

Bourne Police Headquarters Feasibility Study



Bourne, Massachusetts
September 30, 2016



KAESTLE BOOS
associates, inc

ARCHITECTURE
LANDSCAPE ARCHITECTURE
INTERIOR DESIGN
STRUCTURAL ENGINEERING

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– EXECUTIVE SUMMARY –

In the spring of 2016, the Town of Bourne, Massachusetts retained the design team led by Kaestle Boos Associates (KBA) of Foxborough, MA, to provide consulting and design services to evaluate the existing Bourne Police Headquarters and assist with the selection of a site for a new facility to meet the current and future needs of the department.

The design services include documenting the condition and functionality of the current facility spaces, developing space needs assessment, and developing preliminary design program for a new facility. At the same time the Mechanical, Electrical, Plumbing & Fire Protection Engineers (M.E.P.) examined the local utilities and existing conditions of the M.E.P. systems. The proposed design options, site development plans and mechanical, plumbing, and electrical systems are described further within the study.

The proposed new facility design will meet all current Massachusetts State Building, Fire and Energy Codes & Massachusetts Architectural Access Board (MAAB) requirements. In addition, operational recommendations from National Fire Protection Association (NFPA) 1221 - Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, will be incorporated into the recommended designs.

The existing facility was initially built in 1959 and has been added onto a number of times. The last major addition was constructed in 1978 when the second floor was added. Since then, the department has continued to grow resulting in many of the operational and workspaces becoming extremely cramped and lack sufficient space to efficiently carry out daily activities. In most cases, the building has functionally outlived its useful service life for current and future police operations.

Below are examples of non-compliant code or safety standards or conditions observed at the existing facility. A complete list is included in the study report. These conditions expose the Police Department staff, detainees and the visiting public to safety hazards and the Town to liability.

1. Building Code:
 - a. Structurally the facility does not meet current seismic (earthquake) design and would likely suffer major damage in a seismic event, a situation in which demand for emergency response would peak.
 - b. Only one interior means of egress (stair) from the second floor exists, there is an exterior fire escape stair located at the rear of the building. This condition does not meet building code requirements to ensure a safe exist route in case of fire.
 - c. Existing stairs are not wide enough, rails are too short and lack balusters, risers are too tall, treads are too short and the stair is not enclosed in a fire rated enclosure.
 - d. There are no sprinkler systems to protect life safety in case of fire.
2. Plumbing Code:
 - a. Fixtures do not meet Federal water conservation requirements
 - b. Fixtures are not handicapped accessible
3. HVAC Code:
 - a. Ductwork is too small.
 - b. Non-compliant amount of fresh air changes (insufficient ventilation per Code).
4. Electrical Code:
 - a. Most systems (lighting, power, emergency lighting, and fire alarm) no longer meet code requirements or safety standards.
5. ADA/MAAB (handicapped accessibility)
 - a. No elevator to upper or lower levels
 - b. Stairs are not handicapped accessible and do not provide areas of refuge
 - c. Public toilets. Public is forced to use facilities which are not handicapped accessible (turning radius', reach limits, thresholds....)
 - d. No separate toilet/shower/locker facilities for female officers or staff.

All of these issues, and others identified in the "Existing Conditions Survey" sections of the study will need to be addressed if any addition/renovation of this facility were to be considered.

– EXISTING CONDITIONS ANALYSIS –
SITE - SELECTION

EXISTING POLICE STATION SITE

No site review was done for the existing police station site. While the site was visited by the architectural team, it had been determined prior to this study that any new station would not reoccupy the existing site, mostly due to the lot size issues. While the department has grown, parking and maneuvering on the site has become increasingly difficult and would be impossible if a new modern building was situated there.

SITE SELECTION

Three sites were chosen by the Building Committee for review as to their suitability for a new Police Station. The three sites included the following:

- The ballfield at the old Coady School at the intersection of Cotuit Road and Shore Road
- The ballfield behind the Town Library on Perry Avenue
- The wooded area in Queen Sewell Park, east of the Mass. National Guard Armory building, facing the Route 6 bypass.

For each site, a detailed analysis was done to determine whether the site would be suitable for the station. This analysis included zoning, utilities, topography and soil considerations and neighboring uses, to name but a few of categories reviewed. This is included in our report following the site option images. After this was completed, a model building plan with parking was placed on the ground to determine whether each site would be functional and compatible with the Bourne Police program. Examples of this are as follows:



Queen Sewell Park Site



Coady School Site



Library- Perry Street Site

Site Evaluation chart

Bourne Police Study
 Bourne, Massachusetts

Site Number	1	2	3
Site Name	Armory- Bypass Site	Library Baseball Site	Coady School Ballfield Site
Address	Cranberry Road- Queen Sewell Park Recreation Area	Perry Avenue	Cotuit Rd - Trowbridge Rd Intersection
Parcel ID	Map 19.4 Parcel 248	Map 24.3 Parcel 17	Map 24.3 Parcel 97
Lot Size	5.96 Acres	6.05 Acres	4.37 Acres
Current Uses	Park land, Wooded, unused basketball and tennis courts	Baseball field	Baseball field
No. of Buildings on Site	None, Baseball field, unused tennis and basketball courts	Library and Baseball field	Baseball field
Ownership	Town of Bourne	Town Of Bourne	Town of Bourne
Public or Private	Public	Public	Public
Numbers of Owners	1	1	1
Assessed Value	\$354,000.00	654,000 (land only)	Unknown
Site Natural Features			
Topography	Baseball field is low lying, while outcrop where old basketball and tennis rises on rocky outcropping. Approximately 15' elevation change	Flat Site	Flat site
Soils	Udipsammants, smoothed & Carver loamy coarse sand, 3-8% slopes	Carver loamy coarse sand, 0-3% slopes	Plymouth loamy coarse sand 3-8% slopes
Areas of Critical Environmental Concern (ACEC)	No	No	No
National Heritage & Endangered Species Program (NHESP)	No	No	No
Vegetation	Baseball field is cleared, upper areas scrub forest	Grass field	Grass field
Flood Plain	No	No	No
Vernal pools	No	No	No
Wetlands	No	No	No
Habitat	No	No	No
Well head protection area, Surface Water Protection District	No	No	No
Ground Water Protection District	Yes	Yes	Yes
Aquifer Zone (medium & High yield)	Yes, High yield	Yes, Cape Cod	Yes, Cape Cod
Riverfront & Wetland Buffer Zones	No	No	No
Existing Zoning	R-40	R-40	R-40
Zoning (maximum lot coverage)	20%	20%	20%
Minimum Usable Open Space (% of lot area)	20%	20%	20%
Minimum setbacks	30' (front), 15' side and rear	30' (front), 15' side and rear	30' (front), 15' side and rear
Max building height	35'	35'	35'
Abutting Land Uses			
North Side	Residential	Railroad	Abandon School
East Side	Residential	Residential	Wooded lot, Schools
South Side	Route 28 Bypass	Library & Business	Residential across Trowbridge
West Side	Massachusetts National Guard	Wooded land	Wooded lot, Wetlands
Vehicular Accessibility	Cranberry Rd, Armory Road, possible Route 28	Perry Avenue	Cotuit Rd - Trowbridge Rd
Utility Services Available			
Municipal Water or well	Municipal Water	Municipal Water	Municipal Water
Municipal Sanitary Sewer	No	No	No
Electric	Yes	Yes	Yes
Gas	Yes, National Grid	Yes, National Grid	Yes, National Grid
Community Impacts	Loss of some park land	Loss of Baseball field	Loss of Baseball field
Environmental Concerns (21-E), AUL	None found	None found	None found
Other Site Features/Comments			
Significant Site Specific Construction Costs			

