

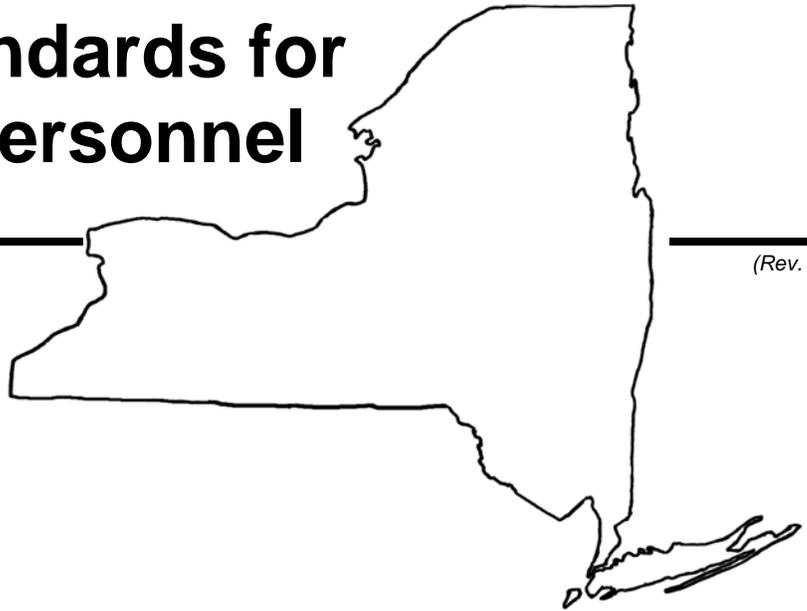
APPENDICES

- ❑ National Fire Protection Association.
 - NFPA 1720: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Volunteer Fire Departments.
 - NFPA 1201: Standard for Providing Emergency Services to the Public.
 - NFPA 1500: Standard on Fire Department Occupational Safety and Health Program.
 - NFPA 1581: Standard on Fire Department Infection Control Program.
- ❑ *Minimum Standards for Firefighting Personnel in the State of New York.* NYCRR Part 426, New York State Division of Homeland Security and Emergency Services. Office of Fire Prevention and Control.
- ❑ NIOSH Alert: *Preventing Fire Fighter Fatalities Due to Heart Attacks and Other Sudden Cardiovascular Events* (Publication No. 2007-133).
- ❑ *FA168 Safety and Health Considerations for the Design of Fire and Emergency Medical Services Stations.* Federal Emergency Management Agency, United States Fire Administration.
- ❑ FEMA Federal Emergency Management Agency. NIMS National Incident Management System. Emergency Management / Response Personnel Preparedness.
- ❑ Adirondack Daily Enterprise Press Releases for Tupper Lake Fire Department Community Forums: 2/21/12 and 4/30/12.
- ❑ Public Flyers for Tupper Lake Fire Department Community Forums: 2/22/12, 5/8/12 and 9/25/12.
- ❑ Tupper Lake Fire Department, Feasibility Study Committee Meeting Minutes: 1/31/12, 2/22/12, 3/14/12, 4/17/12, 5/8/12, 5/29/12, 6/19/12, 7/10/12, 8/21/12 and 9/11/12.
- ❑ Tupper Lake Fire Department, Feasibility Study Committee Community Forum Powerpoint Presentations, including Exit Polls: 1/17/12, 2/22/12 and 5/8/12.

Minimum Standards for Firefighting Personnel

NYCRR Part 426

(Rev. 9/08)



State of New York
*Firefighting and Code Enforcement Personnel
Standards and Education Commission*

New York State Division of Homeland Security and Emergency Services
Office of Fire Prevention and Control

PART 426

Minimum Standards for Firefighting Personnel in the State of New York

(Statutory Authority, Section 159-d)

Section

426.1	Purpose
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§ 426.1 Purpose.

The purpose of this Part is to establish uniform minimum State training standards designed to increase competency and reliability of fire service personnel; improve and expand the professional training available to paid fire service personnel by developing uniform minimum standards for basic, in-service, advanced in-service and promotional supervisory training programs, with emphasis on proper subject content and better instruction; encourage the active participation of local governments in the fire service training standards process; develop training criteria that will enhance each local government's fire prevention and life safety activities.

§426.2 Standards for certification of fire training programs.

(a) Fire training programs may be certified in four areas: basic fire training, in-service fire training, advanced in-service fire training, and promotional/supervisory training.

(b) To receive certification, a basic fire training program shall be certified by the State Fire Administrator and shall:

- (1) contain subject matter that meets or exceeds the knowledge/skill content criteria prescribed by section 426.6 of this Part;
- (2) meet or exceed the minimum hours of instruction prescribed in section 426.6 of this Part;
- (3) be conducted by instructors certified by the State Fire Administrator;

(4) be conducted at facilities and with equipment complying with section 426.3 of this Part; and

(5) provide a recordkeeping system that will attest to the fact that the student has completed the required number of hours of this Part, and has attained that level of performance established by the municipality for its firefighting personnel.

© To receive certification, an in-service fire training program shall be certified by the State Fire Administrator and shall:

(1) contain subject matter that meets or exceeds the knowledge/skill content criteria prescribed by section 426.7 of this Part;

(2) meet or exceed the minimum hours of instruction prescribed in section 426.7 of this Part;

(3) be conducted by instructors certified by the State Fire Administrator;

(4) be conducted at facilities and with equipment complying with section 426.3 of this Part; and

(5) provide a recordkeeping system that will attest to the fact that the student has completed the number of hours required by this Part, and has attained that level of performance established by the municipality for its firefighting personnel.

(d) To receive certification, an advanced in-service training program shall be certified by the State Fire Administrator and shall:

(1) contain subject matter that meets or exceeds the knowledge/skill content criteria prescribed by section 426.8 of this Part;

- (2) meet or exceed the minimum hours of instruction prescribed in section 426.8 of this Part;
- (3) be conducted by instructors certified by the State Fire Administrator;
- (4) be conducted at facilities and with equipment complying with section 426.3 of this Part; and
- (5) provide a recordkeeping system that will attest to the fact that the student has completed the number of hours required by this Part, and has attained that level of performance established by the municipality for its firefighting personnel.

(e) To receive certification, a promotional supervisory training program shall be certified by the State Fire Administrator and shall:

- (1) contain subject matter that meets or exceeds the knowledge/skill content criteria prescribed by section 426.9 of this Part;
- (2) meet or exceed the minimum hours of instruction prescribed in section 426.9 of this Part;
- (3) be conducted by instructors certified by the State Fire Administrator;
- (4) be conducted at facilities and with equipment complying with section 426.3 of this Part; and
- (5) provide a recordkeeping system that will attest to the fact that the student has completed the number of hours required by this Part, and has attained that level of performance established by the municipality for its firefighting personnel.

§426.3 Facilities and equipment required for fire training programs.

(a) The facilities and equipment prescribed in this section need only be provided where specific training tasks require. Any facility or item of equipment available to the municipality, and which meets the intent of this section, may be utilized.

(b) Facilities and equipment required for conducting fire training programs shall include:

- (1) a tower or similar structure not less than two stories in height, and suitable for use with ladders and rescue equipment, which permits the raising and lowering of hose lines and other equipment;
- (2) facilities which allow forcible entry and ventilation drills, including a means of practicing on doors, windows, roofs, floors, ceilings and partitions (such

- components may be included in a structure to be burned as part of the training if not a part of the regular training complex);
- (3) hydrant and/or drafting facilities of sufficient capacity to accomplish minimum training requirements;
- (4) facilities for live fire training that will, where required, permit the use of breathing apparatus in an enclosed structure, flammable liquid firefighting, liquid propane and natural gas firefighting, and automobile firefighting;
- (5) classroom with adequate lighting, heating, plumbing, ventilation and seating facilities;
- (6) pumper, ladder and other necessary apparatus in proper operating condition, suitably equipped, to accomplish the minimum training required;
- (7) extinguishers, ropes, ladders, nozzles, tools, appliances and such other equipment deemed necessary for fulfilling minimum training requirements; and
- (8) representative demand, oxygen-generating or other self-contained breathing apparatus, in sufficient numbers to enable use by firefighters engaged in training evolutions where hazardous atmospheres are encountered.

§426.4 Minimum qualifications for instructor certification.

(a) There shall be two categories of instructor certification: standard and special standard certification shall be further subdivided into level I and level II.

(b) To receive standard certification—level I, a fire instructor shall:

- (1) have three years experience as a firefighter;
- (2) be assigned instructor responsibilities by the chief fire official of the entity offering training;
- (3) possess the physical ability to carry out instruction assignments; and
- (4) complete the following courses of study:

(I) Firefighting Essentials; or	39 hrs.
(ii) Basic Firefighter; and	42 hrs.
Initial Fire Attack; or	18 hrs.
(iii) Intermediate Firefighter; and	36 hrs.
Pump Operator or Ladder Company Operations; and	18 hrs.

- Preparing for Command; and 24 hrs.
- Educational Methodology 1; or 40 hrs.
- (iv) Fire Service Instructor 1; or 48 hrs.
- (v) Training Officer Workshop levels I and II; or 24 hrs.
- (vi) Fire Service Instructor II 40 hrs.

(5) complete in lieu of the knowledge/skill criteria prescribed in paragraph (4) of this subdivision, equivalent topics completed while attending the New York State Field Delivery Courses, Firefighting Essentials; Initial Fire Attack; Pump Operator Course or Ladder Company Operations; Preparing for Command; Educational Methodology; or Training Officer Workshop level I and II;

(6) complete in lieu of the knowledge/skill criteria prescribed in paragraph (4) of this subdivision, equivalent topics while attending federally-sponsored courses or recognized college level courses, provided such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance.

© To receive standard certification—level II, a fire instructor shall:

- (1) fulfill the requirements for standard certification—level I; and
- (2) complete one of the following courses of study that were not utilized to gain level I certification:
 - (I) Training Officer Workshop levels I and II; or 24 hrs.
 - (ii) Educational Methodology 1; or 40 hrs.
 - (iii) Fire Service Instructor 1; or 48 hrs.
 - (iv) Fire Service Instructor 11 40 hrs.

(3) complete in lieu of the knowledge/skill criteria prescribed in paragraph (b)(4) of this section equivalent topics completed while attending the New York State Fire Academy courses, Training Officer Workshop level I and II and Educational Methodology;

(4) complete in lieu of the knowledge/skill criteria prescribed in paragraph (b)(4) of this section equivalent topics while attending federally-sponsored courses or recognized college level courses, provided such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance.

(d) To receive special certification, fire instructors shall:

- (1) have special skills, knowledge or abilities which qualify them to teach designated subjects relating to their special field; and
- (2) submit application for special certification to the State Fire Administrator by the chief fire official of the entity offering training.

§426.5 Basic training, time completion requirements.

Temporary, probationary and nonpermanent firefighters scheduled to be on duty an average of more than 20 hours per week shall successfully complete a certified basic training program within 18 months of initial appointment. Temporary, probationary and nonpermanent firefighters scheduled to be on duty an average of between 10 and 20 hours per week shall successfully complete a certified basic training program within 24 months of initial appointment. Temporary, probationary and nonpermanent firefighters scheduled to be on duty an average of less than 10 hours per week shall successfully complete a certified basic training program within 36 months of initial appointment. Training may be suspended during periods of nonservice, but all periods of service shall be counted toward the fulfillment of the applicable requirement.

§426.6 Minimum basic fire training for probationary and nonpermanent firefighters.

(a) Minimum basic fire training for probationary and nonpermanent firefighters shall consist of a minimum of 229 hours in approved courses.

(b) Satisfactory completion of a basic training shall include a “candidate physical ability test” as specified in this Part.

© The courses shall be as set forth herein, with content at least equivalent to that found in appropriate sections of the New York State fire training courses and shall be conducted for the minimum times specified herein, section, or until the indicated performance objective has been accomplished and measured by the chief of the fire department or his or her designee. Referenced performance objectives may be found in subdivision (h) of this section. (The employing agency

may, and is encouraged to, offer additional training above the minimums stipulated herein.)

(1) Local fire department rules, regulations, standard operating policies or procedures, communications systems, policies for receiving both personal and official phone calls, procedures to initiate an emergency response, general duties other than those covered in training for emergency operations and response.

There are no hours established for this training, compliance is required.

(2) Firefighting Skills. The firefighter shall demonstrate appropriate knowledge, skills, or abilities in the following areas: (75 hrs.)

(I) don and doff firefighter protective equipment including SCBA;

(ii) tie the following knots:

* Bowline

* Clove hitch

* Figure eight on a bight

* Half hitch

* Becket or sheet bend

* Other appropriate safety knots as used by the AHJ;

(iii) select appropriate rope and knot to lift selected equipment;

(iv) use SCBA for emergency operations, demonstrate emergency operation procedures, changing of air bottles and proper procedures for returning the unit to service;

(v) safely mount apparatus, demonstrate the ability to utilize seat belts, and safely dismount apparatus of the AHJ;

(vi) demonstrate forcible entry procedures utilizing available forcible entry tools;

(vii) working as a member of a team, explain the procedure to exit a hazardous area before exhausting the air supply;

(viii) demonstrate the ability to work individually and as a team member to raise, extend, lower, climb and safely work from various size ground and roof ladders while utilizing a leg lock or ladder belt on appropriate ladders;

(ix) working as a team, demonstrate the ability to safely approach and extinguish a vehicle fire, correctly identify flammable liquids and safely overhaul the vehicle fire in all compartments;

(x) working as a team, when given fires in stacks, piles, unattached structures, or storage containers that can be fought from the exterior, extinguish exterior class A materials utilizing appropriate water application procedures and while protecting exposures;

(xi) working as a team under obscured conditions, conduct a search and rescue of the structure, properly utilize tools appropriate for this task, and remove victims from the structure to an area of safe refuge;

(xii) working as a team when given ladders, attack lines, and forcible entry tools effectively, utilize water application procedures to extinguish a class A fire and demonstrate the ability to safely search for hidden fires in a structure;

(xiii) working as a team when given appropriate ladders, tools and equipment; demonstrate the ability to safely perform horizontal ventilation;

(xiv) working as a team when given appropriate ladders, tools and equipment; demonstrate the ability to safely perform vertical ventilation so as not to compromise the integrity of the structural elements and demonstrate the ability to safely retreat to an area of safe refuge;

(xv) demonstrate the ability to perform overhaul of a fire scene so as not to compromise the integrity of the structure, expose all hidden fires, preserve fire cause evidence and extinguish all fires;

(xvi) working as a team; and provided with adequate salvage equipment; demonstrate the ability to protect the building and contents from further damage;

(xvii) working as a team when given appropriate hose and appliances; demonstrate the ability to connect a pumper to a water supply (hydrant or static source) so that all connections are water tight and water flow is unobstructed;

(xviii) demonstrate the ability to select and utilize fire extinguishers to effectively extinguish a Class A, B and C fire;

(xix) demonstrate the ability to utilize electrical tools and equipment as assigned to effectively illuminate an emergency scene while following the equipment manufacturer's published safety precautions;

(xx) demonstrate the ability to utilize tools provided to shut off a building's utilities in a safe manner;

(xxi) working as a team member when given appropriate protective equipment, attack lines and tools to combat a ground cover fire so that threats to property are reported, threats to personal safety are identified and retreat procedures are accomplished;

(xxii) demonstrate the ability to perform a fire safety survey in a private dwelling, complete appropriate forms identifying life-safety hazards, make appropriate recommendations to correct hazards and demonstrate the procedure to refer unresolved issues to the appropriate command officer;

(xxiii) demonstrate the ability to clean and check equipment for operational or safety defects and record the procedure. At a minimum the process should be used on the following equipment: SCBA, ropes, ventilation equipment, salvage equipment, hand tools and fire hose;

(xxiv) describe the fire department's incident management system, the process of assuming and transferring command and applicable safety provisions utilized in the command system;

(xxv) demonstrate the ability to implement command and function within the command structure when assigned a role within the incident management system;

(xxvi) complete a basic incident report utilized by the AHJ that is accurate, complete and captures pertinent incident information;

(xxvii) be able to communicate team status reports and the need for assistance using the department communication system and the SOP's of the AHJ;

(xxviii) working as a team demonstrate the ability to safely extinguish an ignitable liquid fire using personal protective equipment, attack lines, foam proportioning equipment and concentrate, along with a water supply, to insure that there is no reignition and demonstrate a safe retreat to a safe haven;

(xxix) working as a team, coordinate the use of an interior attack line(s) to safely accomplish a tactical assignment for a structure while main-

taining team integrity and demonstrating the following:

- * appropriate attack procedures are utilized for the specific assignment or level of fire involvement;

- * communicate attack procedures to team members;

- * maintain team coordination;

- * fire growth is constantly monitored and evaluated;

- * search, rescue, ventilation and other operational requirements are communicated to appropriate individuals or managed;

- * hazards are reported to attack teams;

- * incident Commander is advised of changing conditions;

(xxx) working as a team, safely control a flammable gas cylinder fire outside a structure so that crew integrity is maintained, contents are identified, safe havens are identified, open valves are closed and flames are not extinguished unless leaking gas is eliminated and a safe retreat from the cylinder is provided for;

(xxxi) preserve evidence of fire cause and origin so that the evidence is properly noted and protected from further disturbance;

(xxxii) working as a team, extricate a victim from a vehicle while performing vehicle stabilization, disentanglement, while other hazards are safely managed;

(xxxiii) when assigned to assist with special rescue operations be able to recognize and identify appropriate rescue tools and operate within the AHJ's standard operating procedures for special rescue operations;

(xxxiv) prepare a preincident survey form with the identification of the occupancy, items of concern for an emergency response and appropriate sketches or diagrams prepared;

(xxxv) maintain power tools, power plants, lighting equipment and other power devices to the manufacturer's recommendations as well as appropriate department guidelines;

(xxxvi) demonstrate the ability to test the flow from a fire hydrant and calculate the flow correctly when given appropriate tools and equip-

- ment while insuring that all aspects of the hydrant are operable;
- (xxxvii) successfully complete a test on the knowledge, skills or abilities covered in subparagraphs (i)-(xxxvi) of this paragraph.
- (3) Fire Prevention. (24 hrs.)
- (i) Code enforcement practices and organization.
 - (ii) Occupancy classifications and hazard recognition.
 - (iii) Building construction and structural design criteria.
 - (iv) Building systems.
 - (v) Construction site safety and portable equipment.
 - (vi) Fixed fire safety systems and portable equipment.
 - (vii) Plans review and building specifications.
 - (viii) Code interpretation and application.
 - (ix) Use of code manual and reference standards.
 - (x) Code enforcement administration.
 - (xi) Successfully complete a test on the knowledge, skills or abilities covered in subparagraphs (i)-(x) of this paragraph.
- (4) Ladder Operations. (18 hrs.)
- (i) Ladder company functions and equipment carried on aerial devices.
 - (ii) Ground ladders and practical application.
 - (iii) Theory of aerial device operation/demonstration of equipment.
 - (iv) Practical operations with aerial devices.
 - (v) Aerial device master stream operation and hose line operation from ladders.
 - (vi) Ladder company practical evolutions.
 - (vii) Successfully complete a test on the knowledge, skills or abilities covered in subparagraphs (i)-(vi) of this paragraph.
- (5) Pump Operation. (18 hrs.)
- (i) Responsibilities of the pump operator.
 - (ii) Pump components.
 - (iii) Hydraulics.
 - (iv) Water supplies.
 - (v) Producing fire streams.
 - (vi) Practical evolutions.
 - (vii) Successfully complete a test on the knowledge, skills or abilities covered in subparagraphs (i)-(vi) of this paragraph.
- (6) Basic Wildland Fire Suppression. (9 hrs.)
- (i) Responsible parties for wildland suppression activities in New York State.
 - (ii) Fire behavior factors.
 - (iii) Wildland fire elements and size up.
 - (iv) Use of tools and equipment.
 - (v) Securing the fire control lines.
 - (vi) Strengthening fire control lines.
 - (vii) Standards for safe operations.
 - (viii) Successfully complete a test on the knowledge, skills or abilities covered in subparagraphs (i)-(vii) of this paragraph.
- (7) Rescue Operations. (21 hrs.)
- (i) Introduction to specialized rescue operations.
 - (ii) Rescue ICS, Psychology and rescue equipment.
 - (iii) Low angle rope rescue.
 - (iv) Low angle rescue practical skill application.
 - (v) Building collapse, trench and confined space operations.
 - (vi) Ladder rescue systems, elevator and machinery rescue.
 - (vii) Ice and water rescue and electrical emergencies.
 - (viii) Successfully complete a test on knowledge, skills or abilities covered in subparagraphs (i)-(vii) of this paragraph.
- (8) Hazardous Materials First Responder Awareness and Operations. (16 hrs.)
- (i) Detect the presence of a hazardous material for both fixed facilities and transportation modes.
 - (ii) Describe how to survey the hazardous materials incident from a safe distance and critical observations to be considered.
 - (iii) Describe procedures for collecting hazard information.
 - (iv) Describe the procedures to initiate protective actions at the awareness level.

(v) Identify the procedures to initiate the notification process when faced with a potential hazardous materials incident.

(vi) Survey the hazardous materials incident to detect the presence of a liquid, gas, or solid material capable of injuring people, property or the environment.

(vii) Identify cargo tanks normally utilized to transport hazardous materials.

(viii) Describe the process of utilizing product information to identify characteristics of materials, health risks, and hazard information when provided with the following:

- * Material Safety Data Sheets
- * Placards or labels
- * Physical and chemical characteristics of the material(s)
- * Signs and symptoms of victims.

(ix) Describe the process of contacting CHEMTREC and the type of information they can provide to the first responder.

(x) Describe potential harm from a hazardous material, container or exposures when provided with incident information.

(xi) When given a hazardous materials scenario, describe the appropriate tactical objectives appropriate for the operations level and describe procedures for the following:

- * Defensive options
- * Appropriate personal protective equipment
- * Emergency decontamination procedures.

(xii) Describe appropriate scene control measures including recommended isolation distances.

(xiii) Describe the procedures for implementing the incident command system for the AHJ at a hazardous materials incident.

(xiv) Identify what personal protective equipment should be worn or utilized and describe the risk of harm from the following areas when given a hazardous materials scenario:

- * Thermal
- * Radiological
- * Asphyxiation
- * Chemical

* Etiological

* Mechanical.

(xv) When given a hazardous materials scenario describe appropriate defensive actions to control the incident including the use of firefighting foams for fire suppression and/or for vapor control.

(xvi) When given a scenario describe the procedure used to perform the following functions at the operations level:

- * Absorption
- * Damming
- * Diking
- * Dilution
- * Diversion
- * Retention
- * Vapor suppression
- * Vapor dispersion.

(xvii) Successfully complete a test on the knowledge, skills or abilities covered in subparagraphs (i)-(xvi) of this paragraph.

(9) Auto Accident Victim Extrication. (16 hrs.)

(i) Describe the technology of vehicle construction, potential hazardous situations and the rescue life cycle of accident victim extrication.

(ii) Demonstrate the use of hand and power tools utilized to perform auto accident extrication.

(iii) Working as a team demonstrate the ability to perform automobile extrication procedures for a frontal collision, side collision, rear collision and a rollover.

(iv) Successfully complete a test on the knowledge, skills or abilities covered in subparagraphs (i)-(iii) of this paragraph.

(10) First Aid and Cardiovascular Pulmonary Resuscitation. (17 hrs.)

(i) Describe the procedures to conduct patient assessment and determine the highest priority for administering first aid.

(ii) Describe and demonstrate the procedures to stop bleeding.

(iii) Describe and demonstrate the procedures to immobilize suspected critical injuries and broken bones.

(iv) Describe and demonstrate the procedures to obtain an open airway.

(v) Describe and demonstrate the ability to perform Cardiovascular Pulmonary Resuscitation.

(vi) Successfully complete a test on the knowledge, skills, or abilities covered in subparagraphs (i)-(v) of this paragraph.

(11) Incident Command System. (12 hrs.)

(i) Describe the development process of a nationally recognized incident management system.

(ii) Describe incident command and command staff functions.

(iii) Describe incident command general staff functions.

(iv) When given a scenario apply the incident command system to the incident and identify the following:

* Positions to be staffed

* The need to establish branch, group or functional areas and identify who they would report to

* What the responsibilities of each position staffed are and who they report to.

(v) Successfully complete a test on the knowledge, skills or abilities covered in subparagraphs (i)-(iv) of this paragraph.

(12) Candidate Physical Ability Test. There are no hours established for this element, compliance is required.

(i) Firefighter shall complete the candidate physical ability test within 10 minutes and 20 seconds after starting the first station.

(ii) Firefighter shall wear a 50 pound vest to simulate the weight of a self-contained breathing apparatus and firefighter protective clothing for the entire test and an additional 25 pounds while performing the stair climb to simulate the weight of a high-rise hose pack.

(iii) After a 20 second warm-up period on the step mill the candidate at a stepping rate of 60 steps per minute shall walk continuously for three minutes. Should the candidate fall or stumble during the warm-up period a second warm-up period shall be permitted.

(iv) The candidate places up to 8' of a 200 foot length of 1¾" double jacketed hose (50' lengths) over their shoulder, drags the hose 75 feet to a pre-positioned drum, makes a 90 degree turn around the drum, and continues dragging the hose an additional 25 feet stopping in a marked box 5' by 7' at which point they position themselves on one knee and pull 50 feet of hose line.

(v) The candidate removes two saws (one at a time) from a tool compartment and places them on the ground and then picks up both saws (one in each hand) and while walking carries them 75 feet around a drum and back to the starting point (tool compartment) where they are placed back into the tool compartment one at a time.

(vi) The candidate, when given a 24' extension ladder with the butt end placed against a solid object an appropriate distance from a solid wall, shall walk from the base of the ladder to its tip, lift the tip of the ladder from the ground, walk the ladder toward the base hand-over-hand one rung (not on side rails) at a time until the ladder passes a vertical position and rests against the wall and then the candidate will move to the adjacent ladder permanently attached to the wall and while standing in a marked area 36" by 36" at the base of the stationary ladder use the hal-yard to extend the fly section its entire length (until it contacts the stops) hand-over-hand and then lower the fly section hand-over-hand to the original starting position.

(vii) The candidate, when given a 10 pound sledge hammer, pounds the forcible entry machine in the striking area until the plunger of the device is driven to its prescribed position at which time a buzzer will sound and then the sledge hammer is placed on the ground.

(viii) The candidate, when provided with a search and rescue tunnel maze 3 feet high, 4 feet wide, 64 feet long, encompassing two 90 degree turns and a number obstacles that require the candidate to navigate around, over and under them, will traverse the entire length of the tunnel exiting the opposite end.

(ix) The candidate, when given a 165 pound mannequin, will grasp the mannequin by the handle at the shoulder of the harness (one hand or two may be used), drag the mannequin 35 feet

to a pre-positioned drum, make a 180 degree turn and continue an additional 35 feet to the finish line.

(x) The candidate will remove a pike pole from its brackets, stand within the established boundary, place the tip of the pike pole on the painted area of the push up hinged door in the ceiling, using the pike pole fully push up the door three times, change the pike pole to the hook of the hinged pull down door and pull it down five times, repeat this process for a total of four repetitions.

(xi) The starting point of each test station is 85 feet from the finish point of the previous station and the test is conducted sequentially from subparagraph (iii) to (x) of this paragraph.

(xii) The test equipment and evaluation instruments shall meet the performance requirements of the Fire Service Joint Labor Management Wellness/Fitness Initiative titled "Candidate Physical Ability Test" of the International Association of Firefighter's and the International Association of Fire Chief's copyrighted 1999 and identified as International Standard Book Number 0-942920-41-4 which is incorporated herein by reference.

(xiii) Equipment used to conduct the candidate physical ability test shall be approved by the State Fire Administrator and shall meet the intent of the equipment described in subparagraphs (ii) through (x) of this paragraph.

(xiv) If test equipment is not available to the employer of the basic fire training candidate to conduct the evaluation, the State Fire Administrator, upon a written request with appropriate justification, may issue an exemption to the candidate physical ability test required by this subparagraph. The exemption granted by State Fire Administrator must specify the name of each basic fire training candidate exempted from this requirement.

(xv) Upon written request, with appropriate justification, the State Fire Administrator may approve a modified version of the equipment used to conduct the test described in this subparagraph.

(13) Health and Wellness (1 hr.)

(i) Describe health and wellness issues including proper nutrition; physical fitness; the importance of proper PPE use in protecting health and wellness; the common causes, indications, risk factors, and impact of job related stress; and the nature, availability, and benefits of peer counseling programs.

(ii) Training materials utilized for health and wellness training shall include, at a minimum, materials approved by the State Fire Administrator.

(d) In lieu of the knowledge/skills criteria prescribed in subdivision © of this section, equivalent topics completed while attending these New York State fire training courses plus the topics to be completed on the local level shall be deemed as fulfilling the minimum basic training subject requirements found in paragraphs (c)(2) through (c)(ii) of this section in addition to successfully competing the requirements of paragraphs (c)(1) and (c)(12) of this section.

