

Final Report of the Safety Services Building study committee presented to the Select Board on January 11, 2016

Overview

At its November 2, 2015 meeting the Select Board requested the committee* to work with architect Dennis Mires to conduct the schematic design phase of the Safety Services building project. Specifically the committee was asked to

1. create a proposal for separate police station and fire station buildings to be located at the Bald Sunapee/Camacho site,
2. create a proposal for a combined police and fire station building to be located at the Bald Sunapee/Camacho site, and
3. identify viable design alternatives including the advantages and disadvantages of each alternative

The work to accomplished during this schematic design phase of the project consisted of determining the functional size and massing of the buildings and locating them on the Bald Sunapee and Comacho Properties without impacting the existing Veterans Memorial. Finalization of detailed building floor plans will be done during the subsequent construction phase of the project.

The report of the 2011 Town Center Buildings Committee (Town of Newbury 2011 Annual Report) and 2015 geotechnical analysis of the site done by architect Dennis Mires provided the starting point for this study. Information and factors considered during the course of the study included

- inputs from the police and fire chiefs
- compliance with State and Federal regulations
- compliance with National Fire Protection Association codes
- compliance with established architecture design practices
- guidance from the Select Board and Town Administrator in response to specific questions
- inputs from other area towns that have recent experience with similar building projects
- prior experience of the architect and committee members
- input from townspeople

A goal of the committee was for the building to meet the future needs of the Town for the next 20-40years. To this end the committee used information presented in Town annual reports

- the number of police calls is increasing at an average rate of 3% per year
- the number of fire calls is increasing at an average rate of 17% per year

These rates have been consistent for the past 15 years and it is reasonable to assume they will continue into the foreseeable future. Another consideration is the increasing difficulty in

recruiting volunteer fire fighters; therefore, the fire station design should allow for the possibility that the Town might need to add full-time fire fighters in the future.

* Committee membership consisted of Alex Azodi, Barbara Freeman, Bob Messenger Patricia Sherman, Ken Tentarelli, Dan Wolf, Ron Williams, and secretary Meg Whittemore.

Design for separate fire and police station buildings

Fire Station

The fire station floor plan is shown in Figure 1. Area of the structure to be built initially is 7584 square feet with nearly half the area consisting of four bays capable of housing the existing first-line fire vehicles. The bays are sized in accordance with the dimensions of larger trucks now being built by manufacturers to accommodate new vehicles when existing vehicles are replaced in the future.

All functions identified in the 2011 study are provided for in a manner that maximizes utility. Specifically, 1) the four bay design houses vehicles without “stacking” (i.e. without any vehicle being enclosed behind another vehicle), 2) the gear room is sized to house 42 gear racks and has a flow-through arrangement such that fire fighters can enter the room directly from outside the building, collect their gear, and then proceed to the vehicles; 3) training / meeting room sized to hold 50 people is adequate for holding inter-town training sessions.

The design separates potentially toxic and non-toxic areas of the building by having decontamination and similar facilities accessible directly from the bay area. Shower facilities have dual access.

Show at the left the figure is a cistern that would be located underground adjacent to the building and used to support a sprinkler system in accordance with National Fire Protection Association codes.

The design allows for future expansion to include a fifth bay to house an additional vehicle and a support area space. Positioning of the toilet facilities adjacent to this support area makes it convenient for a portion of the area to be used as a bunk room should the department add full-time fire fighters in the future.

Police Station

The total area of the police station floor plan shown in figure 3 is 3034 square feet. The building provides for all functions identified in the 2011 study and in addition provides toilet facilities accessible from outside the building for use by people at the nearby playground.

A distinctive feature of the design is the separation of the public access to the building (at the left in figure 3) from department personnel access (at the top and right in figure 3). The design features a drive through sally port arranged to allow access to booking, evidence, and interview rooms without padding through the public access portion of the building.

Site Plan

Proposed locations for the police and fire stations at the Bald Sunapee site is shown in figure 5. The fire station is positioned such that the four bay doors face directly onto Route 103. Fire department personnel can access the building from the adjacent parking area. The same parking area affords access to the police station by police department personnel and to the sally port by police vehicles. For safety reasons the fire station is located as far as practical from the playground.

