

Building pressurizations are not being maintained as evidenced by the large number of closed outside air intakes. In addition, many of the building exhaust fans were found to be not in operation, in some cases these fans serve restrooms. In order to provide proper ventilation and maintain good indoor air quality, systems are designed to bring in slightly more continuously dehumidified outside air than what is exhausted, in order to maintain a positive pressurization with respect to the outdoors and thereby control infiltration of unconditioned outside air into the building envelope.

While fibrous glass ductboard is still used, newer products are coated on the interior and often times provided with an anti-mold coating to enhance their performance as relates to IAQ. This firm prefers the use of ducted return air systems to further assist in maintaining proper pressure relationships, however, in all of the buildings there is substantially less space between the ceiling and the structure than would be provided in a newer building for installation of return air ducting systems, as well as VAV terminal boxes. Without a reduction in the ceiling height, the installation of alternative air-side systems is not feasible.

We would suspect that the overall HVAC energy costs are high on a per sq. ft. basis due to the age of the equipment and its efficiency. This is somewhat mitigated by the fact that most of the units outside air intakes are closed, and therefore the equipment is not seeing an outside air load except as may be caused by infiltration as aided by operating exhaust fans. The sum of the units capacity is 185 tons, generally a complex of this size would be provided with a central cooling plant (at least two (2) air cooled chillers), as well as a direct digital control system that would allow for scheduling of equipment, and monitoring of conditions during both the occupied and unoccupied modes of operation.

PLUMBING AND FIRE PROTECTION

There is no water-based fire suppression system (wet-pipe sprinklers) provided in any of the buildings. In all likelihood they were not required by the code under which these buildings were designed and constructed.

As far as we could ascertain, the existing plumbing fixtures, equipment and piping date back to the original installation. Similar to the HVAC system, it is somewhat unusual to see gas-fired water heaters on buildings with mostly an administrative use, electric resistance type water heaters are much more common, except where there are significant domestic hot water loads. The only building with a significant domestic hot water requirement is the Fire Station due to the locker rooms, as well as its washers and dryers, where the use of natural gas would be appropriate. The plumbing fixtures are dated, reflecting what would be expected of a thirty (30) year old building.

ELECTRICAL

While some electrical equipment in certain buildings is in better condition than others, the entire electrical system for the complex is in need of replacement. The main service entrance for the equipment located in the City Hall electric room is in an unconditioned space and is in poor condition. Equipment enclosures are corroded, and some are missing covers exposing the bus and conductors to the unconditioned air. In addition, there are locations on the campus where some panelboards do not have the required working clearance to comply with the current code. Also, almost all of the existing panelboards and circuit breakers are manufactured by Westinghouse, which is no longer manufacturing electrical equipment. As a result, replacement parts for bad breakers or other components are difficult to procure.

It is also our opinion that the existing capacity in the electrical distribution system may serve to be a constraint to any remodel or expansion to the complex. The entire complex is currently served through a 1200 amp service located in the City Hall. From a main distribution panel in the City Hall electrical room, feeders are extended to provide electrical service to each building. Should any additional square footage be proposed in a building program to expand the campus, it is our opinion that the existing 1200 amp service would be maxed out. Therefore, any building program should include consideration for increasing the capacity of the incoming service to the complex, which would allow for increased feeders to each of the buildings.

At the time of the survey, the Police Station and the Fire Department were the only two (2) buildings provided with standby emergency generators. It was reported that a project was in progress to provide a single-station generator that would provide emergency power to all the buildings. This would be a significant improvement to the operability of the campus during an emergency situation. With multiple generators (two (2) for the Police Station and one (1) for the Fire Station) serving two (2) of the buildings, maintenance and operational costs are increased. By going to a single-station generator those costs can be reduced, and all buildings would be provided with emergency standby power.

While individual general lighting branch circuits were not surveyed in the building, it is anticipated that many of them may not have dedicated equipment grounding conductors in the raceways. This can jeopardize the safety of the circuits, as well as the condition of the power provided to the load. It particularly becomes critical when serving computers or other electronic devices. When replacing the electrical system, attention should be paid to provide a dedicated equipment grounding conductor and properly sized neutral for each phase conductor in a given branch circuit.

Existing lighting fixtures throughout the complex were generally noted to have older type magnetic ballasts and T-12 fluorescent lamps. Energy savings and improved illumination could be gained through a complete lighting fixture replacement in all the buildings. New lighting fixtures should continue to use a fluorescent source, but employ electronic low-watt ballasts with energy saving T-8 lamps. Also, compact fluorescent PL type lamps should be utilized in any type of down-lighting fixture, as opposed to incandescent.

The existing fire alarm systems in the buildings are based on outdated hard-wired type systems. The vintage of the systems are such that replacement components and devices will be difficult to obtain to make repairs. Complete replacement of the fire alarm systems in all the buildings to modern programmable/addressable type systems, should be included in any building improvement program.

IV - WATER DAMAGE ASSESSMENT

EXECUTIVE SUMMARY

REP Associates, Inc. (REP) performed a Water Damage Assessment of the City of Riviera Beach Municipal Complex (Site) located at Blue Heron Boulevard and Avenue H West, Riviera Beach, Florida. REP was retained by Dow Howell Gilmore Associates to perform a pre-renovation evaluation for water/moisture damage in walls and building materials.

REP's assessment identified water damaged ceiling tiles and water stained window sills throughout the Site. The water stains were associated with gaskets or caulking of exterior windows and the vapor barriers on exterior block wall. REP confirmed the presence of suspect visible mold (SVM) on dry wall in the Police Station, Fire Station and Library.

REP recommends:

- a. Remove and replace the windows with windows that have been manufactured and tested to current standards.
- b. Replace the windowsills with new, stepped ones installed with the correct flashing and weep holes to direct any future leakage to the outside of the building.
- c. The steel studs and insulation on the interior of the exterior walls should be removed.
- d. New weep holes should be drilled in the brick veneer at all locations, such as floor slabs and window lintels, to allow moisture that seeps through the wall to drain to the outside.
- e. A new water plane should be established on the inside of the brick veneer to direct any water that comes into the weep holes.
- f. Reinstall the steel studs, insulation, and drywall.
- g. Remove and replace drywall and ceiling tiles with SVM.
- h. Replace or repair roof.

An alternate to recommendations c., e., and f. would be to remove the insulation and use a spray-on foam such as Icynene. This may be more economical with less chance of damage to the veneer but would require close inspection to verify that there are no voids that would allow moisture intrusion.

TABLE OF CONTENTS

1.	Introduction	1
2.	Background	1
3.	Methodology	1
3.1.	Field Measurements	1
4.	Findings	1
4.1.	Visual Observations	1
4.2.	Field Measurements	2
5.	Conclusions	2
6.	Recommendations	2
7.	Closing	3

APPENDICES

Appendix A	REP Methodology
Appendix B	Floor Plans
Appendix C	Site Photographs
Appendix D	Tables 1-4 - Observations

IV - WATER DAMAGE ASSESSMENT

INTRODUCTION

REP Associates, Inc. (REP) is pleased to present this summary of our Water Damage Assessment (Assessment) performed at City of Riviera Beach Municipal Complex (Site), Blue Heron Blvd. and Avenue H, Riviera Beach, Florida. REP was retained by Dow Howell Gilmore Associates to conduct the Assessment prior to renovation of the Site. The purpose of the Assessment was to inspect the Site for water/moisture damage in walls and building materials and to render an opinion as to the cause of the water intrusion.

BACKGROUND

The Site is comprised of 4 separate buildings: the Police Station, the City Council Municipal Office, the Library and the Fire Station. Employees reported water intrusion occurred in the vicinity of exterior walls and windows during sustained rainfall events. It was reported to REP during the Assessment that carpeting in several offices damaged by water intrusion had been replaced with ceramic tile. Damaged drywall in the City Council Building second floor was removed over two years ago and had not been replaced at the time of the Assessment.

METHODOLOGY

The inspection was conducted by James Chapman and Terrance Mikesh, REP Environmental Scientists, accompanied by Charles Berry, City of Riviera Beach head of public Relations, on May 10th and 16th, 2007. Mr. Chapman returned on May 22nd with REP Senior Engineer, Mr. Steven C. Bassett, PE, F.NSPE. REP visually assessed the interior and exterior conditions of the Site, and obtained field measurements. REP **Methodology** is included as **Appendix A**. Some methods may not be applicable to this project.

Field Measurements -

REP obtained moisture readings within various building materials with a Delmhorst direct read pin probe moisture meter.

FINDINGS

The floor plans showing the layout of the Site with remarkable findings is included as **Appendix B** and site photographs are included as **Appendix C**.

Visual Observations

There were water stains on window sills, walls below windows and ceiling tiles throughout the Site. Cracked windows were observed in the City Council Office Building in rooms A31 and C115. There was suspect visible mold (SVM) in the Police Department, Fire Department, and Library at various locations. Caulk around windows in several locations is dried and cracked. For a complete listing of observations refer to Table 1 through 4, **Appendix D**.

It was noted that the windows were not installed according to the detail on the original construction documents, i.e. the flashing detailed to be under the window was not installed. Many of the windows no longer close tightly.

There are very few weep holes in the brick veneer on the outer walls to direct any moisture that seeps in to the outside.

There may be roof leaks in some of the buildings.

Field Measurements

Moisture content of drywall was evaluated at several locations throughout the Site and was found to be at or below background levels with the exception of the first floor south wall of the Library and in the Fire Department at the following locations.

