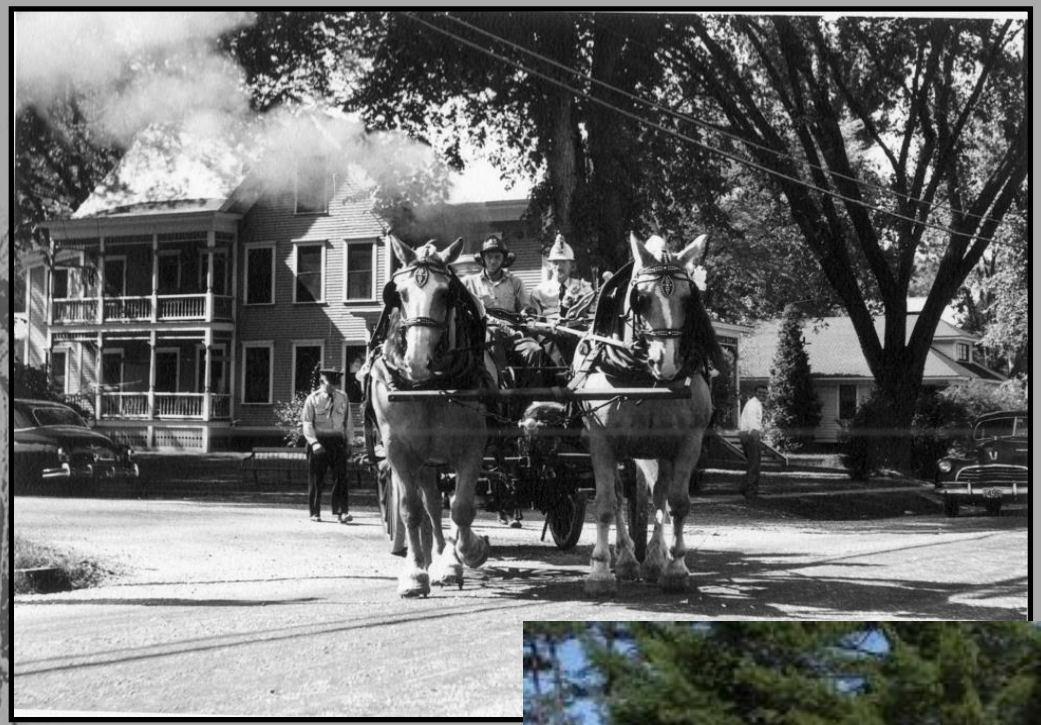
SWANZEY FIRE DEPARTMENT

New Fire Station Project

January 5, 2015

Mitchell Associates Architects

Background – Swanzey FD



Then

Now

Background – Swanzey FD

Our Past

Our Future

Swanzey Fire Department

- 864 emergency calls in 2013
- 956 emergency calls in 2014
- Current staffing:
  - 40 on-call fire and EMS responders
  - 3 part-time; Deputy, Fire Inspector, EMS Coordinator.
  - 1 Career Fire Chief

Swanzey Fire Department

- Stations are staffed weekdays, 08:00AM-05:00PM by the Fire Chief and a small part time staff.
- 24 hour response is accomplished using a combination of on call, part time, and career personnel assigned to three existing fire stations.
- Services provided by Swanzey FD:
  - Fire Protection
  - EMS first response
  - Fire Inspection and Investigation
  - Fire Prevention Education
  - Water Rescue
  - Search and Rescue
  - All Hazards-Disaster Response and Mitigation

Station 1 – East Swanzey

- Established in 1902
- Station Constructed in 1950
- Originally 1,100 square feet
- A later Addition brings the total square feet 2,438.

Engine 1

Rescue 1

Brush 1

Off Road OHRV

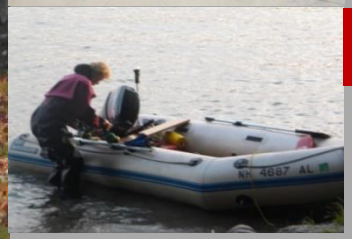
Station 2 –Swanzey Center

- Town Hall Constructed in 1914
- FD Addition - Basement 1960's
- 1,292 square feet

Engine 2

Tanker 1

Squad 1



Rescue Boat 1

Station 3 – West Swanzey

- Originally Constructed in 1949
- Additional bays added in 1980's
- 2nd Floor Renovation 2008
- Ladder Bay Addition 2009
- 2,820 Square Feet 1st Floor
- 1,440 Square Feet 2nd Floor

Engine 3

Ladder 1

Rescue 2

Car 1

Water Rescue

Why 3 Fire Stations are Needed

- Maintain a maximum 3 mile radius.
- Contributes to maintenance of newly achieved ISO rating of a **6-6Y**.
- Improves overall response time.
- Proximity to call firefighters' homes.
- Provides critical services to 7,300 residents and visitors of the community.

Future Needs

- "There are no plans now or in the future to eliminate or reduce the number of fire stations that serve Swanzey." Swanzey Board of Selectmen,

- "With the addition of the new fire station and the remaining sub- stations the fire and EMS facility needs of the community can be met into the future." Swanzey Fire Chief, Norman W. Skantze

Future Needs

- 1988 Town Meeting votes to raise $ 5,000 and establishes the fire station replacement trust fund.

Fire Station Planning

Town of Swanzey Master Plan

2003 Swanzey Master Plan identifies the following goal for the Fire Department:

GOAL: To provide Fire and Ambulance Services adequate to meet the needs of an expanding population in an increasing complex mobile society.

Master Plan Continued

Number 1 objective of the 2003 Master Plan:

- Construct a new Fire Station in or near Swanzey Center of sufficient size to serve as Headquarters for fire and rescue administration and communications & to accommodate a full-time crew (minimum 3 individuals for one pumper for daytime coverage).

Fire Station Planning

Housing Unit Growth

- 1970 1382 Housing Units
- 1980 1894 Housing Units
- 1990 2582 Housing Units
- 2000 2818 Housing Units
- 2010 3205 Housing Units

- % of Change 1970-2010
  - **<u>132 % Increase in the number of housing units in the town.</u>**

Population Density

1970	4,254 Residents
1980	5,183 Residents
1990	6,236 Residents
2000	6,800 Residents
2010	7,230 Residents

% Change 1970-2010

- **<u>70% increase</u>**

Timeline Continued

- **2009** FD Capital Improvement Committee established (FDCIP).
- **2013** town-wide CIP reappointed.
- **2013** town CIP recommends hiring Scully Architects, Brickstone Land Consultants, Ingram Construction & Mitchell Associates Architects to carry out - Phase 1 programming and design of town capital improvement needs.

How the Town CIP Committee Determined Needs

- CIP Committee's experience & research
- CIP inspection of all town facilities
- Use of architects, engineers and construction specialist including a fire station design expert.
- Engineers Dubois & King and Thayer Fellows
- Southwest Regional Planning Commission response time and call activity study.
- Testimony and input received from the Fire Department CIP Committee and Fire Chief.

Conclusion of CIP

- Based on their findings, the town CIP committee voted to recommend to the Board of Selectmen the concept of the Fire Station using the Safford Drive site concept as submitted by Scully Architects subject to the cost of the concept.

What are the problems with Station 2 and Town Hall

Engineering Reports

- Two independent Engineering firms, Dubois & King and Thayer Fellows, both identified structural failure of the roof system and multiple building and life safety code violations at the town hall/fire station facility.

