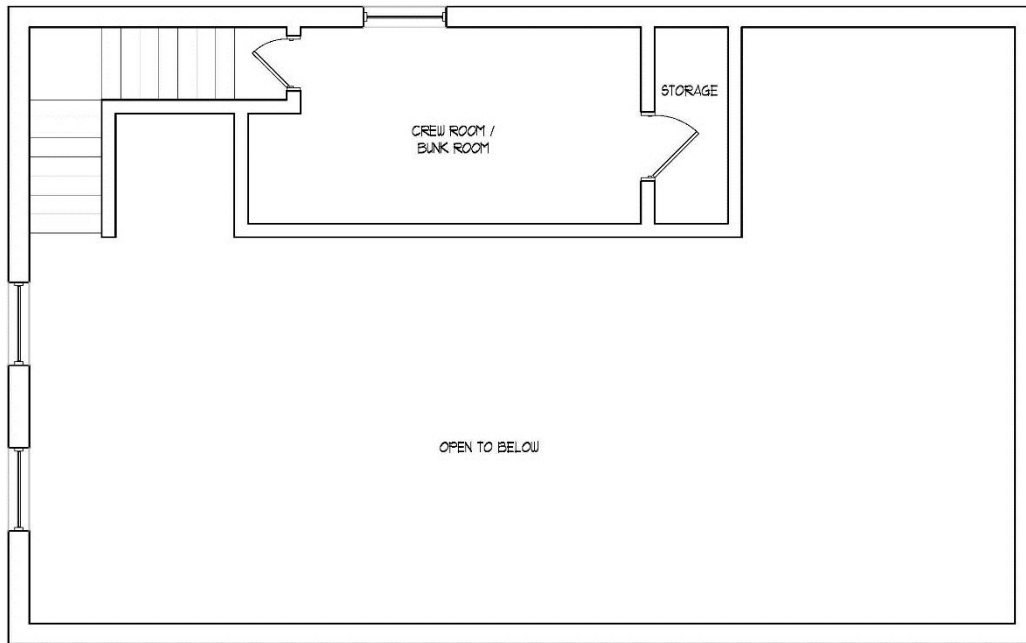
APPENDIX 2

Floor Plan – Existing Meadow Road



APPENDIX 3

Floor Plan – Existing Brown Ave



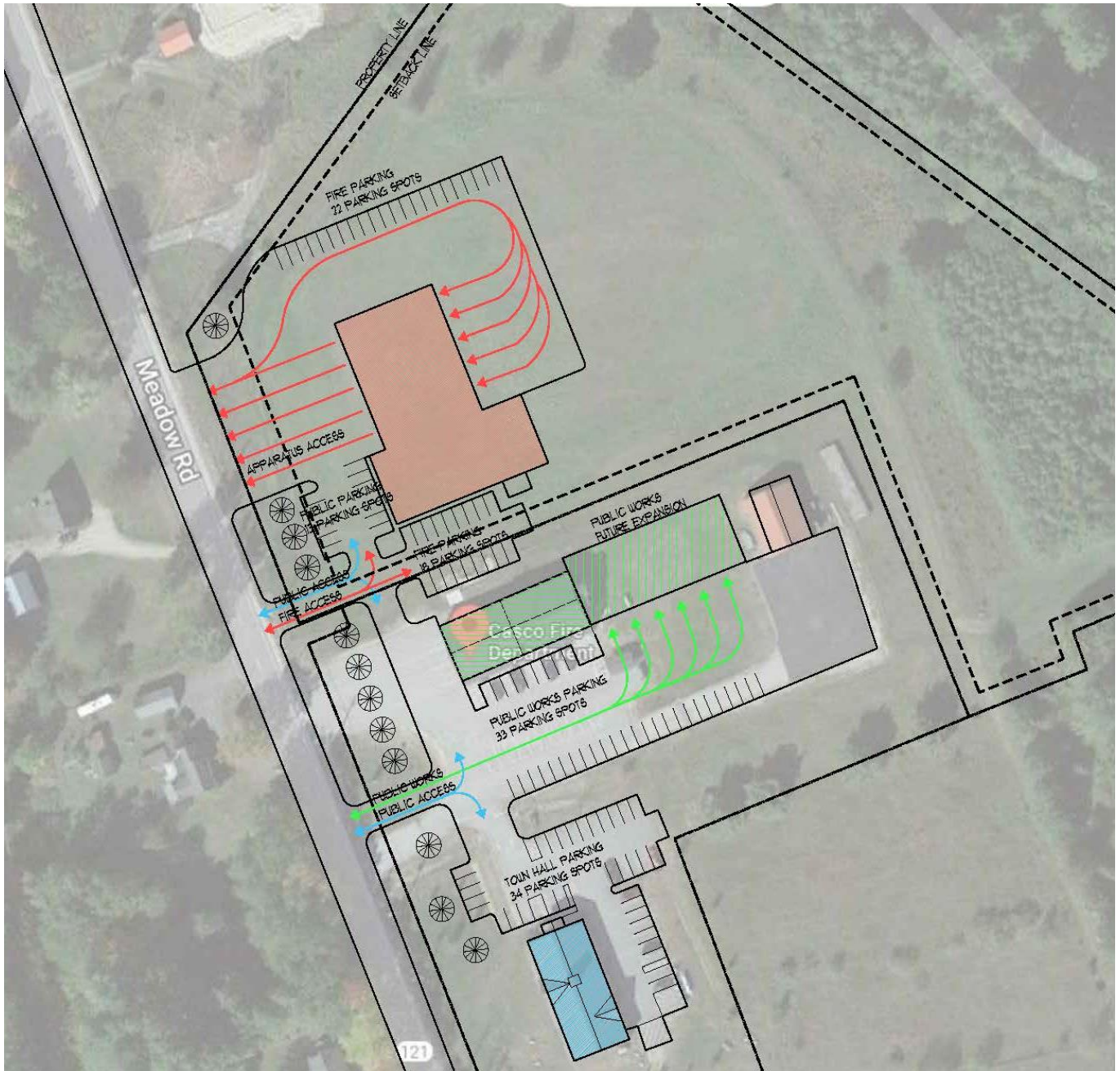
APPENDIX 4

Programming Sheet

Fire Department Additional Space Needs						
Room Name:		Existing sqft:		Proposed sqft:		sqft difference
Outdoor spaces						
Fire employee parking						0
General Parking						
Sub-Total Square Footage for Fire Department						0
Circulation Factor of 15%						0
Total outdoor additional space needs for Fire Department						0
Room Name:		Existing sqft:		Proposed sqft:		sqft difference
Admin/Office Area						
Airlock	1	25	1	50		25
Lobby	0	0	1	100		100
Admin Office	0	0	1	120		120
Police Office	0	0	1	100		100
Dep. Chief Office	0	0	1	120		120
Fire Chief Office	1	100	1	150		50
Fire Captain Office	0	0	1	120		120
Small Conference Room	0	0	1	120		120
Report/computer room	0	0	1	100		100
Restrooms	2	166	2	160		-6
Training Room	1	600	1	625		25
Training Room Storage	0	0	1	80		80
Records/Storage	0	0	1	120		120
Living Quarter Area						
Fitness Room	1	445	1	552		107
Bunkroom	2	220	9	800		580
Bunkroom Bath/Shower	1	90	4	320		230
Bunkroom Storage	0	0	1	80		80
Laundry (General)	1	40	1	100		60
Kitchen/dining	1	380	1	800		420
Dayroom	0	300	1	560		260
App Bay Area						
App Bays	3	3075	5	7500		4,425
Restrooms	0	0	1	40		40
Decon.	1	60	1	310		250
Turnout Gear/lockers	0	0	1	442		442
Gear Storage Room	0	0	1	200		200
EMS supply Storage	1	84	1	144		60
SCBA Filling Storage	0	0	1	125		125
Projects(Machine Shop)	0	0	1	200		200
General Storage	0	0	1	1000		1,000
Hose Tower	0	0	1	250		250
Support Spaces						
Mechanical Room(s)	1	60	1	100		40
Janitor Room(s)	0	0	2	64		64
Life Safety Electric Room	0	0	1	100		100
Sprinkler Room	0	0	1	100		100
Electrical Room(s)	0	0	1	100		100
IT/Server Room	1	60	1	300		240
Generator Room	0	0	1	80		80
Sub-Total Square Footage for Existing Fire Department						5,705
Sub-Total Square Footage Space Needs for Fire Department						16,232
Total Square Footage Between Existing and Proposed						10,527
Circulation Factor of 15%						2,435
Total indoor additional space needs for Fire Department						18,667

