

# POLICE DEPARTMENT RENOVATION OR REPLACEMENT ANALYSIS

TOWN OF NORTH SMITHFIELD, RHODE ISLAND

SEPTEMBER 2021



**Tecton**  
ARCHITECTS



JSE



FUSS & O'NEILL



BUSHEE SCHOOL

# CONTENTS

EXECUTIVE SUMMARY .....	1
EXISTING CONDITIONS ASSESSMENT .....	2
Architectural Narrative.....	10
Structural Narrative .....	22
MEP Narrative.....	37
POLICE STATION PROGRAM .....	3
High-Level Program Analysis.....	47
Projections.....	48
Space Needs.....	56
Room Descriptions .....	59
Site Requirements.....	99
OPINION OF PROBABLE COSTS .....	4
Addition Renovation Scheme .....	101
New Construction Scheme.....	103
CONCEPTUAL DESIGN.....	5
Addition Renovation Scheme .....	107
New Construction Scheme.....	123
OPERATIONAL AND MAINTENANCE COSTS .....	6
Systems Cost Analysis .....	133
SIMILAR PROJECT COMPARISONS .....	7
Similar Project Comparisons.....	137

*EXECUTIVE SUMMARY*

## EXECUTIVE SUMMARY

*In December of 2020 the Town of North Smithfield, Rhode Island, Municipal Building Review Task Force (MBRTF) contracted with Tecton Architects, pc, of Hartford, CT to conduct a Space Needs Assessment and Feasibility Study for providing a new or upgraded facility for the Town's Police Department, currently located at 575 Smithfield Rd, North Smithfield, RI. The study had several primary goals:*

- 1. A thorough evaluation of the deficiencies throughout the building and grounds, which included compliance with current public safety standards*
- 2. Establish the Projected Space Needs for the Department*
- 3. An evaluation of the suitability of using the current site for a new police facility*
- 4. Prepare a Conceptual Design for the recommended solution*
- 5. Prepare an Opinion of Probable project costs to implement the solution*
- 6. Operation and maintenance costs for each option*

*Tecton with their partners Fuss & O'Neill, Consulting Engineering Services (CES) and Johnson Structural toured the existing police station constructed in 1929 to build an understanding of current operations, existing conditions, and any limitations imposed on operations by the available facilities. The Design Team also reviewed such items as code/ADA concerns, thermal envelope, mechanical equipment life cycle, structural issues, and hazardous material abatement. An overview of the findings from the tour is included in this report.*



To identify the space needs, the Design Team's programmers conducted interviews with the Chief and select staff of the Police Department. The interviews discussed current operations, anticipated future growth, anticipated future operational needs, and possible changes in the delivery of service to the Community. As an essential component for all public safety agencies is the provision of proper training to the officers, the available and required training facilities were discussed in detail. During the Police Department interviews statistical data about the community and the department was collected for a fifteen-year history. Sources for projections about the community's future were also identified. This data was utilized in the programmer's projection tool to provide a basis for determining the estimated future police department staffing size. The projections are included in this report and were utilized in completing the Space Needs Assessment.

Also discussed during the interviews was the potential site needs for the agency. These discussions covered parking needs, site security, pedestrian access, and site equipment.

The results of the interview sessions were compiled into a document that in many ways represented the "wish" lists of the agencies. Through a series of meetings with the agency representatives, the programmers and the MBRTF, the wish lists were challenged and the rationale for inclusion of various program components was tested. In many cases program elements were eliminated or combined into multi-use spaces. This testing of program elements continued through the Conceptual Design process, as real depictions of the spaces further illustrated the program elements and their capacities. Ultimately the wish list was refined into a statement of Space Needs, which is included in this report.

To illustrate the feasibility of the site and to establish a basis for preparing an opinion of probable costs, the design team prepared two conceptual design solutions for the stated building and site needs, one as new construction and one as an addition renovation. These concepts were presented to the MBRTF and to the department for comment. These were reviewed against several factors, including response to programmatic needs, optimal adjacencies, operation during construction, compliance with current code and public safety standards, officer safety and security, site accommodations and additional cost implications. The resultant comments were incorporated into revised conceptual solutions, and these are included in this report.

Finally, the design team prepared an Opinion of Probable implementation costs. This budget document includes the conceptual estimates for construction costs based on the current market and escalated to the mid-point of construction. The budget also includes allowances for project soft costs including design and project manager fees, furniture, contingencies, materials testing and inspections, etc. The Opinion of Probable Costs is included in this report.

When doing a study to compare two possible design solutions, it is the design team's responsibility to create options that are as successful as they possibly can be in meeting the design criteria

and the constraints presented. With this goal in mind, the recommendation often comes down to which solution is most cost effective. However, this needs to be tempered with the effectiveness of the solution. Working with an existing building always has some compromises, particularly when it was originally designed for another purpose. In assessing the solution, you must gauge the depth of the compromises. Site constraints can sometimes limit footprint size, for example, which can create compromises in optimal adjacencies.

In the case of the North Smithfield Police Department, the recommendation is based less on the modest deviation in pricing of the two options and more on the challenges with the existing building. There are significant building envelope issues, as demonstrated in the structural report. Each component of the thermal envelope, including windows, masonry, roof, and insulation would need upgrading or replacement. There is also evidence of long term and on-going moisture infiltration through the roof, therefore re-roofing would be required. It is our recommendation that the local building inspector review this report and evaluate the condition of the existing envelope and at a minimum cordon off an area where there is risk of falling masonry. The design team has already seen evidence of this during previous site visits. Mechanical, electrical, and plumbing systems are identified as beyond their useful life. There is also no fire protection/sprinkler system despite the requirement of the institutional occupancy due to the prisoner cell blocks. More significantly, the multiple floor levels create an adjacency and accessibility challenge throughout the building, which is exacerbated by the very low floor to floor height at the lower level. It may not seem that this is a crucial issue but when you are considering the risk of self harm in a detention cell the best protective measure, we can employ is a high ceiling which keeps all equipment and fixtures out of reach of the detainee. Coupling this with the substantial MEP infrastructure, a low floor to floor height can be an insurmountable challenge for a police station.

Since the existing facility is already a police station, from a building code perspective there is no change of use, which means many of the existing conditions, not complying with the current code, are grandfathered in. It should however be noted that a police station is an essential facility as defined by the code which requires a higher level of physical resiliency than other buildings. The grandfathering of the existing conditions means this building will never meet the standard of an essential services facility and represents a potential risk to the community. The resolution to the multiple floor levels, has resulted in a greater than normal amount of circulation, including stairs, elevators, and ramps. At the cost of public safety buildings, this is an extensive expenditure on space that fulfills no programmatic function. Furthermore, the police department is uncomfortable with some of the resulting adjacencies. Particularly the dispatch center, which is located on a half level in order to successfully serve the public, but unfortunately this isolates the space from other department functions. The addition renovation scheme, due to its proximity to Smithfield Road, also does

not result in sufficient parking to support the proposed municipal court need. The extent of this design will require the provision of temporary facilities for all police department operations, which significantly offsets the advantage of rescuing assets. An additional consideration is the increased risk of uncovering unforeseen conditions within the existing structures. It is impossible to know without destructive testing what is behind the walls, under the floor and above the ceiling.

The new construction option does face some challenges of its own. Because of its location on the existing facility site, the available footprint for the first story space is limited. The proposed solution therefore locates the municipal court/training/community room on the upper level of the building. This solves some adjacency issues with the administrative assistant also serving as the court clerk, but it extends the public accessible area, outside of the secure zones off the police department, over two floors. Although the design solution attempts to mitigate this challenge, it should still be noted it is not the best solution. An alternate site with more available acreage could potentially solve this compromise, however the existing site is optimally located for response to high call for service areas. Police department administration has stated that the current site is an ideal location for serving the community of North Smithfield. The scope of this study did not include identifying other potential sites. Despite the compromise of locating public space on the upper floor, the facility design, as considered by police department administration, satisfies all adjacency requirements, provides a new structure that complies with all codes for an essential services facility, satisfies site and parking needs, and provides a modern facility to serve the North Smithfield Police Department for decades to come.

It is therefore the recommendation of this study to construct a new facility on the existing site, which allows the existing structure to remain in operation during construction until such time that occupancy can be transfer to the new building. Subsequent demolition of the existing facility will provide space for sufficient parking and complete the site redesign.

*EXISTING CONDITIONS ASSESSMENT*

## POLICE DEPARTMENT

### Location

575 Smithfield Road, North Smithfield, RI 02896  
Tax Map ID: 009-591, Account No. 33-0030-00  
Zoning: BN

### Site

Size: 2.119 acres  
Setbacks per zoning: Front 25 feet. Rear 30 feet. Side 15 feet.  
Height restrictions: 35 feet  
Parking:  

- Smithfield public lot: 11 striped (including 2 HC)
- Merrimac public lot: 11 striped (including 1 HC)
- Secured cruiser lot: 11 striped (un-striped parking area for approx. 11 addit'l cars)
- Unsecured/staff lot: un-striped parking area for approx. 22 cars

*(note: there are approximately 66 total parking spaces on the site.)*

### Building Description

Original construction: 1929  
Area (building): 14,908 SF gross. Basement 7,454 SF. First floor 7,454 SF.  
Stories: 2, including a walk-out basement  
Building height: approx. 24' measured from grade to the main building roof  
Use Group: B Business (primary). I-3 (detention facility).  
Construction Type (min): III-B (combustible, unprotected).  
Materials: Wood framed bearing walls, masonry bearing walls. Poured concrete foundation. Elevated wood deck. Wood roof framing/deck.  
Fire suppression system: None  
Fire alarm system: Yes



## POLICE DEPARTMENT (CONT.)

### EXTERIOR – SITE

#### GENERAL:

The site is approximately 2 acres and is occupied primarily by the Police Department sited on the northern area of the parcel. A neighborhood amenity (playground and walking track) occupies the southern area of the parcel. The Police Department parking areas for staff and cruisers are situated between the two. Access to the site is from the east along Merrimac Road. Another small public parking lot can be accessed from Smithfield Road to the north. The property is abutted to the west by several privately owned residential lots, and to the south is the playground and walking track. Beyond this recreation area, are additional privately owned residential lots. The site is zoned “business-neighborhood (BN)” with primarily quarter-acre lots to the west, south and east.

The Police Department has approximately 65 spaces on site, with approximately 20 dedicated to public parking near the main building entrance. Of these, there is one parking space designated as van accessible, and two other designated handicapped parking spaces. The approximately 45 remaining spaces are divided between staff vehicles and police cruisers.

The facility main entrance is located on the northwest corner of the building facing the public parking lot along Smithfield Road. Visitors enter the main entrance via an expansive ramp at the corner of the building. This area houses all the administrative office, dispatch and other public functions. There are no vehicle garages on premises and cruiser parking is in a secured but uncovered lot behind the building to the south. There is no sally port on premises and access to detention areas is via a non-code compliant ramp within the secured cruiser parking lot. Equipment on site includes a generator located adjacent to the Merrimac public parking lot and an large cellular antenna within the secured cruiser parking lot. A communications antenna is also located on the roof, however it is currently not tethered to the building and poses a safety concern (risk of falling). The main building entrance is not visible from the parking area along Merrimac Road making the path for visitors unclear. The sidewalk is also directly adjacent to the building, which does not allow for an appropriate stand-off zone creating a security concern.

The exterior ramps to the lower-level need maintenance and/or restoration as there is substantial visible decay of the concrete and metal railings. Stormwater is not being drained properly from paved surfaces and is infiltrating the building causing damage on the interior of the masonry walls. Debris, loose equipment, and trash bins are also located along the exterior wall in the rear of the building, directly adjacent to the detention area entrance, posing safety and security risks to officers bringing a detainee into the facility.

#### COMMENTARY:

The site does not offer a sufficient, secure area for the department to store vehicles that need to be protected as evidence, nor does it afford a concealed location for unmarked cruisers. Additionally, there is no covered parking to protect fleet vehicles. Site circulation is a significant issue, having only one point of access on and off site from Merrimac Road, and no clear path to the main building entry. Current public

Site Aerial View



Police Station Main Entry



safety standards recommend that a Police station have two points of egress for proper emergency response. The site does not support prisoner processing or provide a designated area for prisoner release. Furthermore, the site's ability to allow for future expansion is constrained by the existing playground, antenna, and maintenance shed.

## EXTERIOR – BUILDING

### WALLS:

Exterior walls are predominantly brick masonry, with some copper detailing and precast concrete elements. The brick masonry, which comprises 90% of the exterior walls, is failing. There is substantial cracking along many masonry joints, suggesting significant water damage within the loading bearing masonry construction. These joints are deteriorating at a particularly high rate on the front façade, as well as the rear of the building. It is our opinion, that many of the header bricks, which are courses tying the three wythes of brick together, are failing, causing the front wythe of brick to detach. As a result, the front wall has significant bowing, jeopardizing the stability of the wall. This presents clear evidence of significant water infiltration over time, likely from the roof and parapet. The bowing of the wall has also cause the copper detailing to crack and pull away from the building. This has allowed for animals to nest and access the inner parts of this construction. This structural damage plus the weight of the precast elements presents an immediate safety concern at this location, and a significant risk of collapse. The precast elements are in fair condition. Exposed foundation walls are in fair condition but at locations where exterior ramps were added, moisture is infiltrating at these joints causing mold growth and deterioration on the interior. Overall, the exterior walls are an immediate concern and require significant reconstruction.

### CONSTRUCTION:

The building is comprised of load bearing masonry walls with wood framed interior partitions, elevated wood floor framing, and roof framing along with other combustible materials. The basement does have masonry piers. The detention facility is constructed entirely of masonry bearing walls. The entire exterior structure is original to the 1929 vintage. The basement is a poured concrete foundation that extends to the frost line.

### WINDOWS/DOORS/ENTRANCES:

Windows are single pane, and the original aluminum frames are in disrepair. The window sills are wood, and the paint is original to the vintage; therefore presumed to contain hazardous materials. Rusting is evident at the lintels and should be scraped and painted. At dispatch, a large opening has been infilled with smaller vinyl windows that do not seem to be professionally installed. All windows should be replaced entirely. The public exterior entrances are the original wood doors with a glass clerestory and are in good condition. The exterior doors on the rear façade are metal and also in good condition, however they are not full height doors and are not code-compliant. The ramp just inside the staff entry door is also not ADA compliant. There are mechanical louvers on the exterior walls near grade which appear to be in good condition.

### ROOF:

The roof is old, failing and the entire parapet wall needs to be rebuilt. The rooftop units

Deteriorating Front Facade



Gaps at Roof Hatch



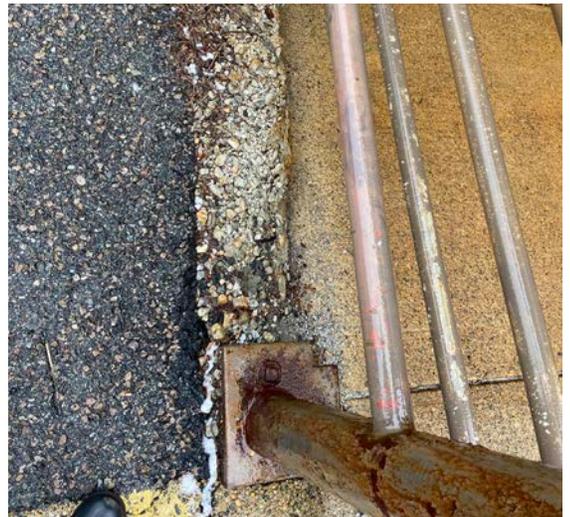
Vinyl Windows and Untethered Antenna



Copper Parapet Displaced by Masonry Failure



Rust and Deterioration at Ramps



seem to be newer, but the mechanical curbs are old, oversized and failing. The gravel has worn off portions of the membrane roofing and the seals around many penetrations also deteriorating. Holes are clearly visible around the access hatch and flashing, contributing to moisture infiltration into the building. Deteriorating flashing and standing water are also present on the roof.

### COMMENTARY:

The entire roof and parapet need to be rebuilt. The thermal envelope is not compliant with current energy efficiency standards. The exterior wall and roof construction is contributing to water damage, thermal bridging, and moisture issues. The façade will continue to deteriorate and at the very least will exacerbate this problem. At worst, the front façade will collapse.

## INTERIOR – BUILDING

### GENERAL:

The structure was originally built as a school, and unfortunately a school building makes for an inefficient Police Facility due to the wide corridors. Circulation is inefficient, not continuous, and the various levels require extensive ramping, taking away usable square footage. Due to a lack of space, there is not appropriate separation between police spaces and public amenities. Officers currently have to walk from a secure area into a public space to access other secure spaces - this is a major concern. After the building was converted to house municipal programs, Town Hall was also co-located on site. That program has subsequently relocated, however the portion of the building, which they did occupy is currently vacant and under utilized by the Police Facility. The interior of the building is comprised of one main level and a walk-out basement; however, these levels differ between the main building and the western wing. This creates essentially five half-levels connected by a circuitous corridor, several ramps, staircases and a wheelchair lift. Spaces on the lower level are very tight, ceilings are low, and there is very little natural light. The mechanical room is in the back of the building down the corridor from the detention facility. New copper piping seems to be in good condition, but the ceiling it is attached to is deteriorating. Several spaces contain unsecured server equipment including emergency communications equipment, which is currently located in an unlocked office at the rear of dispatch. Since it is not located in a secured communications equipment room, the proper temperature-controlled environment that is required cannot be achieved. This impacts the security and longevity of the infrastructure. Furthermore, much of the wiring servicing this equipment is non-compliant. The shutter installed at the main building lobby dispatch window is not fire-rated, nor is the wall ballistic rated.

### CONSTRUCTION:

The building is comprised of load bearing masonry walls with wood framed interior partitions, elevated wood floor framing, and roof framing along with other combustible materials. The basement does have masonry piers. The detention facility is constructed entirely of masonry bearing walls. The entire exterior structure is original to the 1929 vintage. The basement is a poured concrete foundation that extends to the frost line.

