



Posted 12.2.2021 at 3:45pm by JAD

## SELECT BOARD

### AGENDA

Tuesday, December 7, 2021

7:00pm

The Select Board Regular Meeting is being held virtually in accordance with legislation S. 2475, an act relative to extending certain COVID-19 measures adopted during the Covid Pandemic state of emergency. Interested individuals can listen in and participate by phone and/or online by following the link and phone # below.

UpperTH ProWebinar is inviting you to a scheduled Zoom meeting.

Topic: Select Board

Time: Dec 7, 2021 07:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/83422684420?pwd=dk8zQUJLeWJkaHpud1p1SW1iWDhFUT09>

Meeting ID: 834 2268 4420

Passcode: 528013

Find your local number: <https://us02web.zoom.us/u/kRw0oiJhG>

+1 253 215 8782 US

One tap mobile

+1 301 715 8592 US

+13126266799,,123906012# US (Chicago)

+19294362866,,12390012# US (New York)

### **Agenda Items**

- 1) Public Hearing for the renewal of Carlson Orchards farmer series pouring permit (7:00)
- 2) Tax Classification Hearing (7:20)
- 3) Meet with Planning Board Chair Justin Brown and Community Economic Development Director Chris Ryan about the Ayer Road Market Study (7:30)
- 4) Review of CBI reports on the DPW facility renovation/improvements (7:45)
- 5) Update on the work of the Nashua, Squannacook & Nissitissit Rivers Wild & Scenic Stewardship Council (7:55)
- 6) Public Communication (8:10)
- 7) Approve minutes of 11/9 & 11/16 (8:15)
- 8) Presentation from Harvard Neighborhood Support Team (NST) on their interest in leasing the Bromfield House for Afghanistan refugees (8:20)
- 9) Action/Discussion items: (8:40)
  - a) Finalize liquor license conditions for the Bowling Alley and vote to issue license for 2022
  - b) Review and discuss draft charge for Climate Resiliency Action Committee
  - c) Appoint John Mark Walker to the Community Preservation Committee
  - d) Update and possibility of thickly settled areas within town
  - e) Update on Police Chief search
- 11) Select Board Reports

*Next Regular Select Board Meeting*

*Tuesday, December 21, 2021*

*7:00pm*

*All times are approximate besides scheduled public hearings.*

**OFFICES OF THE  
SELECT BOARD AND  
TOWN ADMINISTRATION**

13 Ayer Road, Harvard, Massachusetts 01451  
(978) 456-4100

[www.harvard-ma.gov](http://www.harvard-ma.gov)



November 19, 2021

To Whom It May Concern:

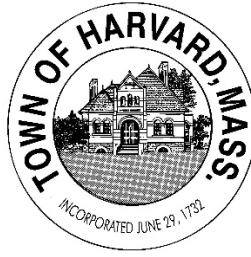
Hello, you are receiving this notice, to be informed of the hearing being held by the Select Board to consider the annual renewal of Carlson Orchards Inc., 115 Oak Hill Road, Farmer Series Pouring Permit. The notice below will give you the date and time of the public hearing.

If you have any questions or concerns, please feel free to contact Julie Doucet in the Select Board Office at 978-456-4100 ext. 312 or by email: [jdoucet@harvard-ma.gov](mailto:jdoucet@harvard-ma.gov).

**TOWN OF HARVARD  
PUBLIC HEARING**

The Harvard Select Board will hold a public hearing at their meeting on Tuesday, December 7, 2021 at 7:00pm for the annual renewal of the Farmer Series Pouring Permit granted to Carlson Orchards, Inc, 115 Oak Hill Road. The hearing will be held virtually with access information provided when the meeting agenda is posted. Contact the Select Board office with any questions.

Select Board  
11/19/2021



# Ayer Road Vision Plan – Phase 1 RFP Process

# TALKING POINTS

December 7, 2021

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## BACKGROUND

- The Planning Board requested and received funding from the Rantoul Trust the sum of \$45,000 to conduct the Market Analysis and Fiscal Impact Analysis for the 3-phase Ayer Road Vision Plan Project.
- The Planning Board pulled together a team to develop the Request for Proposal (RFP), review responses, and select a preferred contractor. This team consisted of Planning Board Chair Justin Brown, ZBA Chair Chris Tracey, Select Board member Rich Maiore, and Community and Economic Development Director Christopher Ryan.

## PROCESS

- *RFP Development* – The team developed a detailed 18-page RFP which was refined several times prior to issuance. The issue date was August 30, 2021 and the date that proposals were due was October 1, 2021.
- *RFP Proposal Review* – There were two fully responsive proposals received by the following consultants:
  1. The Weitzman Group
  2. The Chesapeake Group (TCG) and Tischler-Bise
- The proposals were distributed during the first week of October and were reviewed by team members over the next few weeks.
- On October 25<sup>th</sup>, the team met to discuss the proposals and develop a set of preliminary questions to the respondents. These questions were distributed on October 27<sup>th</sup> and TCG responded by the following day and Weitzman the day after.

Upon reviewing the responses, the team felt that each respondent should be interviewed.

- The live interview questions followed up on the proposals and the answers to the written questions posed by the review team. Weitzman’s interview was conducted on Monday, November 8, 2021 and TCG was Monday, November 15, 2021.
- After the TCG interview, the team briefly discussed where the process stood and it was determined that we needed some additional information from Weitzman. Mr. Ryan had noted that Weitzman’s experience and references related specifically to fiscal impact analyses were not clear and so Weitzman was asked to provide an example of their fiscal impact work plus a specific reference for that specialization.
- Over the next two weeks, Mr. Ryan contacted a number of references for each respondent and compiled the responses in two documents. These were distributed to team members.
- Finally, Mr. Brown had a concern about one aspect of TCGs Market Analysis work and wanted clarity. Mr. Ryan sent the question to TCG and received an answer that was distributed on November 30<sup>th</sup>, just prior to a final discussion of the team.

In summary, the following due diligence steps were taken:

1. Conducted review of each proposal
2. Administered preliminary written questions to each respondent
3. Interviewed each respondent on virtual platform
4. Sent follow up questions to each respondent
5. Contacted at least four references for each respondent

## **RECOMMENDATION**

Based on the following factors, the review team recommends that Harvard go to contract with **TCG/Tischler-Bise**:

1. Both TCG and Tischler-Bise have extensive track records with small- and medium-sized municipalities for similar municipal work.
2. Tischler-Bise has extensive experience conducting fiscal impact analyses for cities and towns.
3. Both TCG and Tischler-Bise received glowing reviews from references. All of these references were municipalities, which differs from Weitzman.

**Final Comment:** While Weitzman was not the best fit for this project, they would provide a valuable service related to a proposed subtask for Phase 2 – The Vision Plan. Thus, we’d encourage them to team up with a group to bid on that work when appropriate.



**Department of Public Works Facility  
Garage, Facility Analysis and Space  
Needs Assessment  
Harvard, Massachusetts  
November 3, 2021**



## Table of Contents

Cover Page  
Table of Contents  
Project Team  
Cover Letter  
Project Schedule

### **Section 1 – Architectural and Structural**

Existing Conditions and Space Needs Analysis and Recommendations  
Prioritize Space Needs Matrix

### **Section 2 – Mechanical, Electrical, Plumbing and Fire Protection Existing Conditions and Recommendations**

### **Section 3 – Existing Conditions/Demolition Plan and Proposed Plan**

### **Section 4 – Cost Estimate**



## Project Team

<b>OWNER</b> Timothy B. Kilhart Harvard DPW Director Town of Harvard Tel: (978) 456-4130 Cell: (508) 868-2030 tkilhart@harvard.ma.us	<b>OWNER</b> Marie Crowley Sobalvarro Assistant Town Administrator/HR Director Town of Harvard Tel: (978) 456-4100 msobalvarro@harvard.ma.us
<b>ARCHITECT</b> Michael Teller, AIA Principal In Charge CBI Consulting, LLC Tel: (617) 268-8977 Cell: (617) 835-6006 Michael.teller@socotec.us	<b>ARCHITECT / PROJECT MANAGER</b> Rick Almeida, AIA Project Manager CBI Consulting, LLC Tel: (617) 268-8977 Cell: (617) 285-5673 Rick.almeida@socotec.us
<b>MEP-FP</b> Ken Beck, P.E. Principal BLW Engineers Inc. Tel: (978) 486-4301 Cell: (978) 621-5598 kbeck@blwengineers.com	<b>COST ESTIMATOR</b> Peter Bradley, LEED AP President PM&C (781) 740-8007 peterbradley@pmc.ma.com



November 3, 2021

Mr. Timothy B. Kilhart  
Harvard DPW Director  
47 Depot Road  
Harvard, MA 01451

Tel: (978) 456-4130  
Email: tkilhart@harvard.ma.us

Proj: Harvard Department of Public Works Facility  
Re: Facility Analysis and Space Needs Assessment  
CBI Job No. CB211030

Dear Mr. Kilhart:

CBI Consulting, LLC (CBI), a SOCOTEC company, is pleased to present the following Facility Analysis and Space Needs Assessment for the Department of Public Works in Harvard, Massachusetts.

In accordance with our contract, CBI Consulting, LLC (CBI), a SOCOTEC company has prepared the following report for the Mechanic's Service Garage, DWP Office "Connector" Building, Six Bay Vehicle Storage Garage and the Pole/Barn Storage Building located at 47 Depot Road, Harvard, Massachusetts.

This study was commissioned to identify the current conditions of the buildings, in particular the Mechanical, Electrical, Plumbing and Fire Protection systems, the building envelope for thermal and weather resistance, Structural System, Code compliance and life safety, as well as to document the buildings use and space needs for short term and long-term planning and adequacy of the buildings to service the Town's needs well into the future. We understand, currently there are twelve (12) full time staff and two (2) part time staff. The projected future staff will add one (1) part time administrative staff to the DPW office. In Accordance with the Town's request, this report addresses the pre-defined tasks for each of the four buildings:

- Task 1: Existing Conditions (Including MEP/FP)
- Task 2: Project Programming and Building Code Requirements
- Task 3: Analysis and recommendations
- Task 5: Project Priorities Ranking including identified deduct Alternates
- Task 6: Schedule and Costs

These sections include architectural design, building envelope and structural analysis by CBI; mechanical, electrical, plumbing, and fire protection analysis by BLW Engineers; programming and code analysis by CBI; a summary of findings and recommendations including conceptual plans; and cost estimates (Construction Cost Estimate by PM&C).

CBI and our consultants have reviewed the existing conditions of the building, including the review of any documents made available by the Town. We also have listened to the Town's concerns including DPW administrative staff, and descriptions of operations central to the facilities. Based on our findings, we have recommended repairs, replacements, and new construction where necessary, all centered around fiscal responsibility, a focus on retaining existing infrastructure where applicable, the promotion of safe and efficient operations, and low maintenance/sustainable solutions. In some cases, relocation and phasing the improvements will be necessary for continuing operation during construction.

Furthermore, we understand the current overall layout of buildings on site, adjacencies and vehicular traffic patterns works well for the operation and function of the DPW department. Also, it is our understanding that there are site constraints around the existing site utilities that must be taken in consideration in the layout of the proposed renovations and expansion of the new facility such as: the



Title V Septic System that is located along the paved entrance driveway between the Pole/Barn Storage Building and the Main Building that must remain in place, undisturbed. There is also the fenced in existing emergency generator and the underground 1,000 gallon propane tank adjacent to the Mechanics Service Garage that must be taken in consideration on any expansion of the service garage. Preferably they would remain undisturbed for cost considerations. In addition, there is an existing tight tank located behind the mechanics garage that serves the floor drainage system in the garage. The tight tank stores melting snow run off from the vehicles in the service garage and it is emptied annually. This is in lieu of an oil and gas separator. In addition, there is a vehicular fuel pump station with associated storage tanks located at one end of the Pole/Barn Storage building that must remain in place.

Therefore, CBI recommends the attached layouts of the proposed renovations to accommodate the current and future programming requirements of the facility.

Based on our non-destructive visual inspections on August 4<sup>th</sup> and August 11<sup>th</sup>, 2021, CBI and our consultants have recommended:

- 1) strategic repairs of existing systems that are in need improvement but have years of useful service life with the proper maintenance and upkeep, such as existing propane unit heaters and the existing 100KW propane powered generator. However, a new 175KW propane powered generator would be required to support the additional loads for the proposed renovations.
- 2) replacements based on systems that have reached the end of the expected service life and/or inadequate to meet the department's needs such as the existing 400 Amp electrical service and the existing fire alarm system.
- 3) new systems and components to meet the needs of the operation into the future of the DWP office, repairs, maintenance, storage of vehicles and equipment, storage of materials and ancillary spaces such as the locker rooms, break room and bathrooms.

These recommendations include but are not exclusive of repair and replacement of failing building envelope systems such as roofs, walls, doors, windows and siding, adding or reconfiguring space to provide necessary program elements, and correcting building code and life safety concerns such as accessibility and lack of automatic sprinkler system. The intent of the DPW is to implement new construction such that it will have a service life of at least 50 years. Through meetings with DPW, we have recommended work, which is in some cases prioritized, and phased. We have provided a summary of these findings. Refer to the individual sections for additional information.

**Based on our findings and recommendations, and the current construction bidding market, we recommend budgeting \$4,747,333** for all of the proposed work at the Department of Public Works.

As requested, we have included pricing in the cost estimate for deduct alternates identified in the space needs matrix document as moderate priority.

We hope that this report provides the Town of Harvard and the Department of Public Works with a clear understanding of the project scope and budget for the renovations and new facilities associated with the Mechanic's Service Garage, DWP Office "Connector" Building, Six Bay Vehicle Storage Garage and the Pole/Barn Storage Building located at 47 Depot Road, Harvard, Massachusetts.

If should have any questions or comments on the above, please do not hesitate to contact me.

Best regards,

**CBI Consulting, LLC**



Rick Almeida, NCARB, AIA, LEED AP BD+C  
Associate  
Rick.almeida@socotec.us



# Harvard DPW Facility Study Project Schedule



<b>Task 1 – Investigation &amp; Existing Conditions Assessment</b>	<b>Target Completion Date</b>
Kickoff meeting and interview DPW Director, Staff, and Review Existing Documents	Aug. 04
Onsite Building Conditions Assessment:	Aug. 04 & Aug 17
Structure	
Floor Plan Layouts	
Site Layout	
Handicap Accessibility	
MEP-FP	
Code Evaluation	
<b>Task 2 – Program &amp; Meetings</b>	
CBI to submit current and future space needs matrix	Sept. 1
Meeting with DPW and Town to review submitted current, future needs and review prioritized needs in (3) categories from Highest to lowest priority	Sept. 8
<b>Task 3 – Preliminary Design &amp; Meeting</b>	
Develop and issue Conceptual layouts along with cost estimates and pros and cons of each	Sept. 30
Meeting with DPW and Town to review proposed layouts	Oct. 7
CBI to incorporate Comments and Feedback	Oct. 8
Prepare and Issue Draft Report	Oct. 14
DPW and Town to review Report and submit comments by	Oct. 21
CBI to Incorporate Comments and Feedback	Oct. 22
<b>Task 4 – Submit Final Analysis &amp; Space Needs Study and Meet with Building Committee</b>	Oct. 28

# SECTION 1



## **Pole Barn / Storage Garage**

### **Existing Conditions**

#### **BACKGROUND**

The Pole Barn Storage Garage is a single-story wood frame structure in poor condition with various additions over the years to accommodate the increasing variety and quantities of materials and equipment. Date of original construction is unknown and there are no existing documentation of the building.

The building is a standalone unheated/ un-insulated structure located directly across from the main buildings (refer to Photograph 1). The roofs are a combination of gable asphalt shingle roof over the central open space with shed roof over the tool storage crib without any perimeter gutters or downspouts. The walls of the building are a combination wood shingles with sections of vertical plastic rib panels and wood vertical siding. The windows are all fixed wood. The two (2) existing bay doors are manually operated overhead metal doors, and the sliding bay door is made with individual wood boards.

#### **DEFICIENCIES**

##### **Roof**




In general, the condition of the roof is poor. This description is largely due to the deficiencies found during CBI's review. CBI observed weathered and deteriorated single tab asphalt shingles. Organic growth has accumulated on the surface of the roof shingles (Refer to Photographs 2).



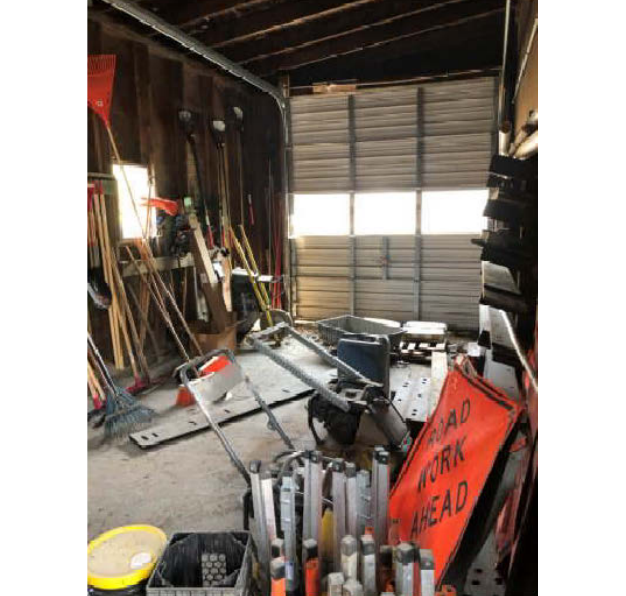
##### **Walls**

The condition of the exterior wood shingle walls are in poor condition. There are sections where shingles are missing, deteriorated shingles due to water damage and warped/coupling of shingles. (Refer to Photographs 3 and 4). There are gaps between the vertical wall wood siding allowing water infiltration to reach stored materials. (Refer to Photograph 5).

##### **Windows and Doors**

In general, the condition of the windows and doors are poor. The fixed wood windows are missing glazing panels, and also are missing sealant around the framed openings. The sliding bay wood door shows signs of delamination due weather exposure. The two (2) existing manually operated overhead metal doors bay doors are single ply metal and appear low grade to withstand operation of a material storage garage. (Refer to Photographs 6 and 7).

1.		General view of the Pole Barn / Storage Garage.
2.		Weathered and deteriorated single tab asphalt shingles
3.		Deteriorated wood shingles. Image 1 of 2.

4.		Deteriorated wood shingles. Image 2 of 2.
5.		There are gaps between the vertical wall wood siding allowing water infiltration to reach stored materials.
6.		The manually operated overhead metal door bay doors are single ply metal.





## Space Needs Analysis and Recommendations

CBI met with Harvard DPW on August 4, 2021, to discuss their current operations, as well as opportunities and constraints of the existing spaces. Numerous correspondence follow ups have occurred since then to further discuss the project goals. The following was observed and discussed. Please refer to the attached space needs program for room-by-room identification of existing and proposed program spaces ranked in the highest priority.

The Pole Barn / Storage Garage is outdated, undersize with an overflow of storage. It is approximately 2,168 net sf comprised of multiple sub-divide storage spaces including vehicle tire storage and tool crib. CBI proposes a new facility to meet the current demands of the department including an interior open floor plan concept for easy access to materials and equipment with a lockable separate 12 ft wide tool crib storage room. Based on current operation and projected storage capacity, an increase of approximately 800 net sf should be added, with (5) large overhead doors to be the same size as the overhead doors in the existing storage garage. The new facility should be approximately 2,969 net sf

Please refer to enclosed demolition plan and proposed plan.

### Structural

Unsuitable soils should be removed and replaced with structural fill. CBI proposes the foundation system to consist of concrete foundation walls bearing on continuous concrete strip footings 4'-0" minimum below the frost line. Slab on grade with exterior load bearing concrete masonry walls to support the one way "low" sloped long-span open web metal joists with metal roof deck. A combination of reinforced masonry bond beams and galvanized wide flange steel beams will be provided over wall openings

BLW Engineers, Inc., our Mechanical, Electrical, Plumbing and Fire Protection Engineers have reviewed the existing conditions, and their assessment and recommendations are included within this report.

**Based on our findings and recommendations, and the current construction and bidding market, we recommend budgeting \$1,096,800.00 including markups for the work at the Pole Barn / Storage Garage.** Please refer to the Project Cost Estimate included with this report.

# Mechanic's Service Garage

## Existing Conditions

### BACKGROUND

The mechanic's service garage is the oldest building on site according to DPW. There are no existing conditions drawings to verify date of construction. It is single-story constructed of single wythe concrete masonry block walls with fixed wood single plane glazed windows. (refer to Photograph 1). There is one (1) garage bay with and a motorized overhead metal door. There is a small office in the rear for the mechanic. There are parts and tool storage scattered throughout the garage. The low ceiling in the mechanic garage restricts servicing larger vehicles on the auto floor lifts. (refer to Photograph 2).

The building is connected to the office and locker space via a corridor. (refer to Photograph 3). According to existing documentation. The original "ballasted" roof was replaced with single ply membrane roof and R-30 roof insulation installed around 2010. The roof drains directly grade without perimeter gutters or downspouts. Overall, the building is in a deteriorated condition, it is drafty and uncomfortable for the staff.

### DEFICIENCIES

#### Roof

In general, there were no visible signs of interior water infiltration on the finished hard ceiling. However, based on the documentation reviewed, there is a 10-year warranty on the roof membrane and it expired in 2020.




#### Walls




The condition of the single uninsulated wythe concrete masonry block walls appears to be in fair condition. There are areas of individual block interior surfaces not aligned with adjacent blocks thus creating uneven mortar joints which eventually will allow water into the building. (refer to Photograph 4).

#### Windows and Doors

In general, the condition of the windows are poor. The windows are drafty fixed wood frame single plane glazed windows with deteriorated putty around the wood muntins. (refer to Photograph 5). The exterior metal door appears to be in fair condition. The one (1) bay overhead metal door is manually operated and appears to be in good condition (refer to Photograph 6).



1.		General view of mechanic's service garage.
2.		The low ceiling in the mechanic garage restricts servicing larger vehicles on the auto floor lifts.
3.		Wood door from garage to the office locker space/corridor.

<p>4.</p>		<p>There are areas of individual concrete masonry block interior surfaces not aligned with adjacent blocks.</p>
<p>5.</p>		<p>View of one of the wood frame single plane glazed windows with deteriorated putty around the wood muntins.</p>
<p>6.</p>		<p>The one (1) bay overhead metal door is manually operated and appears to be in good condition.</p>

## Space Needs Analysis and Recommendations

CBI met with Harvard DPW on August 4, 2021, to discuss their current operations, as well as opportunities and constraints of the existing spaces. Numerous correspondence follow ups have occurred since then to further discuss the project goals. The following was observed and discussed. Please refer to the attached space needs program for room-by-room identification of existing and proposed program spaces ranked in the highest priority.

