NOTICE OF MEETING
CITY OF SOUTH PADRE ISLAND
BOARD OF ADJUSTMENTS & APPEALS (BUILDING)

NOTE: ***One or more members of the City of South Padre Island City Council may attend this meeting; if so, this statement satisfies the requirements of the OPEN MEETINGS ACT.***

NOTICE IS HEREBY GIVEN THAT THE BOARD OF ADJUSTMENTS & APPEALS (BUILDING) OF THE CITY OF SOUTH PADRE ISLAND, TEXAS, WILL HOLD A REGULAR MEETING ON:

TUESDAY, MARCH 7, 2017
9:00 A.M. AT THE MUNICIPAL BUILDING,
CITY COUNCIL CHAMBERS, 2ND FLOOR
4601 PADRE BOULEVARD, SOUTH PADRE ISLAND, TEXAS

1. Call to Order.

2. Pledge of Allegiance.

3. Election of Chairman and Vice Chairman for the Board of Adjustments & Appeals (Zoning and Building)

4. Public Comments and Announcements: *This is an opportunity for citizens to speak to the Board relating to agenda or non-agenda items.* ***Speakers are required to address the Board at the podium and give their name before addressing their concerns.*** *[Note: State law will not permit the Board of Adjustments & Appeals (Building) to discuss, debate or consider items that are not on the agenda. Citizen Comments may be referred to City Staff or may be placed on the agenda of a future Board of Adjustments & Appeals (Building) meeting]*

5. Approval of Minutes of the November 4, 2015 Regular Meeting.

6. Discussion and action regarding a request by Brice Wernecke of Alamo System, LLC, representing Barry Patel, for a variance from the 2015 International Energy Conservation Code Section C403.3.1, Integrated Economizer Control. Applicant is requesting to utilize the proposed energy management system for the vertical terminal air conditioner (VTAC) units in lieu of economizers located at the guest rooms at the Courtyard by Marriott project located at 6700 Padre Boulevard. *(Lot 16, Padre Beach Estates)*

7. Discussion and action regarding a request by Phillip Hayes, owner of 112 East Palm, for a variance from Section 4-27, Standards for Construction (A) from the City of South Padre Island Code of Ordinance, and the addition of a swimming pool slide. Applicant is requesting to add a third story to the existing single family home at 112 East Palm, without the installation of additional pilings as required by local code. *(112 East Palm; Lot 12 Block 5 Padre Beach Subdivision)*

8. Adjourn

DATED THIS THE 3RD DAY OF MARCH 2017

Susan Hill, City Secretary

I, THE UNDERSIGNED AUTHORITY, DO HEREBY CERTIFY THAT THE ABOVE NOTICE OF REGULAR MEETING OF THE BOARD OF ADJUSTMENTS & APPEALS (BUILDING) OF THE CITY OF SOUTH PADRE ISLAND, TEXAS IS A TRUE AND CORRECT COPY OF SAID NOTICE AND THAT I POSTED A TRUE AND CORRECT COPY OF SAID NOTICE ON THE BULLETIN BOARD AT CITY HALL/MUNICIPAL BUILDING ON **MARCH 3, 2017** AT/OR BEFORE **3:00 PM** AND REMAINED SO POSTED CONTINUOUSLY FOR AT LEAST 72 HOURS PRECEDING THE SCHEDULED TIME OF SAID MEETING.

Susan Hill, City Secretary

THIS FACILITY IS WHEELCHAIR ACCESSIBLE, AND ACCESSIBLE PARKING SPACES ARE AVAILABLE. REQUESTS FOR ACCOMMODATIONS OR INTERPRETIVE SERVICES MUST BE MADE 48 HOURS PRIOR TO THIS MEETING. PLEASE CONTACT BUILDING OFFICIAL DAVID TRAVIS; ADA DESIGNATED RESPONSIBLE PARTY AT (956) 761-8103.

CITY OF SOUTH PADRE ISLAND

MINUTES
CITY OF SOUTH PADRE ISLAND
BOARD OF ADJUSTMENTS & APPEALS (BUILDING)

TUESDAY, NOVEMBER 4, 2015

I. CALL TO ORDER

The Board of Adjustments & Appeals (Building) of the City of South Padre Island, Texas held a Meeting on Tuesday, November 4, 2015 at the Municipal Complex Building, 2nd Floor, 4601 Padre Boulevard, South Padre Island, Texas. Chairman Paul Fedigan called the meeting to order at 9:00 a.m. A quorum was present: Board Member Jerry Pace, Chris Huffman, and Carol Bolstad. Member absent was Art Teniente.

City staff members present were City Manager Bill DiLibero, Building Inspector David Travis, Building Official Jay Mitchim, and Administrative Assistant Marta Martinez.

II. PLEDGE OF ALLEGIANCE

Chairman Fedigan led the Pledge of Allegiance.

III. PUBLIC COMMENTS AND ANNOUNCEMENTS

None.

IV. APPROVAL OF MINUTES OF THE MAY 5, 2015 REGULAR MEETING.

Mr. Fedigan announced the item and asked the Board Members if they had any corrections to the May 5, 2015 regular meeting minutes. Mr. Pace made a motion, seconded by Ms. Bolstad to approve as submitted. Motion carried unanimously.

V. DISCUSSION AND ACTION REGARDING A REQUEST BY MIGUEL TORRES FOR A VARIANCE FROM THE 2012 INTERNATIONAL MECHANICAL CODE. APPLICANT DOES NOT WANT TO PROVIDE MAKE-UP AIR AS REQUIRED BY CODE FOR THE PENINSULA ISLAND RESORT AND SPA BUILDING "B". *(LOT 1 BLOCK 1 PADRE PARTNERS SUBDIVISION; 340 PADRE BOULEVARD)*

Mr. Fedigan announced the item and asked for a staff report. Mr. Kim gave a brief summary regarding this agenda item. Mr. Fedigan then asked if a representative was present Charlie Abrego with Royal Refrigeration is requesting not to provide make-up air for the Peninsula Island Resort and Spa Building "B". Mr. Fedigan then asked the Board for their comments/concerns regarding this matter. After some discussion Mr. Pace made a motion, seconded by Ms. Bolstad to approve the variance. Motion carried unanimously.

VI. ADJOURN

There being no further business, Mr. Pace made a motion, Seconded by Ms. Bolstad to adjourn the meeting at 9:28 a.m.

Marta Martinez, Secretary

Paul Fedigan, Chairman

BOARD OF ADJUSTMENTS AND APPEALS (BUILDING)
AGENDA REQUEST FORM

MEETING DATE: March 7, 2017 **ITEM:** 6

SPONSOR / ORIGINATOR: Brice Wernecke, Representative

ITEM DESCRIPTION:

Discussion and action regarding a request by Brice Wernecke of Alamo System, LLC, representing Barry Patel, for a variance from the 2015 International Energy Conservation Code Section C403.3.1, Integrated Economizer Control. Applicant is requesting to utilize the proposed energy management system for the vertical terminal air conditioner (VTAC) units in lieu of economizers located at the guest rooms at the Courtyard by Marriott project located at 6700 Padre Boulevard. *(Lot 16, Padre Beach Estates)*

DISCUSSION:

Brice Wernecke, representative for Barry Patel, is requesting a variance to utilize the proposed energy management system for the vertical terminal air conditioner (VTAC) units in lieu of economizers located at the guest rooms.

2015 International Energy Conservation Code Section C403.3.1, Integrated Economizer Control. "Economizer systems shall be integrated with the mechanical cooling system and be capable of providing partial cooling even where additional mechanical cooling is required to provide the remainder of the cooling load. Controls shall not be capable of creating a false load in the mechanical cooling systems by limiting or disabling the economizer or any other means, such as hot gas bypass, except at the lowest stage of mechanical cooling."

STAFF RECOMMENDATIONS/COMMENTS:

In evaluating a Building Code Variance, the finding of a "hardship" is not required as with zoning variances. The standard adopted by the Building Board of Adjustment has been if the proposed alternative provides an "equal or better" protection than the normal code requirement.

BOARD ACTION:

MOTION: _____

BY: _____ **SECOND BY:** _____

Bolstad	Fedigan	Huffman	Pace	Teniente		
Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	No	No	No	No	No	No
Abstain	Abstain	Abstain	Abstain	Abstain	Abstain	Abstain

densation in the refrigerated cases. The extra energy expended condensing and defrosting cases can exceed the economizer savings. So Exception 6 exempts systems that serve supermarkets with open refrigerated cases.

Minimum mechanical cooling system efficiencies are set in the tables in Section C403.2.3 for various equipment types. If the system efficiency is improved to the extent in Table C403.3(2) for the listed climate zones, then an economizer is not required. If a system requires 13 SEER minimum efficiency with an economizer, the economizer is exempted in Climate Zone 4 where the system is 20 percent better than code minimum. A SEER 15.6 or higher unit can be provided without an economizer.

Where a chilled-water system either does not utilize a fan for cooling (e.g., radiant system) or uses induction air (e.g., active chilled beams), the system is not required to have an economizer (water or air) if the total system capacity is less than that listed in Table C403.3(1). The table has values based both on climate zone and whether the system is air cooled or water/evaporatively cooled.

Where the cooling equipment exceeds the efficiency requirement of Table C403.2.3(1) or C403.2.3(2) by the percentage shown in Table C403.3(2), economizer controls are not required. The economizer trade-off stems from the development of the economizer trade-off tables from prior editions of ANSI/ASHRAE/IESNA 90.1 and remain unchanged. Results were based on simulations of energy cost savings for economizers in 16 different locations in the United States.

TABLE C403.3(2)
EQUIPMENT EFFICIENCY PERFORMANCE EXCEPTION FOR ECONOMIZERS

CLIMATE ZONES	COOLING EQUIPMENT PERFORMANCE IMPROVEMENT (EER OR IPLV)
2B	10% efficiency improvement
3B	15% efficiency improvement
4B	20% efficiency improvement

❖ A simple performance path for compliance appears in the economizer trade-off Table C403.3(2) and is applied under Exception 7. Economizers provide a way to improve system efficiency by using outdoor air for building cooling when appropriate. Their use is required in specific climates and where systems greater than a specified cooling capacity are used. However, although the cost for a building economizer for a given system size is essentially fixed for all regions of the country, the efficiency benefits vary significantly. Therefore, the cost effectiveness of the economizer will vary across the country. The economizer trade-off allows building HVAC designers to trade off the use of a required economizer in exchange for the installation of higher-efficiency air-conditioning equipment. This table shows the cooling efficiency required for an air conditioner or heat pump when the design forgoes the installation of an air-side economizer in a climate where the code requires one. The cooling efficiencies shown in the economizer trade-off table result in a level of energy efficiency that is somewhat greater than that from using minimum-efficiency-level cooling equipment as defined by EPAct or NAECA (Public Law 100-12) in conjunction with an air-side economizer in the climate zones identified.

C403.3.1 Integrated economizer control. Economizer systems shall be integrated with the mechanical cooling system and be capable of providing partial cooling even where additional mechanical cooling is required to provide the remainder of the cooling load. Controls shall not be capable of creating a false load in the mechanical cooling systems by limiting or disabling the economizer or any other means, such as hot gas bypass, except at the lowest stage of mechanical cooling.

Units that include an air economizer shall comply with the following:

1. Unit controls shall have the mechanical cooling capacity control interlocked with the air economizer controls such that the outdoor air damper is at the 100-percent open position when mechanical cooling is on and the outdoor air damper does not begin to close to prevent coil freezing due to minimum compressor run time until the leaving air temperature is less than 45°F (7°C).
2. Direct expansion (DX) units that control 75,000 Btu/h (22 kW) or greater of rated capacity of the capacity of the mechanical cooling directly based on occupied space temperature shall have not fewer than two stages of mechanical cooling capacity
3. Other DX units, including those that control space temperature by modulating the airflow to the space, shall be in accordance with Table C403.3.1.

❖ To meet the code, economizers must be able to supply not greater than 100 percent of the design supply air as outside air. The code also requires that economizers be integrated. Integrated economizers can reduce the cooling load with the remainder of the load being met by mechanical cooling. Economizers that cannot operate simultaneously with the mechanical cooling system are called "nonintegrated" economizers. Integration can greatly extend economizer operation in mild climates, which reduces the cooling energy cost. Examples of nonintegrated water economizers are shown in Commentary Figure C403.3.1(2). Those shown in Commentary Figures C403.3.1(3) and C403.3.1(4) are integrated economizers because the economizer and mechanical cooling may operate concurrently.

A nonintegrated air economizer will be able to reduce cooling energy when outside air temperatures are between 55°F (13°C) and 60°F (15°C), depending on the required supply air temperatures. Above those temperatures, mechanical cooling is required, so the economizer is shut off. If the economizer were integrated, it could continue to operate, reducing

mechanical cooling energy usage even though it cannot provide the entire cooling load until the high-limit setpoint is reached, around 65°F (18°C) to 75°F (24°C), depending on the climate. In some climates, there are hundreds or even thousands of operating hours when the outside air temperature is in that range. Factory-supplied or factory-installed economizers supplied by equipment manufacturers include integrated controls that also prevent ice formation when outside temperatures are near 50°F (10°C); however, because integrated economizer control strategies that also prevent ice formation are the most commonly available for packaged air-conditioning systems, they are assumed as standard by the code. The controls are wired so the compressor cannot operate until the economizer has been locked out by its high-limit switch, or the economizer is interlocked to shut off when the compressor comes on.

C403.3.2 Economizer heating system impact. HVAC system design and economizer controls shall be such that economizer operation does not increase building heating energy use during normal operation.

Exception: Economizers on variable air volume (VAV) systems that cause *zone* level heating to increase due to a reduction in supply air temperature.

❖ This section is an obvious energy-saving measure. When the outdoor conditions are colder than necessary for building loads, air- or water-side economizing may provide air or water to the building that is colder than necessary. This section requires that the economizer have system controls and capacity to prevent overcooling that triggers activation of heating systems for zones that would need heating.

Variable air volume systems are exempted when *zone*-level heating is activated due to a reduction in supply-air temperature. Heating at the system-wide supply-air-handling system is not exempted. The economizer shall not trigger heating at the air handling unit; the outside air intake must be at the minimum ventilation setting (see Section C403.4.4).

C403.3.3 Air economizers. Air economizers shall comply with Sections C403.3.3.1 through C403.3.3.5.

❖ Air economizers provide free cooling when the outdoor air temperature is cooler than the return air temperature. Through a combination of return, exhaust, outdoor air, and/or mixing dampers, the system exhausts the warmer return air and uses the cooler outdoor air to satisfy some or all of the system cooling needs. An example of air economizer operation is in Commentary Figure 403.3.3(1). This section determines the requirements for economizers using air for the free cooling.

C403.3.3.1 Design capacity. Air economizer systems shall be capable of modulating *outdoor air* and return air dampers to provide up to 100 percent of the design supply air quantity as *outdoor air* for cooling.

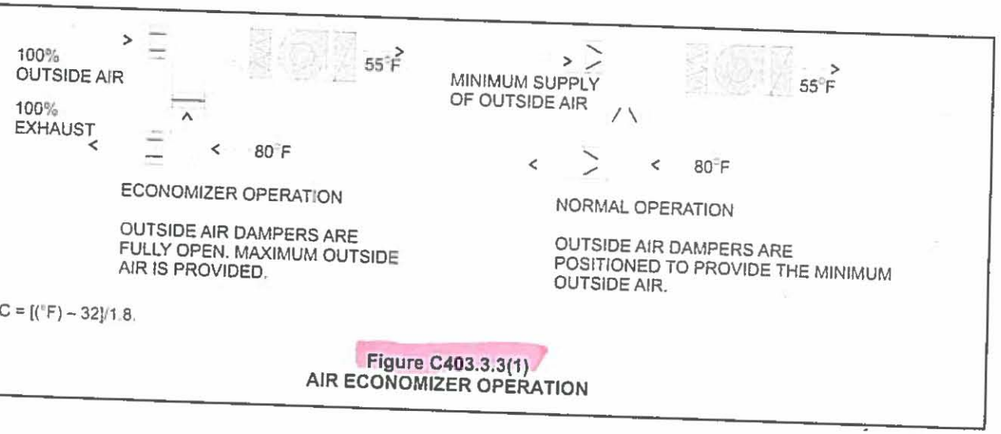
❖ This section requires air economizer systems to provide up to 100 percent of the design supply air quantity as outdoor air for cooling. This allows the HVAC system design to be optimized; during cool weather, when the economizer is in operation, the system will be at peak load.

TABLE C403.3.1
DX COOLING STAGE REQUIREMENTS FOR MODULATING AIRFLOW UNITS

RATING CAPACITY	MINIMUM NUMBER OF MECHANICAL COOLING STAGES	MINIMUM COMPRESSOR DISPLACEMENT[a]
≥ 65,000 Btu/h and < 240,000 Btu/h	3 stages	≤ 35% of full load
≥ 240,000 Btu/h	4 stages	≤ 25% full load

For SI: 1 British thermal unit per hour = 0.2931 W.

a. For *mechanical cooling* stage control that does not use variable compressor displacement, the percent displacement shall be equivalent to the mechanical cooling capacity reduction evaluated at the full load rating conditions for the compressor.



For SI: °C = [(°F) – 32]/1.8.

Figure C403.3.3(1)
AIR ECONOMIZER OPERATION

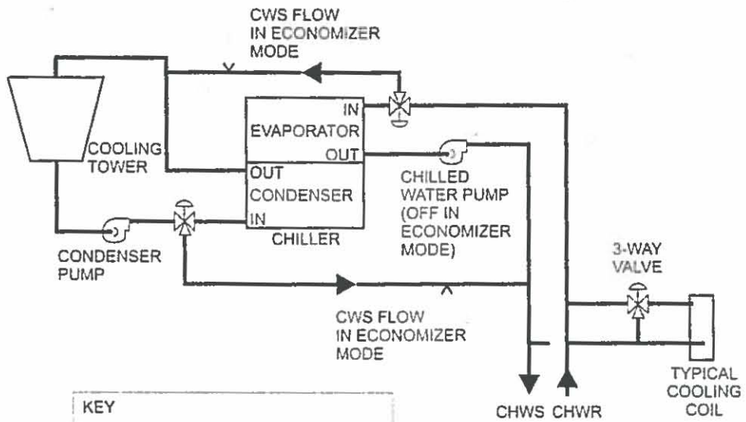


Figure C403.3.1(2)
"STRAINER-CYCLE" WATER ECONOMIZER
(Courtesy of U.S. Department of Energy, Office of Building Technology State and Community Programs, www.energycodes.gov)

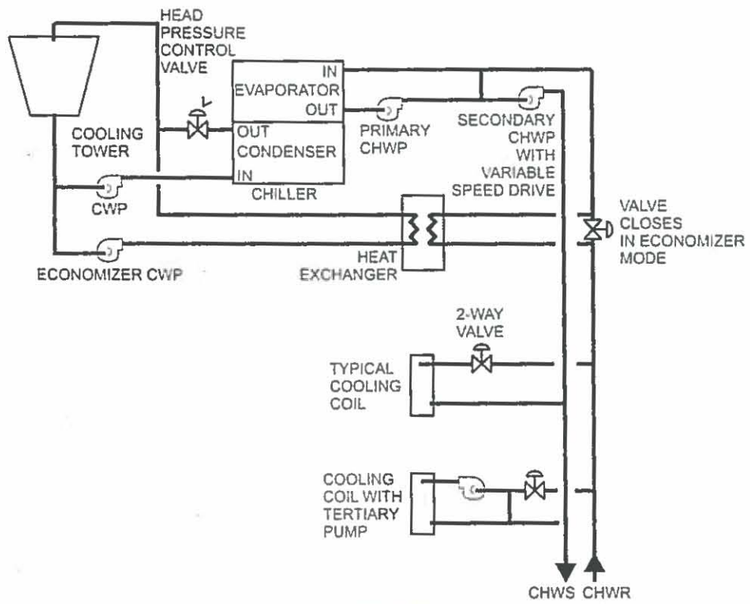


Figure C403.3.1(3)
WATER PRECOOLING ECONOMIZER WITH TWO-WAY VALVES
(Courtesy of U.S. Department of Energy, Office of Building Technology State and Community Programs, www.energycodes.gov)

C403.3.3.2 Control signal. Economizer dampers shall be capable of being sequenced with the mechanical cooling equipment and shall not be controlled by only mixed-air temperature.

Exception: The use of mixed-air temperature limit control shall be permitted for systems controlled from space temperature (such as single-*zone* systems).

❖ This section requires economizer dampers to be sequenced with the mechanical cooling equipment. They are not to be controlled only by mixed air temperature, unless the system controlled is from a single-zone system. It is common for outside air dampers to be specified as low leakage dampers (those with blade and jamb seals). For an economizer, leakage through the return damper can be more important because any leakage of return air when the system is in the 100-percent outside air mode [when outside air temperatures are between about 55°F (12.7°C) until the high-limit setpoint is reached, which can be a majority of the economizer operating hours] will increase supply-air temperatures and force the mechanical cooling system to operate at colder outside air temperatures and increase the cooling load once the mechanical cooling is on. Both dampers should be the low-leakage type.

C403.3.3.3 High-limit shutoff. Air economizers shall be capable of automatically reducing *outdoor air* intake to the design minimum *outdoor air* quantity when *outdoor air* intake will no longer reduce cooling energy usage. High-limit shutoff control types for specific climates shall be chosen from Table C403.3.3.3. High-limit shutoff control settings for these control types shall be those specified in Table C403.3.3.3.

❖ This section requires the air economizers to be capable of automatically reducing outdoor air intake to the design minimum outdoor air quantity when outdoor air intake will no longer reduce cooling energy usage. Otherwise this would increase cooling energy by increasing the latent load. Common enthalpy controllers include a high-limit switch, which enables the economizer to operate when outside air enthalpy is

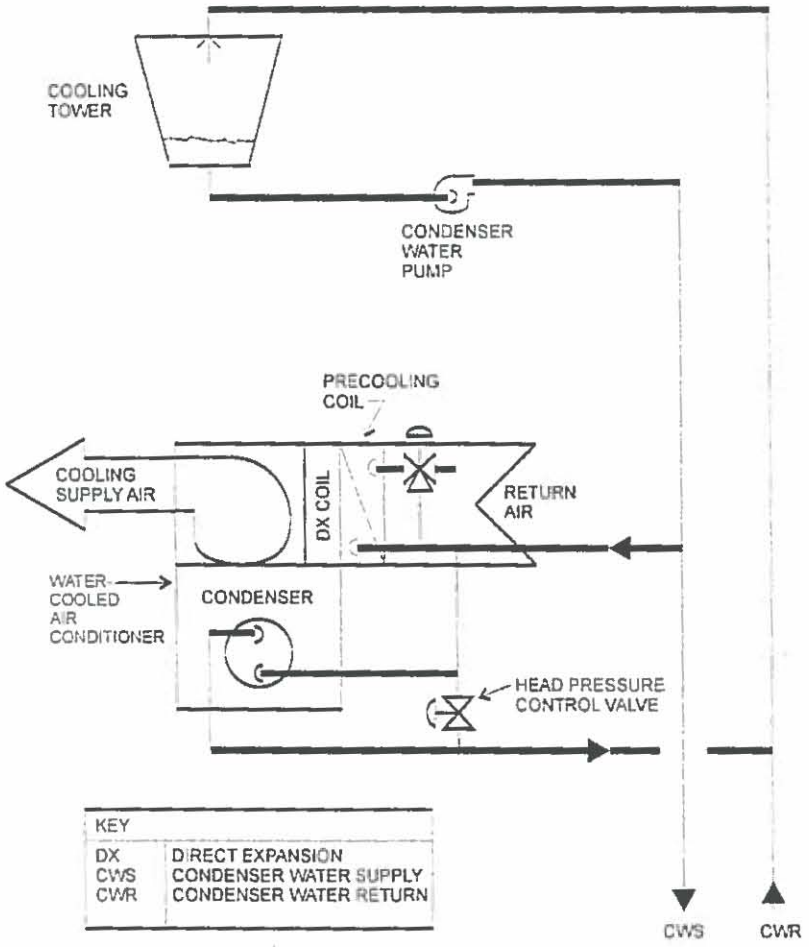


Figure C403.3.1(4)
AIR PRECOOLING WATER ECONOMIZER
(Courtesy of U.S. Department of Energy, Office of Building Technology State and Community Programs, www.energycodes.gov)

SPI TRANSIT & DEVELOPMENT DEPARTMENT

BOARD OF ADJUSTMENT & APPEALS APPLICATION

APPLICANT INFORMATION

Name ASICYSPI, LLC

Mailing Address 3405 S. Jackson Rd.

City, State, Zip Pharr, TX 78577

Phone number (956)-702-4111

Fax number (956)-702-4119

E-mail Address brandonw@alamosystemllc.com

OWNER INFORMATION

Name Barry Patel

Mailing address 7010 Padre Blvd

City, State, Zip South Padre Island, TX 78597

Phone number (956)-373-2377

Fax number (210)-568-4403

E-mail Address lacopainn@gmail.com

SITE LOCATION FOR REQUEST:

Physical Address (Street Name & Number): 6700 Padre Blvd South Padre Island, TX 78597.

Legal Description (Lot / Block / Subdivision): _____.

I hereby request the following from the Board of Adjustment and Appeals: We propose an energy management system for the VTAC units in lieu of economizers located at guestrooms.

In addition, the application requires the submission of the following:

- ◊ $250 application fee per variance or special exception request.
- ◊ Stamped/Sealed & dated survey of Improvements of the Subject Property.
- ◊ Copy of Floor Plan of structure proposed to be constructed or expanded.
- ◊ Current/recent photographs of the site.
- ◊ And any additional information to more clearly understand the request.

For Internal use only:

Amount Paid: _____

Paid Cash or Check No. _____

Date Received:

Note: Applicants are required to fully disclose in the application all information that is necessary for the various bodies to make their determination prior to issuance of any permit. At a minimum, an application for a variance or Special Exception shall contain ten (10) copies of the information outlined above. All information must be submitted no later than twenty (20) days prior to the meeting date. All fees must be paid prior to the Board reviewing the application.

If Staff determines that the application is incorrect, incomplete, illegible, or in any way inadequate to insure the complete understanding of the variance or special exception, staff shall return the application to the applicant.

Applicant's Name (Please Print) Brice Wernecke

Applicant's Signature: Brice Wernecke

Date: 2/14/2017

Owner's Name (Please Print): Barry Patel

Owner's Signature: Barry N. Patel

Date: 2/14/2017

INSTRUCTIONS FOR COMPLETING THE REQUEST FOR ZONING VARIANCE TO THE TOWN OF SOUTH PADRE ISLAND BOARD OF ADJUSTMENT

Thank you for your inquiry into the Town of South Padre Island Board of Adjustment process. This coversheet is designed to provide you with general information about completing the attached application and should not be considered legal advice. If you have any questions, or do not understand these instructions, you are advised to seek help from a qualified attorney or land use planning expert.

Section 211.009 of the Local Government Code outlines the conditions that must exist in order for a variance to be granted. The conditions are as follows:

1. The granting of this variance will not be contrary to the public interest.

    - "Condition 1" requires that in order for the variance to be granted, it may not be against the public interest. "Public Interest" for zoning variances is defined as the well-being of the general public, with specific attention on those members of the public that could be directly affected by the proposed variance.

2. The literal enforcement of the ordinance will result in unnecessary hardship.

    - "Condition 2" requires that the enforcement of a zoning regulation causes an "unnecessary hardship." The hardship must be **caused by the property itself**, for reasons such as narrowness, shallowness, shape, topography or other physical conditions related to the property. The hardship must not be caused by the applicant; cannot be personal in nature; cannot be financial only, and must relate to the very property which variance is sought. It must be a unique condition, oppressive, and not common to other property.

3. By granting the variance, the spirit of the ordinance will be observed and substantial justice will be done.

    - "Condition 3" requires that if the Board of Adjustment grants the variance as requested, it will not grant a privilege in conflict with other provisions of the ordinance.

All three conditions are required to be met in order for the Board of Adjustment to grant your variance. The burden of proving that these three conditions apply to the subject property is the sole responsibility of the applicant. At the Board of Adjustment hearing, you will be expected to submit evidence providing that the above stated conditions exist. Evidence can be presented by testimony and/or through documents. (Be advised that all documents submitted during the public hearing must be retained by City Staff for the official case file.)

Failure to state how your variance request meets these conditions in your application will result in your application being deemed incomplete and will necessitate its return without being submitted to the Board of Adjustment.

An application can only be accepted by mail if it is complete. However, incomplete applications, along with the required fees, will be mailed back to the applicant in accordance with City cash handling policies.

INTERNATIONAL CODE COUNCIL®

International Code Council
Eastern Regional Office
900 Montclair Road
Birmingham, AL 35213
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f: 205.591.0775
www.iccsafe.org

February 3, 2017

Mr. David Travis, Building Official
City of South Padre Island Building Inspection
4601 Padre Boulevard
South Padre Island, Texas 78597

Dear Mr. Travis,

The Architectural & Engineering Services Department of the Eastern Regional Office of the International Code Council (ICC) has completed the SECOND Additional Services review of the **Courtyard by Marriott** project (ICC Plan Review #11897), as you requested; the project is located in South Padre Island, Texas, which is hereafter referred to in this report as the jurisdiction. The construction documents received for review included the revised drawings pertaining to the outstanding issues. The Design Team Response Letter was dated January 20, 2017, and was in response to the ICC Additional Services Review Report dated January 19, 2017.

The Design Team Response Letter to the ICC Plan Re-Review Report referenced above yielded unresolved comments, as detailed within this Additional Services review; as a result, ICC does not recommend that a building permit be issued for this project until the noted code deficiencies are sufficiently addressed and resolved.

This review is not to be construed as a check of every item in the construction documents, and does not prevent the jurisdiction from requiring corrections of errors in the construction documents or the actual building construction work.

Sincerely,

Jeff H. Walker

Jeff H. Walker, P.E., C.B.O., M.C.P.
Senior Staff Engineer
Architectural and Engineering Services
ICC Eastern Regional Office

International Code Council
Eastern Regional Office
900 Montclair Road
Birmingham, AL 35213
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ICC Plan SECOND Additional Review Report

Date: February 3, 2017
Plan Review Number: 11897
Project: Courtyard by Marriott

2012 International Building Code Outstanding Comments

***** ICC Comments #1 and #29 Adequately Addressed.**

2012 International Energy Conservation Code Outstanding Comments

***** ICC Comments #30 through #36 Adequately Addressed.**

37. (IECC Section C403.3.1)
Economizer modes must be provided for the sleeping units because the aggregate area of the simple systems exceeds 125 tons. Revise the construction documents.
Design Team Response (JRK):
"Each sleeping unit was provided with 30 CFM of fresh air on a continuous basis from the stand-alone fresh air system which provides the tempered outside air to each sleeping unit in lieu of the economizer. In addition, the toilet exhaust fan runs continuously, thus ensuring the fresh air flow to the sleeping unit."
FINAL ICC Comment:
When the total capacities of the residential HVAC units exceed the allowable threshold a system that allows cooling without the use of the mechanical cooling is required. Provide the revised construction documents to the Building Official.
ADDITIONAL Design Team Response (JRK):
"Disregard the verbiage pertaining to the economizer stated above."
FINAL ICC Comment:
This item is outstanding.
SECOND ADDITIONAL Design Team Response (JRK):
"The Building is provided with a stand-alone outside air supply system consisting of three roof top units. Each roof top unit is provided with an economizer. This system provides 30 CFM of conditioned fresh air to each sleeping unit on a continuous basis. Each sleeping unit is equipped with a continuously operated toilet exhaust fan exhausting same amount of air, thus enhancing the ventilation of the sleeping unit. The amount of fresh air and exhaust air is controlled with the constant fresh air flow damper/controller located at each sleeping unit supply air outlet. The combination of fresh air supply and toilet exhaust is utilized also as an economizer for each sleeping unit."
SECOND ADDITIONAL REVIEW ICC Comment:
The economizer requirement is so that the space cooling is provided through the economizer fan system instead of the mechanical cooling of the sleeping unit air conditioners. The 30 cfm ventilation air and exhaust air does not meet the requirement for economizer space cooling. This item is unresolved. Provide the revised documents to the Building Official.

***** ICC Comments #38 through #46 Adequately Addressed.**

2011 National Electrical Code Outstanding Comments

***** ICC Comments #47 through #55 Adequately Addressed.**

2012 International Mechanical Code Outstanding Comments

***** ICC Comments #56 through #63 Adequately Addressed.**

2012 International Plumbing Code and 2012 International Fuel Gas Code Outstanding Comments

***** ICC Comments #64 through #110 Adequately Addressed.**

End of SECOND ADDITIONAL SERVICES Plan Re-Review Report

ABOUT INNCOM

INNCOM develops advanced, software-based, Energy Management and Integrated Room Automation Systems (IRAS) for the global lodging industry.

Our systems are installed in more than 800,000 rooms worldwide and our clients range from the most prestigious 5-star hotels to limited-service properties. INNCOM is also listed in the specifications for guestroom temperature control for Radisson Hotels & Resorts and Country Inn & Suites.

INNCOM's world-class R&D and Engineering teams work hard to bring the hotelier a broad range of innovative, intelligent devices and dependable, integrated systems. These are combined in various ways to provide fully integrated solutions for energy management, lighting control, on-line electronic lock control, guest interfaces and operating enhancements for housekeeping, security, and other hotel staff groups.

INNCOM Room Automation applications are software programs designed to achieve specific goals or objectives that meet the needs of room occupants and management of the hotel. These programs typically perform functions or tasks, or a series of functions and tasks, that affect the state of a device or devices in the room.

INNCOM's Integrated Room Automation System (IRAS) brings a new definition of value to the guestroom. Not only does it improve guest comfort and experience, it simultaneously cuts overhead costs and improves staff productivity. Your guests are more satisfied and your property is more profitable.

Energy Savings & Carbon Reduction

A key difference between INNCOM energy management and other guestroom control systems is our unobtrusive, highly reliable PIR motion sensing technology and advanced EMS logic. Guests are not required to insert a key card to activate the room. Instead room occupancy (or vacancy) is determined automatically without guest knowledge or interference and HVAC and lighting are immediately switched on as the guest enters. This is more convenient for the guest and more effective for the property.

INNcontrol 3™ with HVAC Control Screen

Once occupancy is established, the guest has full control of their environment. Easy to set, easy to read smart digital thermostats provide a high degree of temperature accuracy and comfort compared to standard non-digital or mechanical thermostats. Depending on the INNCOM system desired, further energy savings and carbon reduction can be attained through master on-off lighting, scene setting and motorized drape control.

A key card system can be easily defeated by the insertion of a business card or second key card provided by the front desk, where a motion based control system provides the maximum savings for hotel ownership without any inconvenience to the guest.

Enterprise Automation Software

A second key advantage of the INNCOM IRAS is our central network software. INN*control* II™ gathers, manages and distributes valuable information from the guestroom and graphically displays it to various departments for use by hotel staff and management. Information such as temperature, HVAC alarms, occupancy status, make up room (MUR) and other guest service requests, mini-bar monitoring are reported real-time by an icon driven intuitive system.