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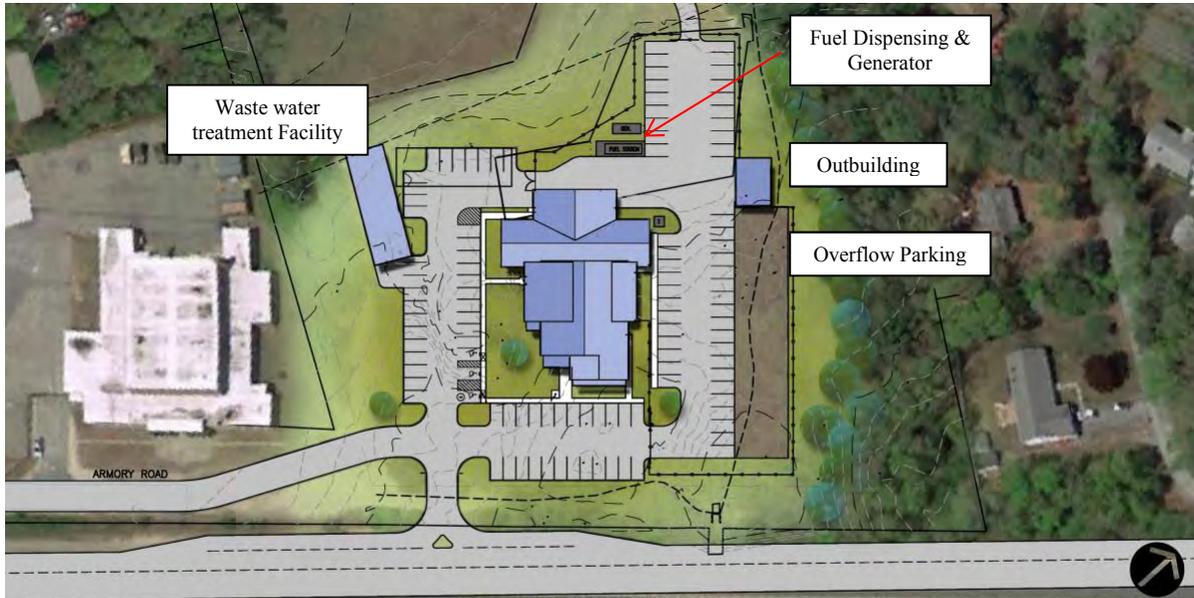
Site Number	1	2	3
Earthwork	Possibility of building into slope, large boulders present	Flat site, remove topsoil	Possible unsuitable materials, may need remove and replacement or rammed aggregate piers
Roadways	N/A	N/A	N/A
Utilities	N/A	N/A	N/A
Permits			
Mass Highway	Yes for access to Rte 28	No	No
Conservation Commission	No	No	No
MEPA			
EIR or ENF	No	No	No

Once the different options were reviewed, and the merits and constraints were discussed, the Building Committee decided to have the architects focus on the Queen Sewell Park site. The committee worked closely with the Wastewater Treatment Group to ensure that both groups would be able to use the site in the most economical fashion. The following is one of the preliminary building layouts.



Armory Site plan progress- August 10, 2016

A final layout was voted upon, in which additional parking, better access to the outbuilding, and easier access all around the building were incorporated. It was with this site plan that a final estimate was developed for a town wide vote on the project.



Bourne Police Site Plan – Schematic Design

– EXISTING CONDITIONS ANALYSIS –
ARCHITECTURAL

BUILDING OVERVIEW

This Architectural Existing Facilities Evaluation of the town of Bourne's Police Station Headquarters building includes an assessment of both the construction, finishes and function of interior elements. General observations common to most areas of the facility are discussed and issues regarding individual spaces are further detailed, as necessary, in the following reports provided by consultants with expertise in Mechanical, Electric, Plumbing, and Fire Protection engineering disciplines. Also, although a review of the facility with regard to the Building Code is not as part of this Study, there are references to specific Code conditions included in this section, as well as in sections by other engineering disciplines. Selective demolition of the exterior envelope or interior elements in these buildings was not performed; comments and issues presented in this assessment are the result of visual observation only and document research.

The current building was constructed in 1959 and consists of a single story building with a full basement. Since 1959, the building has undergone two expansion projects in an effort to respond to the ever changing policing needs. The first of which took place in 1973 when the building was added onto to provide additional storage and a larger detention area. The second took place in 1978, when the second floor was added. This addition primarily relocated the administrative spaces, allowing the main floor and basement to be utilized by the staff and detention facilities. Noticeably absent from these additions is an elevator which the Town was granted a waiver from the ADA requirements due to costs.

It appears from onsite observations, the building is constructed of double wyth masonry bearing wall (concrete masonry unit with brick veneer), with no insulation in the walls. The original roof structure was a low sloped steel frame and metal deck with tar and gravel roofing. The original roof was removed when the second floor was added and a new low sloped roof was installed as part of the 1978 addition.

In the current code, this load bearing masonry construction with a steel framed roof is considered to be Type II-B (Roman numeral 2 – B).

EXTERIOR ENVELOPE

Exterior Walls

As previously stated, the exterior walls are un-insulated multi-wyth masonry bearing walls – brick veneer with CMU backup. The brick is generally in fair condition with a number of patches, repairs and cracking mortar joints observed in a number of locations.

The condition of the roof edge and trim is generally in good condition.

The gutters appear to be of the residential seamless prefinished aluminum type and appear to be in good condition. It is unknown if the down spouts are tied into a storm water drainage system drywells.

Exterior Doors

The entrance door and frame is anodized aluminum with glass vision panels. Doors and frames are generally in poor condition. The hardware, seals and caulking all appear to be in failing condition. None of the doors have been outfitted with a “crash-bars”; though most of the doors are equipped with lever handles.

The sally port doors are prefinished insulated metal sectional overhead type with one row of vision panels. Weather gaskets at the door bottom and jambs are failing. The doors are showing wear and appear to be at or near their expected live span. Additionally, the door openings themselves are too short for the current SUV type cruisers (antennas hit the door head damaging the antennas).



Exterior Windows

The windows are aluminum replacement double/single hung units with insulated glass and insect screens, set into existing masonry openings. The windows appear to have been recently installed (within the last few years) and are in good condition. As no weep holes were observed, at many of the window heads, spawling mortar was observed. This is an indication that water is getting into the wall and not weeping out properly causing the steel to rust and cracking the mortar. Eventually this condition will require the removal of the brick, scrapping and repainting of the steel lintel, installation of head flashing and replacement of the brick.

Roof

As previously noted the low sloped roof was installed as part of the 1978 addition. Both the upper roof and lower roof appear to be in fair condition, however it is over 30 years old and at or beyond their expected life spans.

Internal roof drains on the upper roof appear to be fairly well maintained, however, there are no code required provisions for overflow protection. The lower roof is sloped to one side and drain into the previously discussed aluminum gutters and downspouts.