Inefficient Circulation - Ramp at Fitness



Floor Deterioration in Dispatch



Non-compliant Wiring



Mold and Moisture Damage



Wood Fiber Ceiling Tile Damage



### FINISHES:

**Water infiltration is evidenced by the staining on ceiling tiles throughout the facility and by the peeling paint found on exterior walls. The water damage is worse at the exterior walls, but also extends deeper into the building. The fitness room is finished with a 9x9 floor tile and assumed to contain asbestos. VCT flooring that was installed over the original wood floor is cracking as the wood expands and contracts. The rolling chairs in dispatch, a space occupied 24 hours 7 days a week, have worn the top layer off the engineered flooring. Wood fiber ceiling materials located in the fitness room are combustible and have deteriorated over time. The warping of these tiles suggests exposure to humidity and moisture. All the finishes feel tired, are damaged, and could use an update.**

**Police Stations and Emergency Communications Centers are considered "Essential Service Facilities". As such, they are considered by the International Building Code as a Risk Category IV structure which enhances the design loads for seismic and wind lateral forces. Most wood framed construction cannot withstand these forces. While this facility may have been code compliant at time of construction, it would not be under the current code. Therefore, major renovations that would trigger compliance with the current code would likely require extensive modifications. Any renovations, additions or upgrades to the building should also include the installation of a sprinkler system and any safety improvements to the existing fire alarm system.**

### DETENTION FACILITY:

**The route for prisoner intake is unsafe. When entering the building, officers must escort prisoners down a ramp. This poses a safety concern. There is no sally port or secure area for processing, which put the officers at risk when taking prisoners out of a cruiser and into the building. Since there is no sally port, officers cannot leave prisoners in the cruiser and secure their weapon in the pistol locker prior to bringing the prisoner in the door. Instead, they must secure their weapon just after entering the building with the prisoner. There is no sight/sound separation in the detention area. Prisoners being taken to the juvenile/female detention facility are escorted past the male and female staff locker rooms. The juvenile cell is located immediately off a main corridor. Wire mesh partitions at this location are not ligature resistant, the in-swinging door can be barricaded, and prisoners can get underneath the furniture and use it for self-harm. Ceilings are too low in the cell area. It is recommended that these ceilings be at least 10'-0" high to prevent a detainee from accessing or damaging the ceiling, light fixtures, and cameras. The cells themselves are very small and do not meet the current standards for preventing self-harm. Cell walls are painted CMU and are in good condition, however a plumbing access panel inside the cell poses an additional security concern. Male cell doors have bars with horizontal members making them not ligature-proof, but they are at least out-swinging doors. The bunk and the toilet as well, could be used for self-harm. These spaces should release into a public area outside, and away from the secured cruisers. Should a large renovation be undertaken, the prisoner processing and detention areas would require a complete remodel in order to meet current code, public safety standards, and accreditation requirements.**

### COMMENTARY:

**The Police Facility no longer suits the needs of the department, and the building suffers**

Ramp to Detention Facility



Original Windows and Sills



Water Damage at Exterior Wall



Juvenile Detention Area



Typical Cell



from several deficiencies, namely: programmatic separation and security, functionality of spaces, ADA accessibility, officer safety, building code & general efficiencies, as well as health and life safety for prisoners. Effective storage space is lacking, especially evidence and records storage. There are issues with programmatic adjacencies – the layout of the spaces and circulation can be improved upon. The secure areas of the building have breaches and there are some building code violations including life safety issues. With no elevator, and no handicap accessible cell, the facility would not be considered fully handicap accessible.

OVERALL DEFICIENCIES / CONCERNS

1. **Lack of a fire suppression system (life safety)**
2. **Lack of separation between public and officer areas (security)**
3. **No elevator and numerous violations (ADA)**
4. **Thermal envelope improvements (energy code)**
5. Window and roof replacement
7. **Air quality improvement – fresh air intake and ventilation**
8. Hazardous materials
10. **Update electrical service (electrical code)**
11. Construction type – building cannot be easily expanded
12. Inadequate storage
13. **Evidence of mold and moisture damage**
14. Programmatic adjacency issues
15. Performance issues



*STRUCTURAL NARRATIVE*

**JSE JOHNSON STRUCTURAL ENGINEERING, INC.**

101 Huntoon Memorial Highway (Rt. 56), Rochdale, MA 01542 (508) 892-4884 Fax (508) 892-0477

April 21, 2021

Tecton Architects  
34 Sequassen Street, Suite 200  
Hartford, CT 06106  
Attn: Jeff McElravy

Re: Major Structural Issues Noted During Site Visit on April 16, 2021 for  
The Police Department Renovation or Replacement Analysis  
575 Smithfield Road  
North Smithfield, RI

Dear Mr. McElravy:

The following list includes the major structural items noted during a site visit that was performed on April 16, 2021 by Robert A. Johnson of JSE.

1. The front parapet wall is in danger of falling off the building and the area below should be off limits. See "Front Parapet" Photos #1 & #2.
2. The majority of the existing roof parapet needs to be removed or removed and completely rebuilt. See "Parapet" Photo #3.
3. The front masonry wall (full length) is in complete disrepair, the entire wall needs to be rebuilt. See "Front Wall" Photos #4 & #5.
4. Masonry repairs/waterproofing/repointing is required at multiple locations. See "Masonry Repairs" Photo #6 for an example of the repairs required.
5. Multiple steel lintels are corroded and need to be replaced. See "Exterior Masonry Lintel" Photos #7 & #8.
6. The existing fire escape will require repairs/upgrades to meet current code. See "Fire Escape" Photos #9 & #10.
7. There are multiple areas of interior masonry damage due to water infiltration. See "Interior Masonry Water Damage" Photos #11 & #12.
8. At multiple locations, the interior wood headers have water damage and require replacement. See "Interior Wood Header" Photo #13.

If you have any questions, please contact our office.

Sincerely Yours,  
Johnson Structural Engineering, Inc.



Robert A. Johnson, P.E.  
President



Front Parapet Photo #1



Front Parapet Photo #2



Parapet Photo #3



Front Wall Photo #4



Front Wall Photo #5



Masonry repairs Photo #6



Exterior Masonry Lintels Photo #7



Exterior Masonry Lintels Photo #8



Fire Escape Photo #9



Fire Escape Photo #10



Interior Masonry Water Damage Photo #11



Interior Masonry Water Damage Photo #12



Interior Wood Header Photo #13

*PLUMBING, FIRE PROTECTION, MECHANICAL, AND  
ELECTRICAL NARRATIVE*

## **PLUMBING SYSTEMS:**

### **Existing Plumbing and Piping Systems**

1. **Domestic Water Service:** The domestic water service enters the building in the main electrical room, within a pit in the floor. The water service to the building is 1 ½" with no backflow protection or pressure regulator. This service is in working condition but the installation location within the pit makes maintenance a challenge. The size of the service would have to be analyzed based on proposed future renovations to the building and would probably need to be upgraded. There was a domestic water well noticed on site along with a domestic water storage tank located within the building. However the tank was empty and CES was advised that it is no longer used and the building is entirely feed from the municipal water system. **(Appendix: P-1 & P-2)**
2. **Domestic Water Piping:** The domestic water piping in the building was observed to be copper with soldered joints. This piping has been installed over many different years and is in working condition but, the majority of the piping is at the end or past its useful life. The domestic water distribution would need to be replaced in its entirety if the building was to be renovated.
3. **Natural Gas Service:** The natural gas service assembly is located outside of the building on the southeast side, where it then enters the building. Natural gas piping was observed to be steel with welded and threaded joints. The gas piping is ¾" to the meter and 1 ½" to the entire building. The gas piping appears to be in working condition, but at the end of its useful life. The gas piping would need to be replaced within the entire building if the building were to be renovated. **(Appendix: P-3)**
4. **Sanitary and Storm:** The building's sanitary and storm piping was observed to be mostly cast iron. There has also been some newer piping installed that is PVC. This piping has been installed over many different years and is in working condition, however the majority of the piping is at the end or past its useful life. The sanitary and storm piping would need to be replaced within the entire building if the building were to be renovated.
5. **Domestic Hot Water System:** Domestic water is currently generated by a single gas fired Water Heater. The heater is manufactured by AO Smith and is a 40 Gallon Tank with an input of 40,000 BTUH. This water heater was installed in 2013 and is in good working condition. While the water heater is in good condition, there is only one water heater in the facility. If the heater were to go down for maintenance or need repairs there would be no hot water in the building. It was also observed that there was not a mixing valve on the discharge of the water heater to regulate the building temperature and there was not a recirculation pump. The hot water plant would need to be expanded or replaced in its entirety if the building were to be renovated. **(Appendix: P-4)**
6. **Plumbing Fixtures:** The plumbing fixtures within the building have been installed over different years. Overall, the general plumbing fixtures are past their useful life. The detention plumbing fixtures are also past their useful life and showed visible signs of corrosion. All plumbing fixtures would need to be replaced if the building were to be renovated.

## **FIRE PROTECTION:**

1. The building is currently not served by an automatic Fire Protection system. A new Fire Protection system would need to be installed if the building were to be renovated.

## MECHANICAL SYSTEMS:

### Existing Boiler Plant

1. The existing boiler plant consists of one (1) boiler. This boiler feed the entire building and is a natural gas Viessmann boiler rated at 638,000 BTUH input. This boiler has a manufacturer date of 2010, which would make it approximately 10 years old. It appears that the boiler, expansion tank, air separator and boiler room piping wall were all installed at this time. While this system is in good working condition the plant only consists of one boiler and therefore provides no redundancy to this plant. If the boiler was to go down for maintenance or need repairs the building would be left without heat (**Appendix: M-1 & M-2**). The boiler plant would need to be expanded or replaced if the building were to be renovated.
2. Heating Hot Water Piping: Heating Hot Water is distributed throughout the building by piping that is comprised of steel or copper. This piping has been installed over many different years and is at the end or past its useful life. The hot water distribution would need to be replaced if the building were to be renovated.

### Existing Heating, Ventilating, and Air Conditioning Devices

1. The building is currently heated through the use of hydronic baseboard radiation, and hydronic unit heaters. These units appear to be older and at the end of their useful life. If the building were to be renovated all of these devices would be removed and the building would be provided with new equipment. (**Appendix: M-3**)
2. Exhaust from bathrooms, storage rooms and janitor's closets is achieved through the use of ceiling mounted exhaust fans. These fans are all at the end of their useful life. The fitness room, located in the basement, does not have any exhaust system. Current codes would require this room to be exhausted to alleviate the transfer of odors to other parts of the building.
3. Air Conditioning is only provided within the old town hall side of the facility. This is achieved through the use of four (4) packed rooftop units. These units feed ductwork, which serve the office spaces in the old town hall side. The police department side of the building does not contain any permanent air conditioning. Air conditioning for these offices is provided by window air conditioning units. Air Conditioning is also provided in the Communications Equipment room by the use of two ductless split unit. (**Appendix: M-4**) These units are newer and in good working condition.
4. Mechanical ventilation systems were limited to the old town hall side though the use of rooftop units. The lower level of the building is also ventilated though the use of a heating and ventilating unit, located in the main electrical room. 100% outside air is brought into the building and exhausted though an exhaust fan located within a storage room on the lower level. While this unit brings in outside air it does need to meet the current energy codes for energy recovery, which it does not. An entire new ventilation system will need to be provided for the entire building if the building were to be renovated. The police side of the building does not have any mechanical ventilation systems and relies only on natural ventilation from the windows. While this did meet the code at the time this, is not standard practice for a modern police facility. The detention cell area does have exhaust and fresh air however, it also does not meet the current codes for energy efficiency. These systems would all need to be replaced if the building were to be renovated.

## **ELECTRICAL SYSTEMS:**

### **Electrical Service and Distribution:**

1. **Electrical services:** The service to this building is a 208Y/120V – 3 phase, 400 Amps underground feed. It terminates at a main distribution panel in the Main Electrical Room of the Building. This panel is nearing the end of its useful life. **(Appendix: E-1)** This room also includes a 208Y/120V – 3 phase, 100 Amps Emergency Power Panel. **(Appendix: E-2 & E-3)**. This electrical service does not meet the current codes for having a dedicated life safety distribution system along with an optional standby distribution system. The life safety branch needs to be independent of the optional standby system. Therefore, the service would need to be reconfigured if the building were to be renovated.
2. **Electrical distribution:** The electrical infrastructure within the building is old and at the end of its useful life. The current arrangement of panels is not organized and there are panels located within various spaces. While this system is working it is inadequate for a modern police station. The entire electrical distribution would need to be replaced if the building were to be renovated.

### **Existing On Site Power Generation System**

1. The building is currently served by an onsite diesel generator. The generator is manufactured by Superior and rated for 115 KW. This generator serves as backup for major components in the building including emergency lights, heating plant, fire alarm, IT Power and Police communications. If the building were to be renovated, the generator would need to be replaced and would be sized to back up the entire building. A new generator would also have 72 hours worth of fuel storage for run time to keep the building operational. **(Appendix: E-4)**

### **Existing Fire Alarm System**

1. **Fire Alarm Panel:** The building is equipped with an Edwards Custom 6500 Alarm Control Panel located at the main entrance lobby. This panel is at the end of its useful life and is not addressable. This system would need to be replaced and brought up to current code if the building were to be renovated.

### **Interior Lighting**

1. Lighting is accomplished by the use of 1'x4', 2'x2' and 2'x4' Fluorescent fixtures, with T8 lamps. These fixtures are at the end of their useful life.
2. Lighting fixtures are generally controlled by wall mounted toggle switches. No occupancy sensor and daylight control devices were observed in the building, with the exception of a few combination switch/sensors that have been added.

### **Exit Signs**

1. Exit signs within the building are of mixed type. Most of the signs are aged and at the end of their useful life.

## Plumbing/Fire Protection Photographs

### **P-1 – Water Service**



### **P-2 – Abandoned Well Tank (Well Outside of Building)**



### P-3 – Natural Gas Service



### P-4 Domestic Hot Water



## Mechanical Photographs

### M-1 – Boiler Plant



### M-2 – Boiler Pumps



### M-3 – Terminal Equipment



### M-4 – Ductless Split Air Conditioner



## Electrical Photographs

### **E-1 – Main Electrical Panel**



### **E-2 – Emergency Power Panel**



### E-3 – Electric Meter and Main Distribution Panel

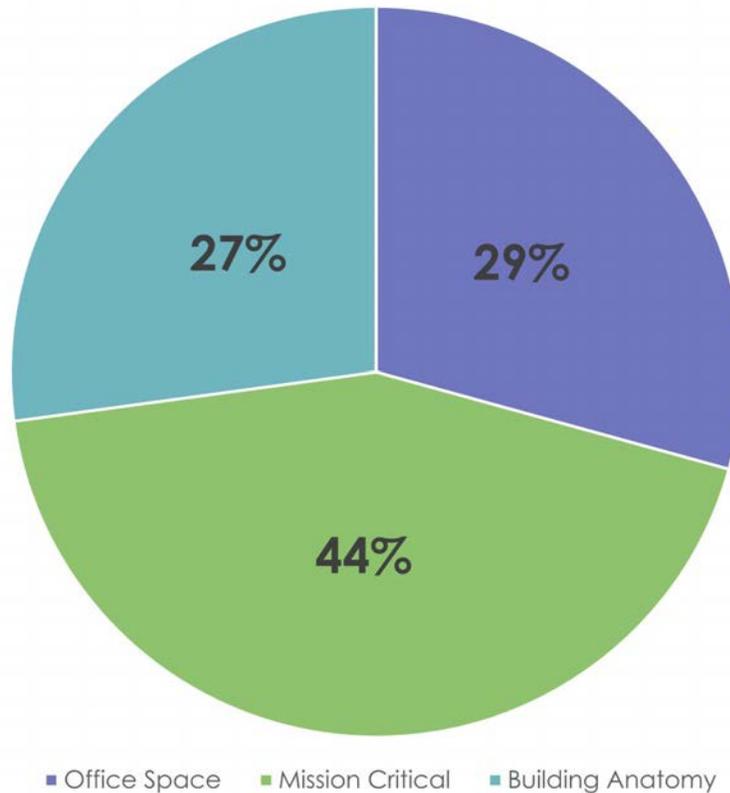


### E-4 – Generator



*POLICE STATION PROGRAM*

# PROGRAM ALLOCATION SUMMARY



## OFFICE SPACE

This category represents all spaces within the program that are "people-driven". This includes open office areas/workstations, private offices, report writing, conference rooms, roll call, training/community room, reception areas, break rooms, restrooms, copier rooms, etc.

*Office Space comprises 29% of the program.*

## MISSION CRITICAL

This category represents all spaces within the program that are critical to the job of policing. These spaces are public safety specific and their sizes are directly driven to meeting accreditation requirements, best practices, custodial responsibilities, code requirements and standard recommendations. Since these spaces are so directly tied to specific tasks, there is very limited opportunities to reduce these portions of the program. This includes emergency communications/dispatch, interview rooms, prisoner processing and detention, evidence processing/storage/lab analysis, physical fitness, vehicle storage/maintenance/processing, equipment/firearms storage, etc.

*Mission Critical comprises 44% of the program.*

## BUILDING ANATOMY

This category represents all components necessary to construct a building. These are all the spaces required to house building systems and infrastructure, as well as "the net to gross ratio". This includes circulation, wall thickness, utility/mechanical/electrical rooms, janitorial closets, etc.

*Building Anatomy comprises 27% of the program.*

## POLICE DEPARTMENT

The following pages illustrate a variety of 25-year projections made utilizing historic data from the community in comparison with police department staffing levels. These projections are limited to comparisons of population growth to police staffing levels, calls for service volume versus police staffing, and officer per thousand ratios versus police staffing.

In each of the techniques evaluated, the correlation of the data varied. Population growth compared to staffing levels showed the weakest relationship, while calls for service and officer per thousand versus police staffing resulted in moderate to strong correlations, respectively.