The Findings

- Sprinkler System required
- Fire Alarm System upgrade
- Inadequate egress for basement fire station
- Inadequate ventilation for basement fire station
- Electrical violations

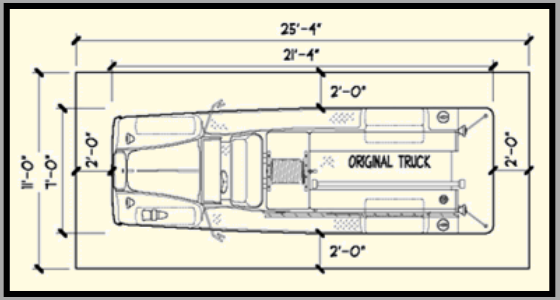
The Findings

- Inadequate window in basement area
- Inadequate ADA compliance
- Inadequate Fire Separation between occupancies
- Inadequate space to operate Fire Department function
- Inability to meet and accommodate the public

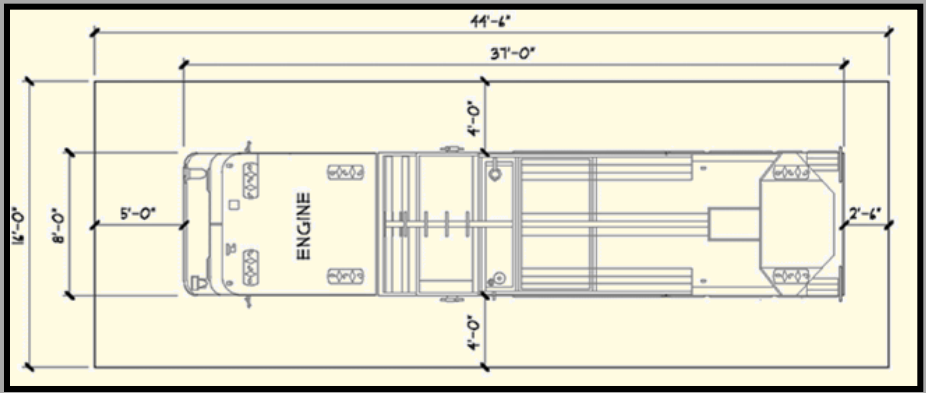
The Findings

- The apparatus bay is too small for modern equipment.
- Critical equipment is decentralized.
- Proper clearances around vehicles are not met.
- Inadequate space for meetings and training.
- Storage space is limited.
- Office space is inadequate.

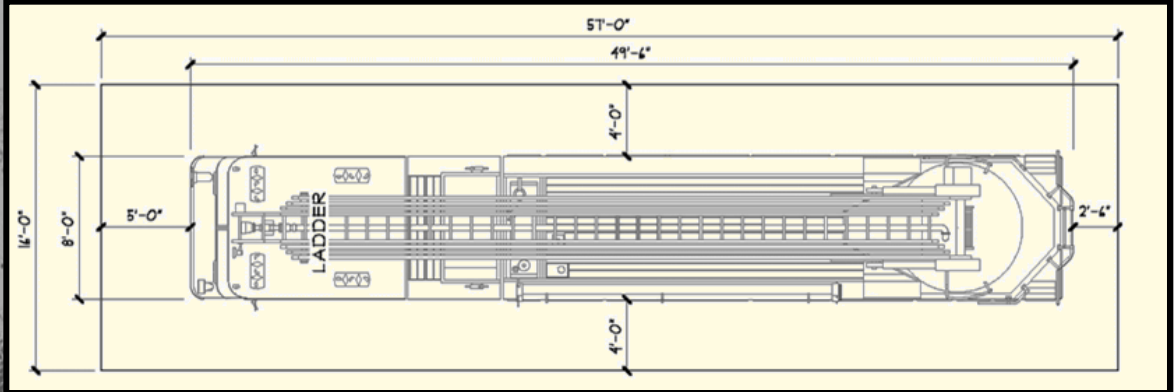
Apparatus Size (WITH CLEARANCES)



1950'S VEHICLE
279 SQ FT



CURRENT ENGINE
712 SQ FT
250% LARGER

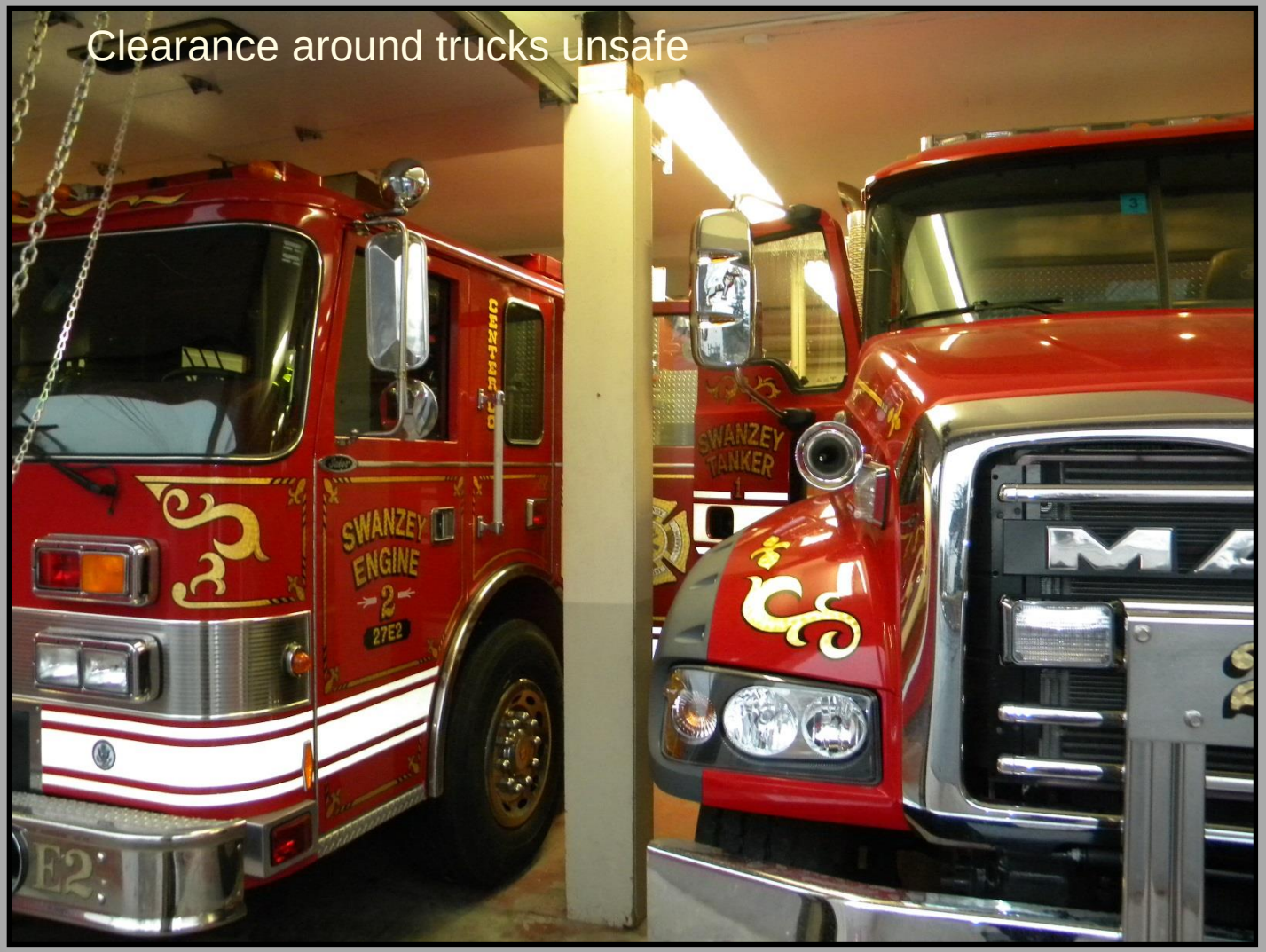


CURRENT LADDER
912 SQ FT
327% LARGER

Apparatus Bay

Apparatus Bay

Apparatus Bay



Storage

Inadequate Storage of equipment and supplies

Bathroom

Limitations of bathrooms, showers, laundry and decontamination Areas

Health & Safety

- No clean room for maintaining the Self Contained Breathing Apparatus (SCBA).
- Bay floor surfaces slippery and unsafe.
- No decon/laundry room. Proper decontamination and maintenance cleaning of protective garments (NFPA 1581) specialized equipment in a room that can be isolated and decontaminated.

Health & Safety

Apparatus Bay ventilation inadequate and does not meet NFPA (National Fire Protection Association) requirements for diesel exhaust.

Clearances around trucks unsafe.

No emergency eye wash system - does not meet ANSI (American National Standards Institute) Standards.

Bathrooms do not meet minimum standards for male, female

Health and Safety

Floor drains do not go to approved discharge location.

Not enough cleaning facilities to clean medical equipment – cannot meet any OSHA or NFPA standards for cleanliness – cleaning and sterilizing medical equipment.

Inadequate trash storage.

No fresh air intake.

No showers.