BUILDING COMPONENTS

Interior Walls

Most interior walls are wood (assumed) stud with gypsum wall board on both sides and are generally in good condition but need numerous repairs and repainting. Concrete masonry units (CMU) walls are in generally fair condition exhibiting cracked joints at numerous locations, and like the stud walls require repairs and repainting. At numerous locations throughout the building mold was observed, indicating that moisture has found its way through the exterior wall or roof and into the building. It was not determined through observation the exact source of the moisture.

Interior Doors & Frames

Most interior doors and frames are stain grade wood (36" wide) with some painted hollow metal. Most of the doors have not been outfitted with ADA compliant lever-style handles. Most of the wood doors, frames and hardware are in fair to poor condition and should be replaced.

Ceilings Systems

There are three predominant ceiling types in the building: painted gypsum wall board (lobby, mechanical, and detention areas), 12"x12" acoustical ceiling tile on furring channels (mainly in original building areas), and 24"x24" acoustical ceiling panels in prefinished aluminum suspension framing system. It was observed in a number of locations above the suspended ceiling, the original 12"x12" ceiling tiles remains and exhibit wide spread water staining. It is not apparent if this is due to past roof leaks that have been repaired or current leaks that have not stained the suspended ceiling tiles. Further investigation is required.





In general, the gypsum board ceilings could use minor repairs and a fresh coat of paint, while the suspended ceiling system is in good condition. Stained ceiling tiles need to be replaced once the source of the water infiltration has been fixed.

The lighting seems inadequate in general and the light fixtures are in poor condition. Refer to the electrical section of this report for more information.

Floor Finishes

There are numerous flooring materials used throughout building: vinyl composite tile (VCT), ceramic tile, sheet vinyl, vinyl asbestos tile (suspected), carpet, painted and exposed concrete. In general, all are in poor condition and needs be replaced.





Signage, Miscellaneous Accessories and Equipment

Room signage is nonexistent. Any addition or renovation would require the installation signage with braille to comply with ADA.

Fire extinguishers are located at numerous locations throughout the building. Quantities and locations need to be reviewed for code compliance.

Window treatments are either horizontal or pull up blinds or nonexistent. Pull up blinds appear to be recently installed and are in good condition. Horizontal blinds are in poor condition and need to be replaced. Windows without blinds should have them provided.

Kitchen/Lunch Room

There is no separate designated kitchen/lunch room in the building. There is a small microwave oven and under counter refrigerator located in the same room at the network server. Lunch is eaten just about any place an officer can find a chair and horizontal surface for their food, often the report writing room.

Toilet/Shower Room

The toilet/shower rooms are painted walls, with tile flooring and acoustical tile ceiling. All finishes are old and need to be replaced.

The shower facilities are fiberglass enclosure type with a 3” lip at the base (non ADA/MAAB compliant). The enclosures appear to be in good condition. The shower stalls are also non ADA/MAAB compliant, as they are on a raised platform to allow the floor drains to drain into the sump pump.

Additionally, none of the fixtures meet ADA floor clearance requirements. The sinks do not have insulated drain piping or approved lever style faucets handles. The toilets do not have grab bars and or clearance from the wall. The showers do not have a flush lip at the floor, fold down seat or height adjustable shower head. Urinal is floor mounted and does not comply with current plumbing code. Additionally there are no separate toilet/shower facilities for male and female use.



Our recommendation would be to execute a total renovation of these spaces. All fixtures, partitions and accessories should be replaced with new.

Hazardous Materials

General observations and posted signage was observed stating the presence of asbestos. It is our recommendation that a comprehensive survey of hazardous materials be conducted as vinyl asbestos tile flooring was observed in a number of areas. The scope of the survey should include asbestos, lead paint, mercury and PBC's.



PROGRAM COMPONENTS

Communications Center

The communications center does not comply with NFPA 1221 which sets the design standard for emergency communications centers. This guideline requires two-hour fire separation from the remainder of the building, protection against civil unrest (ballistic rated walls) and an isolated air handling system among many other requirements. Neither an isolated air handling system nor two-hour fire separation assemblies were observed. Additionally, this room appears to be used for a variety of other programmatic functions including report preparation and multi-purpose room. These functions are not conducive to providing an appropriate environment for dispatchers to communicate with citizens in emergency circumstances.



Detention Cells

The cells do not meet any of the Massachusetts Department of Public Health requirements. The cell doors are too narrow, toilet fixtures are not detention grade, bunks are too small, finishes are failing and audio/video coverage is minimal at best. There are also many potential suicide risks; fin tube radiation covers, sink /toilet fixtures and faucets to name a few.



Head End Room

The stations computer network head equipment is co-located in a small janitor's closet. The radio equipment is on an opposite wall from a slop sink and running water. The door does not have a lock and the is not climate or dust controlled.

Sally Port Bays

The Sally-port bays utilize painted cmu walls, painted exposed ceiling and exposed concrete floors. All of the finishes are in fair condition. The overhead door openings are too short as previously noted.

There is an open set of concrete steps that are a potential hazard to both officers and detainees. Additionally, because of the lack of storage within the station, the sally port is used for the storage of ATV's, tires, mobile sign board and misc. other materials, all of which are potential hazards to used against an officer.





Storage Facilities

There appears to be inadequate storage facilities for archival records, training materials, department equipment, and supplies.

– EXISTING CONDITIONS ANALYSIS –
FIRE PROTECTION

Fire Protection

Executive Summary:

The Building does not contain an automatic sprinkler system.

In general, Massachusetts General Law M.G.L. c.148, s.26G requires that any existing building over 7,500 square feet that undergoes major alterations or modifications or a building addition must be sprinklered.

If the proposed work includes a major renovation or a building addition, then an automatic sprinkler system would be required for the existing building and any additions.

A hydrant flow test will be required to determine adequate Municipal water supply.

– EXISTING CONDITIONS ANALYSIS –
PLUMBING

PLUMBING

Executive Summary:

Presently, the Plumbing Systems serving the building are cold water, hot water, sanitary, waste and vent system, storm drain piping, and natural gas. Municipal sewer and municipal water service the Building.

The majority of the plumbing systems are original to the building and its additions. Portions of the systems have been updated as part of building renovation and upgrade projects. The plumbing systems, while continuing to function, have served their useful life. The school plumbing systems could continue to be used with maintenance and replacement of failed components; however, other non-dependent decisions will likely force the plumbing upgrade. Due to its age, complete new water piping systems are recommended. The copper piping is in fair condition but has served its useful life.

The plumbing fixtures are in fair condition. Attempts have been made to make bathroom fixtures accessible, however, the majority of fixtures do not meet current accessibility codes. In general, the fixtures appear to have served their useful life. Current Access Code requires accessible fixtures wherever plumbing is provided. In terms of the water conservation fixtures, their use is governed by the provisions of the Plumbing and Building Code. Essentially, the code does not require these fixtures to be upgraded, but where new fixtures are installed, as may be required by other codes or concerns, the new fixtures need to be water conserving type fixtures. All new fixtures are recommended.

Cast iron is used for sanitary and storm drainage. Rainwater from roof areas is collected by interior rain leaders which appear to discharge to a below grade drainage system. Where visible, the cast iron pipe appears to be in fair condition. Smaller pipe sizes appear to be copper. In general, the drainage piping can be reused where adequately sized for the intended new use.

A new high efficiency domestic water heating system with thermostatic mixing valve, expansion tank and recirculation pump are recommended.

Fixtures:

The water closets are wall hung or floor mounted, vitreous china with manually operated flush valves. Flush tank type water closets also exist in the building.