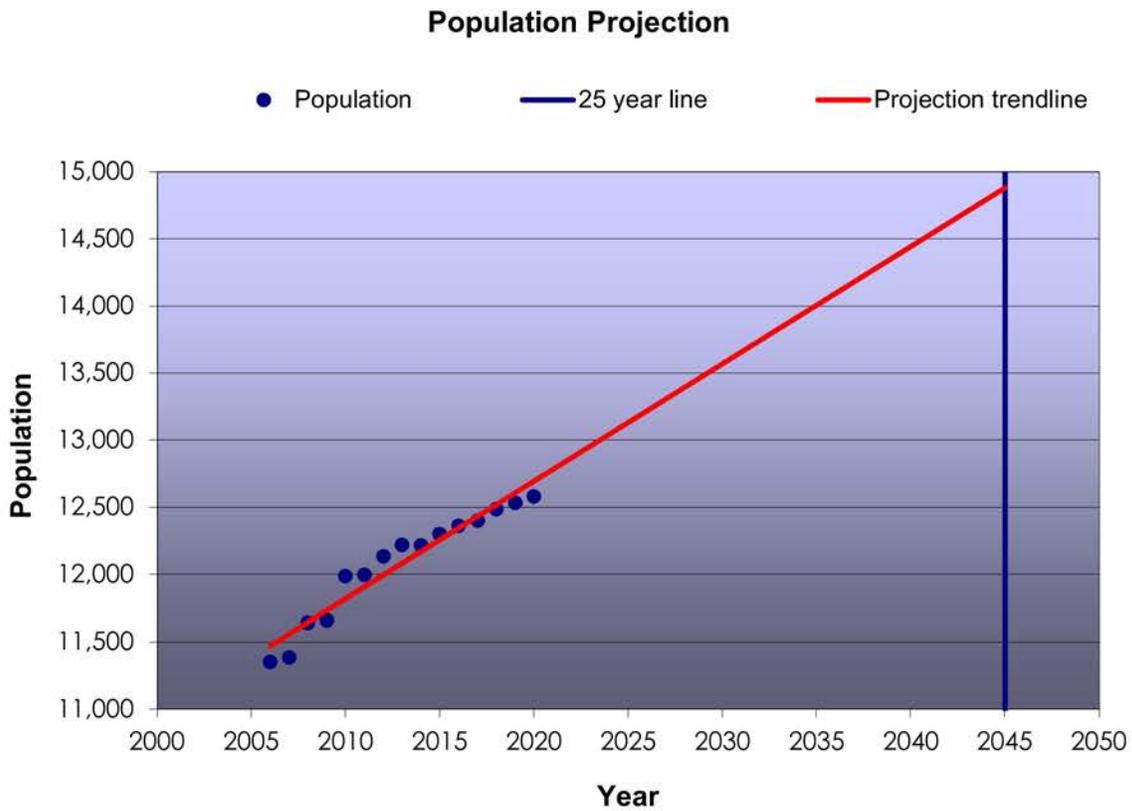
Therefore, the 25 year staff projection, which takes the weighted result total for each category and divides these by the associated weight factors, is 27 officers. This is a modest growth percentage of 102%. Since many of the trends including population and calls for service are inclining, it would seem reasonable to assume that the current staffing levels will continue to grow in order to meet future needs. The community has and is continuing to change. Ever greater commercial development and increased traffic volume have resulted in changes in the types of response for which the agency provides services. This change is expected to continue and it is the expectation of the programmer that although the overall staffing only shows an increase to 27 officers, the difference will be felt to an even greater extent due to the recent evolution of gender ratios within the department.

Year	Total FT Sworn	Calls for Service	Arrests	Population
2005	25	9,438	543	11,239
2006	25	10,364	569	11,352
2007	25	9,757	515	11,385
2008	25	10,611	509	11,641
2009	25	10,645	554	11,662
2010	25	10,941	522	11,989
2011	25	12,619	647	12,000
2012	25	12,714	924	12,134
2013	25	10,333	629	12,220
2014	25	12,256	638	12,216
2015	25	9,894	690	12,300
2016	25	12,095	692	12,366
2017	26	14,775	758	12,403
2018	26	14,659	879	12,485
2019	26	18,850	894	12,533
2020	26	17,916	612	12,582

# North Smithfield, Rhode Island

## Population Projection Worksheet

Linear regression projection for community population in 25 years:



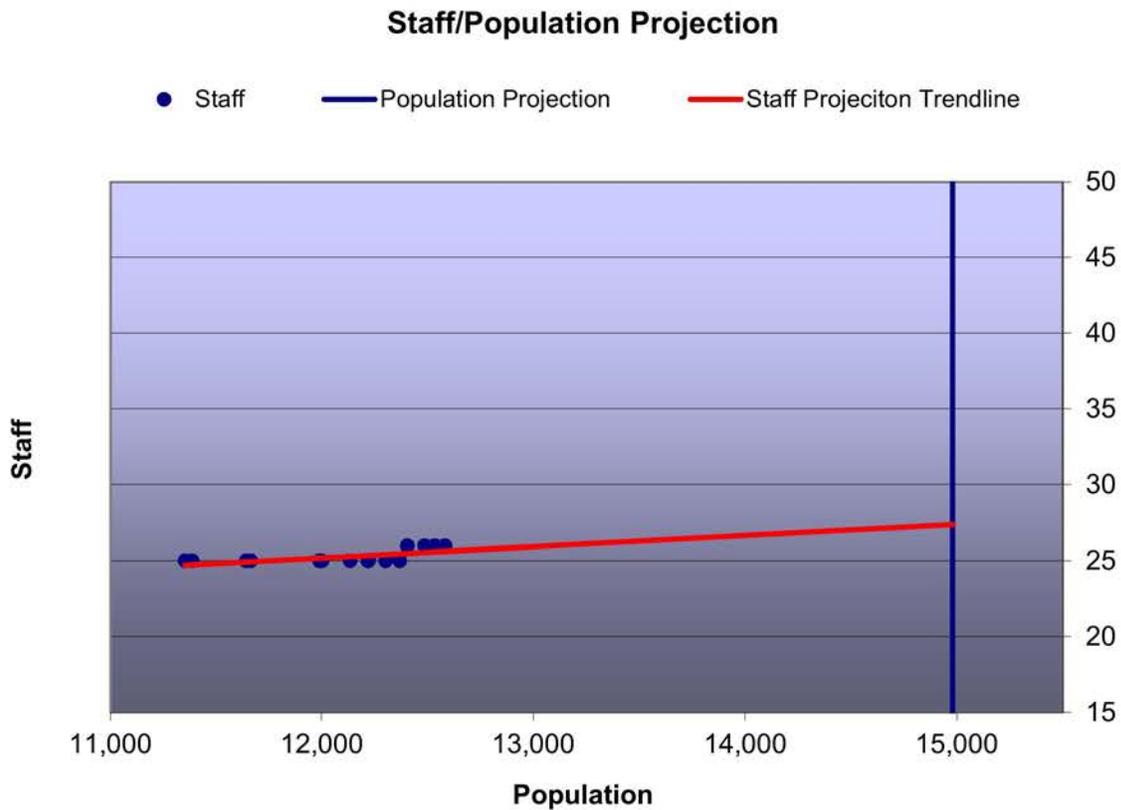
The graph, using the least squares method, indicates a 25 year population projection based upon the provided historical statistical\* data of: **14,979**

\* Whenever possible Tecton Architects, Inc. recommends the use of a demographer's projection. A demographer's population projection considers far more data sources than this simplified model, however for this study no such projection was available.

## North Smithfield, Rhode Island

### Staff/population Projection Worksheet

Linear regression 25 year projection for staff size based upon the historic relationship between staffing level and community population:



The graph, using the least squares method, indicates a 25 year projected staffing level based upon the provided historical statistical data and the population projection of:

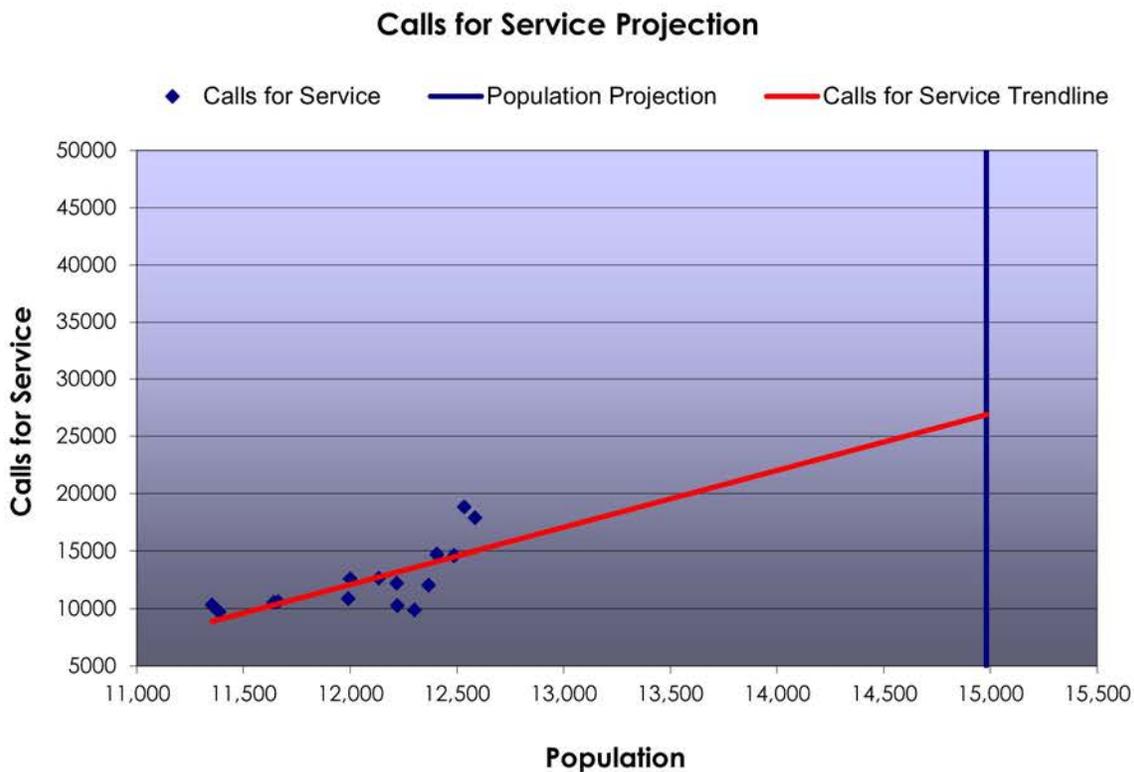
**27**

The standard deviation of historical staff data from the trendline is: 0.36  
 Which represents a margin of error for the projection of: 1.33%  
 The correlaton factor, which tells us how strongly the data is related, between the staff size and the population is: 40%

# North Smithfield, Rhode Island

## Call for Service Projection Worksheet

Linear regression 25 year projection for Calls for Service based upon the historic relationship between Calls for Service and community population:



How many dispatch positions do you require in your new facility?

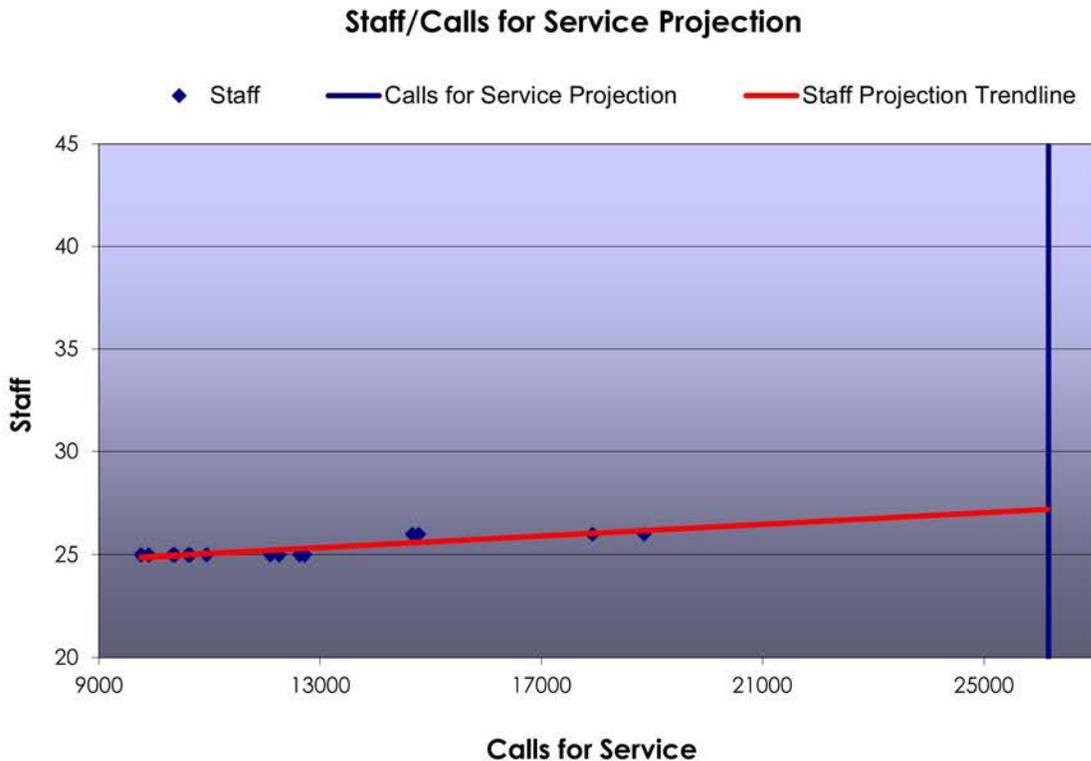
The graph, using the least squares method, indicates a 25 year projected Calls for Service level based upon the provided historical statistical data and the population projection of: **26,160**

The standard deviation of historical staff data from the trendline is: 2018  
 Which represents a margin of error for the projection of: 7.71%  
 The correlation factor, which tells us how strongly the data is related, between the Calls for Service and the population is: 53%

## North Smithfield, Rhode Island

### Staff/Call for Service Projection Worksheet

Linear regression 25 year projection for staff based upon the historic relationship between staff size and calls for service:



How many dispatch positions do you require in your new facility?

In addition to the dispatchers above, how many civilian employees does your agency currently employ?

The graph, using the least squares method, indicates a 25 year projected staff level based upon the provided historical statistical data and the calls for service projection of:

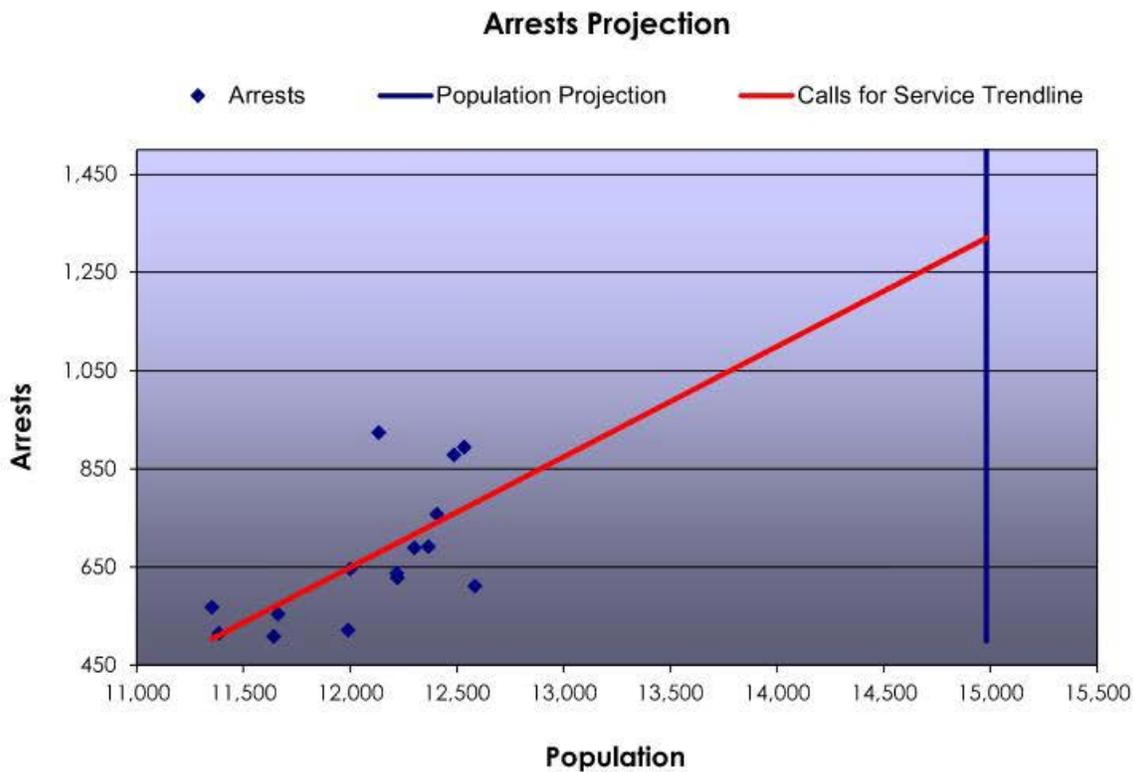
**27**

The standard deviation of historical staff data from the trendline is:	0.22
Which represents a margin of error for the projection of:	0.83%
The correlation factor, which tells us how strongly the data is related, between the staff size and the calls for service is:	77%
A modified correlation factor representing the lesser of the calls for service and the staff/calls for service is used for the final projection:	53%

## North Smithfield, Rhode Island

### Call for Service Projection Worksheet

Linear regression 25 year projection for Arrests based upon the historic relationship between Arrests and community population:



How many dispatch positions do you require in your new facility?