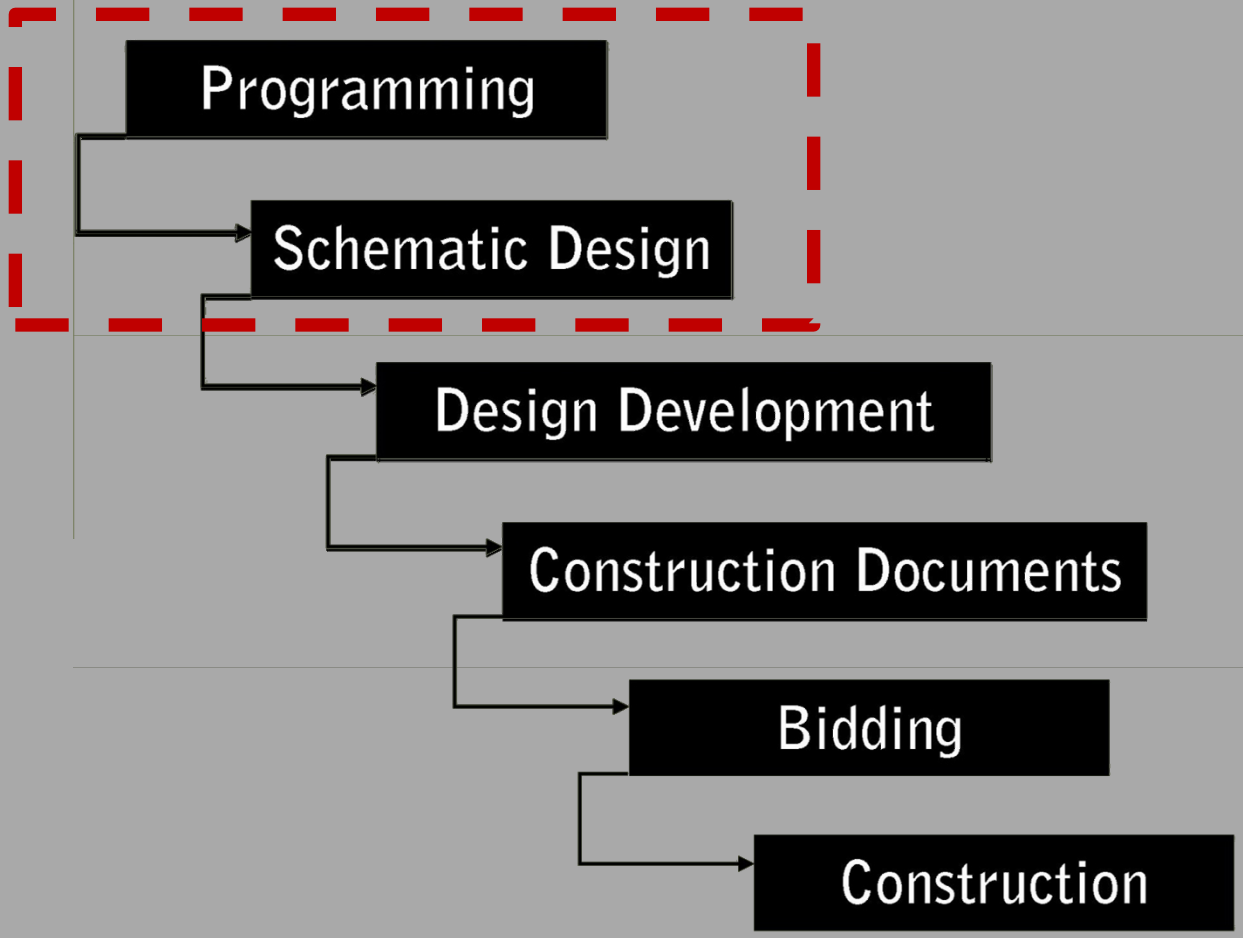
Inadequate separation of food and storage areas in kitchen.

Energy Efficiency

- Insufficient Insulation
- Heating/cooling inefficiency
- Lighting inefficiency

PROPOSED FIRE STATION

Project Steps



Project Steps

Programming

What is in a Program?

- Descriptive Text
- Detailed Diagrams
- Area Spreadsheets
- Site Requirements
- Preliminary Budget(s)
- Soft Costs

Program and fire station spaces carefully considered by all participants in the planning process.

