



TOWN OF LAKEVILLE
Town Administrator's Office

346 Bedford Street
Lakeville, MA 02347
(508) 946-8803

June 21, 2022

TO: Lakeville Select Board

FROM: Ari J. Sky, Town Administrator

SUBJECT: Town Facilities Water Study

At its December 13, 2021, meeting the Select Board designated \$14,800 in American Rescue Plan Act (ARPA) proceeds to study the provision of water services at Clear Pond Park, John Paun Park, Ted Williams Camp, the Police Station and the Historic Library. The project was subsequently extended to include the Old Town Hall. As one of the Town's Owners Project Managers (OPM), Environmental Partners was designated to conduct the study.

Environmental Partners has identified a number of areas where resources could be utilized to address water delivery issues at these facilities. Environmental Partners estimates that the first phase of recommendations, which would address issues at John Paun Park, Ted Williams Camp, the Police Station, Historic Library, and Old Town Hall, would total between \$239,300 and \$600,300, depending on determinations regarding the feasibility of a restroom facility to serve the Old Town Hall.

A copy of the report is attached, and representatives of the firm will attend the June 27th Select Board meeting to present their findings. As a water infrastructure project, the entire project would be eligible for assignment to the Town's ARPA proceeds; funds awarded through Plymouth County, which total \$544,555 to date, would be a reasonable candidate. I would respectfully request that the Select Board authorize staff to draft a grant agreement with Plymouth County to access the Town's allocation; a copy of Plymouth County's model agreement is attached.

Thank you for your consideration.

Attachments

MEMORANDUM

Date: June 22, 2022

To Ari Sky, Town Administrator

From Paul Millett, PE

CC Nathan Darling, Lakeville Building Commissioner

Franklin Moniz, Lakeville Department of Public Works Director

Ryan Trahan, PE, Environmental Partners

Sabrina Castaneda, Environmental Partners

Subject Water Feasibility Study at Town Facilities

Background

Environmental Partners is under contract with the Town to conduct a water feasibility study at several locations within the Town. The locations under consideration are Clear Pond Park, John Paun Park, Ted Williams Camp, the Police Station, and the Historic Library. Upon further discussion, the Town requested that the Old Town Hall be included in the areas of interest. A map of the project sites is shown below in Figure 1.

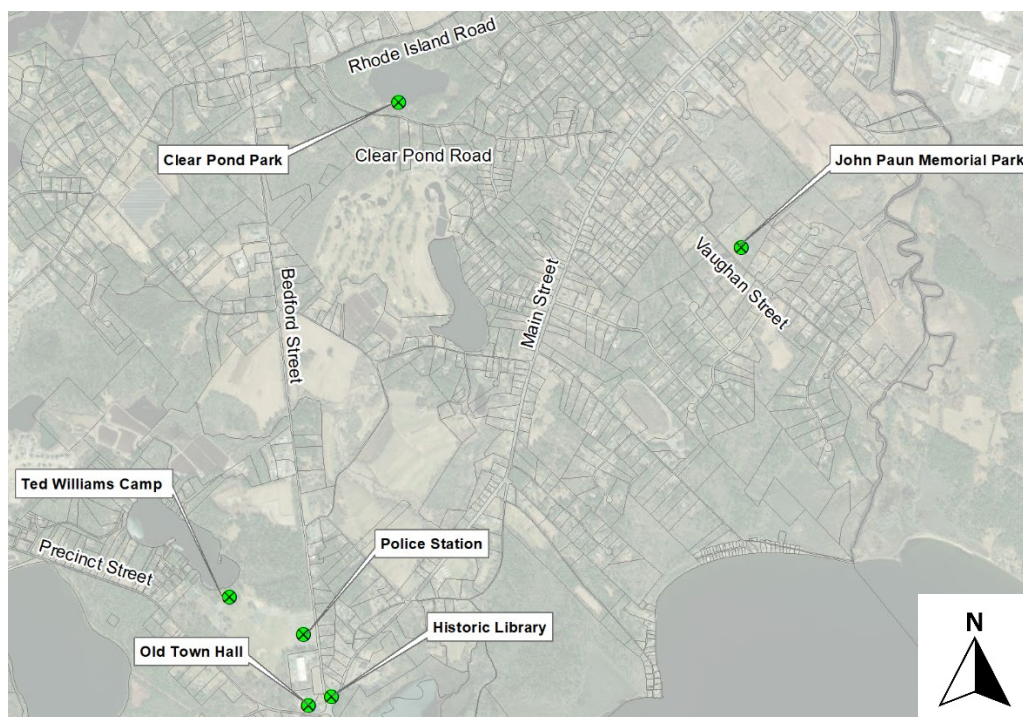


Figure 1 – Project Areas Locus Map

The feasibility study included assessing the current layout of the system at each location, evaluating improvement alternatives, and providing recommendations based on the findings. Environmental Partners evaluated alternatives at each site, and identified site-specific solutions that are discussed in this memorandum.

In January of 2022, Environmental Partners conducted a site visit to verify existing conditions and to supplement information previously provided by the Town. This information was reviewed with the Town in February of 2022 to confirm Environmental Partners' findings and assumptions. Based on these investigations and discussions, Environmental Partners developed figures to illustrate the various alternatives at each site. These figures were then used to develop a preliminary cost estimate for each of the alternatives presented in this study. In March of 2022, Environmental Partners met with the Town to discuss a draft form of our evaluation. Based on that meeting, Environmental Partners refined the alternatives and developed recommendations.

Clear Pond Park

Existing Conditions

Clear Pond Park is located directly southeast of the intersection of Rhode Island Road and Clear Pond Road, with access off Clear Pond Road. The park is seasonal, open to the public only during the summer months. The park contains a small well pump enclosure, a concession stand, and a bathroom/bathing area. All the water in the park is supplied by a groundwater well, and there is a septic system on site. The groundwater well pump is housed within a small wooden enclosure next to the concessions stand. Once Clear Pond Park closes for the season, the pump is removed and the valves are winterized.

Clear Pond Park experiences notable changes in topography and ground cover, both of which were considered when evaluating alternatives. The area of the park frequented by the public is a mix of pond beachfront and grass. The remainder of the parcel is heavily wooded.

