

# Memo

**Date:** March 30, 2018  
**To:** Andrew Sheehan, Town Administrator, Town of Middleton  
**Cc:**  
**From:** Gienapp Design  
**Project:** Middleton Public Safety Building – Programming and Site Fit Proj #: 608.4

In 2017, the Town of Middleton commissioned Gienapp Design to assist the town with assessing selected public facilities and determining long-term Planning Options for the maintenance, improvement and replacement of the Town's buildings. This Planning Study included an assessment of the existing assets (buildings and sites), preliminary programming of the space and functional needs for each facility, and an evaluation of the existing facilities against their space and operational needs. The Planning Options considered maximizing the use of existing assets whenever possible, project priorities and sequence, schedule, site availability, schedule and cost.

Gienapp Design was further commissioned to evaluate the existing Memorial Hall site at 48 Main Street and determine the Site Fit Options to determine if the site would accommodate a new Fire Station, combined Fire Station/Police Station Public Safety Complex, if the existing Town Hall can remain or if a new Town Hall can be built in any combination of these. Additionally, we evaluated the site to determine if a larger site was required for separate Fire Station and Police Station buildings. To this end a preliminary program was developed for the Public Safety Complex, Site Fit diagrams developed and an Opinion of Probable Cost prepared. The program for Town Hall from the initial study was utilized for the footprint on the Site Fit diagrams.

## Public Safety Complex Program

The program that was developed in the initial study was further reviewed with refinements primarily made to the Fire Station program based on additional comparison with new Fire Stations in comparable Towns (population and area) and review by our Public Safety consultants. This created an increase in program area based primarily on increased space required for Firematic Equipment, Decontamination Equipment and Training areas. Programmatic size for both the Police Station and Town Hall remain unchanged. All of the programs are preliminary and need to be further refined during the Pre-Design phase of the project. Although final Schematic Design will further refine the program the preliminary program was developed to maximize the efficiency of the required area and minimize the site area required for the Public Safety Complex.

In order to minimize the building footprint on the site and provide for construction of the Fire Station and Police Station in separate Phases, a "Shared Space" was added to the program which would include the public lobby, elevator, a small local dispatch, fitness room and building support. Additionally, a moderate size combined training / meeting room is included in the Shared Space. In addition to support of both Fire and Police training needs, this room can be used for other Town meetings and functions if required.

The Public Safety Complex Program is attached in Appendix A.



## Existing Site

The existing site at 48 South Main Street consist of 2 parcels, Memorial Hall (lot 80) and Memorial Park (lot 91) for a total of 7.2 acres. Lot 80 containing Memorial Hall is a narrow, relatively flat site with the Cemetery (lot 79) to the North and a residential building (lot 81) to the South. Parking for Memorial Hall and Memorial park extends East covering much of this property. Lot 91, Memorial Park forms the Eastern boundary and a portion of the Southern boundary with lot 80. It contains a public soccer field and gazebo and has a slight slope down towards the gazebo. The Eastern portion of lot 91 is primarily forested with the portion furthest East containing a wetlands area and a FEMA Floodplain that drops off approximately 12'-15' in grade making this portion of the site an unsatisfactory buildable area. The memorial Hall site and the additional sites in the Planning Options have direct access to Route 114 which is ideal for both Fire and Police Departments and is highly visible as part of the Towns center.

## Public Safety Complex Site Fit Diagrams

The array of Site Fit Options can be categorized by three different Planning Options that may be summarized as follows:

### Planning Option A: Town owned land only

This diagram explores fitting the new Public Safety Complex onto the existing Town owned land at 48 Main Street and including Memorial Hall Field. This Concept allows the Fire Station and Shared Space to be built during a Phase 1 of construction followed by the Police Station in Phase 2. In order for the Fire Station restricted access drive to have the required functional width the existing Memorial Hall structure would need to be removed from the property. Though this Option does fit the available area of Town owned land, orientation of the Fire Department is not ideal for access and the restricted access road is longer and more circuitous then desired. Option A also prohibits the ability to provide a continuous drive around the Public Safety Complex. Additional site constraints include the slope of the Eastern portion of this site which may require extensive grading and retaining walls. This option would not allow a new Town Hall to be constructed on the site.