Evaluate Each Space

Describe Each Space

DeCon/Laundry

2.1 Sink(s): **1**; Foot Pedal: **Yes**

2.2 Gear washer/extractor: **Yes**

2.3 Gear dryer: **Yes**

2.4 Clothes washer & dryer: **Yes**

2.5 Ventilated gear racks: **Yes**

2.6 Drench shower: **Yes** ; Where: **Isolated Space w/ Direct Access to Exterior**

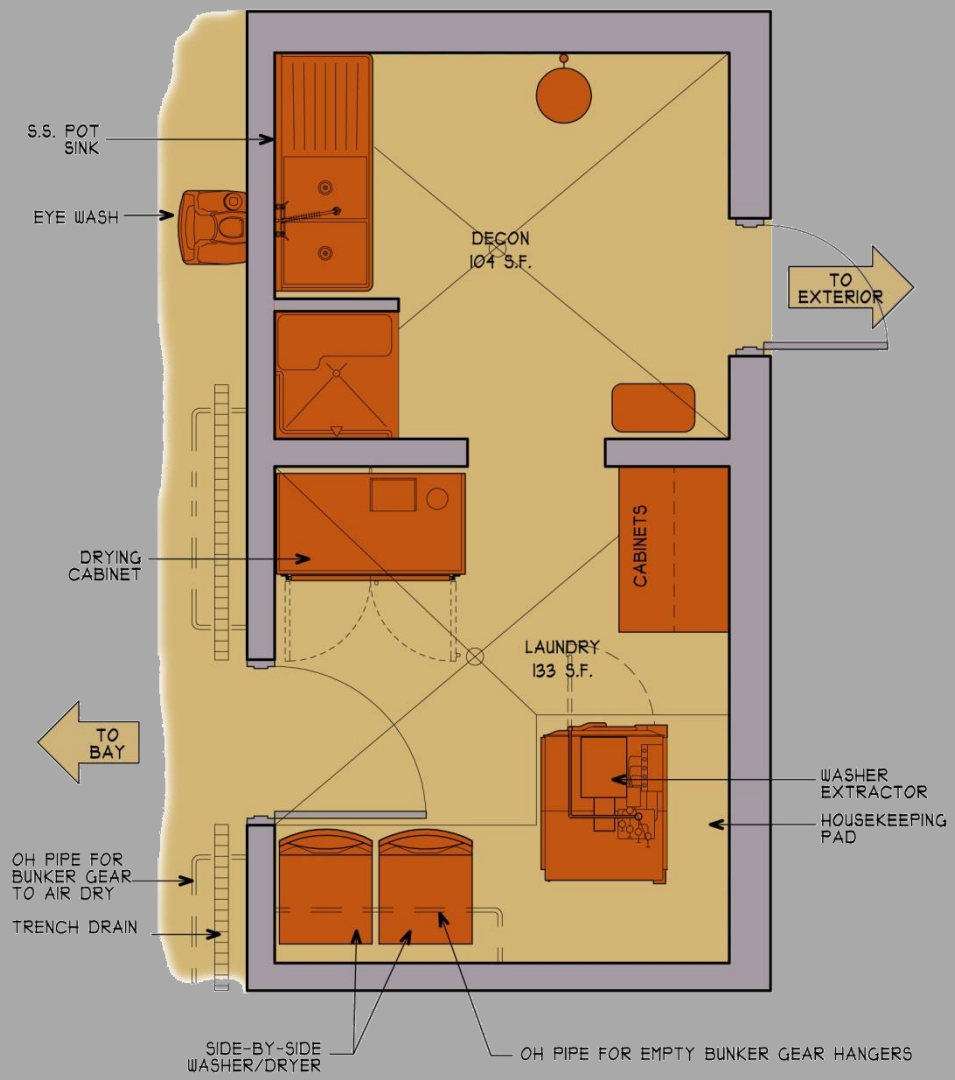
2.7 Backboard/Etc. cleaning: **Yes**

2.8 Holding tank: **Undetermined**

2.9 Size: **219** sq ft

2.10 Adjacencies: **Bay & exterior**

Diagram Each Space



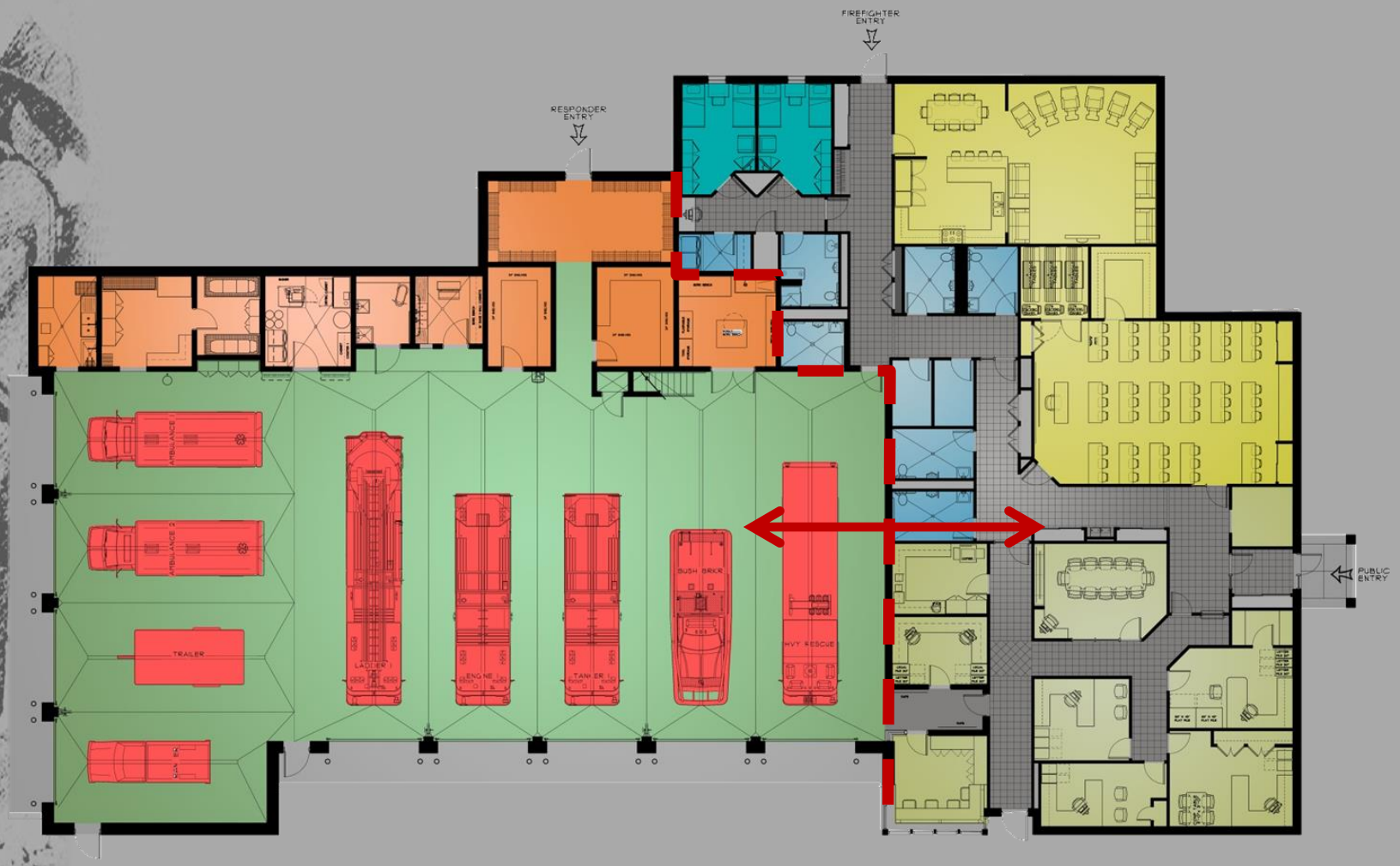
PROPOSED FIRE STATION

Determine Size

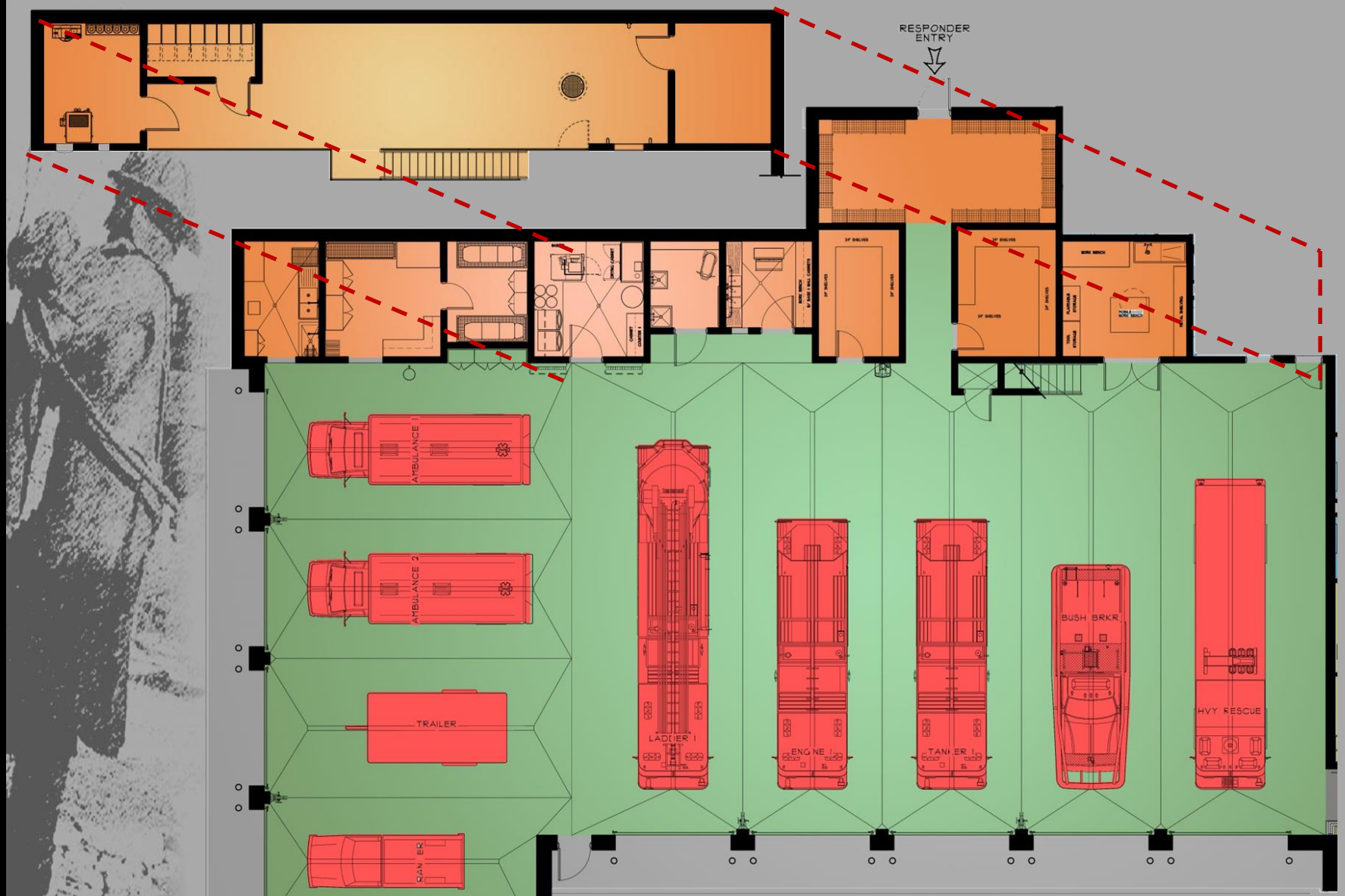
Program Item	Room Name	Area
2	Storage Room #1	252
3	Storage Room #2	252
4	Storage Room #3	0
5	Yard Storage	0
6	Turnout Gear	335
7	EMS Storage Room & Decon	393
8	Work Room	200
9	Laundry	169
10	Hazardous Waste	14
11	SCBA Compressor Room	0
12	SCBA Fill Station Room	100
13	Janitors Closet	80
14	Apparatus Floor Uni-Sex ADA Rest Room	62
15	Communications Room	145
	Subtotal - Firematic Support	**2,002**

Proposed Fire Station

Separation of the firematic and public administrative spaces



Proposed Fire Station



The mezzanine provides indoor space for training and additional space that supports the firematic function.

Proposed Fire Station

The training and meeting room serves a dual function of community meeting space with public access and rest rooms separate from the internal functions of the fire station.

