

Town of Windsor

Memorandum

October 13, 2020

TO: The Honorable Mayor and Town Council
FROM: William G. Saunders, IV, Town Manager
SUBJECT: Windsor Town Center Repairs

The Windsor Town Center has recently experienced moisture issues in a few of the rooms, the cause/s of which were not readily apparent. Over the last several weeks, an extensive evaluation has taken place to identify the issues, evaluate them and make recommendations to move forward. This evaluation included roofing contractors, engineers, the architect, HVAC contractors and environmental services.

The findings were submitted to the Windsor Town Center Advisory Board (WTCAB) at their September 29, 2020 meeting for their consumption. Following a thorough and thoughtful consideration of the issues, the WTCAB offered a recommendation to Town Council.

The resulting recommendation to Town Council from the WTCAB is as follows:

1. Replace the existing roof with a new roof; contractor based on price and availability.
2. Accept the proposal of First Atlantic Environmental for the interior moisture repairs.
3. Reach out to Isle of Wight County to discuss the possibility of their sharing the costs.

Town staff concurs with the recommendation of the WTCAB and adds that the repair activities should take place as soon as possible to limit the potential for further damage. Due to this and currently low interest rates, consideration should be given to financing this effort. If financing is the choice of the Town Council, a public hearing should be held at the November 10, 2020 meeting to issue the debt.

Please find enclosed reports regarding the conditions of the building's systems, estimates for repairs and a synopsis put together by the project manager.



295 Bendix Road, Suite 340
Virginia Beach, VA 23452
Phone: 757.533.9368
Fax: 757.533.9432

September 24, 2020

Windsor Town Center

Re: Roof Survey, Roof Inspection, HVAC and Moisture Evaluations

This report is based on visual observations, core sampling, data and recommended corrections obtained from REI Engineering, Deshazo Roofing, Trane and First Atlantic Environmental

REI Engineering:

On September 21st - 22nd, 2020 Lloyd Bolick conducted a visual roof condition assessment and moisture survey (infrared scan) on the high (gym) roof and low roof. (see attached report). His report for the high roof details that large areas of roof repair are present where gravel had been swept away leaving the underlying ply sheets exposed to the weather. On the low roof his report detailed several areas of granule surface modified bitumen base flashings laps were open in numerous areas thus exposing the underlying roof to the weather.

REI Engineering found approximately 2,000 sf of wet insulation on the high and low roofs. (see page 14 of report) showing various wet areas.

Their conclusion based on their findings was to remove the old roof and install a new roof in accordance with current energy standards.

Deshazo Roofing:

On August 28, 2020 Gerry Little from Deshazo Roofing made a site visit and inspection report which is attached. The report covers both the low roof on the building and the high roof over the gym. The summary of the report is:

“The Built-up Roofing system has performed its serviceable life and the perimeter and curb flashings on the low roof and the gravel stop perimeter on the high roof require immediate restoration.”

Deshazo submitted pricing for the immediate repairs and for a retrofit or a complete removal and new roof installation. Their proposed prices are as follows and include a moisture survey:

1. High roof (gym) and low roof repairs including moisture survey - **\$50,100.00**. **NOTE:** this should provide 2 – 3 years of serviceable life.
2. Retrofit roof (overlay of existing roof) - **\$146,000.00**
3. New roof (complete – 20-year warranty) - **\$270,100.00**



National Roofing:

On September 15, 2020 Levy Roland from National Roofing made a site visit and inspection to provide a proposal for repairs to the low roof and high roof (gym). National Roofing does not do repairs but offered a proposal for retrofitting in lieu of a new roof the low and high roofs on September 17, 2020. (see attached) Their proposed prices do not include removal or reinstallation of the Lightning Protection (LP) which has to be by a certified LP contractor. The prices are as follows:

1. Low roof (retrofit – PVC material – 20-year warranty) - **\$87,250.00**
2. High roof (retrofit – PVC material – 20-year warranty) - **\$56,845.00**

TOTAL: \$144,095.00

Roof Engineering:

On September 17, 2020 Bill Chitty of Roof Engineering made a site visit and inspection to provide a proposal for repairs to the low roof. No repairs were proposed for the high (gym) roof. Roof Engineering submitted pricing for the repairs, retrofit and new roof on the low roof. Their proposed prices do not include removal or reinstallation of the Lightning Protection (LP) which has to be by a certified LP contractor. The prices are as follows:

1. Roof repairs (low roof – clean, caulk and seal joints only) - **\$3,200.00**
2. Retrofit roof (overlay existing roof) - **\$99,896.00**
3. New roof (complete – TPO material – 15-20 year warranty) - **\$149,283.00**

Each of the three (3) contractors has proposed a price for a new roof with each proposing a different material. Based on the report from REI Engineering recommending a new roof it is our recommendation also that a new roof be considered.

Moseley Architects:

On August 20, 2020 Joe Gilbert from Alpha Corporation notified Bill Ratliff of Moseley Architects that there was condensation buildup around the supply diffusers and mold showing on the adjacent ceiling tiles where the diffuser was set in the ceiling grid.

On August 25, 2020 Moseley Architects had their mechanical engineer John Wassum and Construction Administrator on site to review the affected areas and review the Building Automation System (BAS) which controls the HVAC. They discovered Roof Top Unit #2 had a high discharge air temperature and the compressor was running at 100%. They recommended we get in touch with Trane to discuss the issues. (see attached report)

Trane (HVAC):

Trane sent their technician Tony Patterson to check Roof Top Unit (RTU) #2 based on the study done by Moseley Architects dated September 10, 2020. Moseley stated their findings included compressor demand and discharge air temperature higher than designed. Because of this Trane's technician checked the performance of the unit from the factory settings and the designed settings. The fan settings for this unit were between 360 CFM and 420 CFM. The technician discovered the fan set to the higher fan speed of 420 CFM. Once this was discovered the technician reset the fan to 360 CFM which provided a supply air temperature of 49 degrees. The slower fan speed should allow the unit to stay on longer and thus reduce



the moisture in the air. Also it was recommended that the HVAC not be turned off and on but to keep it running and let the BAS control the changes in temperature.

First Atlantic Environmental:

David Guy (CIH) from First Atlantic Environmental (FAE) was on site August 27, 2020 to perform a visual inspection, moisture readings and evaluations on the existing water damage and mold growth. The site visit included the collection of indoor air samples to measure the concentration of bioaerosols (airborne particles that are living or originate from living organisms).

The general rule of thumb for indoor air quality is that the outdoor fungal counts (control sample) are higher than the indoor fungal counts. The laboratory results for the indoor air samples for the Lounge and Office showed much higher concentrations of spores than the outdoor sample. These indoor results were greater than the generally accepted total spore count guidelines.

The visual inspection noted mold growth in several rooms throughout the building (see report for specific rooms). It should be noted that visible mold growth supersedes air sample results when it comes to remediation.

The results recommended by FAE include cleaning remediation and cleaning based on their protocol provided in the report.

Conclusion:

It is the recommendation of the consultants that a new roof be considered and completed before the building be remediated and cleaned. The recommendation from Trane for the HVAC issues should be monitored by the Building Automation System (BAS) to check the output of RTU 2 and the visual inspections continued where noticeable mold growth had been discovered.

Once it is determined how the roof repairs are going to be addressed – repair, retrofit or new – we will provide a cost to manage the repair work and a schedule for the repairs.

Thank you,
Joe Gilbert
Project Manager
ALPHA CORPORATION

WINDSOR TOWN CENTER ROOF REPLACEMENT & MOISTURE REMEDIATION

**NOTE: This proposed cost does not include the design of a new roof by an architect.
It only includes removing the old and replacing with new.**

Roof Replacement - Deshazo Roofing (Based on their immediate availability)

Replace high (gym) and low roof - based on quote **\$ 189,000.00**

dated 9/28/20

45 day duration

First Atlantic Environmental

Mold Remediation - based on their quote dated **\$ 14,186.00**

9/2/2020

(4 day duration)

Quote does not include sheetrock replacement

Quote does include r/r of ceiling tiles

Alpha Corporation - Project Management **\$ 27,352.00**

45 days at 4 hours/day

Mileage, Phone and truck - 1/2 rate - other 1/2 to PW

Contingency (5%) **\$11,526.90**

TOTAL PROPOSED PRICE **\$ 242,064.90**

WINDSOR TOWN CENTER VISUAL ROOF CONDITION ASSESSMENT

2361 Courthouse Highway
Windsor, Virginia



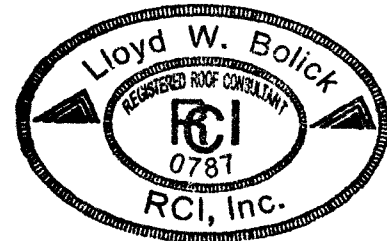
Client: Town of Windsor

Client's Representative: Mr. Saunders
Town Manager

Prepared By: REI Engineers
2697 International Pkwy, Pkwy 3, Suite
106
VA Beach, VA 23452
Virginia Business Entity Registration
0405001892

Lloyd Bolick Jr.
RRC, CDT

Date: September 24, 2020



EXECUTIVE SUMMARY

This report presents the findings of a visual roof condition assessment conducted at the Windsor Town Center located at 2361 Courthouse Highway, Windsor, Virginia.

Based upon the assumed age of the roof assembly and the amount of wet insulation observed during our moisture survey, we recommend removing and disposing of the existing roof assembly down to the existing steel roof deck. Provide a new single-ply roof assembly with an insulation thickness required to meet current energy code standards.

INTRODUCTION

The purpose and scope of the assessment was to:

1. Visually examine the current conditions of the existing roof assembly. Visual observations were performed by walking each roof section.
2. Document observed conditions and noted deficiencies in the Roof assembly. Perform a roof moisture survey utilizing a thermal imaging camera. Photographic documentation of observed conditions is included in this report.
3. Recommend corrective actions.

WARRANTY NOTICE

The findings and recommendations submitted for the subject building envelope components are based upon available information furnished by participating personnel as well as the assessment. The observations and recommendations presented in this report are time dependent and conditions will change. REI reserves the right to modify this report should additional information become available. No other warranty is expressed or implied. This report has been prepared for the exclusive use of Town of Windsor and its agents.

DESCRIPTION AND BACKGROUND

REI was contacted by the Town of Windsor about providing a roof visual roof condition assessment at the Windsor Town Center.

The Windsor Town Center is constructed with CMU walls clad with brick in a running bond pattern. The building consists of two separate areas: the gymnasium, and the meeting rooms and lobby. The low slope roof assembly on the facility consists of a gravel surfaced multi ply asphalt built up roof over 1/2" perlite board insulation over 1" polyisocyanurate insulation on a steel roof deck. Asphalt built up roofs are composed of alternating layers of asphalt impregnated ply sheets set in asphalt and is finished with gravel set in an asphalt flood coat. The gravel surface provides the ply sheets protection from the elements. The base flashings at the parapets, rising walls and at the curbs are granular surfaced modified sheets. The vent pipes were flashed using lead boots.

The typical service life of an asphalt built up roof system is 20 to 30 years. The age of this roof system is unknow. However, facility personnel believe it may be as much as 45 to 50 years old.

VISUAL OBSERVATIONS

The upper roof section is the gymnasium roof and is approximately 8,300 square feet. The gymnasium roof slopes in two directions, north and south, and has a ridge in the middle of the roof section. A large, curbed ventilator is the sole penetration on the roof section. On the north and south sides of the roof at the eaves are gutters and downspouts to facilitate removal of water from the roof surface. Large repair areas are present on the roof surface. One large repair area on each side of the ridge and at the eaves were observed. The gravel surface in the two large repair areas was swept to remove the unadhered gravel from the repair areas. The missing gravel revealed numerous areas of the ply sheets. The reinforcing scrim of the ply sheets was showing in these areas. The scrim will wick water via capillary action into the ply sheets where freeze/thaw will cause further deterioration of the ply sheets. Numerous leaks were reported in the gymnasium by facility personnel. The leaks reportedly manifest around the large curbed vent, at the walls, and in the field of the roof.