Proposed Alternatives

Environmental Partners evaluated two different approaches to supplying water to Clear Pond Park, focusing on providing the park with potable water while also considering any future expansion the Town may want to consider. Both solutions involve connecting to the existing Taunton water system and connecting to the existing distribution piping on site. Site survey and borings will be required for the final design of either option. The following alternatives were evaluated:

- New Water Main Installation – Off Road/Cross Country
- New Water Main Installation – Clear Pond Road Shoulder

New Water Main Installation – Off Road/Cross Country

Environmental Partners evaluated installing a new water main through the wooded area to the west of Clear Pond. This alternative would include installing approximately 1,700 feet of 4-inch DI water main within the woods via open trench excavation. Due to the proposed alignment's topography, significant clearing and grading would be required.

The intersection of Clear Pond Road and Rhode Island Road has an elevation of approximately 98 feet (NAVD88). The hilly, wooded area to the west of the pond rises to an elevation of 108 feet before falling to 78 feet at the beachfront. The pipe would be installed 5 feet below grade. This change in elevation would increase the complexity of the water main construction, with challenging grading along the water main alignment. In addition, this area is mapped as a habitat for rare species and habitat, and the clearing of any previously undisturbed area may not be allowed by Natural Heritage and Endangered Species (NHESP) permitting requirements. The majority of this work would take place off-road, minimizing disruption to the public. Due to the size of the proposed main, there will be limited opportunities for future expansion of the system.

The proposed connection would begin at the intersection of Rhode Island Road and Clear Pond Road, where a tapping sleeve and valve would be used to connect to the existing 16" Taunton water main. From that intersection, the water main would travel through the wooded area and eventually tie-in to the existing water pipes that supply the bathroom and concession stand.

New Water Main Installation – Clear Pond Road Shoulder

Environmental Partners evaluated installing a new water main along Clear Pond Road before connecting to the existing piping at Clear Pond Park. This alternative would include approximately 1,680 feet of 12-inch DI water main and 120 feet of 4-inch DI water main installed along the shoulder of Clear Pond Road via open trench excavation. A 12-inch main would provide sufficient flow for demand at the park, provide some fire flow capacity, and provide flexibility for future expansion.

The intersection of Clear Pond Road and Rhode Island Road has an elevation of approximately 98 feet, and over the course of the 1,800-foot run, the surface elevation drops approximately 20 feet. As construction would take place just outside the paved surface, there are minimal concerns of

sudden change in grade. Installing the main within the unpaved shoulder of Clear Pond Road also minimizes disruption to traffic and limits pavement restoration.

The proposed connection would begin at the intersection of Rhode Island Road and Clear Pond Road, where a tapping sleeve would be used to connect to the existing Taunton water main. From that intersection, the water main would travel along Clear Pond Road until the entrance of Clear Pond Park. In order to serve Clear Pond Park, a 2-inch or 4-inch service would be run from the 12-inch DI main to the existing water lines that feed into the bathroom and concession stand. Both alternatives are shown below in Figure 2.