A second parking area to the Northwest of the police station (to the left of the police station in the figure) provides parking for those using the playground and for anyone accessing the public portion of the police station.

Drainage of the site is accomplished via a series of underground pipes with flow away from the site following the existing path under Route 103. A shallow bioretention pond is provided to serve as a buffer in peak flow conditions.

Area reserved for future library expansion is shown further at the left in the figure.

The land contour demands that a significant amount of excavation be done at the site to accommodate the buildings. This is evidenced in the figure by the contour lines on the Southeast (right side in the figure) and Northeast (upper right part of the figure) sides of the buildings. It is proposed that site work be done initially to accommodate future expansion of the fire station so that no additional excavation will be needed in the future.

Placement of the police station provides a degree of isolation between the playground area and the parking area where vehicles would be arriving during a fire call. Although landscaping details will be designed during the construction phase of the project and are not included in this proposal, additional isolation in the form of landscaping or fencing can be designed during the construction phase of the project.

Combined building floor plan and site plan

Figure 6 shows the floor plan of a possible combined police station and fire station building. The associated site plan is shown in figure 7. Because the two services have few functions in common there are several disadvantages in the combined plan compared to the two building

solution described above. In particular, with the single building solution

- it is not feasible to have a drive through sally port
- because shower facilities are not accessible from the bay area there is a greater potential for spreading contamination throughout the building
- the location available for a future bunk room expansion is less than ideal, e.g. it is not adjacent to shower facilities
- wrap-around of the parking area on the rear (East) side of the building increases the proximity of vehicular traffic to the playground
- the large size of the building is not in keeping with the visual impressions of other buildings in the town center area

Cost Analysis and recommendation

As shown in the recommendation section of the analysis spreadsheet (figure 9), the committee believes that the best interests of the Town can be met by building separate police and fire stations. To accomplish this in an economically efficient manner the committee recommends *that the Fire Department and Police Department be two separate buildings that the Fire Department contain 4-bays with an option of a fifth bay in the future and that both buildings be constructed at the same time.*

To accomplish this objective the committee recommends that the Select Board *ask for a \$4 million bond issue at Town Meeting in March 2016 for design and construction of both the Fire Department and Police Department buildings in 2016/2017.*

Shifting the location of the buildings (to the Northeast from the locations depicted in figure 5) would reduce the amount of rock removal and excavation required to prepare the site and could reduce site preparation costs by \$70,000. The committee recommends that if an acceptable alternative site can be found for the Veterans Memorial *that a relocation of the Veterans Memorial be considered, to be paid for with project savings.*

To facilitate work future work on the project the committee recommends that *the Board of Selectmen establish a Building Committee of interested parties – both public and professional individuals – to take the project to the next level.*

The committee investigated the feasibility of geothermal and biomass energy alternatives and the cost for these options is presented in the spreadsheet. Both options would have comparable initial costs and paybacks of 12-13 years. The committee makes no recommendation regarding these options and defers further consideration to the Select Board.

