

STATE OF LOUISIANA
Department of Public Safety and Corrections
Office of State Fire Marshal Code Enforcement and Building Safety
8181 Independence Boulevard
Baton Rouge, Louisiana 70806
225-925-4920

H "BUTCH" BROWNING
FIRE MARSHAL

NEW CONSTRUCTION

ROBERT WILTSE
DAMMON ENGINEERING INC
554 OLD SPANISH TRAIL
SLIDELL, LA 70458-0000

RE: P0398829
PAUL REES OFFICE BUILDING
2275 8TH STREET
MANDEVILLE, 70471

NFPA 101, 2009

BUSINESS

Dear Applicant:

This is to advise that we have reviewed the drawings and specifications for the subject proposed construction and have determined that they appear to satisfactorily comply with the adopted laws, codes, rules and regulations of The State Fire Marshal subject to the following requirements:

1. **REVIEW FOR COMPLIANCE WITH THE REQUIREMENTS OF THE LOUISIANA STATE UNIFORM CONSTRUCTION CODE**, in accordance with Act 12 of the 2005 First Extraordinary Session of the Louisiana Legislature, **IS NOT INCLUDED IN THIS REVIEW**. Contact the building official of the applicable political subdivision to coordinate compliance with these requirements. LRS 40:1730.23 mandates the enforcement of building codes by municipalities and parishes in Louisiana, as described by LRS 40:1730.28.

NOTE: THE FOLLOWING COMMENTS IDENTIFY ISSUES FOR INFORMATIONAL AND CAUTIONARY PURPOSES OR ISSUES THAT COULD NOT BE VERIFIED IN THE SUBMITTED DOCUMENTS.

2. **LRS 40:1730.45.A and LAC 55:V:2601** The documentation provided for the subject facility appears to comply with The Commercial Building Energy Conservation Code based on ANSI/ASHRAE/IESNA 90.1- 2004.
3. **LRS 40:1731-(Effective 8/15/95)** Provide access for persons with disabilities in accordance with ADA-AG (Accessibility Guidelines - September 1994). This does not include a review for compliance with the Federal Americans with Disabilities (Civil Rights) Act of 1990. Compliance with state regulations and requirements does not guarantee compliance with federal law. Particular deficiencies and paragraph references are noted as follows:
 - a) 4.5 Ground and floor surfaces shall be stable, firm, and slip-resistant.
 - b) 4.6.3 Parking spaces shall comply with this section. Parking spaces and access aisles cannot include a ramp or any other sloped surface exceeding 1:50 (2%) in any/all directions.
 - c) 4.6.4 Signage, designating parking for persons with disabilities, shall not be obscured by vehicle.

- d) IM 2002-16 Persons in wheelchairs shall not be required to pass behind parked vehicles other than his own.
- e) 4.1.2(1) A minimum 36" clear accessible route shall be maintained (See 4.6.3 and Fig. 9) and shall not be reduced by automobile bumpers overhanging the sidewalk.
- f) 4.7 Provide curb ramps wherever an accessible route crosses a curb (See Fig.'s 12 and 13).
- g) 4.8 Slope of ramps shall not exceed 1:12.
- h) 4.7.5 Slope of flared curb ramp sides shall not exceed 1:10 (See Fig.'s 12 and 13).
- i) 4.8.5 Provide handrails at both sides of ramps with rise greater than 6". Handrails shall comply with 4.8 and 4.26.
- j) 4.5.2 Thresholds shall comply with requirements of this section regarding changes in level. (Not more than 1/2" height and beveled if over 1/4").
- k) 4.13.9 Door hardware shall comply with this section. Hardware shall not require tight grasping, tight pinching, or twisting of the wrist to operate.
- l) 4.1.3(11) and 4.1.6(3)(e) ALL public and common use toilet rooms shall comply with requirements of this Section 4.22.
- m) 4.16.2 and 4.17.3 The centerline of accessible toilets shall be 18" from the nearest adjacent wall as shown in Figures 28, 29, and 30.
- n) 4.1.3(16)(a) Provide low level mounted exit signage in accordance with 4.30.1, 4.30.4, 4.30.5 and 4.30.6 (raised character, letter size, mounting) at all required exit doors to the exterior, exit stair doors and horizontal exit doors.
- o) 4.22.3 Provide clear floor space at fixtures and controls.
- p) 4.22.4 Accessible toilets shall comply with 4.16.
- q) 4.19 Lavatories shall comply with the following:

1. 4.19.2 Lavatories shall be mounted with a clearance of at least 29" from the floor to the bottom of the apron. Knee and toe clearances shall comply with Fig. 31.