The mechanic's service garage is outdated, undersized with an overflow of storage. It is approximately 1,606 net sf comprised of a single bay garage and office space located in the rear. The proposed mechanic's office would be kept at the same size. CBI proposes a new facility to meet the current and future demands of the department to accommodate side by side two (2) dump trucks, each approximately 9ft wide x 24 ft deep with space for tools and parts storage cabinets along the exterior walls. The ceiling headroom must be the same height of 21 ft as the adjacent vehicular storage garage to accommodate servicing larger vehicles on the auto floor lifts located on the proposed two (2) bay garage. Based on current operation and projected storage capacity, an increase of approximately 991 net sf should be added, with (2) large overhead doors to be the same size as the overhead doors in the existing vehicle storage garage. The new facility should be approximately 2,597 net sf.

The building envelope including wall, roof, exterior doors and windows should be meet the current energy code requirements under 2018 International Energy Conservation Code as well as accessibility and all applicable building code requirements.

Please refer to enclosed demolition plan and proposed plan.

### Structural

Unsuitable soils should be removed and replaced with structural fill. CBI proposes the foundation system to consist of concrete foundation walls bearing on continuous concrete strip footings 4'-0" minimum below the frost line. Slab on grade with an exterior wall assembly consisting of a load bearing back-up concrete masonry walls with insulation, air cavity and split face CMU veneer to match the existing the six bay vehicle storage garage. The proposed roof is a two way "low" sloped long-span open web metal joists with metal roof deck. A combination of reinforced masonry bond beams and galvanized wide flange steel beams will be provided over wall openings

BLW Engineers, Inc., our Mechanical, Electrical, Plumbing and Fire Protection Engineers have reviewed the existing conditions, and their assessment and recommendations are included within this report.

**Based on our findings and recommendations, and the current construction and bidding market, we recommend budgeting \$1,457,388.00 including markups for the work at the mechanic's service garage.** Please refer to the Project Cost Estimate included with this report.

# DPW Office “Connector” Building

## Existing Conditions

### BACKGROUND

The DPW office “connector” building is single-story constructed of single wythe concrete masonry block walls. The building is the shortest in height in the campus with low ceiling heights of approximately 6'-8" which does not meet code. (refer to Photograph 1). The office has a slider wood single plane glazed window and an office entrance wood door directly to the exterior, and a wood door to the corridor. The DPW office includes two (2) desks for the DPW director and the foreman, and filing storage and copy machine. All administrative activities and interaction with local community occur in the office, (refer to Photograph 2). The corridor located behind the office connecting the mechanics' service garage and the six (6) bay vehicle storage also as serves the changing locker room and storage for miscellaneous office supplies including cleaning supplies, (refer to Photograph 3). The floor elevation in the corridor leading from the “connector” building to the large vehicle storage garage contains a step and does not meet accessibility requirement (refer to Photograph 4).

According to existing documentation, the original “ballasted” roof was replaced with single ply membrane roof and R-30 roof insulation installed around 2010. The roof drains directly grade without perimeter gutters or downspouts.

Overall, the building is deteriorated, drafty, and uncomfortable for the staff. It lacks adequate office space, storage, and dedicated locker rooms.

### DEFICIENCIES

#### Roof

In general, there were no visible signs of interior water infiltration on finished ceiling or reported active roof leaks. However, based on the documentation reviewed, there is a 10-year warranty on the roof membrane and it expired in 2020.

#### Walls

The condition of the single uninsulated wythe concrete masonry block walls appears to be in fair condition. There are areas of individual block interior surfaces not aligned with adjacent blocks thus creating uneven and mortar joint failure.



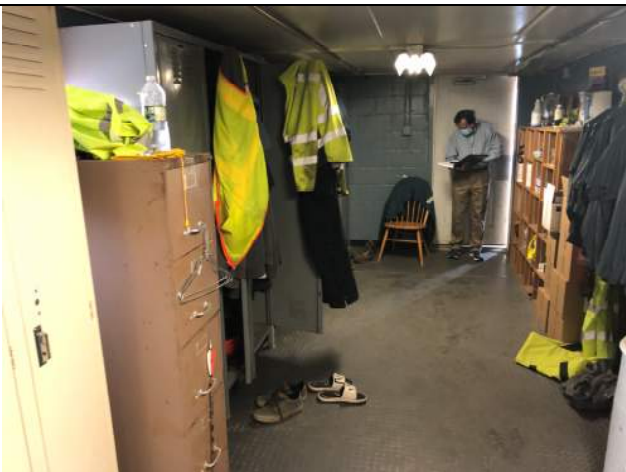
#### Windows and Doors


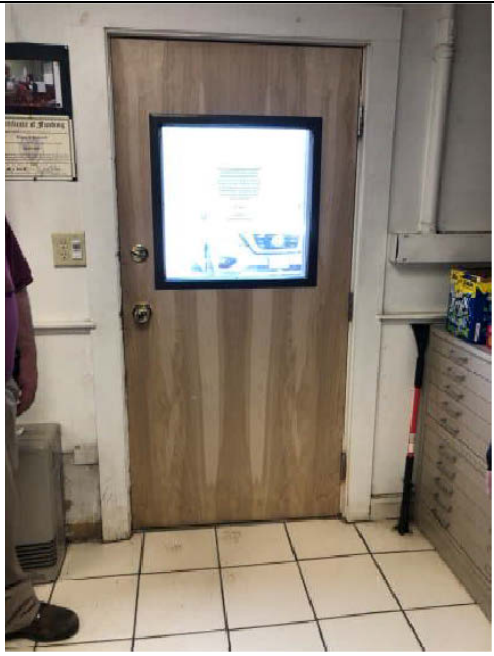
In general, the condition of the window is poor. The sliding wood window is drafty with a single glazed plane. The exterior office entrance wood door is a residential wood grade door not suitable for weather exposure. (refer to Photograph 6).

#### Storage and furnishings

In general, the office storage capacity is inadequate with the office storage overflow located in the corridor. The use of the corridor for locker room changing area and for storage creates an egress safety hazardous condition. There is also the use of lack of privacy for the location of the lockers in the corridor.



<p>1.</p>		<p>General view of the DPW Office "Connector" Building</p>
<p>2.</p>		<p>The DPW office includes two (2) desks for the DPW director and the foreman, and filing storage and copy machine</p>
<p>3.</p>		<p>The use of the corridor for locker room changing area and for storage creates an egress safety hazardous condition. There is also the lack of privacy for staff uniform changing.</p>

<p>4.</p>		<p>The floor elevation in the corridor leading from the “connector” building to the large vehicle storage garage contains a step and does not meet accessibility requirements.</p>
<p>5.</p>		<p>View of the office exterior main entrance residential wood grade door.</p>

## Space Needs Analysis and Recommendations

CBI met with Harvard DPW on August 4, 2021, to discuss their current operations, as well as opportunities and constraints of the existing spaces. Numerous correspondence follow ups have occurred since then to further discuss the project goals. The following was observed and discussed. Please refer to the attached space needs program for room-by-room identification of existing and proposed program spaces ranked in the highest priority for the office and dedicated male locker room, and moderate priority for the dedicated female locker room and supply storage room.

The DPW office “connector” building is outdated, undersized and has an overflow of storage. It is approximately 492 net sf comprised of the DPW office and the corridor located behind the office connecting the mechanics’ service garage and the six (6) bay vehicle storage space. CBI proposes a new structure with an open office space concept for collaboration for the DPW Director, Foreman and to accommodate a desk for a future, part-time administrative position. There should be a space to greet and assistant community members and an airlock vestibule to allow mail delivery when no one is in the office and also to reduce cold and hot air infiltration into the office. Filing storage wall cabinets and a secured place for the internet router are needed. Also, a dedicated room for (12) lockers for the staff uniforms and a storage closet for cleaning and other miscellaneous items is needed as well. A dedicated space for female lockers is also required. The raised floor elevation leading from the connector building to the six (6) bay vehicle storage building should be removed and a new concrete floor installed to be flush with adjacent floors to comply with accessibility requirements.

The new DPW office “connector” building should be approximately 895 net sf total. The building envelope including wall, roof, exterior doors and windows should be meet the current energy code requirements under 2018 International Energy Conservation Code as well as accessibility and all applicable building code requirements.

Please refer to enclosed demolition plan and proposed plan

### Structural

Unsuitable soils should be removed and replaced with structural fill. CBI proposes the foundation system to consist of concrete foundation walls bearing on continuous concrete strip footings 4’-0” minimum below the frost line. Slab on grade with an exterior wall assembly consisting of a load bearing back-up concrete masonry walls with insulation, air cavity and split face CMU veneer to match the existing the six bay vehicle storage garage. The proposed roof is a “low” sloped open web metal joists with metal roof deck. Reinforced masonry bond beams will be provided over wall openings.

BLW Engineers, Inc., our Mechanical, Electrical, Plumbing and Fire Protection Engineers have reviewed the existing conditions, and their assessment and recommendations are included within this report.

**Based on our findings and recommendations, and the current construction and bidding market, we recommend budgeting \$532,876.00 including markups for the work at the new DPW office “connector” building.** Please refer to the Project Cost Estimate included with this report.

# Vehicle Storage Garage

## Existing Conditions

### BACKGROUND

The six (6) bay vehicle storage garage is the largest at approximately 7,318 net sf and the newest building on site, built in 1984, with subsequent renovation to the bathrooms in 1999. The garage is used for storage of utility trucks, pickup trucks, dump trucks, front loaders and other heavy duty vehicles and equipment, (refer to Photograph 1). It is single-story high space with a mechanical/storage mezzanine above the break room, the male multi-user toilet room, unisex single user toilet room, and the abandoned boiler room, all located at one end of the vehicle storage building, (refer to Photograph 2). The facility is constructed of exterior single wythe concrete masonry block walls with Styrofoam insulation inserts and vertical steel reinforcing. There are (6) motorized overhead metal doors.

According to existing documentation. The original "ballasted" roof was replaced with single ply membrane roof and R-30 roof insulation installed around 2010. The roof drains directly grade without perimeter gutters or downspouts.

### DEFICIENCIES

#### Roof

In general, there were no visible signs of interior water infiltration under the exposed metal roof deck or reported active roof leaks. However, based on the documentation reviewed, there is a 10-year warranty on the roof membrane and it has expired in 2020.

#### Floor

There are large, deteriorated sections of the traffic epoxy floor finish and pitted concrete floor in the garage caused by water and de-icing salts. (refer to Photograph 3). The male multi-user toilet room 12"x12" ceramic tiles are in fair condition with deteriorated tile joints. The radial rubber floor in the break room and the unisex bathroom appears to be in good condition.

#### Walls

The condition of the exterior single wythe concrete masonry block walls with Styrofoam insulation inserts and vertical steel reinforcing walls appears to be good condition, without any sign of cracks or settlement. Also, the interior painted concrete masonry block walls appear in good condition.

#### Windows and Doors



The seven (7) motorized overhead metal doors were replaced in 2020 and are new like condition. The interior metal doors and frames leading to the break room, multi-user toilet and unisex toilet exhibit signs of rust. (refer to Photograph 4).



#### Interior Spaces




The male multi-user toilet room plumbing fixtures appear to be fair but are outdated. (refer to Photograph 5). The existing ramp leading to the unisex bathroom exceeds the slope requirements of 1/12 pitch. It also lack handrails on both sides. (refer to Photograph 6). The 7-1/2" raised floor elevation from the break


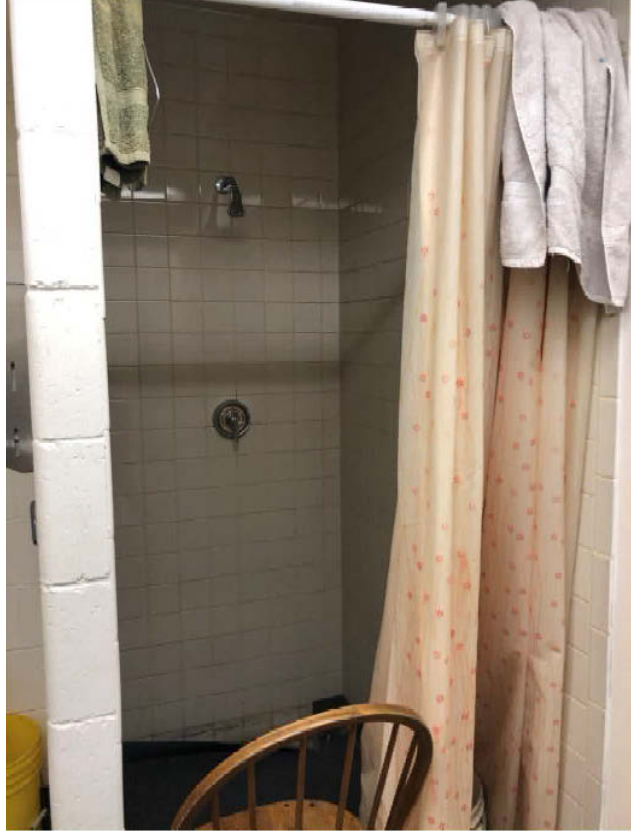


room to the garage floor does not meet accessibility requirements, (refer to Photograph 7). The unisex toilet room does not meet ADA accessibility requirements including maneuver clearances within the toilet partition and the shower stall approach and there is no shower seating as required by the accessibility code. (refer to Photograph 8 & 9).

<p>1.</p>		<p>View of the Six Bay Vehicle Storage Garage adjacent to the Office “Connector” Building</p>
<p>2.</p>		<p>The mechanical/storage mezzanine above the break room, the male multi-user toilet room, unisex single user toilet room.</p>

3.		<p>Deteriorated sections of the traffic epoxy floor finish and pitted concrete floor in the garage caused by water and de-icing salts.</p>
4.		<p>The unisex toilet interior metal door and frame and exhibit signs of rust.</p>

<p>5.</p>		<p>The male multi-user toilet room plumbing fixtures appear to be fair but are outdated. The fixtures and heights are not handicap accessible.</p>
<p>6.</p>		<p>The existing ramp leading to the unisex bathroom exceeds the slope requirements of 1/12 pitch. It also lack handrails on both sides.</p>
<p>7.</p>		<p>The 7-1/2" raised floor elevation from the break room to the garage floor does not meet accessibility requirements and it also creates a tripping hazard.</p>

8.		<p>The unisex toilet room does not meet ADA accessibility requirements for the maneuver clearances within the toilet partition</p>
9.		<p>The unisex toilet room does not meet ADA accessibility for the shower stall approach and lack of seating</p>

## Space Needs Analysis and Recommendations

CBI met with Harvard DPW on August 4, 2021, to discuss their current operations, as well as opportunities and constraints of the existing spaces. Numerous correspondence follow ups have occurred since then to further discuss the project goals. The following was observed and discussed. Please refer to the attached space needs program for room-by-room identification of existing and proposed program spaces ranked in the highest priority for the new unisex accessible bathroom, new ramp to the break room as required by the accessibility code, and moderate priority to the scope of work for six bay vehicle storage garage, male multipurpose bathroom and mechanical room.

The six (6) bay vehicle storage garage building appears to be in good condition and the DPW is not looking to expand its footprint. However, accessibility upgrades are required in the unisex toilet room to comply with ADA code regulations, including reconfiguration of toilet partition, new plumbing fixture and accessories and reconfiguration of the shower stall. Also, the existing ramp and rails is required be reconfigured to comply with slope and handrails requirements. The male multi-user toilet room plumbing fixtures and finishes appear to be fair, are outdated and should be replaced. A new ramp with handrails and a new door approach clearance is required for accessibility from the garage to the break room. The entire traffic epoxy floor finish in the garage should be removed, the pitted concrete areas should be patched and a new heavy duty traffic epoxy finish applied to the entire floor.

Please refer to enclosed demolition plan and proposed plan

### Structural

The existing raised corridor floor from the existing six Bay Vehicle Storage Garage to the DPW office is proposed to be lowered to comply with accessibility requirements, which will include removal and replacement of the slab on grade. Underpinning will be required of the flanking existing masonry bearing wall foundations of the corridor. Unsuitable soils would be removed and replaced with structural fill. A new concrete slab-on-grade is proposed.

BLW Engineers, Inc., our Mechanical, Electrical, Plumbing and Fire Protection Engineers have reviewed the existing conditions, and their assessment and recommendations are included within this report.

**Based on our findings and recommendations, and the current construction and bidding market, we recommend budgeting \$1,036,814.00 including markups for the work at the vehicle storage garage.** Please refer to the Project Cost Estimate included with this report.





DPW SPACE NEEDS ANALYSIS- Revision 1

EXISTING PROGRAMMED SPACE	EXISTING NET SF	PROPOSED PROGRAMMED SPACE	PROPOSED NET SF	TOTAL NET	PRIORITY			CURRENT STAFF	PROJECTED STAFF	Remarks
					HIGHEST	MODERATE	LOWEST			
<b>MECHANICS SERVICE GARAGE</b>										
(1) Garage	1,485	(2) Bay Garage	560	2,045	X			1	1	Space for tool storage cabinets along the walls required
Office	121		0	121		X				Office used by mechanic
Proposed Open Space for Tool Storage			431	431	X					
<b>CONNECTOR BUILDING</b>										
Office	270	Office with vestibule	268	538	X			2	3	Additional desk for part-time administrative staff
Corridor / Lockers / material Supplies Storage	222	Dedicated Male Locker Room	94	357	X			14	14	Total number of all male staff which includes 12 full time and 2 part time staff. The total 357 sf is from adding 135 sf + 222
		Dedicated Female Locker Room	70			X				Need for (2) female lockers and 18x12x60 metal lockers
		Dedicated Supply Storage Closet	76			X				
		Corridor	117							
		<b>total added net sf to existing 222 sf</b>	<b>135</b>							
<b>(6) BAY STORAGE GARAGE</b>										
(6) Bays Storage Garage	6,654		0	6,654		X				Remove existing deteriorated traffic coating and apply new traffic coating. Provide exhaust air and make up air system. Provide additional supplemental propane unit heaters. Refer to demo and electrical new work
Break Room	347		0	347		X				add VRF heating and cooling.
Unisex HC Toilet Room	117		0	117	X					add VRF heating and cooling.
Men's Toilet Room	122		0	122		X				add VRF heating and cooling.
Mech	78	Convert to storage	0	78		X				Removed abandoned boiler and associated pipe. Epoxy flooring. New metal door and frame. Paint walls and concrete ceiling
<b>POLE BARN / GARAGE STORAGE</b>										
Tool Crib	295	Square off tool crib in with building in the corner. Added 136 sf	136	431	X					
Multiple Sub-Divided Storage Spaces	1,305	Combined sub-divided storage and tire storage space and added 20ft wide bay sf	665	2,538	X					
Tire Storage	568									

**TOTAL** 11,584 2,195 13,779

FOR ADDITIONAL INFORMATION: REFER TO DEMOLITION PLANS, PROPOSED PLANS, ARCHITECTURAL, STRUCTURAL AND MEP-FP NARRATIVES

# SECTION 2





**Department of Public Works Facility Garage  
Harvard, MA**

**MEPFP Evaluation**

*Prepared For:*

**Rick Almeida, AIA, NCARB, LEED AP  
CBI Consulting, LLC - A SOCOTEC COMPANY  
250 Dorchester Avenue  
Boston, MA 02127**

**November 3, 2021**





## FIRE PROTECTION

### ***Fire Protection Existing Conditions***

- There is currently no sprinkler system within the building. There is an existing fire alarm system. Further information regarding the fire alarm system, is in the Electrical section of this report.

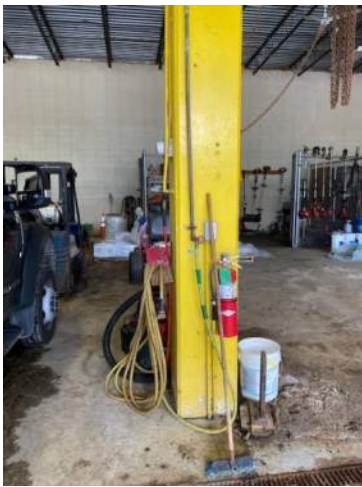
### ***Fire Protection Recommendations***

- Given this extent of the renovations, the Town will require a sprinkler system, a new NFPA-13 system would be installed. As the site is provided domestic water with a well located off the DPW campus site, it is likely a 15,000-gallon cistern and 50 HP fire pump would be required to supply the sprinkler system. A dry system would be provided for both the Service Bay and Six Bay Vehicle Storage Garage areas. A wet system would be provided for heated spaces within the Office, Breakroom, Bathrooms, Locker Rooms, Hallway-Renovation, Addition or other conditioned areas.

### ***End of Fire Protection Section***

***Plumbing Existing Conditions***

- A 1" water service is provided to serve the building's water needs. Water is sourced via well located approx. ¼ mile from the DPW site. The water line enters the building through the slab under the Mechanic's Service Bay and is distributed via copper piping.
- Commercial grade urinals are provided in the bathrooms, tank type water closets and commercial grade sinks. The fixtures did not appear to be ADA complaint or water conservation type. A floor drain was not provided in the bathroom which would be a code requirement.
- A (50) gal electric tank type hot water heater is located off the break room and service the hot water for the facility.
- Both the Mechanic's Service Bay and Six Bay Vehicle Storage Garage areas are provided with floor drains which terminate to tight tank(s).
- An air compressor, related piping and hose drops are provided throughout both the Service Bay and Six Bay Vehicle Storage Garage areas.
- An underground propane tank provides the building's fuel for unit heaters and the generator.



***Compressed Air Reel and Water Spigot at the Six Bay Vehicle Storage Garage***



***Electric Hot Water Heater at the Breakroom***



***Exterior Tight Tank Manhole Cover located at the Mechanic's Service Garage***



***Garage Trench Drain located at the Six Bay Vehicle Storage Garage***



***Plumbing Fixtures at the multi user Men's bathroom***



***Propane Service Entrance located at the fenced in area adjacent to the Mechanic's Service Garage***

### ***Plumbing Recommendations***

- The Handicapped bathroom does not appear to be ADA compliant, and should be renovated to meet ADA requirements. In general both the men bathroom and the handicap bathroom plumbing fixtures appear to be in fair, and served their useful life and do not meet current codes for accessibility and water conservation.
- The domestic hot water heater appears to be out of warranty and would recommend replacing.
- As the Mechanic's Service Garage is proposed to be demolished/rebuilt, considerations should be taken that air compressor, propane line and water service are sourced from that location and would require re-routing.
- New Mechanic's Service Garage – provide new floor drains, related vents and connection to existing tight tank. Tight tank shall be inspected by certified personnel to confirm it is suitable for reuse. If it is not, a new tight tank shall be provided. Utilities shall be extended/reconfigured as required to accommodate the addition inclusive of but not limited to: domestic water, sanitary/garage waste and propane. Portions of the building shall be provided with flat roofs, gutters, downspouts and scuppers. This storm water must be discharged to the site storm drain system and cannot terminate to the sanitary or tight tank systems.