Fire Station
Elevations

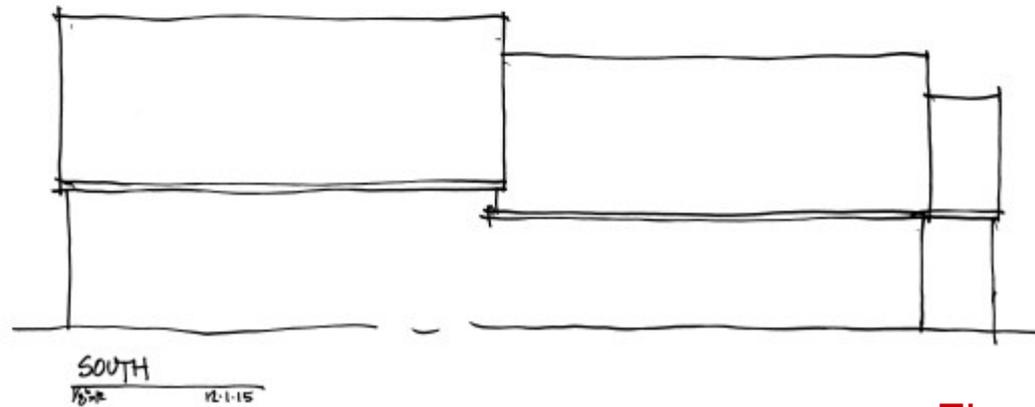
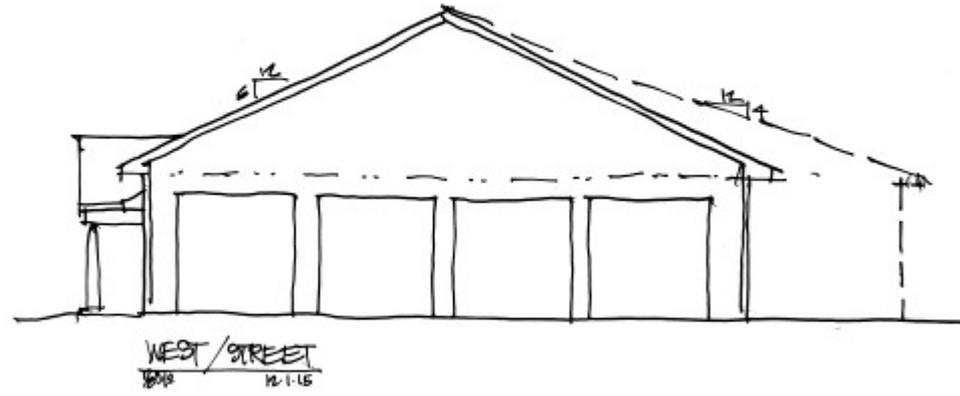
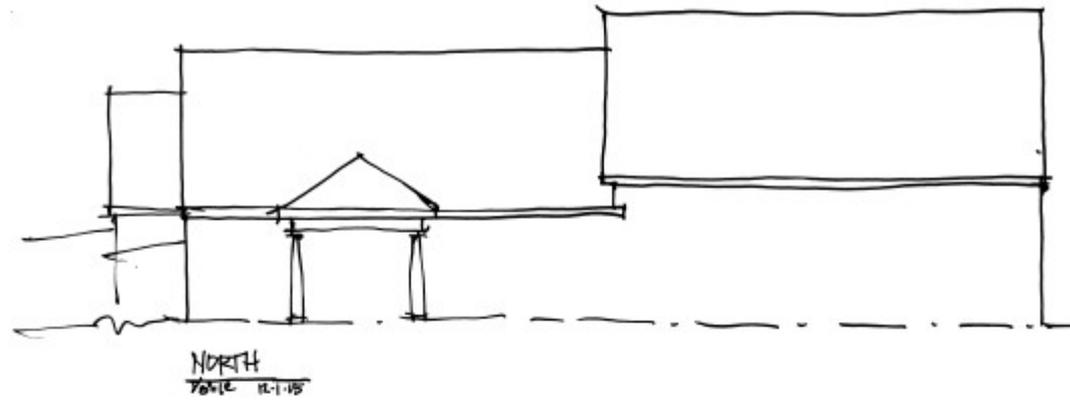