2. 4.19.4 Hot water and drain pipes shall be insulated or covered.

3. 4.19.5 Faucets shall comply with 4.27.4.

4. 4.19.6 Mirrors shall be mounted with the bottom edge not more than 40" from the floor.

r) 4.16.4 Toilet room grab bars shall comply with 4.26 and Fig. 29. (Provide a 42" long grab bar adjacent to toilet and a 36" long grab bar behind toilet).

- 4. LRS 40:1711 Provide safety glazing in hazardous locations.
- 5. 101:7.2.1.5 Locks on doors in means of egress shall not require the use of a key, special device or special knowledge to open in the direction of egress.
- 6. Residential cooking equipment in the WARMING KITCHEN shall only be used for warming or limited cooking that produces no grease-laden vapors. Otherwise, cooking equipment shall be protected in accordance with NFPA 96. (See NFPA 96:1.1.4 and ANNEX statement A.1.1.4). (NOTE: Type "K" portable fire extinguishers shall NOT be installed in areas housing electrical cooking appliances, unless the appliance electrical system is shunted upon activation of an approved hood suppression system.)
- 7. LRS 40:1664.4 All work and inspections of life safety and property protection systems and equipment shall be performed by a contractor licensed with the appropriate endorsement by the Office of the State Fire Marshal.
- 8. Compliance with the 2008 NFPA 70, National Electrical Code (NEC), is mandated by RS 40:1730.28.A(7). Contact the local Building Official of the applicable local political subdivision or a Louisiana State Uniform Construction Code Council registered third-party provider to verify plan review and inspection requirements of the proposed electrical work.

9. **RS 23:536 Boilers, Pressure Vessels, and water heaters of 50 gallon capacity or larger and/or 100,000 BTU/HR heat input shall conform with the provisions of the Louisiana Boiler Inspection Law in accordance with adopted rules and regulations. (Contact our Boiler Section (800-256-5452) with any questions concerning this requirement.)**
10. **HVAC system shall be constructed in accordance with 101:9.2.**
 - a) **101:9.2.1 Install smoke detectors to automatically stop the fan in HVAC duct systems over 2000 cfm in accordance with NFPA 90A:6.4.2(1). Where fire alarm system is required, duct detectors shall be connected to building alarm system.**
11. **NOTE: Please ENCLOSE A COPY OF THIS LETTER WITH FUTURE SUBMITTALS OR OTHER CORRESPONDENCE pertaining to this project.**

Changes to construction in the field which are not consistent with the reviewed documents are not authorized unless reviewed by this office for compliance with Code. Modifications to reviewed plans must be submitted to this office by the Architect/Civil Engineer for review prior to final inspection. If an Architect or Civil Engineer is not required by RS 37:155, revisions shall be submitted by the Owner. Submittals shall include plans, completed application, a minimum \$55.00 review fee, and a copy of the most current plan review letter.

Compliance with code requirements for fire protection systems, such as Fire Alarm, Sprinkler and Suppression Systems, is determined by separate shop drawing submittal and is not included in this review. This review shall in no way permit and/or authorize any omissions or deviations from the specific requirements of the adopted codes, rules and regulations in accordance with R.S. 40:1574.1(B).

This review is valid for 180 days from the date of this letter. Construction permits must be issued and/or construction must commence within this time period.

This office requires certification of the completed project in accordance with the approved documents (certificate enclosed).

Occupancy of the project will not be permitted until we receive the completed certificate and a satisfactory inspection of the completed construction has been made by this office.

To arrange for inspection of the project, please contact the District Office at the phone number below two (2) to three (3) weeks in advance. The plans stamped reviewed by this office must be available on job site at time of inspection. Certificate of completion must be provided to the inspecting Deputy for final inspection.

Fire Department access and water supplies within the scope of work shall be acceptable to the local fire department. Submit to the State Fire Marshal inspector, a review letter from the local fire department, stating that the access and water supply as proposed are acceptable. In lieu of a review letter, where the local fire department does not provide a formal review, the local fire department may indicate review of the access and water supplies by stating such on the plans bearing the State Fire Marshal review stamp.

