VALDESE
NORTH CAROLINA

TOWN OF VALDESE
NORTH CAROLINA'S FRIENDLY TOWN

P.O. BOX 339
VALDESE, NORTH CAROLINA 28690-0339
PHONE (828) 879-2120 | FAX (828) 879-2139 | TOWNOFVALDESE.COM

Greetings Valdese Citizens,

Valdese Town Council wishes to share with Valdese citizens the research that is being conducted in result of structural deterioration at the Public Safety building on Faet Street. A comprehensive timeline has been created outlining a series of studies and professional opinions of the current Public Safety Building. In recent years, the structural integrity of the building has become compromised in many areas with cracking throughout interior and exterior walls of the building. The attached document includes a comprehensive timeline with structural reports, architectural studies, programming and email correspondence all of which explain the issues surrounding the building's failing structure and options for the future.

Since 2018, Town Council members and staff have consulted with civil engineers, structural engineers and architects to gather professional opinions detailing the possibilities of repairing the current facility or constructing a new public safety building, and the logistics of each. This information has been gathered in preparation for the Valdese Town Council members who will be sworn in at the December 6th, 2021 Town Council Meeting.

It is important to note; Valdese Town Council has not made a final decision to go forward with construction of a new facility. Information is circulating about possible service and program funding cuts in order to financially support the debt service payments of a new building. There are no plans nor need to cut services or program funding.

A public input meeting will be held in early 2022 at the Old Rock School Auditorium. At this meeting, staff will present options for consideration and answer questions related to the future of the Public Safety Building. Citizens are encouraged to contact myself or the Valdese Fire Chief, Greg Stafford or Police Chief, Jack Moss with any questions regarding this study or packet of information. Further information will be shared on the town website at townofavaldese.com.

Sincerely,

Seth Eckard
Valdese Town Manager
828-879-2116 | seckard@valdesenc.gov

Town of Valdese

Public Safety Building Report

2021

Public Safety Building Timeline:

January 12, 2018: West and Associates conducted the first public safety (PS) building inspection.

TAB ONE

January 25, 2018: Staff received West and Associates' report that recommended the town hire a structural engineer to inspect the building.

TAB TWO

February 5, 2018: Structural Engineer (SE) Michael Alberto performed an inspection of the building.

March 18, 2018: Staff received SE's initial report. He recommended further investigation such as crack monitoring and invasive wall inspections.

TAB THREE

April 11, 2018: SE Alberto performed a second inspection and was able to determine the condition of the wire reinforcing ties between the walls without the need of invasive wall inspections.

May 15, 2018: Staff met with Stewart-Cooper-Newell (SCN) Architects to begin a feasibility study.

May 28, 2019: SE Alberto sent a shoring estimate, providing a short-term fix of the building. Over the next several months, he worked on different scenarios and costs for short and long-term repairs.

TAB FOUR **A,B,C**

June 2018: Staff met with SCN multiple times to develop and review fire and police building's programming. Chief Watts spoke with Burke County Building Inspections and the NC Building Code Council Consultant. Their interpretation of the code was that all renovated areas had to be brought up to current building code requirements.

TAB FIVE

August 2, 2018: A special Town Council meeting was called with SCN and SE Alberto reporting their findings.

TAB SIX

August 2018: As a courtesy, local resident and structural engineer Ray Burris inspected the building and gave his opinion/findings that were in general agreement with SE Alberto's findings.

September 2018: West and Associates, SE Alberto, and Bob Smith of Talley and Smith Architecture joined efforts to find solutions and work on design programming.

TAB SEVEN **A,B**

December 2018: After water entered the building at the south side wall/floor area and damaged book shelving was subsequently removed, SE Alberto performed a third inspection to confirm initial findings. On the 14th, Talley Smith delivered a preliminary analysis report comparing several options including the purchase and renovation of the

BB&T building for the PD. However, that building was sold to Farris Insurance on 12/21/18. They estimated repairing and renovating the current building for both departments at approximately $4.3 million and building a new similar size facility at $5.35 million. Repair/renovate did not take into account unknowns and costs such as structural rehab, asbestos removal, ADA compliance, and insufficient fire truck bays.

TAB EIGHT

January 31, 2019: A special Town Council meeting was called and consisted of a tour of the public safety building along with a presentation from West & Associates, SE Alberto, and Bob Smith.

February 15, 2019: Town Manager emailed West & Associates to clarify temporary structural repairs outlining their lifespan, cost and maintenance.

Feb-March, 2019: Council and staff visited Conover Fire Station #2 and Maiden Police Department. The decision was made to proceed with SE Alberto creating bid documents to determine the true costs of temporary structural repairs.

End of March 2019+: The Rostans were considering donating property on Main St E depending on certain conditions. Over the next couple of months, West & Associates, Talley Smith, and staff researched the possibility of using the Rostan property. It was determined the Rostan property was potentially usable, but the site was tight and most likely would need several retaining walls and/or a two story building with elevators and extra stairwells. The fire chief brought up the concern of fire truck access to Main St and Laurel St NE.

Summer-Fall 2019: SE Alberto prepared temporary repair documents to send out for bid. The bid process was completed in October, with four bids ranging from $192,000 to $262,400. Temporary repairs were estimated to have a service life of 2-5 years, and the bid did not include maintenance that would total to approximately $75,000. The decision was made not to pursue temporary repairs due to the cost and short life span. The Rostans informed the town their property could be used for a building location.

TAB NINE A,B,C

Fall 2019-Winter 2020:

Talley Smith and West & Associates continued to work on site design, building programming, and cost estimates for the Rostan property. Talley and Smith researched the possibilities of adding the police department to the town hall (November 25 report). This report indicated there were only two pros compared to ten cons. Also, the site was not large enough to support both departments and would only be reasonable to further explore if no other suitable building sites were available. Talley Smith researched the possibility of renovating the former Alba office building on St. Germain Ave (February 10), with the report indicating it would cost as much or more to renovate the Alba building and build fire bays on as it would to build all new somewhere else. This also did not include the initial purchase of the

property, and the town would have to maintain unneeded square footage. Talley Smith also looked at demolishing parts of the existing PS building, rebuilding as-needed spaces, and demolishing the entire building and rebuilding on-site (February 10). The two options for remaining on-site with demolition and new construction were not financially and operationally feasible. Small group meetings were held with Town Council in January 2020 to discuss possible site plans, cost estimates, and financing information.

April-June 2020: Request for Qualification (RFQ) process for architectural services began. Twenty-eight RFQs were submitted, and staff narrowed submissions to the top four contenders for interviews to be conducted. A committee consisting of staff and two select council members interviewed the four architectural firms, with CBSA Architects in Hickory, NC being the top choice. At this point, it appeared the Rostan property would be the build location; however, staff had a number of reservations with this site. Town staff began looking for any other site possibilities, including the Pineburr property.

July-November 2020:

CBSA began collecting programming information, and several meetings were held to begin needs assessments. CBSA began comparing costs and functionality of the Rostan and Pineburr properties.

December 2020: The owners of the Pineburr property proposed sell/donation terms and conditions.

TAB TEN

January 13, 2021: CBSA/McGill Associates gave a presentation comparing costs and operational needs of the Rostan and Pineburr properties. Subsequently, the decision was made to proceed with exploring the use of the Pineburr property. Site evaluations of the Pineburr site were initiated prior to entering any purchase agreement, and Town Staff asked the Architect, Engineer, a specialty demolition contractor, and Duke Energy to comment on various existing site conditions for the purpose of determining suitability of the site for re-development into the new fire and police station. Final transfer of the parcels to the town occurred in the Spring.

TAB ELEVEN **A,B**

February-June 2021: Numerous meetings and discussions were held to determine needs, square footage, site plans and floor plan concepts. On February 16, CBSA delivered its initial needs assessment, programming, and site and floor plan concepts. In June, small group meetings were held with Town Council to present revised proposed programming and plans. Several comments were made by Town Council that resulted in CBSA making some changes to the plans.

TAB TWELVE

August 16, 2021: McGill & Associates provided a detailed report/timeline outlining the steps taken to compare the Rostan property and Pineburr property.

- January 12, 2018: West and Associates conducted the first public safety (PS) building inspection.
- January 25, 2018: Staff received West and Associates' report that recommended the town hire a structural engineer to inspect the building.

Timeline

WEST CONSULTANTS PLLC
405 South Sterling Street, Morganton NC 28655
828 433 5661 / fax 828 433 5662 / westcons@bellsouth.net

Thursday, January 25, 2018

Mr. Charlie Watts, Fire Chief
Town of Valdese
P.O. Box 339
Valdese, NC 28690

Re: Inspection of Cracks in Building for
Fire Department and Police Department

Dear Mr. Watts;

On January 12, 2018, I met with you and members of the police department to look at cracks in the walls of the building that houses the fire department and the police department. I observed cracks in the brick walls in several locations. These cracks ran both vertically and horizontally in most locations. Cracks were following mortar joints and were going vertically through the bricks also in several locations. Some of the cracks were small and some were approximately ¼" wide. Some went from the floor to the ceiling in the room.

Back in 2010, we looked at other cracks in the building and recommended that crack monitors be put on them. The general thought was that these cracks we looked at are fairly recent and seem to have gotten more pronounced with time.

It is my opinion that some of these cracks could be caused by differential movement of the walls or the foundation. My recommendation is that you get a structural engineer involved in further investigation of these cracks. One such firm that might be of assistance is Taylor and Viola from Hickory, 828-328-6331. I am attaching a series of photos showing the cracks and identifying their location for future reference.

Thank you,
WEST CONSULTANTS, PLLC

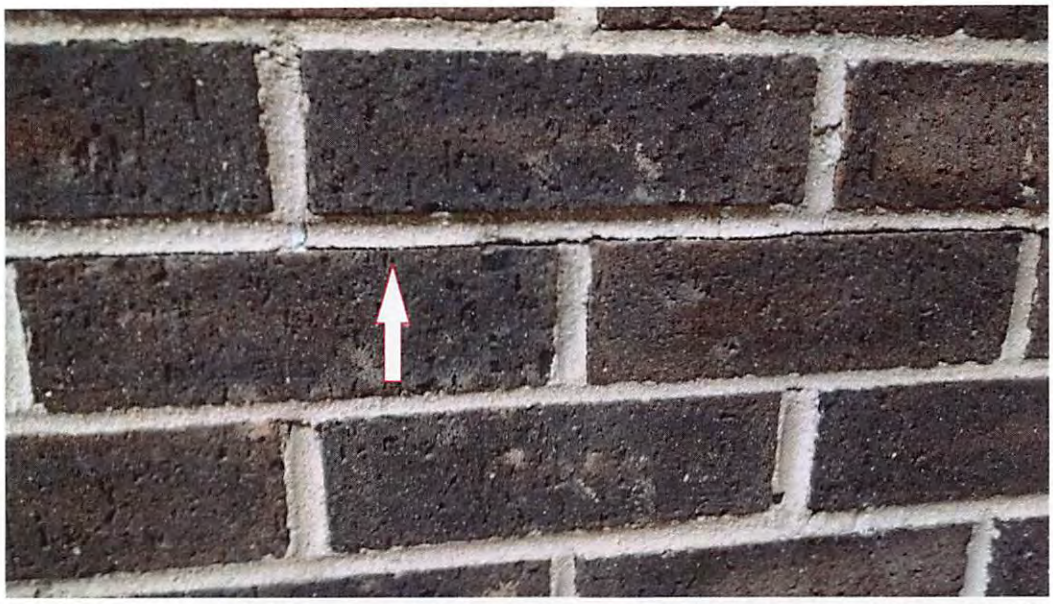
David Poore

David W. Poore, PE, CPESC

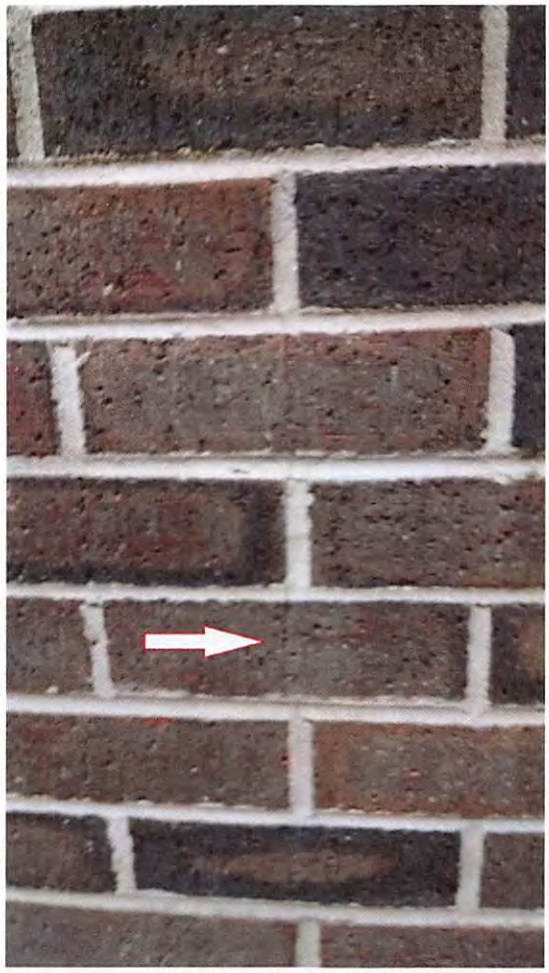
enclosures

VERTICAL AND HORIZONTAL CRACKS IN WALL OF FIRE CHIEF'S OFFICE. VERTICAL CRACK EXTENDS FROM FLOOR TO CEILING. THIS WALL IS AN EXTERIOR WALL.

VERTICAL CRACK ABOVE DOOR NEAR FIRE CHIEF'S OFFICE.



HORIZONTAL CRACK IN WALL IN LOUNGE AREA. THIS IS AN INTERIOR WALL.



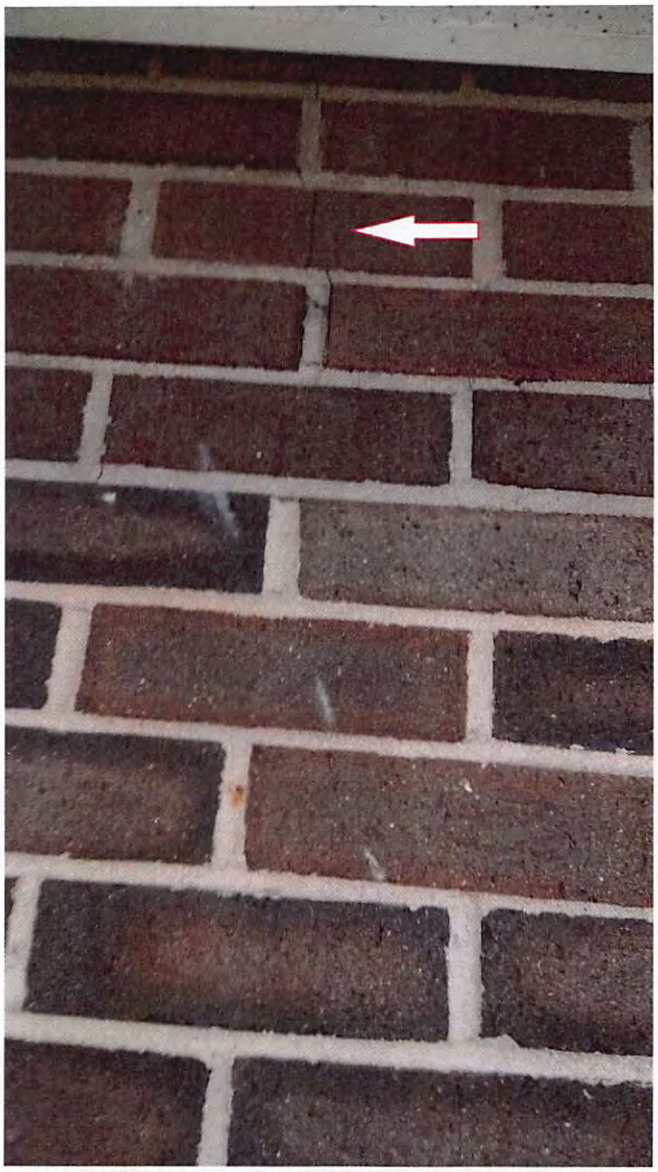
VERTICAL CRACK BEGINNING IN LOUNGE AREA WALL.

VERTICAL AND HORIZONTAL CRACK IN WALL OF WOMEN'S REST ROOM.

WALL SEPARATING FROM DOOR FRAME ON EXTERIOR DOOR ON EAST SIDE OF BUILDING. THIS IS AN EXTERIOR WALL.

ANOTHER VIEW OF WALL SEPARATING FROM DOOR FRAME ON EXTERIOR DOOR ON EAST SIDE OF BUILDING.

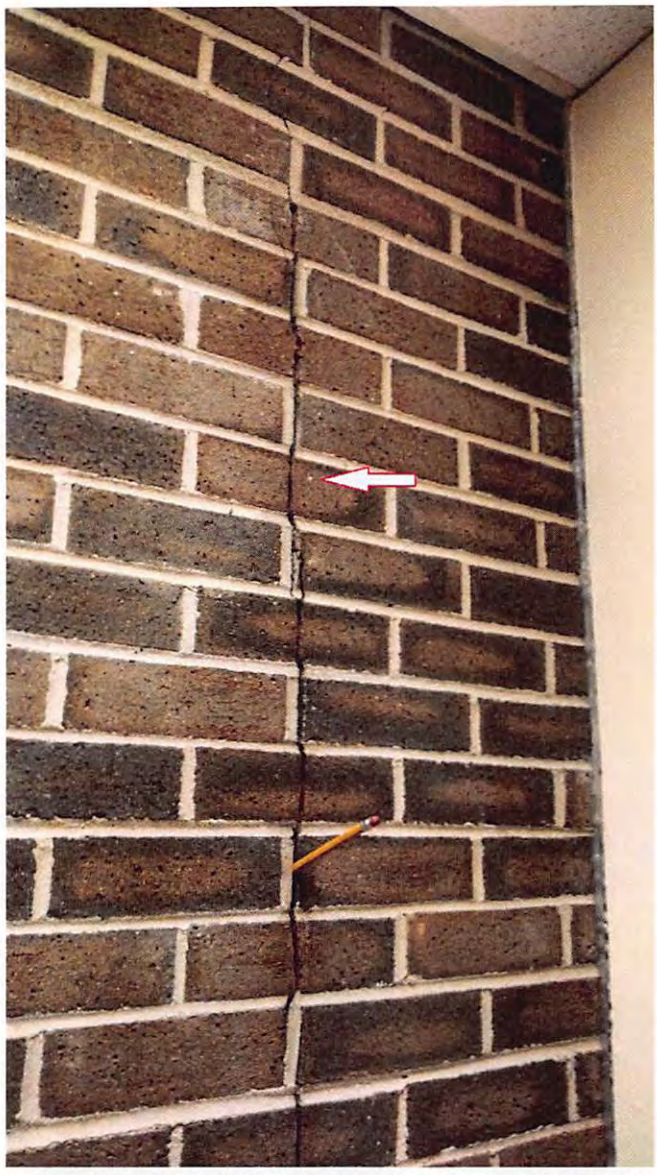
VERTICAL CRACK IN WALL IN MEN'S RESTROOM. THIS IS AN INTERIOR WALL.



VERTICAL AND HORIZONTAL CRACKS IN INTERVIEW ROOM WALL. THIS WALL IS AN EXTERIOR WALL.

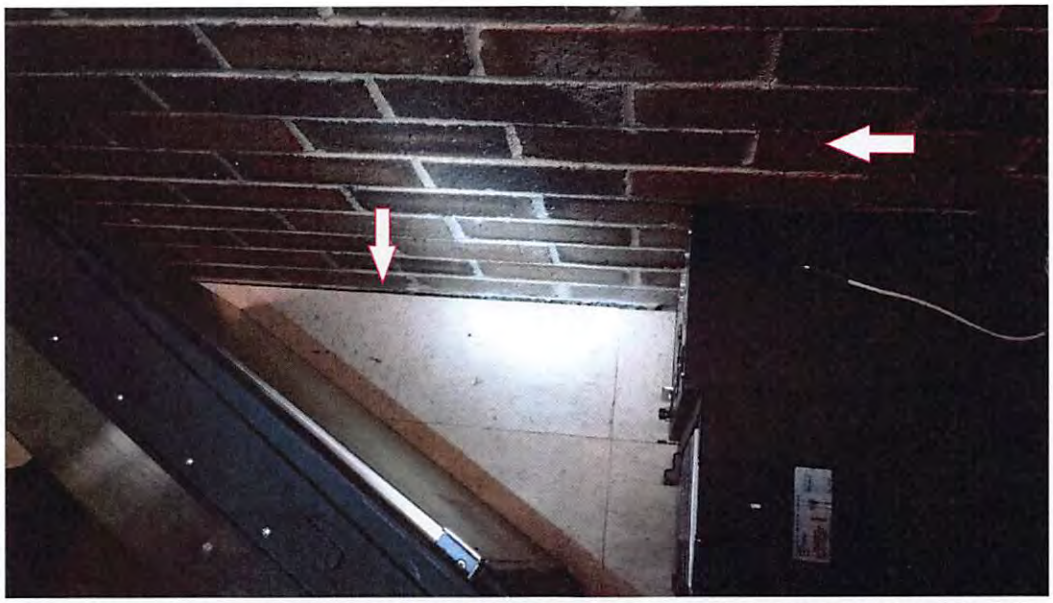
VERTICAL AND HORIZONTAL CRACK IN INTERVIEW ROOM WALL.

VERTICAL CRACK IN FINGERPRINTING ROOM WALL. THIS WALL IS AN EXTERIOR WALL.



VERTICAL CRACK IN FINGERPRINTING ROOM WALL. THIS WALL IS AN EXTERIOR WALL.

ANOTHER VIEW OF THE CRACK IN THE FINGERPRINTING ROOM WALL. THIS CRACK EXTENDS FROM THE FLOOR TO THE CEILING.



HORIZONTAL AND VERTICAL CRACK IN WALL IN SERVER ROOM. FLOOR HAS ALSO SUNKEN AND MOVED AWAY FROM WALL.

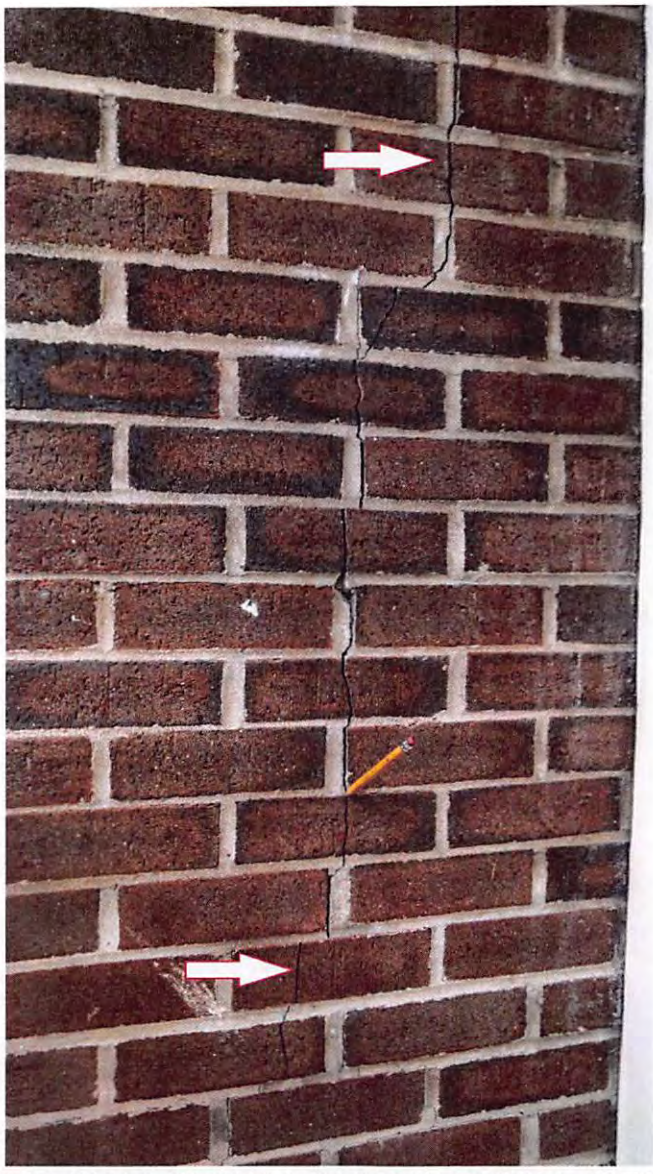
HORIZONTAL AND VERTICAL CRACK IN WALL IN SERVER ROOM.

HORIZONTAL CRACK ALONG WALL IN SERVER ROOM.

HORIZONTAL CRACK ALONG WALL IN SERVER ROOM.

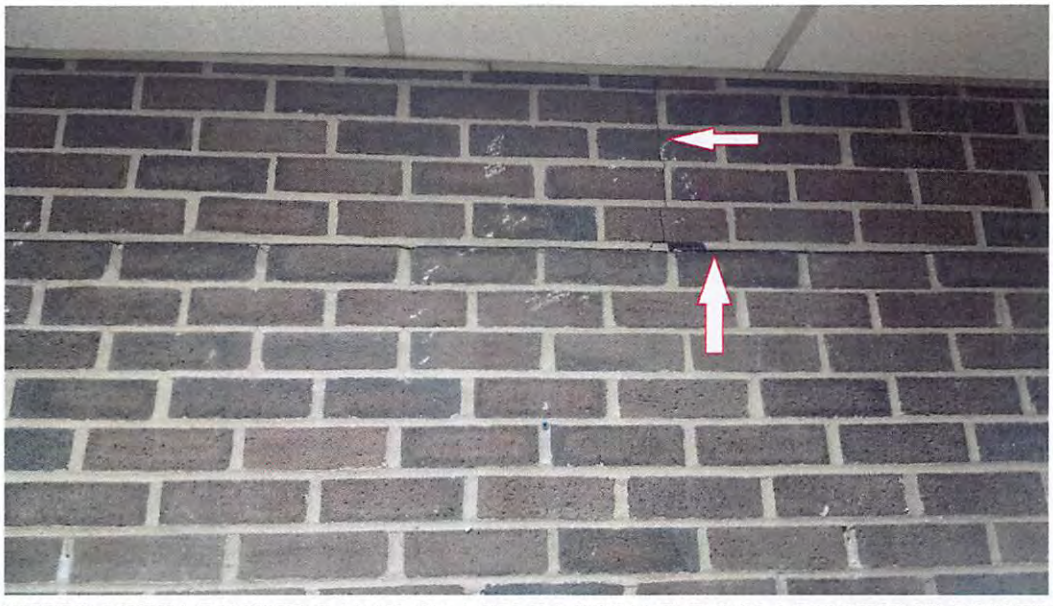
HORIZONTAL AND VERTICAL CRACK IN WALL IN ARMS ROOM.

VIEW OF A DIFFERENT HORIZONTAL AND VERTICAL CRACK IN WALL OF ARMS ROOM.

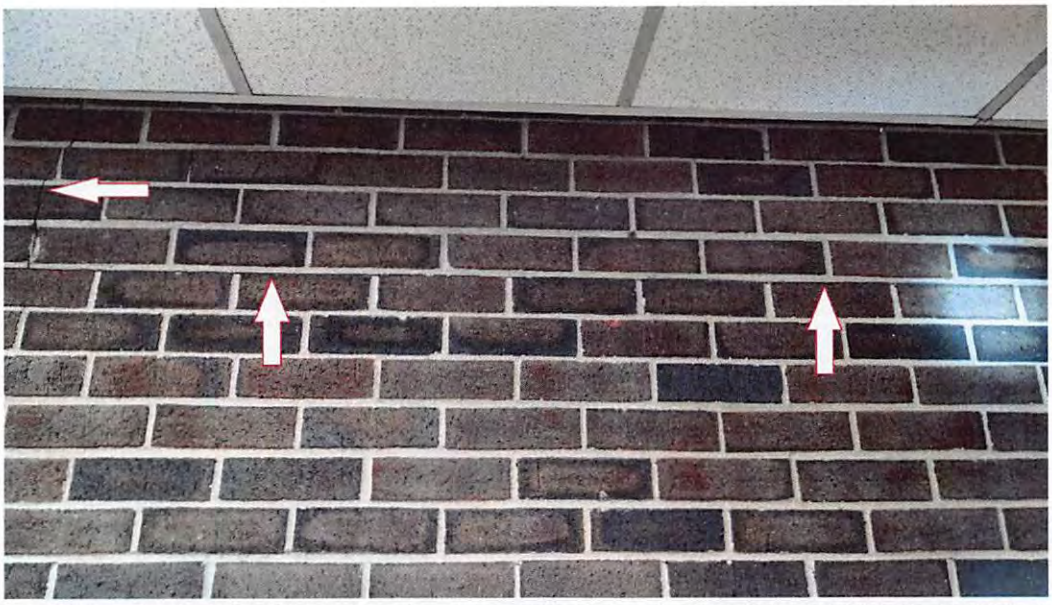


VERTICAL CRACK IN WALL IN WALL IN SQUAD ROOM. THIS IS AN EXTERIOR WALL.

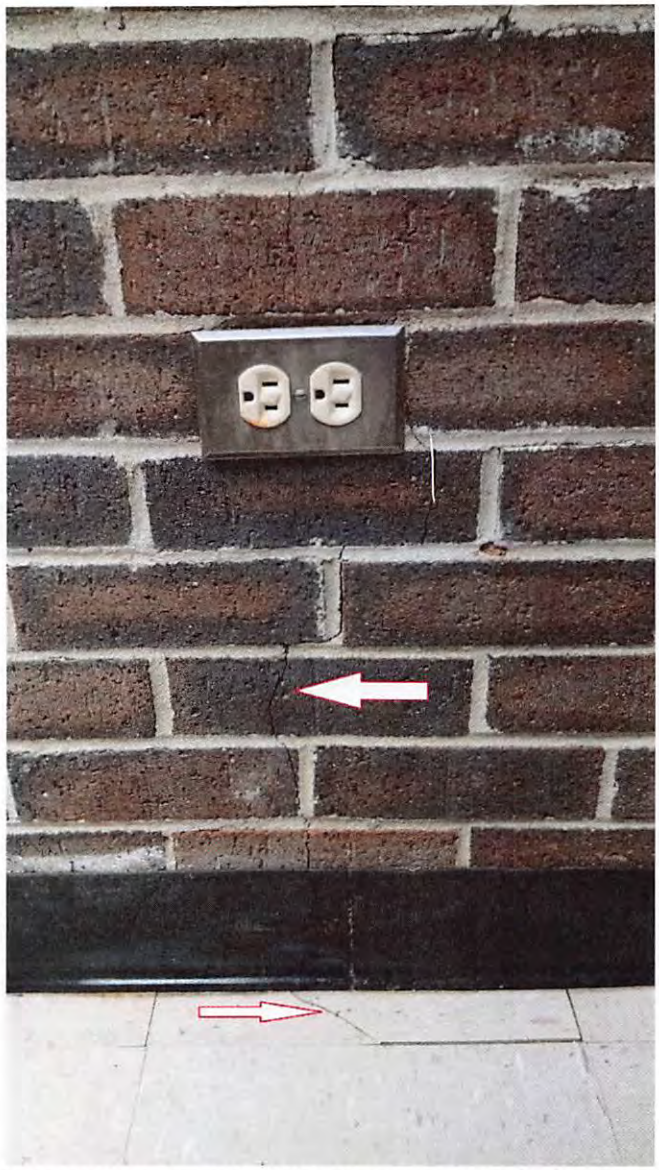
VIEW OF ANOTHER HORIZONTAL AND VERTICAL CRACK IN SQUAD ROOM.



ANOTHER VIEW OF THE SAME CRACK IN SQUAD ROOM SHOWING VERTICAL PORTION OF CRACK.

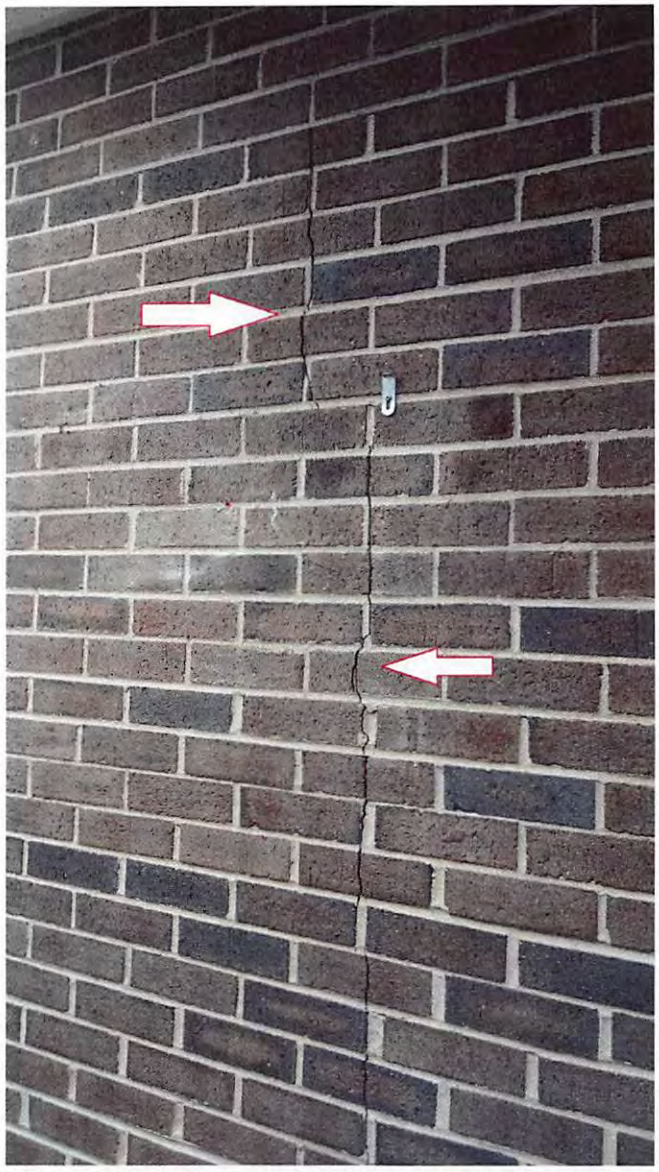


HORIZONTAL AND VERTICAL CRACK IN WALL OF POLICE CHIEF'S OFFICE. THIS IS AN EXTERIOR WALL.

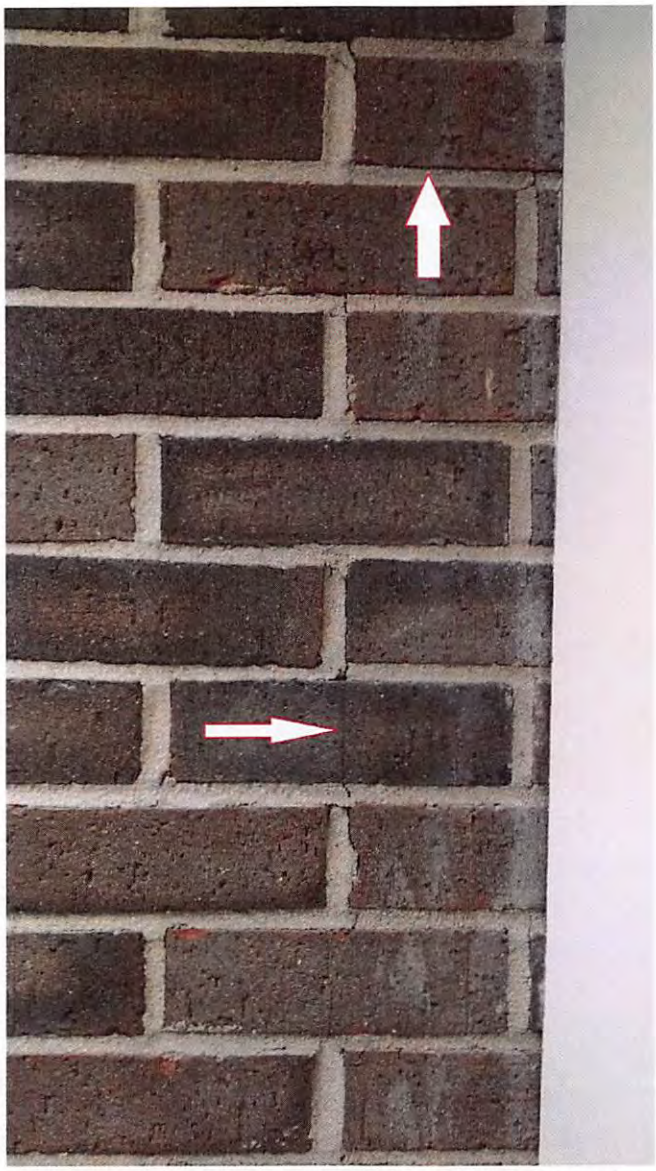


ANOTHER CRACK IN WALL IN POLICE CHIEF'S OFFICE. THIS IS AN EXTERIOR WALL.

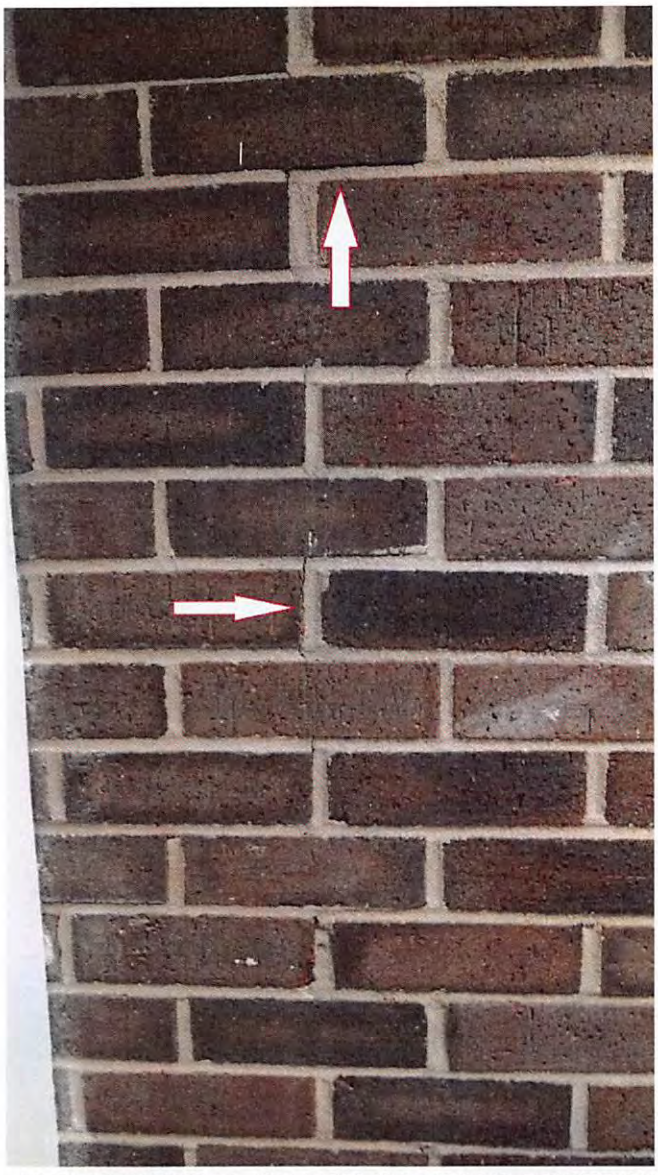
VIEW OF ANOTHER CRACK IN WALL OF POLICE CHIEF'S OFFICE. FLOOR IS SEPARATING FROM WALL. THIS IS AN EXTERIOR WALL.



VERTICAL CRACK IN WALL OF POLICE CHIEF'S OFFICE. THIS CRACK EXTENDS FROM FLOOR TO CEILING. THIS IS AN EXTERIOR WALL.



HORIZONTAL AND VERTICAL CRACK IN WALL OF WOMEN'S RESTROOM IN LOBBY.



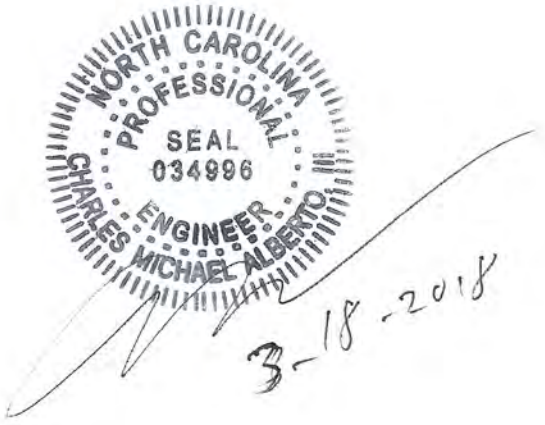
HORIZONTAL AND VERTICAL CRACK IN MEN'S RESTROOM IN LOBBY.

- February 5, 2018: Structural Engineer (SE) Michael Alberto performed an inspection of the building.
- March 18, 2018: Staff received SE's initial report. He recommended further investigation such as crack monitoring and invasive wall inspections.

C. MICHAEL ALBERTO, III, PE, PLLC
LICENSE NO. P-1753
580 20th Avenue Court NW
Hickory, NC 28601
TEL 919-621-7667
Cmichael.alberto@gmail.com

March 2018

VALDESE PUBLIC SAFETY BUILDING INSPECTION



VERSION	Revision 1 - FINAL
DATE OF ISSUE	March 18, 2018
PREPARED BY	CHARLES MICHAEL ALBERTO, PE
PREPARED FOR	Chief Watts, Valdese Fire Department

CONTENTS

1 Executive Summary

The Public Safety Building and Town Hall Building were investigated on February 5th 2018. Findings include multiple horizontal and vertical cracks in the interior wythes of the buildings. Cracks range from 1/16" to 3/8" wide. The horizontal cracks appear attributable to either expansive roof forces or contractive internal floor forces. Either cause would induce out of plane loading to create the horizontal cracks. The vertical cracks appear attributable to expansion and contraction forces within the walls. No vertical expansion joints were provided per Record Drawings nor per field observation. Lack of expansion joints or defects associated with horizontal joint reinforcing may have contributed to the cracks. The forces applied are likely on account of temperature, changes in moisture, and shrinkage.

Both the horizontal and vertical cracks may adversely affect the load carrying capacity of the building. Further investigation and analysis is required to determine the full severity of the condition and the appropriate repairs. In interim the cracks should be monitored.

Outside the buildings exhibit mortar joint spalls at approximately 16" on center. The joints were likely reinforced with bare metal joint reinforcing. Contemporary joint reinforcing is galvanized. Corrosion of the joint reinforcing has caused expansive corrosion forces to pop and spall the joints. The condition of the joint reinforcing as it relates to function as wall ties is not known. Mortar joint deterioration is a problem that may allow excessive moisture to enter the internal cavity. A more significant problem may exist if the internal wall ties are in poor condition due to corrosion.

The storm water pipe located under the engine bay has a history of sinkhole development at the manhole to the east. It is unclear what measures were taken to prevent subsequent sinkhole development. In general, storm pipes under critical infrastructure is not good practice if avoidable. The storm pipe under the engine bay poses some risk to the operational readiness of the Fire Department.

Other miscellaneous cracks in the slabs are notable, but do not appear significant in terms of adverse effects. Cracks in the engine bay slab for instance appear attributable to shrinkage and stress concentrations. The cracks should be monitored. One instance of settlement cracking is evident on the exterior southeast corner of the Public Safety Building. The cracks do not appear excessive now, but they should be monitored.

Minimum critical investigations and analysis should be conducted per Section 7. Cracks should be further catalogued, gauged, and monitored for one year. The condition of the internal cavity wall ties should be determined. The existing storm pipe condition should be determined and the pipe should be routinely inspected periodically going forward. Any additional tasks or repairs should be conducted based on the findings of the minimum investigation items noted.

The full cost of repairing the building is not clear at this time since the full scope is heavily contingent on subsequent investigation and analysis efforts. Approximate maximum and minimum costs are provided in Section 7.

Maximum repair design and construction cost could potentially be in excess of $400,000 dollars. A similar footprint Public Safety Building at 7,400 square feet may cost on the order of $1,000,000 to $1,400,000 dollars. If the full extent of potential repairs is required, it is likely the repairs would not be cost effective in terms of long term planning for the City of Valdese.

Typical service life for buildings is 50 years. The Public Safety Building is 41 years old. Spending 20 to 30% of new building cost for repairs is only reasonable if a service life extension of 25 years or more is the result. It is possible that the building may become operationally obsolete in the next 10 to 20 years. It is common for building maintenance to increase with age. Therefore, other major building repairs may be necessary despite wall repairs now.

A minimum effort should be conducted to assure that life and safety requirements are met at the existing building in the short term (see Section 7). However, it appears prudent for the City of Valdese to consider building replacement as the most operationally efficient and cost effective solution.

The report below and attached Appendix detail and catalogue the defects at the site and the recommended actions.

2 Description of Structure

The Valdese Public Facilities Building was built in three distinct sections. The first was the old Firehouse which was built in excess of 60 years ago. The second was the Town Hall Addition which was built circa 1973. Lastly, the Public Safety Addition was built circa 1977 per available record drawings. The two additions flank the original Firehouse building to the North and the South as shown in figures 1 and 2.

The Town Hall is constructed of double wythes with a 2” wide cavity between. The internal wythe is 6” to 8” concrete masonry units, and the external wythe is 4” clay brick. A 6” steel reinforced bond beam is located at the top of the wall at the joist bearing elevation. Wire joint reinforcing spaced at 16” on center vertically ties the two wythes together. Steel bar joists support the roof metal deck and span from east to west. The bar joists bear on the east and west masonry walls and internal masonry walls. The roof slopes to the north wall. No apparent roof expansion joints were installed on the east and west walls, but the drawings indicate a roof expansion at the connection to the existing Firehouse wall.

The Public Safety Addition is similar in construction to the Town Hall with masonry double wythe cavity walls on each of the four exterior walls. However, the double wythes are both 4” brick internal and external. The 2” cavity is filled with rigid insulation and the wythes are tied together with ladder type wire joint reinforcing spaced at 16” on center vertically. Steel reinforced bond beams are located at the tops of the external walls where the joists are anchored. The steel bar joists span from east to west and bear on internal steel beams and the external walls. Weep holes are apparent on south wall per visual inspection. And the interior floor is reinforced concrete slab on infill.

The Engine Bay was added with the Public Safety Addition and is located between the addition offices and the previously existing old Firehouse Building.

3 Inspection and Observed Conditions

The inspection team visited the site on February 5th, 2018 between the hours of 9:00 and 12:00. The inspection began in the Public Safety Building interior where all four external walls were observed along with miscellaneous interior points of interest on the concrete floor slab. Next the team moved outside and toured external wall surfaces around the entire building perimeter. Finally, the interior of the Town Hall and Engine Bay were observed along with the interior of the Old Firehouse.

3.1 Inspection and Investigation Methods

Inspection included photo documentation of the masonry and floor slab defects internally and externally. Crack widths were measured as part of the photo documentation process. Locations of photos were documented and are shown in Figures 1 and 2. Additional Photos may be requested or may be viewed in Report provided by West Consultants, PLLC.

Record drawings were provided for review by the Valdese Fire Department. Engineer reviewed the drawings as it relates to the relevant structural components, building materials, detailing, and layout. Cross correlations between defects noted in the photo documentation and the drawings were identified where possible.

Interviews with Chief Watts and associates were conducted as it relates to the history of the masonry defects and historical sink hole formation at the site. Discussions with contractor’s and engineers experienced in masonry construction were conducted to gain additional understanding of construction techniques of the 1970’s.

3.2 Town Hall Inspection Findings

Interior Defects

Cracks exist in the Town Hall Building primarily along the building external perimeter wall on the north, east and west sides. Cracks vary in thickness between 1/16" and 3/16" maximum and are both horizontal and vertical in orientation.

The horizontal cracks are typically located at the approximate elevation of the bottom of the steel reinforced Bond Beam, see Photo 3 and 4 and Figure 7. This condition persists along the north exterior wall and east exterior wall. Per Figure 7 from the Town Hall record drawings, the joint at the bottom of the bond beam is located at the crack elevation. In addition, the presumed horizontal joint reinforcing elevation is at the joint at the bottom of the bond beam. Horizontal joint reinforcing and the infilled bond beam appear to create a stress concentration at that elevation with respect out of plane loading.

Horizontal cracks in the west wall appear to be one course lower. It is apparent that the crack on the west wall is also attributable to out of plane loading. It is possible a variance in horizontal joint reinforcing on the front west wall accounts for the variance in elevation of the typical horizontal crack. Since the front wall also includes windows and doors a-typical to the building at large, it is likely the variance is on account of this difference.

Vertical cracks are located at approximately 10 feet on center in the rear room of the building along the east exterior wall and part of the north wall. The cracks generally extend from floor to near the ceiling, but do not appear to extend above the reinforced bond beam at the top of the cmu interior wythe. It is reasonably obvious that the reason this is so is because the grouted and reinforced bond beam is restrained against cracking relative to the hollow unreinforced interior cmu wythe immediately below. Typical vertical cracks are depicted in Photos 2, 3, 4, and 5.