FIREFIGHTER RECRUIT CLASS II (prerequisite FOR CLASS I)

Firefighting Essentials

Initial Fire Attack

Fire Behavior and Arson Awareness

or the following in lieu of the above courses:

Basic Firefighter training

Intermediate Firefighter training

Advanced Firefighter training

FIREFIGHTER RECRUIT CLASS I (prerequisite for FIREFIGHTER)

Ladder Company Operations

Pump Operator

Emergency Control of Hazardous Materials Incidents I or Hazardous Materials First Responder Operations

Accident Victim Extrication Training

FIREFIGHTER

Grass, Brush, and Forest Firefighting or Basic Wildland Fire Suppression

Rescue Skills and Techniques or Rescue Operations

Standard First Aid or equivalent*

Cardiopulmonary Resuscitation*

Incident Command System

Inspection of Existing Structures

*Indicates training which must be accomplished at the local level.

(e) In lieu of the knowledge/skill criteria prescribed in subdivision © of this section, equivalent topics completed during the course of a United States Department of Labor/International Association of Fire Fighters Fire Fighter Apprenticeship Training Program shall be deemed as fulfilling minimum basic training subject requirements.

(f) Minimum basic fire training shall include a physical fitness program designed to develop and maintain the physical fitness necessary to perform the duties of a firefighter.

(g) Firefighter candidates that have obtained certification for a particular requirement of this section from a recognized competency certification system as deemed appropriate by the State Fire Administrator may apply the certification toward the appropriate portion of the training curriculum listed in subdivision © of this section. In addition the candidates must meet the provisions of paragraphs (c)(1) and (c)(12) of this section.

(h) In lieu of the knowledge/skill criteria prescribed in paragraphs (c)(2) through (c)(11) of this section the successful achievement of performance objectives paragraphs (1) through (26) of this subdivision, successful completion of training as identified in paragraph (c)(1) of this section and successful completion of the candidate physical ability test paragraph (c)(12) of this section shall be deemed as fulfilling minimum training objective requirements of subdivision © of this section. The evaluation system used by the fire chief to determine a candidate's successful achievement of the performance objectives must be reviewed and approved by the State Fire Administrator. Students who have been evaluated by an approved evaluation system may apply for certification under this section. Firefighter candidates that have obtained certification for a particular area under a recognized competency certification system approved by the State Fire Administrator, upon proof of successful completion, may apply the certification toward the appropriate portion of the training curriculum listed in subdivision © of this section. In addition the candidates must meet the provisions of paragraphs (c)(1) and (c)(12) of this section. The following table refers to course manuals available on

request from the Office of the State Fire Administrator to develop competency in the performance of objectives listed in this Part. As used in the provisions of this subdivision, the abbreviation for each manual relates each particular performance objective to the content of the relevant manual.

Aircraft Fire and Rescue (AFR)
Accident Victim Extrication Training (AVET)
Title 49, Code of Federal Regulations (49 CFR)
Cause and Origin Determination (COD)
Emergency Control of Hazardous Materials
Incidents I (ECHMI I)
Emergency Control of Hazardous Materials
Incidents II (ECHMI II)
Fire Behavior and Arson Awareness (FBAA)
Firefighting Essentials (FE)
Fire Reporting Workshop (FRW)
Grass, Brush and Forest Firefighting (GBFF)
Inspection of Existing Structures (IES)
Initial Fire Attack (IFA)
Ladder Company Operations (LCO)
Pump Operator (PO)
Rescue Skills and Techniques (RST)
Standard First Aid (SFA)
Incident Command (IC)
Basic Wildland Fire Suppression (BWFS)
Cardiovascular Pulmonary Resuscitation (CPR)

(1) Fire protection and organization.

(i) The student firefighter shall demonstrate a knowledge of the organization of the department by: drawing an organizational chart as listed in the fire department's handbook, and listing by name and rank each member of the department who is above the rank of district and/or battalion chief who is in charge of a specific fire department staff function (FE-1.3-1 - 1.3-5).

(ii) The student firefighter shall demonstrate knowledge as to the size of the department, the scope of its operation and the standard operational procedures by: listing the number of personnel, separated by rank, assigned to each division, bureau, section, district and unit as listed in the fire department's handbook; listing the duties and responsibilities of each division and bureau as listed in the fire department rules

and regulations; and listing the identification and location of each unit of the department, separated by districts in numerical order, as listed in the fire department's handbook (FE-1.3-2 1.3-5).

(iii) The student firefighter shall demonstrate a knowledge of the fire department rules and regulations by verbally and/or in writing answering questions relative to departmental rules and regulations that apply to the position of firefighter. These questions will include: conduct both on and off duty; hours of duty; reporting of injury or illness; reporting the loss or theft of official equipment; care and use of departmental property; proper use and care of protective clothing and uniforms; vacation and sick leave; days off; flag regulations; funeral procedures; disciplinary actions and procedures; appeals; written and oral reports; equal employment opportunity policies; court attendance and testimony; meritorious service and incentive awards; overtime compensation and holidays; apprenticeship standards; union information; pensions; and callback procedures (FE-1.3-1-1.3-5).

(2) Fire behavior.

(i) The student firefighter shall, verbally and/or in writing, explain fire behavior, including the chemistry of fire, flame spread, flashover, phase of burning, classes of fire and heat transfer (FE-1.2, FBAA-2.1, IES-7).

(ii) The student firefighter shall verbally and/or in writing explain principles involved in the chemistry of fire and its extinguishment (FE-1.2, IES-7).

(iii) The student firefighter shall verbally and/or in writing explain at least eight precautions to follow while advancing hose lines to a fire (AFR-3, IFA-4).

(iv) The student firefighter shall verbally and/or in writing identify the characteristics of given types of fire streams (PO-5).

(3) Extinguishers.

(i) Given the necessary equipment, the student firefighter shall verbally identify and explain the foam making appliances used by the department and demonstrate by actual performance the proper method of producing and applying a foam stream from each (AFR-3.6, FE-1.2, PO-A.1).

(ii) The student firefighter shall verbally and/or in writing identify and explain the classification of types of fires as they relate to the use of portable extinguishers (FE-1.2).

(iii) Given a group of fire extinguishers, each of which is appropriate for a different class of fire, the student firefighter shall demonstrate by actual performance the proper use of each type of extinguisher (FE-1.2).

(iv) The student firefighter shall verbally and/or in writing identify and explain the various fire suppression agents (AFR-3.6, FE-1.2).

(4) Fire prevention.

(i) The student firefighter shall verbally and/or in writing explain the common causes of fires and their prevention (FE-13.2).

(ii) The student firefighter shall verbally and/or in writing explain the fire inspection procedures established by the department and demonstrate by actual performance the fire inspection procedures as prescribed by the department for at least two occupancy classification types (IES-6).

(iii) The student firefighter shall, verbally and/or in writing, both describe and demonstrate by actual performance the dwelling inspection procedures established and prescribed by the department (FE-13.2).

(iv) The student firefighter shall verbally identify common fire hazards and make recommendations for their corrections (IES-5).

(v) The student firefighter shall verbally and/or in writing describe the action to be taken as required by the department whenever fire hazards or suspected fire hazards are encountered during inspections (IES-5, 14, 17).

(vi) The student firefighter shall verbally explain the fire hazards commonly found in manufacturing, commercial, residential and public assembly occupancies (IES-5, 14, 17).

(vii) The student firefighter shall verbally and/or in writing identify and explain local code requirements covering the proper storage and use of flammable liquids and gases (IES-16).

(viii) The student firefighter shall verbally and/or in writing describe the importance of public

relations relative to the fire department's inspection programs (FE-13.2, IES-3).

(ix) The student firefighter shall verbally explain the life safety programs for the home as specified by the department (FE-13.2, IES-8).

(x) The student firefighter shall verbally and/or in writing explain the principal types of building construction as defined in the New York State Uniform Fire Prevention and Building Code (IES-6).

(xi) The student firefighter shall verbally and/or in writing describe the general fire behavior expected with each type of building construction, including the spread of fire and the safety of the building occupants and firefighters (IES-6).

(xii) The student firefighter shall verbally and/or in writing identify and describe standard types of chimneys and flues, including an explanation of deficiencies likely to cause fires in such equipment (IES-15).

(xiii) The student firefighter shall verbally and/or in writing demonstrate knowledge of spread of fire through air conditioning and utility ducts, including an explanation and identification of the functions of automatic and manual controls of such systems (IES-15).

(xiv) The student firefighter shall verbally and/or in writing explain the common deficiencies in electrical services and appliances (IES-15).

(xv) The student firefighter shall verbally and/or in writing identify and explain storage codes and practices contributing to fire safety in buildings, including proper piling, aisles, clearances, access to fire equipment and exits (IES-16).

(xvi) The student firefighter shall verbally and/or in writing identify and explain local code requirements covering the proper storage and use of flammable liquids and gases (ECHMI I-2.4, IES-16).

(xvii) The student firefighter shall verbally and/or in writing identify and explain recommendations of proper outside storage and how it affects firefighting, including aisles, roadways, access to hydrants and buildings, exposure hazards and dangers for firefighting personnel (ECHMI I-2.4, IES-16).

(xviii) The student firefighter shall prepare diagrams or sketches to record the locations of items of concern during pre-fire planning operations (IES-14).

(xix) Given various assignments, the student firefighter shall submit proper inspection reports as required by the department (IES-5, 14).

(xx) The student firefighter shall verbally and/or in writing explain the local and State fire codes concerning subjects to be noted in fire company inspections (IES-5).

(5) Personal safety and protective equipment.

(i) The student firefighter shall verbally and/or in writing identify and explain dangerous building conditions created by fire or disaster and the precautions prescribed by the department to protect other firefighters (FE-2.1).

(ii) Given symbols used to designate hazardous materials and areas, the student firefighter shall verbally and/or in writing identify each and explain the precautions that firefighters are expected to observe and follow in such areas (ECHMI I-1.2, IES-16).

(iii) Given the necessary equipment and simulated conditions, the student firefighter shall demonstrate by actual performance and verbal explanation the safety procedures to be followed in the use of all equipment and apparatus that the firefighter may be called upon to use (FE-2.1).

(iv) Given each type of protective breathing apparatus used by the department, the student firefighter shall demonstrate by actual performance the donning of each mask while wearing protective clothing (FE-2.2).

(v) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the procedures to remove debris, rubble and other materials found at a cave-in (RST-1).

(vi) Given simulated situations, the student firefighter shall verbally and/or in writing describe procedures for protection when trapped or disoriented in a fire situation or hostile environment (FE-4.1).

(vii) The student firefighter shall verbally and/or in writing name at least four hazardous respira-

tory environments encountered in firefighting (FE-2.2).

(viii) Given the necessary equipment and simulated conditions, the student firefighter shall demonstrate by actual performance and verbal explanation the correct use of all equipment to be used in electrical emergencies as prescribed by the department (FE-2.1, AVET-1).

(ix) Given the necessary equipment, the student firefighter shall demonstrate by actual performance and explanation, the shutting off of gas service to a building (AVET-1).

(x) Given the necessary equipment, the student firefighter shall demonstrate by actual performance and explanation, the shutting off of electrical service to a building (RST-1).

(xi) Given displays or pictures of doors, windows, roofs, floors and vertical barriers found in structures located in the area protected by the department, the student firefighter shall verbally and/or in writing identify the materials and construction features of each and describe the dangers associated with each in an emergency situation (RST-1, AVET-1).

(xii) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the method and procedure of forcible entry through any door, window, ceiling, roof or vertical barrier specified by the department (FE-9.2, AVET-1).

(xiii) The student firefighter shall: verbally identify the different types of roofs; given the necessary equipment, demonstrate by actual performance the methods used to ventilate each type of roof; and verbally identify the necessary precautions to be taken so as not to destroy the effectiveness of vertical ventilation (IES-6).

(xiv) The student firefighter shall verbally and/or in writing explain the principal types of building construction as defined in the New York State Uniform Fire Prevention and Building Code (IES-6).

(xv) Given each type of protective breathing apparatus used by the department, the student firefighter shall demonstrate the proper use of each by actually wearing the equipment in a dense smoke environment (FE-3.1).

(xvi) Given each type of protective breathing apparatus used by the department, the student firefighter shall verbally and/or in writing explain: the physical requirements of the wearer of the protective breathing apparatus; the limitations of, and the safety features of, the protective breathing apparatus (FE-2.2).

(xvii) Given each type of protective breathing apparatus, the student firefighter shall demonstrate by actual performance and explanation that the apparatus is in a safe condition for immediate use (FE-2.2).

(xviii) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the proper procedure for cleaning and sanitizing each type of breathing apparatus used by the department so that it will be ready for future use (FE-2.2).

(xix) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the correct use of emergency procedures while wearing the prescribed breathing apparatus (FE-3.1).

(xx) Given the necessary equipment, the student firefighter shall demonstrate by actual performance and explanation the operational functions of all types of protective breathing apparatus used by the department (FE-2.2, 3.1).

(xxi) Given each type of breathing apparatus used by the department, the student firefighter shall demonstrate by actual performance and explanation the correct procedure for daily inspection and maintenance of each (FE-2.2).

(xxii) The student firefighter shall verbally explain the principles of operation of the following types of protective breathing apparatus approved for firefighting use: open-circuit-demand using compressed air; open-circuit-pressure-demand using compressed air; closed-circuit using compressed or liquid oxygen; closed-circuit that chemically generates oxygen (FE-2.2).

(xxiii) Given a display of forcible entry tools used by the department, the student firefighter shall: verbally and/or in writing identify and describe the purpose for which each would be used; demonstrate the function of each by actu-

ally using the tool at the scene of an emergency or on teaching aids; and indicate the location where each tool is normally carried on the apparatus by returning the tool to its proper place after use (FE-9.2).

(xxiv) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the proper procedure for cleaning, maintaining and inspecting each available forcible entry tool (FE-9.2).

(xxv) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the opening of various types of windows from both inside and outside, with and without the use of fire department tools (FE-9.2).

(xxvi) Given the necessary equipment and simulated conditions, the student firefighter shall demonstrate by actual performance and verbal explanation the safety procedures to be followed in the use of all equipment and apparatus that the firefighter may be called upon to use (FE-9.2, RST-1, AVET-1).

(6) Ropes and knots.

(i) Given either the name, picture or actual knot (or hitch) used by the department, the student firefighter shall verbally and/or in writing identify it and describe the purpose for which it would be used (FE-5.1, RST-1, AVET-1).

(ii) Given the necessary equipment, the student firefighter shall demonstrate, by actual performance, the proper procedure for inspecting, cleaning, maintaining and storing rope (FE-5.1, RST-1).

(iii) When given a simulated firefighting or rescue task, the student firefighter shall select appropriate size, strength and length of rope for the task (FE-5.2, RST-1, AVET).

(iv) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the use of rope, using approved knots and hitches to tie ladders, hose and other equipment so as to secure them to immovable objects (FE-5.2, RST-1).

(v) Given the proper size and amount of rope, the student firefighter shall demonstrate by actual performance the tying of knots and hitches prescribed by the department (FE-5.2, RST-1).

(vi) Given the proper rope, the student firefighter shall demonstrate by actual performance the bight, loop, round turn and half hitch as used in tying knots and hitches (FE-5.2, RST-1).

(vii) Given the necessary equipment, the student firefighter shall hoist to a height of at least 20 feet each type of forcible entry tool, ground ladder and appliance for which there is an approved tie (FE-5.2).

(viii) The student firefighter shall select and tie a rope between two objects at least 15 feet apart using an approved hitch or knot which will support the weight of a firefighter on the rope (FE-5.2, RST-1).

(ix) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the use of the following rescue tools: shoring blocks; trench jacks; block and tackle; hydraulic jacks; and screw jacks (RST-1, AVET-1).

(x) Given the necessary equipment, the student firefighter shall tie the proper knot on a person to be lowered from a third floor level (RST-1).

(7) Tools and equipment.

(i) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the breaking of window or door glass and the removing of obstructions without harm to himself or others (FE-10.1).

(ii) Given a fire axe, the student firefighter shall demonstrate by actual performance the ventilation of a roof and floor (FE-10.1).

(iii) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the use of all different types of power saws used by the department (FE-10.1).

(iv) Given the necessary resources, the student firefighter shall demonstrate by actual performance the removal of existing roof covers (FE-10.1).

(8) Ground ladder practices.

(i) Given a display of every type and size of ladder used by the department, the student firefighter shall verbally and/or in writing identify and describe the use of each (FE-7.1, LCO-2).

(ii) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the inspection, care and maintenance procedures for all different types of ground and aerial ladders used by the department (FE-7.1, LCO-2).

(iii) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the proper procedure for cleaning ladders (FE-7.1, LCO-2).

(iv) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the inspection, care and maintenance procedures for all different types of ground and aerial ladders used by the department (FE-7.1, LCO-2).

(v) Given the necessary equipment and operating both as an individual and as a member of a team, the student firefighter shall demonstrate by actual performance, ladder carries and raises by one, two, three, four and six persons (FE-7.2, LCO-2).

(vi) Given the necessary equipment and operating both as an individual and as a member of a team, the student firefighter shall raise every type and size of ground ladder used by the department, including: flat raise, beam raise; under an overhead obstruction; auditorium raise; and multiple residence raise (FE-7.2, LCO-2).

(vii) Given the necessary equipment, the student firefighter shall correctly climb the full length of every type of ground and aerial ladder used by the department (FE-7.1, LCO-2).

(viii) Given the necessary equipment, the student firefighter shall correctly climb the full length of every type of ground and aerial ladder used by the department carrying firefighting tools or equipment while ascending and descending the ladder (FE-7.1, LCO-2).

(ix) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the specified department methods of working from ground or aerial ladders with tools and appliances, with and without a life belt (FE-7.1, LCO-2).

(x) Given the necessary equipment and operating both as an individual and as member of a team,

the student firefighter shall demonstrate by actual performance the method of working from a ladder with charged attack lines from a pumper of two different sizes, each of which shall be 1½ inches or larger (FE-7.1, LCO-2).

(xi) Given the necessary equipment and a simulated victim, the student firefighter shall correctly climb the full length of every type of ground and aerial ladder used by the department, and bring an “injured person” down the ladder (FE-7.1, LCO-2).

(9) Hose practices.

(i) Given an approved fire department pumper, the student firefighter shall verbally and/or in writing identify and describe the sizes, types, amounts and use of hose carried on that pumper (FE-6.1).

(ii) Given the necessary equipment and operating both as an individual and as a member of a team, the student firefighter shall advance dry hose lines of two different sizes from a pumper, each of which shall be 1½ inches or larger: into a structure; up a ladder into an upper floor; up an inside stairway to an upper floor; up an outside stairway to an upper floor; down an inside stairway to a lower floor; down an outside stairway to a lower floor; and to an upper floor by hoisting (FE-8.1).

(iii) Given the necessary equipment and operating both as an individual and as a member of a team, the student firefighter shall advance charged attack lines from a pumper of two different sizes, each of which shall be 1½ inches or larger: into a structure; up a ladder through a window into an upper floor; up an inside stairway to an upper floor; up an outside stairway to an upper floor; down an inside stairway to a lower floor; down an outside stairway to a lower floor; and to an upper floor by hoisting (FE-8.1).

(iv) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the connection of fire hose to a hydrant and the operation of fully opening and closing the hydrant (FE-8.1, PO-4).

(v) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the proper procedure for cleaning hose,

couplings and nozzles and inspecting for damage (FE-6.1).

(vi) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the inspection and maintenance of fire hose, couplings and nozzles and recommend replacement or repair as needed (FE-6.1).

(vii) The student firefighter shall verbally and/or in writing describe and explain the proper procedure for conducting an annual service test for fire hose (FE-6.1).

(viii) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the methods of carrying hose into a building to be connected to a standpipe and the methods of advancing a hose line from a standpipe as specified by the department (FE-8).

(ix) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the loading of fire hose on fire apparatus as prescribed by the department and shall verbally explain the purpose of at least three types of hose loads and finishes (FE-8).

(x) Given the necessary equipment, the student firefighter shall demonstrate by actual performance at least three hose rolls as specified by the department (FE-6.4).

(xi) Given the necessary equipment, the student firefighter shall demonstrate by actual performance at least two hose carries as specified by the department (FE-6.4).

(xii) Given the necessary equipment, the student firefighter shall demonstrate by actual performance at least two hose drags as specified by the department (FE-6.4).

(xiii) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the methods for extending a hose line and replacing a burst section as specified by the department (FE-8.1).

(xiv) Given the necessary equipment, the student firefighter shall demonstrate by actual performance all hand hose lays used by the department (FE-6.5).

(10) Forcible entry.

(i) The student firefighter shall verbally explain how to determine the size of an opening for ventilation, how to locate these openings, and the precautions to be taken during ventilation (FE-10.1).

(11) Ventilation.

(i) The student firefighter shall verbally and/or in writing, define the principles of ventilation and explain the advantages and effects of ventilation (FE-10.1).

(ii) The student firefighter shall verbally and/or in writing explain the dangers present and the precautions to be taken in performing ventilation (FE-10.1).

(iii) The student firefighter shall verbally and/or in writing identify and explain the theory of a “backdraft” explosion (FE-10.1).

(12) Rescue.

(i) Given the necessary resources and operating both as an individual and as a member of a team, the student firefighter shall demonstrate by actual performance the removal of injured persons from the immediate hazard by using the prescribed carries and drags (FE-4.1).

(ii) Given the necessary environment and conditions, the student firefighter shall demonstrate by actual performance the procedure of searching for victims in burning, smoke-filled buildings or other hostile environments (FE-4.1).

(iii) The student firefighter shall verbally describe some dangers of search and rescue missions in tunnels, caves, construction sites and other hazardous areas (FE-4.1, RST-1).

(iv) Given the necessary equipment, the student firefighter shall demonstrate by actual performance all of the different types of equipment used by the department for forced ventilation (FE-10.1).

(v) Given the necessary equipment, the student firefighter shall demonstrate by actual performance ventilation using water fog (FE-10.1).

(vi) Given the necessary resources and operating as a member of a team, the student firefighter shall demonstrate by actual performance the extrication of a victim from a vehicular accident (AVET-1).

(13) Salvage and overhaul.

- (i) The student firefighter shall verbally and/or in writing explain the purpose of salvage and its value to the public and the fire department (FE-11.3).
- (ii) Using a salvage cover and working both as an individual and as a member of a team, the student firefighter shall demonstrate by actual performance the folds and/or rolls of salvage covers as prescribed by the department (FE-11.3).
- (iii) Given the necessary equipment and working both as an individual and as a member of a team, the student firefighter shall demonstrate by actual performance salvage cover throws and spreads (FE-11.3).
- (iv) Given the necessary equipment, the student firefighter shall demonstrate by actual performance proper procedures for inspecting, cleaning, maintaining and storing salvage equipment (FE-11.3).
- (v) Given salvage equipment but excluding salvage covers, the student firefighter shall demonstrate by actual performance: removal of debris; removal and routing of water from a structure; and providing temporary protective covering for openings in structures (FE-11.3).
- (vi) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the covering or closing of openings made during firefighting operations (FE-11.3).
- (vii) Given salvage equipment and operating both as an individual and as a member of a team, the student firefighter shall demonstrate by actual performance the construction and use of a water chute (FE-11.3).
- (viii) Given salvage equipment and operating both as an individual and as a member of a team, the student firefighter shall demonstrate by actual performance the construction and use of a water catch-all (FE-11.3).
- (ix) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the fire department procedure for overhaul of a building and its contents (FE-11.3).
- (x) The student firefighter shall demonstrate by actual performance the methods and procedures

used to detect and extinguish hidden fires (FE-11.2).

(14) Communications.

- (i) The student firefighter shall verbally and/or in writing describe the purpose and functioning of all alarm receiving instruments and personnel alerting equipment in the fire station (FE-13.1).
- (ii) Given the necessary resources, the student firefighter shall demonstrate the proper use of radio equipment, both mobile and portable (FE-13.1).
- (iii) Given the necessary equipment, the student firefighter shall demonstrate by actual performance the prescribed fire department radio procedures (FE-13.1).
- (iv) Given the necessary resources, the student firefighter shall demonstrate arrival and situation reports over fire department radios as specified by the department (FE-13.1).
- (v) Given simulated situations, the student firefighter shall verbally and/or in writing explain the correct procedure for a citizen to report a fire or other emergency (FE-13.1).
- (vi) Given various situations, the student firefighter shall demonstrate by actual performance, correctly receiving an alarm or a report of an emergency and initiating proper action (FE-13.1).

(15) Fire pumps.

- (i) The student firefighter shall identify the basic types of pump design and describe the principles of operation of each (PO-1).
- (ii) The student firefighter shall identify and describe the four basic methods of power transfer to the pump and list advantages and disadvantages of each (PO-1).
- (iii) The student firefighter shall describe the different types of priming devices and list the basic principles of the operation of each (PO-1).
- (iv) The student firefighter shall describe the purpose, principles and procedures of operation of relief valves (PO-1).
- (v) The student firefighter shall describe and explain the principles and operation of the governor (PO-1).

- (vi) The student firefighter shall name at least five types of pressure (PO-2).
- (vii) Given the necessary information, the student firefighter shall calculate the friction loss, nozzle pressure and pump pressure for at least five different hose line layouts (PO-2).
- (viii) The student firefighter shall define a fire stream and explain the different uses, sizes and types (PO-5, IFA-2).
- (ix) The student firefighter shall identify the characteristics of all types of fire streams (IFA-2).
- (x) The student firefighter shall define the term “water hammer” and state at least one method for its prevention (PO-1).
- (xi) The student firefighter shall identify four special stream nozzles and demonstrate at least two kinds of those identified (PO-5, IFA-2).
- (xii) The student firefighter shall describe the motor pump operator’s role in hydrant water supply operations (PO-4).
- (xiii) The student firefighter shall identify six factors that may affect a hydrant’s usability (PO-4).
- (xiv) The student firefighter shall identify and explain the two basic types of foam and describe applications for each (PO-A).
- (xv) Given a specific pumper used by his fire department, the student firefighter shall list and explain the types and principles of operation of its various motor, cab and pump controls (PO-1).
- (xvi) The student firefighter shall demonstrate the operation and use of portable fire service pump equipment (PO-3).
- (xvii) The student firefighter shall explain and demonstrate the process of drafting water with fire service pump equipment (PO-3).
- (xviii) The student firefighter shall explain and demonstrate the role and responsibilities of the motor pump operator in relay water supply operations (PO-3).
- (xix) Given the necessary apparatus and operating as a member of a team, the student firefighter operating as the motor pump operator shall successfully operate the necessary equipment

to establish a viable water supply from the following: booster tank; draft; hydrant; tandem pumping operations; portable pumps; and pumper relay operations (PO-4).

(xx) Given the necessary apparatus and operating as a member of a team, the student firefighter operating as the motor pump operator shall successfully produce the following fire streams as directed: initial fire attack lines - 1½ inch, 1¾ inch and 2 inch handling; back-up blitz attack - 2½ inch and multiple lines; master stream - 400 gallons per minute plus flow; elevated master stream - 600 gallons per minute plus flow and 50 foot elevation; and special appliance streams (PO-5, IFA-5, 6).

(xxi) Given the necessary apparatus and operating as a member of a team, the student firefighter operating as the motor pump operator shall successfully conduct a booster tank fireflow test and produce the following information: booster tank capacity in gallons; tank to pump flow capacity in gallons per minute; and duration of tank water with initial preconnect handlines operating at full capacity flow (PO-5).

(16) Aerial ladders and elevated devices.

(i) The student firefighter shall identify each type of ladder, its parts and define its use (FE-7.1, LCO-2, RST-2).

(ii) The student firefighter shall identify the materials used in ladder construction (FE-7.1, LCO-2).

(iii) The student firefighter shall identify the load safety features of all ground and aerial ladders (LCO-2).

(iv) The student firefighter shall identify and explain the basic functions for which a ladder company is responsible, including fire and non-fire situations (LCO-1).

(v) The student firefighter shall name the types of ladder company apparatus, identify and explain the use of required and operational ladder company tools and equipment, including ground ladders (LCO-1).

(vi) The student firefighter shall explain verbally and/or in writing the various safety practices involving aerial ladders (FE-7.1, LCO-3).