The lower roof section is over the lobby and meeting rooms and is approximately 7,600 square feet. The lower roof section slopes from the north side of the building to the south side of the building. Drainage is facilitated with both internal roof drains and through wall scuppers. The through wall scuppers drain into conductor heads and downspouts which discharge at grade. The internal roof drains discharge into below grade drainage pipes. The penetrations on the lower roof sections consist of curbed HVAC units, power ventilators on curbs, lead flashed vent pipes, abandoned curbs, internal roof drains, and a pitch pocket. The granule surfaced modified bitumen base flashing laps were open in numerous locations. Vegetation was present on the roof section against the rising gymnasium wall around the internal roof drains indicating water stands on the roof surface in this area.

Below are representative photographs of the deficiencies observed. The locations of the deficiencies observed are shown on the attached roof plan:

Deficiency I.D. Deficiency

A Exposed ply sheet reinforcing scrim. Moisture wicked into the ply sheet causes further deterioration during freeze/thaw.

Photograph



Deficiency I.D. Deficiency

Photograph

B Loose lightning cable on roof surface. The cable may damage the roof during wind events.



C Deteriorated/separated sealant in counterflashing sealant tray allows water to bypass the counterflashing exposing the top of the base flashing membrane beneath.



D Corroded steel wall mounted ladder. The ladder should be cleaned, primed, and painted during a future roof replacement project to prevent further corrosion.



Deficiency I.D. Deficiency

Photograph

E Deteriorated and separated pitch pocket mastic. The separation between the pitch pocket and the mastic is a path for water infiltration.



F Low flashing height on abandoned curbs. Roof industry standards require 8" minimum base flashing height to prevent water intrusion.



G Vegetation on roof surface indicating poor drainage. During a future roof replacement, provide tapered insulation to promote drainage.



Deficiency I.D. Deficiency

Photograph

H Improperly fastened power vent. Install a new gasketed screw to prevent damage during wind events.



I Separated sealant at concrete coping joint is open to water infiltration.



J Open base flashing laps open to water infiltration.



Deficiency I.D. Deficiency

Photograph

K The sealant in the metal coping laps are separated or missing. A membrane was not installed over the wood blocking beneath the metal coping. Install metal back up plates and sealant at each coping lap and a new roof membrane beneath the coping during a future roof replacement project.



L Interply Blister in the roof surface.



M Missing sealant at through wall scupper picture frame to brick cladding interface allows water infiltration into the wall and roof systems. Provide new through wall scupper sleeves and picture frames during a future roof replacement project.



ROOF MOISTURE SURVEY

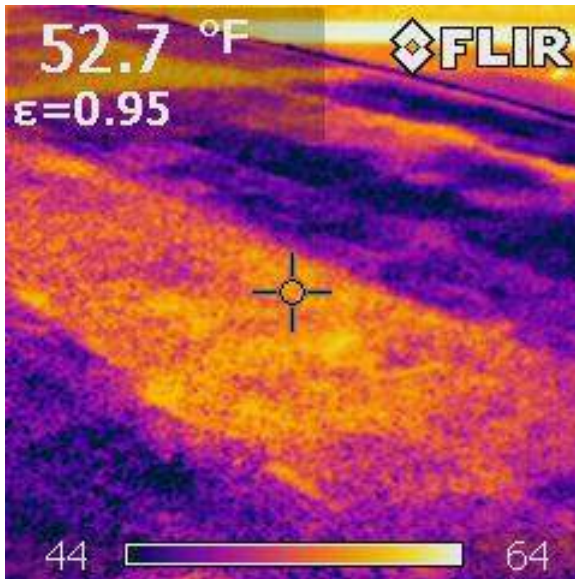
As a part of our roof condition assessment, REI Engineers conducted an infrared roof moisture survey on 9/22/2020 at the above referenced facility located at 2361 Courthouse Highway, in Windsor, Virginia. The purpose of the survey was to detect thermal anomalies resulting from moisture contaminated roof insulation.

Conditions at the time of the moisture survey were clear skies, humidity of approximately 63% and outside ambient temperature of approximately 58 degrees Fahrenheit. Conditions such as this are favorable for successful infrared imaging. The survey was conducted after sunset, during cooler evening hours, to eliminate the possibility of error introduced by solar reflection. After a clear, sunny day, the roof surface acts like a large thermal collector. Wet insulation areas collect and retain heat better than dry areas. During the hours after sunset, dry areas cool more rapidly than wet areas.

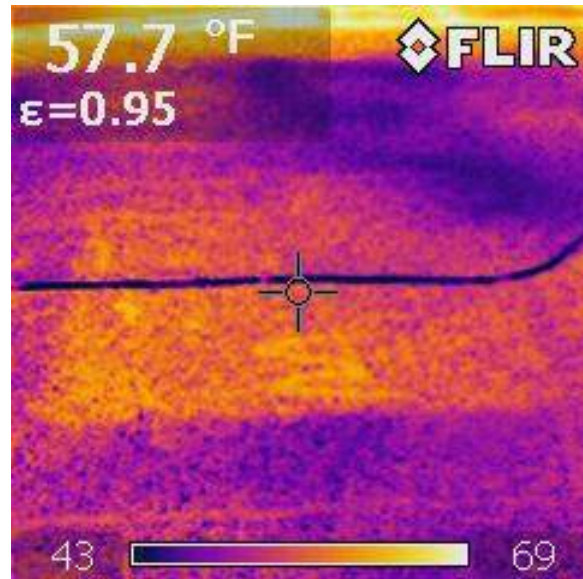
The thermal imaging equipment utilized was a FLIR System's ThermaCAM B60. This camera reads the infrared heat energy radiation, which is invisible to the naked eye, and converts this into visible images on the camera screen. The camera detects temperature differences of less than 0.1°C. As a result, areas of high temperature differential were easily identified. A Tramex RWS roof and wall scanner capacitance meter was also utilized to confirm wet areas at observed thermal anomalies.

There was approximately 2,000 square feet of suspected wet insulation detected by the survey. The locations of these areas are shown on the attached roof plan. The suspected wet insulation locations were verified with Tramex RWS roof and wall scanner capacitance meter.

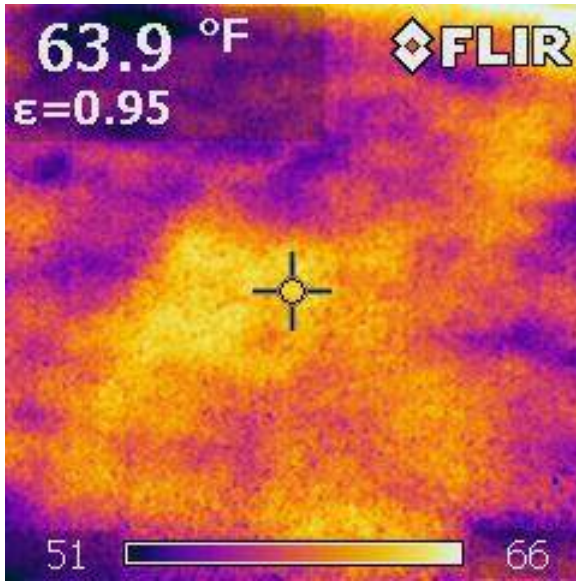
Below are photographs taken of the thermal anomalies identified during our moisture survey:



Thermal Image 1



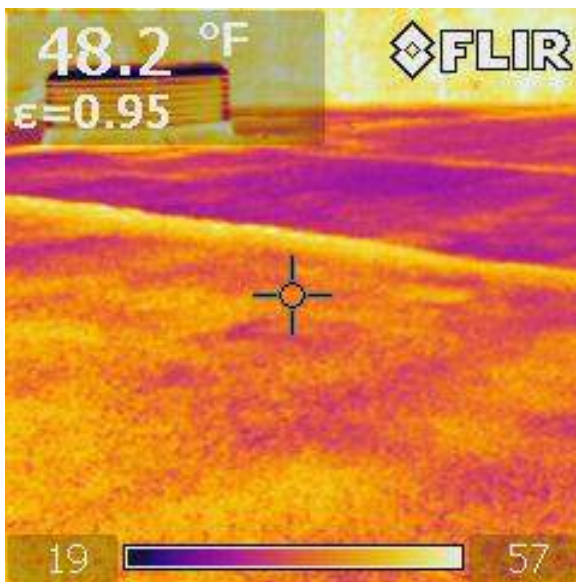
Thermal Image 2



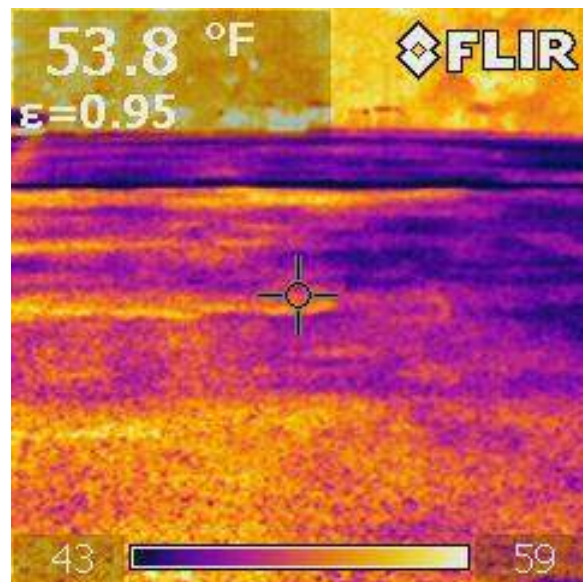
Thermal Image 3



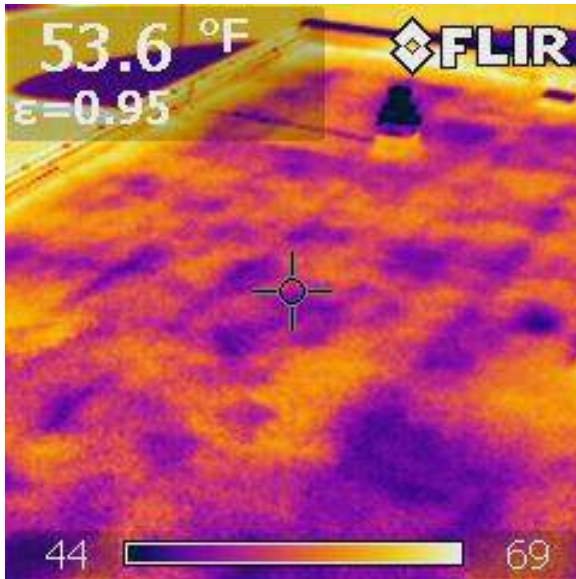
Thermal Image 4



Thermal Image 5



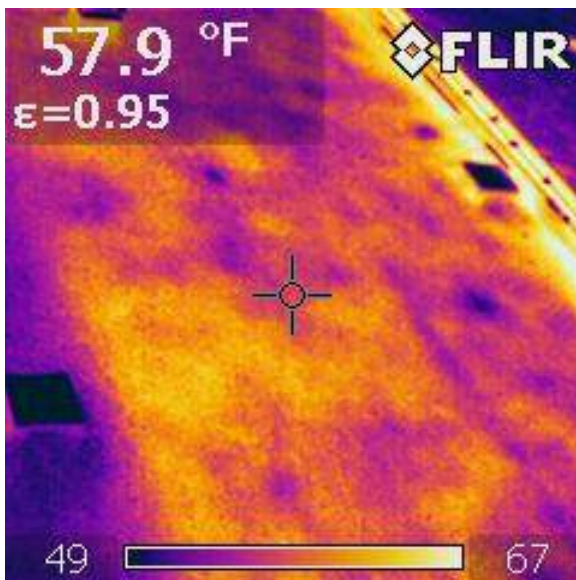
Thermal Image 6



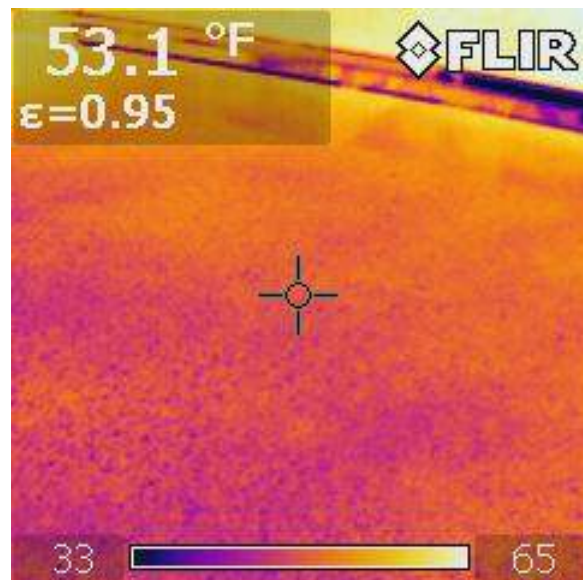
Thermal Image 7



Thermal Image 8



Thermal Image 9



Thermal Image 10

CONCLUSION AND RECOMMENDATIONS

Based on our observations made during our visual assessment, the assumed age of the existing roof system, the amount of thermal anomalies present, and our experience with similar projects, we recommend completely removing the existing roof system down to the existing steel deck. The repair areas on the gymnasium were swept clean of the existing loose gravel surfacing allowing observations of the built up plys. The ply reinforcing scrim is indicative of an asphalt built up roof system at the end of its service life. Although the surface of the plys on the lower roof section is not observable, it is likely that the plys are experiencing the same deterioration.