The reason for the horizontal cracks appears to be out of plane loading induced at the roof elevation. Effectively the roof is pushing the top of the walls away from the center of the building which creates a crack on the inside face at the point of least resistance. This point is obviously the joint immediately below or near the bond beam. The exact reason for the out of plane loading in excess of the walls inherent strength is difficult to determine with the limited observation conducted to date. However, it stands to reason that the loading is attributable to differential expansion or contraction of the roof and/or wall footprint respectively. In the roof expansion case, the roof would have expanded under thermal load and pushed the walls outward. In the latter contraction case, the interior fill of the building would have contracted due to drying of the soil underneath or shrinkage of the interior floor slab. This contraction would tend to pull the walls inward creating the outward pressure on the walls from the roof. In either case, the inherent lack of strength in tension for masonry is why the wall the cracked from the induced out of plane bending. Once cracks like these open, it is often the case that they never fully close even if the expansive force is later reversed due to change in season or otherwise.

The roof was equipped with one expansion joint per record drawings and shown in attached Figure 8. The expansion joint is located along the south wall which is shared by the old previously existing Firehouse building. No expansion joints were provided, per record drawings, at either the east or west walls. It is clear that expansive forces should be expected in the east to west direction. It is less clear why expansive forces effected the horizontal crack in the north wall since expansion forces should have been partially alleviated by the joint at the south wall. It is possible the joint was either installed incorrectly or was less effective than the designer's intent.

Similarly, the exact reason for the vertical cracks is difficult to determine with limited observation to date. However, it is obvious that differential expansive and contractive movement is to blame. The cracks may have formed from shrinkage of the masonry immediately after completion of the wall at the time of original construction. The shrinkage effect would be enhanced if the wall was exposed to significant moisture before the roof was installed and the building dried in. If very wet, the wall may have expanded due to moisture expansion and contracted once

dry. Again, masonry is good in compression not tension. The wall readily pushes itself longer under expansive load (moisture or hot temperatures), but cannot fully pull itself shorter due to contraction forces (drying, curing, or cold temperature). Joint reinforcing is typically installed to lessen this effect, but correct installation is necessary to achieve desired results of spreading out and minimizing crack width. It is possible that limited or incorrect splicing of joint reinforcing may have accentuated the crack development in this wall.

No vertical expansion joints were noted in the Town Hall record drawings. No vertical expansion joints were found during inspection. Typical expansion joint spacing for similar walls in contemporary construction is on the order of every 25 to 50 feet. Lack of vertical expansion/contraction joints certainly added to the vertical cracking effect observed.

Exterior Defects

Outside, cracking is generally not apparent, but spalling is pervasive along the north exterior wall. The spalling is generally isolated to the masonry joints and is spaced at approximately 16” on center vertically. The spacing matches the joint reinforcing spacing detailed in Figure 7. It appears the steel joint reinforcing has corroded and spalled the joints (popped the mortar) due to expansive corrosion induced forces. Brick has also spalled in a few locations as shown in Photo 7. Buildings built circa the 1970’s utilized joint reinforcing and walls ties that were not coated or galvanized. A short time later, galvanizing was introduced but was of a lesser quality when compared to modern hot dip galvanizing. It is reasonable to assume that this building built in 1973 utilized uncoated joint reinforcing and the apparent susceptibility to corrosion is the result. The joint reinforcing may have also been placed too close to the exterior mortar joint surface allowing for water to more quickly reach the susceptible steel.

3.3 Public Safety Building Inspection Findings

Interior Defects

Masonry wall cracking defects in the Public Safety Building are similar in form and apparent cause to the cracks in the Town Hall. Some differences apply and are likely on account of minor differences in construction materials. For instance, the interior wythe of the cavity wall in the Public Safety Building is 4” brick. In general, expansion or contraction forces applied at the roof elevation appear to induce out of plane bending stress on the wall in a similar fashion to the Town Hall Building.

A horizontal crack runs virtually the entire perimeter of the building and is located approximately 4 ½ bricks below the drop ceiling on the east wall the south wall and part of the north wall per Photos 12 and 13. The west wall horizontal crack elevation varies to approximately 10 ½ bricks below the drop ceiling which is consistent with a horizontal joint reinforcing spacing of 16”. Similarly, 4 ½ bricks below the drop ceiling is consistent with joint reinforcing detailed in Figure 4 per Record Drawings.

Variance in the crack location on the west wall may be attributable to geometry variances associated with the front entrance. The north, east, and south walls are all very similar geometrically with minimal window or door interruptions. The crack width appears to vary between the north wall and the south wall. It stands to reason that the north wall is more thoroughly braced since it doubles as the engine bay wall. In other words, the south wall is more free to displace and create a larger width crack. Cracks vary from approximately 1/16” to ¼” widths.

Vertical cracks are often isolated above the horizontal crack elevation. It appears that the open horizontal crack allows for slippage above and breaks the plane of the vertical crack. On the east and south walls, vertical cracks travel the full height of the wall from floor to drop ceiling and number approximately 2 per wall. Similar to the Town Hall, these cracks appear attributable to expansion and contraction forces where the wall once was expanded and since contracted to form the cracks. No vertical expansion joints were detailed in the drawings nor were found during inspection. Expansion may have prevented or helped control the cracking. In addition, incorrect or limited

horizontal joint reinforcing may have accentuated crack development. For instance, the large crack in Photo 10 may have developed at an interruption in horizontal joint reinforcing. The crack is approximately 3/8" wide.

Some slab cracking is evident through the linoleum tile in interrogation, Photo 11. The cracks appear isolated. Separation is evident between the slab and the wall along the east wall as shown in Photo 27. The separation may be attributable to the same forces acting out of plane on the walls to create the horizontal crack.

Exterior Defects

Exterior wall defects are similar to the Town Hall and generally appear attributable to corrosion of horizontal joint reinforcing. Some previous repairs are evident on the south wall. Another difference is an isolated differential settlement crack located at the southeast corner as shown in Photo 14. The crack is somewhat mirrored internally inside the IT room.

Engine Bay Defects

The slab inside the engine bay exhibits cracking at locations of stress concentration like corners and slab pipe penetrations as shown in Photos 24 and 25. Especially since no control joints are evident, the cracks appear attributable to typical shrinkage and/or temperature cracking in slabs on grade.

According to testimony at the time of the inspection, the east bay door column was once repaired previously. The repaired column has since cracked as shown in Photo 22. The concrete slab at the east bay doors has also cracked, and it appears attributable to typical slab cracking phenomenon.

It is difficult to say why exactly the column has cracked. The proximity of the engine bay door connections may be a potential cause, but it is important to note the historical problematic nature of this location. Per testimony from Chief Watts at the time of inspection, there is a history of sink hole development at a manhole junction box location approximately 20 feet from the engine bay doors to the east, Photo 19 and 20.

Apparently, a city storm sewer pipe is not only located near the engine bay, but runs underneath as depicted in Figures 2 and 3. Building above storm drainage pipes is not considered good practice contemporarily unless no other options are available. According to Chief Watts it is not clear if any special repair measures were undertaken at the time of sinkhole repair. Therefore, it is unclear if the cause of the sinkhole was adequately addressed at the time of previous repair or if partial pipe leakage can be expected to persist or not. Until such time confirmation is made, it is prudent to assume the issue is unresolved.

4 Conclusions

Many of the observed defects are typical of masonry construction, especially for buildings of significant age like the Town Hall and Public Works Buildings which are near their respective service life end. The Town Hall Building is 45 years old and the Public Safety Building is 41 years old. A reasonable service life for buildings like these is on the order of 50 years. In the building industry, service life in years, if noted in design documents, is rarely stated in excess of 50 years. If buildings are designed to exceed a 50 year design life, special details are typically included to achieve this goal. For instance, galvanizing or use of stainless steel for bolts, steel shapes, and/or concrete and masonry reinforcing is appropriate for longer design service life. Expansion joints are also a common tool used to extend service life of masonry construction or at least to maintain a relatively defect free building.

Similarly, it is not uncommon for masonry defects to exist in buildings, but not be visible. For instance, the Town Hall Building has drop ceiling removed and furring strips that were not covered with drywall. As such, the masonry crack defects are visible where they otherwise would not be with drywall and drop ceilings installed. In the case of

the Public Safety Building the designers intent was for visible brick interior wythe. As it turned out, masonry defects are highly visible in this case.

The question then becomes, how critical are the visible defects and what is the appropriate course of action?

Horizontal Cracks

The horizontal cracks in the Town Hall are less severe than in the Public works building. This is true both in terms of severity and implications. The Town Hall internal wythe is much thicker at 6 to 8" compared to the Public Safety Building 4" brick. Even with cracking as it is, the Town Hall walls are more stable if for no other reason than because the walls are thicker.

Horizontal crack development appears to be on account of roof expansion and/or internal contraction. These forces are inevitable. Proper detailing such as roof expansion joints and/or vertical steel reinforcing can be used in new construction to minimize or eliminate crack formation like this. These items were not installed in either building. (Exception is the marginally effective roof expansion joint in Town Hall).

For both buildings, the lateral force resisting system has been compromised as it relates to lateral load (Seismic Loading likely controls lateral loads for consideration). The plane where the crack is located is effectively debonded and reduces the effective wall thickness for shear forces. Vertical gravity load capacity has also been compromised, especially for the Public Safety Building. Where the crack is at the widest, it is reasonable assume that the exterior wythe of brick is supporting all the gravity load from the roof.

The proper repair for the cracks is dependent on the findings of additional investigation work. For instance, whether or not the cracks are active needs to be determined to develop the appropriate fix. Crack gauges observed over time can be implemented to achieve this understanding. Once the nature of the crack is determined, a repair method can be analyzed.

If the crack is active, a flexible joint is the most appropriate repair. However, the flexible joint would not serve to reestablish lateral and gravity load connectivity. Instead the flexible joint would permanently alter the load path of the existing structure. An analysis to determine the implications of the altered load path would be necessary to determine if additional alterations are necessary to compensate. The *North Carolina Building Code for Existing Buildings* covers this scenario as shown in the exerts below.

[B] 403.3 Existing structural elements carrying gravity load. Any existing gravity load-carrying structural element for which an *alteration* causes an increase in design gravity load of more than 5 percent shall be strengthened, supplemented, replaced or otherwise altered as needed to carry the increased gravity load required by the *International Building Code* for new structures. Any existing gravity load-carrying structural element whose gravity load-carrying capacity is decreased as part of the *alteration* shall be shown to have the capacity to resist the applicable design gravity loads required by the *International Building Code* for new structures.

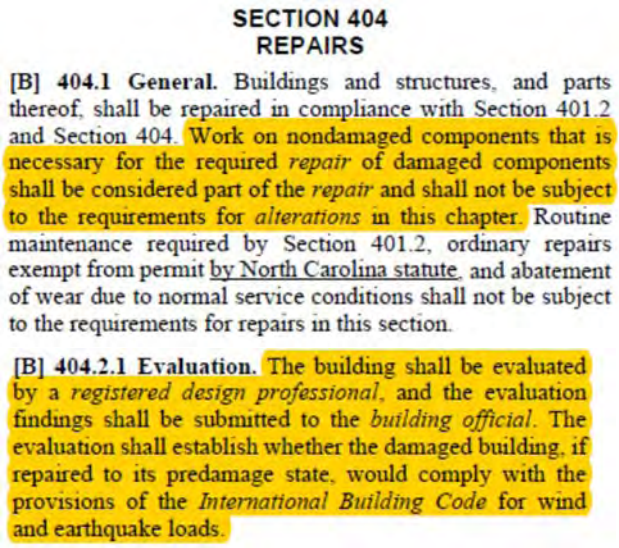
[B] 403.3.1 Design live load. Where the *alteration* does not result in increased design live load, existing gravity load-carrying structural elements shall be permitted to be evaluated and designed for live loads approved prior to the *alteration*. If the approved live load is less than that required by Section 1607 of the *International Building Code*, the area designed for the nonconforming live load shall be posted with placards of approved design indicating the approved live load. Where the *alteration* does result in increased design live load, the live load required by Section 1607 of the *International Building Code* shall be used.

[B] 403.4 Existing structural elements carrying lateral load. Except as permitted by Section 403.5, when the *alteration* increases design lateral loads in accordance with Section 1609 or 1613 of the *International Building Code*, or where the *alteration* results in a structural irregularity as defined in ASCE 7, or where the *alteration* decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall be shown to meet the requirements of Sections 1609 and 1613 of the *International Building Code*.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the *alteration* considered is no more than 10 percent greater than its demand-capacity ratio with the *alteration* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the *International Building Code*. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.

North Carolina State Building Code: Existing Building Code

If it can be shown that the repairs are merely reestablishment of the original condition, then “alteration” code implications can be avoided. For instance Section 404 covers this scenario.



SECTION 404
REPAIRS

[B] 404.1 General. Buildings and structures, and parts thereof, shall be repaired in compliance with Section 401.2 and Section 404. Work on nondamaged components that is necessary for the required *repair* of damaged components shall be considered part of the *repair* and shall not be subject to the requirements for *alterations* in this chapter. Routine maintenance required by Section 401.2, ordinary repairs exempt from permit by North Carolina statute, and abatement of wear due to normal service conditions shall not be subject to the requirements for repairs in this section.

[B] 404.2.1 Evaluation. The building shall be evaluated by a *registered design professional*, and the evaluation findings shall be submitted to the *building official*. The evaluation shall establish whether the damaged building, if repaired to its predamage state, would comply with the provisions of the *International Building Code* for wind and earthquake loads.

North Carolina State Building Code: Existing Building Code

Even at this early stage, it appears unlikely that effective repairs would qualify as “unaltered”. In either case, more investigation and analysis is required to make the distinction.

Full extents of the Horizontal crack defects also must be determined. For instance, the drop ceiling in the Public Safety Building needs to be selectively removed for a more thorough evaluation. Crack gauges need to be monitored for a minimum of one full year to note changes with respect to all four seasons.

Vertical Cracks

Vertical cracks appear to be attributable to expansion forces with only partial contraction. A rigid repair is not appropriate. For instance, grouting the vertical cracks would likely not only not work, but also add expansive forces to the structure and force to walls to grow even longer. The appropriate repair is a flexible expansion/contraction joint installed at the most severe crack locations. The building has already shown where the forces tend to concentrate, therefore, joints at these locations is empirically appropriate. Aside from joints at these locations, additional joints may be appropriate. It may also be appropriate to install the joints on both sides of the wall interior and exterior. More investigation and analysis is necessary to determine the most effective specific course of action.

In new construction, vertical joints are often armored. That is, brick or block is turned 90 degrees relative to the typical placement to close off the end of the cavity at the joints. Shear keys may also be employed at joints in new construction. Application of joints in this case appears appropriate to control any additional crack formation, but like the horizontal crack repair, the change may need to be considered an “alteration”.

Existing Spalls and Joint Reinforcing

One could potentially argue that the cracks are aesthetic issues. This is partially true. For instance, the crack could be covered with sheet rock to hide them. This would not be uncommon, but it is likely not appropriate in this case. For instance, it is obvious that corrosion has significantly affected the exterior wall joints. Even pristine wythes can be expected to transmit wind driven rain into the cavity of cavity walls. It is likely that significant moisture has penetrated the cavity in this case since the popped joints are much more susceptible to rain intrusion. Also, it is

highly likely based on chronology and site corrosion evidence that the joint reinforcing is not galvanized. As such, it is possible the ties between the walls have been compromised. Therefore, the walls should not be covered internally until such time the condition of the wall ties is investigated.

Similarly, the efficacy of the existing flashing and weeps needs to be investigated. No detailing was provided in the record drawings for flashing and weeps in the Public Safety Building. Weep holes are evident on the south wall, but the detailing is not possible to determine at this time. Also, the condition of the flashing needs to be investigated to determine if it is still effective.

As for the joint repairs existing, they are appropriate, but should not be considered long lasting. Also, without replacement of severely compromised corroded reinforcing, the fix is largely cosmetic. Future joint repairs of this kind should be thoroughly applied. That is, the reinforcing needs to be evaluated as part of the joint repair procedure. Where reinforcing is significantly degraded, it should be replaced with new hot dip galvanized reinforcing.

The other troubling aspect of joint and/or reinforcing replacement is the replaced joint reinforcing is not easily connected to the existing wall ties. Where wall ties are not welded to the exterior wire, the embedment pull out capacity is lessened. A thorough structural evaluation is necessary to determine if enough tie embedment remains to achieve an effective double wythe cavity wall.

The existing walls appear to be equipped with rigid insulation inside the cavity. Fiber optic evaluation of the interior cavity does not appear feasible. Therefore, evaluation of the existing wall ties appears to require partial demolition of the existing wall. It is also reasonable to expect differential severity in corrosion from one location to another. Wind direction and other variable environmental factors may affect the severity of corrosion from one location to another. Therefore, multiple locations are required to fully ascertain the condition for all locations by an effectively representative sampling.

Should tie reinforcing prove to be corroded or otherwise ineffective as part of a comprehensive repair, then other methods of adequately joining the wythes are possible. Epoxy dowel anchor partial through bolts could be employed. They could be installed from the inside wythe and be embedded partial depth into the external wythe. Full through bolts could be employed as well, but moisture effects of the penetrated outside wall would need to be evaluated.

Obviously, through bolts would not be the most cosmetically pleasing alternative and the cost would be significant as well. Cosmetic coverings could be installed on the outside or inside like drywall or stucco. Stucco could be employed to create a water-resistant covering over through bolts. But again, this will surely add cost.

Engine Bay and Storm Water Pipe

The efflorescence in the engine bay is minimal and likely is residual early bloom or minor ambient moisture in the cavity escaping. It is possible a roof leak has contributed, but implications appear minor at this time. The condition should be monitored and reevaluated if it worsens.

The cracks in the engine bay slab appear attributable to shrinkage on account of absent control joints and locations consistent with stress concentrations. The condition should be monitored and reevaluated if it worsens. The same conclusion is appropriate for the external concrete slab on the east side outside the bay doors.

The cracked column between bay doors on the east side appears to be a minor condition. However, it is coincidental that the column exhibits cracking and is also in close proximity to the known historical sink hole location. It is possible that the crack is on account of minor original construction or repair construction defect. However, it is also within the realm of possibility it is associated with some other larger instability. The crack should be monitored with crack gauges and reevaluated if it worsens.

The historical sinkhole requires additional evaluation. Placement of critical infrastructure over underground drain pipes is not good practice. The question is generally not if their will ever be a problem, but rather a question of when. All material degrades over time. In the case of storm pipes, corrosion, abrasion, and chloride ion penetration will ultimately lead to failure of the pipe. Corrosion and abrasion affect both steel and concrete pipes. Chloride ion penetration only affects concrete pipes and manhole boxes, but ultimately leads to internal steel reinforcing corrosion and concrete spalling.

It is not known at this time what type or diameter of pipe exists under the engine bay. City records can be reviewed to determine that. This will provide some insight into the possible condition, but further field evaluation is prudent especially since the pipe apparently predates the Public Safety Building and is likely on the order of 50 years plus in age. 50 years is the generally accepted service life for storm sewers as well. Special detailing can lengthen service life to 100 years, but it is highly unlikely this detailing was employed 50 years ago in this case.

Apart from the age, the history of sinkhole development at this site dictates are more thorough evaluation. Many sinkholes develop at joints in sewer systems. The joints are generally the weakest link whether grouted or fitted with elastic gaskets. As the material degrades or shifts from settlement, voids allow fill to enter the pipe. Sinkholes are the result.

It is possible for sinkholes to develop along the pipe length or at joints in the pipe. Again, it is only a matter of time.

The current condition of the pipe should be evaluated with remotely operated vehicle (ROV). Pipe cleaning should also be performed at the time of inspection a required to adequately observe the pipe condition. The limits of pipe evaluation should extend a minimum from the upstream manhole on the east side of the building to the downstream side on the west side at least 50 feet from the building perimeter.

If significant deterioration is found, the pipe should be repaired immediately. All manner of deterioration should be addressed at the time. For instance, it is unclear if leaky joints were the cause of the historical sink hole or if the defect was adequately repaired at the time. Any joint defects should be repaired, and if the pipe is in poor condition it should be equipped with a new liner capable of acting as an in situ pipe replacement. Liners like this are often placed pneumatically.

Settlement Cracks

The only obvious settlement cracks are located on the southeast corner of the Public Safety Building. The cracks should be gauged and monitored.

5 Recommendations

The following List provides instruction for the immediate and long term recommendations. Adhere to chronology of steps where noted.

Install Gauges and Monitor

1. Install and monitor gauges described below for one full year.
2. Install graduated crack gauges on all existing cracks in walls, slabs, and columns.
3. Photograph all gauges at the time of installation. Photo should provide legible baseline reading.
4. Monitor the gauges weekly and record numerical values in journal. Record interior temperature and humidity and exterior temperature and humidity at the time of gauge reading. Record specific to the building compartment. Town Hall, Public Safety, Engine Bay.

5. Set up a rain gauge outside the building. After any rainstorm, record the gauge reading. If multiple days of rain happen consecutively, record the gauge reading daily until the rain ceases.
6. Record snow events. Rulers can work.
7. Engineer can assist with gauge layout and quantity. Gauges are inexpensive, therefore, quantity need not be discriminatory, but should be strategically placed.
8. Apply gauges to any new cracks that develop and/or any new cracks discovered during the other recommended investigative steps.

Additional Near Term Investigative Work for Buildings

9. Selectively remove drop ceiling in the Public Safety Building near the exterior walls and record the condition of the walls above. Record crack locations, widths, termination points, and orientation. Install crack gauges where additional cracks or lengths found.
10. After drop ceiling removal and investigation. Selectively remove a 1 to 2 foot wide section of internal wythe brick wall in the Public Safety Building. The width may vary depending on spacing of wall ties. A minimum of three locations should be removed initially, one on the east wall, one on the west wall, and one on the south wall. Remove wall from the interior to avoid extensive weather proofing exterior wall during process. Removal should be from the floor to the ceiling. Removal should be performed by a licensed building contractor with experience in selective demolition and masonry repair. Contact Engineer to layout removals in best locations regarding building concerns and adaptation for continued Police and Fire Department operations.
11. Depending on results of initial wall removal investigation, add additional locations in Public Safety and/or Town Hall Buildings. Contact Engineer to plan removals.
12. After information is obtained from removals, reinstall brick in like kind. Alterations may be necessary if anomalous findings dictate. However, in general, removals should be replaced quickly. Contact engineer prior to removal repair so that he can view the interior.

Plumb and Level Measurements of Slabs and Walls

13. Accurately measure how plumb and level walls and interior slabs are. Record any slope breaks in walls. For instance, it is reasonable to assume that the plumb reading above and below the larger horizontal cracks in the Public Safety building are different. Contact engineer for assistance.

Additional Near Term Investigative Work for Storm Pipe

14. Obtain town record documents, if possible, that provide record drawing information for the pipe.
15. Determine if any photos or records exist concerning the historical sinkholes and repairs.
16. Transmit drawings and other records to engineer and allow for him to review.
17. Contact Pipe investigation company to conduct pipe condition assessment. Contact engineer if assistance required. Condition assessment should include evaluation of the manhole, manhole to pipe joints, and pipe condition in general and at joints.
18. Transmit pipe condition assessment video and records to engineer for review.

Additional Near Term Analysis and Code Review

19. Engineer can begin evaluation of code and structural implications in the interim while immediate investigation items are underway. Conclusions from analysis could change overtime, but engineer may develop understanding of implications of existing defects and flexible joint installation and if additional structural modifications are required to account for any repairs that may be more aptly referred to as “alterations”. Provide notice to proceed to engineer.

The findings of the initial steps may dictate what subsequent steps are required. Initial and subsequent investigation steps will ultimately dictate the appropriate repairs. The relative cost and disruptive nature of the

appropriate repairs may dictate decisions for the Town of Valdese as it relates to final solution. Some additional potential steps and/or repairs may include.

Long Run Investigation and Potential Repair Steps

1. In the event the interior slab for any of the buildings appears to slump, contact engineer immediately.
2. Should any of the known cracks significantly worsen, contact engineer immediately. Should any new cracks develop, contact engineer immediately.
3. Should pipe evaluation findings indicate the pipe or manhole is in disrepair, apply repairs per engineer. Possible repairs could potentially include:
    a. Excavate and remove and reinstall manhole.
    b. Apply Joint repairs at pipe to manhole connections if feasible.
    c. Install pneumatic pipe liner.
4. The proper repairs for wall cracks is dependent on the findings of additional investigative and analysis work. However, likely and/or possible repairs may include:
    a. Sawcut existing large vertical crack locations and install flexible joints.
    b. Where code/analysis dictates, install cavity end reinforcement at new flexible joints.
    c. Sawcut existing horizontal cracks and install flexible joint, if deemed appropriate.
    d. Where code/analysis dictates, install wall reinforcement as it relates to horizontal joints.
    e. Where corrosion of existing joint reinforcing is severe or where repairs limit the efficacy of the existing joint reinforcement, install wall reinforcement as required like through bolts, vertical reinforcing bars in the cavity, straps, etc.
    f. Where aesthetics or water-resistance of repair methods dictate, install stucco, drywall, or other wall coverings as required.

6. Service Life and Alternative Recommendations

The building is near the generally accepted service life end at 41 years old. Minimal repairs, if acceptable by Code and/or operations, will most likely only prolong the inevitable. For instance, where the bare metal joint reinforcing is not replaced, it can be expected to further corrode and cause subsequent problems.

It is common for buildings of this age to require increasing levels of periodic maintenance. Cost effective repairs now, may not prove cost effective in the long run as subsequent necessary repair efforts add up over time. For instance, even if the walls are adequately repaired, other building systems like plumbing may reach the point where significant repairs are required in addition to the performed wall repairs.

In the case where extensive repairs are proven necessary, the repairs may not be cost effective in the near term. For instance, if existing wall ties are proven insufficient, replacement is surely a disruptive and costly undertaking.

The engine bay pipe is another complication concerning cost effectiveness of repairs. As mentioned, pipes under critical infrastructure is not good practice if avoidable. If repairs are proven necessary now, the disruption and cost could be significant. Even if no repairs are required per investigation there is still an inherent risk remaining, since no investigation can be perfect and defects may go unnoticed. Routine inspection of the pipe is highly advisable regardless of the findings in the near term or any recommended repairs. The pipe should be inspected by ROV at a minimum of every 5 years given the critical nature of the infrastructure above. Routine inspection will obviously add recurring cost.

Finally, one of the main reasons that specific service life goals are established for buildings is because buildings tend to become obsolete within 50 to 75 years. Spending top dollar on resilient construction details on the front end, preventative maintenance, or in this case pervasive investigation and repairs is not appropriate if the building could be expected to become obsolete for either reasons of size or function in the next 10 to 20 years.

If the City of Valdese expects the building may become obsolete within the next 10 to 20 years, it may be advisable to forgo any non-critical near-term repairs and begin planning for a new replacement building. Additions or

renovation of the Town Hall building for added Public Safety space requirements does not appear cost effective relative to a new building given the obvious maintenance inducing defects of the existing building.

7. Opinion of Probable Cost

It is difficult to determine all of the prospective costs associated with building investigation and repairs, since much is contingent on subsequent efforts. Approximate ranges are provided:

1.	Near Term Investigative Work	
	a. Engineering Fees for Site Visits	$1,500 to $3,000
	b. Engineering Fees for Code Compliance Review and Analysis	$3,000 to $8,000
	c. Engineering Design Services	$3,000 to $10,000
	d. Engineering Services for Coordination and Solicitation of Subs	$1,000 to $3,000
	e. Crack Gauges, Equipment, and Install	$1,000
	f. Drop Ceiling Removal	$0.00 to $1,000
	i. $0.00 if Valdese Fire or engineer can perform	
	g. Contractor for Brick Removal and Repair	$3,000 to $10,000
	h. Pipe Cleaning and ROV Pipe Inspection	$5,000 to $15,000
	i. Crack and Rain Gauge Monitoring	$0.00 to $10,000
	i. $0.00 if Valdese Fire can perform	
	j. Engineering Review of Data and Inspection Findings	$3,000 to $10,000
	Total Opinion of Probable Cost	**$20,500 to $71,000**
2.	Repair Work (Highly Contingent on Investigations and Analysis Results)	
	a. Joint Installation for Public Safety Building	$10,000 to $50,000+
	b. Exterior Mortar Joint Repair	$8,000 to $200,000+
	i. High figures include dowel tie replacement, vertical reinforcing or straps, sheet rock, and stucco	
	c. Manhole Repair/Replacement and Pipe Liner Installation	$30,000 to $70,000+
	Total Opinion of Probable Cost	**$48,000 to $320,000+**
3.	Periodic Pipe Inspections (cost per year, frequency to be determined)	$1,000 to $3,000

Critical Minimum Front End Items to Perform include:

Drop Ceiling Removal and investigation

Brick Tie wall opening corrosion investigation

Pipe Inspection and Record Review

Crack Gauge Install and Monitoring

Additional Code Review, Design, and Repairs as dictated by above minimum critical investigations results.