- New Pole Barn Storage – shall be provided with new garage drains and a new tight tank. The building shall be provided with flat roofs, gutters and downspouts. This storm water must be discharged to the site storm drain system and cannot terminate to the sanitary or tight tank systems.

***End of Plumbing Section***

***HVAC Existing Conditions***

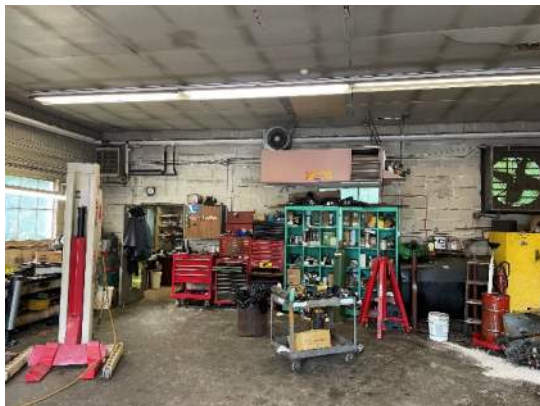
The original building heating and ventilating system utilized an oil fired hot water boiler, hot water circulating pumps, hot water distribution piping system, hot water unit heaters, fintube radiation, exhaust fans and an underground oil storage tank. The hot water system has failed and has been abandoned in place.

The system has been replaced with propane furnaces, waste oil furnaces and through wall air conditioning units; the system has retained some of the exhaust fans. The current heating, ventilating and air conditioning systems are as follows:

1. **Mechanic's Service Garage:** The repair garage is currently heated by a Reznor Venturion 225 waste oil heater and has a propeller wall exhaust fan. The waste oil heater is rated for 225 MBH input capacity, direct blows recirculated air into the space and is vented through the rear wall.
2. **Office:** The office is provided with a propane wall furnace for heating, a through wall air conditioning unit for cooling and operable windows and doors for ventilation. The propane wall heater is located at the front entry door is a Rinnai model EX22CP rated for 20.7 MBH input heating capacity and is interconnected to the propane piping distribution system.
3. **Hall/Lockers:** The office is provided with a propane wall furnace for heating, a through wall air conditioning unit for cooling and operable windows and doors for ventilation. The propane wall heater is located at the front entry door is a Rinnai model EX11CP rated for 11.0 MBH input heating capacity and is interconnected to the propane piping distribution system.
4. **Breakroom:** The breakroom is provided with a propane wall furnace for heating, a through wall air conditioning unit for cooling, ceiling exhaust fan ducted to the outdoors, sidewall exhaust fan to the adjacent bathroom and operable windows and doors for ventilation. The propane wall heater is located at the front entry door is a Rinnai model RHFE471FA rated for 16.7 MBH input heating capacity and is interconnected to the propane piping distribution system.
5. **Bathrooms:** The two (2) bathrooms are provided with ceiling exhaust fans ducted to the outdoors; the bathroom adjacent to breakroom gets some transfer heat from the break room wall fan, the other bathroom has no source of heat.
6. **Six Bay Vehicle Storage Garage:** The Six Bay Vehicle Storage Garage is currently heated by a Reznor RA350 waste oil heater and has a propeller wall exhaust fan rated for 5,900 cfm; two of the original propeller exhaust fans have been covered over and are not operable. The waste oil heater is rated for 350 MBH input capacity, direct blows recirculated air into the space and is vented through the roof; It should be noted that the output capacity of the waste oil heater is approximately 280MBH, located at one side of the space and the former hot water unit heater system was capable of 364 MBH more distributed at the six unit heater locations. Reportedly the heating capacity of the waste oil heater is not adequate.
7. **Pole Barn/Storage:** There currently are no heating, ventilating or air conditioning provisions for the ancillary building.

**HVAC Recommendations**

1. New Mechanic’s Service Garage: Provide an exhaust air and tempered make up air system to provide 0.75 cfm/sf exhaust air to the space as required by code; the system should be provided a control system to modulate air from 0.05 cfm/sf to maximum code exhaust air flow. The makeup air system for the existing waste oil system would also provide heating to the space; the automatic control system will modulate the outside air and return air dampers based on the exhaust air requirements of the space.
2. Six Bay Vehicle Storage Garage (Existing to remain): Provide an exhaust air and tempered make up air system to provide 0.75 cfm/sf exhaust air to the space as required by code; the system should be provided a control system to modulate air from 0.05 cfm/sf to maximum code exhaust air flow. The makeup air system for the existing waste oil system would also provide heating to the space; the automatic control system will modulate the outside air and return air dampers based on the exhaust air requirements of the space.
3. Six Bay Vehicle Storage Garage (Existing to remain): Provide additional supplemental propane unit heaters extended from the existing propane gas piping system for the space.
4. New Office/Existing Breakroom/Renovated Bathrooms/New Locker Rooms/New Hallway: Consider adding Variable Refrigerant Flow (VRF) heating and cooling consisting of an outdoor heat pump interconnected by insulated refrigerant piping to ductless wall mounted units in space, energy recovery unit to provide ventilation/exhaust to each space in accordance with applicable codes and electric supplemental heat in bathrooms/entries.
5. New Pole Barn: No heating, ventilating or air conditioning is planned.
6. Existing boiler, piping, etc. that has been abandoned in place in the mechanical room will be removed in its entirety.



**Mechanic’s Service Garage Shop Waste Oil Heater  
Propeller Exhaust Fan**



**Six Bay Vehicle Storage Garage Propeller Wall Fan  
Abandoned Hot Water System  
Covered Propeller Wall Fan**





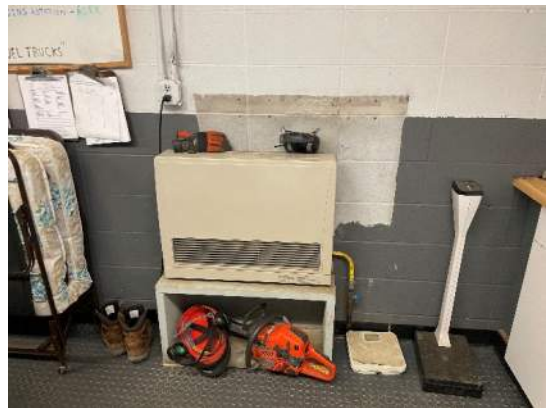
***Bathroom Transfer Fan from Breakroom***



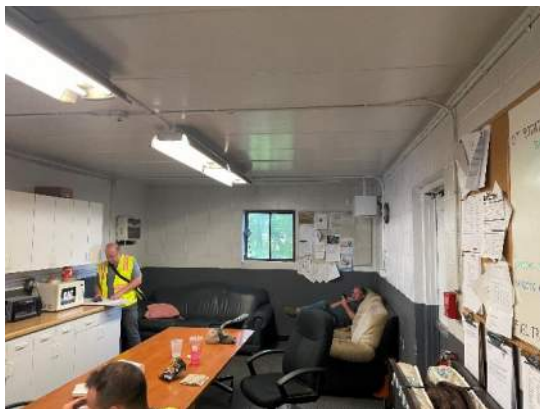
***Bathroom Ceiling Exhaust Fan***



***Six Bay Vehicle Storage Waste Heater***



***Breakroom Propane Wall Furnace***



***Breakroom Exhaust Fan  
Through Wall Air Conditioning Unit***



***Locker Room/Hall Wall Propane Wall Furnace***



***Office Propane Wall Furnace***



***Office Through Wall Air Conditioner***



***Abandoned Boiler***

***End of HVAC Section***



***Electrical Existing Conditions***

- Main electrical service is fed overhead from a National Grid pole-mounted transformer and terminates in the main service circuit breaker/current transformer cabinet (400A, 120/240V, 1-phase, 3W, manufactured by Federal Pacific Electric located on the mezzanine of the Six Bay Vehicle Storage Garage. There is one existing meter for the entire building. The CTC cabinet and distribution panels were installed in 1983 and have all reached their expected useful lives.
- The fire alarm system is an addressable control panel manufactured by Silent Knight IntelliKnight. The system detection included system smoke detectors, in office, heat detectors in corridors and bathrooms, system horn/strobes, strobe-only devices in bathrooms, system manual pull stations at egress doors. The notification coverage appeared to be adequate. The existing system has approached its expected useful life. The system is connected to the fire department through a Sigcom digital communicator. The fire alarm system and Digital Communicator are located on the Mezzanine level of the Six Bay Vehicle Storage Garage.
- Lighting consisted of inefficient fluorescent 2'x4' recessed fixtures, 4' industrial fixtures, 8' industrial fixtures, surface 1'x4' fixtures. All fixtures have exceeded their expected lifespan and are inefficient. All fixtures are controlled by wall switches.
- Exit signs are illuminated (with the exception of one) but coverage is not adequate. The exit signs have approached their expected useful life.
- There is an existing exterior weatherproof enclosed propane generator, located in the exterior fenced-in area adjacent to the Mechanic's Service Garage. The generator was manufactured by Kohler. The rating of the generator is 100KW, 120/240V, 1-phase. The generator backs up the entire facility except the air compressors. The employees manually shut off the breakers for the compressors. It appears to be in good working condition, is maintained annually, exercised weekly, was installed in 2000. Continuing the maintenance and exercising, the generator has an additional 12 to 15 years of expected life. The generator turns on automatically when there is a utility outage, via the existing 400 Amp Kohler Automatic Transfer Switch. The ATS also appears to be in good condition with an additional 12 to 15 years remaining.
- The building has exterior lighting consisting of wall packs. These fixtures are inefficient and have reached their expected lifespan.
- The existing pole barn storage has minimal electrical components; all electrical components have surpassed their expected lifespan and should be replaced.



*Service Transformer on Depot Road*



*Service Entrance – Exterior of Six Bay Vehicle Storage Garage*



*Electric Meter – Six Bay Vehicle Storage Garage*



*400 Amp, 240 V1, 1-Phase Main Building Disconnect – Mezzanine of Six Bay Vehicle Service Storage Garage*



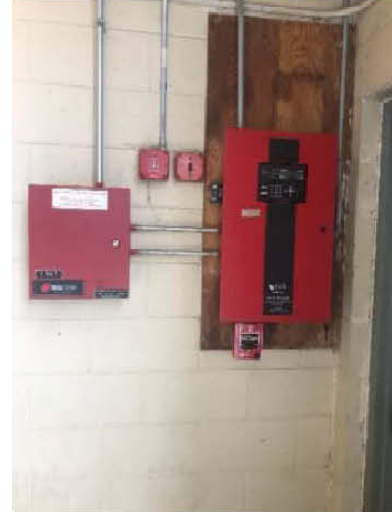
*Service Equipment - Six Bay Vehicle Storage Garage*



*Panelboards – Mechanic's Service Garage*



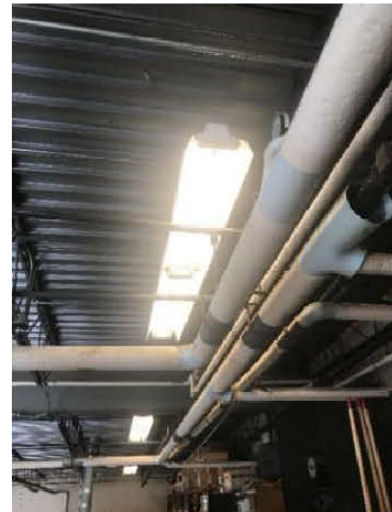
**Panelboards – Mechanic’s Service Garage**



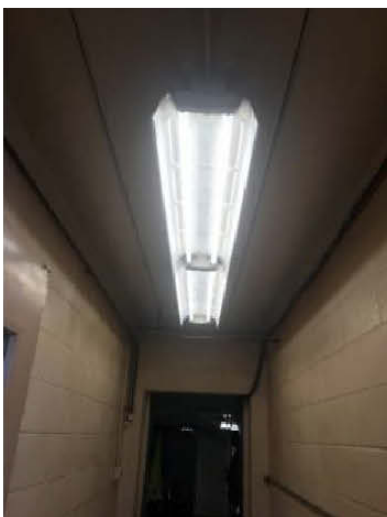
**Fire Alarm System – Six Bay Vehicle Storage Garage**



**Non-Illuminated Exit Sign - Corridor**



**Industrial Fluorescent Strip Lighting – Six Bay Vehicle Storage Garage**



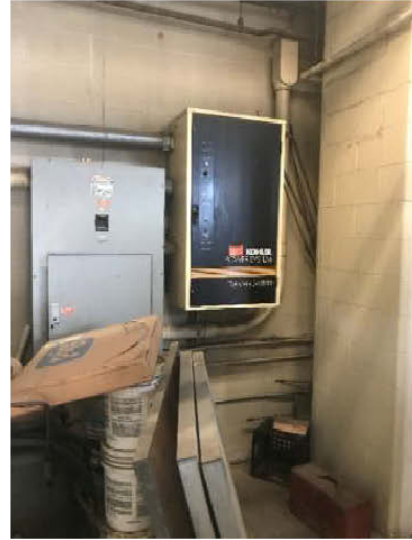
**Industrial Fluorescent Fixture - Corridor**



**100 KW, 120/240V 1-Phase Generator – Exterior Fenced -In Area**



**Industrial Fixture/Heat Detector – Six Bay Vehicle Storage Garage**



**400 Amp Automatic Transfer Switch – Mezzanine of Six Bay Vehicle Storage Garage**



**Exterior Wall Pack - Six Bay Vehicle Storage Garage**



**Exterior Wall Pack – Office Building**

### **Electrical Recommendations**

- The existing 400 Amp service has reached its useful life and is inadequate for a proposed : new office, locker room, corridor, mechanic’s service garage and the Pole Barn storage garage. The services should be upgraded to a minimum of 600 amp, 120/208V, 3-phase, 4-wire service.
- The electrical switchgear shall be provided with provisions in the gear, to accept power from future or proposed solar photovoltaic system.
- GFCI receptacles shall be provided for all garage bays.



- The Fire alarm control panel should be upgraded to a new addressable fire alarm control panel, and new notification devices (horn/strobes and strobe-only devices) and actuation devices (pull stations, heat and smoke detectors).
- Illuminated exit signs should be added to replace all the existing exit signs.
- Exterior emergency lights should be provided at all egress doors.
- Exterior wall packs should be replaced with LED efficient wall packs.
- Interior light fixtures should all be replaced with similar type fixtures containing LED lamps.
- The generator and automatic transfer switch should continually be maintained and exercised. The existing generator size would not support any additional load, for a building addition. They presently need to shut the compressors off, to maintain power for the remainder of the building, during an outage. A new 175KW, 120/208 volt 3-phase generator and 600 amp, 208 volt 3-phase 4-pole automatic transfer switch would be required to support the entire facility.
- Automatic lighting controls (sensors) should be provided for all interior light fixtures.
- The proposed Pole Barn Storage building should be provided with a 60 amp, 120/208 volt service 3-phase service, from the proposed new 600 amp service at the main building. A new 60 amp, 120/208 volt 3-phase, main circuit breaker, 24 circuit panelboard should be provided. New lighting consisting of cold-weather-rated LED 4 foot vaportight light fixtures should be provided. The fixtures shall be provided with occupancy sensors built into the fixtures for control. New self-contained exit signs and wall-mounted emergency lights should be provide for emergency illumination. GFCI outlets shall be provided for general power requirements. Power for any HVAC equipment should be provided. Exterior wallpacks with emergency modules should be provided on all exterior doorways.

***End of Electrical Section***

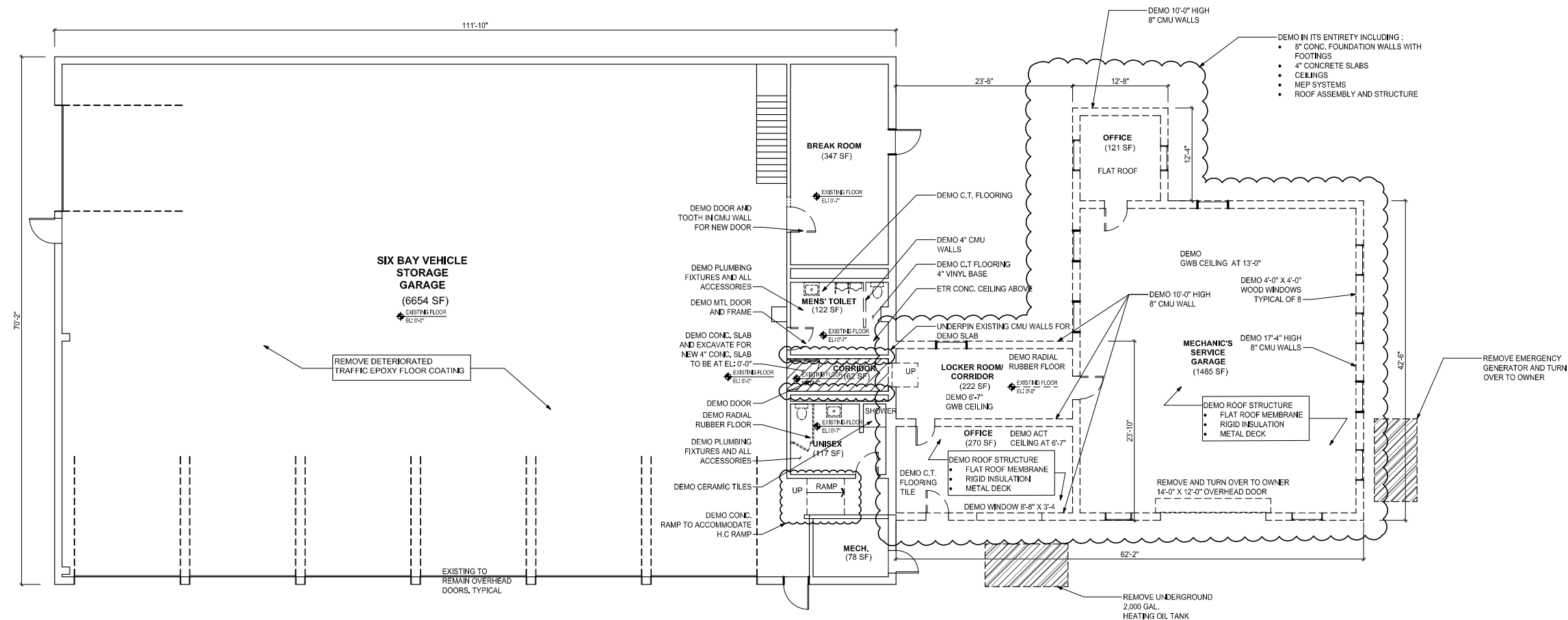
# SECTION 3



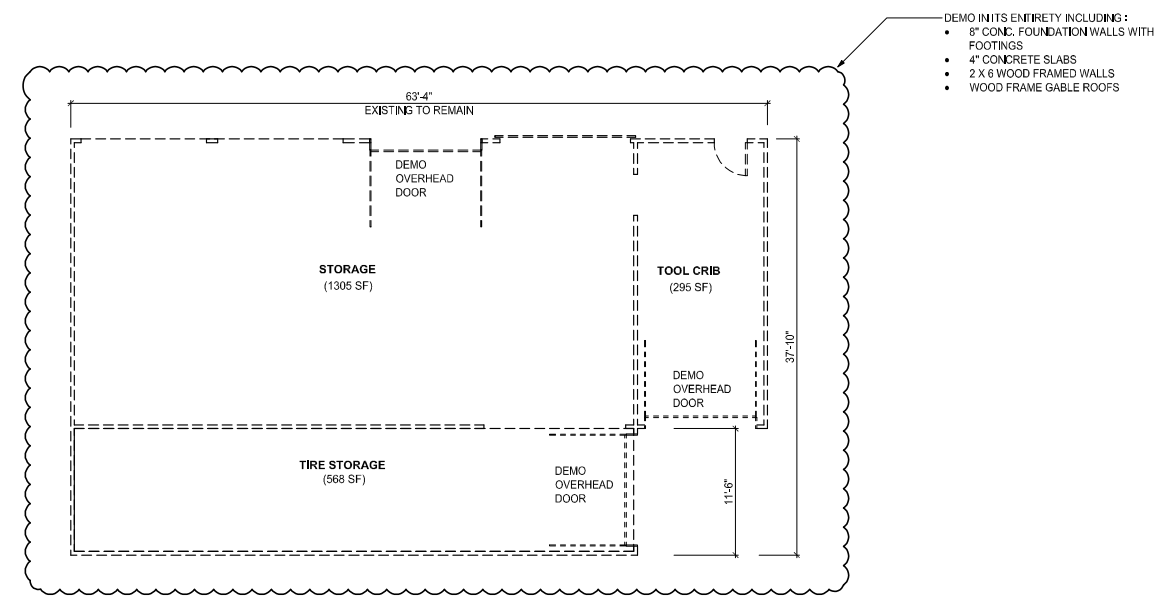


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**LEGEND**  
 ——— EXISTING WALL TO REMAIN  
 - - - - - DEMOLITION WALL



1 EXISTING MAIN BUILDING  
 1/8" = 1'-0"



2 EXISTING POLE BARN STORAGE  
 1/8" = 1'-0"



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**HARVARD  
 DPW STUDY**



**TOWN OF  
 HARVARD**

45 DEPOT ROAD,  
 HARVARD,  
 MASSACHUSETTS 01451

Drawing Title:

**DEMO  
 PLANS**

Revisions:

Submission:

**FACILITY  
 ANALYSIS STUDY**

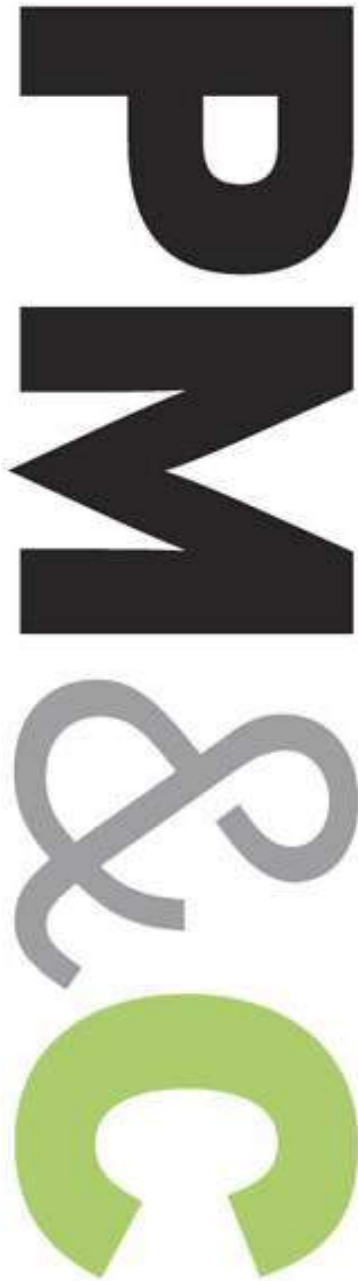
Date: 10/15/2021  
 Project Number: CB211030  
 Project Manager: RTA  
 Drawn By: BK  
 Scale: AS SHOWN