Hotel operations are significantly improved when up to the minute information is available to assist staff in responding more rapidly to guest requests, addressing issues before guests are inconvenienced. Furthermore, INN*control* II™ helps staff avoid intrusions in occupied rooms.

Third Party Integration

A third advantage that INNCOM brings to the hotel owner is our wide range of third party integration offerings. As both guests and owners expect more sophisticated technology in the guestroom it is becoming necessary for diverse systems to operate interactively, since no single system offers all the desired features and functions. INNCOM has a longstanding open integration policy which has allowed us to create hardware and software partnerships with many vendors of hospitality services.

INNCOM

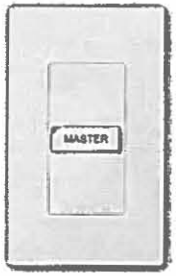
Global Leader in Integrated Room Automation Systems

TEL: 860.739.4468 ■ FAX: 860.739.4460 ■ solutions@inncom.com ■ www.inncom.com

INTEGRATED AUTOMATION CONTROL OF GUESTROOM EQUIPMENT

Marriott CFRST PROJECT

Master Light Switch Standard Base System Requirements



Function: To meet electrical code for switching off code required guestroom light fixtures (permanently wired light fixtures and switched receptacles, not in bathroom) at guest departure.

The system uses a programmable smart switch *(INNCOM #S217)* located at the guestroom entry and a two-piece magnetic reed switch *(INNCOM #S241)* installed in the entry door. Upon exiting the INNCOM #S217 provides a method for the guest to press a single button to turn off power to all connected lighting circuits. If the guest does not press the switch, the connected loads remain on. The next time the door opens, all of the connected light circuits are automatically turned back on triggered by the magnetic reed switch *(INNCOM #S241)*.

■ **Guest enters** - Door opens – designated "Welcome" light fixture is automatically triggered on as well as the power turned on to the code required guestroom light fixtures and switched receptacles by the Magnetic Reed Switch *(INNCOMM #S241)*.

■ **Guest leaves** - guest voluntarily presses wall button labeled "Master Off" (Smart Switch) and code required guestroom light fixtures and switched receptacles are turned off. A blue LED indicator light in the smart switch is also turned off when the smart switch is in the "off" position. The smart switch is *(INNCOM #S217)* is programmed to ignore the Magnetic Reed Switch *(INNCOMM #S241)* for one (1) minute after the door is opened, thereby allowing the door to be opened for guest to leave after pushing the "Master Off" switch.

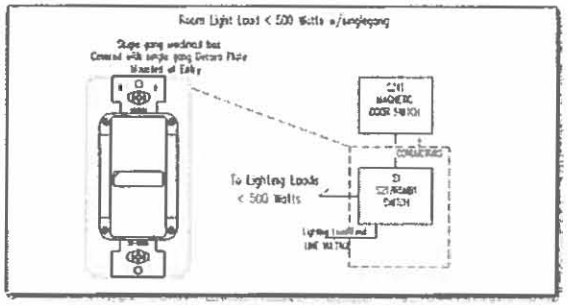
■ **The Single Button Smart Switch** *(INNCOM #S217)* is programmed for a toggle function - meaning each press would toggle the internal relay and supply or cut power to the connected circuits. Even though the switch is labeled "Master Off", it would turn all connected circuits back on again if pressed again (assuming the guest presses it in error the first time).

■ **The Magnetic Reed Switch** *(INNCOM #S241)* installed in the entry door provides a trigger input to the Single Button Smart Switch *(INNCOM #S217)* upon activation. If the INNCOM #S217 relay is OFF, the door switch triggers it to the ON state, automatically supplying power to the connected circuits. If the INNCOM #S217 is already ON, then no change would occur.

■ **The designated "Welcome" light** which turns on when the door opens, depends on the light switch state of each circuit. If the light switch is on when "Master Off" was pressed, then the light will turn on when the door opens, if it was off, it will remain off.

■ *Operations Note:* This system allows for a pre-determined "Welcome" light fixture, as designated by Marriott and as shown on Drawings, to be on upon guest entering the room. The "Welcome" light fixture must be a subset of the code required light fixtures connected to the Master Light Switch. By directing Housekeeping Staff to turn the switch for the designated light to the "ON" position, and then turning the Master Light Switch to the "OFF" position, the Magnetic Reed Switch located at the door will turn the designated light on when the guest enters the room.

■ All code required wired lighting circuits are to be fed through the Smart Switch *(INNCOM #S217)* relay contacts. The total load cannot exceed 500 watts at 120 VAC.



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OPTIONAL HVAC CONTROL ENERGY MANAGEMENT

Master Light Switch and HVAC Unit controlled by Passive Infrared Motion Sensor Thermostat

Function: To meet electrical code for switching off designated guestroom light fixtures *(permanently wired light fixtures and switched receptacles, not in bathroom)* at guest departure, and in addition, providing HVAC energy reduction and cost savings to Owner. Upon vacancy, the room temperature set point would be automatically adjusted +/- 4 deg F and the lighting relay would be de-energized. This option can produce a reduction of 30% - 35% in guestroom energy use and a typical payback of 1 – 1.5 years based on the marginal cost for the system.

System uses a smart programmable thermostat with integral passive infrared motion sensor *(INNCOM #e528)*, a two piece magnetic reed switch *(INNCOM #S241)* installed at the entry door and a third party 20A lighting relay *(i.e. A. Zettler 24A Relay)* mounted in the ceiling cavity. Four of the INNCOM #e528's five outputs would be wired to control the room HVAC unit *(i.e. PTAC, VTAC, or WSHP)* - heat, cool, fan low, fan high - and the fifth output would be wired to control the lighting relay coil.

This design eliminates requirement for a physical Master off switch at entry by utilizing PIR *(Passive Infrared)* motion based technology to automatically enable/disable both hardwired light circuits and room HVAC units.

Note: Verify with local code officials having jurisdition if the Occupancy sensor will be allowed to be considered a Master Light Switch.

■ Guest enters - Door opens - System statuses room as occupied *(Magnetic reed switch (INNCOM #S241)) talks to thermostat (INNCOM #e528) which relays to HVAC unit (i.e. PTAC, VTAC, or WSHP)* and Master lighting relay. Master lighting relay energizes, providing power to all required lighting circuits. Thermostat sets HVAC back to the guest selected temperature, or if a new check-in to a pre-programmed check in temperature (guest has control of room temperature within these limits).

■ Guest leaves - door opens - system re-evaluates room status due to door switch being triggered. If the passive infrared motion sensor in the thermostat detects motion within designated time, there is no change and the room continues to be statused as occupied, if the motion detector does not detect motion, room is statused as unoccupied. Once statused as unoccupied, power is terminated to code required lighting circuits *(lights off)* and the thermostat changes into unoccupied state *(allows HVAC to float +/- additional 4 deg F beyond the 1 deg standard float)*. Door magnetic reed switch is the trigger to re-evaluate the logic in the room. The passive infrared motion sensor in the thermostat then confirms occupancy or non-occupancy based on motion detected within programmed time frame. If no motion is detected after 25 minutes *(programmable)*, the room will power down.

Operations Note: This system is installed with default settings that will need to be reviewed by the property as follows:

- Thermostat Occupancy Sensor default time to determine occupancy is 25 minutes.
- Thermostat default time to determine unrented status is 10 hours. This is programmable by the Property.
- Thermostat "Rented Occupied" default temperature range is 65 deg F to 80 deg F. This is programmable by the Property.
- Thermostat "Unrented Unoccupied" default temperature range is 62 deg F to 80 deg F. This is programmable by the Property.

Additional Upgrade Options

■ Thermostat INNCOM #e529-RF is available at an additional cost, and can be connectable to the HVAC unit wirelessly via RF signals. This can be an advantage for renovation projects by eliminating the need for hard-wiring between equipment.

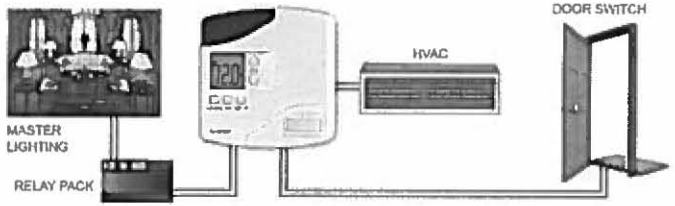
■ A Centrally-controlled energy management system is available at an additional cost from INNCOM with a central interface server application and remote room monitoring/communications.

This upgrade option can provide an interface to the Property Management System *(Fosse and others)*, and includes features such as:

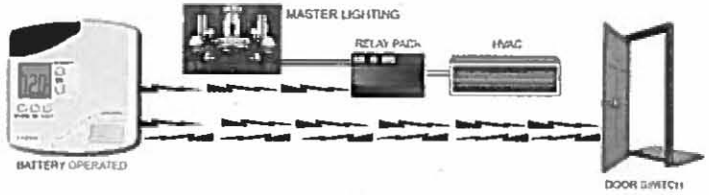
- Remote room monitoring and control capabilities.
- Alarm reports for malfunctioning equipment.
- Instant control of temperature setback parameters and other system settings.
- Efficient information presentation to staff and management including real-time room status information, as well as room and property energy trends.

E528 THERMOSTAT - TYPICAL CONFIGURATIONS

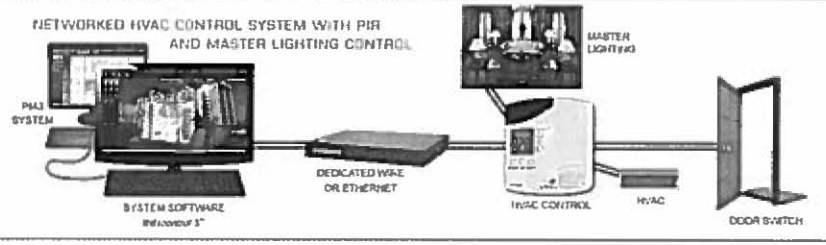
DIGITAL THERMOSTAT WITH PIR AND MASTER LIGHTING CONTROL



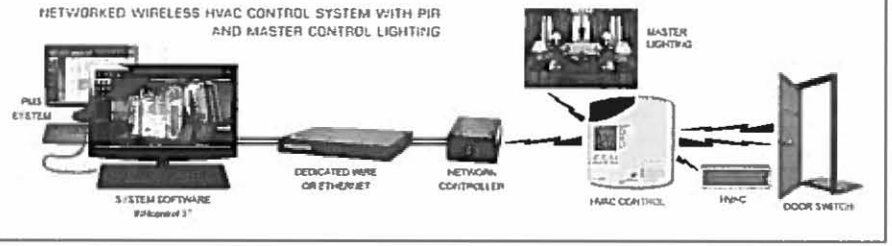
DIGITAL WIRELESS THERMOSTAT WITH PIR AND MASTER LIGHTING CONTROL



NETWORKED HVAC CONTROL SYSTEM WITH PIR AND MASTER LIGHTING CONTROL



NETWORKED WIRELESS HVAC CONTROL SYSTEM WITH PIR AND MASTER CONTROL LIGHTING



SECTION 25 51 10 - INTEGRATED AUTOMATION CONTROL OF GUESTROOM EQUIPMENT

INTRODUCTION AND PURPOSE FOR CFRST PROJECTS

This Master Specification Document, as an Instrument of Service, is provided in confidence, for use in preparing final construction specifications for a Marriott CFRST Project. As such, this Master Specification Document shall remain the property of Marriott International, Inc. The use of this document for other projects (other than the Project specifically contracted for) is strictly prohibited without written authorization from Marriott International Design and Construction Services, Inc.

The content and information in this Master Specification is provided for format, and informational purposes only, and shall be replaced, modified, and edited as required to represent the actual project that the Architect, Engineer or Design Professional has been contracted to produce. Selected notes, tables, indexes information and technical data, etc. must be reviewed and modified to meet the specific requirement of the Project.

This specification is not project nor code-specific. It is the responsibility of the contracted Architect, Engineer or Design Professional to produce Contract Documents in conformance with the approved Scope of Work and in full compliance with all applicable current local, state and national codes, ordinances, laws, rules and requirements of applicable regulatory agencies.

USER GUIDE:

All text in gray boxes are provided for use by the Editor Only and should be erased from final specification documents.

Paragraphs with text to be edited or replaced by the Specifier will appear in [Blue].

Hyperlinks to Manufacturer's or other Web Sites are shown as in the following example: *Marriott International* (In the electronic version of this file, click on CTRL+ link to start your browser and view that web site)

Revisions to the previous edition of this Section have been made using MS Word **"Tracked Changes"** feature. You can view all markup changes in this document, or you can limit the kind of change that is displayed by clicking one of the *"Display for Review"* settings on the *"Reviewing"* toolbar. You can choose *"Final Showing Markup"* to show the deleted text and formatting changes in balloons; or *"Final"* to show how the document would look if you accept all changes.

These revisions to the document showing in the form of revision marks can be turned off (accepted) in one step. Refer to MS Word Instructions for Accepting Tracked Changes by using "Accept Changes" in Reviewing Toolbar.

By selecting the *"Final"* version of the *"Display for Review"*, you can print this document without the large right margin.

Additional Information has been provided within some Master Specification Sections. This information is in the form of MS Word Comment bubbles that can be viewed in the electronic version of this file. One example of this is the revision log at the end of this Section.

SECTION 25 51 10 - INTEGRATED AUTOMATION CONTROL OF GUESTROOM EQUIPMENT

Note: This Section specifies a Guestroom master light switch system (Standard Base System), as well as options for adding a standalone energy management system for the guestroom HVAC unit.

2006 IECC - 505.2.3 Sleeping Unit:

"Sleeping units in hotels, motels, boarding houses or similar buildings shall have at least one master switch at the main entry door that controls all permanently wired luminaries and switched receptacles, except those in the bathroom(s). Suites shall have a control meeting these requirements at the entry to each room or at the primary entry to the suite."

Standard Base System Requirements (Master Light Switch)

Function: To meet electrical code for switching off code required guestroom light fixtures (permanently wired light fixtures and switched receptacles, not in bathroom) at guest departure.

The system uses a programmable smart switch (INNCOM #S217) located at the guestroom entry and a two-piece magnetic reed switch (INNCOM #S241) installed in the entry door. Upon exiting the INNCOM #S217 provides a method for the guest to press a single button to turn off power to all connected lighting circuits. If the guest does not press the switch, the connected loads remain on. The next time the door opens, all of the connected light circuits are automatically turned back on triggered by the magnetic reed switch (INNCOM #S241).

- *Guest enters - Door opens – designated "Welcome" light fixture is automatically triggered on as well as the power turned on to the code required guestroom light fixtures and switched receptacles by the Magnetic Reed Switch (INNCOMM #S241).*
- *Guest leaves - guest voluntarily presses wall button labeled "Master Off" (Smart Switch) and code required guestroom light fixtures and switched receptacles are turned off. A blue LED indicator light in the smart switch is also turned off when the smart switch is in the "off" position. The smart switch is (INNCOM #S217) is programmed to ignore the Magnetic Reed Switch (INNCOMM #S241) for one (1) minute after the door is opened, thereby allowing the door to be opened for guest to leave after pushing the "Master Off" switch.*
- *The Single Button Smart Switch (INNCOM #S217) is programmed for a toggle function - meaning each press would toggle the internal relay and supply or cut power to the connected circuits. Even though the switch is labeled "Master Off", it would turn all connected circuits back on again if pressed again (assuming the guest presses it in error the first time).*
- *The Magnetic Reed Switch (INNCOM #S241) installed in the entry door provides a trigger input to the Single Button Smart Switch (INNCOM #S217) upon activation. If the INNCOM #S217 relay is OFF, the door switch triggers it to the ON state, automatically supplying power to the connected circuits. If the INNCOM #S217 is already ON, then no change would occur.*
- *The designated "Welcome" light which turns on when the door opens, depends on the light switch state of each circuit. If the light switch is on when "Master Off" was pressed, then the light will turn on when the door opens, if it was off, it will remain off.*

  Operations Note: This system allows for a pre-determined "Welcome" light fixture, as designated by Marriott and as shown on Drawings, to be on upon guest entering the room. The "Welcome" light fixture must be a subset of the code required light fixtures connected to the Master Light Switch. By directing Housekeeping Staff to turn the switch for the designated light to the "ON" position, and then turning the Master Light Switch to the "OFF" position, the Magnetic Reed Switch located at the door will turn the designated light on when the guest enters the room.
- *All code required wired lighting circuits are to be fed through the Smart Switch (INNCOM #S217) relay contacts. The total load cannot exceed 500 watts at 120 VAC.*

Option #1 (Master Light Switch and HVAC Unit controlled by Passive Infrared Motion Sensor Thermostat)

Function: *To meet electrical code for switching off designated guestroom light fixtures (permanently wired light fixtures and switched receptacles, not in bathroom) at guest departure, and in addition, providing HVAC energy reduction and cost savings to Owner. Upon vacancy, the room temperature set point would be automatically adjusted +/- 4 deg F and the lighting relay would be de-energized. This option can produce a reduction of 30% - 35% in guestroom energy use and a typical payback of 1 – 1.5 years based on the marginal cost for the system.*

System uses a smart programmable thermostat with integral passive infrared motion sensor (INNCOM #e528), a two piece magnetic reed switch (INNCOM #S241) installed at the entry door and a third party 20A lighting relay (i.e. A. Zettler 24A Relay) mounted in the ceiling cavity. Four of the INNCOM #e528's five outputs would be wired to control the room HVAC unit (i.e. PTAC, VTAC, or WSHP) - heat, cool, fan low, fan high - and the fifth output would be wired to control the lighting relay coil.

This design eliminates requirement for a physical Master off switch at entry by utilizing PIR (Passive Infrared) motion based technology to automatically enable/disable both hardwired light circuits and room HVAC units.

Note: Verify with local code officials having jurisdiction if the Occupancy sensor will be allowed to be considered a Master Light Switch.

- *Guest enters - Door opens - System statuses room as occupied (Magnetic reed switch (INNCOM #S241)) talks to thermostat (INNCOM #e528) which relays to HVAC unit (i.e. PTAC, VTAC, or WSHP) and Master lighting relay. Master lighting relay energizes, providing power to all required lighting circuits. Thermostat sets HVAC back to the guest selected temperature, or if a new check-in to a pre-programmed check in temperature (guest has control of room temperature within these limits).*
- *Guest leaves - door opens - system re-evaluates room status due to door switch being triggered. If the passive infrared motion sensor in the thermostat detects motion within designated time, there is no change and the room continues to be statused as occupied, if the motion detector does not detect motion, room is statused as unoccupied. Once statused as unoccupied, power is terminated to code required lighting circuits (lights off) and the thermostat changes into unoccupied state (allows HVAC to float +/- additional 4 deg F beyond the 1 deg standard float). Door magnetic reed switch is the trigger to re-evaluate the logic in the room. The passive infrared motion sensor in the thermostat then confirms occupancy or non-occupancy based on motion detected within programmed time frame. if no motion is detected after 25 minutes (programmable), the room will power down.*

  Operations Note: This system is installed with default settings that will need to be reviewed by the property as follows:

  - *Thermostat Occupancy Sensor default time to determine occupancy is 25 minutes.*
  - *Thermostat default time to determine unrented status is 10 hours. This is programmable by the Property.*
  - *Thermostat "Rented Occupied" default temperature range is 65 deg F to 80 deg F. This is programmable by the Property.*
  - *Thermostat "Unrented Unoccupied" default temperature range is 62 deg F to 80 deg F. This is programmable by the Property.*

__Additional Upgrade Options__ (Contact Manufacturer for assistance)

- *Thermostat INNCOM #e529-RF is available at an additional cost, and can be connectable to the HVAC unit wirelessly via RF signals. This can be an advantage for renovation projects by eliminating the need for hard-wiring between equipment.*
- *A Centrally-controlled energy management system is available at an additional cost from INNCOM with a central interface server application and remote room monitoring/communications.*

  This upgrade option can provide an interface to the Property Management System (Fosse and others), and includes features such as:
  - *Remote room monitoring and control capabilities.*
  - *Alarm reports for malfunctioning equipment.*
  - *Instant control of temperature setback parameters and other system settings,*
  - *Efficient information presentation to staff and management including real-time room status information, as well as room and property energy trends.*

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Provide a complete, integrated hotel guestroom automation system for the following:

Note: Subparagraph below is for use with Standard Base System. Delete if specifying Option 1.

a. Master Light Switch

Note: Subparagraph below is for use with Option 1 Thermostat. Delete if specifying Standard Base System.

b. HVAC Equipment.

1) Motion Sensor Thermostats

Note: The two Subparagraphs below are for use with Upgrade Option for Centrally-controlled energy management system.

c. Central Interface (CI) Server Application.

d. Remote Room Monitoring and Communications.

B. Related Sections:

1. Section 08 11 13 – Hollow Metal Doors and Frames
2. Section 08 71 00 - Door Hardware

Note: Coordinate with Section 23 09 00 to remove Guestroom Thermostats from that Section.

3. Section 23 09 00 - Instrumentation and Control for HVAC

Note: Edit list below to suit Project.

4. Section 23 81 13.13 - Packaged Terminal Air-Conditioning Units
5. Section 23 81 13.15 - Vertical Packaged Terminal Air-Conditioning Units
6. Section 23 81 46 - Water-Source (Water-Source Closed Loop) Unitary Heat Pumps
7. Division 23 - Heating, Ventilating, And Air Conditioning (HVAC).

8. Division 26 – Electrical; Power Wiring to System Hardware

9. Division 27 – Communications

1.02 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 01 Specification Sections.

MARRIOTT SPIRIT TO PRESERVE

Note: Letter of Conformance for this Section should not be used with CFRST LEED Volume Program. Delete paragraph below in blue text.

B. Submit "Letter of Conformance" in accordance with Section 01 33 00 (01330) indicating specified items selected for use in project with the following supporting data.

1. Product Data: Submit the Manufacturer's product data and installation instructions for each component and system.

2. Shop Drawings: Submit list of components and equipment to be supplied, including proposed locations, clearances, and power requirements.

3. Operations and Maintenance Manual: Submit the Manufacturer's standard operations and maintenance manual, including emergency maintenance provider.

4. Qualifications: Submit documentation from the Manufacturer and Installer indicating qualifications listed under Quality Assurance.

5. Warranty: Submit the Manufacturer's standard one-year labor and parts warranty for turnkey installation.

1.03 QUALITY ASSURANCE

A. Qualifications of Manufacturer: The Manufacturer shall have a minimum of 20 years documented experience manufacturing integrated room automation systems having similar or more stringent requirements than the system for the current project. The Manufacturer shall submit a list of at least 15 completed projects using similar integrated room automation systems.

B. Qualifications of Installer: Submit a letter signed by the Manufacturer stating that the Installer is licensed by or acceptable to the Manufacturer of the integrated room automation system.

1.04 DELIVERY, STORAGE AND HANDLING

A. Deliver materials and products in unopened, factory-labeled packages. Store and handle in strict compliance with the Manufacturer's instructions and recommendations. Protect from damage. Sequence deliveries to avoid delays, but minimize on-site storage.

1.05 COORDINATION

A. Conference: Convene a pre-installation conference to establish procedures to coordinate this work with related and adjacent work.

B. Coordination: Furnish inserts and anchors that must be built into other work. Work closely with installers of finish materials so that units are properly aligned with adjacent materials.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. Avendra, LLC Preferred Manufacturers:

1. None

B. Approved Manufacturers:

1. INNCOM International, Inc. (860-739-4468)

2.02 SYSTEM DESCRIPTION

Note: Paragraph below is for use with Standard System. Delete if specifying Option 1 or additional upgrade options.

A. Master Light Switch:

1. System Description:

a. The switch by the entry door shall be able to act as a master light switch to turn off all designated light fixtures and switched outlets when activated by the guest.

1) The total load cannot exceed 500 watts at 120 VAC.

b. All wired lighting circuits shall be fed through the master light switch relay contacts.

c. The single-button switch shall be programmed for a toggle function, meaning that each press of the button would toggle the internal relay and supply or cut power to the connected circuits.

d. The button would be labeled as "Master Off" to indicate to the guest its intended use. Programming it as a toggle assures that the guest can turn the lights back on should they unintentionally turn them off. A blue LED indicator light is turned off when switch is off.

e. The Magnetic Door Switch provides a trigger input to the master light switch. Upon entry to the room, if the master light switch relay is off, the door switch shall trigger it to the "on" state, automatically supplying power to all connected lighting switches in the room. If the master light switch is already on, then no change of state is to occur.

f. Upon exiting the master light switch provides a method for the guest to press a single button to turn off power to all connected lighting circuits. If the guest does not press the switch, the connected loads shall remain on.

2. Master Light Switch:

a. Acceptable Product: "S-Series Switch Model #S217"; INNCOM International, Inc.

b. 1-Button Switch shall be labeled "MASTER OFF".

c. Relay Version, 120Vac, 500 Watt maximum load.

d. Color:

Note: Select color in paragraph below to match adjacent wiring devices. Refer to Section 26 27 26 "Wiring Devices"

1) [White][Black][Eagle Almond]

3. Magnetic Door Switch:

a. Acceptable Product: "Magnetic Door Switch Model #S241"; INNCOM International, Inc.

b. Coordinate with Section 08 71 00 "Door Hardware" for installation of Magnetic Door Switch.

Note: Paragraph below is for use with Option 1 Thermostat. Delete if specifying Standard Base System.

Verify with local code officials having jurisdiction if the Occupancy sensor will be allowed to be considered a Master Light Switch.

B. HVAC Controls:

Note: Select the type of HVAC Units to be controlled by system in paragraph below. Delete those not used.

1. HVAC Type: The control strategy will be dependent on the type of HVAC equipment that is being proposed. The control equipment shall be compatible with the HVAC equipment with 4 relay control specified for Project. Refer to Section [23 81 13.13 "Packaged Terminal Air-Conditioning Units".] [23 81 13.15 "Vertical Packaged Terminal Air-Conditioning Units".] [23 81 46 "Water-Source (Water-Source Closed Loop) Unitary Heat Pumps".] The following control strategies shall be applied:

Note: Select the type of HVAC Units to be controlled by system in paragraphs below. Delete those not used.

a. Packaged Terminal Air Conditioners (PTAC): The System shall control one PTAC in each room. The System shall directly control a 1 or 2-speed, low-voltage interface. The System will also control the compressor and associated heating equipment. INNCOM International, Inc. shall provide the PTAC Vendor with the necessary control card or connectors to be installed at point of manufacture or in the rooms. In case of existing PTAC's, the same equipment can be installed in-place by trained personnel. The System shall provide automatic switchover from heating to cooling operation at each room.

b. Vertical Terminal Air Conditioners (VTAC): The System shall control one VTAC in each room. The System shall directly control a 1 or 2-speed, low-voltage interface. The System will also control the compressor and associated heating equipment. INNCOM International, Inc. will provide the VTAC Vendor with the necessary card or connectors to be installed at point of manufacture or in the rooms. In case of existing VTAC's, the same equipment can be installed in place by trained personnel. The System shall provide automatic switchover from heating to cooling operation at each room.

c. Water Source Heat Pumps (WSHP): The System shall control one WSHP in each room. The System shall directly control a 1 or 2-speed, low-voltage interface. The System will also control the compressor and associated heating equipment. INNCOM International, Inc. shall provide the WSHP Vendor with the necessary control card or connectors to be installed at point of manufacture or in the rooms. In case of existing WSHP's, the same equipment can be installed in-place by trained personnel. The System shall provide automatic switchover from heating to cooling operation at each room.

2. HVAC Control Strategies: Provision shall be made to prevent the system from switching repeatedly from cooling to heating and back while attempting to maintain a constant target temperature. The System's temperature-control performance shall meet the requirements defined below for proportional valves. The System's humidity-refresh performance shall meet the requirements defined below.

a. Temperature Control: The System in the room shall employ a PID algorithm to minimize fan speed and valve changes and to reduce servo-loop error. Such error, measured as the temperature difference between the set target temperature and the measured room temperature, shall not exceed 1.0° C under steady-state conditions and will automatically compensate for changes in the heat/cooling load of the room. The temperature control algorithm shall be capable of using the full resources of the FCU to maintain target temperature. Proportional-only algorithms that set the fan speed in proportion to the error shall not be accepted (as they cause a temperature control error that increases with the fan speed).

Note: Humidity Refresh in subparagraph below is Optional and requires additional hardware. Contact manufacturer for assistance with adding this option. Delete if not required.

b. Humidity Refresh: The System in the room shall be capable of maintaining a maximum level of humidity. The refresh cycle will activate in unoccupied rooms only.

1) Humidity Refresh Cycle: The room air conditioning shall be activated on a pre-defined duty cycle to remove excess humidity. The System shall monitor, via central sensors or individual room sensors, the air temperature and relative humidity. When the relative humidity exceeds a preset threshold, the room AC shall be activated if the AC has been shut down for a period of time that exceeds a programmable time value (for example, if the AC has not run for the last one hour).

c. Fan Speed Control: Fan speed shall be selected automatically by the System to match the heat gain/loss in the room. Fixed-fan operation shall also be available to the guest. Fan speeds shall be field-programmable to allow limiting fan speeds to a desired range of speeds. Fan operation shall be configurable to provide for "Continuous Fan" or "Automatic Fan." Continuous Fan means that the fan shall run even when the target temperature has been satisfied. Automatic Fan means that the fan shall run only on active heating or cooling call.

d. Multiple HVAC Zone Rooms (Suites): The System shall be capable of supporting multi-zone rooms, where the rooms are not separated by a door, yet each room has multiple HVAC units. The System shall be able to link the thermostats in these rooms so that they track. This prevents having one room call for heat while the other is calling for cooling.

e. Temperature History: The System shall have the capability to store the temperature, valve, and fan states for each room for at least three months, with all changes being reported.

f. Energy Conservation:

1) The System shall provide optimized energy conservation measures with minimum inconvenience to the guest. At least four setback strategies shall be employed: two when a room is un-rented (either occupied by staff or unoccupied), and two more when a room is rented (either occupied or unoccupied).

Note: The subparagraph below is for use with systems supplied with Upgrade Option for Central Interface (CI) Server Application. Delete if not used.

2) When connected to a Central Network Server, the System shall obtain rented status automatically from the Property Management System (PMS). No manual data entry shall be required by the hotel to update the room rented status.

3) The System shall determine room occupancy automatically. The System shall keep the room status as occupied even while the guest is asleep.

4) Setback values and related parameters shall be independently adjustable for rented and un-rented modes.

Note: The subparagraph below is for use with systems supplied with Upgrade Option for Central Interface (CI) Server Application. Delete if not used.

5) Reduced on/off switching during the night or "night setback" shall be available for implementation by choice of the property as a means to further reduce energy consumption while the guest is asleep.

Note: Model e528 is for use with hardwired connections to the HVAC unit. It is also is connectable to the Upgrade Option for the Central Interface (CI) Server Application via a 2-conductor, low-voltage communications cable. Delete paragraphs below if using Model e529 Upgrade Option.

g. Digital Thermostat: The unit shall be modular in construction so that each of the modules can be added at a later time if not installed initially.

1) Acceptable Product: "e4 Smart Digital Thermostat Model #e528 with Integral Passive Infrared (PIR) Motion Sensor"; INNCOM International, Inc.

2) The System shall include a wall-mounted, illuminated digital thermostat. The thermostat will be able to display current room temperature, target temperature, and outside temperature in degrees F and degrees C, as well as the humidity level.

3) The thermostat shall be easy to operate, and shall allow changing the target temperature in steps of 1 degree F or 0.5 degree C. Clear indication shall be provided when the HVAC has been turned off.

4) The thermostat shall have the capacity to work with a built-in Passive Infrared (PIR) motion sensor OR a remote Passive Infrared (PIR) motion sensor OR combinations of both.

5) The thermostat shall be capable of directly controlling HVAC units operating on voltages ranging from 12VDC to 277VAC without the requirement of secondary control relays for the higher voltage applications. The thermostat shall also be available in a battery operated version to facilitate installation where the provision of power may not be practical.

6) The thermostat shall be connectable to the System via a 2-conductor, low-voltage cable. The thermostat shall also have the capability of connecting to the HVAC equipment wirelessly via RF signals.

7) The thermostat shall be capable of controlling HVAC units wirelessly using RF (Zigbee) technology.

Note: "ecoMODE" is an Upgrade Option to provide the hotel guest the ability to opt-in to a host of environmentally friendly programs predetermined by the property. In the simplest ecoMODE system, pressing the green button will trigger an enhanced energy savings setback as well as illuminate a green LED to indicate the guest's sustainability program participation to the staff. Contact Manufacturer for assistance and coordinate with Owner. Delete the subparagraph below if not used.

8) The thermostat shall include the ecoMODE® green button that the guest can use to opt-in to the property's sustainability practices.

Note: Model e529 Thermostat an Upgrade Option to Model e528. This Thermostat is for use with an RF connection to HVAC Unit, and is also is connectable to the Upgrade Option for the Central Interface (CI) Server Application wirelessly via RF signals. Delete paragraphs below if using Standard Base Model e528.

h. Digital Thermostat: The unit shall be modular in construction so that each of the modules can be added at a later time if not installed initially.

1) Acceptable Product: "e4 Smart Digital Thermostat Model #e529 with Integral Passive Infrared (PIR) Motion Sensor"; INNCOM International, Inc.

2) The System shall include a wall-mounted, illuminated digital thermostat. The thermostat will be able to display current room temperature, target temperature, and outside temperature in degrees F and degrees C, as well as the humidity level.

3) The thermostat shall be easy to operate, and shall allow changing the target temperature in steps of 1 degree F or 0.5 degree C. Clear indication shall be provided when the HVAC has been turned off.

4) The thermostat shall have the capacity to work with a built-in Passive Infrared (PIR) motion sensor OR a remote Passive Infrared (PIR) motion sensor OR combinations of both.

5) The thermostat shall be capable of controlling HVAC units operating on voltages ranging from 12VDC to 277VAC with the pairing of secondary control relays. The thermostat shall be battery operated to facilitate installation where the provision of power may not be practical.

6) The thermostat shall have the capability of connecting to the HVAC equipment wirelessly via RF signals.

7) The thermostat shall be capable of controlling HVAC units wirelessly using RF technology.

Note: "ecoMODE" is an Upgrade Option to provide the hotel guest the ability to opt-in to a host of environmentally friendly programs predetermined by the property. In the simplest ecoMODE system, pressing the green button will trigger an enhanced energy savings setback as well as illuminate a green LED to indicate the guest's sustainability program participation to the staff. Contact Manufacturer for assistance and coordinate with Owner. Delete the subparagraph below if not used.

8) The thermostat shall include the ecoMODE® green button that the guest can use to opt-in to the property's sustainability practices.

3. Occupancy Detection: The System shall combine inputs from the door-position switch and from a PIR motion detector to determine whether the room is occupied at any time. Activation of any switch on the digital thermostat or any light switch that is controlled by the System while the entry door is closed shall place the room in the occupied mode.

Note: Edit subparagraph below if used with system supplied with Upgrade Option for Central Interface (CI) Server Application.

a. The current occupancy state of the room shall be available to the room controller that controls the room HVAC system [, as well as to a server and its workstations].

Note: The paragraph below is for use with Upgrade Option for Centrally-controlled energy management system. Delete if not used.