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

Appendix A

Photographs

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

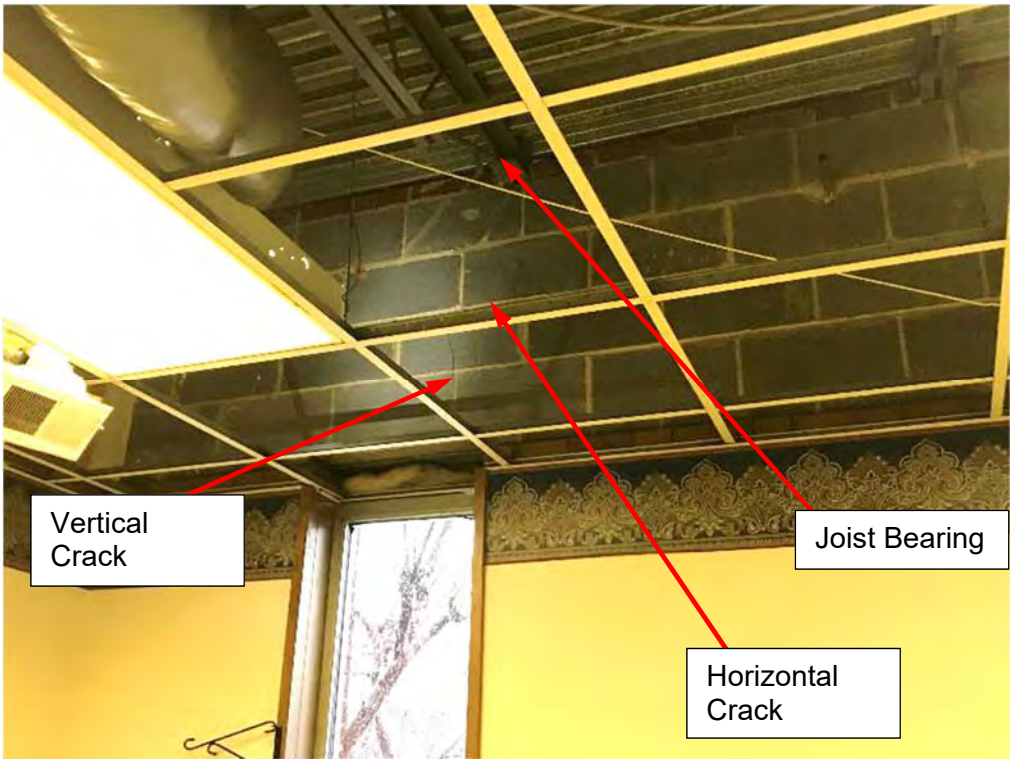


Photo 1 Town Hall – West Wall – Horizontal and Vertical Cracks

Photo 2 Town Hall – West Wall – Horizontal and Vertical Cracks

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

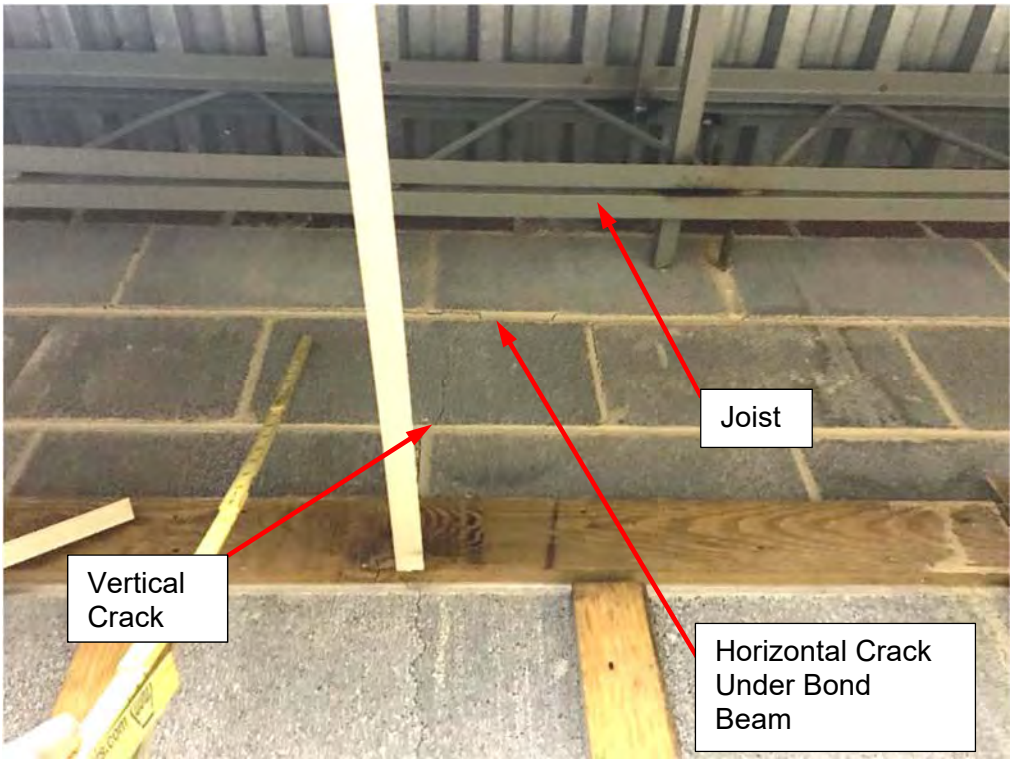


Photo 3 Town Hall – South Wall – Horizontal and Vertical Cracks

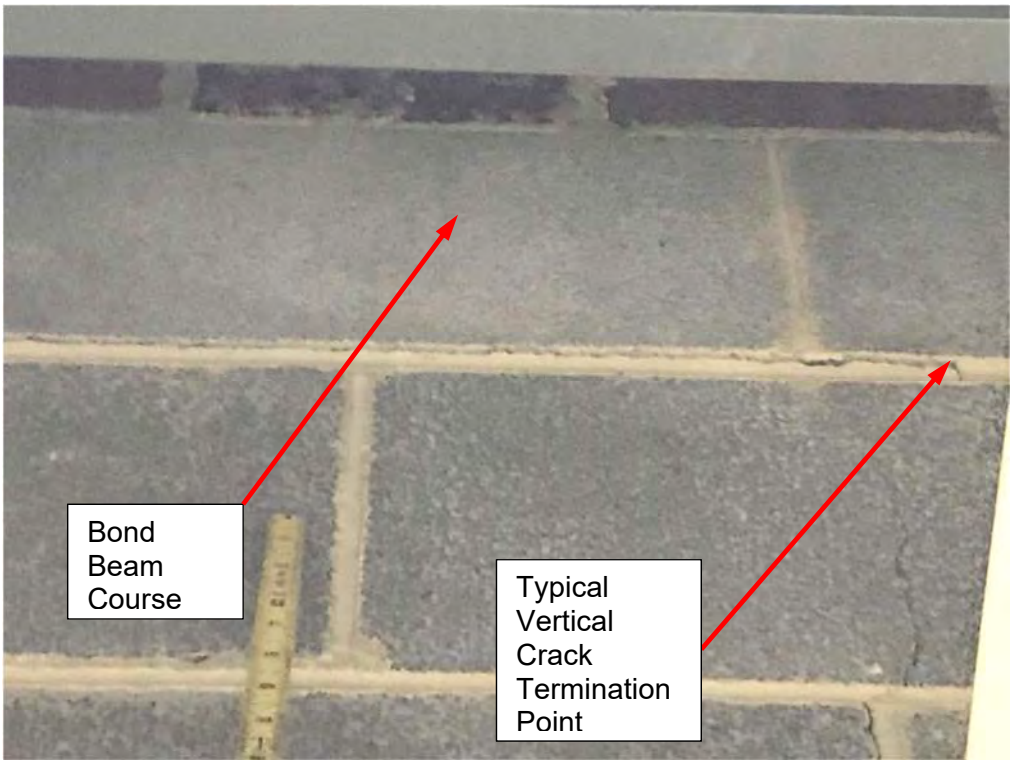


Photo 4 Town Hall – South Wall – Horizontal and Vertical Cracks

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

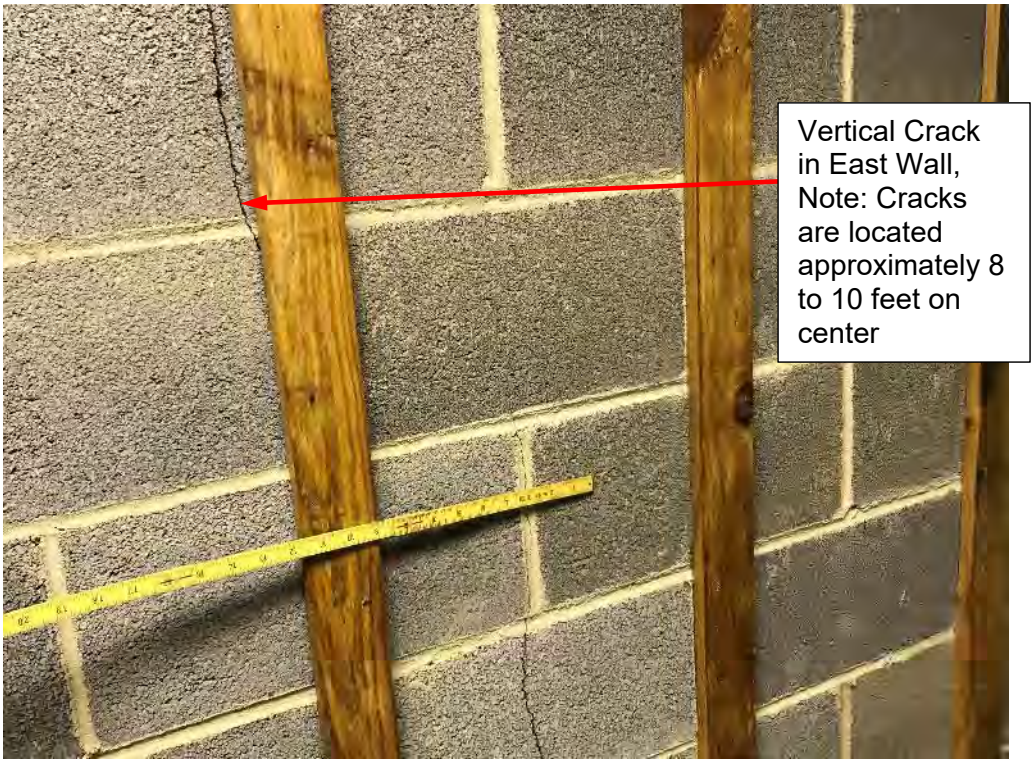


Photo 5 Town Hall – East Wall – Vertical Cracks

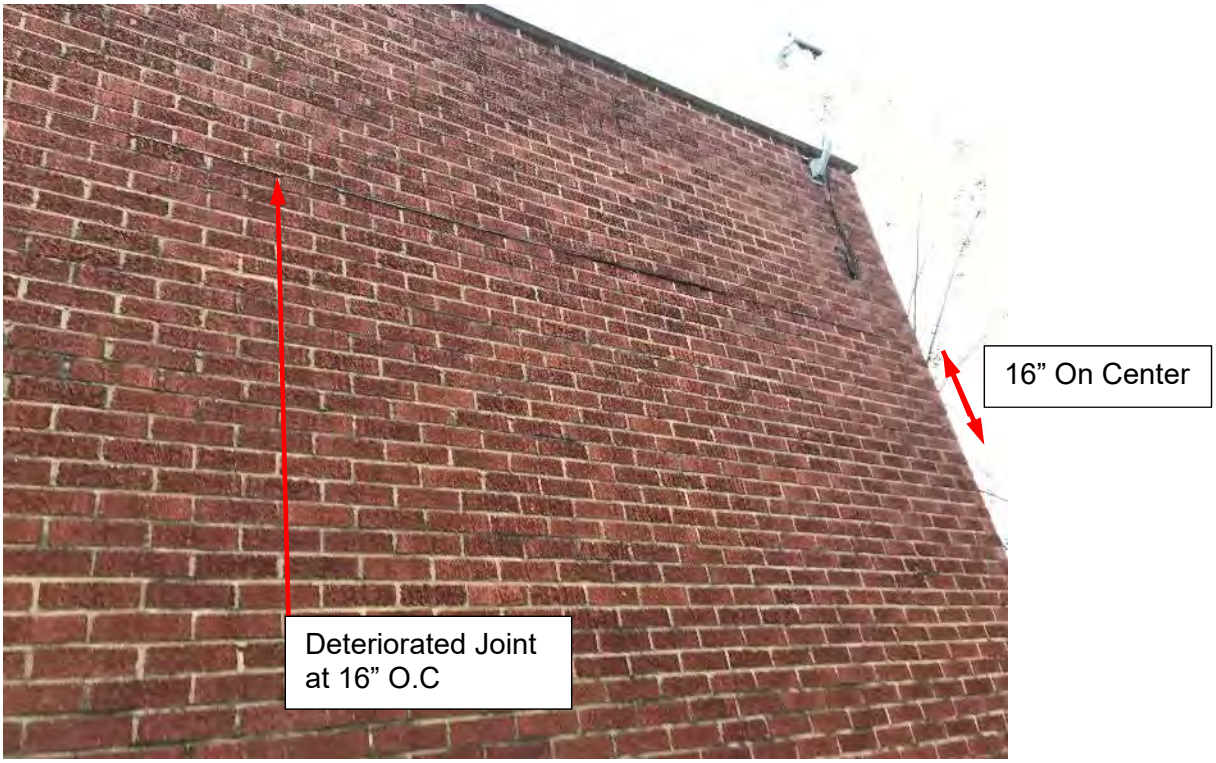


Photo 6 Town Hall – South Wall – Deteriorated Joints

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

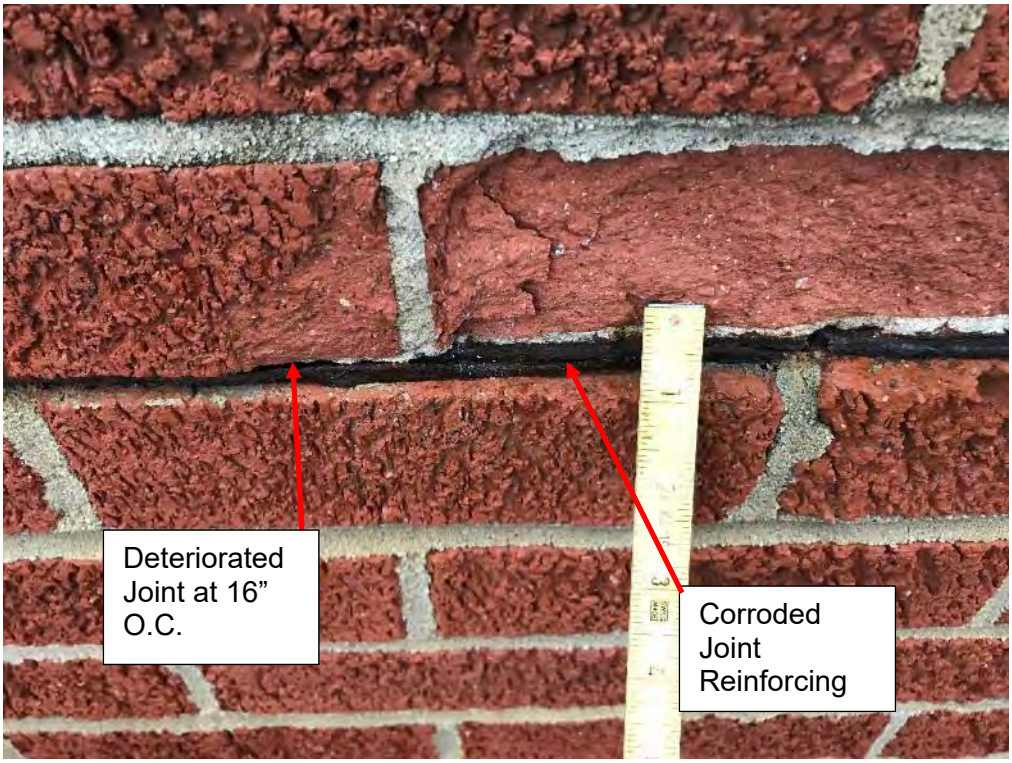


Photo 7 Town Hall – South Wall – Deteriorated Joints

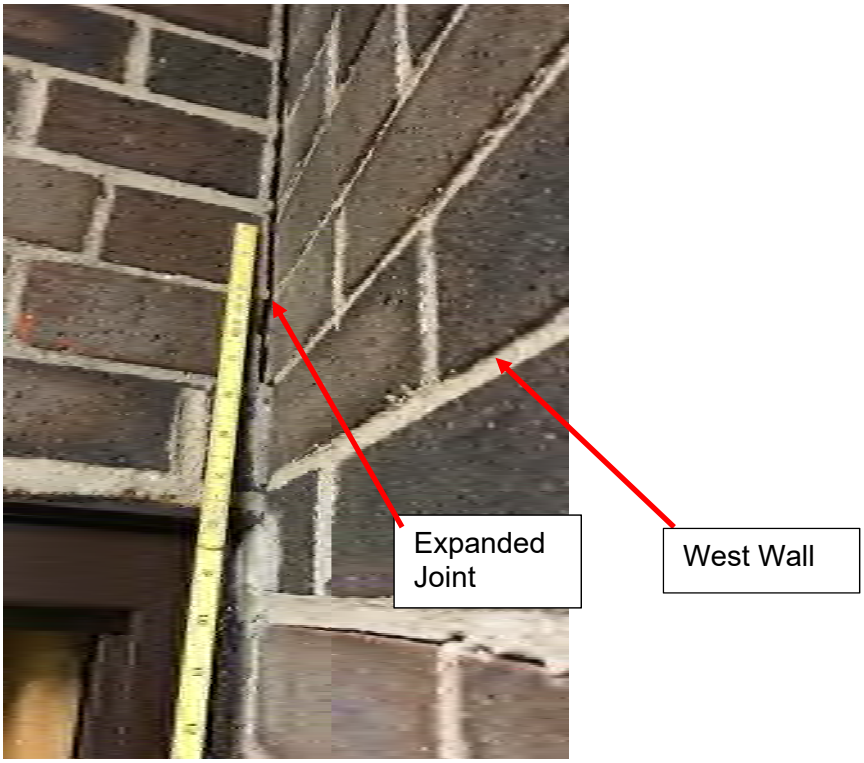


Photo 8 Public Safety Building – West Wall – Expanded Joint/Crack

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

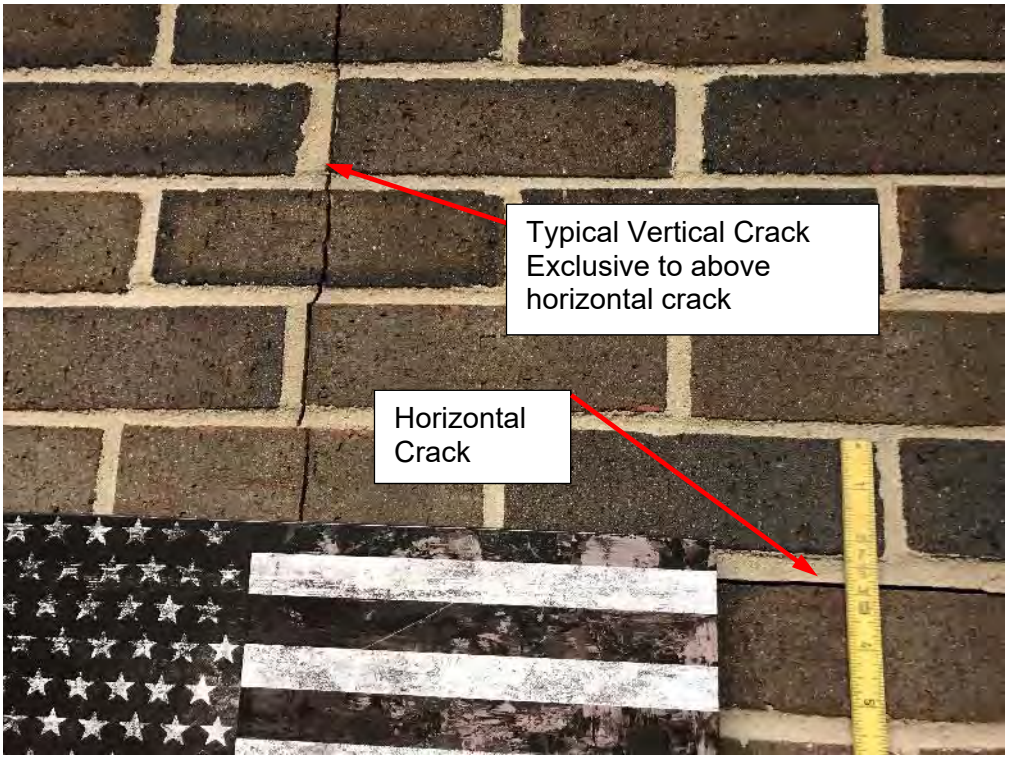


Photo 9 Public Safety Building – West Wall – Horiz./ Vertical Cracks

Photo 10 Public Safety Building – East Wall –Vertical Crack

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

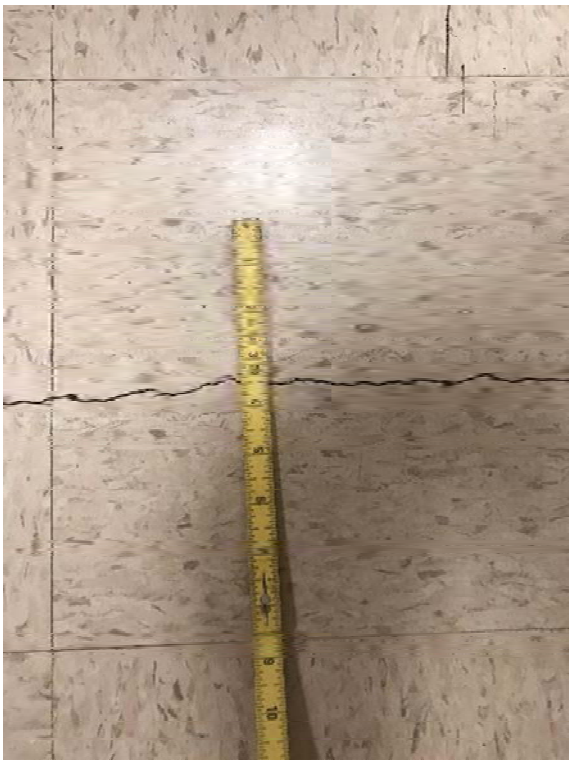


Photo 11 Public Safety Building – Interior Slab – Crack

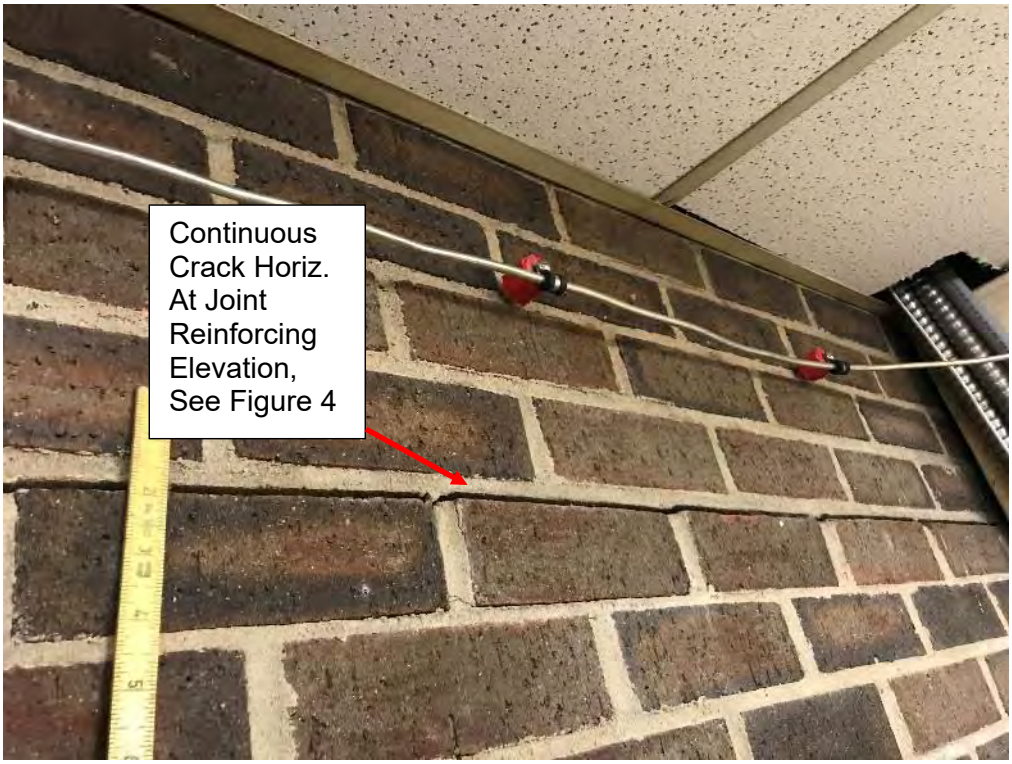


Photo 12 Public Safety Building – South Wall – Horizontal Crack

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

Photo 13 Public Safety Building – South Wall – Horizontal Crack

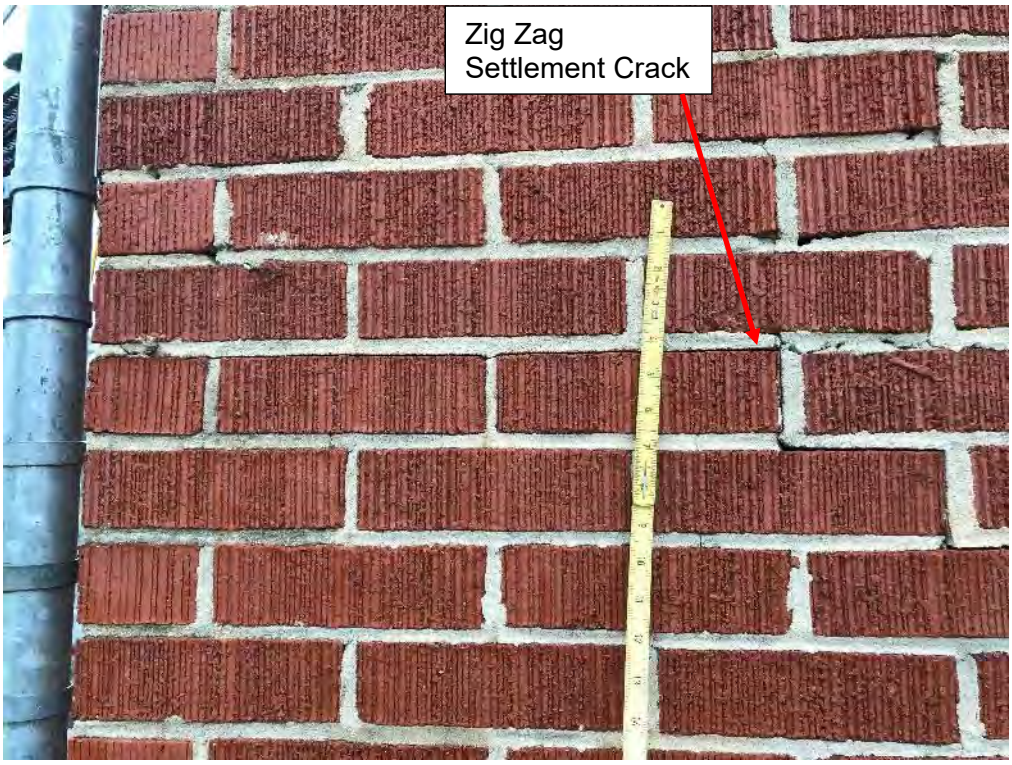


Photo 14 Public Safety Building – Southeast Corner – Zig Zag Crack

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

Photo 15 Public Safety Building – South Wall – Deteriorated Joints

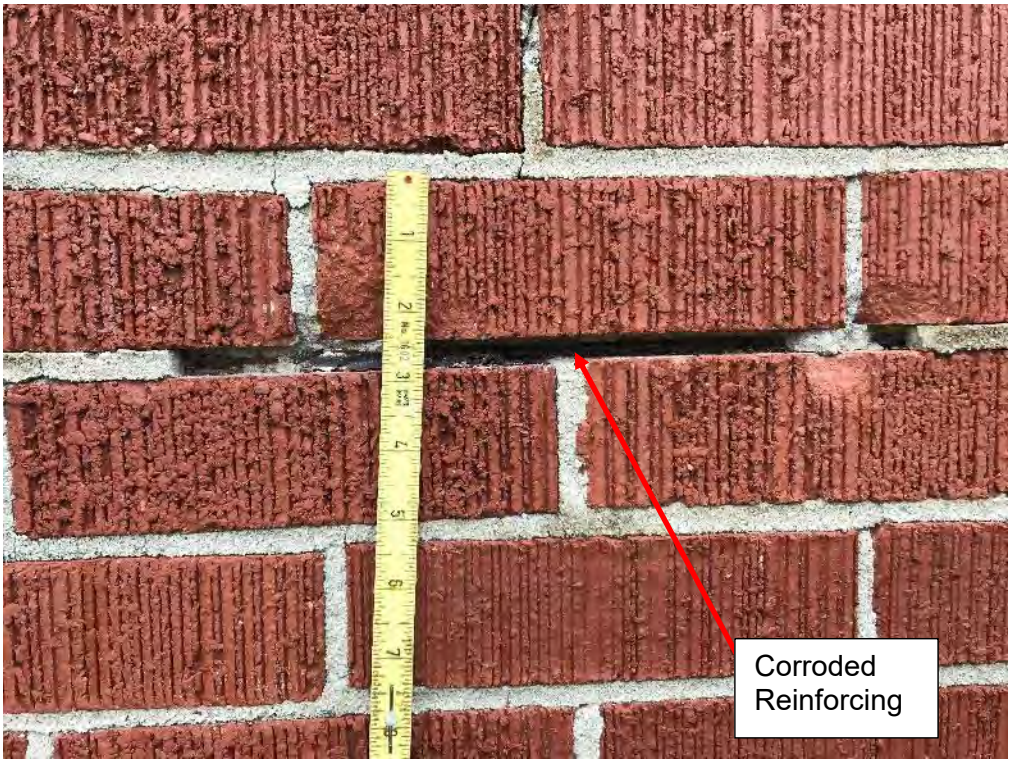


Photo 16 Public Safety Building – South Wall – Deteriorated Joints

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

Photo 17 Public Safety Building – South Wall – Repaired Joint and Weep

Photo 18 Public Safety Building – West Wall – Deteriorated Joints

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

Photo 19 Public Safety Building – East Side – Manhole

Photo 20 Public Safety Building – East Side – Historical Sink Hole

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

Photo 21 Public Safety Building – East Side – Cracked Slab

Photo 22 Public Safety Building – East Side – Cracked Column

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

Photo 23 Public Safety Building – Engine Bay – Efflorescence

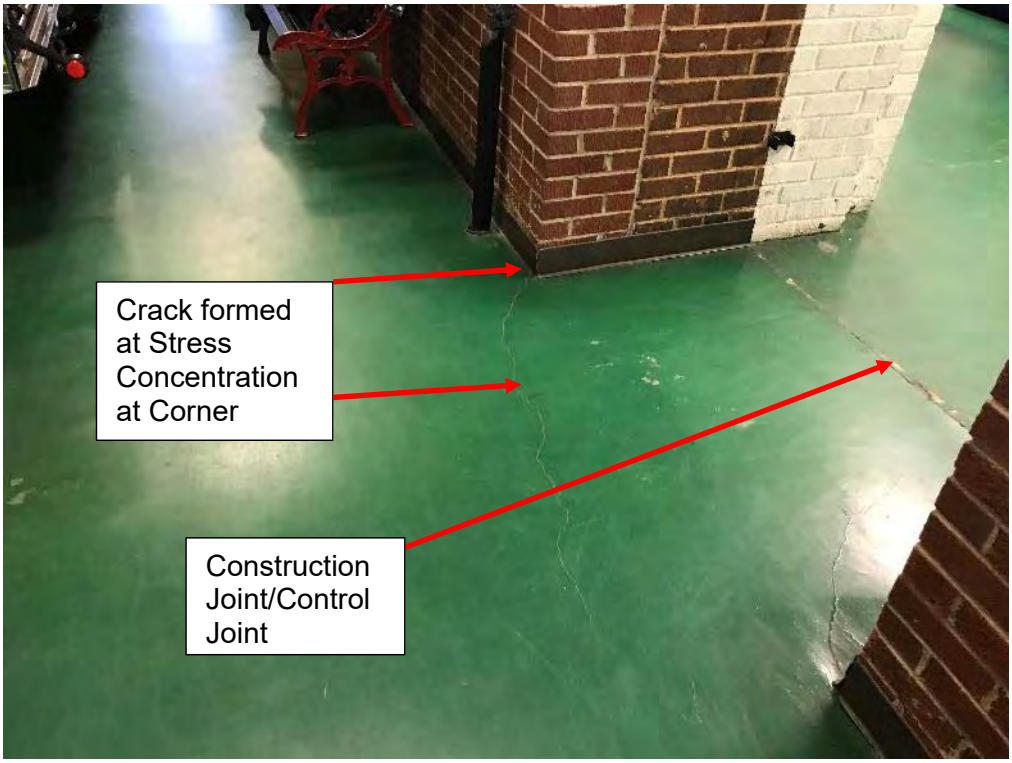


Photo 24 Public Safety Building – Engine Bay – Cracked Slab

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

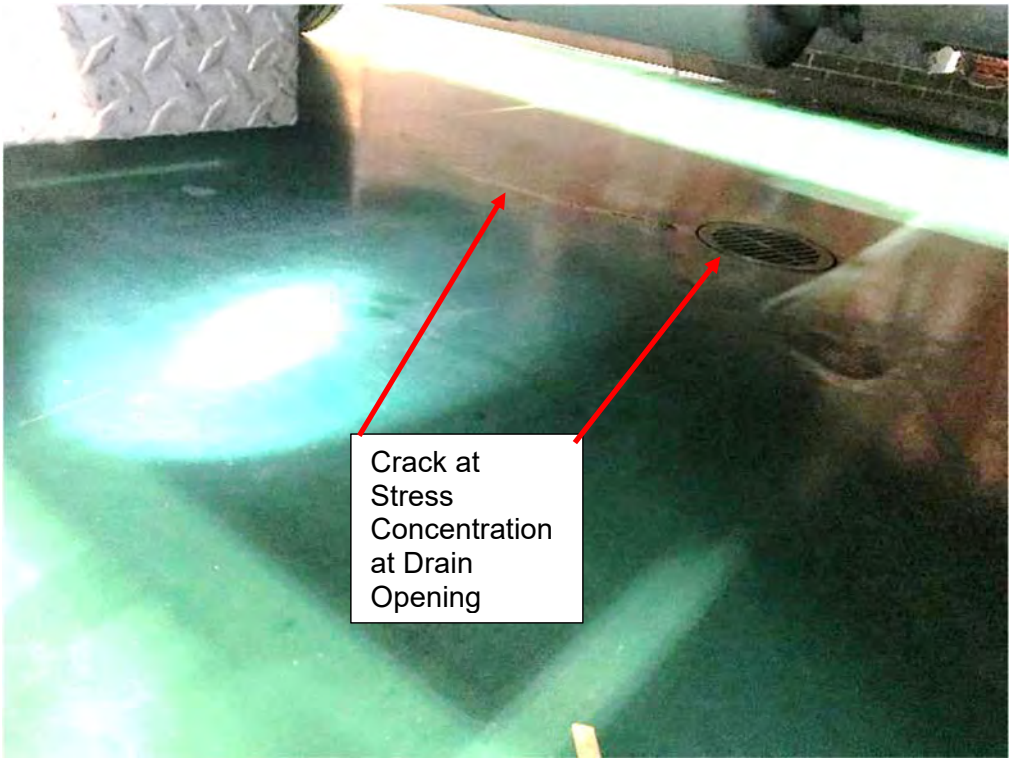


Photo 25 Public Safety Building – Engine Bay – Cracked Slab

Photo 26 Public Safety Building – East Wall – Separation at Door Frame

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

Photo 27 Public Safety Building – East Wall IT Room – Wall Separation

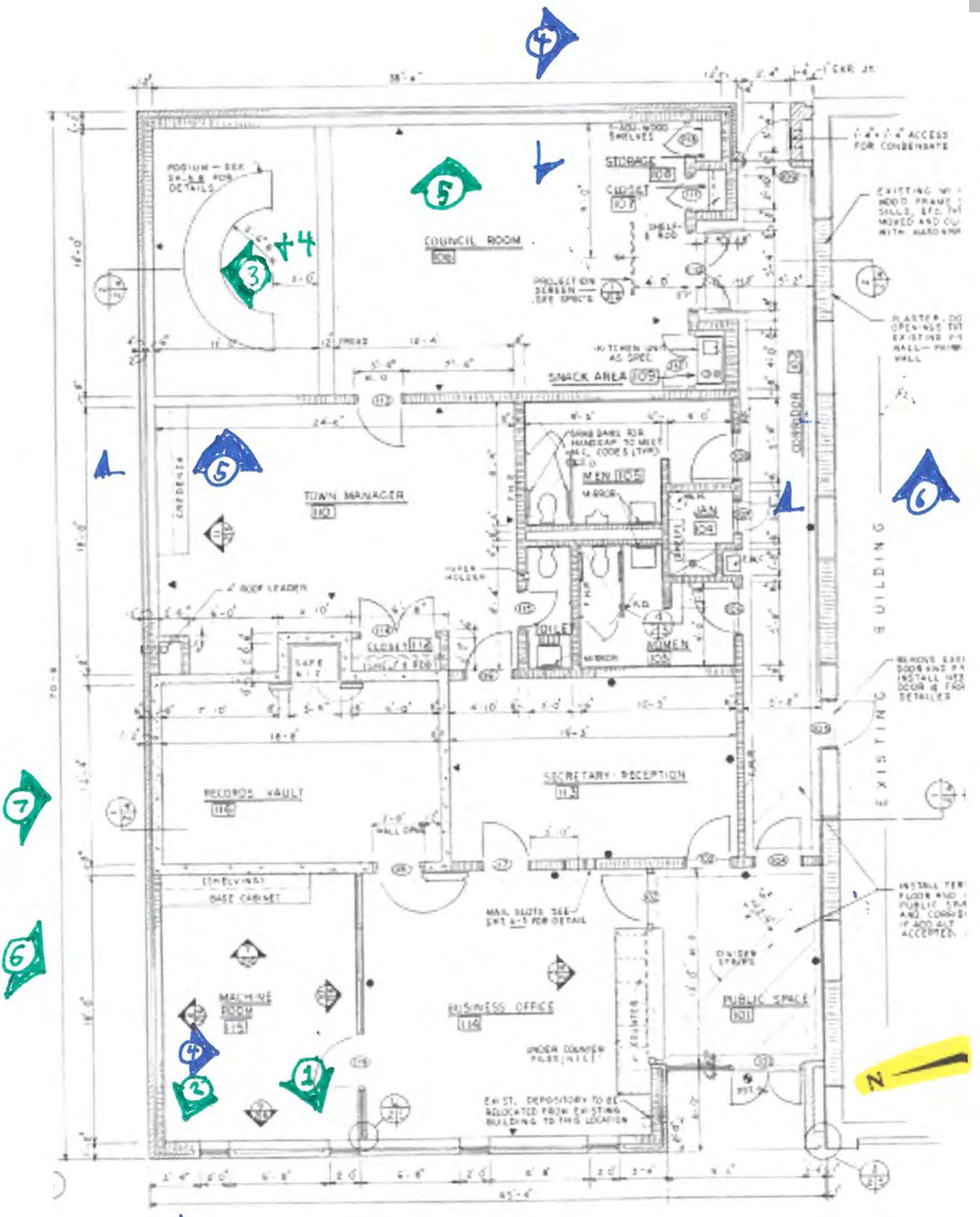
Photo 28 Public Safety Building – West Wall – Wall and Slab Crack

VALDESE FIRE DEPARTMENT
Public Safety Buidling Inspection

Appendix B

Figures

Timeline



LEGEND

PHOTO # + DIRECTION

SECTION CUT

FIGURE 1

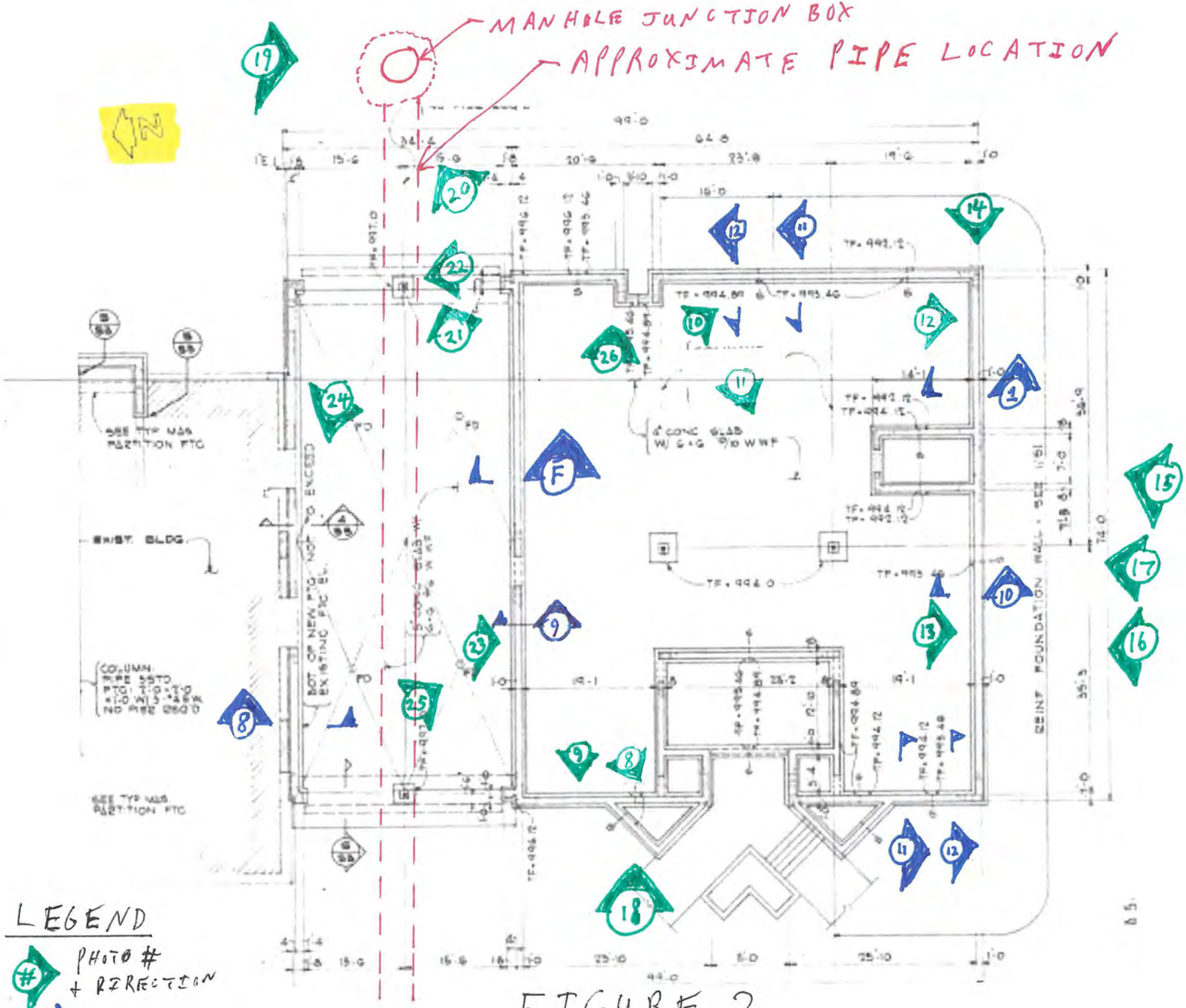
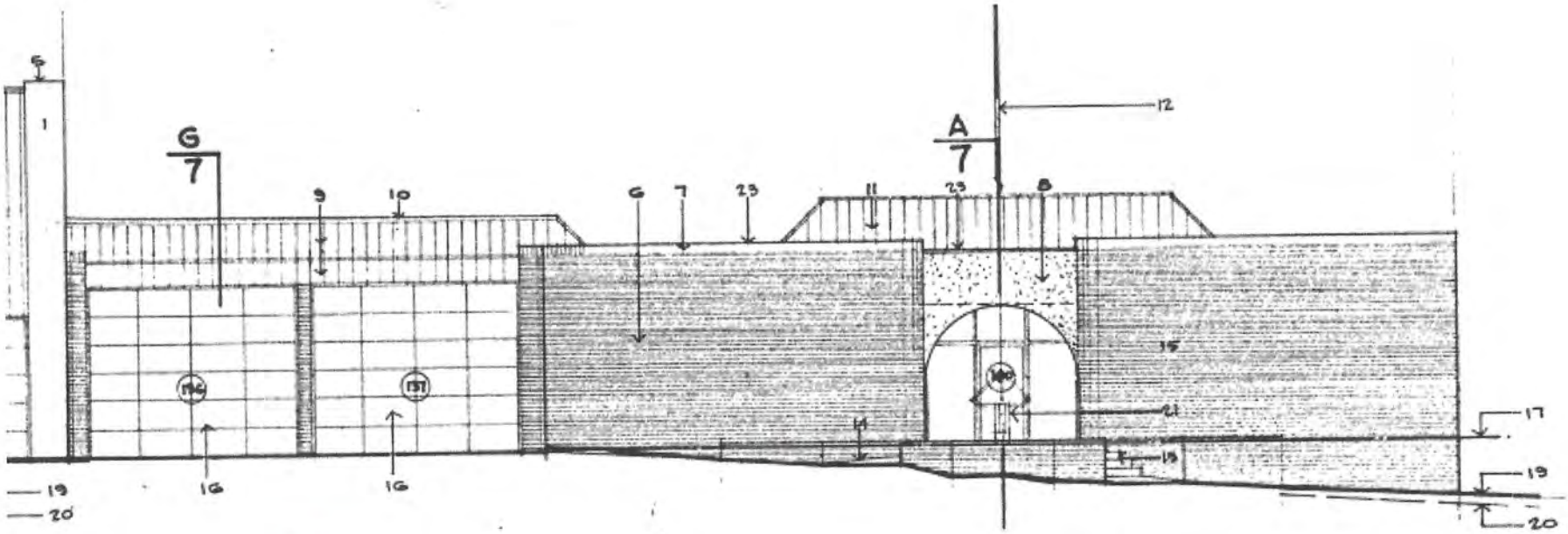


FIGURE 2

Timeline



APPROXIMATE PIPE LOCATION

FIGURE 3

Timeline

Timeline

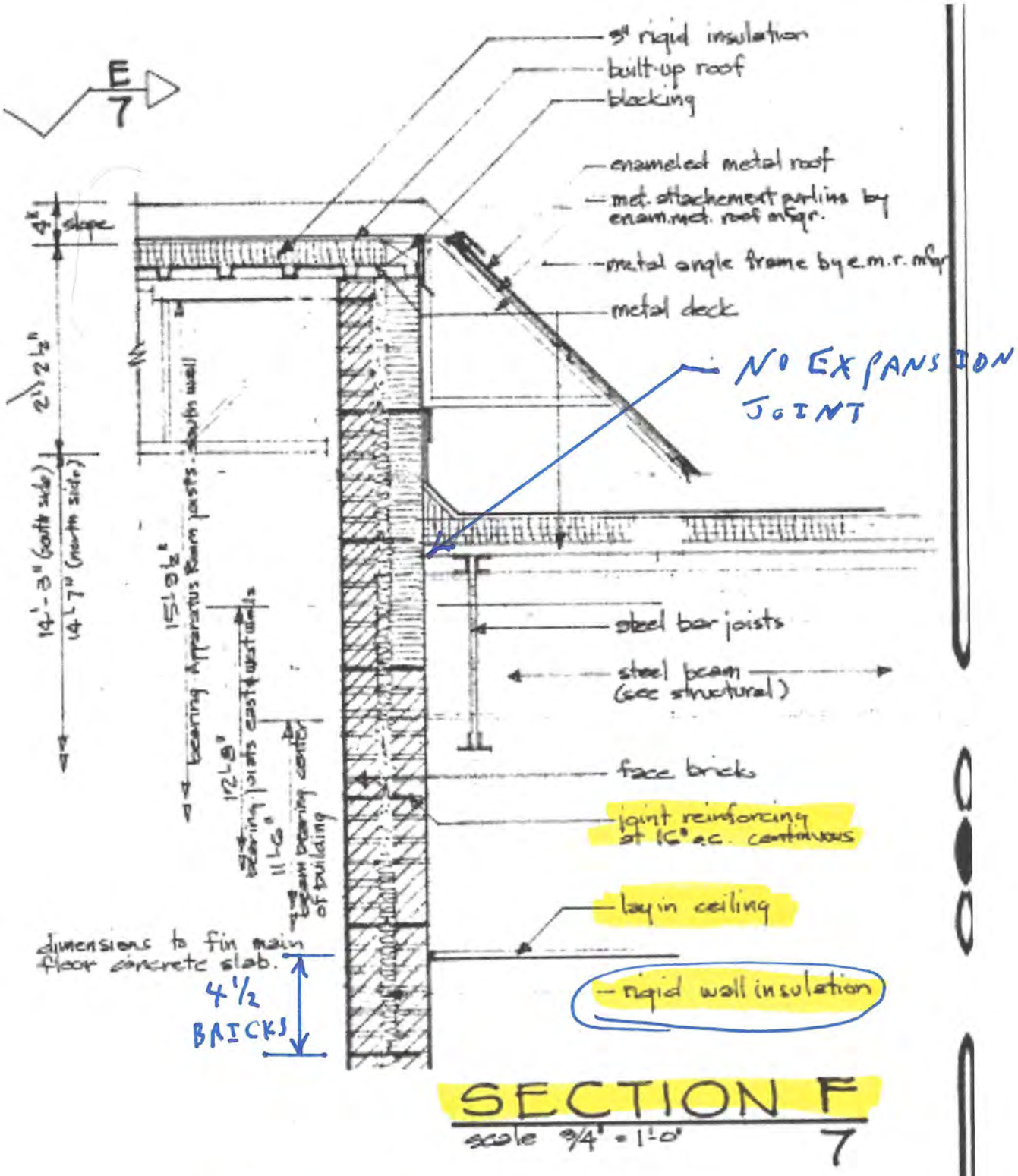


FIGURE 4

SECTION F

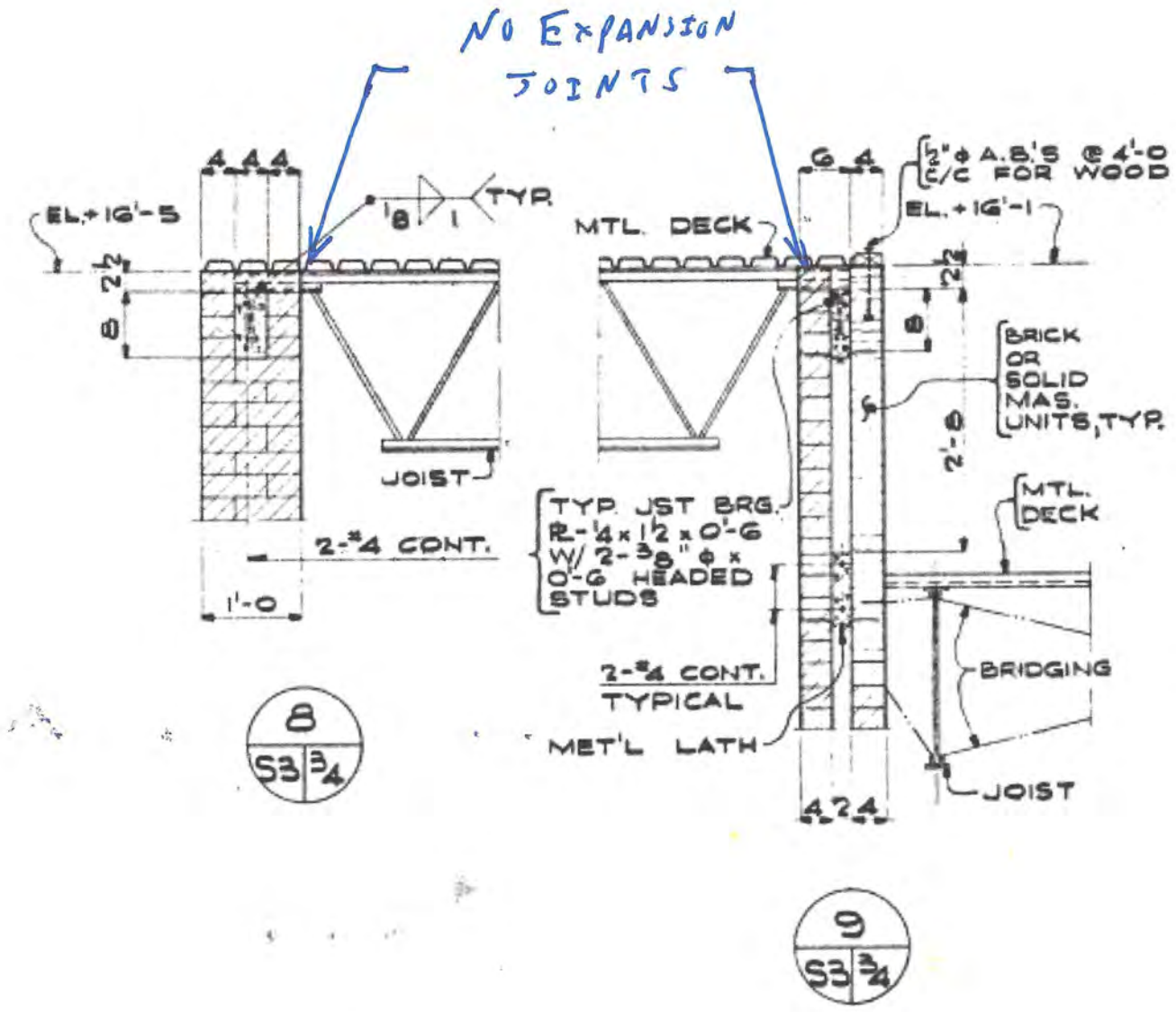


FIGURE 5

SECTION 8 + 9

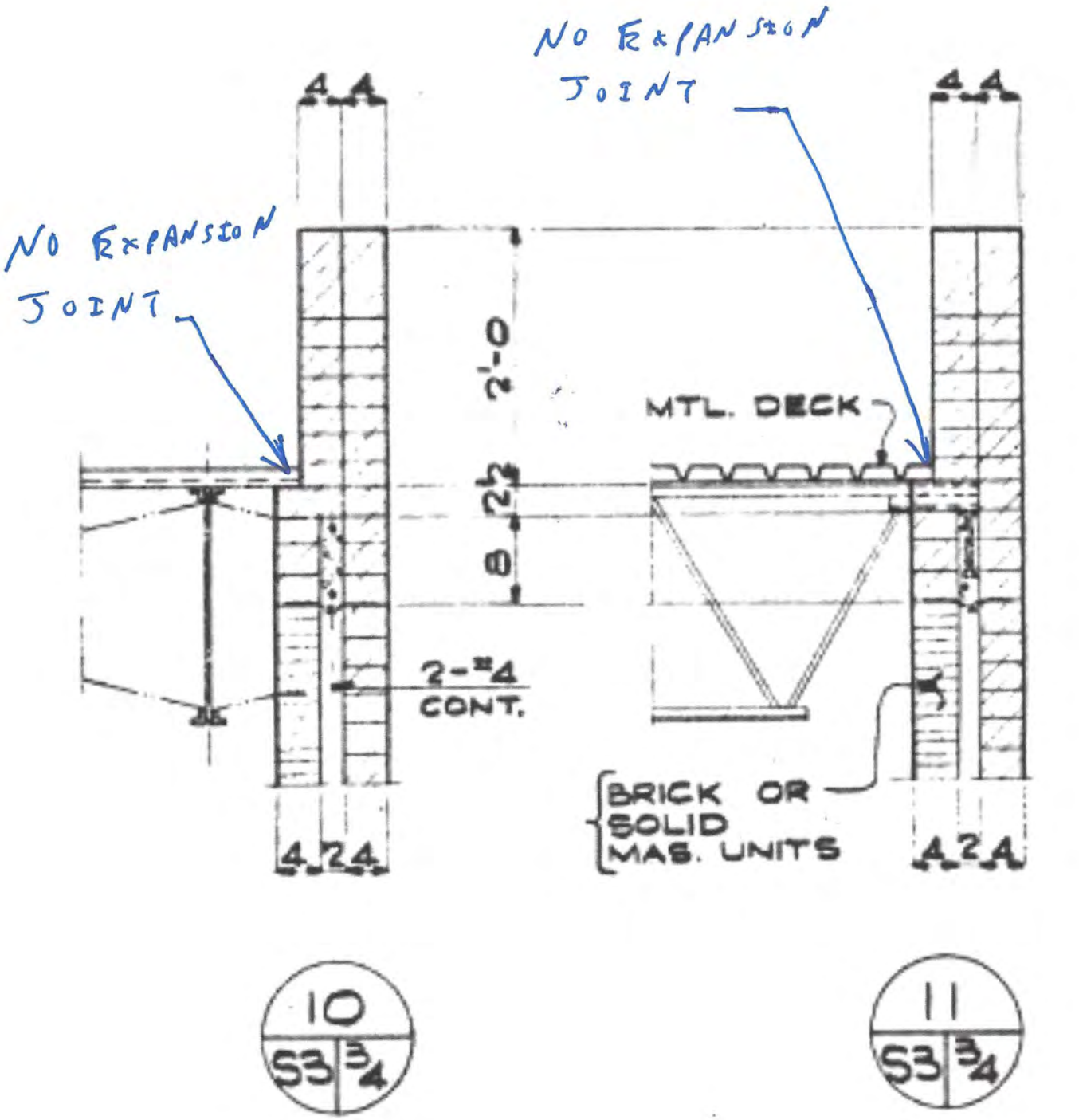
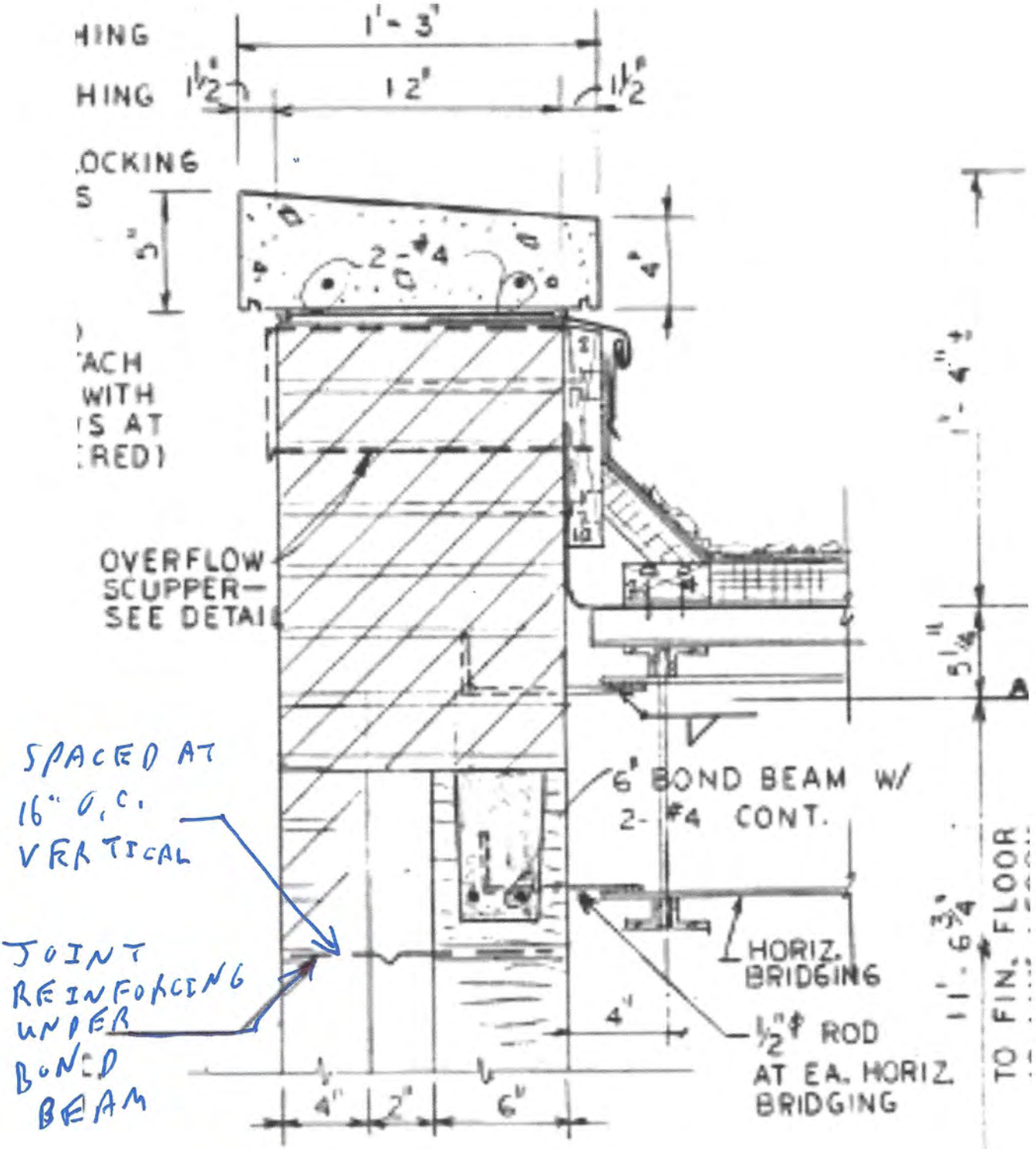


FIGURE 6

SECTION 10 & 11



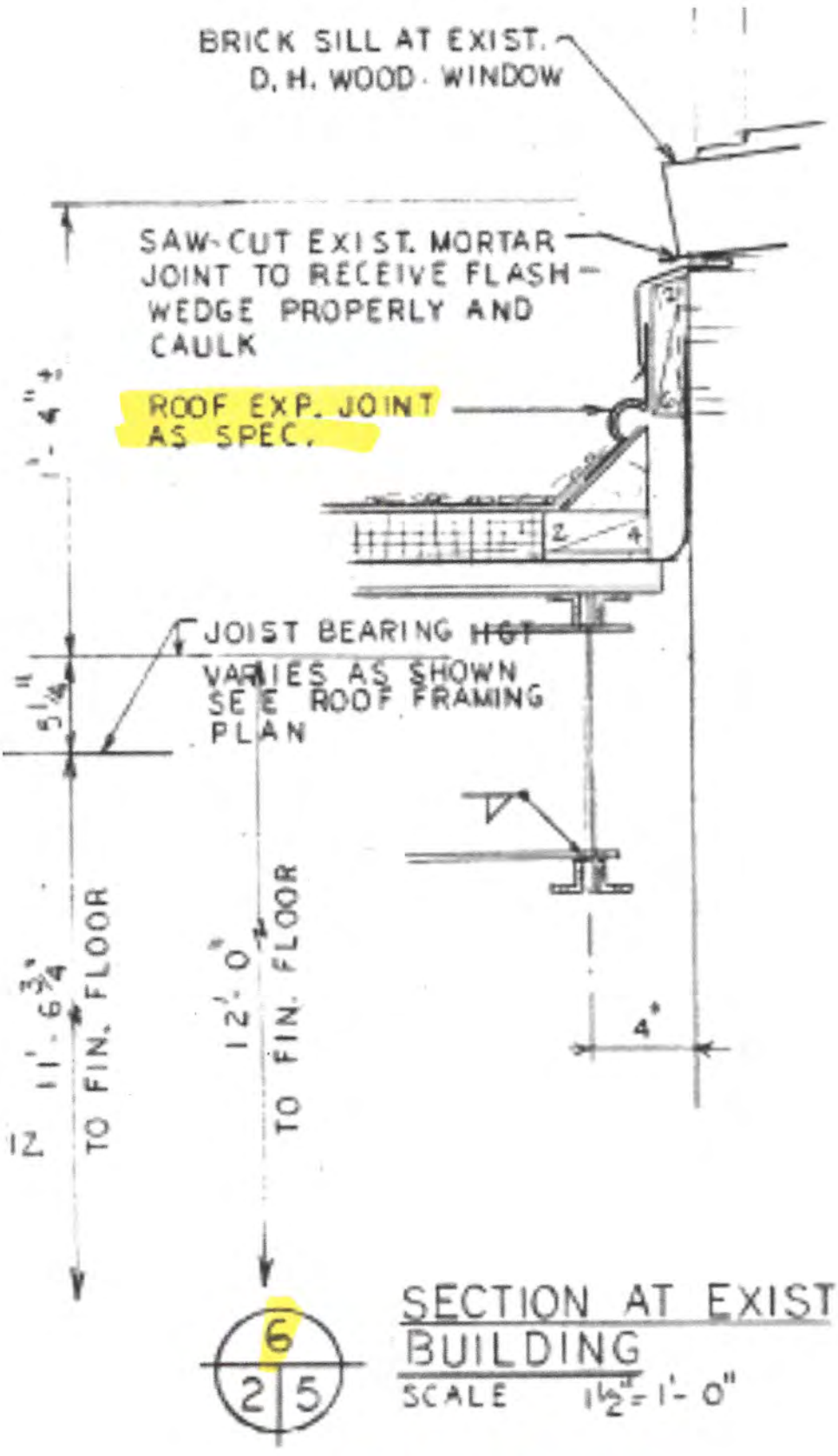
5
3 | 5

SECTION AT SIDE WALL—

SCALE 1½" = 1'-0"

FIGURE 7

SECTION 5



6
2 | 5

SECTION AT EXIST BUILDING
SCALE 1½" = 1'-0"

FIGURE 8

SECTION 6

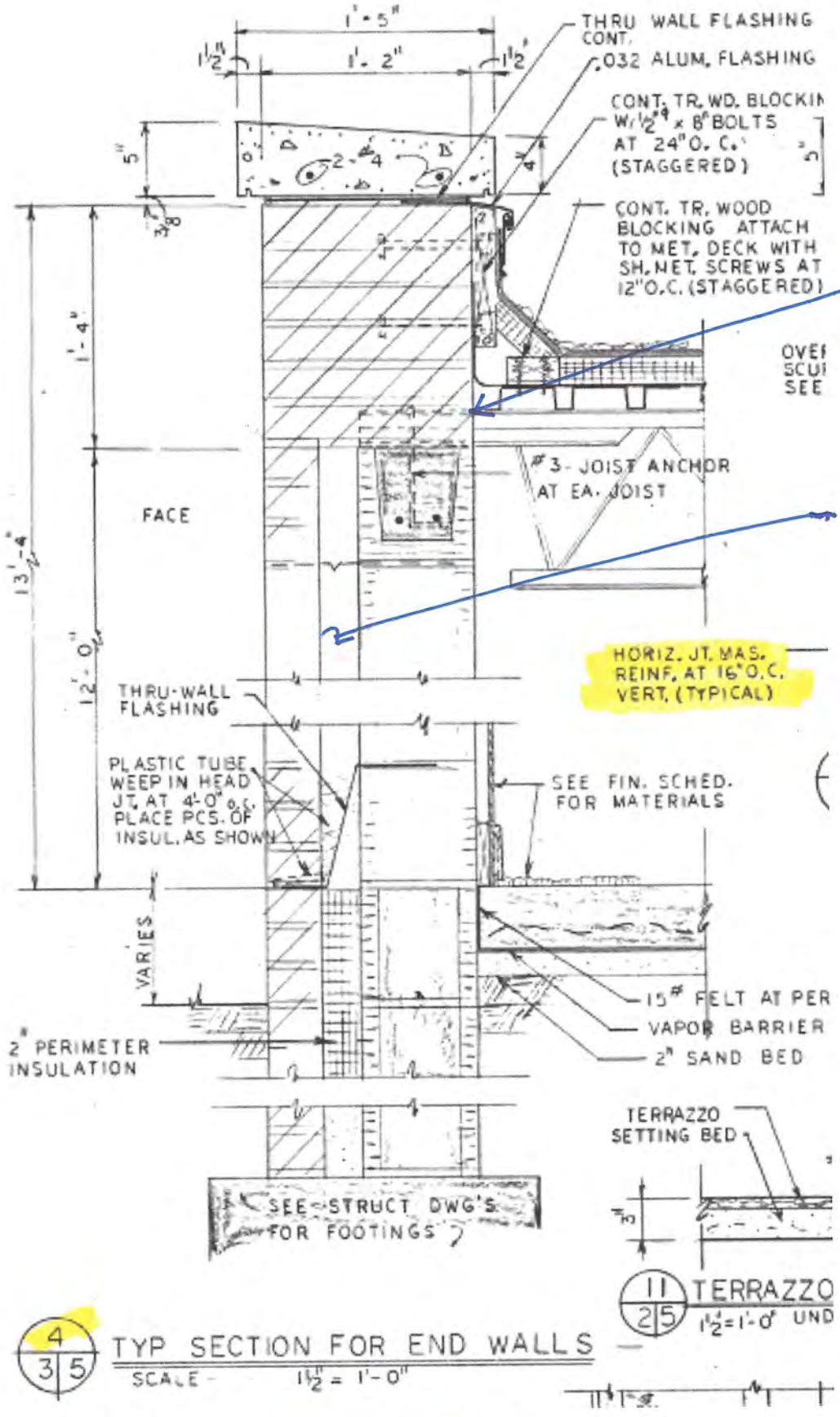
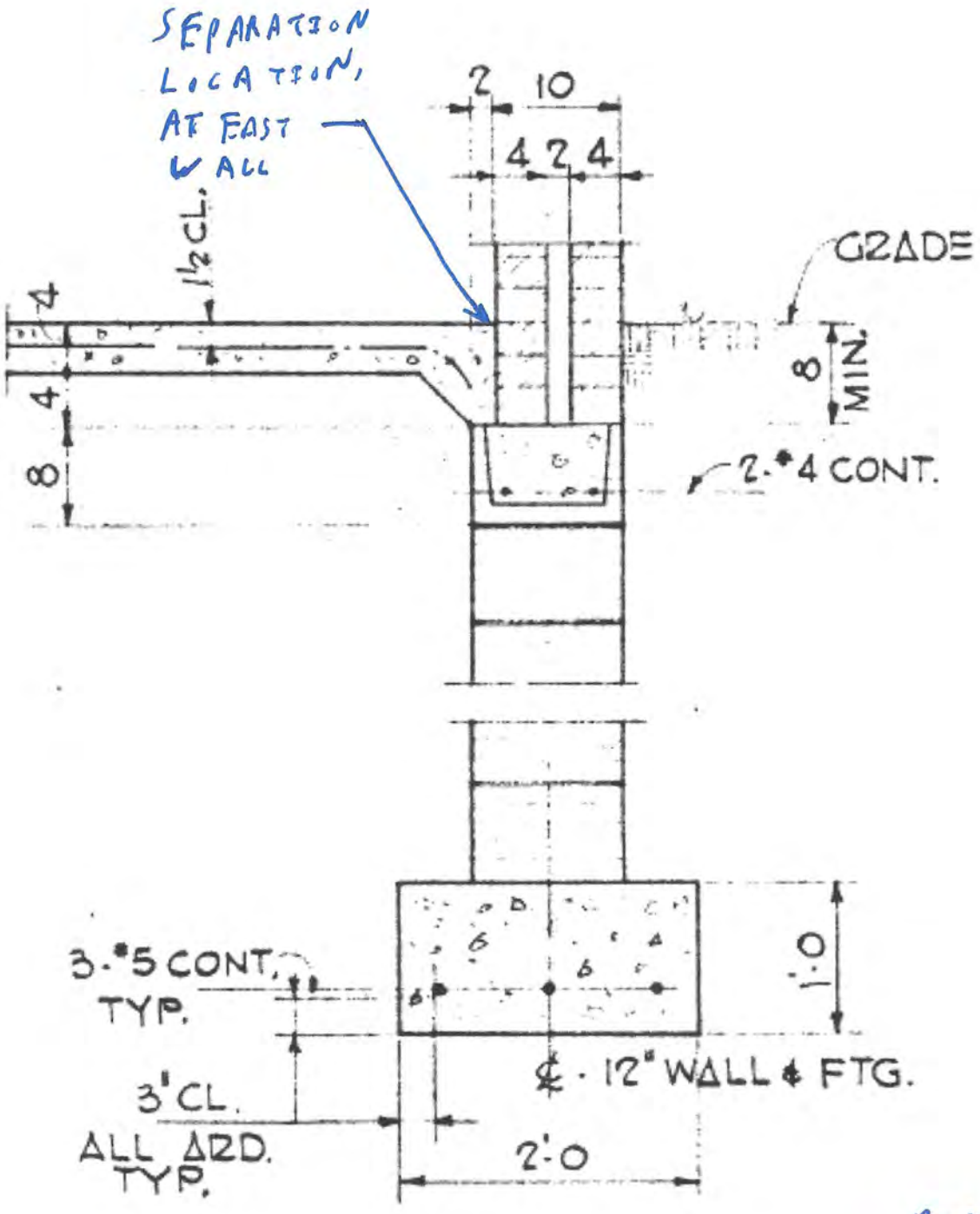


FIGURE 9

SECTION 4



(12) TYP. EXT. WALL FTG.