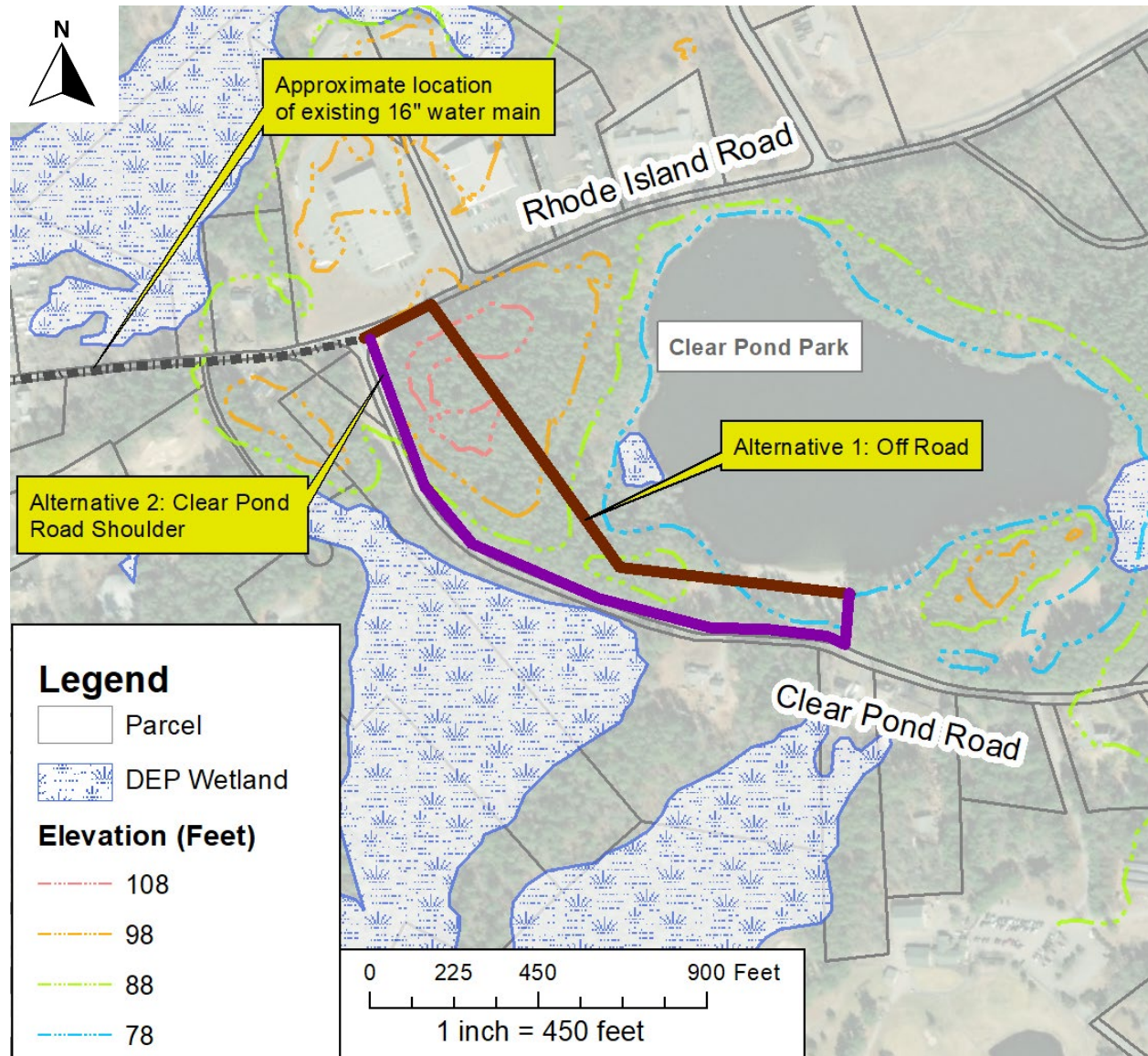


Figure 2 – Clear Pond Park Alternatives

Due to proximity to wetlands, Alternative 2 would require a Notice of Intent filing whereby the design would be presented to the Lakeville Conservation Commission and submitted to MassDEP for review and approval. As is currently shown, Alternative 1 would not require any wetland

permitting. The area surrounding Clear Pond Park is considered a Priority Habitat of Rare Species (#562) and an Estimated Habitat of Rare Wildlife (#457). As a result, a permit filing will also have to be done under the Massachusetts Endangered Species Act (MESA). Environmental protections will have to be installed during construction, and additional precautionary measures may be required as a result of the permitting decisions.

Budgetary Costs

The itemized cost estimate for this site can be found in Attachment 1. The cost includes construction costs, engineering costs of 15%, a resident project representative cost of 5%, and a 20% allowance for contingency.

Table 1 – Clear Pond Park Opinion of Probable Cost

Alternative	Total Cost
Off Road/Cross Country Installation	\$455,000
Clear Pond Road Shoulder Installation	\$540,000

John Paun Memorial Park

Existing Conditions

John Paun Memorial Park is recreational park located off of Vaughn Street that contains several baseball and softball fields. Due to the lack of potable water on site, the Town is currently using a temporary 0.5-inch pipe to supply water to a toilet trailer. This pipe is fed from an existing irrigation well on site. The Town is looking to supply potable water to the site for bathrooms and a concession stand.

John Paun Park abuts a wooded area to the west, with the rest of the site being a mix of grass and asphalt paths for vehicles. The closest known source of potable water is on Wood's Edge Road, a residential road located to the west of the wooded area.

Proposed Alternatives

Environmental Partners evaluated two different approaches to bringing water to John Paun Memorial Park. They are as follows:

- Blueberry Drive Using Directional Drilling
- Installation of Groundwater Well for Potable Water
- Conversion of Existing Well for Potable Well and Installation of Irrigation Well

Blueberry Drive Using Directional Drilling

Environmental Partners evaluated directionally drilling a water main from Blueberry Drive to John Paun Memorial Park. A 4-inch main would be adequate to supply the park with potable water. This alternative would include approximately 300 feet of horizontally directionally drilled HDPE water main and 50 feet of new DI water main installed via open trench methods. Borings and site survey would need to be performed prior to the design for either option. Directional drilling was selected as the preferred installation method for a portion of this water main to avoid having to cut and clear a

path through the wooded area. Directional drilling will allow the construction work to cause minimal disturbance in a residential area. A potential complication for this approach is procuring an access agreement for Blueberry Drive. The road is privately owned, and acquiring an agreement or easement for construction will require negotiation.

The connection would begin at the corner of Blueberry Drive, where a tapping sleeve would be used to tie-in to the existing main. From there, the proposed main would be directionally drilled underneath the wooded area between Blueberry Drive and John Paun Memorial Park. The directionally drilled pipe would transition to new, water main installed via open trenching, eventually terminating at the existing building on site. Once installed, the proposed main could be tapped to provide service connections to the bathrooms and a concession stand.

Installation of Groundwater Well for Potable Water

Environmental Partners evaluated installing a dedicated groundwater well on site to bring potable water to the park. This approach would involve the drilling of a groundwater well and installation of a service to the existing building. The Town would be required to monitor the new well and comply with MassDEP requirements. Site exploration work and a pumping test would have to be completed before a new well could be installed, subject to MassDEP review and approval. The well could be placed anywhere on site where the Town sees fit, and it is displayed below in Figure 3 along with Alternative 1 in one of several potential locations. The long term operation and maintenance costs of supplying potable water needs to be considered since a certified operator would need to maintain and sample the well in accordance with MassDEP requirements. In addition to being more costly, the operation, maintenance, certification and liability of this alternative is more complex than extending Taunton water to the site.

Conversion of Existing Well for Potable Well and Installation of Irrigation Well

Environmental Partners evaluated the conversion of the existing groundwater well on site to a potable water well. To pursue this alternative, the Town would be required to take water quality samples from the existing well. If the water is of suitable quality, the Town could take steps to convert the existing irrigation well to a potable water well. Similar to the second alternative, a pumping test and DEP approval would be required before the well could become active, and the long term operation and maintenance costs of supplying potable water would need to be considered. Using the existing well could potentially save money compared to the cost of new well exploration and construction.

To replace the converted well, Environmental Partners evaluated the installation of a new irrigation well within John Paun Memorial Park. This alternative would provide the Town with a continued source of irrigation water at this location. Prior to drilling a new irrigation well, on site investigations would have to be conducted to determine if the site is a suitable location for a new irrigation well.