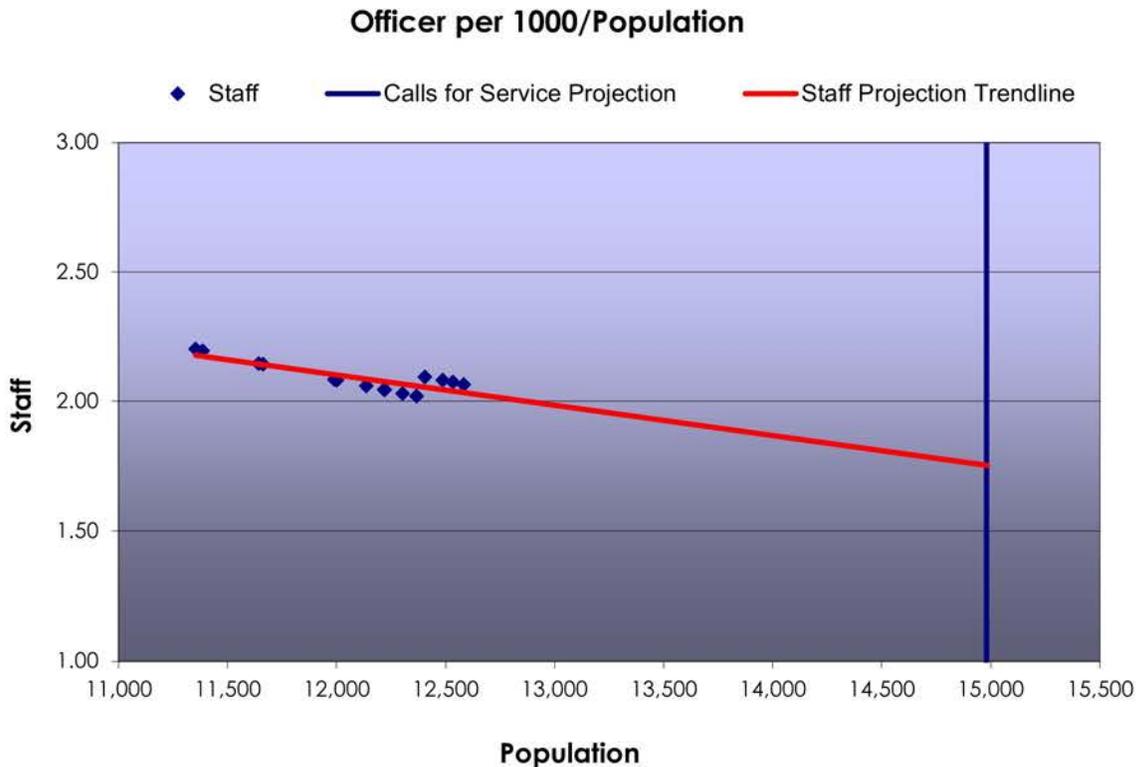
The graph, using the least squares method, indicates a 25 year projected Calls for Service level based upon the provided historical statistical data and the population projection of: **1,273**

The standard deviation of historical staff data from the trendline is: 106  
 Which represents a margin of error for the projection of: 8.29%  
 The correlation factor, which tells us how strongly the data is related, between the Calls for Service and the population is: 45%

## North Smithfield, Rhode Island

### Staff/Call for Service Projection Worksheet

Linear regression 25 year projection for the officer per thousand ratio based upon the historic relationship between the officer per thousand ratio and the population:



The graph, using the least squares method, indicates a 25 year projected officer per thousand ratio based upon the provided historical statistical data and the population projection of:

**1.73**

This will result in a staff size in 25 years based on the projected population of:

**26**

The standard deviation of historical staff data from the trendline is:

0.03

Which represents a margin of error for the projection of:

1.77%

The correlation factor, which tells us how strongly the data is related, between the officer per thousand ratio and the population is:

78%

# North Smithfield, Rhode Island

## Staff Projection Evaluation Worksheet

---

### Population

Current: 12,582      Source: Population Projection Worksheet  
 Projected: 14,979

### Calls for Service

Current: 17,916      Source: Calls for Service Worksheet  
 Projected: 26,160

### Officers per Thousand

Current: 2.07      Source: Officer per Thousand Worksheet  
 Projected: 1.73

### Staff Projections

The projections from the prior worksheets will be weighted according to the correlation factors and then averaged to provide a final staff projection.

	Projected Staff	Weight Factor	Weighted result
Population/Staff	27	1	27
Calls for Service/Staff	27	2	54
Officer per Thousand/Staff	26	3	78
Totals:		6	159

25 year Staff Projection (weighted result total/weight factor total):	<b>27 Officers</b>
Percentage change in sworn staff size:	<b>102%</b>

<b>1. Public</b>	<b>1180 SF</b>
1.01 Vestibule	80 SF
1.02 Lobby	620 SF
1.03 Public Female Restroom	160 SF
1.04 Public Male Restroom	160 SF
1.05 Public Interview/Licensing	160 SF
<b>2. Training, Community, Court</b>	<b>1772 SF</b>
2.01 Training, Community, Municipal Court	1500 SF
2.02 Furniture Storage	150 SF
2.03 Kitchenette	100 SF
2.04 Training Supply Storage	22 SF
<b>3. Municipal Court Facilities</b>	<b>500 SF</b>
3.01 Court Staff Office	290 SF
3.02 Judges Chamber	145 SF
3.03 Judges Restroom	65 SF
<b>4. Dispatch Center</b>	<b>915 SF</b>
4.01 Dispatch Center	350 SF
4.02 Break Area	140 SF
4.03 Dispatch Restroom	65 SF
4.04 Communications Equipment Room	240 SF
4.05 IT Office	120 SF
<b>5. Records</b>	<b>360 SF</b>
5.01 Records/Court Clerk/Admin	180 SF
5.02 Records Archive	180 SF
<b>6. Department Administration</b>	<b>1060 SF</b>
6.01 Chief's Office	200 SF
6.02 Chief's Restroom	65 SF
6.03 Captain's Office	160 SF
6.04 Conference Room	240 SF
6.05 Captain/Leutenant's Office	225 SF
6.06 Personnel File Room	80 SF
6.07 Office Supply	40 SF
6.08 Reprographics Work Area	50 SF

<b>6. Department Administration</b>	<b>1060 SF</b>
<b>7. Investigative</b>	<b>560 SF</b>
7.01 Detective Squad Room	360 SF
7.02 Investigative Interview	100 SF
7.03 Investigative Supply	100 SF
<b>8. Property and Evidence</b>	<b>1340 SF</b>
8.01 Evidence Receiving/Processing	200 SF
8.02 Working Evidence Storage	200 SF
8.03 Drugs/Weapons/Valuables Storage	120 SF
8.04 Bulk Found Property	300 SF
8.05 Vehicle Processing Bay	520 SF
<b>9. Patrol Facilities</b>	<b>990 SF</b>
9.01 Lieutenant's Office	250 SF
9.02 Sergeants Office	300 SF
9.03 Roll Call	160 SF
9.04 Report Preparation	180 SF
9.05 Quartermaster Storage	100 SF
<b>10. Department Firearms</b>	<b>370 SF</b>
10.01 Armory	160 SF
10.02 Weapons Cleaning	120 SF
10.03 Long Gun Storage	90 SF
<b>11. Staff Facilities</b>	<b>2410 SF</b>
11.01 Male Locker Restroom	250 SF
11.02 Male Locker Room	500 SF
11.03 Female Locker Restroom	200 SF
11.04 Female Lockers	90 SF
11.05 Fitness Room	1000 SF
11.06 Break Room	240 SF
11.07 Male Restroom	65 SF
11.08 Female Restroom	65 SF
<b>12. Prisoner Processing</b>	<b>1588 SF</b>
12.01 Sally Port	1080 SF

<b>12. Prisoner Processing</b>	<b>1588 SF</b>
12.02 Cruiser Supply/First Aid	40 SF
12.03 Decon Shower	50 SF
12.04 Prisoner Processing	150 SF
12.05 Processing Booth	40 SF
12.06 Interview Room	100 SF
12.07 Arraignment/Bond Room	100 SF
12.08 Janitor Closet	16 SF
12.09 Blanket Storage	12 SF
<b>13. Detention Facilities</b>	<b>910 SF</b>
13.01 Detention Cell x7	770 SF
13.02 HC Cell	140 SF
<b>14. Garage and Storage</b>	<b>1860 SF</b>
14.01 Vehicle Storage 2 bays	960 SF
14.02 Vehicle Maintenance Bay	520 SF
14.03 Traffic Storage	300 SF
14.04 PPE Storage	40 SF
14.05 Baby Seat Storage	40 SF
<b>15. Vertical Circulation</b>	<b>965 SF</b>
15.01 Stair 1	400 SF
15.02 Stair 2	400 SF
15.03 Elevator	120 SF
15.04 Elevator Machine Room	45 SF
<b>16. Building Services</b>	<b>570 SF</b>
16.01 Mechanical Room	400 SF
16.02 Electrical Room	80 SF
16.03 Emergency Electrical Room	50 SF
16.04 Janitor Closet	40 SF

Net SF: 17,350 SF

Gross SF (25% Net to Gross): **21,688 SF**

## 1. Public

### 1.01 Vestibule

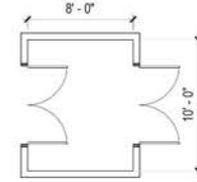
80 SF

#### Equipment

- recessed walk-off mat(verify length with any LEED requirements)

#### Security

- free access from exterior 24/7
- emergency lockdown of inner doors
- ballistic protection in any wall interfacing staff areas
- audio and video surveillance
- emergency phone to main desk/dispatch



#### Electrical

- fire alarm annunciator panel

#### Adjacencies

Lobby

### 1.02 Lobby

620 SF

#### General

- lobby design should reflect an environment of service to the community and visitors
- Community/Training/Municipal Court Room access
- Public Interview/Licensing Room access
- window to Dispatch
- window to Records/Court Clerk/Admin
- clear signage to each service window

#### Security

- free access with emergency lockdown provisions
- proximity access control to secure areas
- remote release of doors from Dispatch
- ballistic protection in walls interfacing staff areas
- bullet resistant transaction counters at each service desk
- bullet resistant package pass at main desk
- audio/video monitoring

#### Furniture

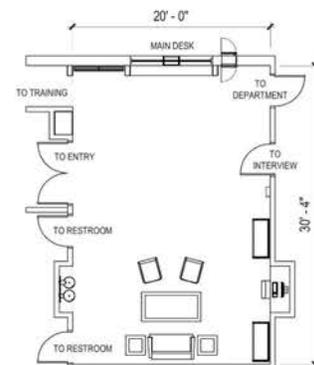
- couch with charging ports, comfortable area for purchasing/exchange

#### Equipment

- public access computer terminal(s)

#### Casework and built-ins

- (1) large pamphlet/form rack for community information
- (2) display cases
- drops for cell phone donations, prescription drugs, sharps, and flags



**Display**

- (1) flat panel information monitor
- (2) display cases for historic artifacts
- wall space for display of historic artifacts

**Mechanical**

- do not recirculate air into staff areas

**Plumbing**

- (1) drinking fountain (accessible)

**Adjacencies**

Records/Court Clerk/Admin  
 Training, Community, Municipal Court  
 Dispatch Center

## 1.03 Public Female Restroom

160 SF

**Plumbing**

- (1) hc water closet
- (1) water closet
- (1) sink
- (1) floor drain with trap primer

**Equipment**

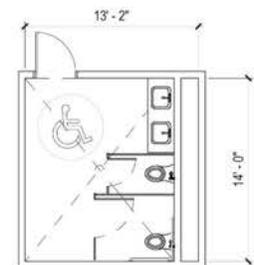
- toilet accessories as required
- mirrors at sink(s)
- changing station

**Security**

- ballistic protection in walls interfacing staff areas
- avoid concealed areas within room or above ceiling

**Adjacencies**

Lobby  
 Training, Community, Municipal Court



## 1.04 Public Male Restroom

160 SF

**Plumbing**

- (1) hc water closet
- (1) urinal
- (1) sink
- (1) floor drain with trap primer

**Equipment**

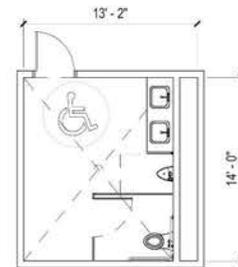
- toilet accessories as required
- mirrors at sink(s)
- changing station

**Security**

- ballistic protection in walls interfacing staff areas
- avoid concealed areas within room or above ceiling

**Adjacencies**

Lobby  
Training, Community, Municipal Court



## 1.05 Public Interview/Licensing

160 SF

**Furniture**

- fixed tables w/ four chairs

**Casework and built-ins**

- (6) linear foot licensing counter with cabinets below

**Equipment**

- (1) computer (on counter)
- (1) wall telephone

**Acoustics**

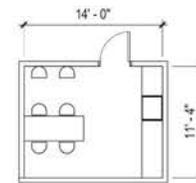
- partitions extend to underside of structure
- sound batt insulation in stud partitions

**Security**

- proximity access
- audio/video monitoring - to record activities
- ballistic protection in walls interfacing staff areas
- panic device

**Adjacencies**

Lobby  
Records/Court Clerk/Admin  
Dispatch Center



## 2. Training, Community, Court

### 2.01 Training, Community, Municipal Court

1500 SF

**Occupants** 40 as training, 100 as court

#### General

- community access from lobby, police access from secure corridor, egress direct to exterior
- security checkpoint at entrance

#### Acoustics

- partitions to extend to underside of structure
- sound batt insulation in stud partitions

#### Furniture

- (20) 2'x6' portable tables
- 100 stackable chairs
- (1) portable judges bench

#### Equipment

- tel/data floor boxes for tables
- (1) wall telephone

#### Display

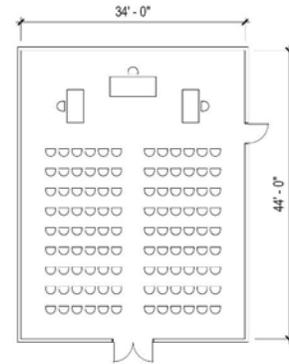
- (2) short throw projectors
- (24) linear feet of marker/projection surface
- (2) flat panel monitors ceiling mounted at mid point
- confidence monitor at rear of room

#### Security

- proximity access control
- interlock to switch control point between police access and public access
- ballistic protection in walls interfacing staff areas

#### Adjacencies

Lobby  
 Court Staff Office  
 Records/Court Clerk/Admin



2.02 Furniture Storage

150 SF

**Description**

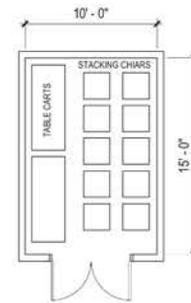
- open floor space for furniture storage racks

**Security**

- standard commercial lockset

**Adjacencies**

Training, Community, Municipal Court



2.03 Kitchenette

100 SF

**Casework & Built-ins**

- (8) linear feet base and upper cabinets

**Equipment**

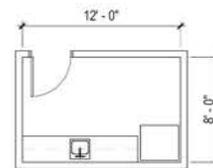
- (1) refrigerator with built-in ice maker
- (2) microwave (at casework)
- (1) coffee machine

**Plumbing**

- (1) sink (in casework)

**Adjacencies**

Training, Community, Municipal Court



2.04 Training Supply Storage

22 SF

**Casework and Built-ins**

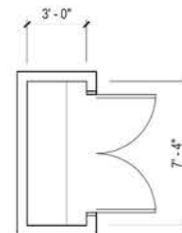
- 5 tier shelving on wall standards, 24" deep x width of room

**Security**

standard commercial lockset

**Adjacencies**

Training, Community, Municipal Court



### 3. Municipal Court Facilities

#### 3.01 Court Staff Office

290 SF

##### Furniture

- (3) "L" 6' x 6' workstation with chair
- (4) five drawer lateral file cabinets

##### Casework and Built-ins

- (6) linear feet of kitchenette counter with uppers

##### Equipment

- (3) computers (@ workstation)
- (3) telephones (@ workstation)
- (1) multi-function device (on casework)
- coffee maker

##### Plumbing

- sink in counter
- 

##### Acoustics

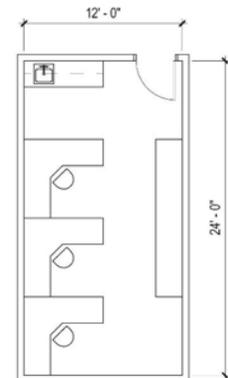
- partitions to extend to underside of structure
- sound batt insulation in stud partitions

##### Security

- proximity access control

##### Adjacencies

Records/Court Clerk/Admin  
 Training, Community, Municipal Court  
 Judges Chamber



#### 3.02 Judges Chamber

145 SF

##### Furniture

- (1) "L" workstation w/ chair
- (2) two-drawer undercounter file cabinets
- (2) visitor chairs

##### Casework and Built-ins

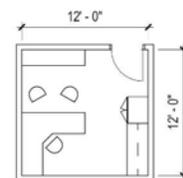
- (5) linear feet of open base counter
- (10) linear feet of wall shelving (over counter)
- (2.5) linear feet wardrobe

##### Equipment

- (1) computer (@ workstation)
- (1) telephone (@workstation)

##### Adjacencies

Court Staff Office  
 Training, Community, Municipal Court  
 Judges Restroom



## 3.03 Judges Restroom

65 SF

**Plumbing**

- (1) hc water closet
- (1) sink

**Equipment**

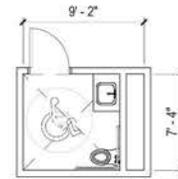
- toilet accessories as required
- mirrors at sink

**Security**

- Standard commercial privacy lockset

**Adjacencies**

Judges Chamber



## 4. Dispatch Center

### 4.01 Dispatch Center

350 SF

#### Description

- The dispatch center will be public reception point from the public lobby.