Urinals are wall hung or pedestal vitreous china with manually operated flush valves.

Lavatories are wall hung or counter mounted made of vitreous china. The majority of lavatories have been retrofitted with single handle mixing faucets. Some lavatories are fitted with hot and cold water handle faucets.



Typical Water Closet



Typical Urinal



Typical Lavatory

Drinking fountains consist of vitreous china fountains.

Electric water coolers are wall hung, non accessible.



Drinking Fountain



Water Cooler

Janitor's sinks are generally trap standard mounted, enameled cast iron sinks. Faucets are equipped with vacuum breakers. The Sallyport includes a wall mounted faucet with threaded connection and vacuum breaker without a floor receptor.

Showers are made of a non-accessible fiberglass surround and include a thermostatic mixing valve and standard flow shower head.



Sallyport Faucet



Shower

A Kitchen area sink consists of a stainless steel drop-in sink and gooseneck faucet with lever faucet.

In each cell, either a stainless steel or vitreous china water closet is provided with a wall mounted flush valve pushbutton. Handwashing is done outside of the cells with a wall mounted vitreous china lavatory with hot and cold water faucets.

There is a floor drain located in the Corridor outside of the cells.



Cell Water Closet



Cell Lavatory

The Sallyport does include garage drains. It was indicated that the garage drains are not directed to a Code required exterior gasoline/oil interceptor.



Garage Drain

Water Systems:

The main domestic water service is located in the Basement. The service is 1-1/2" in size and includes a 1-1/4" water meter and pressure reducing valve. The main domestic cold-water distribution is 1-1/2" in size. The majority of the domestic distribution piping is located at or above ceilings throughout the facility.

The domestic water is aggressive leading to corrosion and early failure of piping, fittings, and valves.



Water Meter



PRV

Piping, where exposed, appears to be copper with sweat joints. The majority of the piping is un-insulated. Due to the lack of accessibility a major renovation should include all new domestic water piping.

Domestic hot water in the building is generated through a gas fired storage tank type water heater. The hot water system is recirculated. There is no thermostatic mixing valves on the systems to prevent scalding and there is no expansion tank on the cold water make-up line to the water heater.



Gas-fired Water Heater



Recirculation Pump

The water heater has a natural gas input of 40,000 BTUH and a 50-gallon storage capacity. The water heater appears to be in good condition.

Gas:

A 3/4" elevated pressure natural gas service is supplied to the building. An exterior gas meter and regulator is located on the side of the Sallyport / Garage. Natural gas is distributed throughout exposed on the exterior wall, and through building from this location. Natural Gas is utilized for domestic water heating, building heating and the gas fired emergency generator.



Gas Meter



Gas Generator

Gas piping is black steel with a combination of screwed and welded joints and fittings depending on the time or pipe size of the installation.

Drainage Systems:

Cast iron is used for sanitary and storm drainage. Where visible, the cast iron pipe appears to be in fair condition. Smaller pipe sizes appear to be copper. It was reported by the staff that there are partial blockages in the buried drains that cannot be cleared.

In general, the cast iron drainage piping can be reused even in a major renovation where adequately sized for the intended new use.



Cast Iron



Cast Iron

There is a storm sump pump in basin in the Basement, used for groundwater infiltration prevention.



Sump Pump

Recommendations:

While fixtures meet Code for water conservation, faucets and flush valves could be replaced with high efficiency units to reduce water consumption.

Domestic water heater should be replaced with a high efficiency, gas fired, storage type water heater and include an expansion tank, thermostatic mixing valve and a hot water recirculation pump.

Domestic water piping should be replaced including fittings, valves, insulation. Valves should be tagged and piping labeled per ANSI Standards.

Existing buried sanitary, waste, vent and storm drainage piping should be videotaped by a Contractor to determine internal condition of piping and to check for leaks. Any buried drainage piping found to be leaking, compromised or in poor condition should be replaced.

Paint all exposed gas piping on roof or at meter location with rust inhibitive paint.

Sallyport garage drains shall be directed to a gasoline and oil separator.

– EXISTING CONDITIONS ANALYSIS –
HVAC

HVAC

Executive Summary:

The Bourne Police Station for the most part consists of all the original HVAC equipment, with the exception of the boiler and pumps. There was a second floor added in the late 70's which utilized hot water fin tube radiation similar to the original building. However, the newer system was connected to an existing power plant. The original equipment on the first floor is reaching the end of its serviceable life as most of it is older than forty to fifty years. The piping system throughout the building is a combination of schedule 40 black steel and copper. Majority of which is not insulated which does not comply with today's codes and standards. The section of piping that is insulated appears to be the original insulation which does have asbestos elbows. The building mostly consists of fin tube radiation as its main heat source, there are two indoor air handling units which are utilized for cooling purposes. The indoor air handling units are associated with a duct distribution system for the supply and utilizes a split cooling air cooled condenser for cooling purposes. There is no mechanical ventilation system for the building therefore operable windows are utilized as the main source for ventilation air. Exhaust air is provided within the restrooms' area only and are associated with one roof mounted exhaust fan. The buildings overall temperature control system is standalone electronic thermostats located in certain areas of the building, this system is considered to be a standalone system and has no web access or monitoring capabilities. It appears that the building has received average maintenance over the years and some components are beginning to show signs of possible future issues. Based on the current equipment within the building, its antiquated nature and today's code requirements, the building should receive a complete upgrade of the entire HVAC system.

Boiler Room:

The Police Station is heated by a hot water boiler plant consisting of one (1) gas fired hot water boiler, hot water pumps, accessories, breeching, combustion air opening and standalone controls. The boiler is a Burnham fire tube boiler, which was replaced approximately ten to twelve years ago. The boiler has an input heating capacity of 396 MBH and utilizes natural gas as its main fuel source. Originally, the boiler plant operated on fuel oil and was associated with an underground fuel oil tank; the tank has since been removed along with the fuel oil piping, however, there is an original fuel level gauge still present within the boiler room. The boiler appears to have all the necessary safeties. The boiler appeared to be in fair condition and functioning properly, however, there are signs of corrosion on the boiler casing.



Hot Water Boiler



Boiler Controls

The boiler flue gases are vented through the use of a single wall galvanized breeching system, which terminates into an existing masonry chimney. Combustion air for the boiler appears to be provided through one louvered opening which communicate directly with the outside. The current size of the opening does meet today's combustions air requirements.



Breeching System

Hot water is distributed from the boilers to the building heating equipment by several inline circulators. There is a total of six Taco inline pumps which serve dedicated areas such as the first floor, second floor, cell block, garage, etc. The pump motors are equipped with typical starters and do not have any variable speed drives associated with them. These pumps appear to have been installed at the same time as the boiler, overall the pumps appeared to be in good condition. Associated with the hot water system is one non-insulated expansion tank and one non-insulated air scoop; there was no sign of a chemical shot feeder.



Expansion Tank



Typical Pumps

Piping within the boiler room and throughout the building is a combination of schedule 40 black steel and copper. From an outwards appearance, the piping is in fair condition, however, sample sections of piping should be cut and examined to determine the actual interior condition of the piping system. All of the piping within the boiler room was not insulated, however throughout the building some sections of piping did appear to have the original fiberglass insulation with asbestos elbows. Further testing or verification should be considered to quantify what is asbestos and what is not. The hot water piping that was insulated appears to be in poor condition with slight damage to some sections and even soiled in others, there was quite a bit of piping that was missing insulation which does not meet today's codes and standards. The distribution piping system is a two-pipe system with hydronic control valves at certain sections of the fin tube radiation.