### Planning Option B: Town owned land plus one lot purchase

This diagram explores fitting the new Public Safety Complex onto the existing Town owned land plus the purchase of one additional lot. It provides a further separation of the Fire Departments Restricted Access drive from public access and parking areas. This concept also allows a front facing building with an improved, more direct, access to the apparatus bays. In order for the Public access drive and parking to have the required functional width the existing Memorial Hall structure would need to be removed from the property however it could remain for a limited time until the public vehicle access and parking is constructed. This option may allow for a new Town Hall to be constructed however site fit and circulation become less ideal and additional land for parking would likely be required.

### Planning Option C: Town owned land plus two lot purchase

This diagram explores fitting the new Public Safety Complex onto the existing Town owned land plus the purchase of two additional lots. This flips the location of the Fire and Police Department from the previous concept. Like Concept B It provides a further separation of the Fire Departments Restricted Access drive from public access and parking areas but also provides for an additional restricted access for the Police Department. Due to the geometry, the departments are illustrated in opposite locations. This concept also allows a front facing building with an improved, more direct, access to the apparatus bays. This option also allows for a new Town Hall to be constructed towards the street side of the lot. Additional land for parking may be required.

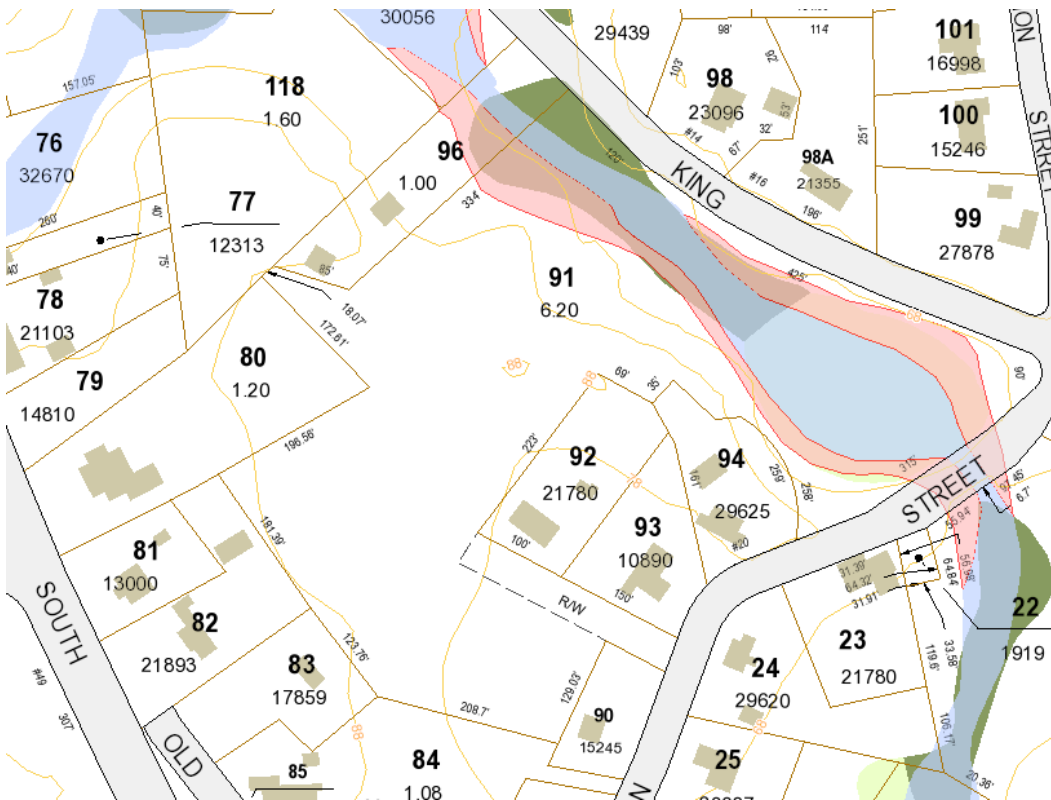


## Site Size and Coverage

The following chart has been developed to illustrate site size, building footprint and parking / paved area coverage on the site Planning Options. The Site Coverage area represents the minimum buildable area and does not include additional site area required for setbacks and open space, i.e. the minimum site size.

Diagrams	Site Size (acres)	Building Footprint (acres)	Paved Area (acres)	Site Coverage (acres)
Planning Option 1: Memorial Hall, Park	7.2	.56	1.57	2.13
Planning Option 2: Memorial Hall, Park, 1 lot	7.7	.56	2.19	2.75
Planning Option 3: Memorial Hall, Park, 2 lots	8.0	.56	1.67	2.23

Should the Town wish to review sites other than the Memorial Hall site(s) for purchase to develop the Public Safety Complex the above Building Footprint and Parking acreage areas may be used as a rough indicator of program Site Fit. A land area of 3-4 buildable acres, and possibly a larger site, would be required depending on the configuration of the site, zoning setbacks, wetlands restrictions or site grade issues.



The Public Safety Complex Fit Diagrams are attached in Appendix B.