#### Acoustics

- partitions to extend to underside of structure
- sound batt insulation in stud partitions
- acoustic wall panels on 20% of surface

#### Furniture

- (2) dispatch consoles with chairs, pulled back shared wall monitors
- (5) rolling two-drawer lateral file cabinets (under counter)
- (1) 8 x 8 "L" shaped supervisor workstation

#### Casework and Built-Ins

- (16) linear feet open countertop
- (6) linear feet three island with manual shelving

#### Equipment

- (1) CJS computer (shared)
- (1) multifunction print device (on casework)
- (1) logging recorder
- (1) scanner (on casework)
- (1) leaps computer terminal at counter
- central vacuum system
- note: equipment per console as indicated below:

##### Each Console

- (2) computer aided dispatch monitors
- (2) 911 monitor(s)/phone
- (2) radio monitor
- (1) security monitor
- (1) intercom
- (1) telephone

#### Display

- (1) large wall map(s)
- (2) large flat screen perimeter security monitors
- (2) large flat screen municipal security monitors
- (1) large flat screen dispatch monitor
- (1) large flat screen television monitor
- (1) 4' x 6' tack board

#### Mechanical

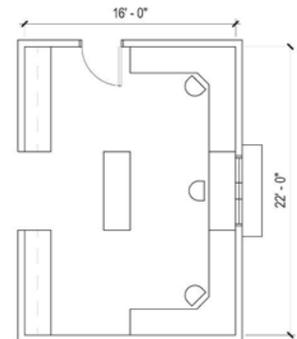
- dedicated HVAC system

#### Electrical

- all systems on ups and emergency generator
- indirect lighting with multilevel control
- copper land line to dispatch

#### Security

- bullet resistant transaction window with deal tray to lobby
- proximity access control



- ballistic protection in walls interfacing public areas
- 2-hour fire seperation

**Adjacencies**

- Lobby
- Dispatch Restroom
- Break Area

4.02 Break Area

140 SF

**General**

- Keep area out of direct site from lobby

**Furniture**

- table with two chairs

**Casework & Built-ins**

- (7.5) linear feet base and upper cabinets

**Equipment**

- (1) refrigerator with built-in ice maker
- (1) microwave (in casework)
- (1) coffee machine
- (6) 1.5' x 2' x 6' lockers

**Plumbing**

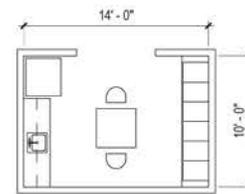
- (1) sink (in casework)

**Security**

none

**Adjacencies**

- Dispatch Center
- Dispatch Restroom



4.03 Dispatch Restroom

65 SF

**Plumbing**

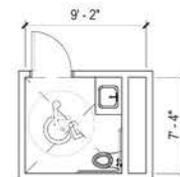
- (1) hc water closet
- (1) sink

**Equipment**

- toilet accessories as required
- mirrors at sink
- (1) telephone

**Adjacencies**

- Dispatch Center
- Break Area



## 4.04 Communications Equipment Room

240 SF

**Casework and Built-ins**

- (10) linear feet open counter for computers
- (40) linear feet 8' high plywood backerboard

**Equipment**

- (5) server room racks
- crash bar in direction of egress
- overhead cable tray

**Electrical**

- grounding bar

**Mechanical**

- redundant server room units

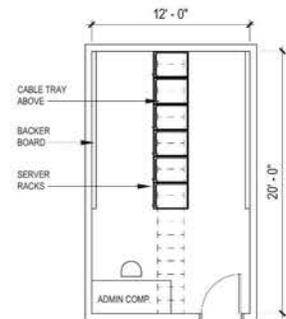
**Security**

- access control

**Adjacencies**

Dispatch Center

IT Office



## 4.05 IT Office

120 SF

**Furniture**

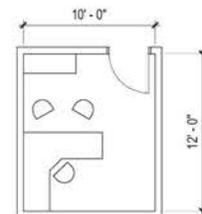
- (1) "L" workstation w/ chair
- (2) three-drawer file cabinets
- (2) visitor chairs

**Equipment**

- (1) computer (@ workstation)
- (1) telephone (@workstation)

**Adjacencies**

Communications Equipment Room



## 5. Records

### 5.01 Records/Court Clerk/Admin

180 SF

#### Furniture

- (1) 6'x6' "L" workstation w/ chair, away from window
- (32) linear feet of high-density 5 high file storage
- (2) two drawer lateral file cabinets

#### Casework and Built-ins

- (10) linear feet of open counter over file cabinets

#### Equipment

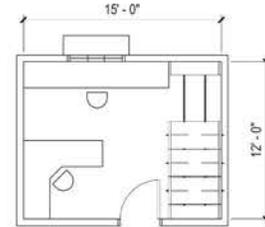
- (1) telephone
- (1) computer
- (1) multi-function printer

#### Security

- proximity access
- ballistic protection in walls interfacing public areas
- ballistic window to lobby w/ deal tray, natural voice transmission, and intercom enhancement

#### Adjacencies

- Chief's Office
- Court Staff Office
- Lobby



### 5.02 Records Archive

180 SF

#### General

- rails recessed in slab

#### Furniture

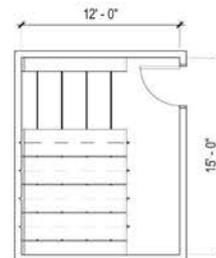
- (48) linear feet of high-density 5 high file storage

#### Security

- proximity access control

#### Adjacencies

- Records/Court Clerk/Admin



## 6. Department Administration

### 6.01 Chief's Office

200 SF

#### Furniture

- (1) "U" workstation w/ chair
- (2) two-drawer undercounter file cabinets
- (1) work table w/ 4 chairs

#### Casework and Built-ins

- (6) linear feet of open base counter
- (2.5) linear feet of wardrobe cabinet
- (12) linear feet of wall shelving (over counter)

#### Equipment

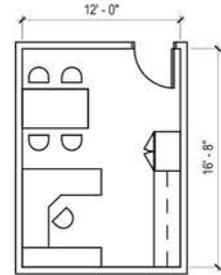
- (1) computer (@ workstation)
- (1) telephone (@workstation)

#### Security

- standard commercial lockset

#### Adjacencies

Records/Court Clerk/Admin  
 Conference Room  
 Chief's Restroom



### 6.02 Chief's Restroom

65 SF

#### Plumbing

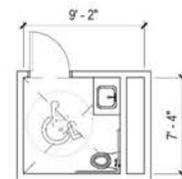
- (1) hc water closet
- (1) sink

#### Equipment

- toilet accessories as required
- mirrors at sink
- (1) telephone

#### Adjacencies

Chief's Office



## 6.03 Captain's Office

160 SF

**Furniture**

- (1) "U" workstation w/ chair
- (2) two-drawer undercounter file cabinets
- (2) visitor chairs
- (1) Bookcase

**Casework and Built-ins**

- (6) linear feet of open base counter
- (2.5) linear feet of wardrobe cabinet
- (12) linear feet of wall shelving (over counter)

**Equipment**

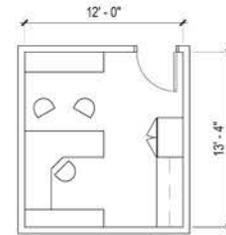
- (1) computer (@ workstation)
- (1) telephone (@workstation)

**Security**

- standard commercial lockset

**Adjacencies**

Chief's Office  
 Conference Room  
 Captain/Leutenant's Office



## 6.04 Captain/Leutenant's Office

225 SF

**Furniture**

- (2) "U" workstation w/ chair
- (2) two-drawer undercounter file cabinets
- (2) visitor chairs at each workstation

**Casework and Built-ins**

- (6) linear feet of open base counter
- (2)x2 linear feet of wardrobe cabinet
- (12) linear feet of wall shelving (over counter)

**Equipment**

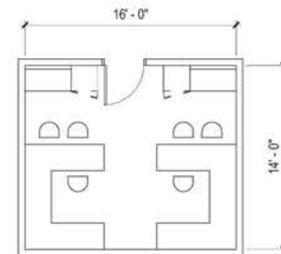
- (2) computer (@ workstation)
- (2) telephone (@workstation)

**Security**

standard commercial lockset

**Adjacencies**

Captain's Office  
 Chief's Office  
 Conference Room



## 6.05 Conference Room

240 SF

**Furniture**

- (1) conference table w/ 10 chairs

**Equipment**

- (1) wall telephone
- (1) laptop connection at table
- (1) 72" flat panel monitor

**Acoustics**

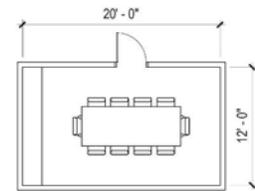
- partitions to extend to underside of structure
- sound batt insulation in stud partitions

**Security**

- standard commercial lockset

**Adjacencies**

- Chief's Office
- Captain's Office
- Captain/Leutenant's Office



## 6.06 Personnel File Room

80 SF

**Furniture**

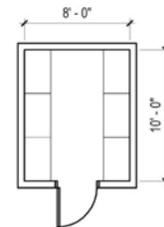
- (6) four drawer lateral files

**Security**

- standard commercial lockset

**Adjacencies**

- Chief's Office
- Records/Court Clerk/Admin



6.07 Office Supply

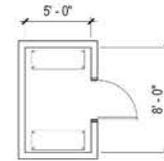
40 SF

**Furniture**

- (2) metal shelves, 24"x36"x72"

**Security**

- standard commercial lockset



**Adjacencies**

Records/Court Clerk/Admin

6.08 Reprographics Work Area

50 SF

**Casework and Built-ins**

- (6) linear feet base cabinets with counter
- (6) linear feet upper cabinets

**Equipment**

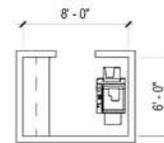
- multi-function device
- wall phone

**Security**

- none

**Adjacencies**

Records/Court Clerk/Admin



## 7. Investigative

### 7.01 Detective Squad Room

360 SF

#### Furniture

- (4) "L" 6' x 8' workstation with chair and visitor chair
- (4) three-drawer lateral file cabinets (locked)

#### Casework and Built-ins

- (12) linear feet of counter over file cabinets

#### Equipment

- (4) computers (@ workstation)
- (4) telephones (@ workstation)
- (1) network printer (on casework)
- (1) charging station (on casework)
- (3) long gun lockers
- (2) 24" 24" x 72" temporary evidence locker

#### Display

- (1) 4' x 6' marker board

#### Acoustics

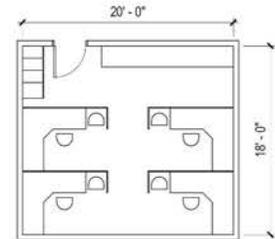
- partitions to extend to underside of structure
- sound batt insulation in stud partitions
- 

#### Accessory Areas

- coat closet

#### Adjacencies

- Investigative Interview
- Investigative Supply



### 7.02 Investigative Interview

100 SF

#### Furniture

- fixed table w/ four chairs

#### Electrical

- light switch w/ "in use" light
- panic device

#### Acoustics

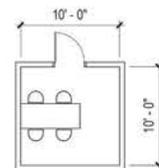
- partitions extend to underside of structure
- acoustic wall panels on one wall

#### Security

- high security lockset
- discrete CCTV audio and video surveillance w/ local control

#### Adjacencies

- Detective Squad Room



7.03 Investigative Supply

100 SF

**Furniture**

- (4) metal shelves, 24" x 36" x 72"
- (4) five drawer lateral file cabinets

**Mechanical**

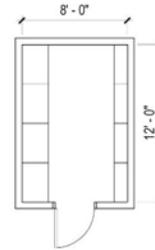
- exhaust for odors

**Security**

- proximity access control with pin

**Adjacencies**

Detective Squad Room



## 8. Property and Evidence

### 8.01 Evidence Receiving/Processing

200 SF

#### Furniture

- (1) computer workstation with chair

#### Casework & Built-ins

- (20) linear feet base and upper cabinets (stainless steel countertops)
- (6) linear foot island with base cabinets (stainless steel countertops)

#### Equipment

- computer
- telephone
- multi-function device
- (1) fume cabinet
- (1) drying chamber
- (1) pass thru locker unit to evidence storage (with refrigerated unit)
- (1) drying cabinet

#### Plumbing

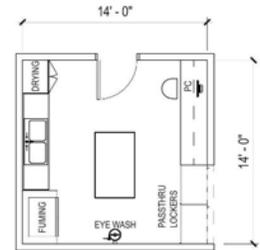
- (1) double bowl sink
- (1) emergency eye wash & shower station
- (1) floor drain with trap primer

#### Security

- proximity access control

#### Adjacencies

Working Evidence Storage  
Drugs/Weapons/Valuables Storage



### 8.02 Working Evidence Storage

200 SF

#### Furniture

- (5) 24" x 36" x 72" metal shelving
- (32) linear feet high density 5-tier evidence storage

#### Equipment

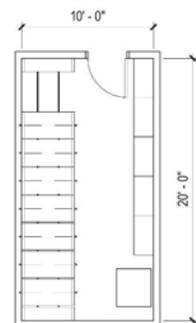
- (1) refrigerator

#### Security

- proximity access control
- cctv monitoring

#### Adjacencies

Evidence Receiving/Processing  
Drugs/Weapons/Valuables Storage



8.03 Drugs/Weapons/Valuables Storage

120 SF

**Equipment**

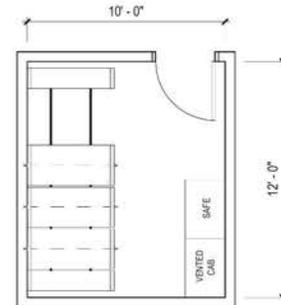
- 48" x 24" x 72" vented drug storage cabinet
- safe
- (16) linear feet of high density weapons storage racks

**Security**

- proximity access control with pin keypad

**Adjacencies**

- Evidence Receiving/Processing
- Working Evidence Storage



8.04 Bulk Found Property

300 SF

**General**

- (1) 10' x10' O.H. door

**Furniture**

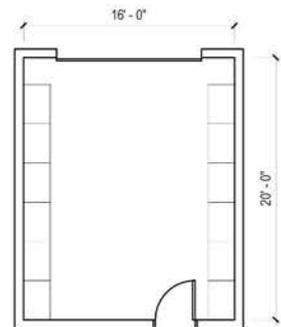
- (12) five tier metal shelving units, 24"x36"x72"

**Security**

- proximity access control, including O.H. door

**Adjacencies**

- Vehicle Processing Bay



8.05 Vehicle Processing Bay

520 SF

**General**

- (1) 12' x 12' overhead doors for bay
- man door as required

**Plumbing**

- (1) trench drain per bay

**Equipment**

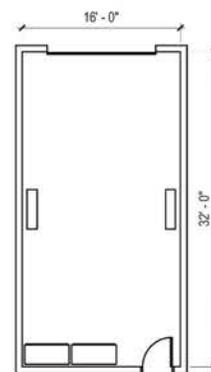
- (1) Tool Storage
- (1) portable vehicle lift

**Security**

- proximity access control
- cctv monitoring of interior

**Adjacencies**

- Bulk Found Property
- Vehicle Maintenance Bay
- Vehicle Storage 2 bays



## 9. Patrol Facilities

### 9.01 Lieutenant's Office

250 SF

#### Furniture

- (3) "L" 6' x 8' workstation with chair with visitor chair
- (3) three-drawer lateral file cabinets

#### Casework and Built-ins

- (9) linear feet of counter over file cabinets
- wardrobe cabinet

#### Equipment

- (3) computers (@ workstation)
- (3) telephones (@ workstation)
- (1) network printer (on casework)

#### Acoustics

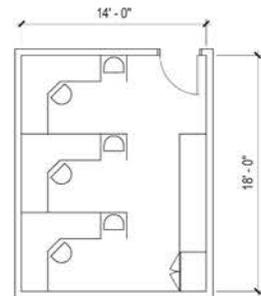
- partitions to extend to underside of structure
- sound batt insulation in stud partitions

#### Security

- standard commercial lockset

#### Adjacencies

- Sergeants Office
- Dispatch Center
- Roll Call



### 9.02 Sergeants Office

300 SF

#### Furniture

- (3) "L" 6' x 6' workstation with chair
- (1) worktable with four chairs (space for future fourth workstation)
- (3) three-drawer lateral file cabinets (locked)

#### Casework and Built-ins

- (10) linear feet of counter over file cabinets

#### Equipment

- (3) computers (@ workstation)
- (3) telephones (@ workstation)
- (1) network printer (on casework)
- (1) charging station (on casework)

#### Display

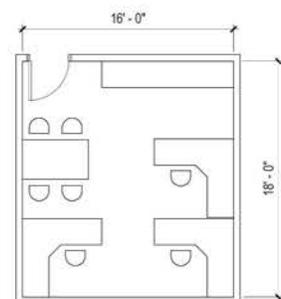
- (1) 4' x 6' marker board

#### Acoustics

- partitions to extend to underside of structure
- sound batt insulation in stud partitions

#### Security

- commercial office lockset



**Adjacencies**

- Lieutenant's Office
- Roll Call

9.03 Roll Call

160 SF

**Furniture**

- (1) conference table w/ 6 chairs

**Equipment**

- (1) wall telephone
- (1) laptop connection at table
- (1) 72" flat panel monitor

**Acoustics**

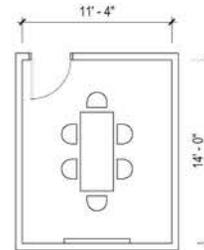
- partitions to extend to underside of structure
- sound batt insulation in stud partitions

**Security**

- standard commercial lockset

**Adjacencies**

- Sergeants Office
- Report Preparation
- Quartermaster Storage



9.04 Report Preparation

180 SF

**Furniture**

- (4) 6' x 2.5' report workstations

**Casework and Built-ins**

- (6) linear feet of two tier form storage over MFD

**Equipment**

- (4) computers (@ workstation)
- (4) telephones (@ workstation)
- (1) multi-function device

**Display**

- 4' x 6' marker board

**Security**

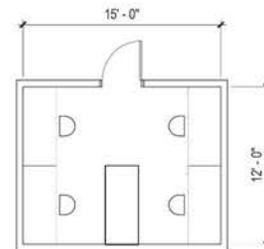
- none

**Acoustics**

- partitions to extend to underside of structure
- sound batt insulation in stud partitions

**Adjacencies**

- Roll Call
- Sergeants Office



## Quartermaster Storage

## 9.05 Quartermaster Storage

100 SF

**Furniture**

- (4) metal shelves, 24" x 36" x 72"
- (4) metal shelves, 18" x 36" x 72"

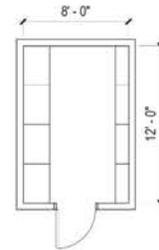
**Security**

- proximity access control with pin

**Adjacencies**

Roll Call

Sergeants Office



## 10. Department Firearms

## 10.01 Armory

160 SF

**Furniture**

- 6' x 2.5' workstation
- 8' stainless steel workbench
- (1) four drawer lateral file
- (1) parts storage cabinet
- (1) 24" x 36" x 72" storage rack for targets
- (1) 24" x 36" x 72" storage rack for simmunition
- (2) 24" x 36" x 72" storage rack protective gear

