Agenda Item No. 18a

Town of Windsor

Memorandum

April 8, 2025

TO: The Honorable Mayor and Town Council

FROM: William G. Saunders, IV, Town Manager WGS IV

SUBJECT: Municipal Building - Roof and Exterior Repairs

Background
It has come to light that the Town's Municipal Building needs a roof replacement and other exterior repairs.

Specifics
Due to evidence of issues with the roof and exterior of the Municipal Building, Building Envelope and Roof (BEAR) Engineers were commissioned to perform a survey of the structure.

BEAR Engineers determined that a roof replacement is in order and that much of the damage to the exterior brick veneer was due to the roof membrane's improper installation; other causes include rusting lintels above the windows and potential settling of the ground at the right hand rear, due to leaking storm water conveyances.

The report also itemized other recommended repairs to the exterior.

BEAR provided an estimate which includes design work for the roof replacement and repairs as well as bid documents, administration of the solicitation, construction administration, and quality assurance administration.

Recommended Motion
Authorize the Town Manager to enter into the agreement for the administration of the project

Enclosures
Windsor Municipal Building Survey by BEAR Engineers
Proposal for Construction Administration Services by BEAR Engineers

CURSORY VISUAL ASSESSMENT REPORT

8 E Windsor Boulevard, Windsor, Virginia

Client: Town of Windsor

Client Representative: William Saunders
Town Manager

Prepared By: BEaR Engineers Inc.
819 Goldsboro Avenue
Virginia Beach, Virginia 23451
Virginia Business License
2024-825047

Andrew Franklin, RRC, RRO

Date: December 12, 2024

COMMONWEALTH OF VIRGINIA
ZACHARY A. COX
Lic. No. 059201
12/13/2024
PROFESSIONAL ENGINEER

I. Authorization

Bear Engineers was requested by the Town of Windsor to perform a cursory visual assessment of the existing low slope single ply membrane roof systems, exterior walls, and structural roof framing of the Town Hall facility located at 8 E Windsor Boulevard, Windsor, Virginia. The assessment was authorized by the Town of Windsor through signed proposal 2024.59 on November 1, 2024.

II. Scope

- Perform a cursory visual assessment of the existing single ply low-slope roofing systems to include flashings, penetrations, drainage systems, visible roof deck, steel joists and surrounding walls for deficiencies that may lead to premature failure or water infiltration. Compliance with applicable building codes was not included in our assessment.

- Perform a cursory visual assessment of the existing exterior walls to include windows, mortar joints, sealant joints, and penetrations.

- Review information made available by participating personnel of reported water infiltration.

- Compile a written report detailing the findings from the cursory visual assessment and recommendations for repair/maintenance.

III. Warranty Notice

The results provided for the cursory visual assessment are based on the information provided by participating personnel and the field observations. Bear Engineers reserves the right to update this report if further information becomes available. No other warranties, either expressed or implied, are provided. This report is intended solely for the use of the Town of Windsor and its agents.

IV. General Summary

The existing building, originally designed as a fire station in 1961 and remodeled in 1995, is a concrete masonry unit (CMU) framed 1 story facility clad with brick masonry, a non-drainable exterior insulation and finish system (EIFS), storefront windows, and sliding windows. The roof consists of three main sections and two entrance canopies and are mechanically fastened single ply thermoplastic membrane systems. The roof area totals approximately 3,050 square feet and was installed approximately 20 plus years ago. Drainage is achieved by open top scuppers to conductor heads and downspouts along the rear of the building.

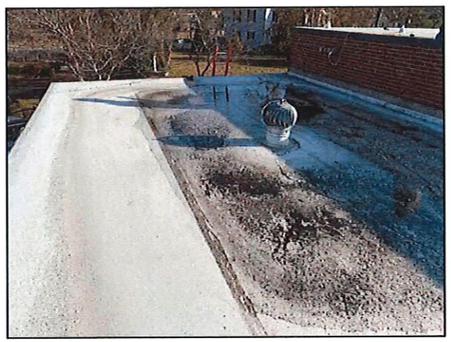
Cracking of the exterior brick masonry, efflorescence and cracking on the interior CMU, severe ponding water on the roof systems, and various water leaks have been reported at the facility.

V. Roof Observations

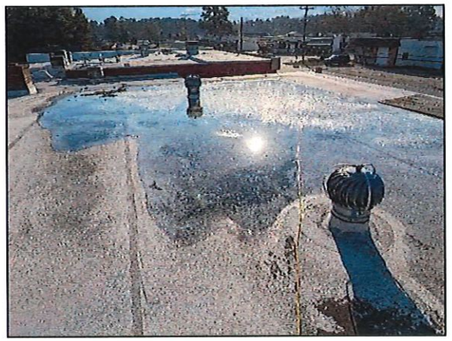
The roof systems on all five (5) areas do not appear to have been installed with tapered insulation to direct water to the scuppers for drainage, causing ponding water to collect on approximately 90% of the roof surface. No significant rain events had occurred for approximately twenty (20) days prior to our observations and 2+ inches of water was present in the centers of the roofs. The edges of the roof are raised approximately 3-5 inches above the roof deck, preventing water from draining over the edge without significant build up. The mechanically attached thermoplastic single-ply roof membrane has shrunk over time, and the perimeter was not properly terminated with mechanical fasteners or a russ strip. The roof membrane terminates to a thermoplastic clad edge metal that wraps the perimeter of each roof area and is secured to a wood nailer. The wood nailer is secured to the interior CMU walls and exterior brick masonry with J-hooks set in the brick mortar joints at approximately 6' on center, as observed along the east elevation on the east roof section. The incorrect membrane termination has transferred the tension force into the perimeter edge metal and wood nailer below. This condition has damaged the edge metal, wood blocking, caused tenting around the perimeter, brick façade, and structural CMU. The membrane tenting around the perimeter impedes drainage, causing excess ponding water, which may overload the roof structure. It is our opinion that the roof systems must be replaced to properly repair the walls & roof and prevent further damage.

Below are general photos of roof observations made on site during the visual condition assessment. A roof replacement design will incorporate the existing conditions into a properly functioning system

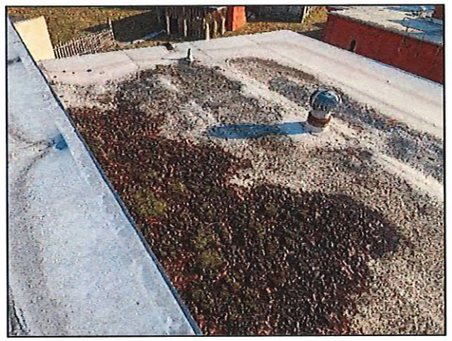
Roof #1:
West Main Roof.
Overview. Significant ponding water observed. Perimeter membrane is tenting and not secured along the perimeter.



Roof #2:
Middle Main Roof
Overview. Significant ponding water observed.