- (vii) The student firefighter shall climb the full length of a ground and aerial ladder carrying firefighting tools or equipment while ascending and descending (FE-7.1).
 - (viii) The student firefighter shall climb the full length of a ground and aerial ladder and bring an “injured person” down (FE-7.1).
 - (ix) The student firefighter shall demonstrate the techniques of working from aerial ladders with tools, appliances and hose lines utilizing a safety belt or leg lock, as appropriate (FE-7.1).
- (17) Fire streams and hydraulics.
- (i) The student firefighter shall verbally explain three conditions that result in pressure losses in a hose line (PO-2).
 - (ii) Given a selection of nozzles and tips, the student firefighter shall verbally and/or in writing identify and explain their type, design, operation, nozzle pressure and flow in GPM for proper operation of each (PO-5, IFA-2).
 - (iii) The student firefighter shall verbally and/or in writing define a fire stream (PO-5, IFA-2).
 - (iv) Given the necessary equipment, the student firefighter shall demonstrate by actual performance how to properly open and close a nozzle (PO-5, IFA-2).
 - (v) The student firefighter shall verbally and/or in writing identify the characteristics of given types of fire streams (PO-5, IFA-2).
 - (vi) Given the necessary equipment, the student firefighter shall verbally identify the special stream nozzles and demonstrate by actual performance at least two uses or applications for each (PO-5, IFA-2).
 - (vii) The student firefighter shall verbally identify three observable results that are obtained when the proper application of a fog stream is accomplished (PO-5, IFA-2).
 - (viii) Given the necessary resources, the student firefighter shall verbally identify and physically select and assemble those items required to develop at least three types of fire streams (PO-5, IFA-2).
 - (ix) The student firefighter shall verbally explain the following: “normal operating pressure” of a water distribution system; “residual pressure” of a water distribution system; and “flow- pressure from an opening that is flowing water (PO-2).
 - (x) The student firefighter shall verbally explain the parts of a water distribution system, including distributors and primary and secondary feeders (PO-8).
 - (xi) The student firefighter shall verbally describe and explain dry and wet barrel fire hydrants (PO-8).
 - (xii) The student firefighter shall verbally and/or in writing describe and explain the following types of water main valves: indicating; non-indicating; post indicator; and outside screw and yoke (PO-8).
- (18) Hazardous materials and radiation.
- (i) The student firefighter shall verbally and/or in writing list the classes of hazardous materials as specified in CFR title 49 (ECHMI I-1.2).
 - (ii) The student firefighter shall verbally and/or in writing list at least two properties of each class of hazardous materials and give examples of each (ECHMI I-1.1).
 - (iii) The student firefighter shall verbally and/or in writing identify the class of any hazardous material from its appropriate label and/or placard as specified in CFR title 49 and shall differentiate among the various labels and placards (ECHMI I-1.2).
 - (iv) Given an appropriate problem in a simulated hazardous materials incident, the student firefighter shall effectively use the Emergency Response Guidebook to identify the hazard involved and the corrective action necessary (ECHMI I-1.3).
 - (v) The student firefighter shall verbally and/or in writing describe the NFPA 704M identification system and explain how it is utilized by emergency service personnel (ECHMI I-1.3).
 - (vi) The student firefighter shall verbally and/or in writing identify three additional resource materials available to fire service personnel and demonstrate how to utilize each resource to obtain information (ECHMI I-1.3).
 - (vii) The student firefighter shall explain verbally and/or in writing the actions required during

each phase of fire department response to a hazardous materials incident (ECHMI I-3.2).

(viii) Given the necessary information in a simulated format, the student firefighter shall describe a safe and effective course of action in response to the problem presented by the incident described (ECHMI I-3.2).

(ix) Given case history studies of actual hazardous materials incidents, the student firefighter shall explain the correct and incorrect actions that were taken in dealing with each incident (ECHMI I-4.3).

(x) The student firefighter shall verbally and/or in writing list and define ionizing and non-ionizing radiation (RSF-2).

(xi) The student firefighter shall verbally and/or in writing list and describe all three major factors that determine the amount of radiation exposure at a radiation emergency (RSF-2).

(xii) When considering radiation exposure in humans, the student firefighter shall describe: methods of radiation exposure; signs and symptoms of exposure at various doses; “banking” of radiation; REM and roentgen; “once in lifetime dose”; and protection equipment and exposure prevention measures for fire service personnel (RSF-2).

(xiii) The student firefighter shall identify and describe the role of the fire service in radiation incidents of various magnitudes (RSF-3).

(xiv) Given the necessary radiation detection and monitoring equipment, the student firefighter shall identify, calibrate and operate the following: CDV-700 survey meter; CDV-715; and pocket dosimeter (RSF-3).

(xv) Given the necessary equipment and an actual or simulated radioactive source, the student firefighter shall explain and demonstrate the procedures necessary for radiation detection, monitoring, scene control, incident command and personnel decontamination (RSF-3).

(19) Natural cover firefighting.

(i) The student firefighter shall verbally and/or in writing identify and explain the various factors that influence the behavior of a natural cover fire (GBFF-1).

(ii) The student firefighter shall verbally and/or in writing identify and explain the various types of natural cover fires (GBFF-1).

(iii) The student firefighter shall verbally and/or in writing identify and explain the various types of fuels involved in natural cover fires (GBFF-1).

(iv) The student firefighter shall verbally and/or in writing identify and explain the various factors involved in sizing up a natural cover fire situation (GBFF-2).

(v) The student firefighter shall verbally and/or in writing identify and define the uniform terms used to describe the parts of a forest fire (GBFF-2).

(vi) The student firefighter shall verbally and/or in writing identify the safety hazards associated with: the actual natural cover fire; the terrain that a natural cover fire may involve; and the actual combatting and controlling of natural cover fires (GBFF-2).

(vii) The student firefighter shall explain and demonstrate the standard methods of attacking a natural cover fire (GBFF-2).

(viii) The student firefighter shall identify the correct name and component parts, explain the function, and demonstrate the use of all small hand tools and portable equipment utilized for combatting and controlling natural cover fires (GBFF-2).

(ix) Given a simulated natural cover fire scenario, necessary tools and equipment and working both as an individual and as a member of a fire suppression crew, the student firefighter shall identify, explain and demonstrate incident sizeup, attack plan strategy and fire control tactics necessary to handle the situation (GBFF-3).

(20) First aid.

(i) Using a simulated victim, the student firefighter shall demonstrate by performance and explanation a primary survey for life-threatening injuries (SFA).

(ii) Using a simulated victim, the student firefighter shall demonstrate by performance and explanation, procedures for determining whether a victim has an open airway (SFA).

(iii) Using available teaching aids, the student firefighter shall demonstrate by simulation and explanation, procedures for establishing an open airway in a non-breathing person without special resuscitation equipment (SFA).

(iv) Using available teaching aids, the student firefighter shall demonstrate by actual performance ventilation using mouth-to-mask resuscitation (SFA).

(v) Using available teaching aids, the student firefighter shall demonstrate by actual performance, bag valve mask and/or positive pressure ventilation (SFA).

(vi) The student firefighter shall verbally and/or in writing explain the signs of cardiac arrest (SFA, CPR).

(vii) Using available teaching aids, the student firefighter shall demonstrate by actual performance cardiopulmonary resuscitation (SFA, CPR).

(viii) The student firefighter shall verbally and/or in writing identify three types of external bleeding and describe the characteristics of each (SFA).

(ix) Using a simulated victim, the student firefighter shall demonstrate by actual performance and explanation, the techniques for controlling external bleeding (SFA).

(x) The student firefighter shall verbally and/or in writing explain four sources from which information might be gathered pertaining to the nature of an accident victim's injuries (FE-4.2, SFA).

(xi) Given specified situations, the student firefighter shall verbally and/or in writing explain what injuries might be suspected from observation of the injury-producing mechanisms in addition to those obvious injuries (FE-4.2, SFA).

(xii) Given a simulated victim, the student firefighter shall conduct a secondary survey for other-than-life-threatening injuries (SFA).

(xiii) The student firefighter shall verbally and/or in writing explain the symptoms of internal bleeding (SFA).

(xiv) The student firefighter shall verbally and/or in writing explain proper emergency care for a

person with known or suspected internal bleeding (SFA).

(xv) The student firefighter shall verbally and/or in writing list the classes of thermal burns according to severity and explain the physical characteristics of each class (SFA).

(xvi) Given specified situations, the student firefighter shall verbally and/or in writing explain the emergency care procedure indicated and the significance of each step (FE-4.2, SFA).

(xvii) The student firefighter shall verbally and/or in writing explain the emergency care for chemical burns, including those of the eyes (SFA).

(xviii) The student firefighter shall, verbally and/or in writing, identify the types of fractures and describe their differences (FE-4.2, SFA).

(xix) The student firefighter shall verbally and/or in writing identify the general signs and symptoms of fractures (FE-4.2, SFA).

(xx) Given an identified fracture and a simulated victim, the student firefighter shall demonstrate by actual performance, proper emergency care in transporting the victim (SFA).

(xxi) The student firefighter shall demonstrate by actual performance and verbal explanation the anatomical process of breathing (SFA).

(xxii) The student firefighter shall verbally and/or in writing explain the heart-lung-brain relationship as it affects life and what occurs when an airway obstruction is not corrected (SFA).

(xxiii) Using available teaching aids and operating as a member of a team, the student firefighter shall demonstrate by actual performance, cardiopulmonary resuscitation employing the two-person technique (SFA, CPR).

(xxiv) The student firefighter shall verbally and/or in writing describe the symptoms of shock (FE-4.2, SFA).

(xxv) Given a simulated victim, the student firefighter shall demonstrate by actual performance how to treat traumatic shock (FE-4.2, SFA).

(21) [*Reserved*]

- (22) Arson cause and origin investigation.
- (i) The student firefighter shall verbally and/or in writing explain the responsibilities in determining the point of origin, cause and protection of evidence in fires of a suspicious nature (FBAA-1, 2, 3, 4).
- (23) Incident Command System (ICS).
- (i) The student firefighter shall identify the need for an organized approach to management of emergency incidents (IC-1).
 - (ii) The student firefighter shall describe the factors that affect emergency management and list the components of an emergency management system (IC-1).
 - (iii) The student firefighter shall identify the responsibilities of the incident commander and the command staff positions (IC-2).
 - (iv) The student firefighter shall describe the logical expansion of the Incident Command System and the interrelationship of the various elements and functions (IC-2).
 - (v) The student firefighter shall apply the Incident Command System to various incident scenarios (IC-3).
 - (vi) The student firefighter shall define and explain responsibilities of operations, planning, logistics and finance as functions within ICS (IC-4).
 - (vii) The student firefighter shall demonstrate the ability to use the major functions of ICS through a structured small group activity (IC-5).
 - (viii) The student firefighter shall be able to apply ICS principles to emergency scenarios of various sizes, types and complexities (IC-6).
- (24) Prefire, disaster and master planning.
- (i) The student firefighter shall verbally and/or in writing describe the need for pre-incident planning (ECHMI I-3.1).
 - (ii) The student firefighter shall verbally and/or in writing list the seven steps in developing a master emergency plan (ECHMI I-3.1).
- (25) Tactics and strategy.
- (i) When provided with a real or simulated situation, the student firefighter shall demonstrate

by actual performance the assuming of command of a fireground function in the absence of a required officer (IFA, IC).

- (ii) When provided with the necessary equipment, the student firefighter shall by demonstration launch an attack on both a class “A” and a class “B” fire (IFA).

- (26) Apparatus driving, operation and maintenance.
- (i) The student firefighter shall verbally and/or in writing describe the rules and regulations that govern the safe operation of fire apparatus in the various responses (Local Program).
 - (ii) The student firefighter shall verbally describe the procedure for placement and set-up for engine and ladder companies at first-due alarms (Local Program).
 - (iii) The student firefighter shall verbally describe and demonstrate the pre-fire and post-fire maintenance required for department apparatus (Local Program).

§426.7 In-service fire training.

(a) Permanently appointed firefighters and fire officers normally assigned to command company operations at emergencies shall annually receive a minimum of 100 contact hours of in- service training in the following subject areas:

- | | | |
|-----|---|-----------|
| (1) | FIRE PROTECTION AND ORGANIZATION | (1½ hrs.) |
| | Training programs overview
Firefighter duties and training
Responsibilities
Fire department organizational structure
Personnel policies | |
| (2) | FIRE BEHAVIOR | (3 hrs.) |
| | Fire chemistry and physics
Electricity and the firefighter | |
| (3) | EXTINGUISHERS | (1 hr.) |
| | Extinguisher ratings and operation
Extinguisher hazards and care | |
| (4) | FIRE PREVENTION | (6 hrs.) |
| | Fire cause
Public education
Public relations
Building construction and fire loading | |

	Occupancy classifications		Salvage operations—cover use and water removal
	Inspection policies and procedures		Purpose of overhaul
(5)	PERSONAL SAFETY AND PROTECTIVE EQUIPMENT*	(13 hrs.)	Overhaul techniques—locating hidden fire, preserving evidence and restoring premises
	Fire service occupational hazards		(14) COMMUNICATIONS
	Emergency response and scene safety		(1½ hrs.)
	Protective clothing care		Structure and use of communications net works—transmitting procedures and logging requirements
	Breathing apparatus — donning, wearing, care and maintenance		Visual/touch and communication signals
	Building/structural collapse		(15) FIRE PUMPS
	* Training in topics in this category is required annually. No substitutions allowed.		(1½ hrs.)
			Factors in pumping
			Pump controls and accessories
(6)	ROPES AND KNOTS	(2½ hrs.)	(16) AERIAL LADDERS AND ELEVATED DEVICES
	Rope care		(1½ hrs.)
	Knots and proper tying		Ladder company operations and equipment
	Rope/knot variation		(17) FIRE STREAMS AND HYDRAULICS
(7)	TOOLS AND EQUIPMENT	(9 hrs.)	(4½ hrs.)
	Identification and location		Fire stream and friction loss calculation
	Tools-devices-equipment application and safe use, care and maintenance		Producing fire streams
(8)	GROUND LADDER PRACTICES	(4 hrs.)	(18) HAZARDOUS MATERIALS AND RADIATION
	Ladder construction and uses		(4½ hrs.)
	Ladder maintenance		Classification of hazardous materials
	Carrying, raising and climbing ladders		L.P. and natural gas incidents
			Chemical emergencies
			Radiation accidents
(9)	HOSE PRACTICES	(3 hrs.)	(19) NATURAL COVER FIREFIGHTING
	Hose loads, finishes and carries		(1½ hrs.)
	Hose equipment/appliance uses		Natural cover fire behavior
	Hose care and maintenance		Natural cover fire control techniques
(10)	FORCIBLE ENTRY	(1½ hrs.)	(20) FIRST AID
	Methods and procedures		(5 hrs.)
			Principles of first aid—C.P.R.
(11)	VENTILATION	(3 hrs.)	(21) ARSON—CAUSE AND ORIGIN INVESTIGATION
	Behavior of smoke and gases		(2 hrs.)
	Ventilation principles		Detection and preservation of evidence
	Ventilation size-up and methods		(22) DETECTION, NOTIFICATION AND SUPPRESSION SYSTEMS
	Forced/mechanical ventilation		(2 hrs.)
(12)	RESCUE	(6 hrs.)	Sprinkler system operations
	Rescue functions		Standpipe operations
	Search and rescue techniques		Alarm system operations
	Handling electrical emergencies		(23) APPARATUS—DRIVING, OPERATION AND MAINTENANCE
	Victim handling		(16½ hrs.)
	Accident victim extrication—motor vehicles, elevators and collapsed structures		Regulations regarding operation
			Preventative maintenance procedures
(13)	SALVAGE AND OVERHAUL	(6 hrs.)	(24) HEALTH AND WELLNESS
	Purpose of salvage activities		(1 hr.)

(i) Annual in-service training shall include a minimum of one hour addressing health and wellness topics including proper nutrition; physical fitness; the importance of proper PPE use in protecting health and wellness; the common causes, indications, risk factors, and impact of job related stress; and the nature, availability, and common benefits of peer counseling programs.

(25) **OPTIONAL** (up to 40 hours)
ALTERNATIVES**

- (i) Hydrant locations and special information
- (ii) Hydrant inspection and testing
- (iii) Water systems and fire flows
- (iv) Water systems and local conditions
- (v) Hazardous materials and their locations
- (vi) Preplanning for life hazards
- (vii) Preplanning for conflagrations/heavy fire
- (viii) Critique of recent operations
- (ix) Disaster planning
- (x) Certified first responder

** Courses in the "Optional Alternatives" category may be substituted for courses in any other category except those designated with a single asterisk (*), so long as the 100-hour annual requirement is maintained. However, no particular course may be substituted for in any two consecutive years.

(b) Personnel on special assignment on either a permanent or temporary basis, as a mechanic, special fire prevention officer, public education officer, fire marshal or in other similar positions, or who are disabled due to illness or injury, or who are serving as elected public officials or in positions of authority arising from labor-management contractual obligations shall not be required to complete the recommended in-service training requirements of this section during such period of assignment, disability or service.

§426.8 Advanced in-service training.

(a) Firefighting personnel demonstrating minimum technical expertise in specialized knowledge/skills areas established by this section may acquire certification in such advanced specialty. Personnel engaged in similar technical activities but representing nonfire-related fields of endeavor may receive and

continue to maintain specific certification when, in the judgment of the State Fire Administrator, their experience and training meets or exceeds the requirement of these standards.

(b) To receive Investigator I certification, a person shall have:

(1) been designated by the authority having jurisdiction or employing agency to fulfill the duties associated with the fire investigation function;

(2) performed 30 hours of cause and origin determination verified in a format approved by the State Fire Administrator:

(i) the 30 hours of fire investigation activity shall occur after the completion date of the required Fire Investigator Level I training courses;

(ii) a maximum of 10 hours per investigation shall be credited towards the completion of the 30 hour investigation requirement; and

(iii) the 30 hours of fire investigation shall be in the area of origin and cause determination in connection with the responsibilities of the fire chief pursuant to General Municipal Law 204-d.

(3) successfully completed a minimum of 36 hours of advanced training in the following subject areas:

(i) Introduction to Fire Behavior (3 hrs.)
and Arson Awareness
Scope of the arson problem

(ii) Concepts and Behavior of Fire (3 hrs.)
Basic fire concepts
Normal fire behavior

(iii) Fire Scene Observations (3 hrs.)
Observational skills

(iv) Fire Scene Preservation (3 hrs.)
Preserving the fire scene

(v) Fire Language (2 hrs.)
Chemistry and physics of fire
Fire language and terminology

(vi) Building Construction (2 hrs.)
Five basic types of building construction
Fire loads
Sprinkler systems

Special built-in extinguishing systems
Safety considerations for fire investigation

(vii) Point of Origin (4 hrs.)
Fire scene examination

- Determining point of origin
- Fire overhaul
- Identification of “V” patterns
- Determine fire travel
- (viii) Determining Fire Causes (4 hrs.)
 - Types of fire causes
 - Fire cause relationships
 - Major accidental fire causes
- (ix) Motives for Incendiarism (4 hrs.)
 - Common motives
 - Firefighter/fire setter
 - Physical indicators of incendiary fires
- (x) Vehicle Fires (1.5 hrs.)
 - Factors effecting cause of vehicle fires
 - Incendiary vehicle fires
 - Vehicle fire investigation process
- (xi) Legal Aspects of Fire Investigation(1 hr.)
 - New York State Penal Law pertaining to arson
 - New York State Law pertaining to burn injury reporting
 - Obtaining convictions based on arson
 - Court decisions relating to fire investigation
- (xii) Fatal Fires (1 hr.)
 - Fire scene security
 - Removal of fire victims
 - Terminology of fire death causes
 - Characteristics of fire victim’s bodies
- (xiii) Fire Scene Documentation (1 hr.)
 - Photographic techniques
 - Sketching the fire scene
 - New York State incident reports
- (xiv) Fire Scene Evidence (30 min.)
 - Types of evidence
 - Legal considerations for evidence collection
- (xv) Fire Investigation Resources (30 min.)
 - Government resources
 - Special resources
 - Resource management (ICS)
- (xvi) Practical Exercise (2 hrs. 30 min.)
 - Exercise with visual aids of fire scene investigation
 - Skill demonstration

(xvii) Successfully complete a test of knowledge, skills or abilities covered in subparagraphs (i) through (xv) of this subdivision.

(4) completed, in lieu of the knowledge/skill criteria prescribed in paragraph (3) of this subdivision, equivalent topics completed while attending the New York State Fire Training Courses (Fire Behavior and Arson Awareness—12 hours). (Principles of Fire Investigation—24 hours), which shall be deemed as fulfilling minimum Fire Investigator I subject requirements;

(5) in lieu of the knowledge/skills criteria prescribed in subparagraphs (3)(i) through (xvi) of this subdivision, equivalent topics completed while attending federally sponsored courses or recognized college-level courses may fulfill the training requirements, provided such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance; and

(6) maintained the physical fitness commensurate to perform the duties of Fire Investigator I.

© To receive Fire Investigator II certification, a person shall have:

(1) been designated by the authority having jurisdiction or employing agency to fulfill the duties associated with the fire investigation function;

(2) a current Fire Investigator I certification and have performed a minimum of 50 hours of fire investigation activity verified in a format approved by the State Administrator:

(i) the 50 hours of fire investigation activity shall be in addition to the 30 hours required for Fire Investigator Level I certification, and shall occur after the completion date of the required Fire Investigator Level II training courses;

(ii) a maximum of 10 hours per investigation shall be credited toward the completion of the 50 hour investigation hour requirement; and

(iii) the 50 hours of investigation shall include origin and cause determination activities. Such activities must include fires that have been determined to be incendiary in nature and involve skills associated with evidence collection, scene

documentation, interviewing, and report preparation for court testimony.

(3) successfully completed a minimum of 80 hours of advanced training in the following subject areas:

- (i) Behavior of Fire (1.5 hrs.)
- (ii) Building Construction (1.5 hrs.)
- (iii) Points of Origin (2 hrs.)
- (iv) Accidental Fire Cause (3.5 hrs.)
- (v) Incendiary Fire Causes (5 hrs.)
- (vi) Basis of Insurance (2 hrs.)
- (vii) Incendiary Motives (3.5 hrs.)
- (viii) Photography (3.5 hrs.)
- (ix) Michigan vs. Tyler Study (1 hr.)
- (x) Fire Scene Examination (3.5 hrs.)
- (xi) Wild Land & Nonresidential Rural Fires (1.5 hrs.)
- (xii) Vehicle Fires (2 hrs.)
- (xiii) Fatal Fires (2 hrs.)
- (xiv) Explosives (2.5 hrs.)
- (xv) Sketching (1 hr.)
- (xvi) Incendiaries (2 hrs.)
- (xvii) Legal Aspects (3 hrs.)
- (xviii) Report Writing (2 hrs.)
- (xix) Legal Films (2 hrs.)
- (xx) Evidence Collection (3.5 hrs.)
- (xxi) Interviews and Interrogation (3 hrs.)
- (xxii) Practical Exercises (8 hrs.)
- (xxiii) Case Preparations (7 hrs.)
- (xxiv) Courtroom Testimony and Procedures (4 hrs.)
- (xxv) Gas Chromatograph, Polygraph, Psychological Stress Evaluation and Other Fire Investigation Support Equipment (4.5 hrs.)
- (xxvi) Written Examinations (5 hrs.)

(4) completed, in lieu of the knowledge/skill criteria prescribed in paragraph (3) of this subdivision, equivalent topics completed while attending the New York State Fire Academy Course (Fire Investigation 80 hours), which shall be deemed as fulfilling minimum Fire Investigator II subject requirements;

(5) completed, in lieu of the knowledge/skill criteria prescribed in paragraph (3) of this subdivision, equivalent topics while attending federally sponsored courses or recognized college-level courses, provided such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance; and

(6) maintained the physical fitness commensurate to perform the duties of Fire Investigator II.

(d) For continuance of Fire Investigator I and Fire Investigator II certification, it will be necessary to annually complete six hours of refresher training or a minimum of 20 hours of Fire Investigation Activity.

(e) To receive Hazardous Materials First Responder Operations certification, a person shall have:

(1) been designated by the jurisdiction or employing agency to fulfill the duties associated with the hazardous materials first responder operations function;

(2) submitted documentation from the Municipal Training Officer or Chief Fire Official of the member's jurisdiction or employing agency that training in the Local Emergency Response Plan and Incident Command System has been provided;

(3) successfully complete a minimum of 16 hours of advanced hazardous materials training in the following topics:

(i) Scope of the problem; classification of hazardous materials; clues to hazardous materials presence; and information resources. (3 hrs.)

(ii) Highway transport; rail transport; water, air, pipeline transport; fixed facilities; local emergency response planning; site specific\premergency planning. (4 hrs.)

(iii) Response to hazardous materials incidents; incident management; personal protective equipment; safety. (3 hrs.)

(iv) Pesticides; hazardous materials control; decontamination; termination. (3 hrs.)

(v) New hazards; case histories; student workshop. (3 hrs.)

(vi) Successfully complete a test of knowledge, skills, or abilities covered in subparagraphs (i) through (v) of this paragraph.

(4) successfully completed a minimum of 16 hours of advanced rescue/extrication training that demonstrates practical methods of evaluation and tool selection/utilization in rescue situations; which include the following topics:

(i) Vehicle rescue systems theory; downed utility wires, catalytic converters; energy absorbing bumper systems; fuel tanks and fuel systems; passenger restraints; front suspension systems; split-rim wheels (heavy vehicles); drive shafts; and vehicle rescue life cycle. (4 hrs.)

(ii) Tools; power tools; hand tools for pulling, pushing, prying, raising and cutting; also stabilizing with blocks, jacks, winches and ropes; gaining access to injured and/or incapacitated entrapped individuals from within, under vehicles, by opening roofs, floors, doors, sides and windows; and how to effect disentanglement. (4 hrs.)

(iii) Practical exercise utilizing all available tools and equipment in a variety of rescue simulations. (4 hrs.)

(iv) Incident assessment with rescue activity in classroom/field exercises and evaluations. (4 hrs.)

(v) Successfully complete a test of knowledge, skills, or abilities covered in subparagraphs (i) through (iv) of this paragraph.

(5) received, in lieu of paragraphs (3) and (4) of this subdivision, a Hazardous Materials Responder Level I certification;

(6) completed, in lieu of the knowledge/skill criteria prescribed in this subdivision, equivalent topics while attending the New York State Fire Training Courses (Hazardous Materials First Responder Operations - 16 hours or Emergency Control of Hazardous Materials Incidents I - 16 hours); (Accident Victim Extrication Training - 16 hours) which shall be

deemed as fulfilling minimum Hazardous Materials First Responder Operations subject requirements;

(7) completed, in lieu of the knowledge/skill criteria prescribed in this subdivision, equivalent topics while attending federally sponsored courses or recognized college-level courses, provided, such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance; and

(8) maintained the physical fitness commensurate to perform the duties of Hazardous Materials First Responder Operations.

(f) Continuance of a Hazardous Materials First Responder Operations certification shall require the designee to receive and document annual refresher training of sufficient content and duration as to maintain competence, or, in the alternative, to demonstrate competence in required knowledge and skills at least yearly, in which case a record of the methodology of such demonstration shall be kept by the designee or his or her jurisdiction or employing agency.

(g) To receive Hazardous Materials Technician certification, a person shall have:

(1) been designated by the jurisdiction or employing agency to fulfill the duties associated with the Hazardous Materials Technician functions;

(2) submitted documentation from the Municipal Training Officer or Chief Fire Official of the member's jurisdiction or employing agency, that training in the Local Emergency Response Plan and Incident Command System has been provided;

(3) a current Hazardous Materials First Responder Operations certification;

(4) completed a minimum of 24 hours of advanced hazardous materials training in the following topics:

(i) Introduction to hazardous materials; chemistry and toxicology; information resources. (4 hrs.)

(ii) Hazardous chemicals; detection equipment; respiratory protection. (4 hrs.)

(iii) Personal protective equipment; decontamination. (4 hrs.)

(iv) Confinement; containment; safety. (4 hrs.)

- (v) Incident management; termination; special hazards. (4 hrs.)
 - (vi) Workshops; exercises. (4 hrs.)
 - (vii) Successfully complete a test of knowledge, skills, or abilities covered in subparagraphs (i) through (vi) of this paragraph.
- (5) received, in lieu of paragraphs (3) and (4) of this subdivision, Hazardous Materials Responder Level II certification;
- (6) completed, in lieu of the knowledge/skill criteria prescribed in this subdivision, equivalent topics while attending the New York State Fire Training Courses (Hazardous Materials Technician - 24 hours or Emergency Control of Hazardous Materials II - 24 hours), which shall be deemed as fulfilling minimum Hazardous Materials Technician subject requirements;
- (7) completed, in lieu of the knowledge/skill criteria prescribed in this subdivision, equivalent topics while attending federally sponsored courses or recognized college-level courses; provided such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance; and
- (8) maintained the physical fitness commensurate to perform the duties of Hazardous Materials Technician.
- (h) Continuance of a Hazardous Materials Technician certification shall require the designee to receive and document annual refresher training of sufficient content and duration as to maintain competence, or, in the alternative, to demonstrate competence in required knowledge and skills at least yearly, in which case a record of the methodology of such demonstration shall be kept by the designee or his or her jurisdiction or employing agency.

(i) To receive Hazardous Materials Specialist certification, a person shall have:

- (1) been designated by the jurisdiction or employing agency to fulfill the duties associated with the Hazardous Materials Specialist functions;
- (2) submitted documentation from the Municipal Training Officer or Chief Fire Official of the member's department, that training in the Local Emer-

gency Response Plan and Incident Command System has been provided;

(3) a current Hazardous Materials Technician certification;

(4) completed a minimum of 76 hours of advanced hazardous materials training in the following topic areas:

- (i) Introduction to Hazardous Materials Specialist training; OSHA, NFPA and hazardous materials training standards; incident management; respiratory protection, types of, selection, fit testing. (8 hrs.)
- (ii) Chemistry and toxicology of hazardous materials; personal protective equipment; principles of protection; protective clothing; confinement techniques. (8 hrs.)
- (iii) Safety; site safety planning; confinement and personal protective equipment usage. (8 hrs.)
- (iv) Handling flammable and combustible liquids and gases; containment techniques. (8 hrs.)
- (v) Hazardous materials control including; overpacking, chlorine kits, air bags. (8 hrs.)
- (vi) Detection equipment. (8 hrs.)
- (vii) Use of detection and containment equipment. (8 hrs.)
- (viii) Decontamination; record management; information management; resources and planning; termination. (8 hrs.)
- (ix) Final practical exercise; flammable gases and exercises. (8 hrs.)
- (x) Final exam and course review. (4 hrs.)