3/4" = 1'-0

PUBLIC SAFETY BUILDING

FIGURE 10

SECTION 12

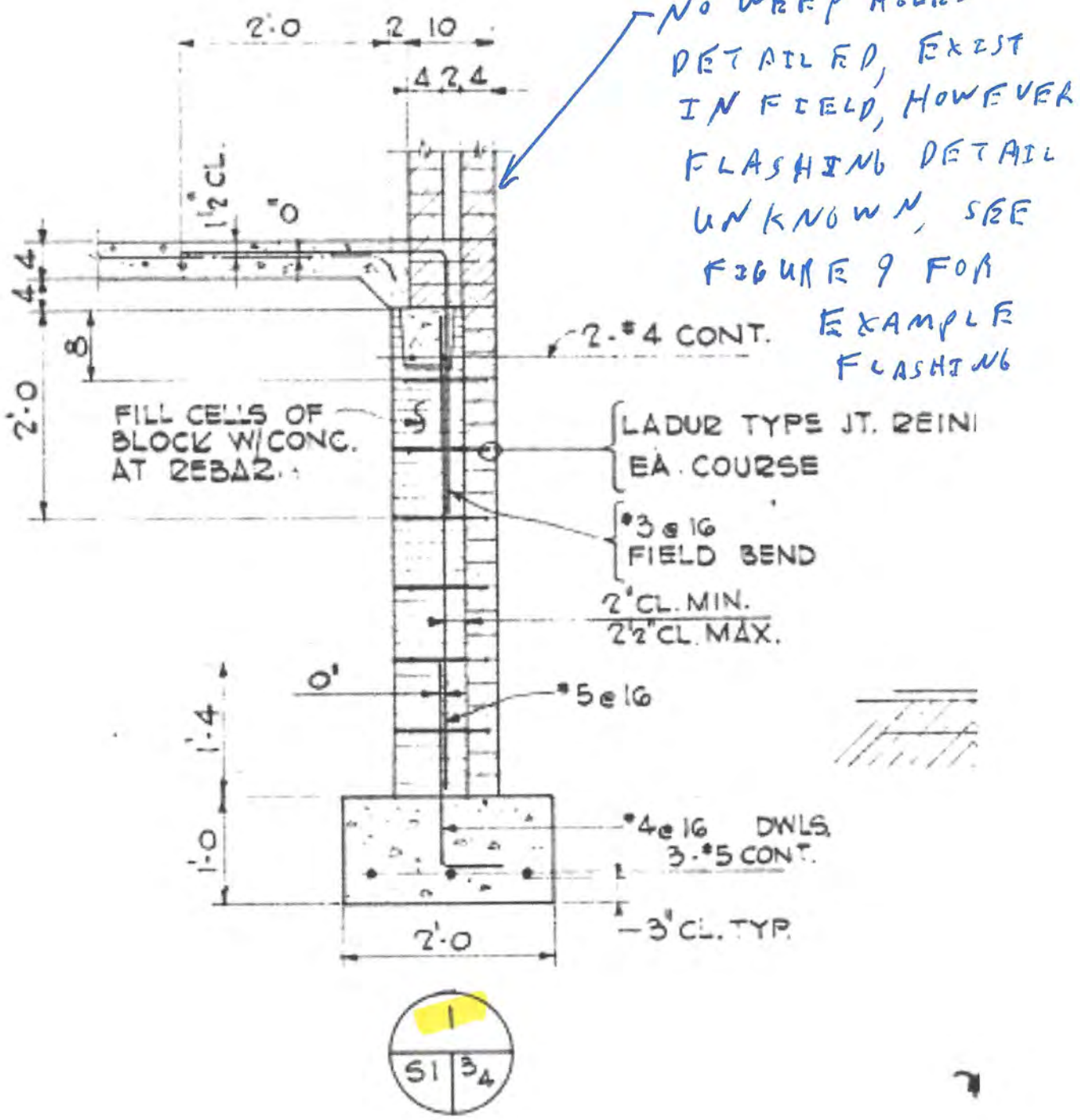


FIGURE 11

SECTION 1

- April 11, 2018: SE Alberto performed a second inspection and was able to determine the condition of the wire reinforcing ties between the walls without the need of invasive wall inspections.

CMA, PLLC
License No. P-1753

C. MICHAEL ALBERTO, III, P. E., PLLC

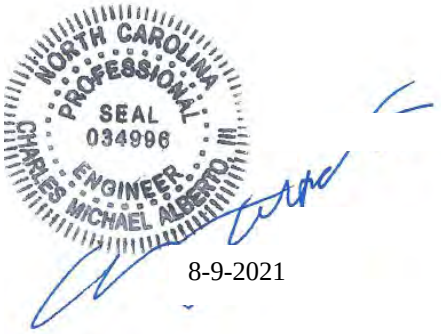
LICENSE NO. P-1753
PO Box 1269
Hickory, NC 28603
Physical Address:
216 2nd Street NW
Hickory, NC 28601

CIVIL ENGINEERING
STRUCTURAL ENGINEERING
SITE PLANNING
CONSTRUCTION CONSULTANT

PHONE 919-621-7667

cmichael.alberto@gmail.com

8-9-2021



8-9-2021

Chief Greg Stafford
Valdese Fire Department
21 Faet St SW
Valdese, NC 28690

RE: Corroded Reinforcement and Masonry Cracking at
Valdese Fire Department
21 Faet St SW
Valdese, NC 28690

Chief Stafford,

I have visited the site of the above referenced project a number of times since February 2018 and observed the cracked masonry and corroded ladder wire brick wythe reinforcing. The initial visits, in 2018, occurred on February 5th, April 11th, and December 14th. An initial inspection report was provided March 18th, 2018, which outlined general conclusions and recommendations on how to investigate and address the damage at the building. No destructive testing or removals were performed during the initial visit. For instance, the relatively newly repaired joints on the south face of the building were not probed.

I also assisted with remediation design for the existing building to mitigate interim risk and help meet the appropriate service structural capacity requirements in the interim between the time of concept design development and commissioning of a new Fire and Police Department Facility.

As such, I am familiar with the chronology and cause and effect of certain measures taken during the project. In particular, it is my understanding that there is some recent discussion regarding the cost effectiveness of rehabilitating the existing building and how it relates to certain steps taken during the discovery and concept design development of the project since February of 2018. I shall summarize my understanding of the project development to the best of my recollection.

Record Drawings for the building were provided to me circa March 2018, which I reviewed preceding the April visit. Additional non-invasive and invasive investigation recommendations in the initial report were intended to outline a potentially necessary path to verify the accuracy of record drawings and ascertain the required condition information for appropriate repairs. The follow up inspection in April was intended to further define the problem and to further investigate cracking in the engine bay concrete slab. For instance, the record drawings indicated that the Public Safety building walls consisted of a hollow cavity double wythe wall of 4" brick. Brick tie ladder reinforcing was indicated at 16" on center. During the April inspection I more thoroughly compared the reinforcing patterns indicated in the record drawings with mortar spalling and other defect patterns at the site. The records appeared to largely match the defect patterns at the site. For instance, the repaired mortar joints on the south face of the building are 16" on center.

Closer examination of the exterior mortar joints was also performed to include some minor mortar removal. The removal was almost effortless since the reinforcing corrosion had largely destroyed the mortar joints. Also, many of the joints already had mortar removed due to the same spalling which exposed what little was left of the reinforcing.

In my initial report dated March 18th 2018, I cover a range of recommendations to assess and address the structural issues at the building. The recommendations were written from the perspective I had at the time which only included a cursory inspection that did not include any destructive testing or removals.

The initial report recommended some limited wall brick removals intended to ascertain condition and as-built reinforcing spacing, sizes, etc. However, the subsequent minimally invasive efforts indicated that the records appeared correct and that the condition of the reinforcing was severe and in many cases one hundred percent corroded as viewed from the exterior of the building. Verbal discussion and recommendations were communicated between Chief Watts and I at the time. For instance, wall removals and other significantly invasive testing no longer appeared necessary or cost effective. Corrosion was obviously severe in every exposed wire case and the spacing clearly matched the record drawings. Additionally, it was clear that the walls were not equipped with much reinforcing to begin with, and severe corrosion of what little reinforcing was there in the first place was an obvious severe condition overall. It was reasonable to conclude the investigation at the time and move on to repair and replacement discussions and planning.

I maintained communication with the City of Valdese and the Fire and Police personnel at the building. For instance, communications revolved around what options appear to make sense to progress the situation to a long term and cost effective solution as well as how the building was behaving in the interim.

Circa December 2018, Chief Watts and Chief Moss requested that I make a site visit to evaluate the condition of some wall items that were uncovered by personnel at the site related to some water infiltration in the offices. For instance, some shelves and other such material were removed to better assess where the water might be coming from.

Once I conducted a subsequent, yet minimally invasive, investigation in December, it became even more abundantly clear that invasive testing no longer appeared important or cost effective. The reason is that some of the areas uncovered by Station personnel displayed obvious condition, spacing, etc. with minimal effort on mine or the station personnel's part on the interior walls of Public Safety Building. Photos 1 and 2 below depict the obvious conditions noted at the time of inspection in April and December 2018.

Photo 1 – Exterior Brick with Obvious Severe and often 100% Reinforcing Corrosion and Mortar Spalling

Photo 2 – 100% corroded wire reinforcing (examples were discovered in both Chief Watts office and the room adjacent to Chief Moss's office in December 2018)

In the later half of 2018 and early 2019, the remediation effort was firmly focused on alternative structures for either conversion to a Fire and Police facility, construction of a new facility, and/or remediation of the existing facility.

A few architectural consultants offered some additional insight to include commentary on the serviceability of other aspects of the structure. For instance, they noted that space was limited both concerning the offices and the engine bay and the mechanical, electrical, and communication systems were not up to contemporary standards, etc. They suggested a new facility be constructed in lieu of 100% remediation of the existing facility under the premise that structural repairs alone would not address the other shortcomings of the facility and, therefore, were not cost effective overall.

I tended to agree with them at the time, since their argument was rational and well founded. As I understand it, the town opted to pursue the alternative facility methodology, which based on all factors appeared to me to be a rational and appropriate decision.

Note that until such time a new facility is available or until such time structural repairs/shoring are implemented at the existing facility, I still recommend crack monitoring be installed. The intent of crack monitoring at this stage is no longer relevant to defining the obvious problem, but rather, to monitor the building and if the destabilizing crack rate may ever accelerate or if some minor to moderate event acutely opens the cracks wider. I still also think there is risk associated with operating the existing facility without any repairs or shoring. I think that comprehensive structural, mechanical, electrical, communication, and occupancy rehabilitation of the existing facility is not cost effective relative to commissioning a new facility, even when including the cost of interim shoring. As such, I recommend a new facility be commissioned as

soon as possible. However, based on the risk associated with operating the existing facility indefinitely as is, I also still recommend interim/temporary shoring repairs be implemented as soon as possible to mitigate that interim risk. A strong weather or seismic event in the interim could cause severe damage to the existing building if left unmitigated.

I can appreciate it if budgetary constraints make it difficult to consider interim repairs to a facility apparently and appropriately destine for abandonment. However, my recommendations still stand to mitigate interim risk as soon as possible to include temporary operational relocation if shoring is not installed or if the cracks worsen.

Feel free to call or email with any questions or if you wish to employ my services for follow up action concerning recommendations herein or previous documentation to date, installation of crack monitoring devices, or value engineering or alternative strengthening material for the existing shoring design.

THANK YOU,

C. MICHAEL ALBERTO, PE

- June 2018: Staff met with SCN multiple times to develop and review fire and police building's programming. Chief Watts spoke with Burke County Building Inspections and the NC Building Code Council Consultant. Their interpretation of the code was that all renovated areas had to be brought up to current building code requirements.

Stewart · Cooper · Newell Architects

Town of Valdese, NC Police Department

6/20/2018

Attendees: Chief Jack Moss, Ass. Chief James Buchanan, Jim Stumbo

	Current Size	Staff	Proposed Size	Space required	
Lobby	206		200	1	200
Public Restrooms Exist 1M, 1F -Proposed 1 Single)	45		64	1	64
Police Chief w/ Storage Closet, Small 4 Person Table	234	1	320	1	320
Assistant Chief / Detective	118	1	224	1	224
Task Force Office			100	1	100
Admin Asst / Records Manager	374		168	1	168
Receptionist / Admin Assistant			144	1	144
Work Room w/ Office Supply Storage			120	1	120
Records Storage - Plan for Future Movable File Sto			184	1	184
Records Archive	150		150	1	150
Secure Records			48	1	48
Investigations Detective			100	1	100
Secure Interview Room			80	1	80
Patrol Sargents	320	4	100	4	400
Patrol Room	200	6	266	1	266
Patrol Storage			48	1	48
Evidence Room	152		514	1	514
"Bag and Tag"					
Processing and ID					
General Evidence Storage					
Separate Narcotics, High Value and Weapons Evid Sto					
Found Property (NIC Bicycles)			100	1	100
Exterior Vehicle Impound Area (under Cover if available)					
Storage - Armory	92		150	1	150
Storage - Quartermaster	40		100	1	100
Storage - Program			36	1	36
Conference / Training Room (20)			400	1	400
Training Equipment Storage			36	1	36
Table /Chair Storage			36	1	36
Exercise Room			400	1	400
Male Toilet Room / Shower (2 fixtures, 1 Shower)			168	1	168
Male Locker Room (20)			13	20	260
Female Toilet Room / Shower (1 Fixture, 1 Shower)			100	1	100
Female Locker Room (4)			24	4	96
Server / IT / Telephone Room			120	1	120
Breakroom			168	1	168
Janitor's Closet with Storage			100	1	100
Mechanical			144	1	144
Electrical Room			80	1	80
Total Net Square Footage					**5,624**
Grossing Factor (Circulation, wall thickness, etc)			35%		1,968
Total Building Requirements	**approx 3,443**				**7,592**

Pojected Base Construction Costs	
Low range - New Construction Costs @ 350 $/sf	**2,657,340**
High range - New Construction Costs @ 400 $/sf	**3,036,960**

Total Staff	12		
Spaces highlighted may be ommitted in shared facility		626	6966

Stewart · Cooper · Newell Architects

Valdese Fire Department

draft ***06.12.18***

Headquarters Station

Attendees: Charlie Watts, Greg Stafford, Nick Reed, Jr., Ken Newell

FIRE VEHICLE BAYS	Size
Apparatus Bays (4) Pull through, Double Loaded (77'D x 78'W)	6006
Bay 1: (F) Engine 11 @ 31' & Antique Mack @ 22'	
Bay 2: (F) Engine 3 @ 29' & Utility 1 @ 22'	
Bay 3: (F) Ladder 1 @ 36'	
Bay 4: (F) Medic 1 @ 20' & Fire Marshal @ 20' & ATV Trailer @ 20'	
LED Lights throughout station	
Infra Red Gas Tube Heaters	
14x14 Full Glass Sectional Overhead Doors at Front and Steel Sectional Overhead Doors w/ Dbl. Row of View Panels	
Door controls located @ each door; @ entry to bay area, @ vehicle remotes	
Normal Built-In Bay Exhaust System	
Plymovent Exhaust System (future)	
HVLV (BigAss) Fans	
Electric Shorelines Junction Boxes (2 per Bay - 20A) - Cord Reels By Owner (BO)	
(2) Airlines (front and back wall)	
2 Spot Floor Drains per Bay	
Oil Separator is required by AHJ	
Normal Inside/Outside Hosebibbs	
2.5" Truck fill line - center of rear wall (Water by City)	
Concrete Floors with Mineral Aggregate Surface Hardener for strength & color	
Height Clearances to Tip Cabs everywhere	
Sprinkler Riser in Bays	
Turn-out Gear Room - (40) Gear Grid Style Turn-Out Lockers (B.O.)	520
Decon/Laundry Room: Dbl. Stainless Steel Sink w/ side boards - Emergency Shower/Eyewash - Floor Mop Sink	300
Oversized Decon "Shower Stall" - Extractor & Gear Dryer (cuts and equipment BO, installed By GC)	
Compressor Room: SCBA compressor (cuts BO) - storage racks for 12 bottles (BO) - Cascade System (BO)	220
(1) Ice Machine (BO); Tool air compressor (BO)	
EMS Storage Closet - HVAC	25
Bay Toilet	64
Tool Shop: 10' workbench (GC); shelving, (1) tool box & cabinets (BO)	150
Hose Room: Racks & Dryer (BO)	300
Outside Equipment Room: 8' OH Door to apron - 3' Door to Bay - Flammable Storage Cab.(BO) - Workbench	170
Mech./Training/Storage Mezzanine w/ steel stairs from bays	800
TOTAL FIRE VEHICLE BAY SQUARE FOOTAGE	**8555**

FIRE PUBLIC SPACES	Size
Lobby: 4 Seated Visitors	200
Vending Alcove for (2) machines and water cooler	48
Public Restroom - HC accessible	64
Report Room: 4 Built-in Workstations w/ pass window to Lobby - Base Radio & Chargers	200
Chief's Office (320 SF): Desk w/ return, 3 File Cabs., Book Case, 4p Conf Table, Closet, Toilet/Shower (120 SF)	440
Asst. Chief's Office: Desk, 3 File Cabs., 2 Visitor Chairs, Closet	180
Captain's Office: 1 Desk, 2 File Cabs, Closet	132
Fire Prevention Office: 1 Desk, 2 File Cabs, Book Case, 2 Visitor Chairs, Closet	236
Maintenance Office: Desk, 2 File Cabs., 2 Visitor Chairs, Closet	156
Training Room: Table & Chairs for 40p w/ Storage Closet plus Table & Chair Stor. Rm (100 sf.)	1222
Work/File Room: Base & Upper Cabinets - Counter tops - Copier - File Cabs., - Mailboxes	160
Staff Toilet	64
IT Closet	12
Janitor's Closet: Mop Sink and Shelving	64
TOTAL FIRE PUBLIC SPACES SQUARE FOOTAGE	**3178**

FIRE PRIVATE SPACES		Size
Dayroom: 6 people at recliners - TV - open to kitchen/dining		300
Kitchen/Dining with exterior door to Patio		450
1 Double Sink Deep & 1 HC Food Prep Sink	Solid Surface Countertops	
Disposal	Suppresion Hood Not Req'd.	
Gas Oven w/ 4 Burner Cooktop	4 Food Lockers	
1 Refrigerator/Freezer w/ Ice Maker	Wide Dining table for 6	
1 Countertop MW Oven	Dishwasher	
Connection for Bunn Coffee Machine		
Covered Outside Patio w/ low walls, gas grill connection, and 2 picnic tables ***(200 sf under cover)***		75
Individual Sleep Rooms - 1 bed; 4 lockers; 1 desk or night stand (6-@ 130 each) (wired for TV outlets)		780
Single Occupant Toilet/Shower Rooms - 1 tlt., 1 sink, 1 bench, 1 shower (3x5) (3 @ 120SF each)		360
Exercise Room: *(5)* workout stations - Equip. BO (wired for TV & DVD)		500
Laundry Rm / Linen: residential washer/dryer BO, tub sink, base & upper cabinets for linen and supply storage		100
Janitor's Closet: Mop Sink and Shelving		64
TOTAL FIRE PRIVATE SPACES SQUARE FOOTAGE		**2629**

Total Net Square Feet	**14362**
Mechanical / Circulation 40% not Including Apparatus Bays	3342
Grossing Factor Bays Only - 10%	601
Total Gross Square Feet	**18305**

Projected Base Construction Costs		
Low Range - New Construction Costs @ $325 / sf		**$5,949,125**
High Range - New Construction Costs @ $375 / sf		**$6,864,375**

SITE:

50' min. Concrete Aprons front and rear
All Apparatus Driveways to be heavy-duty asphalt
Asphalt Paving for non-Apparatus Circulation
On-site Fire Hydrant at rear of station (water by City)
Building Signage
3 flag poles w/ lighting
Conc. Filled Steel Bollards at Bay Doors
FD Parking: 20 car spaces plus 20 overflow grass spaces
Additional Parking for 1 visiting apparatus
Full Building Natural Gas Generator w/ screen wall
Roll-out Garbage Containers

GENERAL NOTES:

All gas appliances and equipment possible
Integral Corner Guards and Chair Rail Guards at Corridors
All furniture & equipment by owner Unless Noted Otherwise (UNO)
As many incorporated training scenarios as possible: confined space - ropes/rappelling - ground ladder evolutions - stokes basket - etc.

Potential Alternates:

Bi-fold Door at Front	est. $120,000
5th Apparatus Bay	est. $277,000

From: Watts, Charlie
Sent: Friday, June 8, 2018 8:48 AM
To: Eckard, Seth <seckard@valdesenc.gov>; Stafford, Greg <GStafford@valdesenc.gov>
Cc: smcbrayer@morganton.com <smcbrayer@morganton.com>
Subject: Renovations and the Building Code

Seth,

I spoke with the building inspector this morning regarding code requirements for renovations. I also contacted the N.C. Department of Insurance Building Code Council to confirm the following:

There have been some changes to the NC Building Code that will affect renovations differently than what previously was in place. At the present time, all renovations have to meet the current code requirements, but only the renovations, not the entire building. For example, if we just renovate the police department, only those renovations would have to meet the current code, not the entire building complex. If we **do not** renovate the fire department, no sprinklers or elevators would be required. But considering the entire building is in need of repair/renovations, I would think that we are still looking at sprinklers and elevators.

This will probably have to be decided by the Architect once final needs are determined and plans are drawn.

Charles Watts, Chief
Valdese Fire Department
121 Faet Street SW
Post Office Box 339
Valdese, North Carolina 28690
Phone: (828(879-2103
FAX: (828) 879-2106
Email: cwatts@valdesenc.gov

- August 2, 2018: A special Town Council meeting was called with SCN and SE Alberto reporting their findings.

Agenda
Timeline

Town of Valdese
Town Council Meeting
Valdese Town Hall
102 Massel Avenue SW, Valdese
Thursday, August 2, 2018
7:00 P.M.

1. **Call Meeting to Order**

2. **Public Safety Building Discussion**
   - **A. Structural Engineer Report**
   - **B. Presentation of Feasibility Study**

3. **Council Discussion and Questions**

4. **Adjournment**

Timeline

Agenda

CLIENT	Opinion of Probable Cost	DATE PREPARED	SHEET	OF
City of Valdese		Aug-18	1	8

ACTIVITY AND LOCATION	CONSTRUCTION CONTRACT NO.	IDENTIFICATION NUMBER
Valdese Public Safety Building Repairs (Option A and B) Valdese, NC	N/A	-
PROJECT TITLE	**ESTIMATED BY**	**CATEGORY CODE NUMBER**
Valdese Public Safety Building Temporary Shoring **City of Valdese**	Alberto, Michael	-
	STATUS OF DESIGN	**JOB ORDER NUMBER**
	Concept Design	-

ITEM DESCRIPTION	QUANTITY		MATERIAL AND EQUIPMENT COST		LABOR COST		ENGINEERING ESTIMATE	
	NUMBER	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL

OPTION A REPAIRS

SUMMARY

Mobilization, and Demobilization	**$122,000**
Selective Demolition	**$107,000**
Repair Construction	**$471,000**

TOTAL ESTIMATED COST FOR PUBLIC SAFETY BUILDING REPAIR OPTION A **Total** **$700,000**

OPTION B REPAIRS

SUMMARY

Mobilization, and Demobilization	**$243,000**
Selective Demolition	**$341,000**
Repair Construction	**$684,000**

TOTAL ESTIMATED COST FOR PUBLIC SAFETY BUILDING REPAIR OPTION B **Total** **$1,268,000**

Timeline

Agenda

CLIENT	Opinion of Probable Cost	DATE PREPARED	SHEET	OF
City of Valdese		Aug-18	2	8

ACTIVITY AND LOCATION	CONSTRUCTION CONTRACT NO.	IDENTIFICATION NUMBER
Valdese Public Safety Building Repairs (Option A and B) Valdese, NC	N/A	-
PROJECT TITLE	**ESTIMATED BY**	**CATEGORY CODE NUMBER**
Valdese Public Safety Building Temporary Shoring **City of Valdese**	Alberto, Michael	-
	STATUS OF DESIGN	**JOB ORDER NUMBER**
	Concept Design	-

ITEM DESCRIPTION	QUANTITY		MATERIAL AND EQUIPMENT COST		LABOR COST		ENGINEERING ESTIMATE	
	NUMBER	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
OPTION A - MOBILIZATION AND DEMOBILIZATION								
Contractor Equipment Labor and Materials	1	LS	$21,500.00	$21,500	$42,900.00	$42,900	$64,400.00	$64,400
			Sub-Total	$21,500		$42,900		$64,400
Insurance and Taxes	35.00%					$15,015		$15,015
Sales Tax (Texas)	6.25%			$1,343.75				$1,344
			Sub-Total	$22,843.75		$57,915		$80,759
Overhead and Profit (Materials)	15.00%			$3,426.56				$3,427
Overhead and Profit (Labor)	25.00%					$14,478.75		$14,479
Bonds	1.00%							$986.64
Construction Management and Supervision	2.00%							$1,993
Contingency	20.00%							$20,329
Total Opinion of Probable Cost				$26,270		$72,394		$121,972

TOTAL ESTIMATED COST MOBILIZATION - OPTION A **SAY:** **$122,000.00**

CLIENT	Opinion of Probable Cost	DATE PREPARED	SHEET	OF
City of Valdese		Aug-18	3	8

ACTIVITY AND LOCATION	CONSTRUCTION CONTRACT NO.	IDENTIFICATION NUMBER
Valdese Public Safety Building Repairs (Option A and B) Valdese, NC	N/A	-
PROJECT TITLE	**ESTIMATED BY**	**CATEGORY CODE NUMBER**
Valdese Public Safety Building Temporary Shoring **City of Valdese**	Alberto, Michael	-
	STATUS OF DESIGN Concept Design	**JOB ORDER NUMBER** -

ITEM DESCRIPTION	QUANTITY		MATERIAL AND EQUIPMENT COST		LABOR COST		ENGINEERING ESTIMATE	
	NUMBER	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
OPTION A - SELECTIVE DEMOLITION								
Selective Demolition and Conflict Resolution								
Remove Material Conflicts (Shelves, Electrical, Data, etc.)	1	LS	$5,000.00	$5,000	$30,000.00	$30,000	$35,000.00	$35,000
Miscellaneous Selctive Demolition	1	LS	$4,000.00	$4,000	$10,000.00	$10,000	$14,000.00	$14,000
Rubbish Handling and Disposal								
Rubbish Handling and Disposal	1	LS	$2,000.00	$2,000	$3,000.00	$3,000	$5,000.00	$5,000
			Sub-Total	$11,000		$43,000		$54,000
Insurance and Taxes	35.00%					$15,050		$15,050
Sales Tax (Texas)	6.25%			$687.50				$688
			Sub-Total	$11,687.50		$58,050		$69,738
Overhead and Profit (Materials)	15.00%			$1,753.13				$1,753
Overhead and Profit (Labor)	25.00%					$14,512.50		$14,513
Bonds	1.00%							$860.03
Construction Management and Supervision	2.00%							$1,737
Contingency	20.00%							$17,720
Total Opinion of Probable Cost				$13,441		$72,563		$106,321

TOTAL ESTIMATED COST FOR SELECTIVE DEMOLITION - OPTION A **SAY:** **$107,000.00**

CLIENT	Opinion of Probable Cost	DATE PREPARED	SHEET	OF
City of Valdese		Aug-18	4	8

ACTIVITY AND LOCATION	CONSTRUCTION CONTRACT NO.	IDENTIFICATION NUMBER
Valdese Public Safety Building Repairs (Option A and B) Valdese, NC	N/A	-
PROJECT TITLE	**ESTIMATED BY**	**CATEGORY CODE NUMBER**
Valdese Public Safety Building Temporary Shoring **City of Valdese**	Alberto, Michael	-
	STATUS OF DESIGN Concept Design	**JOB ORDER NUMBER** -

ITEM DESCRIPTION	QUANTITY		MATERIAL AND EQUIPMENT COST		LABOR COST		ENGINEERING ESTIMATE	
	NUMBER	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
OPTION A - REPAIR CONSTRUCTION								
Steel Moment Frame Assembly Office Wing								
5x5 HSS Steel Posts	672	LF	$60.62	$40,734	$8.36	$5,617	$68.97	$46,351
5x5 HSS Steel Bond Beam	189	LF	$60.62	$11,457	$8.36	$1,580	$68.97	$13,036
Pipe Sleeves	155	LF	$8.87	$1,376	$10.45	$1,622	$19.32	$2,999
Cap Plates and Miscellaneous Shapes	0.2	Ton	$4,550.00	$910	$1,000.00	$200	$5,550.00	$1,110
Welding	339	LF	$9.27	$3,144	$18.92	$6,417	$28.18	$9,561
High Performance Coating System	1317	SF	$4.50	$5,928	$3.96	$5,217	$8.46	$11,145
1" Dia. Galv. Steel Epoxy Dowel Anchor Bolts	216	EA	$29.08	$6,281	$31.90	$6,890	$60.98	$13,172
1" Dia. Galv. Steel Dome Head Through Bolts	95	EA	$29.08	$2,748	$31.90	$3,015	$60.98	$5,763
Steel Columns Engine Bay								
5x5 HSS Steel Posts	336	LF	$60.62	$20,367	$8.36	$2,808	$68.97	$23,175
Base Plates and Miscellaneous Shapes and Braces	0.4	Ton	$4,550.00	$1,820	$1,000.00	$400	$5,550.00	$2,220
Welding	96	LF	$9.27	$890	$18.92	$1,816	$28.18	$2,705
Coating System	514	SF	$2.25	$1,157	$2.64	$1,357	$4.89	$2,514
3/4" Dia. Galv. Steel Epoxy Dowel Anchor Bolts	144	EA	$18.30	$2,636	$28.05	$4,039	$46.35	$6,675
Interior Steel Straps								
Steel Straps (Alternate may be FRP or Timber Studs)	1455	LF	$6.75	$9,823	$1.00	$1,455	$7.75	$11,278
3/8" Dia. Galv. Steel Epoxy Dowel Anchor Bolts	728	EA	$4.58	$3,331	$7.01	$5,105	$11.59	$8,436
Exterior Finishing								
Exist Masonry Routing and Tuck Pointing	473	SF	$5.00	$2,363	$10.00	$4,725	$15.00	$7,088
Interior Wall Finishing and Reinstallations								
Fur Strips and Gypsum Board	2367	SF	$0.75	$1,775	$1.00	$2,367	$1.75	$4,142

CLIENT	Opinion of Probable Cost	DATE PREPARED	SHEET	OF
City of Valdese		Aug-18	5	8

ACTIVITY AND LOCATION	CONSTRUCTION CONTRACT NO.	IDENTIFICATION NUMBER
Valdese Public Safety Building Repairs (Option A and B) Valdese, NC	N/A	-
PROJECT TITLE	**ESTIMATED BY**	**CATEGORY CODE NUMBER**
Valdese Public Safety Building Temporary Shoring **City of Valdese**	Alberto, Michael	-
	STATUS OF DESIGN	**JOB ORDER NUMBER**
	Concept Design	-

ITEM DESCRIPTION	QUANTITY		MATERIAL AND EQUIPMENT COST		LABOR COST		ENGINEERING ESTIMATE	
	NUMBER	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
Equipment and Material Reinstallation	1	LS	$50,000.00	$50,000	$50,000.00	$50,000	$100,000.00	$100,000
			Sub-Total	$166,740		$104,630		$271,370
Insurance and Taxes	35.00%					$36,621		$36,621
Sales Tax (Texas)	6.25%			$10,421.25				$10,421
			Sub-Total	$177,161.17		$141,251		$318,412
Overhead and Profit (Materials)	15.00%			$26,574.18				$26,574
Overhead and Profit (Labor)	25.00%					$35,312.70		$35,313
Bonds	1.00%							$3,802.99
Construction Management and Supervision	2.00%							$7,682
Contingency	20.00%							$78,357
Total Opinion of Probable Cost				$203,735		$176,563		$470,141

TOTAL ESTIMATED COST FOR REPAIR CONSTRUCTION - OPTION A **SAY:** **$471,000.00**

CLIENT	Opinion of Probable Cost	DATE PREPARED	SHEET	OF
City of Valdese		Aug-18	6	8

ACTIVITY AND LOCATION	CONSTRUCTION CONTRACT NO.	IDENTIFICATION NUMBER
Valdese Public Safety Building Repairs (Option A and B) Valdese, NC	N/A	-
PROJECT TITLE	**ESTIMATED BY**	**CATEGORY CODE NUMBER**
Valdese Public Safety Building Temporary Shoring **City of Valdese**	Alberto, Michael	-
	STATUS OF DESIGN	**JOB ORDER NUMBER**
	Concept Design	-

ITEM DESCRIPTION	QUANTITY		MATERIAL AND EQUIPMENT COST		LABOR COST		ENGINEERING ESTIMATE	
	NUMBER	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
OPTION B - MOBILIZATION AND DEMOBILIZATION								
Contractor Equipment Labor and Materials	1	LS	$38,000.00	$38,000	$76,000.00	$76,000	$114,000.00	$114,000
			Sub-Total	$38,000		$76,000		$114,000
Insurance and Taxes	35.00%					$26,600		$26,600
Sales Tax (Texas)	6.25%			$2,375.00				$2,375
			Sub-Total	$40,375.00		$102,600		$142,975
Overhead and Profit (Materials)	15.00%			$6,056.25				$6,056
Overhead and Profit (Labor)	25.00%					$25,650.00		$25,650
Bonds	1.00%							$1,746.81
Construction Management and Supervision	2.00%							$3,529
Contingency	35.00%							$62,985
Total Opinion of Probable Cost				$46,431		$128,250		$242,941

TOTAL ESTIMATED COST MOBILIZATION - OPTION B **SAY:** **$243,000.00**

CLIENT	Opinion of Probable Cost	DATE PREPARED	SHEET	OF
City of Valdese		Aug-18	7	8

ACTIVITY AND LOCATION	CONSTRUCTION CONTRACT NO.	IDENTIFICATION NUMBER
Valdese Public Safety Building Repairs (Option A and B) Valdese, NC	N/A	-
PROJECT TITLE	**ESTIMATED BY**	**CATEGORY CODE NUMBER**
Valdese Public Safety Building Temporary Shoring **City of Valdese**	Alberto, Michael	-
	STATUS OF DESIGN Concept Design	**JOB ORDER NUMBER** -

ITEM DESCRIPTION	QUANTITY		MATERIAL AND EQUIPMENT COST		LABOR COST		ENGINEERING ESTIMATE	
	NUMBER	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
OPTION B - SELECTIVE DEMOLITION								
Selective Demolition and Conflict Resolution								
Remove Material Conflicts (Shelves, Electrical, Data, etc.)	1	LS	$5,000.00	$5,000	$30,000.00	$30,000	$35,000.00	$35,000
Miscellaneous Selctive Demolition	1	LS	$4,000.00	$4,000	$10,000.00	$10,000	$14,000.00	$14,000
Double Wythe Cavity Wall Demolition	3661	SF	$1.50	$5,491	$3.00	$10,982	$4.50	$16,473
Rubbish Handling and Disposal								
Rubbish Handling and Disposal	123	CY	$250.00	$30,735	$500.00	$61,471	$750.00	$92,206
			Sub-Total	$45,226		$112,453		$157,679
Insurance and Taxes	35.00%					$39,359		$39,359
Sales Tax (Texas)	6.25%			$2,826.65				$2,827
			Sub-Total	$48,053.13		$151,811		$199,865
Overhead and Profit (Materials)	15.00%			$7,207.97				$7,208
Overhead and Profit (Labor)	25.00%					$37,952.87		$37,953
Bonds	1.00%							$2,450.25
Construction Management and Supervision	2.00%							$4,950
Contingency	35.00%							$88,349
Total Opinion of Probable Cost				$55,261		$189,764		$340,774

TOTAL ESTIMATED COST FOR SELECTIVE DEMOLITION - OPTION B **SAY:** **$341,000.00**

CLIENT	Opinion of Probable Cost	DATE PREPARED	SHEET	OF
City of Valdese		Aug-18	8	8

ACTIVITY AND LOCATION	CONSTRUCTION CONTRACT NO.	IDENTIFICATION NUMBER
Valdese Public Safety Building Repairs (Option A and B) Valdese, NC	N/A	-
PROJECT TITLE	**ESTIMATED BY**	**CATEGORY CODE NUMBER**
Valdese Public Safety Building Temporary Shoring **City of Valdese**	Alberto, Michael	-
	STATUS OF DESIGN	**JOB ORDER NUMBER**
	Concept Design	-

ITEM DESCRIPTION	QUANTITY		MATERIAL AND EQUIPMENT COST		LABOR COST		ENGINEERING ESTIMATE	
	NUMBER	UNIT	UNIT COST	TOTAL	UNIT COST	TOTAL	UNIT COST	TOTAL
OPTION B - REPAIR CONSTRUCTION								
Steel Moment Frame Assembly Office Wing								
6x6 HSS Steel Posts	304	LF	$74.48	$22,642	$10.27	$3,122	$84.75	$25,764
Base Plates and Miscellaneous Shapes	1.5	Ton	$4,550.00	$6,825	$1,000.00	$1,500	$5,550.00	$8,325
Welding	115	LF	$9.27	$1,067	$18.92	$2,179	$28.18	$3,246
Coating System	568	SF	$2.25	$1,279	$2.64	$1,501	$4.89	$2,780
3/4" Dia. Galv. Steel Epoxy Dowel Anchor Bolts	336	EA	$18.30	$6,150	$28.05	$9,425	$46.35	$15,575
Steel Columns Engine Bay								
5x5 HSS Steel Posts	336	LF	$60.62	$20,367	$8.36	$2,808	$68.97	$23,175
Base Plates and Miscellaneous Shapes and Braces	0.6	Ton	$4,550.00	$2,730	$1,000.00	$600	$5,550.00	$3,330
Welding	96	LF	$9.27	$890	$18.92	$1,816	$28.18	$2,705
Coating System	514	SF	$2.25	$1,157	$2.64	$1,357	$4.89	$2,514
3/4" Dia. Galv. Steel Epoxy Dowel Anchor Bolts	144	EA	$18.30	$2,636	$28.05	$4,039	$46.35	$6,675
Exterior Finishing								
New Masonry Façade (Ties, Flashing, Caps, Weeps, etc.)	4580	SF	$6.00	$27,480	$11.00	$50,380	$17.00	$77,860
Interior Wall Finishing and Reinstallations								
2x8 Stud Wall	3902	LF	$4.50	$17,560	$3.00	$11,707	$7.50	$29,267
Structural Sheathing	3661	SF	$2.50	$9,152	$1.50	$5,491	$4.00	$14,643
Water Resistant Barriers (WRB)	3661	SF	$1.25	$4,576	$1.50	$5,491	$2.75	$10,067
Batt Insulation	3661	SF	$1.25	$4,576	$1.25	$4,576	$2.50	$9,152
Gypsum Board	3661	SF	$0.75	$2,746	$1.00	$3,661	$1.75	$6,406
Equipment and Material Reinstallation	1	LS	$50,000.00	$50,000	$50,000.00	$50,000	$100,000.00	$100,000
			Sub-Total	$181,833		$159,653		$341,486
Insurance and Taxes	35.00%					$55,879		$55,879
Sales Tax (Texas)	6.25%			$11,364.55				$11,365
			Sub-Total	$193,197.37		$215,532		$408,729
Overhead and Profit (Materials)	15.00%			$28,979.61				$28,980
Overhead and Profit (Labor)	25.00%					$53,882.91		$53,883
Bonds	1.00%							$4,915.92
Construction Management and Supervision	2.00%							$9,930
Contingency	35.00%							$177,253
Total Opinion of Probable Cost				$222,177		$269,415		$683,691

TOTAL ESTIMATED COST FOR REPAIR CONSTRUCTION - OPTION B **SAY:** **$684,000.00**

Timeline

Police and Fire Departments Study
Public Information Meeting

August 2, 2018

Stewart · Cooper · Newell
Architects

Facility Needs

Timeline

Stewart Cooper Newell Architects

Valdese Fire Department

Headquarters Station — 06.12.18

Attendees: Charlie Watts, Greg Stafford, Nick Reed, Jr., Ken Newell

FIRE VEHICLE BAYS	Size
Apparatus Bays (4) Pull through, Double Loaded (77'D x 78'W)	6006
Bay 1: (F) Engine 11 @ 31' & Antique Mack @ 22'	
Bay 2: (F) Engine 3 @ 29' & Utility 1 @ 22'	
Bay 3: (F) Ladder 1 @ 36'	
Bay 4: (F) Medic 1 @ 20' & Fire Marshal @ 20' & ATV Trailer @ 20'	
LED Lights throughout station	
Infra Red Gas Tube Heaters	
14x14 Full Glass Sectional Overhead Doors at Front and Steel Sectional Overhead Doors w/ Dbl. Row of View Panels	
Door controls located @ each door, @ entry to bay area, @ vehicle remotes	
Normal Built-in Bay Exhaust System	
Plymovent Exhaust System (future)	
HVLV (BigAss) Fans	
Electric Shorelines Junction Boxes (2 per Bay - 20A) - Cord Reels By Owner (BO)	
(2) Airlines (front and back wall)	
2 Spot Floor Drains per Bay	
Oil Separator is required by AHJ	
Normal Inside/Outside Hosebibbs	
2.5" Truck fill line - center of rear wall (Water by City)	
Concrete Floors with Mineral Aggregate Surface Hardener for strength & color	
Height Clearances to Tip Cabs everywhere	
Sprinkler Riser in Bays	
Turn-out Gear Room - (40) Gear Grid Style Turn-Out Lockers (B.O.)	520
Decon/Laundry Room: Dbl. Stainless Steel Sink w/ side boards - Emergency Shower/Eyewash - Floor Mop Sink	300
Oversized Decon "Shower Stall" - Extractor & Gear Dryer (cuts and equipment BO, installed By GC)	
Compressor Room: SCBA compressor (cuts BO) - storage racks for 12 bottles (BO) - Cascade System (BO)	220
(1) Ice Machine (BO); Tool air compressor (BO)	
EMS Storage Closet - HVAC	25
Bay Toilet	64
Tool Shop: 10' workbench (GC); shelving, (1) tool box & cabinets (BO)	150
Hose Room: Racks & Dryer (BO)	300
Outside Equipment Room: 8' OH Door to apron - 3' Door to Bay - Flammable Storage Cab (BO) - Workbench	170
Mech./Training/Storage Mezzanine w/ steel stairs from bays	800
TOTAL FIRE VEHICLE BAY SQUARE FOOTAGE	8555

	Size
	200
	48
	64
	200
	440
	180
	132
	236
	156
	1222
	160
	64
	12
	64
	3178

	Size
	300
	450
	75
	780
	360
	500
	100
	64
	2629

		14362
		3342
		601
		18305

		$5,949,125
		$6,864,375

Fire Department: 18,305 sf

Stewart Cooper Newell Architects

Town of Valdese, NC Police Department

6/20/2018

Attendees: Chief Jack Moss, Ass. Chief James Buchanan, Jim Stumbo

	Current Size	Staff	Proposed Size	Space required	
Lobby	206		200	1	200
Public Restrooms-Exist 1M, 1F--Proposed 1 Single)	45		64	1	64
Police Chief w/ Storage Closet; Small 4 Person Table	234	1	320	1	320
Assistant Chief / Detective	110	1	224	1	224
Task Force Office			100	1	100
Admin Asst / Records Manager	374		168	1	168
Receptionist / Admin Assistant			144	1	144
Work Room w/ Office Supply Storage			120	1	120
Records Storage - Plan for Future Movable File Sto			184	1	184
Records Archive	150		150	1	150
Secure Records			48	1	48
Investigations Detective			100	1	100
Secure Interview Room			80	1	80
Patrol Sargents	320	4	100	4	400
Patrol Room	200	6	260	1	260
Patrol Storage			48	1	48
Evidence Room	152		514	1	514
"Bag and Tag"					
Processing and ID					
General Evidence Storage					
Separate Narcotics, High Value and Weapons Evid Sto					
Found Property (NIC Bicycles)			100	1	100
Exterior Vehicle Impound Area (under Cover if available)					
Storage - Armory	92		150	1	150
Storage - Quartermaster	48		100	1	100
Storage - Program			36	1	36
Conference / Training Room (20)			400	1	400
Training Equipment Storage			36	1	36
Table /Chair Storage			36	1	36
Exercise Room			400	1	400
Male Toilet Room / Shower (2 fixtures, 1 Shower)			168	1	168
Male Locker Room (20)			13	20	260
Female Toilet Room / Shower (1 Fixture, 1 Shower)			100	1	100
Female Locker Room (4)			24	4	96
Server / IT / Telephone Room			120	1	120
Breakroom			168	1	168
Janitor's Closet with Storage			100	1	100
Mechanical			144	1	144
Electrical Room			80	1	80
Total Net Square Footage					5,626
Grossing Factor (Circulation, wall thickness, etc)			35%		1,966
Total Building Requirements	approx 3,443				7,592

