



Claudio Veliz Architect PLLC AIA 116 Main Street, Chester,
VT 05143 802 875 6464 cvarchitect.com

APPENDIX I

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USER INPUT FORM Feasibility Study

1. Date: _____
2. Last name: _____
3. First Name: _____
4. Department _____
5. Position _____
6. Contact info: email _____
Phone: _____
(cell?) (home?)
7. Years in Department. _____
8. When not on a call, where do you spend most of your time in the Department facilities?
9. In your rough estimation, what two areas do you MOST walk between when at work?
10. What do you like/not like about the space/s you work in?
11. If you could wish and have it come true, what improvement/s would you like to see at your Department - inside or out that would improve your efficiency and enjoyment at work?
12. Add any other comments regarding your work experience. Nothing is off limits and – again – all this is *completely confidential*. Use back of form if needed:

RESPONSES SHOULD ONLY BE FORWARDED TO THE OFFICE OF CV A PLLC, AT:

cvarc@earthlink.net

Again, thanks so much - to all of you. These responses will have a real world impact on your lives and the future of this community. – CV A 170701



2017-468 Chester Town Garage wetlands

Chalmers, Rebecca <Rebecca.Chalmers@vermont.gov>
 Wed, Nov 15, 2017 at 4:34 PM
 To: Tim McCormick <Tim.McCormick@pathwaysconsult.com>
 Cc: Robert Buchan <robert.buchan.architect@gmail.com>

Dear Tim,

We visited the Town Garage in Chester on November [14], 2017. Based on my site visit, and your wetland area calculations, I determined that the parcel has a Class II wetland on the property. The wetland is a shrub, forested and emergent wetland located at the toe of a hill. I agreed with your wetland delineation as approximately depicted in the attached plan. For tracking purposes, this project has been assigned wetland project #2017-468.

The subject wetland meets the presumptions listed in Section 4.6 of the Vermont Wetland Rules: the wetland is of the same type and threshold size as those mapped on the VSWI maps or greater than 0.5 acres (VWR §4.6a). The Secretary has preliminarily determined, based on an evaluation of the functions and values of the subject wetland, that it is a significant wetland and shall be treated as a Class II wetland. At minimum, the subject wetland provides the following functions: water storage for flood water and storm runoff (VWR § 5.1), surface and groundwater protection (VWR § 5.2), wildlife and migratory bird habitat (VWR § 5.4). Class II wetlands are protected under the Vermont Wetland Rules (VWR). Any activity that is not an allowed use designated in Section 6 of the VWR will require a State Wetland Permit. In addition, the U.S. Army Corps of Engineers (Corps) regulates discharge of dredge and fill material and mechanized land clearing in wetlands. The Corps can be contacted at (802) 872-2893.

Sand Pile: The sand pile and gravel south of it were eroding into the waters of the wetland at the time of my site visit. The sand pile needs to be immediately stabilized to prevent sediment from eroding into the Class II wetland and waters of the state. Shifting the pile away from the wetland would be a direct way to accomplish this. In addition, aerial photo review via Google Earth historical imagery shows the sand pile expanding into the wetland over the years. This matter may need to be addressed with the Corps.

Future Expansions: Replacing packed dirt travel ways or parking with pervious pavers I would consider an Allowed Use under the VWRs. Converting pervious to impervious surfaces or building structures with 50' of the wetland would require a Vermont Wetland Permit. Most of the wetland's buffer zone is already human- altered on this parcel and is thus a good candidate for restoration. Onsite restoration of buffer (or wetland) to naturally vegetated conditions can offset limited area of new impacts, allowing some projects to meet the Vermont Wetland Rules' "avoidance and minimization criteria". Prior to submittal of a wetland permit application, I suggest we review the updated project plans, including any proposed buffer enhancement areas, to ensure the proposal is likely to be approved.

Second Drive: In order to approve an application for a second drive entrance across the wetland, the applicant would need to demonstrate that there are no undue adverse impacts to the wetland and its function and value. This would be very difficult to accomplish for a new drive. Avoidance and minimization is critical to meeting the goal of "no net loss" of wetlands and their functions and values. There appear to be opportunities for avoidance and minimization to the Class II wetland and buffer including: select another parcel; utilize dust control measures to keep dust out of the fire station; and continue to use the existing drive.

If you would like to learn more about wetlands or Vermont Wetlands Program please visit our website:
<http://dec.vermont.gov/watershed/wetlands/resources>.

Sincerely, Rebecca

Rebecca Chalmers
 District Wetlands Ecologist Rebecca.Chalmers@vermont.gov 802-490-6192 cell
 Wetland Program: <http://dec.vermont.gov/watershed/wetlands>
 Wetland Maps: <http://anrmaps.vermont.gov/websites/WetlandProjects/default.html>



100 Mineral Street, Suite 303, Springfield, VT 05156

Chester Garage Preliminary Wetland Sketch.pdf 1 of 1 11/16/2017, 4:48 PM



State of Vermont
Department of Environmental Conservation

Agency of Natural Resources

Environmental Assistance Office
450 Asa Bloomer State Office Bld.
Rutland, VT 05701-5903
802-282-6488
Rick.Oberkirch@vermont.gov

Rick Oberkirch
Permit Specialist

Subject: Project Review Sheet

When an application for a Wastewater System and Potable Water Supply Permit is submitted to this office for review, or upon request from an individual, we complete a Project Review Sheet when needed. The Project Review Sheet identifies other State permits or approvals that might be required for your proposed project. If you or your consultant have not contacted the other agencies and your Town officials as marked, I urge you to do so. Please do not hesitate to call me if you have any questions or comments concerning this Project Review Sheet.

Sincerely,

A handwritten signature in cursive script that reads "Rick Oberkirch".

Rick Oberkirch
Permit Specialist



Regional Offices - Barre/Essex Jct./Rutland/Springfield/St. Johnsbury



Project Review Sheet

Date Initiated	<input type="text" value="8/23/17"/>	ANR PIN#	<input type="text"/>	WW Project#	<input type="text"/>	Pre-application Review	<input type="checkbox"/>
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Project Information

General Information

PROJECT NAME (if applicable) Town of Chester - Construct a multi-purpose municipal Building (town garage, salt shed, fire department	PROJECT TOWN
PROJECT LOCATION (911 address if available) 144 Town Garage Road (off of Depot Street)	

Contact(s)

CONTACT TYPE Landowner	NAME Town of Chester	ORGANIZATION NAME (if applicable)		
ADDRESS 556 Elm Street	TOWN Chester	STATE VT	ZIP 05143	
PHONE 802--875-2173	CELL PHONE	EMAIL tcchester@vermontel.net		
CONTACT TYPE Representative	NAME Robert Buchan, Architect	ORGANIZATION NAME (if applicable) CVA (Claudio Veliz Architect PLLC)		
ADDRESS 116 Main Street	TOWN Chester	STATE VT	ZIP 05143	
PHONE 802-875-6464	CELL PHONE	EMAIL robert.buchan.architect@gmail.com		

Project Description

ENTERED BY Rick Oberkirch	INFORMATION SOURCE Individual	DATE ENTERED 9/20/2017 3:17 PM
PROJECT DESCRIPTION Proposed construction of a multi-purpose municipal Building (town garage, salt shed, fire department). This parcel is 5.9 acres in size. Municipal water and sewer connections are proposed		