Typical Piping



Soiled Piping Insulation

The Men’s locker room and the evidence storage room are located in the basement of the building. These spaces utilize convectors/unit heaters for heating purposes. There are no exhaust fans associated with the locker room which does not allow for any ventilation air, which in turn provides poor indoor air quality. In a space such as the locker rooms, some type of ventilation / exhaust system should be considered to reduce odors in the air and minimize pollutants. The evidence storage room did have a ceiling exhaust fan which seemed to be original to the building, this fan was not operating. This condition should be improved upon as there are substances within the space which create strong odors.



Locker Room Convector



Typical Convector

First Floor:

All of the spaces on this floor consisted of wall mounted fin tube radiation as its main heat source, except for the sally port, which had no fin tube radiation and utilized one vertical propeller unit heater. The fin tube radiation was mainly located on the exterior walls and for the most part were in fair condition, some section of cover was damaged; covers missing and fins bent or filled with debris. This condition minimizes the overall heating output of the fin tube and ultimately requires the boiler plant to operate more often and therefore less efficient. There appeared to be a handful of thermostats which controlled hot water flow through long sections of fin tube. The location of these thermostats were not necessarily placed in the best locations and did not provide the best temperature readings for the spaces in which it controlled. For example, there is one thermostat in the dispatch area which controls the heating for several different rooms, which have different exposures and different lengths of exterior walls. This current condition provides uneven temperatures and provides under and overheating in the spaces. To correct this condition, the piping system would have to be modified to allow separate hot water feeds to each space, which would then allow individual thermostats for each space. This would provide individual occupant control. Some of the spaces were also provided with window air conditioners which were functioning.



Second Floor Fin Tube



Typical Thermostat

The Cell block area is provided with individual exhaust fans which are associated with a perforated wall area in each cell block. The fans are wall mounted and discharge into the plumbing chase behind the cell blocks and do not exit the building. This condition does not provide adequate ventilation for the cells and this condition should be improved upon. There is no makeup air provided to the individual cells, and with the security doors installed, adequate makeup air is not allowed to enter the cells when the cells are occupied. Makeup air for the entire cellblock is through the use of operable windows in an adjacent corridor and does not need the natural ventilation requirement of the building code. Heating for the cell blocks are provided by wall mounted fin tube radiation, however, the fin tube is located within the pipe chase which is between the cell block wall and the exterior building wall. Heat is transferred to the cells through a perforated section of wall located high within the cells. This condition does not provide adequate heating for the cells but does temper the area in which the cell blocks reside.



Typical Interior Exhaust Fan



Cell Block Transfer Grilles

The Sallyport area is not provided with any Vehicle Exhaust System nor is it provided with an exhaust fan to vent vehicle exhaust upon entry and exit. There is one vertical propeller style unit heater within the space which does not function properly. It was also noted to have extensive surface soiling and contamination and this heater does not have the adequate capacity to heat the garage.



Sallyport Unit Heater

The radio room is centrally located within the first floor and houses all of the IT equipment racks and radio components. This space has a ceiling suspended indoor air handling unit which is utilized for cooling the dispatch area, the interview room, and the main lobby. The unit is associated with a galvanized supply duct distribution system which travels to each space indicated above and terminates at the ceiling with a supply grille. The unit is original to the building and is manufactured by Whirlpool and has a capacity of four tons of cooling. The unit is not insulated therefore a condensate pan has been installed under the unit. However, during the summer months the pan and the unit's base will form condensation and begin to drip onto the floor which has caused issues with the floor below, as well as, issues with the equipment within the space. The ductwork associated with this unit is exposed within this space and is not insulated. Recently the radio room itself required cooling due to the amount of equipment within the space, therefore, holes were cut into the supply ductwork to allow cool air to enter the radio room. This modification has decreased the cooling capability of the unit for the associated spaces. It is recommended that a separate split cooling unit be provided just for the radio room.



Indoor Air Handling



Modified Ductwork



Typical Ceiling Diffuser



Typical Wall Grille



Typical Roof Condenser



Typical Thermostat

The Women's locker room is also provided with wall mounted fin tube radiation for heating. This space does not have any temperature control and depends on the adjacent space thermostat to control its space temperature. It does have a single wall mounted exhaust fan, however, it exhausts the air into the adjacent cell which does not meet today's codes and standards.



Typical Single Exhaust Fan

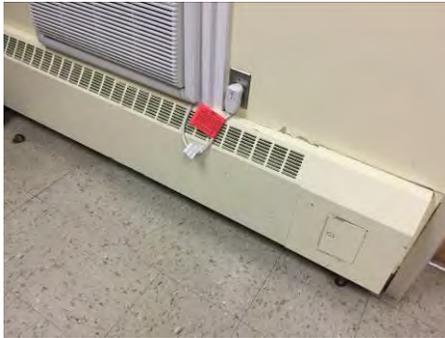


Typical Fin Tube

Ventilation air for the entire first floor is through the use of operable windows located in the exterior wall. The amount of window area in relation to the floor area served does meet the building code requirement for natural ventilation; however, there are some offices which are centrally located in the building and have no operable windows or exterior walls. Considering the use of the spaces, mechanical ventilation should be provided.

Second Floor:

All of the spaces on the second floor utilize wall mounted fin tube radiation as its main heat source. Similar to the first floor, fin tube wraps all the exterior walls. The biggest difference is the controllability of the heating system. The second floor fin tube is controlled via wall mounted electronic thermostats which are installed within each space. These thermostats control the flow of hot water for each individual space. The fin tube itself, including the covers are in good condition and functioning properly. Wall mounted air conditioners are used for cooling purposes, these units are residential style units, however, they are functioning and provide adequate cooling capabilities.



Typical Fin Tube



Typical Wall Air Conditioner

Ventilation air of each space is through the use of operable windows located in the exterior wall. The amount of window area in relation to the floor area served does meet the building code requirement for natural ventilation.

Restrooms:

All of the restrooms throughout the building utilize wall mounted fin tube radiation as a main heat source. There is no thermostat to control space heating in any of the restrooms. Only some restrooms are equipped with exhaust fan systems, this condition should be improved upon as this does not meet today's codes and standards for restroom ventilation requirements.



Restroom Exhaust Fan



Roof Exhaust Fan

Recommendations:

In general, the Police Station's heating, ventilation, and air conditioning systems do not meet the thermal comfort needs, energy efficiency, and code-requirements of a modern day Police Station, and the majority of HVAC equipment and distribution systems have exceeded their expected useful service life.

Therefore, we recommend the following HVAC system repairs and replacements:

- **Heating System:** The existing hot water boiler is inefficient in comparison to today's energy efficient boilers. We recommend that the existing boiler is replaced with a high efficiency condensing hot water boiler plant, consisting of high efficiency condensing boiler, pumps equipped with VFD drives (or ECM motors), DDC controls (including outdoor air reset), and accessories. A new steel/copper main header piping distribution system should be provided to replace the existing hot water piping located throughout the building, as well as, new hot water fintube radiation elements for each space with individual temperature controls.