OVERALL PHOTOGRAPHS



Photo 1: Southeast gymnasium roof section.



Photo 2: Northwest gymnasium roof section.



Photo 3: Southwest lower roof section.



Photo 4: Northwest lower roof section.



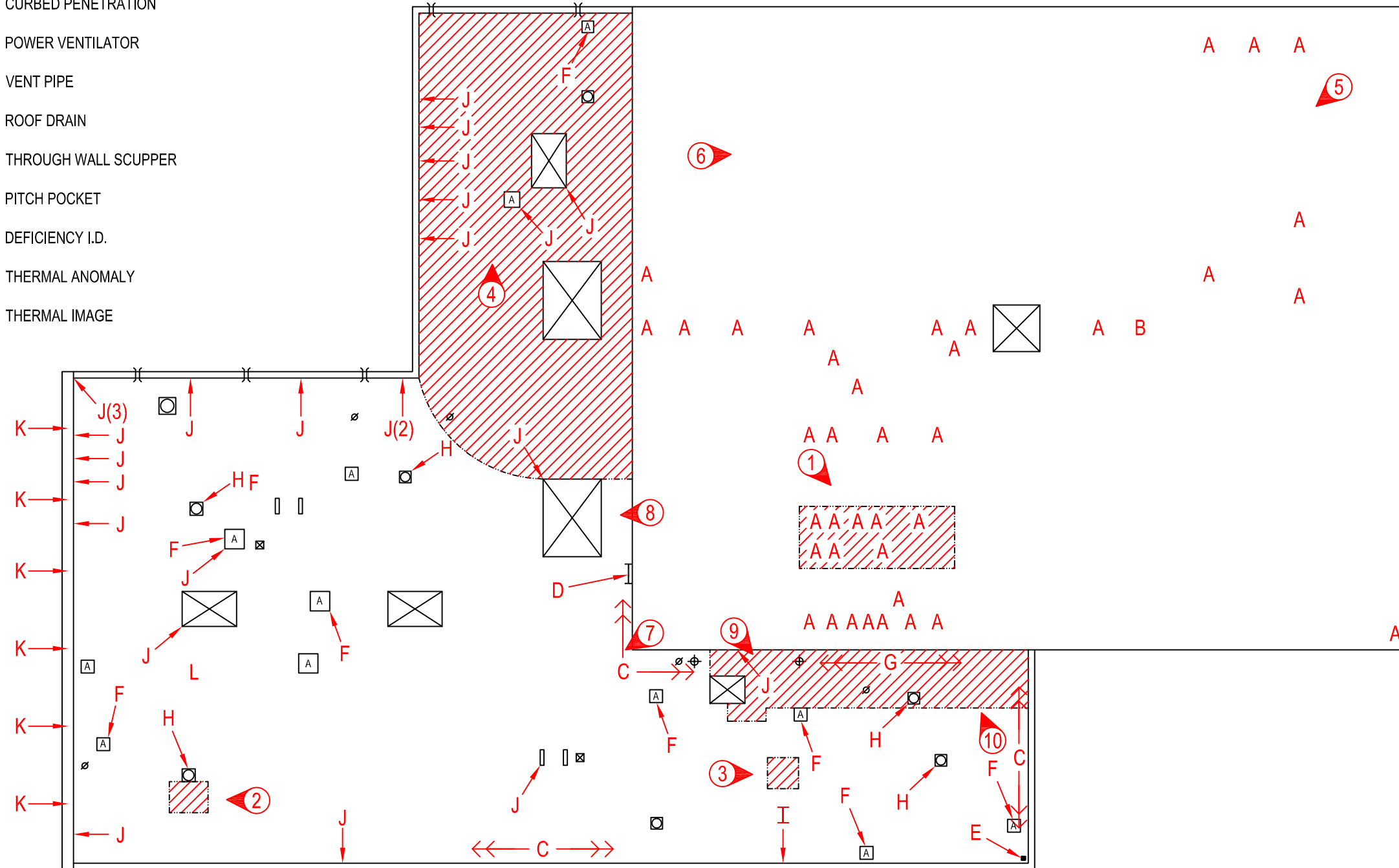
Photo 5: East lower roof section.



Photo 6: South lower roof section.

PLAN LEGEND

- A ABANDONED CURB
- CURBED PENETRATION
- POWER VENTILATOR
- ∅ VENT PIPE
- ⊕ ROOF DRAIN
-)(THROUGH WALL SCUPPER
- PITCH POCKET
- J DEFICIENCY I.D.
- THERMAL ANOMALY
- # THERMAL IMAGE



ROOF PLAN
ROOF PLAN

DRAWN BY:
LBJ

SCALE:
1/16"=1'-0"

REI PROJECT NO:
020VAB-109

2697 International Parkway | Suite 106
Virginia Beach, VA 23452
Engineering solutions for tomorrow®
www.reiengineers.com



ROOF PLAN
WINDSOR TOWN CENTER
2163 COURTHOUSE HIGHWAY
WINDSOR, VIRGINIA

REVISIONS	
NO.	DATE
1	
2	
DATE: 9/24/20	
SHEET TITLE: A	

MOSELEYARCHITECTS

780 Lynnhaven Parkway
Suite 200
Virginia Beach, VA 23452
P: (757) 368-2800

September 10, 2020

RE: Windsor Town Center
23320 N. Court Street
Windsor, Virginia 23487

Mr. Joseph Gilbert
Project Manager
Alpha Corporation
395 Bendix Road, Suite 340
Virginia Beach, Virginia 23452

Dear Mr. Gilbert:

On Wednesday, August 20, 2020, Moseley Architects was notified via email communications that an alleged mold/moisture issue had developed within a few of the interior spaces at the Windsor Town Center.

Moseley Architects visited the site on August 25, 2020, to observe the extent of the alleged moisture-related issues that were reported.

Upon our observations of the existing conditions within those identified spaces, and review of various documentation noted below, we offer the following observations and opinions for your consideration:

After reviewing the Building Automation System (BAS) trend data and operations along with the conditions inside the various spaces, we offer the following regarding how the six (6) RTU's should be controlled. We noted higher than acceptable discharge air temperatures from the RTUs (upper 60s) which appear to stem from a changing discharge air temperature setpoint. This setpoint should modulate per the Sequence of Operation for these units, so it is unclear as to why this is happening. Trane has been contacted and they also do not understand as to why this setpoint is modulating. The programming and operation of each RTU should be reviewed so the setpoint does not modulate higher than the design discharge air temperature (55 degrees). The discharge air temperatures of mostly in the upper 60s is not sufficient to achieve dehumidification within the various spaces.

We question whether the single-zone VAV operation is set up properly. The fan should modulate once the affected space reaches setpoint while keeping the discharge air temperature the same so that such space(s) does not get overcooled with a constant discharge air temperature at 55 degrees. It is not clear upon our initial observations if the fan is responding or would respond accordingly. The discharge air temperature setpoint should be corrected and verified in order to enable proper operation.

We noted the compressor operation, per the trend data, shows 100% compressor demand, while only achieving mid-60s discharge air temperature. This could be a result of a mechanical issue within the units and thus, the refrigeration should be verified along with controls. Maintenance on the unit(s) should also be confirmed while investigating the compressor operation.

If not done so already, all of the Owner's onsite representatives should be trained on the operations and procedures of the HVAC and BAS systems as there appears to be some questions over occupancy scheduling and enabling/disabling of the RTU's when the building is not occupied. The units should all stay enabled to run, but the Occupancy schedule should be enabled to keep the space(s) under control at all times. Disabling the units at any time, whether occupied or unoccupied, is not optimal and can contribute to the humidity issues experienced within the building.

Once the controls have been verified as being set in accordance with the manufacturer's recommendations and our design parameters, especially the discharge air temperature setting, data loggers should be placed in the suspected spaces to confirm the space humidity decreases to an acceptable level and until such time as no other measures need to be taken.

During the value engineering phase, the hot gas reheat coils designed for RTUs 5 & 6, which serve the gym, were removed from the project. These would have allowed for a true dehumidification sequence for these units where the unit would have constantly supplied 55° F air and the reheat coil would have modulated as required to maintain space temperature without overcooling the space. RTUs 1-4 did not include hot gas reheat coils in the design as they are not an option on the basis-of-design units at that tonnage.

Regarding the roof inspection report by J. King Deshazo III, Inc., dated August 28, 2020, it appears the building's roof envelope may be compromised.

The report indicates the Built-Up Roof System has performed its serviceable life and there are numerous suspected leaks at the high gymnasium roof and low roof. Active roof leaks would be a contributing factor to the mold issues.

The report also indicates some of the HVAC roof curbs have struts that are fastened into sides of flashings without sealants. This issue may be attributable to the work performed by the Contractor during recent building renovations.

Subject to the referenced roof report, the Owner should consider a full roof replacement or at a minimum, perform the suggested repairs to the extent that the roof becomes watertight and provides the proper insulated value across the entire roof envelope.

Regarding the attached Indoor Environmental Assessment, performed by First Atlantic Environmental and their subsequent report dated September 1, 2020, it identifies multiple locations of mold growth throughout various areas of the building.

If the supply ducts are sweating, this would most likely mean the duct insulation itself has been compromised and may be saturated with moisture; thus, should be removed and replaced as a part of any corrective measures.

As the report notes, all sources of any water intrusion should be identified and corrected prior to or in concert with any mold remediation work.

Thank you for the opportunity to provide our input and opinions. Hopefully, once all repairs/replacement to the roof have been completed, HVAC/BAS systems have been set to manufacture and design parameters, staff has been trained, and all existing mold abated, the conditions for continued or future mold growth should be eliminated.

Should you have any questions, please feel free to call.

Sincerely,



William O. Ratliff

Construction Contract Administrator
Senior Associate

Cc: Brian Camden, Alpha Corporation
Jeff Hyder, Moseley Architects
Jan Burgess, Moseley Architects
John Wassum, Moseley Architects

Field Report



1100 Cavalier Blvd
Chesapeake, VA 23323
Phone 757-558-0200
Fax: 757-558-9709
www.Damuth.com



Location Name	Contact	Phone
Windsor Town Center	JOE GILBERT	(757) 435-4143 x0000
Address	City	State Zip
23320 North Court Street	Windsor	VA 23487
Service Call ID	Date	P.O. #
200917-0008	9/21/2020	TBD
Description	Call Type	
T/S SVX23PQ AIR FLOW	TIME & MATERIAL	
Primary Technician		
Patterson, Anthony Curtis		

Equipment		
Equipment ID	Model Number	Serial Number
RTU-2	WHC060H3REA02H8B1A10	182511716L

Work Description Below

COMPLETE
[9/21/2020 4:40:15 PM Patterson, Anthony Curtis]
Checked system out, found indoor fan motor within submittal, but I lowered the fan speed to the bottom at 360 cfm/ ton to dehumidify better (was at 420) brought the outside enthalpy from A setting to E setting as required within this area. Superheat, subcool, amps, voltage, drop across the coil is at 15 degrees instead of earlier at 8. Fan speed is at 50% on 1st stage and 85-100% on 2nd stage cooling. All heat functions work well. Unit is good to go at this time putting out 49 degree air. Was at 63 when I showed up.