DEC Prior Permits

PERMIT TYPE	PERMIT NUMBER None known
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*Jurisdictional Opinion(s) for permits that may be needed from the District Environmental Office **PRIOR TO COMMENCEMENT OF CONSTRUCTION***

Act 250 Jurisdictional Opinion

This is a jurisdictional opinion issued pursuant to 10 V.S.A. § 6007(c) and Act 250 Rule 3(A). Reconsideration requests are governed by Act 250 Rule 3(B) and should be directed to the district coordinator at the above address. Effective May 31, 2016, any appeal of this decision must be filed with the Superior Court, Environmental Division (32 Cherry Street, 2nd Floor, Ste. 303, Burlington, VT 05401) within 30 days of the date the decision was issued, pursuant to 10 V.S.A. Chapter 220. The Notice of Appeal must comply with the Vermont Rules for Environmental Court Proceedings (VRECP). The appellant must file with the Notice of Appeal the entry fee required by 32 V.S.A. § 1431, which is \$295.00. The appellant also must serve a copy of the Notice of Appeal on the Natural Resources Board, Dewey Building, 1 National Life Drive, Montpelier, VT 05620-3201, and on other parties in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings.

PERSON REQUESTING JURISDICTIONAL OPINION Robert Buchan, Architect	REQUESTOR TYPE Landowner/Agent	ACT 250 PERMIT NUMBER (if any) None known	HAS THE LANDOWNER SUBDIVIDED BEFORE? <input type="checkbox"/> Yes <input type="checkbox"/> No
TYPE OF PROJECT (check all that apply) <input type="checkbox"/> Commercial <input type="checkbox"/> Residential <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Federal			
IS AN ACT 250 PERMIT REQUIRED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		COPIES SENT TO STATUTORY PARTIES? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	



BASIS FOR DECISION
 Construction of improvements physically disturbing 10 acres or less for municipal purpose does not trigger Act 250. 10 V.S.A. section 6001(3) (A)(v).

<p>DISTRICT COORDINATOR SIGNATURE</p>  <p style="text-align: right;">2017.09.20 15:06:40 -04'00'</p>	<p>Kim Lutchko, Act 250 Specialist </p> <p>[phone] 802-289-0601 [email] kim.lutchko@vermont.gov Natural Resources Board Districts 2 & 3 Environmental Commissions 100 Mineral Street, Suite 305, Springfield, VT 05156</p>
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Wastewater System & Potable Water Supply Permit Jurisdictional Opinion

<p>IS A WASTEWATER SYSTEM & POTABLE WATER SUPPLY PERMIT/APPROVAL REQUIRED?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> Permit application currently under review</p> <p><input type="checkbox"/> No <input type="checkbox"/> Permit issued on _____</p>	<p>PERMIT NOT REQUIRED?</p> <p><input type="checkbox"/> Boundary Line Adjustment <input type="checkbox"/> Home Occupation</p> <p><input type="checkbox"/> Clean Slate <input type="checkbox"/> Notice of Permit Requirement</p>
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BASIS FOR DECISION
 Building/structure with water & wastewater facilities proposed.

<p>REGIONAL OFFICE STAFF SIGNATURE</p> 	<p>Digitally signed by Terry Shearer Date: 2017.09.18 12:16:49 -04'00'</p>
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The following are preliminary, non-binding determinations made by DEC Permit Specialists identifying other permits that may be needed
PRIOR TO COMMENCEMENT OF CONSTRUCTION

Preliminary, Non-binding Determination of the Applicability of Other State Permits

Note: Fact Sheet numbers below refer to permit fact sheets available at: <http://dec.vermont.gov/permits/handbook/info-sheets>

Agency of Natural Resources - Department of Environmental Conservation

WATERSHED MANAGEMENT DIVISION

- Wetlands [Fact Sheet #29]
 - Bennington, Windham, and Windsor Counties:
 Contact: Rebecca Chalmers Email: rebecca.chalmers@vermont.gov Phone: 802-490-6192
- Stormwater: Developments [Fact Sheets #6.2 & 6.3] [See Stormwater District Contacts Map]
 - Contact: Matt Destino Email: matthew.destino@vermont.gov Phone: 802-490-6906
- Multi-Sector General Permit (MSGP) for Stormwater Associated with Industrial Activities [Fact Sheet #6.4]
 - Contact: Jamie Bates Email: jamie.bates@vermont.gov Phone: 802-490-6159

Department of Public Safety

- Construction Permit Fire Prevention, Electrical, Plumbing, Accessibility (ADA) [Fact Sheets #49, 50, 50.1, & 50.2]
- Springfield: 802-885-8883

Vermont Energy Code Assistance Center

- Vermont Building Energy Standards [Fact Sheet #47.2]
- Contact: Kelly Launder Email: kelly.launder@vermont.gov Phone: 802-828-4039

Local Permits

- See your Town Clerk, Zoning Administrator, Planning Commission or Public Works

<p>PERMIT SPECIALIST SIGNATURE</p>  <p style="text-align: right;">2017.09.20 15:19:17 -04'00'</p>	<p>Rick Oberkirch, Permit Specialist </p> <p>[phone] 802-282-6488 [email] rick.oberkirch@vermont.gov Department of Environmental Conservation Environmental Assistance Office - Rutland Regional Office 450 Asa Bloomer Office Bldg., Rutland, VT 05701-5903</p>
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Vermont Department of Public Safety
DIVISION OF FIRE SAFETY



Office of the State Fire Marshal, State Fire Academy and State Haz-Mat Team

firesafety.vermont.gov

Barre Regional Office
 1311 U.S. Route 302 - Berlin, Suite 500
 Barre, VT 05641
 [phone] 802-479-4434
 [fax] 802-479-4446

Rutland Regional Office
 56 Howe Street, Building A, Suite 200
 Rutland, VT 05701-3449
 [phone] 802-786-5867
 [fax] 802-786-5872

Williston Regional Office
 380 Hurricane Lane, Suite 101
 Williston, VT 05495-2080
 [phone] 802-879-2300
 [fax] 802-879-2312

Springfield Regional Office
 100 Mineral Street, Suite 307
 Springfield, VT 05156-3168
 [phone] 802-885-8883
 [fax] 802-885-8885

FIRE INSPECTION RESULTS

Site Id: 2708

Structure Information

Name: CHESTER TOWN GARAGE & FIRE STATION Address: 144 Town Garage Rd
 Structure Id: 2708 CHESTER, VT 05143

Owner Information

Owner: TOWN OF CHESTER (N 26439) Address: 556 ELM STREET
 Phone: 802-875-2173 PO BOX 370
 CHESTER, VT 05143

Building Description

Risk Index:	Smoke Det:	Occupants:	Units:
Const Type:	CO Detect:	Stand Pipe:	Floors:
Occ Type:	Fire Alarm:	Sprinkler:	Sq Feet:

Project Description

Name: Mod / Renovation
 Type: Building Project Received: 07/12/2016 Workitem Id: 396266

Inspection Detail

Insp Date:	03/28/2017	Insp Type:	Follow-up	Violations:	2
Comply By:		Occ Granted:		Hazard Index:	Level 2
Inspector:	BRUCE H MARTIN (S 19)				
With:	Dan Cook				

Violations and Notes

Inspection of office/training room area-

1. Doors entering exit stair must be kept closed. Electromagnetic door holders activated by smoke detectors or a fire alarm system must be provided if doors are to be kept open.