**D1-01**



# SECTION 4





FEASIBILITY STUDY ESTIMATE

**Harvard DPW**  
New Additions/Renovation  
Harvard, MA

**PM&C LLC**  
20 Downer Ave, Suite 5  
Hingham, MA 02043  
(T) 781-740-8007  
(F) 781-740-1012

Prepared for:

**CBI Consulting**

October 4, 2021



**Harvard DPW**  
**New Additions/Renovation**  
 Harvard, MA

04-Oct-21

**MAIN CONSTRUCTION COST SUMMARY**

**HARVARD DPW**

	<b>Construction Start</b>	<b>Gross Floor Area</b>	<b>\$/sf</b>	<b>Estimated Cost</b>
	Jun-22			
<b>TRADE COSTS</b>				
NEW MECHANIC'S SERVICE GARAGE		2,950	\$357.13	\$1,053,540
NEW CONNECTOR BUILDING		1,030	\$373.99	\$385,214
SIX BAY STORAGE GARAGE RENOVATION		7,870	\$95.24	\$749,509
NEW POLE BARN & GARAGE STORAGE		3,228	\$245.62	\$792,872
HAZMAT REMOVAL ALLOWANCE		5,089	\$16.00	\$81,424
SITework				\$428,255
<b>SUBTOTAL TRADE COSTS</b>				<b>\$3,490,814</b>
Design and Estimating Contingency		15.0%		\$523,622
Escalation to Start		3.0%		\$104,724
<b>SUBTOTAL</b>				<b>\$4,119,160</b>
General Conditions	8.0%			\$329,533
Insurances - GLI/Builders Risk	1.25%			\$51,490
Bond	1.00%			\$41,192
Building Permit				Waived
Overhead & Fee	5.0%			\$205,958
<b>TOTAL ESTIMATED CONSTRUCTION COST</b>		<b>15,078</b>	<b>\$315</b>	<b>\$4,747,333</b>



**Harvard DPW**  
**New Additions/Renovation**  
Harvard, MA

04-Oct-21

**ALTERNATES (INCLUDING MARKUPS)**

Eliminate Female Locker and Storage Room Scope	<b>DEDUCT</b>	<b>(\$54,385)</b>
Eliminate 6 Bay Storage Garage Scope	<b>DEDUCT</b>	<b>(\$816,617)</b>
Eliminate Break Room Scope	<b>DEDUCT</b>	<b>(\$27,371)</b>
Eliminate Men's Toilet Room Scope	<b>DEDUCT</b>	<b>(\$37,507)</b>
Eliminate Mech Room Scope	<b>DEDUCT</b>	<b>(\$4,080)</b>





**Harvard DPW**  
**New Additions/Renovation**  
Harvard, MA

04-Oct-21

This cost estimate was produced from drawings, specifications and other documentation prepared by CBI Consulting and their design team dated 9.8.2021 . Design and engineering changes occurring subsequent to the issue of these documents have not been incorporated in this estimate.

This estimate includes all direct construction costs, GC's overhead and profit and design contingency. Cost escalation is included until start date indicated.

Bidding conditions are expected to be public bidding under C.149 to pre-qualified General Contractors, open bidding for sub-contractors, open specifications for materials and manufacturers.

The estimate is based on prevailing wage rates for construction in this market and represents a reasonable opinion of cost. It is not a prediction of the successful bid from a contractor as bids will vary due to fluctuating market conditions, errors and omissions, proprietary specifications, lack or surplus of bidders, perception of risk, etc. Consequently the estimate is expected to fall within the range of bids from a number of competitive contractors or subcontractors, however we do not warrant that bids or negotiated prices will not vary from the final construction cost estimate.

#### **ITEMS NOT INCLUDED IN THIS ESTIMATE**

Items not included in this estimate are:

- All professional fees and insurance
- Site or existing conditions surveys investigations costs, including to determine subsoil conditions
- Items identified in the design as Not In Contract (NIC)
- Items identified in the design as by others
- Owner supplied and/or installed items (e.g. technology, furniture and equipment, etc.)
- Rock excavation; special foundations (unless indicated by design engineers)
- Utility company back charges, including work required off-site
- Work to City streets and sidewalks, (except as noted in this estimate)



Harvard DPW  
New Additions/Renovation  
Harvard, MA

FEASIBILITY STUDY ESTIMATE

GFA

2,950 GFA

1,030 GFA

7,870 GFA

3,228

**CONSTRUCTION COST SUMMARY IN CSI FORMAT**

DIVISION	Mechanics Service Garage		Connector Building		Six Bay Storage Garage		Pole Barn & Garage Storage		Sitework		Total Project	
	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal	Total
<b>DIV. 2 DEMOLITION</b>		<b>\$21,588</b>		<b>\$12,360</b>		<b>\$23,780</b>		<b>\$27,120</b>				<b>\$84,848</b>
024000 Demolition	\$21,588		\$12,360		\$23,780		\$27,120				\$84,848	
<b>DIV. 3 CONCRETE</b>		<b>\$97,006</b>		<b>\$48,901</b>		<b>\$74,800</b>		<b>\$128,013</b>				<b>\$348,720</b>
033000 Cast-in-Place Concrete	\$97,006		\$48,901		\$74,800		\$128,013				\$348,720	
<b>DIV. 4 MASONRY</b>		<b>\$282,389</b>		<b>\$84,327</b>		<b>\$7,200</b>		<b>\$181,035</b>				<b>\$554,951</b>
040001 Masonry (FSB)	\$282,389		\$84,327		\$7,200		\$181,035				\$554,951	
<b>DIV. 5 METALS</b>		<b>\$114,213</b>		<b>\$36,437</b>		<b>\$18,927</b>		<b>\$108,515</b>				<b>\$278,092</b>
051000 Structural Steel	\$100,600		\$30,750		\$10,000		\$94,560				\$235,910	
055000 Metal Fabrications	\$13,613		\$5,687		\$8,927		\$13,955				\$42,182	
<b>DIV. 6 WOODS &amp; PLASTICS</b>		<b>\$7,878</b>		<b>\$3,842</b>		<b>\$347</b>		<b>\$5,799</b>				<b>\$17,866</b>
061000 Rough Carpentry	\$7,878		\$3,842		\$347		\$5,799				\$17,866	
062000 Finish Carpentry												
066100 Solid Surfacing Fabrications												
<b>DIV. 7 THERMAL &amp; MOISTURE PROTECTION</b>		<b>\$144,084</b>		<b>\$39,605</b>		<b>\$63,976</b>		<b>\$125,676</b>				<b>\$373,341</b>
070001 Dampproofing & Sealant (FSB)	\$53,173		\$8,005		\$53,976		\$62,392				\$177,546	
070002 Roofing & Flashing (FSB)	\$79,025		\$29,355		\$10,000		\$62,664				\$181,044	
072100 Exterior Thermal Insulation	\$11,886		\$2,245				\$620				\$14,751	
<b>DIV. 8 DOORS &amp; WINDOWS</b>		<b>\$39,143</b>		<b>\$14,840</b>		<b>\$6,350</b>		<b>\$62,254</b>				<b>\$122,587</b>
080001 Glass & Glazing (FSB)	\$6,400		\$3,840								\$10,240	
081113 Doors, Frames and Hardware	\$3,250		\$10,250		\$5,600		\$9,250				\$28,350	
083000 Access Doors			\$750		\$750						\$1,500	
083300 Overhead Doors	\$27,993						\$52,254				\$80,247	
089000 Architectural Louvers & Vents	\$1,500						\$750				\$2,250	
<b>DIV. 9 FINISHES</b>		<b>\$14,165</b>		<b>\$27,920</b>		<b>\$23,130</b>		<b>\$18,004</b>				<b>\$83,219</b>
090003 Acoustical Tile			\$5,850								\$5,850	
090005 Resilient Flooring (FSB)												
090007 Painting (FSB)	\$14,165		\$7,510		\$19,306		\$18,004				\$58,985	
096723 Resinous Flooring			\$14,560		\$3,824						\$18,384	
<b>DIV 10 SPECIALTIES</b>		<b>\$9,310</b>		<b>\$14,500</b>		<b>\$9,004</b>		<b>\$4,320</b>				<b>\$37,134</b>
101400 Signage	\$5,870		\$1,350		\$1,230		\$3,620				\$12,070	
102110 Toilet Compartments					\$4,500						\$4,500	
102600 Wall Protection	\$590				\$1,574						\$2,164	
102800 Toilet & Bathroom Accessories					\$1,000						\$1,000	
104400 Safety Specialties	\$2,850		\$350		\$700		\$700				\$4,600	
105100 Lockers			\$12,800								\$12,800	



Harvard DPW  
New Additions/Renovation  
Harvard, MA

FEASIBILITY STUDY ESTIMATE

GFA 2,950 GFA 1,030 GFA 7,870 GFA 3,228

**CONSTRUCTION COST SUMMARY IN CSI FORMAT**

DIVISION	Mechanics Service Garage		Connector Building		Six Bay Storage Garage		Pole Barn & Garage Storage		Sitework		Total Project	
	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal	Total	Subtotal	Total
<b>DIV. 12 FURNISHINGS</b>		<b>\$10,595</b>										<b>\$10,595</b>
122000 Window Treatment												
123553 Casework	\$10,595										\$10,595	
124800 Mats												
<b>DIV. 21 FIRE PROTECTION</b>		<b>\$17,700</b>		<b>\$6,180</b>		<b>\$47,220</b>						<b>\$71,100</b>
210000 Fire Protection	\$17,700		\$6,180		\$47,220						\$71,100	
<b>DIV. 22 PLUMBING</b>		<b>\$65,000</b>		<b>\$12,000</b>		<b>\$41,280</b>		<b>\$35,000</b>				<b>\$153,280</b>
220000 Plumbing	\$65,000		\$12,000		\$41,280		\$35,000				\$153,280	
<b>DIV. 23 HVAC</b>		<b>\$88,500</b>		<b>\$56,650</b>		<b>\$268,750</b>						<b>\$413,900</b>
230000 HVAC	\$88,500		\$56,650		\$268,750						\$413,900	
<b>DIV. 26 ELECTRICAL</b>		<b>\$129,700</b>		<b>\$20,980</b>		<b>\$164,745</b>				<b>\$81,192</b>		<b>\$396,617</b>
260000 Electrical	\$129,700		\$20,980		\$164,745		\$81,192				\$396,617	
<b>DIV. 31 EARTHWORK</b>		<b>\$12,269</b>		<b>\$6,672</b>				<b>\$15,944</b>		<b>\$52,430</b>		<b>\$87,315</b>
311000 Site Preparation								\$37,630		\$37,630		
312000 Earth Moving	\$12,269		\$6,672				\$15,944			\$34,885		
312500 Erosion Control									\$14,800	\$14,800		
<b>DIV. 32 EXTERIOR IMPROVEMENTS</b>										<b>\$13,150</b>		<b>\$13,150</b>
320000 Paving									\$8,250	\$8,250		
321600 Curbs, Gutters, Sidewalks, & Driveways												
323000 Site Furnishings									\$4,900	\$4,900		
329000 Planting												
<b>DIV. 33 UTILITIES</b>										<b>\$362,675</b>		<b>\$362,675</b>
331000 Water Utilities									\$322,675	\$322,675		
333000 Sanitary Sewerage									\$40,000	\$40,000		
334000 Stormwater Utilities												
335000 Gas Utilities												
336000 Hydronic & Steam Utilities												
337000 Electrical Utilities												
<b>SUBTOTAL DIRECT (TRADE) COST</b>		<b>\$1,053,540</b>		<b>\$385,214</b>		<b>\$749,509</b>		<b>\$792,872</b>		<b>\$428,255</b>		<b>\$3,409,390</b>



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Mechanics Service Garage**

**GROSS FLOOR AREA CALCULATION**

Ground Level 2,950

<b>TOTAL GROSS FLOOR AREA (GFA)</b>					<b>2,950</b>	<i>sf</i>	
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**02 DEMOLITION**

**024000 DEMOLITION**

Demolish existing service garage in its entirety	1,799	sf	8.00	14,392	
Allowance to excavate existing foundations to allow for new structure	1,799	sf	4.00	7,196	
SUBTOTAL					\$ 21,588

<b>TOTAL, DIVISION 2 - DEMOLITION</b>					<b>\$21,588</b>
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**03 CONCRETE**

Strip Footings	21	CY		
Foundation Walls	48	CY		
Spread Footings	6	CY		
Pilasters	2	CY		
Total Foundation Concrete	77	CY		

**Continuous Footings & Walls**

Continuous footings - 26" wide x 18" thick	174	lf		
Formwork	522	sf	15.00	7,830
Re-bar	1,426	lbs.	2.00	2,852
Concrete material	21	cy	140.00	2,940
Placing concrete	21	cy	120.00	2,520
Foundation walls - 4'-0" high	174	lf		
Formwork	1,392	sf	20.00	27,840
Re-bar	1,190	lbs.	2.00	2,380
Concrete material	48	cy	140.00	6,720
Placing concrete	48	cy	120.00	5,760
Form shelf	174	lf	3.30	574

**Spread Footings & Piers:**

<u>Spread footings at OH door locations</u>				
Formwork	120	sf	16.00	1,920
Re-bar	900	lbs.	2.00	1,800
Concrete material	6	cy	140.00	840
Placing concrete	6	cy	150.00	900
Pilasters	2	cy	750.00	1,500

**Lowest Floor Construction**

Slab on grade, 6" thick - Building	2,950	sf		
Vapor barrier, heavy duty, 15 mil	2,950	sf	1.00	2,950
WWF reinforcement	3,393	sf	1.50	5,090
Concrete - 6" thick	38	cy	140.00	5,320
Placing concrete	38	cy	120.00	4,560
Finishing and curing concrete	2,950	sf	3.50	10,325
Sawcut control joints	2,950	sf	0.30	885
Slab on grade - Existing		sf		
Patch/Repairs to existing slab on grade		sf	2.00	NR

Miscellaneous

Moisture mitigation additive				assumed not required
Equipment pads	1	ls	1,500.00	1,500
SUBTOTAL				97,006



Harvard DPW  
New Additions/Renovation  
Harvard, MA

04-Oct-21

GFA 2,950

<i>CSI CODE</i>	<i>DESCRIPTION</i>	<i>QTY</i>	<i>UNIT</i>	<i>UNIT COST</i>	<i>EST'D COST</i>	<i>SUB TOTAL</i>	<i>TOTAL COST</i>
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**Mechanics Service Garage**

60  
61  
62

<i>TOTAL - CONCRETE</i>							<b>\$97,006</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Mechanics Service Garage**

**04 MASONRY**

**040001 MASONRY**

Exterior Wall

3-5/8" thick split face veneer	<b>3,526</b>	sf	38.00	133,988	
12" CMU backup wall	<b>3,526</b>	sf	34.00	119,884	
Flashings at exterior masonry	<b>3,526</b>	sf	0.50	1,763	
Staging to exterior wall	<b>3,606</b>	sf	3.00	10,818	

Interior Partitions

12" CMU	<b>498</b>	sf	32.00	15,936	
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SUBTOTAL					282,389
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<b>TOTAL, DIVISION 4 - MASONRY</b>						<b>\$282,389</b>
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**05 METALS**

**051000 STRUCTURAL STEEL**

Floor/Roof Structure

1 1/2" deep Type B x 22 gage galvanized corrugated metal roof deck	<b>3,000</b>	sf	5.00	15,000	
Allowance to support roof hanging mechanical units per narrative	<b>1</b>	ls	10,000.00	10,000	
Double pitched open web metal joists, 30" deep x 15#/LF	<b>3,000</b>	sf	20.00	60,000	
Galvanized structural steel columns and headers at OH door locations	<b>1.8</b>	tns	8,000.00	14,400	
Moment connections	<b>4</b>	ea	300.00	1,200	
SUBTOTAL					100,600

**055000 Metal Fabrications**

Exterior

Miscellaneous metals; lintels, flashings etc.	<b>3,526</b>	sf	2.00	7,052	
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Interior

Seismic clips	<b>6</b>	ea	150.00	900	
Misc. metals to CMU	<b>498</b>	sf	1.00	498	
Miscellaneous metals throughout building	<b>2,950</b>	gsf	1.75	5,163	

SUBTOTAL					13,613
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<b>TOTAL, DIVISION 5 - METALS</b>						<b>\$114,213</b>
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**06 - WOOD, PLASTICS AND COMPOSITES**

**061000 ROUGH CARPENTRY**

Rough blocking at exterior window and door openings	<b>210</b>	lf	4.00	840	
Rough blocking at roof	<b>220</b>	lf	16.00	3,520	
Wood blocking at interior openings	<b>17</b>	lf	4.00	68	
Backer panels in electrical closets	<b>1</b>	ls	500.00	500	
Miscellaneous wood blocking at interiors	<b>2,950</b>	gsf	1.00	2,950	
SUBTOTAL					7,878

<b>TOTAL - WOOD, PLASTICS AND COMPOSITES</b>						<b>\$7,878</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Mechanics Service Garage**

**07 THERMAL & MOISTURE PROTECTION**

**070001 WATERPROOFING, DAMPPROOFING AND CAULKING**

Waterproofing at basement slab assumed not required  
 Waterproofing at basement walls assumed not required

Exterior Walls

Air and vapor barrier **3,526** sf 7.50 26,445  
 AVB at window and door openings **210** lf 5.00 1,050  
 Backer rod & double sealant at openings **210** lf 10.00 2,100

Interiors

Backer rod & double sealant at interior doors **17** lf 2.50 43  
 Miscellaneous sealants throughout building **2,950** gsf 1.00 2,950  
 Traffic coating **2,655** sf 7.00 18,585

SUBTOTAL 51,173

**070002 ROOFING AND FLASHING**

Flat Roof

EPDM roof membrane **2,950** sf 9.50 28,025  
 Insulation; 5 1/2" rigid insulation **2,950** sf 7.00 20,650  
 1/2" density cover board **2,950** sf 3.00 8,850  
 Vapor barrier **2,950** sf 2.00 5,900  
 Roof blocking included above

Miscellaneous Roofing

Roof edge **220** lf 30.00 6,600  
 Flashing at walls common to membrane roofing **38** lf 25.00 950  
 Gutter /downspouts **170** lf 30.00 5,100  
 Miscellaneous flashing **2,950** sf 1.00 2,950

SUBTOTAL 79,025

**072100 THERMAL INSULATION**

2" Rigid insulation + protection board at foundation walls, allo **870** sf 2.15 NR  
 2" Rigid insulation around perimeter of slab **348** sf 2.25 783  
 3" Rigid insulation at exterior closure **3,526** sf 3.00 10,578  
 Insulation at roof included with roofing  
 Insulation at window/door openings **210** lf 2.50 525

SUBTOTAL 11,886

**078100 FIREPROOFING & FIRE STOPPING**

Fireproofing to floor/roof deck assumed not required  
 Intumescent paint to exposed beams assumed not required

Fire stopping **1** ls 2,000.00 2,000

SUBTOTAL 2,000

**TOTAL, DIVISION 7 - THERMAL AND MOISTURE PROTECTION \$144,084**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Mechanics Service Garage**

**08 DOORS & WINDOWS**

**080001 WINDOWS**

New aluminum fixed window	80	sf	80.00	6,400		
SUBTOTAL						6,400

**081100 DOORS, FRAMES AND HARDWARE**

*Exterior Doors*

Frame, single	1	ea	450.00	450		
Flush HM door - single	1	ea	500.00	500		
Hardware	1	leaf	900.00	900		

*Interior Doors*

Frame, single	1	ea	300.00	300		
HM door - single	1	ea	350.00	350		
Hardware	1	leaf	750.00	750		
SUBTOTAL						3,250

**083000 ACCESS DOORS**

Access doors	1	ls	750.00	NR		
SUBTOTAL						-

**083300 OVERHEAD DOORS**

14' x 13'-4" OH metal insulated motorized door	2	ea	13,996.50	27,993		
SUBTOTAL						27,993

**089000 FIXED LOUVERS**

Aluminum louvers; allowance	1	ls	1,500.00	1,500		
SUBTOTAL						1,500

<b>TOTAL, DIVISION 8 - DOORS AND WINDOWS</b>							<b>\$39,143</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Mechanics Service Garage**

**09 - FINISHES**

**090003 ACT**

2' x 4' ACT		sf	6.50	NR		
SUBTOTAL						-

**090005 RESILIENT FLOORS**

Resilient Base	250	lf	2.50	NR		
SUBTOTAL						-

**090007 PAINTING**

Finish doors and frames	2	ea	200.00	400		
Paint to CMU	4,522	sf	2.00	9,044		
Paint to exposed structure	2,655	sf	1.50	3,983		
Miscellaneous painting/ touch-up	2,950	gsf	0.25	738		
SUBTOTAL						14,165

**096723 RESINOUS FLOORING**

Epoxy flooring with integral base		sf	16.00	NR		
SUBTOTAL						-

**TOTAL - FINISHES \$14,165**

**10 - SPECIALTIES**

**101400 SIGNAGE**

Building mounted signage; allowance	1	ls	5,000.00	5,000		
Room Signs	1	loc	120.00	120		
Other signage/graphics	1	ls	750.00	750		
SUBTOTAL						5,870

**102110 TOILET COMPARTMENTS**

ADA		ea	1,600.00	NR		
Standard		ea	1,400.00	NR		
Urinal screens		ea	650.00	NR		
SUBTOTAL						-

**102600 WALL PROTECTION**

Corner guards/Wall protection; allowance	2,950	gsf	0.20	590		
SUBTOTAL						590

**102800 TOILET ACCESSORIES**

Gang bathroom; includes electric handryers		rms	2,500.00	NR		
Shower seat		ea	500.00	NR		
Shower curtain and rod		ea	225.00	NR		
SUBTOTAL						-