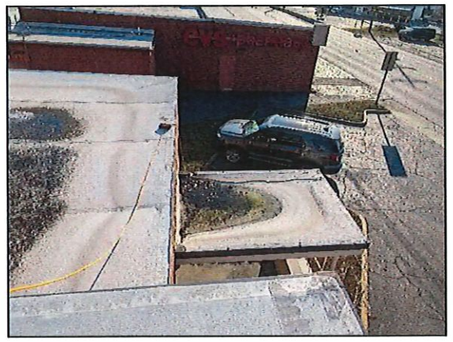


Roof #3:
East Main Roof
Overview. Significant ponding water observed. Perimeter membrane is tenting and not secured along the perimeter. Organic growth observed.



Roof #4:
West Canopy Roof
Overview. Significant ponding water observed. Perimeter membrane is tenting and not secured along the perimeter.

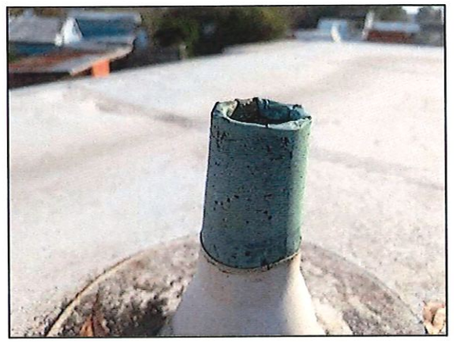
Roof #5:
East Canopy Roof
Overview. Significant ponding water observed. Perimeter membrane is tenting and not secured along the perimeter.



Roof #6:
The counterflashing installed over the roof membrane termination at the east and west rising walls to the middle roof is surface mounted to the brick masonry, allowing water within the brick masonry cavity to drain into the roof system or building interior.

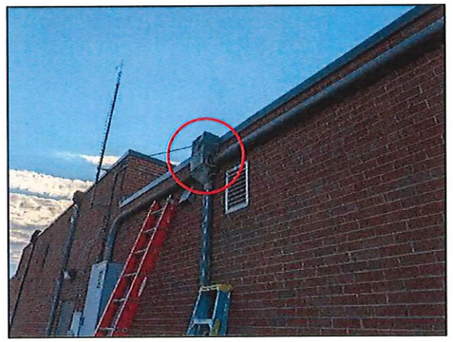
Roof #7:
The J-Hook attachment into the brick is damaged due to improper securement and excess tension in the membrane.

Roof #8:
Improperly flashed vent pipe penetration. The membrane should be sealed to the pipe penetration with water cut-off sealant and a hose clamp.

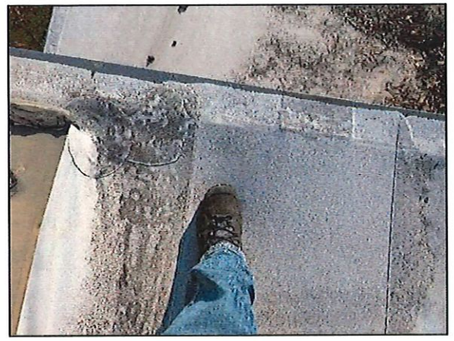


Roof #9:
Improperly flashed penetration.
The membrane should be sealed to the pipe penetration with water cut-off sealant and a hose clamp.

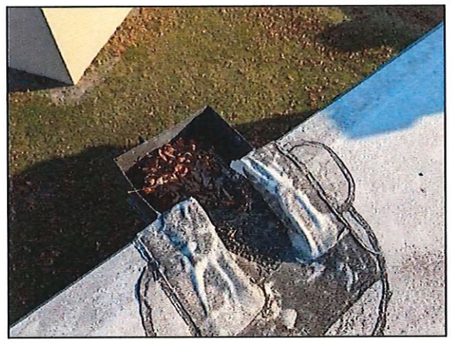
Roof #10:
The drainage capacity of the conductor head on the west main roof has been reduced by a conduit running through the conductor head.



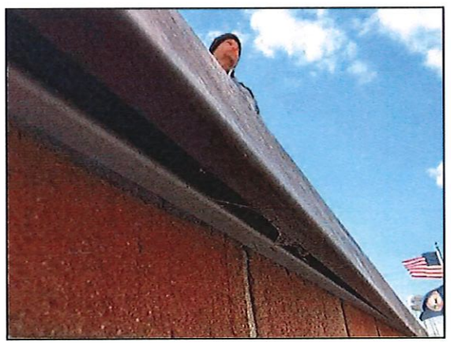
Roof #11:
Tenting Membrane.
The membrane has shrunk and pulled away from the roof deck and perimeter.



Roof #12:
Clogged conductor head.



Roof #13:
The edge metal is not properly secured to the cleat.



VI. Exterior

The exterior walls, according to the original design documents, consist of CMU with an exterior asphaltum waterproof coating, and a brick masonry veneer with a drainage cavity. Masonry weeps were observed at the base of the walls. Storefront systems, casement windows, and louvers are installed in rough openings. Steel lintels span rough openings over windows, doors, and louvers. EIFS infill was incorporated into the 1995 renovation along the south elevation at the firetruck garage doors.

The roof perimeter wood nailer J-hooks have been pulled out of the brick masonry wall, causing damage to the brick masonry. Along the east elevation, the force pulling the wood nailer towards the center of the building has caused the masonry above the windows to deflect and damage the interior CMU. The steel lintels above wall openings are corroded and sealed to the masonry above. Typically, a through wall flashing is incorporated into the drainage system above windows, doors, and various changes in façade. The sealed lintels prohibit the through wall flashing from effectively draining water from the drainage cavity. The corrosion of the steel lintels has caused "rust jacking" where the masonry cracks and mortar joints separate due to the expansion of the metal. The separation of the mortar joints is not limited to around windows and was also observed throughout the facility exterior.
Brick masonry of this construction is designed with a drainage cavity to handle the intake of incidental moisture absorbed through mortar and the brick, while bulk water remains to the exterior of the facade. The damaged masonry, mortar joints, and sealed cavity drainage allow bulk water to enter the wall drainage cavity, which saturates the CMU, causing efflorescence on the interior CMU wall surfaces.

The storefront and sliding windows are sealed to the brick masonry and EIFS. The perimeter sealant is deteriorated, open, and may allow bulk water to enter the wall cavity and window perimeter. The storefront vinyl gaskets installed around the perimeter of the glazing to the aluminum frames have shrunk and are falling out. The vinyl gasket and sealant joints are considered maintenance items on window systems and should be replaced as needed.

The EIFS façade is a barrier system. The waterproofing capabilities of the system rely on the integrity of the EIFS lamina and sealant joints to prevent water infiltration. The sealant joints around the perimeter of the EIFS at the transition to brick masonry and steel lintels is deteriorated, open, and may allow water into the system. The exterior lamina is compromised at multiple locations with various electrical conduits, lights, penetrations, and random screws fastened through the lamina, which may allow water to enter the system.

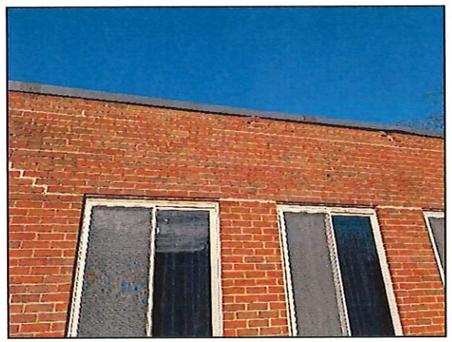
The roof downspouts connect to a below grade drainage system that extends along the north and east elevations and exits the property at the northeast corner of the building near the foundation. A storm drain is installed along the east elevation and is connected to the below grade drainage. The existing below grade drainage is terracotta piping and prone to damage. Two sink holes were observed along the drainage path, one at the northeast corner of the

building, and one by the storm drain. Sink holes along drain lines are typically an indication of damage piping, allowing water to erode the surrounding soil.