Apparatus Bay

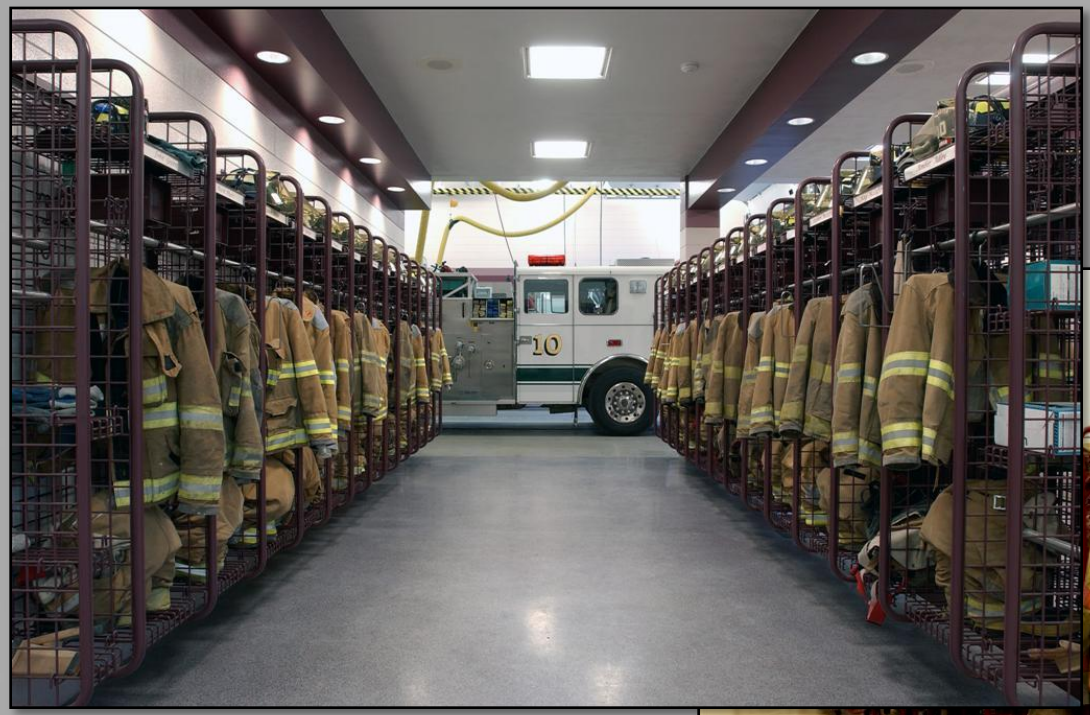
Apparatus bay space that accommodates modern fire apparatus and provides safe work areas for personnel.

Radio Room

Space to support command, control and radio communications for routine and the not so routine disaster scenarios the department may be called to.

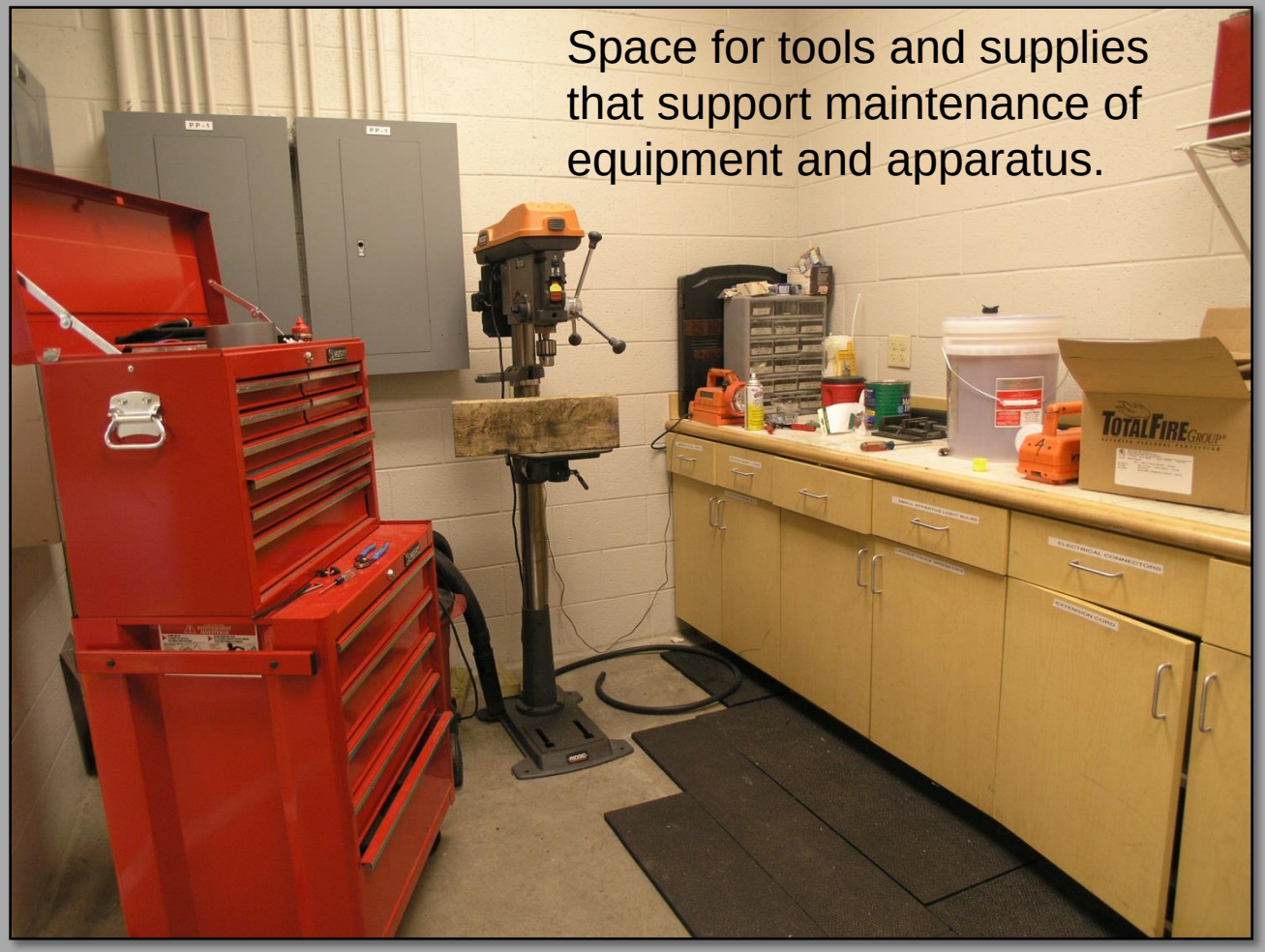
Radio Room to Bay

Work Space – Turnout Gear



Space where firefighters can stage protective clothing for donning and doffing. A space that is clean, dry and prevents damaging UV exposure which can shorten the life of the gear.

Work Space - Mechanical



Space for tools and supplies that support maintenance of equipment and apparatus.

SOLUTIONS

Work Space - Offices

Efficiency in design of administrative spaces

PROPOSED FIRE STATION

Work Space - Conference

Space where employees and the public can access administrative services provided by the department.

Space to accommodate individual and small group training and education programs.

Space where town officials can meet to solve public safety matters during emergency operations.

Work Space - Training

Innovative, low cost, built in training props that enhance training opportunities.

Work Space - Training

50 person meeting and training room to meet the current and future needs of the Swanzey Fire Department.

Meeting/Community Space

- One solution to town space needs.
- Town organizations could use meeting space as it’s properly separated from business side of building.
- Training room will double as a community meeting space.

Laundry

Space and equipment necessary for cleaning and decontamination of protective clothing.

PROPOSED FIRE STATION

DeCon

BREATHING APPARATUS

Self contained breathing apparatus compressor, SCBA fill station equipment and supply storage.

Energy Efficiency

- A new building will have insulation levels exceeding current standards
- wall R-value will be 32
- roof R-value will be 48
- foundation R-value will be 11
- windows will be argon filled low-e
- the building will be air tight

PROPOSED FIRE STATION

Functional Benefits of New Station

- Consolidates department programs and equipment storage without giving up needed decentralized town wide coverage.
- Functions not currently available could take place at new station including: ambulance service, community para-medicine, training and recertification of firefighters with State Fire Academy courses, vehicle maintenance; allows us to consider career firefighters.
- Expands response districts by better overall distribution of stations creating equal response radius.
- Provides a base for limited daytime response throughout the community.

PROPOSED SITE

Why Safford Drive

- In conjunction with the work of the town CIP committee, the Southwest Regional Planning Commission conducted an analysis of emergency response within the town of Swanzey and provide data to support the best location for a new fire station.

PROPOSED SITE

Why Safford Drive

- The Town CIP committee then using the data provided by Southwest Regional Planning and charged Brickstone Land Use Consultants to conduct an investigation of potential building sites.