(5) completed, in lieu of the knowledge/skill criteria prescribed in this subdivision, equivalent topics while attending the New York State Fire Training Course (Hazardous Materials Specialist - 76 hours) which shall be deemed as fulfilling minimum Hazardous Materials Specialist subject requirements;

(6) completed, in lieu of the knowledge/skill criteria prescribed in this subdivision, equivalent topics while

attending federally sponsored courses or recognized college-level courses, provided, such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance; and

(7) maintained the physical fitness commensurate to perform the duties of Hazardous Materials Specialist.

(j) Continuance of a Hazardous Materials Specialist certification shall require the designee to receive and document annual refresher training of sufficient content and duration as to maintain competence; or, in the alternative, to demonstrate competence in required knowledge and skills at least yearly, in which case a record of the methodology of such demonstration shall be kept by the designee or his or her jurisdiction or employing agency.

(k) To receive Code Compliance Technician certification, a person shall have:

(1) been designated by the authority having jurisdiction or employing agency to fulfill the duties associated with Code Compliance Technician;

(2) completed 48 hours of code enforcement training in the following topics;

- (i) Code enforcement practices and organization. (2 hrs.)
- (ii) Occupancy classification and hazard recognition. (13 hrs.)
- (iii) Building construction and structural design criteria. (14 hrs.)
- (iv) Building systems. (5 hrs.)
- (v) Construction site safety and visitation. (30 min.)
- (vi) Fixed fire safety systems and portable equipment. (9 hrs.)
- (vii) Plans review and building specifications. (30 min.)
- (viii) Use of code manual and reference standards. (1 hr. 30 min.)
- (ix) Code enforcement administration. (2 hrs.)
- (x) Successfully complete a test on the knowledge, skills, or abilities covered in subparagraphs (i) through (ix) of this paragraph.

(3) in lieu of the knowledge/skills criteria prescribed in subdivision (2) of this section, equivalent topics completed while attending New York State fire or codes training courses shall fulfill the training requirements; or

(4) in lieu of knowledge/skills criteria prescribed in paragraph (2) of this subdivision, the course curriculum covered in section 426.6(c)(3)(i) through (x) of this Part may be utilized for up to 24 hours of the required topics; or

(5) in lieu of knowledge/skills criteria prescribed in subparagraphs (2)(i) through (x) of this section, equivalent topics completed while attending federally sponsored or recognized college-level courses may fulfill the training requirements, provided such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance; and

(6) maintain the physical fitness commensurate to perform the duties of a Code Compliance Technician.

(l) Continuance of a Code Compliance Technician certification shall require the successful completion of either an annual in-service training program under section 426.7 of the Part when all six hours required in section 426.7(a)(4) of this Part are completed; or

(1) completion of six hours of refresher training in the following topic areas with a minimum of 30 minutes in any one topic area;

- (i) Code enforcement practices and administration.
- (ii) Occupancy classifications and hazard recognition.
- (iii) Building construction and structure design criteria.
- (iv) Building systems.
- (v) Plans review and building specifications.
- (vi) Code interpretation and application.
- (vii) Public policy considerations affecting building construction and maintenance.
- (viii) Code book use and reference standards.

(m) To receive Incident Safety Officer certification a person shall have:

(1) successfully completed a minimum 65 hours of advanced training in the following subject areas:

- (i) Incident Safety Officer 12 hrs
 - Role of incident safety officer
 - Duties and responsibilities of a safety officer
 - Characteristics of an effective safety officer
 - Specialized knowledge and skills
 - Incident Safety Officer's function in ICS
 - Identification of special regulations that impact safety
 - Recordkeeping and documentation
 - Post incident analysis
 - Risk management procedures
 - Incident monitoring functions
 - Successful completion of an evaluation
- (ii) Principals of Building 12 hrs
 - Construction: Combustible Buildings
 - Building construction principles and classification of construction types
 - Common construction principles for all types of construction
 - Identification of construction components and fire behavior characteristics of five common construction methods for Type V (wood framed) constructed buildings
 - Identification of construction components and fire behavior characteristics of Type IV (ordinary) constructed buildings
 - Identification of construction components and fire behavior characteristics of Type III (heavy-timber) constructed buildings
- (iii) Principles of Building 9 hrs
 - Construction: Noncombustible buildings
 - Identification of construction components and fire behavior characteristics of Type II unprotected (noncombustible) steel constructed buildings
 - Identification of construction components and fire behavior characteristics of Type I and Type II protected (fire resistive or noncombustible) constructed buildings
- (iv) Hazardous Materials First Responder Operations 16 hrs
 - Identification of critical elements of the authority having jurisdiction for the employer's emergency response plan as required by OSHA regulations at 29 CFR 1910.120(q)(2)

Identification of critical emergency response procedures as identified by OSHA regulations at 29 CFR 1910.120(q)(3)

Be trained in the Hazardous Materials First Responder Operations as identified in OSHA regulations at 29 CFR 1910.120(q)(6). (*Note:* all CFR references are to the Federal regulations in effect on March 6, 1989)

- (v) Firefighter Assist and Search Team Operations (FAST) 16 hrs
 - Firefighter assist and search team operations
 - Search with rope operations
 - Procedures for rescuing lost firefighter – known location
 - Procedures for rescuing missing firefighter – unknown location
 - Procedures for rescuing trapped firefighters
 - Firefighter removal procedures

(2) Completed, in lieu of the knowledge/skills criteria prescribed in paragraph (1) of this subdivision, equivalent topics completed while attending the New York State Fire Training Courses (Incident Safety Officer – 12 hours), (Principles of Building Construction: Combustible Buildings – 12 hours or Building Construction for Fire Suppression Forces: Principles of Wood and Ordinary Construction – 12 hours), (Principles of Building Construction: Noncombustible Buildings – 9 hours or Noncombustible and Fire Resistive Construction – 12 hours). (Hazardous Materials First Responder Operations – 16 hours or Emergency Control of Hazardous Materials Incidents I – 16 hours), and (Firefighter Assist and Search Teams – 16 hours).

(3) Completed in lieu of the knowledge/skills criteria prescribed in paragraph (1) of this subdivision, equivalent topics while attending federally sponsored or recognized college-level courses which may fulfill the training requirements, provided such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance.

(n) To receive rescue technician certification in any given specialty, a person shall successfully demonstrate knowledge and skills in the subjects contained in paragraph (1) of this subdivision as well as those requirements for the chosen specialty contained in paragraphs (2) through (10) of this subdivision:

(1) (i) Identification of needed support resources including: equipment organization and tracking methods, scene lighting, environmental concerns and personnel rehabilitation.

(ii) Rescue incident size-up including: identification of type of rescue, types and use of reference materials, determining availability and capability of resources, development of an incident action plan, information gathering techniques and defining search parameters.

(iii) Management of incident hazards including: hazard identification, identification of equipment types and their use, hazard isolation and risk versus benefit analysis methods and practices.

(iv) Rescue incident resource management including: incident management system knowledge, utilization and implementation, tactical worksheet application, reference utilization, personnel accountability, incident documentation and communications needs, utilization and equipment.

(v) Search management including: search parameters, victim profile, local policies and procedures and the ability to enter, maneuver in, and exit the search environment.

(vi) Ground support operations for helicopter activities including: ground support operations, operational characteristics of the aircraft, personal protective equipment, establishing and securing landing zones and communicating with aircraft personnel.

(vii) Incident termination including: personnel accountability, hazard elimination or control, appropriate reporting, documentation and critique of the incident and critical incident stress debriefing.

(viii) Victim access including: recognition of and methods to manage potential hazards within the rescue environment, methods and means to gain access, use of appropriate personal protective equipment and safe entry and escape routes.

(ix) Victim assessment including: victim assessment procedures, universal precautions for infectious disease, use of personal protective equipment and establishment of treatment priorities.

(x) Victim stabilization including: airway establishment and maintenance, circulation maintenance,

control of severe bleeding and spinal immobilization.

(xi) Victim triage including: rescue versus recovery factors, types and systems of triage, use of triage materials, prioritization requirements, methods to determine injury severity and resource management.

(xii) Victim packaging including: effects of environmental conditions, selection and application of packaging equipment, immobilization techniques, victim personal protective equipment.

(xiii) Moving a victim in a low angle environment including: types of transport equipment and removal systems, transport techniques, rope rigging applications and methods and types of specialized equipment and their uses.

(xiv) Transfer of a victim to emergency medical services (EMS) including: medical protocols, checklists, triage tags or report forms, risks, laws and liabilities related to victim transfer and information needs of the EMS provider.

(xv) Inspection and maintenance of rescue and hazard-specific personal protective equipment including: functions, construction, and operation of equipment, operational checks, use of recordkeeping systems, cleaning, sanitizing, and infectious disease control, use of assembly, disassembly and maintenance tools, manufacturer recommendations and pre-use inspection procedures.

(xvi) Rope rescue knots, bends and hitches including: knot efficiency and utilization, rope construction and terminology, methods of safety, end of line loop, midline loop, a knot, bend or hitch that secures a rope around a desired object, a knot, bend or hitch that joins rope or webbing ends together, a knot, bend or hitch that grips a rope.

(xvii) Construction of a single-point anchor system including: application of knots, rigging principles, anchor selection criteria, system safety check procedures and rope rescue equipment applications and limitations.

(xviii) Construction and operation of a simple rope mechanical advantage system including: principles of mechanical advantage, capabilities and limitations of various simple rope mechanical

advantage systems, application of knots, safe rigging principles, system safety check procedures, system stress, personnel assignments and operational commands.

(xix) Construction and operation of a lowering system including: capabilities, limitations and proper use of various descent control devices and lowering systems, system safety check procedures, personnel assignments and operational commands.

(xx) Construction and operation of a belay system including: principles of belay systems, application and use of belay devices, proper operation of belay systems in conjunction with normal lowering and hauling operations, system safety check procedures, personnel assignments and operational commands.

(xxi) System safety checks including: physical and visual checks of the system to ensure proper rigging, load testing, signs of equipment damage and equipment replacement criteria.

(2) Rope Rescue Technician.

(i) Construction and operation of a multiple point anchor system including: knot selection, critical angles, system evaluation and safety checks, formulas needed to calculate safety factors for load distribution and concepts of static versus dynamic loads.

(ii) Construction and operation of a compound rope mechanical advantage system including: load calculation, knot selection, rigging principles, design of compound rope systems, rope commands, personnel assignments and duties and safety check procedures.

(iii) Construction and use of a fixed rope system in a high angle or vertical environment including: knot selection, load calculation, rigging principles, safety check procedures, selection and use of rescuer harnesses, selection and use of personal protective equipment, methods of attachment of the life safety harness to the rope rescue system, ability to maneuver around existing environment and system specific obstacles, ability to perform work while suspended from the rope rescue system and the ability to evaluate surroundings for potential hazards.

(iv) Moving a victim in a high angle or vertical environment including: selection and use of personal protective equipment, selection and use of patient transfer devices, carrying techniques and rigging principles.

(v) Construction and operation of a high line system including: system capabilities, limitations and construction, rigging principles, safety check procedures, personnel assignments, operational commands and common high line problems.

(vi) Ascending a fixed rope including: selection and use of proper rescuer harnesses, proper securement of the rescuer to the rope, stopping and starting at any point along the rope, converting ascending systems to descending systems and proper configuration of ascent control devices.

(vii) Descending a fixed rope including: selection and use of proper rescuer harnesses, proper securement of the rescuer to the rope, design, intended purpose, and proper operation of descent control devices utilized.

(3) Surface Water Rescue Technician.

(i) Development of a site survey for an existing water hazard including: requisite contents of a site survey, knowledge of hydrology and influence of hydrology on rescues, identification of life safety hazards, identification of hazard specific personal protective equipment, performance of a risk versus benefit analysis, identification of site specific hazards, identification of routes of access and egress and determination of areas with high probability for victim location.

(ii) Selection and use of proper water rescue personal protective equipment including: classes of personal floatation devices, selection criteria for in water insulation garments, personal floatation devices and water rescue helmets, personal escape techniques and equipment and procedures and equipment for signaling distress.

(iii) Swimming a designated water course including: the ability to swim and float in different water conditions with and without flotation aids or swimming aids (as required), hydrology and anticipated hazards, selection criteria for water rescue personal protective equipment and swim

aids, water survival skills, communications systems, evaluation of water conditions to identify entry points and hazards.

(iv) Defining search parameters for a water rescue incident including: methods to determine high probability of detection areas, interview questions and practices, passive and active search tactics and strategy, reading and marking track traps and identification of spotter areas and purposes for spotters.

(v) Development of an action plan for a shore based rescue of a single, water-bound victim including: action planning, interpretation, correlation/use of reference and size-up information, site condition evaluation, risk benefit analysis, behavioral patterns of victims, environmental conditions that influence victim location, selection and use of personal protection equipment and safety, communications, and operational protocols.

(vi) Deployment and use of a water rescue rope to a water bound victim including: types, capabilities, selection of personal protective equipment, identification of water hazards, proficiency in deploying water rescue rope from throw bags and shore based victim removal techniques.

(vii) Deployment and use of watercraft including: utilization of trailers, conveyances, and support vehicles, launching and recovering watercraft from the water and operations of watercraft conveyances.

(viii) Negotiate a designated water course in a watercraft including: navigation of watercraft with and without primary means of propulsion, limitations and uses of available watercraft, dynamics of moving water and its effects on watercraft handling, launch and docking procedures, procedures for broaching and righting watercraft, casting and recovering personnel from watercraft, distress signals and crew assignments and duties.

(ix) Parbuckling technique use to extricate an incapacitated water bound victim from the water to a watercraft including: parbuckling (rollup) techniques, effects of extrication on watercraft handling and stability and construction and use of mechanical advantage systems in watercraft.

(x) Extrication of an incapacitated water bound victim from the water to the shore including: packaging equipment and methods, airway and ventilation support and manual spinal stabilization while in the water.

(xi) Perform a swimming surface water rescue including: ability to swim and float in different water conditions with and without flotation aids or swimming aids, water survival skills, management of combative water bound victims and signs, symptoms, and treatment of aquatic medical emergencies.

(xii) Construct and operate a highline system in water rescue including: system construction and safety check protocols, evaluation of system components for compromised integrity, personnel assignments and duties and load movement management.

(xiii) Helicopter aquatic rescue operations within the area of responsibility for the authority having jurisdiction including: local aircraft capabilities and limitations, landing zone requirements and establishment, hazards to aircraft, fire protection needs, operating around aircraft, crash survival procedures and rigging aircraft for anticipated rescue procedures.

(4) Vehicle and Machinery Rescue Technician.

(i) Planning for a vehicle and machinery incident including: planning protocols and forms, vehicle and machinery types and hazards, incident operations support needs and resources, and fire suppression needs and capabilities.

(ii) Establishment of scene safety zones including: selection and use of personal protective equipment, application of traffic control concepts, traffic control devices and tools and methods of hazard mitigation.

(iii) Stabilization of a vehicle or machine including: stabilization devices, mechanism of vehicle and machinery movement, types of stabilization points and surfaces, types of vehicle and machinery construction components as they apply to stabilization and the ability to apply and operate stabilization devices.

(iv) Determination and creation of vehicle access and egress points including: vehicle construction

and features, identifying entry and exit points and probable victim locations, operating systems, emergency evacuation and safety signals, hazard evaluation and control including the impact of vehicle stability on the victim and the chosen points, and selection and use of extrication tools and equipment.

(v) Isolation of potential harmful energy sources including: selection and use of personal protective equipment, energy sources, system isolation methods, specialized system features, identification and use of tools and devices for securing and disabling hazards and operation of beneficial systems in support of tactical objectives.

(vi) Establishment of fire protection including: identification of fire and explosion hazards, use of appropriate extinguishing devices, application of fire control strategies and management of ignition potential.

(vii) Disentanglement of victim(s) including: selection and use of disentanglement tools, victim protection methods and measures, disentanglement points and techniques and dynamics of disentanglement.

(viii) Removal of a packaged victim to a safe area including: use of immobilization, packaging and transfer devices for specific situations, immobilization techniques and lifting and moving techniques.

(ix) Termination of an incident including: protection measures, transfer of scene control and communication of existing hazards.

(5) Confined Space Rescue Technician.

(i) Preplanning a confined space incident including: operational protocols, selection and use of preplan forms, identification and evaluation of various configurations of confined spaces, access points and entry openings, hazard identification and control methods, isolation methods, internal configuration special resource needs of a confined space and legal/regulatory issues and compliance.

(ii) Assessing the incident including: use of preplans, size-up and interviewing techniques, choosing and utilization of personal protective and monitoring equipment, hazard mitigation

options, identification of probable victim location, performance of a risk benefit analysis, identification of egress and ingress points into the space, recognition of characteristics and hazards of confined spaces, and evaluation of specific rescue systems for entry and retrieval of rescuers and victims during confined space incidents.

(iii) Conducting monitoring of the environment including: capabilities and limitations of detection and monitoring equipment, calibration of detection and monitoring equipment, defining confined space configuration as it applies to obtaining a representative sample of space, basic physical properties of contaminants and obtaining a representative sample of the space.

(iv) Control of hazards including: selection and utilization of personal protective equipment and scene control barriers, isolation of dangerous forms of energy and mitigation of physical and atmospheric hazards.

(v) Preparation for entry into the confined space including: understanding the effects of hazardous atmospheres on victims and rescuers, victim communication, performance of organization protocol for medical and psychological evaluation related to entry, knowledge of methods of entry into confined space and rescuer evacuation procedures.

(vi) Entering a confined space including: operation of atmospheric monitoring equipment, selection and use of personal protective equipment, implementation of safety, communication, and operational protocols, use of and application of rescue related systems and equipment, demonstration of entry and egress procedures for confined spaces, understanding and use of safety, communication, medical, and operational protocols and use of medical equipment specific to confined space victim needs.

(vii) Packaging the victim for removal from a confined space including: immobilization of a victim's spine, packaging victims in harnesses, use of low-profile devices and litters, recognition and performance of basic management of various traumatic injuries and medical conditions and performance of cardiopulmonary resuscitation if appropriate to the environment.

(viii) Removal of all entrants from a confined space including: selection and use of personal protective equipment, selection and operation of rescue and retrieval systems used for victim removal, and use of equipment and procedures for decontamination.

(ix) Securing the confined space access during termination including: use of methods and tools to secure a scene, completion of reporting documentation of the incident, application of accountability protocols and methods for denying further entry.

(6) Structural Collapse Rescue Technician.

(i) Conducting a size-up of a collapsed structure including: identification of construction types, characteristics and probable occupant locations, evaluation of structural stability and hazards, causes and associated effects of structural collapses, expected behavior of each construction type in a structural collapse incident, implementing site control and scene management and recognition and control of general hazards associated with structural collapse and size-up.

(ii) Determination of potential victim locations including: the capabilities and limitations of search instruments and resources, use of size-up and occupancy classification information and understanding collapse patterns and victim behavior in determining potential areas of survivability.

(iii) Development of a collapse rescue incident action plan including: the use of size-up information, the implementation of an incident management system, identification and use of specialized resources, implementation of scene security, identification of personnel needs and limitations and establishment of rescue scene operational priorities.

(iv) Implementation of a collapse rescue incident action plan including: understanding and use of the components of an action plan and incident management system in a collapse incident, establishment of hazard mitigation and rescue objectives and establishment of perimeter security measures.

(v) Searching a collapsed structure including: concepts and operation of the incident manage-

ment system as applied to the search function, application of specialty tools, locating and search devices and techniques, identification of potential victim locations as related to the type of structure and occupancy, use of marking systems and identification and mitigation of hazards.

(vi) Stabilization of a collapsed light frame structure including: selection and use of personal protective equipment, knowledge and use of structural load calculations for shoring system requirements, selection and construction of shoring systems for collapses in light frame structures, selection and use of basic and specialized tools and equipment and implementation of communications and safety protocols.

(vii) Stabilization of a collapsed heavy construction type structure including: selection and use of personal protective equipment, knowledge and use of structural load calculations for shoring system requirements, selection and construction of shoring systems for collapses in heavy construction type structures, identification of specific hazards associated with heavy structural collapse, potential for and signs of impending secondary collapse, selection and use of basic and specialized tools and equipment, and implementation of communications and safety protocols.

(viii) Implementation of collapse support operations at a rescue incident including: management of resources, establishing lighting, initiation of environmental controls and rescuer rehabilitation establishment, practices and procedures.

(ix) Release of a victim from entrapment by components of a collapsed structure including: selection, use, and care for personal protective equipment, selection, application and operation of rescue tools and stabilization systems, completion of risk benefit assessments for selected methods of rescue and time constraints and recognition of crush syndrome indicators.

(x) Removal of a victim from a collapse incident including: selection, use and care of personal protective equipment, basic prehospital care of soft tissue injuries, fracture stabilization, airway maintenance techniques and cardiopulmonary resuscitation, selection and use of patient packaging equipment.

(xi) Lifting a load including: principles and application of leverage, gravity and load balance, estimation of the weight of the load, application of load stabilization systems and application of pneumatic, hydraulic, mechanical and manual lifting tools.

(xii) Moving a heavy load including: principles and application of leverage, gravity and load balance, estimation of the weight of the load and construction and use of inclined planes, levers, tools and rigging systems.

(xiii) Breaching structural components including: selection and use of breaching tools, types of building construction and characteristics of materials used in each, implementation of breaching techniques based on building construction type, identification of safety considerations for breaching operations, weight calculation, anticipation of material movement during breaching and stabilization and selection and use of personal protective equipment.

(xiv) Cutting through structural steel including: assessment of tool needs, selection, capabilities, limitations and use of steel cutting tools, implementation of fire control measures and knowledge of the characteristics of steel used in building construction.

(xv) Construction of cribbing systems including: selection and construction of various cribbing systems, evaluation of the structural integrity and stability of the system and estimation of the weight of the load.

(xvi) Coordinating the use of heavy equipment including: identification of the types of heavy equipment, capabilities, application and hazards of heavy equipment and rigging, use of hand signals and other methods of communications such as radio and selection and use of personal protective equipment.

(7) Trench Rescue Technician.

(i) Conducting a size-up of a collapsed trench including: measuring dimensions of the trench, categorize soil, identify type and degree of collapse, and determine environmental conditions with implications for secondary collapse and victim survivability, implementation of public works utility notification, response and location

procedures, identification of and securing a witness or "competent person" for interview, interview techniques, performance of a risk versus benefit analysis, understanding of signs and evidence of victim involvement, number and location, evaluating the effects and hazards of collapse and rescue efforts on utilities at the incident site, understanding of applicable regulations, laws, standards and protocols and implementation of an incident management system.

(ii) Implementing a trench emergency action plan including: collection and use of size-up information, documentation, risk versus benefit analysis and tactical worksheets, criteria for and use of rapid, non-entry rescue, rescuer briefing, options for strategy and tactical approach, mitigation of hazards by isolation, removal or control, options for victim isolation and/or protective systems and implementation of an incident management system.

(iii) Implementing support operations at trench emergencies including: equipment organization and tracking, use of lighting resources and other power needs, choose and deploy dewatering techniques, provision of shelter, thermal protection, rehab areas and rotation cycles for personnel, operation of atmospheric monitoring and ventilation equipment, selection and use of hand and power tools, extrication and removal equipment and patient packaging.

(iv) Constructing load stabilization systems including: selection and construction of stabilization systems, calculation of loads and evaluation of structural integrity and stability of the system.

(v) Lifting a heavy load including: evaluation and estimation of the weight of the load and application and operation of tools, levers and load stabilization systems.

(vi) Coordinating the use of heavy equipment including: selection and use of personal protective equipment, types, capabilities, applications and hazards of heavy equipment and rigging, use of hand signals and radio equipment and monitoring equipment, operator, rescuer and victim safety.

(vii) Supporting a non-intersecting trench including: interpreting tabulated data information and

tables, selection and placement of shoring and shielding systems, methods of stabilization, identification and mitigation of hazards in a trench, use and selection of personal protective equipment and anticipation of extrication logistics and concerns.

(viii) Supporting an intersecting trench including: interpreting tabulated data information and tables, selection and placement of shoring and shielding systems, methods of stabilization, identification and mitigation of hazards in a trench, use and selection of personal protective equipment and anticipation of extrication logistics and concerns.

(ix) Installing supplemental sheeting and shoring for each two feet of depth below an existing approved shoring system including: interpreting tabulated data information and tables, selection and placement of shoring and shielding systems, methods, techniques and placement of supplemental sheeting and shoring, methods of stabilization, identification and mitigation of hazards in a trench, use and selection of personal protective equipment and anticipation of extrication logistics and concerns.

(x) Releasing a victim from entrapment by components of a collapsed trench including: selection, use and care of personal protective equipment, identification and mitigation of hazards in a trench, evaluation of shoring systems and trench wall stability, operation of rescue tools and stabilization systems, identification of crush syndrome clinical settings and completion of risk versus benefit assessments for selected methods of rescue and time restraints.

(xi) Removing a victim from a trench including: selection, use and care of personal protective equipment, provision of basic medical care, universal precautions and immobilization techniques, identification of the need for advanced life support and crush syndrome management, removal techniques including rope rescue, high point anchors and patient ladder raise removal.

(xii) Terminating a trench emergency incident including: selection, use and care of personal protective equipment, removal procedures and techniques for equipment and protective systems, use of personnel accountability, inspection,

cleaning and servicing of equipment and performance of a post incident briefing.

(8) Subterranean Rescue Technician.

(i) Planning for subterranean rescue including: recognition and documentation of location and entrances of subterranean spaces, hazard identification and resource requirements, availability and terminology.

(ii) Assessing an incident including: hazard identification and mitigation, performance of a risk versus benefit analysis, specialized resource requirements, collection and interpretation of size-up information, conducting interviews, selection and use of personal protective equipment, space ventilation requirements and identification of potential victim locations.

(iii) Conducting atmospheric monitoring including: selection, calibration and use of atmospheric monitoring equipment, use of reference material to interpret monitoring results and selection and use of personal protective equipment.

(iv) Size-up of a subterranean incident including: use and interpretation of maps, charts, diagrams and blueprints, search techniques, considerations of time requirements, space configuration, transport equipment and rigging requirements of subterranean environments.

(v) Development of an incident action plan including: interpretation and use of size-up information, implementation of an incident management system, use of specialized resources, incident documentation and development of safety and communications plans.

(vi) Establishment of subterranean ventilation including: implementation of adequate ventilation and containment or elimination of atmospheric hazards.

(vii) Coordination of the use of specialized resources including: identification and use of specialized resources, implementation of the incident action plan and an incident management system, and establishment and use of communications systems.

(viii) Controlling hazards including: knowledge of various subterranean hazards including atmospheric, physical and energy, identification,

selection and use of hazard mitigation techniques and equipment, selection and operation of various hazard identification equipment and marking systems and utilization of lighting equipment.

(ix) Preparing for entry into a subterranean space including: use of incident action plan and size-up information, selection and use of personal protective equipment, establishment and use of established rescue routes, utilization of the assigned accountability communications, monitoring and lighting systems and equipment.

(x) Entering a subterranean space for rescue including: use of an incident action plan, technical, size-up and other information sources, hazard assessment, monitoring and mitigation, selection, construction and use of rope or other systems for access and the selection and use of personal protective equipment.

(xi) Packaging a victim for removal from a subterranean space including: selection and use of patient packaging equipment and other retrieval devices, immobilization of a patient's spine, and recognition and treatment of injuries and other medical conditions.

(xii) Removing entrants and equipment from a subterranean space including: selection and use of personal protective equipment, construction and use of rope or other systems for egress, recognition and treatment of injuries and other medical conditions, procedures, selection and use of decontamination methods and equipment.

(9) Dive Rescue Technician.

(i) In addition to the following knowledge and skills, candidates for certification in this rescue specialty shall possess advanced open water SCUBA certification from a nationally recognized agency.

(ii) Development of a dive profile and plan including: use of references, dive tables and maps, witness interviewing techniques, development and implementation of an incident action plan, management system and search plan, selection and use of communications equipment and defining spotter placement.

(iii) Selection and use of personal protective equipment including: selection and use of personal protective and other equipment, emergency

escape procedures, use of pre-dive checklists, selection and use of communications equipment and methods.

(iv) Demonstration of fundamental watermanship skills including: basic forward stroke swim skills (surface), basic swimming and floating in a variety of conditions with and without swim and floatation aids, and application of water survival skills.

(v) Negotiating an open water SCUBA course including: basic SCUBA subsurface skills, maneuvering using SCUBA in different water conditions including limited visibility and application of water survival skills.

(vi) Supervision, coordination and leading dive teams during operations including: "divemaster" level knowledge and skills, selection and use of communications equipment and methods, and team supervision skills.

(vii) Assisting a surfaced diver in distress including: selection and use of personal protective equipment, use of floatation devices and buoyancy control techniques, and rescue, assist and panicked diver avoidance techniques.