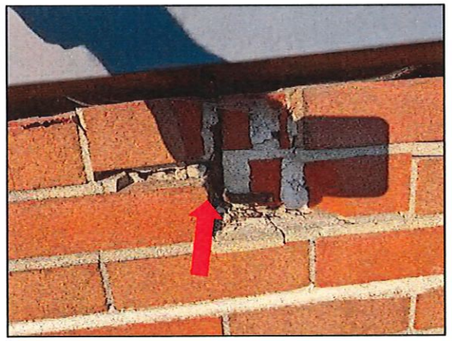
A concrete ramp along the north elevation of the building extends from grade to approximately 2' above grade to an exterior door. A steel railing wraps the edge of the ramp and is set in concrete. The base of the railings at the concrete has corroded and is no longer structurally sound.

Below are general photos of exterior observations made on site during the visual condition assessment.

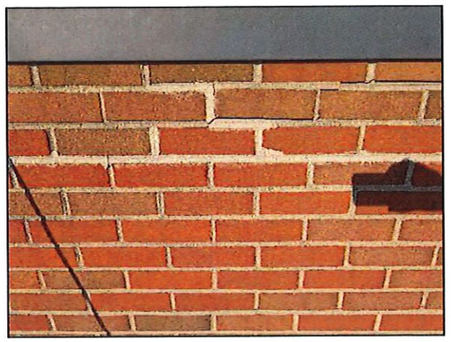
Exterior #1:
Overview of the east elevation. The masonry above the windows is deflecting back towards the center of the building.



Exterior #2:
Typical damaged masonry at roof wood nailer attachment.

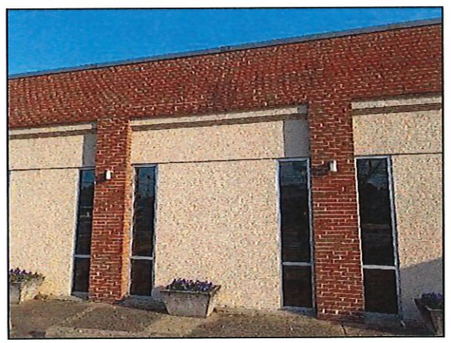


Exterior #3:
Mortar Separation observed throughout.



Exterior #4:
Rust Jacking at steel lintels.

Exterior #5:
Overview of EIFS infill and storefront windows.

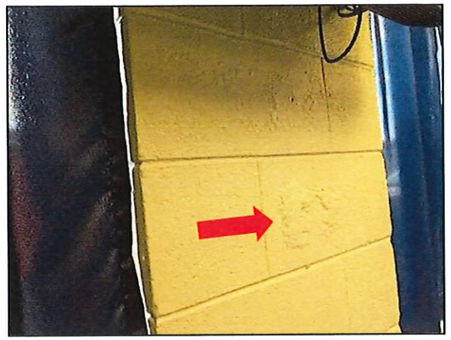


Exterior #6:
Deteriorated Sealant at storefront perimeters.

Exterior #7:
Deteriorated Sealant at EIFS termination.

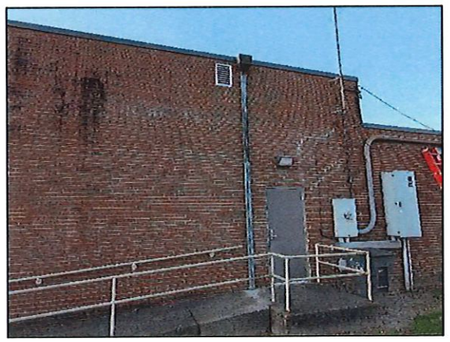
Exterior #8:
Damaged vinyl gasket.

Exterior #9:
Efflorescence on interior walls.



Exterior #10:
Two sink holes were observed near the foundation of the facility.

Exterior #11:
Overview of the concrete ramp and steel railing.



VII. Conclusion

Roof System
The low-slope single ply mechanically attached thermoplastic membrane roof system is in poor condition and was installed incorrectly, which has caused damage to the building masonry façade and underlying structural components. Bear Engineers recommends replacing the roof system with a properly designed and detailed system. The new roof system should be designed to meet the existing building code to include ASCE 7 wind speeds and drainage. The existing roof insulation system is below the deck in a vented insulated plenum. Redesign of the insulation system may be considered during the design phase to improve building energy performance and interior air quality.

East Elevation
The exterior wall along the east elevation of the facility is damaged and deflecting. We suspect the masonry damage is largely due to the roof, but the surrounding drainage and soil substrate must be confirmed. Structural and building envelope repair details may be created by Bear Engineers upon request.

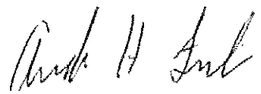
We recommend the following:

1. Contract a geotechnical engineer to perform borings of the soil to confirm there are no settlement issues that may affect the structural integrity of the facility.
2. Remove the brick masonry above the windows to the roof edge along the east elevation of the facility. Store undamaged bricks for reuse.
3. Inspect steel lintels for severe corrosion, replace as required. Properly prepare and coat lintels to remain with rust inhibitive primer and paint.
4. Install new through wall flashings at lintels.
5. Inspect the existing asphaltum wall moisture barrier for damage and repair as required.
6. Install new brick mixed in with existing brick to the roof edge. Securement of the roof wood nailer to the structural wall should be included in the roof design.
7. Repoint all damaged mortar joints to remain.
8. Seal and repair additional building envelope components as indicated on the elevation mark ups.

Elevation Markup and Deficiency Table
Elevations and a numbered deficiency table with cursory recommendations for repair are attached to this report. The numbered deficiencies are approximately located on the deficiency elevations. Repair all deficiencies as noted.

This report summarizes the results of the cursory visual observations performed by Bear Engineers at Windsor Town Hall located at 8 E Windsor Boulevard, Windsor, Virginia. Please contact us with any questions, if new information is presented, or if field conditions vary from those noted.

Regards,



Andrew Franklin, RRC, RRO, RPIC

Principal

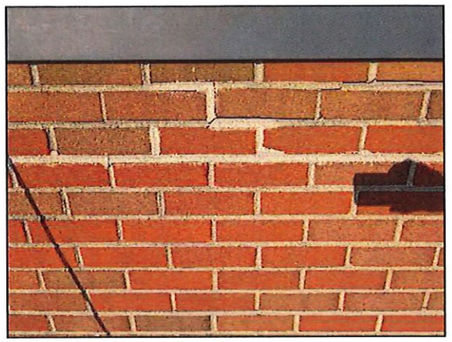
Attachments: Deficiency List

Deficiency Elevations

Deficiency List:

Deficiency#1:
The mortar joints throughout the brick masonry are separated and deteriorated. Various mortar joints around the facility were previously repaired, however a majority have separated again.