## Public Safety Complex Opinion of Probable Cost

Based on comparable costs per square foot of similar projects in the region an Opinion of Probable Cost (OPC) was developed as summarized below. A more accurate cost estimate can be developed following the completion of Schematic Design. The OPC below does not account for changes to the program which may lower or increase the Estimated Construction Cost (ECC), escalation costs based on project start date or increased material costs.

Program	Unit	Quantity	Unit Cost		
Fire Station	S.F.	21,966	\$500	\$10,983,000	
Shared Space	S.F.	5,871	\$400	<u>\$2,348,320</u>	
<b>Subtotal</b>					\$13,331,400
Police Station	S.F.	8,239	\$600	\$4,943,640	
<b>Total ECC</b>					<b>\$18,275,040</b>

The Public Safety Complex ECC is further outlined in Appendix C, Opinion of Probable Cost and Estimated Design Fee.

## Conclusion

After evaluation of the site, building program, access issues and site restrictions the following summarizes our conclusions:

- The Fire Department and Police Department buildings may be constructed as a combined Public Safety complex in all three Planning Options. Any of the Planning Options would allow an initial phase to construct the new Fire Station/Shared Space with the Police Station added to the building in a later phase.
- The existing Town owned property does not contain enough buildable area to build separate Fire and Police Department buildings.
- With the acquisition of additional adjoining land parcels, a future phase may allow for the construction of a new Town Hall Building on this site.
- Replacing the Fire Station is a high priority, a phased approach with construction of a new station and the shared space with the Police Department constructed at a later phase would be recommended to expedite its completion.
- The Planning Options diagrams illustrate the minimum area recommended for the building footprint, required drives, aprons and site circulation. This Site Coverage can be utilized as a benchmark if other sites come under consideration. The size and workability of other sites should consider the shape, any required setbacks, wetlands or other conditions that limit the useful and buildable area of the site.

## Public Safety Complex Next Steps

In order to proceed to the next stage of development the Town should consider appropriating funds for Pre-Design through Schematic Design for the complete Public Safety Complex including additional services such as a Civil survey, Geo Technical testing and analysis, Traffic Study and OPM services for Designer Selection. The Public Safety Complex Estimated Design Services Fee is further outlined in Appendix C, Opinion of Probable Cost and Estimated Design Fee, and broken out into 5 phases through the completion of the project.



## Appropriation Schedule and Alternatives

### 1st Appropriation

This provides appropriation for the completion of Pre-Design, Schematic Design, Civil, Testing and OPM Services.