**104400 FIRE EXTINGUISHER CABINETS**

Fire extinguisher cabinets	1	ea	350.00	350		
AED	1	ea	2,500.00	2,500		
SUBTOTAL						2,850

**105100 LOCKERS**

Lockers; 18x12x60		ea	700.00	NR		
Benches		lf	90.00	NR		
SUBTOTAL						-

**TOTAL - SPECIALTIES \$9,310**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Mechanics Service Garage**

**12 - FURNISHINGS**

**122410 WINDOW TREATMENT**

Window treatments	80	sf	7.50	assumed NR		
SUBTOTAL						-

**123553 CASEWORK**

<u>Office</u>							
Base cabinet with solid surface countertop	13	lf	525.00	6,825			
Upper cabinets	13	lf	290.00	3,770			
SUBTOTAL						10,595	

**124810 ENTRANCE MATS**

Recessed entry mats & frames		sf	42.00	assumed NR		
SUBTOTAL						-

**TOTAL - FURNISHINGS \$10,595**

**21 - FIRE SUPPRESSION**

**210000 FIRE PROTECTION**

New dry sprinkler system (Fire pump and cistern with site); allowance	2,950	gsf	6.00	17,700		
SUBTOTAL						17,700

**TOTAL - FIRE SUPPRESSION \$17,700**

**22 - PLUMBING**

**220000 PLUMBING**

Domestic water, sanitary/garage waste and propane to be extended from existing building to new addition	1	ls	50,000.00	50,000		
New floor drains, related vents and connections to new tight tank	1	ls	15,000.00	15,000		
New tight tank	1	ls		w/ site		
SUBTOTAL						65,000

**TOTAL - PLUMBING \$65,000**

**23 - HVAC**

**230000 HVAC**

Provide an exhaust air and tempered make up air system to provide 0.75 cfm/sf exhaust air to the space as required by code; the system should be provided a control system to modulate air from 0.05 cfm/sf to maximum code exhaust air flow	2,950	gsf	30.00	88,500		
SUBTOTAL						88,500

**TOTAL - HVAC \$88,500**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Mechanics Service Garage**

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**26 - ELECTRICAL**

<b>260000</b>	<b>ELECTRICAL</b>						
	175KW, 120/208 volt 3-phase generator and 600 amp, 208 volt 3-phase 4-pole automatic transfer switch would be required to support the entire facility	1	ls	75,000	75,000		
	Exterior emergency lights provided at all egress doors	3	loc	2,500.00	7,500		
	GFCI receptacles and LED light fixtures with automatic lighting controls	2,950	gsf	10.00	29,500		
	New addressable fire alarm control panel, and new notification devices (horn/strobes and strobe-only devices) and actuation devices (pull stations, heat and smoke detectors)	2,950	gsf	3.00	8,850		
	Equipment wiring allowance, HVAC	2,950	gsf	1.00	2,950		
	Temp power/support/commissioning etc.	2,950	gsf	2.00	5,900		
	<b>SUBTOTAL</b>					129,700	
<b>TOTAL -ELECTRICAL</b>							<b>\$129,700</b>

**31 - EARTHWORK**

<b>312000</b>	<b>EARTHWORK</b>						
	<u>Strip footings/foundation walls</u>						
	Excavation	155	cy	11.00	1,705		
	Remove off site	155	cy	17.60	2,728		
	Backfill with imported material	86	cy	32.00	2,752		
	Premium for contaminated soils removal				assumed not required		
	SOE				assumed not required		
	Structural fill at unexcavated areas				assumed not required		
	<u>Column footings</u>						
	Excavation	7	cy	14.00	98		
	Remove off site	7	cy	17.60	123		
	Backfill with imported material	1	cy	32.00	32		
	<u>Miscellaneous</u>						
	Gravel fill beneath footings, 6"	9	cy	32.00	288		
	<u>Slab on grade</u>						
	Gravel base, 8"	73	cy	40.00	2,920		
	Compact sub-grade	2,950	sf	0.55	1,623		
	<b>SUBTOTAL</b>					12,269	
<b>TOTAL - EARTHWORK</b>							<b>\$12,269</b>



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Connector Building**

**GROSS FLOOR AREA CALCULATION**

Ground Level 1,030

<b>TOTAL GROSS FLOOR AREA (GFA)</b>					<b>1,030</b>	<i>sf</i>	
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**02 DEMOLITION**

**024000 DEMOLITION**

Demolish existing connector in its entirety	1,030	sf	8.00	8,240
Allowance to excavate existing foundations to allow for new structure	1,030	sf	4.00	4,120
SUBTOTAL				\$ 12,360

<b>TOTAL, DIVISION 2 - DEMOLITION</b>					<b>\$12,360</b>
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**03 CONCRETE**

Strip Footings	6	CY
Foundation Walls	32	CY
Total Foundation Concrete	38	CY

**Continuous Footings & Walls**

<u>Continuous footings - 26" wide x 18" thick</u>	52	lf		
Formwork	156	sf	15.00	2,340
Re-bar	426	lbs.	2.00	852
Concrete material	6	cy	140.00	840
Placing concrete	6	cy	120.00	720
<u>Continuous footings - 28" wide x 18" thick</u>	62	lf		
Formwork	186	sf	15.00	2,790
Re-bar	508	lbs.	2.00	1,016
Concrete material	8	cy	140.00	1,120
Placing concrete	8	cy	120.00	960
<u>Foundation walls - 4'-0" high</u>	114	lf		
Formwork	912	sf	20.00	18,240
Re-bar	356	lbs.	2.00	712
Concrete material	32	cy	140.00	4,480
Placing concrete	32	cy	120.00	3,840
Form shelf	114	lf	3.30	376

**Spread Footings & Piers:**

No work in this section #REF!

**Lowest Floor Construction**

<u>Slab on grade, 6" thick - Building</u>	1,030	sf		
Vapor barrier, heavy duty, 15 mil	1,030	sf	1.00	1,030
WWF reinforcement	1,185	sf	1.50	1,778
Concrete - 6" thick	13	cy	140.00	1,820
Placing concrete	13	cy	120.00	1,560
Finishing and curing concrete	1,030	sf	3.50	3,605
Sawcut control joints	1,030	sf	0.30	309
<u>Slab on grade - Existing</u>		sf		
Patch/Repairs to existing slab on grade		sf	2.00	NR

Miscellaneous

Moisture mitigation additive			assumed not required	
SUBTOTAL				48,388

<b>TOTAL - CONCRETE</b>					<b>\$48,388</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Connector Building**

**04 MASONRY**

**040001 MASONRY**

Exterior Wall

3-5/8" thick split face veneer	714	sf	38.00	27,132		
10" CMU backup wall	714	sf	30.00	21,420		
Flashings at exterior masonry	714	sf	0.50	357		
Staging to exterior wall	746	sf	3.00	2,238		

Interior Partitions

10" CMU	1,106	sf	30.00	33,180		
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SUBTOTAL \$ 84,327

**TOTAL, DIVISION 4 - MASONRY \$84,327**

**05 METALS**

**051000 STRUCTURAL STEEL**

Floor/Roof Structure

1 1/2" deep Type B x 18 gage galvanized corrugated metal roof deck	1,030	sf	5.00	5,150		
Allowance to support roof hanging mechanical units per narrative	1	ls	5,000.00	5,000		
Double pitched open web metal joists, 20" deep x 15#/LF	1,030	sf	20.00	20,600		

SUBTOTAL 30,750

**055000 Metal Fabrications**

Exterior

Miscellaneous metals; lintels, flashings etc.	714	sf	2.00	1,428		
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Interior

Seismic clips	9	ea	150.00	1,350		
Misc. metals to CMU	1,106	sf	1.00	1,106		
Miscellaneous metals throughout building	1,030	gsf	1.75	1,803		

SUBTOTAL \$ 5,687

**TOTAL, DIVISION 5 - METALS \$36,437**

**06 - WOOD, PLASTICS AND COMPOSITES**

**061000 ROUGH CARPENTRY**

Rough blocking at exterior window and door openings	41	lf	4.00	164		
Rough blocking at roof	140	lf	16.00	2,240		
Wood blocking at interior openings	102	lf	4.00	408		
Miscellaneous wood blocking at interiors	1,030	gsf	1.00	1,030		

SUBTOTAL 3,842

**TOTAL - WOOD, PLASTICS AND COMPOSITES \$3,842**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Connector Building**

**07 THERMAL & MOISTURE PROTECTION**

**070001 WATERPROOFING, DAMPPROOFING AND CAULKING**

Waterproofing at basement slab assumed not required  
 Waterproofing at basement walls assumed not required

Exterior Walls

Air and vapor barrier 714 sf 7.50 5,355  
 AVB at window and door openings 41 lf 5.00 205  
 Backer rod & double sealant at openings 41 lf 10.00 410

Interiors

Backer rod & double sealant at interior doors 102 lf 2.50 255  
 Miscellaneous sealants throughout building 1,030 gsf 1.00 1,030

SUBTOTAL 7,255

**070002 ROOFING AND FLASHING**

Flat Roof

EPDM roof membrane 1,030 sf 9.50 9,785  
 Insulation; 5 1/2" rigid insulation 1,030 sf 7.00 7,210  
 Premium for tapered insulation 1,030 sf 1.00 1,030  
 1/2" density cover board 1,030 sf 3.00 3,090  
 Vapor barrier 1,030 sf 2.00 2,060  
 Roof blocking included above

Miscellaneous Roofing

Roof edge 140 lf 30.00 4,200  
 Flashing at walls common to membrane roofing 38 lf 25.00 950  
 Gutter /downspouts lf 30.00 NR  
 Miscellaneous flashing 1,030 sf 1.00 1,030

SUBTOTAL 29,355

**072100 THERMAL INSULATION**

2" Rigid insulation + protection board at foundation walls, allo 570 sf 2.15 NR  
 2" Rigid insulation around perimeter of slab 228 sf 2.25 513  
 3" Rigid insulation at exterior closure 714 sf 3.00 2,142  
 Insulation at roof included with roofing

Insulation at window/door openings 41 lf 2.50 103

SUBTOTAL 2,758

**078100 FIREPROOFING & FIRE STOPPING**

Fireproofing to floor/roof deck assumed not required  
 Intumescent paint to exposed beams assumed not required

Fire stopping 1 ls 750.00 750

SUBTOTAL 750

<b>TOTAL, DIVISION 7 - THERMAL AND MOISTURE PROTECTION</b>							<b>\$40,118</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Connector Building**

**08 DOORS & WINDOWS**

**080001 WINDOWS**

New aluminum sliding window	32	sf	120.00	3,840		
SUBTOTAL						3,840

**081100 DOORS, FRAMES AND HARDWARE**

*Exterior Doors*

Frame, single	1	ea	450.00	450		
Flush HM door - single	1	ea	500.00	500		
Hardware	1	leaf	900.00	900		

*Interior Doors*

Frame, single	6	ea	300.00	1,800		
HM door - single	6	ea	350.00	2,100		
Hardware	6	leaf	750.00	4,500		
SUBTOTAL						10,250

**083000 ACCESS DOORS**

Access doors	1	ls	750.00	750		
SUBTOTAL						750

**089000 FIXED LOUVERS**

Aluminum louvers; allowance		ls		assumed NR		
SUBTOTAL						-

<b>TOTAL, DIVISION 8 - DOORS AND WINDOWS</b>				-			<b>\$14,840</b>
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**09 - FINISHES**

**090003 ACT**

2' x 4' ACT	900	sf	6.50	5,850		
SUBTOTAL						5,850

**090007 PAINTING**

Finish doors and frames	7	ea	200.00	1,400		
Paint to CMU	2,926	sf	2.00	5,852		
Miscellaneous painting/ touch-up	1,030	gsf	0.25	258		
SUBTOTAL						7,510

**096723 RESINOUS FLOORING**

Epoxy flooring with integral base	910	sf	16.00	14,560		
SUBTOTAL						14,560

<b>TOTAL - FINISHES</b>							<b>\$27,920</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Connector Building**

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**10 - SPECIALTIES**

**101400 SIGNAGE**

Room Signs	5	loc	120.00	600		
Other signage/graphics	1	ls	750.00	750		
<b>SUBTOTAL</b>						1,350

**104400 FIRE EXTINGUISHER CABINETS**

Fire extinguisher cabinets	1	ea	350.00	350		
<b>SUBTOTAL</b>						350

**105100 LOCKERS**

Lockers; assumed single tier metal 18x12x60	17	ea	700.00	11,900		
Benches	10	lf	90.00	900		
<b>SUBTOTAL</b>						12,800

**TOTAL - SPECIALTIES \$14,500**

**12 - FURNISHINGS**

**122410 WINDOW TREATMENT**

Window treatments	32	sf	7.50	assumed NR		
<b>SUBTOTAL</b>						-

**124810 ENTRANCE MATS**

Recessed entry mats & frames		sf	42.00	assumed NR		
<b>SUBTOTAL</b>						-

**TOTAL - FURNISHINGS**

**21 - FIRE SUPPRESSION**

**210000 FIRE PROTECTION**

New wet sprinkler system (Fire pump and cistern with site); allowance	1,030	gsf	6.00	6,180		
<b>SUBTOTAL</b>						6,180

**TOTAL - FIRE SUPPRESSION \$6,180**

**22 - PLUMBING**

**220000 PLUMBING**

New roof drains connected to site storm drainage	1	ls	12,000.00	12,000		
<b>SUBTOTAL</b>						12,000

**TOTAL - PLUMBING \$12,000**

**23 - HVAC**

**230000 HVAC**

VRF heating and cooling consisting of an outdoor heat pump interconnected by insulated refrigerant piping to ductless wall mounted units in space, energy recovery unit to provide ventilation/exhaust to each space in accordance with applicable codes and electric supplemental heat in bathrooms/entries	1,030	gsf	55.00	56,650		
<b>SUBTOTAL</b>						56,650

**TOTAL - HVAC \$56,650**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Connector Building**

**26 - ELECTRICAL**

**260000 ELECTRICAL**

Exterior wall packs	1	loc	2,000.00	2,000		
Exterior emergency lights provided at all egress doors	1	loc	2,500.00	2,500		
LED light fixtures with automatic lighting controls and GFCI receptacles	1,030	gsf	10.00	10,300		
New addressable fire alarm control panel, and new notification devices (horn/strobes and strobe-only devices) and actuation devices (pull stations, heat and smoke detectors)	1,030	gsf	3.00	3,090		
Equipment wiring allowance, HVAC	1,030	gsf	1.00	1,030		
Temp power/support/commissioning etc.	1,030	gsf	2.00	2,060		
SUBTOTAL						20,980

**TOTAL -ELECTRICAL \$20,980**

**31 - EARTHWORK**

**312000 EARTHWORK**

Strip footings/foundation walls

Excavation	101	cy	11.00	1,111		
Remove off site	101	cy	17.60	1,778		
Backfill with imported material	63	cy	32.00	2,016		
Premium for contaminated soils removal				assumed not required		
SOE				assumed not required		
Structural fill at unexcavated areas				assumed not required		

Miscellaneous

Gravel fill beneath footings, 6"	5	cy	32.00	160		
<u>Slab on grade</u>						
Gravel base, 8"	26	cy	40.00	1,040		
Compact sub-grade	1,030	sf	0.55	567		
SUBTOTAL						6,672

**TOTAL - EARTHWORK \$6,672**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Six Bay Storage Garage**

**GROSS FLOOR AREA CALCULATION**

Ground Level 7,870

<b>TOTAL GROSS FLOOR AREA (GFA)</b>					<b>7,870</b>	<i>sf</i>	
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**02 DEMOLITION**

**024000 DEMOLITION**

Remove existing deteriorated traffic coating	6,605	sf	2.00	13,210		
Remove existing doors, single	5	ea	150.00	750		
Remove existing doors, single exterior	3	ea	150.00	450		
Remove existing SOG at vehicle storage garage corridor to lower area	60	sf	25.00	1,500		
Miscellaneous demolition/ protect existing finishes	7,870	gsf	1.00	7,870		
<b>SUBTOTAL</b>						<b>23,780</b>

<b>TOTAL, DIVISION 2 - DEMOLITION</b>							<b>\$23,780</b>
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**03 CONCRETE**

**Lowest Floor Construction**

Slab on grade, 6" thick infill at corridor	60	sf				
Vapor barrier, heavy duty, 15 mil	60	sf	1.00	60		
WWF reinforcement	69	sf	1.50	104		
Concrete - 6" thick	1	cy	140.00	140		
Placing concrete	1	cy	120.00	120		
Finishing and curing concrete	60	sf	3.50	210		
<u>Slab on grade - Existing</u>						
Patch/Repairs to existing slab on grade; allowance	7,083	sf	2.00	14,166		
<u>Underpinning</u>						
Underpinning of extg masonry bearing wall foundations around perimeter of corridor, assumed by hand with confined space	40	lf	1,500.00	60,000		
<b>SUBTOTAL</b>						<b>74,800</b>

<b>TOTAL - CONCRETE</b>							<b>\$74,800</b>
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**04 MASONRY**

**040001 MASONRY**

<u>Exterior Wall</u>						
Repairs to existing exterior masonry		sf			NR	
<u>Interior Partitions</u>						
Infill walls at storage garage; assumed 10" CMU	150	sf	48.00	7,200		
<b>SUBTOTAL</b>						<b>7,200</b>

<b>TOTAL, DIVISION 4 - MASONRY</b>							<b>\$7,200</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Six Bay Storage Garage**

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**05 METALS**

**051000 STRUCTURAL STEEL**

Floor/Roof Structure

Allowance to reinforce existing openings in walls and roof per narrative	1	ls	10,000.00	10,000		
<b>SUBTOTAL</b>					10,000	

**055000 Metal Fabrications**

Interior

Ramp handrails	44	lf	150.00	6,600		
Seismic clips	11	ea	150.00	1,650		
Misc. metals to CMU	150	sf	1.00	150		
Miscellaneous metals at affected areas	301	gsf	1.75	527		
<b>SUBTOTAL</b>					\$ 8,927	

<b>TOTAL, DIVISION 5 - METALS</b>						<b>\$18,927</b>
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**06 - WOOD, PLASTICS AND COMPOSITES**

**061000 ROUGH CARPENTRY**

Wood blocking at interior and exterior openings	68	lf	4.00	272		
Miscellaneous wood blocking at affected areas	301	gsf	0.25	75		
<b>SUBTOTAL</b>					347	

<b>TOTAL - WOOD, PLASTICS AND COMPOSITES</b>						<b>\$347</b>
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**07 THERMAL & MOISTURE PROTECTION**

**070001 WATERPROOFING, DAMPPROOFING AND CAULKING**

Backer rod & double sealant at doors	68	lf	2.50	170		
Miscellaneous sealants at affected areas	301	gsf	1.00	301		
Floor prep at existing vehicle storage garage	6,605	sf	1.00	6,605		
Traffic coating	6,700	sf	7.00	46,900		
<b>SUBTOTAL</b>					53,976	

**070002 ROOFING AND FLASHING**

Miscellaneous repairs to roofing including at HVAC work; allowance	1	ls	10,000.00	10,000		
<b>SUBTOTAL</b>					10,000	

**072100 THERMAL INSULATION**

Insulation at window/door openings		lf	2.50	NR		
<b>SUBTOTAL</b>					-	

**078100 FIREPROOFING & FIRE STOPPING**

Fireproofing to floor/roof deck				assumed not required		
Intumescent paint to exposed beams				assumed not required		
<b>SUBTOTAL</b>					-	

<b>TOTAL, DIVISION 7 - THERMAL AND MOISTURE PROTECTION</b>						<b>\$63,976</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Six Bay Storage Garage**

**08 DOORS & WINDOWS**

**081100 DOORS, FRAMES AND HARDWARE**

*Exterior Doors*

Frame, single		ea	450.00	NR		
Flush HM door - single		ea	500.00	NR		
Hardware		leaf	900.00	NR		

*Interior Doors*

Frame, single	4	ea	300.00	1,200		
HM door - single	4	ea	350.00	1,400		
Hardware	4	leaf	750.00	3,000		

SUBTOTAL 5,600

**083000 ACCESS DOORS**

Access doors	1	ls	750.00	750		
SUBTOTAL						750

**TOTAL, DIVISION 8 - DOORS AND WINDOWS \$6,350**

**09 - FINISHES**

**090003 ACT**

2' x 4' ACT		sf	6.50	NR		
SUBTOTAL						-

**090007 PAINTING**

Finish doors and frames	4	ea	200.00	800		
Prime and paint to existing CMU	8,040	sf	2.00	16,080		
Paint to exposed structure	305	sf	1.50	458		
Miscellaneous painting/ touch-up	7,870	gsf	0.25	1,968		
SUBTOTAL						19,306

**096723 RESINOUS FLOORING**

Epoxy flooring with integral base	239	sf	16.00	3,824		
SUBTOTAL						3,824

**TOTAL - FINISHES \$23,130**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Six Bay Storage Garage**

**10 - SPECIALTIES**

**101400 SIGNAGE**

Room Signs	4	loc	120.00	480		
Other signage/graphics	1	ls	750.00	750		
<b>SUBTOTAL</b>						1,230

**102110 TOILET COMPARTMENTS**

ADA	2	ea	1,600.00	3,200		
Urinal screens	2	ea	650.00	1,300		
<b>SUBTOTAL</b>						4,500

**102600 WALL PROTECTION**

Corner guards/Wall protection; allowance	7,870	gsf	0.20	1,574		
<b>SUBTOTAL</b>						1,574

**102800 TOILET ACCESSORIES**

Gang bathroom; includes electric handryers	2	rms	2,500.00	NR		
Shower accessories including curtain and rod, seat and grab bars	1	ea	1,000.00	1,000		
<b>SUBTOTAL</b>						1,000

**104400 FIRE EXTINGUISHER CABINETS**

Fire extinguisher cabinets	2	ea	350.00	700		
<b>SUBTOTAL</b>						700

**TOTAL - SPECIALTIES \$9,004**

**12 - FURNISHINGS**

**124810 ENTRANCE MATS**

Recessed entry mats & frames		sf	42.00	assumed NR		
<b>SUBTOTAL</b>						-

**TOTAL - FURNISHINGS**

**21 - FIRE SUPPRESSION**

**210000 FIRE PROTECTION**

New dry sprinkler system (Fire pump and cistern with site); allowance	7,870	gsf	6.00	47,220		
<b>SUBTOTAL</b>						47,220