Room	Location
F19	East Wall
F18	South wall
F35	East Wall
F36a	North and East Wall
F37a	North Wall

CONCLUSIONS

A majority of the moisture intrusion problems in these buildings come from the window installations and a secondary problem with the brick veneer. All windows and brick veneer will leak at some point in their life. The wall and window installation must be designed and built with a water plane that directs the water to the outside of the building. This did not happen in this instance. There is evidence that water leaking through the windows collected within the wall cavity and seeped under the drywall into the carpets. The current windows were manufactured to less stringent requirements than windows manufactured today and cannot be sealed so that they will not leak again in a couple of years.

Additionally, there are areas where the seepage through the brick veneer has collected within the wall. The water seepage from the walls and windows is causing high humidity within the building including the ceiling plenum. This high humidity causes condensation on the cold surfaces in the ceiling plenum to drip and stain the ceiling tiles. The moisture within the wall cavity is condensing in the cold walls as it travels through the drywall. This condensation on the drywall is exacerbated whenever an additional vapor barrier, such as furniture, boxes or vinyl wallpaper is placed against the drywall.

The roof should be replaced or sealed to prevent any leaks.

RECOMMENDATIONS

There is water and/or moisture damage in several locations throughout the Site. Water damaged ceiling tiles indicate problem areas. There is evidence of ongoing water intrusion observed in each of the four buildings. REP recommends the following to maintain good quality of the indoor environment after the renovation:

- a. Remove and replace the windows with windows that have been manufactured and tested to current standards.
- b. Replace the windowsills with new, stepped ones installed with the correct flashing and weep holes to direct any future leakage to the outside of the building.
- c. The steel studs and insulation on the interior of the exterior walls should be removed.
- d. New weep holes should be drilled in the brick veneer at all locations, such as floor slabs and window lintels, to allow moisture that seeps through the wall to drain to the outside.
- e. A new water plane should be established on the inside of the brick veneer to direct any water that comes into the weep holes.
- f. Reinstall the steel studs, insulation, and drywall.
- g. Remove and replace drywall and ceiling tiles with SVM.
- h. Replace or repair roof.

An alternate to recommendations c., e., and f. would be to remove the insulation and use a spray-on foam such as Icynene. This may be more economical with less chance of damage to the veneer but would require close inspection to verify that there are no voids that would allow moisture intrusion.

CLOSING

This report was prepared for the exclusive use of the client. The contents of the report shall not be used or relied upon in any way by others without prior written approval of REP Associates, Inc. The opinions and recommendations presented herein are based upon information provided to REP as of this date, conditions at the time of the inspection and our professional expertise.

Refer to the Attached Appendix



APPENDIX A

REP Methodology



METHODOLOGY

Temperature/Relative Humidity/Dew point

- ❖ Thermo-Hygrometers – Hand held units display temperature and relative humidity (dew point optional) and the inspector records the results on field logs.
- ❖ Indoor Air Quality Data Loggers - Records temperature and relative humidity (carbon dioxide and carbon monoxide optional) as a screening tool during the walkthrough or over a defined sampling period. For a defined sampling period placement of the unit is in a designated area with the probe securely attached. At the end of the sampling period, REP downloads and evaluates the accumulated data utilizing instrument software.

Infrared Camera Survey:

- ❖ FLIR Model B-2: REP representative (Level I Thermographer) initially screens each room. Thermal imaging camera provides a pictorial representation of the heat of objects and can show temperature differences in similar materials. The areas of concern warrant further evaluation visually and with moisture meters.

Moisture Content of Building Materials:

- ❖ Moisture Content: REP utilizes pinless and pin-probe moisture meters. REP places the pinless sensing pad firmly against the building material or inserts the electrode pin probe into the building material. Depending on the moisture meter, the readout is in % (wood), % wood moisture equivalent (a specific setting on the meter for different building materials), or a reference scale (relative moisture content).

Particle Counts:

- ❖ Lighthouse Handheld 3016 Particle Monitor: This instrument can be calibrated to measure specific particle sizes (<10 microns or < 3 microns) and can display real-time particle counts in particles per cubic foot (pt/ft³) or can be set to log samples at user-defined intervals. For ambient air samples, REP locates the aerosol monitor in the approximate center of the room/area and samples at a height of three to four feet.

Fungi Spore Counts/Particulate:

- ❖ Air samples (ambient and wall cavities). REP uses vacuum pumps calibrated to a flow rate of 15 – 20 liters of air per minute for both air and WallChek™ samples. The air sampling train includes the pump, tubing and an Air-O-Cell cassette. The cassette has an interior adhesive slide that collects particulate (including fungal spores) as the air passes through the cassette. REP locates the ambient air sampling set up in the room/area using a stand to hold the cassette at a height of three to four feet, or at a height approximating the breathing zone. REP collects WallChek™ samples from inside wall cavities by puncturing a small hole in the wall above the baseboard and drawing the air through a small piece of tubing connected to the Air-O-Cell cassette using the vacuum pump.



- ❖ **Tape-lift:** REP uses clear or laboratory supplied cellophane tape or a laboratory-prepared tape mounted slide. REP places the tape/slide on the suspect growth or test area. The tape/slide is lightly pressed against the surface and carefully removed. The tape is transferred onto a clean glass slide. The glass slides are labeled, placed inside laboratory supplied plastic slide containers and transferred to a clean plastic bag.

Cultureable Fungi/Bacteria:

- ❖ **Air Samples.** REP uses the appropriate agar, designated by the microbiology laboratory, to sample the ambient air. REP locates the sampling device in the center of the room/area to be sampled at a height of three to four feet. REP uses vacuum pumps calibrated to a flow rate of 17 liters of air per minute with the agar plate placed inside an Anderson Impact Sampler.
- ❖ **Surface Swab:** REP uses a sterile swab (from laboratory supplied aseptic package), moistens the tip of the swab and gently swabs the desired area thoroughly, using a rolling motion. Sterile templates are used for sampling defined areas. REP inserts the swab into the tube of buffer, records surface area sampled, and seals the cap tightly. REP places the sample in a cooler with blue ice and ships all samples to the laboratory within 24 hours.

INTERPRETATION OF DATA

Temperature and Relative Humidity

The American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 62, Ventilation for Acceptable Indoor Air Quality, and Standard 55, Thermal Comfort reference standards provide a chart for comfort ranges of temperature and humidity (Refer to attached chart that replaces the former temperature range of 72°F to 78°F and relative humidity range of 30% to 60%) and a carbon dioxide reference as 700 plus outdoors. We compare the indoor environments to the current ASHRAE thermal comfort or ventilation standard to determine normal or typical ventilation conditions.

Maintain indoor surface temperatures above the dew point of the inside air (typically averaging around 72°F to 73°F in the summertime) and relative humidity below 65% in the occupied space. Relative humidity in excess of 70% and condensation on indoor surfaces can create sufficient moisture in the air and on building materials and surfaces to support some microbial growth.

Infrared Camera Survey:

Building materials with elevated moisture content that are in the process of drying out (i.e. water is evaporating) will appear cooler than similar materials with a moisture content that has reached equilibrium with the space. Moisture can also reduce the effect of insulation and may appear warmer than adjacent similar material.



Moisture Content

Normal or background moisture content corresponds to an “air-dry” condition in an ordinary indoor, inhabited environment. The moisture of potentially affected materials was compared to unaffected materials to assess the significance of moisture in the materials in question. This comparative analysis assists in determining or delineating areas of water damage and the extent of building material removal that is warranted.

Particle Counts

One compares particles per unit area over a given length of time for compliance with the OSHA standard. One compares particle counts of the suspect source to background counts if used to determine source. In typical buildings, the indoor particulate concentration should be lower than outside. Exceptions to these premises warrant further data evaluation and investigation. Abnormal findings may be indicative of indoor sources of fungi, poor filtration in the air-conditioning system, or another particulate source. Other confounding conditions can cause abnormal findings and must be reviewed and excluded.

Bioaerosols (Fungi)

- Compare outdoor and indoor fungi. The inside fungi levels should be lower than outside and, the types of indoor and outdoor fungi should be similar.
- Compare indoor levels with published data, such as the Baxter study¹ or EMLAB MoldRange reports. Baxter deals effectively with a wide range of natural spore levels that are dependent on the season, the surrounding vegetation, and even the time of day. MoldRange is a compilation of data from thousands of outside air samples. It enables you to get statistical information about, and easily communicate the types and amounts of fungal spores that are typically present in the outside air both by time of year and region of the country.
- REP uses published information as “tools” and understands the limitation of the type of samples collected. In determining the existence and source of microbial amplification in a residence or building, visible evidence of microbial contamination, construction, and building history weighs heavily on the assessment. Knowledge, experience, expert opinion, logic, and common sense are used to interpret the information.
- Exceptions to these premises warrant further evaluation and investigation. Abnormal findings may be indicative of indoor sources of fungi, poor air-conditioning system filtration, a particulate source other than water damage, or other confounding conditions that require review and exclusion.