Recommendation: Repoint mortar as required. See attached elevation markup for general locations.



Deficiency #2:
Equipment fastened through EIFS.

Recommendation: Remove the improperly fastened equipment and re-secure utilizing typical STO manufacturer's attachment details.

Deficiency #3:
Deteriorated Sealant
The sealant around the perimeters of the storefront windows, louvers, and other penetrations is deteriorated and separated.

Recommendation: Remove all sealants. Properly clean and prepare the substrates. Install a new properly detailed continuous sealant joint and backer rod.

Deficiency #4:
Deteriorated Sealant
The sealant at the transition of the EIFS infill and various substrates is deteriorated.

Recommendation: Remove all sealants. Properly clean and prepare the substrates. Install a new properly detailed continuous sealant joint and backer rod from the EIFS base coat to adjacent substrate.

Deficiency #5:
Damaged Vinyl Gasket.
The vinyl gaskets of the storefront system have shrunk, leaving voids in corners.

Recommendation: Replace all storefront vinyl gaskets with properly sized gasket and sealant as required.

Deficiency #6:
Two sink holes were observed near the foundation of the facility. One on the northeast corner, and one along the east elevation.

Recommendation: Scope the underground piping for damage. Replacement of the drainage pipe may be required. Contact a geotechnical engineer to perform borings to investigate the stability of the soil around the building foundation.

Deficiency #7:
The steel railing of the concrete ramp on the north elevation deteriorated and separated from the foundation.

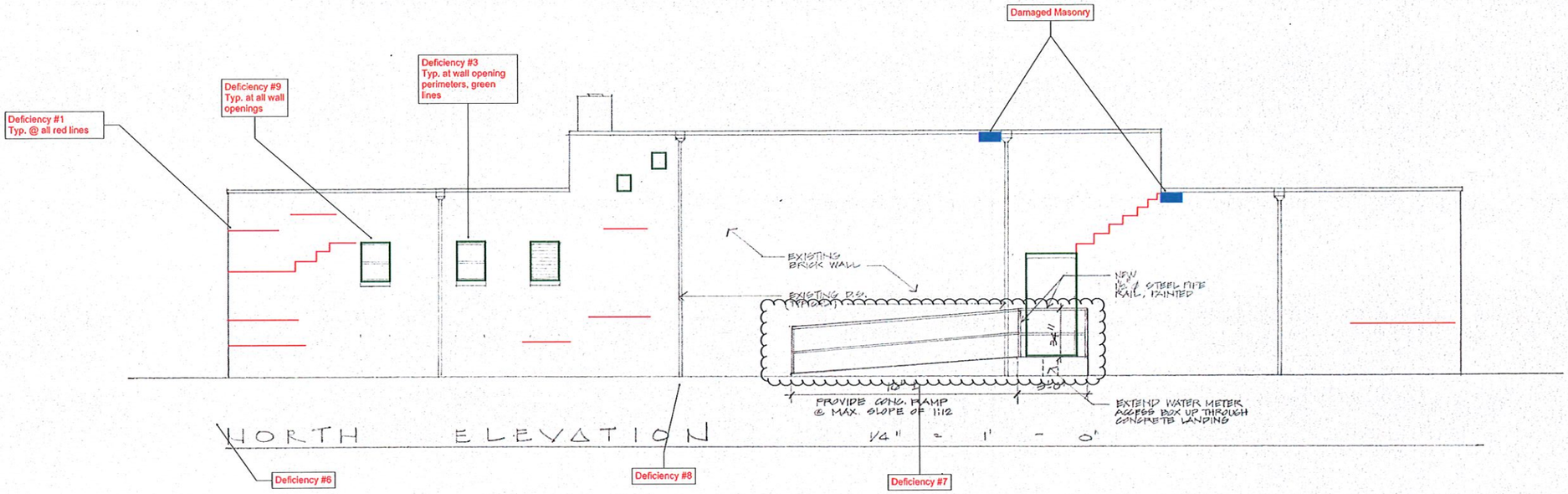
Recommendation: Replace the railing with a new railing. Confirm ADA requirements prior to replacement. Repair details may be created upon request.

Deficiency #8:
A roof downspout was not connected to the below grade drainage pipe.

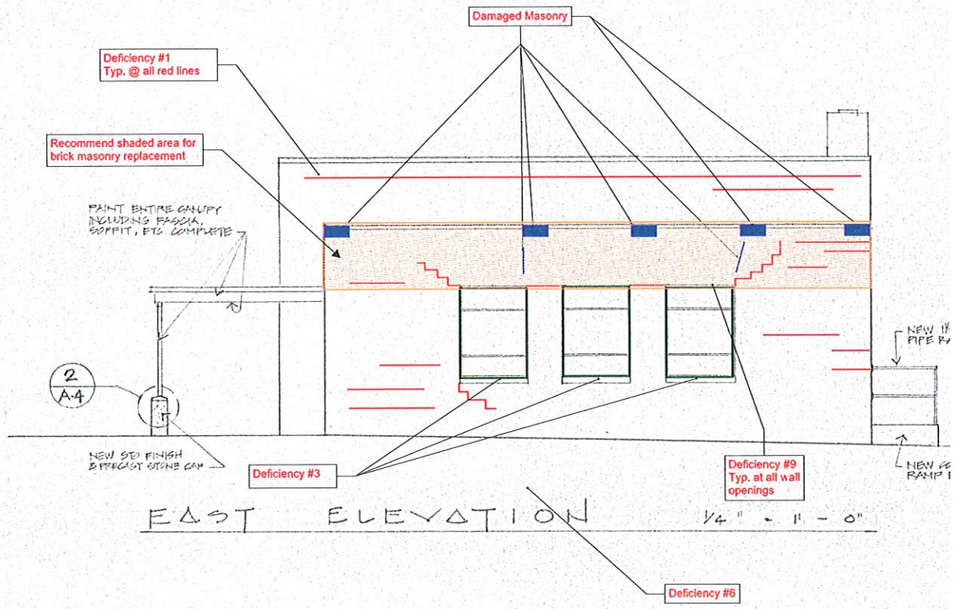
Recommendation: Reconnect the downspout to below grade drainage to prevent water from building up along the foundation.

Deficiency #9:
The steel lintels above wall openings is corroded, causing rust jacking, and sealed to the masonry above.