APPENDIX 5

Site Plan – Proposed Site



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APPENDIX 7

Report

TOWN OF CASCO, MAINE COMPREHENSIVE STUDY OF THE CASCO FIRE RESCUE DEPARTMENT

Draft Report

November 2022

Neil D Courtney

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Executive Summary

The Casco Fire Rescue Department is a municipally operated public safety organization very much in transition. There have been many changes in the department over the recent past with the hiring of full time staff, grappling with the impact of the pandemic, the diminishment of the on-call force, managing the dependence upon a group of qualified per diem employees, all the while endeavoring to provide quality services. The introduction of the first-ever career fire fighter/EMT's has changed the character of the department, which in and of itself does not come without its challenges. Having sufficient numbers of qualified personnel as members of the department has become elusive, not only for Casco, but for multitudes of public safety sector agencies across the country.

The town has done well in procuring the necessary equipment to address the array of hazards the department is faced with. There have been multiple grants awarded the town, which has resulted in modernizing the department and improving fire fighter/EMT safety in a cost effective manner. During the past two budget cycles, the town has committed nearly \$1 million towards upgrading the department's vehicles.

Community Profile

The town of Casco covers an area of approximately 36 square miles and is bordered by the towns of Naples, Otisfield, Poland and Raymond. In addition to the two rivers that pass through town, there are numerous ponds and lakes throughout the community. These bodies of water account for almost six square miles of the town's total area.

The Maine Department of Revenue Services has Casco's assessed value for 2022 set at \$827,550,000. This figure represents both personnel property and real estate values. The town of Casco has the personal property and real estate values assessed at \$687,743,620. The mil rate for 2022-2023 is \$15.66.

The town was last revalued in 2013, and is now in the process of initiating an updated revaluation with an expected completion date of July 1, 2024.

The 2020 census indicated the year round population was 3,646, whereas the 2010 figure was 3,742. These figures indicate there has been a 3.0% reduction in the year-round population. Casco is also home to many seasonal occupants and officials believe the number of inhabitants and visitors during the summer months brings the town's population to more than 15,000 people.

The census also revealed that the median age of Casco residents in the year 2000 was 38 years, whereas in 2010, the median age rose to 42.6 years. Further research into the US Census Bureau, the "American Community Survey—the Five-Year Data (2009-2020) estimates Casco's median age to now be 49.8 years. The median age in the state of Maine is 44.7 and in Cumberland County, it is 41.8 years. Maine is considered to have the oldest median age in the county. The purpose of this information is to show that many fire rescue departments that have been dependent upon on-call and volunteer fire fighters and EMT's are seeing a reduction in their rosters due in part to personnel "aging out."

The town's most current comprehensive plan was written in 2003 and amended in 2007. Casco is currently proceeding with rewriting the plan.

The Casco Fire Rescue Department

Overview

The town of Casco is served by a municipal fire and rescue department charged with providing fire protection, rescue, and emergency medical transport services to its citizens and visitors. The department's appropriated fiscal 2023 operational budget is \$1,024,874.

Included within the operational budget is a fixed cost of \$29,278 for E-911 regional dispatch services, which is provided by Cumberland County. The budget includes a line item allocation for Gasoline and Diesel of \$20,000. This account is apportioned to both the fire rescue department and the Casco Highway Department.

Certain additional fire and rescue department related expenses have been extracted from the operational budget and bundled with other town department expenses. The purpose was to simplify administrative efforts. Those other costs include such items as employee benefits, insurances and utilities. These fire department related expenses account for an additional \$235,835.

The Casco Fire Rescue Department operates from two fire stations. The central station is located at 637 Meadow Road and Station #2 is located at 20 Brown Avenue. The distance between the two stations is approximately 4.8 road miles.

The Insurance Service Office (ISO) has assigned a Public Protection Classification (PPC) for Casco as a 9/10 (Note: It is not known when the last survey was conducted). The Insurance Services Office PPC program measures and evaluates the effectiveness of fire mitigation services in communities throughout the country. For each fire protection area, the ISO assigns a PPC code—a number from 1 to 10. Class 1 represents exemplary fire protection, and Class 10 indicates that the area's fire-suppression program does not meet ISO's minimum criteria. This grading system is utilized by the insurance industry to set fire insurance premiums.

The Class 9 rating applies to those areas of Casco that are within five miles of a fire station, and within 1,000 feet of a credible water supply, such as a pressurized fire hydrant, suction point, or dry hydrant. When considering ISO's PPC, it must be noted that any region within a community that is beyond five road miles from a fire station is deemed unprotected. ISO assigns a value of "10" to those properties.

The Casco Fire Department and the Casco Ambulance Service were two separate municipal departments that operated out of the central fire and rescue station until sometime in or around 2011, when the two were merged into a single fire and rescue department under the direction of a fire and rescue chief. In 2020, the town made the position of the fire rescue chief full-time. At present, the chief is also the town's Emergency Management Agency (EMA) Director.

A number of years ago, the town implemented a per diem system where two Emergency Medical Technicians were hired to staff one ambulance for 12 hours everyday of the week. In response to a shortage of available call fire fighters during the weekdays, a per diem fire fighter position was created to cover Monday through Fridays from 9:00 AM to 5:00 PM.

In 2021, the town authorized the fire department to hire four full-time, cross-trained fire fighter/Emergency Medical Technicians. This plan assigned one career fire fighter/EMT to one of four shifts. This schedule allows for 24-hour coverage with each member working an average 42 hours workweek over the course of an eight-week cycle.

In 2022, the fire rescue department was authorized to hire two additional fire fighter/EMT's. The hiring process is currently underway, although the department, as all others public safety sectors are experiencing, is having limited success due to the lack of qualified candidates seeking a career as fire fighter/EMTs. Once all of these positions are filled, the town will then have a full-time force consisting of seven, one of which is the chief.

The full-time members—excluding the chief, have recently affiliated with the International Association of Fire Fighters (IAFF), and the Casco members are now known a Local 5372. The town and the union are currently engaged in their first-ever contract negotiations.

The department continues to rely upon a cadre of per diem personnel who are assigned 12 hour segmented shifts based upon their availability. Typically, they work alongside a career member at the central fire station providing around the clock coverage, while station #2 on Brown Avenue is routinely covered by two per diem personnel 12-daylight hours. For the most part, the per diem staff lives outside of Casco and rove between various other fire rescue departments throughout the region working similar schedules. Invariably, this group does not return to Casco and respond to emergency incidents when they are not assigned a duty shift.