C. Central Interface (CI) Server Application:

1. Each guestroom system or sub-system will communicate in real time with a central server running INN*control*-II application software. The software shall provide a comprehensive list of room status information and alarms, and shall also interface among the rooms and other systems in the hotel.

a. PMS Interface: The software shall interface with the PMS computer through a serial link or TCP/IP. The PMS will provide the INN*control*-II software with current sale status of the guestrooms (rented/un-rented and check-in/checkout). This information shall be transferred from the INN*control*-II software to the room within five seconds, and will be used to determine the operation of the HVAC, lights, and other loads in

the room. The INN*control*-II server shall also be linked and interfaced with the EDL server.

b. Management Display: The INN*control*-II application, or terminals connected to the INN*control*-II server, shall provide access to management to view and control such parameters as room temperature, room target temperature, HVAC operation, light control, and other conditions and statuses. In general, the INN*control*-II application shall provide access to any function of the room control system that is available to the guest in the room. The System shall be capable of interfacing with the Hotel Ethernet System via an RS 485 or TCP/IP interface.

c. Remote Access/Diagnostics: The application shall provide full support of a remote terminal connected via modem or TCP/IP, or via a serial link to the server. The server software architecture shall be of a client/server structure. The remote terminals shall be PCs operating under MS Windows 2000 or later. The application shall be capable of running complete diagnostics of the System from a remote service center via dial-up phone lines or TCP/IP.

d. Alarm Outputs: The application software shall be programmable to route alarm conditions to a printer, paging system, file, hard disk, third-party interface, or the PMS.

e. The user shall have the option of *not* logging on, which will allow View (read-only) use of the software, or logging on, which will allow Control functions based on the logon identification.

f. The software shall open to a pre-determined default language. It shall also be possible to choose another language available from the list.

g. In the software, the first screen that appears when INN*control*-II is opened is the 'Quick View' screen. Each guestroom selected for Quick View display shall be represented by a block on the screen. The block shall be numbered to correspond to the actual room number. By right-clicking on a room block, the user shall be able to access the menus and sub-menus that will display selected information for that room. The resulting menu shall allow the display of butler calls, MUR calls, valet requests, pick up tray requests, DND indications, SOS indications, and possibly one or two other requests if desired by the property – for example, cab request.

h. All service requests shall be displayed at once on the Quick View screen. The color coding shall allow easy recognition of each type of call.

i. The software shall allow for the display of guest preferences including kosher/Sabbath rooms or eco-Mode rooms.

1) Kosher/Sabbath rooms are set up such that all automatic functions that would be triggered by guests are suspended and the HVAC does not respond to occupancy information.

Note: "ecoMODE" is an Upgrade Option to provide the hotel guest the ability to opt-in to a host of environmentally friendly programs predetermined by the property. In the simplest ecoMODE system, pressing the green button will trigger an enhanced energy savings setback as well as illuminate a green LED to indicate the guest's sustainability program participation to the staff. Contact Manufacturer for assistance and coordinate with Owner. Delete the subparagraph below if not used.

2) eco-Mode rooms are activated when the guest presses the Green Button on the thermostat or eco-Mode programmed switches, thus enrolling in the property's environmental sustainability programs.

j. The software shall offer a Dynamic Suite Linking option and it shall display rooms that are linked as suites. The linked rooms shall be color-coded, and the type of link (common door or connecting door) shall be shown displayed in the room blocks.

k. The software shall be able to display as a minimum the following room conditions:

1) Rented – Shows which rooms are currently rented.

2) Occupancy – Shows which rooms are currently occupied, either by guests or staff.

3) Rented + Occupancy – Shows which rooms are rented and occupied.

4) Clean Status – Shows which rooms have been cleaned and which need cleaning. This option also shows "supervisor required" and "out-of-order."

5) Dirty Rooms – Shows which rooms need cleaning. The color coding will indicate the rented and occupancy status for these rooms.

6) Supervisor Visit Requested – Shows which rooms have been cleaned and are ready for review by a supervisor.

7) Out of Order – Shows which rooms are out of order for any reason (such as equipment needing repair).

8) Measured Room Temperature – Shows the temperature of each room on the block grid.

9) Target Room Temperature – Shows the desired room temperature for each room on the block grid.

10) AC Mode – Shows the operational status of the air conditioning system for all rooms on the block grid.

11) Measured, Target and AC Mode – Shows all the above on the block grid.

12) Measured Humidity – Shows the humidity for each room on the block grid.

13) HVAC Equipment Operation – Shows heating, cooling, and fan operation for each room on the block grid.

14) Second Stage Operation – Shows forced, ready, active, and normal status for each room on the block grid.

15) Peak Demand/Load Shedding/Fire – Shows high, medium, low, and normal for peak demand/load shedding, and shows HVAC response to fire.

16) VIP/Reduced Energy Management – Indicates room thermostat is not being controlled by the system.

17) De-Humidification – Shows all rooms on the block grid that are being dehumidified.

18) De-Icing – Shows all rooms on the block grid that are being de-iced.

19) HVAC Trouble – Shows all rooms on the block grid with active HVAC alarms.

20) Equipment Type – Shows the HVAC equipment type for all rooms on the block grid.

l. The software shall display diagnostic information for guestroom devices.

m. The software shall have Navigation Tree Displays. The rows of icons allow the user to display property views in the navigation area below the icon bars by clicking on the icon. A room can be selected from the Navigation Tree for display of its statuses.

In the Floor View and Network View displays, a plus (+) or minus (-) sign will appear before each room. A plus sign indicates that more information can be displayed by clicking on the plus sign.

n. The default icon in the navigation area shall be the Floor View, which shall display a list of hotel floors. Double clicking on a floor shall display a list of rooms on the floor.

o. The software shall have a Network View icon to display the guestrooms organized according to their network connectivity status.

p. The software shall be able to display a graph of the HVAC trend for each room. The display shall show the room's temperature band as a yellow block. The HVAC trend line shall be color-keyed: black (the HVAC is not currently heating or cooling), red (the HVAC is heating), or blue (the HVAC is cooling).

q. The software shall be able to generate reports that show outstanding guest requests at the time of report generation. The report shall be able to be generated in a printable notepad format with the time of day of the report generation shown at the top of the report. The report can be saved and/or printed, making it convenient for staff to carry as a reminder of outstanding requests.

r. The software shall allow staff to "take ownership" of guest requests. By taking ownership, the staff member commits to performing the request or ensuring that it is performed. Once ownership is taken, the room shall be re-listed along with the name of the person who has taken ownership. This allows anyone on a terminal anywhere in the property to see who has taken responsibility for a guest request.

s. The software shall allow Hotel staff to designate a room needing cleaning or as being out of order. Once the room has been cleaned, staff can report that it has been cleaned and request review by a supervisor. The software indicates that a hotel maid has seen that the room needs to be cleaned.

Note: The paragraph below is for use with Upgrade Option for Centrally-controlled energy management system. Delete if not used.

D. Room Communications, Monitoring and Control:

1. Throughput: The INN*control*-II application server and the network that links it to the rooms shall be able to handle a minimum of five transactions per second per 500 rooms. A transaction is defined as the sending of a command or data to a room from the INN*control*-II server and the receipt of acknowledgment of the proper execution of such command back at the INN*control*-II server. The System and its network shall guarantee a response within five seconds when accessing any room component remotely. Such response shall not be conditional on any other activities that take place at that time anywhere else in the System.

2. Network Integrity: The communication in the System shall comply with ISO/OSI standards. The network shall be secure from insertion of commands from external stations. Errors in communications shall be detected and corrected automatically. The addition and removal of stations shall be captured and reported as an alarm by the INN*control*-II server.

a. Networking Capabilities: The System shall be capable of communicating from the INN*control*-II server to the guestroom devices using a single shielded or unshielded twisted pair of wires, Cat3 or better.

b. Networking Capabilities: The System shall be capable of communicating from the INN*control*-II server to the guestroom devices using a dedicated hybrid RS-485/Ethernet network or a shared Ethernet network, running on Cat 6 or fiber.

Note: The paragraph below is for use with Upgrade Option for Centrally-controlled energy management system. Delete if not used.

E. Field Programmability:

1. Parameter Changes: All room-related parameters, such as target temperature upon check-in, setback temperatures, and the like, shall reside in non-volatile memory in each room and shall be available for programming from the INN*control*-II server as well as the in-room thermostat. The server shall be able to access rooms on an individual basis, in groups, or in total (i.e., the entire property at one time).

2. Program Changes: The application program residing in the room controller shall be modifiable through the INN*control*-II server computer without the need to visit the room. The program stored in each room shall not be affected by the temporary loss of power, regardless of the duration of the power outage.

3. Power Fail Recovery: After a power outage, the System throughout the hotel shall start up automatically and will be fully operational within five minutes after restoration of power. In the rooms, all loads controlled by the System will be returned to their previous states, including target temperature, selected fan speed operation, and lights, regardless of the duration of the power outage.

4. Noise Restriction: All system components shall be installed in such a manner as to eliminate audible noise to the guest when the System operates while the guest is asleep.

5. Code Compliance: Components installed by the Vendor and wiring/installation performed by the Vendor shall comply with the applicable standards and electrical codes.

Note: Edit the paragraph below for use with Upgrade Option for Centrally-controlled energy management system.

F. Wiring: All field wiring to the System shall be made through plug-in connectors to facilitate service and diagnostics. The Vendor shall provide as-run wiring diagrams for room wiring [and network wiring].

PART 3 EXECUTION

3.01 INSTALLATION

A. There shall be strict compliance with the Manufacturer's instructions and recommendations. The onset of work shall indicate that the Installer accepts the existing substrates and conditions. System installation shall be coordinated with related and adjacent work.

B. The system shall be tested for proper operation in accordance with the Manufacturer's commissioning guide. Damaged components shall be repaired or replaced until the proper operation is achieved.

3.02 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel as specified below:

1. Train Owner's maintenance personnel on procedures and schedules for starting up and shutting down, troubleshooting, servicing, and maintaining cooling towers.

2. Review data in maintenance manuals.

3. Schedule training with Owner, through [Architect][Owner's Representative], with at least seven days' advance notice.

END OF SECTION

Revision Log

Comment [Comment1]:
REVISION LOG:

01/01/11: Added Section.

Honeywell | Hospitality Solutions

CENTRAL ELECTRONIC LOCKING SYSTEMS

INNCOM Integrated Solutions

The Value of Integrated Applications

The locks can be equipped with a communication module that allows them to communicate to a central server via the Honeywell network.

When you deploy the Honeywell Energy management System and Saflok Central Electronic Lock System (CELS) you can start receiving the value of integrated applications. When the door is opened, the energy management system can react appropriately. When the door is left open for extended periods of time, the network can report the event as an alarm at the server.

The system can also differentiate between guests and the staff, to activate different lighting scenes as well as enable temperature settings as appropriate.

Honeywell seemlessly integrates with:

KABA Saflok
A Member of the Kaba Group

VingCard Elsafe
ASSA ABLOY

SALTO
inspiredaccess

The Many Benefits of Central Electronic Lock Systems

- Rooms can be remotely re-assigned.
- Suites can be reconfigured from the front desk.
- Guest's check-out time can be extended remotely.
- VIP's can be checked-in without stopping at reception.
- Instant notification of a door being forced open.
- Lock functionality verification before a card is issued to a guest.
- Universal cancellation and/or re-issuance of a staff key card
- without having to go to each lock in the property.
- Daily lock-time synchronization.
- Automatic daylight-savings changes.
- Reduced costs of labor, batteries and dead lock events with battery condition reporting.

The Power of the Network

When your hotel is equipped with the Deep Mesh Network, it has the infrastructure to provide a higher level of service to your guests as well as the information to enable it to run more efficiently. This network can not only monitor HVAC equipment performance, temperature settings and room occupancy but it can also connect other room systems to their respective server applications.

When your hotel chooses any of Honeywell's CELS partners, the locks can be equipped with a communication module that allows them to communicate to a central server via the Honeywell network. It's the power of having multiple vendors and multiple room systems share the benefit of one common back-bone network.

By connecting to Honeywell's Deep Mesh network through the INNCOM INNcontrol® 3 System Software the lock can be wirelessly connected to the central server

Honeywell
277 West Main Street
Niantic, CT 06357

CELS Sell | Rev1 | 11/16

For more information
www.inncom.com

Honeywell

E-Series

Smart Digital Thermostats E528 & E529

The E-Series is a hub for guestroom automation. It is capable of controlling virtually any fan coil unit, heat pump or packaged terminal air conditioner found in rooms. It includes an easy to read illuminated liquid crystal display and five built-in relays.

It can be equipped with an on-board radio frequency (RF) transceiver, a passive infrared occupancy sensor (PIR), humidity sensor, outside temperature display, and the patented ecoMODE™ green button.

The E-Series can be used to integrate the guest room to the property for central control and monitoring, to integrate controls within the guestroom, or as a stand alone thermostat.

As the key node in an Energy Management System (EMS), it receives inputs from the PIR motion detector and the wired or wireless door switches to determine guestroom occupancy. When the room is rented but the guest is not present, the temperature may range up or down within a programmable setback band from the selected temperature. This results in energy savings with no impact on guest comfort.

When connected to INNCOM's centrally controlled system, additional energy savings are achieved by using a broader set-back band, when the room is unrented. It can also apply wider temperature set-back bands when the room is in hibernation off-season or extended away periods.

The E-Series wireless transceiver allows it to seamlessly add lighting, drapery, and amenity controls through usage of the INNCOM's EVORA, and MODEVA wall switches. In addition, it can also receive inputs from other points in the room such as a balcony door, minibar or smoke detector and transmit their status to the central server.

E528 Smart Digital Thermostat with flat PIR and the ecoMODE green button

E529 Battery powered Smart Digital Thermostat with the ecoMODE green button

FEATURES

- Precision DDC temperature control
- Customer programmable parameters
- Direct line or low voltage
- Wired installation
- RFwireless communication
- Balcony Door monitoring
- ecoMODE™
- Occupancy based lighting control
- Minibar and safe monitoring
- Smoke detector monitoring
- Central control/monitoring of all the above
- Oversized framing plates (optional)

BENEFITS

- Advanced energy management
- Low acquisition and installation costs
- Ideally suited for new construction and retrofit projects
- Expandable

E-Series Thermostats

E528 & E529 Available Options

SPECIFICATIONS

- Model number: E528 & E529
- Dimensions: 4.7" W x 4.7" H x 1.2" D (119 mm x 119 mm x 30 mm)
- Operating Range: 41°F to 149°F (5°C to 65°C)
- Temperature: ± 1°F 60°F to 85°F (± 0.5°C 15°C to 30°C)
- Power In: Models with power sources from 24 - 277VAC 6VDC battery-277VAC
- UL listed, FCC Part 15B Compliant

OPTIONAL POWER SUPPLIES

- No Power Supply
- 120-277VAC
- 265-277VAC 50/60Hz w/3.6FLA high fan relay (600 Series)
- 50/60Hz w/2.2FLA high fan relay (800 Series)
- 24VAC 50/60Hz (900 Series)
- Four AA Batteries (E529 Only)

HOUSING COLOR OPTIONS

White

Black

Custom Colors may be selected, at an additional cost and lead time. Colors must be submitted by selecting either a color from the RAL color guide or with a Pantone color number from one of their guides.

ADDITIONAL OPTIONS

- The Thermostats are available with or without the Honeywell logo
- The Thermostats are available with or without a Humidity Sensor
- The Thermostats are available with or without Auxiliary Communications. The following are offered: RF, IR5, RS485

ADDITIONS

Blank

Standard PIR

Standard PIR with ecoMODE Button

Flat PIR

Flat PIR with ecoMODE Button

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E528/529 Sell | Rev3 | 10/16

For more information
www.inncom.com

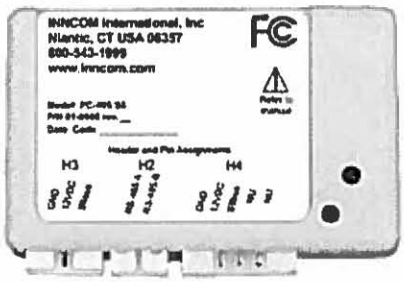
Honeywell

X09

Master Relay

The X09 Master Relay is an INNCOM Integrated Room Automation System device designed to control lighting and switched outlet circuits in rooms.

The X09 is a kit consisting of an INNCOM PC485 Protocol Converter and a 30 amp. rated relay. This kit can be augmented by an S217 switch to provide added functionality. It an also be paired with a 250 mA or 1A power supply if a low voltage power source is needed in the room configuration. *(See diagram B on back page).*



PC485 Protocol Convertor

The X09 is typically paired with a switch designated as the Master Light Switch for the room. This switch is normally located by the room's entrance and provides a convenient means of switching all lighting and switched circuits. It can also be controlled by the occupancy detection algorithm in the Integrated Room Automation System so that lights can be controlled without guest interaction.

The X09 is designed to be installed by electricians *(who may need to be licensed locally)* and requires additional installation materials *(back boxes, separators, etc.)* typically provided by them.

The 30 amp. relay is energized and de-energized by control signals from the PC485. The PC485 is wired via S5bus to the Room Automation System.

FEATURES

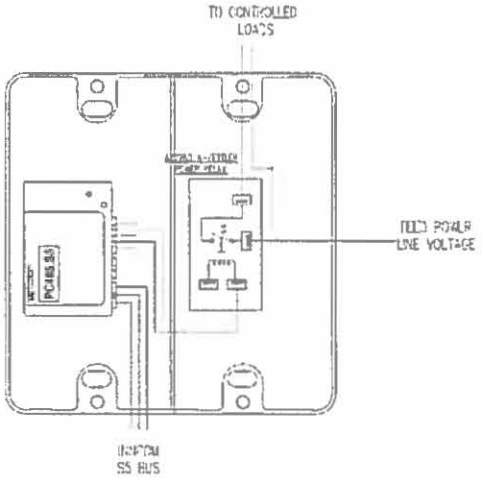
- A convenient means of switching all lighting and switched circuits
- The relay performs an On/Off functionbased on unit occupancy status
- Provides Advanced Energy Management

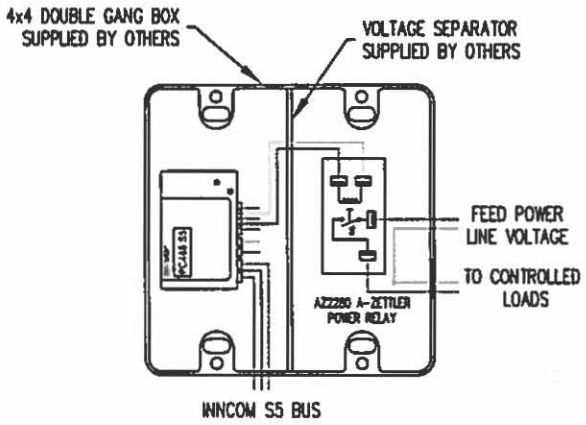
X09

Master Relay

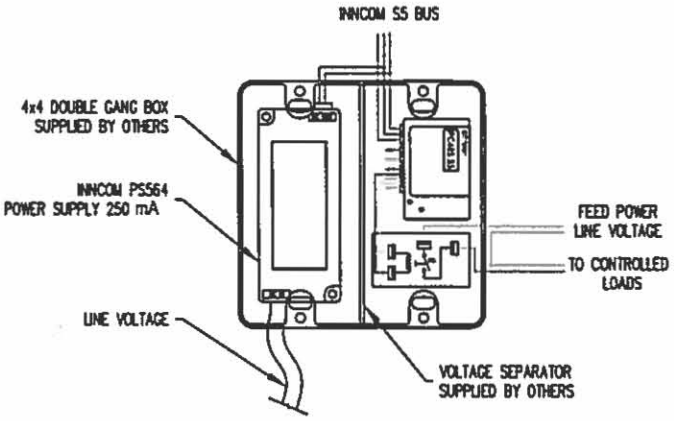
The INNCOM X09 Master Lighting Controller is used to control unit lighting with INNCOM's Energy management System (EMS) and occupancy logic.

INNCOM's PC485 provides the interface between INNCOM's EMS system (thermostat) and the relay controlling power to unit controlled lighting loads. The relay performs an On/Off function based on unit occupancy status.





Ⓐ X09 MASTER RELAY DETAIL



Ⓑ X09 MASTER RELAY DETAIL
W/ 250 mA POWER SUPPLY

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277 West Main Street
Niantic, CT 06357
+1.860.739.4468

X09 Data Sheet | Rev1 | 12/16

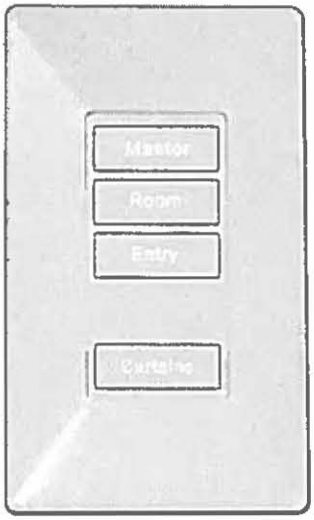
For more information
www.inncom.com

Honeywell

EVORA

Series Switches

The EVORA family of switches offers an elegantly designed, easy to use, feature-rich user interface and control system providing a state-of-the-art guestroom automation experience. EVORA allows guest control of multiple lighting loads, temperature, drapes, and guest annunciation from multiple switch locations in the guestroom. EVORA offers three different user interface modules and three different Load Assemblies that include wired and wireless communications, dimmers, and programmable controls designed to operate within INNCOM's Integrated Room Automation System (IRAS). The EVORA system brings all guestroom control features into a sleekly designed traditional keypad user interface.



EVORA 4 button switch

EVORA has at its core the same Load Assembly architecture used by INNCOM's MODEVA line. The Load Assembly is available in five configurations that provide the mechanical platform and load bearing capability for the control and dimming of a variety of lamp types. The EVORA series differs from MODEVA in several ways. It uses a standard dimension mounting bracket, for instance, allowing EVORA's to be ganged with other products. EVORA products come factory assembled.

The EVORA uses momentary contact switches that provide a tactile response when pressed. Switch buttons can be blank or their functionality can be identified with an icon or text. They can also be provided with a status LED providing a visual indication of the button function. When used as a dimmer, a quick press of the button will toggle the light ON or OFF. When the button is pressed and held the light brightness will ramp up or dim down depending on the configuration.

FEATURES

- Up to 7 key configurations with up to 5 position key pad for programmable control of any IRAS feature
- Nightlight configuration with 2 key positions
- Doorbell configuration with 2 key positions
- Optional multifunction key for up to 10 grouped features per device
- Backlight illuminated keys and text
- Smoke detector monitoring
- Central control and monitoring of all the above
- On-board PIR (optional)
- Oversized framing plate (optional)
- ecoMODE* (optional)
- Low-voltage adapter for load center applications

EVORA

Available Options

SPECIFICATIONS

- Dimensions: 1.75" W x 4"H x 1.75" D (45 mm x 100 mm x 45 mm)
- 2.4Ghz 802.15.4 wireless RF network communications
- Available in Single, Double or Triple Gang Configurations
- Accepts standard Decora® cover plates *(Need to be purchased Separately)*

POWER SUPPLY TYPE

- 120VAC 50/60Hz powered
- TRIAC dimmer, 500W
- FET dimmer, 350W
- Relay actuator, 500W
- 200mA, 12VDC power supply

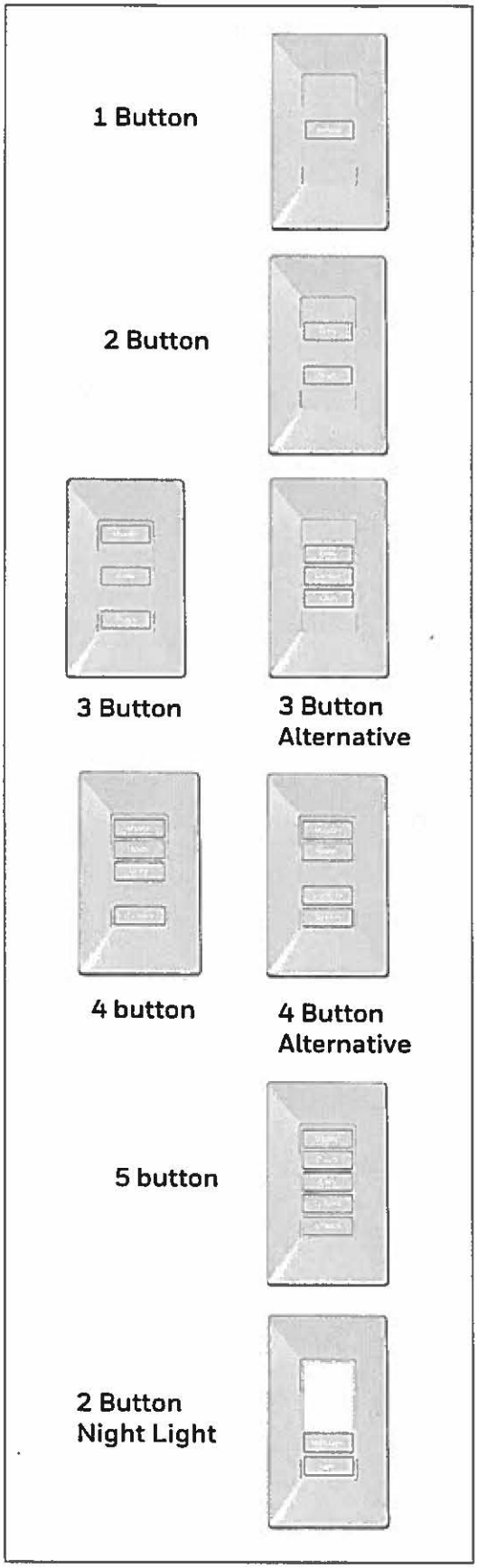
- *The TRIAC dimmer can be used in multi-gang applications at 650W if ganged with a Relay actuator. If used in a multi gang installation with another TRIAC or MOSFET dimmer, the maximum output is 400W.*
- *The MOSFET dimmer can be used in multi-gang applications at 350W if ganged with a Relay actuator. If used in a multi-gang installation with another MOSFET or a TRIAC dimmer, the*

SWITCH COLOR OPTIONS

White

Black

Custom Colors may be selected, at an additional cost and lead time. Colors must be submitted by selecting either a color from the RAL color guide or with a Pantone color number from one of their guides.



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EVORA Sell | Rev1 | 10/16

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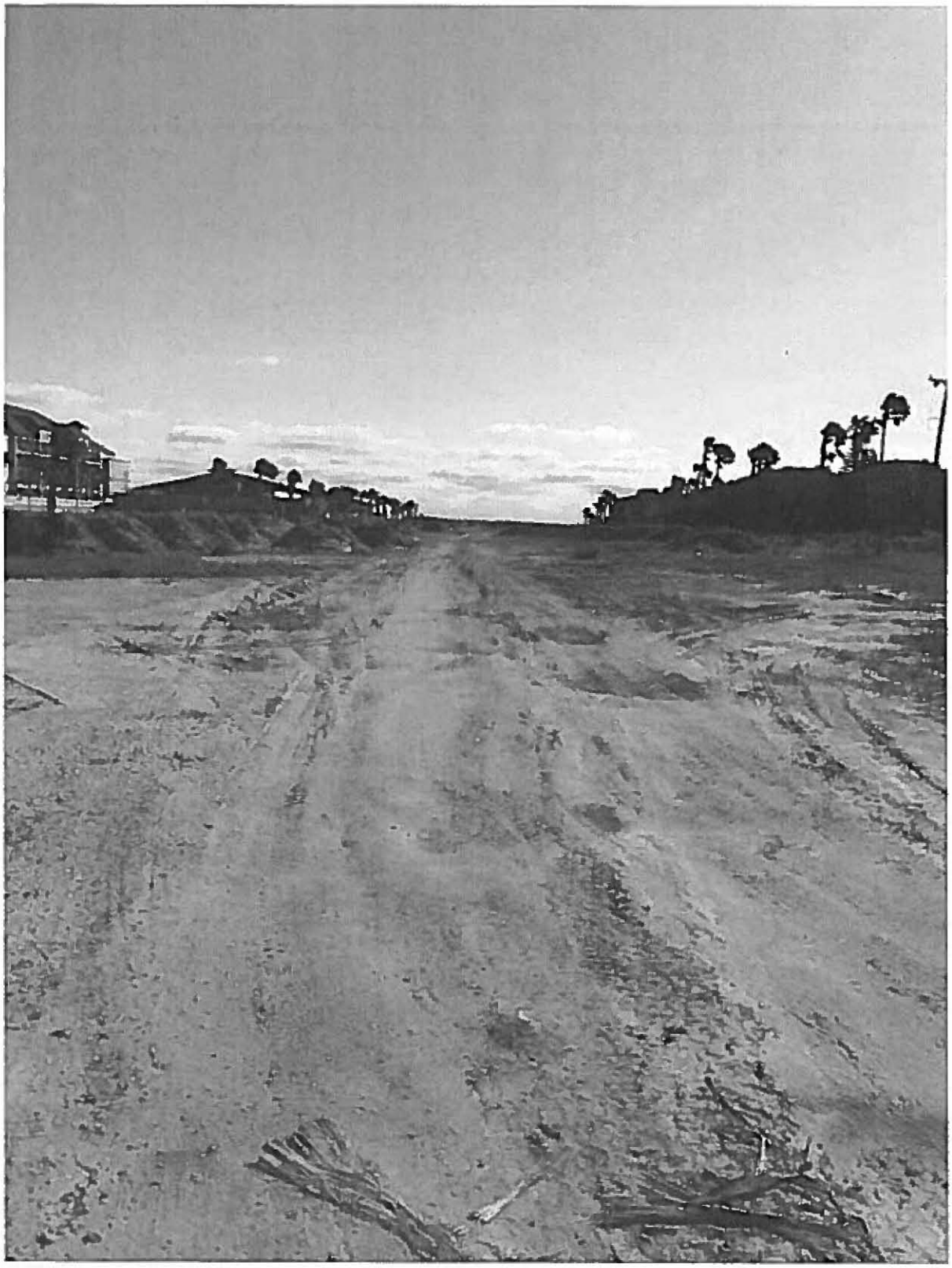
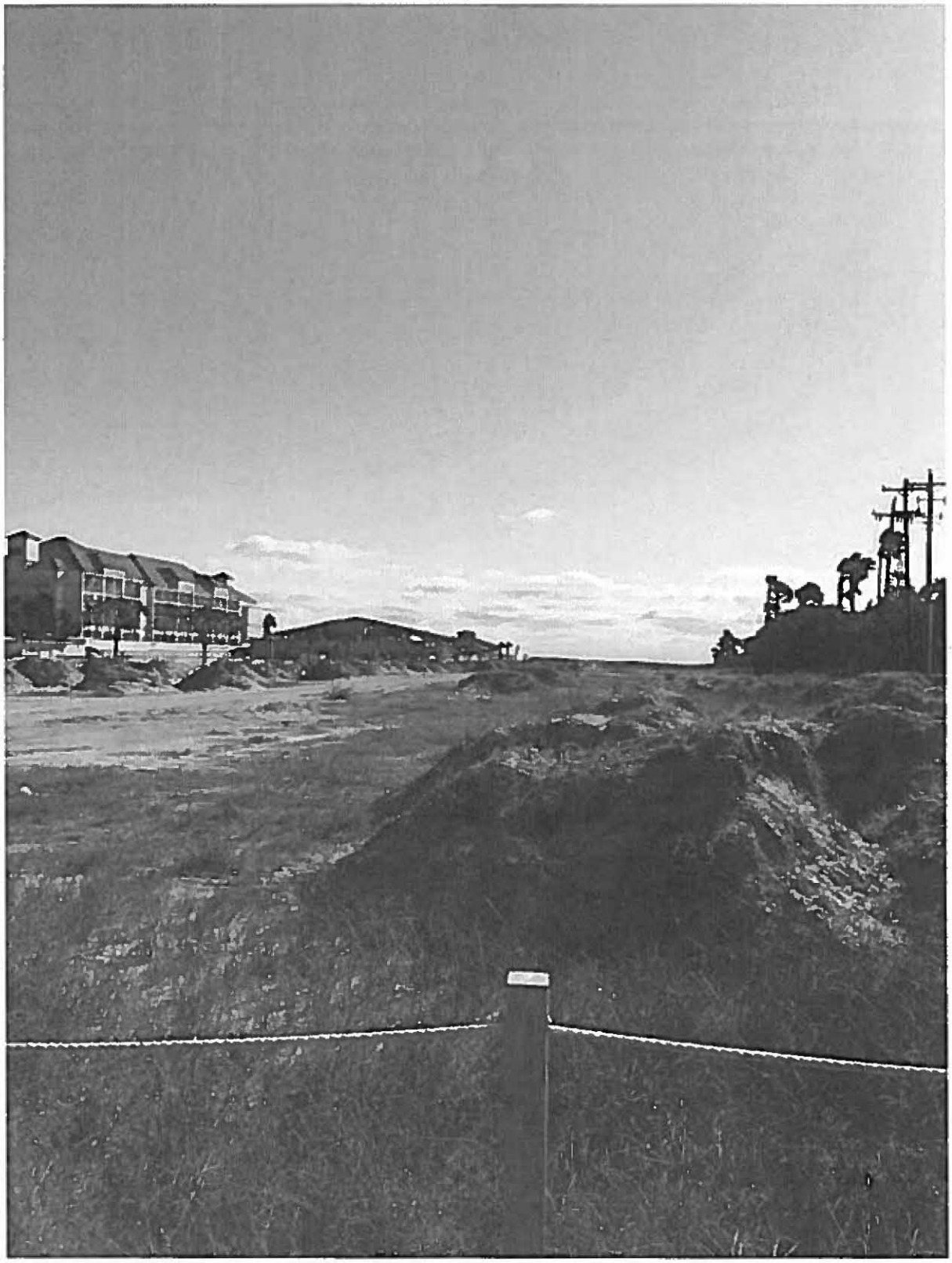
Honeywell





ARCHITECTURAL GENERAL NOTES

AIA DOCUMENT A-201 GENERAL CONDITIONS OF THE CONTRACT SHALL GOVERN ALL AREAS NOT COVERED BY THE NOTES BELOW.