**Equipment**

- computer at workstation
- phone at workstation
- compressed air

**Mechanical**

- exhaust with high and low vents to pull heavy cleaning fluid odors

**Security**

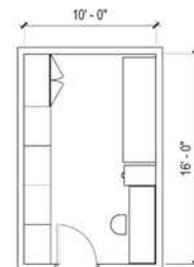
- proximity access control with pin keypad
- masonry or security partitions

**Adjacencies**

Long Gun Storage

Weapons Cleaning

Roll Call



## 10.02 Weapons Cleaning

120 SF

**Furniture**

- (2) 8' stainless steel workbench
- (1) supply storage cabinet

**Equipment**

- ultrasonic cleaner
- compressed air
- weapons clearing trap

**Plumbing**

- slop sink

**Mechanical**

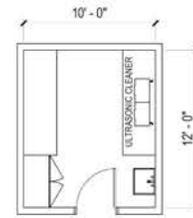
- exhaust with high and low vents to pull heavy cleaning fluid odors

**Security**

- proximity access control
- masonry or security partitions

**Adjacencies**

Armory  
Long Gun Storage  
Roll Call



## 10.03 Long Gun Storage

90 SF

**Furniture**

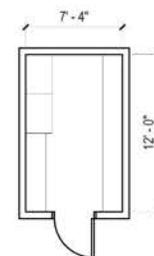
- (18) linear feet of long gun storage rack with taser shelving above
- (2) 18" x 36" x 72" metal ammunition shelving

**Security**

- proximity access control with pin keypad

**Adjacencies**

Weapons Cleaning  
Armory  
Roll Call



## 11. Staff Facilities

### 11.01 Male Locker Restroom

250 SF

#### Casework and Built-Ins

- (5) linear feet open countertop
- (3) linear foot bench

#### Plumbing

- (1) hc toilet stall
- (2) urinal
- (2) sink
- (1) shower
- (1) floor drain with trap primer

#### Equipment

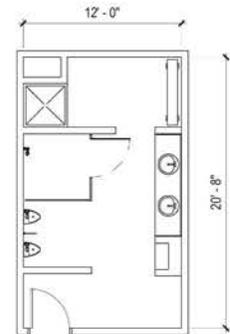
- toilet accessories as required
- mirrors at sink(s)

#### Security

- standard commercial push/pull

#### Adjacencies

Male Locker Room  
 Fitness Room  
 Break Room



### 11.02 Male Locker Room

500 SF

#### Equipment

- (36) 30"x 24" x72" lockers

#### Casework and Built-ins

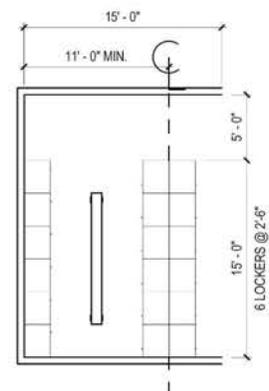
- shoe shine bench
- duty bag storage rack

#### Equipment

- wet gear rack
- gun clearing trap

#### Adjacencies

Male Locker Restroom



11.03 Female Locker Restroom

200 SF

**Casework and Built-Ins**

- (3.5) linear feet open countertop
- (3) linear feet shower bench

**Plumbing**

- (1) hc toilet stall
- (1) sink
- (1) shower
- (1) floor drain with trap primer

**Equipment**

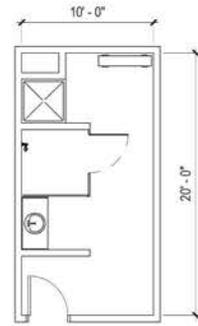
- toilet accessories as required
- mirrors at sink(s)

**Security**

standard commercial push/pull

**Adjacencies**

- Female Lockers
- Fitness Room
- Break Room



11.04 Female Lockers

90 SF

**Equipment**

- (4) 30"x 24" x72" lockers

**Casework and Built-ins**

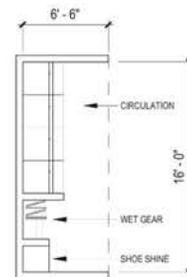
- Shoe shine bench

**Accessory Area**

- Wet Gear rack with drain below

**Adjacencies**

- Female Locker Restroom
- Fitness Room
- Break Room

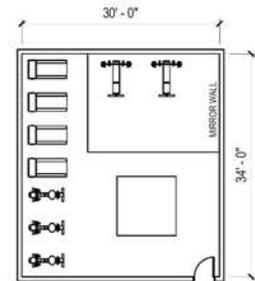


## 11.05 Fitness Room

1000 SF

**Equipment**

- (2) smith machines
- stationary bike
- treadmill
- elliptical
- dumbbell racks
- (2) weight benches
- bands
- medicine/yoga balls
- heavy bag
- ladder area
- pull-up bar

**Special**

- mirrors full height one wall
- sports flooring

**Acoustics**

- sound partitions to reduce transfer of sound to adjacent spaces

**Security**

- standard commercial lockset

**Adjacencies**

- Male Locker Room
- Female Lockers
- Break Room

## 11.06 Break Room

240 SF

**Furniture**

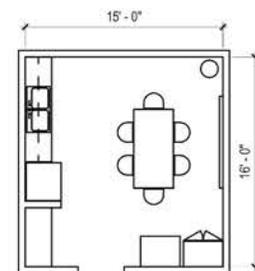
- table with six chairs

**Casework & Built-ins**

- (8) linear feet base and upper cabinets

**Equipment**

- (1) refrigerator with built-in ice maker
- (1) microwave (in casework)
- (1) coffee machine
- (1) water cooler
- (2) vending machine

**Plumbing**

- (1) double sink (in casework)

**Display**

- 4' x 6' marker board
- 4' x 6' tack board

**Adjacencies**

- Male Locker Room

Female Lockers

11.07 Male Restroom

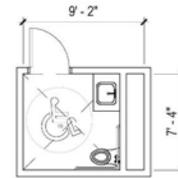
65 SF

**Plumbing**

- (1) hc water closet
- (1) sink

**Equipment**

- toilet accessories as required
- mirrors at sink
- (1) telephone



11.08 Female Restroom

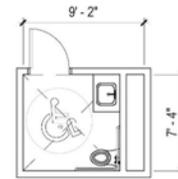
65 SF

**Plumbing**

- (1) hc water closet
- (1) sink

**Equipment**

- toilet accessories as required
- mirrors at sink
- (1) telephone



## 12. Prisoner Processing

### 12.01 Sally Port

1080 SF

#### General

- (2) 12' x 12' overhead doors for each bay, drive-through
- man door as required

#### Plumbing

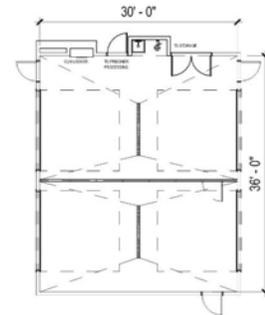
- (1) eye wash/emergency shower
- (1) trench drain per bay

#### Equipment

- (1) pistol locker

#### Security

- interlock all doors for one at a time operation, provide emergency over-ride
- cctv monitoring of interior and approach
- proximity access control in/out to Prisoner Processing
- proximity access control and remote release of OH doors from dispatch and prisoner processing on access control system
- wire mesh partition to separate bay for vehicle processing w/ access control
- emergency egress to exterior to locked and fenced area on site



#### Adjacencies

Prisoner Processing  
 Decon Shower  
 Cruiser Supply/First Aid

### 12.02 Cruiser Supply/First Aid

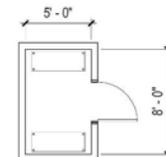
40 SF

#### Furniture

- (2) 24"x36"x72" metal shelving units

#### Security

- standard commercial lockset



#### Adjacencies

Sally Port  
 Prisoner Processing

## 12.03 Decon Shower

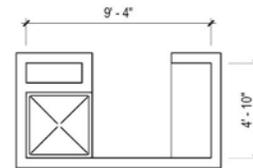
50 SF

**Casework and Built-ins**

- (4) tiers of 18" deep wall shelving on standards

**Plumbing**

- HC shower

**Adjacencies**

Sally Port

## 12.04 Prisoner Processing

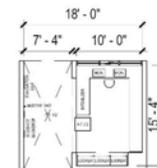
150 SF

**Casework and Built-ins**

- (26) lineal feet of countertop
- (11) lineal feet of base cabinet

**Equipment**

- undercounter booking computer w/keyboard drawer
- intoxilyzer
- automatic fingerprint identification system
- prisoner property lockers in a variety of sizes
- pass thru to holding

**Safety**

- avoid plastic laminate
- avoid sharp corners and edges

**Adjacencies**

Sally Port

Detention Cell x7

HC Cell

## 12.05 Processing Booth

40 SF

**Built-ins**

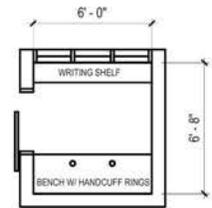
- 18" x 18" x 6' concrete bench with cuff anchors

**Security**

- detention sliding door
- CCTV monitoring

**Adjacencies**

Prisoner Processing  
Sally Port



## 12.06 Arraignment/Bond Room

100 SF

**Furniture**

- fixed table w/ three chairs

**Electrical**

- light switch w/ "in use" light
- panic device

**Acoustics**

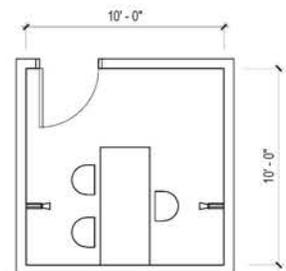
- partitions extend to underside of structure
- acoustic wall panels on one wall

**Security**

- high security lockset
- CCTV cameras viewing both sides of table

**Adjacencies**

Prisoner Processing  
Interview Room



12.07 Interview Room

100 SF

**Furniture**

- fixed table w/ four chairs

**Electrical**

- light switch w/ "in use" light
- panic device

**Acoustics**

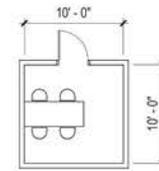
- partitions extend to underside of structure
- acoustic wall panels on one wall

**Security**

- high security lockset
- discrete CCTV audio and video surveillance w/ local control

**Adjacencies**

- Prisoner Processing
- Arrestment/Bond Room



12.08 Janitor Closet

16 SF

**Equipment**

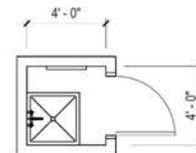
- mop rack

**Plumbing**

- mop sink

**Adjacencies**

- Prisoner Processing
- Detention Cell x7
- HC Cell



## 12.09 Blanket Storage

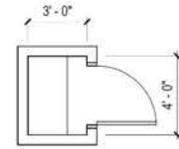
12 SF

**Casework and Built-ins**

- 5 tier shelving on wall standards, 24" deep x width of room

**Security**

- standard commercial lockset

**Adjacencies**

- Detention Cell x7
- HC Cell
- Prisoner Processing

## 13. Detention Facilities

## 13.01 Detention Cell x7

770 SF

**Casework & Built-ins**

- (1) 32" x 72" x 18" min. concrete bunk with 1" 45 degree chamfer

**Plumbing**

- (1) detention combination fixture

**Electrical**

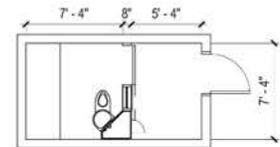
- (1) detention grade light fixture

**Security**

- minimum 10' high ceilings
- detention grade sliding door hardware
- door hardware w/ electromechanical release
- audio/video surveillance - 2 way audio
- cell check in passage opposite door
- tamper resistant hvac grills - 1/8" holes maximum

**Adjacencies**

- Prisoner Processing
- Interview Room
- HC Cell



13.02 HC Cell

140 SF

**Casework & Built-ins**

- (1) 32" x 72" x 18" min. concrete bunk with 1" 45 degree chamfer

**Plumbing**

- (1) detention combination fixture

**Electrical**

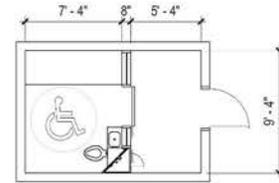
- (1) detention grade light fixture

**Security**

- minimum 10' high ceilings
- detention grade sliding door hardware
- door hardware w/ electromechanical release
- audio/video surveillance - 2 way audio
- Cell check in passage opposite door
- tamper resistant hvac grills - 1/8" holes maximum

**Adjacencies**

- Prisoner Processing
- Detention Cell x7
- Interview Room



14. Garage and Storage

14.01 Vehicle Storage 2 bays

960 SF

**General**

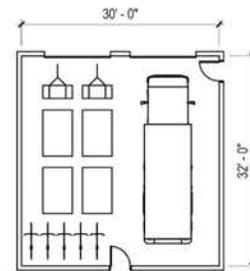
- (2) 10' x 10' overhead doors for each bay, drive-through
- man door as required

**Plumbing**

- (1) trench drain per bay

**Adjacencies**

- Vehicle Maintenance Bay
- Traffic Storage
- Vehicle Processing Bay



## 14.02 Vehicle Maintenance Bay

520 SF

**General**

- (1) 12' x 12' overhead doors for bay
- man door as required

**Plumbing**

- (1) trench drain per bay

**Equipment**

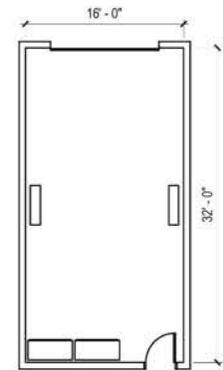
- (2) tool storage cabinet
- (1) portable vehicle lift

**Security**

- standard commercial lockset

**Adjacencies**

Baby Seat Storage  
 Vehicle Storage 2 bays  
 Vehicle Processing Bay



## 14.03 Traffic Storage

300 SF

**General**

- (1) 10' x 10' O.H. door

**Furniture**

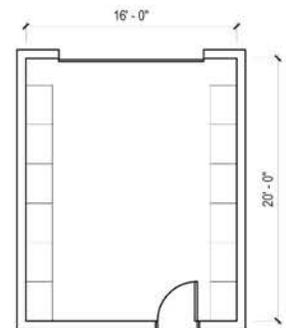
- (12) five tier metal shelving units, 24"x36"x72"

**Security**

- proximity access control, including O.H. door

**Adjacencies**

Vehicle Storage 2 bays  
 Vehicle Maintenance Bay



## 14.04 PPE Storage

40 SF

**Furniture**

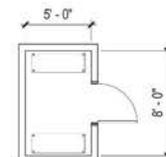
- (2) metal Shelves, 24"x36"x72"

**Security**

- standard commercial lockset

**Adjacencies**

Male Locker Room  
 Female Lockers



14.05 Baby Seat Storage

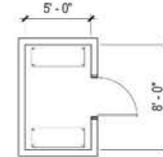
40 SF

**Furniture**

- (2) metal Shelves, 24"x36"x72"

**Security**

- standard commercial lockset



**Adjacencies**

Vehicle Maintenance Bay

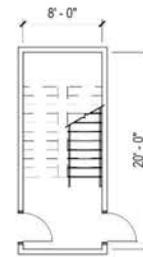
15. Vertical Circulation

15.01 Stair 1

400 SF

**General**

- Assumed floor count @ 12'-14' Floor to Floor

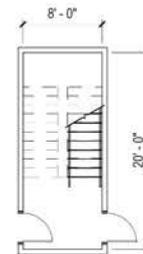


15.02 Stair 2

400 SF

**General**

- Assumed floor count @ 12'-14' Floor to Floor



## 13.02 HC Cell

140 SF

**Casework & Built-ins**

- (1) 32" x 72" x 18" min. concrete bunk with 1" 45 degree chamfer

**Plumbing**

- (1) detention combination fixture

**Electrical**

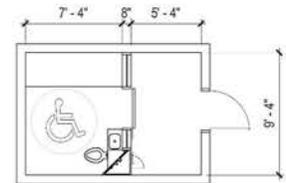
- (1) detention grade light fixture

**Security**

- minimum 10' high ceilings
- detention grade sliding door hardware
- door hardware w/ electromechanical release
- audio/video surveillance - 2 way audio
- Cell check in passage opposite door
- tamper resistant hvac grills - 1/8" holes maximum

**Adjacencies**

Prisoner Processing  
 Detention Cell x7  
 Interview Room



## 14. Garage and Storage

## 14.01 Vehicle Storage 2 bays

960 SF

**General**

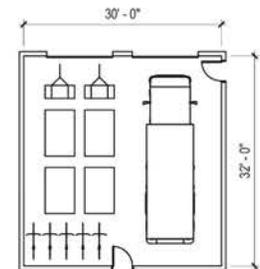
- (2) 10' x 10' overhead doors for each bay, drive-through
- man door as required

**Plumbing**

- (1) trench drain per bay

**Adjacencies**

Vehicle Maintenance Bay  
 Traffic Storage  
 Vehicle Processing Bay



14.02 Vehicle Maintenance Bay

520 SF

**General**

- (1) 12' x 12' overhead doors for bay
- man door as required

**Plumbing**

- (1) trench drain per bay

**Equipment**

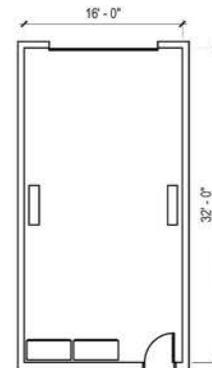
- (2) tool storage cabinet
- (1) portable vehicle lift

**Security**

- standard commercial lockset

**Adjacencies**

- Baby Seat Storage
- Vehicle Storage 2 bays
- Vehicle Processing Bay



14.03 Traffic Storage

300 SF

**General**

- (1) 10' x10' O.H. door

**Furniture**

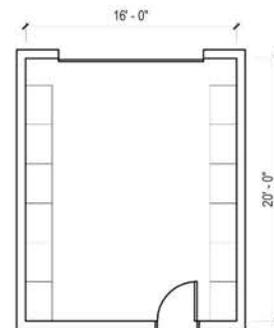
- (12) five tier metal shelving units, 24"x36"x72"

**Security**

- proximity access control, including O.H. door

**Adjacencies**

- Vehicle Storage 2 bays
- Vehicle Maintenance Bay



14.04 PPE Storage

40 SF

**Furniture**

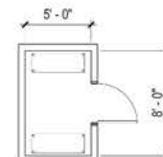
- (2) metal Shelves, 24"x36"x72"