<b>Task</b>	<b>Fire + Shared</b>	<b>Police</b>
Pre Design	\$ 79,988	\$ 29,662
Schematic Design	\$ 319,954	\$ 118,647
Testing and OPM Services (both)	\$ 127,925	
<b>Total</b>		<b>\$ 676,176</b>

### 2nd Appropriation

This provides appropriation for the completion of Design Development, Construction Documents, Civil, Testing and OPM Services to provide complete documents for bidding the Fire Station, Police Station and Shared Space.

<b>Task</b>	<b>Fire + Shared</b>	<b>Police</b>
Design Development	\$ 239,965	\$ 88,986
Construction Documents	\$ 639,907	\$ 237,295
OPM Services (Fire + Shared + Police)	\$ 106,651	
<b>Total</b>		<b>\$ 1,312,804</b>

### 3rd Appropriation

This provides appropriation for the Construction phase of the project including soft costs.

<b>Task</b>	<b>Fire + Shared</b>	<b>Police</b>
Soft Costs: Bidding, Construction Admin., OPM	\$ 365,829	\$ 217,520
Construction Cost (ECC)	\$ 13,331,400	\$ 4,943,640
<b>Total</b>		<b>\$ 18,858,389</b>

### Alternative 2nd Appropriation

This provides appropriation for the completion of Design Development, Construction Documents, Civil, Testing and OPM Services, provide complete documents for bidding the Fire Station and Shared Space. (Excludes Police Station)

<b>Task</b>	<b>Fire + Shared</b>	
Design Development	\$ 239,965	
Construction Documents	\$ 639,907	
OPM Services (Fire + Shared)	\$ 106,651	
<b>Total</b>		<b>\$ 986,523</b>

### Alternative 3rd Appropriation

This provides appropriation for the completion of Design Development, Construction Documents, Civil, Testing and OPM Services to provide complete documents for bidding the Fire Station and Shared Space.

<b>Task</b>	<b>Fire + Shared</b>	
Soft Costs: Bidding, Construction Admin., OPM	\$ 365,829	
Construction Cost (ECC)	\$ 13,331,400	
<b>Total</b>		<b>\$ 13,697,229</b>

End memo





## APPENDIX A-1

## Middleton Public Safety Complex, Phase 1

Middleton, MA

Gienapp Design Associates, LLC

03/27/18

Prepared: GC



Property: 48 South Main Street, Middleton, MA

## Concept Program Totals

Fire Department		Total				
	Qty.	NASF	NASF	1st	2nd	Subtotal
<b>5.0 Administration</b>						
5.1 Fire Chief's Office	1	170	170		170	
5.2 Captain's Office	1	120	120		120	
5.3 Open Offices / Lieutenant / EMS	3	100	300		300	
5.4 Conference Room	1	192	192		192	
5.5 Public Waiting Area	1	140	140		140	
5.6 Records Storage	1	180	180		180	
<b>Subtotal</b>				0	1102	<b>1,102</b>
<b>6.0 Firefighter Quarters</b>						
6.1 Day Room	1	400	400		400	
6.2 Kitchen / Break Room	1	320	320		320	
6.3 Men's Dorm	7	120	840		840	
6.4 Women's Dorm	3	120	360		360	
6.5 Men's Toilet / Shower	1	180	180		180	
6.6 Women's Toilet / Shower	1	75	75		75	
6.7 Study / Quiet Room	1	120	120		120	
6.8 Laundry	1	30	30		30	
6.9 Janitors Closet	1	60	60		60	
6.10 Supplies	1	60	60		60	
<b>Subtotal</b>				0	2445	<b>2,445</b>
<b>7.0 Training</b>						
7.1 Training Tower / Stair	2	240	240	240	240	
7.2 Mezzanine (above accessory space)	1	1000	1000		1000	
<b>Subtotal</b>			1240	240	1240	<b>1,480</b>
<b>8.0 Apparatus</b>						
8.1 Apparatus Bays	6	1400	8400	8400		
8.2 Turnout Gear Room and Lockers	32	12	384	384		
8.3 Gear Supply	1	200	200	200		
8.4 EMS Supply	1	180	180	180		
8.5 Air Supply	1	250	250	250		
8.6 Hose Storage	1	100	100	100		
8.7 Decon / Gear Wash	1	280	280	280		
8.8 Extractor Dryer	1	120	120	120		
8.9 Equipment Repair	1	120	120	120		
8.10 Triage Room	1	80	80	80		
8.11 Watch Room	1	80	80	80		
8.12 Toilet Room	1	75	75	75		
8.13 SAFE Program Storage	1	100	100	100		
8.14 EMS Storage	1	150	150	150		
8.15 Janitors Closet	1	80	80	80		
8.16 Fire Pole	2	32	64	32	32	
<b>Subtotal</b>			10663	10631	32	<b>10,663</b>
<b>Fire Station Subtotal NASF</b>				10871	4819	<b>15,690</b>
<b>Gross Factor</b>		40%		4348	1928	<b>6276</b>
				15,219	6,747	<b>21,966</b>