2. Second floor office/storage/training room must be provided with a second, approved means of egress, or a full fire alarm system throughout the building must be installed. A permit must be obtained prior to construction of an exit, or installation of a fire alarm system.

Correct Item #1 immediately; submit a plan of compliance with a correction date of no later than 9/28/17 for item # 2.

FEASIBILITY STUDY SUMMATION STATEMENT

Presentation to the Chester,
Vermont Select Board,

IMPORTANT NOTE: At the time this Summation was presented to the Chester Select Board, in October, 2017, the State's designation and inspection of the wetlands bordering the current Town property, at Depot Street, where the current "Town Garage" is situated, had not yet been conducted; established.

The recommendation noted herein of an alternate access to the property from the south was predicated on a straightforward paving and ramping of such a drive.

The confirmed designation of the wetland area as delineated elsewhere in this document makes such a proposal certainly uneconomical and would significantly disrupt the wetlands as now located. Setting aside the almost certain State rejection of such a proposal it would, ecologically, be the wrong thing to do.

We include the original proposal as mentioned in this summation

as a matter of maintaining an accurate record of the sequence of information presented to the Town. However, we have omitted that earlier recommendation from the main body of the Feasibility Study for these reasons mentioned, above.

10 December, 2017

FEASIBILITY STUDY

DRAFT SUMMATION

For presentation to
The Chester, Vermont Select
Board,

18 October, 2015

NOTE: This is a highly simplified
Summary of the main points in
the Feasibility Study (FS), now
nearing completion, and which
have emerged from our review
of the current Town Service
Departments. This is to convey
those most potent project
concerns which are likely to
drive approaching community
discussion regarding the
possible project, or projects.



Most critical at this time is the gross lack of sufficient space but also the lack of *design* of those spaces to serve safety, efficiency and to support optimal operations of the four departments. The need is absolute for a reconsideration of the Fire/EMS/Public Works building, aka: "Town Garage".

The distribution of buildings and storage on the current Town Garage property on RT103/Depot Street could be made substantially more efficient to improve the working conditions for the staff there.

The current facilities also are in violation of State Fire & Safety Code, an irony lost on few, which would, of course, be addressed with a new design.

Most concerning of the violations is the training room on the 2nd level of the pre-fab structure. It has no windows (*as means of fire escape*) and only a single exit. In the event that entryway would be compromised by smoke or flame during a training session, the occupants' safety could be gravely compromised.

The current parking bays are also inadequate for the department operational needs. A basic concern for Fire Department budgets is the need to pay out an extra \$50,000-



60,000 to shorten *each* new vehicle to fit in the current bays.

One other dismaying concern is the increased risk of cancer suffered by firefighters. This has evolved in the last couple of decades due in large part to the increasingly fire-toxic materials used to construct furniture in unregulated commercial environments such as in the Far East and then distribution through large chain retailers, thus making their use common in households. The toxic chemicals that coat firefighter's equipment are a critical mitigation issue to address in any consideration of facility design. (*See attached CDC study summary*)

A lack of appropriate storage facilities for the Public Works staff on site means that the grounds remain unsightly despite the admirable efforts of all Town staff to improvise and work with what they have, such as grouping like-items together. This is much more than an aesthetic concern as equipment and supplies, some of which do not do well over prolonged periods exposed to the elements, must remain outside.

The original drawings of the current facility, reviewed by this office, suggest that little consideration may have been

“The simple act of paying positive attention to people has a great deal to do with productivity”

– Thomas J. Peters

given regarding where on the site the Garage should be located. Its central location may well interfere with efficient traffic flow, storage and staff operations on the site as it is now.

The site layout inefficiency also causes interference of operations between departments. Just to provide one example, Public Works and other vehicles now must drive past the Fire Department garage bays throughout the day. The combination of their close proximity and the lack of adequate paving constantly keep the Fire Department vehicles dusty and dirty. Beyond the



image and aesthetic aspects, which are nevertheless important to all fire departments, this may impact mechanism and vehicle reliability and safety.

The net result of all these existing factors is a collective

lowering of morale. One staff member whispered to us during a photo shoot at the site:

“We used to hang out here all the time, even off-duty, and help keep things running, clean and repair equipment, and all that. Now most just go home....”

After a review of over two dozen possible configurations (*all of which are listed and shown in the FS*), just a handful emerge as cost-effective and realistic site layouts.

These options follow in this Summation. All suggest primary use of the depot Street site is a cost-effective option for a few reasons:

1. Like the RT 11 site, the Town owns it and therefore purchasing land is not an expense in this situation.
2. There is plenty of land to configure all the required elements of a new facility if they are simply designed conscientiously on that site.
3. It is centrally located.
4. Little substantial site work would be required other than demolition or relocation of existing elements.

The existing RT 11 site is one on which some construction is indeed possible, but suffers from limitations of usable area due to flood line intrusions and a topography that would require a substantial portion of a construction budget for remedial site work even before any new construction were to commence.

It must be remembered that not

only must a building be constructed on these sites, but allowance must be made for paved drive access, parking and truck turning radii, typically for two-way traffic, though some area savings may be secured in a one-way configuration.

The two Departments which we think might co-exist on the RT11 site would be Police and EMS in a shared facility. The placement of Fire or Public Works on this site would be expensive and would allow for little or no future expansion, depending on the particulars of the design.

Following are the diagrammatic representations of the concept site arrangements.

KEY:

Red = Fire Department;

Blue = Police Dept. (*here shown inside the Town Hall, the gabled structure to the far left*);

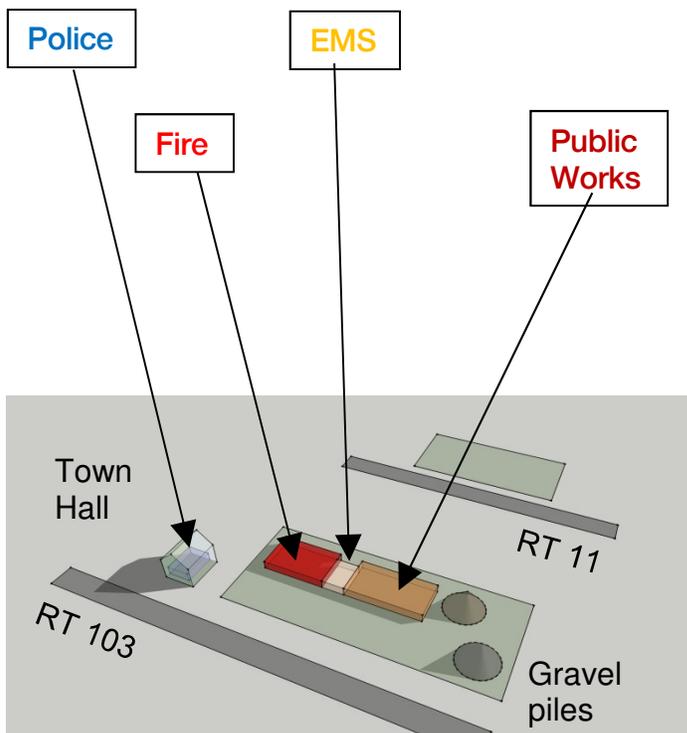
Brown = Public Works and

Light tan = EMS.