(viii) Assisting a submerged diver in distress including: selection and use of personal protective equipment, use of buoyancy control techniques and devices, techniques for rescue, assist and panicked diver avoidance, demonstration of regulator use, out of air emergency procedures, secondary air systems, weight belt removal, emergency ascents, disentanglement procedures, and selection and use of communications equipment and methods.

(ix) Demonstration of procedures for underwater self rescue including: use of loss of communications procedures, demonstration of regulator loss, failure and out of air procedures, disentanglement and self extrication procedures, severed or entangled umbilical or tag line procedures, equipment loss or failure procedures and emergency treatment of injured divers.

(x) Performing searches appropriate to the environment and nature of the water body including: negotiating a body of water, knowledge of search theory, hydrologic factors, probability of detection, use of rope or other equipment in search

and effective underwater communications equipment and methods.

(xi) Control of an underwater site as a potential crime scene including: knowledge of "chain of evidence" laws, camera operations, scene article handling and preservation and specific scene considerations (*i.e.*, wreckage, dead bodies, injury, etc.), interviewing techniques and skills and basic drawing skills.

(xii) Procedures for use of watercraft for dive operations including: demonstration of entry and exit procedures, selection and use of emergency and safety equipment, and communications methods and equipment.

(xiii) Procedures and applications for use of aircraft for dive operations including: demonstration of entry and exit procedures, selection and use of emergency and safety equipment, and communications methods and equipment.

(xiv) Removal of incapacitated victims from the water to the operating deck of a watercraft including: utilization of medical treatment methods and protocols, maintenance of positive buoyancy, knowledge of simple mechanical advantage techniques and access points of boats.

(xv) Removal of incapacitated victims from the water to the shore or dock including: utilization of medical treatment methods and protocols, maintenance of positive buoyancy, knowledge of simple mechanical advantage techniques, access points and site selection criteria.

(10) Wilderness Rescue Technician.

(i) Planning a wilderness rescue incident including: hazard recognition, recognition of special resource needs and selection and use of pre-plan forms.

(ii) Interviewing witnesses including: witness interviewing techniques, use of appropriate forms and development of a lost person profile.

(iii) Collection and documentation of evidence to determine a victim's potential location including: operating photography equipment, selection and use of standard evidence collection tools and procedures, and methods of collecting, documenting and cataloging evidence.

(iv) Development of a victim profile including: interpretation of evidence, procedures for and performance of a victim analysis and considerations relating to weather conditions.

(v) Operating in a wilderness environment including: ability to navigate in a wilderness environment, orienteering in a wilderness environment, demonstration of wilderness survival techniques and evaluation of weather conditions and terrain.

(vi) Navigating in the wilderness to a specified location including: ability to read a map and judge distances in a varied terrain, accurately use search systems, patterns and methods, selection and use of maps, navigation and communications equipment and ability to navigate accurately around obstacles.

(vii) Locating a victim in a wilderness environment including: man tracking methods and skills, accurately use search systems, patterns and methods, understanding and use of passive and active search techniques, sign cutting, jump tracking and tracking stick and selection and use of communications methods and equipment.

(viii) Managing and treatment of a victim's injuries and medical condition in a wilderness environment including: use of basic and advanced life support treatment methods in a wilderness environment.

(ix) Packaging a victim for wilderness transport including: use of basic and advanced life support treatment methods and packaging techniques and equipment in a wilderness environment.

(x) Moving the victim and entry team from the wilderness environment including: selection and use of personal protective equipment, assessing hazards, selection and use of rope rigging and rescue systems and mechanical access and egress systems.

(o) To receive Advanced Hazardous Materials Technician certification, a person shall have:

(1) been designated by the jurisdiction or employing agency to fulfill the duties associated with an Advanced Hazardous Materials Technician;

(2) current Hazardous Materials Technician certification (426.8[g]);

(3) completed a minimum of 40 hours of advanced hazardous materials training in the following topics:

- (i) advanced level “A” suit procedures (8 hrs)
- (ii) response procedures for liquids and gas emergencies (8 hrs)
- (iii) advanced containment methodologies (14 hrs)
- (iv) mass casualty decontamination (2 hrs)
- (v) weapons of mass destruction chemical agents (4 hrs)
- (vi) weapons of mass destruction radiological agents (3 hrs)
- (vii) weapons of mass destruction biological agents (1 hr)

(4) completed, in lieu of the knowledge/skill criteria prescribed in this subdivision, equivalent topics while attending the New York State Fire Training course (Advanced Hazardous Materials Technician - 40 hours) which shall be deemed as fulfilling the minimum advanced hazardous materials technician subject requirements;

(5) completed, in lieu of knowledge/skill criteria prescribed in this subdivision, equivalent topics while attending federally sponsored courses or recognized college level courses; provided such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance; and

(6) maintained the physical fitness commensurate to perform the duties of advanced hazardous materials technician.

(1) been designated by the employing agency to fulfill responsibilities of Level I Supervisory classification;

(2) completed minimum qualifications for Instructor Level I under section 426.4 of this Part; and

(3) successfully completed the following courses of study:

- (i) Fire Behavior and Arson Awareness (12 hrs)
Scope of the arson problem, and
Normal fire behavior and observational skills, and
Fire investigation and the firefighter, and
Detection and preservation of evidence, or
Basic Firefighter (42 hrs)

- (ii) Fire Cause and Origin Determination or Principles of Fire Investigation (24 hrs)
Fire chemistry and behavior
Building construction
Point of origin determination
Determining fire causes
Motives for incendiarism
Vehicle fires
Legal aspects of fire investigation
Fatal fires
Fire scene documentation
Fire investigation resources
Evidence collection and preservation
Practical exercise and successfully complete a test

- (iii) Hazardous Materials First Responder Operations (16 hrs)
Detect the presence of a hazardous material, and
Survey a hazardous materials incident, and
Describe procedures for collecting information, and
Describe protective actions, and
Identify procedures to initiate a response, and
Survey to detect presence of hazardous materials, and
Identify cargo tanks, and

§426.9 Promotional/supervisory qualifications and training.

(a) Fire officers successfully completing training and education courses of minimum subject and contact hour criteria approved by the State Fire Administrator may acquire certification in one of five fire officer supervisory categories.

(b) To receive Supervisory Level I (lieutenant level responsibilities) certification, a person shall have:

Describe how to use product information, and
Describe how to contact CHEMTREC, and
Describe harm from a hazardous material, and
Determine appropriate tactical objectives at the first responder operations level, and
Describe appropriate scene control measures, and
Describe procedures to implement Incident Command System, and
Identify appropriate personal protective equipment, and
Describe defensive operations and the use of foam, and
Describe offensive operations for product control, and
Successfully complete a test on the knowledge, skills or abilities covered in subparagraph (iii) of this paragraph, or
Minimum Basic Firefighter certification as specified under the provisions of section 426.6 of this Part.

(c) In lieu of the knowledge/skill criteria prescribed in paragraph (b)(3) of this section, equivalent topics completed while attending New York State Fire Training Courses (Fire Behavior and Arson Awareness—12 hours, Fire Cause and Origin Determination—24 hours, Hazardous Materials First Responder Operations—16 hours, or Emergency Control of Hazardous Materials Incidents I—16 hours), shall be deemed as fulfilling minimum training subject requirements.

(d) In lieu of the knowledge/skill criteria prescribed in paragraph (b)(3) of this section, equivalent topics completed while attending federally sponsored courses or recognized college level courses, shall be deemed as fulfilling minimum training subject requirements, provided such equivalency shall be deemed acceptable by the State Fire Administrator when submitted with adequate documentation regarding course criteria and attendance.

(e) To receive Supervisory Level II (captain level responsibilities) certification, a person shall have:

- (1) been designated by the employing agency to fulfill responsibilities of Level II Supervisory classifications;
- (2) completed minimum qualifications for Supervisory Level I classification;
- (3) completed college level courses of study approved by the State Fire Administrator:
 - (i) General psychology (40 hrs)
 - (ii) Report writing, written expression or course of similar content (40 hrs)
- (f) Supervisory Level III (battalion chief level responsibilities) under development.
- (g) Supervisory Level IV (deputy chief level responsibilities) under development.
- (h) Supervisory Level V (chief of department level responsibilities) under development.
- (i) (Under developmental study for future commission recommendations).
 - (1) Instructor Level III;
 - (2) Instructor Level IV;
 - (3) Investigator Level III; and
 - (4) Public Education Officer Level III.

§426.10 Exemptions; revocation.

(a) Exemptions from specific provisions of this Part may be granted the training programs of the fire department of any county, city, town, fire district, or county fire training entity, which, in the opinion of the firefighting personnel standards and education commission, are equal to or exceed the provisions required in this Part.

(b) Revocation in whole or in part of exemptions granted for a firefighter training program of the fire department of any county, city, town, fire district, or county fire training entity shall be made, if, in the opinion of the firefighting personnel standards and education commission, said fire training program is below the provisions outlined in this Part.

Preventing Fire Fighter Fatalities Due to Heart Attacks and Other Sudden Cardiovascular Events

WARNING!

Fire fighters are at risk of dying on the job from preventable cardiovascular conditions.

Fire fighters are dying on the job from preventable cardiovascular conditions.

Sudden cardiac death represents the most common cause of a fire fighter fatality. This document:

1. Provides background on fire fighting and heart disease,
2. Presents five case reports to highlight important findings,
3. Summarizes data from the NIOSH cardiovascular disease (CVD) fatality investigations, and
4. Provides recommendations (listed below) to minimize the risk of injury and death to fire fighters from cardiovascular events.

Fire Departments should take the following steps to reduce on-duty heart attacks and other sudden cardiovascular events:

- Provide medical evaluations to ensure that candidates and members are capable of performing job tasks with minimal risk of sudden incapacitation.
- Ensure that physicians conducting the medical evaluations are knowledgeable about the physical demands of fire fighting, the essential tasks of fire fighting, and the consensus guidelines developed by the fire service.





- Implement a comprehensive wellness/fitness program for fire fighters to reduce risk factors for CVD and improve cardiovascular capacity.
- Control exposure to carbon monoxide and other fire contaminants through proper management of the fire scene and proper use of respiratory protection.
- Ensure adequate staffing levels for operations to prevent over-exertion.
- Provide on-scene rehabilitation to monitor vital signs for indication of excessive cardiovascular strain, and to cool and hydrate the fire fighter.
- Implement a comprehensive hearing conservation program.

To help fire departments implement these steps, fire service agencies should conduct research on the following:

- Effectiveness of health promotion programs to reduce the incidence of heart disease among fire fighters.
- Barriers to implementing health promotion programs (both wellness and fitness).
- Effectiveness of on-scene rehabilitation to reduce cardiovascular strain.
- Risk posed to fire fighter's cardiovascular system due to occupational exposures.

For additional information, see ***NIOSH Alert: Preventing Fire Fighter Fatalities Due to Heart Attacks and Other Sudden Cardiovascular Events*** [DHHS (NIOSH) Publication No. 2007-133]. Single copies of the Alert are available free from the following:

NIOSH—Publications Dissemination
4676 Columbia Parkway
Cincinnati, OH 45226-1998

Telephone: **1-800-35-NIOSH**
(1-800-356-4674)
Fax: 513-533-8573
E-mail: pubstaff@cdc.gov

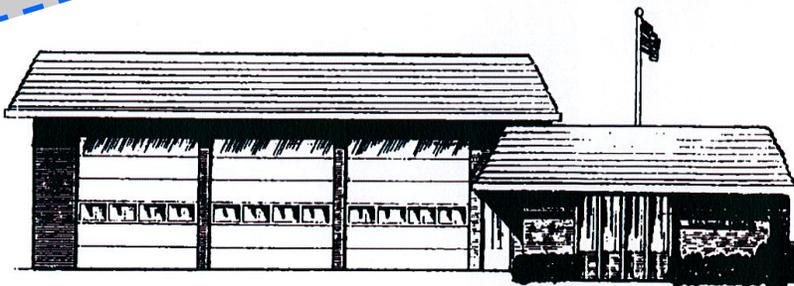
or visit the NIOSH Web site at
www.cdc.gov/niosh

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

NIOSH

Safety and Health Considerations for the Design of Fire and Emergency Medical Services Stations

The entire manual can be found at:
www.usfa.fema.gov/downloads/pdf/publications/fa-168.pdf



FEDERAL EMERGENCY MANAGEMENT AGENCY
UNITED STATES FIRE ADMINISTRATION

PREFACE

This manual was developed under contract for the U.S. Fire Administration to provide comprehensive guidelines for the design or remodeling of fire and emergency medical services (EMS) stations and other facilities (e.g., training centers) in terms of safety and health concerns. The purposes of this manual are:

1. To alert fire and emergency medical service personnel to potential safety and health hazards within the station and other facilities;
2. To identify pertinent regulations which affect the construction and inspection of fire and EMS stations which can be applied to station design for safety and health;
3. To establish compliance guidelines for new station construction/existing station modification with model specifications that can be adopted as part of a fire/EMS department's station design/construction bid package; and
4. To provide a checklist for station health and safety inspections and to assist evaluations of existing station designs.

This is not a manual which provides a detailed step-by-step procedure for designing fire or EMS stations. Rather, this manual is intended to be a useful guide when addressing design aspects of the fire or EMS station which pertain to the health and safety of personnel who must work and live in those facilities.

It is recognized that many of the nation's fire houses and EMS stations were built prior to the development of this document. Therefore, this manual should be consulted for guidance both when facilities are remodeled and new ones are built. Often city managers, emergency medical directors, fire chiefs, and local government officials are faced with a variety of choices when undertaking new construction or remodeling. This manual has been prepared to simplify this process by providing a comprehensive list of requirements and suggested design alternatives.

Users of this manual are encouraged to implement, manage, and develop safety and health concepts for the well being of their emergency service personnel when designing and building fire and EMS facilities. The guidelines in this manual are also intended to help reduce actual and potential accidents and injuries in the fire or EMS station.

The information provided in this manual was developed from a variety of references including consensus standards, OSHA regulations, occupational health codes, provisions of the American Disabilities Act (for public areas) and related articles relative to the construction of such facilities. Recommendations in this manual are primarily based on Federal OSHA regulations. Users of this manual are encouraged to determine the applicability of station standards, local codes and ordinances, consensus standards, and recommended practices for their particular area.

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SECTION 1 - INTRODUCTION

U.S. Fire Administration injury statistics show a significant number of injuries, particularly strains and sprains, have occurred away from the emergency activity.¹ Many of these injuries and deaths are occurring where they would be least expected. Fire or emergency medical service department facilities are rarely looked at in terms of their *potential* safety and health hazards. Yet according to U.S. Fire Administration fatality summaries from 1983 to 1995 prepared by the National Fire Protection Association (NFPA), a total of 17 firefighters have died at fire stations from causes other than cardiovascular systems deaths.² These deaths include:

- seven falls (including two from hose towers),
- three carbon monoxide poisonings,
- two crushing traumas due to vehicular movement,
- one electrocution,
- one steam boiler explosion,
- one SCBA cylinder explosion,
- an overturned tractor crushing trauma, and
- one homicide,

At least two of the firefighters died in a hose tower accident while hanging wet hose. Hose tower ladders are known as a common fall hazard that can result in a traumatic accident in the fire station (yet there are safety regulations which address proper fall protection requirements). Other common areas with a high risk of injury in the fire/EMS station are sliding poles, apparatus bays, and battery charging rooms.

Firefighter and emergency medical service (EMS) personnel injuries at the station are much more common than recognized by the industry.³ Unfortunately, firefighter injury statistics specifically for station injuries are not collected consistently on a national level.⁴ However, this information can be obtained for individual departments when injury information is maintained in computer databases that allowed searching by location. Figure 1 shows station injury data by injury type and affected body part for a large and moderately sized fire department. Table 1 shows the causes for station injuries over a three year period. The costs associated with these injuries are enormous. One large fire department has estimated that its spends over \$1 million annually for injuries occurring in its stations. Clearly these data, though limited, point to the seriousness of, and need for, improved station design from a safety and health perspective.

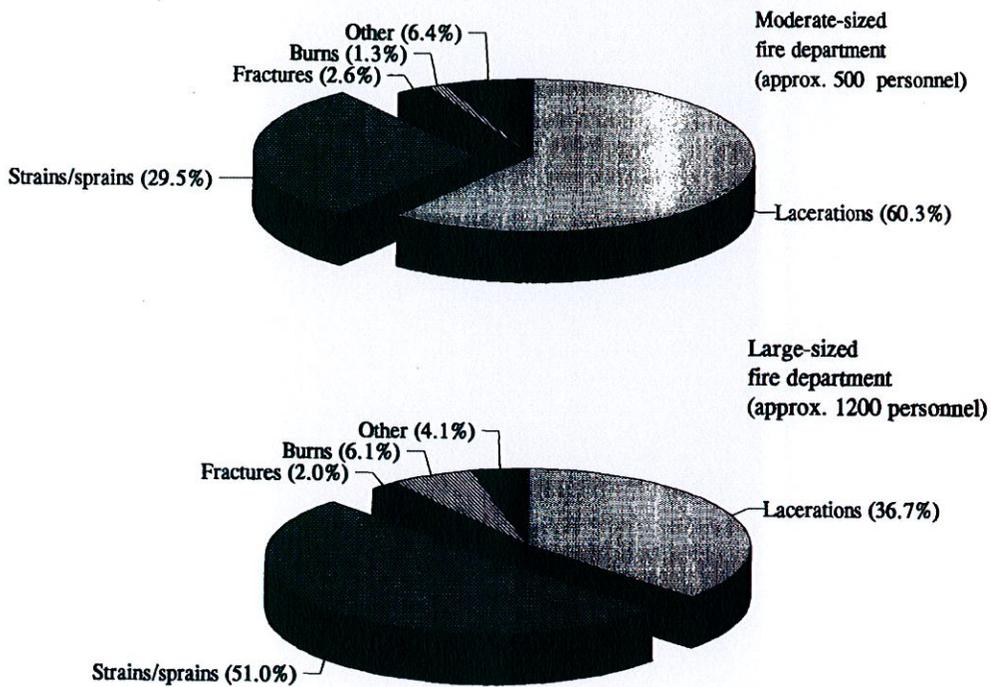
¹Statistics from the National Fire Incident Report System (NFIRS), U.S. Fire Administration Fire Coordination and Data Analysis Branch, Emmitsburg, Maryland.

²Firefighter Fatality Reports prepared by the National Fire Protection Association for the U.S. Fire Administration, 1983 to 1995.

³*NFPA Journal*, November/December issues, 1991 - 1995.

⁴Typically station injuries are included in the "other on-duty" category when departments reported to NFPA or other entities. Station injuries might also fall under the "training" or "responding/ returning" heading, if the firefighter was at a station or on station property.

**Figure 1. Types of Stations Injuries
for Two Fire Departments**



**Table 1. Summary of Station Injury Causes for a
Moderate Sized Fire Department, 1992-1994 †**

Activity	1992	1993	1994	Total	Rank
vehicle maintenance	42	37	30	109	1
physical fitness activity	40	30	24	94	2
moving about station, normal activity	23	29	19	71	3
moving about station, alarm sounding	23	18	25	66	4
station maintenance	19	12	17	48	5
boarding apparatus	15	11	12	38	6
cooking and food preparation	6	10	7	23	7
sleeping (getting out of quarters)	8	1	8	17	8
equipment maintenance	1	2	11	14	9
other activity	0	3	6	9	10
administrative work	2	4	2	8	11
exiting apparatus	not listed	not listed	3	3	12
physical fitness testing	3	0	0	3	12
showering/personal hygiene	0	1	2	3	12
training activity or drill	1	0	0	1	13
TOTAL	183	157	166	506	---

† Data compiled by a Southwestern fire department with approximately 600 emergency response personnel.

This statistics show vehicle maintenance as the number one leading cause of station injuries, followed by physical fitness (2), moving about the station during normal activity (3) and moving about the station during alarm (4). The average cost to the department for each injury is estimated at \$11,200 (includes all associated costs for lost time, medical fees, and workmans' compensation).

Limited injury data point out the types of injuries. Strains, sprains, and lacerations comprise the majority of station injuries. While these injuries are not severe, many cause lost time, and some such as lower back strains, can cause result in extensive lost time and can be debilitating. One moderate sized fire department has determined that each strain or sprain injury of moderate severity costs the department over \$25,000 in lost time, workmans' compensation, medical charges, and overtime hiring.⁵ Moreover, many types of injuries may go unnoticed. For example, continued exposure to diesel exhaust may partially explain the high incidence of certain cancers among firefighters.^{6,7} Although OSHA has confirmed diesel fuel as a carcinogen, these illnesses may be difficult to link to specific exposures at the station, but station environments may be the most likely cause over the long term.

The U.S. Fire Administration has recognized that many emergency response personnel have died and been injured needlessly as a result of accidents at fire stations. This concern is further fostered by the alarming number of occupational health exposures firefighters and EMS personnel have come in contact with in recent years which have been brought back to the station^{8,9,10} Federal and state regulations have endeavored to curb exposures to diesel emissions, noise abatement, indoor air quality, hazardous material and waste exposure, plus infectious material, all of which emergency response personnel come in contact with on a daily basis. However, these compliance with these regulations may not be consistent throughout the fire and emergency medical services.

General Requirements

Many emergency response organizations" are familiar with standards of the National Fire Protection Association (NFPA). NFPA 1500, *Standard on Fire Service Occupational Safety and Health Program*, defines a fire department facility as any building or area owned, operated, occupied, or used by a fire department on a routine basis which may include fire and rescue stations, training academies, and communication centers. Fire department facilities do not include those facilities not normally under fire department control. Chapter 7 of NFPA 1500

⁵Private communication with Tulsa Fire Department.

⁶Froines John R., William C. Hinds, Richard M. Duffy, Edward J. Lafuente, and Wen-then V. Liu, "Exposure of Firefighters to Diesel Emissions in Fire Stations," *American Industrial Hygiene Association Journal*, Vol. 48, March 1987, pp. 202-207.

⁷Stull, Jeffrey O. , "Controlling Diesel Exhaust Emissions at the Fire Station," *Fire Engineering*, Vol. 147, October 1994, pp. 18+.

⁸Heyer, N., N.S. Weiss, P. Demers, and L. Rosenstock, "Cohort Mortality Study of Seattle Fire Fighters, 1945-1983," *American Journal of Industrial Medicine*, Vol. 17, 1990, pp. 493-504.

⁹Musk, A. William, John M. Peters, and David H. Wegman, "Lung Function in Fire Fighters, I: A Three Year Follow-Up of Active Subjects," *American Journal of Public Health*, Vol. 67(7), 1977, pp. 86-89.

¹⁰Lewis, S.S., H.R. Bierman, and M.R. Faith, "Cancer Mortality Among Los Angeles City Fire Fighters," L.A. Fire Department Report, Dec., 1982.

¹¹This manual applies to station design for the fire and emergency medical services. Fire and emergency medical services are sometimes referred to as emergency response organizations or departments. Likewise, firefighters and EMS personnel may be referred to as emergency response personnel.

on “Facility Safety” requires that department facilities:

- Comply with all legally applicable health, safety, building, and fire code requirements.
- Provide facilities for disinfection, cleaning, and storage in accordance with NFPA 1581, *Standard on Fire Department Infection Control Program*. (NFPA 1581 provides guidelines the recommend against the cleaning and disinfecting of protective clothing and equipment, portable equipment, and other clothing in areas used for food preparation, the cleaning of food and cooking utensils, personal hygiene, or sleeping and living. Also required for disinfection are two sinks with a sprayer attachment, a rack with a drain to the sewer, medical-type non-grasp controls on faucets, and hot and cold water.)
- Provide smoke detectors in work, sleeping, and general storage areas.
- Comply with NFPA 101, *Life Safety Code* or locally adopted requirements of the building code.
- Be designed with provisions for the ventilation of vehicle exhaust emissions from fire apparatus (and other vehicles) to prevent exposure to firefighters and contamination of living and sleeping areas.
- Have designated smoke-free areas including work, sleeping, kitchen, and eating areas.
- Be inspected annually to determine compliance with all legally applicable health, safety, building, and fire code requirements, and that these inspections be documented and recorded.
- Be inspected monthly to identify and correct/document any safety or health hazards.
- Have an established system to maintain facilities and to promptly correct any safety or health hazards or code violations.
- In addition, the U. S. Fire Administration strongly recommends that stations be protected with automatic sprinkler systems.

Emergency response organizations find it difficult to fully comply with the inspection and maintenance requirements because of the potentially large number of requirements which can apply to fire/EMS facilities, the lack of fire/EMS service knowledge concerning station safety hazards, the perception that the station is generally a safer place than the fire ground or emergency scene, and most importantly, the cost of compliance.

There are a significant number of regulations which apply to fire and EMS department facilities. These regulations may be federal, state, or local. Standards such as those from the

National Fire Protection Association may not be mandatory depending on the state or jurisdiction where the facility is located.¹² Then, there are several other sources of non-mandatory regulations. It is impossible to list all the potentially applicable regulations. To do so would create an extensively thick and unreadable reference. For this reason, this manual focuses on mandatory, federal regulations (primarily OSHA) which apply to many states within the U.S. and references other standards and regulations as appropriate. **Federal OSHA applies to those states which do not have an OSHA-approved state occupational safety and health program. States that do have OSHA-approved plans are still required to meet or exceed Federal OSHA standards.**¹³ Three appendices containing requirements or listing sources for standards and regulations are provided:

- Appendix A OSHA regulations pertaining to fire/EMS station safety and health
- Appendix B State safety and health standards
- Appendix C List of organizations with standards and information related to station construction

Using This Manual

It is possible to construct a building without identifying what is required by every regulatory agency. Unfortunately when this happens and problems occur, the structure must be modified after it is occupied and functioning. Not only does this often result in unsafe conditions, but the costs for modifying the station are usually greater than if the regulations were considered during the planning of the building. This manual attempts to limit these occurrences by allowing departments to:

1. identify applicable requirements,
2. select appropriate design features, and
3. evaluate their compliance for safety and health.

The primary content of this manual is organized into four primary sections:

Section 2 addresses the planning process. Included in this section are roles and responsibilities of both the department and its building committee as well as the design team. This section focuses on the needs assessment model to determine department requirements and to identify potential hazards and safety concerns in selecting the site and designing the station.

Section 3 provides an overview of general design considerations. Many of the factors described are part of the overall design and construction process; however, specific comments are offered relative to safety and health concerns. Therefore, the principal purpose of this section is to increase safety and health awareness in the selection of specific station designs and features.

¹²NFPA 1500 has been adopted by occupational safety and health department in several states, including Florida, Kansas, Louisiana, Maine, Missouri, Ohio, Rhode Island, and Texas.

¹³See Appendix B for a listing of states with OSHA-approved state plans.

Section 4 identifies specific safety and health concerns at the station. Subsections are provided for each safety and health concern that:

discuss the nature of the hazard,
examine the extent of the hazard and its potential severity at the station,
list relevant standards and sources of information, and
provides preventative design requirements for preventing or reducing the hazard.

An initial portion of this section includes a matrix showing station locations where specific hazards are likely. The section ends with a composite table showing specific standards as they apply to the different areas of the station.

Section 5 establishes procedures for conducting a safety and health inspection of new or existing station construction. A comprehensive example checklist is provided in Appendix E which enables the designer or department personnel to review station design for compliance to applicable safety and health requirements.

Basis for Manual

Information presented in this manual was researched through on-site visits to several stations, ranging from rural to metropolitan, to multi-purpose facilities.

Recommendations included in this publication are specifically directed toward those accident/and health concerns associated with activities that occur on fire station premises and that can be reduced by careful design of new and remodeled facilities. Care has been taken to make the suggestions compatible with accessibility regulations and with existing life safety and health requirements.

When appropriate, administrative and procedural considerations or recommendations have been suggested. The architect alone cannot design a safe fire station. It takes the involvement and combined effort of the administration and emergency response personnel to build a station.

FEMA
National Incident Management System
Emergency Management / Response Personnel Preparedness

The screenshot shows the FEMA NIMS Resource Center website. The browser title is "Federal Emergency Management Agency - Mozilla Firefox". The address bar shows "www.fema.gov/emergency/nims/". The page features a search bar, navigation tabs for "Home", "Plan & Prepare", "Recover & Rebuild", "Apply for Assistance", "Disasters & Maps", "FEMA Audiences", "About FEMA", and "News & Media". A green navigation bar contains "Contact Info", "NIMS Alerts", "NIMS Coordinators", "NIMS FAQs", "Site Index", and "Email Updates".

The main content area is titled "NIMS Resource Center" and is divided into several sections:

- Information & Documents:**
 - About the National Incident Management System (NIMS)
 - NIMS Document [2.7MB PDF]
 - NIMS Brochure [2.3MB PDF]
 - National Response Framework Resource Center
 - Related Guides, Annexes & Documents
 - NIMS Rollout Materials
- NIMS Components:**
 - Preparedness** (highlighted)
 - Communications & Information Management
 - Resource Management
 - Command & Management
 - Incident Command System
 - Multiagency Coordination Systems
 - Public Information
 - Ongoing Management & Maintenance
- NIMS Implementation & Compliance Guidance:**
 - Implementation and Compliance Guidance by FY
 - Implementation and Compliance Guidance for Stakeholders
 - NIMS Compliance Assistance Support Tool (NIMSCAST)
 - Grants Information
- Additional Resources:**
 - Preparedness Overview
 - Mutual Aid Agreements and Assistance Agreements
 - Training and Exercises
 - FAQs
 - NIMS Alerts
 - Training
 - Additional Resources

At the bottom of the page, there is a footer with links: Home, Contact Us, Español, Privacy Policy, Important Notices, Accessibility, Download Plug-ins, FOIA, No FEAR Act Data, USA.gov, DHS. A disclaimer states: "* The social media links provided are for reference only. FEMA does not endorse any non-government Web sites, companies or applications." The URL in the address bar is ".fema.gov/emergency/nims/Preparedness.shtml".