1. Net Square Feet: Actual useable room/area

2. Gross factor: Multiplier to account for circulation and general space around others.





## APPENDIX A-2

Middleton Public Safety Complex, Phase 1  
Middleton, MA

Gienapp Design Associates, LLC

03/27/18

Prepared: GC



Property: 48 South Main Street, Middleton, MA

Concept Program Totals

Shared Program	Total					
	Qty.	NASF	NASF	1st	2nd	Subtotal
<b>1.00 PUBLIC SPACES</b>						
1.10 Vestibule	1	80	80	80		
1.20 Public Lobby	1	250	250	250		
1.30 Public Toilet Rooms	2	50	100	100		
1.40 Public Interview Room	1	120	120	120		
1.50 Public Meeting & Training Room	1	750	750	750		
1.60 Public Training Room Storage	1	80	80	80		
1.70 Fitness Room FD/PD	1	800	800		800	
<b>Subtotal</b>				<b>1380</b>	<b>800</b>	<b>2,180</b>
<b>2.00 Communications</b>						
2.10 Dispatch	1	350	350	350		
2.20 Dispatch Toilet	1	50	50	50		
2.30 Dispatch Kitchenette	1	100	100	100		
2.40 Radio/Server	1	220	220	220		
<b>Subtotal</b>				<b>720</b>	<b>0</b>	<b>720</b>
<b>3.00 Building Maintenance</b>						
3.10 Janitors Closets	2	20	40	20	20	
3.50 Building Equipment Storage	1	100	100	100		
<b>Subtotal</b>			<b>140</b>	<b>120</b>	<b>20</b>	<b>140</b>
<b>4.00 BUILDING SUPPORT</b>						
4.10 Elevator	2	80	160	80	80	
4.20 Elevator Machine Room	1	80	80	80		
4.30 Mechanical Room	1	300	300	300		
4.40 Fan Room	1	500	500		500	
4.50 Electric Room	1	140	140	140		
4.60 Sprinkler Room	1	96	96	96		
4.70 Tel / Data /Alarm	1	120	120	120		
4.80 Generator Transfer Switch	1	80	80	80		
<b>Subtotal</b>			<b>1476</b>	<b>896</b>	<b>580</b>	<b>1,476</b>
<b>Shared Space Subtotal NASF</b>				<b>3116</b>	<b>1400</b>	<b>4,516</b>
<b>Gross Factor</b>		<b>30%</b>		<b>935</b>	<b>420</b>	<b>1355</b>
				<b>4051</b>	<b>1820</b>	<b>5871</b>