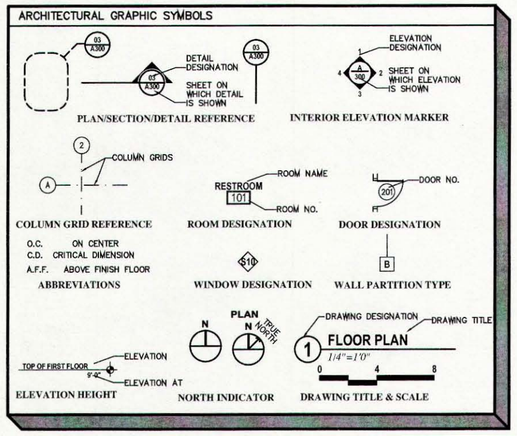
THE TERM "CONTRACTOR" SHALL MEAN BOTH CONTRACTOR & SUB-CONTRACTOR

MANAGING THE RISK OF MOLD

1. THE CONTRACTOR SHOULD HAVE A PLAN FOR PROTECTING MATERIALS FROM WATER DAMAGE DURING CONSTRUCTION. THE CONTRACTOR SHOULD PAY ATTENTION TO THE WAY IT PROCURES MATERIALS, SCHEDULES THEIR DELIVERY AND THEN STORES THEM, PARTICULARLY ON THE CONSTRUCTION SITE. THE CONTRACTOR MAY, FOR EXAMPLE, ESTABLISH PROCEDURES FOR CHECKING MATERIALS FOR ANY WATER DAMAGE BEFORE ACCEPTING THEIR DELIVERY. THE CONTRACTOR SHOULD ALSO HAVE PROCEDURES FOR KEEPING DRYWALL, CEILING TILES, INSULATION AND OTHER POROUS MATERIALS DRY AND FOR DEALING WITH ANY POROUS MATERIALS THAT DO GET WET. SUCH MATERIALS CANNOT BE PROTECTED FROM AMBIENT MOISTURE BUT, ONCE DELIVERED; THEY CAN AND SHOULD BE PROTECTED FROM OTHER SOURCES OF WATER.
2. THE CONTRACTOR SHOULD NOT PERMIT NEW OR ADDITIONAL WORK TO COVER OR ENCLOSE ANY FIREPROOFING, INSULATION OR OTHER POROUS MATERIALS THAT ARE CLEARLY WET.
3. THE CONTRACTOR SHOULD ALSO HAVE SOME KIND OF PROTOCOL FOR DEALING WITH ANY LARGE AND UNEXPECTED WATER INTRUSION.
4. ALL MASONRY SYSTEMS ARE TO HAVE WEEPS THAT WILL ALLOW ANY MOISTURE THAT MIGRATES TO THE INSIDE OF THE MASONRY WALL TO DRAIN OUT.
5. ALL GLASS AND METAL CURTAIN WALL SYSTEMS SHOULD ALSO HAVE DRAINAGE WEEPS. THE DIFFERENCE IN THE AMOUNT OF EXPANSION AND CONTRACTION BETWEEN GLASS AND ALUMINUM IN THE SAME EXPOSURE TO SUN IS SIGNIFICANT.
6. ALL EIFS SYSTEMS ARE REQUIRED TO HAVE A DRAIN-BOARD SYSTEM THAT WILL ALLOW TRAPPED MOISTURE TO ESCAPE.
7. SITE CONDITIONS: THE CONSTRUCTION SITE AND STAGING AREAS MUST BE DESIGNED SO THAT ANY WATER OR RAIN WATER MUST FLOW AWAY FROM THE BUILDING AND CONSTRUCTION MATERIAL. THE CIVIL PANS MUST DRAIN MOISTURE AND WATER AWAY FROM THE BUILDING AFTER THE CONTRACTOR COMPLETE IT. IMPORTANT DETAILS, BACKFILL, AND SOIL COMPACTION, ALONG WITH ANY INDUCED MOISTURE (FROM IRRIGATION, OR BROKEN WATER OR SEWER PIPES, OR OTHER SOURCES), THIS NATURALLY OCCURRING MOISTURE NEEDS TO HAVE A WAY TO DRAIN OFF. IF THIS IS NOT EVIDENT ON THE PLANS, THE GENERAL CONTRACTOR MUST NOTIFY THE ARCHITECT OR CIVIL ENGINEER IMMEDIATELY.
8. FOUNDATION DAMP PROOFING: THE CONTRACTOR ALSO HAS TO PAY ATTENTION TO ANY CRAWL SPACE THAT HAS A DIRT FLOOR. TO CUT DOWN ON THE TRANSMISSION OF MOISTURE AND OTHER NATURALLY OCCURRING GASES FROM SUCH A FLOOR, THE DESIGN DOCUMENTS REQUIRE THE CONTRACTOR TO PLACE AN ELASTOMERIC, POLYPROPYLENE OR OTHER PLASTIC BARRIER OVER IT (AND THEN SEAL THE COVERING TO THE LOWER WALLS)
9. THE GENERAL CONTRACTOR MUST NOT LOAD OR INSTALL ANY DRYWALL OR OTHER POROUS OR ORGANIC MATERIAL IN THE BUILDING BEFORE CONSTRUCTION HAS REACHED THE "CONTROLLED" PHASE.
10. HANG ALL DRYWALL 5/8" FROM THE FINISH FLOOR AND USE FIRE SEALANT AT ALL GAPS TO ENSURE THE SEPARATION.
11. THE OWNER MUST RETAIN A THIRD PARTY TO INSPECT AND VERIFY THAT THE CONTRACTOR HAS EFFECTIVELY SEALED THE BUILDING ENVELOPE.
12. PROCEDURES FOR OPERATING AND MAINTAINING THE HVAC SYSTEM IN ACCORDANCE WITH CURRENT GUIDELINES OF THE AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS, INC. (ASHRAE), INCLUDING PROCEDURES FOR MAINTAINING THE SYSTEM.
13. CAUTION SHOULD BE TAKEN WHEN VINYL WALLCOVERING IS SPECIFIED ON EXTERIOR WALLS WHERE AREAS ARE KNOWN TO BE SUSCEPTIBLE TO THE GROWTH OF MOLD. CONSULT THE ARCHITECT FOR ACCEPTABLE FINISHES AND FURTHER INFORMATION FOR OTHER METHODS OF MINIMIZING THE POTENTIAL FOR MOISTURE PROBLEMS.

1. CONTRACTOR TO FURNISH ALL LABOR & MATERIALS NECESSARY TO COMPLETE INSTALLATION AS DETAILED. EACH CONTRACTOR SHALL RESPECT THE WORK OF OTHER CONTRACTORS & IS RESPONSIBLE FOR & LIABLE TO REPAIR OR REPLACE ANY DAMAGE CAUSED BY HIS WORK. EACH CONTRACTOR IS BOUND THE THESE SAME TERMS.
2. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH FEDERAL, STATE, & LOCAL CODES & ANY OTHER REGULATIONS HAVING JURISDICTION OVER SAID PROJECT. THE CONTRACTOR SHALL PROTECT & INDEMNIFY THE OWNER &/ OR ARCHITECT AGAINST ANY CLAIM OR LIABILITY ARISING FROM VIOLATION OF ANY SUCH CODE OR REGULATION.
3. THE CONTRACTOR SHALL OBTAIN & PAY FOR ALL REQUIRED PERMITS, INSPECTIONS& APPROVALS. AT TIME OF AWARD, SUBJECT TO STATED ALLOWANCES.
4. CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE THE ON-SITE CONDITIONS & PERFORM ALL NECESSARY WORK TO COMPLETE THE PROJECT. IF EXISTING CONDITIONS DEVIATE SIGNIFICANTLY FROM THESE DRAWINGS NOTIFY THE ARCHITECT FOR FURTHER DIRECTION.
5. THE CONTRACTOR SHALL VISIT THE SITE & EXAMINE FOR ONESELF ALL EXISTING CONDITIONS & LIMITATIONS WHICH AFFECT THE CONTRACT. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL CONTRACT DOCUMENTS. TITLES & SUBDIVISIONS IN THESE DOCUMENTS ARE FOR CONVENIENCE, & NO REAL OR ALLEGED ERRORS IN ARRANGEMENT OF MATTER SHALL BE REASON FOR OMISSION OR DUPLICATION BY ANY CONTRACTOR.
6. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO MAKE A THOROUGH EXAMINATION OF THE PLANS & DETAILS & VERIFY ALL DIMENSIONS & CONDITIONS THEREIN, ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR REVIEW.
7. CONTRACTOR SHALL NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT PRIOR TO CONTINUING CONSTRUCTION OF AREA IN QUESTION.
8. THE DRAWINGS, SPECIFICATIONS & OTHER DOCUMENTS PREPARED BY ARCHITECT AND CONSULTANTS FOR THIS PROJECT ARE INSTRUMENTS OF THE ARCHITECT SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT &, UNLESS OTHERWISE PROVIDED, THE ARCHITECT SHALL BE DEEMED THE AUTHOR OF THESE DOCUMENTS AND SHALL RETAIN ALL COMMON LAW STATUTORY & OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT.
9. THESE DRAWINGS, SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS SHALL NOT BE REPRODUCED OR REUSED EXCEPT BY WRITTEN AGREEMENT OF ARCHITECT.
10. THE GENERAL CONTRACTOR SHALL COORDINATE THE WORK OF ALL SUB-CONTRACTORS WHETHER THEY RECEIVE THEIR CONTRACT FROM THE CONTRACTOR OR OWNER. THE CONTRACTOR'S INSTRUCTIONS SHALL BE FOLLOWED BY ALL TRADES.
11. WORKMANSHIP & SKILL SHALL BE AS SPECIFIED & MATERIALS USED OR SPECIFIED OF THE BEST QUALITY THE MARKET AFFORDS. ALL INSTALLATIONS & APPLICATIONS SHALL CONFORM TO THE MANUFACTURERS' SPECIFICATIONS.
12. ALL MATERIALS & WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE UNLESS SPECIFIED OTHERWISE FOR A LONGER PERIOD OF TIME.
13. THE GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION & SIZE OF OPENINGS FOR VENTS, PIPES, INSERTS, BOXES, HANGERS, ETC...
14. THE GENERAL CONTRACTOR SHALL SAFELY SHORE, BRACE, &/OR SUPPORT ALL WORK AS REQUIRED. THIS WORK SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR & NO ACT, DIRECTION, OR REVIEW OF ANY SYSTEM OR METHOD BY THE OWNER'S REPRESENTATIVE SHALL RELIEVE THE CONTRACTOR OF THIS RESPONSIBILITY.
15. ALL ERECTIONS, DETAILS, MATERIALS, METHODS, ETC. SHOWN &/OR NOTED ON ANY PLAN OR SECTION SHALL APPLY TO ALL OTHER SIMILAR LOCATIONS UNLESS OTHERWISE NOTED.
16. EACH CONTRACTOR SHALL PROVIDE FOR TRASH REMOVAL AT THE END OF EACH DAY; EACH CONTRACTOR SHALL REMOVE ALL TRASH & DEBRIS FROM THE SITE &/OR WITHIN THE BUILDING (AREA SHOULD BE SWEPT CLEAN). IF TRASH & DEBRIS ARE NOT REMOVED, THE OWNER MAY, AT HIS OPTION, PAY FOR ITS REMOVAL & BACK CHARGE THE CONTRACTOR.
17. IT IS NOT THE INTENT OF THESE DRAWINGS TO SHOW OR INDICATE ALL FASTENING OR FRAMING TECHNIQUES &/OR DEVICES, OR TO SHOW ALL CONDITIONS PRESENT.
18. THE GENERAL CONTRACTOR IS TO PROVIDE ALL MEANS TO SECURE & PROTECT CONSTRUCTION AREAS FROM PUBLIC.
19. GENERAL CONTRACTOR SHALL PROVIDE BACKING, BRACING, AND BLOCKING FOR EQUIPMENT SUPPORT AT THE FOLLOWING AREAS: (GENERAL CONTRACTOR TO COORDINATE W/ RESPECTIVE TRADES FOR EXACT LOCATIONS).
    1. SHELVING
    2. LAVATORIES
    3. CABINETS
    4. TOILET ACCESSORIES
    5. CLOSET ACCESSORIES
    6. SIGNAGE
    7. DOOR STOPS
    8. COAT HOOKS
20. CONSTRUCTION SHALL COMPLY WITH THE CONSTRUCTION DOCUMENTS AND MEET ALL APPLICABLE HEALTH, LIFE, SAFETY, AND BUILDING CODES AS WELL AS TO THE SATISFACTION OF THE OWNER.
21. THE CONTRACTOR IS TO COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, RULES, REGULATIONS, ORDERS & OTHER LEGAL REQUIREMENTS OF THE ADMINISTRATIVE AUTHORITIES HAVING JURISDICTION.
22. VERIFY DIMENSIONS, LOCATIONS, ELEVATIONS, & CONFIGURATIONS OF ALL ITEMS ASSOCIATED WITH THE INSTALLATIONS OF PLUMBING, MECHANICAL & ELECTRICAL EQUIPMENT W/ PLUMBING, MECHANICAL, & ELECTRICAL DRAWINGS.
23. ALL ANGULAR OPENINGS IN CONSTRUCTION WILL BE SEALED W/ ELASTOMERIC CAULKING OR SEALANT, OR FIRE RATED CAULKING WHERE APPLICABLE.
24. DIMENSIONS ARE FROM FACE OF STUD TO FACE OF STUD. DIMENSIONS DO NOT INCLUDE GYPSUM BOARD, FURRING, CHANNELS, OR FINISHES UNLESS NOTED AS "CLEAR" DIMENSION.
25. ALL DOOR RETURNS CONSTRUCTION SHALL BE A MINIMUM 4" FROM THE FACE OF ADJACENT OR PERPENDICULAR WALL CORNER UNLESS NOTED OTHERWISE.
26. PROVIDE FIRESAFING AND FIRE STOP SEALANT AT ALL PENETRATIONS OF STRUCTURAL STEEL THROUGH RATED WALL CONSTRUCTION.
27. WHERE FLOORING MATERIAL CHANGES AT DOOR THE LINE OF TRANSITION SHALL BE AT THE INSIDE FACE OF THE DOOR.
28. ALL DOORS AND DOOR HARDWARE SHALL MEET ALL APPLICABLE CODES, A.D.A./TAS REQUIREMENTS.
29. ALL GYPSUM WALLBOARD SHALL BE 5/8" TYPE X GYPSUM WALLBOARD EXCEPT AT 'WET AREAS'; PROVIDE WATER RESISTANT GYPSUM WALLBOARD AT ALL 'WET AREAS', INCLUDING: RESTROOMS/TOILETS
30. IN SPANS OF DRYWALL CONSTRUCTION LARGER THAN 30'-0", PROVIDE A CONTROL JOINT UNLESS NOTED OTHERWISE ON DRAWINGS.
31. ALL REMOVED BUILDING MATERIAL & MISCELLANEOUS DEBRIS MUST BE REMOVED FROM THE SITE. THIS MATERIAL SHALL NOT BE USED FOR INFILL MATERIAL. REMOVE ALL FLAMMABLE OR TOXIC SCRAPS DAILY & DEBRIS ON A REGULAR BASIS. MAINTAIN ALL AREAS CLEAN TO THE SATISFACTION OF THE OWNER.
32. IN ALL TOILET ROOMS, CONCRETE SLAB SHALL NOT BE SLOPED.
33. ALL PENETRATIONS THRU STRUCTURAL SLABS ARE RESPONSIBILITY OF EACH TRADE AND MUST BE APPROVED IN ADVANCE BY GENERAL CONTRACTOR.
34. DOMESTIC HOT AND COLD PIPING SHALL BE COPPER OR COMBINED COPPER/PEX-A SYSTEM, PVC OR CPVC
35. FIRE PROTECTION NOTES:
    A. FIRE PROTECTION CONTRACTOR SHALL PERFORM COORDINATION OF HIS WORK W/ MECHANICAL, ELECTRICAL & ALL OTHER DISCIPLINES TO AVOID INTERFERENCE PRIOR TO FABRICATION OF ANY PIPE.
    B. ALL PIPE PENETRATIONS THROUGH FLOORS OR WALL SHALL BE SLEEVED & SEALED TO MAKE WATERTIGHT & MAINTAIN FIRE RATING.
    C. ALL FIRE SPRINKLERS, FITTINGS, PIPING, EQUIPMENT, & INSTALLATION SHALL BE IN CONFORMANCE W/ NFPA-13 , INTERNATIONAL BUILDING CODE REQUIREMENTS AND OF MARRIOTT CORP. REQUIREMENTS..
    D. FIRE PROTECTION CONTRACTOR SHALL DESIGN FIRE SPRINKLER SYSTEM PIPING SUCH THAT NO MAINS SHALL PASS THROUGH OR OVER ELECTRICAL ROOMS. THE ONLY PIPING ALLOWED IN THIS ROOM SHALL BE THE BRANCH LINES PROTECTING THE ROOM. THESE BRANCH LINES SHALL NOT CONTINUE ON TO THE OTHER ROOMS OR AREAS. BRANCH LINES SHALL BE DESIGNED SO THAT THEY ARE NOT LOCATED DIRECTLY OVER ANY ELECTRICAL PANEL OR EQUIPMENT.
    E. AUTOMATIC FIRE SPRINKLERS SHALL BE INSTALLED IN THE CENTER OF ACOUSTICAL LAY-IN CEILING TILE W/ A MAXIMUM VARIANCE OF 1" IN EITHER DIRECTION.
    F. FIRE SPRINKLER CONTRACTOR SHALL OBTAIN SPECIFIC APPROVAL OF SUPERINTENDENT ON SITE OF PROPOSED DISTRIBUTION IN CONJUNCTION WITH ALL OTHER M.E.P TRADES
    G. STATE LICENSED FIRE SPRINKLER CONTRACTOR SHALL SUBMIT PLANS AND OBTAIN A PERMIT FROM THE FIRE DEPARTMENT PRIOR TO THE INSTALLATION OF FIRE SPRINKLER SYSTEM
    H. FIRE SPRINKLER PROTECTION SHALL BE PROVIDED THROUGHOUT, (FULL COVERAGE), INCLUDING THE MEANS OF EGRESS, PATIOS, BALCONIES, BATHROOMS, CLOSETS AND ATTICS.
    I. AN APPROVED LOCAL UL LISTED CENTRAL STATION ALARM COMPANY SHALL MONITOR THE FIRE SPRINKLER SYSTEM.
    J. CONTRACTOR TO PROVIDE PLANS AND SPECIFICATIONS FOR THE FIRE ALARM SYSTEM SUBMITTED BY A TEXAS LICENSED FIRE ALARM CONTRACTOR, FOR REVIEW AND APPROVAL BY THE FIRE DEPARTMENT AS SOON AS POSSIBLE AND PRIOR TO STARTING THE INSTALLATION INCLUDING THE RUNNING OF ANY CONDUIT OR WIRING.

ARCHITECTURAL GRAPHIC SYMBOLS



COURTYARD Marriott

6700 PADRE BLVD
SOUTH PADRE ISLAND, TEXAS

LAA PROJECT NO. 14005
MARRIOTT PROJECT NO.

PROJECT DATA

CATEGORY	CONSTRUCTION	2012 INTERNATIONAL BUILDING CODE
CONSTRUCTION TYPE	TYPE I A (SPRINKLED NFPA 13) 1ST FLR ⚠1 TYPE II A (SPRINKLED NFPA 13) UPPER FLRS	602.2
OCCUPANCY	GROUP R1 (HOTEL)	310
ALLOWABLE BUILDING AREA		TABLE 503

	ALLOWABLE(IBC 2012, SECTION 504.2 AND 903.3.1.1)	PROVIDED
MAX. HEIGHT IN FT. (SPRINKLER INCREASE)	65'+20'= 85' (ALLOWABLE +20')	58'-1 1/2" TO TOP OF FLAT ROOF
MAX NO. OF STORIES (SPRINKLER INCREASE)	4+1=5 (ALLOWABLE +1 STORY)	5

BUILDING AREA (MULTI-STORY)

(SPRINKLER INCREASE)(IBC 2012, SECTION 506.3)

	ALLOWABLE + 2(ALLOWABLE) = TOTAL	PROVIDED
FIRST FLOOR	⚠1 UNLIMITED	64,167 SQ. FT
SECOND FLOOR	24,000 SQ.FT + 2(24,000) = 72,000 SQ.FT	42,166 SQ. FT
THIRD FLOOR	24,000 SQ.FT + 2(24,000) = 72,000 SQ.FT	49,792 SQ. FT
FOURTH FLOOR	24,000 SQ.FT + 2(24,000) = 72,000 SQ.FT	49,792 SQ. FT
FIFTH FLOOR	24,000 SQ.FT + 2(24,000) = 72,000 SQ.FT	49,792 SQ. FT
TOTAL BUILDING AREA		255,699 SQ. FT ⚠1

LANDSCAPING ANALYSIS

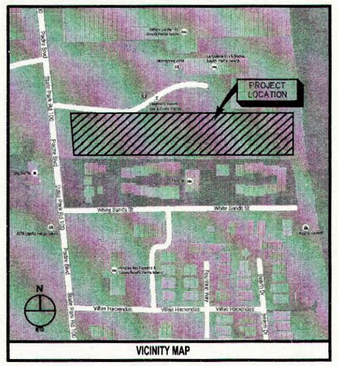
	REQUIRED	PROVIDED
TOTAL SITE AREA	--	183,734 SF ● HOTEL SITE
LANDSCAPE AREA (20%)	36,746.8 SF	50,774 SF ● HOTEL SITE

PARKING ANALYSIS

	REQUIRED	PROVIDED
GENERAL PARKING (.75 CAR/ROOM - 205 ROOMS)	153.75	95 SPACES ● HOTEL SITE ⚠1 185 SPACES ● VALET PARKING ACROSS PADRE BLVD
TOTAL	153.75	⚠1 280 SPACES (6 ACCESSIBLE SPACES)

GUESTROOMS	FLOOR					TOTAL
TYPE	1	2	3	4	5	
STANDARD QUEEN/QUEEN	0	8	8	8	7	31
QUEEN/QUEEN	0	18	32	29	31	110
QUEEN/QUEEN W/ BAR	0	3	3	5	4	15
KING A	0	1	1	1	1	4
KING B	0	4	4	4	4	16
KING W/ BAR	0	2	1	1	2	6
QUEEN/QUEEN W/ KITCHEN	0	0	0	1	0	1
KING W/ KITCHEN	0	0	1	1	1	3
TWO BEDROOM SUITE W/ KITCHEN	0	2	2	2	2	8
ACC STANDARD QUEEN/QUEEN	0	0	0	0	1	1
ACC QUEEN/QUEEN W/ BAR & SHWR	0	1	2	0	0	3
ACC QUEEN/QUEEN W/ TUB	0	0	0	1	1	2
ACC QUEEN/QUEEN W/ KITCHEN	0	0	0	1	0	1
ACC KING W/ BAR & TUB	0	0	0	1	1	2
ACC KING W/ KITCHEN	0	0	1	0	0	1
ACC TWO BEDROOM SUITE W/ KITCHEN	0	1	0	0	0	1
TOTAL GUESTROOMS	0	40	55	55	55	205

DISTRIBUTION TYPE	TOTAL	% OF TOTAL
DQ	164	80%
KING	32	16%
SUITE	9	4%



VICINITY MAP

CONVENTIONS

THE MAIN SOURCE FORMING THE BASIS FOR THE RE-ORGANIZATION, SET-UP, GRAPHICS AND TITLING OF THE DRAWINGS IS THE NATIONAL CAD STANDARDS. THIS IS A WELL-DEVELOPED AND WIDELY RECOGNIZED STANDARD WHICH ALSO FACILITATES REVISIONS EASILY AND EFFECTIVELY. THE SHEET NUMBERING ORDERS THE SET INTO SECTIONS BASED ON DRAWING TYPE. THE FOLLOWING IS AN OUTLINE OF THE GENERAL NUMBERING CRITERIA:

000 – GENERAL INFORMATION SHEETS
100 – SITE AND BUILDING PLANS
200 – BUILDING ELEVATIONS
300 – BUILDING SECTIONS
400 – ENLARGED PLANS (PUBLIC SPACE, GUESTROOMS, STAIRS, ELEVATORS, ETC)
500 – DETAILS (BRAND RELATED – INTERIOR, EXTERIOR, KITCHEN, LAUNDRY)
600 – DETAILS (COMMON CONSTRUCTION, X-BRAND MARRIOTT) AND SCHEDULES
700 – NOT USED
800 – FOOD SERVICE DRAWINGS
900 – CRITERIA PLANS

Project Description

THE BUILDING IS A 5 STORY, FIRE RATED STRUCTURE, PROTECTED WITH AN AUTOMATIC FIRE SPRINKLER SYSTEM NFPA 13. THE BUILDING ACCOMMODATIONS INCLUDE GUESTROOMS ON ALL FLOORS AND LOBBY, MEETING ROOM, OFFICE, LAUNDRY, ELECTRICAL/MECHANICAL, EXERCISE ROOM ON FIRST FLOOR WITH ELEVATORS LOCATED WITHIN THE BUILDING SERVICING ALL FLOORS.

Project Team

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General Notes

A. ALL PRODUCTS LISTED BY ICC, UL OR EQUIVALENT NUMBERS SHALL BE INSTALLED PER THE REPORT AND MANUFACTURER'S WRITTEN INSTRUCTION. PRODUCT SUBSTITUTION FOR PRODUCTS LISTED SHALL ALSO HAVE AN APPROVED EVALUATION REPORT OR BE APPROVED AND LISTED BY OTHER NATIONALLY RECOGNIZED TESTING AGENCIES.

B. PER THE REQUIREMENTS OF NFPA 13, FIRE SPRINKLER SYSTEM SHALL BE FULLY AUTOMATIC AND MONITORED. THE DESIGN OF THE SYSTEM SHALL BE SUBMITTED FOR LOCAL JURISDICTIONAL REVIEW AND THEY MUST BE APPROVED PRIOR TO CONSTRUCTION.

C. THE CONTRACTOR MUST COMPLY WITH ALL THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AS WELL AS ALL LOCAL AND STATE ACCESSIBILITY REGULATIONS (TAS). COMPLIANCE WITH ONE CODE DOES NOT NECESSARILY GUARANTEE COMPLIANCE WITH ALL ACCESSIBILITY CODES. ALL CONSTRUCTION SHALL COMPLY WITH LOCAL BUILDING CODES AT A MINIMUM.

South Padre Island Building Codes

THIS PROJECT SHALL ADHERE TO THE FOLLOWING CODES:

2012 INTERNATIONAL BUILDING CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL PLUMBING CODE
2011 NATIONAL ELECTRICAL CODE
2012 INTERNATIONAL FIRE CODE
2012 INTERNATIONAL ENERGY CONSERVATION CODE
2012 INTERNATIONAL FUEL GAS CODE
2012 TEXAS ACCESSIBILITY STANDARDS

Additional Codes

REFER TO MARRIOTT STANDARDS MANUAL FOR REQUIRED APPROVALS, LIFE SAFETY REQUIREMENTS, ACCESSIBILITY REQUIREMENTS, ENERGY CONSERVATION RECOMMENDATIONS, SIGNAGE REQUIREMENTS, BUILDING REQUIREMENTS, AND SITE REQUIREMENTS. WHILE SPECIFIC REFERENCES TO THESE STANDARDS OCCUR THROUGHOUT THE DRAWING SET, THESE REFERENCES ARE NOT ALL INCLUSIVE. REFER TO STANDARDS TABLE OF CONTENTS FOR FULL SCOPE OF MANUAL. ANY DISCREPANCIES FOUND BETWEEN THE DRAWING SET AND THE STANDARDS MANUAL SHALL BE BROUGHT TO THE DESIGN TEAM FOR CLARIFICATION. THIS PROJECT SHALL ADHERE TO MARRIOTT MODULE 14.

ASTME NOTE:

REF. SPECIFICATIONS FOR ASTME FIRE RATING ON ALL MATERIALS.

SMOKE AND FLAME SPREAD FOR INTERIOR FINISHES FOR WALLS AND CEILINGS TO BE PER ASTM E84 AND IBC 803. FOR B AND R-1 OCCUPANCIES IN A SPRINKLERED BUILDING:

EXIT ENCLOSURES AND EXIT PASSAGEWAYS CLASS B (FLAME SPREAD 26-75, SMOKE DEVELOPED 0-450)

CORRIDORS CLASS C (FLAME SPREAD 76-200, SMOKE DEVELOPED 0-450)

ROOMS AND ENCLOSED SPACES CLASS C (FLAME SPREAD 76-200, SMOKE DEVELOPED 0-450)

SMOKE AND FLAME SPREAD FOR INTERIOR FINISHES FOR WALLS AND CEILINGS TO BE PER ASTM E84 AND IBC 803. FOR A3 OCCUPANCIES IN A SPRINKLERED BUILDING:

EXIT ENCLOSURES AND EXIT PASSAGEWAYS CLASS B (FLAME SPREAD 26-75, SMOKE DEVELOPED 0-450)

CORRIDORS CLASS B (FLAME SPREAD 26-75, SMOKE DEVELOPED 0-450)

ROOMS AND ENCLOSED SPACES CLASS C (FLAME SPREAD 76-200, SMOKE DEVELOPED 0-450)

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Randal Kelly
Project Manager:
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COURTYARD by Marriott

Revisions
⚠1 REVISION 10-24-16

COURTYARD by MARRIOTT
6700 PADRE BLVD
SOUTH PADRE ISLAND, TX 78597

BID SET
DATE
4/18/16
TX-15034

sheet description
COVER SHEET
sheet number
001

NOTE:

1. DIMENSIONS ARE FROM FACE OF STUD OR STRUCTURE AAC TO FACE OF STUD OR STRUCTURE AAC. DIMENSIONS DO NOT INCLUDE GYPSUM BOARD, FURRING CHANNELS, OR OTHER FINISHES UNLESS NOTED AS " CLEAR" DIMENSION.
2. WALL TYPE A35 WALLS TYPICAL AT EXTERIOR PARTITIONS UNLESS OTHERWISE NOTED
3. WALL TYPE B21 WALLS TYPICAL AT INTERIOR PARTITIONS UNLESS OTHERWISE NOTED
4. REF 004 & 005 FOR WALL & CEILING TYPES
5. REF 429-440A SERIES FOR TYPICAL ENLARGED GUESTROOM PLANS
6. REF 452 & 4453 FOR STAIRS PLAN & SECTION
7. REF 450 FOR ELEVATOR PLAN & SECTION

LEGEND

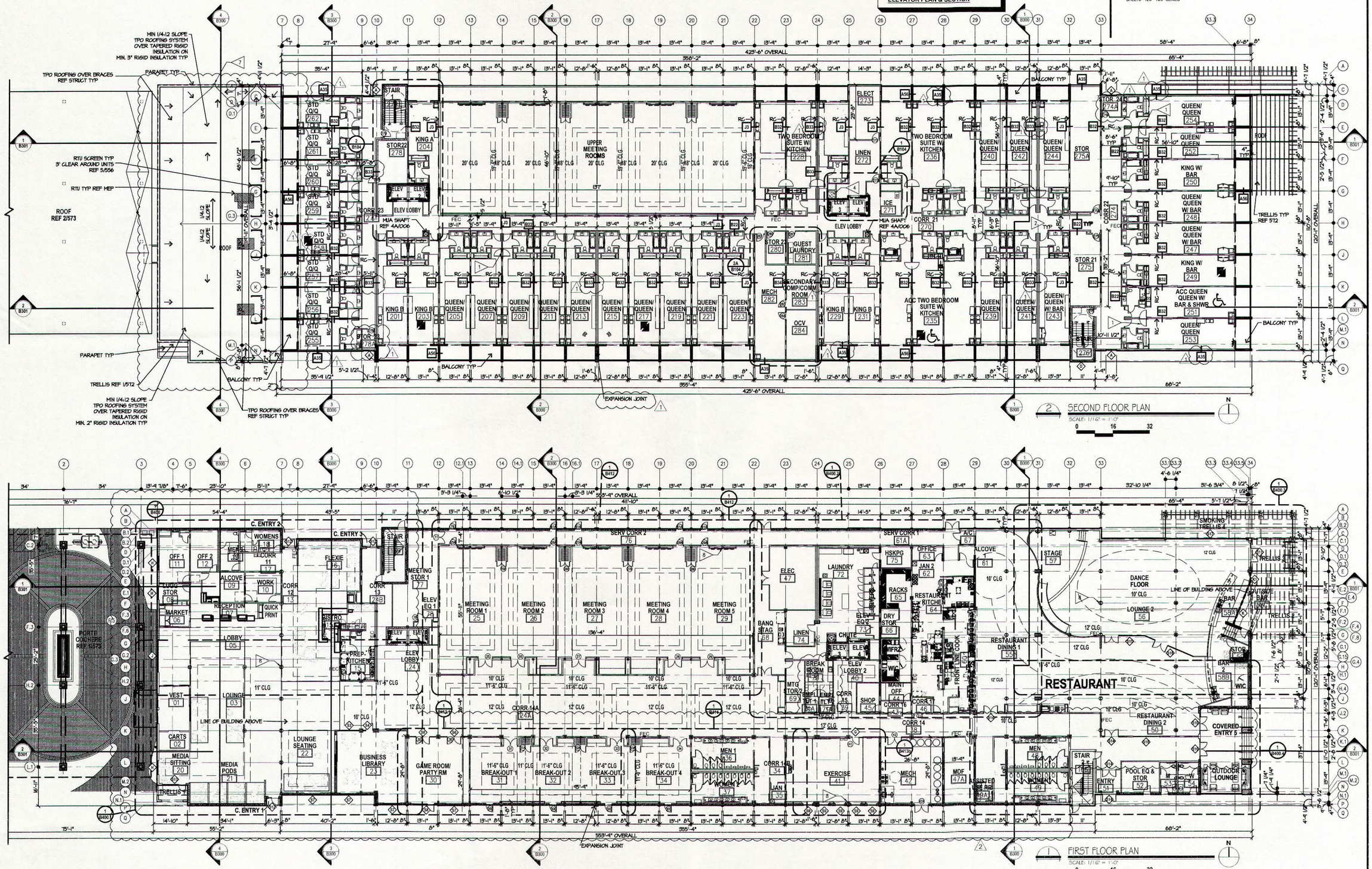
RC--> = RESILIENT CHANNEL THIS SIDE

REFERENCE NOTES

1. REFER TO SPECIFICATIONS FOR FINISH INDEX
2. NOT USED
3. REFER TO SHEET 004 FOR PARTITION ASSEMBLY TYPES
4. REFER TO SHEET 003 FOR ELECTRICAL SYMBOLS LEGEND
5. DIMENSIONING IS BASED ON WD STUD CONSTRUCTION AND WALL ASSEMBLIES SHOWN ON SHEET 004. ALL DIMENSIONS ARE TO FACE OF STUD, U.N.O. HOLD ALL CLEAR INTERIOR ROOM DIMENSIONS
6. TO THE MAXIMUM EXTENT POSSIBLE, FLOOR CLEAN-OUTS ARE TO BE LOCATED IN INCONSPICUOUS LOCATIONS, AND NOT IN GUESTROOMS. ALL FLOOR CLEAN-OUTS LOCATED IN CARPETED AREAS ARE TO BE FITTED WITH CARPET INSERTS. ALL CLEAN-OUTS ARE TO BE FLUSH TO FLOORS/WALLS
7. ACCESSIBLE UNITS SHALL HAVE CONNECTING DOORS TO AN ADJACENT UNIT
8. REFER TO UNIT PLANS ON SHEETS 420-430 SERIES

CRITERIA NOTES

1. CONNECTING DOORS ARE REQUIRED PER MARRIOTT DESIGN AND CONSTRUCTION STANDARDS
2. ALIGN DOOR POCKETS TO CREATE RELIEF ALONG CORRIDOR
3. NOT USED
4. LINEN CHUTE REF 3B/006
5. CONFIRM CODE REQUIREMENTS FOR ROOF ACCESS
6. HOUSE PHONE AT UPPER ELEVATOR LOBBIES (TYPICAL)
7. SCUPPER HEAD & DOWNSPOUT REF 4 & 4A/B100d
8. PROVIDE 3 HR FIREPROOFING FOR ALL COLUMNS & BEAMS AT FIRST FLOOR