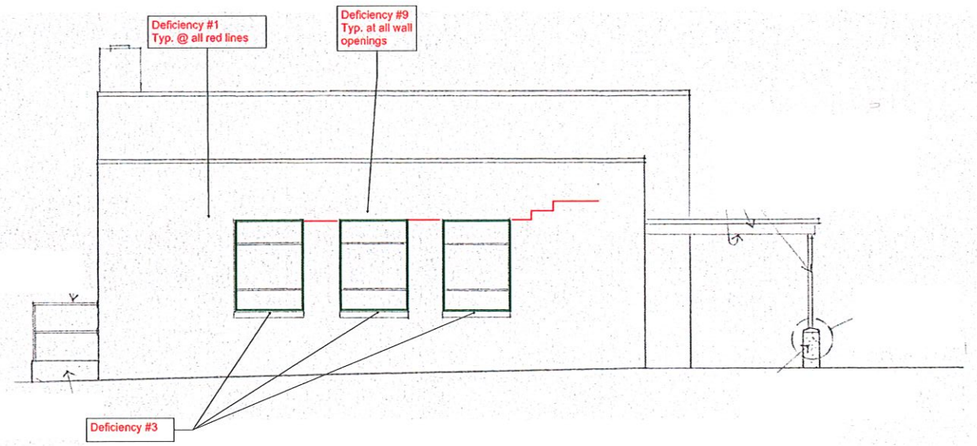
Recommendation: Remove the sealant from the lintel to the masonry. Remove masonry to expose the lintel. Inspect steel lintels for severe corrosion, replace as required. Properly prepare and coat lintels to remain with rust inhibitive primer and paint. Install new properly detailed through wall flashing above lintels.



NORTH ELEVATION 1/4" = 1' - 0"



EAST ELEVATION 1/4" = 1' - 0"



WEST ELEVATION

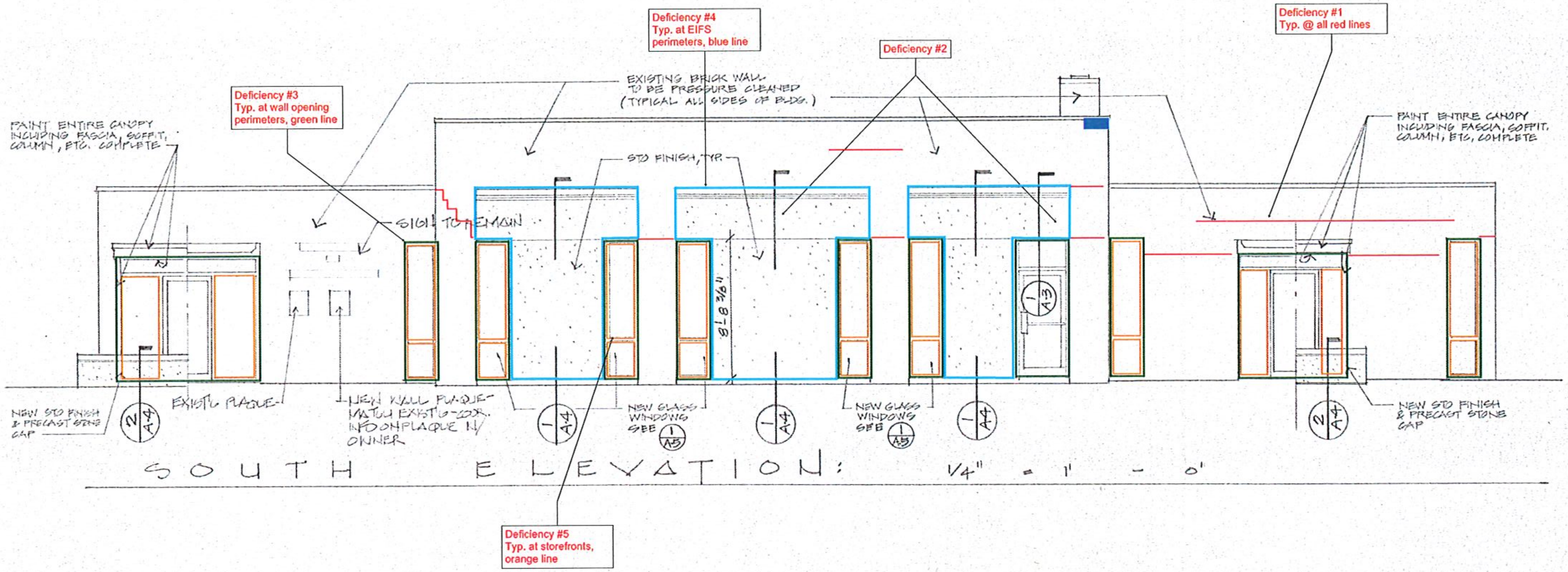
REVISIONS	BY

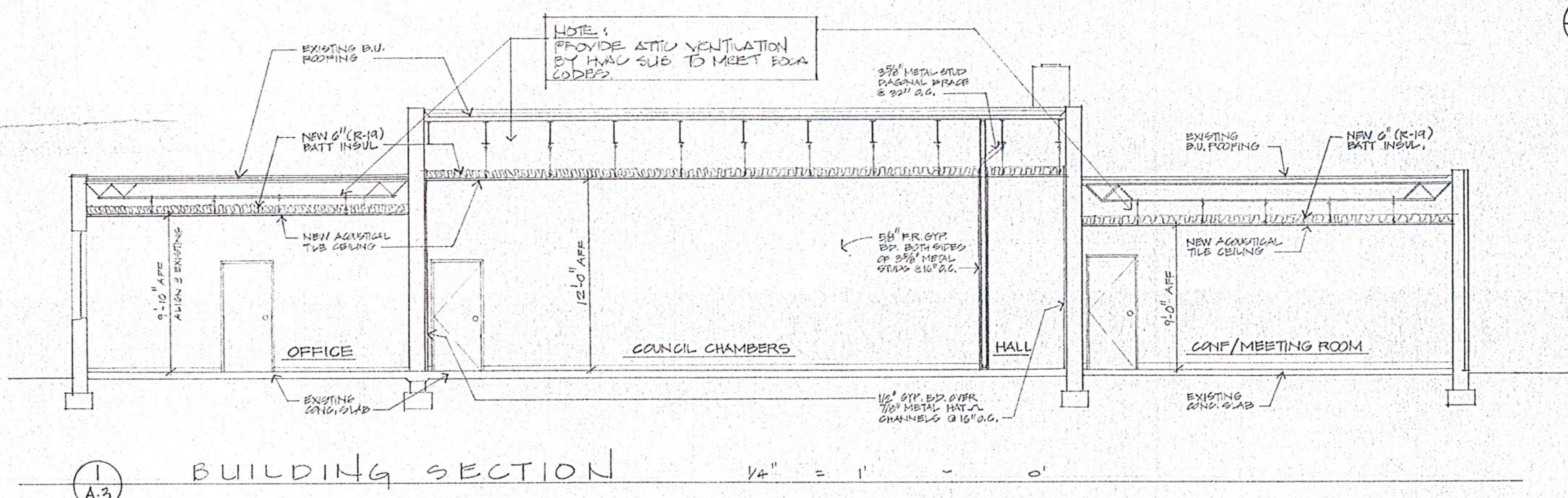
COMMONWEALTH OF VIRGINIA MICHAEL D. BARNES ARCHITECT