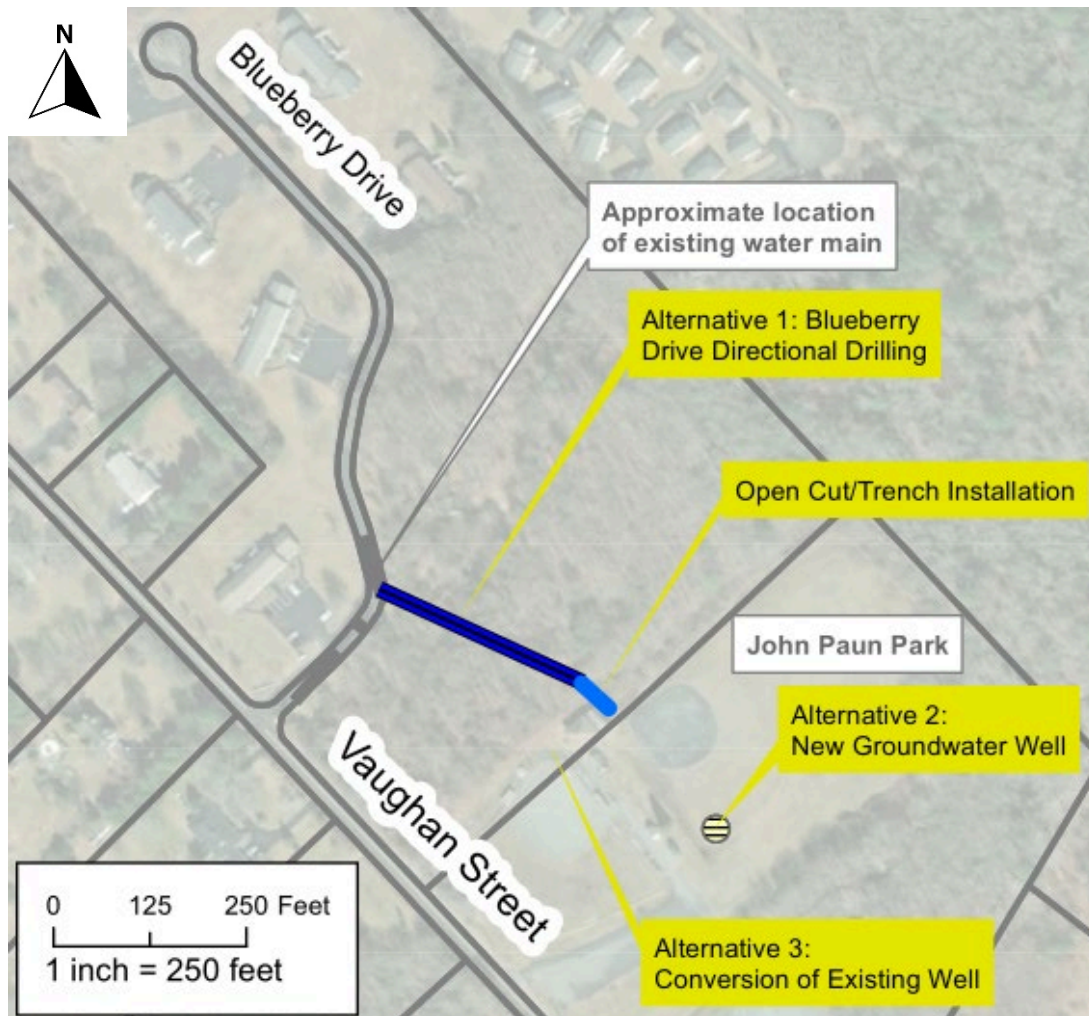


Figure 3 – John Paun Memorial Park Alternatives

Budgetary Costs

The itemized cost estimate for this site can be found in Attachment 1. The cost includes construction costs, engineering costs of 15%, a resident project representative cost of 5%, and a 20% allowance for contingency.

Table 2 – John Paun Memorial Park Opinion of Probable Cost

Alternative	Total Cost
Blueberry Drive Using Directional Drilling and Open Cut Trench	\$113,000
Installation of Groundwater Well for Potable Water	\$152,000
Conversion of Existing Well for Groundwater Well and Installation of Irrigation Well	\$66,000

Ted Williams Camp

Existing Conditions

Ted Williams Camp is a recreational park located between Bedford Street and Precinct Street and below Loon Pond. The park contains a karate studio, baseball/softball fields, soccer fields, volleyball courts, horseshoe courts, recreation space for Town residents and the Loon Pond Lodge. There are both potable and irrigation water distributed throughout the site, and the Town would prefer that all facilities and taps within Ted Williams Camp are served with potable water. The Town would also prefer to keep the irrigation system separate and clearly marked.

The nearest active potable water main is a branch that runs off Precinct Street and up the Ted Williams Camp access road. This pipe currently serves a hydrant located near the Loon Pond Lodge and branches into a 2-inch main that serves the Lakeville Martial Arts Club. The irrigation line serves several spigots near the horseshoe and volleyball courts, as well as a stand-alone bathroom across from the Loon Pond Lodge. Another 2-inch main runs from the Ted Williams Camp Pump House to a small office building next to the Loon Pond Lodge. The existing pump house is approximately 16'x24' and extends 3 feet below grade. The Town would prefer to reroute the existing 2-inch main around the existing pump house and then demolish the building.

Proposed Improvements

Based on the Town's request, Environmental Partners explored several improvements that could be implemented at Ted Williams Camp. The improvements are as follows:

- Connect to Existing Stand-Alone Bathroom
- Isolate Irrigation System Spigots
- Reroute Existing 2-Inch Main and Demolish Existing Well House

Connect to Existing Stand-Alone Bathroom

There is a bathroom across from the Loon Pond Lodge that is currently supplied by irrigation water. By connecting to the nearby existing Taunton water main, the Town can use potable water for the bathroom, increasing safety and hygiene and allowing for effective seasonal use. Connecting into the existing main would require the installation of a 1-inch tap, 100 feet of 1-inch service tubing, a 1-inch corporation stop, and a meter pit to meter water use and allow for winterizing the bathrooms. The Town may want to consider installing a 2-inch service to reduce pressure drop (headloss), and reduce the service size to a 1-inch pipe closer to the building. Prior to construction, the location of the existing 2-inch main will have to be confirmed via test pits since the existing records of the pipes were not sufficiently detailed.

Isolate Irrigation System Spigots

There are several irrigation spigots near the volleyball courts and horseshoe courts that the Town would like to secure and isolate to avoid potential use by park visitors. Environmental Partners suggests purchasing and installing a box with locking cover for each of the spigots, thereby limiting access to only appropriate parties. In addition, signs explaining that the water is not potable will caution visitors and should be hung or engraved on the cover of each box. DPW or Park staff could assist with the installation of the shallow boxes and covers.