The department attempts to have a minimum of four personnel on duty during the day, with two at each station. If there are only three personnel available to work during the day, station #2 is closed and that third person is reassigned to central. The night shift consists of two personnel staffing the central station. In extreme cases, in the past, the fire chief has had to rearrange his schedule and cover a shift alongside a fire fighter/EMT due to the lack of available personnel.

The department has a third component of personnel that is entitled the "call company." The list of qualified personnel assigned to the call company has waned markedly over recent years, so much so, that the community has had to hire full-time fire fighter/EMT's in order to maintain a nucleus of public safety personnel. At present, there are less than one half dozen on-call fire fighter/EMT's on the Casco Fire Rescue Department roster.

To that end, the Casco Fire Rescue Department can be classified as a "combination department," which consists of three distinct categories of personnel: full-time career, per diem, and on-call.

Annual Calls for Service

Year*	EMS	FIRE	TOTAL
2021	551	224	775
2020	457^	240	697
2019	537	265	802
2018	506	221	727
2017	456	224	680
Five Year Average	501	235	736

* Calls for service are cataloged by calendar year (January to December), not fiscal year

^ This notable decline in EMS calls is characteristic of 2020 as EMS services nationwide experienced a reduction in their workload during the height of the pandemic

Casco Fire Rescue ambulances typically transport patients to three different hospitals. For serious illness or injury, Maine Medical Center in Portland, which is more than 25 miles away, and is the State's only Level I Trauma Center. A Level II Trauma Center, Central Maine Medical Center in Lewiston is approximately 20 miles from Casco. And, 14 miles from Casco is the community health care center, the Bridgton Hospital.

The typical turn-around time, which is that sequence of time an ambulance is committed to treating and transporting a patient to a medical facility, to the time it is back in service and has returned to Casco, can be lengthy, and having four personnel on duty during the day may allow for a second in service ambulance when the primary unit is committed.

The department attempts to staff-up during the 12-hour period of the day from 6:00 AM until 6:00 PM all week long. The rationale for having a "impact staff" is due to the increase in call volume during that period. At one point in time, the fact that on-call members were working and unavailable to respond during the day was further evidence that implementing an on-duty, paid personnel model became necessary.

The following table shows the distribution of calls between day and night shifts.

Month	06:00 - 18:00	18:00 - 06:00
October — 2022	37	32
September	34	31
August	54	40
July	58	31
June	40	28
May	42	31
April	25	18
March	34	25
February	30	16
January	45	30
December — 2021	32	19
November	45	17

Fleet of Apparatus

A new four-door, four-wheel drive pickup truck was placed into service in the third quarter of 2022. This versatile vehicle will be utilized in a myriad of ways in carrying out the mission of the department.

The acquisition a new mini pumper for \$289,000 was approved in fiscal 2021. The means of paying for the mini pumper was changed from the original lease purchase program to an outright purchase. The change in plan was approved at the June 2022 annual town meeting. Delivery is anticipated sometime in 2023.

At the June 2022 annual town meeting, voters approved \$675,000 for the purchase a new full-size pumper for the fire department. That acquisition will be through a lease-purchase program. The list price does not include interest payments. Delivery of the new apparatus is expected sometime 2023.

The department has mapped out a capital improvement program that outlines the replacement timeframe for the fleet. The projected timeline goes out until fiscal 2026.

Designation	Year	Specifications	Features
Eng. #12	1999^	1250 gpm/1,000 gal/30 foam	Light extrication
Eng. #14 (1)	2009*	1500 gpm/1,000 gal/30 foam	Primary extrication / Ice & Water Rescue
Mini pumper (2)	2023	1250 gpm/300 gal	Awaiting delivery
Tank. #11	2017*	750 gpm/3,000 gal	Rural Water Supply
Forestry #15 (3)	2006^	Converted	Wildland Fire Suppression
Utility #10	2022*	Four-door pickup truck	Multipurpose
Ambulance #1	2018^	Type 1/ALS/4-wheel drive	Auto CPR/Light Extrication
Ambulance #2	2020*	Type 1/ALS/4-wheel drive	Auto CPR/Light Extrication
Ambulance #3	2016^	Type 3/ALS	Reserve
Chief's Vehicle	2021	Command Vehicle	
Marine #18	2012*	18' Rigid hull/135 HP motor	Water Rescue
Ranger	2014*	Off-road UTV with trailer	Rescue & Fire Suppression

* Assigned to Central Station

^ Assigned to Station #2

- 1) Engine #14 is due to be replaced before the end of 2023. The town approved funding the purchase a new pumper at the 2022 annual town meeting. The current Engine #14, although only 13 years old, has a track record of excessive repair bills. The sale of this apparatus will be used to offset the cost of the new truck
- 2) The mini pumper will be an additional piece of apparatus, and theoretically, is slated to take the place of Engine #12, which is now 23 years old. Engine #12 will be placed in reserve status and housed at the Station #2. The delivery date of mini pumper is anticipated in early 2023.
- 3) With the delivery of the utility truck in 2022 and the eventual arrival of the mini-pumper, the current plan is to decommission Forestry #15 and transfer it to the Casco Public Works Department after retrofitting. The fire rescue department is considering equipping Utility #10 with a demountable wildland fire fighting skid unit if feasible.

Revenues

Over the past 15 years, Casco has benefited from a number of awarded grants. In all, \$585,659.83 worth of various grants was matched with \$53,965.39 of town monies for a combined \$639,525.22 in the purchase of essential tools, equipment and specialized training for the fire rescue department. Two of the biggest awards were the result of a collaborative effort with the town of Naples, where multiple self-contained breathing apparatus (SCBA) units and specialized cots for the ambulances were procured. Other items purchased for Casco were an all-terrain vehicle (ATV), vehicle exhaust extraction systems for both fire stations, radios, a stationary breathing air refill station, personal protective equipment, fit testing machine, and Automatic External Defibrillators (AED).

The following chart illustrates the grants awarded over the past six years by the U. S. Federal Emergency Management Agency (FEMA), the Assistance to Fire Fighters Grant (AFG) program.

Year	AFG Grant Amount	Category	Town Match
2022	14,361	Operations & Safety	?
2021	37,461	Operations & Safety	?
2020	69,788	Operations & Safety	1,893
2019	125,714	Regional Request	3,490
2018	49,762	Operations & Safety	3,100
2017	183,667	Regional Request	2,488

Ambulance transports generates revenue for the town. A third party EMS billing service manages the program. Over the course of the last five years, the town has realized \$867,571 in collected ambulance fees. This revenue is credited to the town's general fund. (Note: There is a line item in the fire rescue department operational budget designated to paying the billing service, which for fiscal 2023 is \$18,540. The billing service charges the town a certain percentage of the fees they collect.)

The following table illustrates, in rounded figures, the amount of revenue received for ambulance transport services rendered.

Fiscal Year	Net
2022	218,230
2021	164,470
2020	166,885
2019	166,233
2018	151,753

In an effort to collect additional revenues for emergency service delivery, the town of Casco has recently enacted a new ordinance that allows for the billing of insurance companies whose subscribers require certain fire department services. A different third party billing service will manage this program.

RECOMMENDATIONS

Increase full-time staffing by two additional personnel in the next budget cycle

This would have two dedicated career, cross-trained fire fighter/EMT's assigned each of the four shifts. This will provide a more consistent and reliable staffing model and to a degree, should lessen the reliance on the per diem staff who typically are filling anywhere from one to three positions each daytime shift and one nighttime shift. Additional full-time personnel may also provide better off-duty coverage when an incident occurs that requires extra fire fighters and EMT's. One premise of hiring full time personnel is not only to fulfill the need of having career fire fighter/EMTs positioned in the fire rescue station, but to have those members available to be called back to the station should the need arise when they are off-duty.