Pojected Base Construction Costs	
Low range - New Construction Costs @ 350 $/sf	**2,657,340**
High range - New Construction Costs @ 400 $/sf	**3,036,960**

Total Staff	17		
Spaces highlighted may be ommitted in shared facility		726	5966

Police Department: 7,592 sf

Timeline

Options

Public Safety Facility

3 Options

Fire Department

3 Options

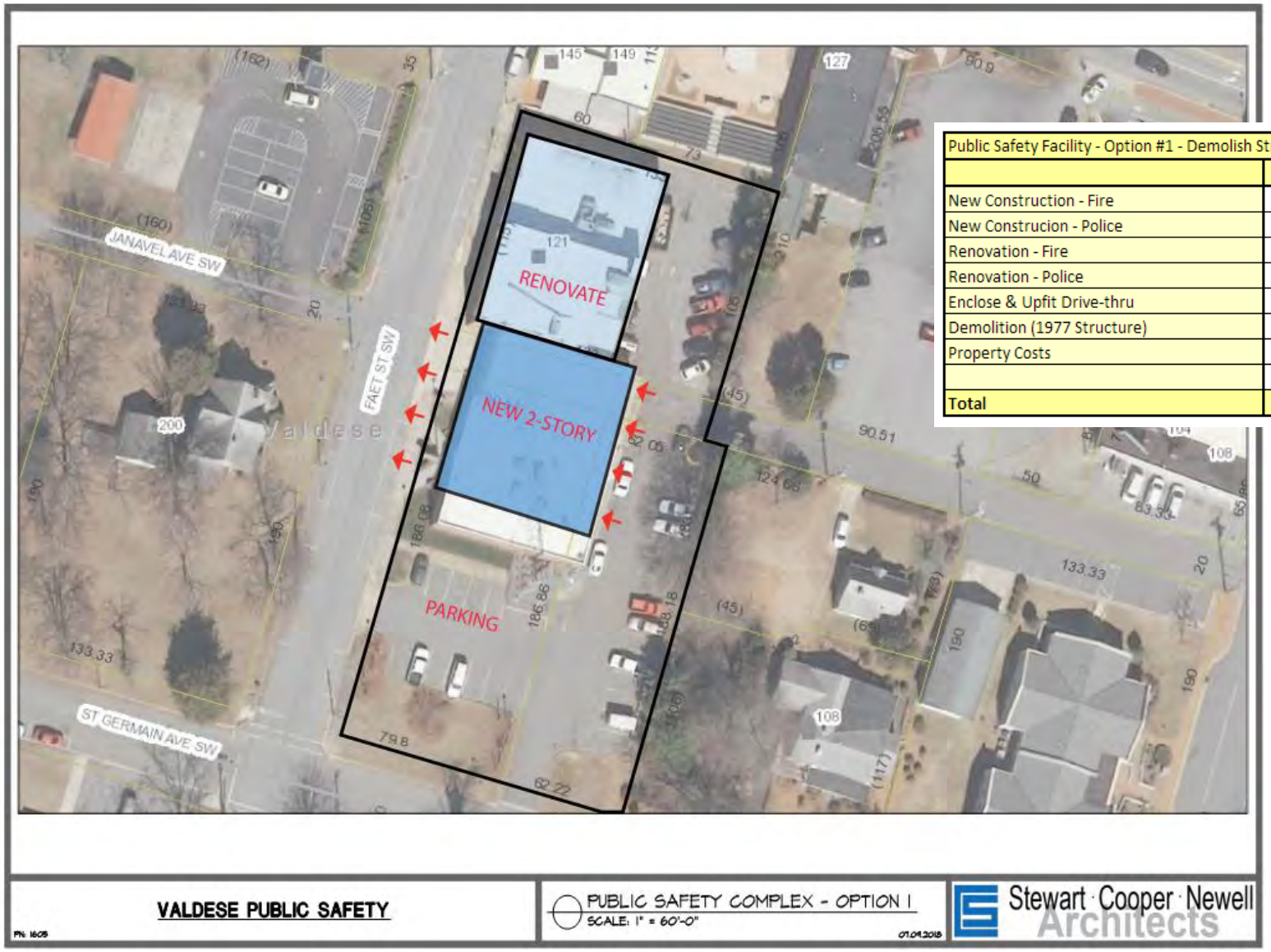
Police Department

4 Options

Public Safety Facility – Option #1

(Combined Fire and Police Facility)

Timeline

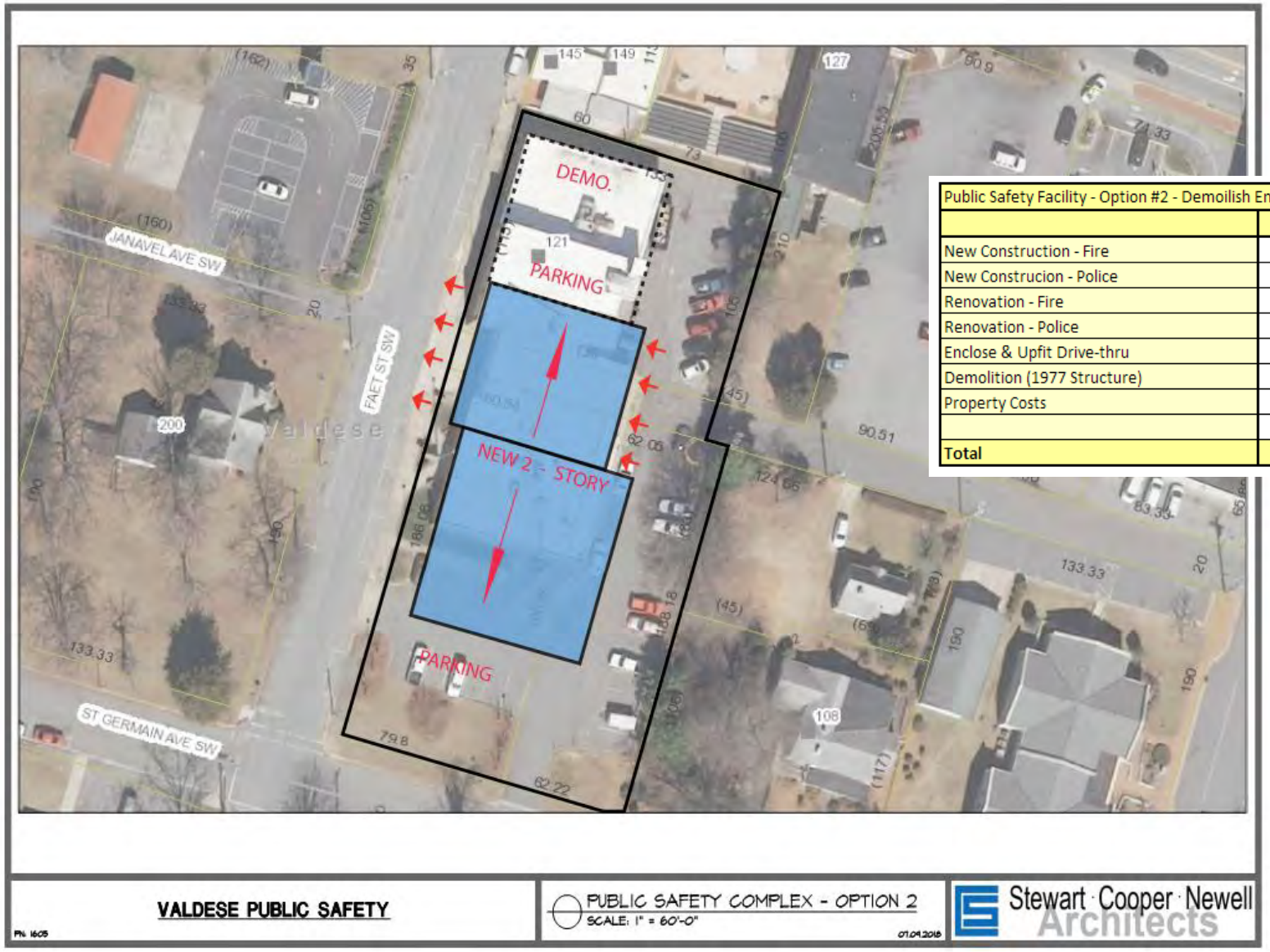


Public Safety Facility - Option #1 - Demolish Structural Unsound Portion of Exist Facility , Renovate Remaining plus New Addition			
		Sq.Ft.	Costs
New Construction - Fire	375	15,475	5,803,125
New Construcion - Police	400		
Renovation - Fire	175	2,830	495,250
Renovation - Police	200	7,592	1,518,400
Enclose & Upfit Drive-thru	200		
Demolition (1977 Structure)	4.05	7,326	29,670
Property Costs			0
Total			**7,846,445**

Timeline

Public Safety Facility – Option #2

(Combined Fire and Police Facility)



Public Safety Facility - Option #2 - Demoilish Entire Existing Facility, Build New on Exist Site			
		Sq.Ft.	Costs
New Construction - Fire	375	18,305	6,864,375
New Construcion - Police	400	7,592	3,036,800
Renovation - Fire	175		
Renovation - Police	200		
Enclose & Upfit Drive-thru	200		
Demolition (1977 Structure)	4.05	17,748	71,879
Property Costs			0
Total			**9,973,054**

Timeline

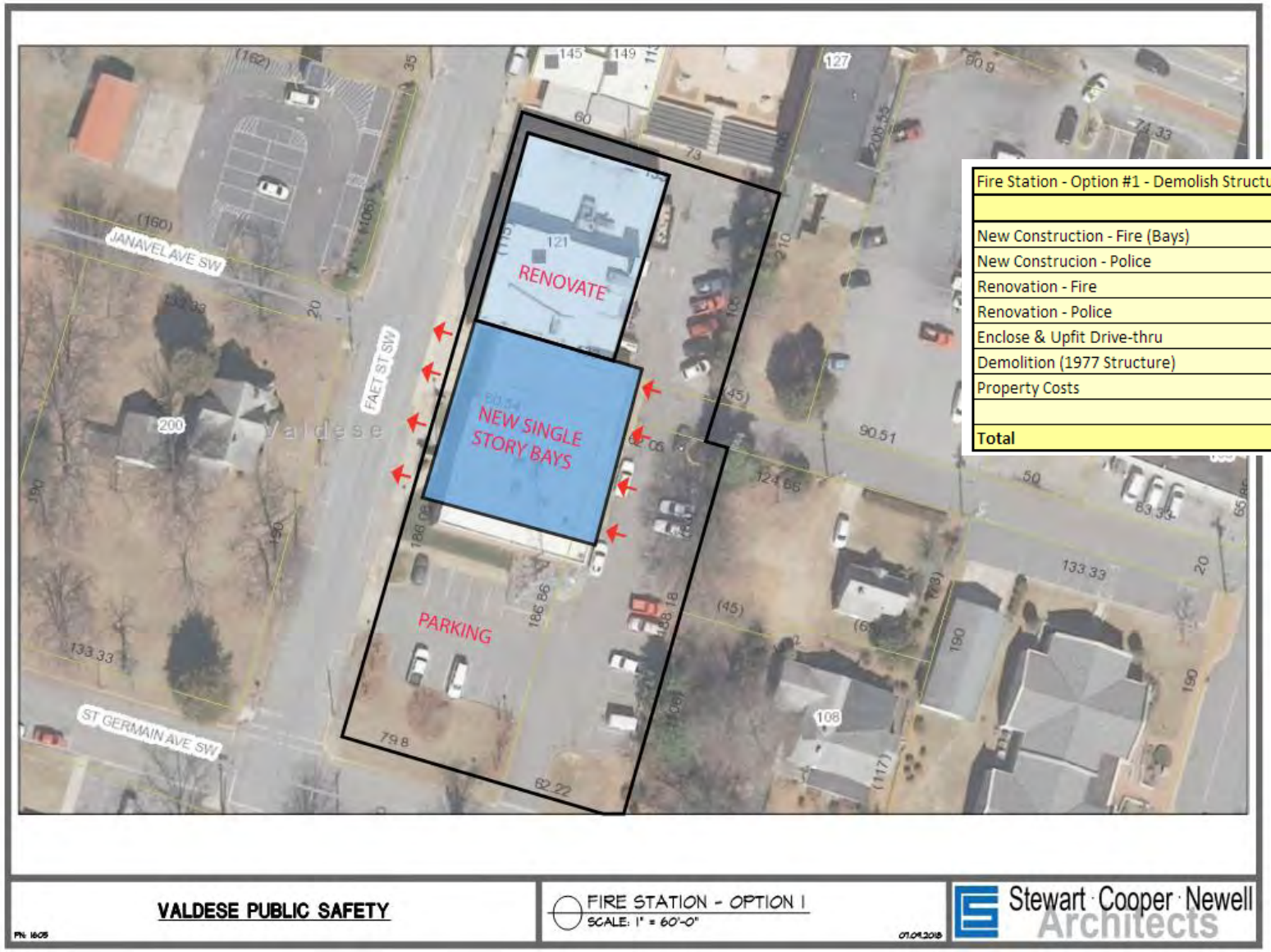
Public Safety Facility – Option #3

(Combined Fire and Police Facility)

Public Safety Facility - Option #3 - Build New on New Unknown Site			
		Sq.Ft.	**Costs**
New Construction - Fire	375	18,305	6,864,375
New Construcion - Police	400	7,592	3,036,800
Renovation - Fire	175		
Renovation - Police	200		
Enclose & Upfit Drive-thru	200		
Demolition (1977 Structure)	4.05		
Property Costs			Unknown
Total		**25,897**	**9,901,175**

Timeline

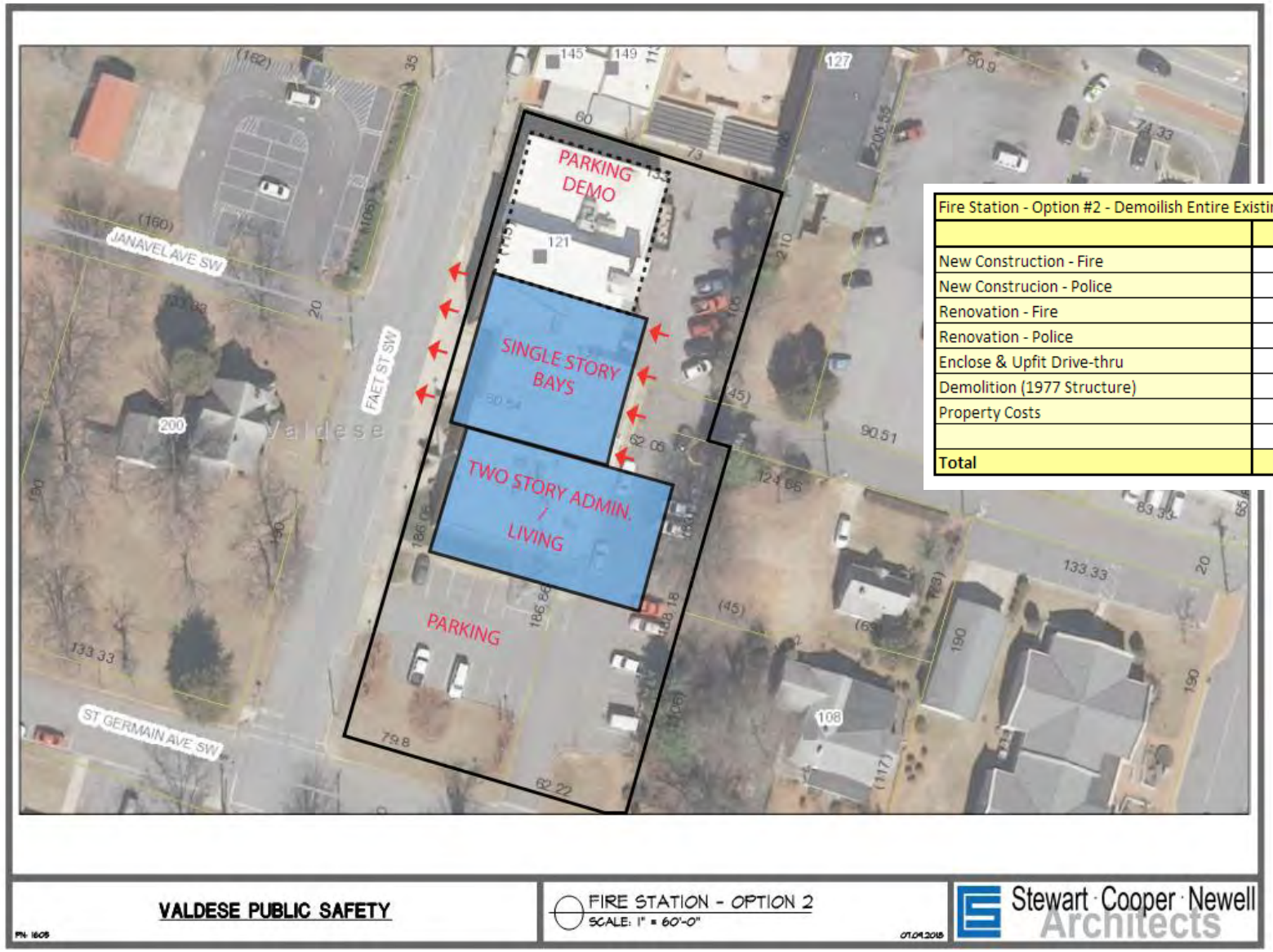
Fire Station – Option #1



Fire Station - Option #1 - Demolish Structural Unsound Portion of Exist Facility , Renovate Remaining plus New Addition			
		Sq.Ft.	Costs
New Construction - Fire (Bays)	325	9,410	3,058,250
New Construcion - Police	400		
Renovation - Fire	175	8,895	1,556,625
Renovation - Police	200		
Enclose & Upfit Drive-thru	200		
Demolition (1977 Structure)	4.05	7,326	29,670
Property Costs			0
Total		**25,631**	**4,644,545**

Timeline

Fire Station – Option #2



Fire Station - Option #2 - Demoilish Entire Existing Facility, Build New on Exist Site			
		Sq.Ft.	Costs
New Construction - Fire	375	18,305	6,864,375
New Construcion - Police	400		
Renovation - Fire	175		
Renovation - Police	200		
Enclose & Upfit Drive-thru	200		
Demolition (1977 Structure)	4.05	18,305	74,135
Property Costs			0
Total		**36,610**	**6,938,510**

Timeline

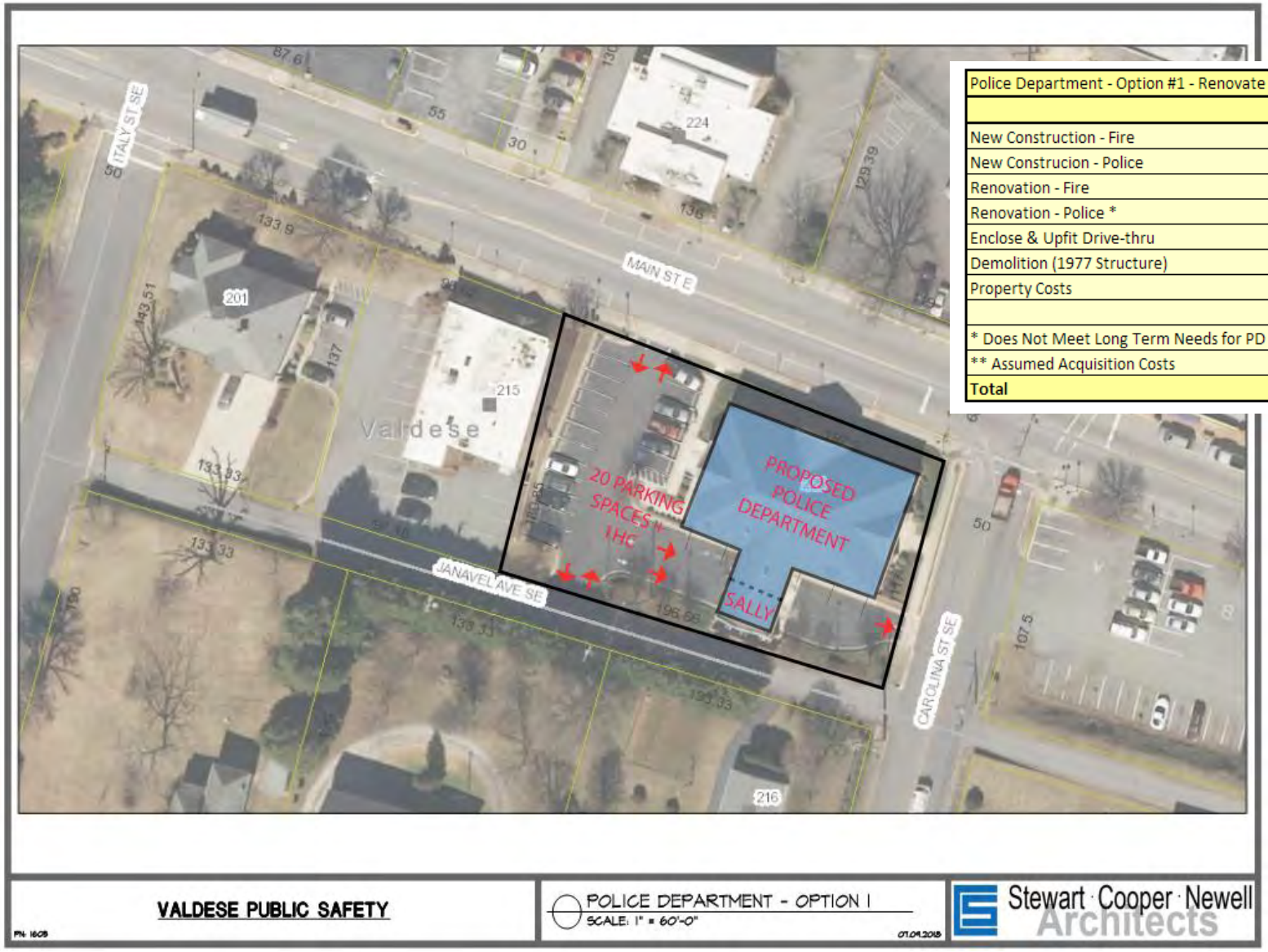
Fire Station – Option #3

Fire Station - Option #3 - Build New on New Unknown Site			
		Sq.Ft.	**Costs**
New Construction - Fire	375	18,305	6,864,375
New Construcion - Police	400		
Renovation - Fire	175		
Renovation - Police	200		
Enclose & Upfit Drive-thru	200		
Demolition (1977 Structure)	4.05		
Property Costs			Unknown
Total		**18,305**	**6,864,375**

Police Station – Option #1

(Renovation of exist BB&T Facility)

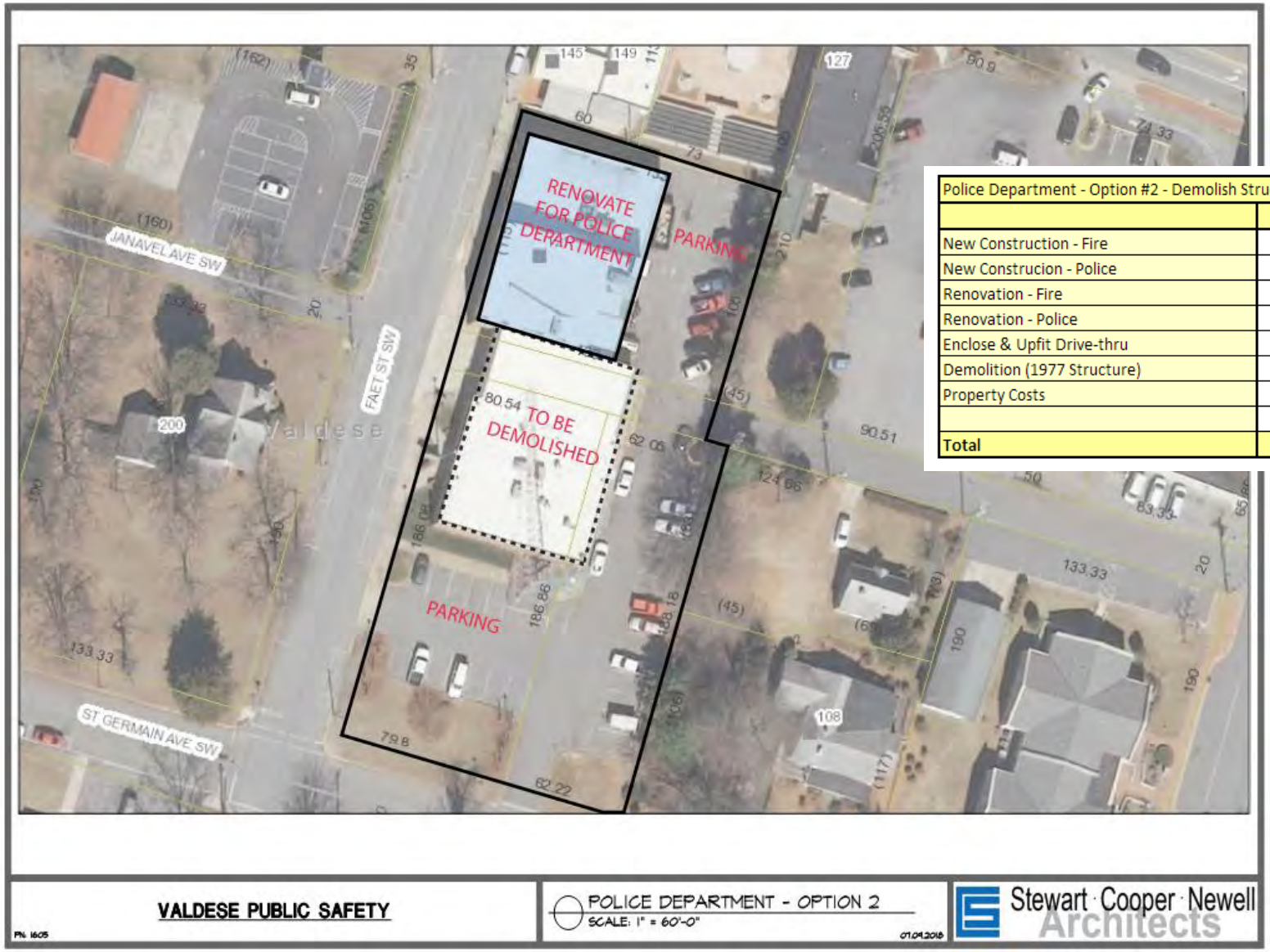
Timeline



Police Department - Option #1 - Renovate BB&T Facility			
		Sq.Ft.	Costs
New Construction - Fire	375		
New Construcion - Police	400		
Renovation - Fire	175		
Renovation - Police *	200	5,941	1,188,200
Enclose & Upfit Drive-thru	225	461	103,725
Demolition (1977 Structure)	4.05		
Property Costs			400,000 **
* Does Not Meet Long Term Needs for PD			
** Assumed Acquisition Costs			
Total		**6,402**	**1,691,925**

Timeline

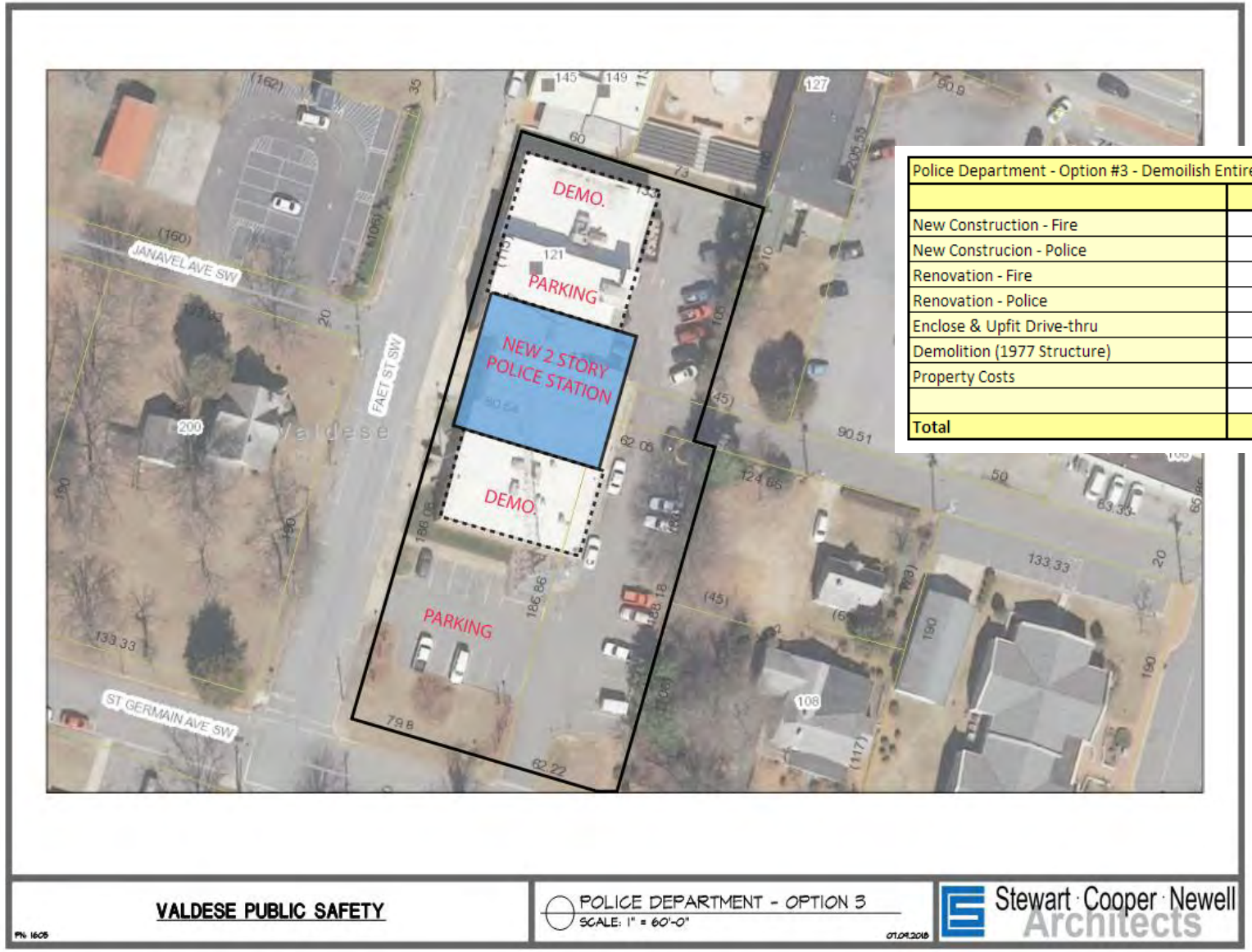
Police Station – Option #2



Police Department - Option #2 - Demolish Structural Unsound Portion of Exist Facility , Renovate Remaining			
		Sq.Ft.	Costs
New Construction - Fire	375		
New Construcion - Police	400		
Renovation - Fire	175		
Renovation - Police	200	7,592	1,518,400
Enclose & Upfit Drive-thru	225		
Demolition (1977 Structure)	4.05	7,326	29,670
Property Costs			0
Total		**14,918**	**1,548,070**

Timeline

Police Station – Option #3



Police Department - Option #3 - Demoilish Entire Existing Facility, Build New on Exist Site			
		Sq.Ft.	Costs
New Construction - Fire	375		
New Construcion - Police	400	7,592	3,036,800
Renovation - Fire	175		
Renovation - Police	200		
Enclose & Upfit Drive-thru	225		
Demolition (1977 Structure)	4.05	18,305	74,135
Property Costs			0
Total		**25,897**	**3,110,935**

Timeline

Police Station – Option #4

Police Department - Option #4 - Build New on New Unknown Site			
		Sq.Ft.	**Costs**
New Construction - Fire	375		
New Construcion - Police	400	7,592	3,036,800
Renovation - Fire	175		
Renovation - Police	200		
Enclose & Upfit Drive-thru	225		
Demolition (1977 Structure)	4.05		
Property Costs			Unknown
Total		**7,592**	**3,036,800**

Timeline

Summary

Summary of Options	
	Option #1
Public Safety Facility - Option #1	7,846,445
Public Safety Facility - Option #2	9,973,054
Public Safety Facility - Option #3	9,901,175
Fire Department - Option #1	4,644,545
Fire Department - Option #2	6,938,510
Fire Department - Option #3	6,864,375
Police Department - Option #1	1,691,925
Police Department - Option #2	1,548,070
Police Department - Option #3	3,110,935
Police Department - Option #4	3,036,800

Temporary Shoring of the Existing 1977 Structure - Approx. $84,000

Structural (Only) Repair of Existing 1977 Structure - Approx. $391,000

- August 2018: As a courtesy, local resident and structural engineer Ray Burris inspected the building and gave his opinion/findings that were in general agreement with SE Alberto's findings.

Timeline

Inspection of Existing Facilities, Valdese Public Safety Bldgs.

Ray Burris [[redacted]@gmail.com]
Sent: Monday, September 03, 2018 11:52 AM
To: Watts, Charlie

Dear Chief Watts,

Thank you for showing me the existing buildings and sharing the plans and prior report with me.

Based on my inspection and also based on my review of the plans for the existing buildings and consideration of the wall construction types for the existing buildings, and based on the current condition of the existing buildings; these are my notes and observations.

Observed numerous and significant structural cracks in the South Building (Police side). The south building is double wythe common brick exterior bearing wall, and it does not appear to be reinforced other than horizontal wire (that is rusted at exterior face) which ties the inner and outer brick wythes together. The construction plans for this building do show continuous reinforced bond beams at the perimeter at roof elevation of the south building (which is good). A block room that was noted on the plans as Arms Room may also serve to give some lateral support to the south exterior wall (which is also good).

It is my opinion that this building should have been constructed with some vertical reinforcing, or with inner reinforced block masonry, or with reinforced masonry pilasters in exterior wall at some interval.

It is my opinion that the type of construction used for south building was common for the time; however, in my opinion the type of construction was not of a high enough structural standard for the **essential nature of a Public Safety Department.**

It is my opinion that there are significant structural deficiencies with the existing buildings, especially my concerns are for the load bearing capacity and continued

Timeline

structural stability of the Public Safety Bldg. (Police side on the South end of the existing buildings). The old Town Hall (north buildings) do not appear to be in as bad of structural condition as the south building.

Special note of concern for me is the bearing location in the south wall of Police side where existing W18x35 steel beam bears on the masonry. In my opinion, continued long term use of this building would require the installation of positive new vertical supports under the south end of this important steel girder beam.

In addition, the east and west exterior walls of the south building (Police building) are load bearing also, as these east and west walls support the roof bar joists.

My major concern for the south building (Police side) is if Valdese area were to experience a significant earthquake. It is my opinion, that lateral foundation movement during a significant earthquake could severely damage or cause a structural failure in one or more of the bearing walls of the south building. **It is my opinion that continued long term use of the existing south building (Police side) would require some level or to some degree structural modifications or strengthening of the existing bearing walls of the south building.**

With reference to the prior engineering report dated March 18, 2018. I am in general agreement with the conclusions in that report beginning on page 8. I especially agree with on page 9 under the section titled "Horizontal Cracks", paragraphs 1 and 3 of that section.

N.C. Building Code Requirements for the type of building use (Public Safety) requires that these structures would be classified today as Occupancy Category Type 4, which is the highest building use classification in the Building Code, Table 1604.5 (Essential Facilities).

Continued long term use of the current buildings

Timeline

would (in my opinion) mean that the current buildings need to be brought up to the requirements of Occupancy Category 4.

If the Town were to consider other buildings for use as Public Safety Occupancy, those buildings would also need to meet the Building Code requirements for Occupancy Category 4.

Let me know if any questions on my notes and comments above.

I hope some of this information will be helpful.

Thank you for all that you do for Valdese.
Ray Burris

R. Burris, P.E.
NC PE #14033 9-3-2018
Ph. 828-[redacted]

- December 2018: After water entered the building at the south side wall/floor area and damaged book shelving was subsequently removed, SE Alberto performed a third inspection to confirm initial findings. (See Document #3)

- On the 14th, Talley Smith delivered a preliminary analysis report comparing several options including the purchase and renovation of the BB&T building for the PD. However, that building was sold to Farris Insurance on 12/21/18. They estimated repairing and renovating the current building for both departments at approximately $4.3 million and building a new similar size facility at $5.35 million. Repair/renovate did not take into account unknowns and costs such as structural rehab, asbestos removal, ADA compliance, and insufficient fire truck bays.

Town of Valdese - Public Safety Facilities

Preliminary Alternatives Analysis

December 14, 2018

Note: all costs shown are very preliminary in nature, for the purpose of comparing alternatves only and should not be used for budgeting or financing purposes. Estimates do not include new equipment or furnishings

OPTION 1: RENOVATE OLD BUILDINGS				
Renovation of Old Town Hall for the Police Department		Pros:	Centralized, shared resources, conserves old infrastructure	
External Walls Structural Improvements	$500,000	Cons:	Many unknowns as to costs and issues such as structural rehab, asbestos, ADA compliance, etc.; unattractive project for contractors to bid on competitively?; truck bays insufficient?	
Elevator	$250,000			
Other Work & Soft Costs	$1,545,787			
Renovation of Public Safety Building for the Fire Department				
External Walls Structural Improvements	$700,000			
Other Work & Soft Costs	$1,293,999			
TOTAL	**$4,289,786**			
OPTION 2: RENOVATE ONE OLD BUILDING & BB&T BLDG				
Renovation of BB&T Bldg for the Police Department		Pros:	Some conservation of old infrastructure; 2nd story can be eliminated (elevator) if not desired	
Purchase Price	$250,000			
Renovations	$791,805	Cons:	Some unknowns as to costs and issues such as structural rehab, asbestos, ADA compliance, etc.; unattractive project for contractors to bid on competitively?; truck bays insufficient?; duplication of some equipment required (generator, IT equipment?)	
Renovation of Public Safety Building for the Fire Department				
External Walls Structural Improvements	$700,000			
Other Work	$1,293,999			
Demo Remaining Structures not used	$250,000			
TOTAL	**$3,285,804**			
OPTION 3: RENOVATE BB&T BLDG & BUILD NEW FIRE STATION				
Renovation of BB&T Bldg for the Police Department		Pros:	2nd story can be eliminated (elevator) if not desired, various benefits of new construction such as safety and function	
Purchase Price	$250,000			
Renovations	$791,805	Cons:	Duplication of some equipment required (generator, IT equipment?)	
New Fire Station				
New Construction (10,000 SF)	$3,000,000	<-- reduced area from SCN Study		
Land Purchase	$100,000			
TOTAL	**$4,141,805**			
OPTION 4: ALL NEW CONSTRUCTION				
New Construction on New Site – Fire Department (10,000 sf)	$3,000,000	Pros:	2nd story can be eliminated (elevator) if not desired, various benefits of new construction such as safety and function; shared resources such as generator and IT equipment	
New Construction on New Site – Police Department. (7,500 sf)	$2,250,000			
Land Purchase	$100,000			
TOTAL	**$5,350,000**	Cons:	Highest cost	

Timeline

TALLEY & SMITH ARCHITECTURE, INC.

P.O. BOX 518 (28151) 409 E. MARION ST. (28150) SHELBY, NC 704-487-7082 FAX 704-482-5596 TALLEYSMITHARCH.COM

December 14, 2018

Re: Report Summary Page
Fire Department and Police Department Buildings Study
Town of Valdese, NC

Pages 1 & 2. $2,295,787
Cost estimate for Renovation of Old Town Hall for the Police Department.
(Includes $500,000 for structural repairs and $250,000 for an elevator. 7,441sf.

Pages 3 & 4. $1,993,999
Cost estimate for Renovation of Public Safety Building for the Fire Department.
(Includes $700,000 for structural repairs.) 9,653sf.

Page 5.

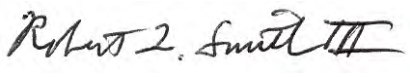
New Construction on New Site – Fire Department. 18,305sf.	$5,491,500
New Construction on New Site – Police Department. 7,592sf.	$2,277,600
Renovate former BB&T Building – Police Department. 7,541sf.	$1,041,805

Page 6.

<u>Public Safety Bldg Repair Options T&S Estimates (Unoccupied)</u>	
Option A – Exterior Steel	$482,806
Option B – Rebuild Exterior Brick Walls	$704,427
Option C – Hybrid – Rebuild Front Façade	$514,967
<u>Public Safety Bldg Repair Options Michael Alberto, PE Estimates (Occupied)</u>	
Option A – Exterior Steel	$687,000
Option B – Rebuild Exterior Brick Walls	$1,272,000
<u>Old Town Hall Bldg Repair Options Michael Alberto, PE Estimates (Occupied)</u>	
Steel Reinforcing to Exterior Walls	$500,000

Sincerely,

TALLEY & SMITH ARCHITECTURE, INC.



Robert L. Smith, III, AIA, LEED AP

Town of Valdese
Public Safety Facilities Study

RENOVATE EXISTING OLD TOWN HALL into new POLICE DEPARTMENT

Item Description	Quantity	Unit	Material	Labor or SubContract Total	SubContract Lump Sum	Total
General Demolition and removal of finishes	7,441	SF		3.25	24,183	24,183
Remove Doors	44	EA		100.00	4,400	4,400
Remove Windows	11	EA			0	0
Remove Toilet Partitions	1	EA		50.00	50	50
Remove Wood Shelving	0	LF		6.00	0	0
Cut/Remove Concrete Slab for Plumbing Changes	100	SF		7.00	700	700
Asbestos Abatement	4,200	SF		5.00	21,000	21,000
Leaed Based Paint Remediation	1	LS		4,500.00	4,500	4,500
					0	0
Concrete Slab Repairs	100	SF		20.00	2,000	2,000
					0	0
Masonry Repairs - Structural Repairs to Exterior Brick Walls	1	LS		500,000.00	500,000	500,000
					0	0
Metals - Miscellaneous Hardware	7,441	SF	0.50	0.50	7,441	7,441
Metals - Steel Studs	500	LF	2.50	1.00	1,750	1,750
Metals - Structural Steel	1	LS		16,000.00	16,000	16,000
					0	0
Casework - Counters	60	LF		300.00	18,000	18,000
					0	0
Insulation - Walls - Spray Foam	5,000	SF	5.00		25,000	25,000
Caulking and Sealants	7,441	SF	0.20	0.20	2,976	2,976
					0	0
Doors - Interior Wood Doors and Frames	40	EA	250.00	75.00	13,000	13,000
Doors - Exterior Doors and Frames	4	EA	1,400.00	425.00	7,300	7,300
Overhead Doors - Truck Bays	0	EA			0	0
					0	0
Flooring - Carpet Tiles	2,350	SF		4.00	9,400	9,400
Flooring - VCT	7,233	SF		3.25	23,507	23,507
Flooring - Refinish Concrete Truck Bays	0	SF		2.00	0	0

Base - 4" Coved Rubber		2,320	LF			2.00		4,640		4,640
Walls - 5/8" Gypsum Board Type X		10,000	SF			1.85		18,500		18,500
Ceilings - Acoustical Tile 2'x2'		7,441	SF			4.50		33,485		33,485
Painting - Walls		22,040	SF			0.85		18,734		18,734
Painting - Doors & Frames		44	EA			70.00		3,080		3,080
								0		0
Toilet Partitions		1	EA		875.00	90.00		965		965
Toilet Accessories		24	EA		70.00	18.00		2,112		2,112
								0		0
Fire Suppression - Sprinklers		7,441	SF			10.00		74,410		74,410
Fire Alarm System		1	LS			50,000.00		50,000		50,000
Plumbing		12	EA			2,500.00		30,000		30,000
Mechanical		7,441	SF			17.00		126,497		126,497
Electrical		7,441	SF			18.00		133,938		133,938
Elecrical - Emergency Generator		1	LS			90,000.00		90,000		90,000
								0		0
Elevator Addition to Second Floor		1	LS			250,000.00		250,000		250,000
Sitework		1	LS			15,000.00		15,000		15,000
								0		0
SUBTOTAL - DIVISIONS										$1,532,568
General Design and Construction Contingency						15%				$229,885
General Contractor - labor, overhead, profit, bonds, general requirements, etc. (as a %)						25%				$383,142
TOTAL CONSTRUCTION COST										$2,145,596
Architectural/Engineering Fees (as a %) Not including Civil Engineering Fees						7.0%				$150,192
TOTAL ESTIMATED CONSTRUCTION & A/E PROJECT COST										$2,295,787

RENOVATE EXISTING 1977 PUBLIC SAFETY BUILDING into new FIRE DEPARTMENT

Item Description	Quantity	Unit	Material	Labor or SubContract Total	SubContract Lump Sum	Total
General Demolition and removal of finishes	4,785	SF		3.25	15,551	15,551
Remove Doors	41	EA		100.00	4,100	4,100
Remove Windows	0	EA			0	0
Remove Toilet Partitions	4	EA		50.00	200	200
Remove Wood Shelving	74	LF		6.00	444	444
Cut/Remove Concrete Slab for Plumbing Changes	100	SF		7.00	700	700
Asbestos Abatement	2,435	SF		5.00	12,175	12,175
Leaed Based Paint Remediation	1	LS		3,000.00	3,000	3,000
					0	0
Concrete Slab Repairs	100	SF		20.00	2,000	2,000
					0	0
Masonry Repairs - Structural Repairs to Exterior Brick Walls	1	LS		700,000.00	700,000	700,000
					0	0
Metals - Miscellaneous Hardware	9,653	SF	0.50	0.50	9,653	9,653
Metals - Steel Studs	2,800	LF	2.50	1.00	9,800	9,800
					0	0
Casework - Counters	140	LF		300.00	42,000	42,000
					0	0
Insulation - Walls - Spray Foam	2,800	SF	5.00		14,000	14,000
Caulking and Sealants	9,653	SF	0.20	0.20	3,861	3,861
					0	0
Doors - Interior Wood Doors and Frames	36	EA	250.00	75.00	11,700	11,700
Doors - Exterior Doors and Frames	5	EA	1,400.00	425.00	9,125	9,125
Overhead Doors - Truck Bays	6	EA			0	0
					0	0
Flooring - Carpet Tiles	2,350	SF		4.00	9,400	9,400
Flooring - VCT	2,435	SF		3.25	7,914	7,914
Flooring - Refinish Concrete Truck Bays	4,868	SF		2.00	9,736	9,736
Base - 4" Coved Rubber	1,000	LF		2.00	2,000	2,000

Walls - 5/8" Gypsum Board Type X		15,940	SF			1.85		29,489		29,489
Ceilings - Acoustical Tile 2'x2'		4,785	SF			4.50		21,533		21,533
Painting - Walls		15,940	SF			0.85		13,549		13,549
Painting - Doors & Frames		41	EA			70.00		2,870		2,870
								0		0
Toilet Partitions		4	EA		875.00	90.00		3,860		3,860
Toilet Accessories		38	EA		70.00	18.00		3,344		3,344
								0		0
Fire Suppression - Sprinklers		4,785	SF			10.00		47,850		47,850
Fire Alarm System		1				50,000.00		50,000		50,000
Plumbing		17	EA			2,500.00		42,500		42,500
Mechanical (existing ductwork remains)		9,653	SF			10.00		96,530		96,530
Vehicle Exhaust System		1	LS			60,000.00		60,000		60,000
Electrical		9,653	SF			8.00		77,224		77,224
Elecrical - Emergency Generator		0	LS					0		0
Sitework		1	LS			15,000.00		15,000		15,000
								0		0
SUBTOTAL - DIVISIONS										$1,331,108
General Design and Construction Contingency						15%				$199,666
General Contractor - labor, overhead, profit, bonds, general requirements, etc. (as a %)						25%				$332,777
TOTAL CONSTRUCTION COST										$1,863,551
Architectural/Engineering Fees (as a %) Not including Civil Engineering Fees						7.0%				$130,449
TOTAL ESTIMATED CONSTRUCTION & A/E PROJECT COST										$1,993,999

Town of Valdese
Public Safety Facilities Study

NEW CONSTRUCTION								
Building Description		Quantity	Unit				Cost per SF	Total
New Fire Department	*	18,305	SF				300	$5,491,500
New Police Department	*	7,592	SF				300	$2,277,600
* The above square footages are from the building study prepared by SCN Architects.								
* Renovated existing buildings provide 9,653 SF for Fire Dept and 8,285 sf for Police Dept.								
* Do not include civil engineering, erosion control design, and related site design.								
RENOVATE BB&T BUILDING for POLICE DEPARTMENT								
Building Description		Quantity	Unit		Notes		Cost per SF	Total
Police Department relocated to BB&T Bldg built in 1994. (Not including purchase price.)		7,541	SF		renovate existing bank building		105	$791,805
BB&T Bldg Renovation plus $250,000 purchase price.		250,000						$1,041,805

Town of Valdese
Public Safety Facilities Study

SUMMARY OF STRUCTURAL REPAIRS - CONSTRUCTION COSTS

Public Safety Bldg Repair Options Talley & Smith Architecture Estimates (Buildng unoccupied.)	Total
Option A - exterior steel tube columns	$482,806
Option B - rebuild exterior brick walls with new steel inside wall	$704,427
Option C - hybrid construction, rebuild exterior brick walls on front façade, exterior steel on side and rear facades	$514,967

Note that this kind of structural repair is not work that we are normally performing. Nonetheless, we have prepared a construction cost estimate for Options A & B as developed by Structural Engineer Michael Alberto, PE. Option C is a hybrid version based on Talley & Smith's proposal to maintain the existing front facade.