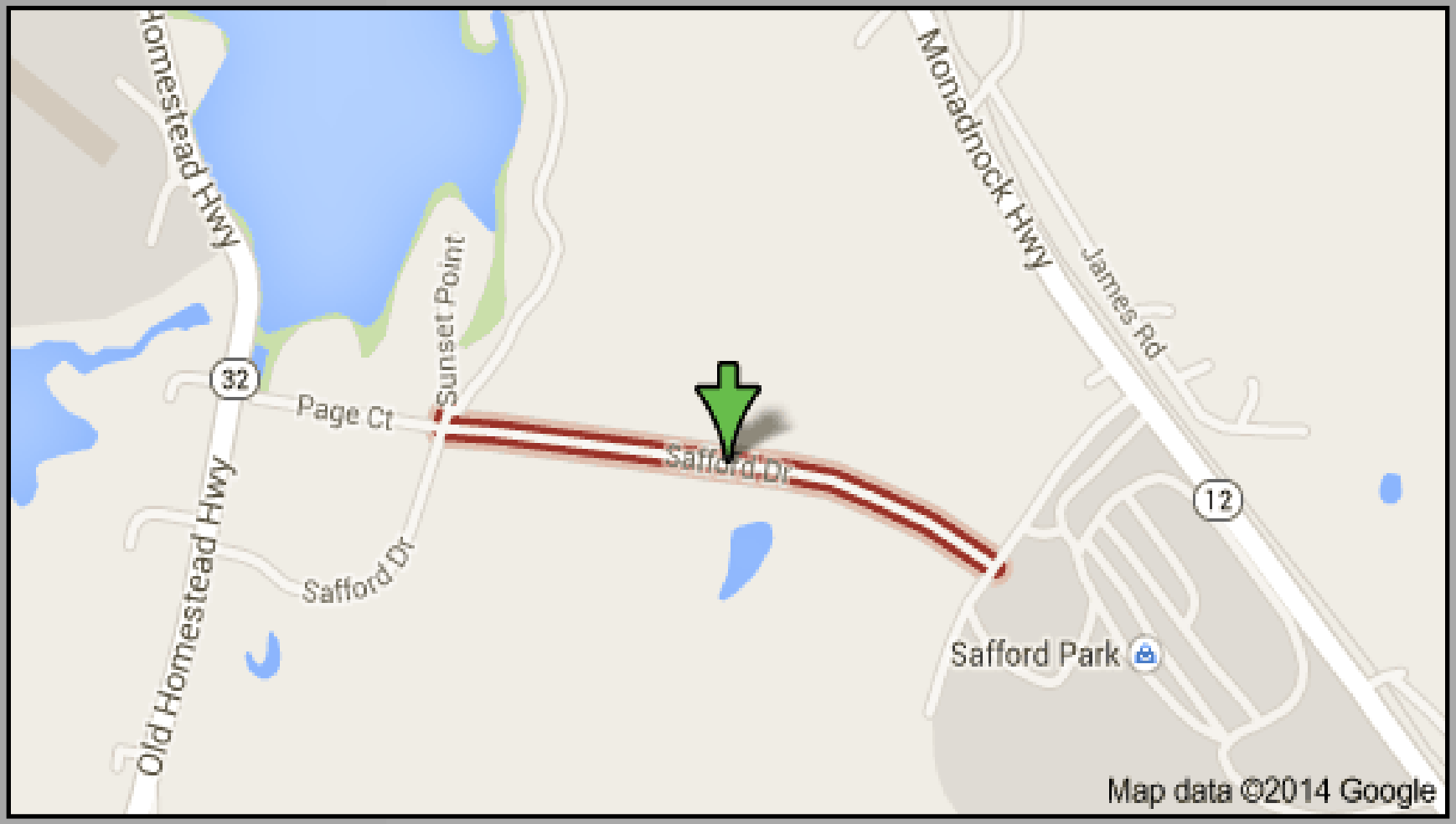
PROPOSED SITE

Why Safford Drive

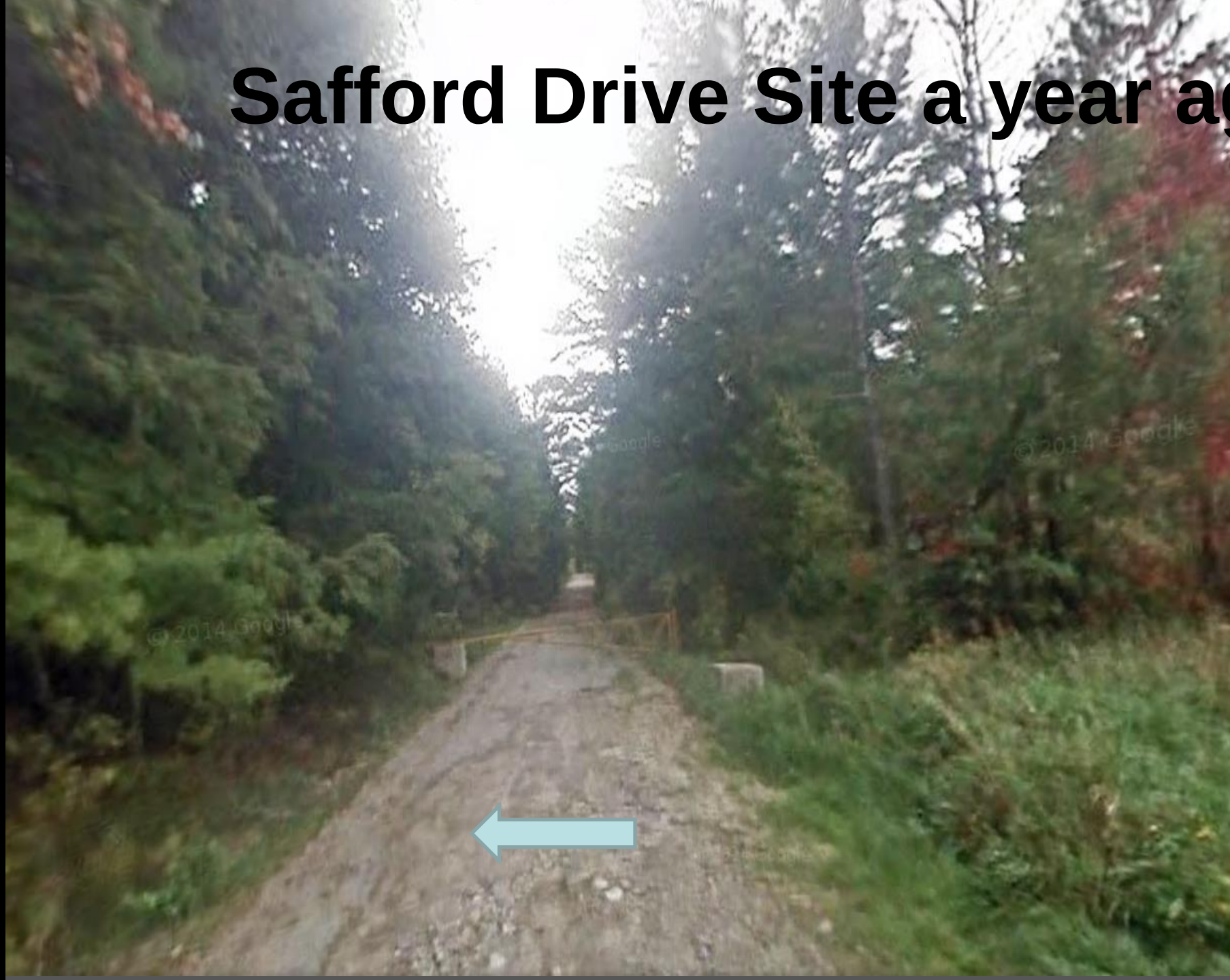
- The Town CIP Committee directed Brickstone to evaluate all parcels located 1 mile south and 1 mile north of the existing Swanzey Center Fire Station.
- Many lots along the route 32 corridor were considered and then rejected for various reasons, primarily availability or acreage.

PROPOSED SITE

Safford Drive Location



Safford Drive Site a year ag



PROPOSED SITE

PROPOSED SITE

Master Plan Continued

Paving the way to the future

PROPOSED SITE

Stafford Drive Today

Stafford Drive Enterprise Zone

In discussing the 2015 goals of the Swanzey Economic Development Advisory Committee, development consultant Stu Arnett stated; "a public safety facility located in the zone is the best amenity we could put up there to attach businesses."

Stafford Drive Land Donation

- The property on Safford Drive is being donated by Keene resident John G. Burk.
- The donation is conditional on the town passing the bond to construct the fire station at that location.
- Mr. Burk has also donated the land that allowed the town to construct Safford Drive extension to Route 12.