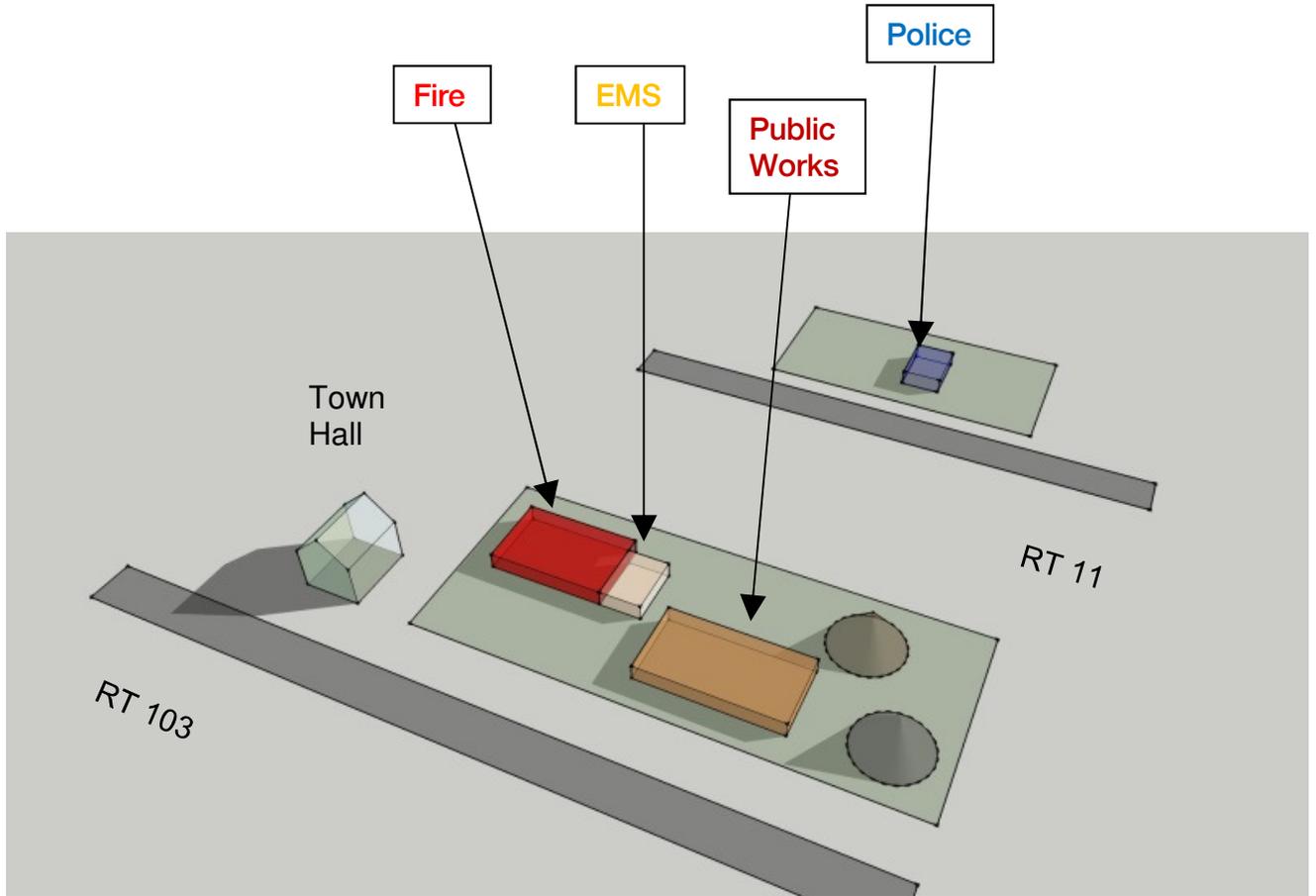
The two dark gray lines represent Depot Street/Rt. 103 (foreground) and Pleasant Street/Rt. 11 (background).

[Scheme number references are keyed into listings in the FS.]