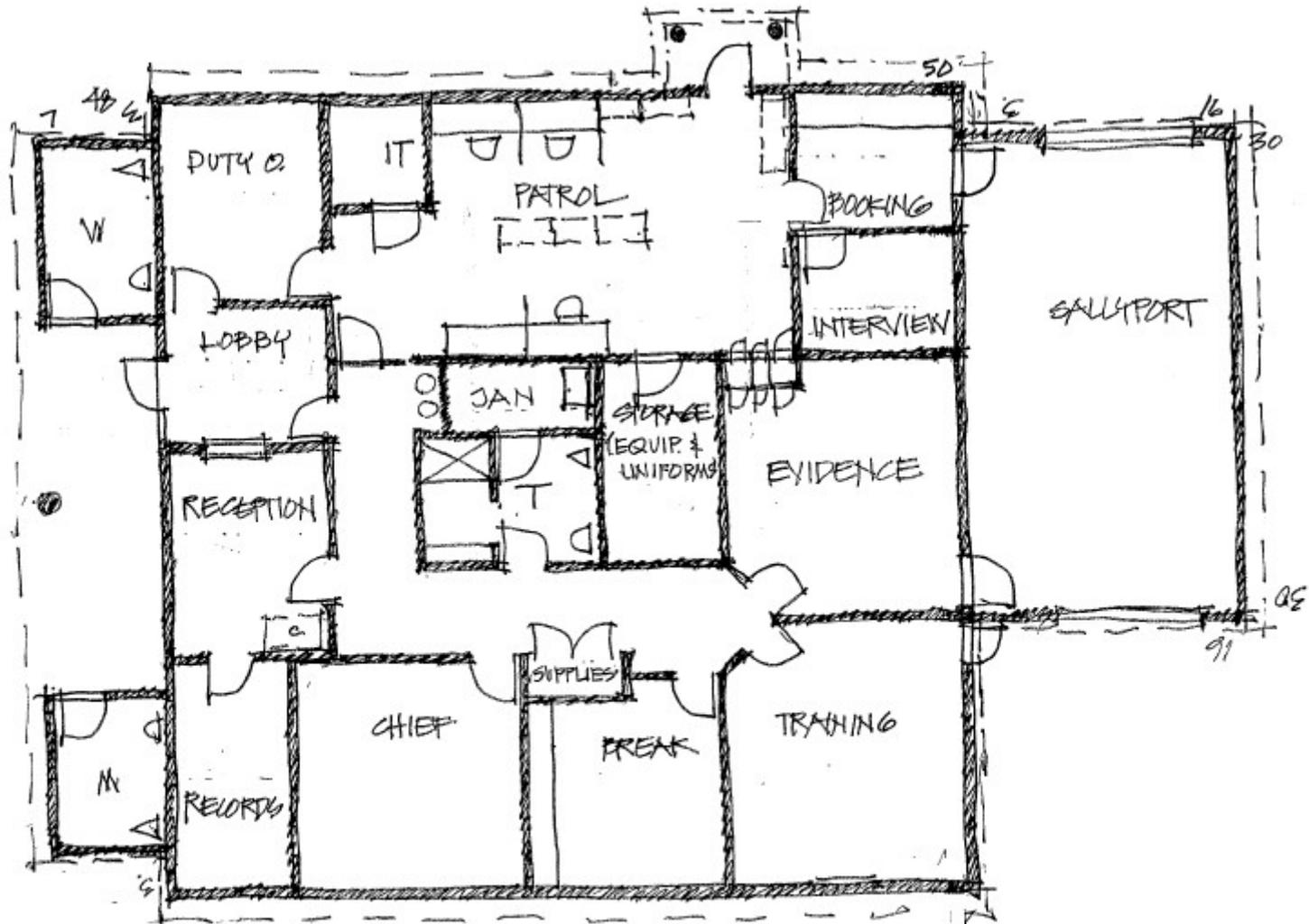
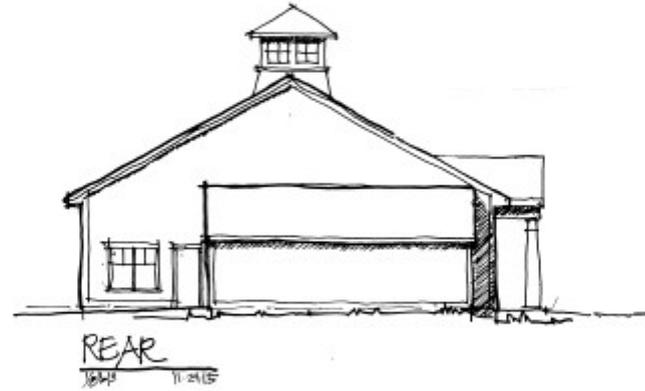
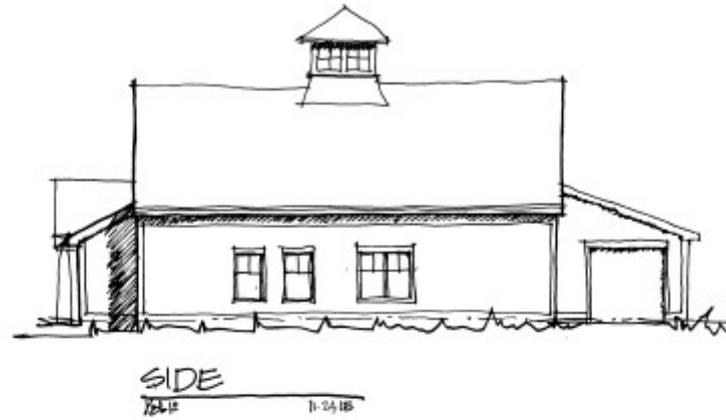