REVIEWED BY:
COREY THOMAS
PLAN REVIEW DEPUTY

CC:
Weller & Rees Llc
Division Of Permits & Inspections (Stam)*
New Orleans District* 5045688506



STATE OF LOUISIANA
 DEPARTMENT OF PUBLIC SAFETY AND CORRECTIONS
 OFFICE OF STATE FIRE MARSHAL



CERTIFICATE OF COMPLETION

DATE: _____

SFM PROJECT PO _____ SYSTEM TYPE _____ CONTRACTOR SIGNATURE _____

SFM PROJECT PO _____ SYSTEM TYPE _____ CONTRACTOR SIGNATURE _____

SFM PROJECT PO _____ SYSTEM TYPE _____ CONTRACTOR SIGNATURE _____

SFM PROJECT PO _____ SYSTEM TYPE _____ CONTRACTOR SIGNATURE _____

Please list all projects pertaining to the currently scheduled reviews of the building. System type refers to Architectural, Fire Alarm, Kitchen Hood/Wet Chemical Suppression, Fire Suppression, or Storage Tank.

To arrange for inspection of the project, please contact the district office two (2) to three (3) weeks in advance. To verify inspection district and phone number please refer to the "cc" list on the last page of the State Fire Marshal review letter. The plans stamped reviewed by this office must be available on job site at time of inspection. This Certificate Of Completion must be provided to the inspecting deputy at final inspection.

This is to certify the below project

PROJECT TITLE FROM APPLICATION		
PROJECT ADDRESS		
CITY	STATE	ZIP CODE

was periodically observed by me, by my consultants, and/or by others in my employ during construction and, to the best of my knowledge, information and belief, has been completed in accordance with the safety provisions which were shown in the plans and specifications previously reviewed by the Fire Marshal.

UNDER PENALTY OF LAW FOR FALSE STATEMENTS, I (NAME OF ARCHITECT/ENGINEER IF REQUIRED, OTHERWISE OWNER)

PRINT NAME _____ SIGNATURE _____

ARCHITECT/ CIVIL ENGINEER LICENSE NUMBER _____

CERTIFY ALL STATEMENTS CONTAINED HEREIN ARE, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, TRUE AND CORRECT.

LAC 55:V:307 OBSERVATION OF CONSTRUCTION

A. For a structure which by law may only be constructed with plans prepared and certified by a licensed architect or civil engineer, it shall be the duty of the owner of such a structure to provide for periodic observation of the construction of the structure to determine if the work is proceeding in accordance with the plans and specifications as approved by the fire marshal. The observations shall be performed by a registered architect or a registered civil engineer.

B. Upon completion of such work, where the law requires the owner to engage an architect or registered civil engineer, the owner shall furnish to the fire marshal a certificate signed by a registered architect or registered civil engineer stating that the periodic observations have been made and that to the best of the architect's or engineer's knowledge, information and belief, the work was completed in accordance with those fire safety standards and regulations stipulated in the plans and specifications previously approved by the fire marshal. When the owner has not engaged an architect or registered civil engineer, and the same is not required by law, the owner must submit the certificate of completion when appropriate, but always under his signature.

C. Occupancy of a structure, watercraft or movable prior to furnishing a certificate to the fire marshal as required under this regulation is expressly forbidden by the fire marshal, unless and until a satisfactory inspection has been made by the fire marshal or his certified representative.

D. In order to comply with the requirements of §307.B, the owner must submit to the fire marshal the following certificate completed by the architect, civil engineer, or, if neither is required by law, the owner.



Envelope Compliance Certificate

90.1 (2004) Standard

Section 1: Project Information

Project Type: **New Construction**
Project Title : Paul Rees Office Building

Construction Site:
2275 8th. Street
Mandeville, LA 70471

Owner/Agent:
Paul Damian Rees
Weiller & Rees, LLC
Attorneys-at-Law
7039 Highway 190 East Service Road,
Suite A
Covington,, LA 70433
985-674-1443
paulrees@taxplan.com

Designer/Contractor:
Emmett Dammon
Dammon Engineering
554 Old Spanish Trail
Slidell, LA 70458
985-649-5832

Section 2: General Information

Building Location (for weather data): **Mandeville, Louisiana**
Climate Zone: **2a**
Building Type for Envelope Requirements: **Non-Residential**
Vertical Glazing / Wall Area Pct.: **13%**