Bioaerosols (Bacteria)

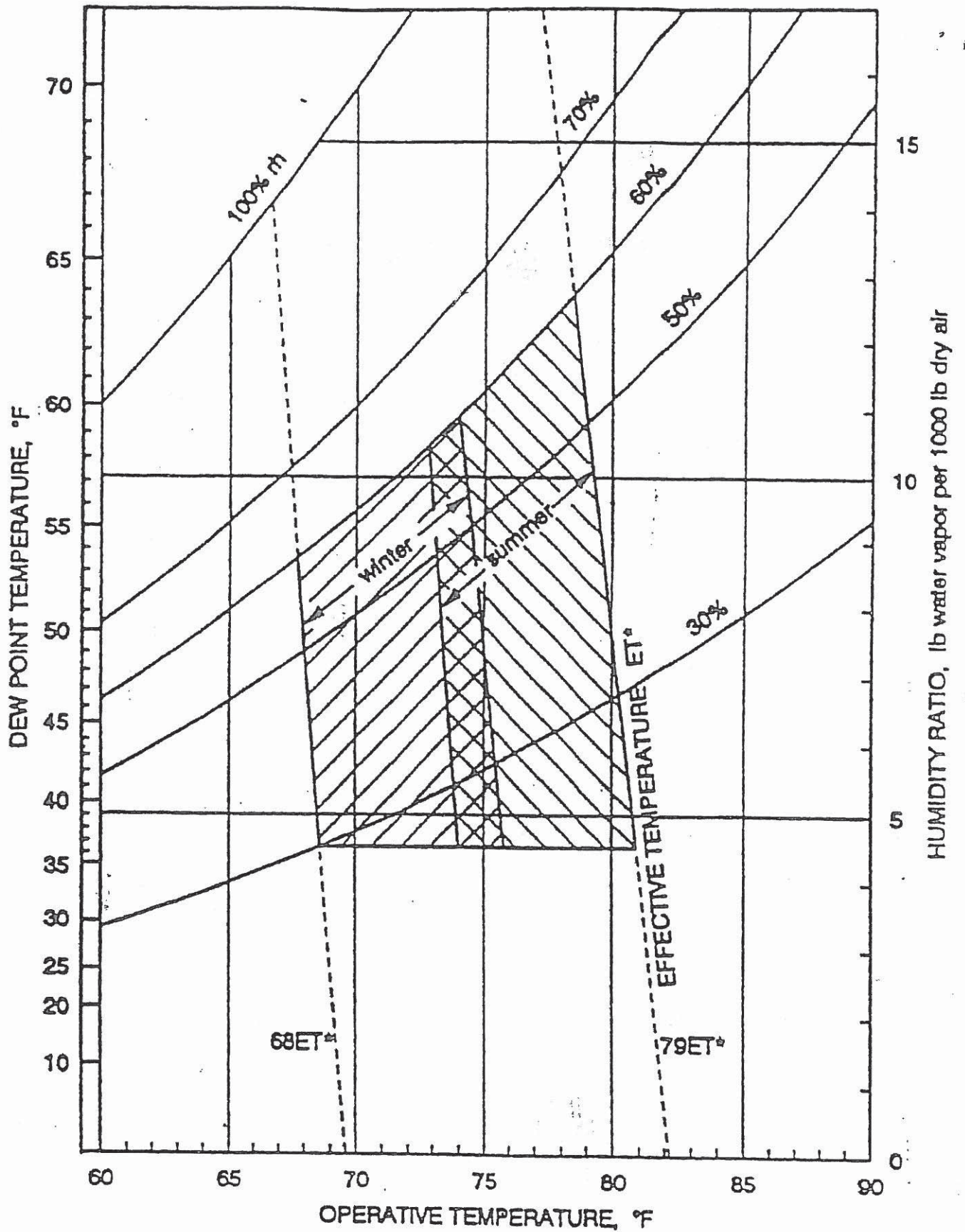
Generally the presence of high levels of bacteria and/or pathogenic bacteria indicates the need for further investigation.

¹ Daniel M. Baxter, 1998. Mold Spore Concentrations inside “Clean” and “Water-Damaged” Commercial and Residential Buildings.



LABORATORY SUPPORT

REP utilizes chain of custody forms to forward bioaerosols (fungi and bacteria) and tape-lift samples to AIHA-EMLAB accredited microbiology laboratories or to AIHA-EMPAT participants for analysis. The forms include the sample type, sample number, location, and volume or sample collection area.





APPENDIX B

Floor Plan



LEGEND:

-  SUSPECT VISIBLE MOLD (SVM)
-  WATER DAMAGE
-  CRACKED WINDOW
-  STAIN ON DRYWALL
-  PEELING PAINT
-  STAINED CEILING TILE

- SUSPECT VISIBLE MOLD (SVM)
- WATER DAMAGE
- CRACKED WINDOW
- STAIN ON DRYWALL
- PEELING PAINT
- STAINED CEILING TILE

SCALE:



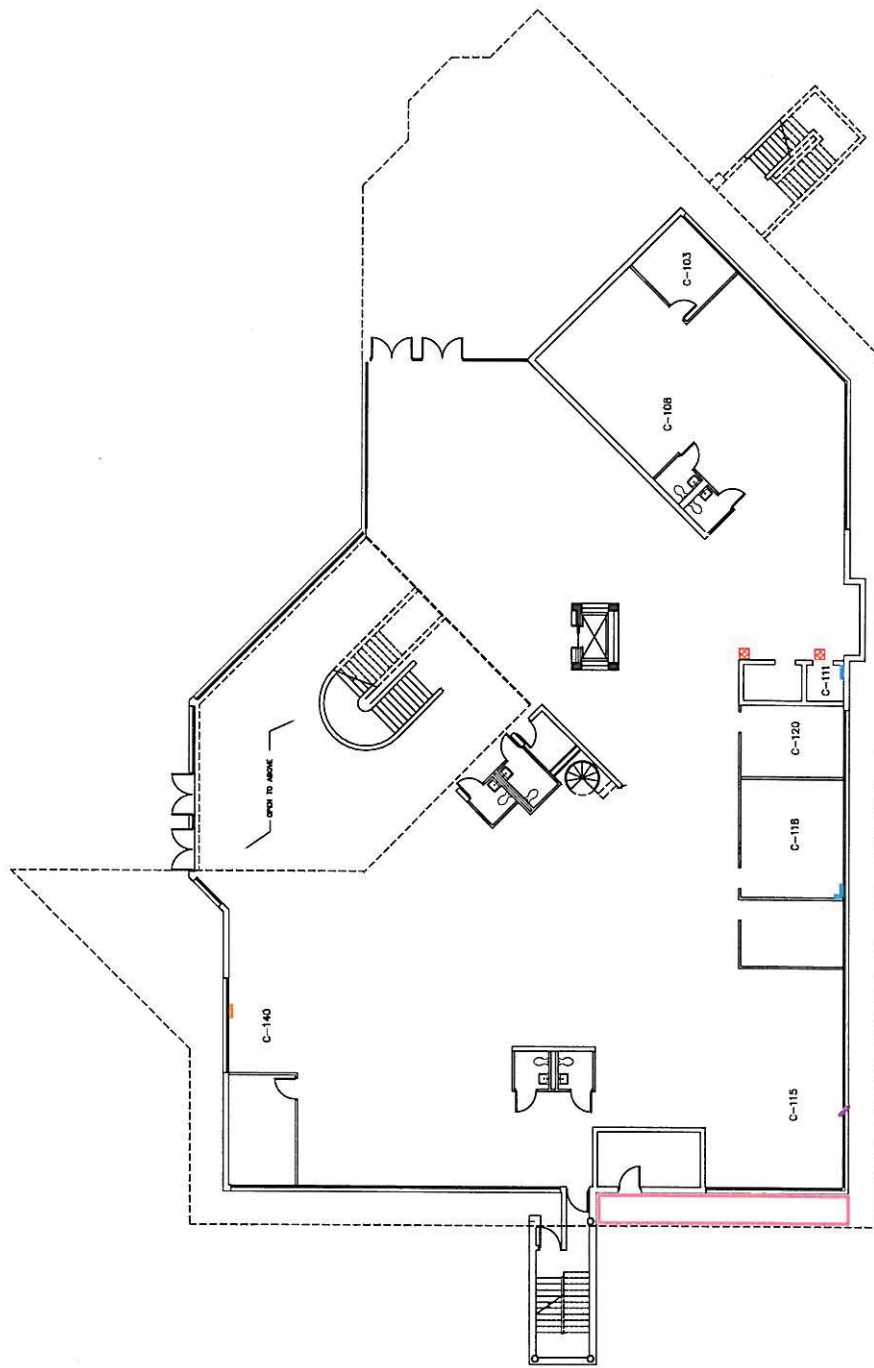
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DATE: 06-06-2007
DWG: 2457.01.01-1

FIGURE: 1



DRAWING TITLE:
CITY COUNCIL
MUNICIPAL OFFICE
FIRST FLOOR

CITY OF RIVIERA BEACH
MUNICIPAL COMPLEX
600 WEST BLUE HERON BLVD.
RIVIERA BEACH, FLORIDA
REP PROJECT NO. 2457.01.01





LEGEND:

- SUSPECT VISIBLE MOLD (SVM)
- WATER DAMAGE
- CRACKED WINDOW
- STAIN ON DRYWALL
- PEELING PAINT
- ☒ STAINED CEILING TILE

- SUSPECT VISIBLE MOLD (SVM)
- WATER DAMAGE
- CRACKED WINDOW
- STAIN ON DRYWALL
- PEELING PAINT
- STAINED CEILING TILE

SCALE:



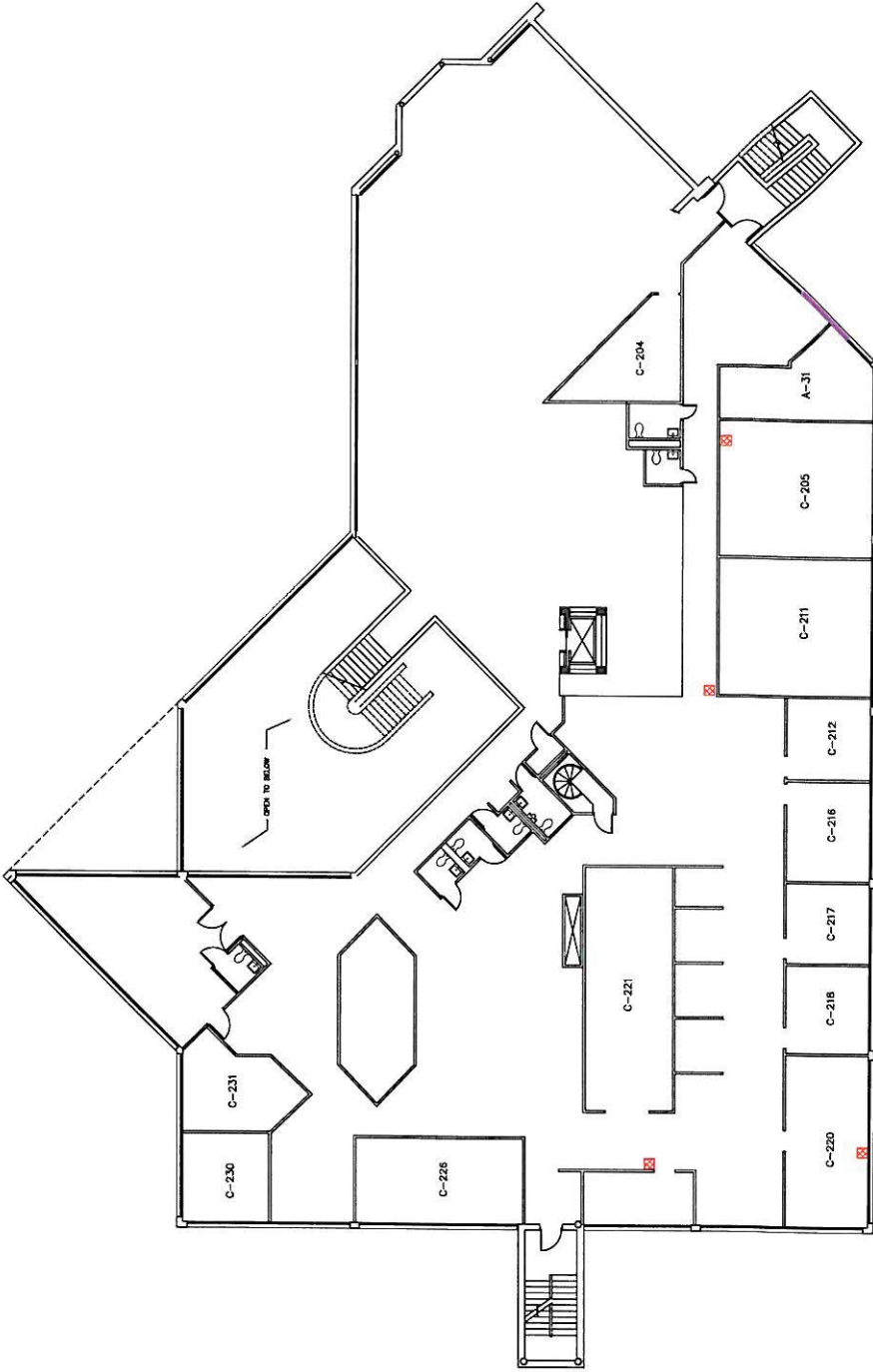
NORTH

DRAWN BY: TSW
DATE: 06-06-2007
PAGE: 2457.01.01F-2

FIGURE: 2

DRAWING TITLE:
CITY COUNCIL
MUNICIPAL OFFICE
SECOND FLOOR

CITY OF RIVIERA BEACH
MUNICIPAL COMPLEX
600 WEST BLUE HERON BLVD.
RIVIERA BEACH, FLORIDA
REP PROJECT NO. 2457.01.01





LEGEND:

-  SUSPECT VISIBLE MOLD (SVM)
-  WATER DAMAGE
-  CRACKED WINDOW
-  STAIN ON DRYWALL
-  PEELING PAINT
-  STAINED CEILING TILE

SCALE:



DESIGNED BY: TSW
DATE: 06-06-2007
DRAWN BY: TSW
DATE: 2457.01.01-6

FIGURE: 6

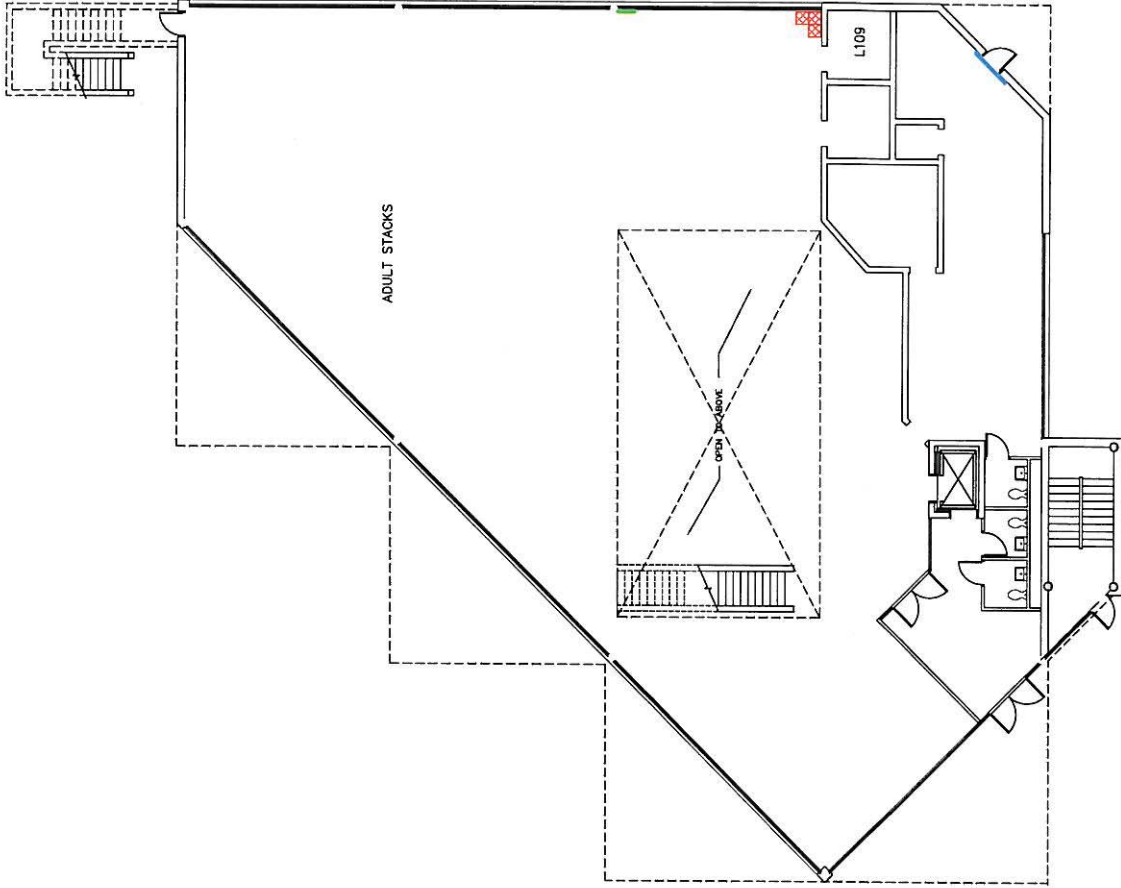


NORTH

DRAWING TITLE:

LIBRARY FIRST FLOOR

CITY OF RIVIERA BEACH
MUNICIPAL COMPLEX
600 WEST BLUE HERON BLVD.
RIVIERA BEACH, FLORIDA
REP PROJECT NO. 2457.01.01





LEGEND:

-  SUSPECT VISIBLE MOLD (SVM)
-  WATER DAMAGE
-  CRACKED WINDOW
-  STAIN ON DRYWALL
-  PEELING PAINT
-  STAINED CEILING TILE

SCALE:



DRAWN BY: TSM
 DATE: 06-06-2007
 DWG: 2457.01.01-7

FIGURE: 7

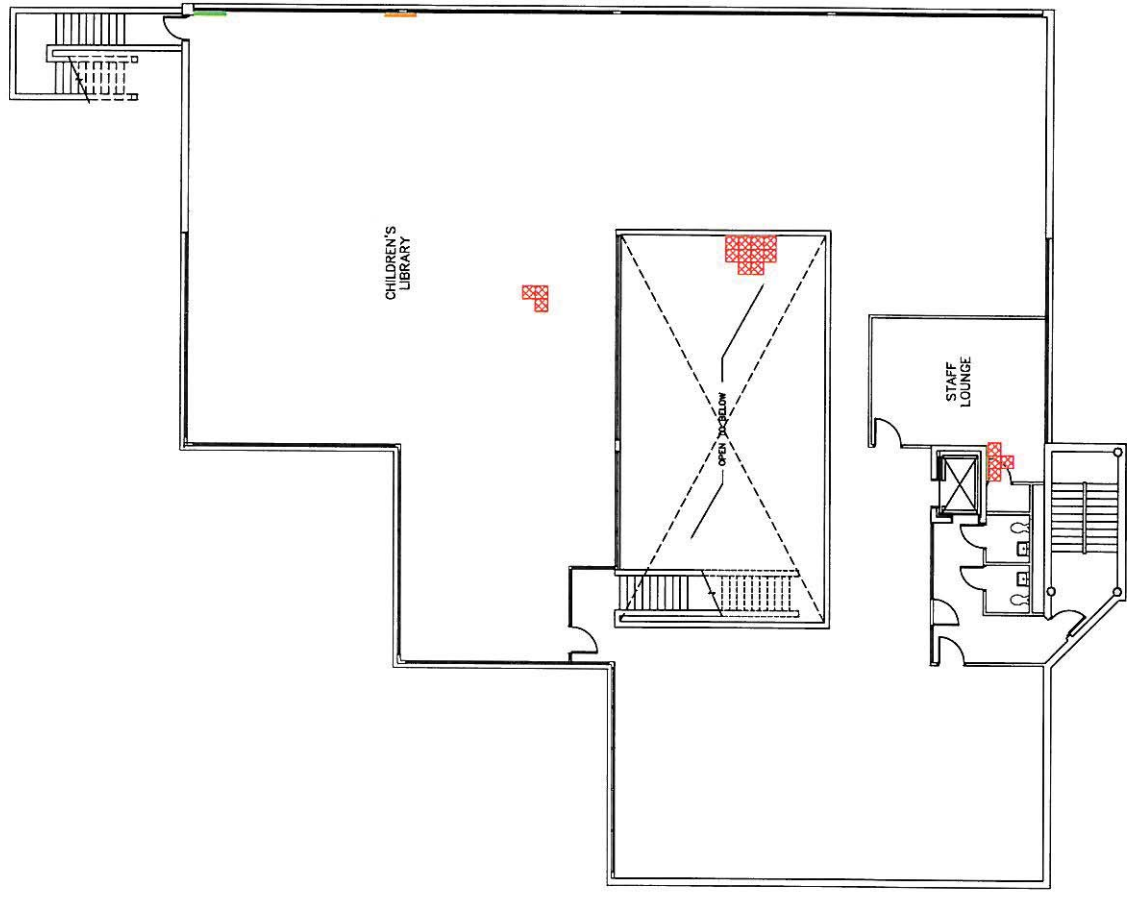


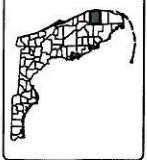
NORTH

DRAWING TITLE:

LIBRARY SECOND FLOOR

CITY OF RIVIERA BEACH
 MUNICIPAL COMPLEX
 600 WEST BLUE HERON BLVD.
 RIVIERA BEACH, FLORIDA
 REP PROJECT NO. 2457.01.01





LEGEND:

- SUSPECT VISIBLE MOLD (SVM)
- WATER DAMAGE
- CRACKED WINDOW
- STAIN ON DRYWALL
- PEELING PAINT
- ⊠ STAINED CEILING TILE

- SUSPECT VISIBLE MOLD (SVM)
- WATER DAMAGE
- CRACKED WINDOW
- STAIN ON DRYWALL
- PEELING PAINT
- STAINED CEILING TILE

SCALE:
0 — 20'
FEET



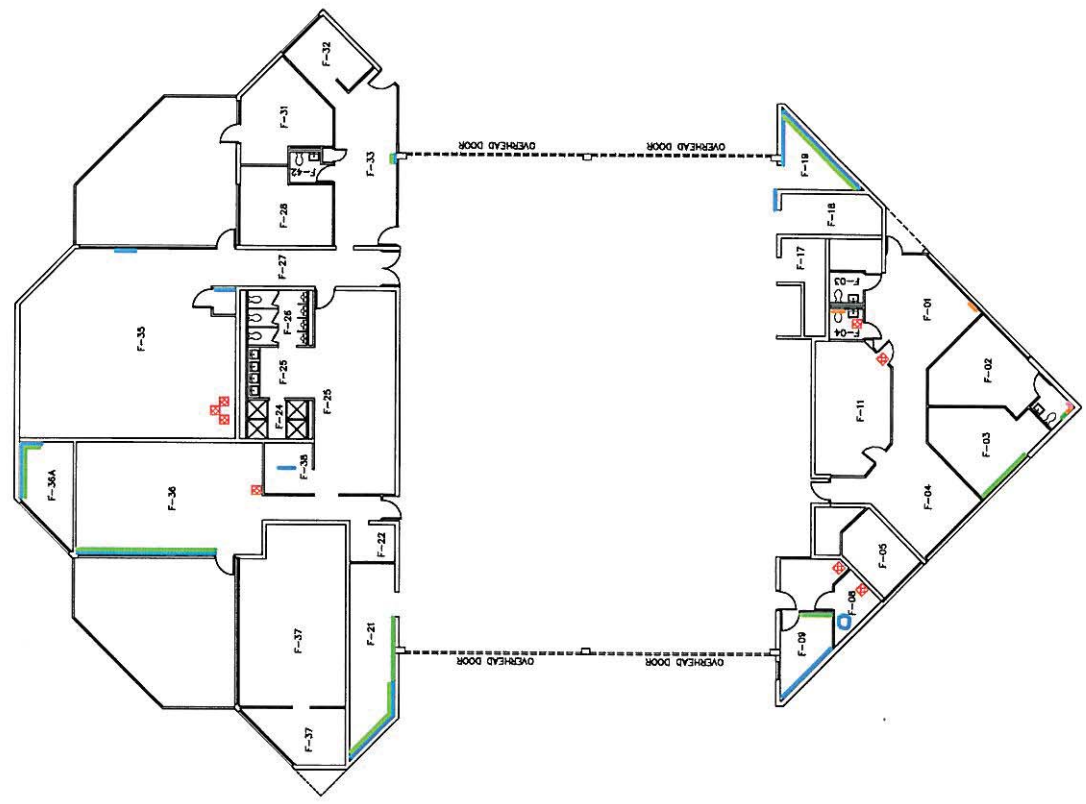
DRAWN BY: TSM
DATE: 06-05-2007
DWG: 2457.01.01-S

FIGURE:
5

DRAWING TITLE:

FIRE STATION

CITY OF RIVIERA BEACH
MUNICIPAL COMPLEX
600 WEST BLUE HERON BLVD.
RIVIERA BEACH, FLORIDA
REP PROJECT NO. 2457.01.01





LEGEND:

- SUSPECT VISIBLE MOLD (SVM)
- WATER DAMAGE
- CRACKED WINDOW
- STAIN ON DRYWALL
- PEELING PAINT
- STAINED CEILING TILE



SCALE:



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DATE: 06-05-2013
DWG. NO.: 2457.01.01-3

FIGURE: 3

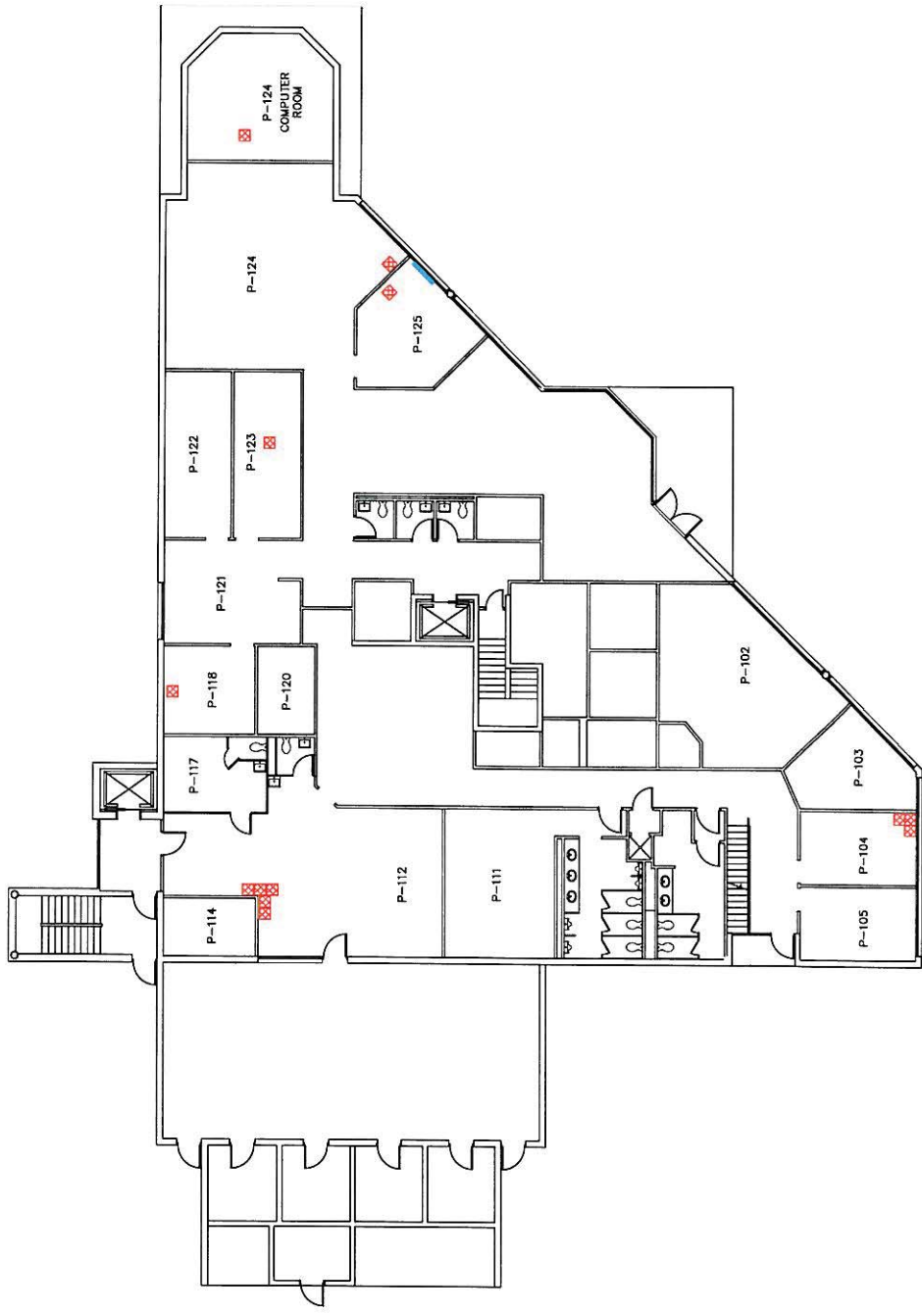


NORTH

DRAWING TITLE:

POLICE STATION FIRST FLOOR

CITY OF RIVIERA BEACH
MUNICIPAL COMPLEX
600 WEST BLUE HERON BLVD.
RIVIERA BEACH, FLORIDA
REP PROJECT NO. 2457.01.01





LEGEND:

-  SUSPECT VISIBLE MOLD (SYM)
-  WATER DAMAGE
-  CRACKED WINDOW
-  STAIN ON DRYWALL
-  PEELING PAINT
-  STAINED CEILING TILE

- SUSPECT VISIBLE MOLD (SYM)
- WATER DAMAGE
- CRACKED WINDOW
- STAIN ON DRYWALL
- PEELING PAINT
- STAINED CEILING TILE

SCALE:



NORTH

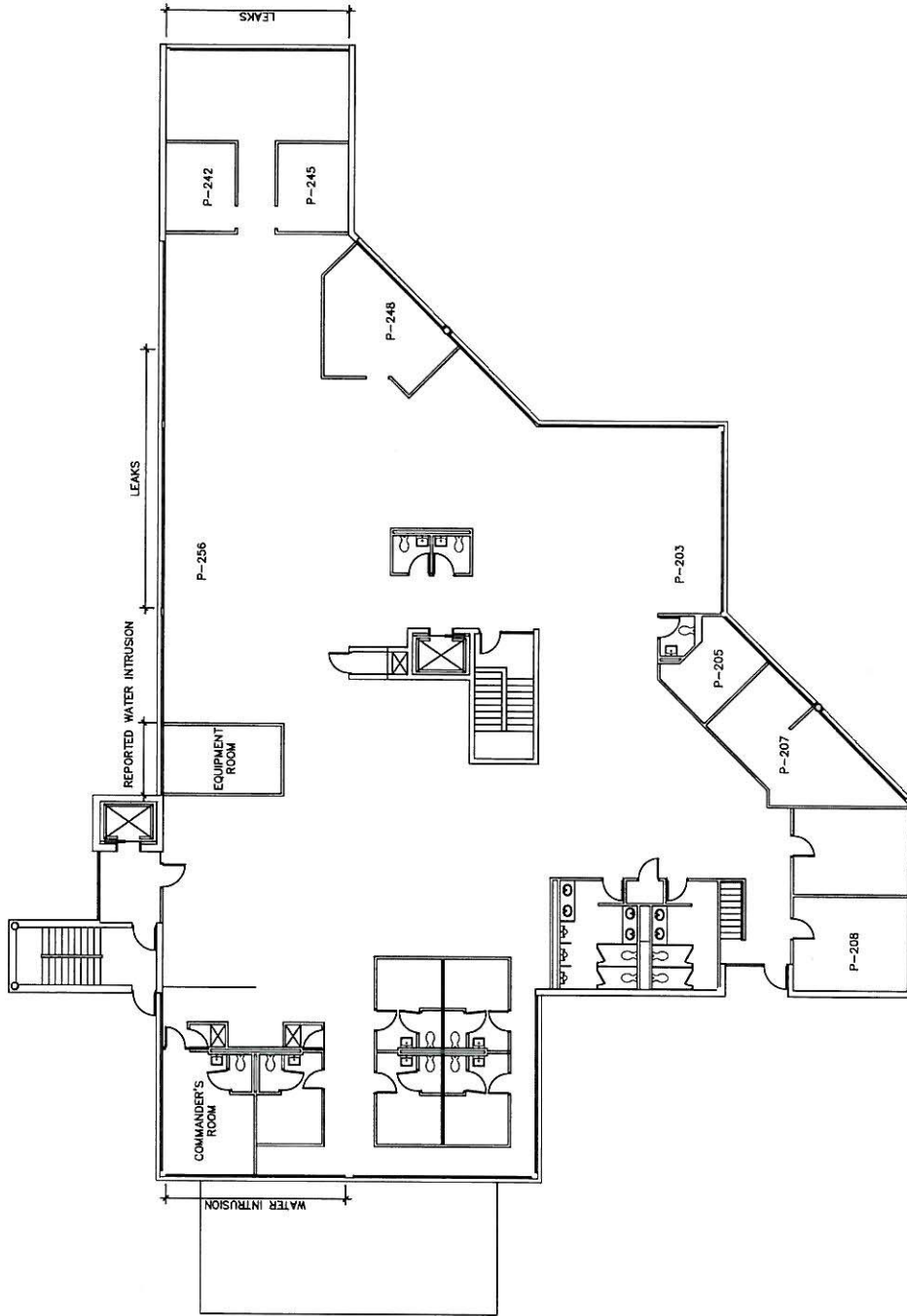
DRAWN BY: TSV
DATE: 08-06-2007
DWG: 2457.01.01-4

FIGURE: 4

DRAWING TITLE:

POLICE STATION SECOND FLOOR

CITY OF RIVIERA BEACH
MUNICIPAL COMPLEX
600 WEST BLUE HERON BLVD.
RIVIERA BEACH, FLORIDA
REP PROJECT NO. 2457.01.01





APPENDIX C

Site Photographs



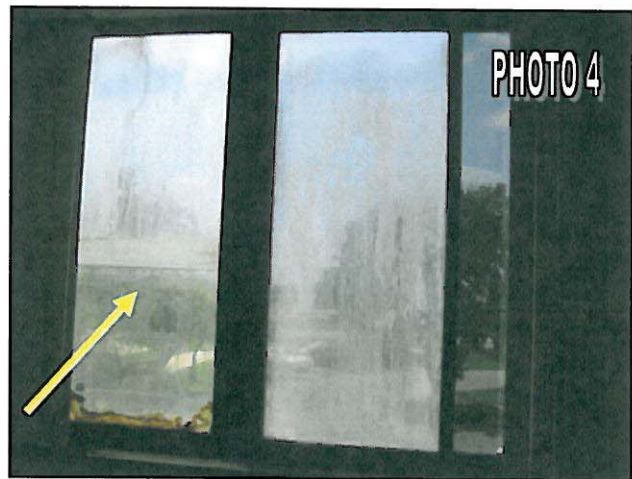
City Hall Exterior - Water stains and corrosion on window sill.



Library Staff Lounge - Stains on ceiling tiles and missing tiles.



City Hall Room C115 - Crack in exterior window pane.



City Hall Room A31 - Crack in window and water trapped between panes of glass.



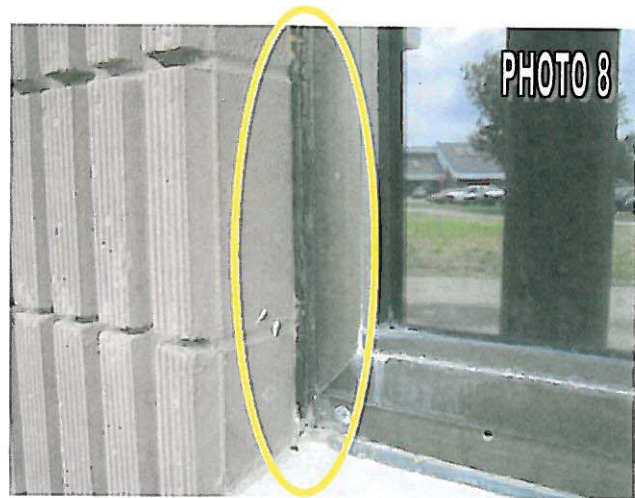
Police Department Room P244 – Suspect visible mold (SVM) on drywall in southeast corner.



Fire Department Room F03 – SVM on west wall at baseboard.



Library south wall – Drywall on column with SVM.



City Hall Exterior – Crack in caulk around window.