**Security**

- standard commercial lockset

**Adjacencies**

- Male Locker Room
- Female Lockers



## 14.05 Baby Seat Storage

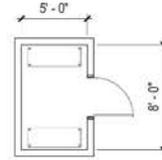
40 SF

**Furniture**

- (2) metal Shelves, 24"x36"x72"

**Security**

- standard commercial lockset

**Adjacencies**

Vehicle Maintenance Bay

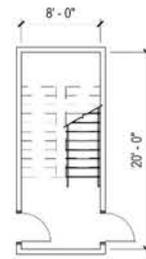
## 15. Vertical Circulation

## 15.01 Stair 1

400 SF

**General**

- Assumed floor count @ 12'-14' Floor to Floor

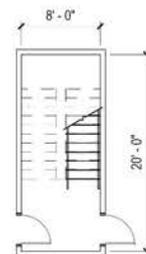


## 15.02 Stair 2

400 SF

**General**

- Assumed floor count @ 12'-14' Floor to Floor

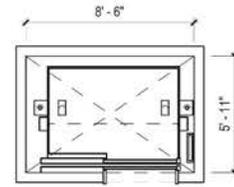


15.03 Elevator

120 SF

**General**

- Assumed floor count, HC accessible



**Adjacencies**

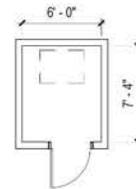
Elevator Machine Room

15.04 Elevator Machine Room

45 SF

**General**

- Per elevator requirements



**Adjacencies**

Elevator

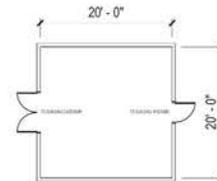
16. Building Services

16.01 Mechanical Room

400 SF

**General**

- confirm size with system selection



**Adjacencies**

Electrical Room

Emergency Electrical Room

## 16.02 Electrical Room

80 SF

**General**

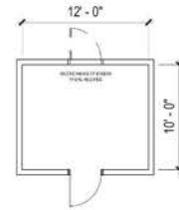
- confirm size with system selection
- crash bar in direction of egress

**Security**

- standard commercial lockset

**Adjacencies**

Emergency Electrical Room  
Mechanical Room



## 16.03 Emergency Electrical Room

50 SF

**General**

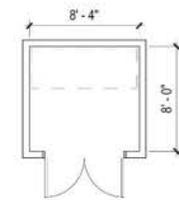
- confirm size with system selection
- crash bar in direction of egress

**Security**

- standard commercial lockset
- 2-hour fire rated construction

**Adjacencies**

Electrical Room  
Mechanical Room



## 16.04 Janitor Closet

40 SF

**Equipment**

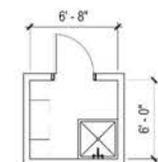
- mop rack

**Plumbing**

- mop sink

**Adjacencies**

Break Area  
Female Lockers  
Male Locker Room



Police Facility

New Programmed Area Name	Quantity	Programmed Area
<b>S.1 Building Area</b>		
Building Footprint	2 story	13,555 s.f.
Future Building Growth (25% of programmed area)		3389 s.f.
Subtotal:		20,814 s.f.
<b>S.2 Parking Area</b>		
Visitor Parking	50 spaces	8,250 s.f.
Visitor Handicapped Parking	2 spaces	540 s.f.
Staff Parking	18 spaces	2,970 s.f.
Staff Handicapped Parking	2 spaces	540 s.f.
Cruiser Carport Parking	14 spaces	2,310 s.f.
Travel Lane Allowance		11,900 s.f.
Subtotal:		26,510 s.f.
<b>S.3 Site Utilities</b>		
Electrical Transformers		100 s.f.
Emergency Generator		250 s.f.
Antenna Tower		500 s.f.
AC Equipment		400 s.f.
Dumpsters		240 s.f.
Storm Water Retention		4,800 s.f.
Subtotal:		6,290 s.f.
<b>S.4 Site Amenities</b>		
Impound Lot	10 spaces	2,000 s.f.
Subtotal:		2,000 s.f.
<b>S.5 Setbacks and Green Space</b>		
Green space		13,900 s.f.
Setbacks		7,700 s.f.
Subtotal:		21,600 s.f.
<b>Summation</b>		
Minimum useable site area		77,214 s.f.
Minimum useable site acreage		1.78 ac.

# *OPINION OF PROBABLE COSTS*

*ADDITION RENOVATION SCHEME*

## Police Facility - Addition Renovation

Heading	Quantity	Unit Cost	Subtotal
<b>Construction Costs</b>			
Existing Facility Addition	7,821 s.f.	\$463.46 /s.f.	\$3,624,700
Existing Facility Renovation	15,533 s.f.	\$280.29 /s.f.	\$4,353,700
Sitework			\$1,366,000
	<b>Subtotal:</b>	<b>\$400.12 /s.f.</b>	<b>\$9,344,400</b>
Selective Building Demolition			\$175,500
Hazardous Material Abatement			\$150,000
	<b>Subtotal:</b>	<b>\$414.06 /s.f.</b>	<b>\$9,669,900</b>
Temporary Structures and Site Accomodations			\$400,000
	<b>Subtotal:</b>	<b>\$431.19 /s.f.</b>	<b>\$10,069,900</b>
General Conditions (10%)			\$1,007,000
Bonds & Insurance (2%)			\$221,500
Overhead & Profit (4%)			\$451,900
	<b>Subtotal:</b>	<b>\$503.14 /s.f.</b>	<b>\$11,750,300</b>
Design/Estimating Contingency (12.5%)			\$1,468,800
Escalation Allowance up to mid-point of Construction (7.5%)			\$991,400
	<b>Subtotal:</b>	<b>\$608.48 /s.f.</b>	<b>\$14,210,500</b>

**Project Development and Equipment Costs**

Designer Fees (9.5% of Construction Costs, incl. haz mat consultant)		\$1,350,000
Clerk of the Works (1.5% of Construction Costs)		\$213,200
Structural Peer Review Fee		\$12,000
Interior Furnishings and Loose Equipment		\$280,200
Furniture and Equipment Design Fees		\$28,000
Survey and Borings		\$25,000
Materials Testing		\$71,100
Relocation Costs		\$25,000
Communications Equipment		\$300,000
Communications Consultant		\$0
Computer Equipment (owner provided estimate)		\$0
Bidding Expenses -Advertising and Reprographics		\$25,000
Bonding and Legal Fees (owner provided estimate)		\$0
	<b>Subtotal:</b>	<b>\$2,329,500</b>

**Construction and Project Contingency**

Construction/Owner's Contingency (6%)		\$852,600
Project Development Contingency (5%)		\$116,500
	<b>Subtotal:</b>	<b>\$969,100</b>

<b>Total Opinion of Probable Project Costs:</b>	<b>\$17,509,100</b>
---	---------------------

*OPINION OF PROBABLE COSTS*

*NEW CONSTRUCTION SCHEME*

## Police Facility - New Construction

Heading	Quantity	Unit Cost	Subtotal
<b>Construction Costs</b>			
New Facility Construction	22,214 s.f.	\$405.05 /s.f.	\$8,997,800
Sitework			\$1,745,400
	<b>Subtotal:</b>	<b>\$483.62 /s.f.</b>	<b>\$10,743,200</b>
Building Demolition			\$365,000
Hazardous Material Abatement			\$150,000
	<b>Subtotal:</b>	<b>\$506.81 /s.f.</b>	<b>\$11,258,200</b>
General Conditions (8%)			\$900,700
Bonds & Insurance (2%)			\$243,200
Overhead & Profit (4%)			\$496,100
	<b>Subtotal:</b>	<b>\$580.63 /s.f.</b>	<b>\$12,898,200</b>
Design/Estimating Contingency (10%)			\$1,289,800
Escalation Allowance up to mid-point of Construction (7.5%)			\$1,064,100
	<b>Subtotal:</b>	<b>\$686.60 /s.f.</b>	<b>\$15,252,100</b>
<b>Project Development and Equipment Costs</b>			
Designer Fees (9% of Construction Costs, incl. haz mat consultant)			\$1,372,700
Clerk of the Works (1.5% of Construction Costs)			\$228,800
Structural Peer Review Fee			\$12,000
Interior Furnishings and Loose Equipment			\$266,600
Furniture and Equipment Design Fees			\$26,700
Survey and Borings			\$25,000
Materials Testing			\$76,300
Relocation Costs			\$25,000
Communications Equipment			\$300,000
Communications Consultant			\$0
Computer Equipment (owner provided estimate)			\$0
Bidding Expenses -Advertising and Reprographics			\$25,000
Bonding and Legal Fees (owner provided estimate)			\$0
	<b>Subtotal:</b>		<b>\$2,358,100</b>
<b>Construction and Project Contingency</b>			
Construction/Owner's Contingency (4%)			\$610,100
Project Development Contingency (5%)			\$117,900
	<b>Subtotal:</b>		<b>\$728,000</b>
<b>Total Opinion of Probable Project Costs:</b>			<b>\$18,338,200</b>

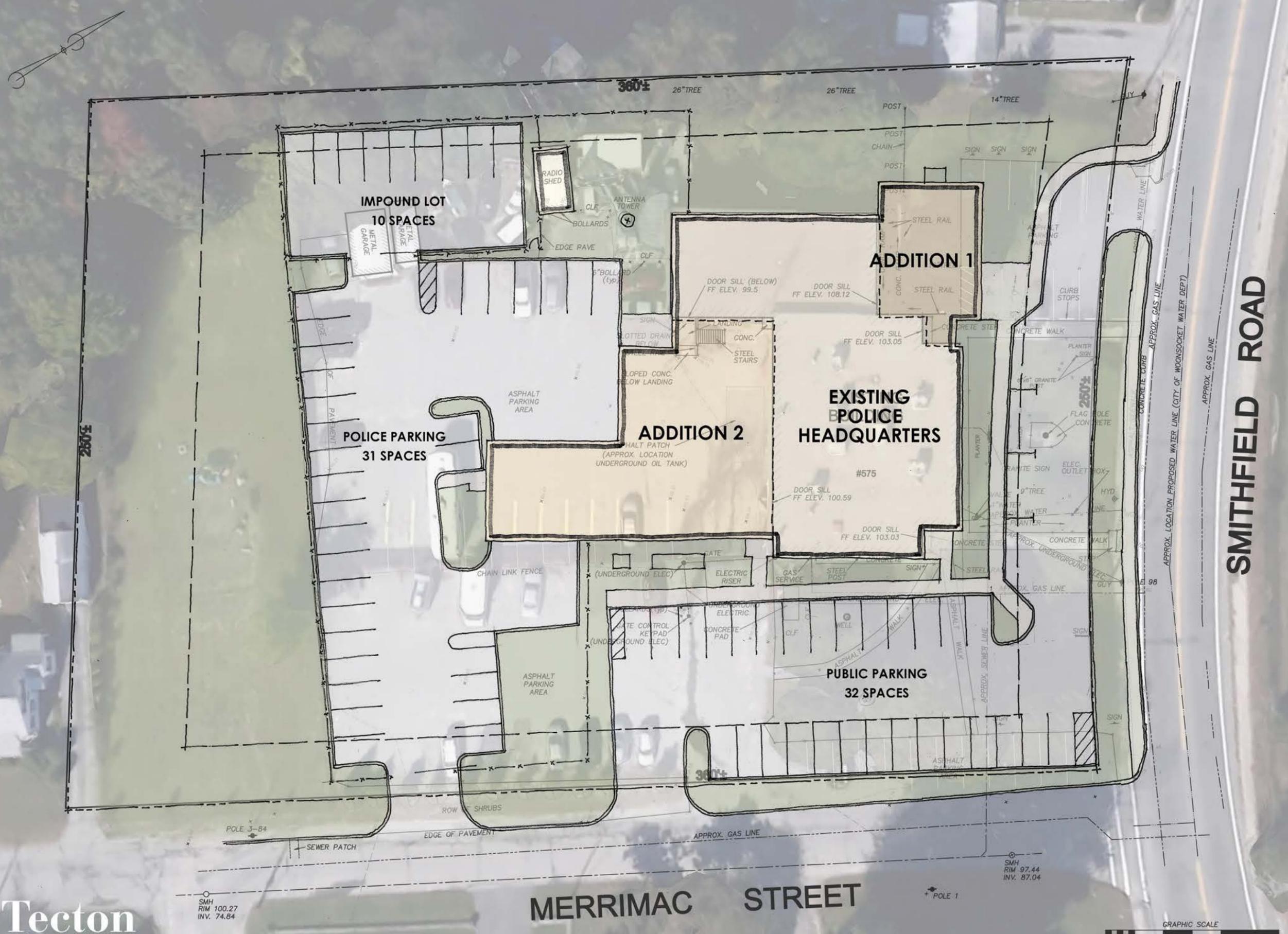


*CONCEPTUAL DESIGN*

*ADDITION RENOVATION SCHEME*

**Tecton**  
ARCHITECTS





**PROS**

- USE AND RESTORE EXISTING STRUCTURE (ASSET)
- MODEST COST SAVINGS
- LESS CONSTRUCTION WASTE

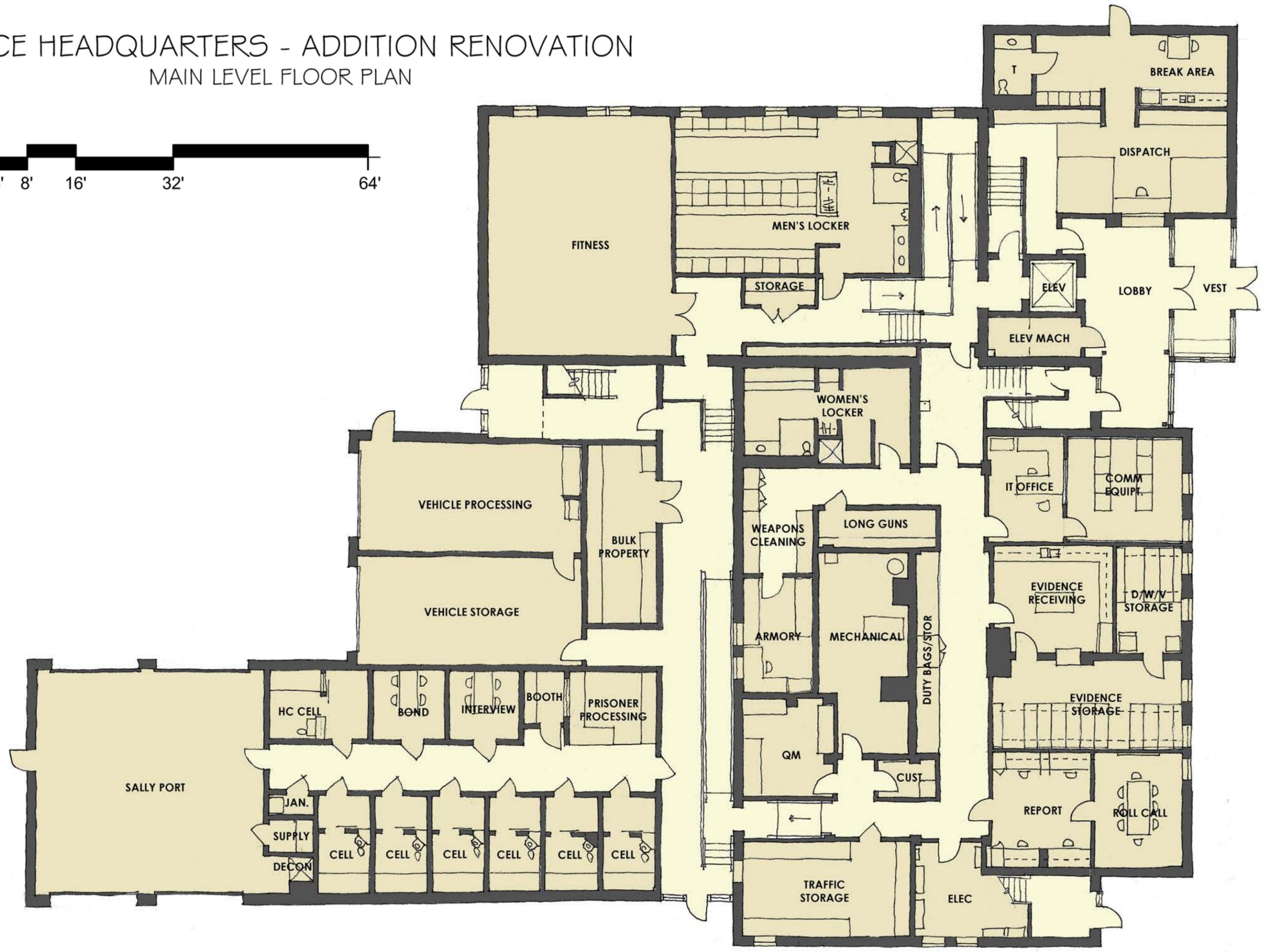
**CONS**

- INSUFFICIENT PUBLIC PARKING TO SUPPORT MUNICIPAL COURT
- FIVE FLOOR LEVELS; CREATING VERTICAL CIRCULATION CHALLENGES
- ONE ELEVATOR TO THREE LEVELS (FOUR USING A RAMP); STILL ACCESSIBLE BUT INSUFFICIENT
- DISPATCH IS "ISOLATED"; SEPARATED BY HALF-LEVEL
- INEFFICIENT CIRCULATION RESULTING IN MORE BUILDING AREA
- EXISTING STRUCTURE WILL NOT MEET CURRENT CODES
- REMOTE MAIN ENTRY FROM MAIN PUBLIC PARKING AREA
- SPACE ADJACENCY IS LESS THAN OPTIMAL
- ONE WAY OFF-SITE FOR POLICE VEHICLES
- SIGNIFICANT ENVELOPE RESTORATION AND REPAIR
- REQUIRES TEMPORARY FACILITIES DURING CONSTRUCTION
- TWO LEVEL PUBLIC CIRCULATION (OUT OF SIGHT DURING VERTICAL TRANSITION)
- SITE IS VERY CONSTRICTING, MAY BE BENEFICIAL TO EXPLORE ALTERNATE SITE OPTIONS