Having eight full-time fire fighter/EMTs should be a reasonable goal to reach within the next two years. Looking forward, the period of time covering the next three to seven years, it may be necessary to revise the staffing model and infuse additional career positions into the equation by increasing the around the clock staffing level, and eventually have a minimum of three to as many as four per shift, requiring a total of twelve to sixteen full-time personnel.

As time advances, the Board of Selectmen, the town manager, and the fire rescue chief will have to gauge the future personnel needs of the department. This will be a function of community growth, call volume, the viability and availability of the pool of per diem first responders, and the disposition on the call company. It may become evident that hiring additional personnel is inevitable. The intent is not necessarily to supplant the per diem personnel, but to strengthen the durability of the core component of human resources needed to maintain a modicum of reliable service capacity. To reiterate, this recommendation is predicated on the robustness of the per diem and call company divisions.

Although the use of per diem employees has had great benefit, not only for Casco, but most services that have utilized them, the system is not static. What the future holds with regard to the reliance of per diems is any ones guess. Some administrators view the arrangement as a provisional solution with the likelihood of evolving to a more definitive model, which oftentimes results in the need to hire career personnel.

At this moment in time, there is great difficulty in hiring career public safety service personnel. In Maine alone there were approximately 60 open positions in municipal fire and rescue departments during the month of October 2022. Whether this phenomenon is a short or long-term situation is obscure.

Collaborate with Southern Maine Community College and institute the student live-in program

The Southern Maine Community College System has a unique program where as many as 85 full-time students who are enrolled in any academic course of study have the option of living in one of 30 fire and EMS stations among 16 different municipalities in southern Maine. These students are required to partake in basic fire and emergency medical service training and assist the community in which they reside as a first responder. The program allows students a free place to live—a fire station, and an opportunity to earn money when responding to incidents.

At this time, the town of Casco has not embarked upon this opportunity. At the very least, the fire rescue department may be able to house students at Station #2. Having qualified students occupy a fire station could bolster the manpower needs of the department and provide more in-house coverage at station #2, particularly at night when this station is unoccupied.

Although the live-in program has only been able to fill 57 of the 85 slots for school year 20022-23, the town should still contemplate involvement. Hopefully, this downward trend in filling these positions is a short-term situation, as the program has experienced a very vigorous involvement during recent years.

A compendium of by-laws guides the student live-in program. In particular is the distance from Southern Maine Community College in South Portland to an outlying fire station. The Brown Avenue station appears to meet the distance requirements, whereas the Casco Central Station may be in question.

Should construction of a new fire rescue building, or the option to renovate one or both stations emerge as an optimal solution to the facility needs of the fire rescue department, the decision of whether to include expanded living quarters to house live-in students should be considered no matter what direction the town decides to pursue.

Would the town allow students to live in an aptly designed station as "on-duty" emergency responders alongside their counterparts? It has worked for those fire departments in Maine that have aligned with the Maine Community College System live-in program where dozens of students are provided housing in fire stations in exchange for their serving as emergency responders. This program has either augmented the staff of a community's fire and rescue service, negated or moderated the need to hire additional full-time or per-diem staff, and in many cases has bolstered a department with a renewed sense of purpose.

Many of the existing stations in Maine that now house live-in students had to be modified to accommodate personnel. The costs associated with a facility upgrade should be looked at as a modest investment that yields a good return on that expenditure. The underlying problem here in Maine and throughout the country is the decline of volunteer and on-call emergency service personnel. It may behoove communities such as Casco that have a unique opportunity at their disposal to embrace a program that fosters, attracts and capitalizes on a resource at hand. The concept of the student live-in fire fighter/EMT is not to replace the career and per diem members. More importantly, the idea is to add an additional layer to Casco's existing three-tiered system of career, per diem and on-call personnel. The inclusion of live-in students should be viewed as a bonus, although it does require additional oversight by the department's leadership and financial commitment by the town.

Town residents' involvement

Listed as a top priority, the 2003 Comprehensive Plan suggests establishing a public safety committee. At that time, the purpose was to support the individual fire and rescue departments and address arising issues as needed.

It is not clear if this objective was ever achieved, and if so, there is no semblance of this at present. The town should re-evaluate this priority from nearly 20 years ago and perhaps form such a committee. There have been many changes in Casco's public safety service delivery system within the past few years, and the likelihood this pace of change may continue is perceptible. A larger scope of involvement drawing citizens into working with public safety issues in concert with the town's administration may prove beneficial in future planning and providing high quality service outcomes.

This "working group," if you may, should undertake a comprehensive review of why the call company has diminished to a point where it is nearly defunct. An all-out concerted effort to revitalize the call company should be a priority. This task should not be left solely to the fire rescue department to endeavor, as this should be a community-wide objective if it is to be a successful mission.

Furthermore, the residents and members of the fire rescue department should consider creating a "benevolent association." It is believed that at one time there was an independent "association" that supported either/or the Casco Fire Department and/or the Casco Rescue Unit. This is no longer the case, as it appears any such organization has ceased to exist.

Associations whose mission is to support fire and rescue services are typically made up residents and family members of an emergency first responder service whose role is to champion the department.

Another consideration would be to create a "Community Emergency Response Team" (CERT). A CERT is a community-based group of volunteers that have completed a federally recognized training course by public safety personnel and first responders. The training is a comprehensive program detailing the ways to assist the community in a small or large-scale disaster.

The overall inference in these suggestions is to include the Casco community in a support role for their fire and rescue service.

Develop a public-private partnership with local businesses whose employees are on-call first responders or may be interested in joining the Casco Fire Rescue Department

The Town of South Berwick, Maine crafted a unique relationship with at least one local business, reimbursing the employer for any time one of its employees leaves work and responds to emergency calls for the South Berwick Fire Department. The employee continues to receive his/her regular wage from their place of business, plus earn his/her fire department wage.

This town-initiated program is in place for its own employees as well. Several town employees such as highway department personnel can leave their regular assignment and go to the fire call, all while remaining on their regular payroll, plus receiving their hourly fire department wage. This arrangement has been viewed as a cost effective measure ensuring a viable on-call system. The South Berwick Fire Department is strictly an on-call department and responds to approximately 350 calls for service annually.

Although Casco does not have a sizeable business community to draw upon, this could be attractive to tradesmen or those who work from home. The Casco leadership team, and not just the fire department, could work toward developing a “symbiotic” relationship between the business community and the town. The effort here would be to explore what businesses could potentially allow some of their employees who are fire fighters or would be interested in becoming fire fighters to respond to emergency incidents during working hours. To an extent, this would hark back to a time when volunteer fire fighters used to respond to calls from their places of business where production would cease so the fire fighters could respond.

Hancock Lumber Company and perhaps Point Sebago Resort could be such a catalyst for adding additional fire fighters to the roster of Casco's Fire Rescue Department even if only during the workday. Although not as prevalent as in decades past, there are a few Maine companies that allow employees to leave the workplace to respond to emergencies. These businesses realize the importance of having a capable fire and rescue department as they have facility risks that require adequate protection and a workforce that need access to emergency medical treatment.

Incentivize public works personnel to become members of the fire department

Casco is in the initial stages of developing a municipal public works department. It is recognized that there are insufficient personnel available in Casco to respond to moderate to large-scale fire rescue department calls for service, especially during the weekday hours. The town could offer incentives to future public works employees to become involved in fire department operations. As future potential new hires apply for employment with the Casco Public Works Department, a qualified fire fighter, even if it's with another community, could be included as a member of the Casco Fire Rescue Department. In essence, the employee would be doing double duty should a fire incident occur while he or she was working as a public works employee.