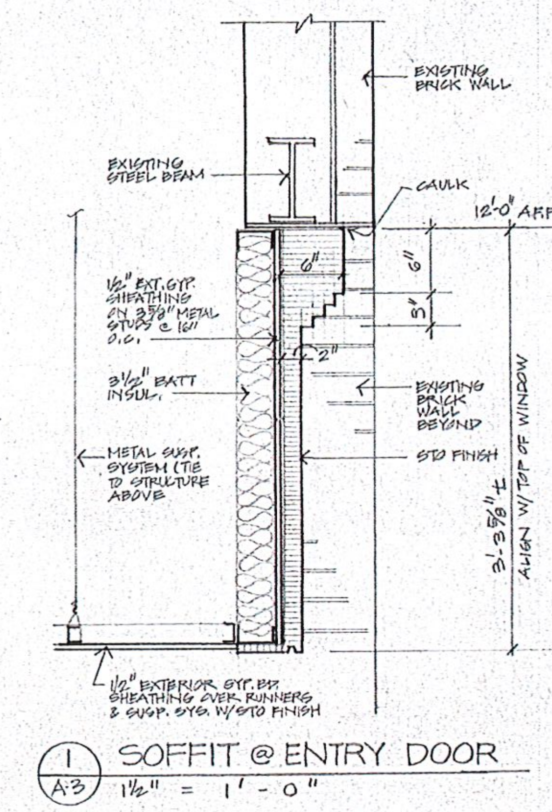
BARNES DESIGN GROUP
ARCHITECTS
Virginia Beach (804) 340-9800
Richmond (804) 276-8607

TOWN OFFICE RENOVATIONS FOR:
TOWN OF WINDSOR
WINDSOR VIRGINIA

Date 6/27/95
Scale AS SHOWN
Drawn RGT
Job 93083.0
Sheet 5 of 6 A-4 Sheets







REVISIONS | BY

COMMONWEALTH OF VIRGINIA
MICHAEL D. BARNES
ARCHITECT

BARNES DESIGN GROUP
ARCHITECTS
Virginia Beach (804) 340-9800
Richmond (804) 276-8607

TOWN OFFICE RENOVATIONS FOR:
TOWN OF WINDSOR
WINDSOR VIRGINIA

Date 6/27/95
Scale AS SHOWN
Drawn RGT
Job 95083.0
Sheet A-3
Of 6 Sheets

BEaR Engineers
Building Envelope & Roof

January 2, 2025

Town of Windsor Virginia
8 E Windsor Blvd
Windsor, Virginia 23487

Attention: William Saunders

Proposal 2025.1 Windsor Town Hall Roof Replacement CD, CA, QA

Greetings Mr. Saunders

Per your request on 12/30/2024, BEaR Engineers is pleased to submit this Proposal for your review. The Windsor Town Hall Roof Replacement project is located at 8 E Windsor Blvd, Windsor, Virginia (hereinafter "Project") and is an existing building. The existing building is a one story building with CMU structural walls, a brick masonry façade, and a single ply thermoplastic roof membrane. BEaR Engineers was requested for design services to include replacement of the existing roof system and associated components. Construction administration services and quality assurance observation services shall be provided during the project in accordance with the following outline of our proposed scope of work and the general terms and conditions that follow:

1. **Contract Document Design for Roof Replacement (CD)**

A. BEaR Engineers shall conduct site visits to gain an understanding of the Project as required to create Contract Documents for the same. This shall include a meeting with the owners to understand and capture the Owners' Project Requirements.

B. BEaR Engineers shall perform Design calculations on the building to include:

- **i.** Current Edition ASCE 7 wind uplift
- **ii.** Current Edition ICC Drainage Calculations
- **iii.** Roof Dead/Live Load Changes

C. BEaR Engineers shall create project Specifications and CAD Drawings for the Project.

D. BEaR Engineers shall submit a 95% complete set of the documents to the Owners for review.

E. A complete set of the Contract Documents shall be signed and sealed by a Virginia licensed Professional Engineer.

F. An advertisement for bid shall be created and provided for the client to seek qualified contractors.

G. A prebid meeting shall be scheduled and hosted on site by BEaR Engineers to clarify any design related questions and allow the contractors to examine site conditions.

H. The Project bids shall be received by the Owners and BEaR Engineers personnel. The bids shall be evaluated, entered into a cost comparison spreadsheet, and reviewed with the Owners for contractor selection.

2. **Construction Administration (CA)**

   A. BEaR Engineers shall provide Construction administration services to include meetings and conference calls with the Client, contractors, and subcontractors. BEaR Engineers anticipates 1 hour per week for meetings and conference calls.

   B. BEaR Engineers shall review and provide feedback for submittals, shop drawings, RFIs, change order requests, pay applications, and additional contractor related information as required during the Project. BEaR Engineers anticipates 1 hour per week for review.

   C. BEaR Engineers will provide design recommendations and details for field conditions as required pertaining to the Project. All design related consulting must be approved by the owner and contractor prior to implementation. BEaR Engineers anticipates 1 hour per week for design related questions.

3. **Quality Assurance (QA)**

   A. BEaR Engineers personnel shall perform quality assurance site visits as requested, but not more than twice per week, to observe the work performed regarding compliance with the contract documents, manufacturer's details, and industry standards. Pictures shall be taken as deemed necessary to document the conditions.

   B. A report shall be submitted documenting each site visit. The report shall include weather data, area worked, crew size, existing conditions, installation methods, materials, and any issues and/or non-conforming items that require correction from the contractor. Bear Engineers cannot confirm work performed while personnel is not on site or covered during the time of observations.

   C. The contractor shall be notified of any non-conforming items and issues prior to leaving the project site.

   D. An excel spreadsheet shall be kept and updated by BEaR Engineers tracking the deficiencies noted, requirements for correction, date of correction, and the personnel who confirmed the correction.

   E. Based on the Project's scope of work we estimate that the building envelope work will span approximately four weeks. We propose to conduct five site visits during construction.

   F. The site visits will be conducted by a qualified Project Manager familiar with the Project and construction practices. Each site visit is estimated to take six hours on site and two hours for report and documentation. If the full eight hours is not utilized, the remaining time may be banked for additional site visits or credited back to the Client.

4. **ADDITIONAL SERVICES**

   A. Services not specifically listed in the scope of work may be added to this contract without changing the terms, upon agreement by authorized personnel in writing. The additional services may be billed on a lump sum or hourly basis as agreed upon. The hourly rates are based on the attached fee schedule.

5. ENGINEERING FEES

The Contract Documents shall be billed on a lump sum basis as stated below. The Construction Administration and Quality Assurance services shall be billed on an hourly basis in accordance with our attached fee schedule. Only the time utilized, expenses, and travel for this project phases shall be billed. An estimated budget for these services is included below:

1 – Contract Documents	$11,631.00
2 - Construction Administration (12 hrs @ 165)	$1,980.00
3 – Quality Assurance (8 hrs x 5 visits @ 165)	$6,600.00
Engineering Fee Total Estimate	**$20,211.00**
Estimated Cost of Construction	$[redacted]
Total Project Cost Estimate	$[redacted]

Notes & Exclusions:

- All labor, equipment, services, and materials not included in the stated scope of work shall be invoiced at our cost with a 15% mark up.

By signing below, the representative of the Client below does hereby signify all of the following:

That they have the authority to enter into this legally valid and binding agreement.

That they will cooperate with BEaR Engineers as may be necessary and required to facilitate BEaR Engineers' performance of the work detailed in this Proposal.