Figure 2



POLICE PLAN
 10012 1000 GCF 11-17-15
 -F&L 11-24-15
 3024

Figure 3



Police Station
Elevations

Figure 4



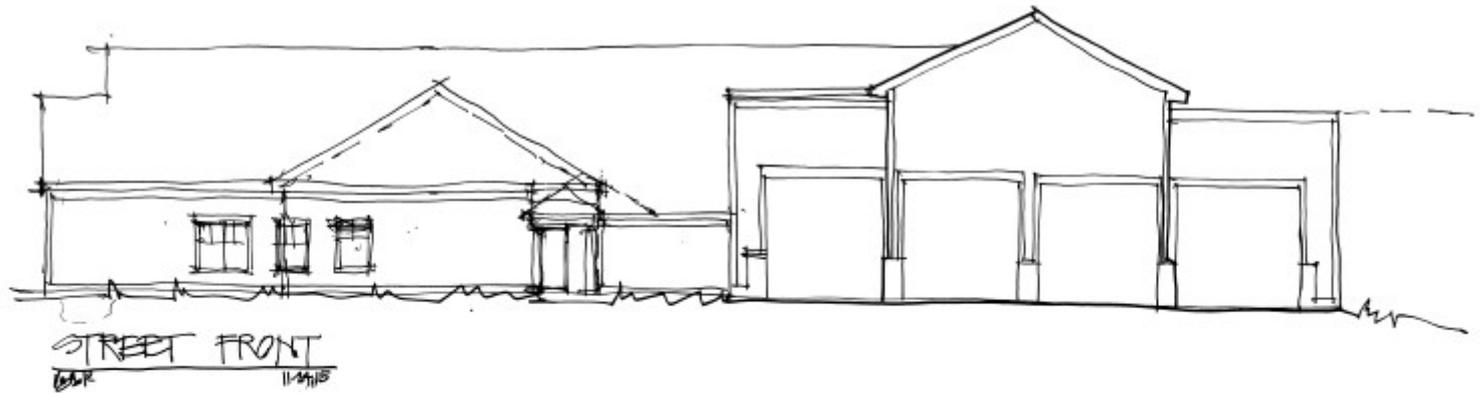
NON RESIDENTIAL SITE LAYOUT PLAN
NEWBURY EMERGENCY SERVICES FACILITY
 933 NH ROUTE 103
 NEWBURY, NEW HAMPSHIRE
 MERRIMACK COUNTY

OWNER OF RECORD: TOWN OF NEWBURY PO BOX 295 - ROUTE 103 NEWBURY, NH 03255	PREPARED FOR: DENNIS MILES, P.A. 697 UNION STREET MANCHESTER, NH 03104															
KMA KEACH-RONDSTROM ASSOCIATES, INC. <small>Civil Engineering Land Surveying Landscape Architecture 18 Ossipee Park North, Suite 08, Bedford, NH 03110 Phone (603) 837-2681</small>																
POLICE/FIRE SP-1	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">REVISIONS</th> </tr> <tr> <th style="width: 10%;">No.</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS			No.	DATE	DESCRIPTION									
REVISIONS																
No.	DATE	DESCRIPTION														
DATE: DECEMBER 7, 2015	SCALE: 1" = 30'															
PROJECT NO: 15-0725-2	SHEET 1 OF 1															