COMMUNITY FORUM PRESS ANNOUNCEMENTS

21 February 2012

Community forum on Tupper Lake firehouse

February 21, 2012

By JESSICA COLLIER - Staff Writer (jcollier@adirondackdailyenterprise.com), Adirondack Daily Enterprise

Save |  SHARE   

TUPPER LAKE - The Tupper Lake Volunteer Fire Department will hold its first public meeting on a potential new firehouse this week.

The village board recently decided to hire the Syracuse-based firm Hueber Breuer to perform a feasibility study to look at the different options for a new or renovated firehouse.

The current fire station has long been in disrepair. Firefighters have been asking for a new firehouse for several years, and the village board has looked at the issue at times over the years but hasn't yet made much progress.

Sean J. Foran, project manager from Hueber Breuer, told the board the feasibility study would include looking at different locations for the station, one of the main points of contention in the discussion, as well as building materials, the possibility of sharing a station with other first-responder groups in town, and other factors that would go into a building new station.

Foran is also helping with the rebuilding of the Keene and Upper Jay fire stations, both of which were demolished by flooding in Tropical Storm Irene last fall.

Foran and his team are set to meet with a committee of fire department, town, village and citizen representatives eight times. This will be the first of three of those meetings that are set to be public.

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Save |

30 April 2012

Second public meeting on TL fire station next week

April 30, 2012

By JESSICA COLLIER - Staff Writer (jcollier@adirondackdailyenterprise.com), Adirondack Daily Enterprise

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TUPPER LAKE - A second public meeting on studying the possibility of repairing or replacing the Tupper Lake Volunteer Fire Department's station is set for next week.

It will be the second of three public forums being held as part of feasibility study conducted by a company called Hueber-Breuer Construction Company Inc. under contract for the village.

A committee of village, town, fire and taxpayer representatives have been meeting to assess things like possible sites for a new building, building materials, and potential funding streams for such a project.

Sean Foran, project manager for Hueber-Breuer, likes to include a lot of public input in the process so that there is public support behind the final decision. In the past, attempts at building a new fire station in Tupper Lake have had different organizations and individuals butting heads over things like locations, despite everyone agreeing the current fire station on High Street is inadequate and too run down to keep using.

"The Building Committee has been hard at work," reads a poster being distributed about the meeting. "Please come witness our progress at the second Community Forum. We would love to share our efforts and hear what you have to say!"

The meeting will be held at 7 p.m. Tuesday, May 8, in the downstairs of the Goff-Nelson Memorial Library.

A third meeting is tentatively set for June 19.

The final study meeting is scheduled for mid July, and the report compiled from the study is set to be presented to the public in mid to late August.

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Community Forum #1

Tupper Lake Fire Department

Station Repair / Replacement Study

***Wed., Feb. 22nd, 7pm @ the Goff
Memorial Library—downstairs***

The Tupper Lake Fire Department is holding their first ***Community Forum***. Please come be a part of this new effort to investigate the options regarding the Fire Station.



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Division of Fire Protection Services

Community Forum #2

Tupper Lake Fire Department

Station Repair / Replacement Study

*Tues., May 8th, 7pm @ the Goff
Memorial Library — downstairs*

The Building Committee has been hard at work. Please come witness our progress at the second ***Community Forum***. We would love to share our efforts and hear what you have to say!



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Division of Fire Protection Services

Community Forum #3

Tupper Lake Fire Department

Station Repair Replacement Study

**Tues., Sept 25th, 7pm @ the Goff
Memorial Library — downstairs**

The Building Committee has been hard at work — *so much is happening — so much to report!* Please come witness our progress at the third **Community Forum**. We would love to share our efforts and hear what you have to say!



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Division of Fire Protection Services



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Tupper Lake Fire Department
Fire Station Feasibility Study, Meeting #01
31 January 2012

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✓ Richard Sabin	TLFD Asst. Chief	
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- **Sign-in sheet.** Councilman Rick Donah requested all correspondence go to him first. He will distribute accordingly. Mary, the Village Clerk to be included in the distribution from HUEBER-BREUER.
- **Process Overview.** Process is about documenting the current condition of the building and identifying viable options for the new station. The initial process, although often times repetitive, is necessary. Series of 8 – 10 meetings. Culminates a detailed Feasibility Study as the basis of however we move forward, ie. grant writing, loan applications, referendum. All were encouraged to keep an open mind as we move forward.
- **HUEBER-BREUER Intro.** Been around since 1880. Currently run by 6th generation. Construction Mangers. Currently have 2 Fire Chiefs as consultants. Sean reviewed some of the *Division of Fire Protection's* past experience. For Tupper Lake HB will indentify “needs and wants”, understand program – apparatus, gear, public functions. Explore financing options. Unbiased leadership regarding multi-use facilities.
- **Building Type.** Block and steel vs metal building vs post and beam.

- **Start the Process.**
 - Sean introduced a “Background Information Checklist” of items HB will require as we move forward. Sean asked for responsibilities to be split amongst committee members as appropriate, and submit by meeting 4 or 5 (approx 3/1).
 - It is important to keep everyone in the loop – Town, Village, Fire Department. Fire Department support is critical.
 - Establish a Mission Statement – the goal of this Committee.
 - *Provide an effective facility for fire protection for the Village and Township of Tupper Lake, and possibly surrounding towns.*
 - *Possibly include police and rescue.*
 - *Long term, 50-year plan. – Do it once, and do it right.*
 - *Entertain options to include other Village/Town entities.*
 - *Initial focus should be on Fire Safety.*
 - *ACR – The Committee needs to consider its impact and plan accordingly.*

- **Critical Path.** Driven by the Mission Statement. To be developed and reviewed at the next meeting.

- **Police Department.** Include in the meetings? Already has plans for a new building. We also need to review their needs also. Lease from Fire Department? EMS? Sean to develop an agenda to meet with both agencies.

- **Existing Facility Analysis.** Tentatively scheduled for Friday, 2/3 around noon. Sean will meet Dick to review both stations.

- **Department Program Analysis.**
 - Village Department.
 - All Volunteer Paid drivers – work for Village DPW.
 - 51 active members. 20 retired/non-active members.
 - EMS has their own ambulance service. They also do water rescue.
 - Fundraisers – chicken barbeque, mass mailing for annual drive (April), raffle.
 - No car seat safety.
 - School kids / fire prevention.
 - No smoke detector program.
 - No commercial property pre-planning.
 - No vehicle replacement program currently in place.
 - PPE annual upgrade budget – Received new gear 2 years ago. Cycles annually.
 - Station is currently on an emergency generator. Village Hall has partial emergency power.
 - Future paid staff? More area may be added to the district??
 - Response times.
 - Volunteer bunk-in.
 - Recruitment / retention.

➤ **Viable Sites.**

- Site no. 1 – Civic Center site.
- Site no. 2 – Santa Clara corner.
- Site no. 3 – Existing EMS Facility. Corner of High St. and Church St.
- Site no. 4 – Lake Street site.
- Site no. 5 – elevated pad south of Town Hall OWD #1.
- Site no. 6 - OWD #2 other side of Town Hall & building itself.
- Site no. 7 – open field just west of OWD 1.
- Site no. 8 – look at Friday. Owned by the Catholic Church. Borders Stenson Rd.

Sean explained how each site is presented regarding site layout and utilities. Sean asked if anyone has site plans, or additional information on the site, please provide to Sean for review. He will return.

- **Public Forums.** Sean identified what happens, how we prepare for them. Important to demonstrate to the public what we are doing, and how much we have attempted to keep them in the loop. One member thought the next meeting might be too early. The remainder of the committee thought it would be a good idea since the Department is already talking about it. We need to let them know what the Study is, and why HB was brought on board. It will be short, preceded by a regular Committee meeting. Downstairs of the Goff Nelson Memorial Library on Lake St. Aggressive is ok.

- **Next Meeting.** Wednesday, 2/22. 6:00 pm Committee meeting. Public Meeting will be a 7:00. Sean will arrive a bit early to demonstrate to the Committee what he will be sharing with the public.

➤ **Viable Options.**

- Option 1. Tear down and build new on existing site.
- Renovate existing.
- New building on a new site.
- Combined Fire/EMS/Police facility.
- Village/Town/Rescue/Fire/Police facility. (OWD multi-purpose building)
- HGA – Holy Ghost Academy – building and/or land.

Sean identified what will be done in each site analysis. Square Footage for each room that is required is determined. A Magnitude of Cost is calculated for each option based on the square footage. A sample Site Layout is created. Total square footage is placed on site to configure building layout. Room locations and adjacencies are not determined at this time. A Score Sheet is developed to summarize and compare each Option.

Action Plan is final piece to the puzzle, and then an Architect is hired to begin the Schematic design.



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Tupper Lake Fire Department
 Fire Station Feasibility Study, Meeting #02
 22 February 2012

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- Sign-in sheet, agenda and previous meeting minutes distributed. (* Receive distribution from HB directly.) It was noted that at the previous meeting, held at the Goff-Nelson Public Library, there were approximately 50 people in attendance. The Committee feels this large turnout is indicative of the continued community support for the Fire Department building project.
- **Process Overview.** Goal of Feasibility Study. Sean reviewed the process for the benefit of new members. Demonstrated a complete Feasibility Study.
- **Background Information Checklist.** Chief has already forwarded some information. Mary and Sean have discussed additional information. HB will update the checklist, and forward to Mary, Rick and Mark P., so that we can identify what remains outstanding.
- **Mission Statement** – the goal of this Committee. Sean presented a draft. Only comment was that this will be completed in partnership with the Town of Tupper Lake.
- **Critical Path.** Distributed. This is Group Study Meeting #2. Six different options have been identified. Each will be evaluated by size, magnitude of cost, and site development.

- **Police Department.** Sgt. Sean Stradley of Tupper Lake is the point of contact for the Police Department. He and Sean will meet to discuss the wants and needs of the department. A separate meeting will take place for the EMS also.
- **Existing Facility Analysis.** Sean has completed a preliminary analysis of Stations 1 and 2, and took photos. There are obvious deficiencies. A more in-depth report will be forthcoming. Also visited to Holy Ghost Academy (HGA) and the Civic Site. The analysis is necessary as we move to discussion with the public. We want to demonstrate that we can substantiate action on all upcoming options. Mary will search for a previous report that was completed by an engineer 3+/- years ago. Review of this report will be useful in the current study.
- **Multi-Purpose Panel.** Will be required if we move forward with a Town/Village facility. Sean to put the individuals and information together within each entity to begin the investigation. It is understood the Town will be included in the process.
- **Potential Viable Options.** Copy of handout with 6 viable options attached. 8+/- optional sites were identified in the previous meeting.
 - Any site that is in a Wetland or Flood Zone will be discarded.
 - Assuming no technicality, all sites will be developed as a potential.
 - All sites noted have existing utilities.
 - Property near the Village garage will be added to the list and analyzed.
 - Station 2 – currently a storage facility, but they do respond out of it. It is understood that a presence in that location is required, unless a new station is centrally developed. However, the residents on that side of town do depend on responses from that location. Call volume will need to be analyzed.
- **Public Forums.** First Forum will take place tonight.
- **Option 1 Discussion.** Build a new Station only on a new site. Breakdown into needs and wants:
 - Site acquisition not included.
 - Bays – have 8 pieces of apparatus. Some can double up in bays. New piece to be coming is a 58' tower. Future equipment anticipated? No. Sean to plan for 8 spaces, with an alternate to add 2 more.
 - Turn-out gear room – not required.
 - Decon / Red Bag – combine with SCBA is a possibility. Fill station exists. NFPA standard, not requirement.
 - Conference / Meeting Space / Dining / Training / Community – can be same size as current. Flex as EOC.
 - Stand-by / Day Room – yes.
 - Radio Room – yes. Isolated. Business only. 2 computer stations. Front of Station. Include door control.

- Men's/Ladies'/Handicap Bathrooms - yes. Single unisex near bays.
- Gear Laundry – yes.
- Fitness facility – minimal would be nice. State-of-the-Art exists at the school.
- Storage space.
- Kitchen - commercial. Serve 100 people.
- Admin Offices – Chief's with 3 work stations. Line Officers – no office required.
- Bunk-in Space – no.
- Flex space for future use.
- Single story - optimal design.

Sean suggested anyone email him with ideas of any rooms / concepts that may have been missed.

- **Department vs. District.** Only difference is the municipal approach. Usually a smaller voter database. In Tupper Lake the bond is by the Village. Village pays 1/3 tax, Town pays 2/3. By law, only Village residents can vote.
- **Next Meeting.** Wednesday, 3/14, 6:00 pm Committee meeting.



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Tupper Lake Fire Department
 Fire Station Feasibility Study, Meeting #03
 14 March 2012

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- Sign-in sheet, agenda and previous meeting minutes distributed. (* Receive distribution from HB directly.)
- **Public Forum 2/22/12.** Committee members felt it went well. Good attendance. Discussion on how to get community more involved. Need to increase awareness. Members are hopeful there will be more involvement as the process moves forward. Sean felt the turn-out was impressive. 50+ people at the initial forum was impressive.
 - Referendum may be permissive. Only voters are Village residents, not Town.
 - There have been numerous inquiries on the site location.
 - Need to develop Public Forum schedule – especially into the summer when “Floridians” return.
- **Police Dept.** Sean met with Sgt. Sean Stradley today. He indicated that some of the Department’s needs are confidential. Sean will develop notes for review in the future.
- **EMS.** Sean met with Bob Collier today. They are very open to discuss any viable option.

- **Funding.** Someone inquired about potential grants. Sean indicated that the only available money has been the recent “Obama money” that is no longer available. Specific grants exist for building equipment and PPE only.
- **Process Overview.**
 - Scoring System? – occurs at the end of the Study.
 - How much? – don’t know until we know how big.
 - Where? - Don’t know until we know how big.
 - Therefore first steps today were to meet with Police and EMS. Fire already on board. With the exception of the Town/Village, pieces are coming together. Eventually square footage requirements will be developed. Town / Village pieces schedule for meeting #4 on Critical Path.
- **Background Information Checklist.** The Chief, Mary and Rick have assembled information. Sean will check to determine if any additional information is required. Currently in good shape.
- **Mission Statement** – revision that this will be “completed in partnership with the Town of Tupper Lake” was made.
- **Critical Path.** Distributed a revised. Town – scheduled in Group Meeting #5. #3 is Fire/EMS. #4 is site analysis with Civil Engineer.
 - #4 – next Public Forum? Early April may be too soon. Sean suggested moving it to later in April. Date to be determined.
 - The Committee wanted a public schedule developed to keep everyone in the loop.
 - Rick Donah will take care of press releases, etc.
- **Existing Building.** Can be refurbished and placed back on the tax rolls. It is not a complete disaster structurally.
- **Option 1 – New Station/New Site – Fire Station only.** Square footage requirements have been developed. Room lists and Magnitude of Cost will be reviewed tonight.
 - Conference / Meeting / Training space
 - Stand-by Room
 - Radio Room
 - Gang Office space
 - Appropriate Bathrooms
 - Decon / Red Bag area
 - SCBA (self-contained breathing apparatus), including cascade
 - Gear Laundry
 - Commercial Kitchen
 - Apparatus Space

- Mezzanine (1/2 space)
 - Fitness
 - Corridors and Closets add approximately 15% to square footage
 - Total: 11,700 sf
- **Option 1 – New Station only on New Site – Magnitude of Cost.** Based on square footage requirements and building experience. \$210/sf. Bottom line is, a 12,000 sf building will cost \$3.3 – 3.5M. Structural Steel / Masonry Block infill. We will also discuss other construction options.
- **Option 2 - New Station on Existing Site.**
- Option 2 will not fit on the existing site. This Option will be closed to further discussion.
- **Option 3.** Renovate existing. We must demonstrate that this option is not viable. We will utilize existing Great Lakes report. Sean will prepare a Magnitude of cost for this Option for next time. It is necessary to complete this exercise in order to demonstrate to the public that all options were investigated. Work will include, but not limited to:
- Structural repairs at front of building
 - Roofing issues
 - Overhead door issues
 - Mechanical system upgrading
 - Unsafe doors – cannot be corrected.
 - Old oil tank exists in bay. Floor is caving.
 - Sewage backing up
 - Vehicle exhaust
 - Asbestos
 - Previous repairs will be documented
- **Triple Play.** “Co-Mingling”: municipal services sharing space. This will become a future Option.
- **Next Meeting.** ...to be determined.



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Tupper Lake Fire Department
 Fire Station Feasibility Study, Meeting #04
 17 April 2012

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- Sign-in sheet, agenda and previous meeting minutes distributed. (* Receive distribution from HB directly.)
- **Public Forums.** Is there something we should be doing to inform the public better? Rick is taking the lead on advertisements. HB will provide flyers for posting around town. Some individuals will post on facebook. The next Forum would be Tuesday, May, 8, at 7:00 pm, at the library. Via copy of these minutes, Mary is asked to reserve at room for that time.
- **Police Dept. / EMS.** Sean compiled the info received from each organization, and created Magnitudes of Cost.
- **Funding.** The only potential upcoming Federal funding opportunity is approaching in May for co-mingled buildings. Gary, of HB will investigate further.
- **Critical Path.** Distributed a revised. Currently in Group Meeting #4. The next 4 meetings bring us to the end of the study. Meetings will take place every 3 weeks, on Tuesdays, culminating in early July.

- **Town.** Sean believes the committee currently has enough new information, that it would be good to bring the Town up to date. He is currently targeting May 8.
- **Existing Building.** One of the Magnitudes of Cost to review tonight is the repairs to the existing building.
- **Option 3 - Renovate existing.** Magnitude of Cost distributed. Sean reviewed the study that was done by Great Lakes Landmark, LLC on behalf of the Village in March, 2005. That along with the information on improvements completed since 2005, received from Mary. Among other things, there has been a new roof and new windows. There appears to be a good amount of asbestos that will need to be removed. Site remediation will be required. Interior items are noted on the Magnitude of Cost. All costs are figured at prevailing wage due to the fact that it would be a public project. Actual design documents will be required also. Sean briefly discussed each item for the committee.
- **Option 4 - Combination Fire/EMS/Police Facility on New Site.**
 - Sean distributed the Square Footage Analysis for the Multi-Purpose Building (MPB). Sean took the existing Fire Station square footage, combined with the EMS and Police requirements, and calculated required “shared space” into a total MPB square footage.
 - Some square footages for the EMS building is reduced because they are utilizing some existing space.
 - Use of an MPB (shared spaces) reduces the required size by approximately 3,400 sf, and therefore results in a savings of approximately \$680,000 on building costs. Additional savings will be realized in design, bonding, legal fees, etc.
 - Sean distributed separate Magnitudes of Cost for the Fire Dept. only, EMS only and Police Dept. only. EMS is a significantly lower cost, because they are a private entity. Prevailing Wage (Wicks Law), is not required. All costs for the other entities would decrease accordingly, if the building were owned privately (ie. EMS).
 - Putting all entities together in a MPB reduces the cost/square foot due to the larger building. Soft costs (design/bond/legal) are reduced due to the combination also.
- **Public vs. Private Ownership.** The East Syracuse Station No. 2 was built privately in 2006 for \$4m for 25,000 sf. The Jamesville Fire Station was built publically in 2008 for \$ 3.8M for 13,000 sf. Duration was 4 months vs. 8 months respectively. Tupper Lake needs to explore the differences in construction terms for a privately owned building leasing to the other entities. Room use and “ownership” can be identified. Financing and lease arrangement would have to be finalized prior to any design process.

- **Round table discussion** between Town/Village/EMS about a potential financing approach that might be private needs to happen. Sean would like to request they be part of our Group Meeting #6 on May 29. He will bring them up to speed prior to that time, and then give them an invitation for financing roundtable discussion. Rick Donah will contact the board to identify 2 – 3 reps. Meeting to be held at the Fire Station. “Gripes” need to be kept to a minimum.
- **Option #5 - Village/Town Rescue/Fire Police at Town Hall OWD Site Complex.** OWD building may be utilized in parts and pieces ?? There is interest within the Town for redevelopment of that building. This needs to be addressed as an Option to be explored. Price of entire site is currently at \$700,000. May not be structurally sound. Thoughts of the committee members were that it needs to be demolished. Sean will explore the building in the near future.
- **Fire Calls.** Sean would like to complete a “*Poor Man’s*” traffic study. This will help to determine response times to and from different sites, which enables discussion with the public for final building location. Sean to develop outline and forward to Chief.
- **New Building Proposed Sites:** (Matt Napierala currently developing exploration of each.) APA will have jurisdiction in all. Sean will provide a breakdown of each site for the next Public Forum.
POST MEETING NOTE: Sean and Matt Napierala will be in Tupper Lake on Monday, 30 April at 10:00 am to explore sites that have been identified. If there are any additional site suggestions, please give them to Sean prior to this time.
- **Next Meeting.** Tuesday, May 8. Committee will meet at 6:00 pm in the Village Hall, followed by a Public Forum at 7:00 pm at the Library.



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Tupper Lake Fire Department
 Fire Station Feasibility Study, Meeting #05
 8 May 2012

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- Need Sign-in sheet, agenda and previous meeting minutes distributed. (* Receive distribution from HB directly.)
- **Public Forum.** #2 to take place following this meeting. HB flyers were posted around town. Announcement is in the paper. Announcements were made at the Fire Station.
- **Funding.** The only potential upcoming Federal funding opportunity is approaching in May for co-mingled buildings. To date there does not appear to be any appropriate grant of funding available. HB will continue their search, but are not optimistic.
- **Town.** Sean met with Kathleen and toured OWD. They toured the Town Hall. Met with Pete, of Code Enforcement. They had a complete tour of HGA. All in all, some good background information was obtained.
- **Public vs. Private Ownership.** The option remains under discussion. EMS must be willing to remain as a player. More meetings with the Mayor, Town and EMS will be upcoming to continue the investigation.

- **Fire Calls.** Sean would like to complete a “*Poor Man’s*” traffic study in order to analyze response times to and from different sites. Sean to develop outline and forward to Chief.
- **Option #4.** Sean distributed revised square footage analysis and Magnitudes of Cost for Option #4. They were incorrect at the initial distribution. Committee members were asked to switch out the revision in their meeting binders.
- **Critical Path.** Distributed a revised to show the change in dates previously discussed.
- **Option #5 - OWD Site Complex.** Sean toured the site and took pictures. He identified the pros and cons of the site:
 - Pro: Ample parking
 - Pro: Good road frontage
 - Pro: Ample square footage
 - Pro: Cast-in-Place concrete building, therefore durable for an extended period.
 - Con: When viewed from the Town Hall, the spacing between the structural columns is too small to put equipment in and out.
 - Con: Buildings are only about 20’ deep – not enough room for engines.
 - Con: Column spacing at western portion of the building is sufficient for equipment, but the bar joists are too low. Depth of area is sufficient, but not optimal.
 - Con: The “Old Gym” portion is sufficient for equipment space, but there is a structural I-beam that is too low for equipment.
 - If the building were to be used for Town, Police, EMS, Fire, a third of the entire space is usable. What would happen to the remainder of it? Is the Tupper Lake in a position to be landlords to that remaining property? Ultimately, the building is in good shape in Sean’s opinion.
 - Con: Since it is an existing structure, any financing required would have to be at a 15 year term, not longer. Yearly tax implication would be high.
 - Con: Property would have to be purchased, and would take it off the tax roll.The committee came to the conclusion to take the OWD off the list of potential options. It would be a great building for a certain purpose, however, housing fire trucks is not one of them.

- **Village Garage.** Built in 1967. Pre-engineered building. It has outlived its life expectancy.

- **What about “the Square” in front of OWD?** This was the Fire Department’s second choice for locations.
Sean suggested re-purposing the Town Hall into Police and Court. Have adjoining space for impound, police vehicle, sally port. Take the land between Town Hall and OWD, and construct a new fire station, possibly Fire and EMS. Take the space where the boats are, and figure that for the offices. That will take the Admin space out of the option. Renovations to the Police Station would have to go out on its own, and that would have to be limited to a 15 year bond. Put a stand-alone fire station in, to have a 30 year bond. Eventually you could build a connector between the new fire station building and the existing admin bldg. The OWD space would still remain viable for someone for future use. This is the Fire Department’s second choice. Much of the determination of options will hinge on the EMS position on getting on board. An “executive” meeting(s) will take place following exploration of all options, and EMS will be approached and options will be identified at that time.
- **New Building Proposed Sites:** Sean and Matt Napierala toured the sites on 4/30. Matt has developed site information for each that will become part of the Feasibility Study.
 - The elevated pad / former warehouse. “Platform”.
 - Site on Santa Clara south of the Civic center may have wetlands issues.
 - Holy Ghost Academy
 - Alaskan Oil site – corner of Santa Clara. Possibly up for foreclosure. Being monitored....still “hot”? One of the committee members felt this site was too small. 1.3 acres – it would have to face Santa Clara. May be appropriate for Fire Dept only, no inclusion of other entities.
- **Score sheet.** Sean distributed a copy of the score sheet we will utilize for the sites. Much of the information needs to be addressed by the Fire Department (ie response times, sight lines). Sean requested any new line items or things that need to be discussed for future evaluation.
- **Holy Ghost Academy.** Sean is not aware of what the asking price is. The fire station could be built anywhere on the land. The existing building would serve the Town / Village / Police. Structure is well built and in excellent condition.
- Rick Donah indicated that if anyone on the Committee opens discussion with a land owner, they need to keep the Village Board in the loop so that everyone is on the same page. Need to keep communication lines between the Town and Village open.
- Exit Poll was distributed. Results on following page.
- **Next Meeting.** Tuesday, May 29, 6:00 pm.



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Tupper Lake Fire Department
 Fire Station Feasibility Study, Meeting #06
 29 May 2012

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✓	Rick Donah, Committee Chair*	Village Trustee	radonah@hotmail.com
✓	Michael J. Kmack	Village of TL	MickeyKmack@hotmail.com
	Kathleen Lefebvre	Town Council	KKLefebvre@aol.com
✓	Paul Maroun	Mayor	wawbeek@aol.com
✓	Mark Picerno	TLFD Chief	tlfd40@firehousezone.com
✓	Richard Sabin	TLFD Asst. Chief	
	Shawn Stuart	Town Resident / Taxpayer	shawnstuart@verizon.net
✓	David Tomberlin	Town Council	davidtomberlin@hahoo.com
	Mickey Webb	Town Supervisor, Santa Clara	NONIEMICK@aol.com
	Mary Casagrain*	Village Clerk	villtuplake@centralny.twcabc.com
✓	Sean Foran	HUEBER-BREUER	sforan@hueber-breuer.com

- Sign-in sheet, agenda and previous meeting minutes distributed. (* Receive distribution from HB directly.)
- **Public Forum.** #2 took place following the last meeting. Exit Poll was attached to minutes. Some interesting points: There were more non-fire people there than fire people. They were most likely EMS and Police. There were 14 new people in attendance. A significant amount recognized the need. Civic Center and Santa Clara were the favorite sites. Some comments were made that Sean’s presentation indicated that a site is still unidentified at this time is time. Some committee members were uncomfortable with that statement.
- **Fire Calls.** Sean would like to complete a “Poor Man’s” traffic study in order to analyze response times to and from different sites. Plan is to run from the existing station to Dollar General, Sun Mount, Beaver Wood Road and Country Club Road and Route 30. This will provide good indicators in all directions. Also run from Santa Clara to Shaheen’s Hotel, the High School, to the corner of Stetson and St. Rt. 30, to corner of St. Rt. 30 and Raquette River Drive, and Country Club Rd. and Rt. 30.

- **Critical Path.** Sean distributed an updated critical path.
- **Option 5 Magnitude of Cost – OWD.** Null and void.
- **Option 6 - Holy Ghost Academy.** Sean distributed a Magnitude of Cost and square foot requirement. Sean used the Square Footages that were developed for the multi-purpose building – Fire, Police and EMS. Need to make assumptions as to what goes in the existing building, and what would be new. Result was 7,000 sf in existing, which Sean feels would be in the ballpark of what is there. At this time, there is not a definite size (square foot) determined at the existing building. Sean also completed the Magnitude of Cost. He assumed there is some asbestos in it. He feels the building is in great shape structurally, and regarding finishes. \$.5M would go a long way in bringing it up to speed. The Magnitude of Cost included construction of a new station.
- **Call Volume.** Sean distributed a map of 5 zones. Zone 1 (green) is the Village proper from Santa Clara up. Santa Clara down, is Zone 2. Zone 3 is across the Raquette River. Zone 4 is everything past the lower Village. Zone 5 heads the other way toward Santa Clara. Sean will Double check if Santa Clara’s protection district was picked up. From the figures, it appears Zone 1 carries 60% of the call volume. Sun Mount accounted for 30% of the calls in Zone 1. 15 Church Street received 15 – 20 calls/year. Based on this analysis, call volume does not really support putting a station west of the Town Hall or OWD. Data indicated that it should go closer to the Village center, for 2 reasons: 1. Call volume already exists there, and 2. What might be coming in the future. It would be a best case scenario not to have push through town on emergency calls due to safety concerns.
- **Site Selection / Score Sheet.** Is it Tupper Lake’s goal to have a fire station that is prominent, and a center of activity? Or is it necessary to only have a garage for truck storage. The Committee feels it should be in sight and part of the community. This question will be part of the site location score sheet. Siren noise should be taken into consideration, although not the most critical item. Site scoring will occur during the next committee meeting. Any ideas for scoring “qualifiers” are critical to the process.
 - Old Rite Aid Store. Sean will develop a site analysis.
 - Park. Sean will develop a site analysis.
 - Maclaughlan site. Tupper Lake Housing Authority. Left hand side, before first house. Ivy Terrace Extension. Sean will develop a site analysis.
 - Shopping center. Too expensive to purchase property with a building on it, and then tear it down. An open lot is much more feasible.