Proposed Site

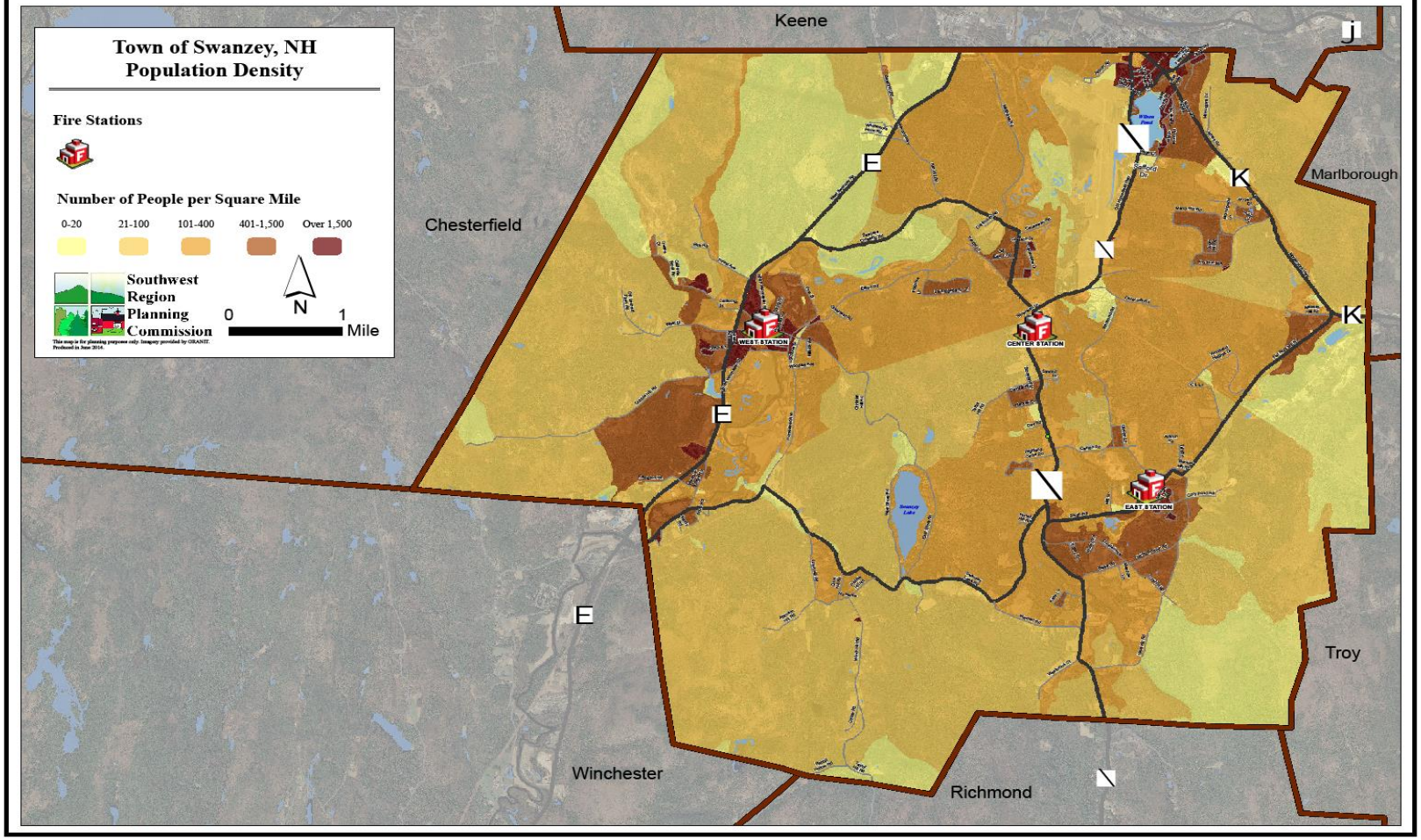
PROPOSED SITE

The Right Location

- Located within the busiest response district in the town, accounting for 40% of all emergency calls fire and EMS.
- Quick Access to major highways and connecting routes leading to other districts within the town – 12, 32, 10, Flat Roof, Eaton, Swanzey Lake and more.
- Advantageous to navigating around covered bridges.
- Proximity to major target hazards.