Pbulic Safety Bldg Repair Options Structural Engineer Estimates Michael Alberto, PE (Bldg Occupied.)	Total
Option A - exterior steel tube columns	$687,000
Option B - rebuild exterior brick walls with new steel inside wall	$1,272,000
Old Town Hall - rebuild exterior brick walls with new steel inside wall	$500,000

DWG. FILE NAME: 08
PLOT SCALE: 1/8" = 1'-0"

REVISIONS:

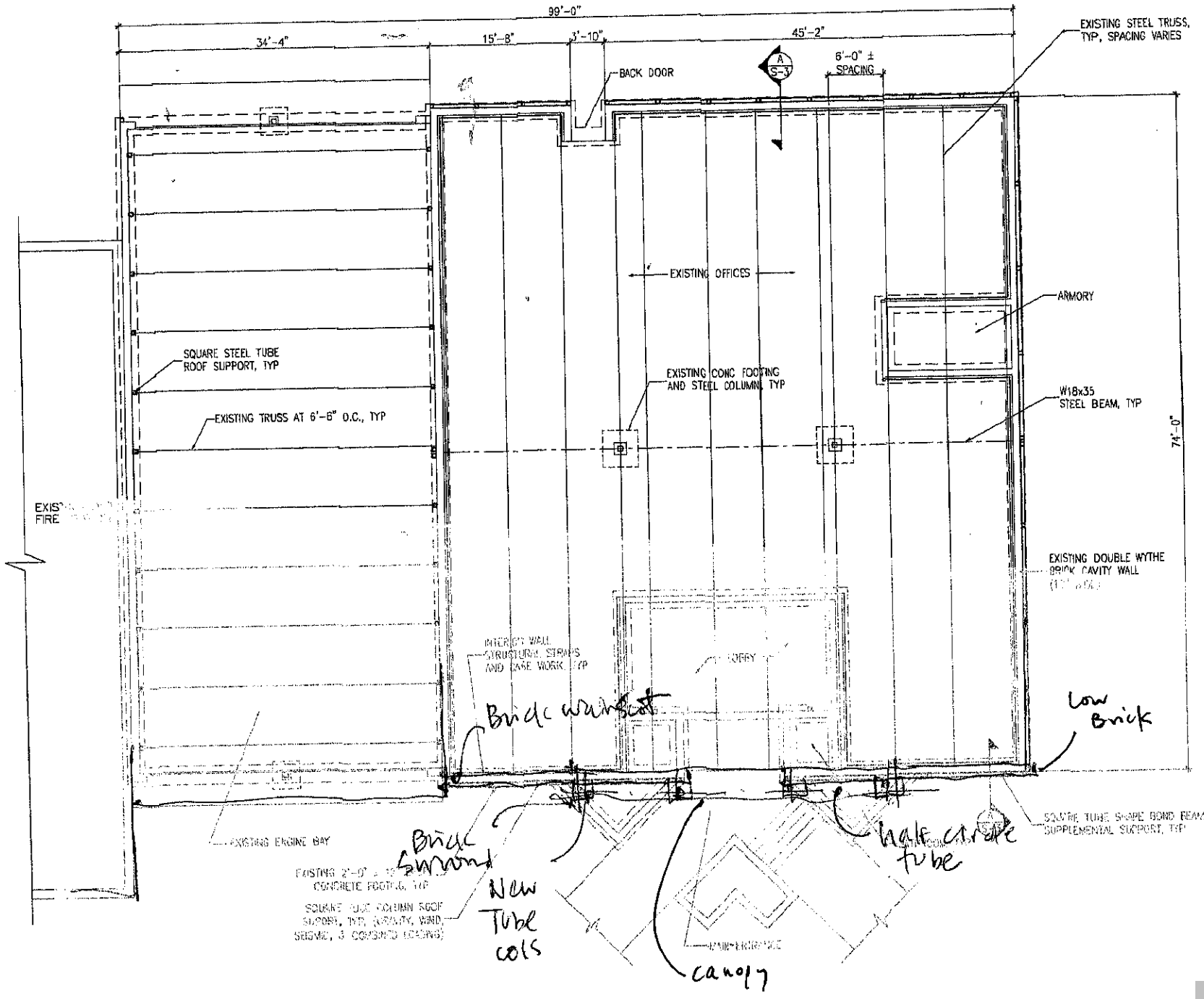
DATE	DESCRIPTION

INCOMPLETE
PROGRESS PRINT
NOT FOR CONSTRUCTION

TALLEY & SMITH ARCHITECTURE, INC.
SHELBY, NORTH CAROLINA

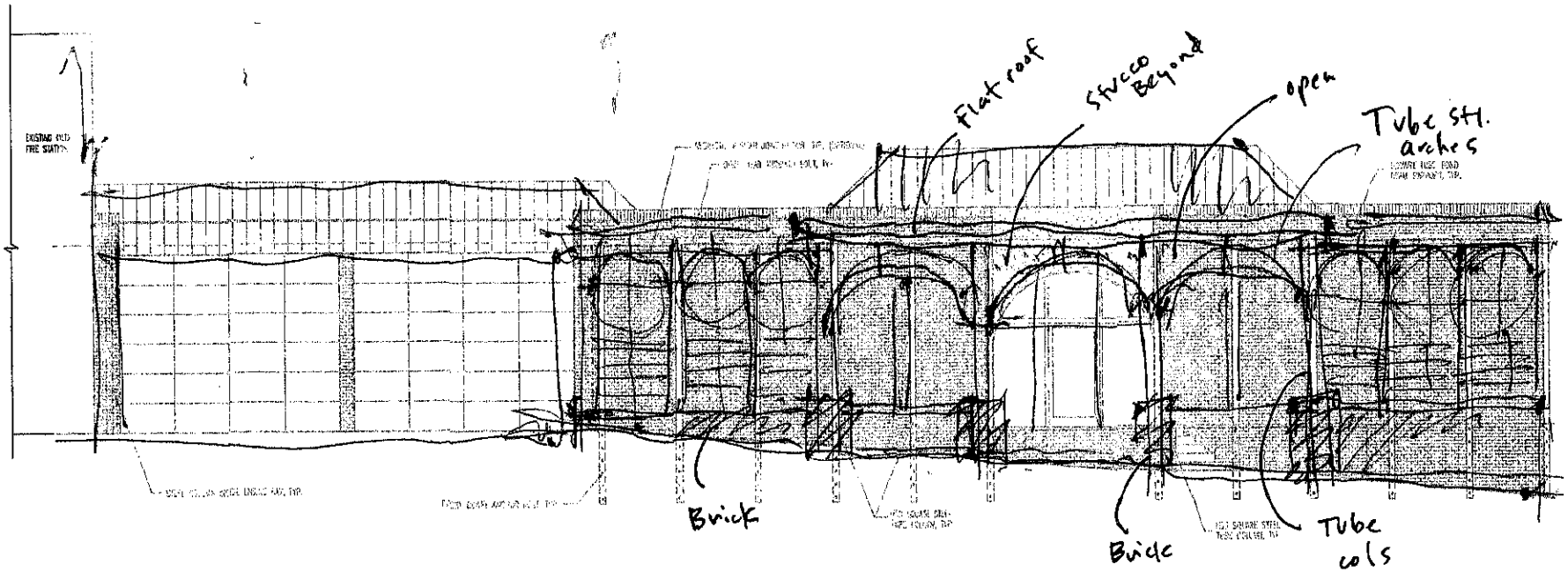
COMM. NUMBER: 873
DATE: December 5, 2018

SHEET
A1

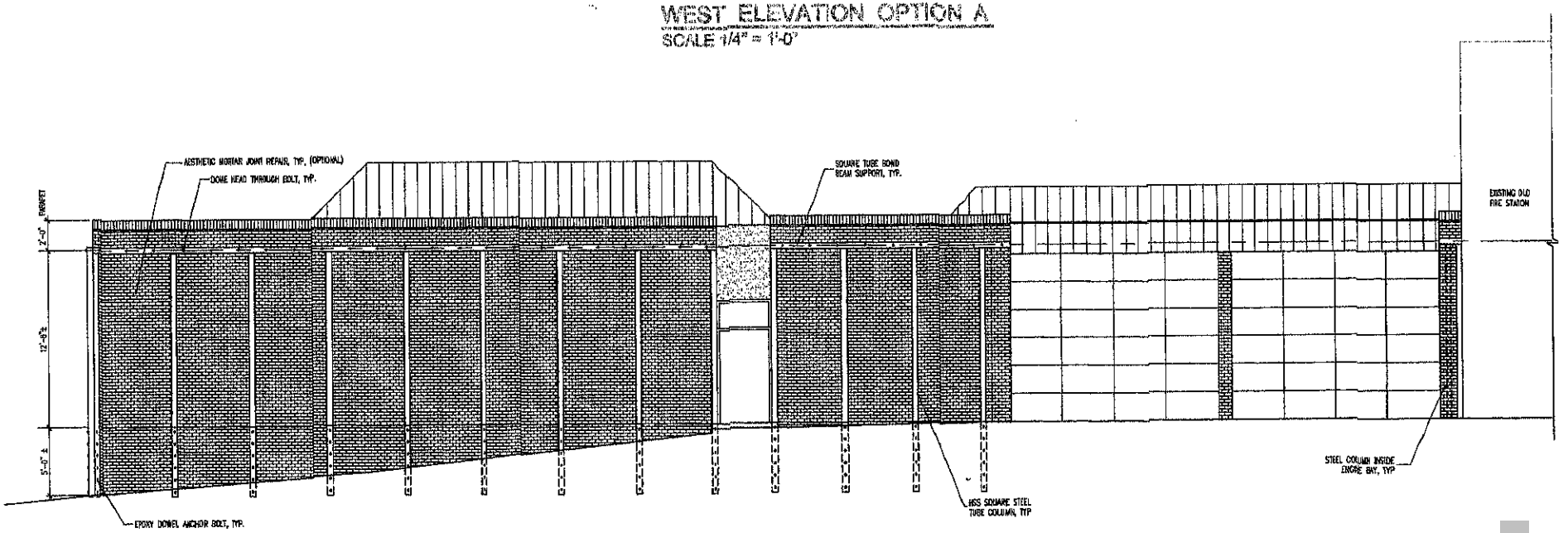


PROPOSED BUILDING PLAN OPTION A
SCALE 3/16" = 1'-0"

Timeline



WEST ELEVATION OPTION A
SCALE 1/4" = 1'-0"



EAST ELEVATION OPTION A
SCALE 1/4" = 1'-0"

Timeline

- January 31, 2019: A special Town Council meeting was called and consisted of a tour of the public safety building along with a presentation from West & Associates, SE Alberto, and Bob Smith.
- February 15, 2019: Town Manager emailed West & Associates to clarify temporary structural repairs outlining their lifespan, cost and maintenance.

Timeline

C. MICHAEL ALBERTO, III, P. E., PLLC
STRUCTURAL ENGINEER
580 20TH AVENUE COURT NW, HICKORY, NC 28601

TALLEY & SMITH ARCHITECTURE, INC.
SHELBY, NORTH CAROLINA
P.O. BOX 518 (28151) 704-487-7082
409 E. MARION ST. (28150)

VALDESE PUBLIC SAFETY BUILDING STUDY

January 31, 2019

Timeline

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

Timeline

Presentation Contents

1. Structural Inspection and Other Issues.

2. Primary Options

3. Estimated Costs of Options

Timeline

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

Structural Building Inspection

1. The building exhibits severe corrosion and masonry cracking with significant loss of structural integrity attributable to water infiltration, building expansion, and building contraction forces.
2. Some of the deterioration mechanisms are common, but are exacerbated by the age and type of construction of the structure.

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

Timeline

Structural Building Inspection

3. The loss of structural integrity represents an elevated risk to occupant life safety and operational readiness, the damage is beyond the acceptable limits for an essential services facility.

Timeline

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

Structural Building Inspection

4. Building replacement or permanent repairs are required.
5. If a new facility is the selected option, temporary shoring is recommended to mitigate risk between now and completion of a new building.

Old Town Hall
Wing of Building

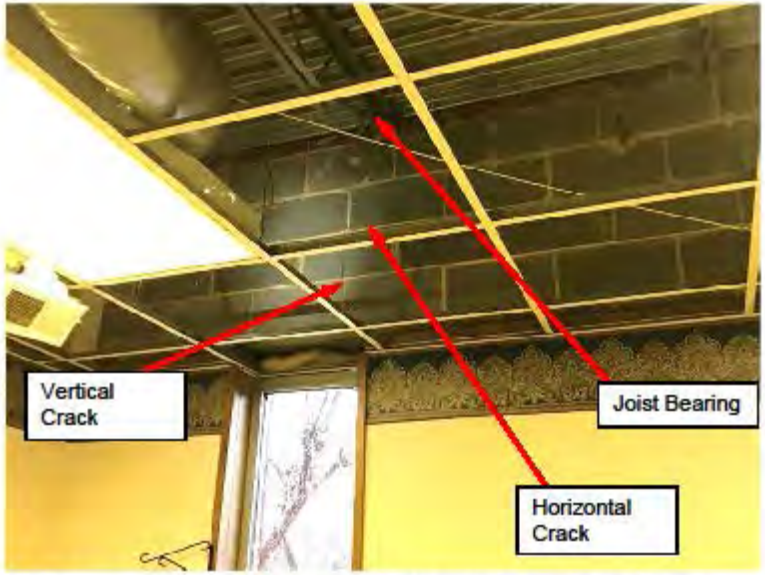


Photo 1 Town Hall – West Wall – Horizontal and Vertical Cracks

Cracks in load bearing masonry block walls.

Photo 2 Town Hall – West Wall – Horizontal and Vertical Cracks

Vertical cracks in mortar joints and through middle of block.

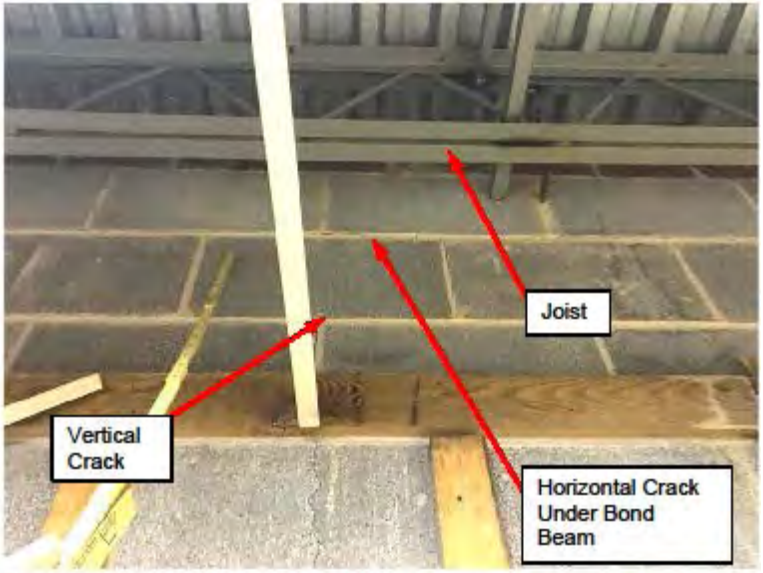


Photo 3 Town Hall – South Wall – Horizontal and Vertical Cracks

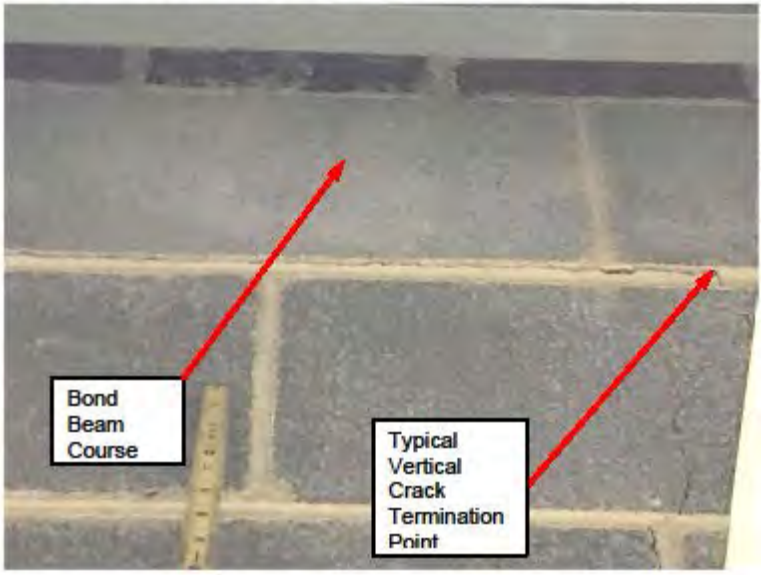


Photo 4 Town Hall – South Wall – Horizontal and Vertical Cracks

Old Town Hall
Wing of Building

Cracks extend up to masonry block bond beam.

Horizontal cracks occur at bottom of masonry bond beams, separating bond beams from supporting walls.

Public Safety Wing of Building

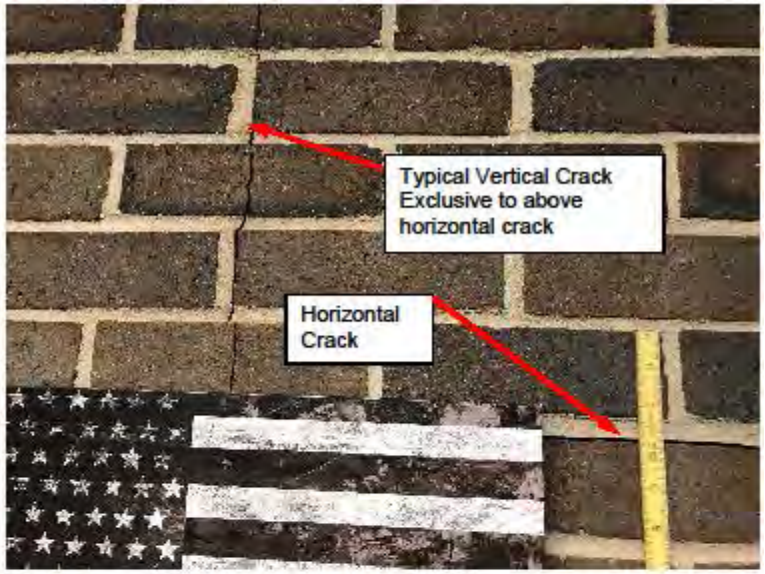


Photo 9 Public Safety Building – West Wall – Horiz./ Vertical Cracks

Vertical and horizontal cracks in load bearing double wythe brick wall.

Photo 10 Public Safety Building – East Wall –Vertical Crack

Some vertical cracks run full height of wall on interior of building.

Photo 15 Public Safety Building – South Wall – Deteriorated Joints

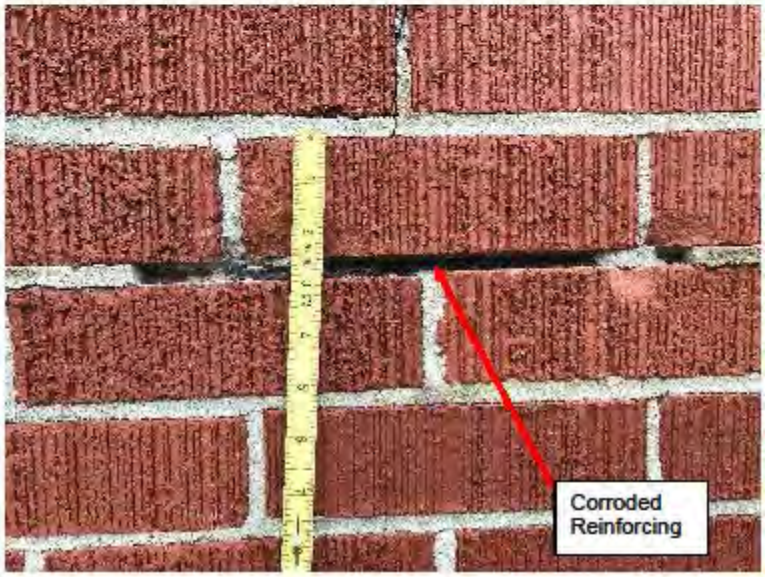


Photo 16 Public Safety Building – South Wall – Deteriorated Joints

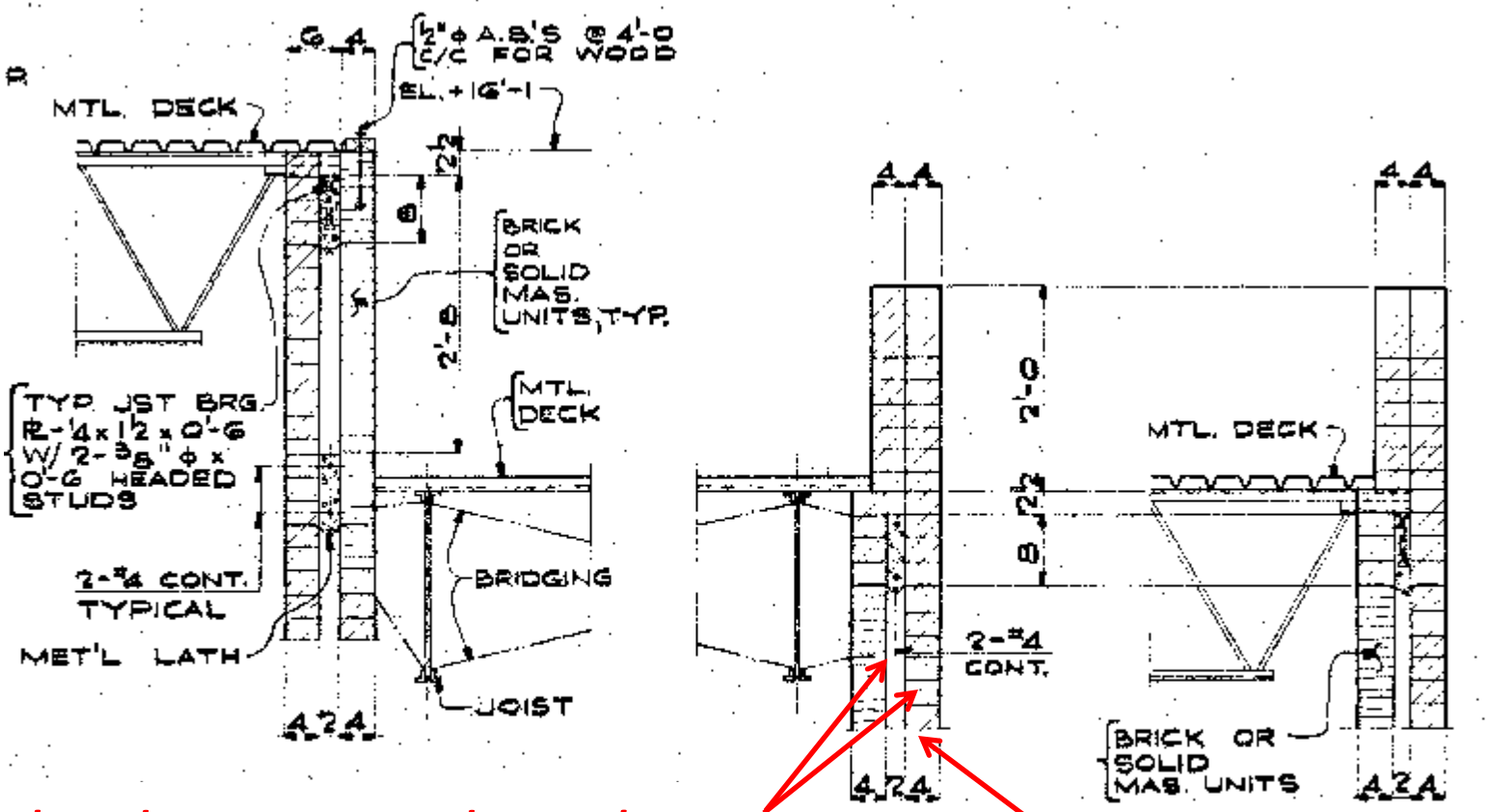
Public Safety Wing of Building

Exterior horizontal cracks at 16” on center at each band of steel ties.

Steel ties are rusting and pushing the mortar out. The deteriorated ties no longer hold the two wythes of brick together.

Timeline

Public Safety Building Wall Section



The deteriorated steel ties no longer hold the two wythes of brick together.

Each wythe of wall is bowing out away from each other.

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

Timeline

Other Considerations

- Building is not suited to current operational requirements for a Fire and Police Department.
- Walls have only 2” of insulation (maybe R10).
- Building does not comply with current ADA standards.
- Electrical and mechanical systems are outdated and are not energy efficient.
- Asbestos containing materials must be removed.

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

Timeline

Other Considerations (continued)

- Building does not meet current “essential facility” standards. (Structural design, seismic, and wind loads.)
- Sleeping quarters do not comply with current fire safety codes. (No sprinkler system.)
- Truck Bay doors are 12’w x 12’h, need to be 12’w x 14’h. A ladder truck will not fit inside building.

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

Timeline

Primary Options

1. Repair the existing building. Limit renovations and updates to only the work necessary for continued use.

Does not address operational issues. Significant maintenance will be necessary. Continued use of the building is limited without future significant improvements.

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

Timeline

2. Repair and full renovation of the existing building with the goal of gaining another 25 years of use.

Can address most operational issues, improve insulation, energy efficiency, and ADA issues. Cannot add truck bays or increase height of bay doors. A sprinkler system and elevator will have to be added to the building.

PUBLIC SAFETY BUILDING
Structural Issues and Building Options
TOWN OF VALDESE
Fire and Police Departments

Timeline

3. Build a new facility that complies with current building and life safety codes, and that meets current Fire and Police Department operational and essential facility standards.

A new facility can be designed to meet current operational needs, and provide flexibility for future changes. Can meet essential facility, building code, life safety, energy efficiency, and ADA standards.

Timeline

Probable Construction Costs for Options

1. Structural Repairs to Building ---------- $1,200,000

1a. Maintenance & Repairs (15-20yrs) ------- $740,000

1. + 1a. Structural and Ongoing Maint. --- $1,940,000

Includes reroofing, repaving, HVAC, asbestos abatement, painting, and other ongoing maintenance and repairs that will be required.

2. Repair/Fully Renovate Building ---------- $4,850,000

Structural repairs and complete renovation (new finishes, lights, HVAC, etc.)

3. New Construction, 17,094 SF ---------- $5,700,000

Same SF as renovation

3a. New Construction, 23,500 SF ---------- $7,810,000

Recommended SF

New construction on new site. Includes demo cost of existing PS building.

4. Temporary Shoring/Repairs ---------- $200,000

Costs include A/E fees and sitework (if applicable), but do not include new furniture.

Timeline

C. MICHAEL ALBERTO, III, P. E., PLLC
STRUCTURAL ENGINEER
580 20TH AVENUE COURT NW, HICKORY, NC 28601

TALLEY & SMITH ARCHITECTURE, INC.
SHELBY, NORTH CAROLINA
P.O. BOX 518 (28151) 704-487-7082
409 E. MARION ST. (28150)

VALDESE PUBLIC SAFETY BUILDING STUDY

January 31, 2019

Timeline

Stafford, Greg

From: Eckard, Seth
Sent: Monday, February 18, 2019 2:38 PM
To: Watts, Charlie; Stafford, Greg; Moss, Jack
Subject: FW: FW: Temporary Repairs

Information regarding what temporary repair means for the current structure.

Seth Eckard, ICMA-CM
Town of Valdese
Town Manager
A: P.O. Box 339 Valdese NC 28690
P: 828-879-2116
W: townofvaldese.com

From: Benjie Thomas [bthomas@west-consultants.com]
Sent: Saturday, February 16, 2019 12:03 AM
To: Eckard, Seth
Subject: FW: FW: Temporary Repairs

Seth,

Michael's answers are below. These are fairly detailed. do you need a "Cliff Notes" version for council?

Benjie Thomas
(828) 522-4728

From: Charles Alberto <cmichael.alberto@gmail.com>
Sent: Friday, February 15, 2019 11:24 AM
To: Benjie Thomas <bthomas@west-consultants.com>
Subject: Re: FW: Temporary Repairs

Benjie,

1) How long will the temporary repairs last?

It is recommended that the temporary shoring only be utilized for service as long as it takes the new building(s) to be constructed. Expected duration is 2 to 5 years.

It is not recommended to utilize the temporary repairs for longer than 5 years. However, the temporary shoring elements THEMSELVES could be expected to last 10 years without any specific repairs to the actual timber shoring. No mortar repairs are currently scheduled as part of the temporary shoring design, however, i anticipate specification of caulking joints at a minimum (cheap is why caulk). Which is reasonable for duration on the order of 2 to 5 years of service. However, it is reasonable to expect degradation of the masonry walls to continue and water infiltration is already proven an issue. Therefore, service life duration of longer than 5 years would most likely include maintenance for the actual masonry components of the building to remain.

2) How often do we need to repair/inspect the repairs? What are we inspecting and maintaining?

Chief Watts and other Public Safety personnel have already proven to be good inspectors to date. Therefore, I think it is reasonable to inspect the shoring and masonry to remain once a year by Licensed Engineer. However, special inspections need to be conducted as needed if unusual or progressive deterioration is found by building occupants. I propose the following schedule:

We would be inspecting masonry to remain, crack gauges, timber bolted connections to the masonry, and the timber. Also, look for an over abundance of water infiltration.

A. Inspect Masonry Building prior to final design development of Shoring (Near Term once we hit go)
We install a few crack gauges and review as-built conditions for correct shoring design and installation.

B. We inspect the shoring as construction progresses.
review crack gauges and perform the usual construction services inspection work. Make Contractor aware that he should inform engineer if any new damage develops during construction.

C. Perform Special Inspections as required during construction for any new damage that develops.

D. Perform final inspection of structure at end of construction
Review and record Crack gauge data once again for baseline.

E. Inspect again in six months post construction
review and record crack gauge data.

F. Inspect again in 1 year post construction.
review and record crack gauge data.

G. if no new developments, inspect once a year for duration of service life.

H. If occupants notice anything between inspections, schedule and perform special inspection by licensed engineer.

3) Approximately how much will it cost to maintain the repairs every time we inspect them?

Difficult question to fully answer. The timber is going to all be pressure treated, should not need much maintenance unless for aesthetics like stain touch up. The bolts will be galvanized, and i do not anticipate corrosion within the intended service life to necessitate maintenance. The masonry to remain is the wild card. I expect caulking of opening joints to be necessary once a year or so. If severe defects develop and/or caulk doesn't quite get it done, tuck pointing and other moderate masonry repairs might need to occur. If no new defects, probably only the cost of the inspection. If mortar joints require attention, cost of caulk or tuck pointing.

This one i would need to work on a bit to give an actual high end mortar joint etc. contingent price. i will get done next week.

thank you,

On Fri, Feb 15, 2019 at 10:31 AM Benjie Thomas <bthomas@west-consultants.com> wrote:

> Michael,
>
> See below. What do you think?
>
> Benjie Thomas
> (828) 522-4728

-----Original Message-----
From: Eckard, Seth <seckard@valdesenc.gov>
Sent: Friday, February 15, 2019 10:15 AM
To: Benjie Thomas <bthomas@west-consultants.com>
Subject: Temporary Repairs
Importance: High

Good Morning Benjie,

I think Council will be close to making a decision to move forward with the "temporary reapirs" for the FD/PD within the next week or two. What I need is an answer to:

1) How long will the temporary repairs last?
2) How often do we need to repair/inspect the repairs? What are we inspecting and maintaining?
3) Approximately how much will it cost to maintain the repairs every time we inspect them?

Council feels confused about the temporary repair option. We heard numbers anywhere from 3, 5 to 10 years? I needs a more precise number of years or explanation before Council moves forward. I know it's impossible to know for sure, but if you give me a number I won't hold Michael to it. Haha!

Seth

Seth Eckard, ICMA-CM
Town of Valdese
Town Manager
A: P.O. Box 339 Valdese NC 28690
P: 828-879-2116
W: townofvaldese.com<https://mail.ci.valdese.nc.us/owa/redir.aspx?SURL=EWAAFU9JLXB1p5nayFP-aiRAMAJ2JmwnF9QpZFilyjnr5u5n3XSCGgAdAB0AHAAOgAvAC8AdABvAHcAbgBvAGYAdgBhAGwAZABlAHMAZQAuAGMAbwBtAC8A&URL=http%3a%2f%2ftownofvaldese.com%2f>

------ Please Note our new E-Mail domain Valdesenc.gov ------

- Fall 2019-Winter 2020: Talley Smith and West & Associates continued to work on site design, building programming, and cost estimates for the Rostan property. Talley and Smith researched the possibilities of adding the police department to the town hall (November 25 report). This report indicated there were only two pros compared to ten cons. Also, the site was not large enough to support both departments and would only be reasonable to further explore if no other suitable building sites were available. Talley Smith researched the possibility of renovating the former Alba office building on St. Germain Ave (February 10), with the report indicating it would cost as much or more to renovate the Alba building and build fire bays on as it would to build all new somewhere else. This also did not include the initial purchase of the property, and the town would have to maintain unneeded square footage. Talley Smith also looked at demolishing parts of the existing PS building, rebuilding as-needed spaces, and demolishing the entire building and rebuilding on-site (February 10). The two options for remaining on-site with demolition and new construction were not financially and operationally feasible. Small group meetings were held with Town Council in January 2020 to discuss possible site plans, cost estimates, and financing information.

TALLEY & SMITH ARCHITECTURE, INC.

P.O. BOX 518 (28151) 409 E. MARION ST. (28150) SHELBY, NC 704-487-7082 FAX 704-482-5596 TALLEYSMITHARCH.COM

November 25, 2019

seckard@valdesenc.gov

Seth Eckard, Town Manager
991 Upward Rd.
Flat Rock, NC 28731

Re: Report on the Feasibility of New Police Department Addition to Town Hall
Town of Valdese, NC

Dear Mr. Eckard,

We have investigated the viability of building the new Police Department as an addition to the existing Town Hall. The most obvious benefit is that it would take advantage of building the Police Department on property that is already owned by the Town.

The result of our initial study is that the site is not large enough to meet the needs of the Police Department and Town Hall, and that this approach does not offer a significant cost savings. More of the disadvantages of this option are described at the end of this report.

The following is some basic information about the project, and then lists of the pros and cons:

Basic information:

- New Police Department building will be about 7,565 square feet total.
- The Town Hall will provide about 1,600 square feet to be renovated as part of the Police Department. The remaining 6,000 square feet will be new construction.
- The site area on the east/right side of the Town Hall is not large enough for the Police Department Addition. The Addition will need to be on the west/left side of the Town Hall, where there is more available site area.
- The initial discussion has been that some of the interior areas in the Town Hall will be repurposed to be part of the Police Department. The areas discussed start at the main entrance and go across the front of the building. Since the right side of the building is not a feasible location, this will require relocating the Town Manager, Clerk, Mayor's Office, and one other office.
- Costs: It is unlikely that constructing the Police Department as an addition to the Town Hall will be significantly less than a new Police Department on a new

site, unless the new site requires extensive remediation. (Issues such as bad soil, large retaining walls, or complex soil erosion control measures.) The following are cost items to consider if the Police Department is built as an addition to the Town Hall.

- The costs of new construction of the building at another site and the new building addition will be the same.
- The cost of connecting the addition to the existing building will be more expensive than free standing new construction.
- The cost of renovations and repurposing interior areas within the Town Hall can be expected to be performed at about 65% to 75% of the cost of new construction, unless interior floor plan changes are required (such as new walls, new doors, new ceilings, HVAC changes, etc..)
- The retaining wall construction that will be required is typically more expensive than grading and shaping a site, but there will be some savings because other areas of the site are already developed and would not require any changes. Without having a specific site to compare to, it is not possible to determine whether this site will offer a significant savings or will be more expensive than another site.

Pros:

1. The Town Hall property is owned by the Town and is already developed.
2. The Town Hall and Police Department are both Town departments and their administrative functions should be compatible as occupants of the same building.

Cons:

1. Significant interior renovations are anticipated to relocate the Town Manager and Clerk. An initial expectation is that some offices may have to move into what is currently a Multi-Purpose Room and maybe into what is currently the Work File Room. Further discussion and investigation will be required to determine the extent of the relocations and interior renovations required.
2. The Police Department Addition will go where the current western parking lot is. A new smaller parking lot and drive will be established between the Addition and Faet Street.
3. Site work will require grading the west side of the site and extending the existing segmented retaining wall west about 65 feet towards Faet Street and then turn it to run south about 120 feet towards Massel Avenue.
4. The finished project site might have the same number of parking spaces as it has now (39) or possibly less parking spaces. This may be a problem because we estimate that the Police Department will require 5 to 7 parking spaces that are always occupied in addition to whatever parking is required for normal police business.

5. Building construction costs will be about the same for the addition and interior renovations versus a new building. (See the Basic Information for cost information regarding site work.)
6. If the Police Department is completed as an addition to the Town Hall, it will have long term implications for the growth of the Town Hall. It may not be possible to add any future Town Hall staff.
7. The Valdese Economic Development non-profit would have to move out of the Town Hall. (They currently occupy two office areas.)
8. Town Hall staff will have to regularly enter the Police Department areas to get to the break room and staff toilets. Thus, access to areas in the Police Department that are inside the existing Town Hall will not be as secure as normally required for a Police Department. (It may be possible to rework the floor plan to address this issue, but significant interior changes will cost about the same as new construction.)
9. Future growth of the Town Hall staff or the creation of new positions will be limited because there will not be room for new personnel or offices. The same will be true for the Police Department, though upon completion of this project it should be 25 years or more before the Police Department will require renovation or expansion.
10. There will be times when adequate parking is not available on site.

The two top priorities for most projects are the costs and the functional efficiency of the building and site.

With regard to costs, it is unlikely that the construction cost of new Police Department constructed as an addition to the existing Town Hall will provide a cost savings. The consideration that is hard to determine is the site work. A new Police Department on a real good site could be less expensive than a Police Department Addition to the Town Hall. And the opposite is also true; the site work for a new Police Department building on a site that requires significant remediation will be more expensive than an addition to the Town Hall.

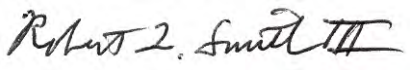
With regard to functional efficiency, there will be some sacrifices for the Town Hall and the Police Department if the Police Department is added to the building. The Town Hall staff will need to enter Police Department areas in order to access the breakroom and staff toilets. This may not be an acceptable compromise for the Police Department. This approach will also prohibit any future growth of both the Town Hall staff and the Police Department.

Our current determination is that the Town Hall site is not large enough to support both the Police Department and the Town Hall. This option may be reasonable only if no other suitable sites are available. Then it may be worth further exploration with the understanding that this option comes with limitations that make it less than ideal.

If you have any questions, please let us know.

Sincerely,

TALLEY & SMITH ARCHITECTURE, INC.



Robert L. Smith, III, AIA, LEED AP

TALLEY & SMITH ARCHITECTURE, INC.

P.O. BOX 518 (28151) 409 E. MARION ST. (28150) SHELBY, NC 704-487-7082 FAX 704-482-5596 TALLEYSMITHARCH.COM

February 10, 2020

seckard@valdesenc.gov

Seth Eckard, Town Manager
102 Massel Ave SW
Valdese, NC 28690

Re: Report on the Feasibility of Renovating the ALBA Waldensian Building
Town of Valdese, NC

Dear Mr. Eckard,

This letter is intended to provide an initial report on the possibility of renovating the existing ALBA Waldensian building into a new Public Safety Complex.

Basic Information regarding ALBA Waldensian building:

- ALBA Site is approximately 3.8 acres.
- The building is 3 stories, mostly office area except for about one-third of the basement level.
- Each Level of the building is about 17,500 SF each (about 52,500 SF total).
- The south facing entrance is the main entrance. When you walk into the main entrance, you are at a level between the basement level and the main floor level. The main floor level is about 48" higher than the entrance doors. It may be possible to provide ADA access with a lift from the entrance landing up to the main floor level.
- The northeast stairwell on the north side of the building does provide an entrance at the main floor level.
- The building structural system is steel columns and masonry load bearing walls. Interior office area walls are not load-bearing and can be removed and the floor plan reconfigured.
- The building has 2 elevators located in the central building lobby.
- On the Upper Floor, a 20 foot long area of the interior surface of the southern facing wall of the building shows evidence of past water damage. Other water damage may have occurred, but was not observed during our initial walk-through.

For comparison purposes, the current building program for a new facility, where some areas will be shared by the FD and PD, is 20,419 SF. If you subtract the Truck Bays' square footage from that number (+/- 8,000 SF), that leaves about 12, 500 SF. If the Town purchased this building, the new FD and PD would fit on the Main Level of the building. The remaining Upper Level and Basement could remain mostly as-is.

The following is an outline of what would be a reasonable Scope of Work:

1. Complete renovation of the Main Level, including all electrical, mechanical, plumbing, and interior finishes.
2. The building will require re-roofing, or possibly a complete tear-off and new roof membrane.
3. The building has very few exterior windows. It is worth considering that the Town might want to create new window openings as part of the renovation. Because of the dimensions and plan layout of the building, there will still be a lot of interior areas with no windows.
4. A Truck Bay addition to the building will be required for the Fire Department. The most likely location will be the west end of the building, which is the existing location of the exterior access to the Basement. Truck Bays will be an approximately 8,000 SF addition to the building. It will require a considerable amount of grading and structural fill in order to make the Truck Bays floor level the same as the Main Level of the building. Our preliminary assessment is that the truck bays will not be drive-through bays. The site work for this property is estimated to be about the same as for the Rostans site, but if the truck bays are oriented to be drive-through, the site work costs will be much higher (a lot of grading and structural fill dirt will be required).

Bottom Line: Not including the purchase price of the property, this project will cost the same or more than building a new 20,500 square foot building on the Rostans site. It will require significant manipulation of the site and grades to construct the new Truck Bay addition.

Concerns for consideration. These may be pros or cons, depending on your viewpoint:

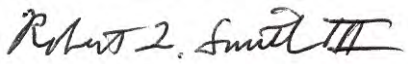
- The Town would be purchasing far more square footage than it needs.
- The entire Second Floor Level could be leased out. And it will depend on the tenant as to how much renovation work would be required, but a reasonable expectation is that new mechanical, electrical and plumbing systems will be required. It is possible that very few plan changes will be required, but all new carpet, paint, and lay-in ceilings will be necessary. To make this feasible, the tenant would need to lease at least half of the second level space.
- The Basement Level is more limiting. It has office areas, but does not have any windows. It will be difficult to create any new exterior access doors. It does provide a good area of conditioned storage, but the remaining half to two-thirds of the Basement is currently office space.

- If the second level and basement level are unoccupied, we believe you will still need to provide some level of new HVAC to keep these spaces adequately conditioned and to control humidity.
- The property is a good size, it would provide additional parking along Massel Avenue that may benefit the Town.

If you have any questions, please let us know.

Sincerely,

TALLEY & SMITH ARCHITECTURE, INC.



Robert L. Smith, III, AIA, LEED AP

Timeline

TALLEY & SMITH ARCHITECTURE, INC.

P.O. BOX 518 (28151) 409 E. MARION ST. (28150) SHELBY, NC 704-487-7082 FAX 704-482-5596 TALLEYSMITHARCH.COM

February 10, 2020

seckard@valdesenc.gov

Seth Eckard, Town Manager
102 Massel Ave SW
Valdese, NC 28690

Re: Report on the Feasibility of Renovating the Existing Public Safety Complex
Or Rebuilding New Public Safety Facility on that Site
Town of Valdese, NC

Dear Mr. Eckard,

This letter report is intended to summarize the study information completed and presented to the Town Council during past meetings. One of the initial options investigated was the feasibility, cost, and functional aspects of keeping the Public Safety Complex – the Fire Department and Police Department – at its existing site.

There are two options for this approach.

1. Renovate the existing buildings, and build new additional spaces as necessary.
2. Demolish the existing buildings and build a new facility.

Of course, there is the possibility of keeping some portion of the existing buildings, demolishing some of the existing buildings, and then building new as necessary. But, if the first two options are not viable, this third possibility is not likely to be any more viable.

Basic Information regarding Existing PS Complex Buildings and Site:

- Existing Site is approximately 1 acre (43,560 SF).
- Existing Main Level of Building is 13,962 SF
- Existing Second Floor is 3,132 SF
- Existing TOTAL size of building is 17,094 SF

For comparison purposes, the current building program for a new facility at the Rostans site, where some areas will be shared by the FD and PD, is 20,419 SF. And the total estimated construction cost for the new building and site work is approximately $5.1 million (this is not the total estimated project cost for the Rostans site, but is the site work and building construction costs).

The first point of comparison is the cost of a new facility versus renovating the existing buildings.

Renovation Cost = $4.9 million for 17,094 SF
(does not include any new truck bays)
New Facility = $5.1 million for 20,419 SF

The issues identified if the existing buildings are renovated.

A. The FD and PD will have to move out and relocate during the construction period. (These costs are not included in the stated costs.) If either department has to remain in the building during renovation, then the renovation costs will be higher.
B. The existing buildings will require structural repairs. The PS structural problems have been well documented. The other buildings also have issues that will have to be evaluated and addressed. The brick veneer is also in poor condition on most of the building.
C. Building is outdated and unsuited to current FD and PD operational requirements. Full renovation will address many of these requirements, but the existing buildings will impose limitations on what can be done.
D. Building is poorly insulated. The older walls may be entirely uninsulated.
E. Buildings will require full renovation. In addition to the structural and insulation deficiencies, the building will require asbestos removal, new roofing, electrical systems, HVAC, plumbing, brick veneer repairs, interior finishes, windows, doors, sprinkler system, etc. This level of renovation is not less expensive than new construction.
F. Existing building does not meet current Essential Facility standards. These are primarily structural improvements that will have to be made to the existing buildings.
G. The truck bay doors are limited to being 12 feet tall. The current standard fire truck bay door is 14 feet tall. (A ladder truck requires a 14' tall door.)
H. The entire facility will have to be brought in compliance with the current NC Building Code. A quick example of the improvements will include adding a sprinkler system, making ADA improvements, and adding an elevator.

Option 1 Bottom Line: During the original investigation of this issue, it was determined that the limitations imposed by the existing buildings and the high costs of renovating these buildings make this option a poor use of Town funds. The renovation costs will be nearly the same as the costs of a new larger building, or maybe more. Floor plan changes to the existing buildings will be limited and it is not possible to provide taller truck bays. It will also be very difficult to add new truck bays and still provide adequate parking and drives.

The other option that has been discussed is to demolish the existing buildings and build the new Public Safety Building on this site. The existing site is approximately 1 acre. As a point of reference, the Rostans site is 2.3 acres.

The drawbacks of this option are:

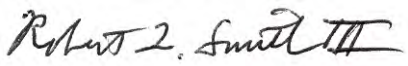
1. The FD and PD will have to relocate during the construction period. (These costs are not included in the estimated costs.)
2. The firetruck access to Faet Street will not allow adequate area between the building and the road, the same as the existing conditions which do not allow room for a large fire truck to be parked outside of the building. On site truck maneuvering area will be extremely limited.
3. The project costs will be similar to, or higher than, the recent new project costs estimated for the Rostans site. To fit on the site, the new building will probably be two-story. A two-story building will require at least two stairwells and an elevator.

Option 2 Bottom Line: Building a new building on the existing Faet Street site is a reasonable consideration, since the Town already owns the property. But the size of the site will make the building two-story, which is not ideal for a Fire Department or Police Department. It will also be difficult to provide adequate truck bays and related truck access and parking. There will not be any cost savings when compared to building at the Rostans property. It will also require that the FD and PD move to a temporary location during the construction period.

If you have any questions, please let us know.

Sincerely,

TALLEY & SMITH ARCHITECTURE, INC.



Robert L. Smith, III, AIA, LEED AP

- January 13, 2021: CBSA/McGill Associates gave a presentation comparing costs and operational needs of the Rostan and Pineburr properties. Subsequently, the decision was made to proceed with exploring the use of the Pineburr property. Site evaluations of the Pineburr site were initiated prior to entering any purchase agreement, and Town Staff asked the Architect, Engineer, a specialty demolition contractor, and Duke Energy to comment on various existing site conditions for the purpose of determining suitability of the site for re-development into the new fire and police station. Final transfer of the parcels to the town occurred in the Spring.