Reroute Existing 2-Inch Main and Demolish Existing Pump House

The pump house near Ted Williams Camp was erected a number of years ago, and it originally served to house equipment and treatment processes for the existing 2-inch main and a well. In more recent years, the Town has erected a new pump house and well in another location, rendering the old pump house redundant.

In order to demolish the existing pump house, the active 2-inch main that runs through it would have to be rerouted. Based on the information Environmental Partners was provided about the location of the existing main, the existing main could be rerouted around the pump house with 150 feet of 2-inch water main. Once the water main is rerouted, the existing building can be demolished. Additional investigation may be required to ensure no hazardous materials are present prior to demolition.

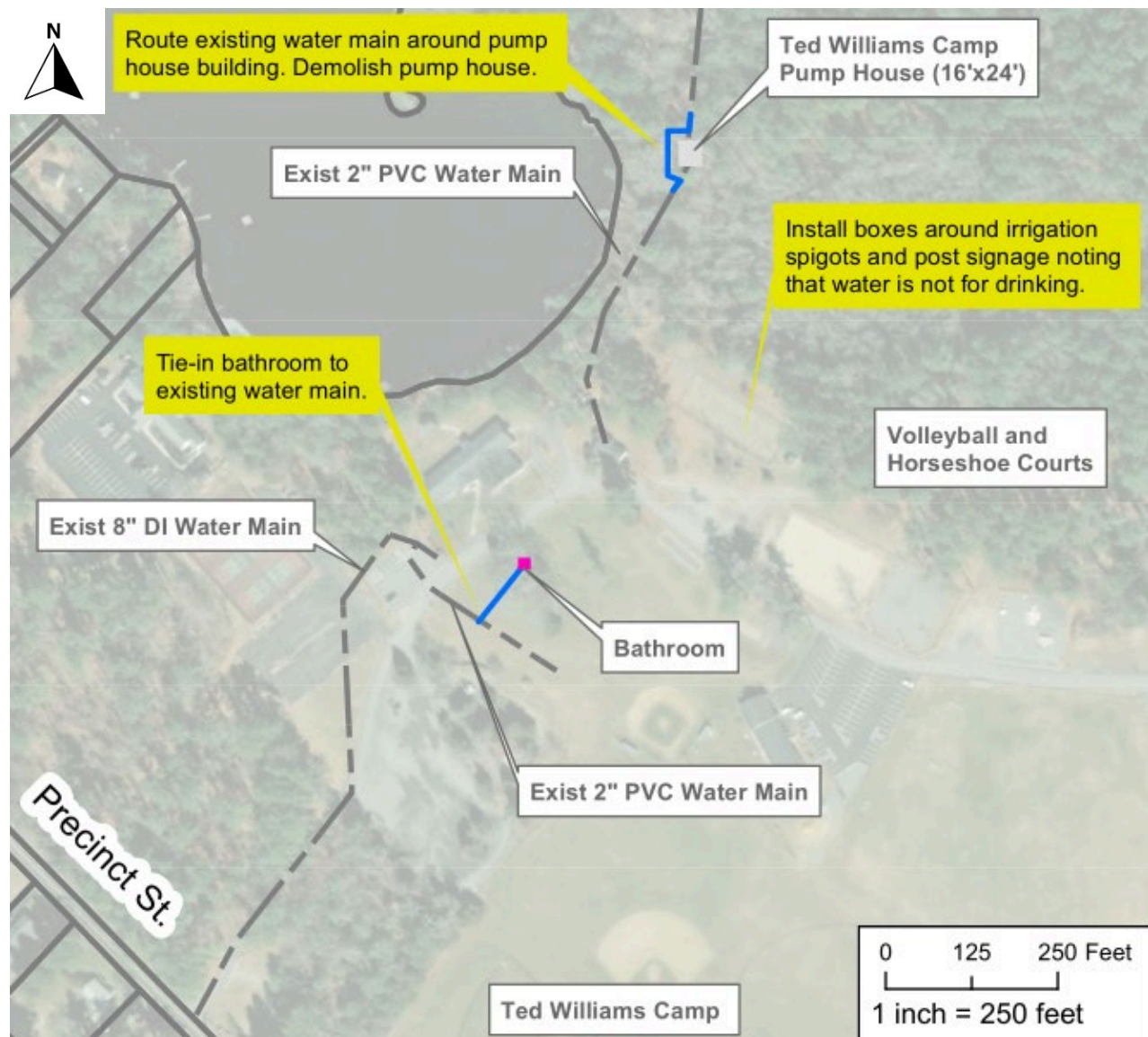


Figure 4 – Ted Williams Camp Improvements

Budgetary Costs

The itemized cost estimate for this site can be found in Attachment 1. The cost includes construction costs, engineering costs of 15%, a resident project representative cost of 5%, and a 20% allowance for contingency.

Table 3 – Ted Williams Camp Opinion of Probable Cost

Alternative	Total Cost
Connect to Existing Stand-Alone Bathroom	\$8,100
Isolate Irrigation System Spigots	\$2,900
Reroute Existing 2-Inch Main and Demolish Existing Pump House	\$47,000

Police Station, Historic Library, and Old Town Hall

Existing Conditions

The Lakeville Police Department, Historic Library, and Old Town Hall are all located in close proximity to each other along Bedford Street and Precinct Street. Both the Historic Library and the police station are serviced by Taunton water for potable and irrigation water. The Old Town Hall is supplied by Taunton water for irrigation only. Due to irrigation costs, the Town would prefer to move the Historic Library and Police Station off the Taunton irrigation water supply. The Town would also prefer to connect Old Town Hall to Taunton drinking water for flexibility with adding future bathrooms.

These locations are adjacent to both the Taunton water and the irrigation well piping from Ted Williams. There is an existing Taunton water main that runs along Bedford Street, providing the potential for a potable water connection. The Ted Williams Camp irrigation system also runs close to the Lakeville Police Station.