- Ventilation: We recommend that a new ventilation system with insulated galvanized sheetmetal ductwork be provided to ensure odors and pollutants are minimized and/or eliminated. New mechanical ventilation systems should be provided for all areas of the building.
- Restroom exhaust air fan systems should be replaced including associated ductwork and roof mounted exhaust fan.
- Heating and ventilation systems should be provided for the Sallyport including CO/NO2 sensors and alarms.
- Air Conditioning: We recommend that a new high efficiency air conditioning system(s) be installed in areas that require air conditioning to replace the existing air handling unit and associated condensing unit installed in the building. The replacement system should utilize alternative refrigerant to replace the existing R-22 refrigerant AC system. A new system would be recommended for the building that could meet the cooling load requirements of the building and improve overall thermal comfort and energy efficiency.
- Controls: We recommend that all new HVAC systems be controlled by a newly installed direct digital control, energy management system for improved thermal comfort control and energy efficient system operation.

– EXISTING CONDITIONS ANALYSIS –
ELECTRICAL

ELECTRICAL

Executive Summary:

In general, the existing electrical systems are at the end of or have exceeded their useful life, with exception to a recently installed natural gas generator. The entire power distribution system, including the generator, lighting and tel/data systems should be replaced with new systems under any renovation program. Under a new building there are no electrical systems or equipment that would be recommended to be re-used. Most systems are marginally sized, not operational or no longer code compliant. Many systems are also installed in environments that are not suitable for the equipment resulting in failure or frequent repair resulting in nuisance outages and downtime for the Police Department.

Electrical Distribution System:

The primary service runs overhead to a pole adjacent to the building on Harrison Avenue. The transformers are utility owned and pole mounted. The Utility Company is Eversource. Secondary service runs underground between the pole mounted transformers and a 400 Ampere, 120/208 Volt, 3 Phase, 4 Wire main circuit breaker via a C.T. cabinet. The C.T. cabinet had no utility company locks and could be accessed; the meter is located outside of the sally port, meter #5090653. The main service equipment is located within the sally port, and was blocked by police vehicles/ATV's.

The electrical distribution equipment is manufactured by Federal Pacific and is of circuit breaker type. The equipment is in poor condition.



Utility Pole with Transformer



Main 400 Amp Service Breaker



Electrical Distribution Equipment



C.T. Cabinet



Electric Meter

Branch Circuits:

In general, the condition of the branch circuits and receptacles is poor. Receptacle coverage is inadequate and extension cords were noted. The use of extension cords to replace permanent wiring is a code violation. MC cable is used in exposed areas subject to physical damage. Extension cords are being used as branch circuits which is a code violation.



Exposed MC Cable



Extension Cords as Branch Circuits

Interior Lighting:

The interior lighting generally consists of wraparound fixtures with T8 lamps, porcelain sockets with A19 lamps and surface sconces. Corridors are locally switched. A typical office has (1) switch; the Garage has industrial strips. Detention Cell hallways have recessed 12 in. square fixtures with incandescent lamps.

Cells have corner mounted security fixtures with incandescent lamps. One switch with pilot light for each cell light is located in the hallway. Cell lights provide inadequate lighting to monitor detainees.

General interior lighting is in poor condition.



Porcelain Socket



Corridor Recessed Light



Cell Light



Corridor Surface Light

Exterior Lighting System:

The parking lots do not have pole mounted lights with the exception of two HID flood lights on utility poles, one per lot. The pole light is fed overhead.

Building mounted fixtures consist of HID mini floods and jelly jar wall scones.

The exterior lighting is inadequate and is not dark sky compliant.



Building Mounted Lighting



Flood Light on Utility Pole

Emergency Power System:

The emergency lighting system does not meet current codes; no test was done to witness current operation.

A 50 KW Kohler generator was recently installed. The generator was located exterior and is natural gas fired. The transfer switch is located inside the sally port. The generator is in fair condition, however, would not be adequate in size for any substantial renovation or new building project.



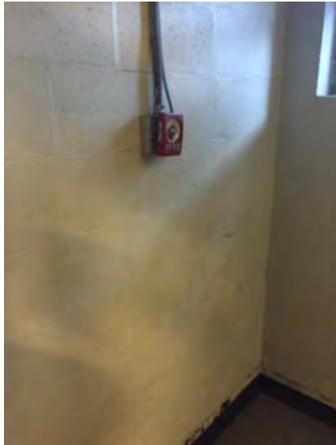
Generator



Generator

Fire Alarm System:

The existing fire alarm system is not currently operational; it is a conventional 4 zone ESL panel. The station contains smokes only devices, based on input from the Owner during the walk-thru. The current fire alarm system does not meet code and requires upgrades. Pull stations are not ADA compliant.



Pull Station



FACP – Not Functional

Interior Paging:

The facility does contain a paging system with ceiling speakers throughout most spaces and was noted to be functional.

E911 Equipment:

E911 emergency communications equipment and UPS is located in the building’s Data Room.



E-911 UPS



E-911 Equipment Rack

Communication Systems:

Cable TV, E-911 cabling, radius and town fiber network cabling terminate in the Data Closet “old storage room”. The Town fiber loop runs through the Police Station.

The tel/data rack is also located in the Data Closet on the second floor.

The CAT5 cabling is generally exposed and improperly supported from other trades piping.

Dispatch has two positions. The emergency communications equipment rack, E-911, UPS and associated distribution equipment is required to be housed in a dedicated fire rated room.

The Samsung iDCS 100 phone system has been problematic causing unnecessary downtime for the Police Department.



Building Data



Telephone Head End



Radio Equipment



Dispatch Console



Dispatch Console Wiring

Security/Card Access/CCTV System:

Passive infrared sensors are existing in the Booking and Interview Rooms with separate interview recording systems. The facility does not have a card access control system. A cell check station exists in detention hallways, and is functional.

Cameras exist in the male detention hallway to monitor cells. There are cameras in the individual cells. There are cameras on the exterior.

All wiring and power supplies are exposed in detention area.

One 22" monitor exists in Dispatch for interior and exterior cameras.



Typical Interior Camera



Cell Check Button



Interview Room Recording System



Exterior Camera

Miscellaneous:

The facility does not have a lightning protection system.

Recommendations:

The existing electric service should be replaced with a new 800 Ampere service.

The original building switchgear should be replaced. New panelboards should be provided and existing circuits reconnected.

Violations should be corrected by rerouting foreign piping that runs over electrical equipment or the equipment should be relocated. Drain pans should be provided over equipment located below water and/or heating pipes.

The new service should be subdivided into three branches: Optional Standby, Critical Operations Power System (COPS) (required by code when the facility is used as a “PSAP” Primary Safety Answering Point), and Emergency Power for life safety.

Cellblock lighting fixtures should be replaced with fluorescent security rated fixtures. Light fixtures within cells to have extended speaker housing.

Dimmable fixtures should be added to dispatch.

Occupancy sensors should be added to individual spaces to conserve energy.

Exterior wall sconces should be replaced with LED sconces. Pole-mounted LED fixtures should be provided for parking areas. All fixtures should be dark sky compliant.

Additional receptacle should be provided to eliminate the use of extension cords and plug strips.

A new generator should be provided to back up the entire facility with three breakers. Three new transfer switches should be added for Critical Operations Power (COPS), Life Safety, and Optional Standby.

A new life safety panel should be provided for emergency lighting and exit signs. The existing battery units should be removed.

A new fire alarm system with new fire alarm devices should be provided to bring the building into compliance with full coverage.