Building Type **Floor Area**
Office 2188

Section 3: Requirements Checklist

Envelope PASSES: Design 7% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor ^(a)
Floor 1: Slab-On-Grade:Unheated	2188	---	---	---	---
Roof 1: Attic Roof with Wood Joists	2188	30.0	25.0	0.018	0.034
Exterior Wall 1: Wood-Framed, 16" o.c.	366	19.0	14.0	0.033	0.089
Window 1: Metal Frame with Thermal Break:Double Pane, Tinted, Operable, SHGC 0.10	18	---	---	1.000	1.270
Window 2: Metal Frame with Thermal Break:Double Pane, Tinted, Operable, SHGC 0.10	18	---	---	1.000	1.270
Window 3: Metal Frame with Thermal Break:Double Pane, Tinted, Operable, SHGC 0.10	18	---	---	1.000	1.270
Door 1: Glass (> 50% glazing), Tinted, SHGC 0.10	27	---	---	1.000	1.220
Exterior Wall 2: Wood-Framed, 16" o.c.	28	19.0	14.0	0.033	0.089
Exterior Wall 3: Wood-Framed, 16" o.c.	72	19.0	14.0	0.033	0.089
Window 4: Metal Frame with Thermal Break:Double Pane, Tinted, Fixed, SHGC 0.10	4	---	---	1.000	1.220
Exterior Wall 4: Wood-Framed, 16" o.c.	367	19.0	14.0	0.033	0.089
Window 5: Metal Frame with Thermal Break:Double Pane, Tinted, Operable, SHGC 0.10	18	---	---	1.000	1.270
Window 6: Metal Frame with Thermal Break:Double Pane, Tinted, Operable, SHGC 0.10	15	---	---	1.000	1.270

Exterior Wall 5: Wood-Framed, 16" o.c.	511	19.0	14.0	0.033	0.089
Door 2: Insulated Metal, Swinging	27	---	---	1.000	0.700
Exterior Wall 6: Wood-Framed, 16" o.c.	367	19.0	14.0	0.033	0.089
Window 7: Metal Frame with Thermal Break:Double Pane, Tinted, Fixed, SHGC 0.10	19	---	---	1.000	1.220
Window 8: Metal Frame with Thermal Break:Double Pane, Tinted, Fixed, SHGC 0.10	19	---	---	1.000	1.220
Window 9: Metal Frame with Thermal Break:Double Pane, Tinted, Fixed, SHGC 0.10	19	---	---	1.000	1.220
Window 10: Metal Frame with Thermal Break:Double Pane, Tinted, Fixed, SHGC 0.10	19	---	---	1.000	1.220
Window 11: Metal Frame with Thermal Break:Double Pane, Tinted, Fixed, SHGC 0.10	4	---	---	1.000	1.220
Door 3: Glass (> 50% glazing), Tinted, SHGC 0.10	27	---	---	1.000	1.220
Exterior Wall 7: Wood-Framed, 16" o.c.	72	19.0	14.0	0.033	0.089
Window 12: Metal Frame with Thermal Break:Double Pane, Tinted, Fixed, SHGC 0.10	4	---	---	1.000	1.220
Exterior Wall 8: Wood-Framed, 16" o.c.	28	19.0	14.0	0.033	0.089

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Insulation:

- 1. Open-blown or poured loose-fill insulation has not been used in attic roof spaces with ceiling slope greater than 3 in 12.
- 2. Wherever vents occur, they are baffled to deflect incoming air above the insulation.
- 3. Recessed lights, equipment and ducts are not affecting insulation thickness.
- 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- 5. All exterior insulation is covered with protective material.
- 6. Cargo and loading dock doors are equipped with weather seals.

Fenestration and Doors:

- 7. Windows and skylights are labeled and certified by the manufacturer for U-factor and SHGC.
- 8. Fixed windows and skylights unlabeled by the manufacturer have been site labeled using the default U-factor and SHGC.
- 9. Other unlabeled vertical fenestration, operable and fixed, that are unlabeled by the manufacturer have been site labeled using the default U-factor and SHGC. No credit has been given for metal frames with thermal breaks, low-emissivity coatings, gas fillings, or insulating spacers.

Air Leakage and Component Certification:

- 10. All joints and penetrations are caulked, gasketed, weather-stripped, or otherwise sealed.
- 11. Windows, doors, and skylights certified as meeting leakage requirements.
- 12. Component R-values & U-factors labeled as certified.
- 13. 'Other' components have supporting documentation for proposed U-Factors.

Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 90.1 (2004) Standard requirements in COMcheck Version 3.8.1 and to comply with the mandatory requirements in the Requirements Checklist.

