

②

**Space Needs Assessment**  
*for the*  
**North Acton Fire / EMS Facility**  
**Acton, MA**

*August 27, 2007*

**JHI**

**JACUNSKI HUMES**

**ARCHITECTS, LLC**

15 MASSIRIO DRIVE SUITE 101  
BERLIN, CONNECTICUT  
860-828-9221 FAX 860-828-9223

DRAFT

**Space Needs Assessment**  
*for the*  
**North Acton Fire / EMS Facility**  
**Acton, MA**

<b><u>Table of Contents</u></b>	<b><u>Page Number</u></b>
GENERAL INFORMATION	1
SPACE NEEDS ASSESSMENT	2
1. Public	2
2. Apparatus Bays	3
3. Watch Room	4
4. Shift Commander	4
5. General Office	5
6. Firefighter's Functions	5
7. Bunk Rooms	6
8. Physical Training Room	7
9. Custodial Services	7
10. Computer Room	8
11. Mechanical	8
SPACE NEEDS SUMMARY	10
EXTERIOR CONSIDERATIONS	11

**DRAFT**

## **GENERAL INFORMATION**

Date: August 27, 2007

Department: Acton Fire Department  
Address: 371 Main Street  
Acton, Massachusetts 01720

Primary Contact: Robert C. Craig, Fire Chief

Telephone No.: (978) 264-9645  
Fax No.: (978) 266-2885  
Email: fire @ acton-ma.gov

DRAFT

# **SPACE NEEDS ASSESSMENT**

*Square Footage*

## **1. Public**

- a. Vestibule 100
  - 1. Air-lock vestibule
  - 2. Walk off mat
  
- b. Lobby / Reception / Waiting 150
  - 1. Access to Firefighter's areas
  - 2. Maintain security of facility, access control
  - 3. Public Telephone / House Phone
  - 4. Intercom and doorbell to Firefighter's areas
  - 5. Display Case / Poster Case
  - 6. Pamphlet Rack
  - 7. Radio box for fire / police / EMS response (exterior mounted)
  - 8. Water cooler
  - 9. Adjacent to Public Meeting Room
  
- c. Public Restrooms Two (2) @ 80 160
  - 1. Public use by visitors and adjacent playfield
  - 2. Male and Female, handicap accessible
  
- d. Public Meeting Room 300
  - 1. Seating for fifteen (15) at training tables and chairs
  - 2. Projection screen
  - 3. Lighting on dimmers, varied lighting levels
  - 4. Designated public polling location
  - 5. Movable tables and chairs
  
- e. Training Aids Storage 100
  - 1. Secured storage of training aids, supplies, equipment, etc.
  - 2. Adjacent to Public Meeting Room

DRAFT

## 2. Apparatus Bays

- a. Apparatus Bays 4.800
1. Apparatus storage bays for five (5) vehicles required, 14' high doors, drive-through configuration preferred at ladder truck bay
  2. Apparatus to be housed include Shift Commander, Engine, Ambulance, 105' ladder truck, and boat
  3. 120 V. electric available @ each bay
  4. Vehicle exhaust capture system, overhead, at each apparatus
  5. Floor drains centrally located at each bay to tight tank
  6. Radio speakers / intercom system / paging system
  7. Compressed air available at bays
  8. Ice Machine
  9. Overhead water fill location at engines and ladder truck locations
- b. Decontamination Room 250
1. Deluge shower and eye wash station
  2. Floor drain to tight tank
  3. Containment of bodily fluids
  4. Cleaning of soiled equipment according to NFPA 1581 standards
  5. Industrial sized washer and dryer for gear use
  6. Directly vented to exterior
  7. Locate directly adjacent to Apparatus Bays with exterior entry location
- c. Medical Supply Storage 100
1. Shelving for medical supplies
  2. Locate adjacent to Apparatus Bays
- d. SCBA Compressor Room 150
1. Clean air environment for SCBA compressor
  2. Bottle storage racks
  3. 3-phase electric power
  4. Double door access
  5. Locate adjacent to Apparatus Bays

DRAFT

e. General Storage 300

1. Workbench maintenance area w/ vise, grinder, drill press
2. Spare parts storage shelving
3. Hose racks
4. Emergency lighting
5. Portable pumps
6. Speedy dry
7. Air compressor, tools and supplies
8. Foam storage
9. Cleaning supplies
10. Protective clothing
11. Flammable / Hazardous materials storage lockers for gas / oils
12. Locate adjacent to Apparatus Bays

f. Gear Storage Locker Area 250

1. Protective gear locker storage, twenty-five (25) lockers minimum
2. Ventilated lockers to assist drying
3. Locker storage area for off-shift personnel, on-shift gear storage moved to apparatus floor
4. Locate adjacent to Apparatus Bays