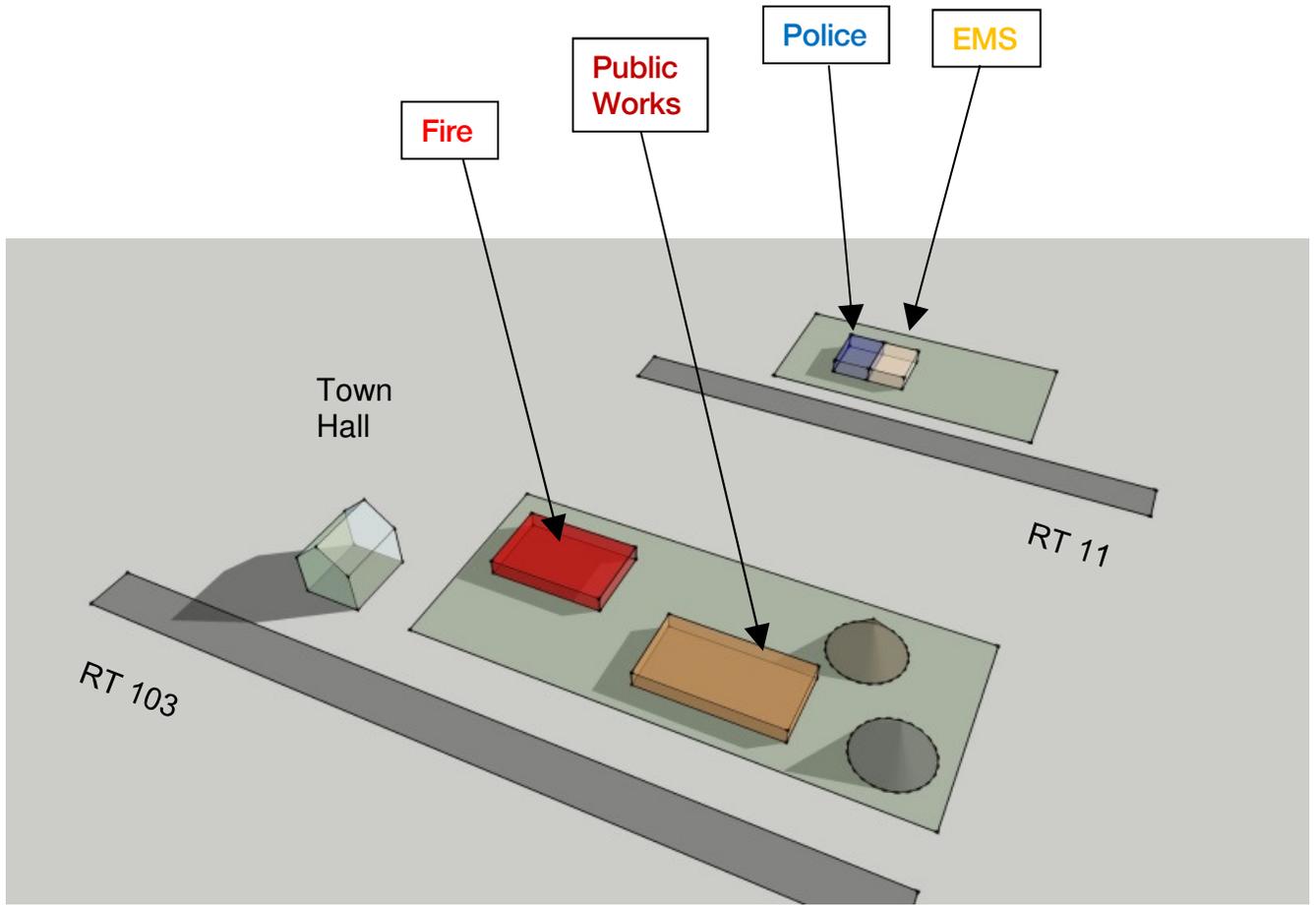
* * *



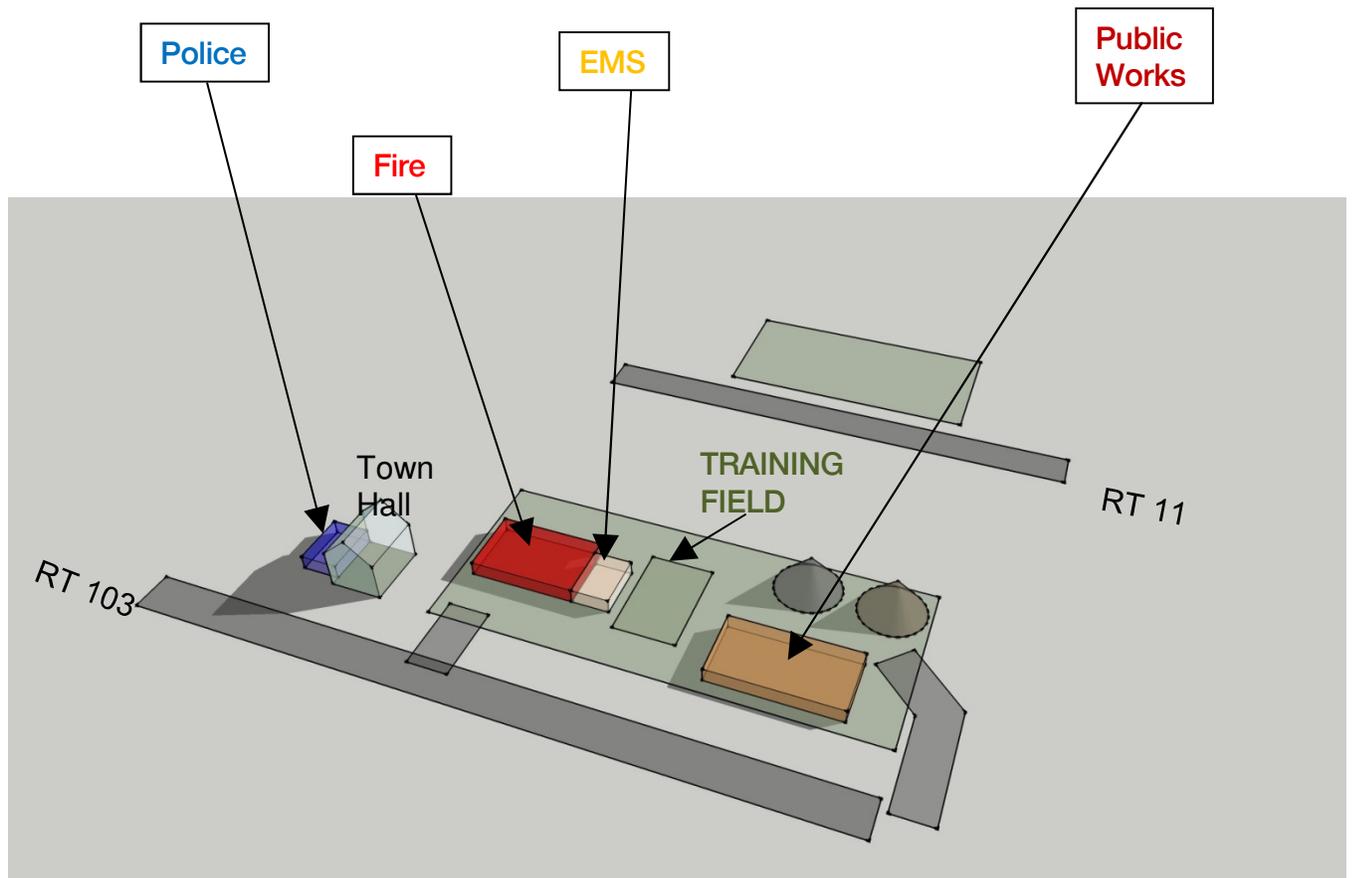
Schematic View of Current Dept. Locations



Scheme 2.1



Scheme 1.3



Scheme 8.3

This last diagram is an elaboration of one of the Schemes (8.3) to include a reconfigured Public Works building and gravel piles (*This is only symbolic. The actual reconfiguration determined by a future design team may be substantially different than*

shown here), a Training Field for Fire Department and EMS staff use, primarily but not exclusively, and a symbolic expansion of the Town Hall in near future which would also include a reconfiguration and expansion of street side parking along Depot Street after the “triangle” is redesigned to both enlarge the park and parking areas. This would allow for opening the north/rear side of Town Hall for an expanded Police Department and improving efficiency and safety for vehicular and pedestrian use in front of Town Hall.

When considering architectural merging any of Police, EMS and Fire, substantial savings in construction costs are possible by virtue of combining, strategically, mechanical/plumbing/heating systems and reducing structural costs. Savings may also be seen in site work costs because of combined access, parking and landscaping.

Speaking in only general terms, moving the Fire Department to a more prominent location on the current site will provide an opportunity to present a symbolic “Place of Pride” for the community while liberating much more space for Public Works to the south of the site in which to function more freely.

In a speculative manner, we would recommend exploring an alternate access for the Public Works, such as adjacent to- or via the Vermont Furniture Hardwoods drive with their easement/permission. This, combined with appropriate paving, would dramatically reduce or eliminate dust issues for the Fire Department and increase the ease with which Public Works vehicles exit to and return from job sites.

The specific Programming of any of these design configurations remains the realm of the future design team's due diligence early in their portion of the Design Process.

The full FS will include detailed discussions of code issues, services, circulation, site configurations, and other factors pertinent to these recommendations, which are not included in this very short Summation.

Financial range discussion will be in the final copy of the FS, as this is one of the final stages in the FS production.

**REQUEST FOR RESPONSES
FROM SELECT BOARD:**

We would deeply appreciate any comments, questions or requests for Feasibility Study inclusion at this time from any/all members of the Select Board.

*[No response was received from
Select Board]*

- - -

We thank you very much for your attention to this critically important project in Chester's history.

Claudio Veliz, AIA
Robert Buchan, AIA/NCARB

CV A PLLC

DEPARTMENT

DIRECTOR'S SURVEY

PUBLIC WORKS DEPARTMENT

REQUIREMENTS

Field Visits and interviews were conducted on 5/5/17 & 5/23/17 (preliminary) & on 7/19/2017, following meeting with Environmental Consultant. Additional notes regarding existing deficiencies due to environmental issues identified at the prior meeting are recorded separately.