Labor						
Technician	Appt	Date	Hours	Pay Code	Description	
Anthony Patterson	0001	9/21/2020	4.00	*Regular Time	Labor - Repairs	
4.00 Total Hours						

Thank You for allowing us to assist you with your maintenance needs.



September 1, 2020

Williams Saunders
Town of Windsor
23361 Courthouse Highway
Windsor, Virginia 23487
wsaunders@windsor-va.gov

RE: Indoor Environmental Assessment – Windsor Town Center, Windsor, Virginia.

Dear Mr. Saunders:

This report presents the observations, environmental data, and opinions for a limited evaluation of water damage to, and subsequent mold growth on interior finishes in the commercial structure (Windsor Town Center) located in the building at 23361 Courthouse Highway, Windsor, Virginia.

The Scope of Services included in the evaluation consisted of the completion of the following activities:

- ❖ Visual assessment of the building materials in readily accessible areas associated with the areas of concern (client-specified);
- ❖ Representative moisture survey of damaged materials associated with the areas of concern (client-specified);
- ❖ Collect random representative indoor air samples (Countable Fungal) in order to measure concentrations of bioaerosols (airborne particles that are living or originate from living organisms: i.e., culturable, non-culturable and dead microorganisms). Collect an exterior air sample to be used as a baseline comparison;
- ❖ Report documenting the findings of the evaluations and providing a protocol for the safe removal/cleaning of any affected materials.

BACKGROUND

The evaluation was conducted in order to provide a physical assessment of the subject building's conditions in regard to mold amplification and water damage of building materials. The inspection was limited to readily accessible materials.

The inspection was the result of employees voicing concerns of visible mold growth recently discovered in various rooms of the facility. There have been no known water loss events, with the exception of a couple localized roof leaks.

During our assessment, we noted excessive indoor humidity, condensation on ductwork, condensation on the suspected ceiling track, visible mold on wall surfaces, visible mold on contents and mold on ceiling tiles.

Healthy Environments, LLC was asked to perform an assessment of materials in order to determine the cause, extent of the damages and develop a detailed protocol for the safe cleaning and abatement of affected materials. Conditions were consistent with the scenario described.

VISUAL INSPECTION AND ENVIRONMENTAL MEASUREMENT

Bioaerosols-Air Samples

Three air samples of ambient indoor and one control sample of outdoor air were collected for laboratory analyses to detect the presence, identification, and quantification of bioaerosols (airborne particles that are living organisms or fragments that have originated from living organisms). Samples were collected by drawing air across an adhesive trap material. Allergenco-D cassettes were utilized. Ambient air was drawn over the spore trap using a high-volume vacuum pump, calibrated to draw 15 liters of air per minute for 5 minutes, so that a total of 75 liters of air were drawn through the spore trap cassette. The traps were examined by direct light microscopic observation.

Moisture Survey

Moisture readings were collected using a Protimeter MMS moisture meter. This instrument may be operated in two independent modes. The non-destructive "search mode" uses radio-frequency induction to detect moisture in a substrate. Using the search mode, the Protimeter is capable of detecting moisture in solid, homogeneous materials at depths up to 10 millimeters (0.39 inches). When operated in search mode, the Protimeter produces qualitative readings ("dry", "at risk", "wet") along with a numerical indication (relative) of the moisture content on a scale from 0 to 100.

The Protimeter may also be used in "measure mode" to obtain actual moisture percentage readings in wood and other solid, non-conductive materials. Measurements are taken by inserting the pins of a moisture probe into the material being tested. For wood substrates, the moisture percentage is expressed as "% Moisture Content (MC)"; for other materials this number is expressed as "% Wood Moisture Equivalent (WME)". In general, %MC or %WME values of less than 17 are considered "dry", values greater than or equal to 17 but less than 20 are considered "at risk" for moisture damage, and values of 20 or greater are considered "wet". Values of greater than 17 % typically are considered at risk for mold growth.

Although our testing indicated "dry" materials in some areas it does not preclude moisture damage or conditions do not exist within inaccessible areas.

Visual Assessment

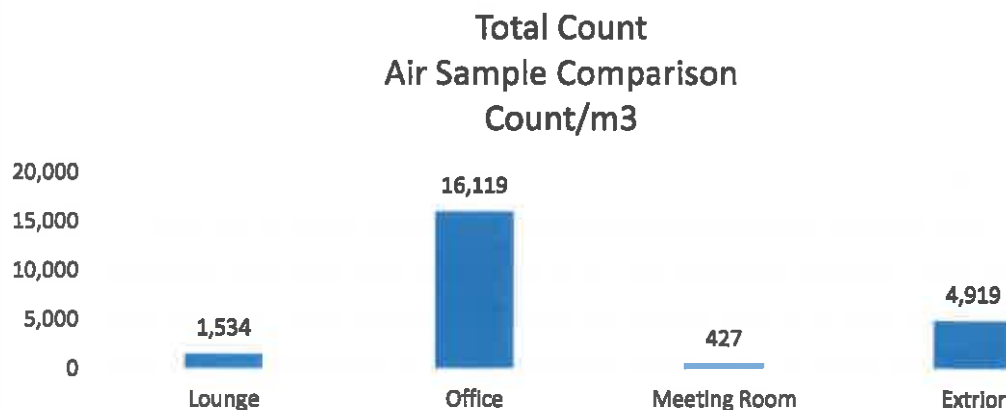
Visual inspection of the subject areas included limited observation of building materials for the presence of suspected visible mold growth or conditions conducive to mold growth, as prescribed in the ASTM (Designation D7338-14) Standard Guide for Assessment of Fungal Growth in Buildings. The survey did not include any destructive techniques and was limited to readily accessible areas/materials in the areas of concern. Destructive testing techniques were not used; therefore, hidden areas (example: behind insulation, behind cabinets, inside wall cavities or ductwork) could not be included in our scope of work.

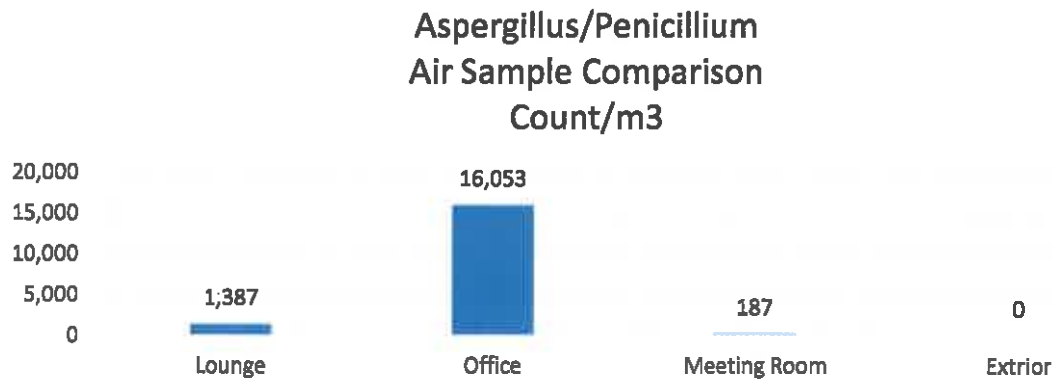
FINDINGS

Air Samples

There is no universally recognized “safe” or “unsafe” level of mold exposure. The general rule of thumb for evaluating air sample data is to compare the species and total concentration of the indoor samples to one or more outdoor control samples. Quantitative comparison is then applied to determine the similarities and differences in the indoor environment in comparison to what is found in the outdoor sample and other indoor samples. Mold spores can enter an indoor environment through HVAC systems, doors, windows, and by being carried indoors by occupants. By comparing these results, objective data can be used to determine if there are potential problems within a building that may suggest a need for further testing and/or remediation work.

The laboratory analysis indicated that the overall total bioaerosol concentrations in the indoor samples collected in the lounge and office were greater than the outdoor control sample and above generally acceptable total spore count guidelines. In addition, a marked increase was detected in *Aspergillus/**Penicillium* group molds detected in two of the three air samples compared to the outside baseline sample. The air samples suggest air quality has been impacted by the visible mold observed.





Visual Inspection, Moisture Assessment & Information Obtained

Below are areas of mold growth observed during our inspection and/or conditions that may need further investigation:

Office 102

- A strong musty odor was detected in the office.
- The indoor humidity was 72% and elevated.
- Visible mold was observed on several ceiling tiles. The mold on the ceiling tiles appeared to be a result of condensation on the ductwork located in the ceiling cavity. Some additional mold growth was observed on the backside of the ceiling tiles directly below the ductwork.
- The ductwork above the suspended ceiling was “sweating” on the day of the inspection.
- Visible mold (surface) was noted on the firewall (wallboard) above the suspended ceiling along the wall common with the front desk room.

Front Reception Area

- The insulation associated with the ductwork above the front desk was damp. We did not see any damage above the ceiling in the foyer area (open to the front desk area).
- The indoor humidity was 73% and elevated.
- No visible mold was noted.

Large Meeting Room (103)

- The indoor humidity was 72% and elevated.
- Visible mold on the ceiling tiles around some of the supply diffusers and returns.
- The ductwork above the suspended ceiling was “sweating” on the day of the inspection.
- The ceiling tiles were damp, and the metal suspended track exhibited condensation in many areas
- The humidity in the ceiling cavity was 80% and elevated.
- Mold growth was noted on the CMU wall along the ceiling grid in several areas.
- Visible mold was observed on the wallboard behind 2 televisions.
- Mold growth was noted on the CMU wall above the suspended ceiling around the penetration where the ductwork enters the main hallway.

Common Area In Front Of Bathrooms

- Surface mold was observed on the CMU wall along the wall common with the gym.
- The indoor humidity was 75% and elevated.

Lounge

- Visible mold was observed on the bottom of the small table.
- A very limited area of mold was observed on the CMU wall left of the door opening leading to the common bathroom area.

Art Room/Gym Storage

- Visible mold was observed on the two canvas cases on the shelves.

Art Room

- Suspect mold was observed on the bottom of the roof deck. The height of the roof deck limited our inspection of this area.

Miscellaneous

- Mold growth was noted on the wallboard around the electrical outlet covers in several areas.
- The ceiling tiles (all) were damp in the meeting room and office.

DISCUSSION

The extent of mold in any one area was limited and sporadic; however, some cleaning had taken place prior to our inspection, so conditions prior to our assessment are not known. The pattern of the damage is consistent with exposure to prolonged high humidity. The cause of the high humidity is not known. The wet ceiling tiles and active condensation on the ductwork is adding to the humidity; however, the mechanical system (size, amount of outdoor air being introduced into the HVAC system, building pressure and set points) should be assessed.

The sample results help determine air quality; however, it should be understood that visible observation of mold supersedes air sample results when it comes to determining the need for cleaning and remediation. Visible mold is a problem even if air sample results are within guidelines.

Based on our findings some degree of cleaning is needed in all rooms other than the gym. Cleaning in some areas/rooms will also be needed above the ceiling.