# POLICE HEADQUARTERS - ADDITION RENOVATION

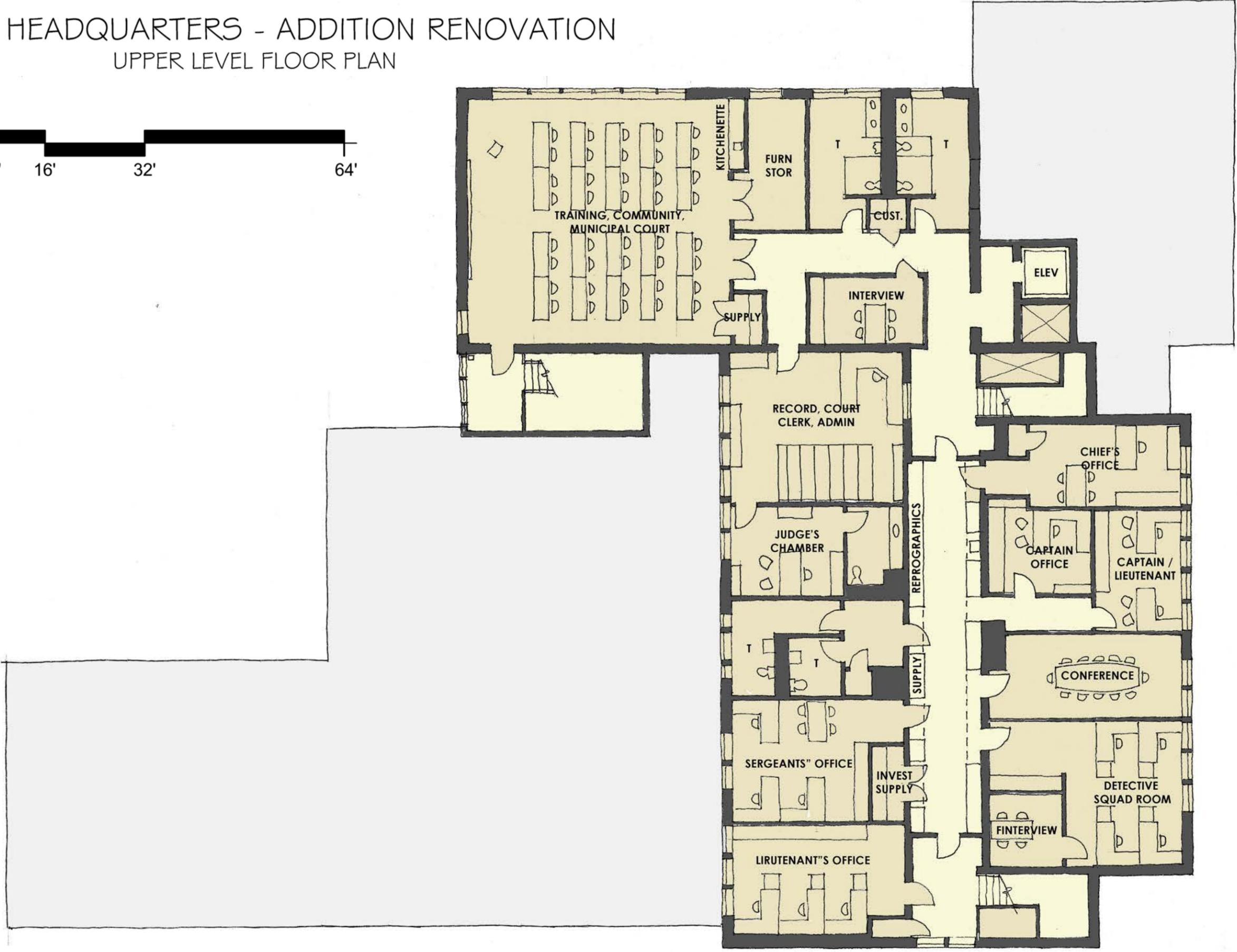
## MAIN LEVEL FLOOR PLAN





# POLICE HEADQUARTERS - ADDITION RENOVATION

## UPPER LEVEL FLOOR PLAN







PERSPECTIVE VIEW FROM SMITHFIELD ROAD





PERSPECTIVE VIEW OF POLICE STATION ENTRY



*CONCEPTUAL DESIGN*

*NEW CONSTRUCTION SCHEME*

**Tecton**  
ARCHITECTS

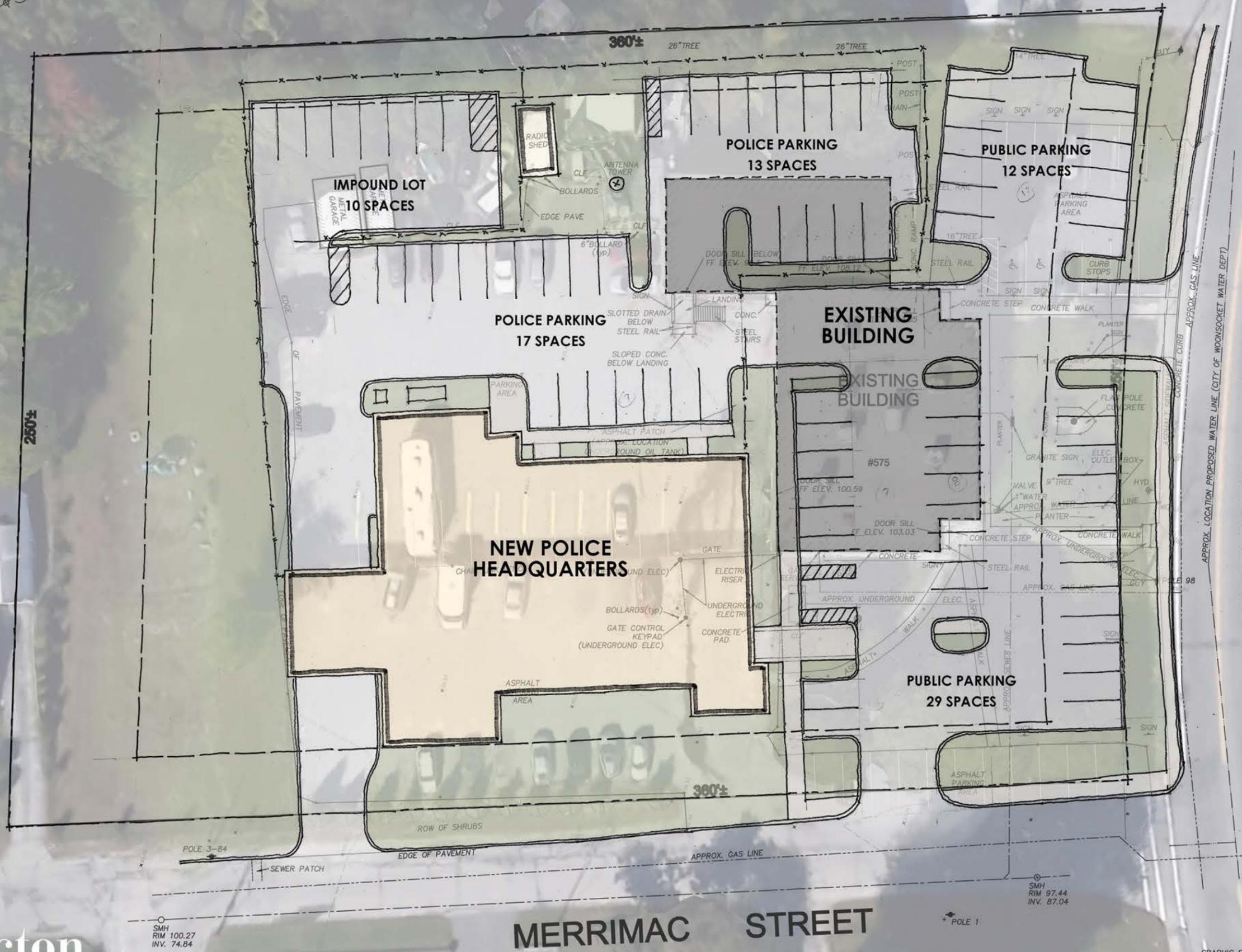


## PROS

- ALL NEW, CODE AND STANDARD COMPLIANT
- SUFFICIENT PARKING FOR MUNICIPAL COURT
- TWO WAYS ON AND OFF THE SITE FOR POLICE VEHICLES
- APPROPRIATE STANDOFF ZONE TO SMITHFIELD STREET
- EFFICIENT ENVELOPE
- MAINTAINED OPERATIONS DURING CONSTRUCTION
- EFFICIENT VERTICAL AND HORIZONTAL CIRCULATION
- DISPATCH LOCATED AMIDST PATROL FUNCTIONS (CENTRAL HUB)
- CLEAR PATH TO MAIN ENTRY FOR PUBLIC/VISITORS
- OPTIMAL SPACE ADJACENCIES
- USE AND RESTORE EXISTING STRUCTURE (ASSET)
- MODEST COST SAVINGS
- LESS CONSTRUCTION WASTE
- DRIVE-THROUGH SALLY PORT

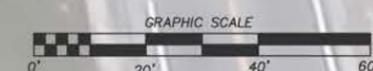
## CONS

- TIGHT SITE DURING CONSTRUCTION (LOGISTICS); OFF-SITE PARKING REQUIRED
- EXTENDED CONSTRUCTION TIMEFRAME FOR DEMOLITIONS AND SUBSEQUENT SITE WORK
- TWO LEVEL PUBLIC CIRCULATION (OUT OF SIGHT DURING VERTICAL TRANSITION) - FORCED BY SITE CONSTRAINTS
- SITE IS VERY CONSTRICTING, MAY BE BENEFICIAL TO EXPLORE ALTERNATE SITE OPTIONS



SMITHFIELD ROAD

MERRIMAC STREET

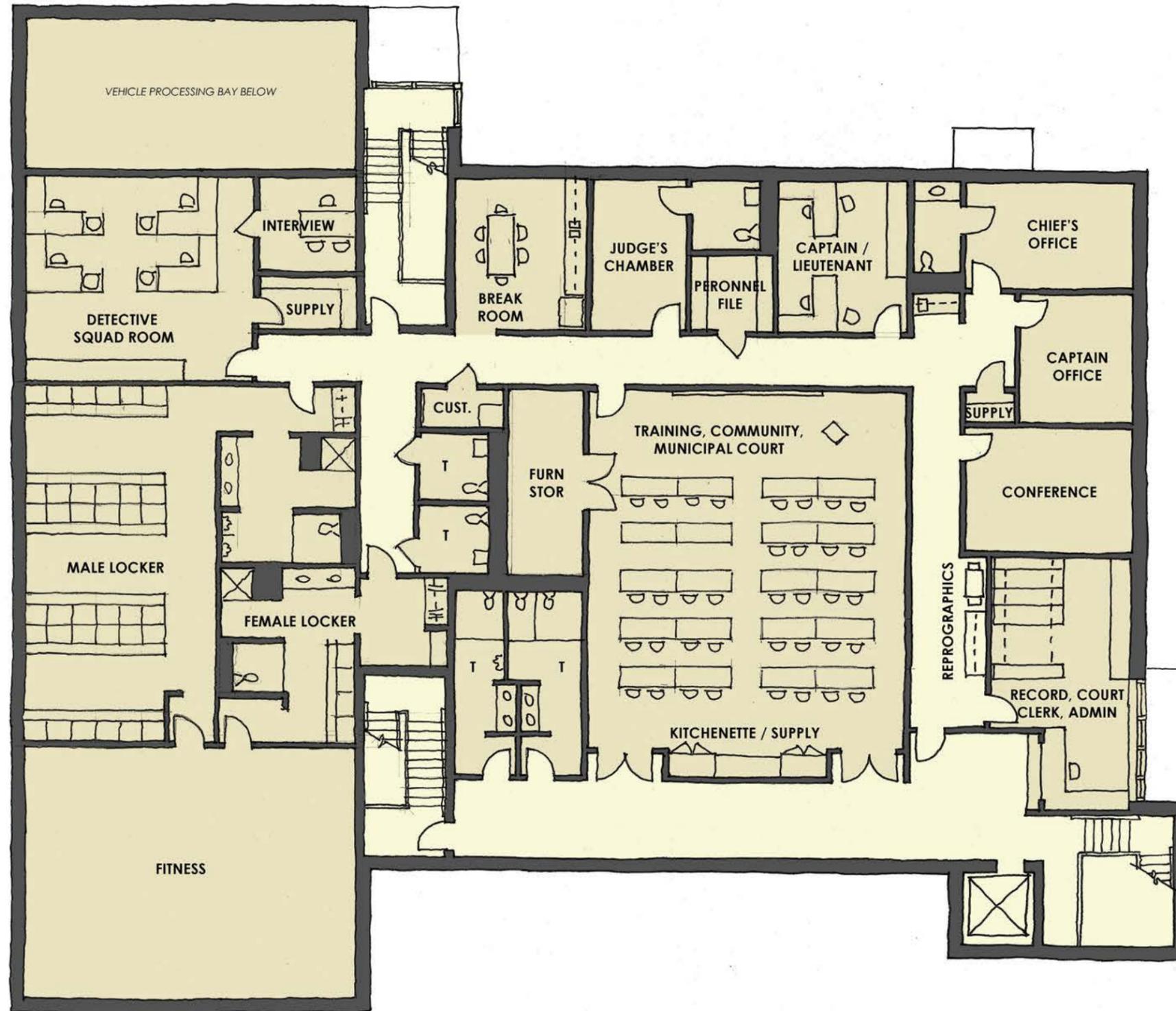






POLICE HEADQUARTERS - NEW CONSTRUCTION  
 MAIN LEVEL FLOOR PLAN





POLICE HEADQUARTERS - NEW CONSTRUCTION  
UPPER LEVEL FLOOR PLAN





PERSPECTIVE VIEW FROM SMITHFIELD ROAD





PERSPECTIVE VIEW OF POLICE STATION ENTRY



*OPERATIONAL AND MAINTENANCE COSTS*



## **INTRODUCTION**

The Town of North Smithfield, Rhode Island is in the process of evaluating a potential renovation and addition to the existing police station or constructing a new police station. Part of this decision will be evaluating the potential energy usage of each building option, including the annual maintenance costs associated with them. Evaluating these options is in the conceptual stage and Consulting Engineering Services (CES) will analyze the overall energy usage of each options. Due to the conceptual level of the project the building assemblies have not been established. CES will calculate the energy usage based on past energy models and utility bills. The maintenance costs will be based on American Society of Heating and Air Conditioning Engineering (ASHRAE) costs. The analysis is based on design targets and should be used for comparison purposes only.

## **ENERGY ANALYSIS**

**Renovation and Addition Option:** In this option the existing facility would be brought up to current energy code along with the mechanical systems. The size of the renovation would be approximately 15,500 square feet with an addition of approximately 7,800 square feet and a total building size of 23,300 square feet.

<u>Estimated Annual Energy Usage</u>	= \$75,000
<u>Estimated Annual Maintenance</u>	= \$10,500
Total Annual Operating Cost	= \$85,500

**New Construction Option:** In this option a new police facility would be constructed. This facility would have a total size of approximately 22,200 square feet.

Estimated Annual Energy Usage	= \$44,500
<u>Estimated Annual Maintenance</u>	= \$7,775
Total Annual Operating Cost	= \$52,275

## **CONCLUSIONS / ASSUMPTIONS**

Due to the smaller footprint and an assumed higher energy efficiency the new construction option has an overall savings of approximately \$33,225 annually. CES has assumed that this building would be targeted to be built to LEED energy efficiency standards for both Heating, Ventilation and Air Conditions (HVAC) along with building envelope.

*SIMILAR PROJECT COMPARISONS*



Project Name	Population	Date	Building Gross Square Feet	Construction Cost	Cost / Sq. Ft.	Construction Cost Escalated	Cost / Sq. Ft. Escalated
Scituate Police, RI	18,834	2018	7,500	\$2,986,850	\$398	\$3,503,575	\$467
Lakeville Police, MA	11,418	2019	11,869	\$8,800,000	\$741	\$10,278,400	\$866
Carver Police, MA	11,509	2021	12,340	\$7,708,000	\$625	\$8,093,400	\$656
Sutton Police, MA	8,963	2017	12,622	\$7,751,280	\$614	\$9,526,323	\$755
Wilbraham Police, MA	14,749	2015	15,728	\$5,302,500	\$337	\$7,036,418	\$447
Wilton Police, CT	18,062	2021	17,069	\$11,600,000	\$680	\$12,180,000	\$714
Westport Police, MA	15,988	2017	17,338	\$8,350,000	\$482	\$10,262,150	\$592
Cumberland Public Safety, RI	36,405	2019	20,500	\$12,500,000	\$610	\$13,975,000	\$682
Middletown Police, RI	17,075	2009	21,000	\$7,100,000	\$338	\$10,891,400	\$519
Webster Police, MA	17,027	2013	21,000	\$7,800,000	\$371	\$11,044,800	\$526
<b>North Smithfield Police, RI</b>	<b>12,485</b>	<b>2023</b>	<b>22,214</b>	<b>\$15,252,100</b>	<b>\$687</b>	<b>\$15,252,100</b>	<b>\$687</b>
Portsmouth Police, RI	17,871	2019	22,000	\$10,097,394	\$459	\$11,288,886	\$513
Malden Police HQ, MA	61,036	2014	27,000	\$12,300,000	\$518	\$16,875,600	\$625
Lexington Police, MA	33,792	2020	30,381	\$19,473,952	\$641	\$21,421,347	\$705
Beverly Police, MA	42,312	2020	32,700	\$23,000,000	\$703	\$25,300,000	\$774
Medford Police, MA	57,765	2019	35,000	\$17,900,000	\$511	\$20,012,200	\$572
Charlton Public Safety, MA	13,697	2020	40,500	\$22,025,000	\$544	\$24,227,500	\$598
Shrewsbury Police, MA	37,973	2022	44,276	\$27,500,000	\$621	\$27,500,000	\$621
Auburn Public Safety, MA	16,188	2019	51,965	\$32,837,500	\$632	\$36,712,325	\$706
N. Providence Public Safety, RI	32,810	2019	58,000	\$30,000,000	\$517	\$33,540,000	\$578