Figure 5



Figure 7



Combined
Police and
Fire Station
Elevations



Figure 8

FOR 1/11/16 Presentation

OPTION ANALYSIS		Existing Sq. Ft.	Proposed Sq. Ft.	% Increase	Total Project Cost	Ledge Removal	Site Work	Impact on Vet's Memorial	Vet's Mem Impact on (4)Project	Safety Children	Future Expansion Full time Personnel	Expansion Equipment 1 more bay	Design Context	Comments
BUILD FIRE AND POLICE SEPARATELY AT DIFFERENT TIMES														
Firehouse Only		4,449												
(A)	4 Bay		7,584	70%	2,765,000	100,000	600,000	minimum	70-100,000	not substantial	later	later	good	All first equipment has a door
(A)	5 Bay		9,384	111%	2,883,000	100,000	600,000	minimum	70-100,000	not substantial	now	now	less good	additional first equip has a door
Police Only		2,149												
(B)	Scheme 1		3,000	40%	1,263,000	100,000	600,000	minimum	70-100,000	specifics in future dwgs	included	NA	good	Expansion built in to scheme
(C)														
TOTAL COST POLICE AND FIRE BUILT SEPARATELY														
with 4 Bay			7,584		4,028,000	100,000	600,000	minimum	70-100,000	specifics in	included	NA	good	Cost increase with escalation
with 5 Bay			9,384		4,146,000	100,000	600,000	minimum	70-100,000	specifics in	included	NA	good	2-3%/yr. 28,000 to 38,000/yr.
TOTAL COST IF BUILT AT THE SAME TIME														
TOTAL COST														
with 4 Bay			7,584		3,828,000	100,000	600,000	minimum	70-100,000	specifics in	included	later	good	SAVE \$200,000
with 5 Bay			9,384		3,946,000	100,000	600,000	minimum	70-100,000	specifics in	included	now	good	
BUILD ONE FACILITY WITH BOTH FIRE AND POLICE (C)														
4 Bay		6,598	10,300	56%	4,190,250	100,000	600,000	minimum	70-100,000	not substantial	later	later	poor	All first line equipment has a door
5 Bay			11,416	73%	4,308,250	100,000	600,000	minimum	70-100,000	not substantial	now	now	poor	add first line equip has a door
CENTRAL PLANT ALTERNATIVE ENERGY														
GEOTHERMAL Plant		For Police and Fire			100,000.00	Heat and AC		Payback is	12 years	(E)				\$30,000 fed rebate feds ends 2016
BIOMASS Plant		For Police and Fire			100,000.00	Heat and AC		Payback is	12.5 years	(E)				\$30,000 fed rebate feds ends 2016
SOLAR					TBD									
<p>A Total project cost includes site work ledge removal, 10% contingency, furnishing allowance, A&E Fees bonding, testing and Misc. expenses.</p> <p>B Cost would be increased by \$600,000 site costs as they would need to be done first</p> <p>C Includes Toilet rooms for Playground</p> <p>D Saving may pay for relocation of Memorial</p> <p>E Central Plant analysis included New Fire station, Police Station and Expanded Library</p>														
RECOMMENDATIONS TO THE SELECT BOARD														
1 That the Fire Department and Police Department be two separate buildings that the Fire Department contain 4-bays with an option of a fifth bay in the future and that both buildings be constructed at the same time.														
2 Ask for a \$4,000,000 bond issue at Town Meeting in March 2016 for design and construction of both the FD and PD buildings in 2016/2017.														
3 That a relocation of the Veterans Memorial be considered, to be paid for by project savings.														
4 That the Board of Selectmen establish a Building Committee of interested parties – both public and professional individuals – to take the project to the next phase.														

Figure 9