**3. Watch Room**

a. Watch Room 150

1. Communications for fire alarm, fire / EMS communications only
2. Manual storage shelving
3. Scanner
4. Access controlled at points of entry
5. Locate adjacent to Apparatus Bays

**4. Shift Commander**

a. Shift Commander 175

1. Workstation for one (1), Captain
2. Visitor's chairs for two (2)
3. File storage cabinets, 1 per shift, minimum
4. Bookshelving, manual storage shelving
5. Locate adjacent to General Office, Watch Room, Firefighter's Functions

b. Storage Room 100

1. Equipment storage for radios, gear, scba, etc.
2. SAFEGRANT material storage
3. Located adjacent to Shift Commander's office

DRAFT

## 5. *General Office*

- a. General Office 350
1. Partitioned workstations for three (3) total; two (2) E.M.T.'s and one (1) Lieutenant
  2. Bookshelving, manual storage shelving
  3. High speed copy machine
  4. Facsimile machine
  5. Networked computer printer
  6. Storage cabinets for office supplies
  7. Mailboxes for fire personnel; individual, lockable units, twenty-five (25) minimum
  8. Locate adjacent to Shift Commander, Firefighter's functions

## 6. *Firefighter's Functions*

- a. Male Toilet / Locker Room 350
1. Metal lockers for temporary use, five (5) minimum
  2. Locker sizes: 18" x 18" x 72" with bench
  3. Shower, one (1) required, handicap accessible design
  4. Sink area
  5. Toilet area w/ stall and urinal
  6. Robe hooks at shower location
  7. Full height mirror
  8. Locate adjacent to Physical Fitness Room and Apparatus Bays
- b. Female Toilet / Locker Room 350
1. Metal lockers for temporary use, five (5) minimum
  2. Locker sizes: 18" x 18" x 72" with bench
  3. Shower, one (1) required, handicap accessible design
  4. Sink area
  5. Toilet area w/ stall
  6. Robe hooks at shower location
  7. Full height mirror
  8. Locate adjacent to Physical Fitness Room and Apparatus Bays
- c. Break Room 450
1. Comfortable furniture, "living room" setting
  2. TV / DVD
  3. Table seating for ten (10)
  4. Locate adjacent to Kitchen

DRAFT

d. Kitchen 275

1. Operational kitchen for firefighter's use only
2. Stove
3. Microwave
4. Refrigerator / Freezer
5. Dishwasher / Sanitizer
6. Vending Machines, two (2) minimum
7. Individual locked storage cabinets for each shift (four (4) total)
8. Locate adjacent to Break Room, outside grill location

e. Study Area / Reference Library 150

1. Firefighter's quiet study area
2. Bookshelving, library reference area
3. Computer workstations for three (3) minimum
4. Locate adjacent to Firefighter's Functions / Copy Room

**7. Bunk Rooms**

a. Captain's Quarters One (1) @ 100 100

1. Individual bunk room with wardrobe locker, linen storage, bed, bedside table
2. Wardrobe lockers, four (4) minimum
3. Desk workstation for one (1)
4. Reading lamps and overhead lighting
5. Twin size mattress
6. Acoustic separation from adjoining spaces
7. Radio communications and tone alerts
8. Locate adjacent to Locker Rooms and Apparatus Bays

b. Lieutenant's Quarters One (1) @ 100 100

1. Individual bunk room with wardrobe locker, linen storage, bed, bedside table
2. Wardrobe lockers, four (4) minimum
3. Desk workstation for one (1)
4. Reading lamps and overhead lighting
5. Twin size mattress
6. Acoustic separation from adjoining spaces
7. Radio communications and tone alerts
8. Locate adjacent to Locker Rooms and Apparatus Bays

DRAFT

c. Firefighter's Bunk Rooms Four (4) @ 80 320

1. Individual bunk rooms with wardrobe storage, linen storage, bed, bedside table
2. Wardrobe lockers, four (4) minimum per room
3. Reading lamps and overhead lighting
4. Twin size mattresses
5. Acoustic separation from adjoining spaces
6. Radio communications and tone alerts
7. Locate adjacent to Locker Rooms and Apparatus Bays

d. Dormitory Quarters Two (2) @ 80 160

1. Individual bunk rooms with wardrobe storage, linen storage, bed, bedside table
2. Wardrobe lockers, four (4) minimum per room
3. Reading lamps and overhead lighting
4. Twin size mattresses, bunked configuration
5. Acoustic separation from adjoining spaces
6. Radio communications and tone alerts
7. Locate adjacent to Locker Rooms and Apparatus Bays

8. ***Physical Training Room***

a. Physical Training Room 400

1. Locate adjacent to locker rooms / firefighter's areas
2. Ceiling clearance for weightlifting
3. Drinking fountain
4. Exercise equipment (free weights and stationary equipment)
5. Natural light, operable windows
6. Design for town staff access and use