A central paging system should be provided for the entire building.

A new audio threshold system should be provided for the cell block including cells.

A new integrated electronic security system should be provided consisting of card access, closed circuit TV and intrusion. The cell check system should be integrated to the new security system, as well as, panic stations in the cell block.

– SPACE NEEDS –



BOURNE Police Department

Space Needs Assessment

September, 2016

KAESTLE BOOS
associates, inc

Area/Room Title	Rm. Type	Occupants	No.of Rms.	Rm. Area	Subtotal	Total	Interview Notes
Public							Entry level
Vestibule		13.2	0	1	80 sf	80 sf	Walk off mat for sand and debris; 15' recommended- may extend into lobby
Lobby/Waiting		13.1	8	1	400 sf	400 sf	There are several functions that must be directly accessible from the main lobby: access to the Police Area (escorted), Dispatch window, a built-in permit/fill-out station, public interview room, public toilets, a dedicated firearm permit (MIRCS) room, a 40- person E.O.C./ Community /Training Room and vertical circulation
Public Toilets		7.4	3	2	200 sf	400 sf	
Public Interview		6.6	3	1	100 sf	100 sf	Moveable table with 3 chairs
MIRCS		5.5	2	1	80 sf	80 sf	MIRCS computer, fingerprint scanner, camera, photo-grey background
Training/ E.O.C./ Community Mtg.		3.2	40	1	1000 sf	1000 sf	short throw projector
Kitchenette		3.3	3	1	50 sf	50 sf	
E.O.C. Storage		6.2	0	1	25 sf	25 sf	
Table and Chair Storage		6.6	0	1	80 sf	80 sf	
Public Total:						2215 sf	
Communications Center							Entry level- off Lobby; close access to Patrol Sergeants
Communications Positions		4.5	3	1	525 sf	525 sf	(2) manned stations plus (1) back-up/ overflow station (Civilian staff).
Main Desk		6.3	1	1	40 sf	40 sf	
Shift Commander (O.I.C.) Station		2.4	2	0	80 sf	0 sf	Not required if Patrol Sergeant's Office is adjacent
Lost & Found Area		6.4	0	0	5 sf	0 sf	Goes to Evidence Storage after shift
Lockers		8.4	10	0	15 sf	0 sf	(4) Male & (4) Female- provide in main locker rooms
Unisex Toilet		7.1	1	1	60 sf	60 sf	
Break Room/Area		13.1	2	1	50 sf	50 sf	Small kitchenette
Communications Center Total:						675 sf	



BOURNE Police Department

Space Needs Assessment

September, 2016

KAESTLE BOOS
associates, inc

Area/Room Title	Rm. Type	Occupants	No. of Rms.	Rm. Area	Subtotal	Total	Interview Notes
Command / Administration							Upper level
Admin. Assistant	1.4	1	1	150 sf	150 sf		Adjacent to Chief, Admin file area; needs access to 2-4 file drawers in office
Visitor waiting	6.4	3	0	40 sf	0 sf		Not required on the second level; visitors are escorted upstairs
Admin. File Area (High density)	14.1	0	1	250 sf	250 sf		located within Clerical Office with HD shelving & work area
Clerical Office	6.7	3	1	360 sf	360 sf		
Chief's Office	1.8	1	1	250 sf	250 sf		Directly adjacent to Admin. Assistant or across corridor
Toilet	7.1	2	3	65 sf	195 sf		
Admin. Lieutenant's Office	1.5	1	1	175 sf	175 sf		Close proximity to Clerical Office; provide IT work area and high speed access to main network
Operations Lieutenant's Office	1.5	1	1	175 sf	175 sf		similar layout for all LT offices; can be remote from Clerical Office
3rd Lieutenant's Office	1.5	1	1	175 sf	175 sf		similar layout for all LT offices
Fiscal Office	4.3	4	0	130 sf	0 sf		
Future Growth Office	1.4	1	2	150 sf	300 sf		
Conference Room	3.3	12	1	360 sf	360 sf		Short throw projector; additional seating around perimeter
Coffee Area	6.2	0	1	25 sf	25 sf		in corridor outside Conference
Department Supplies	6.2	0	1	25 sf	25 sf		
Coat Closet	6.1	0	4	15 sf	60 sf		Chief & Lieutenant's; directly accessible from each office
Workroom	6.7	0	1	120 sf	120 sf		
Staff Mail	6.1	0	1	15 sf	15 sf		To be located near Roll Call/ Reports
Command / Administration Total:						2635 sf	



BOURNE Police Department

Space Needs Assessment

September, 2016

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associates, inc

Area/Room Title	Rm. Type	Occupants	No. of Rms.	Rm. Area	Subtotal	Total	Interview Notes
Information Technology							
IT Work Area	1.2	0	1	100 sf	100 sf		Located within Computer Network Room; current position is held by Admin Lt. Same as above Locate adjacent to Dispatch Estimated 1 per floor less Network Equip Rm
Testing/ Burn-in/ Parts area	6.2	0	1	25 sf	25 sf		
Computer Network/ Equip. Room	6.9	0	1	200 sf	200 sf		
Radio Room	6.8	0	1	150 sf	150 sf		
IDF Closets	6.2	0	2	25 sf	50 sf		
IT Support Total:						525 sf	
Records / Data Processing							
Public Information Counter	6.3	0	0	40 sf	0 sf		See Clerical Office above Record requests will be handled through Dispatch window
Work Area	2.2	2	0	150 sf	0 sf		
Department Supplies	6.1	0	0	15 sf	0 sf		
File Archives (High Density)	14.1	0	0	250 sf	0 sf		
Records/Data Processing Total:						0 sf	
Patrol Facilities							
Patrol Lieutenant's Office	1.4	4	0	150 sf	0 sf		shared file and meeting area; locate adj. to Dispatch Multimedia capabilities (short throw projection), 2nd training room (14) Radios, AED cabinets, night goggles, barricades; located directly off of Patrol Sergeant's Office included in Patrol Storage Enclosed room; contains copier High density weapons rack located directly off of Armory direct vent, light color chemical resistant counter; task lighting
Patrol Sergeant's Office	2.2	9	1	675 sf	675 sf		
Roll Call (Squad) Room	3.3	18	1	540 sf	540 sf		
Radio/ Patrol Storage "Ready Rm"	6.6	0	1	100 sf	100 sf		
AED Distribution	6.2	0	0	25 sf	0 sf		
Temporary Gun Storage	6.2	0	1	25 sf	25 sf		
Report Preparation	3.2	6	1	150 sf	150 sf		
Armory	6.5	0	1	80 sf	80 sf		
Ammo Storage	6.2	0	1	25 sf	25 sf		
Weapons Cleaning	6.7	2	1	120 sf	120 sf		
Patrol Facilities Total:						1715 sf	