APPENDIX D

Tables 1 - 4 Observations

TABLE 1
OBSERVATIONS
City of Riviera Beach Municipal Complex-City Hall

Floor	Location (Room Number)	Observations	Photo
First Floor	C103	No stains by window.	
	C108	Crack in drywall beneath window behind copier by Jackie's desk.	
	C11 (Hot water heater mechanical room)	Peeled paint and water damage. Exterior wall water stained from floor to one foot.	
	C120	Minor stains on windowsill.	
	C118	Water stains on exterior wall under counter. Effervescence on partition coming out from exterior wall.	
	C115	Crack in exterior windowpane.	3
	C140	Stains on exterior wall beneath electrical outlet. Windows are open to outdoors.	
Second Floor	C204 (Council Chambers)	Musty odor detected near the north wall. Past water damage to carpeting reported.	
	A31	Cracked window. Space between double glass panes half filled with water.	4
	C205	Past water intrusion reported that wet carpeting. Not currently wet.	
	C211	Water stained box stored under desk on exterior wall. Windows were open in this office.	
	C212	Drywall removed from exterior wall. No insulation.	
	C216	Drywall removed from exterior wall.	
	C217 (City Engineer)	Drywall removed from exterior wall.	
	C218	Drywall removed from exterior wall.	
	C219	Drywall removed from exterior wall. Reported that water enters through windows and flows across floor.	
	C226	Drywall replaced and is covered in vinyl wall covering.	
Second Floor	C231	Strong perfume or air freshener odor.	
Exterior	Weep holes under windows have been drilled beneath frame to allow water to drain. Caulking of window to sill is cracked in several locations.		1 & 8

TABLE 2
OBSERVATIONS
City of Riviera Beach Municipal Complex-Fire Department

Floor	Location (Room Number)	Observations	Photo
First Floor	F01	Water stains on drywall by west window.	
	F12 (Women's Restroom)	Stain beneath toilet on ceramic tile floor.	
	F11 (Conference Room)	Stained ceiling tiles.	
	F03	Stained ceiling tiles. SVM under window on west wall at baseboard.	6
	F04	Corrosion on window frame.	
	F05	Corrosion on window frame.	
	F02	Corroded window frame	
	F02 (Restroom)	Peeling drywall tape and missing wall tile.	
	F19 (Compressor Room)	Water damage with SVM on east wall. Evidence of roof leaks.	
	F18 (Equipment Storage)	Debris on floor in corner may be insect droppings.	
	F08	Water stains on floor in northwest corner. Missing ceiling tiles.	
	F21	Water stains and SVM on south and southwest wall.	
	F35	Water stains on east wall under window. Stained ceiling tiles	
	F42	Water stains on east wall.	
	F25	Rust on lockers and access hatch on ceiling.	
	F38	Water stains in light fixture. Vent pipe for dryer not sealed around ceiling penetration.	
	F36A	Water stains and SVM on north and East wall. Carpet stained.	
	F36 (F27)	Water stains and SVM on west wall.	
	F33	Water stains and SVM on south wall.	
	F31	Corroded window frame.	
	F09	Water stains on west wall. SVM on stored drywall panels. Evidence of termites.	
	South wall	Suspect visible mold (SVM) on lower two feet of column on south wall.	7
L109 (Adult stacks)	Stained ceiling tiles. Moisture in several windows.		
Emergency exit door	Water damage		

TABLE 3
OBSERVATIONS
City of Riviera Beach Municipal Complex-Library

Floor	Location (Room Number)	Observations	Photo
Second Floor	Staff Lounge	Stained or missing ceiling tiles.	2
	Ceiling above book check out desk	Stained ceiling tiles.	
	Children's Library	Water stains or SVM on ceiling tiles below air handler unit (AHU).	
	South wall	Water stains on column in middle of wall and in corner. SVM behind paint in corner by emergency exit.	

TABLE 4
OBSERVATIONS
City of Riviera Beach Municipal Complex-Police Department

Floor	Location (Room Number)	Observations	Photo
First Floor	P125	Drywall at baseboard crumbling.	
	P124	Water stains on ceiling tiles by column. Evidence of ant infestation.	
	P124 (Computer room)	Stained ceiling tiles above server.	
	P123	Stained ceiling tiles.	
	P122	Reported that water enters through outer wall and pours across floor into P 123.	
	P102	Evidence of water entering at baseboard. Drywall damaged at base.	
	P103, P104, P105	Baseboard replaced with pressure treated lumber.	
	P112	Ceiling tile missing	
Second Floor	P256	Several windows with moisture between window panes. Water damage to exterior walls.	
	P244	SVM on drywall in lower southeast corner. No drywall on exterior wall.	5
	Equipment room	Reported that water seeps under wall.	
	Commanders office	Reported that water seeps under outside wall	
	911 call center	No issues	
	Stairwell outside P208	Exterior wall removed. Reported that water seeps through block wall.	
	P208	Water rust stains on floor. Sagging ceiling tiles.	
	P207	Reported that exterior wall leaked onto carpeting which was replaced with tile.	
	P203 (Chief's office)	No current issues but exterior wall was removed and replaced.	
	P248	Wall replaced but shows evidence of bubbling.	

TABLE 4
OBSERVATIONS
City of Riviera Beach Municipal Complex-Police Department

Building Exterior		Gaskets pulling away from window panes.	
		Cracks in caulk where sill meets block wall.	
		Hurricane shutters in brick face do not appear to be caulked.	
		Corrosion around window frame.	
		No drip crack above second floor windows and drip cracks partially filled in on underside of second floor deck.	

SECTION E – Probable Construction Estimate & Schedule

**Preliminary Estimated Construction Costs - Option A & Option B
Potential Construction Schedule - Option A & Option B**

PROBABLE ESTIMATED CONSTRUCTION COSTS

The following sheets represent “estimated construction costs” for:

Option ‘A’ – Existing Buildings Renovation & Additions: Address the existing Building Envelope/ Water Intrusion issues, and provided Interior Renovation and Build Out for each of the existing buildings on campus. Of course, one of the difficulties during the renovation work is the temporary relocation and displacement of departments during construction.

We have also included estimates for a new building that will house the Police Department and the employee Wellness Center.

Option ‘B’ – New City Hall Building: In lieu of renovating the existing Administration and Police Buildings and alternate would include demolition of the existing and construction of a new three (3) story building for City Hall and new parking lot for staff and visitors.

At this early stage of planning, we typically use square foot construction costs as derived from history and recent construction costs. Once documents are more complete, a more accurate cost estimate can be prepared. Pricing will vary depending on level and quality level of finishes, equipment, bidding atmosphere, phasing of work, etc.

Note:

1. Pricing does include potential relocation costs for the rent of temporary office space, physical moving of equipment, files, etc., does not include personnel costs.
2. Costs for limited new furniture and furnishings, fixtures and equipment (F.F.&E.) are included. We have assumed that a portion of the existing would be reused and supplemented with new.
3. Professional Architectural & Engineering fees, reimbursable expenses for project related expenses, surveys, soil testing and permits are included as a typical percentage of the construction costs.

CONSTRUCTION PHASING SEQUENCE

Option ‘A’ –

The following represents possible phasing of the construction in order to maintain operation of the facilities. This sequencing to be finalized and coordinated by the Construction Manager once awarded contract for the construction work.

1. Building 5 (Police Department) – RFP for A&E services for design/construction documents. Once completed the existing Police building will be empty and ready for reconstruction.
2. Building 1 – Move all occupants from building temporary office space. Renovate entire building and new addition. Move the occupants to allocated space: Clerk, City Manager, Community Development, Finance, and Human Resource.
3. Building 3 – Library new addition. Once completed can be used for temporary location of Fire Rescue offices.
4. Building 4 – Reconstruction and new addition. As needed relocate staff to the new Library addition.
5. Building 3 – Reconstruction of the existing. Open the new addition for Library use.
6. Building 2 – Following completion of the new Police Department building begin the reconstruction work and new addition for Council Chambers, Legislative / Executive, Legal and Executive / Information Services.

Option 'B' –

The intent is that the new building is located clear of the existing allowing the buildings to remain occupied during construction of the new City Hall. Once completed occupants can be relocated and the existing Administration and Police buildings can be demolished and the site work completed. The work at the Library and Fire Rescue would remain as previously indicated and independent of the new City Hall.

Please note that with any of the construction process there will be inconveniences to both staff and to the general public. Coordination with the CM and Owner during construction will be required in order to minimize disruption of services and working conditions.

Please refer to the following data(Probable Construction Costs and Schedules).