Timeline

FIRE AND POLICE SITE EVALUATIONS

mcgill Shaping Communities Together

CBSA architects

13-JANUARY-2021

Timeline

AGENDA

- Serve the Public
- Functionality for Staff
- Cost Effective Site & Development

- Decision Matrix
- Review Site Layouts & Costs

- Pineburr Considerations
    - Demo
    - Re-use/Renovation
    - Purchase & Lease Logistics

CBSA architects

Timeline

DECISION MATRIX

- Accessibility & Function
  - On site
  - Out
- Cost
- Single Story
- Visibility
- No Off-Site Improvements
- No Site Demolition
- Donated Land

	On Site Accessibility	Accessibility Out	Cost	Single Story	Visibility	No Off-Site Improvements	No Site Demo	Donated Land
Rostan 1								
Rostan 2								
Pineburr								

CBSA architects

BUILDING COMPARISONS

- 1-Story
- 2-Story
    - Fire Apparatus on Lower Level
    - Fire Operations on Lower Level
    - All Police Operations on Upper Level
    - Shared Facilities on Both Levels

CBSA architects


Map
OrthoPhotos
Timeline
WALNUT AVE NE
LAUREL ST NE
JEFFERSON AVE
ELDRED ST NE
MARTINAT DR NE
MAIN ST E
LAUREL ST SE
HILL ST SE
OAK AVE SE
MORGAN ST SE
ELDRED ST SE
BERRY AVE SE
Valdese

Timeline

mcgill
1240 19th Street Lane NW
Hickory, NC 28601
828.328.2024
NC Firm License # C-0459
mcgillassociates.com

PRELIMINARY

811 CALL BEFORE YOU DIG IT'S THE LAW!

PUBLIC SAFETY FACILITY

TOWN OF VALDESE

BURKE COUNTY, NORTH CAROLINA

ROSTAN SITE
SINGLE-LEVEL OPTION

SHEET 1

OFFICE MANAGER	DESIGNER			
D. CHAPMAN	N. SAWYER			
PROJECT MANAGER	REVIEWER	DATE	PROJECT #	FUNDING #
M. OETTING	RJ MOZELEY	JANUARY 2021	20.01410	N/A

SITE LAYOUTS

Rostan 1-Story

1. Increased Retaining Walls Cost
2. Site is Tight
3. Underground Storm Water Retention Cost
4. Easier Adjacency to Admin Assist
5. Easier Common Public Access
6. Challenge-Fire Access To Main St.
7. Challenge-Fire Access to Laurel St.
8. Challenge-Mixed Fire & Public Traffic Patterns

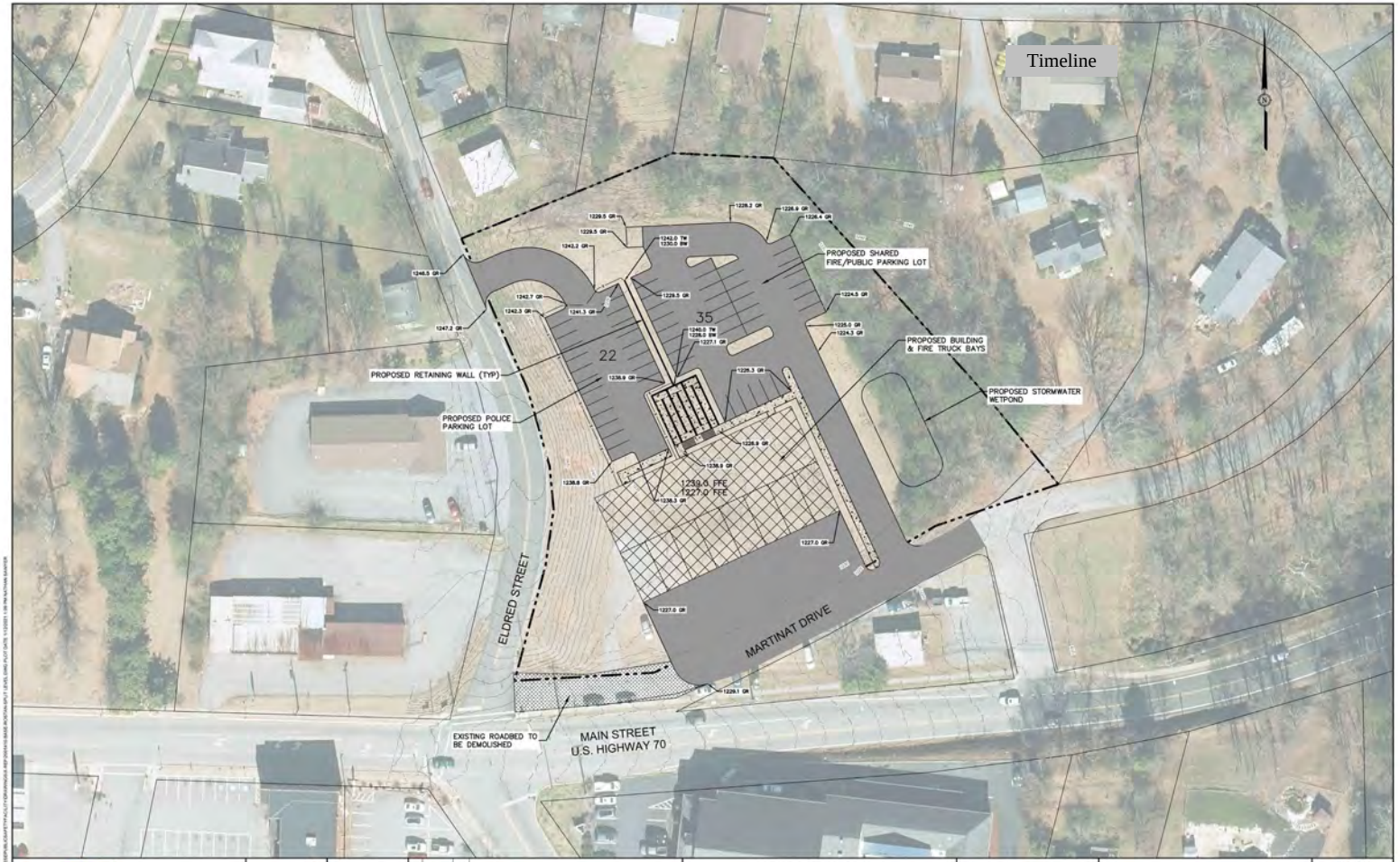
CBSA architects


Map
OrthoPhotos
Timeline
Valdese
BOUCHARD AVE NE
WALNUT AVE NE
LAUREL ST NE
JEFFERSON AVE NE
ELDRED ST NE
MARTINAU DR NE
MAIN ST E
HILL ST SE
OAK AVE SE
MORGAN ST SE
ELDRED ST SE
504
509
513
508
512
516
520
224
301
227
217
221
213
209
705
709
713
716
809
116
204
636
202
161
616
610
726
440
448
405
429
437
439
447
203
623
625
612
719
721
104

CBSA architects

NORTH LAUREL ST ACCESS

Timeline



mcgill
1240 19th Street Lane NW
Hickory, NC 28601
828.328.2024
NC Firm License # C-0459
mcgillassociates.com

PRELIMINARY

811 CALL BEFORE YOU DIG

NO.	DATE	BY	DESCRIPTION

PUBLIC SAFETY FACILITY

TOWN OF VALDESE

BURKE COUNTY, NORTH CAROLINA

GRAPHIC SCALE — DIVISION VALUE = 30 FEET

OFFICE MANAGER	DESIGNER
D. CHAPMAN	N. SAWYER
PROJECT MANAGER	REVIEWER
M. OETTING	RJ MOZELEY

ROSTAN SITE
2-STORY OPTION

DATE	PROJECT #	FUNDING #
JANUARY 2021	20.01410	N/A

SHEET 1

SITE LAYOUTS

Rostan 2-Story

1. Elevator Cost
2. (2) Stairs Cost
3. Increased Area Cost
4. Increased Structure Cost
5. Decrease Site Impact
6. Less Retaining Walls & No Underground Stormwater
7. Challenge-Adjacency to Admin Assist
8. Challenge-Common Public Access
9. Challenge-Fire Access to Main St
10. Challenge-Fire Access to Laurel St

CBSA architects

Timeline

mcgill
1240 19th Street Lane NW
Hickory, NC 28601
828.328.2024
NC Firm License # C-0459
mcgillassociates.com

PRELIMINARY

811 CALL BEFORE YOU DIG

NO	DATE	BY	DESCRIPTION

PUBLIC SAFETY FACILITY

TOWN OF VALDESE

BURKE COUNTY, NORTH CAROLINA

GRAPHIC SCALE — DRAWN VALUE = 30 FEET

OFFICE MANAGER	DESIGNER
D. CHAPMAN	N. SAWYER
PROJECT MANAGER	REVIEWER
M. OETTING	RJ MOZELEY

PINEBURR SITE
SINGLE-LEVEL OPTION

DATE	PROJECT #	FUNDING #
JANUARY 2021	20-01410	N/A

SHEET 1

SITE LAYOUTS

Pineburr 1-Story

1. No Retaining Walls & No Underground Stormwater
2. Easier Adjacency to Admin Assist
3. Easier Common Public Access
4. Challenge-Adjacent Vacant Buildings

CBSA architects

OPINION OF PRELIMINARY PROBABLE COSTS

Timeline

Comparison

	Rostan Single Story	Rostan Two Story	Pineburr
Site Purchase	$0	$0	$98,132
Building	$4,440,000	$4,910,000	$4,440,000
Site Improvements	$2,070,000	$1,132,000	$1,048,000
Demolition	$0	$0	$450,000*
Main Street Access	$104,000	$104,000	$0
Laurel Street Access	$135,000	$135,000	$0
Total	$6,749,000	$6,281,000	$6,129,000

CBSA architects

Timeline

DECISION MATRIX

	On Site Accessibility	Accessibility Out	Cost	Single Story	Visibility	No Off-Site Improvements	No Site Demo	Donated Land
Rostan 1	√			√	√		√	√
Rostan 2					√		√	√
Pineburr	√	√	√	√		√		

CBSA architects


Timeline
MASSELAVE SE
RIBET AVE SE
LAUREL ST SE
FINEBORA AVE SE
ROSTAN ST SE
PASCAL ST SE
HENRY ST SE
GARROU AVE SE
MORGAN ST SE
PAULINE
GIRAUD AVE SE
LOUIS ST SE
ELDRED ST SE
LITTON ST SE

Table of Contents:

Valdese Public Safety Building- Space Program

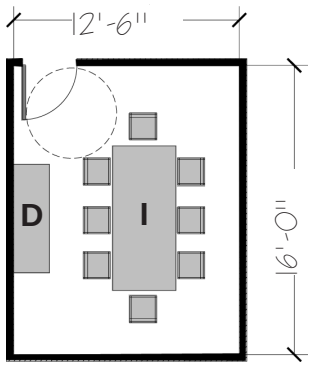
February 16, 2021

Timeline

		Staff	Current Need	Staff	10 Year	Staff	20 Year
Summary							
A. Police Areas							
A1	**Administrative**	3	**939**	3	**939**	3	**939**
A2	**Records**	1	**441**	1	**441**	1	**441**
A3	**Investigations**	0	**20**	1	**103**	1	**103**
A4	**Patrol**	10	**1,004**	12	**1,004**	14	**1,004**
A5	**Break Room**		**200**		**200**		**200**
A6	**Intake/Holding**		**893**		**893**		**893**
A7	**Sallyport**		**880**		**880**		**880**
A8	**Property/Evidence**		**408**		**408**		**408**
A9	**Locker Rooms**		**553**		**577**		**589**
A10	**Storage**		**738**		**738**		**738**
	Police Subtotal		6,075		6,182		6,194
	Building Grossing Factor- 35%		2,126		2,164		2,168
	(Mech. Allowance, circulation, structure, envelope)						
	Police Total:	14	**8,201**	17	**8,346**	19	**8,362**
B. Fire Areas							
B1	**Administrative**	3	**1,248**	3	**1,248**	3	**1,248**
B2	**Operations-Work Areas**	24	**195**	25	**195**	26	**195**
B3	**Operations-Support Areas**		**1,391**		**1,599**		**1,807**
B4	**Locker Rooms/Toilets**		**415**		**415**		**415**
B5	**Apparatus Bays**		**6,400**		**6,400**		**6,400**
B6	**Apparatus Bay-Support**		**1,507**		**1,527**		**1,547**
	Fire Subtotal		11,156		11,384		11,612
	Building Grossing Factor- 25%		2,789		2,846		2,903
	(Mech. Allowance, circulation, structure, envelope)						
	FireTotal:	27	**13,945**	28	**14,230**	29	**14,515**
C. Shared Areas							
C1	**Lobby**		**712**		**712**		**712**
C2	**Training Room**		**1,754**		**1,754**		**1,754**
C3	**Fitness**		**750**		**750**		**750**
	Shared Subtotal		3,216		3,216		3,216
	Building Grossing Factor- 25%		804		804		804
	(Mech. Allowance, circulation, structure, envelope)						
	Shared Total:		**4,020**		**4,020**		**4,020**
	Total GSF:		**26,166**		**26,596**		**26,897**

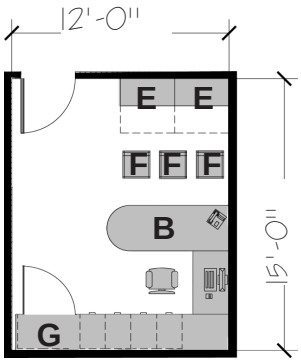
		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
A.	**Police Dept. Areas**												
A1.	**Administration**				3		**939**	3		**939**	3		**939**
	Chief	0-180	180	228	1	1	180	1	1	180	1	1	180
	Toilet-Shower		72	36		1	72		1	72		1	72
	Assistant Chief	0-150	150	90	1	1	150	1	1	150	1	1	150
	Personnel Office	0-120	120		1	1	120	1	1	120	1	1	120
	Executive Conference	C-200	200	0		1	200		1	200		1	200
	Subtotal						722			722			722
	Department Circulation Factor- 30%						217			217			217

Space Standards:



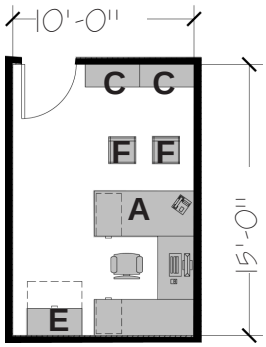
C-200

Net Square Feet: 200



O-180

Net Square Feet: 180

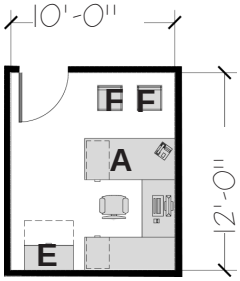


O-150

Net Square Feet: 150

Legend:

A..... 66"W U-Shaped Work Area w/ Files
B .....U-Shaped Work Area With Conf. Top
C .....Book Case
D .....Credenza
E ..... 36"W Lateral File Cabinet
F ..... Guest Chair
G.....Storage Wardrobe/Closet



O-120

Net Square Feet: 120

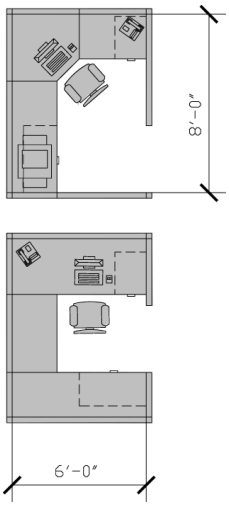
		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
A.	**Police Dept. Areas**												
A2.	**Records**				1		**441**	1		**441**	1		**441**
	Manager/Admin. Assist.	WS-64	64	300	1	1	64	1	1	64	1	1	64
	Temp Work Area	WS-48	48			1	48		1	48		1	48
	Public Counter		42			1	42		1	42		1	42
	Copy/Collate		80			1	80		1	80		1	80
	Records Files		15			7	105		7	105		7	105
	Subtotal						339			339			339
	Department Circulation Factor- 30%						102			102			102
A3.	**Investigations**				0		**20**	1		**103**	1		**103**
	Detective/TF	WS-64	64	0			0	1	1	64	1	1	64
	Equip/Supply Storage		15	0		1	15		1	15		1	15
	Subtotal						15			79			79
	Department Circulation Factor- 30%						5			24			24

Space Standards:

Legend:

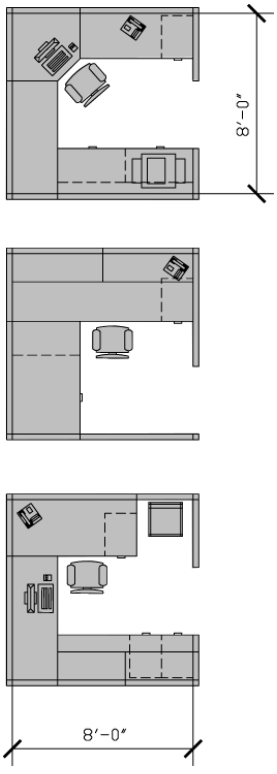
Possible Components Include:

Under Counter Pedestal/File
Under Counter Lateral File
Overhead Shelving
Guest Seating
Wardrobe Closet
Task Lighting
Tack Surface



WS-48

Net Square Feet: 48



WS-64

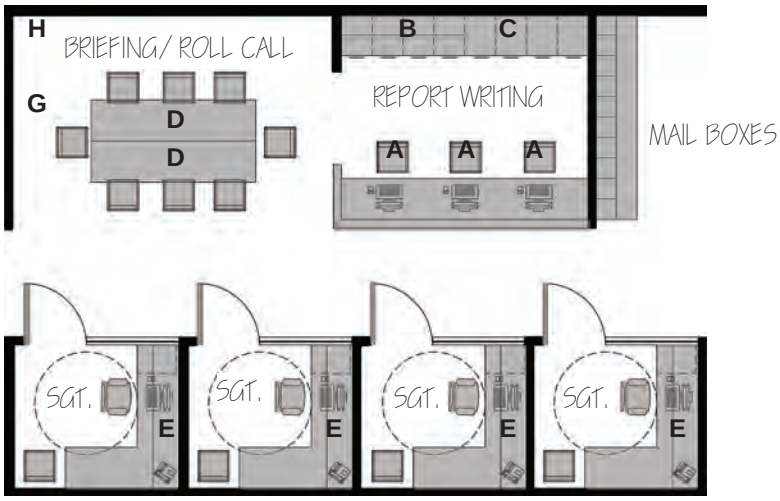
Net Square Feet: 64

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
A.	**Police Dept. Areas**												
A4.	**Patrol**				10		**1,004**	12		**1,004**	14		**1,004**
	Sergeant	WA-272	272	168	4	1	272	4	1	272	4	1	272
	Patrol Officer-Report Writing	WA-120	120	140	6	1	120	8	1	120	10	1	120
	Roll Call/Briefing	WA-200	200	0		1	200		1	200		1	200
	Conference/Juvenile Observ.		100			1	100		1	100		1	100
	Equipment Storage		50	42		1	50		1	50		1	50
	Mailboxes		30			1	30		1	30		1	30
	Subtotal						772			772			772
	Department Circulation Factor- 30%						232			232			232

Space Standards:

Legend:

A.....Officer Work Area
B.....Form Storage
C.....Copy/Printer/Files
D.....Modular Train. Table
E.....Sgt. Work Area
F.....File Cabinet
G.....White Board
H.....Television/Monitor



WA-272, WA-120, WA-200

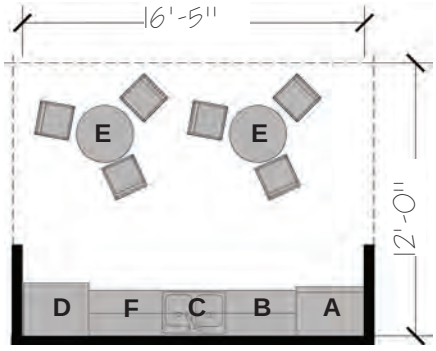
Configuration Example

Valdese Public Safety Building- Space Program

February 16, 2021

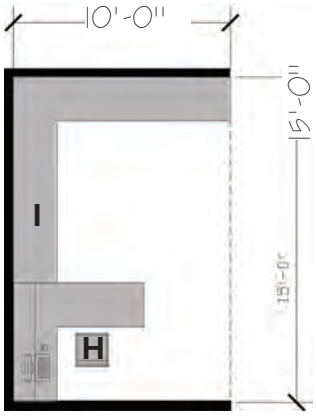
		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
A.	**Police Dept. Areas**												
A5	**Break Area**						**200**			**200**			**200**
	Break Area	SA-180	200	150		1	200		1	200		1	200
	Circulation Factor-0%						0			0			0
A6	**Intake/Holding**						**893**			**893**			**893**
	Secure Vestibule		80	0		1	80		1	80		1	80
	Intake/Process./Fingpt.	SA-150	150	49		1	150		1	150		1	150
	Detainee Staging/Bench		24	0		2	48		2	48		2	48
	Holding Cell		80	0		2	160		2	160		2	160
	Interview	C-100	100	70		2	200		2	200		2	200
	Circulation Factor- 40%						255			255			255
A7	**Sallyport**						**880**			**880**			**880**
	Vehicle Bay		800	0		1	800		1	800		1	800
	Storage		80	0		1	80		1	80		1	80
	Circulation Factor- 0%						0			0			0

Space Standards:



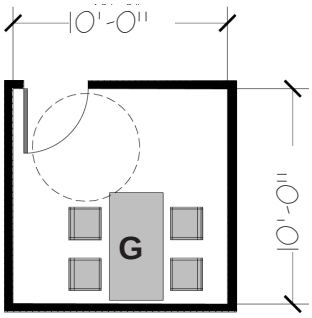
BA-200

Net Square Feet: 200



SA-150

Net Square Feet: 150



C-100

Net Square Feet: 100

Legend:

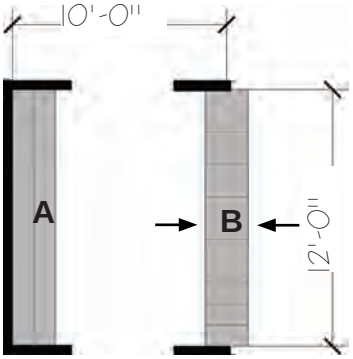
A.....Refrigerator
B.....Counter/Cabinets
C.....Sink/DW
D.....Vending Machine
E.....30"D Table
F.....Cook Station
G.....30" x 60" Table/Seating
H.....Officer Work Area
I.....Counter/Process Area

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
A.	**Police Dept. Areas**												
A8	**Property/Evidence**						**408**			**408**			**408**
	Bag/Tag Area-Lockers	SA-120	120			1	120		1	120		1	120
	Work Area		60			1	60		1	60		1	60
	General Storage		300	80		1	300		1	300		1	300
	Large Object Storage Area												
	Circulation Factor- 10%						48			48			48
A9	**Locker Rooms**						**553**			**577**			**589**
	Male Sworn Locker		12	0		12	144		14	168		15	180
	Male Shower		24	0		1	24		1	24		1	24
	Male Toilet		150			1	150		1	150		1	150
	Female Sworn Locker		12	0		6	72		6	72		6	72
	Female Shower		24	0		1	24		1	24		1	24
	Female Toilet		100			1	100		1	100		1	100
	Circulation Factor- 20%						39			39			39
B10	**Storage**						**738**			**738**			**738**
	Supply Storage		80	0		1	80		1	80		1	80
	Records Archive Storage		150	144		1	150		1	150		1	150
	Armory	SA-200	200	112		1	200		1	200		1	200
	Uniform/Gen. Storage		150	160		1	150		1	150		1	150
	IT Server		100			1	100		1	100		1	100
	Circulation Factor- 10%						58			58			58

Space Standards:

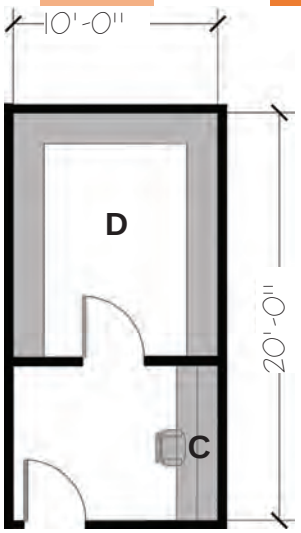
Legend:

A.....Bag/Tag Counter and Storage
B ..... Pass Through Evid. Lockers
C ..... Cleaning/Work Area
D ..... Equipment Storage/Racks



SA-120

Net Square Feet: 120

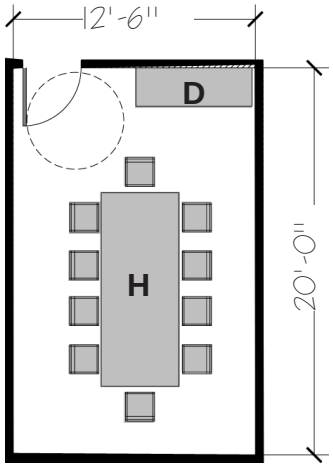


SA-200

Net Square Feet: 200

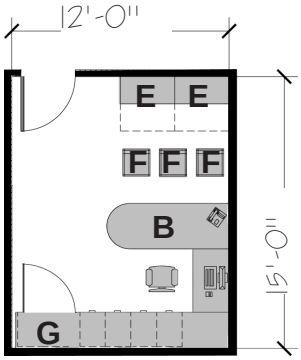
		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
B.	**Fire Dept. Areas**												
B1.	**Administration**				3		**1,248**	3		**1,248**	3		**1,248**
	Chief	O-180	180	228	1	1	180	1	1	180	1	1	180
	Toilet/shower		72	35		1	72		1	72		1	72
	Assistant Chief	O-150	150	168	1	1	150	1	1	150	1	1	150
	Safety Officer	O-120	120	90		1	120		1	120		1	120
	Fire Prevention Storage		36			1	36		1	36		1	36
	Fire Marshal	WS-64	64	140	1	2	128	1	2	128	1	2	128
	Fire Marshal Files		12			2	24		2	24		2	24
	Executive Conference	C-250	250	0		1	250		1	250		1	250
	Subtotal						960			960			960
	Department Circulation Factor- 30%						288			288			288

Space Standards:



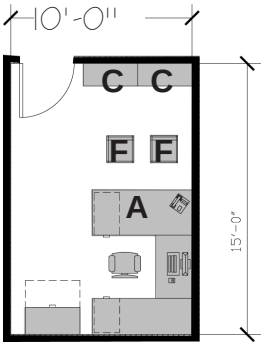
C-250

Net Square Feet: 250



O-180

Net Square Feet: 180

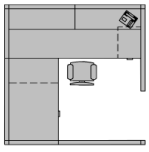


O-150

Net Square Feet: 150

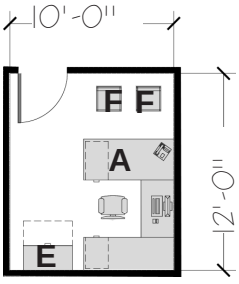
Legend:

A..... 66"W U-Shaped Work Area w/ Files
B .....U-Shaped Work Area With Conf. Top
C.....Book Case
D.....Credenza
E ..... 36"W Lateral File Cabinet
F ..... Guest Chair
G.....Storage Wardrobe/Closet
H.....42" x 120" Conf. Table/Seating



WS-64

Net Square Feet: 64

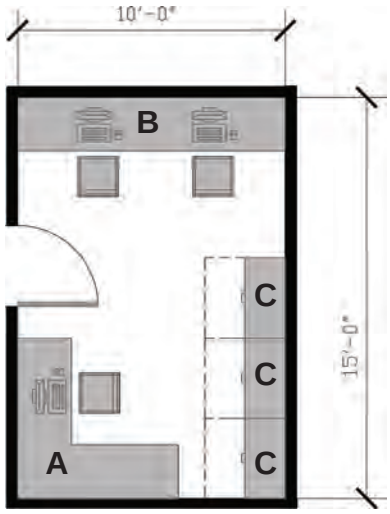


O-120

Net Square Feet: 120

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
B.	**Fire Dept. Areas**												
B2.	**Operations- Work Areas**				24		**195**	25		**195**	26		**195**
	Report Writing Area-Officers	WA-150	150	90		1	150		1	150		1	150
	Shift Command				2		0	2		0	2		0
	Full Time Personnel				2		0	3		0	4		0
	Part Time Personnel				20			20			20		
	Subtotal						150			150			150
	Department Circulation Factor- 30%						45			45			45

Space Standards:



WA-150

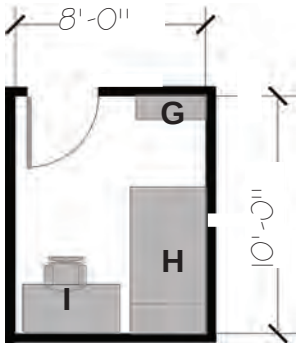
Net Square Feet: 150

Legend:

A..... Supervis. Workstation
B ..... Report Writing
C .....File/Storage
D .....Counter/Printer/Form Storage

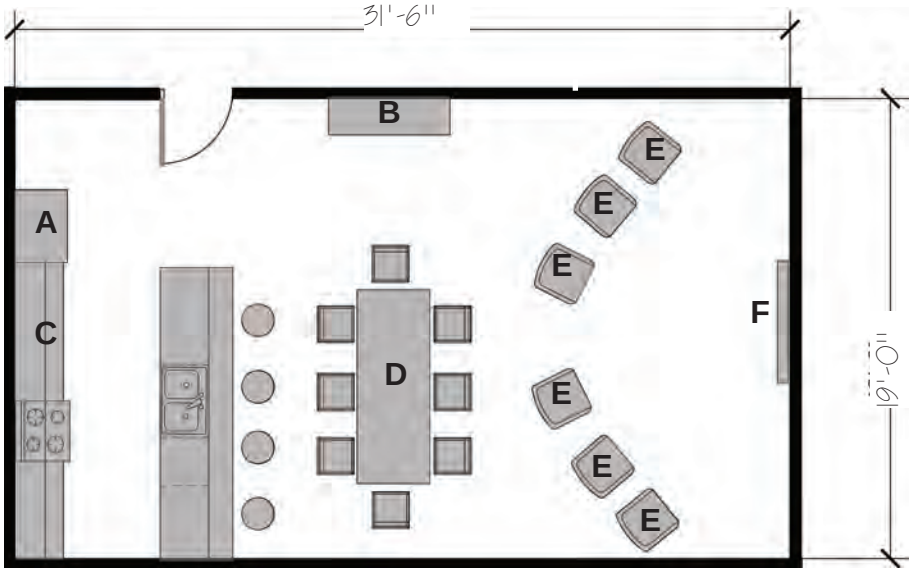
		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
B.	**Fire Dept. Areas**												
B3.	**Operations- Support Areas**				0		**1,391**	0		**1,599**	0		**1,807**
	Dayroom/Kitchen	SA-600	600	480		1	600		1	600		1	600
	Pantry		50			1	50		1	50		1	50
	Bunk Room	SA-80	80	400		4	320		6	480		8	640
	Laundry/Linens		100			1	100		1	100		1	100
	Subtotal						1,070			1,230			1,390
	Department Circulation Factor- 30%						321			369			417

Space Standards:



SA-80

Net Square Feet: 80



SA-600

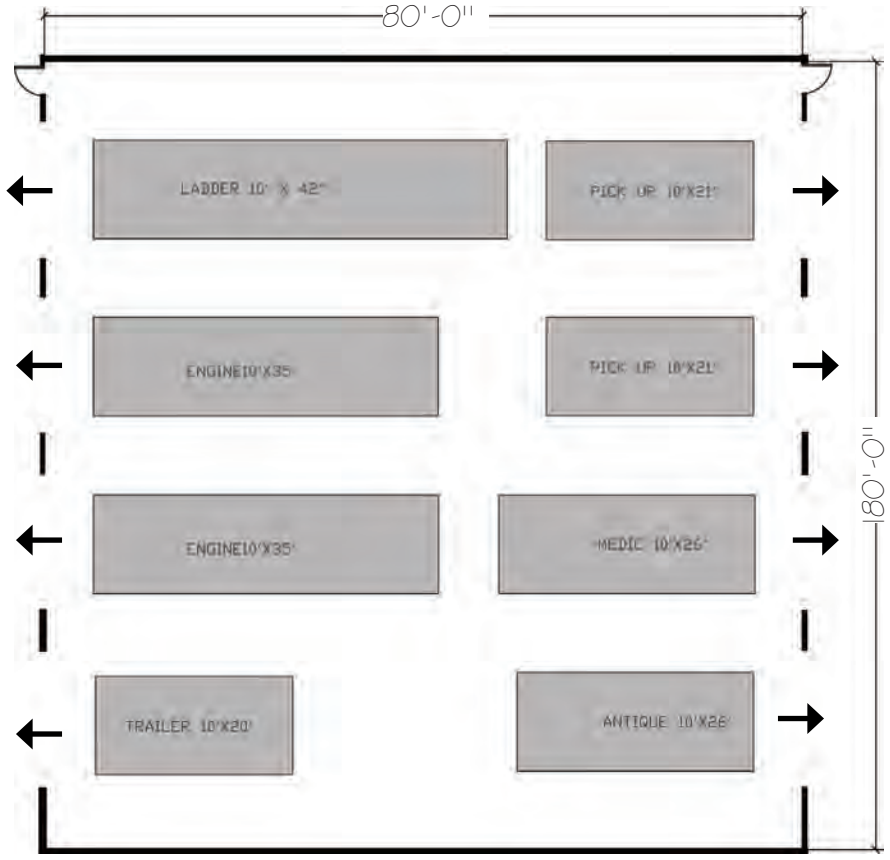
Net Square Feet: 600

Legend:

A..... Refrigerator
B..... Side Table/Cabinet
C..... Counter/Cabinets
D.....Dining Table
E..... Recliner Chair
F..... Television
G.....Bench/Hooks
H.....Single Bed
I.....Desk

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
B.	**Fire Dept. Areas**												
B4.	**Locker/Toilet Rooms**				0		**415**	0		**415**	0		**415**
	Male Locker		12			14	168		14	168		14	168
	Male Shower		24			1	24		1	24		1	24
	Male Toilet		150			1	150		1	150		1	150
	Female Locker		12			6	72		6	72		6	72
	Female Shower		24			1	24		1	24		1	24
	Female Toilet		100			1	100		1	100		1	100
	Subtotal						346			346			346
	Department Circulation Factor- 20%						69			69			69
B5.	**Apparatus Bays**				0		**6,400**	0		**6,400**	0		**6,400**
	Fire Engine	SA-6160	6,400			1	6,400		1	6,400		1	6,400
						1	0		1	0		1	0
	Subtotal						6,400			6,400			6,400
	Department Circulation Factor- 0%						0			0			0

Space Standards:



SA-6400

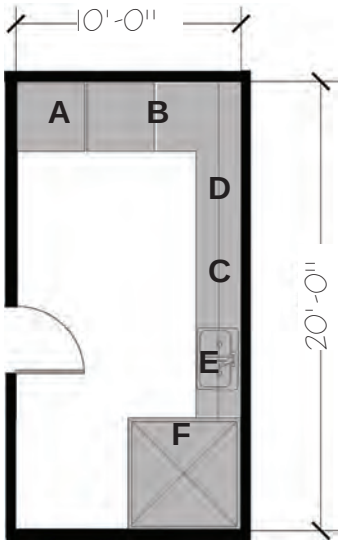
Net Square Feet: 6400

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
B.	**Fire Dept. Areas**												
B6.	**Support/Storage**				0		**1,507**	0		**1,527**	0		**1,547**
	Adjacent to Apparatus:												
	SCBA		120			1	120		1	120		1	120
	Ice Machine		50			1	50		1	50		1	50
	Turn Out Gear		9			20	180		22	198		24	216
	Work/Maint.:												
	Tool/Work		200			1	200		1	200		1	200
	Hose Drying		100			1	100		1	100		1	100
	Work/Decon Room	SA-200	200			1	200		1	200		1	200
	Other:												
	Medical Storage		50			1	50		1	50		1	50
	Spare Gear		150			1	150		1	150		1	150
	IT Server		100			1	100		1	100		1	100
	Part Time Personnel Storage		100			1	100		1	100		1	100
	Archive Record Storage		120			1	120		1	120		1	120
	(Detatched stor./shed-see section D)						0						
	Subtotal						1,370			1,388			1,406
	Department Circulation Factor- 10%						137			139			141

Space Standards:

Legend:

A..... Washer
B..... Dryer
C..... Counter/Cabinets
D..... Upper Drying Rod/Rack
E..... Wash Sink
F..... Large Shower



SA-200

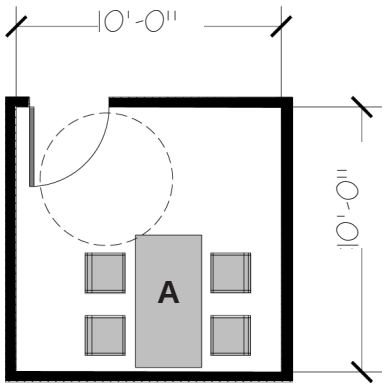
Net Square Feet: 200

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
C.	**Shared Facility Areas**												
C1.	**Lobby**						**712**			**712**			**712**
	Entry Vestibule		80			1	80		1	80		1	80
	General Lobby		120			1	120		1	120		1	120
	Service Counter		48			2	96		2	96		2	96
	Fingerprint		48			1	48		1	48		1	48
	Public Seating		12			6	72		6	72		6	72
	Public Toilets		48			2	96		2	96		2	96
	Interview Room	C-100	100			2	200		2	200		2	200
	Subtotal						712			296			296
	Department Circulation Factor- 10%						71			30			30

Space Standards:

Legend:

A.....60x30" Table



C-100

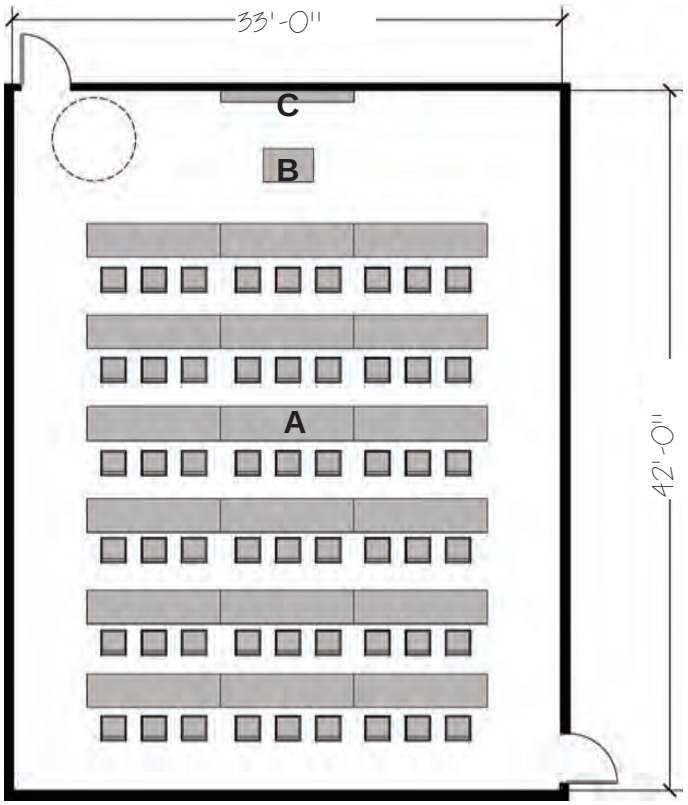
Net Square Feet: 100

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
C.	**Shared Facility Areas**												
C2.	**Training/Community Room**						**1,754**			**1,754**			**1,754**
	Training Room	C-1400	1,400			1	1,400		1	1,400		1	1,400
	Coffee		36			1	36		1	36		1	36
	Coats		36			1	36		1	36		1	36
	Storage		150			1	150		1	150		1	150
	Vending Alcove		36			1	36		1	36		1	36
	Toilets		48			2	96		2	96		2	96
	Subtotal						1,754			1,754			1,754
	Department Circulation Factor- 0%						0			0			0

Space Standards:

Legend:

A.....Modular Training Table
B .....Lecturn
C ..... White Board/Screen/Tack Bd



C-1400

Net Square Feet: 1386

Capacity: 56 Seats

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
C.	**Shared Facility Areas**												
C3.	**Fitness Training**						**750**			**750**			**750**
	Weights/Equip. Room	SA-750	750			1	750		1	750		1	750
	Subtotal						750			750			750
	Department Circulation Factor- 0%						0			0			0

Space Standards:

SA-600

Net Square Feet: 600

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year
D.	**Exterior Support**												
D1	**Police Parking**				**14**		**4,875**	**15**		**5,250**	**16**		**5,625**
	Administration		200		3		600	3		600	3		600
	Shift/Squad Parking		250		10		2,500	11		2,750	12		3,000
	Radar Trailer		150		1		150	1		150	1		150
	Circulation Factor- 50%						1,625			1,750			1,875
D2	**Fire Parking**				**17**		**5,100**	**17**		**5,100**	**17**		**5,100**
	Full Time Staff		200		7		1,400	7		1,400	7		1,400
	Part Time Staff		200		10		2,000	10		2,000	10		2,000
	Circulation Factor- 50%						1,700			1,700			1,700
D3	**Public Parking**				**24**		**5,200**	**24**		**5,200**	**24**		**5,200**
	Police Visitors		200		2		400	2		400	2		400
	Fire Visitors		200		2		400	2		400	2		400
	Community/Training		200		20		4,000	20		4,000	20		4,000
	Circulation Factor- 50%						400			400			400
D4	**Site Support**						**800**			**800**			**800**
	Trash/Recycle		200		1		200	1		200	1		200
	Fire- Tire./Foam/Maint.		600		1		600	1		600	1		600
	Shed												
	Training Area												
	Circulation Factor- 50%						400			400			400

- February-June 2021: Numerous meetings and discussions were held to determine needs, square footage, site plans and floor plan concepts. On February 16, CBSA delivered its initial needs assessment, programming, and site and floor plan concepts. In June, small group meetings were held with Town Council to present revised proposed programming and plans. Several comments were made by Town Council that resulted in CBSA making some changes to the plans.

Town of Valdese, NC

Public Safety Building

Assessment of Needs Overview
Existing Facility Evaluation Overview
Space Programming Review
Proposed Site Plan Concept
Floor Plan Concept
Draft Schedule

Review
Tuesday, February 16, 2021

Overview of Existing Facility Problems

- The 41-year-old building is overcrowded and ***does not support efficient or safe fire and police police operations.***
- These problems ***compromise ability for services to be delivered to the public in a safe, secure, and efficient manner.***
- Many functions are required to ***share small, crowded spaces***.
- There is ***limited opportunity*** for internal training, community activities, and many other functions.
- The building in question is actually a combination of three structures. Cracks seem to be worse in the police department and moving towards the fire department, but ***the entire structure is compromised.***
- Instead of there being a single storage area, things are ***separated into several small storage areas***. SCBA compressor, gear storage, and ice machine are located within the bay/truck exhaust area.
- The Training room only ***holds 20-25 comfortably and Fire Department has around 35 members total.***
- Lack of sufficient areas for Storage Support is ***forcing the diversion of some Apparatus equipment, materials and supplies to improvised locations, impairing operational efficiency.***
- These problems ***compromise ability for services to be delivered to the public in a safe, secure, and efficient manner.***
- The Fire department ***does not have a Fitness/Exercise area.*** There is very little hands on training that can be completed here. Employees have to leave the station to travel to a gym. The public gym is not always open during times that firefighters can attend and does not have after hours access.
- The Dayroom is only big enough for two people so if when extra personnel are on duty there is not room. ***This does not support efficient fire and police operations.***

Overview of Existing Facility Problems -cont'd.

Timeline

- Existing conditions ***compromise the ability for services to be delivered to the public in a safe, secure, and efficient manner.***
- Many functions are required to ***share small, crowded spaces***.
- Instead of there being a single storage area, things are ***separated into several small storage areas***. SCBA compressor, gear storage, and ice machine are located within the bay/truck exhaust area.
- Existing conditions ***compromise the ability for services to be delivered to the public in a safe, secure, and efficient manner.***
- The ***Fire Sleeping area is too far away from the bays and located on a second level.*** The existing facility has ***one large sleeping area*** which is not ideal when you have a ***combination of female and male employees***. Only one bathroom and shower in the sleeping area.
- ***Lockers are insufficent in number and size.***
- The Administration offices are small and spread in the facility.
- ***One work station for all the Patrol officers and is not sufficient.***
- ***Storage space which it located in the different building.***
- ***Administrative support lacks space for conference room, interview rooms, supply storage, file cabinets, copy machine.***
- ***Patrol functions lack needed grouping for operational efficiency.***

Overview of Existing Facility Problems -cont'd.

Timeline

- ***The existing Police facility lacks Report Writing space.***
- Many functions are ***required to share small, crowded spaces***.
- Instead of there being a single storage area, things are ***separated into several small storage areas.*** SCBA compressor, gear storage, and ice machine are located within the bay/truck exhaust area.
- ***The existing Police facility do not have a dedicated Roll Call room. Spaces are not large enough for all personnel involved in shift briefings.***
- The Training area and Fitness areas are located off-site. ***Certain training needs to be done in-house.***
- ***The Police Department lacks a Locker Room with sufficient space to accommodate officer uniforms, personnel equipment, boots, and other needed items.***
- ***The Police Department do not have an arrestee Processing/Holding area.***
- ***Absence of a Sallyport for prisoner transfer at the Police facility is brings with it a serious security risk.***
- ***Evidence Storage is overly congested and operationally inefficient due to the existing building space. Evidence storage with sensitive evidence items is accessed from the Break Room, and some evidence lockers are located in the Break room due to the lack of space.***
- ***Evidence Storage and evidence related areas lack Pass-through lockers, Bag and Tag area, separation of the Drug, Valuable, Weapon storage. Evidence Storage has no logging system.***
- Break Room is too small and lacking in needed features, i.e., sink, oven, dishwasher, microwave, refrigerator, icemaker, and sufficient vending machines. All this features are presently located in the Kitchen on the Fire Department side. It is very insufficient in location for required access and in needed features.

Overview of Existing Facility Problems -cont'd.