RECOMMENDATIONS

The inspection and collected data suggest that active mold was present in the area associated with the subject water loss/intrusion at the time of this study. The damaged materials located in the subject dwelling contain indoor reservoirs of fungi that could release bioaerosols under routine conditions, or otherwise have an effect on the health of individuals exposed to these reservoirs or

bioaerosols. Based on the analytical data and the potential health risks posed by the bio-pollutants, First Atlantic Environmental recommends the following remedial actions:

BIOLOGICAL CONTAMINATION REMEDIATION GENERAL PROCEDURES

- ✓ Any demolition and/or disinfecting work associated with the repair of the contaminated materials are expected to aerosolize fungal elements. **Prior to beginning any mold remediation and/or drying procedures, all sources of water intrusion/loss must be confirmed and corrected (or in the process of being corrected).**
- ✓ The mold abatement contractor shall comply with applicable guidelines for remediation of fungal contaminants, as applicable. All fungal abatement shall be performed as prescribed in the following references.
 1. US EPA Guidelines for Mold Remediation in Schools and Commercial Buildings (EPA 402-K-01-001, March 2001).
 2. ANSI/IICRC S500 – Standard and Reference Guide for Professional Water Damage Restoration, Third Edition.
 3. ANSI/IICRC S520 – Standard and Reference Guide for Professional Mold Remediation.
- ✓ A remediation firm that is trained and experienced in the safe and effective removal of mold contamination shall remove all microbial contaminated materials and wet materials.
- ✓ Protect all job site personnel (mold abatement) to include, but not be limited to, such items as providing worker safety training, worker guidelines, protective equipment, electrical safety, fire protection and means of egress, and job site conditions. Workers conducting the removal of microbial contaminated materials shall wear appropriate respiratory protection, in accordance with Occupational Safety and Health Administration (OSHA) respiratory protection standard (29 CFR 1910.134).

PREPARATION OF THE WORK AREAS

- ✓ One layer of polyethylene sheeting shall be used to create a critical barrier to isolate a contaminated area (floor, room, zone, wall) from clean, occupied building zones, and/or adjacent work areas. Critical barriers shall block all openings, fixtures, and HVAC system components to prevent the spread of dirt and spores beyond the containment area. Contact First Atlantic Environmental to discuss the various possible containment set-up strategies. Containments will be used to assist with air scrubbing and separating work areas. The majority of the containments will be limited to “door containments”.
- ✓ Negative pressure differential between the work area(s) and the surrounding space shall be created to prevent contaminants from leaving the work zone and/or reduce airborne exposure. An air filtration device with HEPA filtration shall be used to negatively pressurize the work area.

- Ensure enough AFDs are installed and vented outdoors, to create negative air pressure within the work area.
- HEPA-filters for the AFDs should be thoroughly assessed prior to delivery to the job site, as well as once inside the work zone and prior to activation.
 - The filter should be checked to assure it has no holes, rips, or gaps that could allow contamination to flow through the filter and back out into the work zone. The fastening system, holding the filter in place, should be checked to assure the filter is securely seated in the correct position.
 - The AFDs should be thoroughly cleaned and ready to be placed in the residence.
- ✓ The proposed work area shall be cleaned, using HEPA-filtered vacuum equipment, and damp (not wet) cleaning methods with the use of a mild detergent solution, as appropriate. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, shall not be used.
- ✓ Remove all loose movable items (example: furniture, textiles, wall hangings, moveable appliances and stored items) from the “work area” prior to the start of work.
- ✓ The mold abatement contractor should thoroughly examine the engineering controls, such as the critical barriers, negative air machines, and/or any other controlled areas prior to each day’s work to verify its ability to control the emissions.
- ✓ Negative pressure differential between the work area(s) and the surrounding space shall be created to prevent contaminants from leaving the work zone and/or reduce airborne exposure. An air filtration device with HEPA filtration shall be used to negatively pressurize the work area.
 - Ensure enough AFDs are installed and vented outdoors, to create negative air pressure within the work area.

SPECIFIC

- ✓ Any demolition work associated with the repair of the contaminated materials and materials that have been wet for a prolonged period of time are expected to aerosolize fungal elements. As with any mold project, additional water damage (including mold growth) will likely be discovered once cavities are exposed.

Note: No mold growth or musty odor were noted in the gym and kitchen area.

Office 102

- ✓ Remove and dispose of the ceiling tiles.
- ✓ Thoroughly clean (HEPA Vacuum and wipe with a mild detergent) all exposed surfaces (with the exception of the roof deck) and contents. Once cleaned, an antimicrobial

sealant/shield should be applied to the fire rated wallboard above the ceiling exhibiting mold growth.

- ✓ Ensure all insulation around the ductwork is dry.

Large Meeting Room (103)

- ✓ Remove and dispose of the ceiling tiles.
- ✓ Thoroughly clean (HEPA Vacuum and wipe with a mild detergent) all exposed surfaces (with the exception of the roof deck) and contents. Once cleaned, an antimicrobial sealant/shield should be applied to the fire rated wallboard above the ceiling exhibiting mold growth.
- ✓ Ensure all insulation around the ductwork is dry.

Art Room & Adjacent Storage Room

- ✓ Remove and dispose of canvas tote and porous cases that exhibit mold in the storage room.
- ✓ Thoroughly clean (HEPA Vacuum and wipe with a mild detergent) all exposed surfaces and contents (including any mold on the bottom of the roof deck).

Lounge & Common Area in Front of the Bathrooms

- ✓ The contents in the lounge will need to be detailed cleaned and any upholstery cleaned
- ✓ Thoroughly clean (HEPA Vacuum and wipe with a mild detergent) all exposed surfaces and contents.

All Other Rooms (Hallway, Bathrooms, Closets, Foyer)

- ✓ Thoroughly clean (HEPA Vacuum and wipe with a mild detergent) all exposed surfaces and contents.

Fine Cleaning (contained areas)

Fine Cleaning Protocol For Work Areas (once the gross contamination has been removed):

- ✓ Debris and dust in the work area are to be removed.
 - a. Thoroughly HEPA vacuum exposed surfaces such as, but not limited to, floors, exposed framing, and remaining gypsum/plaster board and other materials of walls and cabinets with a HEPA-filtered vacuum. Use of crevice tools and attachments that allow access to small areas is recommended to promote thorough removal of dust, debris, and fungal elements.
 - b. Thoroughly damp-wipe surfaces (i.e., framing, walls/ceilings, flooring, and smooth materials, but not concrete block) with a hydrogen peroxide-based cleanser solution or other suitable solution. The following procedure should be followed to promote a good suspension of dust and debris to allow a thorough wipe-down of surfaces.
 1. Wipe all surfaces (example: walls, ceiling, framing, floors, barriers) with towels wetted in cleaning solution.
 2. Do not saturate materials being cleaned. Allow the cleaning solution to dwell on surfaces for approximately five to ten minutes. This will

allow the solution to suspend organic soils and contaminants on the surface.

3. The structure should be allowed to dry, preferably overnight to 24 hours. The use of dehumidifiers in the work area should be used to assure complete drying within 24 hours. Wood framing and other surfaces should be checked for acceptable moisture content (e.g., 15%, or lower for wood).
4. A second thorough vacuuming of all surfaces with HEPA-filtered vacuum.

Note:

1. No destructive or invasive inspection was performed during the site visit prior to the development of this work plan. As such, it is possible that additional areas of fungal colonization will be encountered during remediation work. Additional areas encountered during remediation work should be evaluated by a qualified environmental professional experienced in microbial remediation. Appropriate remediation methods to be employed by the Contractor for any newly-encountered damaged materials shall be promulgated by First Atlantic Environmental, as directed by the client or its representative.

General Procedures

- ✓ Leave all containments and/or critical barriers in-place until an acceptable final clearance is achieved.
- ✓ Once the recommended materials are removed, the contractor should inspect the cavities and areas which were not accessible at the time of our survey. It is possible that "hidden" mold may be discovered and that additional affected materials will have to be removed. Contact First Atlantic Environmental should additional mold damage be discovered.
- ✓ The contaminated material should be placed in 6 mm poly bags prior to being taken out of the contained area. Bags of debris should be sealed with tape while in the contained area. Bags and other debris may be discarded as normal construction waste in accordance with state and municipal regulations.
- ✓ Once acceptable levels of indoor air quality have been achieved, any remaining structural components with elevated moisture contents (if any) should be mechanically dried to moisture contents of less than 16%.

FIELD QUALITY CONTROL (Owners Option)

Post Abatement Inspection/Sampling: A post inspection can be performed once the recommended work is complete at your request.

LIMITATIONS

First Atlantic Environmental provided these services consistent with the level and skill ordinarily exercised by members of the profession currently practicing under similar conditions. This statement is in lieu of other statements either expressed or implied. This report is intended for the sole use of the said client and/or their authorized agents. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document, the findings, conclusions, or recommendations is at the risk of said user. Although a reasonable attempt has been made to locate suspect fungi (mold) in the areas identified, the inspection techniques used are inherently limited. Our survey was limited to readily accessible materials.

The passage of time may result in a change in the environmental characteristics at this site. This report does not warrant against future operations or conditions that could affect the recommendations of First Atlantic Environmental in this report. The results, findings, conclusions, and recommendations expressed in this report are based only on conditions that were observed during First Atlantic Environmentalism assessment of the sites. The information found in this report is for the sole use of the client named in this report.

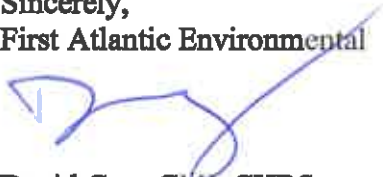
First Atlantic Environmental presents the above opinions and conclusions based on an analysis of the evidence and facts available to us at this time, and as we understand them. If additional evidence or facts are brought forward to First Atlantic Environmental's attention, we will consider such evidence or facts in conjunction with the above conclusions and opinions and make any necessary revisions, if appropriate. By conducting an inspection and preparing a report, the consultant is merely providing an opinion and does not warrant or guarantee the present or future condition of the subject property.

First Atlantic Environmental is not a medical authority; therefore, any questions relating to mold health effects and any specific concerns regarding health are beyond the scope of this report and may be addressed on a case by case basis with licensed medical professionals. Conditions we observed were a snapshot of the current conditions, which change with the time of day, amount of activity in the building, and the weather seasons.

It has been our pleasure to perform this mold contamination analysis for you. We trust that our efforts have met your approval and that this report meets its intended purpose. Please call if you have any questions concerning this report or if I, or any of First Atlantic Environmental staff, can be of further assistance to you.

First Atlantic Environmental appreciates the opportunity to provide you with environmental consulting and analytical services. Please call David Guy, if you need further assistance or clarification.

Sincerely,
First Atlantic Environmental



David Guy, CMI, CHRS
Principal Industrial Hygienist

Attachments



Large meeting room



Photo 2: Meeting Room - Visible mold on the wallboard in the air flow path of the diffuses

Site Photographs

Windsor Town Center
Windsor, Virginia



Photos Taken By: David Guy

Date:

Healthy Environments Project No.:



Photo 3: Photo 5: Visible mold on the wallboard behind the TV in the meeting room



Photo 4: Condensation on the metal ductwork access doors

Site Photographs

Windsor Town Center
Windsor, Virginia



Photos Taken By: David Guy

Date:

Healthy Environments Project No.:



Photo 5: Various stained tile throughout



Photo 6: Visible mold on the wallboard above the suspected ceiling in the office

Site Photographs

Windsor Town Center
Windsor, Virginia



Photos Taken By: David Guy

Healthy Environments Project No.:



Photo 7: Condensation on the ceiling track near the diffusers



Photo 8: Visible mold on the CMU in the lounge area

Site Photographs

Windsor Town Center
Windsor, Virginia



Photos Taken By: David Guy

Healthy Environments Project No.:



Photo 9: Visible mold on CMU in the lounge area



Photo 10: Visible mold on the canvas cases in the storage closet

Site Photographs

Windsor Town Center
Windsor, Virginia



Photos Taken By: David Guy

Healthy Environments Project No.:



Photo 11: Visible mold on the canvas cases



Photo 12: Suspect mold on the bottom of the roof deck in the at room

Site Photographs

Windsor Town Center
Windsor, Virginia



Photos Taken By: David Guy

Healthy Environments Project No.:



Photo 13: Visible mold on the bottom side of the table in the lounge area

Photo 14: Blank

Site Photographs

**Windsor Town Center
Windsor, Virginia**



Photos Taken By: David Guy

Healthy Environments Project No.:



#20030338

Analysis Report prepared for

First Atlantic Environmental

414 S Parliament Dr.
Virginia Beach, VA 23462
Phone: (757) 499-1915

Collected: August 27, 2020
Received: August 31, 2020
Reported: August 31, 2020



EPA Laboratory ID: VA01419

We would like to thank you for trusting Hayes Microbial for your analytical needs! We received 4 samples by FedEx in good condition for this project on August 31st 2020. The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC.