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Architect:
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Project Manager:
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COURTYARD by Marriott

Revisions
REVISION 10-24-16

COURTYARD by MARRIOTT
6700 PADRE BLVD
SOUTH PADRE ISLAND, TX 78597

BID SET
DATE 4/18/16
TX-15034

sheet description
FIRST & SECOND FLOOR PLANS
sheet number
B100a-S

REGISTERED ARCHITECT
RANDAL L. KELLY
24769
STATE OF TEXAS
04/18/16

NOTE:

1. DIMENSIONS ARE FROM FACE OF STUD OR STRUCTURE AAC TO FACE OF STUD OR STRUCTURE AAC. DIMENSIONS DO NOT INCLUDE GYPSUM BOARD, FURRING CHANNELS, OR OTHER FINISHES UNLESS NOTED AS " CLEAR" DIMENSION.
2. WALL TYPE A35 WALLS TYPICAL AT EXTERIOR PARTITIONS UNLESS OTHERWISE NOTED
3. WALL TYPE B21 WALLS TYPICAL AT INTERIOR PARTITIONS UNLESS OTHERWISE NOTED
4. REF 004 & 005 FOR WALL & CEILING TYPES
5. REF 429-440A SERIES FOR TYPICAL ENLARGED GUESTROOM PLANS
6. REF 452 & 4453 FOR STAIRS PLAN & SECTION
7. REF 450 FOR ELEVATOR PLAN & SECTION

REFERENCE NOTES

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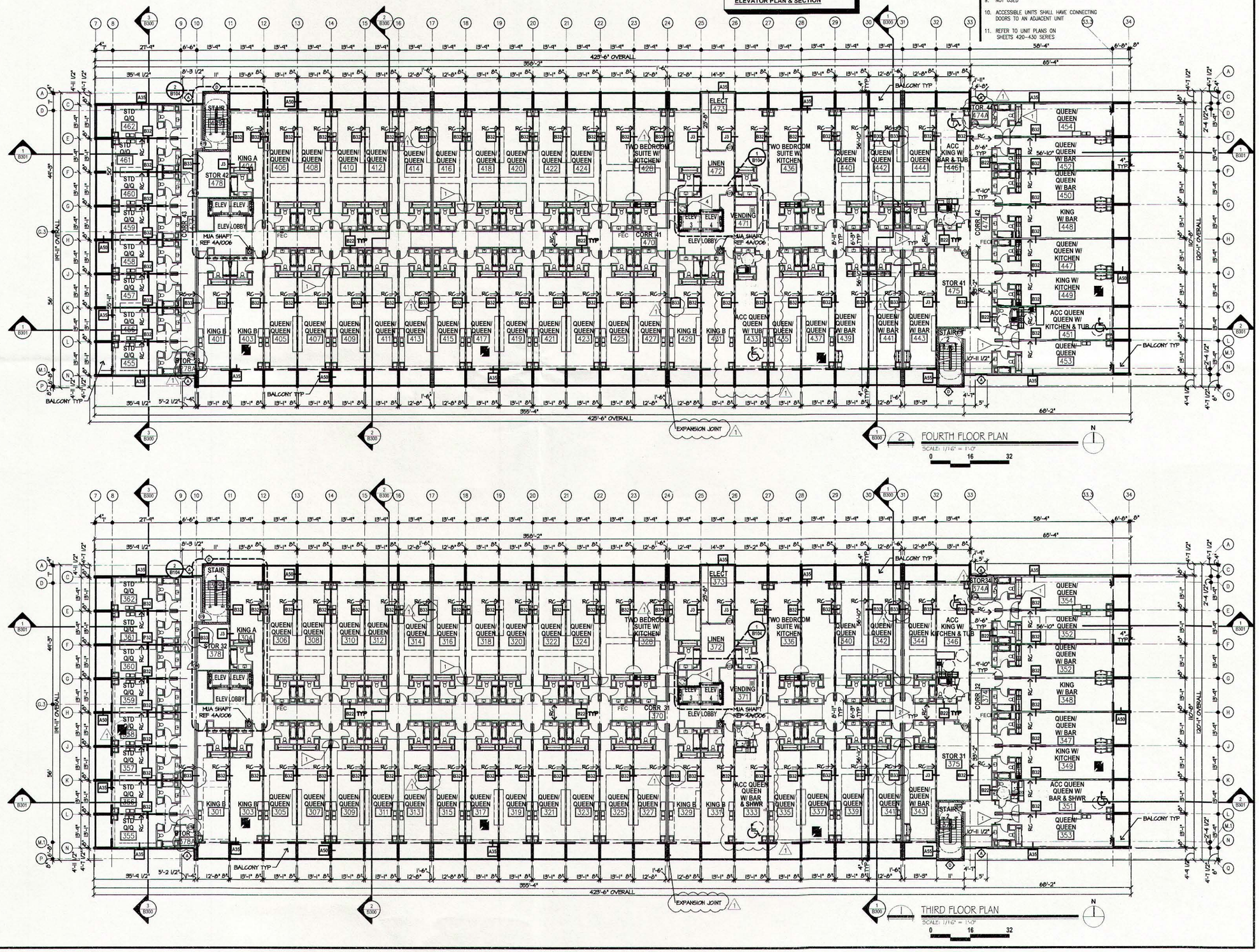

2 FOURTH FLOOR PLAN
SCALE: 1/16" = 1'-0"
0 16 32

1 THIRD FLOOR PLAN
SCALE: 1/16" = 1'-0"
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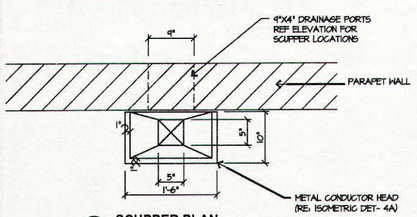
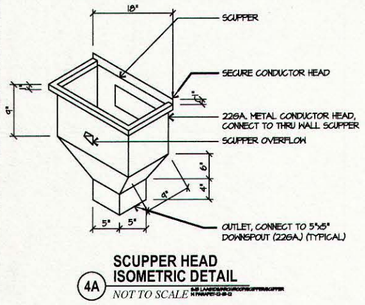
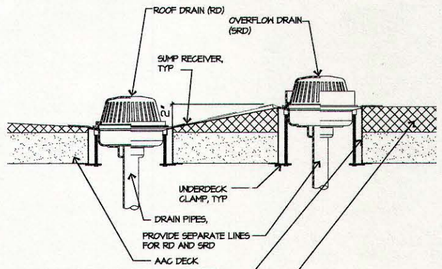
REGISTERED ARCHITECT RANDAL Z. KELLY 24765 STATE OF TEXAS
04/18/16



4 **SCUPPER PLAN**
NOT TO SCALE



4A **SCUPPER HEAD ISOMETRIC DETAIL**
NOT TO SCALE



3 **ROOF OVERFLOW DRAIN DETAIL**
1"=1'-0"

CRITERIA ROOF NOTES

1R CONDUCTOR HEAD W/ OVERFLOW AND DOWNSPOUT
2R EXHAUST FAN
3R EXPOSED DUCT WORK ON ROOF, REF HVAC PLANS
4R ELEVATOR OVERRUN DOGHOUSE
5R GUTTER AND DOWNSPOUT. DOWNSPOUT FINISH TO MATCH ADJACENT BUILDING FINISHES THROUGHOUT THE LENGTH OF THE DOWNSPOUT.
6R RD & SRD REF MEP
7R NOT USED
8R NOT USED
9R NOT USED
10R ROOF VENT
11R LINEN CHUTE VENT CAP
12R MAKE UP AIR UNIT
13R INSULATED EXPOSED MAKE UP AIR DUCT OVER ROOF
14R 1 1/2" DIA GALV PIPE BRACES WELDED TO 8" CONT GALV CHANNEL W/PITCH PAN REF STRUCT
15R X:12 SLOPE TPO ROOFING SYSTEM OVER TAPERED RIGID INSULATION MIN. 2" RIGID INSULATION ON 6" AAC ROOF PLANKS TYP REF STRUCT
16R CANT STRIP
17R CONC SPLASH BLOCK

1 TPO ROOF COMPLIES WITH IECC SECTION C402.2.1.1.
SOLAR REFLECTANCE = .87
THERMAL EMITTANCE = .95

NOTE:

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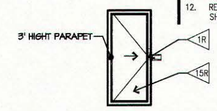

2A **STAIR ROOF PLAN**
SCALE: 1/16" = 1'-0"
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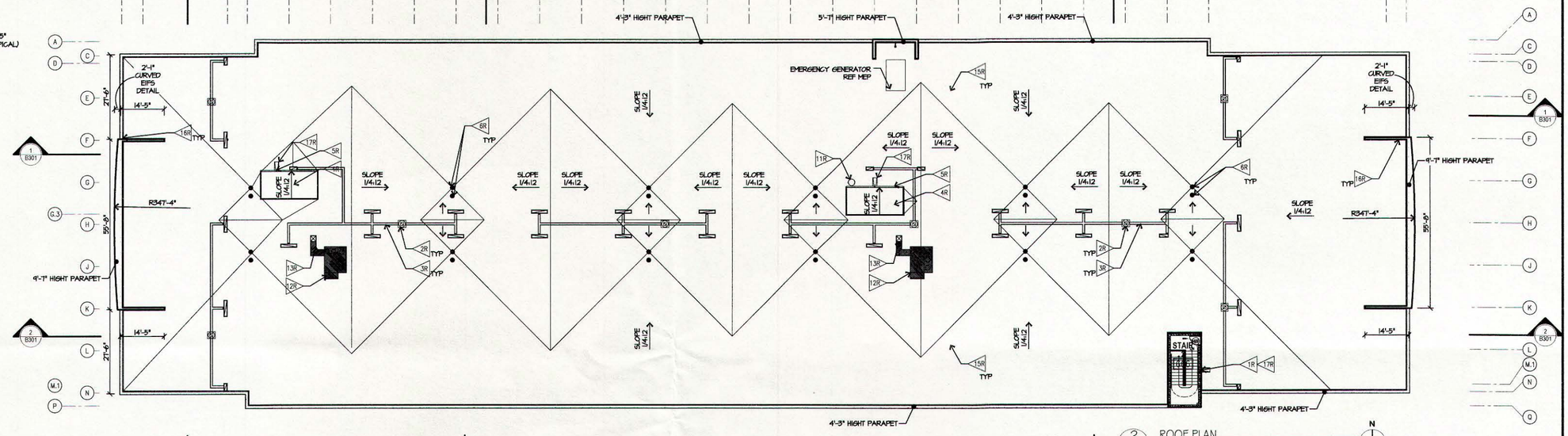

2 **ROOF PLAN**
SCALE: 1/16" = 1'-0"
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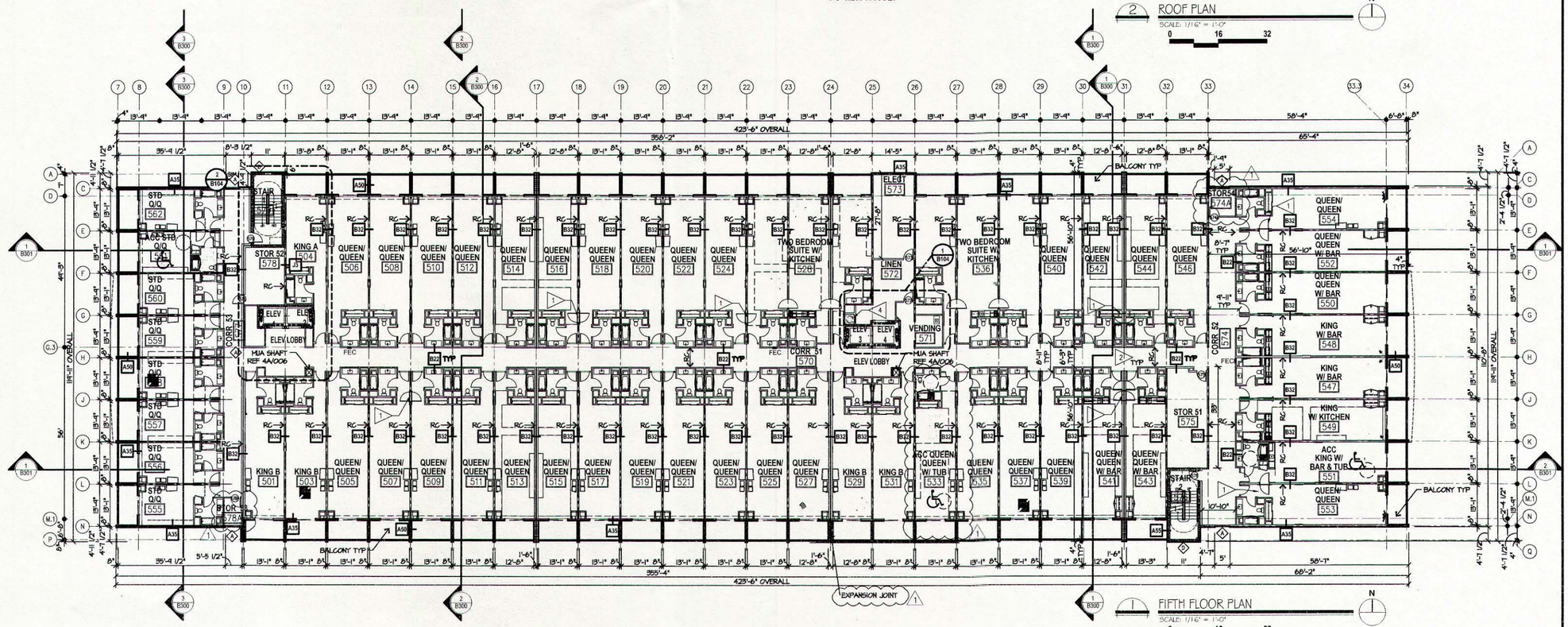

1 **FIFTH FLOOR PLAN**
SCALE: 1/16" = 1'-0"
0 16 32

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COURTYARD® Marriott

Revisions
1 REVISION 10-24-16

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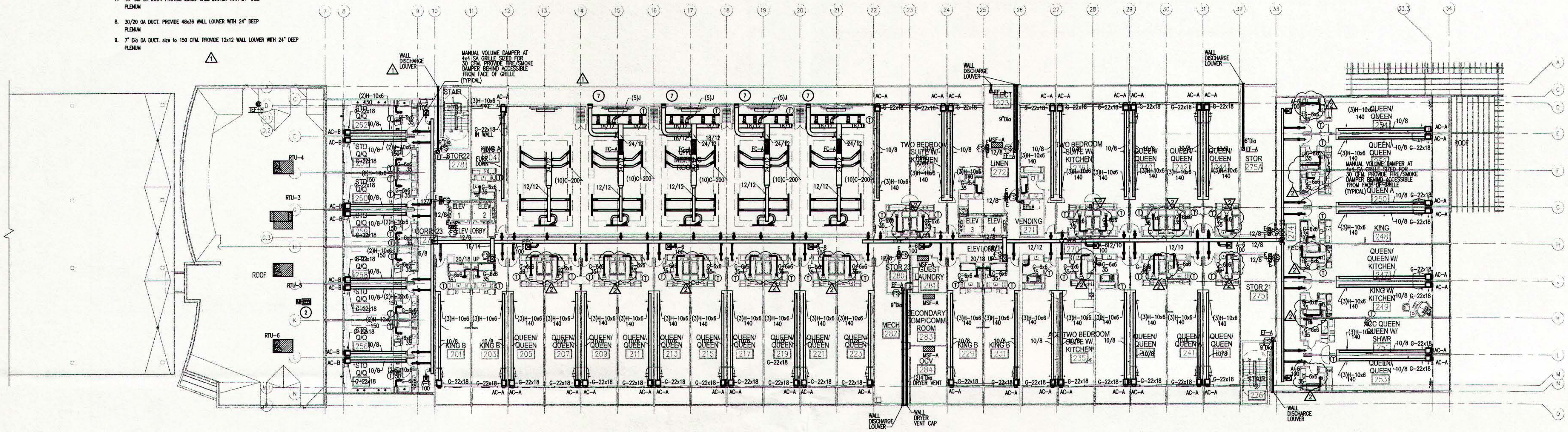
BID SET
DATE 4/18/16
TX-15034

sheet description
FIFTH FLOOR & ROOF PLAN
sheet number
B100c-S

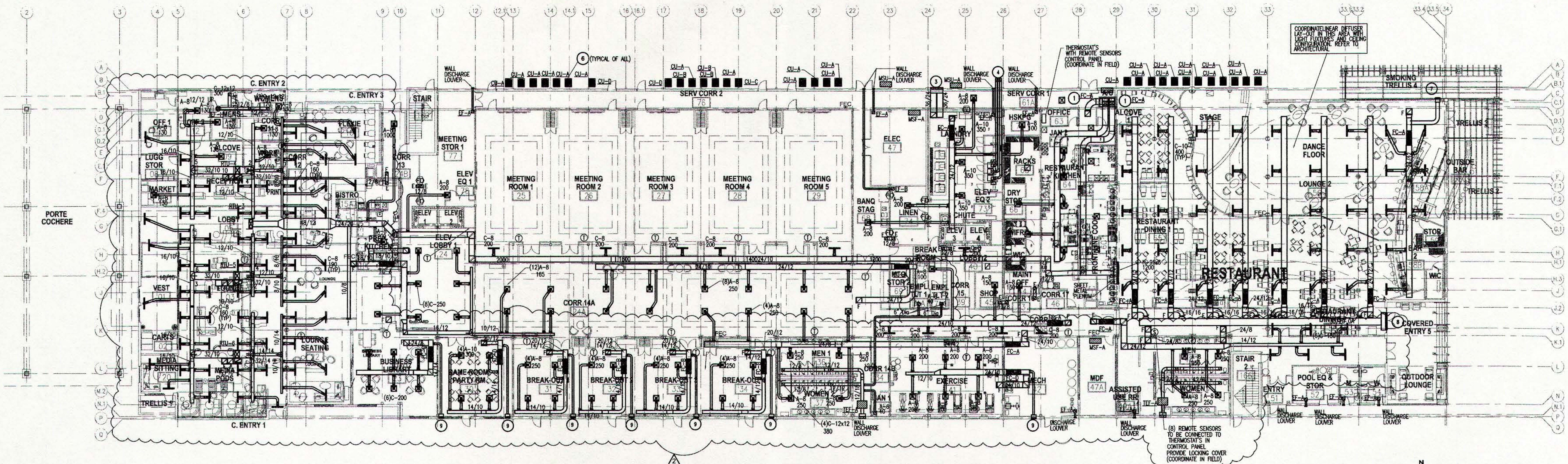
REGISTERED ARCHITECT RANDAL Z. KELLY 24769 STATE OF TEXAS
04/18/16

HVAC NOTES BY SYMBOL "○":

1. 24" HIGH SHEET METAL RETURN AIR PLENUM INTERNALLY INSULATED WITH MINIMUM R6 RIGID INSULATION. PROVIDE MANUAL VOLUME DAMPER AT CONNECTION OF RETURN AIR GRILLE TO PLENUM.
2. 28x33 BUILDING VENTILATION AIR RELIEF HOOD WITH 20x24 HECK. PROVIDE BAROMETRIC DAMPER AT NECK HOOD SHALL SHALL BE EQUAL TO MODEL AIRETTE BY PENN.
3. 72x24 COMBUSTION AIR WALL LOUVER WITH MOTORIZED DAMPER INTERLOCKED WITH DRYERS. PROVIDE 24" DEEP INTAKE PLENUM BEHIND. LOUVER. EXTEND (2) 36/24 COMBUSTION AIR DUCTS INTO LAUNDRY ROOM. TERMINATE ONE DUCT AT LAUNDRY ROOM WALL AT 12" BELOW STRUCTURE. OTHER DUCT SHALL BE TURNED DOUN AND TERMINATED AT 12" AFF. PROVIDE WIRE MESH OVER OPENINGS. VERIFY WITH EQUIPMENT MANUFACTURER. COORDINATE IN FIELD.
4. 10" DIAMETER DRYER VENT EXTWNDED 36" FROM EXTERIOR WALL TERMINATED WITH GOOSE NECK. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR DUCT CONSTRUCTION, CLEAN-OT LOCATION, AND CONNECTIONS. COMPLY WITH IMC.
5. 24" HIGH SHEET METAL RETURN AIR PLENUM INTERNALLY INSULATED WITH MINIMUM R6 RIGID INSULATION. PROVIDE MANUAL VOLUME DAMPER AT CONNECTION OF RETURN AIR DUCT TO PLENUM.
6. 4" HIGH CONCRETE CONDENSER PAD
7. 16" Dia OA DUCT. PROVIDE 20x20 WALL LOUVER WITH 24" DEEP PLENUM
8. 30/20 OA DUCT. PROVIDE 48x36 WALL LOUVER WITH 24" DEEP PLENUM
9. 7" Dia OA DUCT. size to 150 CFM. PROVIDE 12x12 WALL LOUVER WITH 24" DEEP PLENUM



SECOND FLOOR PLAN - HVAC
SCALE: 1/16" = 1'-0"



FIRST FLOOR PLAN - HVAC
SCALE: 1/16" = 1'-0"

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Fax: 956.687.2545

PERSPECTIVE Hospitality

Architect:
Randal Kelly
Project Manager:
John Ruckle
john.ruckle@jrkdesign.us

COURTYARD Marriott

Revisions
1 CITY COMMENTS 09-22-16
2 OWNER REVISIONS 11-14-16

COURTYARD by MARRIOTT
Padre Boulevard
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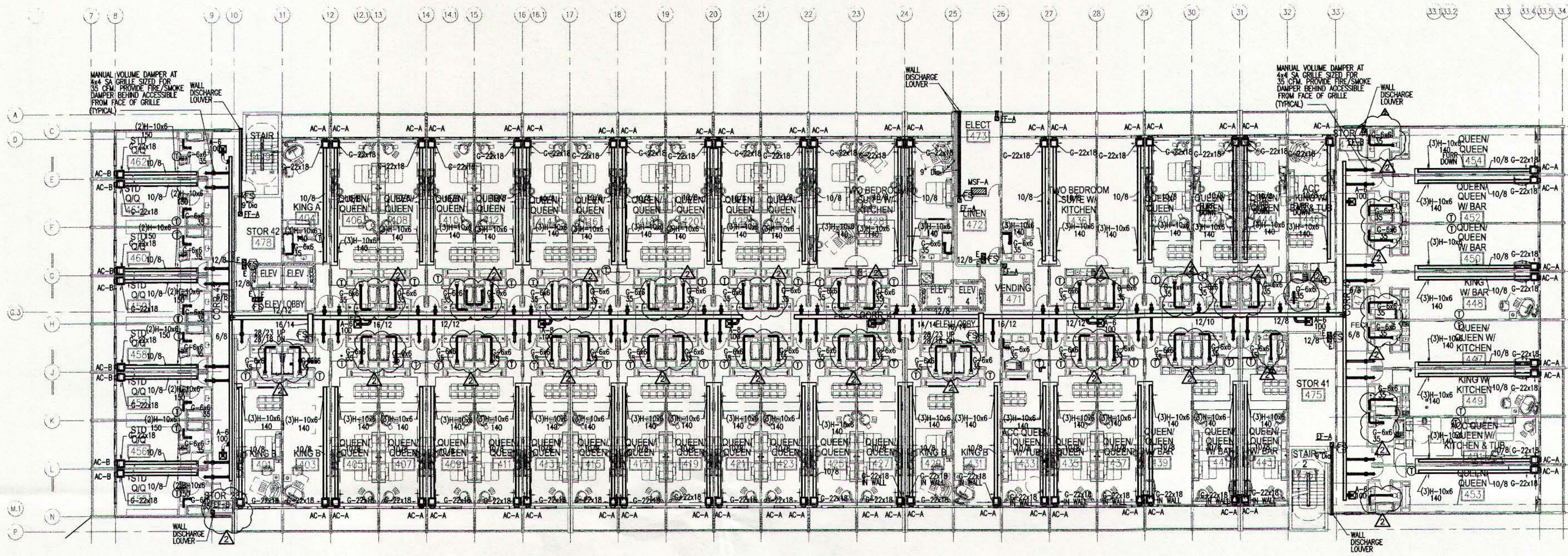
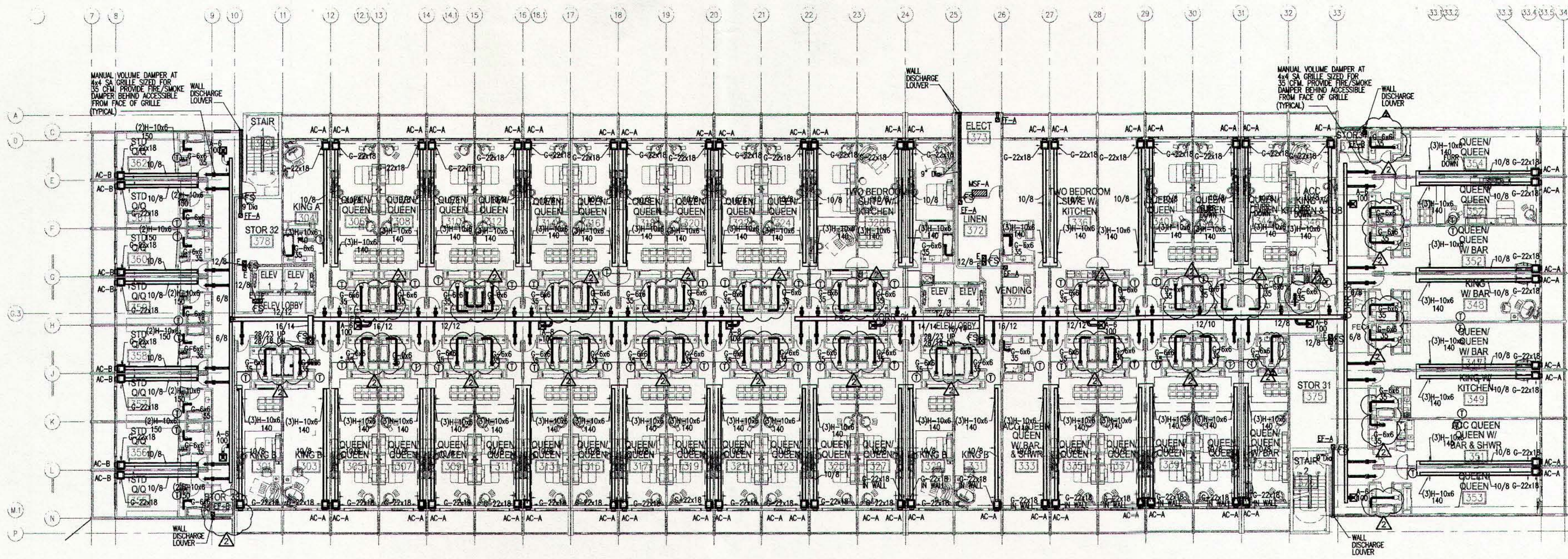
DATE 5/06/16
TX-15034

sheet description
FIRST & SECOND FLOOR PLANS HVAC
sheet number
M1.01

STATE OF TEXAS
SAM N. KAZATSKER
96696
LICENSED PROFESSIONAL ENGINEER
11/14/16



2 FOURTH FLOOR PLAN - HVAC
SCALE: 1/16" = 1'-0"



1 THIRD FLOOR PLAN - HVAC
SCALE: 1/16" = 1'-0"

0 16 32

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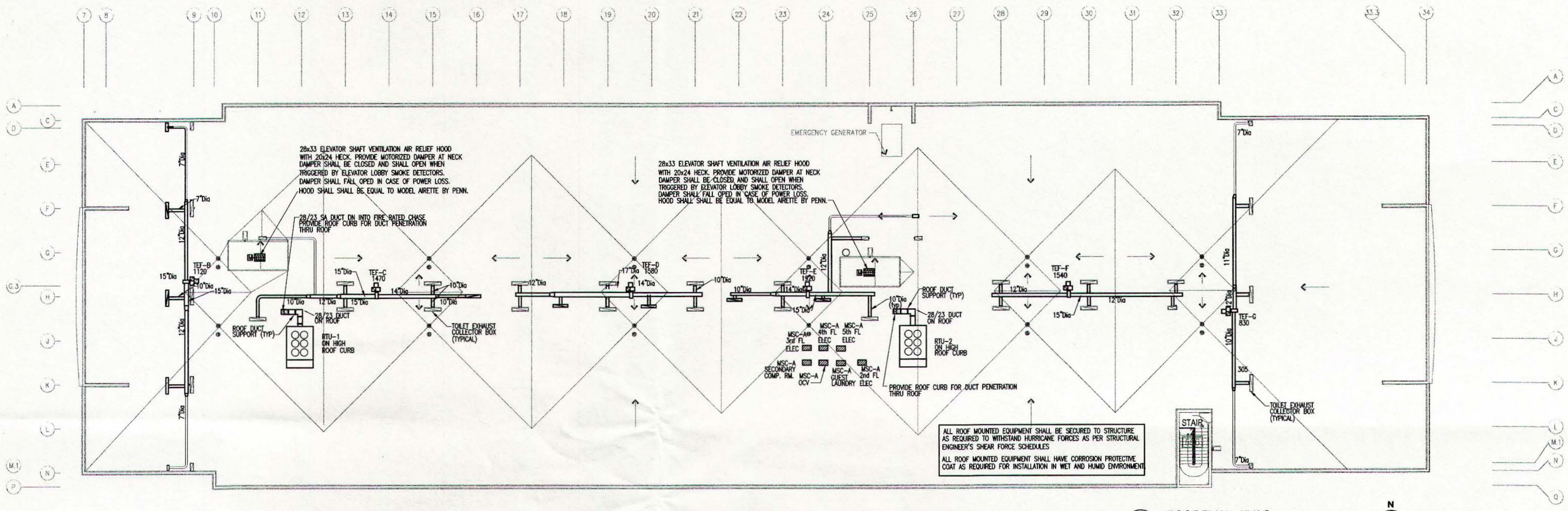
sheet description
THIRD & FOURTH FLOOR PLANS HVAC
sheet number
M1.02

STATE OF TEXAS
SAM N. KREATSCHER
98006
LICENSED
PROFESSIONAL ENGINEER
11/14/16



2 ROOF PLAN - HVAC

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

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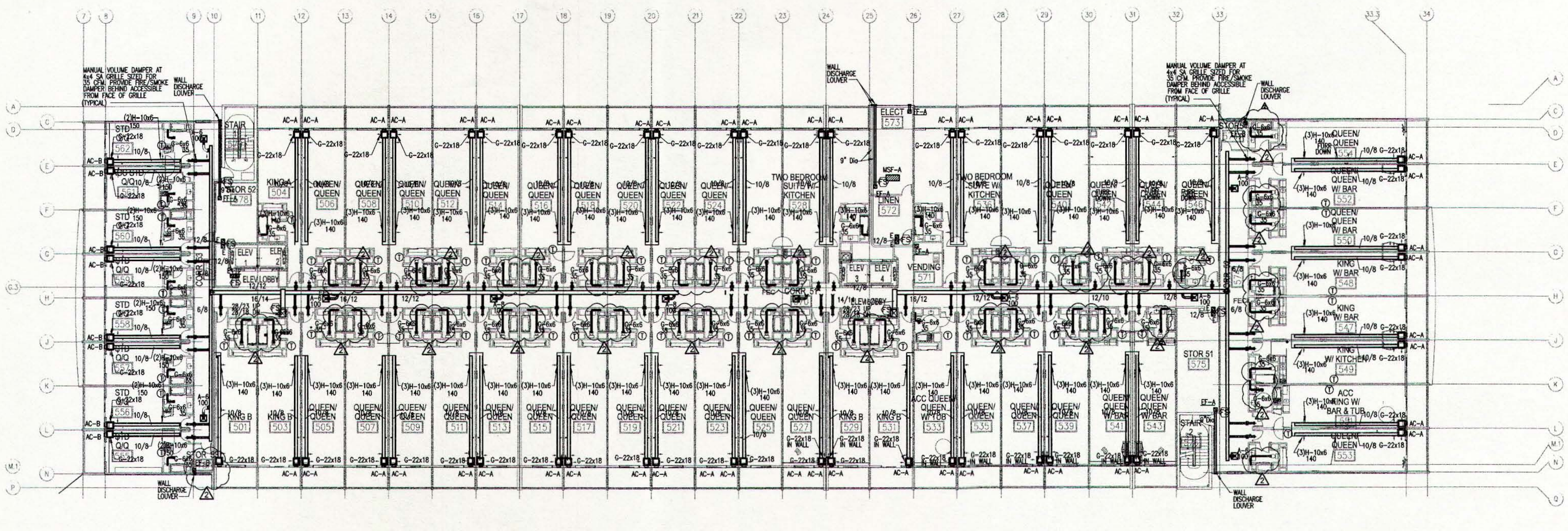

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FIFTH FLOOR & ROOF PLAN HVAC

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LICENSED PROFESSIONAL ENGINEER
11/14/16

OA ROOFTOP UNIT SCHEDULE

Tag	Supply CFM	Outside CFM	ESP (in wg)	Total Cap (MBH)	Sen Cap (MBH)	OADB	OAWB	Unit LADB	Unit LAWB	%RH	SA Fan HP/ quantity	Heat Type	Heat EADB	Heat LADB	Heat Input	Voltage	Unit FLA	MCA	MOP	SEER	Op Weight (lbs)	Model String
RTU-1	6000	6000	1.5	593.53	232.23	87.9	80.7	75	60.18	42	2/2	Electric	36.4	78.5	80 kW	460/3/60	103	105	110	12.4	5635	RN-050-3-A-BA14-17A
RTU-2	6000	6000	1.5	593.53	232.23	87.9	80.7	75	60.18	42	2/2	Electric	36.4	78.5	80 kW	460/3/60	103	105	110	12.4	5635	RN-050-3-A-BA14-17A
RTU-3	4000	4000	1.5	350.87	136.57	87.9	80.7	75	62.36	49	3/1	Electric	36.4	83.8	60 kW	460/3/60	77	78	90	12.4	2682	RN-030-3-A-BA12-16A

Remarks:
(1) Summer Design Conditions based on ASHRAE .4% Evaporation Column
(2) Units to have modulating hot gas re-heat for dehumidification (on/off not acceptable) and deliver 75'F @ 50% RH air at design conditions
(3) Units to have hot gas bypass on ALL circuits
(4) Units to have electric heat with SCR control
(5) Cabinet construction is 2" double wall with foam injected panels with R-13 insulation value
(6) 2500 Salt Spray Tested exterior paint and interior corrosion protection
(7) Condenser, Evaporator, and Hot Gas Re-Heat Coils shall have polymer e-coating for corrosion protection.
(8) Factory installed electrical disconnect for single point wiring
(9) VFD Condenser fan motors for condenser head pressure control
(10) Direct Drive Plenum Supply Fan with unit mounted VFD (belt driven fans not acceptable)
(11) Phase and brownout protection monitor
(12) 36" High Fully welded insulated plenum curb for horizontal discharge
(13) Call Tom Whiteley with HAVTECH - 443-534-7716 or email tomwhiteley@havtech.com for all pricing

△1

O.A. SYSTEM SEQUENCE OF OPERATION:

SYSTEM CONSISTS OF DX PACKAGED GROUND MOUNTED UNIT FOR 100% OUTSIDE/MAKE-UP AIR. UNIT WILL TAKE 100% OUTSIDE AIR AND CONDITION TO NEUTRAL TEMPERATURE (74 DEGREES, ADJUSTABLE) AND HUMDITY (50% RH, ADJUSTABLE).
NEUTRAL FRESH AIR WILL BE DELIVERED TO CORRIDOR TO PROVIDE OUTSIDE AIR TO PRESSURIZE CORRIDOR AND ROOMS AND PROVIDE CONDITIONED AIR TO CORRIDOR AND ROOMS.