1. Net Square Feet: Actual useable room/area

2. Gross factor: Multiplier to account for circulation and general space around others.



## APPENDIX A-3

## Middleton Public Safety Complex, Phase 2

Middleton, MA

Gienapp Design Associates, LLC

03/27/18

Prepared: GC



Property: 48 South Main Street, Middleton, MA

## Concept Program Totals

Police Department			Total				
	Qty.	NASF	NASF	1st	2nd	Subtotal	
9.0 Administration							
9.1 Police Chief's Office	1	180	180		180		
5.2 Deputy Chief's Office	1	120	120		120		
5.3 Captain's Office	1	120	120		120		
5.4 Open Offices	1	100	100		200		
5.5 Conference Room	1	220	220		220		
5.6 Public Waiting Area	1	150	150		150		
5.6 Supplies	1	60	60		60		
5.6 Toilet Room	1	50	50		50		
5.7 Records Storage	1	180	180		180		
Subtotal				0	1280	1,280	
10.0 Investigations							
10.1 Detectives Office	2	120	240		240		
10.2 Interview Room	1	80	80		80		
10.3 Evidence Prep Room	1	160	160		160		
10.4 Evidence - General Storage	1	200	200		200		
10.4 Evidence - Recovered Property	1	100	100		100		
10.5 Evidence - Weapons / Drugs	1	120	120		120		
Subtotal				0	900	900	
11.0 Patrol							
11.1 Patrol Supervisors Office	1	120	120	120			
11.2 Detective Office	1	150	150	150			
11.3 Roll Call	1	240	240	240			
11.4 Report Writing/Computer Room	1	120	120	120			
11.5 Patrol Gear Storage	1	150	150	150			
Subtotal				780	0	780	
12.0 Detention Area							
12.1 Sallyport	2	400	800	800			
12.2 Booking Area	1	360	360	360			
12.3 Interview / Bail Bond	1	72	72	72			
12.4 Male Holding	2	75	150	150			
12.5 Female Holding	1	75	75	75			
12.6 Juvenile Holding	1	75	75	75			
12.7 Storage	1	16	16	16			
12.8 Shower	1	60	60	60			
Subtotal			1608	1608	0	1,608	
13.0 Building Support							
13.1 Armory	1	140	140	140			
13.2 Break Room/Kitchenette	1	300	300	300			
13.3 Men's Toilet / Shower / Locker	1	360	360		360		
13.4 Women's Toilet / Shower / Locker	1	120	120		120		
13.5 Toilet Room	2	50	100	50			
13.6 Garage - Patrol Cars	2	400	800	800			
Subtotal			1820	1290	480	1,770	
Police Station Subtotal NASF				3678	2660	6,338	
Gross Factor		30%		1103	798	1901	
				4,781	3,458	8,239	

1. Net Square Feet: Actual useable room/area

2. Gross factor: Multiplier to account for circulation and general space around others.



## APPENDIX A-4

Gienapp Design Associates, LLC



Middleton Public Safety Complex  
Middleton, MA

03/27/18  
Prepared: GC

Property: 48 South Main Street, Middleton, MA

Concept Program Totals

	1st	2nd	Subtotal
<b>Fires Station Subtotal NASF</b>	10871	4819	<b>15,690</b>
<b>Gross Factor</b> 40%	4348	1928	<b>6276</b>
	15,219	6,747	<b>21,966</b>

<b>Shared Space Subtotal NASF</b>	3116	1400	<b>4,516</b>
<b>Gross Factor</b> 30%	935	420	<b>1355</b>
	4051	1820	<b>5871</b>

<b>Police Station Subtotal NASF</b>	3678	2660	<b>6,338</b>
<b>Gross Factor</b> 30%	1103	798	<b>1901</b>
	4,781	3,458	<b>8,239</b>

<b>Grand Total Public Safety Building</b>	24052	12025	<b>36076</b>
---	-------	-------	--------------







# Site Plan - Combined Fire and Police HQ - Option A

Scale: 1/64" = 1'-0"