**TOTAL - FIRE SUPPRESSION \$47,220**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Six Bay Storage Garage**

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**22 - PLUMBING**

**220000 PLUMBING**

Remove existing non code compliant plumbing fixtures and accessories	2	rms	2,000.00	4,000		
New hot water heater including piping	1	ea	16,000.00	16,000		
Shower	1	ea	1,300.00	1,300		
Lavatory	2	ea	1,440.00	2,880		
Water closet	2	ea	1,750.00	3,500		
Urinal	2	ea	1,800.00	3,600		
Misc. plumbing/conditions at toilet rooms	1	ls	10,000.00	10,000		
<b>SUBTOTAL</b>						<b>41,280</b>

**TOTAL - PLUMBING \$41,280**

**23 - HVAC**

**230000 HVAC**

Additional supplemental propane unit heaters extended from existing propane gas piping system for the space	1	ls	15,000.00	15,000		
Provide an exhaust air and tempered make up air system to provide 0.75 cfm/sf exhaust air to the space as required by code; the system should be provided a control system to modulate air from 0.05 cfm/sf to maximum code exhaust air flow	7,284	gsf	30.00	218,520		
VRF heating and cooling to break room, unisex HC toilet room and men's toilet room; complete	586	gsf	55.00	32,230		
Existing boiler, piping etc. currently abandoned in place to be removed	1	ls	3,000.00	3,000		
<b>SUBTOTAL</b>						<b>268,750</b>

**TOTAL - HVAC \$268,750**

**26 - ELECTRICAL**

**260000 ELECTRICAL**

Exterior emergency lights provided at all egress doors	2	ea	2,500.00	5,000		
Exterior wall packs	8	ea	2,000.00	16,000		
New 600 amp, 120/208V, 3 phase 4 wire service	1	ls	30,000.00	30,000		
New illuminated exit signs	3	ea	1,500.00	4,500		
Replacement LED light fixtures and GFCI receptacles	7,870	gsf	7.50	59,025		
The Fire alarm control panel should be upgraded to a new addressable fire alarm control panel, and new notification devices (horn/strobes and strobe-only devices) and actuation devices (pull stations, heat and smoke detectors)	7,870	gsf	3.00	23,610		
Equipment wiring allowance, HVAC	7,870	gsf	1.00	7,870		
Temp power/support/commissioning etc.	7,870	gsf	2.00	15,740		
Demolition	1	ls	3,000.00	3,000		
<b>SUBTOTAL</b>						<b>164,745</b>

**TOTAL -ELECTRICAL \$164,745**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Pole Barn & Garage Storage**

**GROSS FLOOR AREA CALCULATION**

Ground Level 3,228

<b>TOTAL GROSS FLOOR AREA (GFA)</b>					<b>3,228</b>	<i>sf</i>
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**02 DEMOLITION**

**024000 DEMOLITION**

Demolish existing pole barn in its entirety	2,260	sf	8.00	18,080
Allowance to excavate existing foundations to allow for new structure	2,260	sf	4.00	9,040
SUBTOTAL				\$ 27,120

<b>TOTAL, DIVISION 2 - DEMOLITION</b>					<b>\$27,120</b>
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**03 CONCRETE**

Strip Footings	29	CY
Foundation Walls	66	CY
Spread Footings	12	CY
Pilasters	3	CY
<b>Total Foundation Concrete</b>	<b>95</b>	<b>CY</b>

**Continuous Footings & Walls**

<u>Continuous footings - 26" wide x 18" thick</u>	244	lf		
Formwork	732	sf	15.00	10,980
Re-bar	2,000	lbs.	2.00	4,000
Concrete material	29	cy	140.00	4,060
Placing concrete	29	cy	120.00	3,480
<u>Foundation walls - 4'-0" high</u>	244	lf		
Formwork	1,952	sf	20.00	39,040
Re-bar	1,668	lbs.	2.00	3,336
Concrete material	66	cy	140.00	9,240
Placing concrete	66	cy	120.00	7,920
Form shelf	244	lf	3.30	805

**Spread Footings & Piers:**

<u>Spread footings at OH door locations</u>				
Formwork	240	sf	16.00	3,840
Re-bar	1,800	lbs.	2.00	3,600
Concrete material	12	cy	140.00	1,680
Placing concrete	12	cy	150.00	1,800
Pilasters	3	cy	750.00	2,250

**Lowest Floor Construction**

<u>Slab on grade, 6" thick - Building</u>	3,228	sf		
Vapor barrier, heavy duty, 15 mil	3,228	sf	1.00	3,228
WWF reinforcement	3,712	sf	1.50	5,568
Concrete - 6" thick	42	cy	140.00	5,880
Placing concrete	42	cy	120.00	5,040
Finishing and curing concrete	3,228	sf	3.50	11,298
Sawcut control joints	3,228	sf	0.30	968
<u>Slab on grade - Existing</u>		sf		
Patch/Repairs to existing slab on grade		sf	2.00	NR

Miscellaneous

Moisture mitigation additive assumed not required

SUBTOTAL				128,013
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Harvard DPW  
New Additions/Renovation  
Harvard, MA

04-Oct-21

GFA 3,228

<i>CSI CODE</i>	<i>DESCRIPTION</i>	<i>QTY</i>	<i>UNIT</i>	<i>UNIT COST</i>	<i>EST'D COST</i>	<i>SUB TOTAL</i>	<i>TOTAL COST</i>
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**Pole Barn & Garage Storage**

<i>TOTAL - CONCRETE</i>							<b>\$128,013</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Pole Barn & Garage Storage**

**04 MASONRY**

**040001 MASONRY**

Exterior Wall

12" thick split face CMU **4,541** sf 32.00 145,312

Staging to exterior wall **4,541** sf 3.00 13,623

Interior Partitions

12" CMU; reinforced **650** sf 34.00 22,100

SUBTOTAL \$ 181,035

**TOTAL, DIVISION 4 - MASONRY \$181,035**

**05 METALS**

**051000 STRUCTURAL STEEL**

Floor/Roof Structure

1 1/2" deep Type B x 22 gage galvanized corrugated metal roof deck **3,228** sf 5.00 16,140

Single pitched open web metal joists, 30" x 11#/LF **3,228** sf 15.00 48,420

Galvanized structural steel columns and headers at OH door locations **3.6** tns 8,000.00 28,800

Moment connections **4** ea 300.00 1,200

SUBTOTAL 94,560

**055000 Metal Fabrications**

Exterior

Miscellaneous metals; lintels, flashings etc. **3,228** gsf 2.00 6,456

Interior

Seismic clips **8** ea 150.00 1,200

Misc. metals to CMU **650** sf 1.00 650

Miscellaneous metals throughout building **3,228** gsf 1.75 5,649

SUBTOTAL \$ 13,955

**TOTAL, DIVISION 5 - METALS \$108,515**

**06 - WOOD, PLASTICS AND COMPOSITES**

**061000 ROUGH CARPENTRY**

Rough blocking at exterior door openings **248** lf 4.00 992

Rough blocking at roof **250** lf 16.00 4,000

Miscellaneous wood blocking at interiors **3,228** gsf 0.25 807

SUBTOTAL 5,799

**TOTAL - WOOD, PLASTICS AND COMPOSITES \$5,799**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Pole Barn & Garage Storage**

**07 THERMAL & MOISTURE PROTECTION**

**070001 WATERPROOFING, DAMPPROOFING AND CAULKING**

Waterproofing at basement slab assumed not required  
 Waterproofing at basement walls assumed not required

Exterior Walls

Air and vapor barrier **4,541** sf 7.50 34,058  
 AVB at window and door openings **248** lf 5.00 1,240  
 Backer rod & double sealant at openings **248** lf 10.00 2,480

Interiors

Miscellaneous sealants throughout building **3,228** gsf 0.50 1,614  
 Traffic coating **3,000** sf 7.00 21,000

SUBTOTAL 60,392

**070002 ROOFING AND FLASHING**

Flat Roof

EPDM roof membrane **3,228** sf 9.50 30,666  
 Insulation; 5 1/2" rigid insulation **3,228** sf 7.00 NR  
 1/2" density cover board **3,228** sf 3.00 9,684  
 Vapor barrier **3,228** sf 2.00 6,456  
 Roof blocking included above

Miscellaneous Roofing

Roof edge **250** lf 30.00 7,500  
 Gutter /downspouts **171** lf 30.00 5,130  
 Miscellaneous flashing **3,228** sf 1.00 3,228

SUBTOTAL 62,664

**072100 THERMAL INSULATION**

2" Rigid insulation + protection board at foundation walls, allo **1,220** sf 2.15 NR  
 2" Rigid insulation under slab on grade, allow **3,228** sf 2.25 NR  
 Insulation at window/door openings **248** lf 2.50 620

SUBTOTAL 620

**078100 FIREPROOFING & FIRE STOPPING**

Fireproofing to floor/roof deck assumed not required  
 Intumescent paint to exposed beams assumed not required

Fire stopping **1** ls 2,000.00 2,000

SUBTOTAL 2,000

<b>TOTAL, DIVISION 7 - THERMAL AND MOISTURE PROTECTION</b>							<b>\$125,676</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Pole Barn & Garage Storage**

**08 DOORS & WINDOWS**

**081100 DOORS, FRAMES AND HARDWARE**

*Exterior Doors*

Frame, single 5 ea 450.00 2,250

Flush HM door - single 5 ea 500.00 2,500

Hardware 5 leaf 900.00 4,500

SUBTOTAL 9,250

**083300 OVERHEAD DOORS**

14' x 13'-4" OH metal motorized door 4 ea 13,063.40 52,254

SUBTOTAL 52,254

**089000 FIXED LOUVERS**

Aluminum louvers; allowance 1 ls 750.00 750

SUBTOTAL 750

**TOTAL, DIVISION 8 - DOORS AND WINDOWS \$62,254**

**09 - FINISHES**

**090005 RESILIENT FLOORS**

Resilient Base 310 lf 2.50 NR

SUBTOTAL -

**090007 PAINTING**

Finish doors and frames 5 ea 200.00 1,000

Paint to CMU 5,841 sf 2.00 11,682

Paint to exposed structure 3,010 sf 1.50 4,515

Miscellaneous painting/ touch-up 3,228 gsf 0.25 807

SUBTOTAL 18,004

**TOTAL - FINISHES \$18,004**

**10 - SPECIALTIES**

**101400 SIGNAGE**

Building mounted signage; allowance 1 ls 3,000.00 3,000

Room Signs 1 loc 120.00 120

Other signage/graphics 1 ls 500.00 500

SUBTOTAL 3,620

**104400 FIRE EXTINGUISHER CABINETS**

Fire extinguisher cabinets 2 ea 350.00 700

SUBTOTAL 700

**TOTAL - SPECIALTIES \$4,320**

**12 - FURNISHINGS**

**124810 ENTRANCE MATS**

Recessed entry mats & frames sf 42.00 assumed NR

SUBTOTAL -

**TOTAL - FURNISHINGS**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Pole Barn & Garage Storage**

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**21 - FIRE SUPPRESSION**

**210000 FIRE PROTECTION**

New sprinkler system	3,228	gsf	6.00	NR		
SUBTOTAL						-

**TOTAL - FIRE SUPPRESSION**

**22 - PLUMBING**

**220000 PLUMBING**

Garage drains	1	ls	15,000.00	15,000		
Piping from downspouts to existing storm drainage system	4	loc	5,000.00	20,000		
SUBTOTAL						35,000

**TOTAL - PLUMBING \$35,000**

**23 - HVAC**

**230000 HVAC**

No work in this section		gsf				
SUBTOTAL						-

**TOTAL - HVAC**

**26 - ELECTRICAL**

**260000 ELECTRICAL**

60 amp, 120/208 volt service 3-phase service from the proposed 600 amp service at main building	1	ea	25,000.00	25,000		
A new 60 amp, 120/208 volt 3-phase, main circuit breaker, 24 circuit panel	1	ea	5,000.00	5,000		
Exterior wallpacks with emergency modules at exterior doorways	5	ea	1,200.00	6,000		
LED light fixtures with automatic lighting controls, GFCI receptacles	3,228	gsf	10.00	32,280		
Power to HVAC	3,228	gsf	1.00	3,228		
Equipment wiring allowance, HVAC	3,228	gsf	1.00	3,228		
Temp power/support/commissioning etc.	3,228	gsf	2.00	6,456		
SUBTOTAL						81,192

**TOTAL -ELECTRICAL \$81,192**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Pole Barn & Garage Storage**

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<b>31 - EARTHWORK</b>
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**312000 EARTHWORK**

Strip footings/foundation walls

Excavation	217	cy	11.00	2,387
Remove off site	217	cy	17.60	3,819
Backfill with imported material	122	cy	32.00	3,904
Premium for contaminated soils removal				assumed not required
SOE				assumed not required
Structural fill at unexcavated areas				assumed not required

Column footings

Excavation	13	cy	14.00	182
Remove off site	13	cy	17.60	229
Backfill with imported material	1	cy	32.00	32

Miscellaneous

Gravel fill beneath footings, 6"	13	cy	32.00	416
<u>Slab on grade</u>				
Gravel base, 8"	80	cy	40.00	3,200
Compact sub-grade	3,228	sf	0.55	1,775

SUBTOTAL 15,944

<b>TOTAL - EARTHWORK</b>	<b>\$15,944</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Sitework**

**SITWORK**

**311000 SITE PREPARATION**

Site construction fence/barricades; allowance	900	lf	18.00	16,200		
Site construction fence gates	1	ea	2,500.00	2,500		
Stabilized construction entrance	500	sf	4.00	2,000		
Sawcut existing pavement to allow for new electrical and water to pole barn	500	lf	10.00	5,000		
Remove existing pavement to allow for new electrical and water to pole barn	750	sf	3.00	2,250		
Excavate at backfill subgrade at concrete and bit. pavement locations to allow for new water service	42	cy	40.00	1,680		
Allowance for saw cutting existing asphalt pavement at new pole barn and mechanics service garage	1	ls	3,000.00	3,000		
Miscellaneous demolition of site items	1	ls	5,000.00	5,000		
SUBTOTAL						37,630

**312000 EARTHWORK**

No work in this section						
SUBTOTAL						-

**312500 EROSION CONTROL**

Silt fence/erosion control, wash bays, stock piles	900	lf	12.00	10,800		
Silt fence maintenance and monitoring	1	ls	1,500.00	1,500		
Drain-Inlet protection	1	ls	2,500.00	2,500		
SUBTOTAL						14,800

<b>TOTAL, DIVISION 31 - EARTHWORK</b>						<b>\$52,430</b>
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**32 EXTERIOR IMPROVEMENTS**

**320000 SITE PAVING**

<u>Patching after new water and electrical service</u>						
gravel base; 12" thick	28	cy	45.00	1,260		
asphalt; 3" thick	83	sy	30.00	2,490		
Restriping allowance	1	ls	1,500.00	1,500		
Generator pad	1	ls	3,000.00	3,000		
SUBTOTAL						8,250

**323000 SITE IMPROVEMENTS**

Fenced enclosure at propane tank and generator	70	lf	70.00	4,900		
SUBTOTAL						4,900

**329000 LANDSCAPING**

No work in this section						
SUBTOTAL						-

<b>TOTAL, DIVISION 32 - EXTERIOR IMPROVEMENTS</b>						<b>\$13,150</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Sitework**

48	<b>33 UTILITIES</b>						
49							
50	<b>331000 Water Utilities</b>						
51	New water line to pole barn	125	lf	45.00	5,625		
52	Water- tee	1	ea	800.00	800		
53	Water- Valve	1	ea	1,000.00	1,000		
54	Water- tap existing	1	ea	4,000.00	4,000		
55	Connect downspout storm water from mechanics service garage to existing storm drainage system including E&B	2	ea	5,000.00	10,000		
56	Connect downspout storm water from pole barn to existing storm drainage system including E&B	4	ea	5,000.00	20,000		
57	Water line to pole barn	125	lf	130.00	16,250		
58	Fire water service from existing well to proposed cistern; allowance	1	ls	15,000.00	15,000		
59	15,000 gal cistern from well source water to supply proposed sprinkler system	1	ls	160,000.00	160,000		
60	50 HP Fire pump including electrical connections	1	ls	90,000.00	90,000		
61	SUBTOTAL					\$ 322,675	
62							
63	<b>333000 Sanitary Sewerage</b>						
64	Tight tank, assumed removal and replacement of existing unit	1	ls	40,000.00	40,000		
65	SUBTOTAL					\$ 40,000	
66							
67	<b>334000 Stormwater Utilities</b>						
68	Work carried with each breakout						
69	SUBTOTAL					\$ -	
70							
71	<b>337000 Electrical Utilities</b>						
72	All work carried within separate breakouts						
73	SUBTOTAL					\$ -	
74							
75	<b>TOTAL, DIVISION 33 - UTILITIES</b>						<b>\$362,675</b>
	<b>TRADE SUBTOTAL SITEWORK</b>						<b>\$428,255</b>



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate Female Locker and Storage Room Scope**

**GROSS FLOOR AREA CALCULATION**

Female Locker Room and Supply Storage (190)

<b>TOTAL GROSS FLOOR AREA (GFA)</b>						<b>(190) sf</b>
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**02 DEMOLITION**

**024000 DEMOLITION**

Demolish existing connector in its entirety	(190)	sf	8.00	(1,520)
Allowance to excavate existing foundations to allow for new structure	(190)	sf	4.00	(760)
SUBTOTAL				\$ (2,280)

<b>TOTAL, DIVISION 2 - DEMOLITION</b>						<b>(\$2,280)</b>
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**03 CONCRETE**

Strip Footings	2	CY
Foundation Walls	6	CY
<b>Total Foundation Concrete</b>	<b>8</b>	<b>CY</b>

**Continuous Footings & Walls**

<u>Continuous footings - 26" wide x 18" thick</u>	13	lf		
Formwork	39	sf	15.00	585
Re-bar	107	lbs.	2.00	214
Concrete material	2	cy	140.00	280
Placing concrete	2	cy	120.00	240
<u>Foundation walls - 4'-0" high</u>	13	lf		
Formwork	104	sf	20.00	2,080
Re-bar	90	lbs.	2.00	180
Concrete material	6	cy	140.00	840
Placing concrete	6	cy	120.00	720
Form shelf	13	lf	3.30	43

**Spread Footings & Piers:**

No work in this section

**Lowest Floor Construction**

<u>Slab on grade, 6" thick - Building</u>	(190)	sf		
Vapor barrier, heavy duty, 15 mil	(190)	sf	1.00	(190)
WWF reinforcement	(219)	sf	1.50	(329)
Concrete - 6" thick	(2)	cy	140.00	(280)
Placing concrete	(2)	cy	120.00	(240)
Finishing and curing concrete	(190)	sf	3.50	(665)
<u>Slab on grade - Existing</u>		sf		
Patch/Repairs to existing slab on grade		sf	2.00	NR

Miscellaneous

Moisture mitigation additive				med not required
SUBTOTAL				3,478

<b>TOTAL - CONCRETE</b>						<b>\$3,478</b>
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**04 MASONRY**

**040001 MASONRY**

Exterior Wall

3-5/8" thick split face veneer	175	sf	38.00	6,650
10" CMU backup wall	175	sf	30.00	5,250



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate Female Locker and Storage Room Scope**

61	Flashings at exterior masonry	175	sf	0.50	88			
62	Staging to exterior wall	175	sf	3.00	525			
63	<u>Interior Partitions</u>							
64	10" CMU	(546)	sf	30.00	(16,380)			
65	SUBTOTAL					\$	(3,867)	
67	<b>TOTAL, DIVISION 4 - MASONRY</b>							<b>(\$3,867)</b>

**05 METALS**

**051000 STRUCTURAL STEEL**

Floor/Roof Structure

74	1 1/2" deep Type B x 18 gage galvanized corrugated metal roof deck	(190)	sf	5.00	(950)		
75	Allowance to support roof hanging mechanical units per narrative	1	ls	(922.33)	(922)		
76	Double pitched open web metal joists, 20" deep x 15#/LF	(190)	sf	20.00	(3,800)		
77	SUBTOTAL						(5,672)

**055000 Metal Fabrications**

Exterior

Miscellaneous metals; lintels, flashings etc.