MAKE-UP AIR UNIT OPERATION - GENERAL

MAKE-UP UNIT IS DX GROUND MOUNTED UNIT WITH DX COOLING COIL, HOT GAS BYPASS, MODULATING GAS REHEAT CONTROL, AND GAS HEATER WITH MODULATING CONTROL. UNIT SHELL BE SUPPLIED WITH MICROPROCESSOR BASED CONTROL SYSTEM INCLUDING AN ELECTRONIC SUPPLY AIR TEMPERATURE CONTROLLER, A SUPPLY AIR SENSOR TO BE LOCATED IN SUPPLY AIR DUCT FOR STAGING OF COMPRESSORS AND REHEAT CONTROL, AND AN OUTSIDE AIR TEMPERATURE AND HUMIDITY SENSOR TO BE LOCATED IN OUTSIDE AMBIENT AIR. ALL TEMPERATURE AND HUMIDITY SET-POINTS WILL BE ADJUSTABLE THROUGH THE USE OF A HAND HELD SERVICE TOOL OR A PERMANENTLY WALL MOUNTED "SYSTEM MANAGER" INTERFACE CONTROL PANEL. UNIT TO HANDLE AND TREAT 100% OUTSIDE AIR. OUTSIDE AIR TO BE PRE-CONDITIONED BY THIS UNIT TO BE DUCTED TO CORRIDOR. UNIT TO SUPPLY AIR TEMPERATURE TO CORRIDOR IN THE RANGE OF 74 DEGREES AND 50%RH.

OUTSIDE AIR DAMPER CONTROL

100% OUTSIDE AIR DAMPER TO BE SUPPLIED TO OA UNIT AND WILL BE INTER-LOCKED WITH UNIT TO BE FULLY OPEN WHEN UNIT FAN IS ON, FULLY CLOSED WHEN UNIT FAN IS OFF. MOTOR SHALL BE SPRING RETURN TO ENSURE CLOSING OF OUTDOOR AIR DAMPER DURING PERIODS OF UNIT SHUT DOWN OR POWER FAILURE.

COOLING OPERATION

WHEN OUTSIDE AIR CONDITIONS ARE ABOVE 74 DEGREES AND OUTSIDE AIR DEW-POINT IS BELOW SETPOINT, UNIT COMPRESSORS WILL BE ENERGIZED TO COOL THE OUTSIDE AIR TO 74 DEGREES F (ADJUSTABLE).

DEHUMIDIFICATION OPERATION

WHEN OUTSIDE AIR CONDITIONS ARE ABOVE 55 DEGREES AND OUTSIDE AIR DEW-POINT IS ABOVE THE SETPOINT, UNIT WILL OPERATE IN DEHUMIDIFICATION MODE. COMPRESSORS WILL BE LOCKED ON TO PRODUCE 50 TO 55 DEGREE AIR AND DEHUMIDIFY THE AIR. HOT GAS RE-HEAT WILL REHEAT 50 TO 55 DEGREE AIR TO 74 DEGREES (ADJUSTABLE). HOT GAS BYPASS VALVE WILL BE ENERGIZED WHEN LOW PRESSURE IS DETECTED DURING COOLER ENTERING AIR TEMPERATURE CONDITIONS TO ELIMINATE EVAPORATOR COIL FREEZE UP.
LAG CIRCUITTO INCLUDE HOT GAS BYPASS VALVE TO BE ENERGIZED WHEN LOW PRESSURE ELIMINATE EVAPORATOR COIL FREEZE UP.
LEAD CIRCUIT TO INCLUDE DIGITAL MODULATING COMPRESSOR TO MODULATE TO MATCH CAPACITY REQUIRED AT ALL CONDITIONS INCLUDINGLOW SENSIBLE/HIGH LATENT LOAD CONDITIONS WITHOUT THE NEED OF HOT GAS BYPASS.

VENTILATION MODE

WHEN OUTSIDE AIR CONDITIONS ARE BELOW 74 DEGREES AND ABOVE 60 DEGREES AND OUTSIDE AIR DEWPOINT IS BELOW SETPOINT, UNIT WILL OPERATE IN VENTILATION MODE WITH NO COOLING OR HEATING OPERATING.

HEATING OPERATION

COMPRESSORS WILL BE LOCKED OUT BELOW 55 DEGREES F.
WHEN OUTSIDE AIR CONDITIONS ARE BELOW 55 DEGREES, ELECTRIC HEAT WILL BE MODULATED TO HEAT SUPPLY AIR TO REQUIRED SPACE TEMPERATURE (ADJUSTABLE)

HVAC GENERAL NOTES:

DUCT/PIPING LAYOUT IS SCHEMATIC. EXACT LOCATION OF DUCT/PIPING AND EQUIPMENT SHALL BE COORDINATED WITH BUILDING STRUCTURE, EQUIPMENT FURNISHED, ARCHITECTURAL DRAWINGS AND ALL OTHER TRADES PRIOR TO INSTALLATION. ANY CONTRACTOR INSTALLING WORK WITHOUT PRIOR COORDINATION SHALL RELOCATE HIS WORK AT HIS EXPENSE TO ALLOW PROPER INSTALLATION OF ANY AND ALL TRADES WORK.
ALL MECHANICAL INSTALLATIONS SHALL BE IN STRICT COMPLIANCE WITH THE LATEST INTERNATIONAL MECHANICAL CODE, AMENDMENTS AND ALL LOCAL GOVERNING AUTHORITIES HAVING JURISDICTION.
REFER TO ARCHITECTS REFLECTED CEILING PLAN FOR EXACT CEILING DIFFUSER LOCATIONS & ELEVATIONS.
SUBMIT CUT SHEETS ON ALL EQUIPMENT AND MATERIALS SPECIFIED HEREIN PRIOR TO COMMENCING ANY WORK. FAILURE TO COMPLY WILL RESULT IN REPLACEMENT OF ALL ITEMS NOT FOUND IN COMPLIANCE WITH THESE REQUIREMENTS AT NO ADDITIONAL COST. ANY DISCREPANCIES DISCOVERED BY THE CONTRACTOR OR DURING BIDDING SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER SO THAT AN ADDENDUM MAY BE ISSUED TO ADDRESS THOSE ITEMS PRIOR TO BIDDING. ANY DISCREPANCIES DISCOVERED AFTER BIDDING SHALL BE CORRECTED AT THE EXPENSE OF THE CONTRACTOR.
OPERATION AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. CONTRACTOR SHALL GUARANTEE THE ENTIRE INSTALLATION AGAINST DEFECTS IN MATERIALS & WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER SUBSTANTIAL COMPLETION.
COORDINATE WORK ON THESE SHEETS WITH ALL TRADES. WORK SHOWN ON THESE SHEETS IS INTENDED TO PROVIDE THE OVERALL ENGINEERING CONCEPT AND DOES NOT PROVIDE FOR RELOCATIONS, OFFSETS, ETC. THAT ARE REQUIRED BY FIELD CONDITIONS. THE COORDINATION OF TRADES SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
ALL DUCTWORK DIMENSIONS ARE CLEAR, INSIDE DIMENSIONS. DUCTWORK SHALL BE GALVANIZED STEEL AND SHALL MEET MINIMUM S.M.A.C.N.A. CONSTRUCTION STANDARDS. FIELD VERIFY ALL STRUCTURAL SUPPORTS AND TRUSSES AND AVOID DUCTWORK CONFLICTS.
DUCT/PIPING SHALL NOT BE RUN ABOVE ELECTRICAL GEAR OR IN THE SERVICE SPACE REQUIRED BY THE NATIONAL ELECTRICAL CODE.

ALL RTUs AND FAN COIL UNITS SHALL BE PROVIDED WITH SMOKE DETECTORS AS REEQUIRED. ALL SMOKE DETECTORS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

INSTALL FIRE AND/OR SMOKE DAMPERS IN ALL FIRE AND SMOKE RATED CEILING AND WALL ASSEMBLIES WHERE DUCTS, DIFFUSERS OR RA/EXH GRILLES PENETRATE SAME. COORDINATE WITH ARCHITECTURAL.

SIZE AND ROUTE REFRIGERANT PIPING ACCORDING TO MANUFACTURERS RECOMMENDATIONS. REFER TO SPECIFICATIONS FOR INSULATION AND EXTERIOR INSULATION PROTECTION.

PLANS FOR CEILING AND WALL ASSEMBLY TYPE AND RATING TYPES. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING LOCATION WITH ARCHITECTURAL PLANS, PROVIDING AND INSTALLING ALL DAMPERS TO MEET LOCAL CODES WHETHER NOTED ON PLANS OR NOT.

ESTABLISH, WITH ARCHITECTS APPROVAL, FINAL LOCATION OF ALL EQUIPMENT, DUCTWORK, ETC., NOT SHOWN ON DRAWINGS.

AS REQUIRED BY CITY OF SAN ANTONIO AND TEXAS CODES, AND AUTHJORITIES HAVING JURISDICTION, MECHANICL CONTRACTOR SHALL PROVIDE U.L. LISTED FIRE AND FIRE/SMOKE DAMPERS WHERE REQUIRED FOR FIRE PROTECTION REQUIREMENTS OF THE HVAC SYSTEM. CONTRACTOR SHALL PROVIDE ACCESS DOORS IN DUCTWORK AND IN CEILINGS TO ALLOW ACCESS TO FIRE/SMOKE DAMPERS FOR VISUAL INSPECTIONS.

ALL EXHAUST FANS/GRILLES IN ONE HOUR RATED CEILING OR WALL SHALL BE PROTECTED WITH FIRE DAMPERS AT ALL WALLS AND CEILING PENETRATIONS.

ALL SUPPLY DUCTWORK INCLUDING O.A. DUCT AND/OR RELIEF AIR DUCT SHALL BE INSULATED. RECTANGULAR/ROUND DUCT SHALL BE INSULATED EXTERNALLY WITH 2" BATT INSULATION W/ALUMINUM VAPOR BARRIER, ROUND DUCT SHALL BE EXTERNALLY WRAPPED WITH FOIL-FACED FIBERGLASS (2" R-6, UNLESS NOTED OTHERWISE). ALL S.A. BACK PAN DIFFUSERS SHALL BE INSULATED.

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 DEGREE F DURING HEATING AND SETTING UP TO 85 DEGREE F DURING COOLING. B) CAPABLE OF AUTOMATICALLY SETTING BACK OR SHUTTING DOWN SYSTEMS DURING UNOCCUPIED HOURS USING 7 DIFFERENT DAY SCHEDULES. C) HAVE AN ACCESIBLE 2-HOUR OCCUPANT OVERRIDED) 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.
EXCEPTION: A SETBACK OR SHUTOFF CONTROL IS NOT REQUIRED ON SYSTEMS WITH TOTAL ENERGY DEMAND OF 2 KW (6,826 BTU/H) OR LESS.
PROVIDE EXTERNAL INSULATION FOR SUPPLY & RETURN AIR DUCT, & ALL DIFFUSERS, GRILLES, & REGISTERS WITH AN EQUIVALENT THERMAL REISISTANCE AT LEAST: R-8 IN UNCONDITIONED ATTIC SPACES.

FLEXIBLE RUNOUTS TO AIR DEVICES SHALL BE 5'-0" MAXIMUM LENGTH WITH A MAXIMUM OF ONE 90' TURN AND SHALL BE INSULATED.
DUCT SHALL BE SEALED LONGITUDINALLY ON RIGID DUCTS AND TRANSVERSE SEAMS ON ALL DUCTS. UL181A OR UL181B TAPES AND MASTICS SHALL BE USED.
MECHANICAL FASTENERS AND SEALANTS SHALL BE USED TO CONNECT DUCTS AND AIR DISTRIBUTION EQUIPMENT.
BALANCING DEVICES/DAMEPRS SHALL BE IN ALL SUPPLY & EXHAUST GRILLES AND ON DRAWINGS OR INDICATED IN SPECIFIATIONS IN ACCORDANCE WITH IMC 603.15.
CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS. CONTRACTOR SHALL GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS, AND OBTAIN ALL PERMITS AND CERTIFICATES FOR APPROVAL FROM THE LOCAL AUTHORITIES HAVING JURISDICTION AS REQUIRED FOR THE PARTICULAR CLASS OF WORK INVOLVED.
AT TIME OF FINAL INSTALLATION OBSERVATIONS, THE OPERATION OF ALL SYSTEMS OF EQUIPMENT SHALL HAVE BEEN DEMONSTRATED TO PERFORM PROPERLY.

PROVIDE CABLE OPERATED BALANCING DAMPER FOR EACH AIR DIFFUSER AT GYPBOARD CEILING. EXTEND CABLE TO FACE OF DEVICE. CABLE SHALL BE MODEL RT-150 AS MANUFACTURED BY ROTO-TWIST

OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF 10'-0" FROM ALL EXHAUST SOURCES. VERIFY ROOF SLOPE PITCH PRIOR TO ORDERING ROOF CURBS.
HAVAC CONTRACTOR SHALL COORDINATE WITH THE FIRE ALARM CONTRACTOR AND PROVIDE NECESSARY INTERFACE DEVICES AND CONNECTIONS FOR THE FIRE ALARM CONTRACTOR TO CONNECT TO THE FIRE ALARM SYSTEM SHUT DOWN ALL ROOF TOP IN THE BUILDING WHEN THE FIRE ALARM SYSTEM GOES INTO ALARM.

ROOF TOP AND FAN COIL UNITS OF MORE THAN 2000 CFM SUPPLY AIR CAPACITY SHALL SHUT DOWN UPON ACTIVATION OF FIRE ALARM, FIRE SPRINKLER, OR KITCHEN HOOD EXTINGUISHER

ALL THERMOSTAT/CONTROL DEVICES SHALL BE INSTALLED @ 48" MAX. TO TOP OF CONTROL SURFACE.

ALL AIR DEVICES PENETRATING ONE HOUR CEILING OR WALL ASSEMBLIES SHALL BE PROTECTED WITH FIRE RATED FAIR RADIANT DAMPER, FIRE RATED THERMAL INSULATING BLANKET.

SEAL ALL PENETRATIONS THROUG FIRE RATED CEILING/WALLS WITH SEALANT APPROVED BY CITY OF SAN ANTONIO AND TEXAS CODE, AND AUTHORITIES HAVING JURISDICTION REQUIREMENTS.

PRROVIDE CO2 SENSORS IN BREATHING ZONE OF EACH OCCUPIED PUBLIC AND BUCK OF HOUSE.

VISUAL OR AUDIBLE ALARM SHALL MODULATE INDOOR AIR QUANTITY WHEN CO2 LEVEL VERIES MOR THAN 10% FROM SETPOINT.

HALL BE INSULATED. RECTANGULAR/ROUND DUCT SHALL BE INSULATED EXTERNALLY WITH 2" BATT INSULATION W/ALUMINUM VAPOR BARRIER, ROUND DUCT SHALL BE EXTERNALLY WRAPPED WITH FOIL-FACED FIBERGLASS (2" R-6, UNLESS NOTED OTHERWISE). ALL S.A. BACK PAN DIFFUSERS SHALL BE INSULATED.

LEED GENERAL NOTES:

REFRIGERANT USED IN BUILDING'S HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS WILL CONTAIN NO CFCs.

ALL SPLIT SYSTEMS AIR CONDITIONING UNITS HAVE THE SEER RATING NOT LESS THAN 13.

THE HVAC SYSTEMS ARE DESIGNED USING THE ASHRAE MINIMUM ENERGY PERFOFMANCE STANDARDS.

THE HVAC SYSTEMS ARE DESIGNED TO MEET OR EXCEED SECTIONS' 4 THROUGH 7 OF ASHRAE STANDATD 62.1-2007; VENTILATION FOR ACCEPTABLE INDOOR AIR QUANTITY.

THE ASHRAE 62.1-2007, IN REGARDS TO THE OUTDOOR AIR DELIVERY MONITORING IS IMPLEMENTED.

THE HVAC SYSTEM IS IN COMPLIENCE WITH LEED GUIDELINES REGARDING INCREASED BUILDING VENTILATION BY AT LIST 30%. REFERENCE OA ROOFTOP UNIT SCHEDULE.

THE HVAC SYSTEM IS DESIGNED FOR MINIMUM 50% OF THE OCCUPANTS TO HAVE AN ABILITY TO MAKE THERMAL COMFORT SYSTEM ADJUSTMENTS TO MEET INDIVIDUAL/OR GROUP NEEDS AND PREFERENCES SO, THAT EACH INDIVIDUALWILL BE ABLE TO ADJUST ROOM TEMPERATUTE, AND COMFORT SYSTEM.

THE HVAC SYSTEM AND THE BUILDING IS IDESIGHED TO MEET THE ASHRAE STANDARD 55-2004, THERMAL CONDITIONS FOR HUMAN OCCUPANCY.

HEAT PUMP CONDENSING UNIT SCHEDULE

MARK	SERVES	COOLING MBH	AMBIENT AIR TEMP °F	UNIT ELECTRICAL DATA V / PH	MCA	MOCP	MIN EER	DESIGN BASIS	MODEL NUMBER	NOTES
CU-A	FC-A	57.7	105	460/3	10	15	15	TRANE	4TWA3060	1, 2, 3
CU-B	FC-B	46.8	105	460/3	5	15	15	TRANE	4TWA3030	1, 2, 3
CU-C	FC-C	46.8	105	460/3	9	15	15	TRANE	4TWA3048	1, 2
CU-C	FC-C	46.8	105	460/3	8	15	15	TRANE	4TWA3048	1, 2
	FC-C	46.8	105	460/3	7	15	15	TRANE	4TWA3024	1, 2

NOTES
1. LOW AMBIENT TEMPERATURE CONTROL KIT TO 40 deg. F.
2. PROVIDE METAL HEIL GUARD FOR EACH CONDENSING UNIT.
3. CONDENSER SHALL HAVE POLYMER E-COATING FOR CORROSION PROTECTION.

HEAT PUMP FAN COIL UNIT SCHEDULE

MARK	SERVES	CFM	O. A.	E.S.P. W.G.	MOTOR HP	V/PH	HEATER KW	HSPF BTUH/WATTS	HEATING BTUH	COOLING TOTAL (BTUH)	SENS (BTUH)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	ELECTRICAL DATA MCA	MOCP	DESIGN BASIS	MODEL NUMBER	NOTES
FC-A	REFER TO FLOOR PLANS	2000	300	0.4	1	208/1	7.2	8.2	17.06	57.7	42.4	80	67	58	57	53	60	TRANE	GAM5B0C60M	1, 2, 3, 4, 5, 6, 7
FC-B	REFER TO FLOOR PLANS	1000	150	0.4	1/2	208/1	3.5	8.5	39.3	29.3	24	80	67	58	57	25	25	TRANE	GAM5B0B30M	1, 2, 3, 4, 5, 6, 7
FC-C	REFER TO FLOOR PLANS	1600	200	0.4	3/4	208/1	7.2	8.2	30.1	44.8	35.1	80	67	58	57	51	60	TRANE	GAM5B0C48M	1, 2, 3, 4, 5, 6, 7
FC-D	REFER TO FLOOR PLANS	1200	180	0.4	1/2	208/1	7.2	8.2	30.1	35.5	26	80	67	58	57	51	60	TRANE	GAM5B0C48M	1, 2, 3, 4, 5, 6, 7

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NOTES
1. SINGLE POINT CONNECTION
2. SEVEN-DAY PROGRAMMABLE THERMOSTAT WITH AUTOMATIC SUMMER/WINTER CHANGE-OVER WITH PLASTIC LOCKING COVER.
3. TXV EXPANSION VALVE
4. REFRIGERANT R-410A
5. DISCONNECT
6. 2500 SALT SPRAY TESTED EXTERIOR PAINT AND INTERIOR CORROSION PROTECTION
7. EVAPORATOR SHALL HAVE POLYMER E-COATING FOR CORROSION PROTECTION.
8. FACTORY DRY BULB ECONOMIOZER
9. 2" PLEATED (MERV 7) FILTER △1

MECHANICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
(F)—	FIRE DAMPER		LINED DUCTWORK
(S)—	SMOKE DAMPER	⊠	SUPPLY DUCT RISER
(T)	THERMOSTAT		BACKDRAFT DAMPER
E.A.	EXHAUST AIR		
(FS)—	FIRE/SMOKE DAMPER	⊠	90 DEGREE ELBOW DOWN
M.A.	MIXED AIR	⊠	90 DEGREE ELBOW UP
O.A.	OUTSIDE AIR		FLEXIBLE DUCT CONNECTION
REL. A.	RELIEF AIR	⊠	SUPPLY AIR DEVICE
R.A.	RETURN AIR		DUCT SIZE TRANSITION
	MANUAL BALANCING DAMPER	RS	REFRIGERANT SUCTION
M—	MOTORIZED DAMPER	RL	REFRIGERANT LIQUID
⧄	CEILING RETURN AIR DEVICE	—D—	CONDENSATE DRAIN (PITCHED)
(E)	EXISTING WORK TO REMAIN	©	CARBON DIOOXIDE (CO2) SENSOR

NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT.

ROOF TOP UNIT SCHEDULE

MARK	SERVES	SEER	O/A CFM	SUPPLY FAN CFM	ESP	HP	COMPRESSOR NUMBER	COOLING TOTAL MBH	SENS MBH	EAT	LAT	HEATING KW KW	MBH61.4	ELECTRICAL MCA	MOCP	V/PH	UNIT WT. lbs	DESIGN BASIS	MODEL SERIES	NOTES
RTU-4. 5, 6	MAIN LOBBY	11.2	600	4000	0.5	5.0	2	115	91	78/64.8	56.9/55.3	24	81	42	45	460/3	1500	YORK	J10ZRE24	ALL

NOTES:
1. FACTORY THERMOSTAT
2. PROVIDE FACTORY ROOF CURB
3. CONVENIENCE OUTLET
4. FACTORY DISCONNECT
5. FACTORY ECONOMIZER
6. R-410A REFRIGERANT
7. 2500 SALT SPRAY TESTED EXTERIOR PAINT AND INTERIOR CORROSION PROTECTION
8. CONDENSER, EVAPORATOR, AND HOT GAS RE-HEAT COILS SHALL HAVE POLYMER E-COATING FOR CORROSION PROTECTION.
9. FACTORY RELIEF DAMPER
10. 2" PLEATED (MERV 7) FILTER

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FAN SCHEDULE

MARK	EF-A	EF-B	
TOTAL CFM	300	200	
TOTAL S.P.	0.3	0.3	
MOTOR HP	180 WATT	180 WATT	
DRIVE TYPE	DIRECT	DIRECT	
ELECTRICAL	120/1/60	120/1/60	
SONES	7	6	
MANUFACTURER AND MODEL	LOREN COOK GC-180	LOREN COOK GC-180	
TYPE	CABINET	CABINET	
ACCESSORIES	1,2,3,6,9	1,2,3,6,9	
-			

NOTES:
1. FACTORY MOUNTED DISCONNECT
2. WALL DISCHARGE CAP
3. BACKDRAFT DAMPER
4. SPEED CONTROL
5. ENERGIZE WITH LIGHT SWITCH
6. PROVIDE SWITCH FOR CONTROL
7. VIBRATION ISOLATORS
8. ROOF CAP
9. RUNS CONTINUOUSLY
10. 18" MINIMUM HEIGT VENTED ROOF CURB
11. FAN DISCHARGE SHALL BE 40" MIN. ABV ROOF

TOILET EXHAUST FAN SCHEDULE

MARK	TEF-A	TEF-B	TEF-C	TEF-D	TEF-E	TEF-F	TEF-G	TEF-H
TOTAL CFM	1600	1120	1470	1580	1920	1540	830	700
TOTAL S.P.	1"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	0.75"
MOTOR HP	0.5	0.5	0.75	1.0	0.75	0.75	0.5	0.25
DRIVE TYPE	BELT	BELT	BELT	BELT	BELT	BELT	BELT	BELT
ELECTRICAL	120/1/60	120/1/60	120/1/60	120/1/60	120/1/60	120/1/60	120/1/60	120/1/60
SONES	13.8	82	77	77	77	77	81	11
MANUFACTURER AND MODEL	COOK 235CDB	COOK 120CPA-A	COOK 180CPA-A	COOK 180CPA-A	COOK 195CPA-A	COOK 180CPA-A	COOK 120CPA-A	COOK 100ACEB
TYPE	IN-LINE	VENT SET	VENT SET	VENT SET	VENT SET	VENT SET	VENT SET	VENT SET
NOTES:	1,2,3,6,7,9	1,3,6,7,9,12	1,3,6,7,9,12	1,3,6,7,9,12	1,3,6,7,9,12	1,3,6,7,9,12	1,3,6,7,9,12	1,3,9,11,12
-	-	-	-	-	-	-	-	-

NOTES:
1. FACTORY MOUNTED DISCONNECT
2. WALL LOUVER
3. BACKDRAFT DAMPER
4. SPEED CONTROL
5. ENERGIZE WITH LIGHT SWITCH
6. PROVIDE SWITCH FOR CONTROL
7. VIBRATION ISOLATORS
8. ROOF CAP
9. RUNS CONTINUOUSLY
10. RADIANT DAMPER.
11. ROOF CURB
12. 2500 SALT SPRAY TESTED EXTERIOR PAINT AND INTERIOR CORROSION PROTECTION

PTAC UNIT SCHEDULE

DESIGNATION	AC-A	AC-B	
TYPE	VERTICAL	VERTICAL	
COOLING COIL			
CFM	450	300	
COOLING CAP. (BTUH)	17100	10,900	
HEATING CAP. (BTUH)	18000	10,600	
AMBIENT TEMP.	95(s)/32(w)	95(s)/32(w)	
INDOOR TEMP.	75	75	
ELECTRIC HEATING COIL			
CAPACITY (KW)	1.5	1.5	
ELECTRICAL DATA			
VOLT/PHASE	208/1	208/1	
MAXIMUM AMPS			
MCA	13	10	
MOCP	15	15	
MANUFACTURER	FIRST CO.	FIRST CO.	
MODEL NUMBER	18SPU-HP-2	12SPU-HP-2	
NOTES	ALL	ALL	

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NOTES
1. FACTORY DISCONNECT
2. HEAT PUMP
3. PRIMARY CONDENSATE DRAIN RUN IN WALL SLEEVE AND SECONDARY OVERFLOW THROUGH WALL SLEEVE OF BUILDING
4. DIGITAL "COOL-OFF-HEAT-AUTO-ON" WALL MOUNTED THERMOSTAT SHALL BE PROVIDED WITH OCCUPANCY SENSOR TO SHUT OFF AIRFLOW WHEN GUEST ROOM IS UNOCCUPIED, AND SUPPLY REGULATED VOLUME OF 35 CFM OF TREATED OUTSIDE AIR WHEN ROOM 1S OCCUPIED.
5. FLOAT SWITCH
6. EXTERIOR ARCHITECTURAL GRILLE
7. MERV 11 FILTER WITH PRESSURE DROP SHALL BE NOT GREATER THAN 0.45" W.C. AT 500 FPM
8. REFRIGERANT R-410A

A/C UNIT SCHEDULE

GENERAL		
DESIGN MANUFACTURER	LG	
INDOOR FAN/COIL UNIT		
DESIGNATION	MSF-A	
TYPE	HIGH WALL	
SEER	13	
MODEL	LSN246HE	
UNIT MOCP	0.25	
UNIT MCA	15	
COOLING CAPACITY BTU	22,500	
DEHUMIDIFICATION (PTS/HR)	6.6	
AIR FLOW	530 CFM	
WEIGHT	28.6 LBS	
REFRIGERANT	R-410A	
CONDENCING UNIT		
DESIGNATION	MSU-A	
TYPE	COOLING ONLY	
MODEL	LSU246HE	
VOLT/PHASE	208-1	
COND UNIT MOCP	30	
COND UNIT MCA	20	
WEIGHT	169 LBS	

NOTES:
DIGITAL WIRED WALL THERMOSTAT #PYRCUCA0A WITH LOCKABLE COVER
CONDENSER MOUNTING BRACKET.
INTEGRAL CONDENSATE PUMP

GRILLE/DIFFUSER/REGISTER SCHEDULE

MARK	DESCRIPTION	MANUFACTURER MODEL No.	MAX. NC LEVEL (1)	REMARKS
A	24"x24" FACE, ROUND NECK CEILING PLAQIE SUPPLY DIFFUSER WITH BORDER FOR LAY-IN CEILING OR SURFACE MOUNTING	TITUS OMNI NT	30	#26 WHITE FINISH
B	12"x12" FACE, ROUND NECK, CEILING PLAQUE SUPPLY DIFFUSER WITH BORDER FOR LAY-IN CEILING, OR SURFACE MOUNTING	TITUS OMNI NT	30	#26 WHITE FINISH
C	48" LONG LINEAR SLOT PLENUM CEILING DIFFUSED WITH TWO-1" SLOTS, INSULATED WITH FRAME FOR LAY-IN CEILING AR SURFACE MOUNTING	TITUS TBDI-30	30	INTERIOR BLACK FINISH
D	SQUARE FACE, SQUARE NECK CEILING DIFFUSER FOR LAY-IN CEILING, OR SURFACE MOUNTING, 4 WAY THROW, UNLESS NOTED OTHERWISE. PROVIDE SQUARE TO ROUND ADAPTER	TITUS TDC	30	EXTRUDED ALUMINUM
E	12"x12" PERFORATED FACE, CEILING RETURN GRILLE WITH BORDER FOR LAY-IN CEILING OR SURFACE MOUNTING AS REQUIRED	TITUS PAR	30	#26 WHITE FINISH
F	24"x24" PERFORATED FACE, CEILING RETURN GRILLE WITH BORDER FOR LAY-IN CEILING OR SURFACE MOUNTING AS REQUIRED	TITUS PAR	30	#26 WHITE FINISH
G	RETURN/ EXHAUST GRILLE WITH ONE SET OF FIXED 30' DEFLETION BLADES, 1/2" SPACING, PARALLEL TO SHORT DIMENSION.	TITUS 25R	30	CORROSION RESISTANT ALUMINUM
H	SINGLE DEFLECTION, 3/4" SPACING SIDEWALL SUPPLY GRILLE WITH FRONT BLADES PARALLEL TO SHORT DIMENSION. PROVIDE ALUMINUM OPPOSED BLADE DAMPER	TITUS 272S	30	EXTRUDED ALUMINUM
J	48" LONG LINEAR SLOT PLENUM CEILING DIFFUSED WITH TWO-2" SLOTS, INSULATED WITH FRAME FOR LAY-IN CEILING AR SURFACE MOUNTING FOR RA APPLICATION	TITUS TBDI-30	30	INTERIOR BLACK FINISH

NOTES:
1- PROVIDE ALUMINUM AIR DEVICES FOR KITCHEN AREA.
2- PROVIDE RETURN AIR BOOT LINED WITH 1" ACOUSTICAL LINER FOR EACH RA GRILLE LOCATED IN CLG. OF RETURN AIR PLENUM.

AIR OUTLET DESIGNATION ON PLANS

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COURTYARD Marriott

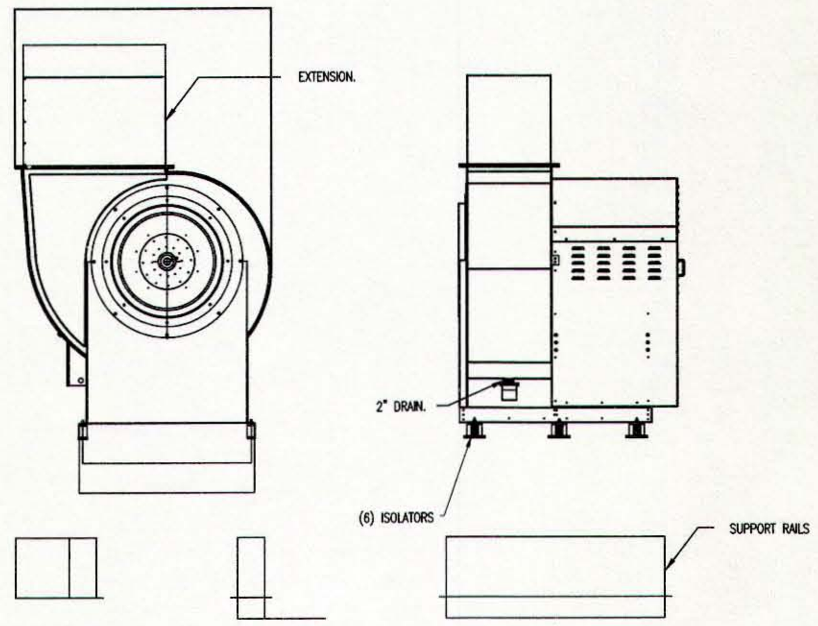
Revisions
△1 CITY COMMENTS 09-22-16
△2 OWNER REVISIONS 11-14-16

COURTYARD
by MARRIOTT
Padre Boulevard
South Padre Island, TX 78597

BID SET
DATE
5/06/16
TX-15034

sheet description
MECHANICAL
LEGEND &
SCHEDULES
sheet number
M2.01

SAM N. KALATEKER
11/14/16



FEATURES:

- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL705
- UL762
- HIGH HEAT OPERATION DIRECT DRIVE 350°F (176°C)
- HIGH HEAT OPERATION BELT DRIVE 350°F (176°C)
- HEAT SLINGER
- GREASE CLASSIFICATION TESTING
- 2" DRAIN
- MOTOR WEATHER COVER
- FULLY SEALED SCROLL HOUSING
- SCROLL ACCESS DOOR
- FLANGE 1 1/4" - 11 THRU 20.
- FLANGE 2" - 24 THRU 36.
- MOTOR HP 7.5, 208/3, FLA - 21.1

OPTIONS

BI24 - 24" DISCHARGE EXTENSION.
BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE.
BI24 - INLET RING USED TO CONNECT NON-FACTORY DUCT.
UTILITY SET - SPRING VIBRATION ISOLATORS - BI27 THRU BI30 / EQUIVALENT SIZED UTILITY SET - INDOOR/OUTDOOR USE.

02 KITCHEN HOOD EXHAUST FAN DETAIL

NO SCALE

KITCHEN HOOD NOTES:

A. SUPORTS: HOODS SHALL BE SECURED IN PLACE BY NON-COMBUSTIBLE SUPPORTS.

B. CLEARANCES FOR TYPE I HOOD: A TYPE I HOOD SHALL BE INSTALLED WITH CLEARANCE OF AT LEAST 18 INCHES FROM COMBUSTIBLE DESTRUCTION. THIS CLEARANCE MAY BE REDUCTED TO 3 INCHES PROVIDED THE COMBUSTIBLE MATERIAL IS PROTECTED WITH MATERIALS AS SPECIFIED FOR ONE-HOUR FIRE RESISTIVE CONSTRUCTION ON THE HOOD SIDE. HOODS LESS THAN 12 INCHES FROM THE CEILING OR WALL SHALL BE FLAHSED SOLIDLY WITH MATERIALS OF THE THICKNESS SPECIFIED OR MATERIALS CONFORMING TO ONE-HOUR FIRE RESISTIVE CONSTRUCTION.