Earl D Ammon
Name - Title

Earl D Ammon
Signature

5-18-11
Date



Interior Lighting and Power Compliance Certificate

90.1 (2004) Standard

Section 1: Project Information

Project Type: **New Construction**
 Project Title : Paul Rees Office Building

Construction Site:
 2275 8th. Street
 Mandeville, LA 70471

Owner/Agent:
 Paul Damian Rees
 Weiller & Rees, LLC
 Attorneys-at-Law
 7039 Highway 190 East Service Road,
 Suite A
 Covington,, LA 70433
 985-674-1443
 paulrees@taxplan.com

Designer/Contractor:
 Emmett Dammon
 Dammon Engineering
 554 Old Spanish Trail
 Slidell, LA 70458
 985-649-5832

Section 2: Interior Lighting and Power Calculation

A	B Floor Area	C Allowed Watts / ft2	D Allowed Watts
Office	2188	1	2188
Total Allowed Watts =			2188

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Office (2188 sq.ft.) Compact Fluorescent 1: Triple 4-pin 32W / Magnetic	3	23	40	920
Total Proposed Watts =				920

Section 4: Requirements Checklist

Lighting Wattage:

1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
2188	920	YES

2. Exit signs 5 Watts or less per sign.

Controls, Switching, and Wiring:

3. Independent manual or occupancy sensing controls for each space (remote switch with indicator allowed for safety or security).
 4. Occupant sensing control in class rooms, conference/meeting rooms, and employee lunch and break rooms.

Exceptions:

- Spaces with multi-scene control; shop classrooms, laboratory classrooms, and preschool through 12th grade classrooms.
 5. Automatic shutoff control for lighting in >5000 sq.ft buildings by time-of-day device, occupant sensor, or other automatic control.

Exceptions:

- 24 hour operation lighting; patient care areas; where auto shutoff would endanger safety or security.

- 6. Master switch at entry to hotel/motel guest room.
- 7. Separate control device for display/accent lighting, case lighting, task lighting, nonvisual lighting, lighting for sale, and demonstration lighting.
- 8. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).

Exceptions:

- Electronic high-frequency ballasts.
- Luminaires not on same switch.
- Recessed luminaires 10 ft. apart or surface/pendant not continuous.
- Luminaires on emergency circuits.

Voltage Drop:

- 9. Feeder conductors have been designed for a maximum voltage drop of 2 percent.
- 10. Branch circuit conductors have been designed for a maximum voltage drop of 3 percent.

Interior Lighting PASSES: Design 58% better than code.

Section 5: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 90.1 (2004) Standard requirements in COMcheck Version 3.8.1 and to comply with the mandatory requirements in the Requirements Checklist.

<i>EMMETT DAMMON</i>		5-18-11
Name - Title	Signature	Date

Section 6: Post Construction Compliance Statement

Record Drawings and Operating and Maintenance Manuals:

- 1. Construction documents with record drawings and operating and maintenance manuals provided to the owner.

Lighting Designer or Contractor Name	Signature	Date



Exterior Lighting Compliance Certificate

90.1 (2004) Standard

Section 1: Project Information

Project Type: **New Construction**
 Project Title : Paul Rees Office Building

Construction Site:
 2275 8th. Street
 Mandeville, LA 70471

Owner/Agent:
 Paul Damian Rees
 Weiller & Rees, LLC
 Attorneys-at-Law
 7039 Highway 190 East Service Road,
 Suite A
 Covington,, LA 70433
 985-674-1443
 paulrees@taxplan.com

Designer/Contractor:
 Emmett Dammon
 Dammon Engineering
 554 Old Spanish Trail
 Slidell, LA 70458
 985-649-5832

Section 2: Exterior Lighting Area/Surface Power Calculation

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Parking area(s)	39299 ft2	0.15	Yes	5895	375
				Total Tradable Watts* =	5895
				Total Allowed Watts =	5895
				Total Allowed Supplemental Watts** =	295

* Wattage tradeoffs are only allowed between tradable areas/surfaces.

** A supplemental allowance equal to 5% of total allowed wattage may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)	
Parking area(s) (39299 ft2): Tradable Wattage Incandescent 1: Incandescent 100W	1	5	75	375	
				Total Tradable Proposed Watts =	375

Section 4: Requirements Checklist

Lighting Wattage:

1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts.

Compliance: Passes.

Controls, Switching, and Wiring:

2. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting.
3. All lighting fixtures are controlled by a photosensor or astronomical time switch that is capable of automatically turning off the fixture when sufficient daylight is available or the lighting is not required.