Present:

GK Graham Kennedy, Town of Chester
CV Claudio Veliz AIA, CV A PLLC
RB Robert Buchan AIA, CV A PLLC

1. Existing Conditions: The existing garage building is in poor condition. Note, existing locker room/ general purpose bay is laid out slightly differently than indicated in original building plans.
 - a. There are fire safety issues with the building as a whole.
 - b. Severe winter condensation, possible mold, general dilapidation.
 - c. Insufficient space/ inefficiently laid out for present-day equipment and operations. Trucks have to be parked at an angle in winter due to length with plows mounted.

- d. Because existing doors are on the eave sides of the structure, the building cannot be readily enlarged by simple additions: the eave line would in that case be brought lower, leaving insufficient headroom for modern trucks.
- e. Insufficient protected storage for infrequent use/ seasonal use vehicles and equipment, which causes to accelerated aging & deterioration of same.
- f. Separate salt shed is somewhat too small.

General Requirements:

- g. The existing site is convenient. No major benefit could be gained by relocation.
 - h. There is no particular advantage in sharing a site with any of the other departments.
 - i. Outside storage of bulk materials and highway/ bridge components is organized for efficient use and to avoid winter freezing of gravel. Similar principles should be followed when site is reorganized.
2. Space & room requirements in new building:
- a. 4 truck bays 80' long x 20' wide with door each end. These can be grouped or separated with interior partitions and large communicating doors to conserve heat in winter.
 - b. Separate heated shop bay, 40' long x 20' wide with welding equipment, ventilation, other power tools etc.
 - c. Larger tool room/ supply & hardware storage, say 25' X 9' (twice as big as existing).

No need for the workbench alcove feature to remain.

- d. Larger break/ meeting room with space to seat 12 at table, chairs, kitchenette with sink, fridge, and microwave. Bulletin boards.
- e. Existing restroom is adequate, showers not needed. Staff prefers to clean up at home.
- f. "Uniform" storage (work wear) closet with hanging rod.
- g. Fire-rated storage for gas-powered portable tools such as chainsaws and weed-whackers.

3. Building services:

- a. Heating, including backup boiler (propane?). Cord-wood will still be preferred fuel source. Current consumption is about 50-60 cords per year.
Incorporate catalytic converter to reduce emissions?
- b. Backup generator (propane?)
- c. Shop utilities including compressed air, hose bibs, convenience receptacles.

4. To store in pole barn:

- a. Plows in summer
- b. Wood chippers & mowers in winter.
- c. Miscellaneous occasional-use equipment all year.

FIRE DEPARTMENT REQUIREMENTS

Involved:

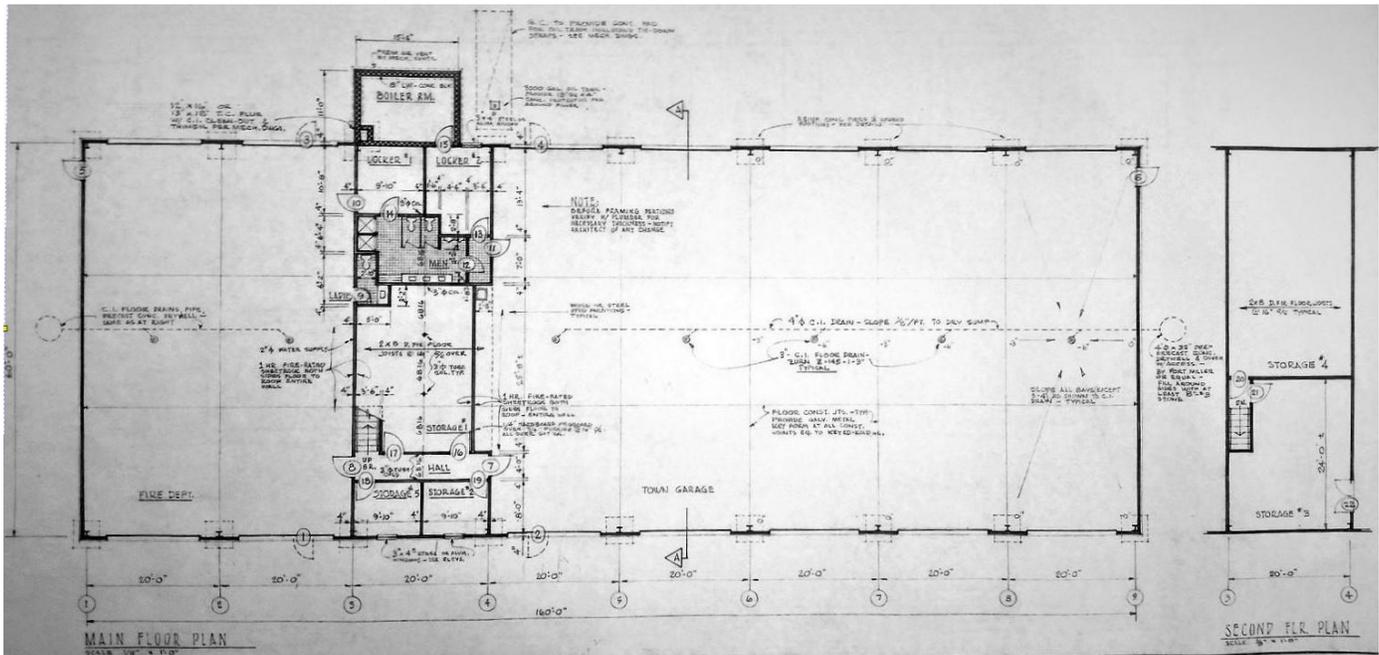
MS Matt Wilson - Chester Fire Department (Chief)
BW Ben Whalen – Chester Fire Department (Chief)
CV Claudio Veliz AIA, CV A PLLC
RB Robert Buchan AIA, CV A PLLC

1. Existing Conditions:

The existing building is in poor condition. Note, existing turn-out room/ shower/ general purpose bay is laid out slightly differently than indicated.

- a. Upper level office and storage space is inadequate and unsuitable. Training room is not code compliant.
- b. Asphalt aprons at doors rutted leading to standing water and collected dust.
- c. Dust entering building from other activities on site is a major problem.
- d. Overhead doors are regularly maintained but noisy, air seals appear worn.
- e. Facings of existing insulation are split in many places leading to high risk of condensation.
- f. Insufficient space/ inefficiently laid out for present-day equipment and operations.

EXISTING TOWN GARAGE FLOOR PLAN -
NOW ALTERED



2. Existing equipment to be retained or emulated for future functioning:
 - a. Four ceiling-mount Trane FCU heaters, one aimed at each door.
 - b. One (1) residential type ceiling fan (destratification?).
 - c. Boat hoist.
 - d. Not every bay has electric and compressed air connectors for trucks.
 - e. Existing wood hose drying shelves run the length of the West wall. Every available area of wall surface above and below has storage racking attached.
 - f. Freestanding racks for coiled dry hose

adjacent turnout room door 6' L x 2' D

- g. Existing uniform storage consists of two (2) repurposed shower stalls.
- h. Commercial washer 28" W x 32" D standing in bay, uniform dryer 7' L x 36" D adjacent.
- i. Compressor room contains the following. The air pack filler and maintenance bench should be in a "clean" room. The general purpose compressor is noisy and should be separated from other functions except perhaps mechanical and electrical equipment.
 - i. Poseidon air-pack filler 44"W x 25"D, with cylinders occupying 30" square.
 - ii. Revolveair 31" W x 24" D
 - iii. Rand 54" w x 31" D
 - iv. Flammables cabinet (± 24" square)

3. General Issues:

- a. The existing site is convenient. No major benefit could be gained at an alternate location.
- b. There is no particular advantage in sharing a site with any of the other departments.
- c. The dust problems stem from being too close to the Highway Department garage and the path of highway trucks entering and leaving / insufficient paving to the yard.