That they initiated contact with BEaR Engineers as of 12/30/2024 to seek this Proposal and that they are retaining BEaR Engineers to perform the services contemplated by this Proposal for the Client based solely on the professional reputation and past performance of BEaR Engineers and its employees and agents as they pertain to the Client's needs with regard to this Proposal and that this and other communications in connection with this Proposal are, without exclusion, responsive to the Client's initial request for services.

That entering into this Proposal does not in any way constitute a breach of any legally binding agreement nor interfere with the legal or contractual rights of any third party.

That they have read, understood, accepted, and agreed to be bound by the Proposal above as well as the Terms and Conditions and Unit Rate Fee Schedule included herewith in pages 5-10 as to all work performed in connection with this Project as of this 2nd day of January, 2025.

SIGNATURE PAGES FOLLOW

Client:	Engineer:
_____	_____
Signature	Signature
_____	Zach Cox
Printed Name	Printed Name
_____	Principal
Title	Title
_____	January 2, 2025
Date	Date

Attachments: Terms and Conditions
Unit Rate Fee Schedule

TERMS AND CONDITIONS

IN CONSIDERATION OF the matters described above and of the mutual benefits and obligations set forth in this Agreement, the receipt and sufficiency of which consideration is hereby acknowledged, the Client and BEaR Engineers (individually a "Party" and collectively the "Parties" to this Agreement) agree as follows:

General Information.

1. BEaR Engineers is owned and managed by Zachary Asher Cox (Va. license #0402059201) a duly licensed "professional engineer" as that term is defined in Va. Code §54.1-400.

Scope of Services Provided.

1. The Client hereby agrees to engage BEaR Engineers to provide the Client with such consulting services as are laid forth in the attached Proposal (the "Services"):

2. Everything BEaR Engineers proposes to do in the foregoing Proposal, without exception, constitutes the "practice of engineering" as that term is defined in Va. Code §54.1-400.

3. Except as otherwise provided in the accompanying Proposal, BEaR Engineers will furnish at its own expense, any and all labor, equipment, materials and any other supplies necessary to deliver the Services in accordance with the accompanying Proposal.

4. BEaR Engineers assumes no responsibility through the foregoing Proposal for anything which constitutes the "practice of architecture" as that term is defined in Va. Code §54.1-400 and, instead, is entitled to rely upon the Client's architect for all such matters as they pertain to the Project.

Term of Agreement.

1. The term of this Agreement (the "Term") will begin on the date of this Agreement and will remain in full force and effect indefinitely until terminated as provided in this Agreement.

2. In the event that either Party wishes to terminate this Agreement, that Party will be required to provide thirty (30) days' written notice to the other Party. This Agreement may also be terminated at any time by mutual agreement of the Parties.

3. In the event that either Party breaches a material provision under this Agreement, the non-defaulting Party may terminate this Agreement immediately and require the defaulting Party to indemnify the non-defaulting Party against all reasonable damages.

4. Except as otherwise provided in this Agreement, the obligations of the Engineer will end upon the termination of this Agreement.

Limitations of Liability and Indemnity.

1. This Project is a traditional Design-Bid-Build project in which the owner is responsible for hiring the Architect and the Engineer separately from the contractors and subcontractors who will perform construction on the project. BEaR Engineers assumes no responsibility for damages suffered by the Client due to the failure of Client's contractors or subcontractors to conduct field verification of measurements and dimensions. Client herby agrees that its contracts with all contractors and subcontractors shall include, at minimum, the following provision:

   > *"The Contractor shall carry out the Work in accordance with the drawings and specifications prepared by its design professionals (hereinafter "Contract Documents"). The measurements and dimensions shown on the Contract Documents shall be verified at the site by the Contractor. The Contractor shall be responsible for all dimensions and coordinated execution of the Work. Where there are discrepancies in the contract documents, the Contractor shall notify the Engineer before proceeding with the work"*

2. BEaR Engineers will not be held liable for any acts or omissions made by the Client's architect or any other third party involved in the design of the Project or any failure by any contractor, subcontractor, or sub-subcontractor of the Client to construct items in compliance with the Contract Documents and other directives given by BEaR Engineers as provided for in this Proposal or otherwise reasonably observe the applicable standards of care for said third parties' trade or industry.

3. To the fullest extent permitted by law, Client hereby indemnifies, defends and holds harmless BEaR Engineers, its subcontractors and sub-subcontractors, affiliates, officers, agents, attorneys, employees, and permitted successors and assigns against all claims for bodily injury, death, damage to property, demands, damages, actions, causes of action, suits, losses, judgments, liens, obligations, breaches of this Agreement, liabilities, costs, and expenses including without limitation reasonable attorneys' fees, expert fees, and all litigation, mediation, and/or arbitration costs which arise from or are in any way connected with breaches of the Proposal, these Terms and Conditions, the acts or omissions, or failure to observe the applicable standards of care by the Client's architects, contractors, sub-contractors, sub-subcontractors, and any and all other agents and third parties, or the failure of any of these aforementioned third-party agents of the Client to construct items in compliance with the Contract Documents or to follow directives given by BEaR Engineers as provided for in this Proposal or the Contract Documents. These indemnity and defense obligations shall apply to any acts or omissions, or willful misconduct of Client, its employees, or agents. Client shall not be obligated to indemnify and defend Contractor or Owner for claims found to be due to the sole negligence or willful misconduct of the indemnified parties. This paragraph shall be construed to give the broadest possible indemnity protections to BEaR Engineers for any breach of this section.

4. BEaR Engineers does not provide any express or implied guarantee regarding the findings, recommendations, plans, specifications, or professional advice. BEaR Engineers has made a reasonable attempt to perform the services in accordance with generally accepted industry standards during the agreed-upon period.

5. BEaR Engineers is not responsible over any actions or other field activities by any person authorized by the Client, or the safety precautions and programs related to them.

6. BEaR Engineers shall not be required or obligated to make alternate parties, projects, current or future aware of any finding which may be affected by the Work.

7. The Client must provide access, required information as requested, and required provisions to allow BEaR Engineers to complete the Work.

8. BEaR Engineers shall not be held liable for punitive, consequential, incidental, direct or indirect, or special damages incurred by the Client to include any loss of revenue, use, or profit suffered by the Client in connection with the scope of work contemplated by the accompanying Proposal.

9. BEaR Engineers and its subcontractors and sub-subcontractors, affiliates, officers, agents, attorneys, employees, and permitted successors and assigns shall not be liable for any accumulated amount above the lesser of ten-thousand dollars ($10,000.00) or the total contract amount paid to BEaR Engineers in accordance with the accompanying Proposal.

10. The Client releases BEaR Engineers from all claims related to biological growth and agrees to hold BEaR Engineers harmless from penalties, actions, liabilities, expenses, and any damage related thereto.

Invoices and Payment.

1. BEaR Engineers will charge the Client for the services performed and reimbursable expenses incurred in connection with work done pursuant to the accompanying Proposal as it is completed throughout the course of the project and submit invoices for payment on a monthly basis. Said invoices must be paid by the Client within thirty (30) days of receipt.

2. All expenses shall be billed to the Client and, in addition, BEaR Engineers reserves the right to include a fifteen percent (15%) markup for overhead.