175 sf 2.00 350

Interior

Seismic clips

(10) ea 150.00 (1,500)

Misc. metals to CMU

(546) sf 1.00 (546)

Miscellaneous metals throughout building

(190) gsf 1.75 (333)

SUBTOTAL

\$ (2,029)

**TOTAL, DIVISION 5 - METALS (\$7,701)**

**06 - WOOD, PLASTICS AND COMPOSITES**

**061000 ROUGH CARPENTRY**

Rough blocking at roof

13 lf 16.00 208

Wood blocking at interior openings

(34) lf 4.00 (136)

Miscellaneous wood blocking at interiors

(190) gsf 1.00 (190)

SUBTOTAL

(118)

**TOTAL - WOOD, PLASTICS AND COMPOSITES (\$118)**

**07 THERMAL & MOISTURE PROTECTION**

**070001 WATERPROOFING, DAMPPROOFING AND CAULKING**

Exterior Walls

Air and vapor barrier

175 sf 7.50 1,313

Interiors

Backer rod & double sealant at interior doors

(34) lf 2.50 (85)

Miscellaneous sealants throughout building

(190) gsf 1.00 (190)

SUBTOTAL

1,038

**070002 ROOFING AND FLASHING**

Flat Roof

EPDM roof membrane

(190) sf 9.50 (1,805)

Insulation; 5 1/2" rigid insulation

(190) sf 7.00 (1,330)

Premium for tapered insulation

(190) sf 1.00 (190)

1/2" density cover board

(190) sf 3.00 (570)

Vapor barrier

(190) sf 2.00 (380)

Roof blocking

included above

Miscellaneous Roofing





CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate Female Locker and Storage Room Scope**

121	Roof edge	13	lf	30.00	390		
122	Miscellaneous flashing	(190)	sf	1.00	(190)		
123	SUBTOTAL						(4,075)

**072100 THERMAL INSULATION**

126	2" Rigid insulation + protection board at foundation walls, allo	65	sf	2.15	NR		
127	3" Rigid insulation at exterior closure	175	sf	3.00	525		
128	Insulation at roof				included with roofing		
129	SUBTOTAL						525

<b>TOTAL, DIVISION 7 - THERMAL AND MOISTURE PROTECTION</b>							<b>(\$2,512)</b>
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**08 DOORS & WINDOWS**

**081100 DOORS, FRAMES AND HARDWARE**

<i>Interior Doors</i>							
139	Frame, single	(2)	ea	300.00	(600)		
140	HM door - single	(2)	ea	350.00	(700)		
141	Hardware	(2)	leaf	750.00	(1,500)		
142	SUBTOTAL						(2,800)

<b>TOTAL, DIVISION 8 - DOORS AND WINDOWS</b>							<b>(\$2,800)</b>
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**09 - FINISHES**

**090003 ACT**

150	2' x 4' ACT	(146)	sf	6.50	(949)		
151	SUBTOTAL						(949)

**090007 PAINTING**

154	Finish doors and frames	(2)	ea	200.00	(400)		
155	Paint to CMU	(917)	sf	2.00	(1,834)		
156	Miscellaneous painting/ touch-up	(190)	gsf	0.25	(48)		
157	SUBTOTAL						(2,282)

**096723 RESINOUS FLOORING**

160	Epoxy flooring with integral base	(146)	sf	16.00	(2,336)		
161	SUBTOTAL						(2,336)

<b>TOTAL - FINISHES</b>							<b>(\$5,567)</b>
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**10 - SPECIALTIES**

**101400 SIGNAGE**

169	Room Signs	(2)	loc	120.00	(240)		
170	SUBTOTAL						(240)

**105100 LOCKERS**

173	Lockers; assumed single tier metal	(5)	ea	700.00	(3,500)		
174	Benches	(5)	lf	90.00	(450)		
175	SUBTOTAL						(3,950)

<b>TOTAL - SPECIALTIES</b>							<b>(\$4,190)</b>
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**21 - FIRE SUPPRESSION**

**210000 FIRE PROTECTION**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate Female Locker and Storage Room Scope**

183	New wet sprinkler system (Fire pump and cistern with site); allowance	(190)	gsf	6.00	(1,140)		
184	SUBTOTAL					(1,140)	
<b>TOTAL - FIRE SUPPRESSION</b>							<b>(\$1,140)</b>

**23 - HVAC**

191	<b>230000 HVAC</b>						
192	VRF heating and cooling consisting of an outdoor heat pump interconnected by insulated refrigerant piping to ductless wall mounted units in space, energy recovery unit to provide ventilation/exhaust to each space in accordance with applicable codes and electric supplemental heat in bathrooms/entries	(190)	gsf	55.00	(10,450)		
193						(10,450)	
<b>TOTAL - HVAC</b>							<b>(\$10,450)</b>

**26 - ELECTRICAL**

200	<b>260000 ELECTRICAL</b>						
201	LED light fixtures with automatic lighting controls and GFCI receptacles	(190)	gsf	10.00	(1,900)		
202	New addressable fire alarm control panel, and new notification devices (horn/strobes and strobe-only devices) and actuation devices (pull stations, heat and smoke detectors)	(190)	gsf	3.00	(570)		
203	Equipment wiring allowance, HVAC	(190)	gsf	1.00	(190)		
204	Temp power/support/commissioning etc.	(190)	gsf	2.00	(380)		
205	SUBTOTAL					(3,040)	
<b>TOTAL - ELECTRICAL</b>							<b>(\$3,040)</b>

**31 - EARTHWORK**

212	<b>312000 EARTHWORK</b>						
213	<u>Strip footings/foundation walls</u>						
214	Excavation	12	cy	11.00	132		
215	Remove off site	12	cy	17.60	211		
216	Backfill with imported material	4	cy	32.00	128		
217	Premium for contaminated soils removal				assumed not required		
218	SOE				assumed not required		
219	Structural fill at unexcavated areas				assumed not required		
220	<u>Miscellaneous</u>						
221	Gravel fill beneath footings, 6"	1	cy	32.00	32		
222	<u>Slab on grade</u>						
223	Gravel base, 8"	(5)	cy	40.00	(200)		
224	Compact sub-grade	(190)	sf	0.55	(105)		
225	SUBTOTAL					198	
<b>TOTAL - EARTHWORK</b>							<b>\$198</b>

**TOTAL - FEMALE LOCKER ROOM & SUPPLY STORAGE ALTERNATE (without markups) (\$39,989)**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate 6 Bay Storage Garage Scope**

**GROSS FLOOR AREA CALCULATION**

Ground Level (Not including Men;s Toilet room) (7,748)

<b>TOTAL GROSS FLOOR AREA (GFA)</b>						<b>(7,748) sf</b>
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**02 DEMOLITION**

**024000 DEMOLITION**

Remove existing deteriorated traffic coating	(6,605)	sf	2.00	(13,210)	
Remove existing doors, single	(5)	ea	150.00	(750)	
Remove existing doors, single exterior	(3)	ea	150.00	(450)	
Remove existing SOG at vehicle storage garage to lower area	60	sf	25.00	1,500	
Miscellaneous demolition/ protect existing finishes	(7,748)	gsf	1.00	(7,748)	
SUBTOTAL					(20,658)

<b>TOTAL, DIVISION 2 - DEMOLITION</b>						<b>(\$20,658)</b>
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**03 CONCRETE**

**Lowest Floor Construction**

<u>Slab on grade, 6" thick infill at corridor</u>	60	sf			
Vapor barrier, heavy duty, 15 mil	60	sf	1.00	w/ base estimate	
WWF reinforcement	69	sf	1.50	w/ base estimate	
Concrete - 6" thick	1	cy	140.00	w/ base estimate	
Placing concrete	1	cy	120.00	w/ base estimate	
Finishing and curing concrete	60	sf	3.50	w/ base estimate	
<u>Slab on grade - Existing</u>		sf			
Patch/Repairs to existing slab on grade; allowance	(6,973)	sf	2.00	(13,946)	
<u>Underpinning</u>					
Underpinning of extg masonry bearing wall foundations around perimeter of corridor, assumed by hand with confined space	40	lf	1,500.00	w/ base estimate	
SUBTOTAL					(13,946)

<b>TOTAL - CONCRETE</b>						<b>(\$13,946)</b>
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**04 MASONRY**

**040001 MASONRY**

<u>Exterior Wall</u>					
Repairs to existing exterior masonry		sf		NR	
<u>Interior Partitions</u>					
Infill walls at storage garage; assumed 10" CMU	(325)	sf	48.00	(15,600)	
SUBTOTAL					(15,600)

<b>TOTAL, DIVISION 4 - MASONRY</b>						<b>(\$15,600)</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate 6 Bay Storage Garage Scope**

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**05 METALS**

**051000 STRUCTURAL STEEL**

Floor/Roof Structure

Allowance to reinforce existing openings in walls and roof per narrative	(1)	ls	10,000.00	(10,000)	
<b>SUBTOTAL</b>					(10,000)

**055000 Metal Fabrications**

Interior

Ramp handrails	44	lf	150.00	w/ base estimate	
Seismic clips	(11)	ea	150.00	(1,650)	
Misc. metals to CMU	(325)	sf	1.00	(325)	
Miscellaneous metals throughout building	(301)	gsf	1.75	(527)	
<b>SUBTOTAL</b>					\$ (2,502)

**TOTAL, DIVISION 5 - METALS (\$12,502)**

**06 - WOOD, PLASTICS AND COMPOSITES**

**061000 ROUGH CARPENTRY**

Wood blocking at interior and exterior openings	(68)	lf	4.00	(272)	
Miscellaneous wood blocking at interiors	(301)	gsf	0.25	(75)	
<b>SUBTOTAL</b>					(347)

**TOTAL - WOOD, PLASTICS AND COMPOSITES (\$347)**

**07 THERMAL & MOISTURE PROTECTION**

**070001 WATERPROOFING, DAMPPROOFING AND CAULKING**

Backer rod & double sealant at doors	(68)	lf	2.50	(170)	
Miscellaneous sealants throughout building	(301)	gsf	1.00	(301)	
Floor prep at existing vehicle storage garage	(6,605)	sf	1.00	(6,605)	
Traffic coating	(6,605)	sf	7.00	(46,235)	
<b>SUBTOTAL</b>					(53,311)

**070002 ROOFING AND FLASHING**

Miscellaneous repairs to roofing including at HVAC work; allowance	(1)	ls	10,000.00	(10,000)	
<b>SUBTOTAL</b>					(10,000)

**072100 THERMAL INSULATION**

Insulation at window/door openings		lf	2.50	NR	
<b>SUBTOTAL</b>					-

**078100 FIREPROOFING & FIRE STOPPING**

Fireproofing to floor/roof deck				assumed not required	
Intumescent paint to exposed beams				assumed not required	
<b>SUBTOTAL</b>					-

**TOTAL, DIVISION 7 - THERMAL AND MOISTURE PROTECTION (\$63,311)**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate 6 Bay Storage Garage Scope**

**08 DOORS & WINDOWS**

**081100 DOORS, FRAMES AND HARDWARE**

*Exterior Doors*

Frame, single		ea	450.00	NR		
Flush HM door - single		ea	500.00	NR		
Hardware		leaf	900.00	NR		

*Interior Doors*

Frame, single	(4)	ea	300.00	(1,200)		
HM door - single	(4)	ea	350.00	(1,400)		
Hardware	(4)	leaf	750.00	(3,000)		
SUBTOTAL						(5,600)

**083000 ACCESS DOORS**

Access doors	(1)	ls	750.00	(750)		
SUBTOTAL						(750)

**TOTAL, DIVISION 8 - DOORS AND WINDOWS (\$6,350)**

**09 - FINISHES**

**090003 ACT**

2' x 4' ACT	(85)	sf	6.50	NR		
SUBTOTAL						-

**090005 RESILIENT FLOORS**

Ramp rubber flooring	(95)	sf	12.00	NR		
SUBTOTAL						-

**090007 PAINTING**

Finish doors and frames	(4)	ea	200.00	(800)		
Prime and paint to existing CMU	(8,040)	sf	2.00	(16,080)		
Paint to exposed structure	(305)	sf	1.50	(458)		
Miscellaneous painting/ touch-up	(7,748)	gsf	0.25	(1,937)		
SUBTOTAL						(19,275)

**096723 RESINOUS FLOORING**

Epoxy flooring with integral base	(122)	sf	16.00	(1,952)		
SUBTOTAL						(1,952)

**TOTAL - FINISHES (\$21,227)**

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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate 6 Bay Storage Garage Scope**

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**10 - SPECIALTIES**

**101400 SIGNAGE**

Room Signs	(3)	loc	120.00	(360)	
Other signage/graphics	(1)	ls	750.00	(750)	
<b>SUBTOTAL</b>					<b>(1,110)</b>

**102600 WALL PROTECTION**

Corner guards/Wall protection; allowance	(7,748)	gsf	0.20	(1,550)	
<b>SUBTOTAL</b>					<b>(1,550)</b>

**102800 TOILET ACCESSORIES**

Gang bathroom; includes electric handryers	(1)	rms	2,500.00	(2,500)	
Shower accessories including curtain and rod, seat and grab bars	(1)	ea	1,000.00	(1,000)	
<b>SUBTOTAL</b>					<b>(3,500)</b>

**104400 FIRE EXTINGUISHER CABINETS**

Fire extinguisher cabinets	(2)	ea	350.00	(700)	
<b>SUBTOTAL</b>					<b>(700)</b>

**TOTAL - SPECIALTIES (\$6,860)**

**12 - FURNISHINGS**

**124810 ENTRANCE MATS**

Recessed entry mats & frames		sf	42.00	assumed NR	
<b>SUBTOTAL</b>					<b>-</b>

**TOTAL - FURNISHINGS**

**21 - FIRE SUPPRESSION**

**210000 FIRE PROTECTION**

New dry sprinkler system (Fire pump and cistern with site); allowance	7,748	gsf	6.00	w/ base estimate	
<b>SUBTOTAL</b>					<b>-</b>

**TOTAL - FIRE SUPPRESSION**



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate 6 Bay Storage Garage Scope**

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**22 - PLUMBING**

**220000 PLUMBING**

Remove existing non code compliant plumbing fixtures and accessories	(1)	rms	2,000.00	(2,000)		
New hot water heater including piping	(1)	ea	16,000.00	(16,000)		
Lavatory	(1)	ea	1,440.00	(1,440)		
Water closet	(1)	ea	1,750.00	(1,750)		
Misc. plumbing/conditions at toilet rooms	(1)	ls	5,000.00	(5,000)		
<b>SUBTOTAL</b>						(26,190)

**TOTAL - PLUMBING (\$26,190)**

**23 - HVAC**

**230000 HVAC**

Additional supplemental propane unit heaters extended from existing propane gas piping system for the space	(1)	ls	15,000.00	(15,000)		
Provide an exhaust air and tempered make up air system to provide 0.75 cfm/sf exhaust air to the space as required by code; the system should be provided a control system to modulate air from 0.05 cfm/sf to maximum code exhaust air flow	(7,631)	gsf	30.00	(228,930)		
VRF heating and cooling to unisex HC toilet; complete	(117)	gsf	55.00	(6,435)		
<b>SUBTOTAL</b>						(250,365)

**TOTAL - HVAC (\$250,365)**

**26 - ELECTRICAL**

**260000 ELECTRICAL**

Exterior emergency lights provided at all egress doors	(2)	ea	2,500.00	(5,000)		
Exterior wall packs	(8)	ea	2,000.00	(16,000)		
New 600 amp, 120/208V, 3 phase 4 wire service	(1)	ls	30,000.00	(30,000)		
New illuminated exit signs	(3)	ea	1,500.00	(4,500)		
Replacement LED light fixtures and GFCI receptacles	(7,748)	gsf	7.50	(58,110)		
The Fire alarm control panel should be upgraded to a new addressable fire alarm control panel, and new notification devices (horn/strobes and strobe-only devices) and actuation devices (pull stations, heat and smoke detectors)	(7,748)	gsf	3.00	(23,244)		
Equipment wiring allowance, HVAC	(7,748)	gsf	1.00	(7,748)		
Temp power/support/commissioning etc.	(7,748)	gsf	2.00	(15,496)		
Demolition	(1)	ls	3,000.00	(3,000)		
<b>SUBTOTAL</b>						(163,098)

**TOTAL - ELECTRICAL (\$163,098)**

**TOTAL - SIX BAY STORAGE GARAGE ALTERNATE (without markups) (\$600,454)**





CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate Break Room Scope**

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**GROSS FLOOR AREA CALCULATION**

Break Room 347

<b>TOTAL GROSS FLOOR AREA (GFA)</b>						<b>347</b>	<i>sf</i>
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**23 - HVAC**

<b>230000 HVAC</b>							
	VRF heating and cooling to break room, unisex HC toilet room and men's toilet room; complete	<b>(347)</b>	gsf	55.00	(19,085)		
	<b>SUBTOTAL</b>					(19,085)	

<b>TOTAL - HVAC</b>							<b>(\$19,085)</b>
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**26 - ELECTRICAL**

<b>260000 ELECTRICAL</b>							
	Equipment wiring allowance, HVAC	<b>(347)</b>	gsf	1.00	(347)		
	Temp power/support/commissioning etc.	<b>(347)</b>	gsf	2.00	(694)		
	<b>SUBTOTAL</b>					(1,041)	

<b>TOTAL -ELECTRICAL</b>							<b>(\$1,041)</b>
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<b>TOTAL - BREAK ROOM ALTERNATE (without markups)</b>							<b>(\$20,126)</b>
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CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate Men's Toilet Room Scope**

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**04 MASONRY**

**040001 MASONRY**

Interior Partitions

Infill walls ; assumed 10" CMU

(87) sf 48.00 (4,176)

SUBTOTAL

\$ (4,176)

**TOTAL, DIVISION 4 - MASONRY (\$4,176)**

**06 - WOOD, PLASTICS AND COMPOSITES**

**061000 ROUGH CARPENTRY**

Wood blocking at interior and exterior openings

(17) lf 4.00 (68)

SUBTOTAL

(68)

**TOTAL - WOOD, PLASTICS AND COMPOSITES (\$68)**

**07 THERMAL & MOISTURE PROTECTION**

**070001 WATERPROOFING, DAMPPROOFING AND CAULKING**

Backer rod & double sealant at doors

(17) lf 2.50 (43)

SUBTOTAL

(43)

**TOTAL, DIVISION 7 - THERMAL AND MOISTURE PROTECTION (\$43)**

**08 DOORS & WINDOWS**

**081100 DOORS, FRAMES AND HARDWARE**

*Interior Doors*

Frame, single

(1) ea 300.00 (300)

HM door - single

(1) ea 350.00 (350)

Hardware

(1) leaf 750.00 (750)

SUBTOTAL

(1,400)

**TOTAL, DIVISION 8 - DOORS AND WINDOWS (\$1,400)**

**09 - FINISHES**

**090007 PAINTING**

Finish doors and frames

(1) ea 200.00 (200)

SUBTOTAL

(200)

**096723 RESINOUS FLOORING**

Epoxy flooring with integral base

(122) sf 16.00 (1,952)

SUBTOTAL

(1,952)

**TOTAL - FINISHES (\$2,152)**

**10 - SPECIALTIES**

**101400 SIGNAGE**

Room Signs

(1) loc 120.00 (120)

SUBTOTAL

(120)

**102110 TOILET COMPARTMENTS**

ADA

(1) ea 1,600.00 (1,600)



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
<b>Eliminate Men's Toilet Room Scope</b>							
	Urinal screens	(2)	ea	650.00	(1,300)		
	SUBTOTAL					(2,900)	
<b>102800 TOILET ACCESSORIES</b>							
	Gang bathroom; includes electric handryers	(1)	rms	2,500.00	NR		
	SUBTOTAL					-	
<b>TOTAL - SPECIALTIES</b>							<b>(\$3,020)</b>
<b>22 - PLUMBING</b>							
<b>220000 PLUMBING</b>							
	Remove existing non code compliant plumbing fixtures and accessories	(1)	rms	2,000.00	(2,000)		
	Lavatory	(1)	ea	1,440.00	(1,440)		
	Water closet	(1)	ea	1,750.00	(1,750)		
	Urinal	(2)	ea	1,800.00	(3,600)		
	Misc. plumbing/conditions at toilet rooms	(122)	sf	10.00	(1,220)		
	SUBTOTAL					(10,010)	
<b>TOTAL - PLUMBING</b>							<b>(\$10,010)</b>
<b>23 - HVAC</b>							
<b>230000 HVAC</b>							
	VRF heating and cooling to break room, unisex HC toilet room and men's toilet room	(122)	gsf	55.00	(6,710)		
	SUBTOTAL					(6,710)	
<b>TOTAL - HVAC</b>							<b>(\$6,710)</b>
<b>26 - ELECTRICAL</b>							
<b>260000 ELECTRICAL</b>							
	Replacement LED light fixtures and GFCI receptacles	(122)	gsf	7.50	(915)		
	Demolition	1	ls	3,000.00	3,000		
	SUBTOTAL					2,085	
<b>TOTAL - ELECTRICAL</b>							<b>\$2,085</b>
<b>TOTAL - MEN'S TOILET ROOM ALTERNATE (without markups)</b>							<b>(\$27,579)</b>



CSI CODE	DESCRIPTION	QTY	UNIT	UNIT COST	EST'D COST	SUB TOTAL	TOTAL COST
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**Eliminate Mech Room Scope**

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<b>23 - HVAC</b>							
<b>230000</b>	<b>HVAC</b>						
	Existing boiler, piping etc. currently abandoned in place to be removed	<b>(1)</b>	ls	3,000.00	(3,000)		
	SUBTOTAL					(3,000)	
<b>TOTAL - HVAC</b>							<b>(\$3,000)</b>
<b>TOTAL - MECHANICAL ROOM ALTERNATE (without markups)</b>							<b>(\$3,000)</b>



## Update to Town Select Boards – November 2021

This report highlights some of the accomplishments in an exciting and productive first year of the Nashua, Squannacook, and Nissitissit Rivers Wild & Scenic Stewardship Council.

### Community Grants Program

In 2020, we kicked off the Community Grants Program that offers small grants to support projects demonstrating commitment towards protecting the rivers' resources and building local stewardship in accordance with the Nashua, Squannacook, and Nissitissit Rivers Stewardship Plan. We issued an RFP and application form in December and received many excellent applications. In April 2021, we awarded \$20,000 in funding to six projects. Grant recipients have made the following progress to date:

- Ayer Conservation Commission received \$4,800 for Public Education Signage for Ayer's Waterways and Ponds. This project will place attractive and informative signs along roads and on bridges to help residents and visitors see and appreciate the ponds and streams of Ayer. They have finalized the draft sign designs w graphic designer, set up QR code pages, identified and marked ten locations for signs, and worked with MA DOT to make sure sign designs meet all guidelines. They plan to install the signs by the end of October.
- Bolton Conservation Commission received \$2,550 for the Forbush Mill Still River Trail, which will connect a newly acquired 43-acre property to an existing sports field and parking area. An intern completed mapping and GPS tracking, created signage, and cleared the trail along Forbush Mill Road and the Still River. Temporary educational signs were installed. The Conservation Agent is finalizing the connection between the two properties by coordinating with adjacent property owners and installing permanent signage along the trail.
- Brookline Conservation Commission received \$3,300 for the Nissitissit River Tree Project. Funding will be used to plant maple trees along a section of the Nissitissit River to enhance the tree canopy and help maintain the coldwater fishery. The Commission is waiting to coordinate with a sidewalk installation project.
- Pepperell Select Board received \$4,000 to start up the Pepperell Invasive Plant Advisory Committee. The funded project has been completed and a final grant report submitted. The newly-formed Advisory Committee completed training in identification and management, purchased equipment for invasive plant removal, and finalized a Strategic Management Plan.
- The Town of Townsend received \$3,850 to protect the Squannacook River by restricting motor vehicle access along the riverbank at Adams Dam and encouraging pedestrian access from the public parking lot at Jefts St. Permitting has been completed, DEP file number obtained, and

Orders of Conditions received. The Cemetery & Parks Department is preparing to begin gate installation.

- Townsend Historical Society received \$1,500 to support preservation and revitalization of the Spaulding Cooperage, a historical and cultural landmark on the Squannacook River. The Society has interviewed several historical architects in their search for a restoration contractor.

The Stewardship Council is offering the grant program again this year. Applications will be due on February 1, 2022. You may visit our website, [www.wildandscenicnashuarivers.org](http://www.wildandscenicnashuarivers.org) for more information.

### **Forest Legacy**

The Stewardship Council has submitted an application to the federal Forest Legacy Program (FLP). This program, administered by the U.S. Forest Service and The Massachusetts Department of Conservation and Recreation (DCR), identifies and conserves important forest areas threatened by conversion, through acquisition of conservation easements or fee interests.

Al Futterman, Project Coordinator for the Stewardship Council and NRWA Land Programs and Outreach Director, and Janet Morrison, Land Conservation Consultant, presented the proposal to the Massachusetts Forest Legacy Committee on July 21, 2021. The state committee endorsed the application, which was submitted for review at the national level on October 18, 2021.

The FLP application is by far the most intensive and impactful project undertaken by the Stewardship Council. The FLP Steering Committee reached out to landowners and identified almost 2,500 acres comprised of 25 tracts to include in the application, for a total land value estimated at \$14.4 million. Seven of the Wild & Scenic River towns have tracts included in this application. Many partners were involved in this effort, including the NRWA, watershed towns, local land trusts, DCR, and the Massachusetts Department of Fish and Game.