RIVIERA BEACH MUNICIPAL COMPLEX

OPTION 'A' - BUILDING ENVELOPE / INTERIOR RENOVATION / ADDITIONS

PROBABLE ESTIMATED CONSTRUCTION COSTS - Preliminary Study Phase

Dated: May 2008

	SF		Unit Cost	Cost	Subtotals
<u>BUILDING #1 - Administration</u>					
	26,440	sf	Existing Area		
Selective Demolition	26,400	sf	\$6.00	\$158,400	
Exterior Façade (Stucco)	11,840	sf	\$30.00	\$355,200	
Interior Redo	26,440	sf	\$70.00	\$1,850,800	
Mech / Elect / Plumb (Limited Redo)	26,440	sf	\$12.00	\$317,280	
Existing Roofing	14,000	sf	\$3.00	\$42,000	
Glazing Impact Resistant/Flashing/Structure	4,000	sf	\$90	\$360,000	
New Construction	800	sf	\$200	\$160,000	
Enclosed Walkway 2nd Floor	60	lf	\$55	\$3,300	
Subtotal Building				\$3,246,980	
Contingency			20%	\$649,396	
Subtotal Construction	27,240	sf	\$143.04	\$3,896,376	
Furnishings, Fixtures & Equipment	27,240	sf	\$11.00	\$299,640	
Subtotal Construction & FFE					\$4,196,016
Other Costs:					
Professional A&E Fees			9.0%	\$377,641	
Reimbursable Expenses, Permits, Testing			3.0%	\$125,880	
Relocation Costs (Allowance)				\$50,000	
Subtotal Other Costs					\$553,522
TOTAL BUILDING #1 (Existing City Hall)					\$4,749,538
<u>BUILDING #2 - Administration Annex</u>					
	18,170	sf	Existing Area		
Selective Demolition	18,170	sf	\$6.00	\$109,020	
Exterior Façade (Stucco)	9,860	sf	\$30.00	\$295,800	
Interior Redo	18,170	sf	\$70.00	\$1,271,900	
Mech / Elect / Plumb (Limited Redo)	18,170	sf	\$12.00	\$218,040	
Existing Roofing	9,000	sf	\$3.00	\$27,000	
Glazing Impact Resistant/Flashing/Structure	3,050	sf	\$90	\$274,500	
New Construction	4,000	sf	\$200	\$800,000	
Enclosed Walkway 2nd Floor	60	lf	\$55	\$3,300	
Subtotal Building				\$2,999,560	
Contingency			20%	\$599,912	
Subtotal Construction	22,170	sf	\$162.36	\$3,599,472	
Furnishings, Fixtures & Equipment	22,170	sf	\$11.00	\$243,870	
Subtotal Constructin & FFE					\$3,843,342
Other Costs:					
Professional A&E Fees			9.0%	\$345,901	
Reimbursable Expenses, Permits, Testing			3.0%	\$115,300	
Relocation Costs (Allowance)				\$50,000	
Subtotal Other Costs					\$511,201
TOTAL BUILDING #2 (Existing Police)					\$4,354,543

RIVIERA BEACH MUNICIPAL COMPLEX

BUILDING #3 - Library	14,580	sf	Existing Area		
Selective Demolition	14,580	sf	\$4.00	\$58,320	
Exterior Façade (Stucco)	8,200	sf	\$30.00	\$246,000	
Interior Redo (Limited)	14,580	sf	\$30.00	\$437,400	
Mech / Elect / Plumb (Limited Redo)	14,580	sf	\$12.00	\$174,960	
Existing Roofing	7,300	sf	\$3.00	\$21,900	
Glazing Impact Resistant/Flashing/Structure	3,600	sf	\$90	\$324,000	
New Construction	10,000	sf	\$200	\$2,000,000	
Subtotal Building				\$3,262,580	
Contingency			20%	\$652,516	
Subtotal Construction	24,580	sf	\$159.28	\$3,915,096	
Furnishings, Fixtures & Equipment	24,580	sf	\$11.00	\$270,380	
Subtotal Constructin & FFE					\$4,185,476
Other Costs:					
Professional A&E Fees			9.0%	\$376,693	
Reimbursable Expenses, Permits, Testing			3.0%	\$125,564	
Relocation Costs (Allowance)					
Subtotal Other Costs					\$502,257
TOTAL BUILDING #3					\$4,687,733
BUILDING #4 - Fire Department	13,960	sf	Existing Area		
Selective Demolition	13,960	sf	\$6.00	\$83,760	
Exterior Façade (Stucco)	4,000	sf	\$30.00	\$120,000	
Interior Redo Limited	13,960	sf	\$70.00	\$977,200	
Mech / Elect / Plumb (Partial)	13,900	sf	\$14.00	\$194,600	
Existing Roofing	7,000		\$3.00	\$21,000	
Glazing Impact Resistant/Flashing	1,450		\$90	\$130,500	
New Construction	2,400	sf	\$200	\$480,000	
Subtotal Building				\$2,007,060	
Contingency			20%	\$401,412	
Subtotal Construction	16,360	sf	\$147.22	\$2,408,472	
Furnishings, Fixtures & Equipment	16,360	sf	\$11.00	\$179,960	
Subtotal Constructin & FFE					\$2,588,432
Other Costs:					
Professional A&E Fees / Expenses			9.0%	\$232,959	
Reimbursable Expenses, Permits, Testing			3.0%	\$77,653	
Relocation Costs (Allowance)					
Subtotal Other Costs					\$310,612
TOTAL BUILDING #4					\$2,899,044
CAMPUS EXISTING BUILDINGS					\$16,690,858

RIVIERA BEACH MUNICIPAL COMPLEX

SITE IMPROVEMENTS - Existing Campus						
	Area		Unit Cost	Cost	Subtotals	
Miscellaneous Site Work (Allowance)	1 ea		\$880,000	\$880,000		
Landscaping (Allowance)	1 ea		\$80,000	\$80,000		
Subtotal Site				\$960,000		
Contingency			20%	\$192,000		
Subtotal Site Work					\$1,152,000	
Professional A&E Fees / Expenses			9.0%	\$103,680		
Reimbursable Expenses, Permits, Testing			3.0%	\$34,560		
Subtotal Other Costs					\$138,240	
SITE TOTALS @ EXISTING						\$1,290,240
TOTAL MAIN CAMPUS - Site & Buildings						\$17,981,098

RIVIERA BEACH MUNICIPAL COMPLEX

NEW BUILDING - POLICE DEPARTMENT

PROBABLE ESTIMATED CONSTRUCTION COSTS - Preliminary Study Phase

Dated: May 2008

Building #5a- New	SF	Unit Cost	Cost	Subtotals	TOTALS
<u>Police Department</u>					
Site Work Allowance		\$1,750.000	\$1,750,000		
New Construction (Finish Space)	50,930 sf	\$230.00	\$11,713,900		
Storage Garage (Bulk Evidence)	10,000 sf	\$120.00	\$1,200,000		
Subtotal Building			\$14,663,900		
Contingency		20%	\$2,932,780		
Subtotal Construction	60,930 sf	\$288.80	\$17,596,680		
Furnishings, Fixtures & Equipment	50,930 sf	\$11.00	\$560,230		
Subtotal Construction & FFE				\$18,156,910	
Other Costs:					
Professional A&E Fees		9.0%	\$1,634,122		
Reimbursable Expenses, Permits, Testing		3.0%	\$544,707		
Relocation Costs (Allowance)			\$40,000		
Subtotal Other Costs				\$2,218,829	
TOTAL Police Department					\$20,375,739
<u>Building #5b - New</u>					
<u>Wellness Center</u>					
Site Work Allowance	1 ea	\$135.000	\$135,000		
New Construction	5,375 sf	\$190.00	\$1,021,250		
Subtotal Building			\$1,156,250		
Contingency		20%	\$231,250		
Subtotal Construction	5,375 sf	\$258	\$1,387,500		
Furnishings, Fixtures & Equipment	5,375 sf	\$20.00	\$107,500		
Subtotal Construction & FFE				\$1,495,000	
Building #5B - Wellness Cntr.					\$1,495,000
Other Costs:					
Professional A&E Fees		9.0%	\$134,550		
Reimbursable Expenses, Permits, Testing		3.0%	\$44,850		
Subtotal Other Costs				\$179,400	
TOTAL Building #5B	5,375 sf				\$1,674,400
Grand Total Building #5& Site	66,305 sf				\$22,050,139

RIVIERA BEACH MUNICIPAL COMPLEX

OPTION 'A' - SUMMARY OF PROBABLE BUDGET						Dated: May 2008
EXISTING CAMPUS/BUILDINGS						
Building #1 - Administration	27,240	sf			\$4,749,538	
Building #2 - Admin Annex	22,170	sf			\$4,354,543	
Building #3 - Library	24,580	sf			\$4,687,733	
Building #4 - Fire Rescue	16,360	sf			\$2,899,044	
Total Building Area	90,350	sf			\$16,690,858	
Site Allowance					\$1,290,240	
TOTAL EXISTING CAMPUS			\$199.02 sf			\$17,981,098
BUILDING #5 - NEW CONSTRUCTION						
Police Department	60,930	sf			\$20,375,739	
Wellnes Center	5,375	sf			\$1,674,400	
Total Building Area	66,305	sf				
TOTAL NEW BUILDING #5			\$332.56 sf			\$22,050,139

Note: Includes Building, Site, FF&E & Other Costs

OPTION 'B' - NEW CITY HALL BUILDING

PROBABLE ESTIMATED CONSTRUCTION COSTS - Preliminary Study Phase

Dated: May 2008

New City Hall Building	SF	Unit Cost	Cost	Subtotals	TOTALS
Miscellaneous Site Work Allowance					
Demolition (Buildings 1 & 2)	44,600	sf	\$10	\$446,000	
New Construction (3-story)	49,400	sf	\$210.00	\$10,374,000	
Subtotal Building				\$10,820,000	
Contingency			20%	\$2,164,000	
Subtotal Construction	49,400	sf	\$262.83	\$12,984,000	
Furnishings, Fixtures & Equipment	40,000	sf	11	440,000	
Subtotal Construction & FFE				\$13,424,000	
Other Costs:					
Professional A&E Fees			0	1,141,040	
Reimbursable Expenses, Permits, Testing			0	402,720	
Relocation Costs (Allowance)				40,000	
Subtotal Other Costs				\$1,583,760	
TOTAL New City Hall					\$15,007,760

Note:

- 1 Site work, parking lot paving, grading, drainage, lighting, etc., included in base construction cost.

RIVIERA BEACH MUNICIPAL COMPLEX

Date: May 2008

POTENTIAL SEQUENCING SCHEDULE 'A'