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.

A handwritten signature in black ink that reads 'Stephen T. Hayes'.

Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC.



Lab ID: #189863



DPH License: #PH-0198

David Guy
First Atlantic Environmental

414 S Parliament Dr.
 Virginia Beach, VA 23462
 (757) 499-1915

#20030338

Spore Trap
 SOP - HMC#101

Sample Number	1	2	3	4								
Sample Name	114 Lounge											
Sample Volume	75.00 liter											
Reporting Limit	13 spores/m ³											
Background	2	2	2	2								
Fragments	ND	13/m ³	ND	13/m ³								
Organism	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total	Raw Count	Count / m ³	% of Total
Alternaria	2	27	1.7%	3	40	<1%	3	40	9.4%	1	13	<1%
Asco-spor-es	104	1387	90.4%	1204	16053	99.6%	14	187	43.8%	220	2933	59.6%
Aspergillus/Pericillium	5	67	4.3%	1	13	<1%	2	27	6.3%	132	1760	35.8%
Basidiospores							1	13	3.1%			
Bipolaris/Drechisera												
Chaetomium												
Cladosporium	4	53	3.5%	1	13	<1%	9	120	28.1%	12	160	3.3%
Curvularia							3	40	9.4%	4	53	1.1%
Epico-cum												
Fusarium												
Memnoniella												
Myxomycetes												
Pitheomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	115	1534	100%	1209	16119	100%	32	427	100%	369	4919	100%

Water Damage Indicator

Common Allergen

Collected: Aug 27, 2020

Received: Aug 31, 2020

Reported: Aug 31, 2020



Project Analyst:
 Connor Gallo, BS

Connor Gallo

DATE
 08 - 31 - 2020

Reviewed By:
 Steve Hayes, BSMT

Stephen T. Hayes

DATE
 08 - 31 - 2020

3005 East Boundary Terrace Suite F, Middletown, VA, 23112

(804) 562-3425

contact@hayesmicrobial.com

Page 2 of 5

Spore Trap Information

Reporting Limit	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.
Blanks	Results have not been corrected for field or laboratory blanks.
Background	<p>The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of <i>Aspergillus</i> and <i>Penicillium</i> may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows:</p> <p>NBD: No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD)</p> <ol style="list-style-type: none">1 : <5% of field occluded. No spores will be uncountable.2 : 5-25% of field occluded.3 : 25-75% of field occluded.4 : 75-90% of field occluded.5 : >90% of field occluded. Suggested recollection of sample.
Fragments	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.
Control Comparisons	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.
Water Damage Indicator	Blue: These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem.
Common Allergen	Green: Although all molds are potential allergens, these are the most common allergens that may be found indoors.
Color Coding	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.

Alternaria **Habitat:** Commonly found outdoors in soil and decaying plants. Indoors, it is commonly found on window sills and other horizontal surfaces.

Effects: A common allergen and has been associated with hypersensitivity pneumonitis. Alternaria is capable of producing toxic metabolites which may be associated with disease in humans or animals. Occasionally an agent of onychomycosis, ulcerated cutaneous infection and chronic sinusitis, principally in the immunocompromised patient.

Ascospores **Habitat:** A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report.

Effects: Health effects are poorly studied, but many are likely to be allergenic.

Aspergillus/Penicillium **Habitat:** The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates.

Effects: This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and many are opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions.

Basidiospores **Habitat:** A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet conditions they can cause structural damage to buildings.

Effects: Common allergens and are also associated with hypersensitivity pneumonitis.

Bipolaris/Drechslera **Habitat:** They are found in soil and as plant pathogens. Can grow indoors on a variety of substrates.

Effects: They may be allergenic and are very commonly involved in allergic fungal sinusitis. They are opportunistic pathogens but occasionally infect healthy individuals, causing keratitis, sinusitis and osteomyelitis.

Cladosporium **Habitat:** One of the most common genera worldwide. Found in soil and plant debris and on the leaf surfaces of living plants. The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity. The outdoor numbers often spike in the late afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts.

Effects: A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.

David Guy

First Atlantic Environmental

414 S Parliament Dr.

Virginia Beach, VA 23462

(757) 499-1915

#20030338

Organism Descriptions

Curvularia

Habitat: They exist in soil and plant debris, and are plant pathogens.

Effects: They are allergenic and a common cause of allergic fungal sinusitis. An occasional cause of human infection, including keratitis, sinusitis, onychomycosis, mycetoma, pneumonia, endocarditis and disseminated infection, primarily in the immunocompromised.



3005 East Boundary Terrace, Suite F, Middletown, VA, 23112

(804) 562-9425

contact@hayesmicrobial.com

J. KING DESHAZO, III, INC.

"A PROFESSIONAL ROOFER"

10009 Whitesel Road
Ashland, Virginia 23005
(804) 798-ROOF ~ 798-7663 • Fax (804) 798-4635

Town of Windsor
Attn: William Saunders Town Manager
Windsor Town Center – Roof Replacement
8 E Windsor Blvd
Windsor VA 23487

Bid Submitted September 28, 2020

We propose to furnish all labor, material, and supervision necessary for the below referenced scope of work:

- 1.) Remove existing built-up roof from high and low roofs, down to metal deck. Repair deck as needed at unit price below.
- 2.) Install two (2) new layers of 2.6 ISO – 4X8 boards over metal deck with mechanical fasteners, staggering both layers R-30.
- 3.) Install new crickets between roof drains and all scuppers.
- 4.) Install 12" taper sumps at all drains/suppers.
- 5.) Install new 045 TPO white membrane over field of roof and all walls/curbs. Fully adhered.
- 6.) Install new TR wood blocking at four (4) sides of high gym roof to match new insulation.
- 7.) Install new TR lumber on stone coping as needed, to receive new coping, on low roof.
- 8.) Install new 24-gauge Kynar finished coping on low roof, fascia metal and gutters and downspouts at high roof.
- 9.) Install new 24-gauge Kynar finished scuppers and conductor heads.
- 10.) Install new 032 mill finish aluminum counterflashing at rising walls and all curbs.
- 11.) Install new TPO walk pads at all serviceable mechanical equipment.
- 12.) Removal/re-installation of existing LP system is included in this quote.
- 13.) Clean all roof related trash and debris from site.
- 14.) Furnish twenty (20) year No Dollar Limit warranty and contractor's two (2) year workmanship warranty.

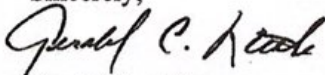
PRICE FOR THIS PROJECT.....\$189,000.00

UNIT PRICE – Metal deck repairs @ \$6.50/SF, as needed.

EXCLUSIONS – Mechanical, Plumbing, Electrical, Asbestos Demo (unknown at this time)

Thank you for the opportunity of quoting on this work.

Sincerely,



Gerald C. Little
Commercial Estimator

ROOF ENGINEERING CORP.

3401 MANGROVE AVENUE
NORFOLK, VIRGINIA 23502

PHONE 757 455-8333 FAX 757 455-8251

September 22, 2020

Mr. William Saunders
Town of Windsor
8 East Griffin Street
Windsor, VA 23487

Ref: Windsor Town Center – Roof Work

Dear William,

We wish to submit our proposal for roof work at the above referenced building as follows:

Roof Repairs Option

We will clean the gutters of dirt and debris and seal all joints with urethane coating and synthetic fabric.

We will scull or cut back the existing roof and install asphalt primer, roof cement and fabric over each joint of the metal drip edge on the gym roof.

We will check all the sub-flashing on the lower roof and repair as needed.

We will clean the area around the roof drains of dirt and debris and dispose of properly.

We will clean and caulk the “picture frames” at the scuppers through the brick wall.

We will clean our debris at the completion of the job.

Our cost for this work is **\$3,200.00** (three thousand two hundred dollars).

Roof Retrofit Option

Modern Lightning Protection company will remove the lightning rods and cable and store.

We will prepare the existing roof system by removing all dirt and debris and leveling the existing gravel.

We will remove the twelve (12) abandoned curbs, patch the metal deck, and install insulation to match the roofs thickness.

Over the properly prepared roof system we will install a layer of 1” polyisocyanurate insulation mechanically attached to the deck.

Over the insulation we will install a Carlisle 60-mil TPO Mechanically Fastened Single-Ply Roof System.

All walls, curbs, drains and pipes will be flashed per the manufacturer’s specifications.

A new .040 painted aluminum gutter and downspouts will be installed on the gym roof.

All ends, outlets and joints will be tig welded.

A new .032 painted aluminum fascia and drip edge will be installed on the gym roof’s perimeter.

New TPO coated metal scuppers will be installed. The existing conductor heads and downspouts will be reused.

New .040 painted aluminum coping will be installed with continuous cleat on the parapet walls of the low roof area.

A reglet will be cut in a mortar joint of the high wall and we will install a .032 painted aluminum cap flashing. We will use lead wedges and polyurethane caulk to secure the cap flashing.

Modern Lightning Protection will reinstall the existing lightning cable system with any needed changes and provide a certification for proper installation.

We will clean all our debris at the completion of the job.

Our cost for this work is **\$99,896.00** (ninety-nine thousand eight hundred ninety-six dollars).

Roof Removal Option

Modern Lightning Protection company will remove the lightning rods and cable and store.

We will remove the existing roof system and flashings down to the metal deck and dispose of properly.

We will remove the twelve (12) abandoned curbs and patch the metal deck.

Over the deck we will install two (2) layers of 2.6" polyisocyanurate insulation (R-30) mechanically attached to the deck.

Over the insulation we will install a Carlisle 60-mil TPO Mechanically Fastened Single-Ply Roof System.

All walls, curbs, drains and pipes will be flashed per the manufacturer's specifications.

A new .040 painted aluminum gutter and downspouts will be installed on the gym roof.

All ends, outlets and joints will be tig welded.

A new .032 painted aluminum fascia and drip edge will be installed on the gym roof's perimeter.

We will install new TPO metal scuppers and replace the existing heads and downspouts with new .032 painted aluminum conductor heads and downspouts. All miters and joints will be tig welded.

New .040 painted aluminum coping will be installed with continuous cleat on the parapet walls of the low roof area.

A reglet will be cut in a mortar joint of the high wall and we will install a .032 painted aluminum cap flashing. We will use lead wedges and polyurethane caulk to secure the cap flashing.

Modern Lightning Protection will reinstall the existing lightning cable system with any needed changes and provide a certification for proper installation.

We will clean all our debris at the completion of the job.

Our cost for this work is **\$149,283.00** (one hundred forty-nine thousand two hundred eighty-three dollars).

Both roofing prices include the manufacturer's 20-year labor and material warranty and all needed building permits.

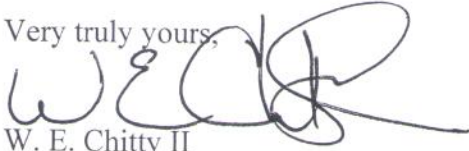
The above prices do not include asbestos testing or removal or mechanical or electrical work.

The canopy roofs are not included in this proposal.

Should you have any questions, please do not hesitate to call.