Middleton Town Facility Assessment

Project # 608.4

March 28, 2018











# Site Plan - Combined Fire and Police HQ - Option B

Scale: 1/64" = 1'-0"

Middleton Town Facility Assessment

March 28, 2018

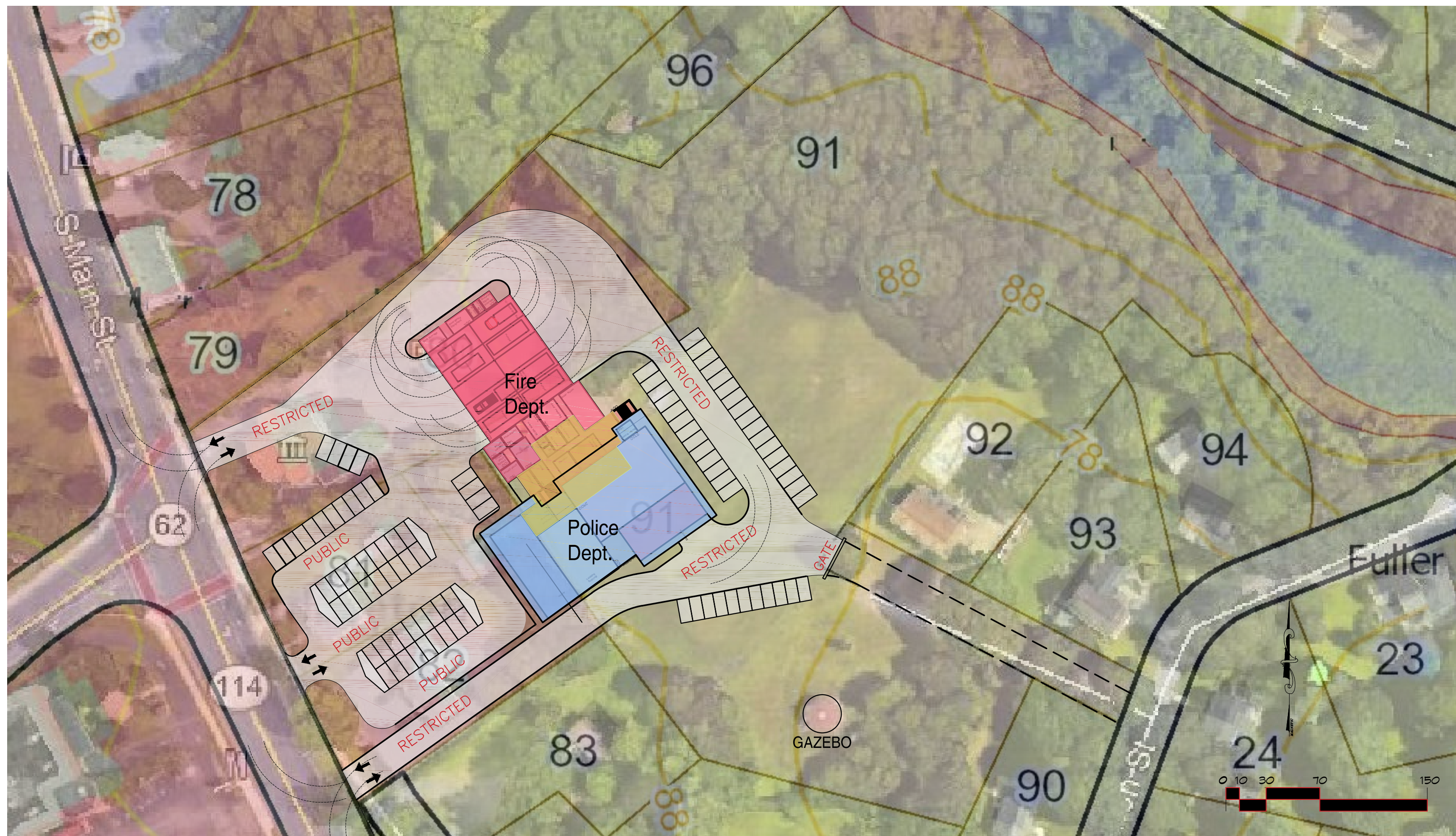
Project # 608.4











# Site Plan - Combined Fire and Police HQ - Option C

Scale: 1/64" = 1'-0"