Proposed Alternatives and Improvements

Based on the Town's request, Environmental Partners explored improvements at each of these locations. The evaluated improvements are as follows:

- Police Station Improvement– Install Irrigation Well
- Historic Library Improvement – Install Irrigation Well; Investigate Existing Well
- Old Town Hall Improvement – Water Service Connection and Septic Installation
- Old Town Hall Improvement – Internal or External Restroom

Police Station Improvement – Install Irrigation Well

Environmental Partners evaluated the installation of an irrigation well on site to supply the Lakeville Police Station with its own source of irrigation water. This approach would allow the Town to save money on irrigation costs. Prior to drilling a new irrigation well, on site investigations would have to be conducted to determine if the site is a suitable location for a well. Once the well is drilled, it can be connected into the existing irrigation piping on site.

After discussion with the Town, it was determined that the option of connecting to the existing Ted Williams Camp irrigation system would not be explored, as this would likely place excessive stress on the existing irrigation system.

Historic Library Improvement – Install Irrigation Well; Investigate Existing Well

Environmental Partners evaluated the installation of an irrigation well on the Historic Library property. This approach would provide the Town with a less expensive way to supply irrigation to the Historic Library. Prior to drilling a new irrigation well, on site investigations would have to be conducted to determine if the site is a suitable location for a well. While conducting the site investigations, the Town may consider evaluating the existing groundwater well on site to see if it can be used for irrigation.

Old Town Hall Improvement – Water Service Connection and Septic Installation

Environmental Partners evaluated the connection of the Old Town Hall to the active Taunton water main along Bedford Street. A service tap could be installed in the existing main, from which approximately 100 feet of service pipe would be installed to bring potable water to Old Town Hall. In addition, Environmental Partners evaluated the cost of installing a septic system on site. This approach would provide the Town with the option to construct bathrooms within the Old Town Hall and provide public amenities.

Old Town Hall Improvement – Internal or External Restroom

Environmental Partners evaluated the construction of a restroom within the existing Old Town Hall building and the construction of a freestanding structure outside. Both options would make use of the proposed septic system.

The internal restroom would require renovation of the existing building, and this would likely trigger permitting with the Historical Commission for approval. In addition, an assessment of the building codes would have to be conducted in order to determine the scope of internal work that would need to be performed to install this restroom.

The proposed external building would be a pre-cast concrete restroom that would be placed on site. The proposed external building would have a finished veneer to match surrounding buildings and would come fully equipped with appurtenances, insulation, and electrical systems. An ADA compliant ramp and walkway would also be installed. This alternative would be more expensive, but it will not require construction within the existing Old Town Hall and would be easier to install.

Figure 5 below shows the various improvement alternatives.

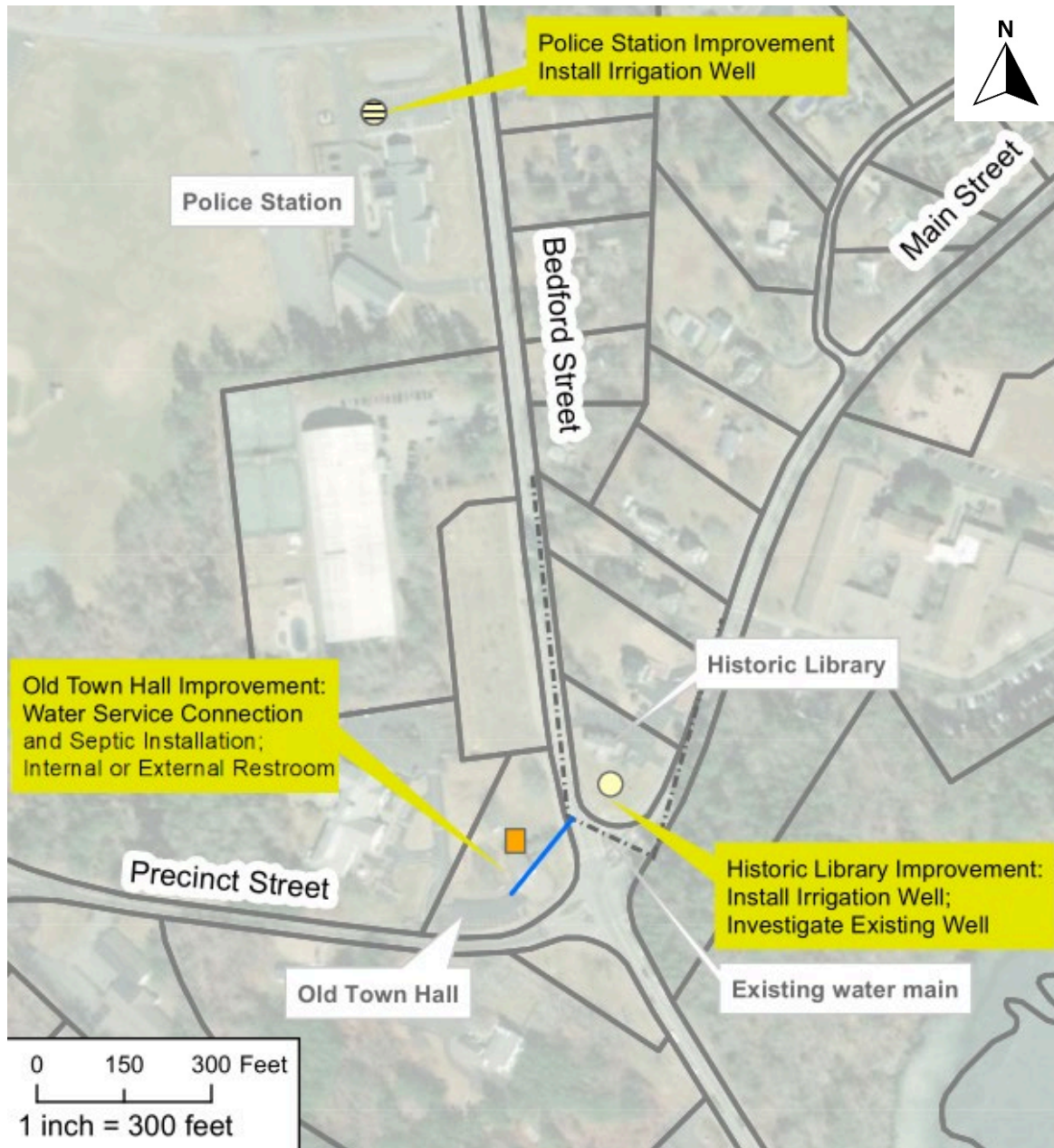


Figure 5 – Police Station, Historic Library, and Old Town Hall Improvements

Budgetary Costs

The itemized cost estimate for this site can be found in Attachment 1. The cost includes construction costs, engineering costs of 15%, a resident project representative cost of 5%, and a 20% allowance for contingency.