### **Other Highlights**

The Stewardship Council hosted Conservation Network Breakfasts, in which regional experts from state agencies and environmental businesses delivered well-received talks via Zoom for Conservation Agents and other conservation professionals. Topics included habitat protection, fluvial geomorphology, headwater streams, and Sucker Brook restoration in Pepperell.

Council members engaged in several land stewardship projects, including a brochure for riparian landowners, outreach and signage to control ATV use on conservation lands, an invasives "tool kit" for towns and interested citizen groups, and continued effort to identify a suitable canoe launch on the Nashua River in Ayer.

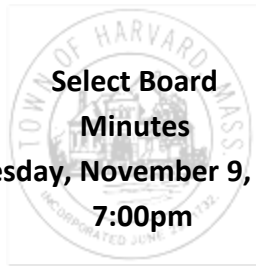
The March issue of the National Park Service's publication *River Currents* featured New England Partnership Wild & Scenic Rivers, including an article about our Shoreline Surveys on the Nashua, Squannacook, and Nissitissit Rivers.

The Council reviewed and approved comment letters from the NRWA on several local projects that affect our watershed, including support for fish passage in the FERC license renewal for the Mine Falls dam and repairs to the Jackson Mills dam in Nashua; and support for funding the National Park Service's

budget for Partnership Wild & Scenic Rivers by the House Committee on Appropriations Subcommittee on Interior, Environment, and Related Agencies.

Council members also attended hearings for the Stratton Hill Subdivision in Ayer and the proposed restoration of approximately 180 acres of the Squannacook Wildlife Management Area to barren habitat by the Division of Fish and Wildlife.

The Stewardship Council meets every third Thursday of the month at 7:00, currently by Zoom. Meetings are open to the public. For more information, visit the Wild and Scenic Rivers website: [www.WildandScenicNashuaRivers.org](http://www.WildandScenicNashuaRivers.org).



**Select Board  
Minutes**

**Tuesday, November 9, 2021**

**7:00pm**

**Pursuant to Chapter 20 of the Acts of 2021, An Act Relative to Extending Certain COVID-19 Measures Adopted during the State of Emergency and signed into law on June 16, 2021, this meeting was conducted via remote participation.**

**Select Board members present:**

Rich Maiore, Alice von Loesecke, Kara Minar, Erin McBee

Rich Maiore was absent.

**Town Department attendees:**

Town Administrator Tim Bragan and Assistant Town Administrator/HR Director Marie Sobalvarro

**Executive Session, per MGL Ch. 30A, s. 21(a)3**

The Select Board entered into executive session with the School Committee to discuss strategy with respect to collective bargaining.

The Select Board reconvened into open session at 8:30pm. Alice von Loesecke exited the meeting at this time.

**Police Chief Interview Committee**

Tim Bragan reported the qualities and characteristics decided upon for the Police Chief position have been finalized. The twenty applications have been reviewed with six applicants chosen for initial interviews. The expectation is to bring three or four forward to the Select Board for final interviews. Next, the Select Board needs to constitute the interview committee. Stu Sklar presented himself, Assistant Town Administrator/HR Director Marie Sobalvarro, Superintendent Linda Dwight, Fire Chief Rick Sicard and Sarah Saleh, resident and representative of Arm & Arm to serve on this committee. All were in agreement.

By a roll call vote, McBee – aye, Minar -aye, Sklar – aye, the board voted unanimously to whittle the list down to a final four for interview at a later meeting.

The meeting was adjourned at 8:50pm.





**Select Board Minutes**  
**Tuesday, November 16, 2021**  
**7:00pm**

**The Select Board Regular Meeting was held virtually in accordance with the Governor's Executive Order Suspending Certain Provisions of the Open Meeting Law, G.L.c.30A. S.20.**

**Select Board participants:**

Stu Sklar, Rich Maiore, Kara Minar, Erin McBee, Alice von Loesecke

**Town Department attendees:**

Town Administrator Tim Bragan, Assistant Town Administrator Marie Sobalvarro and Executive Assistant Julie Doucet

**Additional participants:**

David Maxson from Isotrope, Dylan Peacock from Historic New England, IAC member Mary Zadroga, CRWG Chair Ellen Leicher, HEAC member Paul Green

**Presentation on the current state of wireless service from Isotrope LLC**

David Maxson from Isotrope explained their task was to evaluate wireless coverage in town. They conducted a town wide drive test of existing coverage of the major carriers and prepared coverage predictions based on the information available about each carrier's facilities in and around the town. Maxson reviewed their findings outlined on the coverage maps for AT&T, T-Mobile and Verizon. Their report includes general observations along with coverage assessments of the current sites; Bolton Rd, Stow Rd, Hildreth parcel and summit of Bolton Rd. They learned the Hildreth House parcel would be a high-value location for a new wireless facility that would greatly improve coverage at Bare Hill Pond. The water tower site on Bolton Road is a less effective candidate for wireless facilities. The best location on Bolton Road for a tower is at the summit of the hill, which is all private property. The board members were thankful for the information provided in the report and will discuss their options in more detail at a subsequent meeting.

**Public Communication**

Wade Holtzman, Bolton Rd, offered use of his property for a speed sign and asked about speed bumps.

**Minutes**

By a roll call vote, Minar – aye, von Loesecke – aye, McBee – aye, Maiore – aye, the board voted to approve minutes of 11/2, presented. Stu Sklar abstained because he was not in attendance at the meeting.

**Historic preservation of the Houghton House - 204 West Bare Hill Road**

Dylan Peacock from Historic New England explained this preservation restriction agreement protects the historic features of the home in an effort to maintain its historic character. He commented on the hard work done by owner Karla Pearlstein to get the property in order for this designation. By a roll call vote, von Loesecke – aye, Minar – aye, Maiore – aye, McBee – aye, Sklar – aye, the board voted unanimously to accept the preservation restriction agreement as submitted for the property at 204 West Bare Hill

Road, Harvard, MA.

### **Act on 2020 Re-Precincting**

Tim Bragan reported Town Clerk Marlene Kenney worked with the state to exempt the federal prison population allowing the town of Harvard to remain a single precinct.

Stu Sklar read aloud the motion to be voted on by the Select Board:

The Harvard Select Board vote to remain a single precinct. On June 2, 2011, Governor Patrick signed Chapter 42 of the Acts of 2011, which allows the Town of Harvard to exempt the prisoner population when establishing voting precincts. A copy of the Act is attached for reference. Accordingly, based on the Town's population as determined by the 2020 United States Census, minus the prisoner population, the Town qualifies to remain one precinct. I also move that the Select Board vote to accept, as presented by the Town Clerk, the 2020 Re-Precincting Plan for the Town of Harvard, including the map, legal description, and block listings presented. I further move that we sign the vote of adoption that will notify the Local Elections District Review Commission of our actions. By a roll call vote, von Loesecke – aye, Minar – aye, Maiore -aye, McBee – aye, Sklar – aye, the board voted unanimously in favor of the motion.

### **Recommendation from the Insurance Advisory Committee (IAC)**

IAC member Mary Zadroga explained although their task was similar to last year with the announcement that Fallon Community Health Plan will no longer offer commercial products their recommendation is different. In addition, she noted this year MIIA (Massachusetts Interlocal Insurance Association) included a dental rider along with an increase in their wellness reimbursement amount. She estimated the IAC met four times and were given ample time to ask questions and seek feedback from those the members were representing. She noted last year many participants were reluctant to give up Fallon by moving to MIIA however this year that is not an issue and MIIA is offering a very comparable Blue Cross Blue Shield option that Minuteman Nashoba Health Group (MNHG) has not been able to do as of yet. By a roll call vote, McBee – aye, Maiore – aye, von Loesecke – aye, Minar – aye, Sklar – aye, the board voted unanimously to accept the recommendation of the IAC and move from Minuteman Nashoba Health Group (MNHG) to MIIA (Massachusetts Interlocal Insurance Association).

### **Confirmatory Order of Taking by Eminent Domain**

#### *Unit 2 – Lancaster County Place Condominium*

Tim Bragan informed the board this is a method used by communities to clear the property of any title issues that may arise. By a roll call vote, Minar – aye. Von Loesecke – aye, Maiore – aye, McBee – aye, Sklar – aye, the board voted unanimously to approve the Confirmatory Order of Taking by Eminent Domain for senior center purchase and authorize Town Administrator to sign documents related to the acquisition of the Unit on behalf of the Town.

### **Staff Report & Updates (Attachment A)**

#### **Bowling Alley Liquor License Conditions**

The Alcoholic Beverages Control Commission (ABCC) has approved the general on-premise wine/malt license for the bowling alley. Stu Sklar spoke with owner Scott Patterson who is interested in opening in January. The board discussed conditions for the license. They discussed hours of operation/serving hours, TIPS certification requirements and other town department requirements prior to opening. Executive Assistant Julie Doucet will prepare a draft for consideration at the December 7<sup>th</sup> meeting.

### **Climate resolution implementation proposal**

Climate Resiliency Working Group Chair Ellen Leicher and Energy Advisory Committee (HEAC) member Paul Green came to discuss their recommendations for next steps now that the town voted in favor of the Climate Resolution. Leicher reported the Planning Board was supportive of these possible next steps.

The CRWG has outlined the following items for consideration. The Select Board members offered comments/questions on each item.

- 1) CRWG be raised to a standing committee appointed by the Select Board; Harvard Climate Initiative Committee (HCIC), and add two HEAC members to the Committee
  - a) Rich Maiore and Stu Sklar questioned the large size of the committee being proposed. Leicher is confident in the commitment of the current volunteers.
- 2) A HEAC member and HCIC member be added to Permanent Building Committee (PBC)
  - a) SB member Erin McBee is liaison to the PBC. She will speak with them about adding a member from HEAC or CRWG.
  - b) Maiore and Sklar thought meeting with them either at their meeting or at an SB meeting is the right approach. An invitation will be extended.
  - c) They were both under the impression guidelines would be prepared for committees/boards/commissions to follow not that HEAC or CRWG members would sit on every committee/board/commission. Leicher said they mainly were focused on PBC.
  - d) Tim Bragan noted PBC member Guy Herman is an energy design expert.
  - e) Alice von Loesecke noted how helpful HEAC member David Fay was on the School Building Committee mainly by vetting the various options to help determine what approach was best for Harvard.
  - f) SB member Kara Minar serves as liaison to HEAC. She is extremely impressed with their level of expertise and success with being awarded grant funds. She said their value on PBC could be in understanding potential grant opportunities.
- 3) Improve environmental assessment form/process
  - a) Leicher said the current environmental assessment form/process needs improvement and should be mandatory not voluntary.
- 4) Involvement with environmental goals from town staff/administration
  - a) Leicher reported the CRWG discussed the importance of beginning energy conversations with town administration/staff.
- 5) Staff support
  - a) Leicher mentioned the CRWG has no budget or staff. Community Economic Development Director Chris Ryan is available but cannot provide the support they need.

Stu Sklar thanked Ellen Leicher and Paul Green for starting this discussion. He will add this topic for further discussion at the December 7<sup>th</sup> meeting. Green acknowledged this is the beginning of a massive undertaking and all decisions do not need to be made now. They also realize there will be financial limitations. He envisions this as an evolving process that should be revisited to determine if the structure is working. The CRWG members welcome feedback and expertise from town residents and staff.

### **Cost of living (COLA) for merit-based employees (non-union)**

Erin McBee reported the Personnel Board recently voted on the COLA adjustment for the coming fiscal year. The committee has a policy that they use the Consumer Price Index which is 5.4%. HR Director

Marie Sobalvarro indicated this practice began when the compensation and classification study was done in 2018. She explained this COLA percentage affects non-union personnel. Alice von Loesecke suggested the Personnel Board consider using an average and the regional CPI which better reflects what is happening in New England. By a roll call vote, von Loesecke – aye, Minar – aye, McBee – aye, Maiore – aye, Sklar – aye, the board voted unanimously to approve the COLA increase for merit-based employees.

#### **Discuss process to add roadways for speed limits/update on thickly settled road criteria**

Tim Bragan spoke with resident Peter Dorward who has offered to assist with identifying intersecting roadways. Bragan will have an update at the next meeting. In addition, he reported Acting Police Chief James Babu will utilize more mobile speed signs and move the current signs that should be pole mounted to permanent locations. take what they have which should be pole mounted put them in permanent locations.

#### **Select Board Reports**

Alice von Loesecke spoke about the HES dedication ceremony held on Sunday. She said it was a wonderful opportunity to recognize all the volunteer and staff hours it took to complete this project.

Kara Minar reported the Transportation Advisory Committee is holding a public meeting tomorrow night on their planning processes.

Erin McBee reported the Personnel Board is rating positions submitted by the Planning Board and Board of Health.

Alice von Loesecke and Erin McBee are working on their goal to review the Select Board policies and procedures.

#### **Executive Session, per MGL Ch. 30A, s. 21(a)3**

By a roll call vote, Wallace –aye, Maiore – aye, Sklar – aye, Minar – aye, von Loesecke – aye, the board voted unanimously to enter into executive session at 9:30pm as per MGL 30A Sec. 21.3 To discuss strategy with respect to collective bargaining or litigation if an open meeting may have a detrimental effect on the government’s bargaining or litigating position. The Board will reconvene into open session only to adjourn.

The meeting was adjourned at 9:45pm.

#### **Documents referenced:**

Isotope Report – dated 11.1.2021  
Preservation Restriction Agreement – 11.16.2021  
Re-precincting information – dated 11.16.2021  
IAC recommendation – dated 11.4.2021  
Order of taking – dated 11.4.2021  
Climate resolution next steps – dated 11.16.2021



## Neighborhood Support Teams and Afghan Refugee Resettlement

The arrival of 60,000 Afghan evacuees in the US has created an unprecedented need for resettlement services. WelcomeNST and Ascentria Care Alliance have partnered to meet this need in Massachusetts, New Hampshire, and the greater New England areas by pioneering an innovative resettlement model built around the formation of Neighborhood Support Teams (NSTs).

Powered by the generosity of our communities, each NST is composed of 20-30 volunteers who welcome and support one Afghan family in their community under the guidance of an Ascentria case manager. Together, we are creating a sustainable, community-based, relationship-driven model of resettlement. We invite you to join us!

### Three Factors are Driving the Need for NSTs

#### **An Unprecedented Number of Afghan Refugees**

Following the US withdrawal from Afghanistan in August 2021, 60,000 Afghan people were evacuated from Afghanistan and moved to US military bases for resettlement in the US. As of late October 2021, 53,000 of these people remained on US military bases awaiting resettlement.

#### **A Downsized Resettlement Infrastructure**

In recent years—driven by political factors and the -19 pandemic—the US refugee resettlement infrastructure has been massively downsized. As a result, today, the social services agencies that have traditionally managed refugee resettlement cannot resettle Afghan refugees into communities fast enough to match the scale and urgency of the situation.

#### **A Historic Peak in Housing Costs**

This challenge has been made worse by the present shortage of affordable housing and increasing inflation in the United States. To bring more agility and scale into the resettlement process, social services agencies are turning to teams of volunteers, sometimes called Neighborhood Support Teams. This partnership between community-based volunteer teams and professional social services agency staff is dramatically accelerating and expanding the relocation of Afghan refugees in communities across the United States.

*Learn more at [www.welcomeNST.us](http://www.welcomeNST.us)*

## What is a Neighborhood Support Team (NST)?

A Neighborhood Support Team (NST) is a group of 20-30 people who engage the true power of community in the mission of refugee resettlement, enabling a refugee family to restart their lives in the US and become self-sufficient.

Each NST is composed of 20-30 volunteers who devote a total of approximately 40 hours per week for the first two months following the arrival of a refugee family in their community to address all aspects of the resettlement process, from securing housing and enrolling children in school to assisting in the job search process and supporting enrollment in English language training.

During this process, NST team members and their refugee family partners build relationships and friendships based on trust and mutual respect. This collaboration continues, typically for up to 6 months or a year, as the family's ongoing needs evolve and they become increasingly self-reliant.

## What do NSTs do?

NSTs play a vital role in welcoming and empowering new Afghan refugee families into their community and helping them build a new life in the United States. NSTs greet the family at the airport, welcome them into their new community and partner with the family to:

- Find housing for a family and prepare that housing with furniture and home goods before their arrival
- Connect the family with local services like medical, religious, food, daycare, education, home improvement, and public transportation resources
- Enroll children in local schools and adults in ESL classes as needed
- Find employment opportunities for adults and preparing them for US workplace environments
- Familiarize the family with US healthcare systems and help them find doctors and access healthcare services.
- Introduce the family to the US banking system and help them develop financial management and budgeting skills
- Provide transportation or familiarize the family with public transportation options as needed

## Take the Next Step: Form Your Own NST

Becoming an NST is a great responsibility that offers even greater rewards. Ascentria Care Alliance, our resettlement partner, delegates nearly all the tasks of resettling a family to our NSTs, so it represents both a significant commitment and a unique opportunity for all those who participate.

## Other Ways to Help

If forming an NST isn't in the cards, there are many other ways to help, from identifying housing opportunities, launching fundraisers, making donations, conducting gift card drives, offering employment opportunities, to providing legal assistance or interpretation services. **Learn more at [www.welcomeNST.us](http://www.welcomeNST.us)!**

**FINDINGS AND CONDITIONS RE:  
204 Ayer Road LLC – Owner Scott Patterson  
Wine & Malt General On-Premise Liquor License**

**Findings**

1. There is a public need in the Town to maintain the bowling alley business at which wine and malt may be purchased and consumed on premise.
2. The issuance of an on-premise wine and malt beverage license will allow the consumption of wine and malt beverages to be exercised at 204 Ayer Road, Harvard, Massachusetts, subject to the conditions and limitations set forth below, will protect the common good.

**Conditions**

1. The licensed premise is the entire 10,000 sq ft one story building.
2. Wine and malt beverages may be served between the hours of 12 P.M. and 9:30pm, Monday through Sunday.
3. All employees serving wine and malt beverages shall be 18 years or older and TIPS (Training and Intervention Procedures for Servers of Alcohol) certified. Pursuant to the licensee's policy, employees under 21 years who are serving wine and malt beverages shall be directly supervised by a manager, assistant manager or store clerk who is at least 21 years old.
4. A Fire Safety Certificate issued by the Fire Chief prior to wine and malt beverages being served.
5. Alcoholic beverages may not be sold and the license shall not be issued until written evidence has been received from the Board of Health and Building Inspector-Zoning Enforcement Officer that all requirements have been met.



## **Climate Resiliency Action Committee**

In accordance with the Climate Resolution (Article 18 of the October 16, 2021 Town Meeting), submitted by the Climate Resiliency Working Group and the Energy Advisory Committee and passed by Town Meeting, the Select Board endorses the need to address climate issues and takes the following action to start that process. The Harvard Select Board, in an effort to establish the means by which this resolution will be achieved hereby creates the Climate Resiliency Advisory Committee and it is our intent that this group will be responsible for the following:

- Creating a baseline, to be approved by the Select Board, by which the Town can compare its successes and determine where it needs additional work;
- Assist the Board and Town in developing a Climate Resiliency Plan that will help guide the Town in assisting the Commonwealth of Massachusetts in meeting greenhouse gas emissions goals by 2050;
- Developing a set of guidelines/metrics, with input from Departments, Boards, and Committees, to be discussed and approved by the Select Board, for Departments, Boards, and Committees to use in evaluating and mitigating the potential negative impacts of climate change associated with purchases, public projects, planning processes, and policies;
- Work with Departments, Boards, and Committees to recommend changes to Town practices, policies, and procedures in order to mitigate the impacts on climate change;
- Provide guidance for entities seeking input on climate initiatives they wish to undertake.
- Identify private, State, and Federal funding sources that could be used to assist in funding proposed climate initiatives programs;
- Provide a means through which the Town can coordinate the work of Town boards, committees, commissions, and other entities to plan and respond to climate change issues
- Provide semi-annual updates to the Select Board on the Committee's progress towards establishing the guidelines through which to accomplish the climate goals and initiatives;
- Annually evaluate the success of this initiative and make recommendations for needed changes.

### **Mission Statement:**

To advise all town boards, departments and institutions on a full range of ways to reduce their impact on climate change, and improve guidelines through which the Town can act in meaningful ways to achieve these goals. The committee will focus its efforts on a wide range of climate initiatives that will have an impact on buildings, vehicles and equipment.

### **The Committee:**

The Climate Resiliency Action Committee will consist of seven members who are appointed initially to 3-year, 2-year, and 1-year staggered terms and then appointed to three- year terms after the initial appointment. There will be 2 Associate Members who will be appointed to 1-year terms annually. The associate member may participate in meeting discussions but will not have voting rights unless they are needed to make a quorum.



# TOWN OF HARVARD

## VOLUNTEER APPLICATION (12/02/2008)



Thank you for your interest in serving the town of Harvard. Please complete this application to be kept informed of volunteer opportunities and/or to apply for a specific position or fill a vacancy when one occurs. You may be also be contacted based on your stated areas of interest for other opportunities to volunteer. Your application will be kept on file for 3 years.

**Date of Application:** Nov 18, 2021

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### Applicant Information:

**Name:** John Mark Walker

**Address:** 20 Graniteview Lane

**Home/Work Phone #** [REDACTED]

**Mobile Phone#** [REDACTED]

**Email Address:** [REDACTED]

### Indicate below which Board(s) or Committee(s) are of interest to you:

Municipal Affordable Housing Trust & Community Preservation Committee

**Have you previously been a member of a Board, Committee or Commission** (either in Harvard or elsewhere)? If so, please list the Board name and your approximate dates of service:  
Community Preservation Committee - 2018 - 2019

**Do you have any time restrictions?** YES  NO

**Are you a registered voter?** YES  NO

**Please list your present occupation and employer** (you may also attach your résumé or CV)

Director of Technology Management, Fannie Mae

**Do you, your spouse, or your employer have any current or potential business relationship with the Town of Harvard that could create a conflict of interest?** (If YES, please describe the possible conflict) NO

**Please outline any education, special training or other areas of interest you have that may be relevant to the appointment sought.**

I have always thought that housing policy is one of the biggest contributors to the sustainability of the Town of Harvard - or any town. I intend to serve the MAHT with the intent of securing our town's future and preserving Harvard's place as a wonderful home for anyone.

Received by Town of Harvard

Return to: Town Of Harvard, 13 Ayer Road, Harvard MA 01451 or email [jdoucet@harvard.ma.us](mailto:jdoucet@harvard.ma.us)