4. Space & room requirements in new building:

- a. Bays for 5 trucks each about 40' long x 20' wide, either side by side or back-to-back with a door each end. One bay should be

longer to allow for a future ladder truck.

Bays can be in groups, separated with interior partitions and large communicating doors to conserve heat in winter. Floor drains with oil separators. Single exit bays would ideally have ready-access storage along the back wall.

- i. Decontamination area with compressed air and floor drain close to turnout room and laundry area.
 - ii. Hose drying/ storage area: steel angle rack or ventilated drying cabinet.
 - iii. 40 foot apron. Concrete paved.
- b. Turnout/ locker room 600 sf at least twice as big as existing, with double width door into bays. Existing locker racks are fine to relocate, more needed.
 - c. Restroom and showers opening off turnout room.
 - d. Laundry area convenient to turnout room, with racks for items to be washed – existing washer and dryer are fine to re-use.
 - e. Watch room (dispatch/ radio room) with window to bays and to outside, up to two work spaces, can share function with EMS.
 - f. Air tank/ tools / clean maintenance room 40 sf.
 - g. Air tool compressor/ “loud” mechanical room 20 sf or per other equipment.
 - h. General equipment and hardware secure storage.
 - i. Entrance lobby/ airlock to “clean side” and

offices.

- j. Two secure office rooms about 120-150 sf each, briefing room/ general use/ report room with work stations.
- k. Training room with space to seat 40 at tables, with chairs, kitchenette with sink, fridge and microwave.
- l. Bulletin boards.
- m. Outdoor training area - grass.
- n. Parking for 20-30 vehicles.

5. Building services:

- a. Backup generator (propane?)
- b. Shop utilities including hose bibs, convenience receptacles.

AMBULANCE DEPARTMENT
REQUIREMENTS

Field Visits and interviews were conducted on 5/5/17 (preliminary) & on 9/19/2017.

Present: _____

DC Dave Cook, Chief: Ambulance Dept.

CV Claudio Veliz AIA, CV A PLLC

RB Robert Buchan AIA, CV A PLLC,

1. Existing Conditions: The existing garage building is in poor condition. Note, existing upper level plan has been altered from original layout. See Fire Department notes for more details.
 - a. The Ambulance Department is essentially run from Mr. Cook's home and the 120 sf upper level Administrative Office. This office is not code compliant.
 - b. The company consists of one full-time administrator shared with the Fire Department and about 20 volunteers (including DC, who is a Town employee). The volunteers work on call, about 4-5 being available in any given shift.
 - c. Existing storage space is inadequate and not capable of being properly secured, also inconveniently remote from the Ambulance bay.
 - d. The existing vehicle bay space is too short for a standard size ambulance and there is no room for expansion. .

2. General Requirements:

- a. The existing site is convenient. No major benefit could be gained by relocation.
 - b. There is no particular advantage in sharing a site with any of the other departments. However the current space sharing arrangement is not adequate. Problems include crossing movement paths, noise & exhaust fumes when training, and general dust& dirt.
 - c. The Department cooperates with Ludlow and other nearby towns, additional parking would be useful.
 - d. In case of severe illness or injury the Department may move a patient to Springfield or to a location near the incident that is accessible to the air ambulance. There is not a perceived current need for a helipad at the Department.
3. Space & room requirements in new building:
- a. 1 bay for existing equipment at least 35' long x 20' wide, ideally at least 40' long for efficient access and storage at rear of vehicle. A second bay may be needed in future to suit population growth.
 - b. A larger office space is needed to accommodate a desk and secure filing for the Ambulance Chief. The administrator and a 10' x 10' radio room could continue to serve both Departments.
 - c. A "reporting office": one or two computer stations & chairs where company members can enter reports.
 - d. Larger supplies & equipment storage including secure cabinets, say 12' X 8'.

- e. Access to training room and kitchenette – no reason not to share with Fire Department.
- f. Access to restroom. Note, showers & lockers are not needed. Staff uses appropriate street clothes rather than uniforms.

POLICE DEPARTMENT REQUIREMENTS

A Preliminary Visit was conducted 26 July, 2017 and meetings with Chief Cloud were held on 8 August, 2017 & 19 September, 2017.

Present: _____

GK Chief Richard Cloud, Town of Chester
 CH Julie Parsells, Town of Chester
 CV Claudio Veliz AIA, CV A PLLC
 RB Robert Buchan AIA, CV A PLLC

Information obtained:

1. General Considerations:
 - a. The layout and features of the facility are more important than precise location.
 - b. Access to major routes is the biggest factor for location. Depot Street is fine, as would be Rte. 11. The only better place (if available) would be Main Street by the intersections.
 - c. There is no particular advantage in sharing a site with any of the other departments. An isolated site would be fine. However being in Town Hall is helpful for community members being comfortable to visit.
 - d. Best known "analog" example of layout is the new Westminster State Police Barracks. 330 West Heights Rd, Putney 05346 Lt. French 802=722-4600
 - e. Deficiencies in the existing facility include failure to meet a number of current standards, and already force the Department to make use

of services in neighboring towns and at the State Barracks. It is only a matter of time before these other entities start charging Chester for their services.

2. Reception/ Public Access Area:

- a. Waiting bench or chairs should be within Department, not in common hallway. Existing public area is too small. A waiting/ lobby space about 120 SF desirable.
- b. Existing work area is a good size for a single admin worker. A new facility should allow space for second workstation.
- c. Office desks and other furniture pieces would be preferred to fixed/ built-in case goods.
- d. Reception should be separated acoustically from other spaces but needs visual and/ or CCTV monitoring of visitors. Video phone connection to duty officer out of hours. Receptionist needs sufficient screen space to see both CCTV and work.
- e. Officers should be able to enter Department without going through Reception.
- f. A quiet interview room should open off reception.
- g. A rest-room should be reachable from the public (lobby) side of reception.

3. Sally Port/ Processing Area: sealed off from the rest of the Department but readily accessible.

- a. Secure route from vehicle to processing room about 80 sf and holding room that contains supervised rest-room. Ideally two holding rooms, for male & female.
- i. Sally port - oversized garage bay including secure grab-and-go equipment.
- ii. Processing/ booking room about twice the size of existing.
- iii. Holding cells minimal size.
- b. Officers must have a second way to depart on patrol while a suspect is being brought in.
- c. A locker/ cleanup room is needed for officers departing on and arriving from patrol.

4. Administrative Area: readily accessed from reception/ lobby area and from sally port.

- a. Chief's Office: needs desk, table, 4 chairs, about 120 sf; less storage than existing (the files and kitchenette should be elsewhere).
- b. Dispatch room 80 sf adjacent watch office.
- c. Watch Office: needs at least 5 work stations and a printer rather than the 4 existing. A place for a large whiteboard is desirable. Closet about 12 sf.
- d. Separate offices for sergeant and detective would be preferred but not essential.
- e. A small meeting/ interview room is desirable.
- f. Kitchenette and rest rooms will also serve receptionist.