Exceptions:



COMcheck Software Version 3.8.1

Mechanical Compliance Certificate

90.1 (2004) Standard

Section 1: Project Information

Project Type: **New Construction**

Project Title : Paul Rees Office Building

Construction Site:

2275 8th. Street
Mandeville, LA 70471

Owner/Agent:

Paul Damian Rees
Weiller & Rees, LLC
Attorneys-at-Law
7039 Highway 190 East Service Road,
Suite A
Covington,, LA 70433
985-674-1443
paulrees@taxplan.com

Designer/Contractor:

Emmett Dammon
Dammon Engineering
554 Old Spanish Trail
Slidell, LA 70458
985-649-5832

Section 2: General Information

Building Location (for weather data):

Mandeville, Louisiana

Climate Zone:

2a

Section 3: Mechanical Systems List

Quantity **System Type & Description**

- 2 HVAC System 1 (Single Zone) :
Heating: 2 each - Central Furnace, Electric, Capacity = 33 kBtu/h
Cooling: 2 each - Split System, Capacity = 78 kBtu/h, Air-Cooled Condenser

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 1 :

- 1. Equipment minimum efficiency: Split System: 10.3 EER
- 2. Newly purchased equipment meets the efficiency requirements

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- 1. Load calculations per ASHRAE Fundamentals
- 2. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
 - Exception: Continuously operating zones
- 3. Hot water pipe insulation: 1 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in.
Chilled water/refrigerant/brine pipe insulation: 1 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in.
Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
 - Exception: Piping within HVAC equipment.
 - Exception: Fluid temperatures between 60 and 105°F.
 - Exception: Fluid not heated or cooled.
 - Exception: Runouts <4 ft in length.
 - Exception: Pipe unions in heating systems.
- 4. Thermostatic controls have 5°F deadband
 - Exception: Thermostats requiring manual changeover between heating and cooling
 - Exception: Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.

- 5. Where separate thermostats are used for heating and cooling, acceptable measures are used to prevent simultaneous heating and cooling
- 6. Stair and elevator shaft vents are equipped with motorized dampers
 - Exception: Ventilation systems serving unconditioned spaces.
 - Exception: Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade.
- 7. Acceptable measures used to prevent simultaneous humidification and dehumidification
 - Exception: Desiccant systems and systems for uses requiring specific humidity levels (approval required)
- 8. Automatic controls for freeze protection systems present
- 9. Automatic ventilation controls (e.g., CO2 controls) or exhaust air heat recovery present for high design occupancy areas (>100 person/1000 ft²) with >3,000 cfm outside air capacities
- 10. Duct, plenum, and piping insulation surfaces suitably protected from weather, moisture, or likely damage
- 11. Duct Sealing:
 - a) Pressure sensitive tape used as the primary sealant is certified to comply with UL-181A or UL-181B,
 - b) longitudinal and transverse seams for ducts in unconditioned spaces,
 - c) longitudinal and transverse seams and duct wall penetrations for ducts outside the building,
 - d) transverse seams on buried ducts
- 12. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
 - Exception: Gravity dampers acceptable in buildings <3 stories
 - Exception: Gravity dampers acceptable in systems with outside or exhaust air flow rates less than 300 cfm where dampers are interlocked with fan
- 13. R-6 for supply air ducts located outside the building, in ventilated attics and in unvented attic above insulated ceiling
 R-3.5 for supply air ducts in unvented attic with roof insulation, unconditioned and underground spaces
 R-3.5 for return air ducts located outside the building, in ventilated attics and in unvented attic above insulated ceiling
- 14. Humidistat controls prevent reheating, recooling, and mixing of mechanically heated air with mechanically cooled air
 - Exception: Capability to first reduce flow rate.
 - Exception: Cooling capacity <80 kBtu/h and capability to unload cooling equipment.
 - Exception: Cooling capacity <40 kBtu/h.
 - Exception: Rigid humidity requirements.
 - Exception: Site-recovered or site-solar energy sources or.
 - Exception: Use of a desiccant systems.
- 15. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted
 - Exception: Laboratory fume hood systems with a total exhaust rate of 15,000 cfm or less.
 - Exception: Systems serving spaces that are not cooled and heated to <60°F.
 - Exception: Systems with more than 60% of the outdoor heating energy is provided from site-recovered or site solar energy.
 - Exception: Cooling systems in climates with a 1% cooling design wet-bulb temperature less than 64°F.
- 16. Kitchen hoods >5,000 cfm provided with 50% makeup air that is uncooled and heated to no more than 60°F unless specifically exempted
 - Exception: Where hoods are used to exhaust ventilation air that would otherwise exfiltrate or be exhausted by other fan systems.
 - Exception: Certified grease extractor hoods that require a face velocity no >60 fpm.
- 17. Buildings with fume hood systems having an exhaust rate > 15,000 cfm has at least one of the following features:
 - a) VAV hood exhaust and room supply systems capable of reducing exhaust and makeup air volume to 50% or less of design values.
 - b) Direct makeup air supply equal to at least 75% of the exhaust rate, heated no warmer than 2°F below room setpoint, cooled to no cooler than 3°F above room setpoint, no humidification added, and no simultaneous heating and cooling used for dehumidification control.
 - c) Heat recovery systems to precondition makeup air from fume hood exhaust.