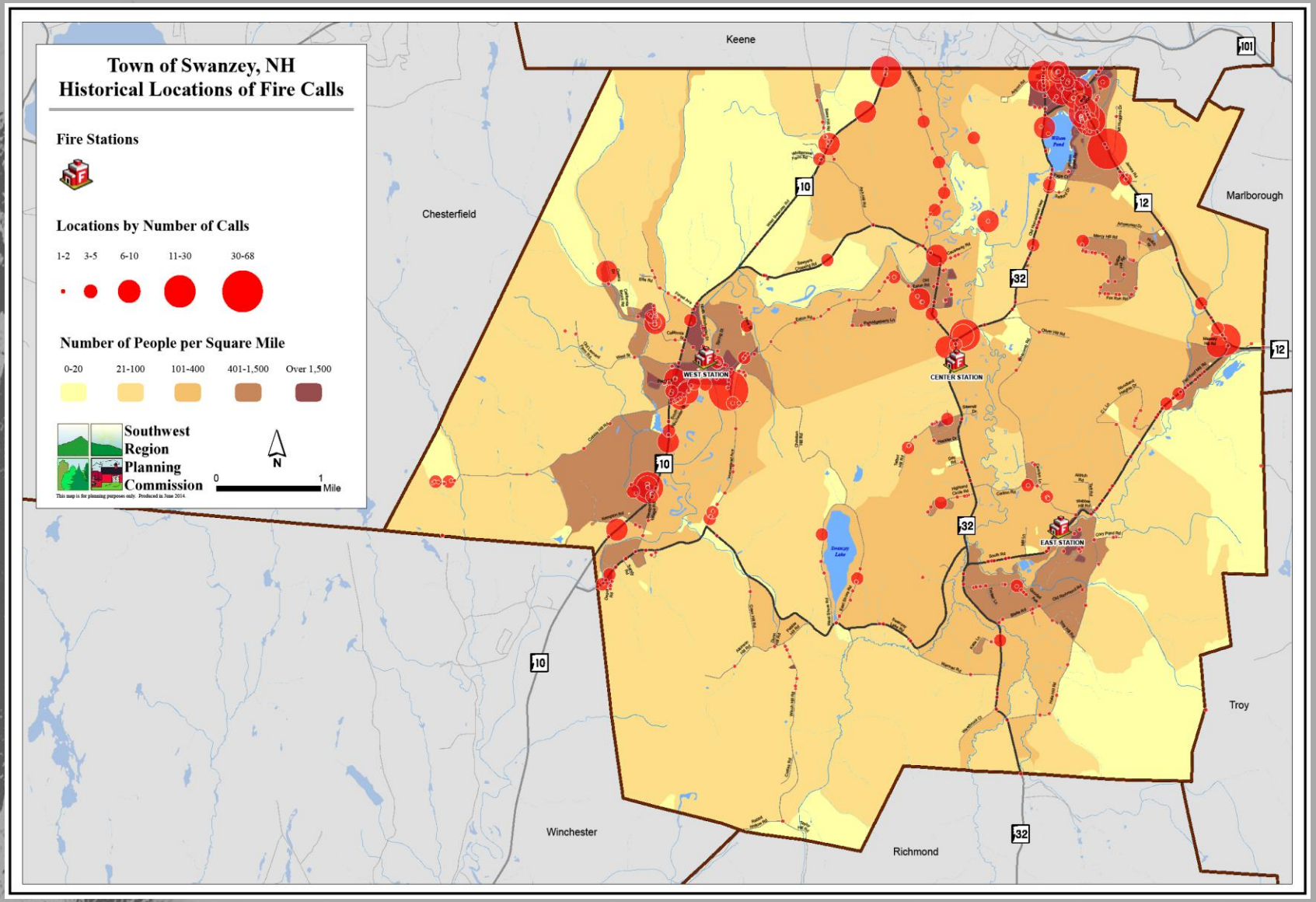
Population Density

PROPOSED SITE



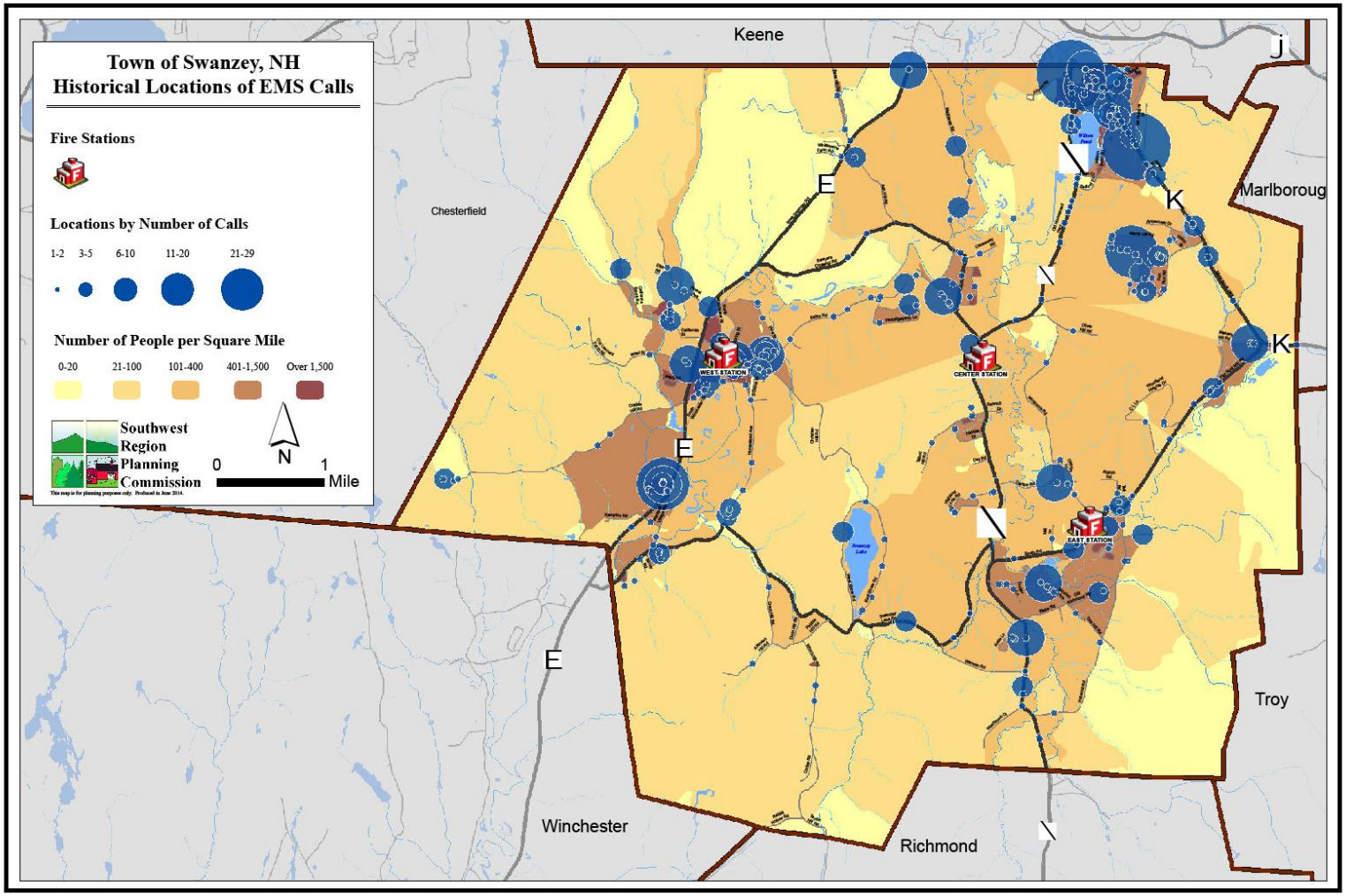
Historical Location of Fire Calls

PROPOSED SITE



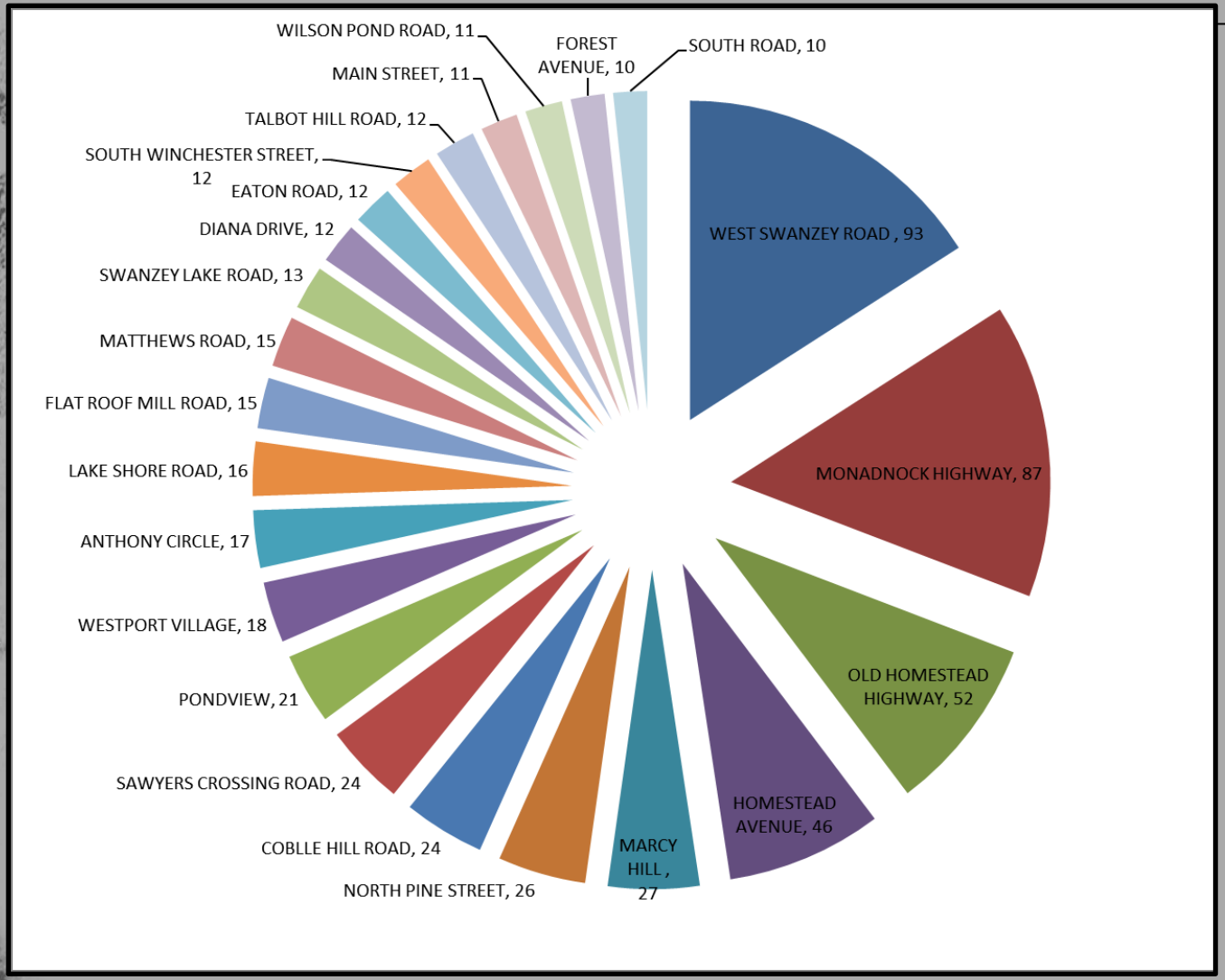
Historical Locations of EMS Calls

PROPOSED SITE



Swanzey Calls by Street

PROPOSED SITE



Fire Station Planning

Cost & Next Steps

Cost Forecast from Swanzey Municipal Study – 9/15/14

Building Construction	$3,919,100
Contingency	$ 117,573
Land Expense	$ 42,000
Professional Fees	$ 431,910
Miscellaneous Cost	$ 23,500
Bond Cost	$ 7,000
Furniture, Fixtures & Equipment	$60,000
Total	$4,858,918

Bonding The Fire Station

"Earning today is a quarter of one percent on all the money the Town has set aside. If the public says "save up" for a new facility, the answer is that given inflation the Town is going backward in that regard, not gaining. Bittel said that this is a good time to utilize bonds, technically paying zero interest when you take into account inflation."

Steve Bittel, Chairman Trustees of the Trust Funds, Town of Swanzey.
Selectmen's meeting minutes November 17, 2014

How will the town pay for the project ?

Estimated Revenues to pay for the project :

Future Fire Station Capital Reserve	$ 390,000
Proposed Grants	$50,000
Proposed Bond	$ 4,500,000

Thank You For Attending Today's Presentation