9. ***Custodial Services***

a. Janitor Closets One (1) @ apparatus, One (1) @ firefighter's area 160

1. One per floor (minimum)
2. Floor sink
3. Janitorial supply storage
4. Cart storage
5. Equipment and cleaning supplies storage

DRAFT

## 10. Computer Room

- a. Computer Room 100
1. Environmentally controlled networked server / patch panel location, rack mounted
  2. Fiber optic link to municipal facilities / public safety facility
  3. Access control to equipment
  4. CCTV head end location
  5. Telephone system head end location
  6. UPS and surge suppression equipment

## 11. Mechanical

- a. Boiler Room 300
1. Two boilers (min)
  2. Gas-fired burners
  3. Hot water heater
  4. Floor drains
  5. Chimney breaching
- b. HVAC Equipment 500
1. Ducted supply and returns
  2. High efficiency filters
  3. VAV boxes, DDC controls
  4. Humidity control
- c. Emergency Generator exterior pad mounted
1. Automatic Transfer switch
  2. Diesel fired generator
  3. Muffler system
  4. Day tank
  5. Acoustic control
  6. Sized for 100% of electric load, shed A/C load.
- d. Electric Room 125
1. Main switchgear location
  2. Panelboards
  3. Adjacent to Emergency Electrical Room
- e. Emergency Electric Room 100
1. Automatic transfer switch
  2. Emergency power panelboards

DRAFT

f. Fire Suppression Room

125

1. Fire and domestic water entrance location
2. Fire suppression siamese connection for fire department use
3. Zone-valved assembly with backflow preventor and tamper switches

DRAFT

# **SPACE NEEDS SUMMARY**

Summary Sheet

Square Ft.  
proposed

Public	810
Apparatus Bays	5,850
Watch Room	150
Shift Commander	275
EMT Office	350
Firefighter's Area	1,575
Bunk Rooms	680
Physical Training Room	400
Custodial Services	160
Computer Room	100
Mechanical	1,150
<b>Total Net Square Footage</b>	<b>11,500</b>
Net to Gross Factor (1.10 @ apparatus bays)	585
Net to Gross Factor (1.35 @ all other areas)	1,915
<b>Total Gross Square Footage Required</b>	<b>14,000</b>

DRAFT

# **EXTERIOR CONSIDERATIONS**

- a. General Public Parking
  - 1. Total number of spaces required = fifteen (15) spaces, minimum
  
- b. Official Vehicle and Staff Parking
  - 1. Total number of spaces required = twenty (20) space, minimum
  - 2. Motorcycle parking area
  - 3. Motorcycle parking on concrete pad
  
- c. Apparatus Apron
  - 1. Unimpeded access to Main Street (State Route 27)
  - 2. Traffic control device
  - 3. Heated pavement to prevent ice / snow accumulation (verify)
  
- d. Flagpoles
  - 1. USA
  - 2. State
  - 3. Internal halyard
  
- e. Signs
  - 1. Department identification signage, street number identification
  - 2. Located on building or at roadway
  - 3. Conforms to local zoning regulations
  
- f. Lighting
  - 1. Lighting at all public areas
  - 2. Lighting at all parking areas
  - 3. Illuminated walkways and apparatus apron areas
  - 4. Illuminated entry locations
  - 5. Lighting coordinated with CCTV locations
  
- g. CCTV Cameras
  - 1. Color, fixed focus cameras for building security and property surveillance
  - 2. Monitoring at all points of entry
  
- h. Handicap accessibility
  - 1. Entire facility handicap accessible
  - 2. Wheelchair access to public entry

DRAFT

- i. Plant Material
  - 1. Minimize maintenance
  - 2. Avoid creating hiding places
  - 3. Eliminate large ground cover
  
- j. Trash Storage
  - 1. No dumpster location required
  - 2. Interior containment of trash / refuse for routine pick-up by town personnel
  
- k. Snow Storage
  - 1. Provide snow storage capacity on site / landscaped areas
  
- l. Exterior Hose Bibb Locations
  - 1. Provide varied locations around building
  - 2. Car / Truck wash locations
  
- m. Communications Antenna
  - 1. Building mounted antennas only
  
- n. Emergency Generator
  - 1. Exterior, pad mounted emergency generator
  - 2. Weatherproof, acoustic enclosure
  - 3. Provide access location for refueling needs
  
- o. Perimeter Fencing
  - 1. Fencing at adjacent property lines to limit site access
  - 2. Control points of access from adjacent playfields
  
- p. Septic system and leach field
  - 1. On-site septic tank and leaching field required
  - 2. Conforms to Public Health Requirements
  
- q. Tight tank storage containment
  - 1. Underground, double wall storage of wastewater from floor drains
  - 2. Convenient location for pumping on periodic basis
  
- r. Training Tower
  - 1. Site consideration for training tower
  - 2. Apparatus access

DRAFT