Table 4 – Police Station, Historic Library, and Old Town Hall
Opinion of Probable Cost

Alternative	Total Cost
Police Station Improvement – Install Irrigation Well	\$22,050
Historic Library Improvement – Install Irrigation Well; Investigate Existing Well	\$22,050
Old Town Hall Improvement – Water Service Connection and Septic Installation	\$71,100
Old Town Hall Improvement – Internal Restroom	\$70,500
Old Town Hall Improvement – External Restroom	\$361,000

Recommendations

Based on discussion with the Town and the evaluations outlined above, Environmental Partners recommends the following alternatives and improvements:

Clear Pond Park

Environmental Partners recommends that the Town defer moving forward with construction at Clear Pond Park until outstanding policies involving nearby development are resolved and the bidding environment stabilizes. Once the Town is prepared to move forward, Environmental Partners recommends that the Town install a new water main along the soft shoulder of Clear Pond Road, and tie into Clear Pond Park. Installing the water main alongside an existing road will minimize the grading issues the cross country path would have led to. In addition, the required DEP and MESA permits will be simpler to acquire, as the water main would be installed within an already disturbed area.

John Paun Memorial Park

Environmental Partners recommends that the Town investigate the potential to repurpose the existing groundwater well on site. If the Town's water quality samples indicate that the water is suitable, the existing irrigation well could be converted into a potable water well. A new groundwater well could then be drilled for irrigation needs. While this option is being explored, the Town has the option to use pre-packaged food and bottles of water in the concession stand, as well as porta-johns in lieu of traditional bathrooms.

Ted Williams Camp

Environmental Partners recommends that the Town perform the three suggested improvements at Ted Williams Camp. Connecting the existing bathroom to potable water will increase safety and hygiene, as well as allow for seasonal use of the bathroom. Isolating the irrigation valves will prevent public use of irrigation water. Rerouting the existing 2" water main will allow for the demolition and removal of a pump house that is no longer in use.

Police Station, Historic Library, and Old Town Hall

Environmental Partners recommends that the Town perform the suggested improvements at the Police Station, Historic Library, and Old Town Hall. Installing a new irrigation would provide the Town with a way to reduce irrigation costs at the Police Station, and this approach does not put any further strain on the existing irrigation system at the Ted Williams Camp. Similar to the Police Station, installing a new irrigation well on site would provide the Town with a less expensive alternative than using Taunton water for irrigation. There is an existing groundwater well on site that they Town may look into repurposing for irrigation of the Historic Library. Finally, providing the Old Town Hall with water and septic services would increase the amenities on site. The septic system would provide the Town with the infrastructure needed to construct public bathrooms on site.

In light of potential complications and space constraints within the existing Old Town Hall, Environmental Partners recommends that the Town move forward with the external restroom. This will have no construction impact on the Old Town Hall itself and will likely require less permitting.

Budgetary Cost of Recommendations

Table 5 – Budgetary Cost of Recommendations

Recommendation	Phase 1 Cost	Phase 2 Cost
Clear Pond Park		
Clear Pond Park - Clear Pond Road Installation		\$540,000
John Paun Memorial Park		
Conversion of Existing Well for Groundwater Well and Installation of Irrigation Well	\$66,000	
Ted Williams Camp		
Connect to Existing Stand-Alone Bathroom	\$8,100	
Isolate Irrigation System Spigots	\$2,900	
Reroute Existing 2-Inch Main and Demolish Existing Pump House	\$47,000	
Police Station, Historic Library, and Old Town Hall		
Police Station Improvement – Install Irrigation Well	\$22,100	
Historic Library Improvement – Install Irrigation Well; Investigate Existing Well	\$22,100	
Old Town Hall Improvement – Water Service Connection and Septic Installation	\$71,100	
Old Town Hall Improvement – External Restroom*	\$361,000	
Total Budgetary Cost of Recommendations	\$600,300	\$540,000

*The cost to build an internal restroom is approximately \$70,500. This cost may increase if further investigations of existing conditions are conducted and reveal the need for additional work.

Phase 1 projects are those that Environmental Partners recommends the Town pursue within the next year, and the Phase 2 project can be implemented at a later date.

Piping work and paving work should be combined to the extent possible at all sites to obtain favorable bids.

The ability to manufacture typical construction materials has been impacted by many factors ranging from international trade restrictions, the COVID-19 pandemic, and labor/raw material shortages, which have led to significantly increased costs and lead times. The inability to obtain standard construction materials within a reasonable timeframe must be considered when considering future work. All costs provided are based on the most current information and include contingency.

Clear Pond Park

Description	Units	Quantities	Unit Price	Extended Amount
Off Road/Cross Country Installation				
Mobilization & Demobilization (5%)	ls	1	\$14,617	\$14,617
4-inch DI, CL 52 Pipe	lf	1,700	\$125	\$212,500
4-inch Gate Valve and Boxes	ea	3	\$1,500	\$4,500
16"x4" Tapping Sleeve	ea	1	\$10,000	\$10,000
Ductile Iron Fittings	lb	1,000	\$2	\$2,000
Hydrant	ea	3	\$5,000	\$15,000
Clearing	sf	1,667	\$25	\$41,667
Restoration	sf	1,667	\$4	\$6,667
Filter Sock	lf	1,800	\$10	\$18,000
Subtotal				\$324,950
Contingency (20%)				\$64,990
Resident Project Representative (5%)				\$16,248
Engineering (15%)				\$48,743
Total				\$454,930
Clear Pond Road Shoulder Installation				
Mobilization & Demobilization (5%)				\$14,400
12-inch DI, CL52 Pipe	lf	1,680	\$150	\$252,000
4-inch DI, CL 52 Pipe	lf	120	\$125	\$15,000
12" Gate Valve and Boxes	ea.	3	\$3,000	\$9,000
16"x12" Tapping Sleeve	ea.	1	\$10,000	\$10,000
Ductile Iron Fittings	lb	1,000	\$2	\$2,000
Hydrant	ea	5	\$5,000	\$25,000
Filter Sock	lf	1,900	\$10	\$19,000
Soft Shoulder Restoration	sy	560	\$15	\$8,400
Pavement Restoration Work	ls	1	\$30,000	\$30,000
Subtotal				\$384,800
Contingency (20%)				\$76,960
Resident Project Representative (5%)				\$19,240
Engineering (15%)				\$57,720
Total				\$538,720