5. Storage and Support:

- a. Office/ general supply. Server,
- b. Equipment and active armory.
- c. Current files
- d. Archives at least 250 sf
- e. Secure evidence at least 300 sf
- f. Armory for impounded weapons
- g. Generator to power server and essential equipment. A photovoltaic system could reduce the generator output requirement.

6. Other:

- a. Two egress routes are needed from every space within the facility.
- b. A locker-room area that includes a space and sink for handling and cleaning up hazardous substances is needed.

Disabled suspects are processed quite often, accommodations are vital.

Findings from a Study of Cancer among U.S. Fire Fighters

July, 2016

In 2010, the National Institute for Occupational Safety and Health (NIOSH) began a multi-year study of nearly 30,000 fire fighters from the Chicago, Philadelphia, and San Francisco Fire Departments to better understand the potential link between firefighting and cancer. The study was a joint effort led by researchers at NIOSH in collaboration with researchers at the National Cancer Institute and the University of California at Davis Department of Public Health Sciences, and supported in part by the U.S Fire Administration. This study was completed in late 2015.

What we found

The fire fighters we studied showed higher rates of certain types of cancer than the general U.S. population.

Based on U.S. cancer rates:

Fire fighters in our study had a greater number of cancer diagnoses and cancer-related deaths. These were mostly digestive, oral, respiratory, and urinary cancers.

There were about twice as many fire fighters with malignant mesothelioma, a rare type of cancer caused by exposure to asbestos. Exposure to asbestos while firefighting is the most likely explanation for this.

There were more cases of certain cancers among younger fire fighters. For example, fire fighters in our study who were under 65 years of age had more bladder and prostate cancers than expected.

When comparing fire fighters in our study to each other:

The chance of lung cancer diagnosis or death increased with amount of time spent at fires.

The chance of leukemia death increased with the number of fire runs.

What this means

For fire service

This study provides further evidence that fire fighters are at increased risk of certain types of cancer as a result of occupational exposure. Raised awareness and exposure prevention efforts are cost-effective means to reduce occupational cancer risk. Thus, the fire service should increase efforts to educate members about safe work practices. This includes proper training, proper use of protective clothing, and proper use of approved respiratory protection during all phases of firefighting.

For fire fighters

If you are a fire fighter and you are healthy right now this study does not mean that you will get cancer. We don't know, simply from this study, whether or not you will get cancer. Instead, our study found that fire fighters, on average, have a higher risk of certain types of cancer compared to the general population.

If you are a fire fighter and have cancer this study does not mean that your service caused your cancer. This study cannot determine if an individual's specific cancer is service-related. In addition to exposures that you may have encountered as a fire fighter there are other factors that may influence whether or not you developed a particular cancer, and this study was not able to address many of these factors.

If you are an active or retired fire fighter and are worried about your health, share this information with your doctor. It is important that your doctor is kept aware of possible job-related health concerns.

How the study was done

Our study had four steps:

Step 1. We assembled the study population We assembled the study population from records of the fire departments in Chicago, Philadelphia, and San Francisco. We included 29,993 fire fighters with at least one day of active duty between 1950 and 2009.

Step 2. We gathered cancer and death information through 2009

From national and state death certificate data, we determined how many former fire fighters had died, and from what causes.

From state cancer registry data, we identified fire fighters who were diagnosed with cancer.

Based on previous studies of fire fighters, the cancers of primary concern were

- cancers of the lung
- brain
- stomach
- esophagus
- intestines
- rectum
- kidney
- bladder
- prostate
- testes
- leukemia
- multiple myeloma
- non-Hodgkin lymphoma

Step 3. We assessed each fire fighter's potential job exposures

For 19,309 male fire fighters who were first hired in 1950 or later and who were employed for at least one year, we assessed potential job exposure based on existing records. The measures we used were:

Exposed-days: the number of days each fire fighter worked in a job or at a location with the potential for exposure for each fire fighter from all three fire departments.

Fire-runs: the total number of fire-runs made by each fire fighter from the Chicago and Philadelphia Fire Departments

Fire-hours: the total time spent at fires by each fire fighter from the Chicago Fire Department

We only assessed fire-runs and fire-hours for fire departments with data on annual fire-runs and/ or amount of time apparatus were deployed into the field.

Step 4. We compared disease outcomes by various groups

We compared death rates and cancer diagnoses in the following groups:

Fire fighters compared to U.S. and state populations

Fire fighters with more exposed-days compared to those with fewer

Chicago and Philadelphia fire fighters who made more fire-runs compared to those who made fewer

Chicago fire fighters who spent more time at fires compared to those who spent less

Study Limitations

Although the study is large, our ability to detect links between firefighting and cancer is still limited, especially for rare cancers. Limitations include:

Few women and minorities were in the study which limits the ability to see links between firefighting and cancer in these groups.

Measurements of actual exposures were not available.

Information on exposures to cancer-causing agents outside of firefighting was not available.

Information on lifestyle choices that are linked to cancer (such as diet, exercise, smoking habits, and alcohol use) was not available.

For more information

NIOSH Fire Fighter Cancer Study Website <http://www.cdc.gov/niosh/firefighters/ffcancerstudy>

Press Release: NIOSH Study of Firefighters Finds Increased Rates of Cancer

<http://www.cdc.gov/niosh/updates/upd-10-17-13.html>

NIOSH Science Blog: Is There a Link Between Firefighting and Cancer? – Epidemiology in Action

<http://blogs.cdc.gov/niosh-science-blog/2014/12/17/cancer-ff/>

Frequently Asked Questions (FAQs) [http://www.cdc.gov/niosh/firefighters/pdfs/FAQ-](http://www.cdc.gov/niosh/firefighters/pdfs/FAQ-NIOSHFFCancerStudy.pdf)

[NIOSHFFCancerStudy.pdf](http://www.cdc.gov/niosh/firefighters/pdfs/FAQ-NIOSHFFCancerStudy.pdf)

Publications (available per BMJ guidelines) Mortality and cancer incidence in a pooled cohort of US firefighters from San Francisco, Chicago and Philadelphia (1950– 2009)

http://www.cdc.gov/niosh/firefighters/pdfs/OEM_FF_Ca_Study_10-2013.pdf

Exposure–response relationships for select cancer and non-cancer health outcomes in a cohort of US firefighters from San Francisco, Chicago and Philadelphia (1950–2009)

[http://www.cdc.gov/niosh/firefighters/pdfs/Daniels-et-al-\(2015\).pdf](http://www.cdc.gov/niosh/firefighters/pdfs/Daniels-et-al-(2015).pdf)

Creation of a retrospective job-exposure matrix using surrogate measures of exposure for a cohort of US career firefighters from San Francisco, Chicago and Philadelphia

http://www.cdc.gov/niosh/firefighters/pdf/dahm_et_al_2015.pdf

Cancer screening and prevention

Lung cancer <http://www.cdc.gov/cancer/lung/>

Oral cancer http://www.cdc.gov/oralhealth/oral_cancer/

Colorectal (colon) cancer <http://www.cdc.gov/cancer/colorectal/>

Malignant mesothelioma <http://ephtracking.cdc.gov/showCancerMesotheliomaEnv.action>

If you have questions about this study, or to request printed copies of electronic materials available on the NIOSH website, please send an email to GHartle@cdc.gov, or call the NIOSH Industrywide Studies Branch at (513) 458-7118.

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