- **EMS Meeting.** Sean spoke with Rick for a format for discussion. Meeting will be 12 June, 7:00 pm, at EMS facility. In attendance should be Rick, the Mayor, Sean. Sean feels there should be at least one or two people representing the Fire Department. There should be a Town representative. Sean encouraged Town reps to have a roundtable discussion prior to this meeting. Sean will turn to Rick and the Mayor to put the proper people in the room. Everyone on this Building Committee will receive a meeting agenda, and who will attend, prior to the EMS meeting.
 - Discussion will be on current issues relative to each Department.
 - By end of discussion, EMS will be either “in” or “out”.
 - Need to create “community buy-in”, with or without EMS. This is the next step in the process.
 - Need to review aerials of the existing EMS facility to confirm why the new building can or cannot go there on that site.
 - Sean will develop a summary sheet of the various Ownership scenarios and the impact they have on municipalities.
 - What if we build EMS/Fire, and the Police Dept. moves into the EMS old facility?
 - Sean to develop a chart showing the cost effect of private vs public financing.

- Sean to contact Brad Pinsky regarding legal aspects of Tupper Lake options.

- **Next Committee Meeting.** Tuesday, June 19, 6:00 pm. There will be not public meeting. The Committee needs to complete the score sheet and have proposed options for public review.



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Tupper Lake Fire Department
 Fire Station Feasibility Study, Meeting #07
 19 June 2012

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✓ Royce Cole	TLFD Asst. Chief	tlfd_340@yahoo.com
✓ Rick Donah, Committee Chair*	Village Trustee	radonah@hotmail.com
✓ Michael J. Kmack	Village of TL	MickeyKmack@hotmail.com
✓ Kathleen Lefebvre	Town Council	KKLefebvre@aol.com
Paul Maroun	Mayor	wawbeek@aol.com
✓ Mark Picerno	TLFD Chief	tlfd40@firehousezone.com
✓ Richard Sabin	TLFD Asst. Chief	
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Mickey Webb	Town Supervisor, Santa Clara	NONIEMICK@aol.com
Mary Casagrain*	Village Clerk	villtuplake@centralny.twcabc.com
✓ Sean Foran	HUEBER-BREUER	sforan@hueber-breuer.com

- Sign-in sheet, agenda and previous meeting minutes distributed. (* Receive distribution from HB directly.)
- **Public Forum.** With the inclusion of the EMS group into the study, it was discussed that we will need more public meetings to keep the community informed and involved with the process. Tentative next public forum is scheduled for 21 August 2012. More discussion as this as we get closer.
- **Poor Man's Traffic Study.** Chief Picerno is coordinating and will get info to Sean.
- **Critical Path.** A new critical path will be developed for the July 10th meeting that incorporates the EMS analysis info in the project.
- **Call Volume.** The call volume data was discussed and will be utilized in scoring the potential sites.

- **Site Selection.** The committee will score all identified sites in the 7/10/12 meeting. They will score each of the options as well. Scenario “A” will be a private project and Scenario “B” will be a public project.
- **EMS / Shared Facility Task Force.** There was discussion regarding the formation of the Task Force. Rick Donah will look into adding potential community members with legal and financial backgrounds that could potentially assist in the development of this option.
- **Next Committee Meeting.** Tuesday, July 10, 6:00 pm.



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Tupper Lake Fire Department
 Fire Station Feasibility Study, Meeting #08
 10 July 2012

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✓ Royce Cole	TLFD Asst. Chief	tlfed_340@yahoo.com
✓ Rick Donah, Committee Chair*	Village Trustee	radonah@hotmail.com
✓ Michael J. Kmack	Village of TL	MickeyKmack@hotmail.com
Kathleen Lefebvre	Town Council	KKLefebvre@aol.com
Paul Maroun	Mayor	wawbeek@aol.com
✓ Mark Picerno	TLFD Chief	tlfed40@firehousezone.com
✓ Richard Sabin	TLFD Asst. Chief	
✓ Shawn Stuart	Town Resident / Taxpayer	shawnstuart@verizon.net
✓ David Tomberlin	Town Council	davidtomberlin@hahoo.com
Mickey Webb	Town Supervisor, Santa Clara	NONIEMICK@aol.com
Mary Casagrain*	Village Clerk	villtuplake@centralny.twcbc.com
✓ Jim Bankich	TL Rescue, Chief	
✓ Sean Foran	HUEBER-BREUER	sforan@hueber-breuer.com

- Need Sign-in sheet, agenda and previous meeting minutes distributed. (* Receive distribution from HB directly.)
- **Public Forum.** Next time to update the Public would be when the study is complete with conclusions and recommendations. Target next public forum for 21 August 2012.
- **Poor Man’s Traffic Study.** Study may have been caught in email “spam”, Sean requests it be sent again.
- **Town Board.** How do we keep the Town Board updated? Reference the FTP site for items gathered to date. <http://files.hueber-breuer.com>

UserName: Tupper Lake Password: TLFD

Scenario “A” will be a private project and Scenario “B” will be a public project.

- **Newspaper Comments.** We need to get facts, not opinions in the press. Many items are explained in the Public Forums. Please get someone to attend to get the most up-to-date information. David stated that he'd like to see an "engineer" report on the shortcomings of the existing Station. Most of the items, however, are not based on an Engineer's findings, but rather size and safety issues. OWD Building?? – need a solid reason as to why it won't work. Do not get into a public battle in a newspaper or on line. Committee members are concerned that a structural P.E. is required to satisfy some public opinions. This will be addressed in the next public meeting.

- **Protocol.** Relative to the EMS entering and the "private" ownership, we are now trying to move forward to the next phase. How will we do this? Where are we now, and where are we going? Sean encouraged everyone to trust the Critical Path as is. Once Feasibility is complete, we will develop the EMS piece, and follow the process for drawing development during the fall/winter of this year.
Any information that is disseminated at the meetings is not for public viewing. Taken incorrectly, or mis-interpreted "contaminates" public perception. Again, the Public Forums is the arena for information disclosure.

- **Task Force.** The Mayor, 2 Fire Dept members, 2 EMS members, 1 Police member, 1 from the Village, 1 from the Town, a legal representative, a financial representative, and Sean. Sean encouraged the committee to locate a community member who might be willing to assist the committee legally and/or financially. Scope of the study includes:
 - EMS "Program" with Jim.
 - Common space / corridor space?
 - Existing EMS building?
 - Police location?

- Rick would like Sean to tour the EMS building with an eye for potential police occupancy. He would like this to happen prior to the next meeting. Also before the next meeting Sean and Jim will meet to do the EMS Program.

- **EMS.** The meeting with Sean and Jim will include:
 - Program.
 - Sketch to illustrate square footage.
 - Develop potential options regarding the Police. One being the old Fire Station, to say that it was looked at.
 - The EMS building.
 - Ivy Terrace.
 - Legal perspective for a long term lease agreement.
 - Budget numbers to lending institutions.

- **Site Selection Score Sheet.** It was intended to complete the Score Sheet this evening, however, due to a fire call and the loss of Fire Department representatives it was postponed to the meeting of July 31. In the meantime, look at:
 - Public vs. Private
 - Multipliers.
 - Any other qualifiers?

- **Option Score Sheet.** Sean distributed the sheet for brief review prior to July 31 when the scoring is actually completed. This score sheet will be developed prior to the Site Selection Scoring.

- **Two more site options requirement development.**
 - Rite Aid Store. Tear down and regrade. Good site lines and location.
 - Ivy Terrace. Tupper Lake Housing Authority, Inc. Sean will meet with the Administrator to discuss this site when he meets with Jim.

- **Next Committee Meeting.** Tuesday, July 31, 6:00 pm. Not a Public Forum.



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Tupper Lake Fire Department
 Fire Station Feasibility Study, Meeting #09
 21 August 2012

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✓ Rick Donah, Committee Chair*	Village Trustee	radonah@hotmail.com
✓ Michael J. Kmack	Village of TL	MickeyKmack@hotmail.com
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✓ Paul Maroun	Mayor	wawbeek@aol.com
Mark Picerno	TLFD Chief	tlfld40@firehousezone.com
✓ Richard Sabin	TLFD Asst. Chief	
Shawn Stuart	Town Resident / Taxpayer	shawnstuart@verizon.net
David Tomberlin	Town Council	davidtomberlin@hahoo.com
Mickey Webb	Town Supervisor, Santa Clara	NONIEMICK@aol.com
Mary Casagrain*	Village Clerk	villtuplake@centralny.twcabc.com
Jim Bankich	TL Rescue, Chief	
✓ Mike Boylan	TL Rescue	
✓ Rene LaMora	TL Rescue	
✓ Sean Foran	HUEBER-BREUER	sforan@hueber-breuer.com

- Sign-in sheet, agenda and previous meeting minutes distributed. (* Receive distribution from HB directly.)
- Brief discussion on Keene and ramifications to others. Sean distributed bid day results.
- **Public Forum.** Next Forum is currently scheduled for September 25th.

- **Newspaper Comments.** In response to the article about the OWD Building, Sean has prepared documents substantiating the Committee's position on why the building will not work. Bays on lawn side are not large enough to accommodate fire engines. Pilasters between bays are 11'. Standard openings are 14', in order not to pose any danger to responders. The structure is wood, and can only be financed for 15 years. Wood is not acceptable for an "Essential Facility". The old gym space has a 10' grade beam of concrete that cannot be removed. The slab is only 4" thick, which will not support fire trucks. This will be addressed in a formal package.
- **Site Selection Score Sheet.** Score Sheet will be completed 9/11 meeting.
- **Option Score Sheet.** Score Sheet will be completed 9/11 meeting.
- **New site option requiring development.**
 - Lemars (??) Blvd. Tom's shop and 2 houses adjacent. 200' deep, 137' wide. Need to evaluate this property.
- **Essential Facility.** There are certain requirements mandated by Building Code that must be followed. It should be the "last building standing". Using a metal building, does not necessarily mean a lower square foot cost. Sean will price all structure types once an option is chosen.
- **Critical Path.** (attached) Sean distributed the current Critical Path, Updated Viable Options, and Square Footage Analysis & Magnitudes of Cost for Options 7, 8 and 9. Next meeting will include the Site Options, Building Options, and OWD investigation.
- **Option 7A.** Utilization by the Police Department, of the existing EMS Building – Booking Room on Garage Level, a separate "juvenile" entrance and additional storage space.
- **Option 7B.** Utilization of the existing EMS Building – Booking Room on the Upper Level. Based on the analysis of both options, it was concluded that utilizing either option, the Police Department could function out of that building (from a Program standpoint).
- Sean distributed the Magnitude of Cost for both 7A and 7B. In his opinion, this needs to be a public project, not private.
- **Option 8. Private Fire and EMS.** 19,000 total square feet required. Shared space is 6,800 sf that is "multi-purposed", providing cost efficiency. Fifth Bay is included in this space. It appears the Fire Department utilizes about 60% of the square footage.
 - By comparison, the local Civic Center square footage is 25,200.

- **Option 9. Public Fire and EMS.** Sean to revise and send by 8/27.

- **Public vs. Private.** (funding sheet attached)
 - Public, for every \$1m, it is \$10/100,000.
 - Referendum required.
 - Private –
 - No referendum.
 - Summary: If you have a \$200,000 house in the Village of Tupper Lake, and you build a \$4M Fire/EMS project, taxes will increase about \$80/year.

- **Next Committee Meeting.** Tuesday, September 11, 6:00 pm. Next a Public Forum will be 9/25/12, along with submission of the Feasibility Study.



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Tupper Lake Fire Department
 Fire Station Feasibility Study, Meeting #10
 11 September 2012

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✓ Rick Donah, Committee Chair*	Village Trustee	radonah@hotmail.com
✓ Michael J. Kmack	Village of TL	MickeyKmack@hotmail.com
✓ Kathleen Lefebvre	Town Council	KKLefebvre@aol.com
✓ Paul Maroun	Mayor	wawbeek@aol.com
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Mary Casagrain*	Village Clerk	villtuplake@centralny.twcbc.com
Jim Bankich	TL Rescue, Chief	
✓ Mike Boylan	TL Rescue	
Rene LaMora	TL Rescue	
✓ Sean Foran	HUEBER-BREUER	sforan@hueber-breuer.com

- Agenda and previous meeting minutes distributed. (* Receive distribution from HB directly.)
- Tonight is the big “score sheet” meeting.
- Keene ramifications. Since the last meeting the Governor/FEMA has issued a check for \$600,000 the station. The project is now a “go”, and is underway. The money did not all come from FEMA, but rather was distributed as part of a rural donation to rebuild the infrastructure of the north country. It is not out of the question that Tupper Lake could reap the same benefits once the Feasibility Study is issued.
- **Public Forum.** Next Forum is scheduled for September 25th.

- **Site Selection Score Sheet.** Score Sheet will be completed tonight. The Demars Blvd (LaMere property) site has been added to the potential sites, bringing the current total to 15. Note that for any new site, the cost of acquisition is not included.
- **Option 8.** Private Fire and EMS on a new site. Corrected Square Footage sheet and Magnitude of Cost were distributed. \$4.4M privately, based on 20,752 sf.
- **Option 9.** Public Fire and Police (no EMS) on a new site. Corrected Square Footage sheet and Magnitude of Cost were distributed. Approximately 16,000 sf at \$4.4M.
- **Critical Path.** Updated was distributed. Few changes noted. After tonight's scoring, the Committee should be able to identify the best, or top 2 options.
- **OWD Plant.** Sean distributed the summary of the site. Tax roll issue is not a driving point.
- **SCORE SHEET SUMMARY.** Options were scored. HB will clean up the Score Sheets and distribute.
 - HB will meet again Wednesday, 9/19 at Tupper Lake EMS at 7:00pm.
 - Public Forum #3 will be at 7:00 on 25 September at the Library. Committee meeting will be at 6:00 to review the power point and Feasibility Study.
- **Rick Donah summarized 2 scenarios for building types.**
 1. Provide a metal building that meets Essential Facility Codes.
 2. Provide a block and steel conventional building.

He would like to reach a cost of \$125/sf for a metal engineered building – no frills, private, local contractor. Sean's figure is currently at \$160/sf. HB to provide budgets from other recent metal engineered buildings in the North Country for Committee review.



Tupper Lake Fire Department

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17 January 2012

Division of Fire Protection Services

Presentation Overview

- Introduction to HUEBER-BREUER CONSTRUCTION CO., INC.
- Division of Fire Protection Services
- Scope of Services
- Relevant Experience



Division of Fire Protection Services

HUEBER-BREUER CONSTRUCTION

- Quality Since 1880.
- Family Owned, Sixth Generation Stability.
- Staff of Developers, Project Managers, Schedulers, Estimators and Superintendents.
- Two Highly Accomplished Fire Consultants.
- Dedicated to the Team Delivery Process.
- The proven ability to provide successful leadership before, during and after the construction project.



Division of Fire Protection Services

Division of Fire Protection Services

- Professional
- Dedicated
- Proven Success

Our Philosophy . . .

- We understand that Emergency Response Facilities have special requirements.
- We realize that each have unique needs.
- Our goal, through a well planned process, is to lead your Department from concept through construction in an efficient, cost effective way.



Division of Fire Protection Services

What We Do ...

- Needs Assessment / Feasibility Studies
- Disaster Recovery Assistance
- Grant Writing
- Schematic Design through Referendum
- Referendum Support
- Constructability Review / Budget Development
- Pre-Construction / Comprehensive Bidding
- Construction Management
- Close-Out / Owner Training / Warranty



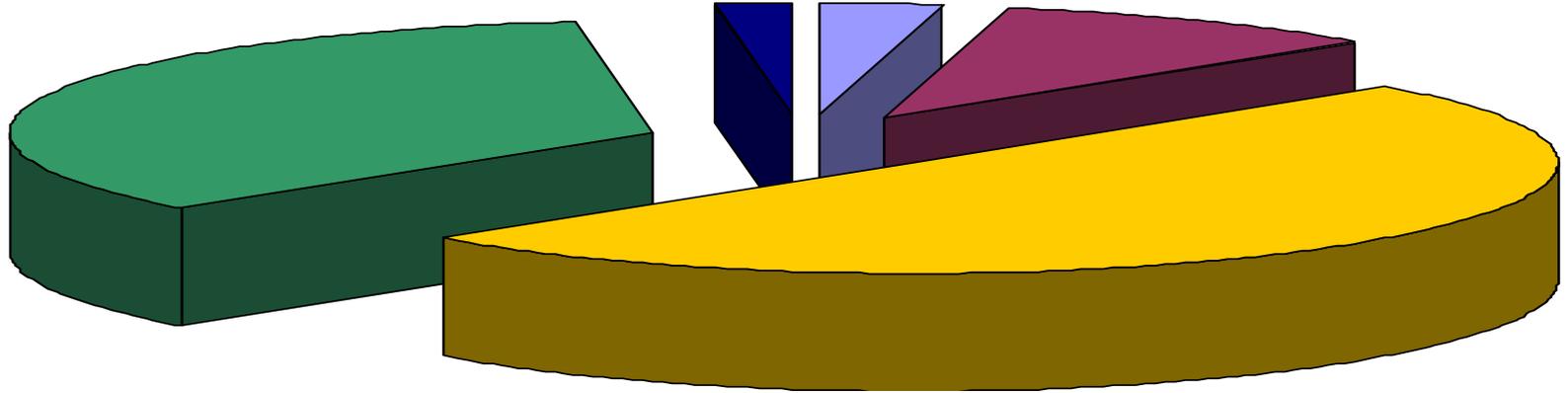
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What We Will Do For Tupper Lake

- Site Analysis
- Existing Building Condition
- Review Building Types – Pro's and Con's
- Identify all Financing Options
- Provide Unbiased Leadership in Exploring Potential Multi-use Facility
- Provide Detailed Feasibility Report



Cost Effective Approach



Design and Management Costs

- Needs Assessment (3%)
- Schematic Design / Referendum (10%)
- Design Development (50%)
- Construction Administration (35%)
- Warranty (2%)

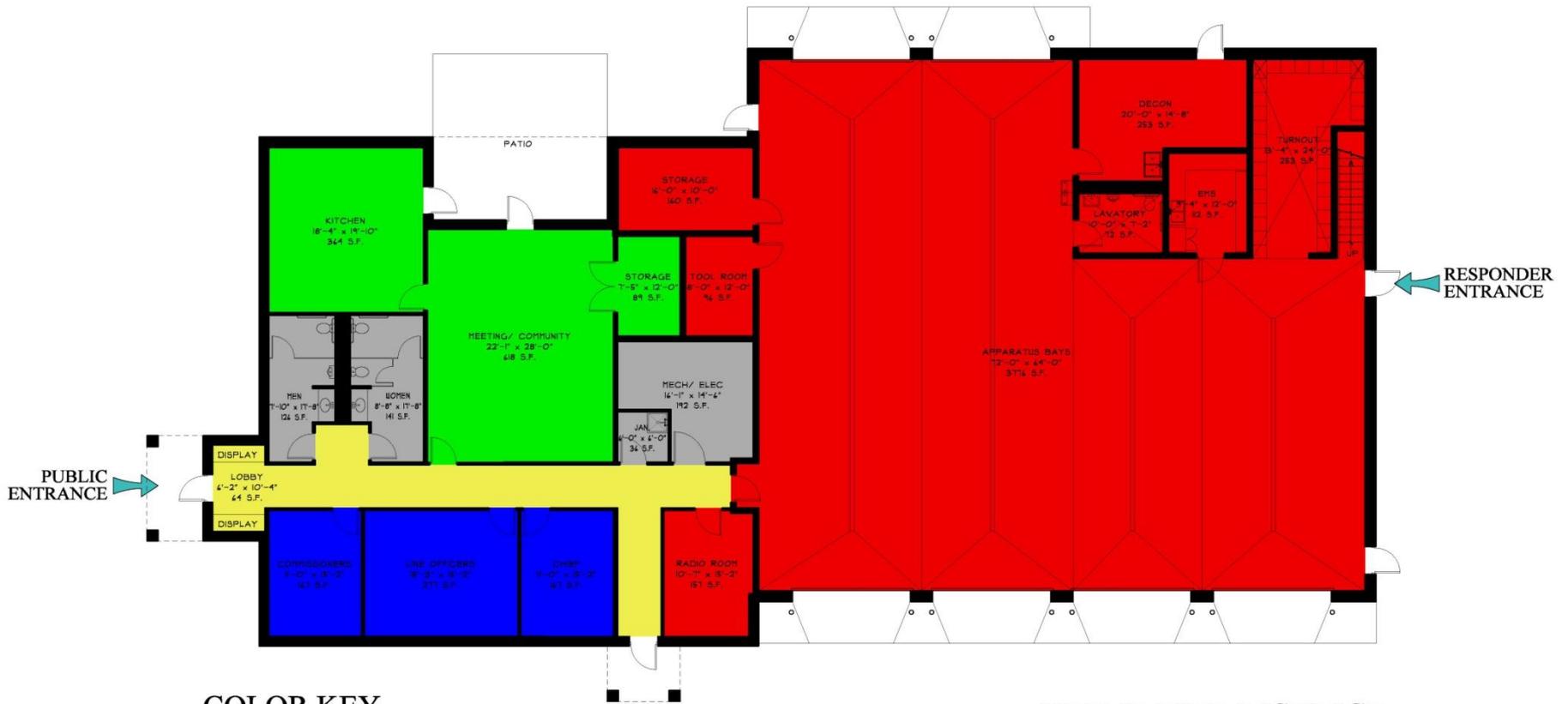
Current Projects:

- Vestal Volunteer Fire Department, Vestal, NY
- Jonesville Volunteer Fire Department, Jonesville, NY
- Keene Fire Department, Keene, NY
- Upper Jay Fire District, Upper Jay, NY



Division of Fire Protection Services

Current Project: Keene, NY



COLOR KEY

■	FIREMATIC RESPONSE AREAS	■	CORRIDORS
■	COMMUNITY AREAS	■	SERVICE AREAS
■	OFFICE/ FIREFIGHTER AREAS		

KEENE FIRE DISTRICT
CONCEPTUAL PLAN
 8,420 SF FOOTPRINT 12/30/11

PR PACHECO ROSS
 ARCHITECTS, P.C.
72 Voorheesville Avenue PO Box 558 Voorheesville, NY 12196 (518) 785-5105 fax 785-5107

Completed Projects Since 2004

- Fayetteville Fire Station
- Tully Fire Station
- Jamesville Fire Station
- DeWitt Fire Station
- East Syracuse Station #2
- Minoa Station #1
- Solvay Volunteer Fire Station



Division of Fire Protection Services

Minoa Station #1



East Syracuse Station #2



Jamesville Fire District



Tully Fire District



Referendum Success



DeWitt Fire District



Jamesville Fire District

Following 2 failed independent attempts



Tully Fire District

Following 3 failed independent attempts



Fayetteville Fire Department



Thank You!

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Division of Fire Protection Services



Tupper Lake Fire Department

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22 February 2012

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Division of Fire Protection Services

Completed Projects Since 2004

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- Minoa Station #1
- Solvay Volunteer Fire Station



Division of Fire Protection Services

Minoa Station #1



Tully Fire District



Jamesville Fire District



East Syracuse Station #2



Current Projects:

- Vestal Volunteer Fire Department, Vestal, NY
- Jonesville Volunteer Fire Department, Jonesville, NY
- Keene Fire Department, Keene, NY
- Upper Jay Fire District, Upper Jay, NY



Division of Fire Protection Services

What We Will Do For Tupper Lake

- Existing Building Condition Analysis
- Site Analysis
- Identify Needs / Wants of Department
- Identify and Explore all Viable Options
- Review Building Types – Pros and Cons
- Identify all Financing Options
- Provide Unbiased Leadership in Exploring Potential Multi-use Facility
- Provide Detailed Feasibility Report



Preliminary Building Analysis

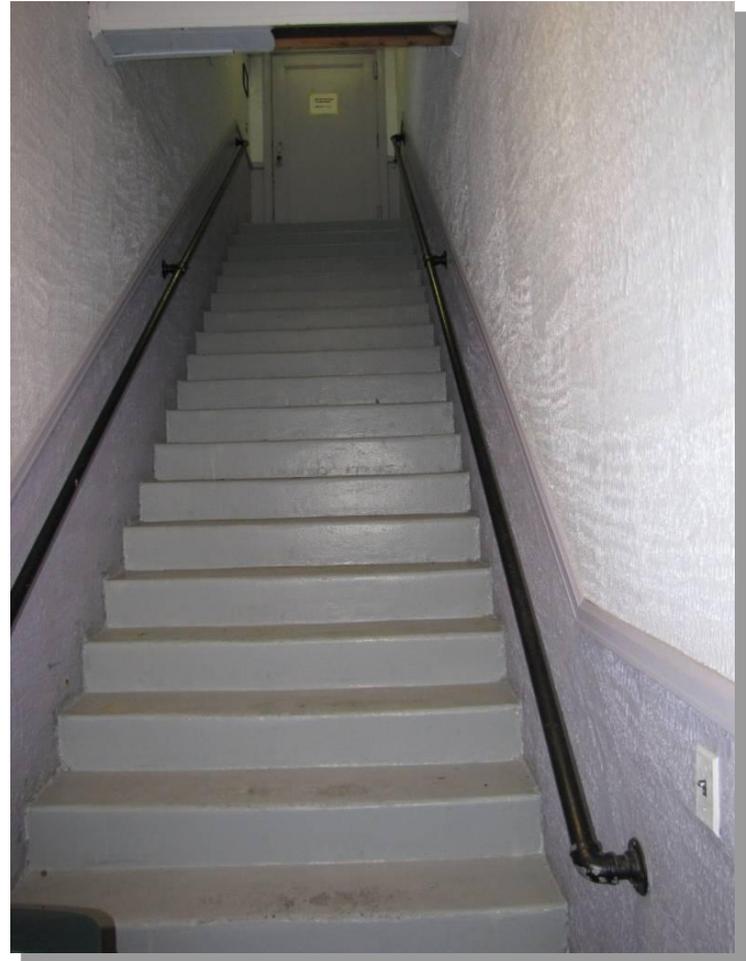
- Not Handicap Accessible
- Serious Safety Concerns in Bays
- Bathroom Facilities Inadequate
- Outdated Mechanical System
- Structural Failure at Overhead Doors
- ???????