BOURNE Police Department

Space Needs Assessment

September, 2016

KAESTLE BOOS
associates, inc

Area/Room Title	Rm. Type	Occupants	No. of Rms.	Rm. Area	Subtotal	Total	Interview Notes	
Evidence and Property							<p>Convenient for Patrol/ Sallyport</p> <p>Combine with Evidence Processing Work counter for pre-storage, computer station, rebag and distribute, & supplies; access limited to evidence officer</p> <p>Accessible to Patrol; includes pass thru lockers (incl. refrigeration) to Evidence Receiving; contains supply storage; lab equipment planned for future</p> <p>Combine with Evidence Processing High density shelving- 30"D; small refrigerator</p> <p>Metal shelving & open floor space; direct access outside; can be combined with Evidence Storage</p> <p>Possible locking cabinets within Evidence Storage</p>	
Evidence Drying	6.4	0	0	15 sf	0 sf			
Evidence Receiving	6.6	1	1	100 sf	100 sf			
Evidence Processing (Drying / Lab)	6.7	2	1	240 sf	240 sf			
Evidence Laboratory	6.8	0	0	150 sf	0 sf			
Evidence Storage	14.3	0	1	360 sf	360 sf			
Found Property	14.2	0	1	300 sf	300 sf			
Large Evidence Storage	14.2	0	1	300 sf	300 sf			
Valuables	6.2	0	1	25 sf	25 sf			
Flammable Cabinet	6.2	0	1	25 sf	25 sf			
Drug Storage	6.5	0	1	80 sf	80 sf			
Weapons Storage	6.5	0	1	80 sf	80 sf			
Evidence and Property Total:						1510 sf		
Investigative Division								<p>Direct access to Detectives</p> <p>Room needs to contain discrete entrance, meeting space & markerboard; includes cyber crime & court officer stations; several file cabinets adjacent to court officer's desk</p> <p>w/cameras (mounted at eye level) and automatic recording; gun locker outside near door</p> <p>provide workstation in Detective's Office</p> <p>small safe in closet</p>
Detective Sergeant	1.4	1	1	150 sf	150 sf			
Detectives Office	2.3	8	1	720 sf	720 sf			
Interview Rooms	5.3	2	1	100 sf	100 sf			
Cybercrime Investigation (Future?)	1.3	4	0	130 sf	0 sf			
Equipment Storage	6.2	0	1	25 sf	25 sf			
Investigative Division Total:						995 sf		



BOURNE Police Department

Space Needs Assessment

September, 2016

KAESTLE BOOS
associates, inc

Area/Room Title	Rm. Type	Occupants	No. of Rms.	Rm. Area	Subtotal	Total	Interview Notes
Court Prosecutor							
Prosecutor's Office	4-3	4	0	130 sf	0 sf		provide workstation in Detective's Office
Court Prosecutor Total:						0 sf	
Animal Control Services							
Office	4-3	4	0	130 sf	0 sf		Not required
K-9 Storage	6-5	0	0	80 sf	0 sf		
Animal Control Services Total:						0 sf	
Family Services							
Conference Room	4-1	4	0	100 sf	0 sf		
Non-Status Offender	1-1	1	1	100 sf	100 sf		locate by Patrol Sergeant's Office
Family Services Total:						100 sf	
Staff Support Facilities							
Male Staff Locker Room	8-4	50	1	720 sf	720 sf		2'x 2'x 6' lockers with interior outlets, drawer with integral bench below
Male Toilets	7-3	0	1	120 sf	120 sf		
Male Showers	9-1	0	3	30 sf	90 sf		
Female Locker Room	8-4	10	1	150 sf	150 sf		2'x 2'x 6' lockers with interior outlets, drawer with integral bench below
Female Toilets	7-1	0	1	60 sf	60 sf		
Female Showers	9-1	1	1	30 sf	30 sf		
Break Room	3-5	4	1	200 sf	200 sf		full kitchen with oven and stove.
Miscellaneous Toilets	7-1	0	2	65 sf	130 sf		
Firing Range	12-1	5	1	2000 sf	2000 sf		
Range Control Booth	6-6	1	1	100 sf	100 sf		
Fitness/ Tactical Training	14-7	0	1	800 sf	800 sf		
Staff Facilities Total:						4400 sf	



BOURNE Police Department

Space Needs Assessment

September, 2016

KAESTLE BOOS
associates, inc

Area/Room Title	Rm. Type	Occupants	No.of Rms.	Rm. Area	Subtotal	Total	Interview Notes
Sally Port / Vehicles							
Sally Port Bay	11.1	0	2	480 sf	960 sf		Double drive through for (2) vehicles, (4) gun lockers, deluge (emergency) shower, (4) plastic vented lockers for prisoner personal property Fenced off from Sally Port Bay 8 Bicycles 1 Motorcycle, 2 ATVs; with maintenance workbench Storage for 60+ tires, speed trailer, light trailer, portable command trailer, message board; located adjacent to Sallyport
Vehicle Processing Bay	11.2	0	1	450 sf	450 sf		
Bicycle Storage	6.6	0	1	100 sf	100 sf		
Motorcycle / ATV storage	14.2	0	1	300 sf	300 sf		
Vehicle Supply Storage	14.2	0	1	300 sf	300 sf		
Sally Port Total:						2110 sf	
Prisoner Processing							
Processing Area	13.3	2	1	160 sf	160 sf		Incl. search, fingerprinting, mug shot wall, processing desk w/ handcuff rail, gun lockers outside may not be required; currently process over desk located at processing desk Penal fixtures double tier lockers bolt-down table & stools will use interview room Interlocked doors. Release area remote from secure vehicles.
Temporary Holding	5.1	3	1	75 sf	75 sf		
Intoxilyzer Area	5.2	2	1	60 sf	60 sf		
Prisoner Toilet/ Shower (Decon)	7.2	0	1	55 sf	55 sf		
Prisoner Property Lockers	8.1	8	1	20 sf	20 sf		
Custodial	6.1	0	1	15 sf	15 sf		
Interview Room	5.2	3	1	90 sf	90 sf		
Prisoner/Bondsman interface	5.4	2	0	50 sf	0 sf		
Prisoner Release (man lock)	13.1	0	1	50 sf	50 sf		
Prisoner Processing Total:						525 sf	
Detention							
Male Cells (HC)	10.2	1	5	120 sf	600 sf		not required
Female Cell (HC)	10.2	1	2	120 sf	240 sf		
Observation Rm (Matron)							
Juvenile Cell (HC)	10.2	1	1	120 sf	120 sf		
Detention Total:						960 sf	



BOURNE Police Department

Space Needs Assessment

September, 2016

KAESTLE BOOS
associates, inc

Area/Room Title	Rm. Type	Occupants	No.of Rms.	Rm. Area	Subtotal	Total	Interview Notes
General Storage							
Records Archive		13.8	0	1	200 sf	200 sf	Need more information for proper sizing
General Storage Room		13.7	0	1	180 sf	180 sf	
Quartermaster Storage		6.3	0	1	40 sf	40 sf	
General Storage Total:						420 sf	
Facility Maintenance							
Custodial Closets		6.2	0	3	25 sf	75 sf	(1) per floor
Custodial Equipment Storage		6.4	0	1	60 sf	60 sf	
Supplies Storage		6.4	0	1	60 sf	60 sf	
Facility Maintenance Total:						195 sf	
Building Services							
Mechanical Room			0	1	300 sf	300 sf	Outside
Sprinkler Equipment		6.7	0	1	120 sf	120 sf	
Electrical Room		6.8	0	1	150 sf	150 sf	
Emergency Electrical Room		6.4	0	1	60 sf	60 sf	
Emergency Generator			0	0	500 sf	Outside	
Building Services Total:						630 sf	
Net to Gross Adjustment							
Total Net Area						19,610 sf	
Net to Gross Adjustment (Net Area x 0.35)						6,864 sf	
Gross Area Total:						26,474 sf	