Thanking you for the opportunity of quoting, we are

Very truly yours,



W. E. Chitty II
President

Accepted by Building Owner:

Signature

Date

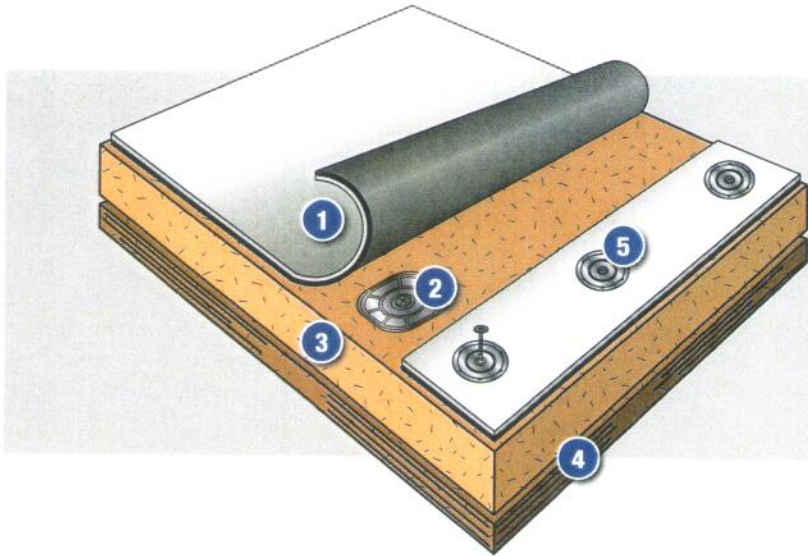
Name

Title

Encl.

Sure-Weld TPO

Mechanically Fastened Roofing Systems



Typical Applications

- 1 Sure-Weld TPO Reinforced Membrane
- 2 Carlisle Insulation Fasteners and Plates
- 3 Acceptable Insulation
- 4 Approved Roof Deck
- 5 Membrane Fasteners and Plates

Sure-Weld Membrane for Mechanically Fastened Systems is available in the following:

Color	White, Gray, and Tan
Thicknesses (mils)	45, 60, and 80
Standard Widths	4', 6', 8', 10', and 12'
Standard Lengths	100'

System Features & Benefits:

- » Heat-weldable membranes
- » High wind uplift performance
- » Resistance to hail and accidental punctures
- » Top ply membrane thickness adds improved long-term weatherability and durability
- » Sure-Weld TPO membrane meets ENERGY STAR®** qualifications and CRRC guidelines
- » OctaGuard XT™ weathering package provides superior long-term performance
- » Certified Fabricated Accessories

Existing or New Deck Type	New Construction						Re-roofing		
	Steel	Plywood or OSB	Lt. Wt. Concrete	Structural Concrete	Wood Planks	Gypsum & Fibrous Cement	Smooth-Surface BUR	Gravel-Surfaced BUR	Existing Single-Ply
Deck Overlayment Required	Insulation	No	No	HP Mat	Insulation	Insulation	No	Insulation	** Refer to Specs
Insulations	Approved Carlisle insulation or cover board						← Refer to New Construction		
Insulation Attached By	Carlisle fasteners and plates						← Refer to New Construction		
Membrane Attached By	HPX Fasteners/ Piranha Plates; HPXTRA Fast/Piranha XTRA Plate	HPX Fasteners/ Piranha Plates; HPXTRA Fast/Piranha XTRA Plate	Gyptec Fasteners/ Plates	CD-10/ Piranha Plates; HD 14-10 Fasteners/ Piranha Plates	HPX Fasteners/ Piranha Plates	Gyptec Fasteners/ Plates	← Refer to New Construction		

FOR TEAR-OFF OPTIONS REFER TO NEW CONSTRUCTION ABOVE.
 For current code approvals and warranties, visit Carlisle's website or contact a design analyst.
 ** Refer to Carlisle's Sure-Weld Design Criteria Portion of the Current Specification.

Sure-Weld[®] TPO

Mechanically Fastened Roofing Systems

Sure-Weld TPO Membrane

Carlisle's Sure-Weld TPO is a premium, heat-weldable, single-ply thermoplastic polyolefin membrane, engineered to provide outstanding long-term performance in new roof construction and re-roofing applications. All Sure-Weld TPO membranes utilize the patented OctaGuard XT weathering package technology, which is able to withstand extreme durability testing intended to simulate exposure to several climates.

Sure-Weld TPO Accessories

Carlisle also offers over a dozen prefabricated, in-stock, standard-order accessories, and countless custom-order accessories. All carry a CFA (Certified Fabricated Accessory) stamp of approval, so you know they are manufactured to the highest standards. Every Carlisle CFA-approved accessory saves time and money during installation.



Installation

Carlisle's Sure-Weld TPO Mechanically Fastened Roofing System utilizes white, gray or tan membranes in standard reinforced 45- or 60-mil thicknesses or 80-mil-thick reinforced Sure-Weld EXTRA membranes.

Insulation is mechanically fastened to an acceptable roof deck. Sure-Weld membrane sheets are mechanically fastened to the deck with appropriate Carlisle fasteners and plates. Adjoining sheets are overlapped and joined together with a minimum 1½"-wide hot-air weld.

The above information represents a typical Carlisle Sure-Weld TPO Mechanically Fastened Roofing System. Refer to Carlisle's published specifications and details for more complete information.

Membrane and System Strengths

- » Sure-Weld TPO membrane is available in white, gray, and tan colors and 4', 6', 8', 10', and 12' widths
- » Sure-Weld TPO provides excellent puncture resistance
- » Sure-Weld TPO white and tan membranes are ENERGY STAR qualified
- » Sure-Weld TPO's reflectivity values exceed those of other heat-weldable membranes
- » Sure-Weld TPO's top ply surface is thicker and smoother than other membranes on the market, improving welding results and reducing dirt pickup
- » Industry-leading OctaGuard XT Weathering Package provides improved weatherability, durability and long-term rooftop performance

System Codes

- » UL Class A, B, and Universal Slope ratings are available over any deck type
- » FM Uplift values of up to 135 psf can be achieved

For code specifics, refer to Carlisle's Sure-Weld Code Approval Guide.

Quality Assurance

Carlisle Authorized Applicators are highly trained in the installation of Carlisle's Sure-Weld TPO Roofing Systems.

Inspection

Upon installation completion, and prior to the issuance of a membrane system warranty, an inspection will be conducted by a Carlisle Field Service Representative.

Warranty

Consult your Authorized Applicator or Carlisle Manufacturer's Representative/Distributor for associated warranty charges.

This system, properly installed and inspected on a commercial project, may receive:

- » A 10-, 15-, or 20-year Total System Warranty when all materials used for the roofing installation are manufactured or marketed by Carlisle
- » A 25- or 30-year Golden Seal Warranty with 80-mil Sure-Weld EXTRA membranes
- » 55 mph maximum peak gust wind speed coverage is standard; higher wind speed warranties available upon review by Carlisle
- » A 10-year Reflectivity Warranty (based on ENERGY STAR qualifications) with white membranes
- » Available Puncture Warranty with Sure-Weld 80-mil EXTRA membranes

For more specifics or for International warranty programs, contact Carlisle.



A.S. Hedger, Jr., Pres.
P.L. McClenney, V.P.
C.E. Hedger, Gen. Mgr.
L.A. Rowland, Sales Mgr.
S.A. Hedger, Sales
C.T. Hedger, Sales



www.nationalroofingcorp.com
 VA State Reg. #17007A
NATIONAL ROOFING CORPORATION
 5463 Nansemond Pkwy.
 Suffolk, VA 23435

Portsmouth / Chesapeake
(757) 465-1188
 VA Beach / Norfolk
(757) 499-1188
 Hampton / Newport News
(757) 245-1188

Fax Only
(757) 465-8811

PROPOSAL

PROPOSAL SUBMITTED TO:	PHONE: (757) 435-4143	FAX:	DATE: Sep 17, 2020
NAME: TOWN OF WINDSOR		JOB NAME: WINDSOR TOWN CENTER LOW ROOF	
STREET:		STREET: 23320 N. COURT STREET	
CITY:		CITY: WINDSOR,	STATE: VIRGINIA
STATE:	ZIP CODE:	EMAIL: joseph.gilbert@alphacorporation.com	

SCOPE OF WORK TO BE PERFORMED:

Roof over existing flat roof. Furnish and install new Sarnafil commercial SPL-60 PVC roof system, consisting of 1" isocyanurate insulation and white 60 mil reinforced PVC membrane mechanically fastened. Furnish and install new white PVC coated flashing at edges and penetrations. New roof will be installed up and over top of parapet wall. Furnish and install new .032 aluminum coping. (*PLEASE NOTE: Existing lightning protection system will have to be reinstalled by others. This work is not included in this bid.) Clean up and remove all debris resulting from work performed.

*NOTE: This bid includes membrane manufacturer's 20 year material warranty.

SEE REVERSE FOR CONDITIONS OF WARRANTY

LABOR WARRANTY 5 **YEARS**

We hereby propose to furnish labor and materials, complete in accordance with above specifications, for the sum of:

EIGHTY-SEVEN THOUSAND TWO HUNDRED FIFTY AND NO/100----- dollars (\$ 87,250.00).

Payment to be made as follows AS PER SCHEDULE OF VALUES

All alterations or deviations from the above specifications resulting in extra cost or expense will be evidenced by written orders, signed by the purchaser's representative who is _____ . The amount evidenced by the written orders will be in addition to the amount contained herein. All agreements are contingent upon strikes, accidents or delays beyond the control of National Roofing Corp. The employees of National Roofing Corp. are fully covered by Workman Compensation Insurance.

NOTE: This proposal may be withdrawn by National Roofing Corp. If not accepted within 30 days.

NATIONAL ROOFING CORPORATION

By: *Levy A Rowland* Title: SALES MANAGER
 LEVY A. ROWLAND

ACCEPTANCE OF PROPOSAL

I have read and understand the terms and conditions on the reverse side of this document. By signing this document, I agree to those terms and conditions.

DATE: _____ SIGNATURE: _____

DATE: _____ SIGNATURE: _____

PLEASE RETURN ONE SIGNED COPY, RETAINING THE OTHER FOR YOUR RECORDS

TERMS & CONDITIONS

1. **LIMITED WARRANTY:** National Roofing Corporation warrants to the original purchaser that repairs to or replacement of roofing made on the building(s) listed in this proposal will be performed in a good, workmanlike manner in conformity with the roofing industry standards in this community. For the period stated in this proposal, from the date of completion, National Roofing Corporation will, at its own expense, repair leaks caused by its breach of this warranty. National Roofing Corporation shall not be liable for leaking or defects caused by defective materials because National Roofing Corporation does not warrant implicitly and/or explicitly the merchantability or fitness of any materials used. There are no warranties which extend beyond the description on the face hereof. Nothing herein is intended to alter, modify, or change any warranties made by the manufacturer of such materials used. National Roofing Corporation shall not be liable for any damage to repaired areas or replaced areas caused by high winds, lightning, hail, or other unusual natural phenomena, or act of god, nor to any damage due to settlement, failure, distortions, or movements of the structure itself, nor to damages caused by persons climbing on or walking across the replaced or repaired areas.
2. **ADDITIONAL WORK:** This proposal is only for the work outlined in the scope of work section. Should any additional work need to be performed, the owner or owner's representative of the property agrees that such extra work is to be paid for in accordance with National Roofing Corporation's standard pricing.
3. **ASBESTOS AND TOXIC MATERIALS:** National Roofing Corporation does not remove, disturb, or dispose of any asbestos or toxic materials and is not licensed to do such work. National Roofing Corporation reserves the right to hire a third party, licensed asbestos removal company to oversee the removal and disposal of such materials. Any additional costs due to finding asbestos containing materials will be paid for by the owner or owner's representative. By signing this agreement, the owner or owner's representative agrees to hold National Roofing Corporation, its officers and owners, harmless from all liability, damages, losses, and claims arising out of or related to the presence of asbestos or toxic materials at the worksite.
4. **DELAYS:** National Roofing Corporation will not be held liable to the owner or owner's representative for delays due to circumstances beyond its control. Delays include but are not limited to material shortages, labor shortages, equipment breakdowns, weather, and the owner's changes in the scope of work performed.
5. **PREMISES:** National Roofing Corporation is not responsible for reasonable wear and tear to driveways, walks, lawns, scrubs, or other vegetation caused by the movement of trucks, men, equipment, materials, and debris. National Roofing Corporation will clean up and remove any debris caused by the company and its workers due to the scope of work described in this proposal.
6. **ACCEPTANCE OF WORK:** Upon completion of work, the owner has 30 days to report any defects or incompleteness of work. After 30 days, the owner agrees that he has inspected the work and the work is deemed acceptable.
7. **CHANGES TO PROPOSAL:** Any changes to this proposal, to be valid, must be approved by National Roofing Corporation in writing. There are no agreements, inducements, guarantees, warranties, or considerations other than those specifically stated in this proposal.
8. **FAILURE OF PAYMENT:** If payment is not received in accordance to the schedule stated in the proposal, the owner acknowledges and agrees to pay a finance charge in the amount of 1.5% per month (18% annual percentage rate) in addition to the amount specified in the contract. Furthermore, by signing this agreement, the owner or owner's representative agrees to an arbitration hearing, and to be bound to the decision of that hearing, should the terms of payment in this contract be violated. The owner or owner's representative also agrees to pay all attorney, court, and arbitration hearing fees in addition to that which is reduced to judgment.