Division of Fire Protection Services

Handicap Accessibility

- Does Not Meet Code
- Slip / Fall Hazard



Pinch Points in Bay



- Major Safety Concern
- LODD in the Past

Insufficient Bathroom Facilities



- Does Not Meet Code
- Inadequate for Events

Inadequate Bay Storage



- Causes Equipment Damage
- Safety Hazard

Structural Failure at Overhead Doors



- Structural Failure at Floor
- Damaging Exterior Brick

Potential Site Options

- Site #1: Civic Center Site
- Site #2: Santa Clara Corner
- Site #3: Existing EMS Facility. Corner of High St. and Church St.
- Site #4: Lake Street Site
- Site #5: Elevated Pad South of Town Hall OWD #1.
- Site #6: OWD #2 Other Side of Town Hall & Building Itself
- Site #7: Open Field Just West of OWD 1.
- Site #8: Holy Ghost Academy Site

Option #1 Civic Center Site



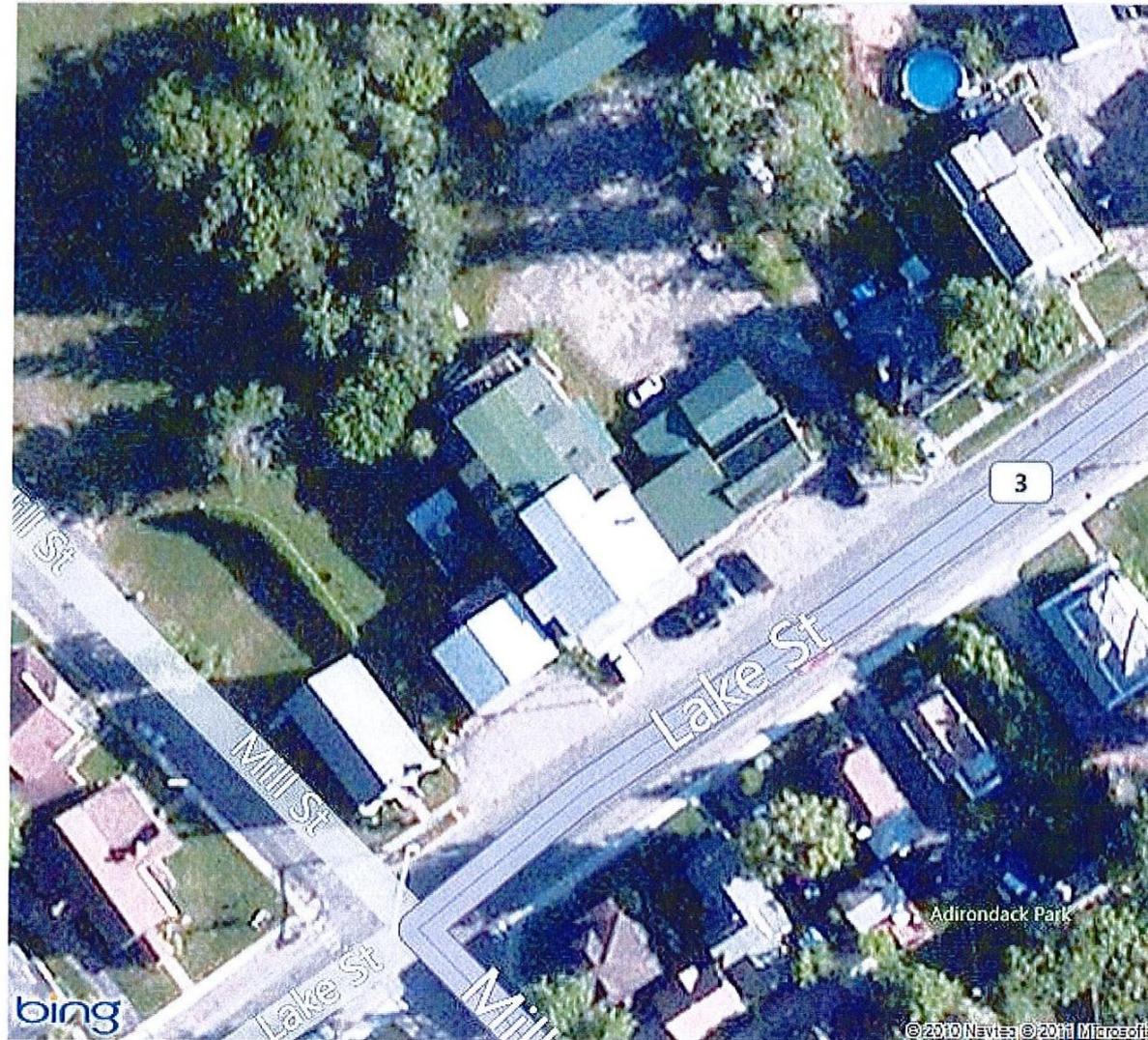
Option #2 Santa Clara Corner



Option #3 EMS Facility – High St



Option #4 Lake Street Site



Option #5 Pad Near Town Hall



Option #6 OWD Site / Bldg



Option #7 Open Field Near Pad



Option #8 Holy Ghost Academy



Potential Building Options

- Build a new Fire Station Only on a new site
- Tear down the existing Station and build new on the existing site
- Renovate the existing Station
- Combine a Fire / EMS / Police facility on a new Site
- Village / Town / Rescue / Fire / Police facility at the existing Town Hall / OWD Site
- Holy Ghost Academy – building and/or land combination



Division of Fire Protection Services

Sample Square Foot Analysis

ROOM	DIMENSION	SQUARE FOOTAGE
Stand By Room	16 x 15	240
Radio Room	11 x 15	165
Gang Office Space	22 x 15	330
Bathrooms	19 x 17	323
Decon / Red Bag	7 x 15	105
Bay Bathroom	7 x 7	49
EMS	12 x 7	84
Turn Out	29 x 11	319
Apparatus Bay	60 x 65	3,900
Kitchen	21 x 16	336
Tool Room	8 x 8	64
Mechanical Room	10 x 16	160
Multipu pose	40 x 22	880
Corriders		400
Commissioners Office	8 x 15	120
TOTAL		7,475

Sample Magnitude of Cost

Description	Qty	Unit	Unit Cost	Sub Total
Existing Station				
Asbestos Survey / Abatement	1	allow	\$ -	\$ -
Demolition	1	allow	\$ 10,000	\$ 10,000
Site Remediation	1	allow	\$ 10,000	\$ 10,000
EXISTING BUILDING SUBTOTAL				\$ 20,000

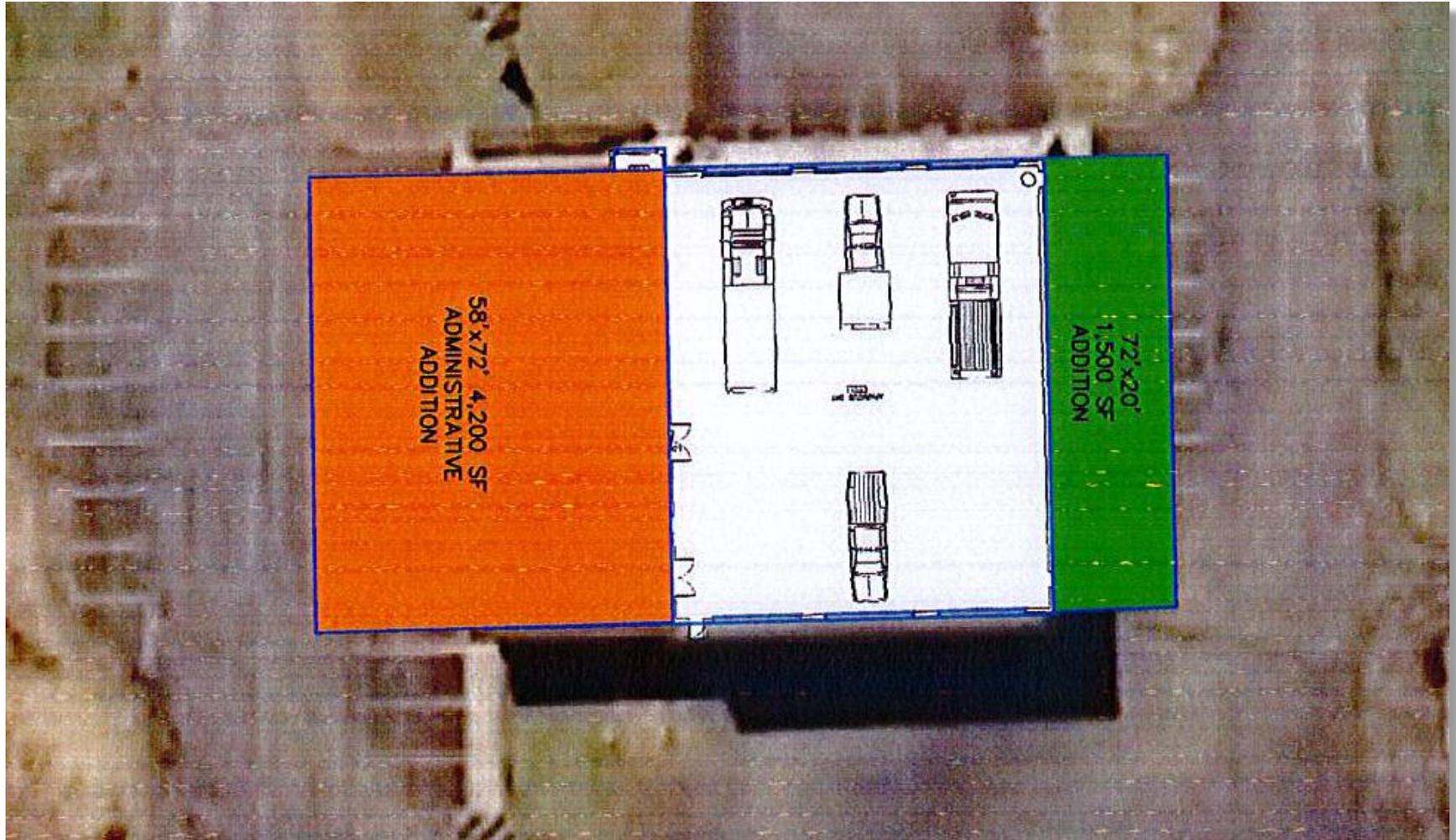
Option "A" New Construction

Design Fees	1	allow	\$ 125,000	\$ 125,000
Construction Cost	7,475	SF	\$ 180	\$ 1,345,500
Bond / Legal / Miscellaneous	1	allow	\$ 40,000	\$ 40,000
Design Contingency	5%	cost	\$ 1,345,500	\$ 67,275
Construction Contingency	5%	cost	\$ 1,345,500	\$ 67,275
Price Escalation	5%	cost	\$ 1,345,500	\$ 67,275
NEW CONSTRUCTION SUBTOTAL				\$ 1,732,325

NO SITE PURCHASE INCLUDED

OPTION "A" TOTAL	\$ 1,752,325
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Sample Site Layout



Please Complete an Exit Poll

Tupper Lake Fire Department

Thank you for joining us this evening. Following the presentation, please take a moment to complete the following and submit it as you leave. All responses will remain anonymous.

Are you a Fire Department member? *YES* *NO*

Have you been in the Station in the past year? *YES* *NO*

Do you support the idea of replacing the current Station? *YES* *NO*

Do you think a Multi-Purpose Facility is a good idea? *YES* *NO*

Comments: _____

What's Next?

- Committee meets every 3 weeks
- Complete site analysis
- Complete building analysis
- Facilitate multi-use facility discussion
- Next Public Forum – Wednesday, 4 April, 7:00 pm



Division of Fire Protection Services



Thank You!

hueber
breuer

Division of Fire Protection Services

COMMUNITY FORUM
Exit Poll Results, 22 February 2012

Are you a Fire Department Member?	<u>YES</u> 23	<u>NO</u> 13
Have you been in the Station in the past year?	<u>YES</u> 33	<u>NO</u> 3
Do you support the idea of replacing the current Station?	<u>YES</u> 35	<u>NO</u> 1
Do you think a Multi-Purpose Facility is a good idea?	<u>YES</u> 19*	<u>NO</u> 12*
Comments.	<p>* (5) Responses to the Multi-Purpose facility were undecided. But EMS will not happen (no government idea). Compatibility & feasibility. Total costs. Don't have enough information yet. I would remove the HGA site as I feel it is too far removed from the main business area & would be difficult to locate. Also too much of a residential area. Let's get it done. Multi-Purpose is way to go, but cooperation of all groups is a must. A very needed project. Old Rite Aid building. Site next - on corner of Woods Ave. and Park St. Lot next to Sarvis Mini Mall. Town Board member We need a safer environment with more room. We need a station that is built with future needs in mind</p>	



Tupper Lake Fire Department

hueber
breuer

22 February 2012

Division of Fire Protection Services

HUEBER-BREUER CONSTRUCTION

- Quality Since 1880.
- Family Owned, Sixth Generation Stability.
- Staff of Developers, Project Managers, Schedulers, Estimators and Superintendents.
- Two Highly Accomplished Fire Consultants.
- Dedicated to the Team Delivery Process.
- The proven ability to provide successful leadership before, during and after the construction project.



Division of Fire Protection Services

Completed Projects Since 2004

- Fayetteville Fire Station
- Tully Fire Station
- Jamesville Fire Station
- DeWitt Fire Station
- East Syracuse Station #2
- Minoa Station #1
- Solvay Volunteer Fire Station



Division of Fire Protection Services

Current Projects:

- Jonesville Volunteer Fire Department, Jonesville, NY
- Keene Fire Department, Keene, NY
- Tupper Lake Fire Department, Tupper Lake, NY
- Upper Jay Fire District, Upper Jay, NY
- Vestal Volunteer Fire Department, Vestal, NY



Division of Fire Protection Services

What We Will Do For Tupper Lake

- Existing Building Condition Analysis
- Site Analysis
- Identify Needs / Wants of Department
- Identify and Explore all Viable Options
- Review Building Types – Pros and Cons
- Identify all Financing Options
- Provide Unbiased Leadership in Exploring Potential Multi-use Facility
- Provide Detailed Feasibility Report



Preliminary Building Analysis

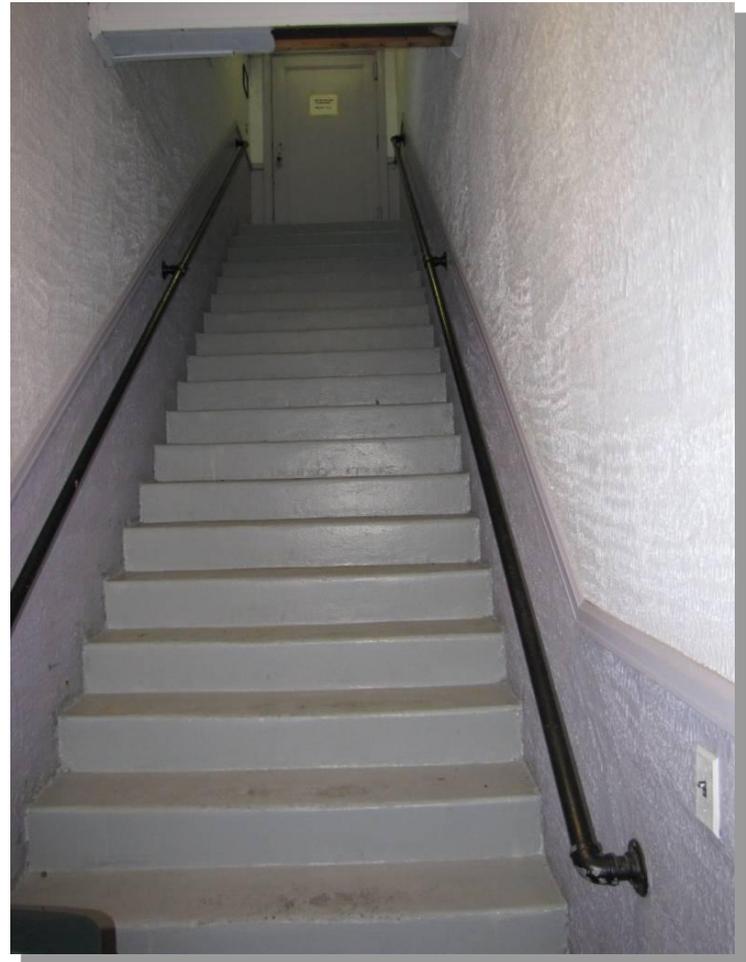
- Not Handicap Accessible
- Serious Safety Concerns in Bays
- Bathroom Facilities Inadequate
- Outdated Mechanical System
- Structural Failure at Overhead Doors



Division of Fire Protection Services

Handicap Accessibility

- Does Not Meet Code
- Slip / Fall Hazard



Pinch Points in Bay



- Major Safety Concern
- LODD in the Past

Insufficient Bathroom Facilities



- Does Not Meet Code
- Inadequate for Events

Inadequate Bay Storage



- Causes Equipment Damage
- Safety Hazard

Structural Failure at Overhead Doors



- Structural Failure at Floor
- Damaging Exterior Brick

Structural Failure at Overhead Doors



Viable Potential Station Options

1. Build a new Fire Station only on a new site
2. Tear down the existing Station and build new on the existing site
3. Renovate the existing Station
4. Combine a Fire / EMS / Police Facility on a new site
5. Village / Town / Rescue / Fire Police facility at the existing Town Hall / OWD site
6. Holy Ghost Academy – building and/or land combination

1. New Station on New Site

Structural Steel / Block / Masonry Exterior Square Foot Analysis

ROOM	DIMENSION	SQUARE FOOTAGE
Conference / Meeting/Training	22 x42	924
Stand By Room	20 x 20	400
Radio Room	8 x 12	96
Gang Office Space	16 x 16	450
Bathrooms	18 x 24	432
Decon / Red Bag	10 x 10	100
SCBA	10 x 16	160
Gear Laundry	10 x 16	160
Commercial Kitchen	21 x 16	336
Apparatus Bay	78 x 78	6,084
Mezzanine (Half Price)	15 x80	800
Fitness	15 x 16	240
SUBTOTAL		10,182
Circulation / Misc	add 15 %	1,527
SUB TOTAL		11,709
Add 5th Double Deep Bay	20 x80	1,600
ALTERNATE TOTAL		13,309

1. New Station on New Site

Structural Steel / Block / Masonry Exterior *Magnitude of Cost*

Description	Qty	Unit	Unit Cost	Sub Total
Existing Station				
Asbestos Survey / Abatement	1	allow	\$ -	\$ -
Demolition	1	allow	\$ -	\$ -
Site Remediation	1	allow	\$ -	\$ -
Proceeds From Sale	1	allow	\$ (100,000)	\$ (100,000)
EXISTING BUILDING SUBTOTAL				\$ (100,000)
Option 1 New Construction				
Design Fees	1	allow	\$ 150,000	\$ 150,000
Construction Cost	11,700	SF	\$ 210	\$ 2,457,000
Bond / Legal / Miscellaneous	1	allow	\$ 60,000	\$ 60,000
Design Contingency	10%	cost	\$ 2,457,000	\$ 245,700
Construction Contingency	5%	cost	\$ 2,457,000	\$ 122,850
Price Escalation	7%	cost	\$ 2,457,000	\$ 171,990
Relocation	1	allow	\$ -	\$ -
NEW CONSTRUCTION SUBTOTAL				\$ 3,107,540
Add 5th Bay	1,600	SF	\$ 195	\$ 312,000
OPTION #1 TOTAL WITH ALTERNATE				\$ 3,419,540

2. Tear Down Existing Station and Build New on Existing Site

Based on Square Footage requirements, a 12,000 sf building will not fit on the existing site. Option #2 is closed to further discussion.

3. Renovate the Existing Station

Description	Qty	Unit	Unit Cost	Sub Total
Existing Station				
Asbestos Survey / Abatement	1	allow	\$ 30,000	\$ 30,000
Site Remediation	1	allow	\$ 10,000	\$ 10,000
EXISTING BUILDING SUBTOTAL				\$ 40,000

Option 3 Repairs				
Design Fees	1	allow	\$ 15,000	\$ 15,000
Bond / Legal / Miscellaneous	1	allow	\$ 5,000	\$ 5,000
Exterior Wall Repairs	1	allow	\$ 78,000	\$ 78,000
Bathroom Upgrades	1	allow	\$ 10,000	\$ 10,000
Minor Roof Repairs	1	allow	\$ 5,000	\$ 5,000
Mechanical Upgrades	1	allow	\$ 12,000	\$ 12,000
Structural Slab Repair	1	allow	\$ 7,500	\$ 7,500
Tank Removal	1	allow	\$ 4,000	\$ 4,000
Vehicle Exhaust	1	allow	\$ 18,000	\$ 18,000
Sewage Line Repairs	1	allow	\$ 3,000	\$ 3,000
Misc Interior Improvements	1	allow	\$ 25,000	\$ 25,000
Escalation	5%	cost	\$ 88,400	\$ 4,420
Contingency	10%	cost	\$ 88,400	\$ 8,840
NEW CONSTRUCTION SUBTOTAL				\$ 195,760

OPTION #2 TOTAL				\$ 235,760
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Structural

Roofing

Overhead Doors

Mechanical System

Old oil tank

Sewage

Exhaust

Asbestos

4. Combine Fire / EMS / Police

Square Foot Analysis

ROOM	SQUARE FOOTAGE				MPB TOTAL
	FIRE	EMS	POLICE	SHARED SPACE	
Conference / Meeting/Training	924	1,644	0	1,644	1,644
Stand By Room	400	215	0	400	400
Radio Room	96	104	143	60	200
Gang Office Space / Patrol	450	384	340	0	1,174
Bathrooms / Lockers	432	276	494	300	900
Decon / Red Bag	100	0	0	100	100
SCBA	160	0	0	0	160
Gear Laundry	160	0	0	0	160
Commercial Kitchen	336	192	360	360	360
Apparatus Bay	6,084	4,656	0	0	9,000
Mezzanine (Half Price)	800	0	0	0	800
Fitness	240	0	0	240	240
Alternate 5th Bay	1,600	0	0	1,600	1,600
Bunk Room		480	0	480	480
Medical Supply / Storage		240	0	0	240
Oxygen Fill Station		80	0	0	80
Sallie Port	0	0	400	0	400
Secure Interview Room	0	0	300	0	300
Holding	0	0	64	0	64
Booking	0	0	187	0	187
Evidence Storage	0	0	266	0	266
Juvenile Office	0	0	77	0	77
Guest Toilet	0	0	60	0	60
Armory/ID Room	0	0	100	0	100
Misc. Office Space	0	0	400	0	400
SUBTOTAL	11,782	8,271	3,191	3,104	19,392
Circulation / Misc (add 15%)	1,527	1,240	575		2,910
TOTAL	13,309	9,511	3,766		22,302
		26,586			

4. Combine Fire / EMS / Police

Magnitude of Cost

Description	Qty	Unit	Unit Cost	Total
Existing Station				
Asbestos Survey / Abatement	1	allow	0	0
Demolition	1	allow	0	0
Site Remediation	1	allow	0	0
Proceeds From Sale	1	allow	(100,000)	(100,000)

EXISTING BUILDING SUBTOTAL

(100,000)

Option 4 New Construction

Design Fees	1	allow	300,000	300,000
Construction Cost	22,302	SF	200	4,460,400
Bond / Legal / Miscellaneous	1	allow	80,000	80,000
Design Contingency	10%	cost	4,460,400	446,040
Construction Contingency	5%	cost	4,460,400	223,020
Price Escalation	7%	cost	4,460,400	312,228

NEW CONSTRUCTION SUBTOTAL

5,821,688

Does Not Include Land Purchase

OPTION #4 TOTAL

5,721,688

Police Station



Potential New Site Options

- Site #1: Civic Center Site
- Site #2: Santa Clara Corner
- Site #3: Existing EMS Facility. Corner of High St. and Church St.
- Site #4: Lake Street Site
- Site #5: Elevated Pad South of Town Hall OWD #1.
- Site #6: OWD #2 Other Side of Town Hall & Building Itself
- Site #7: Open Field Just West of OWD 1.
- Site #8: Holy Ghost Academy Site
- Site #9: Alaskan Oil Property

Site #1 Civic Center Site



Site #1 Civic Center Site



Site #2 Santa Clara Corner



Site #2 Santa Clara Corner



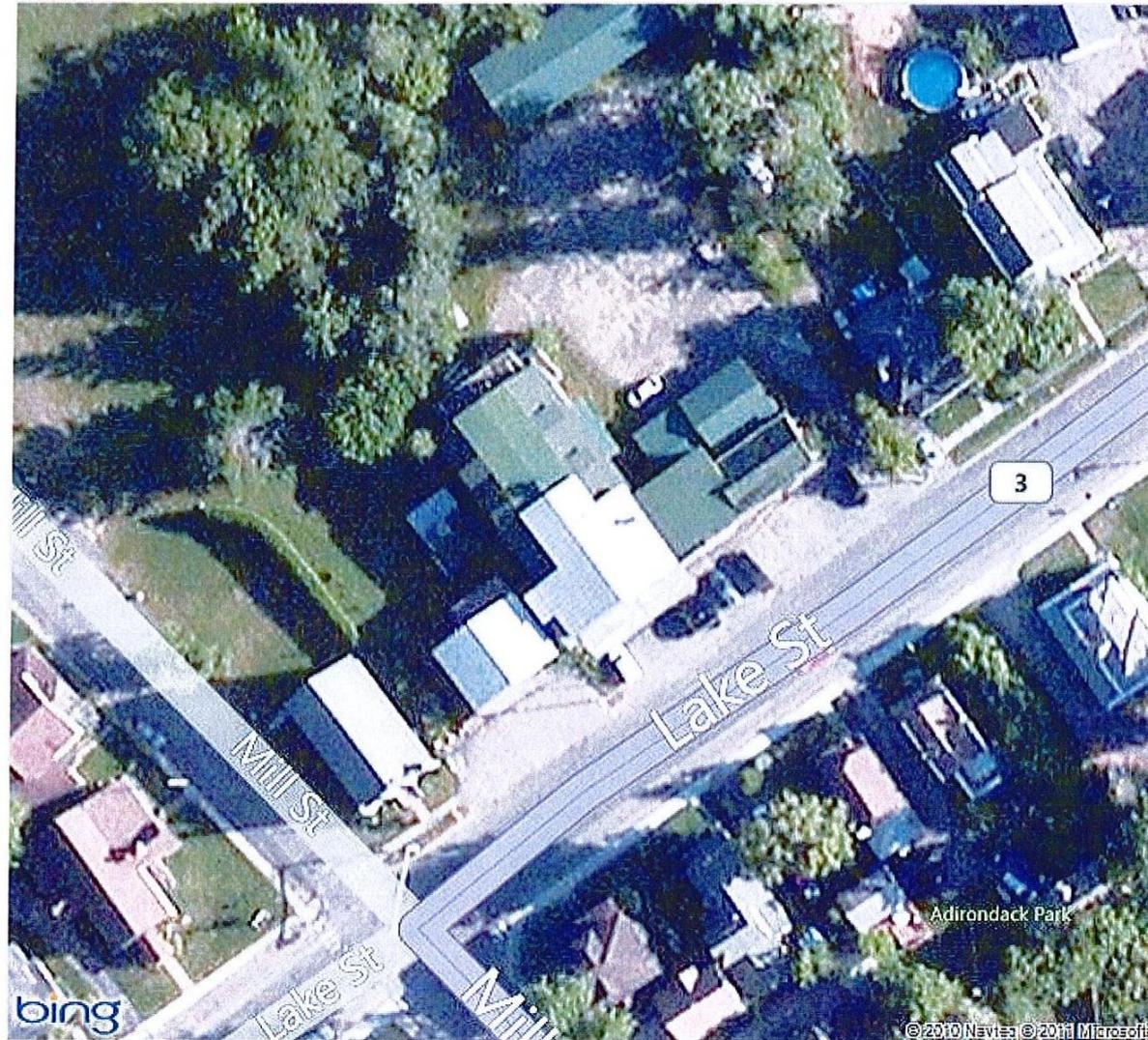
Site #3 EMS Facility – High St



Site #3 EMS Facility – High St



Site #4 Lake Street Site



Site #4 Lake Street Site



Site #5 Pad Near Town Hall



Site #5 Pad Near Town Hall



Site #6 OWD Site / Bldg



Site #6 OWD Site / Bldg



Site #7 Open Field Near Pad



Site #8 Holy Ghost Academy



Site #8 Holy Ghost Academy



Site #9 Alaskan Oil Property



Please Complete an Exit Poll

Tupper Lake Fire Department

FORUM #2

Thank you for joining us this evening. Following the presentation, please take a moment to complete the following and submit it as you leave. All responses will remain anonymous.

Are you a Fire Department member? *YES* *NO*

Did you attend the previous Public Forum? *YES* *NO*

Do you support the idea of replacing the current Station? *YES* *NO*

If so, which site do you favor? _____

Do you have any suggestion(s) for a site not already listed? _____

Do you think a Multi-Purpose Facility is a good idea? *YES* *NO*

Comments: _____

What's Next?

- Committee meets every 3 weeks
- Complete site analysis
- Complete building analysis
- Facilitate multi-use facility discussion
- Next Public Forum – Tuesday, 19 June, 7:00 pm
- Feasibility Study Completion – August, 2012



Division of Fire Protection Services



Thank You!

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breuer

Division of Fire Protection Services

**COMMUNITY FORUM
Exit Poll Results, 8 May 2012**

Are you a Fire Department Mem-	<u>YES</u> 14	<u>NO</u> 16
Did you attend the previous Public Forum?	<u>YES</u> 16	<u>NO</u> 14
Do you support the idea of replac-	<u>YES</u> 29	<u>NO</u> 1
If so, which site do you favor?	Citgo Civic Center (x5) North end of Municipal Park OWD (x2) Santa Clara (x7) Santa Clara and Alaskan Oil combined, except Santa Clara is Village owned. Still evaluating Village owned property	
Do you have any suggestion(s) for a site not already listed?	Behind the Town Hall Chemical St. Main St. fire Route 3 and 30 open areas	
Do you think a Multi-Purpose Fa-	<u>YES</u> 22*	<u>NO</u> 3*
Comments.	<p>* (5) Responses to the Multi-Purpose facility were undecided.</p> <p>As long as they keep cleaner than the Fire Hall. They have now, just because it's falling apart is no need to not maintain it.</p> <p>EMS has not supported dealing with the two municipal governments several times in the past.</p> <p>EMS should be in the loop now not later!! Bad blood!!</p> <p>Having all units placed in one place would be the best.</p> <p>I feel a Multi-Purpose Facility would save taxpayers money in the long run.</p> <p>Needs to be centrally located where we can easily respond to calls and can be easily found by locals and visitors.</p> <p>Keep up the good work. This project must be a go – Fire, Police, EMS all in one.</p> <p>Multi-Purpose is the best.</p> <p>Nice presentation – positive approach to site analysis.</p> <p>Proposal should go to a referendum !</p> <p>Really need to give all our volunteers a safe and workable place to do their jobs !</p> <p>Too expensive, same places run into conflicts between agencies. (Responded "no" to Multi-Purpose.</p>	