The town has a host of options at its disposal as how to entice employees to be part of the fire department, most which will undoubtedly require additional remuneration.

Enlist untrained personnel

The current difficulty that the various segments of our economy are experiencing in filling jobs is just as evident in the public safety sector. One only has to look at the job posting on municipal websites to capture the dire need many communities are faced with. Most of these communities have been seeking skilled, qualified and credential firefighters and EMS providers, in particular dual-role personnel. Unfortunately, this method is no longer yielding the needed number of professionals.

It appears we need to start from scratch by trying to find inexperienced individual that we can train. This approach would require a period of time to mold recruits into viable, capable fire and rescue personnel, either for the call company or career positions. This undertaking will not yield immediate results and will perhaps require additional financial resources and incentives from the community.

Instead of each community trying to attract and train recruits on their own, a collaborative effort among a cluster of towns may be more effective. The consortium of towns in Knox County Maine are involved in such an arrangement, and the Knox County Fire Training Academy is poised to do just that. The involved fire departments allocate the resources required to achieve

the program's goal, which is to provide the highest quality training and instruction to fire fighters in the region. In June of 2022, the Academy graduated 15 new fire fighters who earned their Fire Fighter Level I and II certification. This was achieved with the assistance and dedication of 32 instructors. Total expenses for the complete training program amounted to \$5,200. Anecdotally, most of these newly minted first responders were not seeking a fire fighting career path.

The city of Westbrook, Maine recently posted an employment opportunity with the city's fire and rescue department that speaks to the problem of finding qualified personnel in today's public safety recruitment conundrum.

The announcement reads as follows:

The city is willing to train a candidate with no previous fire or EMS experience if they are the best fit for our dynamic team. While paramedic trained applicants are preferred, we will invest in a candidate who wants to advance their EMT training and join one of the largest teams of paramedics in the state of Maine.

The ideal candidate understands a commitment to public service, desires to serve on a dedicated team, is willing to learn and ultimately step outside their comfort zone to grow. Solid written and oral communication skills are important. The successful candidate exhibits empathy for others but can remain calm, confident, and competent in high-pressure situations. Most importantly we are searching for a candidate who can work in a strong team environment.

Provide Career Enhancement Opportunities

In an effort to retain as well as recruit first responders, savvy municipal leaders and their fire department administrators need to develop innovative and enticing programs. The fire fighter/EMT marketplace has become extremely competitive and those current and potential employees are well aware of the various opportunities and benefits each community has to offer.

The Hollis, Maine (Population 4,745) Fire Rescue Department has implemented a unique program designed to entice department members to pursue higher levels of proficiency and to attract newcomers to join the organization. The department will send up to two personnel to paramedic school each year and the town will pay the tuition, which currently stands in the range of \$9,000 per participant. Should the candidate be a non-career member, he or she must agree to certain provisions. One such requirement mandates a minimum length of service to the town, which is for a period of two years after successfully completing the paramedic program. The employee must also agree to work a minimum of 96 hours per month during that period time. Not only is this a "Retention Program," it has been also been crafted as a "Recruitment" tool. The intent is to draw newcomers into the pool.

Hollis's "Training and Retention Program" encompasses other facets where personnel can attain various levels of fire fighter credentials, as well as basic and advanced emergency

medical technician certification. The town will pay for the course of study, and the enrollee may be required to meet similar provisions as required of those who are registered in the paramedic program.

It is understood that some department members who take advantage of this opportunity may, and have, move on to larger career fire rescue departments. Yet, a number of those fire fighters/EMTs remain committed to Hollis Fire Rescue as on-call or per diem members. It could be argued that Hollis may be viewed as a training ground for those who take advantage of the training and retention program and attain their first responder credentials, all in an effort to be hired at a larger, busier public safety entity that offers a varied career path and expanded benefit program. Essentially, this is the reality of managing a small fire rescue department in today's environment. Fire chiefs have had to submit to the fact that their departments have a revolving door when filling the fire fighter and EMT ranks. This is a common thread among like departments across the country. Moreover, leaders of small communities must come to recognize the difficulties their towns face in trying to maintain consistency in providing reliable public safety services.

Employee Benefits

The town of Casco has seven full-time equivalent positions assigned the fire rescue department; the chief and currently only four fire fighter/EMT positions are filled, as the town is seeking to hire two more. In addition to their compensation, the town offers both health and dental insurance programs, and a life insurance policy that is based upon one's annual earnings. Personnel earn vacation leave and sick leave, and are paid for a number of holidays that occur throughout the year. The retirement plan is through the International City Managers Association ICMA.

This issue of employee benefit packages has come to the forefront and captured the attention of many community leaders statewide. Of particular focus are retirement programs. Throughout the country, in most cases, career public safety agencies offer retirement programs whether they are administered through a state or county retirement system, or other enterprise such as the International City Managers Association (ICMA), or financial planning companies that offer individual retirement programs such as 403b or 457 plans.

Numerous city and town full-time fire fighter/EMTs are enrolled in the Maine Public Employees State Retirement System (MePERS). For potential employees seeking careers as fire fighter/EMTs, this is an attractive benefit that could sway a candidate's decision as to which department to work for.

This report does not make a recommendation as to whether or not the town should or should not offer a particular retirement program. The town's leadership should monitor and compare Casco's employment package against other southern Maine communities that are of similar composition. The town needs to attract and retain quality fire fighters and emergency medical technicians, and the program offered to employees has to be reasonable and affordable to the taxpayer, yet attractive to perspective long-term employees.

Support the adoption of a statewide Length of Services Award Program (LOSAP)

The 130th Maine Legislature, the bill LD 1083, entitled "An act to attract and retain firefighters and Emergency Medical Services through the Maine Length of Services Award Program," is moving through the Maine legislative channels that would provide a statewide annuity based retirement program for volunteer, on-call, and per diem fire fighters and emergency medical technicians. Seen as a potential aid in enlisting new and keeping hold of the current troupe of emergency first responders for the long-term, this endeavor may entice people to remain active in their local department knowing there is a financial reward at the end of their community service.

Laws in at least 40 states authorize LOSAP plans and nearly 20% of the volunteer firefighters in America participate in some form of LOSAP. Most follow a model, which involves an annual minimum of training and service hours, with financial credit given toward a LOSAP program. After receiving a minimum number of years of credit, and beginning at a specified age, the volunteer is eligible for a monthly annuity.

The program will establish a statewide pension type program under which Maine volunteers will be paid "length of service awards" for performing qualified services. The term "qualified services" are defined in the bill as firefighting and prevention services, emergency medical services, and ambulance services. Under the program, volunteers will have a program account which will be credited with an annual contribution as of the end of each year during which the volunteer participated in a minimum required level of volunteer activities set forth by the Maine Length of Service Award Program Board of Trustees.

When a volunteer reaches the age of sixty, and has attained a vested status in the program—met the minimum requirements for at least five years—he or she will be paid the contributions credited to his or her program account, plus the net investment income earned on those contributions.

Members would also have to pass all physical requirements set in place by the Authority Having Jurisdiction (AHJ). If during any year a member did not meet requirements then that year would not be counted as usable time. In addition, training must include the mandatory set forth by the Maine Bureau of Labor Standards (MBLS). The terms volunteer, paid on-call and per diem are synonymous with regard to the LOSAP program.

Fire fighters from the towns of Berwick and North Berwick, Maine have been enrolled in a LOSAP retirement program offered through the Volunteer Fireman's Insurance Services (VFIS) for many years. These programs are afforded the fire fighters by their individual communities and are not part of any statewide program.