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2004) Standard requirements in COMcheck Version 3.8.1 and to comply with the mandatory requirements in the Requirements Checklist.

EMMETT DAMMON
Name - Title

[Signature]
Signature

5-18-11
Date

Section 6: Post Construction Compliance Statement

- HVAC record drawings of the actual installation and performance data for each equipment one provided to the owner within 90 days after system acceptance.

- HVAC O&M documents for all mechanical equipment and system provided to the owner within 90 days after system acceptance.
- Written HVAC balancing report provided to the owner.

The above post construction requirements have been completed.

Principal Mechanical Designer-Name

Signature

Date



Mechanical Requirements Description

90.1 (2004) Standard

The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate.

Requirements Specific To: HVAC System 1 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1-2004 Standard and must meet the following minimum efficiency: Split System: 10.3 EER
2. The specified equipment is covered by Federal minimum efficiency requirements. New equipment of this type can be assumed to meet or exceed ASHRAE 90.1-2004 Standard requirements for equipment efficiency.

Generic Requirements: Must be met by all systems to which the requirement is applicable:

1. Design heating and cooling loads for the building must be determined using procedures in the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
2. The system or zone control must be a programmable thermostat or other automatic control meeting the following criteria:
 - a) capable of setting back temperature to 55°F during heating and setting up to 85°F during cooling,
 - b) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedules,
 - c) have an accessible 2-hour occupant override,
 - d) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.
 - Exception: A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
3. All pipes serving space-conditioning systems must be insulated as follows:
 - Hot water piping for heating systems:
 - 1 in. for pipes \leq 1 1/2-in. nominal diameter,
 - 2 in. for pipes $>$ 1 1/2-in. nominal diameter.
 - Chilled water, refrigerant, and brine piping systems:
 - 1 in. insulation for pipes \leq 1 1/2-in. nominal diameter,
 - 1 1/2 in. insulation for pipes $>$ 1 1/2-in. nominal diameter.
 - Steam piping:
 - 1 1/2 in. insulation for pipes \leq 1 1/2-in. nominal diameter,
 - 3 in. insulation for pipes $>$ 1 1/2-in. nominal diameter.
 - Exception: Factory-installed piping within HVAC equipment.
 - Exception: Piping that conveys fluids having a design operating temperature range between 60°F and 105°F.
 - Exception: Piping that conveys fluids that have not been heated or cooled through the use of nonrenewable energy.
 - Exception: Runout piping not exceeding 4 ft in length between shutoff valve and coil and 1 in. in diameter between the control valve and HVAC coil.
 - Exception: Pipe unions in heating systems.
4. Thermostats controlling both heating and cooling must be capable of maintaining a 5°F deadband (a range of temperature where no heating or cooling is provided).
 - Exception: Deadband capability is not required if the thermostat does not have automatic changeover capability between heating and cooling.
 - Exception: Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
5. Where zone heating and cooling are controlled by separate zone thermostats, means (such as limit switches, mechanical stops, or, for DDC systems, software programming) must be provided to prevent simultaneous heating and cooling to the zone.
6. Stair and elevator shaft vents must be equipped with motorized dampers capable of being automatically closed during normal building operation and interlocked to open as required by fire and smoke detection systems. All gravity outdoor air supply and exhaust hoods, vents, and ventilators must be equipped with motorized dampers that will automatically shut when the spaces served are not in use.
 - Exception: Ventilation systems serving unconditioned spaces.
 - Exception: Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height above grade.
7. Where a zone is served by a system(s) with both humidification and dehumidification capability, means (such as limit switches, mechanical stops, or software programming) must be provided to prevent simultaneous operation of humidification and dehumidification equipment.