Middleton Town Facility Assessment

Project # 608.4

March 28, 2018







APPENDIX C

Middleton Public Safety Complex  
Middleton, MA

Gienapp Design Associates, LLC

03/27/18

Prepared: GC



Property 48 South Main Street, Middleton, MA

Opinion of Probable Cost

Item	Description	Units	Quantity	Unit Cost	Extended Cost	Subtotal
1	Fire Station	S.F.	21,966	\$500.00	\$ 10,983,000	
	<b>Subtotal</b>					\$ 10,983,000
2	Shared Space	S.F.	5,871	\$400.00	\$ 2,348,320	
	<b>Subtotal</b>					\$ 2,348,400
	Estimated Construction Cost 1 & 2				\$ 13,331,400	
	Estimated Design Fee 1 & 2				\$ 1,599,768	
3	Police Station	S.F.	8,239	\$600.00	\$ 4,943,640	
	<b>Subtotal</b>					\$ 4,943,640
	Estimated Construction Cost 3				\$ 4,943,640	
	Estimated Design Fee 3				\$ 593,237	
	<b>Total Estimated Construction Cost</b>					<b>\$ 18,275,040</b>
	<b>Total Estimated Design Fee</b>		12 %			<b>\$ 2,193,005</b>

Estimated Design Services Fee

Phase	Description	%	Extended	Subtotal
<b>Design Fee Fire Station + Shared Space</b>				
1	Pre Design	5	\$79,988	
1	Schematic Design	20	\$319,954	\$ 399,942
2	Design Development	15	\$239,965	
2	Construction Documentation	40	\$639,907	\$ 879,872
3	Bidding / Construction Administration	20	\$319,954	\$ 319,954
	<b>Subtotal</b>	100		\$ 1,599,768
<b>Design Fee Police Station</b>				
1	Pre Design	5	\$29,662	
1	Schematic Design	20	\$118,647	\$ 148,309
4	Design Development	15	\$88,986	
4	Construction Documentation	40	\$237,295	\$ 326,280
5	Bidding / Construction Administration	20	\$118,647	\$ 118,647
	<b>Subtotal</b>	100		\$ 593,237
<b>Other Required Services</b>				
1	Testing: Traffic, Geo Tech, Civil	0.50	\$ 91,375	
1	OPM Services-Designer Selection to SD	0.20	\$ 36,550	\$ 127,925
2	OPM Services-DD to CD	0.80	\$ 106,651	\$ 106,651
3	OPM Services / Clerk of The Works-BD to CA	2.00	\$ 266,628	\$ 266,628
4	OPM Services-DD to CD	0.80	\$ 39,549	\$ 39,549
5	OPM Services / Clerk of The Works-BD to CA	2.00	\$ 98,873	\$ 98,873
	<b>Subtotal</b>			\$ 639,626
	<b>Phase 1 Design Services</b>			\$676,176
	<b>Phase 2 Design Services</b>			\$986,524
	<b>Phase 3 Design Services</b>			\$586,582
	<b>Phase 4 Design Services</b>			\$365,829
	<b>Phase 5 Design Services</b>			\$217,520

**Total** **\$2,832,631**

**This cost estimates makes the following assumptions:**

A) Memorial Hall will be removed from from the site prior to construction of the Public Safety Complex to allow for emergency vehicle ingress and egress. Design Services for removal or relocation are not included.

B) The Fire Station and Police Station will both be developed during Schematic Design such that a phased approach of building the Fire Station first followed by the Police Station can be employed if required.