(Note: Alna, Maine {population 710} At the March 26,2022 town meeting, voters approved \$18,000 to establish its own LOSAP with the expectation of integrating their program with that of the State of Maine's once it is fully operational)

Embark upon a plan to improve upon the town's Public Protection Classification

The town of Casco's PPC is a 9/10. There may be an opportunity to achieve a better rating, which could reduce fire insurance premiums on certain properties. In all likelihood, this would take time and long-range planning to attain an improved rating. In small communities such as Casco, the typical categories that are the most deficient in ISO's Public Protection Classification when considering fire protection; are water supply, adequate numbers of personnel, and requisite training.

The fire rescue chief has acquired a copy of ISO's "Fire Suppression Rating Schedule" which can assist in guiding the department towards a plan of fire protection enhancement.

Officer in Charge

At present, the hierarchy of Casco Fire Rescue Department consists of a chief, a deputy chief, and two captains. The incumbent officers were appointed to their positions prior to the department's move to hiring full-time personnel, in 2020 for the chief, and 2021 for the on-duty career personnel. The deputy chief and one of the captains are both full-time members and each assigned their own shift. The other captain is a per diem employee.

The department operates four shifts, and with having two permanent shifts officers and one per diem officer, there are times when a shift goes without an appointed, quantified and qualified ranking authoritative person, who would be charged with supervising subordinates, taking control and command of an incident, making decisive decisions, and delegating roles and responsibilities to those under his or her command.

The chief fully realizes this deficiency. The situation, however, is a result of the evolution the department is undergoing. The way forward should be one where personnel who are critical thinkers and aspire to become company officers will endeavor a professional path that includes completing related academic achievements. As such, the department needs to create a career development program, and as part of contract negotiations with the union, language may emerge addressing this particular article within the eventual labor-management agreement.

In an effort to distribute the workload within the fire rescue department, each officer should be assigned a "functional area of responsibility." The specific operational components that makeup the fabric of the department would be managed by an officer who would then report back to the chief. This recommendation would likely be included in the employee job descriptions, which were being rewritten at the time of this project.

Fire Rescue Stations and Staffing

A key objective of this study is to design a modern fire rescue facility to replace the central station located at 637 Meadow Road. The station has limitations and town officials stated their perspective is to construct a new facility alongside the current station. The town already owns the land and the location appears adequate with regard to covering the service demand area to that region of Casco. As previously stated, in consideration of the Insurance Services Office, ideally, to be considered protected, buildings should be within five road miles of a fire station. It appears that much of Casco east of Route 302 meets this criterion when taking into account the location of the central station exclusively.

The station at 20 Brown Avenue serves South Casco, Route 302 and the area west of this state highway. In essence, the location of the two stations seems to provide reasonable coverage to the districts they are situated.

The two-station configuration appears satisfactory, although the Meadow Road station plays a more prominent role. Of note, is the allocation of staff between the two fire rescue stations. The central station is to be covered by no less than two personnel around the clock, whereas

Station #2 is covered just 12 hours each day, from morning to early evening, and is vacated at night. The daytime arrangement can only occur when there are four personnel available. The reliance on per-diem personnel dictates whether or not Station #2 will be operational on any given day. Should staffing go to three or less, Brown Avenue is closed and all operations are assigned the central station. The prevalence of having to close Station #2 occurs intermittently, but the true concern is not so much about one station being closed, it is the reduction of a definitive number of on-duty personnel.

In our analysis, the thought of relocating a proposed new central station to a different site in an effort to reduce travel distances to areas within the Route 302 corridor and west of that delineation may not achieve improved emergency service deployment town-wide. This consideration would be an attempt to transition to one single station, which may cause increased response times to certain outlying areas of town. Nevertheless, the town's current operational methodology has the Brown Avenue station closed more than 50% of the time. Having the station staffed consistently everyday is completely dependent upon the availability of the non-career staff. Furthermore, the reliance on the call company to cover calls from Station #2 has become almost non-existent.

At this juncture in time, and with the difficulties not just in Casco but also across the country in finding enough people to fill the roles of first responders, the town should contemplate operating from one station with a duty crew. This maneuver would have all permanent and per diem personnel work from the Meadow Road station. There may be times during inclement weather or other circumstances that would warrant staffing Station #2 whether it is day or night.

The town would not necessarily close the Brown Avenue station permanently, but would reclassify it as perhaps a seasonal and call company station, and hopefully in the future add live-in students from Southern Maine Community College. For a trial period, Station #2 could be closed for seven months, from late October to early June. The Point Sebago Resort shuts its doors and the seasonal lakefront populous departs the area by the end of October and returns the following spring. Needless to say, year-round residents do inhabit this area of Casco, but the population density moderates during the winter.

As a benchmark, there are a number of fire and rescue departments in Maine that staff a single fire station with career and per diem personnel that provide services to areas and populations similar to and in some cases greater than Casco's demographics.

For example:

Naples*	Population	3,900	37 Square Miles
Limington*	Population	4,000	52 Square Miles
Durham	Population	4,200	39 Square Miles
Oxford *	Population	4,200	42 Square Miles
Raymond*	Population	4,500	45 Square Miles
Goodwins Mills	Population	6,700	59 Square Miles (towns of Lyman & Dayton)
Hollis*	Population	4,800	33 Square Miles
Poland	Population	5,900	47 Square Miles
Lebanon	Population	6,500	56 Square Miles
Belfast	Population	7,000	38 Square Miles
Waterboro*	Population	8,000	57 Square Miles

Freeport Population 8,700 46 Square Miles

* Denotes the town has one unmanned substation

The towns of Naples and Raymond share borders with Casco and have fire stations located in their communities that are within an acceptable distance to certain areas of Casco that have value in meeting ISO's response criteria.

The following list illustrates fire stations outside of Casco that are beneficial to Casco when considering their location and the increase in fire protection and emergency medical service capacity they can offer to neighboring communities.

Distances (approximate) *from* a neighboring community's fire station *to* Casco locations:

Raymond Central Station^

3.1 miles Raymond Central Fire Station at 1443 Roosevelt Trail to Casco Fire
Station #2 at 20 Brown Avenue

1.6 miles Raymond Central Fire Station at 1443 Roosevelt Trail to Raymond-Casco
town line along Route #302

Raymond Station #2*

6.7 miles Raymond Station #2 at 387 Webbs Mills Road to Casco Central Fire
Station at 637 Meadow Road

3.8 miles Raymond Station #2 at 387 Webbs Mills Road to Raymond-Casco town
line along Route #121

3.6 miles Raymond Station #2 at 387 Webbs Mills Road to Raymond-Casco town
line along Route #85

Naples Central Station^

5.9 miles Naples Central Fire Station at 1100 Roosevelt Trail to Casco Fire
Station #2 at 20 Brown Avenue

3.2 miles Naples Central Fire Station at 1100 Roosevelt Trail to Naples-Casco town
line along Route #11

2.6 miles Naples Central Fire Station at 1100 Roosevelt Trail to Naples-Casco town
line along Route #302

Naples Station #2*

3.3 miles Naples Station #2 at 186 Casco Road to the Casco Central Fire Station at
637 Meadow Road Casco along Route #11

4.6 miles Naples Station #2 at 186 Casco Road to the Casco Fire Station #2 at

20 Brown Avenue along Route #302

0.4 miles Naples Station #2 at 186 Casco Road to the Naples-Casco town line along Route #11

^ Note: Raymond and Naples Central Fire Stations are staffed around the clock.

* Note: Naples has a second un-staffed fire station located at 186 Casco Road. This station is equipped with fire suppression apparatus only. Raymond has a second un-staffed fire station located at 387 Webbs Mills Road. This station is equipped with fire suppression apparatus only.