- Exception: Zones served by desiccant systems, used with direct evaporative cooling in series; Systems serving zones where specific humidity levels are required.
8. All freeze protection systems, including self-regulating heat tracing, must include automatic controls capable of shutting off the systems when outside air temperatures are above 40°F or when the conditions of the protected fluid will prevent freezing. Snow- and ice-melting systems must include automatic controls capable of shutting off the systems when the pavement temperature is above 50°F and no precipitation is falling, and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F.
 9. Systems with design outside air capacities >3,000 cfm serving areas having an average design occupancy density exceeding 100 people per 1000 ft2 must include means to automatically reduce outside air intake below design rates when spaces are partially occupied. Ventilation controls must be in compliance with ASHRAE Standard 62 and local standards.
 10. Duct and pipe insulation exposed to weather must be suitable for outdoor service; e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation that can cause degradation of the material. Insulation covering chilled water piping, refrigerant suction piping, or cooling ducts located outside the conditioned space must include a vapor retardant located outside the insulation (unless the insulation is inherently vapor retardant), all penetrations and joints of which must be sealed.
 11. Duct Sealing Requirements:
 - a) Pressure sensitive tape used as the primary sealant is certified to comply with UL-181A or UL-181B,
 - b) Longitudinal and transverse seams for ducts in unconditioned spaces,
 - c) Longitudinal and transverse seams and duct wall penetrations for ducts outside the building,
 - d) Transverse seams on buried ducts
 12. Outdoor air supply and exhaust systems must have motorized dampers that automatically shut when the systems or spaces served are not in use. Dampers must be capable of automatically shutting off during preoccupancy building warm-up, cool-down, and setback, except when ventilation reduces energy costs (e.g., night purge) or when ventilation must be supplied to meet code requirements. Both outdoor air supply and exhaust air dampers must have a maximum leakage rate of 4 cfm/ft2 at 1.0 in. w.g. when tested in accordance with AMCA Standard 500.
 - Exception: Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height.
 - Exception: Systems with a design outside air intake or exhaust capacity of 300 cfm (140 L/s) or less.
 13. All supply and return ducts and plenum installed as part of an HVAC air distribution system must be thermally insulated:
 - R-6 for supply air ducts located outside the building, in ventilated attics and in unvented attic above insulated ceiling,
 - R-3.5 for supply air duct insulation in unvented attic with roof insulation, unconditioned and underground spaces,
 - R-3.5 for return air ducts located outside the building, in ventilated attics and in unvented attic above insulated ceiling.
 14. Where humidistatic controls are provided, such controls must prevent reheating, mixing of hot and cold air streams, or other means of simultaneous heating and cooling of the same air stream.
 - Exception: Capability to first reduce flow rate.
 - Exception: Cooling capacity <80 kBtu/h and capability to unload cooling equipment.
 - Exception: Cooling capacity <40 kBtu/h.
 - Exception: Rigid humidity requirements.
 - Exception: Site-recovered or site-solar energy sources or.
 - Exception: Use of a desiccant systems.
 15. Individual fan systems with a design supply air capacity of 5000 cfm or greater and minimum outside air supply of 70% or greater of the supply air capacity must have an energy recovery system with at least a 50% effectiveness. If an air economizer is also required, heat recovery must be bypassed or controlled to permit air economizer operation.
 - Exception: Laboratory fume hood systems with a total exhaust rate of 15,000 cfm or less.
 - Exception: Systems serving spaces that are not cooled and heated to <60°F.
 - Exception: Systems with more than 60% of the outdoor heating energy is provided from site-recovered or site solar energy.
 - Exception: Cooling systems in climates with a 1% cooling design wet-bulb temperature less than 64°F.
 16. Individual kitchen exhaust hoods larger than 5000 cfm must be provided with make-up air sized for at least 50% of exhaust air volume that is uncooled and either unheated or heated to no more than 60°F
 - Exception: Where hoods are used to exhaust ventilation air that would otherwise exfiltrate or be exhausted by other fan systems.
 - Exception: Certified grease extractor hoods that require a face velocity no >60 fpm.
 17. Buildings with fume hood systems having an exhaust rate > 15,000 cfm has at least one of the following features:
 - a) VAV hood exhaust and room supply systems capable of reducing exhaust and makeup air volume to 50% or less of design values.
 - b) Direct makeup (auxiliary) air supply equal to at least 75% of the exhaust rate, heated no warmer than 2°F below room setpoint, cooled to no cooler than 3°F above room setpoint, no humidification added, and no simultaneous heating and cooling used for dehumidification control.
 - c) Heat recovery systems to precondition makeup air from fume hood exhaust in accordance with Section 6.5.6.1, Exhaust Air Energy Recovery, without using any exception.