3. Consistent with its ethical obligations as a Professional Engineering firm, BEaR Engineers reserves the right to stop all work in connection with the accompanying Proposal if and when any invoice goes unpaid for longer than thirty (30) days until such time as all past due amounts are paid in full.

4. In the event any past due invoice remains unpaid in excess of thirty (30) days, BEaR Engineers reserves the right to terminate this contract and demobilize from the project.

5. In the event BEaR Engineers must hire an attorney to collect any past due amounts in connection with the accompanying proposal, the Client agrees that BEaR Engineers shall be entitled to recover all costs of suit to include expert fees, filing fees, service fees, postage, court costs, and reasonable attorneys' fees incurred or thirty-three percent (33%) of the past due balance, whichever is higher, plus twelve percent (12%) interest beginning from the date of non-payment.

Ownership of Intellectual Property.

1. All Contract Documents produced by BEaR Engineers in connection with the foregoing proposal are and shall remain the exclusive intellectual property of BEaR Engineers. The Client is granted a non-exclusive limited-use license of this Intellectual Property for the purpose of completing the project described in the Proposal above.

2. Title, copyright, intellectual property rights and distribution rights of the Intellectual Property remain exclusively with the Engineer.

Capacity/Independent Contractor.

1. In providing the Services under this Agreement it is expressly agreed that the BEaR Engineers and its agents are acting as independent contractors and not as employees of the Client.

2. BEaR Engineers and the Client acknowledge that the Proposal above does not create a partnership or joint venture between them, and is exclusively a contract for services.

3. The Client is not required to pay, or make any contributions to, any social security, local, state or federal tax, unemployment compensation, workers' compensation, insurance premium, profit-sharing, pension or any other employee benefit for any employee or agent of BEaR Engineers during the Term.

4. BEaR Engineers is responsible for paying, and complying with reporting requirements for, all local, state and federal taxes related to payments made to the Engineer under this Agreement.

Right to Utilize Subcontractors.

1. Except as otherwise provided in the Proposal above, BEaR Engineers may, in its sole professional judgment and discretion, engage a third party sub-contractor to perform some or all of its obligations under the Proposal above.

2. In the event that BEaR Engineers hires a sub-contractor, BEaR Engineers will pay the sub-contractor for its services and all amounts due under the Proposal above will remain payable to BEaR Engineers.

Autonomy and Non-Exclusivity.

1. BEaR Engineers will work autonomously and not at the direction of the Client. Except as otherwise provided in the accompanying Proposal, BEaR Engineers will have full control over working time, methods, and decision making in relation to provisions of the Services by its agents and employees in accordance with the accompanying Proposal.

2. The Parties acknowledge that this Agreement is non-exclusive and that either Party will be free, during and after the Term, to engage or contract with third parties for the provision of services similar to the Services.

Modification of Agreement.

1. Any departure or change from the accompanying Proposal, which effects the Fee Total Estimate, the Term, the Contract Documents, the schedule, or the scope of work under the accompanying Proposal shall be made only upon a written agreement signed by the Parties (hereinafter "Change Order"). If there is a decrease in the Fee Total Estimate it shall be noted in the Change Order, and the amount of any remaining progress payment, or final payment as the case may be, shall reflect a credit to Client for the decrease. If there is an increase in the Fee Total Estimate, BEaR Engineers reserves the right to require payment for any changes which increase its costs or expenses up front prior to additional services being performed.

Dispute Resolution.

1. Before initiating any claim pursuant to this section, the Client must provide written certification from an independent, certified, and licensed professional in the project state. The certification must outline the acts or omissions that do not meet the standard of care and provide detailed support for the certifier's opinion. The certification must be given to BEaR Engineers and concerned parties 45 days prior to any claims, arbitrations, or other legal proceedings initiated by the Client pursuant to this section. Thereafter, BEaR Engineers must be given an opportunity to rectify the claim prior to the initiation of a dispute pursuant to this section. Providing a certificate of merit pursuant to this section shall be a strict condition precedent to making any complaint or asserting any claim whether through litigation or arbitration, and the Client's failure to adhere to this provision shall bar the Client from asserting any claims against BEaR Engineers in connection with its work under the accompanying proposal.

2. In the event any dispute arises out of the accompanying Proposal or these terms and conditions, BEaR Engineers and the Client shall first attempt to resolve the dispute amicably by friendly negotiations through their respective agents for a period of seven (7) days (hereinafter "Cure Period")

3. If the Cure Period expires and no resolution of the claim has been mutually agreed upon between BEaR Engineers and Client in writing then, at BEaR Engineers' sole election, the claim or dispute may be decided by litigation, mediation, arbitration, or other alternative dispute resolution proceeding as chosen by BEaR Engineers.

4. In the event the BEaR Engineers elects Arbitration or other alternative dispute resolution proceedings then the costs of such proceedings shall be initially borne equally by both Parties. Upon entry of an Arbitrator's final order, the full costs of any mediation, arbitration, or other alternative dispute resolution proceeding as well as attorneys' fees, expert fees, and court reporting fees shall be paid by the non-prevailing Party as determined by the Arbitrator in said proceeding. Regardless, the sole venue for all dispute resolution proceedings, or alternatively litigation, shall be Virginia Beach, Virginia, and specifically for litigation the Circuit Court of the City of Virginia Beach, Virginia, or the United States District Court for the Eastern District of Virginia, Norfolk Division. The Parties hereto expressly consent to the jurisdiction and venue of said courts and acknowledge that they may be waiving rights they might otherwise have to bring suit, or have suit brought, in any other venue.

General Contract Provisions.

1. Time is of the essence in this Agreement. No extension or variation of this Agreement will operate as a waiver of this provision.

2. Neither BEaR Engineers nor the Client will not voluntarily, or by operation of law, assign or otherwise transfer its obligations under the accompanying Proposal without the prior written consent of the other Party.

3. This Proposal and these Terms and Conditions and the accompanying Unit Rate Fee Schedule represent a fully integrated agreement between the Parties which contains and embraces the entire agreement between the Parties hereto, and supersedes all prior negotiations, discussions, and/or agreements with respect to the project and the accompanying Proposal. No part of these document may be changed, altered, modified, limited or extended, orally or by any agreement between the Parties, unless such agreement is expressed in writing, signed and acknowledged by BEaR Engineers and the Client, or their successors and assigns.

4. This Agreement will be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

5. In the event that any of the provisions of this Agreement are held to be invalid or unenforceable in whole or in part, all other provisions will nevertheless continue to be valid and enforceable with the invalid or unenforceable parts severed from the remainder of this Agreement.

6. The waiver by either Party of a breach, default, delay or omission of any of the provisions of this Agreement by the other Party will not be construed as a waiver of any subsequent breach of the same or other provisions.

UNIT RATE FEE SCHEDULE

1) Professional Engineer ..... $175.00/hr.
2) Registered Professional ..... $165.00/hr.
3) Project Engineer ..... $140.00/hr.
4) Project Manager ..... $125.00/hr.
5) Technician ..... $100.00/hr.
6) Drafting ..... $100.00/hr.
7) Clerical ..... $95.00/hr.

Expenses

1) External Goods and Services ..... Cost x 1.15
2) Mileage ..... $0.75 per mile