The following table demonstrates the number of times during the past 12 months Station #2 went uncovered. As an aside, these figures only speak of the 12-hour period during the daytime. The station goes un-staffed every night. This table does take that into consideration.

Month	# Of Day Shifts Station #2 Closed	Percentile (Rounded)
November 2021	6	20%
December 2021	3	10%
January 2022	12	39%
February 2022	10	36%
March 2022	10	32%
April 2022	7	23%
May 2022	5	16%
June 2022	6	20%
July 2022	10	32%
August 2022	6	19%
September 2022	14	47%
October 2022	24	77%
Monthly Average	9	31%

The rationale to consolidate all fire rescue operations could provide the following:

- Shift continuity
- Provide better opportunity to conduct in-service training for on-duty crew
- Enhanced supervision
- Promote teamwork and cohesion
- Path to consistency

Closing Station #2 would have implications. When the station is open, calls for service in that district can usually be answered sooner than those resources from central station. The town would have to assess the risk factor to determine whether or not the change in operation would be acceptable. Nevertheless, the current system does not provide an optimal level of service.

Strive to meet the objectives of NFPA 1720

NFPA 1720, the standard: *For the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer*

Fire Departments, is the nationally recognized consensus on staffing and deployment by volunteer and on-call fire and rescue departments.

"The standard includes minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by volunteer, on-call and combination departments. The requirements address functions and outcomes of fire department emergency service delivery, response capabilities, and resources. This standard also contains minimum requirements for managing resources and systems, such as health and safety, incident management, training, communications, and pre-incident planning. This standard addresses the strategic and system issues involving the organization, operation, and deployment of a fire department and does not address tactical operations at a specific emergency incident."

NFPA 1720 establishes strategic objectives for the organization and operation of agencies similar to the Casco Fire Rescue Department. The standard has become the benchmark yardstick that the United States Department of Homeland Security utilizes when evaluating applications for staffing grants under the Staffing for Adequate Fire and Emergency Response (SAFER).

This may be a lofty pursuit, but it is a template that should be followed in formulating a fire rescue department's method of operation. The crux of this standard is directly correlated with ISO's PPC and the value associated with "Automatic Aid." The number of fire companies and personnel assigned to first alarm fire incidents within a prescribed time frame can have significant outcomes with regards to fire suppression efforts as well as fire fighter safety. In many small to medium size communities, the realization is that most fire departments cannot effectively handle a typical building fire with their own resources, thus the reliance on outside agencies from the onset may be paramount.

Automatic Aid

A robust "Automatic Aid" response program among a cluster of communities, in some cases, can meet ISO's five-mile distance criteria without individual communities having to add or retain multiple fire rescue stations. The ISO will recognize engine companies and ladder companies that respond from another community as part of a predetermined deployment arrangement between two or more fire departments. Automatic aid agreements must be formalized, definitive, well versed and practiced consistently in order for ISO to qualify the relationship and quantify the allowable credit.

Automatic Aid: Outside assistance that responds immediately on the first alarm to reported building fires beyond their boundaries. Two or more departments that participate in an automatic-aid arrangement operate as one fire department for dispatching fire apparatus.

The region's fire departments are working cooperatively with respect to the deployment of fire suppression resources when an emergency call is received reporting a building fire in any of the communities in and around Casco. The departments have crafted a well-devised system known as "Run Cards." Run cards are established prearranged response protocols that take into account the region's collective fire and EMS assets. These time-honored directives are utilized by dispatch centers in the programmatic deployment of individual fire and rescue departments to one another's emergencies, better ensuring sufficient resources from multiple agencies respond.

The long-standing practice of fire departments assisting one another is known as "Mutual Aid."

Mutual aid allows for reciprocal, cross-border responses between prescribed fire departments, in order to provide additional resources during moderate to large-scale emergency incidents. These resources are deployed on an “as needed” basis under mutual aid compacts. To an extent, mutual aid was the precursor to today's automatic aid.

Mutual Aid: Outside assistance requested by one community from another after a fire has occurred. Assistance by the outside fire department is rendered upon request.

Not only does having automatic aid companies fulfill the advantage of having the closest fire apparatus respond to structural fire incidents, automatic aid is designed to bring sufficient numbers of fire fighting resources needed to mitigate those emergencies from the very onset of the incident and without hesitation. This has become of ever increasing nationwide importance with the reduction in the number of volunteer and on-call fire fighters.

Another benefit of an automatic aid program may be the avoidance of having to expand a community's fire department. The need for additional fire stations and apparatus may be unnecessary if the location of an existing neighboring town's fire station can effectively protect an adjacent area of that community which may be under protected by its own department. To reiterate, in order to be considered “protected” by ISO standards, a property must be within five miles of a fire station. A number of Maine communities have areas that are more than five miles from the closest fire station within their boundaries, but are closer to a fire station located in a neighboring town. Under a bona fide automatic aid program, the ISO will give credit to those areas of town that may be better served by another town's fire station, which could also impact fire insurance premiums. It appears the proximity of several fire stations to Casco fits this profile quite well.

Automatic aid and mutual aid response protocols to Casco from participating communities are currently in place. Automatic aid procedures should be qualified and validated to ensure full compliance with ISO standards of practice in order to attain maximum credit. Here again, well-grounded programs that qualify the process could result in both cost savings and enhanced service delivery, in essence, achieving economies of scale.

Casco and their mutual aid fire rescue counterparts should review their current automatic aid procedures to determine if there are any opportunities to enhance their collective deployment profile. Any suggested changes in methodology should follow the guidelines of ISO's Fire Protection Rating Schedule in an effort to receive an improved Public Protection Classification for all involved. NFPA #1720 should also be referenced in any plan to enhance resource deployment.

As a future consideration, Casco and its neighboring communities should look at the opportunity of dispatching the closest ambulance(s) to incidents with an eye towards collaboration. In effect, this would blur town borders with regard to emergency service deployment. Although this is a very a tall order, the topic of embarking upon an integrated approach to delivering municipal service will undoubtedly be brought to the table once again. Ironically, the towns of Naples, Raymond and Casco contracted with a consulting firm in 2012 to undertake a feasibility study of establishing a region public safety department. Although the scope of the study was never invoked, much of that document still has merit.

Alternative Water Supply

The town should attempt to develop, practice, apply, and quantify a "Alternate Water Supply"

strategy that meets the ISO's objectives." The Fire Suppression Rating Schedule (FSRS) recognizes alternative water supply systems, including dry hydrants, suction points, large-diameter hose relays, and hauled water using tanker shuttles. There may be an opportunity to improve upon the town's Public Protection Classification (PPC) if the fire department can deliver water from a static source to a scene of a fire by adhering to ISO's prescribed metrics.

The water delivery system must be available 365 days a year and provide 250 gallons per minute (gpm) for a two-hour duration within five minutes of the arrival of the first apparatus. If a community uses a dry hydrant or suction supply point, ISO may need certification of the water capacity available during a 50-year drought cycle — by a state-certified professional — and many state and local governments have geological engineers or hydrologists who can provide that information. A good place to start is with the local department of environmental conservation. ISO treats suction points — with or without dry hydrants — in the same way it treats standard fire hydrants. Any property within 1,000 feet of a creditable suction point may be eligible for a protection class better than Class 9, provided the building is within five road miles of a responding fire station and the community has obtained 20 percent credit or more under the Fire Suppression Rating Schedule.

ISO may extend credit beyond 1,000 feet of a fire hydrant when the company uses large-diameter hose — if the fire department can demonstrate a standard procedure for deployment of hose and establish a relay operation.