A.S. Hedger, Jr., Pres.
P.L. McClenney, V.P.
C.E. Hedger, Gen. Mgr.
L.A. Rowland, Sales Mgr.
S.A. Hedger, Sales
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PROPOSAL

PROPOSAL SUBMITTED TO:	PHONE: (757) 435-4143	FAX:	DATE: Sep 17, 2020
NAME: TOWN OF WINDSOR		JOB NAME: WINDSOR TOWN CENTER	
STREET:		STREET: 23320 N. COURT STREET	
CITY:		CITY: WINDSOR,	STATE: VIRGINIA
STATE:	ZIP CODE:	EMAIL: joseph.gilbert@alphacorporation.com	

SCOPE OF WORK TO BE PERFORMED:

HIGH ROOF AND SIDE CANOPIES

Roof over existing flat roof. Furnish and install new Sarnafil commercial SPL-60 PVC roof system, consisting of 1" isocyanurate insulation and white 60 mil reinforced PVC membrane mechanically fastened. Furnish and install new white PVC coated flashing at edges and penetrations. (*PLEASE NOTE: Existing lightning protection system will have to be reinstalled by others. This work is not included in this bid.) Clean up and remove all debris resulting from work performed.

*NOTE: This bid includes membrane manufacturer's 20 year material warranty.

SEE REVERSE FOR CONDITIONS OF WARRANTY

LABOR WARRANTY 5 **YEARS**

We hereby propose to furnish labor and materials, complete in accordance with above specifications, for the sum of:

FIFTY-SIX THOUSAND EIGHT HUNDRED FORTY-FIVE AND NO/100--- dollars (\$ 56,845.00).

Payment to be made as follows AS PER SCHEDULE OF VALUES

All alterations or deviations from the above specifications resulting in extra cost or expense will be evidenced by written orders, signed by the purchaser's representative who is _____. The amount evidenced by the written orders will be in addition to the amount contained herein. All agreements are contingent upon strikes, accidents or delays beyond the control of National Roofing Corp. The employees of National Roofing Corp. are fully covered by Workman Compensation Insurance.

NOTE: This proposal may be withdrawn by National Roofing Corp. If not accepted within 30 days.

NATIONAL ROOFING CORPORATION

By: 
 LEVY A. ROWLAND

Title: SALES MANAGER

ACCEPTANCE OF PROPOSAL

I have read and understand the terms and conditions on the reverse side of this document. By signing this document, I agree to those terms and conditions.

DATE: _____ SIGNATURE: _____
 DATE: _____ SIGNATURE: _____

PLEASE RETURN ONE SIGNED COPY, RETAINING THE OTHER FOR YOUR RECORDS

TERMS & CONDITIONS

1. **LIMITED WARRANTY:** National Roofing Corporation warrants to the original purchaser that repairs to or replacement of roofing made on the building(s) listed in this proposal will be performed in a good, workmanlike manner in conformity with the roofing industry standards in this community. For the period stated in this proposal, from the date of completion, National Roofing Corporation will, at its own expense, repair leaks caused by its breach of this warranty. National Roofing Corporation shall not be liable for leaking or defects caused by defective materials because National Roofing Corporation does not warrant implicitly and/or explicitly the merchantability or fitness of any materials used. There are no warranties which extend beyond the description on the face hereof. Nothing herein is intended to alter, modify, or change any warranties made by the manufacturer of such materials used. National Roofing Corporation shall not be liable for any damage to repaired areas or replaced areas caused by high winds, lightning, hail, or other unusual natural phenomena, or act of god, nor to any damage due to settlement, failure, distortions, or movements of the structure itself, nor to damages caused by persons climbing on or walking across the replaced or repaired areas.
2. **ADDITIONAL WORK:** This proposal is only for the work outlined in the scope of work section. Should any additional work need to be performed, the owner or owner's representative of the property agrees that such extra work is to be paid for in accordance with National Roofing Corporation's standard pricing.
3. **ASBESTOS AND TOXIC MATERIALS:** National Roofing Corporation does not remove, disturb, or dispose of any asbestos or toxic materials and is not licensed to do such work. National Roofing Corporation reserves the right to hire a third party, licensed asbestos removal company to oversee the removal and disposal of such materials. Any additional costs due to finding asbestos containing materials will be paid for by the owner or owner's representative. By signing this agreement, the owner or owner's representative agrees to hold National Roofing Corporation, its officers and owners, harmless from all liability, damages, losses, and claims arising out of or related to the presence of asbestos or toxic materials at the worksite.
4. **DELAYS:** National Roofing Corporation will not be held liable to the owner or owner's representative for delays due to circumstances beyond its control. Delays include but are not limited to material shortages, labor shortages, equipment breakdowns, weather, and the owner's changes in the scope of work performed.
5. **PREMISES:** National Roofing Corporation is not responsible for reasonable wear and tear to driveways, walks, lawns, scrubs, or other vegetation caused by the movement of trucks, men, equipment, materials, and debris. National Roofing Corporation will clean up and remove any debris caused by the company and its workers due to the scope of work described in this proposal.
6. **ACCEPTANCE OF WORK:** Upon completion of work, the owner has 30 days to report any defects or incompleteness of work. After 30 days, the owner agrees that he has inspected the work and the work is deemed acceptable.
7. **CHANGES TO PROPOSAL:** Any changes to this proposal, to be valid, must be approved by National Roofing Corporation in writing. There are no agreements, inducements, guarantees, warranties, or considerations other than those specifically stated in this proposal.
8. **FAILURE OF PAYMENT:** If payment is not received in accordance to the schedule stated in the proposal, the owner acknowledges and agrees to pay a finance charge in the amount of 1.5% per month (18% annual percentage rate) in addition to the amount specified in the contract. Furthermore, by signing this agreement, the owner or owner's representative agrees to an arbitration hearing, and to be bound to the decision of that hearing, should the terms of payment in this contract be violated. The owner or owner's representative also agrees to pay all attorney, court, and arbitration hearing fees in addition to that which is reduced to judgment.



First Atlantic Environmental

414 S. Parliament Dr. Virginia Beach, VA 23462
T (757) 499-1915 F (757) 490-1303
Tax ID- 54-1611256

Client: Town of Windsor - Windsor Town Center
Property: 23361 Courthouse Hwy.
Windsor, VA 23487

Operator: JEREMYS

Estimator: Jeremy Sikes
Business: 414 S. Parliament Dr.
Virginia Beach, VA 23462

Business: (757) 646-1560
E-mail: Jeremys@firstatlanticenv.
com

Type of Estimate: Inspection/ sampling
Date Entered: 9/2/2020 Date Assigned:

Price List: VANF8X_AUG20
Labor Efficiency: Restoration/Service/Remodel
Estimate: VB-20-1322-FAE-1

This estimate is for MOLD REMEDIATION AND CLEANING ONLY at the address referenced above.

This estimate is based on a report/protocol from David Guy and provides labor and materials to execute the protocol as written.

Once the materials have been removed, the exposed framing and remaining surfaces inside the containment area will be HEPA vacuumed, treated with an anti-microbial solution, and HEPA vacuumed again. Wire brushing and/or HEPA sanding techniques will be utilized on heavily contaminated or stained surfaces as deemed necessary. A mold-inhibitive sealer will then be used as necessary.

While it is possible to make reasonable deductions concerning the extent of the damage based on the visual evidence, it is possible that, once the areas in question are opened up, there could be additional damage not anticipated. Any additional necessary work will have to be approved in a change order prior to completion.

Please note that, while every precaution is taken during the construction of containments, the nature of these structures will occasionally result in minor collateral damage such as paint peeling off the wall where the containment was secured. There are no provisions for any repairs that might be necessary due to any collateral damage.

All of our remediation will be completed while following the U.S. EPA's suggested guidelines, the New York City Health Department Guidelines on Assessment and Remediation of Fungi in Indoor Environments, the IICRC's S-520 Standard and Reference Guide for Professional Mold Remediation as well as all applicable O.S.H.A. guidelines applying to the work being performed.

Please note that First Atlantic Environmental makes no guarantees as to the long term effectiveness of this remediation. If the conditions that allowed the microbial contamination to grow in the first place are not corrected, it is almost certain that the problem will return.

There may be amendments to the listed scope of work if additional damage is found or scope of work is changed. These amendments will be made via change order and supplement estimate. The estimate is based upon First Atlantic Environmental completing the entire scope, pricing may change if the scope of work is altered.



First Atlantic Environmental

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Tax ID- 54-1611256

THERE ARE NO PROVISIONS FOR ANY SORT OF REPAIR OR "PUT-BACK" IN THIS ESTIMATE.

Thank you for the opportunity to be of service.



First Atlantic Environmental

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Tax ID- 54-1611256

VB-20-1322-FAE-1

VB-20-1322-FAE-1

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
1. Commercial Supervision / Project Management - per hour Line item considers additional time for on-site multiple trade coordination and off-site material acquisitions.	4.00 HR	0.00	65.22	0.00	52.18	313.06
2. Tandem axle dump trailer - per load - including dump fees	1.00 EA	220.01	0.00	0.00	44.00	264.01
Total: VB-20-1322-FAE-1				0.00	96.18	577.07

Remediation

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
3. Hazardous Waste/Mold Cleaning Technician - per hour Labor to complete all cleaning per protocol.	96.00 HR	0.00	58.46	0.00	0.00	5,612.16
4. Negative air fan/Air scrubber (24 hr period) - No monit.	6.00 DA	0.00	72.22	0.00	0.00	433.32
5. Dehumidifier (per 24 hour period) - XLarge - No monitoring	6.00 EA	0.00	104.29	0.00	0.00	625.74
6. Equipment decontamination charge - per piece of equipment	8.00 EA	0.00	36.90	0.00	0.00	295.20
7. Materials and supplies	1.00 EA	0.00	500.00	0.00	0.00	500.00
Totals: Remediation				0.00	0.00	7,466.42

Ceiling tiles

DESCRIPTION	QTY	REMOVE	REPLACE	TAX	O&P	TOTAL
8. R&R Acoustic ceiling tile Remove and replace ceiling tiles in the meeting rom (103) and office (102).	1,232.00 SF	0.71	3.35	116.05	1,023.60	6,141.57
Totals: Ceiling tiles				116.05	1,023.60	6,141.57
Line Item Totals: VB-20-1322-FAE-1				116.05	1,119.78	14,185.06



First Atlantic Environmental

414 S. Parliament Dr. Virginia Beach, VA 23462
T (757) 499-1915 F (757) 490-1303
Tax ID- 54-1611256

Summary

Line Item Total	12,949.23
Material Sales Tax	116.05
Subtotal	13,065.28
Overhead	559.89
Profit	559.89
Replacement Cost Value	\$14,185.06
Net Claim	\$14,185.06

Jeremy Sikes