C. HOODS PENETRATING A CEILING: TYPE I HOODS OR PORTIONS THEREOF PENETRATING A CEILING, WALL, OR FURRED SPACE SHALL COMPLY WITH ALL REQUIREMENTS OF SHAFT ENCLOSURES.

D. GREASE FILTERS: TYPE I HOODS SHALL BE EQUIPPED WITH APPROVED GREASE FILTERS DESIGNED FOR THE SPECIFIC PURPOSE. GREASE COLLECTING EQUIPMENT SHALL BE ACCESSIBLE FOR CLEANING. THE LOWEST EDGE OF A GREASEFILTER LOCATED ABOVE TEH COOKING SURFACE SHALL BE AT LEAST 4'- 0".

E. GREASE DUCT MATERIALS: GREASE DUCTS AND PLENUMS SERVING A TYPE I HOOD SHALL BE CONSTRUCTED OF AT LEAST 0.055-INCH-THICK (NO 16 MANUFACTURER'S STANDARD GAGE) STEEL OR STAINLESS AT LEAST 0.044 INCH IN THICKNESS.

F. JOINTS AND SEAMS OF GREASE DUCTS: JOINTS AND SEAMS SHALL BE MADE WITH A CONTINUOUS LIQUID-TIGHT WELD OR BRAZE MADE ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM. A VIBRATION IISOLATION CONNECTOR MAY BE USED, PROVIDED IT CONSISTS FO NON - COMBUSTIBLE PACKING IN A METAL SLEEVE JOINT OF APPROVED DESIGN.

G. GREASE DUCT SUPPORTS: DUCT BRACING AND SUPPORT SHALL BE NON-COMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY AND LATERAL LOADS WITHIN THE STRESS LIMITATIONS OF THE BUILDING CODE. BOLTS, SCREWS, RIVETS AND OTHER MECHANCIAL FASTENERS SHALL NOT PENETRATE DUCT WALLS.

H. PENETRATION OF GREASE ACCUMULATION : DUCT SYSTEMS SERVING A TYPE I HOOD SHALL BE SO CONSTRUCTED AND INSTALLED THAT GREASE CANNOT BECOME POCKETED IN ANY PORTION THEREOF, AND THE SYSTEM SHALL SLOPE NOT LESS THAN 1/4 UNIT VERTICAL IN 12 UNITS HORITZONTAL (2% SLOPE) TOWARD THE HOOD OR TOWARD AN APPROVED GREASE RESERVOIR WHEN A CENTRIFUGAL FAN IS USED IT SHALL BE POSITIONED SO THE DISCHARGE OUTLET IS EITHER VERTICAL OR BOTTOM HORIZONTAL WITH THE AIR INVERTED THAT THERE WILL BE NO IMPINGEMENT ON THE ROOF, OTHER EQUIPMENT OR PARTS OF THE STRUCTURE. A VERTICAL DISCHARGE FAN SHALL BE MANUFACTURED WITH AN APPROVED DRAIN OUTLET AT THE BOTTOM OF THE HOUSING TO PERMIT DRAINAGE OF GREASE TO AN APPROVED COLLECTION DEVICE.

I. CLEAN OUTS AND OTHER OPENINGS: GREASE DUCT SYSTEMS SHALL NOT HAVE OPENINGS THEREIN OTHER THAN THOSE REQUIRED FOR PROPER OPERATION AND MAINTANENCE OF THE SYSTEM. ANY PORTION OF SUCH SYSTEM HAVING SECTIONS INACCESSIBLE FROM THE DUCT ENTRY OR DISCHARGE SHALL BE PROVIDED WITH ADEQUATE CLEAN OUT OPENINGS. CLEAN OUT OPENINGS SHALL BE EQUIPPED WITH TIGHT FITTING DOORS CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN THAT REQUIRED FOR THE DUCT. DOORS SHALL BE EQUIPPED WITH SUBSTANTIAL METHOD OF LATCHING, SUFFICIENT TO HOLD THE DOOR TIGHTLY CLOSED. DOORS SHALL BE SO DESIGNED THAT THEY CAN BE OPENED WITHOUT THE USE OF A TOOL.

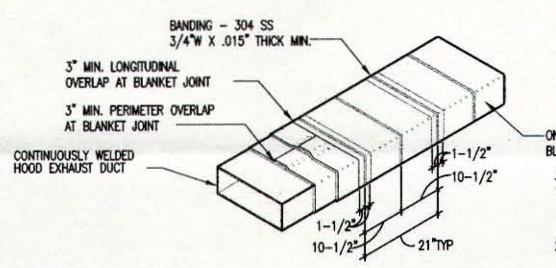
J. DUCT ENCLOSURE: A GREASE DUCT SERVING A TYPE I HOOD WHICH PENETRATES A CEILING, WALL OR FLOOR SHALL BE ENCLOSED IN A DUCT ENCLOSURE FROM POINT OF PENETRATION. A DUCT MAY ONLY PENETRATE EXTERIOR WALLS AT LOCATIONS WHERE UNPROTECTED OPENINGS ARE PERMITTED BY THE BUILDING CODE. DUCT ENCLOSURES SHALL BE OF AT LEAST ONE-HOUR FIRE RESISTIVE CONSTRUCTION IN ALL BUILDINGS. THE DUCT ENCLOSURE SHALL BE SEALED AROUND THE DUCT AT THE POINT OF PENTRATION AND VENTED TO THE EXTERIOR THROUGH WEATHER PROCTECTED OPENINGS. THE ENCLOSURE SHALL BE SEPERATED FROM THE DUCT BY AT LEAST 3 INCHES AND NOT MORE THAN 12 INCHES AND SHALL SERVE A SINGLE GREASE EXHAUST DUCT SYSTEM. IF ALLOWED BY LOCAL CODE AUTHORITIES, TYPE I GREASE DUCTS MAY BE WRAPPED IN 2-HR UL RATED " FIREMASTER" OR APPROVED MANUFACTURERS GREASE DUCT FIRE PROTECTION SYSTEM, INSTALLED PER MANUFACTURER'S INSTRUCTION.

K. FIRE-RESISTIVE ACCESS OPENING: WHEN CLEAN OUT OPENINGS ARE LOCATED IN DUCTS WITHIN A FIRE-RESISTIVE SHAFT OR ENCLOSURE, ACCESS OPENINGS SHALL BE PROVIDED IN THE SHAFT OR ENCLOSURE AT EACH CLEAN OUT POINT. THESE ACCESS OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING SLIDING OR HINGED DOORS WHICH ARE EQUAL TO FIRE-RESISTIVE PROTECTION TO THAT OF THE SHAFT OR ENCLOSURE.

L. AIR VELOCTIY: GREASE DUCT SYSTEMS SERVING A TYPE I HOOD SHALL BE DESIGNED AND INSTALLED IN A MANNER TO PROVIDE AN AIR VELOCITY WITHIN A DUCT SYSTEM OF NOT LESS THAN 1500 FEET PER MINUTE AND NOT TO EXCEED 2500 FEET PER MINUTE.

M. EXHAUST OUTLETS: EXHAUST OUTLETS FOR GREASE DUCTS SERVING COMMERCIAL FOOD HEAT PROCESSING EQUIPMENT SHALL EXTEND THROUGH THE ROOF UNLESS OTHERWISE APPROVED BY THE BUILDING OFFICIAL. SUCH EXTENSION SHALL BE AT LEAST 2 FEET ABOVE THE ROOF SURFACE, AT LEAST 10 FEET FROM PARTS OF THE SAME OR CONTGUOUS BUILDINGS, ADJACENT PROPERTY LINE OR AIR INTAKE OPENING INTO ANY BUILDING, AND SHALL BE LOCATED AT LEAST 10 FEET ABOVE THE ADJOINING GRADE LEVEL.

N. EXCEPTIONS: EXHAUST OUTLETS FOR GREASE DUCTS SERVING COMMERCIAL FOOD HEAT PROCESSING EQUIPMENT MAY TERMINATE NOT LESS THAN 5 FEET FROM AN ADJACENT BUILDING, ADJACENT PROPERTY LINE OR AIR INTAKE OPENING INTO A BUILDING, IF THE AIR EXHAUST OUTLET IS DISCHARGED AWAY FROM SUCH LOCATIONS.

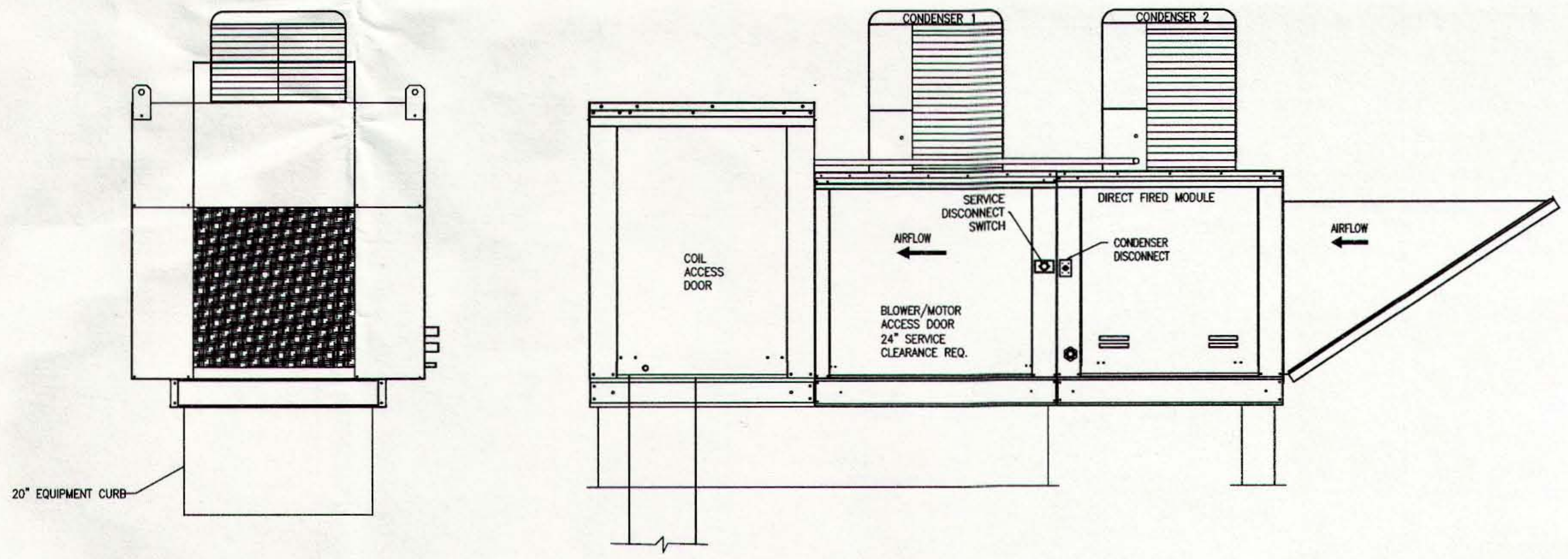


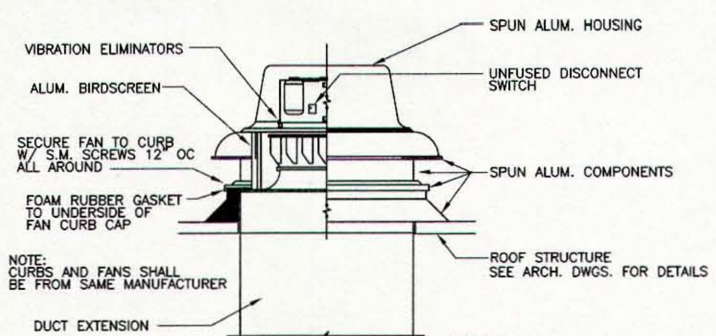
NOTES:

1. WRAP GREASE DUCT CONTINUOUS AS SHOWN FOR ENTIRE LENGTH FROM KITCHEN HOOD CONNECTION TO EXHAUST FAN ON ROOF.
2. FOR HORIZONTAL RUNS OF EXHAUST DUCTS PROVIDE TYPICAL TRAPEZE SUPPORT SYSTEM WITH 1/2" HANGER RODS A MAXIMUM OF 6" FROM INSULATION EDGE. TRAPEZE SUPPORTS SHALL BE SPACED A MAXIMUM OF 60" ON CENTER FROM CENTERLINE OF VERTICAL EXHAUST DUCT.
3. SLOPE HORIZONTAL EXHAUST DUCT RUNS A MINIMUM OF 1/4" PER FOOT (2% SLOPE) TOWARDS EXHAUST HOOD.
4. PROVIDE INSULATED ACCESS DOOR OR PANEL NEAR MID POINT OF EXHAUST DUCT RUN FOR CLEANING AND INSPECTION OF DUCT. PROVIDE AN APPROVED SIGN ON ACCESS DOOR OR PANEL WHICH READS " ACCESS PANEL DO NOT OBSTRUCT"
5. BANDING REQUIREMENTS: USE 304 STAINLESS STEEL BANDS A MAXIMUM 1-1/2" FROM BLANKET EDGE AND SPACED A MAXIMUM OF 10-1/2" ON CENTER.

03 KITCHEN HOOD EXHAUST DUCT SYSTEM

NO SCALE





EELECTRICAL
1/3 HP @120/1, FLA-4.1

04 ROOF MOUNTED CENTRIFUGAL EXHAUST FAN - DISHWASHER

NO SCALE

IINFORMATION OF KITCHEN EQUIPMENT IS INDICATED IN FOOD SERVICE CONSULTANT DRAWINGS.

FAN #3 A3-D.500-G18-MPU - HEATER
1. DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 18" BLOWER AND 12" BURNER.
2. INTAKE HOOD WITH EZ FILTERS
3. SIDE DISCHARGE - AIR FLOW RIGHT -> LEFT
4. MOTORIZED BACK DRAFT DAMPER 30" X 30" FOR SIZE 3 STANDARD & MODULAR DIRECT FIRED HEATERS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" REAR FLANGE, NFBUP-S ACTUATOR INCLUDED
5. COOLING INTERLOCK RELAY. 24VAC COIL. 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
6. LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATION CONTROL IS IN A LOW FIRE POSITION.
7. GAS PRESSURE GAUGE, 0-35", 2.5" DIAMETER, 1/4" THREAD SIZE
8. GAS PRESSURE GAUGE, -5 TO +15 INCHES WC., 2.5" DIAMETER, 1/4" THREAD SIZE
9. DX COOLING INTAKE AIR THERMOSTAT AND RELAYS MOUNTED IN UNIT - SET POINT FOR THERMOSTAT SHOULD BE 85°F.
10. 10 TON, DUAL CIRCUIT (5/5) MODULAR PACKAGED COOLING OPTION FOR SIZE 3 MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING. (3,600 TO 6,000 CFM) NOT BUILT WITH OPPOSITE SIDE CONTROLS OR OPPOSITE AIRFLOW DIRECTION. CONDENSERS REQUIRE SEPARATE 208V, 208/3 PHASE POWER SUPPLY, EACH WITH MCA=21.4, MOCP=30. COIL = 3EZ0602M
11. FULL CRATING FOR COMMERCIAL HEATERS FOR SHIPPING.
12. MOTOR HP 7.5, 208/3, FLA - 21.1

SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 26°F. TEMP. RISE = 29°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY
OUTPUT BTUs AT ALTITUDE OF 0.0 ft. = 156965
INPUT BTUs AT ALTITUDE OF 0.0 ft. = 170615

01 COMBINATION PACKAGE KITCHEN MAKE-UP AIR SYSTEM

NO SCALE

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112 NW 24th Street
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THE ALEX GROUP, LLC
TEXAS REGISTERED ENGINEERING FIRM F-6580
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PERSPECTIVE Hospitality

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Randal Kelly
Project Manager:
John Ruckle
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COURTYARD Marriott

Revisions

1	CITY COMMENTS 09-22-16
2	OWNER REVISIONS 11-14-16

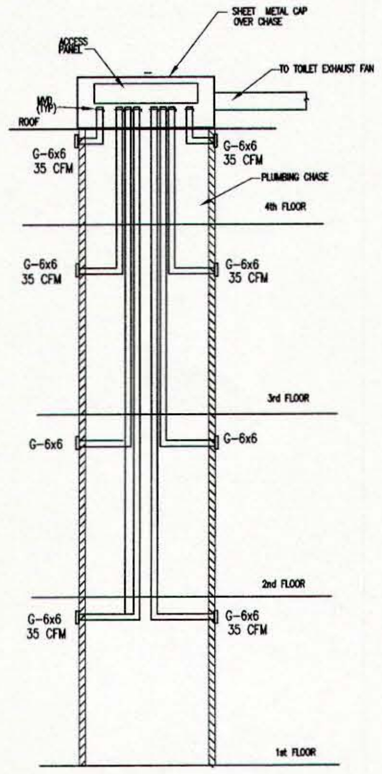
COURTYARD by MARRIOTT
Padre Boulevard
South Padre Island, TX 78597

BID SET
DATE 5/06/16
TX-15034

sheet description
MECHANICAL DETAILS

sheet number
M2.02 (1)

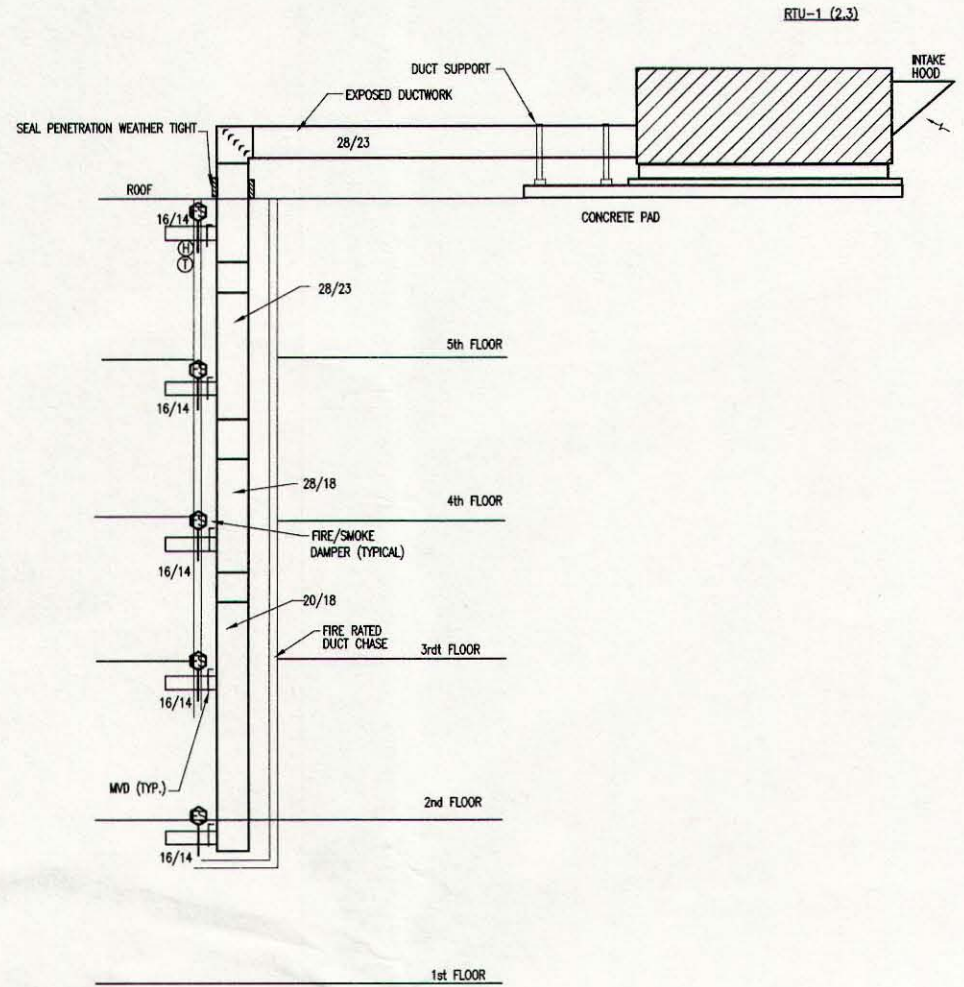
STATE OF TEXAS
SAM N. KAZATSKER
LICENSED PROFESSIONAL ENGINEER
11/14/16



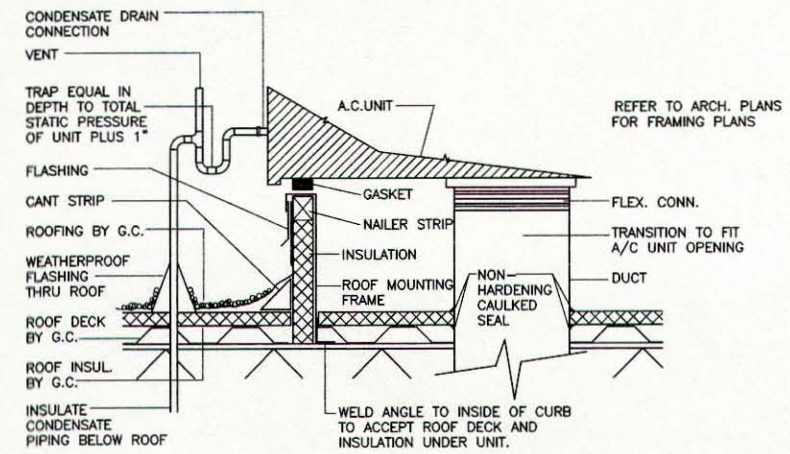
NOTES:

1. CONTRACTOR SHALL PROVIDE ADDITIONAL FITTINGS AND DUCTWORK TO CONNECT EXHAUST FAN RISER TO TOILET EXHAUST FAN, OFFSET DUCTWORK AS NECESSARY.
2. CONTRACTOR MAY USE WALL EXHAUST GRILLE IN LIEU OF CEILING GRILLE. COORDINATE ALL LOCATIONS WITH ARCHITECT.

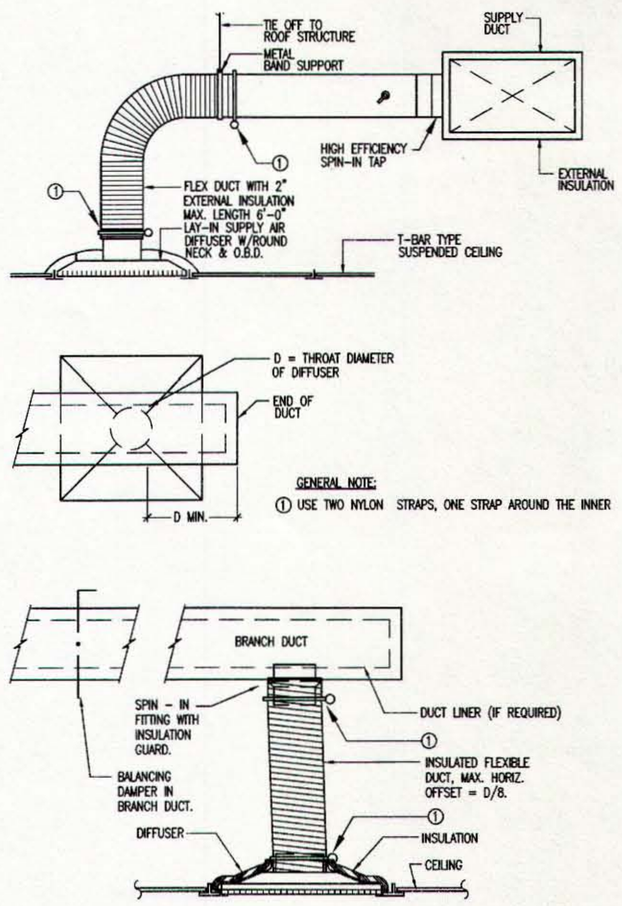
06 TYPICAL TOILET EXHAUST SYSTEM DIAGRAM
NO SCALE



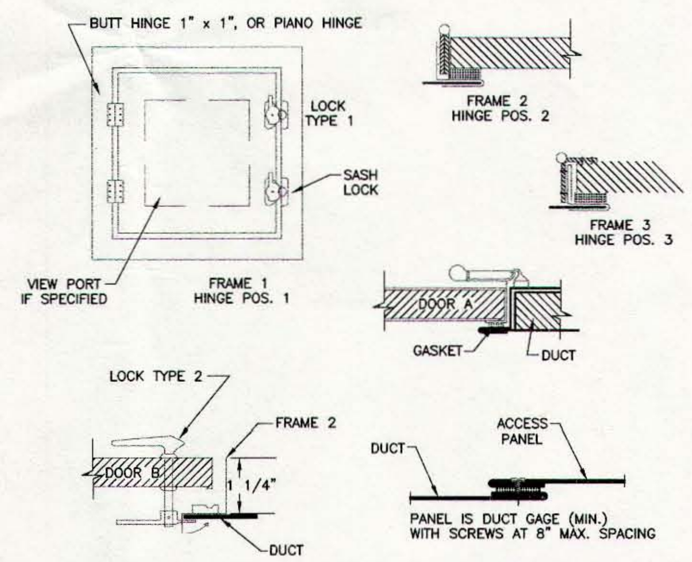
04 GUEST ROOM OA SYSTEM DIAGRAM
NO SCALE



02 ROOFTOP UNIT MOUNTING DETAIL
NO SCALE

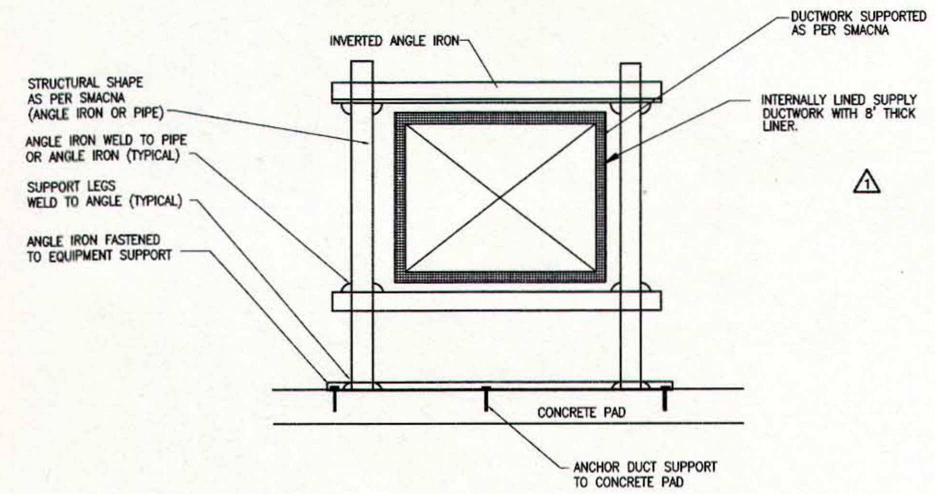


05 SUPPLY AIR DIFFUSER DETAIL
NO SCALE



	Door Size	No. Hinges	No. Locks	Metal Gage		
				Frame	Door	Back
2" w.g. Static and Less	12" x 12" 16" x 20" 24" x 24"	2 2 3	1–S 2–S 2–S	24 22 22	26 24 22	26 26 26
3" w.g. Static	12" x 12" 16" x 20" 24" x 24"	2 2 3	1–S 1–S,1–T,1–B 2–S,1–T,1–B	22 20 20	22 20 20	26 26 24
4" w.g. to 10" w.g.	12" x 12" 16" x 20" 24" x 24"	2 3 3	1–S,1–T,1–B 2–S,1–T,1–B 2–S,2–T,2–B	20 18 18	20 18 18	26 24 24
S = Side opposite hinges, T = Top, B = Bottom						

03 DUCT ACCESS DOOR DETAIL
NO SCALE



01 EXTERIOR DUCT ROOF SUPPORT
NO SCALE

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Fort Worth, TX. 76164
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www.jrkdesign.us

TAG the alex group, llc

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Architect:
Randal Kelly
Project Manager:
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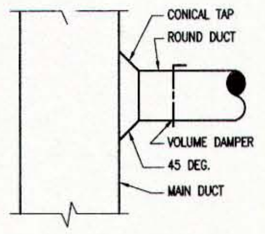
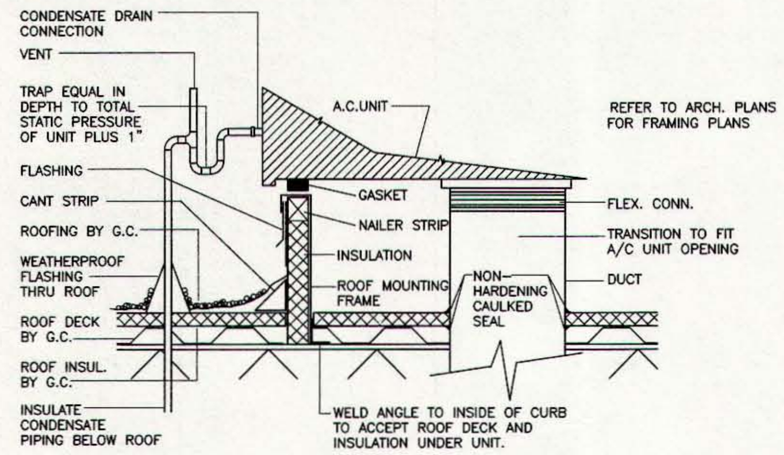
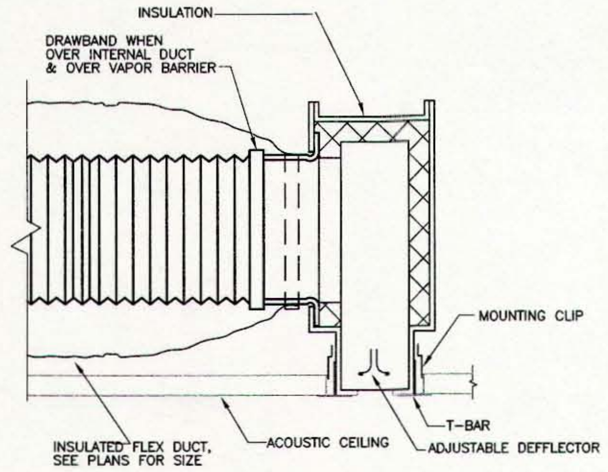
STATE OF TEXAS LICENSED PROFESSIONAL ENGINEER
11/14/16



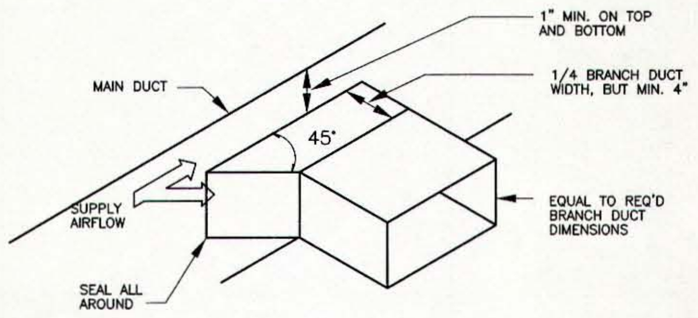
09 TYPICAL CONICAL TAP DETAIL
N.T.S.



06 ROOFTOP UNIT MOUNTING DETAIL
NO SCALE

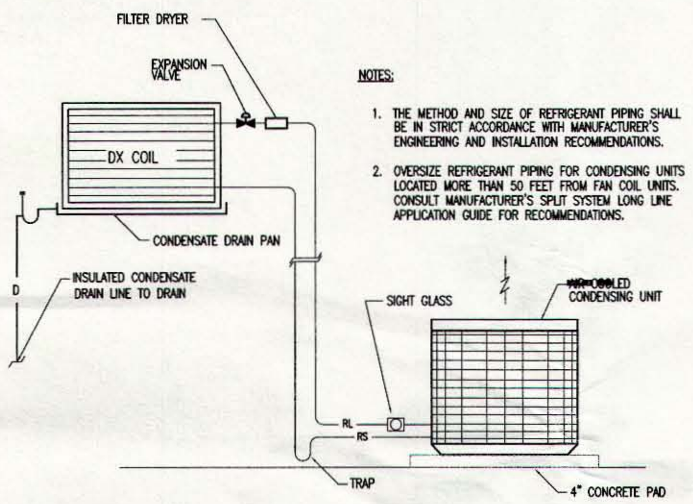


03 LINEAR SLOT DIFFUSER DETAIL
NO SCALE



NOTE:
FLEXIBLE RUN-OUT DUCT SHALL NOT EXCEED 6 FT. IN LENGTH.

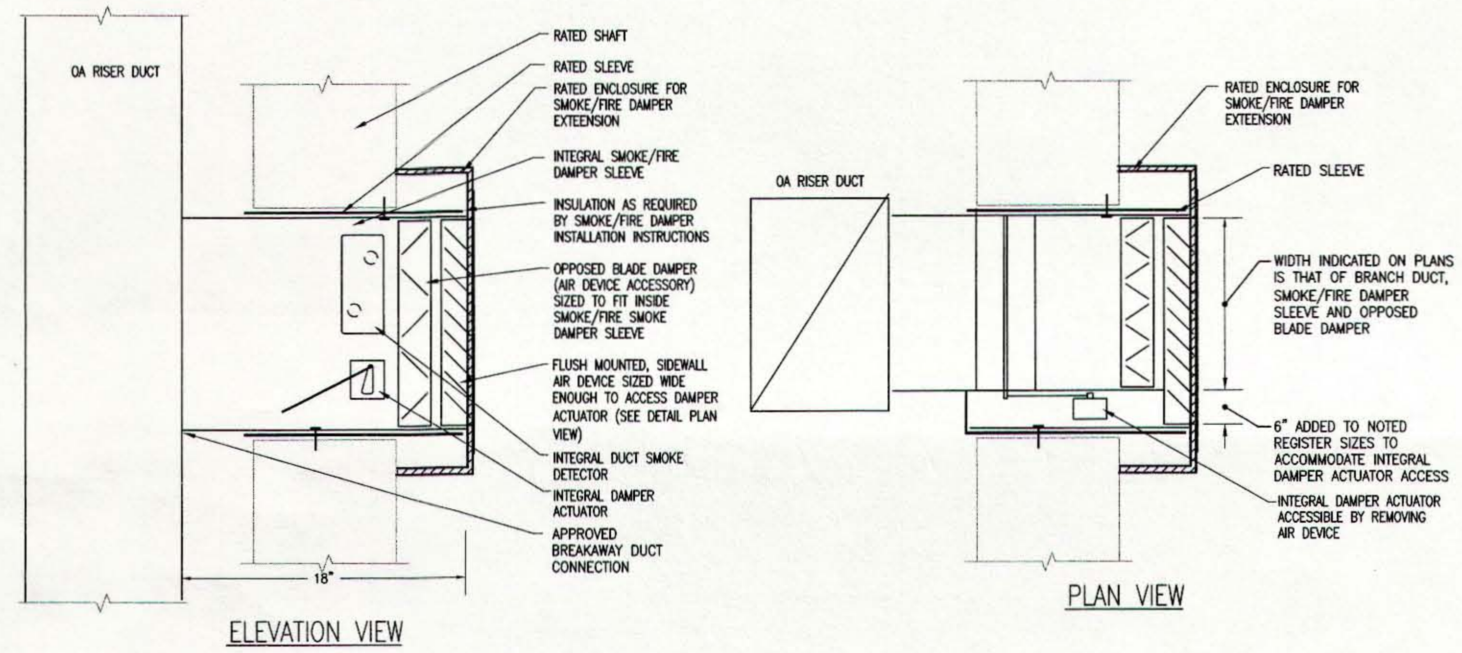
08 TYPICAL BRANCH TAKE-OFF DETAIL
N.T.S.