To determine the fire department's eligibility for recognition of a tanker shuttle, ISO needs to understand the delivery capability of each apparatus.

ISO considers the following:

- Fire-site pump capacity
- Drop-tank capacities
- Distance of responding apparatus from the fire station to the fire site
- Distance of responding supply pumper to supply site
- Distance from the fire site to the supply site
- Amount of water carried by apparatus
- Discharge rate of water supply apparatus
- Fill rate of water supply apparatus
- Quantity of water available and the rate available from the supply source
- Set-up times

The procedure for determining the system's capability involves running a timeline analysis. ISO considers apparatus arrival times, travel times, discharge rates, fill rates, fire flow at the fire site, wait times for apparatus to fill or discharge their water supply, and supply delivery capability.

As an example, the town of York, Maine which is comprised of 56 square miles, achieved a PPC of "4" across the entire community when it proved to ISO its ability to deliver sufficient fire flow in the non-hydranted areas of town. A number of other Maine communities have also achieved improved PPC with demonstrating a rural water delivery evolution that meets the intent of ISO's alternative water supply criteria.

This may seem a daunting project, however, undertaking a long-term approach in achieving this benchmark may yield significant benefits not only to Casco, but Casco's neighboring

communities. To pursue this opportunity to improve upon Casco's ISO rating will unequivocally require those nearby fire departments be part of the strategy.

As a point of interest, ten years ago, the towns of Casco, Harrison, Otisfield, Raymond, Bridgton, and Poland participated in a two-day training program that was conducted by a vendor who is well versed in the subject matter. The purpose of that seminar and drill was to review the basics of rural water supply operations and to practice water supply operations in a non-hydranted setting. The outcome of the program revealed the cooperating departments were capable of delivering an average 644 gallons of water for a period of two hours. This drill replicates ISO's alternate water supply delivery analysis.

The Casco Fire Rescue Department is planning to undertake a similar training session in 2023. The department should further this opportunity in an effort to achieve an improved rating with regard to ISO's water supply criteria.

Incorporate NFPA #22; the standard for Water Tanks for Private Fire Protection, and NFPA #1142; the standard on Water Supplies for Suburban and Rural Fire Fighting within the Town of Casco's Subdivision Ordinance

In order to ensure that static water sources identified for fire protection meet certain standards, the town should consider the inclusion of these two National Fire Protection Association documents that are focused on rural water supply.

The town's subdivision regulations make inference to fire ponds, but they do not elaborate. Furthermore, it appears that there is no mention of water storage tanks or cisterns that are commonly required in subdivisions for onsite fire protection.

The town should consider adding the full text found within NFPA #22 the standard for Water Tanks for Private Fire Protection as a guiding principle. The standard provides for the minimum requirements for the design, construction, installation and maintenance of tanks and accessory equipment that supply water for private fire protection.

Another related standard is NFPA #1142; the standard on Water Supplies for Suburban and Rural Fire Fighting. This standard identifies a method of determining minimum requirements for alternative water supplies for structural fire fighting purposes in areas where the authority having jurisdiction (AHJ) determines that adequate and reliable water supply systems do not otherwise exist.

An adequate and reliable municipal-type water supply is one that is sufficient every day of the year to control and extinguish anticipated fires in the jurisdiction, particular building, or building group served by the water supply. In rural settings, to an extent, this can be addressed with developing static water systems for fire protection use.

Fleet of Apparatus

It is understood that the Board of Selectmen is currently in the process of developing a capital improvement program (CIP) that will take into account the many facets of the municipality's operations.

The fire rescue department has drafted a scheduled apparatus replacement program for the period from fiscal 2021 to 2026. The town approved funding for a new pick-up truck that was delivered in October 2022, a mini-pumper is due sometime in early 2023, and a full-size pumper

is scheduled for delivery sometime in late 2023. These three purchases will advance the department's fleet modernization plan significantly.

Over the next five to seven years, the town will need to address the following:

Ambulances —

The town currently retains three in-service ambulances, two that are classified as front-line, while the oldest has been relegated to reserve status. Ambulance #1 is a 2018 model and Ambulance #2 is a 2020 model. These two vehicles are of similar design and just two years apart in age. Ambulance #3, the reserve unit is a 2016 model. Ambulance #3 was purchased used as a stopgap measure when one of the department's primary units was rendered inoperable for a prolonged period of time due to a mechanical issue.

The fire rescue department has recommended having the two front-line ambulances remounted after approximately five years of service, with Ambulance #1 in fiscal 2023 and Ambulance #2 in fiscal 2025. Remounting entails having the patient compartment module removed from the original truck chassis and installed on a new vehicle. This practice is seen as a cost effective manner in which to ensure reliability and less costly maintenance and repair expenses. Typically, remounting occurs only once, and after that approximately 10 to 12 year period, the ambulance is replaced with a new unit.

This seems a reasonable and prudent plan. However, these front-line ambulances are only two years apart in age. The department should attempt to space out the program so that the intervals of remounting and eventual replacing between Ambulance #1 and #2 are more in the realm five years apart. This suggestion would alter the department's prescribed sequencing of projects, but it may be a fiscally sound undertaking.

This aforementioned program does not address the future of Ambulance #3. Should the town continue to retain a third ambulance as a reserve, Ambulance #3, the 2016 model, will need to be replaced at some point in the future. Should that be the case, then figuring Ambulance #3 into the cycling routine may need to be considered. Due to its features, Ambulance #3 is not a candidate for remounting.

It may be inferred that the reserve ambulance has been deemed a valuable asset, as it has been brought into front-line service not only in Casco when a primary unit is down for repairs or maintenance, but it is also been made available on short-term loan to Casco's neighboring communities as well. Having three ambulances in Casco may seem excessive, but according to officials, this current scenario—to date— has not been costly.

Engine #12 —

The apparatus replacement program proposes the acquisition of a vehicle in 2028 that is designed as both 100' aerial ladder and pumper, commonly referred to as a quint. The objective is to replace the oldest pumper, which would be Engine #12 with a multifunctional quint.

The purchase of a quint should be deferred for the foreseeable future and the plan brought forth

in the coming years for re-evaluation. The department is facing a staffing shortage, which needs to be resolved first and foremost. Furthermore, the current facilities may not afford sufficient room to house such a large piece of apparatus. Aerial ladder service is available, primarily from Naples, with Windham and Bridgton as secondary sources. The mutual aid agreements among the region's fire departments where established protocols have specific companies sent to neighboring communities in the event of particular types of emergency incidents currently addresses the need for aerial ladder services in Casco. It is understood that a Naples ladder truck will be dispatched by Cumberland County Dispatch Center to Casco as prescribe in the predetermined deployment arrangement. This practice is similar to that of the Poland Fire Department, as they rely on the Mechanic Falls Fire Department for primary automatic aid aerial ladder service, and the Oxford Fire Department as a secondary source.

Engine #12 will be 30 years old in 2029, and if the department continues to operate from two stations, its replacement may be necessitated. In 2023, the fire rescue department will effectively be downgrading this 1999 pumper to reserve status and the mini pumper will take its place at Station #2. This plan is, however, dependent upon a number of very fluid variables, which could affect the arrangement of apparatus between stations.

The mini pumper will usher in a new scheme for the department as this vehicle is smaller in comparison to full-size Class A pumpers, such as Engine #12 and #14. The department pursued this design for better access along narrow roads and addressing the smaller on-duty crew size. The appeal of smaller trucks is taking hold in parts of the country and the decision to veer from traditional methodologies is based upon changing dynamics within individual departments. Casco will have to analyze the functionality of this apparatus after a period of use, which will then guide them regarding future apparatus procurement programming.