John Paun Memorial Park

Description	Units	Quantities	Unit Price	Extended Amount
New Water Main Installation – Blueberry Drive Using Directional Drilling				
Mobilization & Demobilization (5%)	ls	1	\$3,838	\$3,838
4-inch, Fused HDPE Pipe	lf	300	\$200	\$60,000
4-inch, DI Pipe	lf	50	\$125	\$6,250
4-inch Gate Valve and Boxes	ea	3	\$1,500	\$4,500
DI Fittings	lb	300	\$2	\$600
12"x4" Tapping Sleeve	ea	1	\$5,000	\$5,000
Landscape Restoration	sy	100	\$4	\$400
Subtotal				\$80,588
Contingency (20%)				\$16,118
Resident Project Representative (5%)				\$4,029
Engineering (15%)				\$12,088
Total				\$112,823
Installation of Groundwater Well for Potable Water				
Mobilization & Demobilization (5%)	ls	1	\$3,000	\$3,000
4" Groundwater Well Exploration	ea	1	\$15,000	\$15,000
DEP Testing and Approval	ls	1	\$30,000	\$30,000
4" Groundwater Well Installation	ea	1	\$40,000	\$60,000
Subtotal				\$108,000
Contingency (20%)				\$21,600
Resident Project Representative (5%)				\$5,400
Engineering (15%)				\$16,200
Total				\$151,200
Conversion of Existing Well for Groundwater Well and Installation of Irrigation Well				
Mobilization & Demobilization (5%)	ls	1	\$1,500	\$1,500
Conversion of Irrigation Well	Allow	1	\$30,000	\$30,000
2" Irrigation Well	ea	1	\$15,000	\$15,000
Subtotal				\$46,500
Contingency (20%)				\$9,300
Resident Project Representative (5%)				\$2,325
Engineering (15%)				\$6,975
Total				\$65,100

Ted Williams Camp

Description	Units	Quantities	Unit Price	Extended Amount
Connect to Existing Stand-Alone Bathroom				
Mobilization & Demobilization (5%)	ls	1	\$150	\$150
1-inch PE Water Service Tubing	lf	100	\$30	\$3,000
1-inch Corporation	ea	1	\$1,300	\$1,300
1-inch Curb Stop	ea	1	\$1,300	\$1,300
Subtotal				\$5,750
Contingency (20%)				\$1,150
Resident Project Representative (5%)				\$288
Engineering (15%)				\$863
Total				\$8,050
Isolate Irrigation System Spigots				
Mobilization & Demobilization (5%)	ls	1	\$50	\$50
Irrigation Spigot Cover Boxes	ea.	5	\$200	\$1,000
Signage	ls	1	\$1,300	\$1,300
Subtotal				\$2,350
Contingency (20%)				\$470
Total				\$2,820
Reroute Existing 2-Inch Main and Demolish Existing Pump House				
Mobilization & Demobilization (5%)	ls	1	\$300	\$300
2-inch PE Water Service Tubing	lf	150	\$40	\$6,000
Landscape Restoration	sy	50	\$4	\$200
Demolish Pump House	sf	384	\$70	\$26,880
Subtotal				\$33,380
Contingency (20%)				\$6,676
Resident Project Representative (5%)				\$1,669
Engineering (15%)				\$5,007
Total				\$46,732

Police Station, Historic Library, and Old Town Hall

Description	Units	Quantities	Unit Price	Extended Amount
Police Station Improvement- Install Irrigation Well				
Mobilization & Demobilization (5%)	ls	1	\$750	\$750
2" Irrigation Well	ea	1	\$15,000	\$15,000
Subtotal				\$15,750
Contingency (20%)				\$3,150
Resident Project Representative (5%)				\$788
Engineering (15%)				\$2,363
Total				\$22,050
Historic Library Improvement - Install Irrigation Well				
Mobilization & Demobilization (5%)	ls	1	\$750	\$750
2" Irrigation Well	ea	1	\$15,000	\$15,000
Subtotal				\$15,750
Contingency (20%)				\$3,150
Resident Project Representative (5%)				\$788
Engineering (15%)				\$2,363
Total				\$22,050
Old Town Hall Improvement – Service off Bedford Street				
Mobilization & Demobilization (5%)	ls	1	\$150	\$150
1-inch PE Water Service Tubing	lf	100	\$30	\$3,000
1-inch Corporation	ea	1	\$1,300	\$1,300
1-inch Curb Stop	ea	1	\$1,300	\$1,300
Septic System and Piping	ls	1	\$45,000	\$45,000
Subtotal				\$50,750
Contingency (20%)				\$10,150
Resident Project Representative (5%)				\$2,538
Engineering (15%)				\$7,613
Total				\$71,050
Old Town Hall Improvement – Internal Restroom				
Mobilization & Demobilization (5%)	ls	1	\$2,500	\$2,500
Restroom Construction	ls	1	\$50,000	\$50,000
Subtotal				\$52,500
Contingency (20%)				\$10,500
Engineering (15%)				\$7,500
Total				\$70,500
Old Town Hall Improvement – External Restroom				
Mobilization & Demobilization (5%)	ls	1	\$10,500	\$10,500
Pre-Cast Restroom	ls	1	\$210,000	\$210,000
Installation by General Contractor	ls	1	\$50,000	\$50,000
ADA Ramp/Walkway	ls	1	\$30,000	\$30,000
Subtotal				\$300,500
Contingency (20%)				\$60,100
Total				\$360,600