Timeline

- ***The entire Fingerprint and photo ID area lack secured separation from civilian use.***
- Central location is needed for printer, copier, scanners, fax, and shredder.
- Storage areas are located outside of the building and this restricts access on a daily basis. Each Police Department unit requires storage for different purposes. Among the needs are archival storage, equipment/supplies .
- Functionality of the **Records Division** is to work as a large open space with individual work areas. Administrative Assistant serves two Departments Police and Fire. Existing support areas currently are in dire need additional space with no means for expansions in the present building configuration.
- **Lobby** is overly congested and operationally inefficient due to the existing building space availability and configuration.
- ***Rear of the police department is unsecure in the parking lot. Anyone can enter Police Parking lot in the rear of the department. Police employees have to enter through traffic on the parking lot even though there are signs. Officers cannot exit the building and see if anyone is outside the door before exiting the building. The rear door has no way of observing what or who is on the other side. No camera system is in place. No surveillance ability is provided. Police parking does not have a secure fenced parking lot.***



Existing building square footage: **15,576 sf**

Programmed SF Need: **26,897 sf**

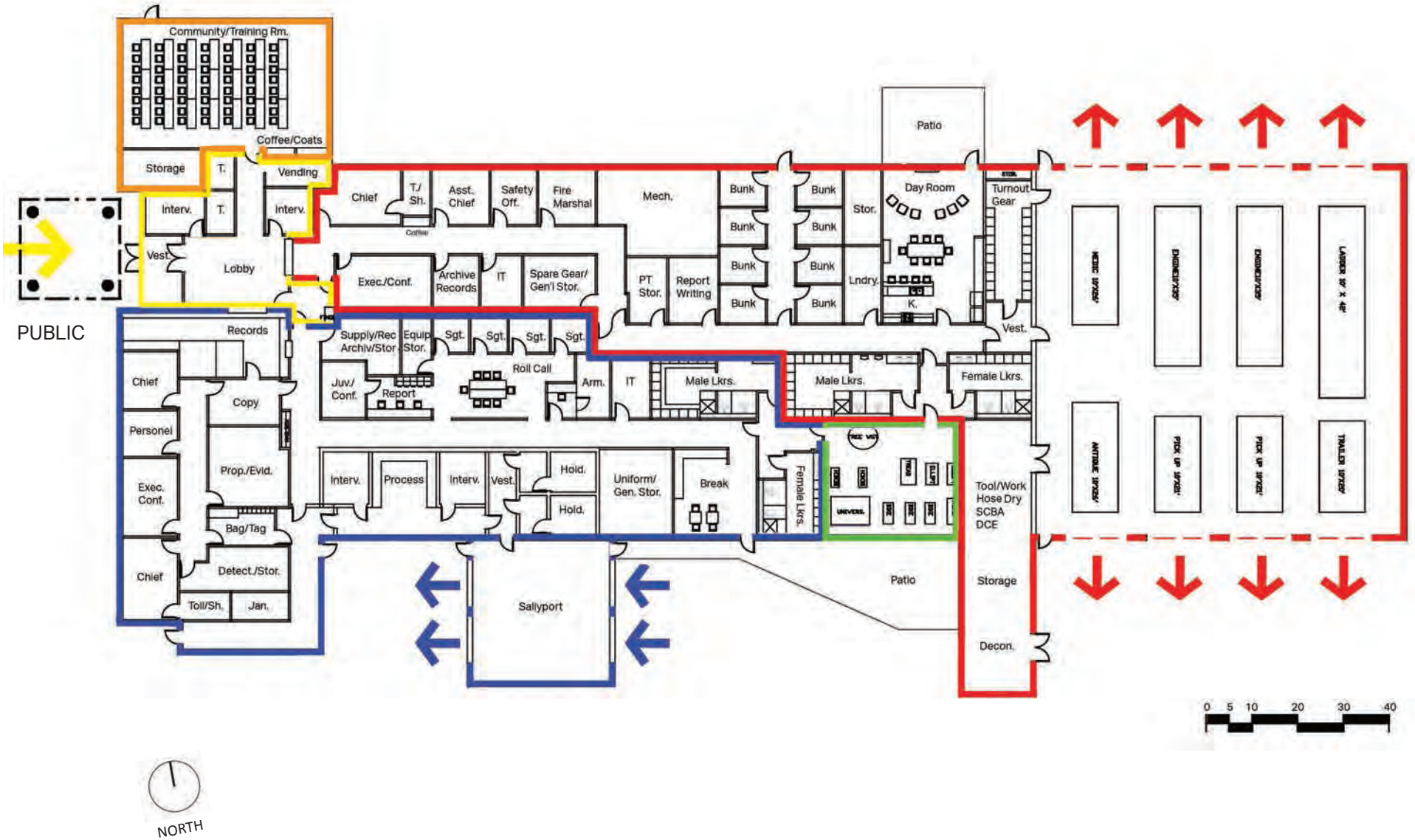
Space Deficiency = **42%**

Proposed Site

Town of Valdese New Public Safety Building

Site Plan Concept

Town of Valdese New Public Safety Building



Floor Plan Concept

Town of Valdese New Public Safety Building

Timeline

Valdese Public Safety

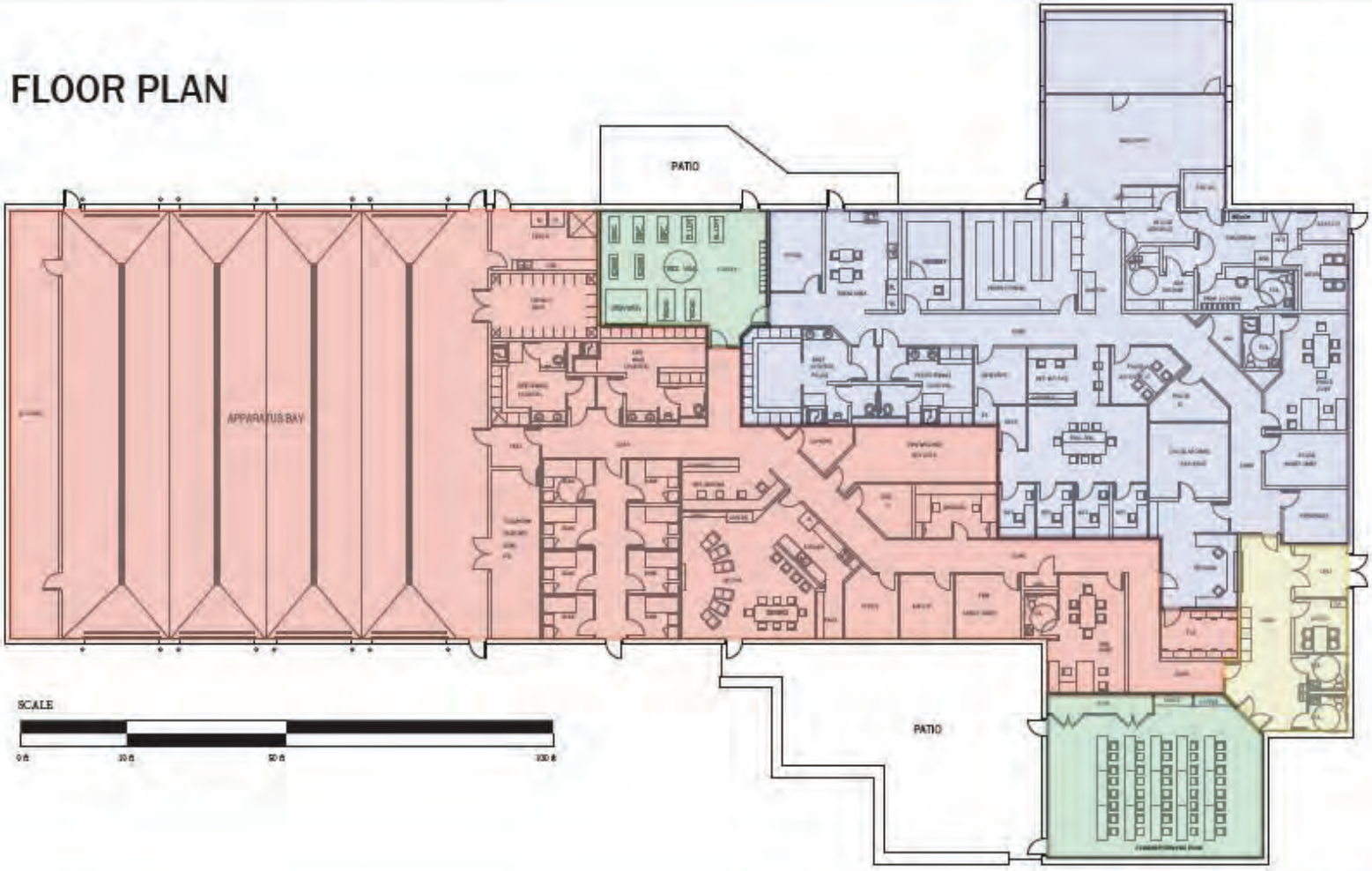
SITE PLAN

Valdese Public Safety

DETAILED SITE PLAN

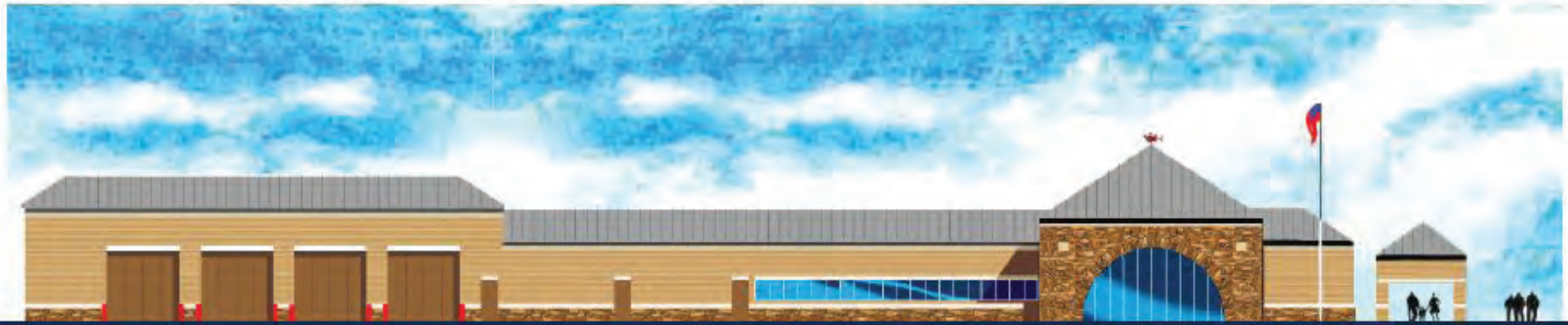
Valdese Public Safety

FLOOR PLAN



Valdese Public Safety

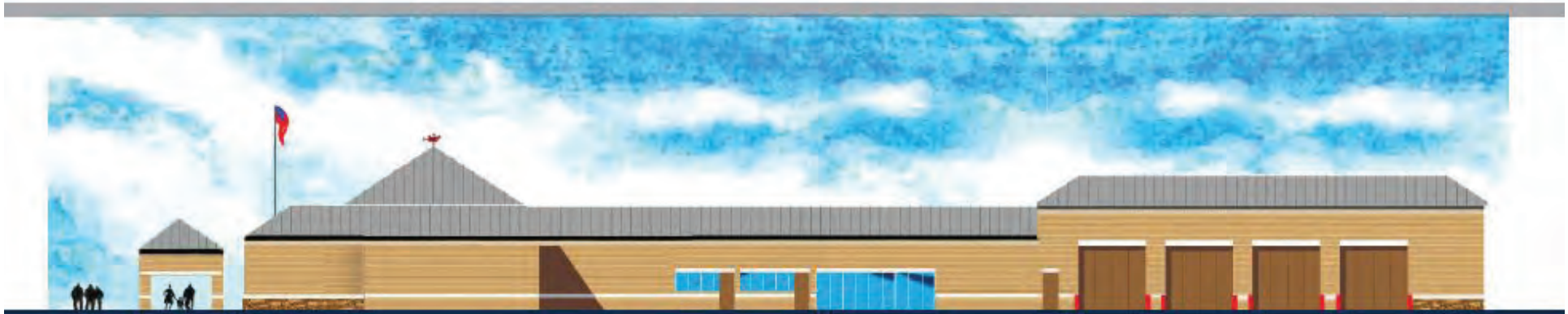
EAST ELEVATION



SOUTH ELEVATION (PINEBURR AVE)

CBSA architects mcgill

Valdese Public Safety



NORTH ELEVATION

WEST ELEVATION

CBSA architects mcgill

Town of Valdese Public Safety Facility Space Program

June 9, 2021

Table of Contents:

Introduction:

This product of the Town of Valdese Public Safety Facility Needs Assessment Study is the result of a collaborative process between the consultant team and Town of Valdese Police Department , Fire Department and Administrative personnel. The consultant team, consisting of CBSA Architects, prime contractor, and Moyer Associates, subconsultant, have applied their experience and professionally recognized standards and guidelines for law enforcement and fire facilities to the specific circumstances of the Town of Valdese Department's operations. Albeit during an international pandemic, the process has employed a highly interactive Collaborative Planning Model which has been successfully utilized in numerous other jurisdictions. Numerous Zoom calls with Fire and Police Department staff, along with existing site visits were conducted providing data and insights into each of the respective operational task areas. Under the leaderships of Fire Chief Greg Stafford and Police Chief Jack Moss, the Valdese Safety Department has been exemplary in their responsiveness to the consultant team's requests for information and their feedback on options brought before them.

The principal focus in this programming process has been placed upon the identification of current and projected facility requirements to support the activities of the Valdese Police and Fire Departments into one combined new facility.

The process which has been utilized in developing the material in this document has involved the following:

- The review of existing building and site drawings.
- The compilation of user needs data through the preparation and distribution of a computerized needs assessment questionnaire.
- Individual Zoom call interviews with representatives of each department and operational area.
- Inspection of the existing facility building condition, including mechanical, electrical and structural systems.
- The application of space standards which are applicable to the general as well as unique and specialized operational needs of the departments involved.
- The identification of adjacency requirements between operational components.

Space Needs Tabulation:

This section tabulates the functional components and spaces found to be required by the new Town of Valdese Public Safety Facility. The Tabulation consists of four categories:

A. Areas required by the Police Department
B. Areas required by the Fire Department
C. Areas to be shared by the Police and Fire Departments
(The above areas are calculated into one total gross square foot summary)
D. Areas required for site support, ie parking

STND: The column of the tabulation marked STND applies a space standard for noted components that apply. These assignments are given to standardized areas such as work stations, offices and conference areas or specialized areas as required. Not every component will be linked to a STND. The space standards related to this column can be found in the Space Standard Section of this document.

NSF: This column of the tabulation reflects the Net Square Feet required by the individual component. It consists of the immediate internal usable area related to the component (example- an office at 120 NSF = 120 feet required from wall to wall inside the office).

Space Need Projections: There are four columns related to projections:

Yellow "Existing" Column- As a tool for comparison, component areas located in the existing facility are reflected as they were able to be identified.

Light Orange "Current Need" Column- Component areas are reflected for the immediate current day need.

Medium Orange "10 Year"- Component areas are reflected for a 10 year growth.

Dark Orange "20 Year"- Component areas are reflected for a 20 year growth.

Department Circulation Factor: The grey bar Subtotals for each operational section includes a Department Circulation Factor which varies depending on the type of space depicted. This factor is applied to account for circulation space to get around each component area (example- the hallway outside of the 120 NSF office).

Building Grossing Factor: In the total building summary a Building Grossing Factor is applied to acount for wall thicknesses, building structure, mechanical and electrical allowances, special circulation requirements and the building envelope.

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year	Notes
A.	**Police Dept. Areas**													
A1.	**Administration**				3		**874**	3		**874**	3		**874**	
	Chief	0-180	180	228	1	1	180	1	1	180	1	1	180	
	Toilet-Shower		72	36		1	72		1	72		1	72	
	Assistant Chief	0-150	150	90	1	1	150	1	1	150	1	1	150	
	Personnel Office	0-120	120		1	1	120	1	1	120	1	1	120	
	Executive Conference	C-200	200	0			0			0			0	1
	Office	O-150	150			1	150		1	150		1	150	
	Subtotal						672			672			672	
	Department Circulation Factor- 30%						202			202			202	
A2.	**Records**				1		**441**	1		**441**	1		**441**	
	Manager/Admin. Assist.	WS-64	64	300	1	1	64	1	1	64	1	1	64	
	Temp Work Area	WS-48	48			1	48		1	48		1	48	
	Public Counter		42			1	42		1	42		1	42	
	Copy/Collate		80			1	80		1	80		1	80	
	Records Files		15			7	105		7	105		7	105	
	Subtotal						339			339			339	
	Department Circulation Factor- 30%						102			102			102	
A3.	**Investigations**				0		**20**	1		**103**	1		**103**	
	Detective/TF	WS-64	64	0			0	1	1	64	1	1	64	
	Equip/Supply Storage		15	0		1	15		1	15		1	15	
	Subtotal						15			79			79	
	Department Circulation Factor- 30%						5			24			24	
A4.	**Patrol**				10		**1,004**	12		**1,004**	14		**1,004**	
	Sergeant	WA-272	272	168	4	1	272	4	1	272	4	1	272	
	Patrol Officer-Report Writing	WA-120	120	140	6	1	120	8	1	120	10	1	120	
	Roll Call/Briefing	WA-200	200	0		1	200		1	200		1	200	
	Conference/Juvenile Observ.		100			1	100		1	100		1	100	
	Equipment Storage		50	42		1	50		1	50		1	50	
	Mailboxes		30			1	30		1	30		1	30	2
	Subtotal						772			772			772	
	Department Circulation Factor- 30%						232			232			232	

Notes:

1	Conference area could be combined into the Chief's office
2	To be located within roll call/briefing

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year	Notes
A.	**Police Dept. Areas**													
A5	**Break Area**						**200**			**200**			**200**	
	Break Area	SA-200	200	150		1	200		1	200		1	200	
	Circulation Factor-0%						0			0			0	
A6	**Intake/Holding**						**608**			**608**			**608**	
	Secure Vestibule		80	0		1	80		1	80		1	80	
	Intake/Process./Fingpt.	SA-150	150	49		1	150		1	150		1	150	3
	Detainee Staging/Bench		24	0		1	24		1	24		1	24	
	Holding Cell		80	0		1	80		1	80		1	80	
	Interview	C-100	100	70		1	100		1	100		1	100	
	Circulation Factor- 40%						174			174			174	
A7	**Sallyport**						**1,680**			**1,680**			**1,680**	
	Vehicle Bay		800	0		2	1,600		2	1,600		2	1,600	
	Storage		80	0		1	80		1	80		1	80	
	Circulation Factor- 0%						0			0			0	
A8	**Property/Evidence**						**408**			**408**			**408**	
	Bag/Tag Area-Lockers	SA-120	120			1	120		1	120		1	120	
	Work Area		60			1	60		1	60		1	60	
	General Storage		300	80		1	300		1	300		1	300	
	Circulation Factor- 10%						48			48			48	
A9	**Locker Rooms**						**553**			**577**			**589**	
	Male Sworn Locker		12	0		12	144		14	168		15	180	
	Male Shower		24	0		1	24		1	24		1	24	
	Male Toilet		150			1	150		1	150		1	150	
	Female Sworn Locker		12	0		6	72		6	72		6	72	
	Female Shower		24	0		1	24		1	24		1	24	
	Female Toilet		100			1	100		1	100		1	100	
	Circulation Factor- 20%						39			39			39	

Notes:

3	To include a stove
4	Storage areas to be combined
5	Including separated weapon cleaning workstation

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year	Notes
A.	**Police Dept. Areas**													
A10	**Storage**						**738**			**738**			**738**	
	Supply Storage		80	0		1	80		1	80		1	80	**4**
	Records Archive Storage		150	144		1	150		1	150		1	150	**4**
	Armory	SA-200	200	112		1	200		1	200		1	200	**5**
	Uniform/Gen. Storage		150	160		1	150		1	150		1	150	**4**
	IT Server		100			1	100		1	100		1	100	
	Circulation Factor- 10%						58			58			58	

Notes:

3	To include a stove
4	Storage areas to be combined
5	Including separated weapon cleaning workstation

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year	Notes
B.	**Fire Dept. Areas**													
B1.	**Administration**				3		**1,118**	3		**1,118**	3		**1,118**	
	Chief	O-180	180	228	1	1	180	1	1	180	1	1	180	
	Toilet/shower		72	35		1	72		1	72		1	72	**1**
	Assistant Chief	O-150	150	168	1	1	150	1	1	150	1	1	150	
	Safety Officer	O-120	120	90		1	120		1	120		1	120	
	Fire Prevention Storage		36			1	36		1	36		1	36	
	Fire Marshal	WS-64	64	140	1	2	128	1	2	128	1	2	128	
	Fire Marshal Files		12			2	24		2	24		2	24	
	Executive Conference	C-250	250	0			0			0			0	**2**
	Office	O-150	150			1	150		1	150		1	150	
	Subtotal						860			860			860	
	Department Circulation Factor- 30%						258			258			258	
B2.	**Operations- Work Areas**				24		**195**	25		**195**	26		**195**	
	Report Writing Area-Officers	WA-150	150	90		1	150		1	150		1	150	
	Shift Command				2		0	2		0	2		0	
	Full Time Personnel				2		0	3		0	4		0	
	Part Time Personnel				20			20			20			
	Subtotal						150			150			150	
	Department Circulation Factor- 30%						45			45			45	

Notes:

1	Shower is not mandatory
2	Conference area could be combined into the Chief's office
3	To include locker/closet

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year	Notes
B.	**Fire Dept. Areas**													
B3.	**Operations- Support Areas**				0		**1,391**	0		**1,599**	0		**1,807**	
	Dayroom/Kitchen	SA-600	600	480		1	600		1	600		1	600	
	Pantry		50			1	50		1	50		1	50	
	Bunk Room	SA-80	80	400		4	320		6	480		8	640	3
	Laundry/Linens		100			1	100		1	100		1	100	
	Subtotal						1,070			1,230			1,390	
	Department Circulation Factor- 30%						321			369			417	
B4.	**Locker/Toilet Rooms**				0		**415**	0		**415**	0		**415**	
	Male Locker		12			14	168		14	168		14	168	
	Male Shower		24			1	24		1	24		1	24	
	Male Toilet		150			1	150		1	150		1	150	
	Female Locker		12			6	72		6	72		6	72	
	Female Shower		24			1	24		1	24		1	24	
	Female Toilet		100			1	100		1	100		1	100	
	Subtotal						346			346			346	
	Department Circulation Factor- 20%						69			69			69	
B5.	**Apparatus Bays**				0		**6,400**	0		**6,400**	0		**6,400**	
	Fire Engine	SA-6160	6,400			1	6,400		1	6,400		1	6,400	
						1	0		1	0		1	0	
	Subtotal						6,400			6,400			6,400	
	Department Circulation Factor- 0%						0			0			0	
B6.	**Support/Storage**				0		**2,167**	0		**2,187**	0		**2,207**	
	Adjacent to Apparatus:													
	SCBA		120			1	120		1	120		1	120	
	Ice Machine		50			1	50		1	50		1	50	
	Turn Out Gear		9			20	180		22	198		24	216	
	Work/Maint.:													
	Tool/Work		200			1	200		1	200		1	200	
	Hose Drying		100			1	100		1	100		1	100	
	Maintenance/Foam		600			1	600		1	600		1	600	
	Work/Decon Room	SA-200	200			1	200		1	200		1	200	
	Other:													
	Medical Storage		50			1	50		1	50		1	50	
	Spare Gear		150			1	150		1	150		1	150	
	IT Server		100			1	100		1	100		1	100	
	Part Time Personnel Storage		100			1	100		1	100		1	100	
	Archive Record Storage		120			1	120		1	120		1	120	
							0							
	Subtotal						1,970			1,988			2,006	
	Department Circulation Factor- 10%						197			199			201	

Notes:

1	Shower is not mandatory
2	Conference area could be combined into the Chief's office
3	To include locker/closet

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year	Notes
C.	**Shared Facility Areas**													
C1.	**Lobby**						**564**			**564**			**564**	
	Entry Vestibule		80			1	80	1		80	1		80	
	General Lobby		120			1	120	1		120	1		120	
	Service Counter		48			2	96	2		96	2		96	
	Fingerprint		48				0			0			0	**1**
	Public Seating		12			6	72	6		72	6		72	
	Public Toilets		48			2	96	2		96	2		96	
	Interview Room	C-100	100			1	100	1		100	1		100	
	Subtotal						564			196			196	
	Department Circulation Factor- 10%						56			20			20	
C2.	**Training/Community Room**						**1,248**			**1,248**			**1,248**	
	Training Room	C-1400	1,100			1	1,100	1		1,100	1		1,100	**2**
	Coffee		24			1	24	1		24	1		24	
	Coats		24			1	24	1		24	1		24	
	Storage		100			1	100	1		100	1		100	
	Subtotal						1,248			1,248			1,248	
	Department Circulation Factor- 0%						0			0			0	
C3.	**Fitness Training**						**750**			**750**			**750**	
	Weights/Equip. Room	SA-750	750			1	750	1		750	1		750	
	Subtotal						750			750			750	
	Department Circulation Factor- 0%						0			0			0	

Notes:

1	To be located in the interview room
2	Capacity reduced to 40

	Summary	Staff	Current Need	Staff	10 Year	Staff	20 Year
A. Police Areas							
A1	**Administrative**	3	**874**	3	**874**	3	**874**
A2	**Records**	1	**441**	1	**441**	1	**441**
A3	**Investigations**	0	**20**	1	**103**	1	**103**
A4	**Patrol**	10	**1,004**	12	**1,004**	14	**1,004**
A5	**Break Room**		**200**		**200**		**200**
A6	**Intake/Holding**		**608**		**608**		**608**
A7	**Sallyport**		**1680**		**1680**		**1680**
A8	**Property/Evidence**		**408**		**408**		**408**
A9	**Locker Rooms**		**553**		**577**		**589**
A10	**Storage**		**738**		**738**		**738**
	Police Subtotal		6,524		6,631		6,643
	Building Grossing Factor- 25% (Mech. Allowance, circulation, structure, envelope)		1,631		1,658		1,661
	Police Total:	14	**8,155**	17	**8,289**	19	**8,304**
B. Fire Areas							
B1	**Administrative**	3	**1,118**	3	**1,118**	3	**1,118**
B2	**Operations-Work Areas**	24	**195**	25	**195**	26	**195**
B3	**Operations-Support Areas**		**1,391**		**1,599**		**1,807**
B4	**Locker Rooms/Toilets**		**415**		**415**		**415**
B5	**Apparatus Bays**		**6,400**		**6,400**		**6,400**
B6	**Apparatus Bay-Support**		**2,167**		**2,187**		**2,207**
	Fire Subtotal		11,686		11,914		12,142
	Building Grossing Factor- 25% (Mech. Allowance, circulation, structure, envelope)		2,922		2,979		3,035
	FireTotal:	27	**14,608**	28	**14,893**	29	**15,177**
C. Shared Areas							
C1	**Lobby**		**564**		**564**		**564**
C2	**Training Room**		**1,248**		**1,248**		**1,248**
C3	**Fitness**		**750**		**750**		**750**
	Shared Subtotal		2,562		2,562		2,562
	Building Grossing Factor- 25% (Mech. Allowance, circulation, structure, envelope)		641		641		641
	Shared Total:		**3,203**		**3,203**		**3,203**
	Total GSF:		**25,966**		**26,384**		**26,684**
	Staff:	14		17		19	

		STND	NSF	Exist.	Staff	Unit	Current Need	Staff	Unit	10 Year	Staff	Unit	20 Year	Notes
D.	**Exterior Support**													
D1	**Police Parking**					**14**	**4,875**		**15**	**5,250**		**16**	**5,625**	
	Administration		200			3	600		3	600		3	600	
	Shift/Squad Parking		250			10	2,500		11	2,750		12	3,000	
	Radar Trailer		150			1	150		1	150		1	150	
	Circulation Factor- 50%						1,625			1,750			1,875	
D2	**Fire Parking**					**17**	**5,100**		**17**	**5,100**		**17**	**5,100**	
	Full Time Staff		200			7	1,400		7	1,400		7	1,400	
	Part Time Staff		200			10	2,000		10	2,000		10	2,000	
	Circulation Factor- 50%						1,700			1,700			1,700	
D3	**Public Parking**					**24**	**5,200**		**24**	**5,200**		**24**	**5,200**	
	Police Visitors		200			2	400		2	400		2	400	
	Fire Visitors		200			2	400		2	400		2	400	
	Community/Training		200			20	4,000		20	4,000		20	4,000	
	Circulation Factor- 50%						400			400			400	
D4	**Site Support**						**200**			**200**			**200**	
	Trash/Recycle		200			1	200		1	200		1	200	
	Training Area													
	Circulation Factor- 50%						100			100			100	

Space Standards:

In this Section, individual space standards are illustrated and describe assignable areas together with their furnishings and equipment capabilities.

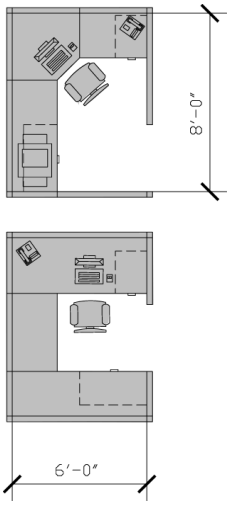
In the development of the Program Study, it has been determined that similar work area requirements are needed for certain functions on a recurring basis throughout the different operating units. For these situations, maximum efficiency will be obtained by the standardization of the workstation and furnishings provision response.

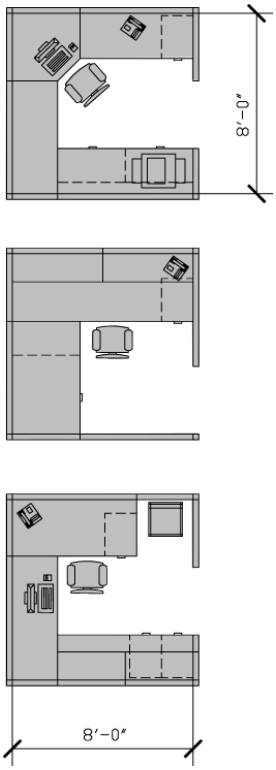
In addition, there are specialized areas that space standards have been developed for as a communication tool to establish departmental requirements.

The Space Standards which follow have also been prepared to accomodate Federal ADA (Americans with Disability Act) requirements and recognized professional requirements. Accordingly they represent mandated minimums in certain of their dimensional tolerances. The configuration and furniture reflected in the standard are examples of what the size of space may accommodate but may not reflect the end shape of a component in the design phase.

This Section consists of the following components:

Workstation Areas (WS)
Work Areas (WA)
Office Areas (O)
Conference Areas (C)
Support Areas (SA)- Police
Support Areas (SA)- Fire
Support Areas (SA)- Shared





WS-48

Designated Area:

Police- Records Temp. Work Area

Net Square Feet: 48

WS-64

Designated Area:

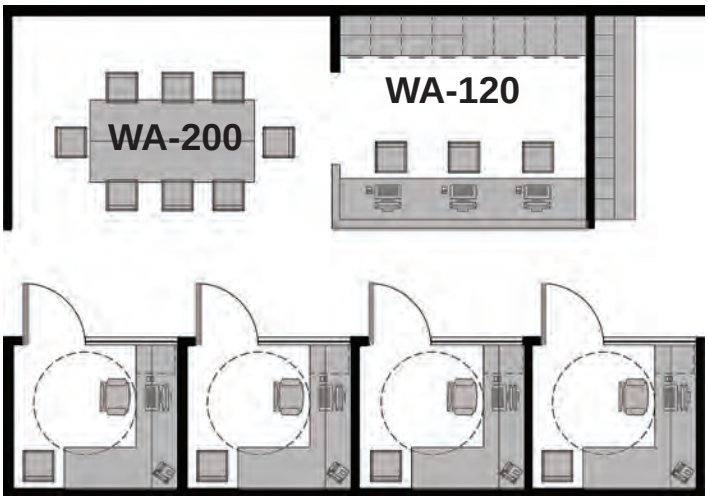
Police- Admin. Assist.
Detective
Fire- Fire Marshal

Net Square Feet: 64

Possible Components Include:

Under Counter Pedestal/File
Under Counter Lateral File
Overhead Shelving
Guest Seating
Wardrobe Closet
Task Lighting
Tack Surface

Workstation Area (WS)

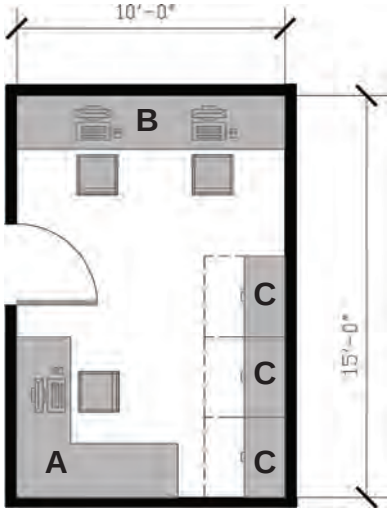


WA-272

Patrol Suite Work Areas

Designated Area:

Police-
WA-272: Sergeants' Offices 272NSF
WA-200: Roll Call/ Briefing 200 NSF
WA-120: Report Writing 120 NSF



WA-150

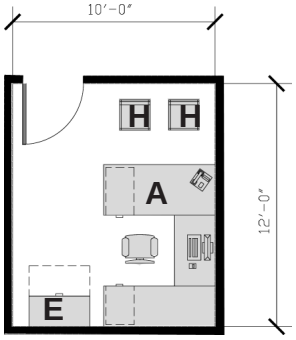
Designated Area:

Fire: Report Writing Room

Net Square Feet: 150

Legend:

A..... Supervis. Workstation
B..... Report Writing
C.....File/Storage
D.....Counter/Printer/Form Storage

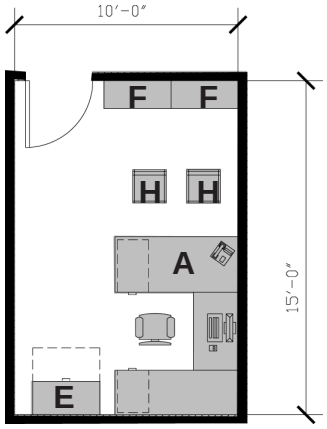


O-120

Designated Area:

Police- Personnel
Fire- Safety Officer

Net Square Feet: 120

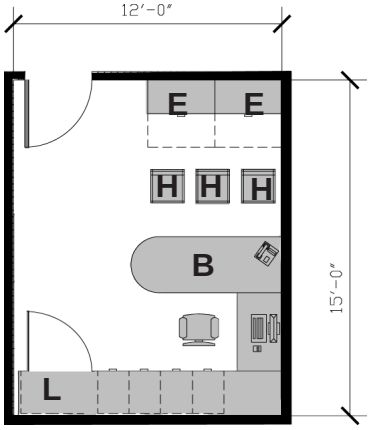


O-150

Designated Area:

Police- Assistant Chief, Office
Fire- Assistant Chief, Office

Net Square Feet: 150



O-180

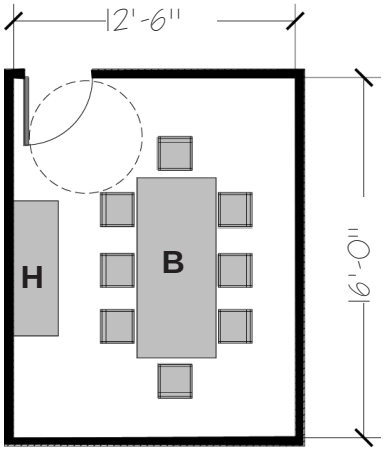
Designated Area:

Police- Chief
Fire- Chief

Net Square Feet: 180

Legend:

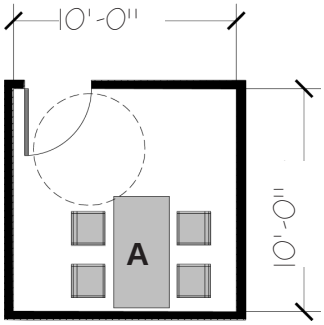
A..... 66"W U-Shaped Work Area w/ Files
B .....U-Shaped Work Area With Conf. Top
C .....72"W Double Pedestal Desk
D .....Credenza Work Area w/ Files
E ..... 36"W Lateral File Cabinet
F .....Book Case
G..... Printer/Tackboard
H..... Guest Chair
I..... 36"D Conf. Table/Seating
J..... Lounge Seating
K .....Side Table
L.....Storage Wardrobe/Closet



C-200

Police- Exec. Conference
Fire- Exec. Conference
Note: Design combined conf. w/ C-180

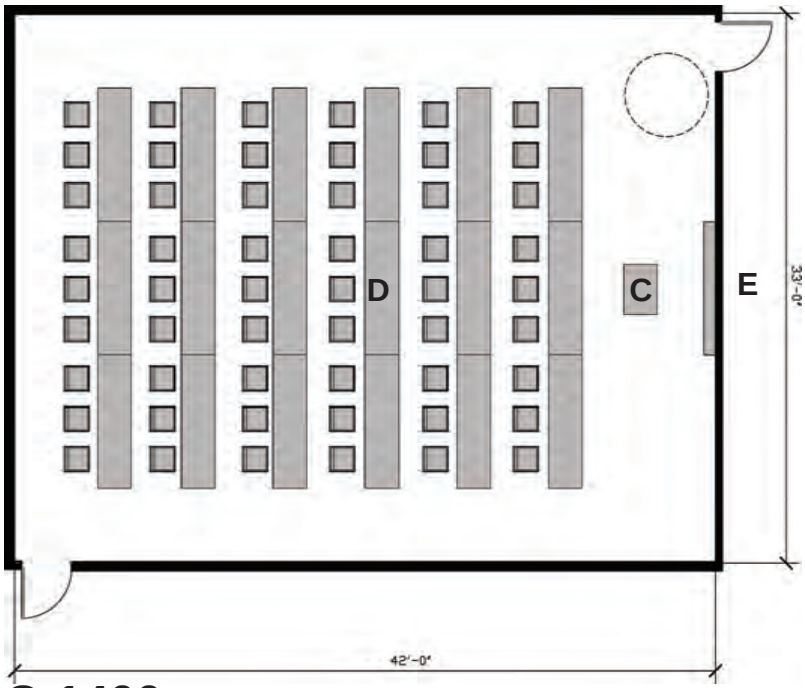
Net Square Feet: 200



C-100

Police- Intake Interview
Shared-Lobby

Net Square Feet: 150



C-1400

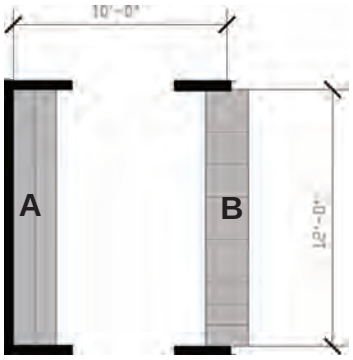
Shared- Training Room
Note Designed capacity reduced to 40

Net Square Feet:1400

Legend:

A	30" x 60" Table
B	36" x 96" Table
C	Lecturn
D	Modular Training Table
E	White Board/Screen/Tack Bd
F	84"x24" Training Table
G	Counter/Computer Desk
H	Credenza/Side Table

Conference Area (C)

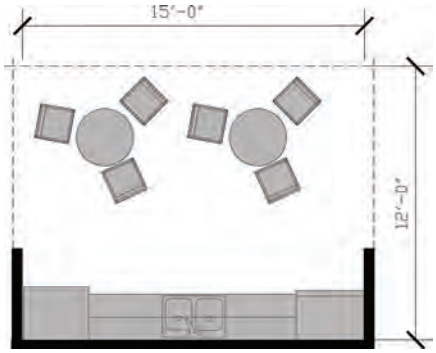


SA-120

Designated Area:

Police- Bag Tag/ Lockers

Net Square Feet: 120



SA-200 Break

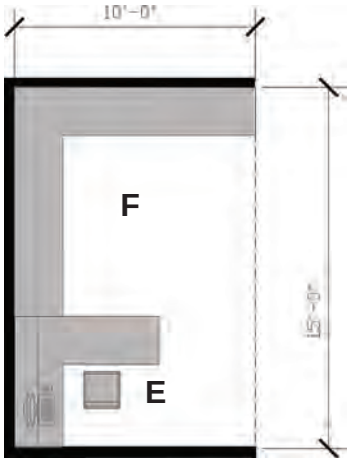
Designated Area:

Police- Break Room

Net Square Feet: 200

Legend:

A.....Bag/Tag Counter and Storage
B ..... Pass Through Evid. Lockers
C ..... Cleaning/Work Area
D ..... Equipment Storage/Racks
E ..... Officer Work Area
F ..... Processing/Equipment

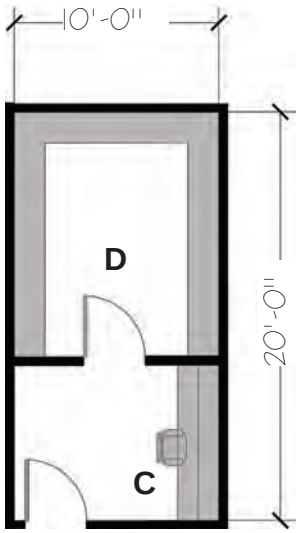


SA-150

Designated Area:

Police- Intake Processing

Net Square Feet: 150

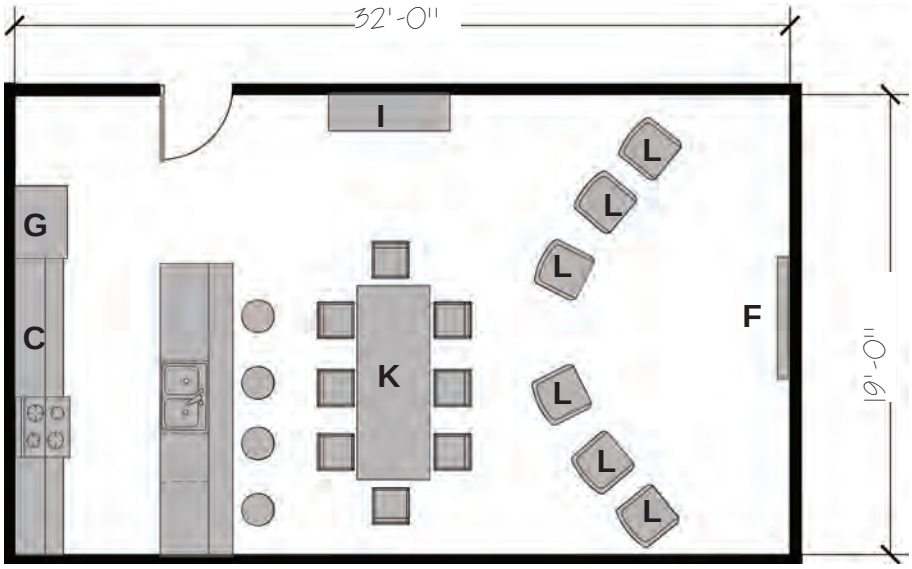


SA-200 Armory

Designated Area:

Police- Armory

Net Square Feet: 200

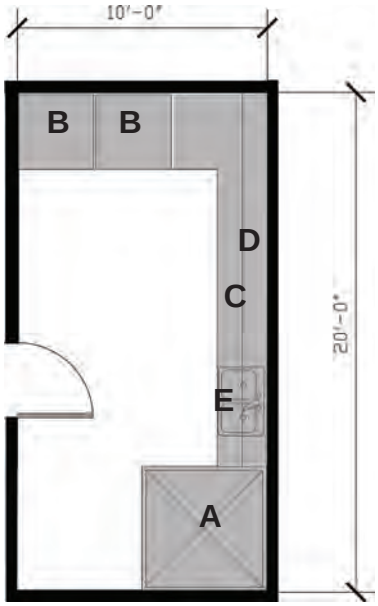


SA-600

Designated Area:

Operations- Dayroom/ Kitchen

Net Square Feet: 600

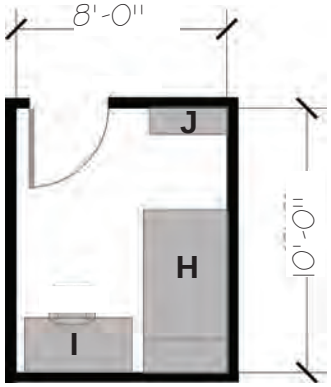


SA-200

Designated Area:

Admin.- Break Room

Net Square Feet: 200



SA-80

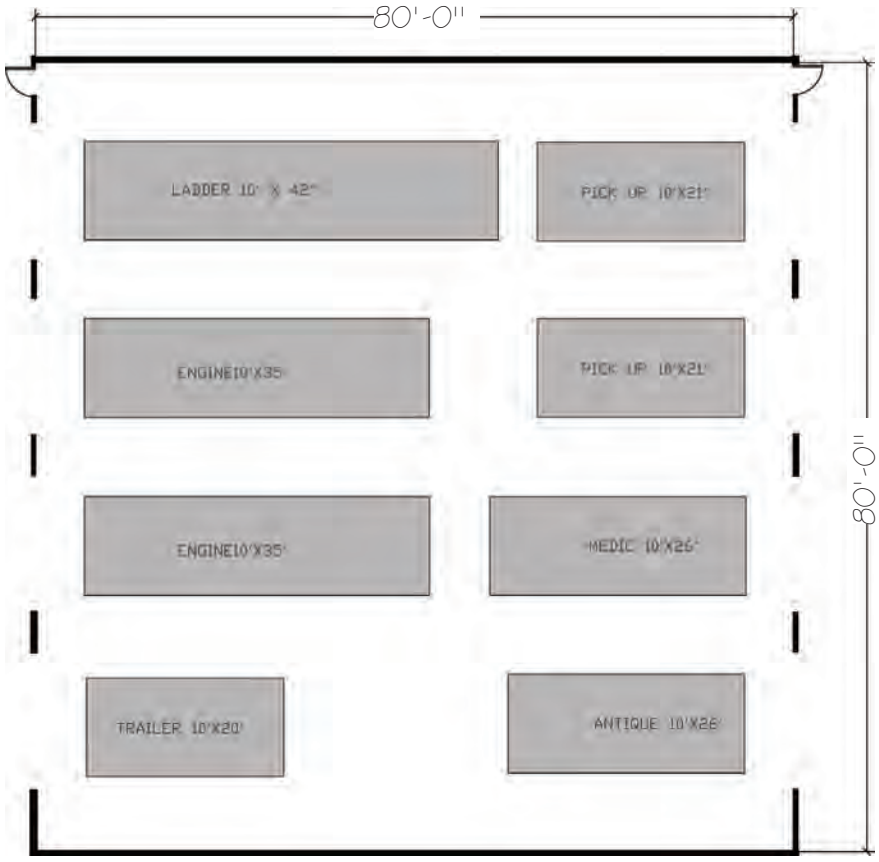
Designated Area:

Operations- Bunk Room

Net Square Feet: 80

Legend:

A	Large Shower
B	Industrial Washer/Dryer
C	Counter/Cabinets
D	Upper Drying Rod/Rack
E	Wash Sink/eye wash
F	Large Shower
G	Refrigerator
H	Single Bed
I	Side Table
J	Closet/Locker
K	Dining Table
L	Reclining Chair
M	Television



SA-6400

Designated Area:

Apparatus Bays

Net Square Feet: 6400

SA-750

Designated Area:

Weights/ Equip. Room

Net Square Feet: 750

- August 16, 2021: McGill & Associates provided a detailed report/timeline outlining the steps taken to compare the Rostan property and Pineburr property.

Fire & Police Project Update

16-August-2021

- During work sessions in late 2020 and early 2021 the Town considered two primary sites for the new fire and police facility. The sites were narrowed down to the "Rostan" site and the "Pine Burr Site".
- Though very early planning efforts from 2019 identified the Rostan site as the probable location, the Town's Architect and Engineer presented information from their preliminary layouts and discussions with NCDOT which made it clear that the Pineburr Site would be a more desirable location to accommodate the size of the facility needed within the budget established for the project.
- This decision included early comparative costs for development of each site and also considered other factors like accessibility of the site to the full Town limits and fire district for response times. This decision also took into account considerable improvements that would have been required at the intersection of Main Street and Laurel Street to allow adequate access to the Laurel Street North area, Gardiol Road and Lovelady Road
- Town Council moved in March 2021 to enter into the purchase agreement for the multiple parcels referred to as the Pine Burr Site from early site comparison discussions with another parcel of land being donated by the previous owner.
- Site evaluations of the Pine Burr site were initiated prior to entering any purchase agreement and Town Staff asked the Architect, Engineer, a specialty demolition contractor, and Duke Energy to comment on various existing site conditions for the purpose of determining suitability of the site for re-development into the new fire and police station.
- Site evaluations included an initial desktop review of environmental concern areas (wetlands, endangered species, etc.) as well as the commissioning of a Phase 1 Environmental Report.
- The Phase 1 Environmental Report did indicate a need for a Phase 2 Environmental Report based on community interviews and Phase 1 site investigations.
- The Phase 2 site investigations included more in-depth site inspections and sampling. Sampling efforts included soil samples from and array of indicated areas where subsurface soil contamination could have been detected.
- The Phase 2 subsurface soil testing did not reveal any soil contamination that would have triggered actionable remediation, only on-site re-use in fill material and impervious ground cover. Additionally, the Phase 2 investigations did not indicate the need to sample or monitor groundwater in the area due to any previous site uses or pollutants.
- Upon agreement to purchase the site Town Staff notified Duke Energy that the existing sub-station would need to be removed. This process was initiated in early summer by Duke Energy with equipment removal and continues to present with Duke being responsible for coordination of all removal and disposal activities typical for removal of a sub-station of this kind.
- All costs for removal, testing, and soil remediation within the sub-station site is the responsibility of Duke Energy and is being completed at no cost to the Town.
- The Architect and Engineer have begun developing a Preliminary Architectural Report (PAR) and Environmental Report in compliance with USDA (funding agent) guidance documents.

- The PAR and ER build upon programming and initial site designs developed with input from the Town Council and Staff and will serve as a major component of the funding application to USDA in the late fall of 2021.
- Reuse, rehabilitation, or renovation of the existing structure(s) was evaluated during the Town's due-diligence period prior to closing on the purchase agreement.
- The Town met with several developers who specialize in rehabilitation and reuse of existing industrial sites. Those discussions indicated that there was little or no market interest in converting the existing structure to multi-family residential use.
- The Town also met with other potential industrial/commercial users for the existing structure, but those early interests were also non-viable.
- After reuse investigations were completed an alternatives comparison for the existing structures was discussed with Town Council. There are three main structures on the site with the main brick building being the most significant, while an adjacent metal shell building and concrete block (CMU) garage are smaller in size and would require less future attention.
- The CMU garage is of a condition that the Town's Public Works and Utilities departments plan to use that structure in the future for storage.
- The metal shell building is not of any beneficial use but its demolition is planned to be completed by the Town with its internal forces as workload allows.
- The demolition of the main brick building will be involved and will require some hazardous material disposal (asbestos piping insulation).
- The Town solicited a specialty demolition contractor to visit the main building for a tour and visual confirmation of hazardous conditions to provide a budgetary estimate for cost to demolish the existing structure.
- The budgetary cost for demolition of the main structure was received prior to the Town Council acting on the purchase agreement and the total value of demolition that building is estimated to be approximately $450,000 (including costs for removal and disposal of hazardous materials).
- Preliminary conversations with the USDA indicate that the costs for demolition of the main building would be eligible project costs and therefore could be included in the eventual project debt issuance repayable over 40 years.
- It is recommended by the Architect and Engineer that the main building demolition be structured as an alternate bid item for the project's competitive bid process which would allow the Town an opportunity to consider the competitive bid value of building demolition as part of the overall construction contract.
- With many of these early evaluations complete, the Town authorized the Engineer to perform the site survey to gather relevant topographical and site feature information.
- That site survey was completed in early summer and is ready for use in development of design documents once the USDA application is submitted and the Town authorizes initiation of development of design and bidding documents
- The next steps in the overall project schedule will be to complete the PAR, ER, and prepare a funding application to the USDA for their consideration on their normal project schedule in the upcoming fiscal year.
- That fiscal year begins on October 1, 2021, and submission of the application will be coordinated with USDA representatives for shortly after that date.