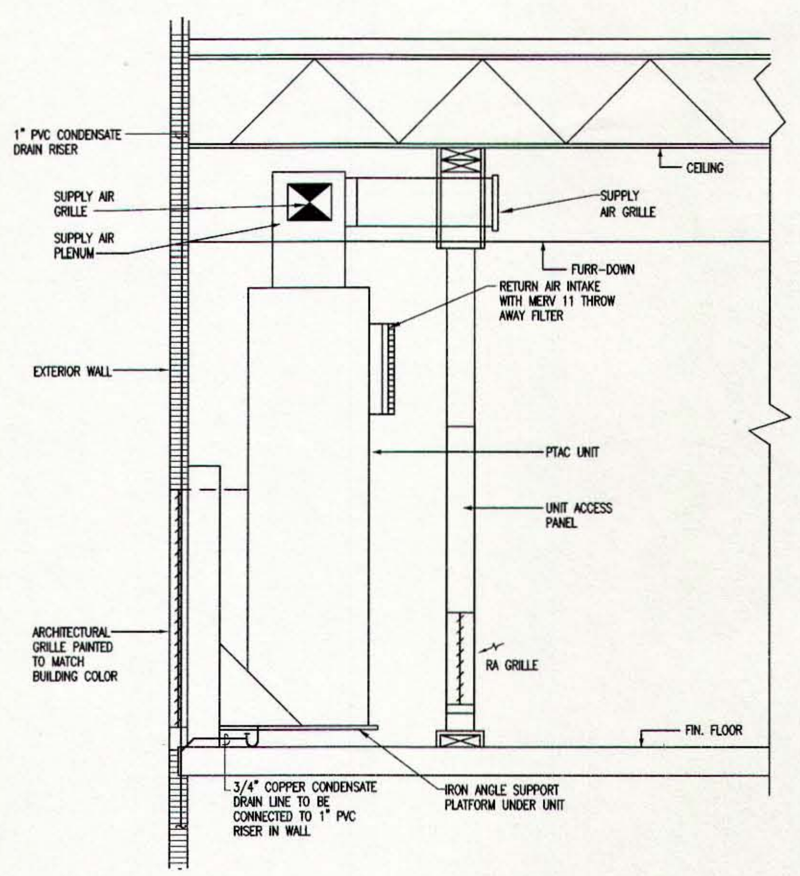
NOTES:

1. THE METHOD AND SIZE OF REFRIGERANT PIPING SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S ENGINEERING AND INSTALLATION RECOMMENDATIONS.
2. OVERSIZE REFRIGERANT PIPING FOR CONDENSING UNITS LOCATED MORE THAN 50 FEET FROM FAN COIL UNITS. CONSULT MANUFACTURER'S SPLIT SYSTEM LONG LINE APPLICATION GUIDE FOR RECOMMENDATIONS.

05 HEAT PUMP CONDENSING UNIT DETAIL
NO SCALE



02 OA DUCT SMOKE/FIRE DAMPER DETAIL
NO SCALE



07 VERTICAL PTAC UNIT DETAIL
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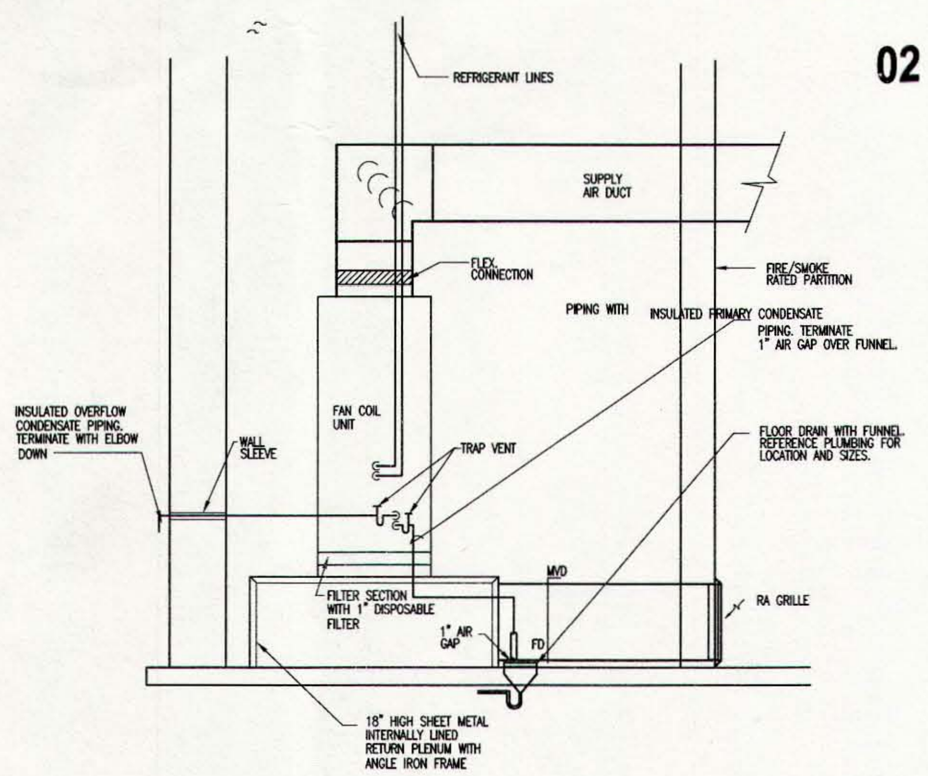
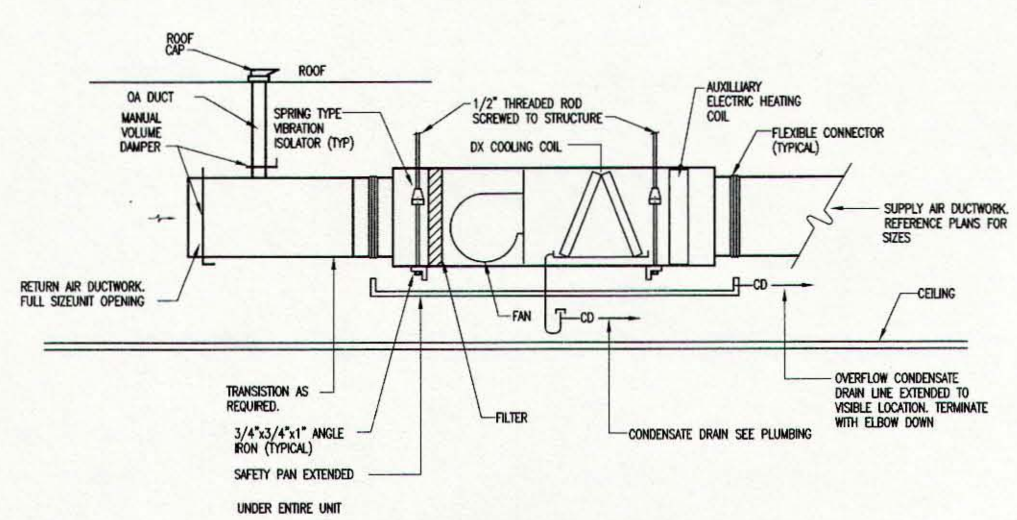


04 HEAT PUMP FAN COIL UNIT DETAIL
NO SCALE



01 HORIZONTAL HEAT PUMP FAN COIL UNIT DETAIL
NO SCALE

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Randal Kelly
Project Manager:
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sheet description
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sheet number
M3.02

11/14/16

BOARD OF ADJUSTMENTS AND APPEALS (BUILDING)
AGENDA REQUEST FORM

MEETING DATE: March 7, 2017 **ITEM:** 7

SPONSOR / ORIGINATOR: Phillip Hayes, Property Owner

ITEM DESCRIPTION:

Discussion and action regarding a request by Phillip Hayes, owner of 112 East Palm, for a variance from Section 4-27, Standards for Construction (A) from the City of South Padre Island Code of Ordinance, and the addition of a swimming pool slide. Applicant is requesting to add a third story to the existing single family home at 112 East Palm, without the installation of additional pilings as required by local code. *(112 East Palm; Lot 12 Block 5 Padre Beach Subdivision)*

DISCUSSION:

Phillip Hayes, owner of 112 East Palm, is requesting a variance from the use of either 20 foot reinforced concrete pilings or 30 foot treated timber pilings for an 805 square feet third story addition to the single family home at 112 East Palm. The two story single family home has 24 reinforced concrete pilings at a depth of 17 feet. In order to comply with Section 4-27 (A), the 805 square feet third story addition would require one piling per 100 square feet of building of either 20 foot reinforced concrete pilings or 30 foot treated timber. Section 4-27 Standards for Construction is attached.

Mr. Hayes has retracted the variance request for the swimming pool slide. Swimming pool slides are allowed under City of South Padre Island Code of Ordinance Section 20-13 Setback area – Special regulations and uses.

STAFF RECOMMENDATIONS/COMMENTS:

In evaluating a Building Code Variance, the finding of a "hardship" is not required as with zoning variances. The standard adopted by the Building Board of Adjustment has been if the proposed alternative provides an "equal or better" protection than the normal code requirement.

BOARD ACTION:

MOTION: _____

BY: _____ **SECOND BY:** _____

Bolstad	Fedigan	Huffman	Pace	Teniente		
Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	No	No	No	No	No	No
Abstain	Abstain	Abstain	Abstain	Abstain	Abstain	Abstain

Sec.4-27 Standards for construction.

The hereinafter enumerated standards shall be required in the construction of all buildings, to-wit:

(A) All structures erected within the corporate limits of the City shall be supported by continuous connection of pilings to base flood level or first living level whichever is greater.
Pilings shall be treated timber or concrete [Note: Windstorm Code has no provision for concrete pilings] as per the following schedule:

Number of Stories Supported by Pilings	Size of Piling	Type of Pilings	Depth of Piling Below Grade	Spacing Pilings
1	Min. 12" Butt Min. 8" Top	Treated Timber	15'	Min 1 piling per 100 sq. ft. Bldg.
1	11 1/2 x 11 1/2	Reinforced Concrete	12' 12'	Min. 1 piling per 100 sq. ft. Bldg.
2	Min. 12" Butt Min. 8" Top	Treated Timber	25'	Min. 1 piling per 100 sq. ft. Bldg.
2	11 1/2 x 11 1/2	Reinforced Concrete	17'	Min. 1 piling per 100 sq. ft. Bldg.
3	Min. 12" Butt Min. 8" Top	Treated Timber	30'	Min. 1 piling per 100 sq. ft. Bldg.
3	11 1/2 x 11 1/2	Reinforced Concrete	20'	Min. 1 piling per 100 sq. ft. Bldg.

(B) Concrete pilings shall be reinforced concrete with minimum compressive strength of 4,000 P.S.I. twenty-eight day test, five sack mix and minimum four #6 Grade 60 Deformed steel bars throughout full length of piling and extending eighteen inches into the beam. There shall be a continuous tie with concrete pilings to at least the base flood level, or first floor living level. This continuation shall be with concrete columns or concrete block with four #6 rebar and concrete.

(C) Wood pilings shall be minimum 12" butt diameter minimum 8" top timber pilings. Piling shall be creosoted of C.C.A. treated to resist deterioration, and shall be in accordance with American Wood Preservers Association Standard C-3.

(D) Pilings must be tied to building structure by suitable connections bolted with not less than two 3/4" galvanized bolts at wood to wood, wood to concrete connections.

Rebar shall be extended from pilings into adjacent member in concrete to concrete connections.

(E) Concrete grade beams to be a minimum size of 12" x 24" [three (3) story structures must be minimum of 16" x 24"] with four #5 rebar and four corner bars with #3 stirrups at twenty-four inch spacing. A moisture barrier (Visquene) to be used under slab. Slab to be minimum four inches thick with #3 bars at 12" O.C. or 6/6 - 6/6 welded wire fabric or equivalent, continuous. Minimum eight inch reinforced concrete beam or "U" block tie beam to be used to tie masonry structure at floor levels. This beam to have two #5 rebar. Concrete block walls shall have one #5 rebar on each side of all openings and at four foot intervals in horizontal wall, and at all corners. All cells where this occurs, shall be filled with five sack grout. All concrete to be of minimum five (5) sack mix.

(F) All structures or piling from grade level to base flood level, or first floor living level, whichever is greater, shall be masonry construction which may include brick veneer, or other masonry veneer and stucco.

(G) All stringers, girder to be minimum of two 2" x 12" material, one on each side of notched piling.

(H) Sills on concrete to be womanized lumber and anchored with 5/8" galvanized bolts with washers and nuts embedded in concrete minimum 8" at all corners with 4 foot intermediate spacing. Roof plates to be anchored with 5/8" galvanized bolts with washers and nuts embedded in concrete beam or U-block 8" at two foot intervals. [Note: three (3) story structures have greater requirements per windstorm code]

(I) Wall studs on all exterior walls shall be on 16" centers. Walls over two stories in height require at least 2" x 6" studs, at lower level.

(J) Roof Construction:

(1) All ceiling joists and roof spans shall meet code requirements and each one shall be anchored to wall plates by approved metal anchors.

(2) All roof joists to be of 2" x 6" material or heavier or of an engineered truss type construction.

(3) Roof decking shall be a minimum of 5/8" plywood CDX grade with exterior glue. Plywood to be nailed 5" apart at the joint, and 7" on the rest of the sheet. Galvanized nails #8 to be used.

(4) Wood shingles may be applied to roofs with solid or spaced sheathing. The spaced sheathing shall be spaced not to exceed four inches clear, nor more than the width of the sheathing board. Spaced sheathing shall be not less than one inch by three inches nominal dimensions.

(5) Class "A" or "B" minimum roof covering allowed in fire district.

(K) Supports for roofs or porches, carports, etc. must be of nominal 4" x 4" material or larger, notched and bolted with a tie-down at base.

(L) All wood exterior walls shall have one hour fire protection, one layer 5/8" fire code "X" gypsum board on the interior, with minimum 5/8" plywood exterior (5/8" texture 1-

(2) Any additions or improvements shall not increase the original non - conforming use (being the size of the structure(s) at the time it became a non-conforming use) by more than 100%.

(3) All property owners within 200 feet of any application to expand a non-conforming use shall be notified of the hearing before the Board of Adjustment at least 15 days prior to the date of the hearing.

(4) Before the 15th day before the date of the hearing, notice of the time and place of the hearing must be published in the City's official newspaper.

(5) The Applicant hereunder shall be responsible for all costs incurred for the hearing and permit process along with a $100 fee.

(6) The Applicant must demonstrate to the Board of Adjustment that the proposed addition or improvements will have no or minimal negative impact upon surrounding properties or upon the character of the neighborhood or the application will be denied.

Sec.20-13 Setback area -- Special regulations and uses.

(A) Setbacks--Area Not To Be Used. No vertical structures or manufacture of any kind, temporary or permanent, or any types of goods, wares or merchandise of any kind, nor other property of any kind, will be placed within the setback requirements required by this code, except for fences, signs, trash pads, walks, linen cabinets as detailed in Section 20-13(E) below and retaining walls and the sideyard setback may have placed in it swimming pool equipment, trash pads, walks, shower pads and air conditioning equipment not to exceed first floor level. The rear yard setback may have placed in it a swimming pool and pool accessories that are limited to a hot tub, a spa, a pool slide, pool railings, water features, water pumps, swimming pool equipment and shower pads, provided those accessories are to be used solely by occupants of the dwelling(s) and their guests and shall not exceed 6.5 feet in height when located within 10 feet of a property line. The setback area shall be that portion of the property between a public right-of-way or lot line and the permissible building line for that piece of property. [Ord 98-03; Jan 1998]

(B) Determining Setback Requirements. When determining the setback requirements for this Chapter, the setback lines for a structure will vary for different portions of that structure as it increases in height, thereby allowing stair stepping in determining the setback requirements. Each time a building reaches a height that requires an additional setback, only that portion of the building at that height must meet the additional setback, and the lower portions must only comply with the setback as applied to it. ~~(C)~~ [Repealed Ord 09-12, Nov 2009]

(D) Beach Lots--Rear Yard. All buildings located East of Gulf Blvd. are not required to maintain a rear yard regardless of any provision in this Chapter to the contrary and may build the rear of their structure to the building line as established by the Attorney General of the State of Texas.

(E) Linen Cabinets: Linen cabinets may be placed in the side and rear-yard setback areas with an approved Building Permit for such installation, under the following conditions:

a. Only within the "C", "C-2", "D" and "D-1" zoning districts.
b. A minimum of a five (5') foot separation must exist between the linen cabinet and any structure, excluding fences.
c. The receptacle must be anchored at or above the six (6') foot elevation and must be built and anchored to meet FEMA and windstorm standards for permanent structures.

INSPECTION REPORT

TOWN OF SOUTH PADRE ISLAND PUBLIC WORKS DEPARTMENT
4405 PADRE BOULEVARD
(956) 761-1025

DATE: 5-14-03

PERMIT TYPE / NO.:
- ☒ Building # 4452 Lot 12 BK5
- ☐ Electrical
- ☐ Plumbing
- ☐ Mechanical "Pilings"
- ☐ Other

Name: Sergio Mendez Phone #: 739-3641

Address / Location: 112 E. Palm

Building	Electrical	Plumbing	Mechanical	Other
☒ Piling	☐ T-Pole	☐ Underground	☐ Underground	☐
☐ Foundation	☐ Underground	☐ Rough-In	☐ Rough-In	☐
☐ Framing	☐ Rough-In	☐ Final	☐ Final	☐
☐ Final	☐ Final	☐ Other	☐ Other	☐
☐ Other	☐ Other			

APPROVED: _____ **NOT APPROVED:** _____ Received By: [signature]

TIME OF INSPECTION: _____ A.M. OR P.M.

COMMENTS: Ready @ 11:00Am

24 pilings @ 17' / Steel O/C

May Pour

[signature]
Inspector's Signature

Google Maps Gulf Blvd

Image capture: Apr 2011 © 2017 Google

South Padre Island, Texas

Street View - Apr 2011

South Padre ISLAND

CITY OF SOUTH PADRE ISLAND
BOARD OF ADJUSTMENT & APPEALS APPLICATION

☐ $250 variance ☐ Special Exception Use (Sec. 20-16.1)
☐ Administrative Appeal

APPLICANT INFORMATION

Name: Phillip Hayes
Mailing Address: 1401 Oakcrest Drive
City, State, Zip: Providence Village, TX 76227
Phone number: 214-621-5109
Fax number: 940-365-4701
E-mail Address: pjhmanhayes@yahoo.com

OWNER INFORMATION as of 2/28/17

Name: Chubby Hut LLC
Mailing address: 1401 Oakcrest Drive
City, State, Zip: Providence Village, TX 76227
Phone number: 214-621-5109
Fax number: 940-365-4701
E-mail Address: phayes@u-stormidstates.com

SITE LOCATION FOR REQUEST:

Physical Address (Street Name & Number): 112 E. Palm St.

Legal Description (Lot / Block / Subdivision): Lot 12, Block 5, Padre Beach Subdivision

I hereby request the following from the Board of Adjustment and Appeals: Addition of a 3rd Story on the house approximately 805 sq. ft. living space and 187 sq. ft. of Balcony area. Also would like approval for installation of a spiral pool slide.

In addition, the application requires the submission of the following:
- ◊ $250 application fee per variance, special exception, and appeal request.
- ◊ Stamped/Sealed & dated survey of Improvements of the Subject Property.
- ◊ Copy of Floor Plan of structure proposed to be constructed or expanded.
- ◊ Current/recent photographs of the site.
- ◊ And any additional information to more clearly understand the request.

For Internal use only:
Amount Paid: _____
Paid Cash or Check No. _____
Date Received: _____

Note: Applicants are required to fully disclose in the application all information that is necessary for the various bodies to make their determination prior to issuance of any permit. At a minimum, an application for a variance or Special Exception shall contain ten (10) copies of the information outlined above. All information must be submitted no later than twenty (20) days prior to the meeting date. All fees must be paid prior to the Board reviewing the application.
If Staff determines that the application is incorrect, incomplete, illegible, or in any way inadequate to insure the complete understanding of the variance or special exception, staff shall return the application to the applicant.

Applicant's Name (Please Print): Phillip Hayes
Applicant's Signature: Phillip J. Hayes
Date: 2/10/17

Owner's Name (Please Print): Phillip J. Hayes
Owner's Signature: Phillip J. Hayes
Date: 2/10/17

February 10, 2017

City of South Padre Island

Board of Adjustments Meeting

RE: 3rd Floor Expansion

We, Phillip and Melissa Hayes, are proposing an expansion of the property at 112 E. Palm St. This expansion would include an addition of a third story being built on the existing 2 story house. The 3rd story would include a tower, a living area, a room that would house bunk beds, and a balcony. The total square footage to be added onto the house would be approximately 805 living square ft and an addition 187 sq. ft. of balcony space. Working with an engineer, we would secure the foundation of the house to meet or beat the current piling requirements of 20 feet for 3 story houses. We would also build the 3rd story to comply with all of the state and local building code with the windstorm requirements. The 3rd story would add a much needed facelift on this house and improve the look of the Gulf Blvd. corridor. The exterior balcony area would basically mirror the 2nd story balcony area that is already existing. This new balcony would make great gulf views without impeding the view of the neighboring houses.

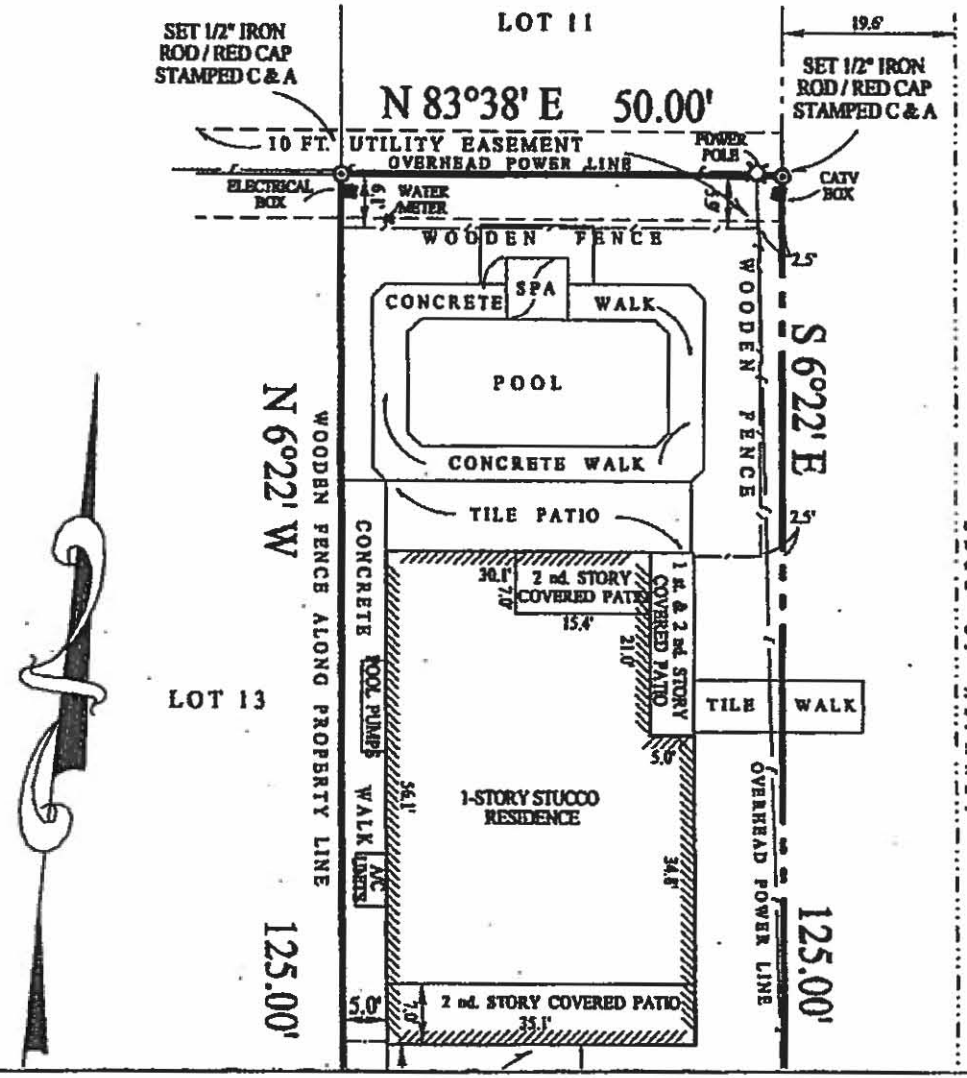
The interior of the addition would comprise of a new tower area where the stairs are currently. A partial set of stairs would come up to seating area in the tower where there would be a lookout through the tower windows to the gulf. The front living area would have windstorm rated French doors that head out onto the balcony along with some additional wind rating full length windows that would let in sunlight and give great views to the gulf. In the rear of the addition would be a room that would have built in bunk beds for our kids and our guests children. The balcony would consist of a railing that meets all safety requirements.

Lastly, we would also like to install a spiral slide that goes into the pool. The height of the spiral slide would be approximately 6' in height and have a foot print of around 8'6" x 7'2". This slide would be located on the north side of the pool and would empty into the pool where the depth is 4'.

We would appreciate your consideration in these matters and would ask for approval on both of these items.

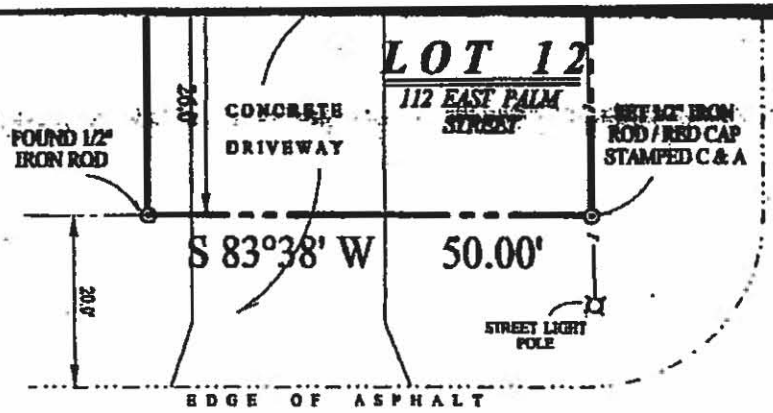
Phillip & Melissa Hayes

NOTE: This Tract Lies in Zone " X " Areas of 500-year flood as per the F.I. A. Flood Insurance Rate Map of Community No. 480115, Panel No. 0001 D, Effective March 9, 1999.



MERIDIAN AS PER
PADRE BEACH, SEC. I
VOL. 14, PG. 12
M. R. C. C.

SCALE: 1 in. = 20 ft.



SURVEY OF

Lot Number 12, Block Number 5, PADRE BEACH SUBDIVISION, SECTION 1, Town of South Padre Island, Cameron County, Texas, according to map of said Subdivision, recorded in Volume 14, Page 12, Map Records, Cameron County, Texas.

SURVEYED FOR:

SAMY BAUM
AND
PILAR BAUM

Samy Baum
Pilar Baum

The undersigned hereby certifies that the survey described hereon was made on the ground on August 04, 2004 ; that the only improvements on the ground are as shown; that there are no visible encroachments, visible overlapping, apparent conflicts, or visible easements, except as shown hereon. THIS CERTIFICATION IS ONLY VALID WITH AN ORIGINAL SIGNATURE AND IF THE DRAWING CONTAINS NO ERASURES OR ADDITIONS.

REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4731

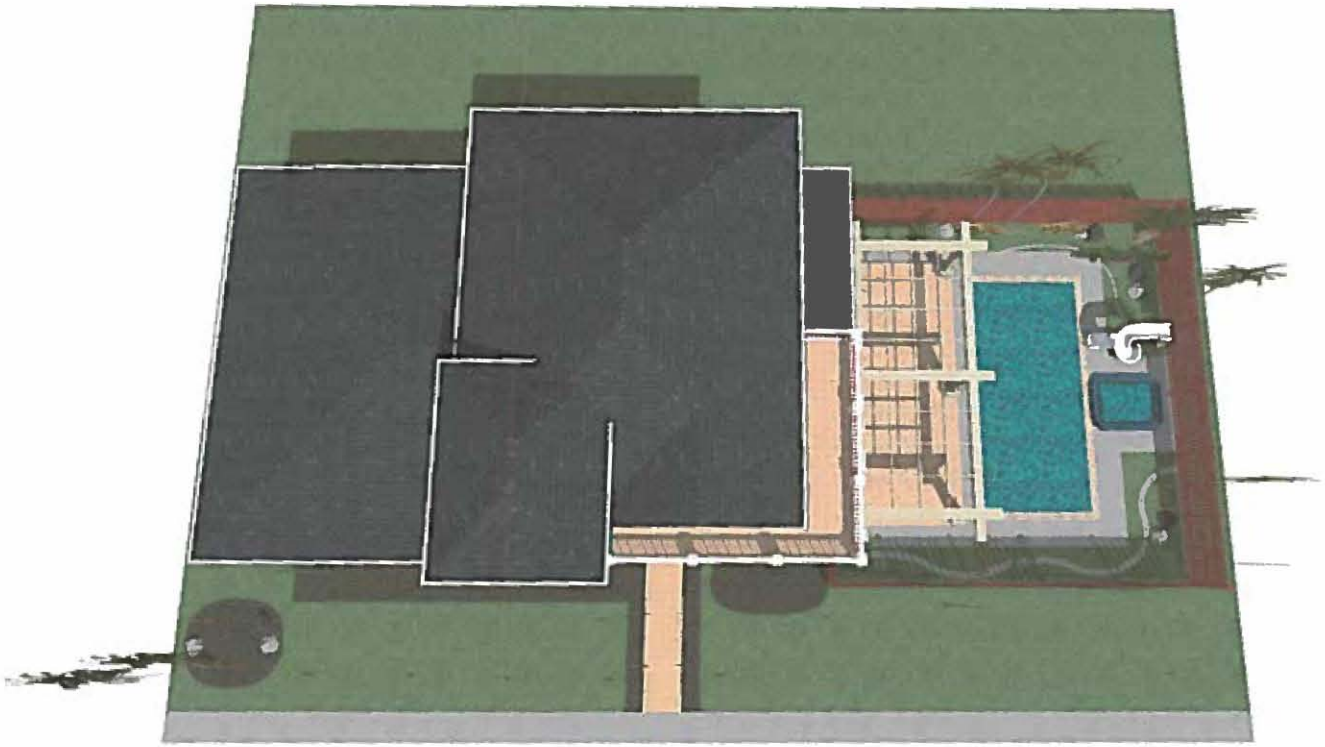
STATE OF TEXAS
REGISTERED
CARLOS CASTILLO
4731
PROFESSIONAL
LAND SURVEYOR

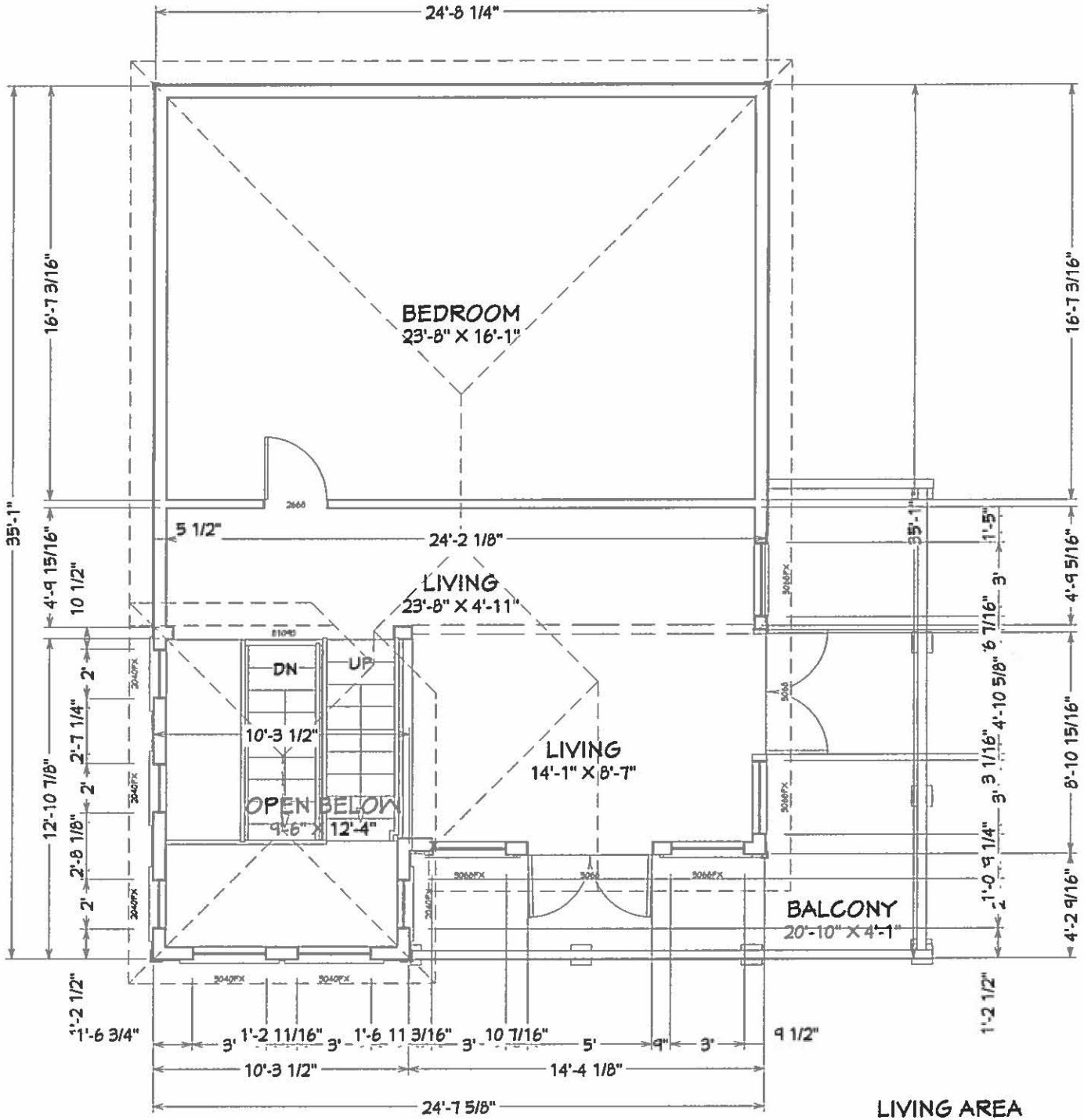
CASTILLO AND ASSOCIATES
LAND SURVEYORS

347 North Street
Brownsville, Texas 78521-2345

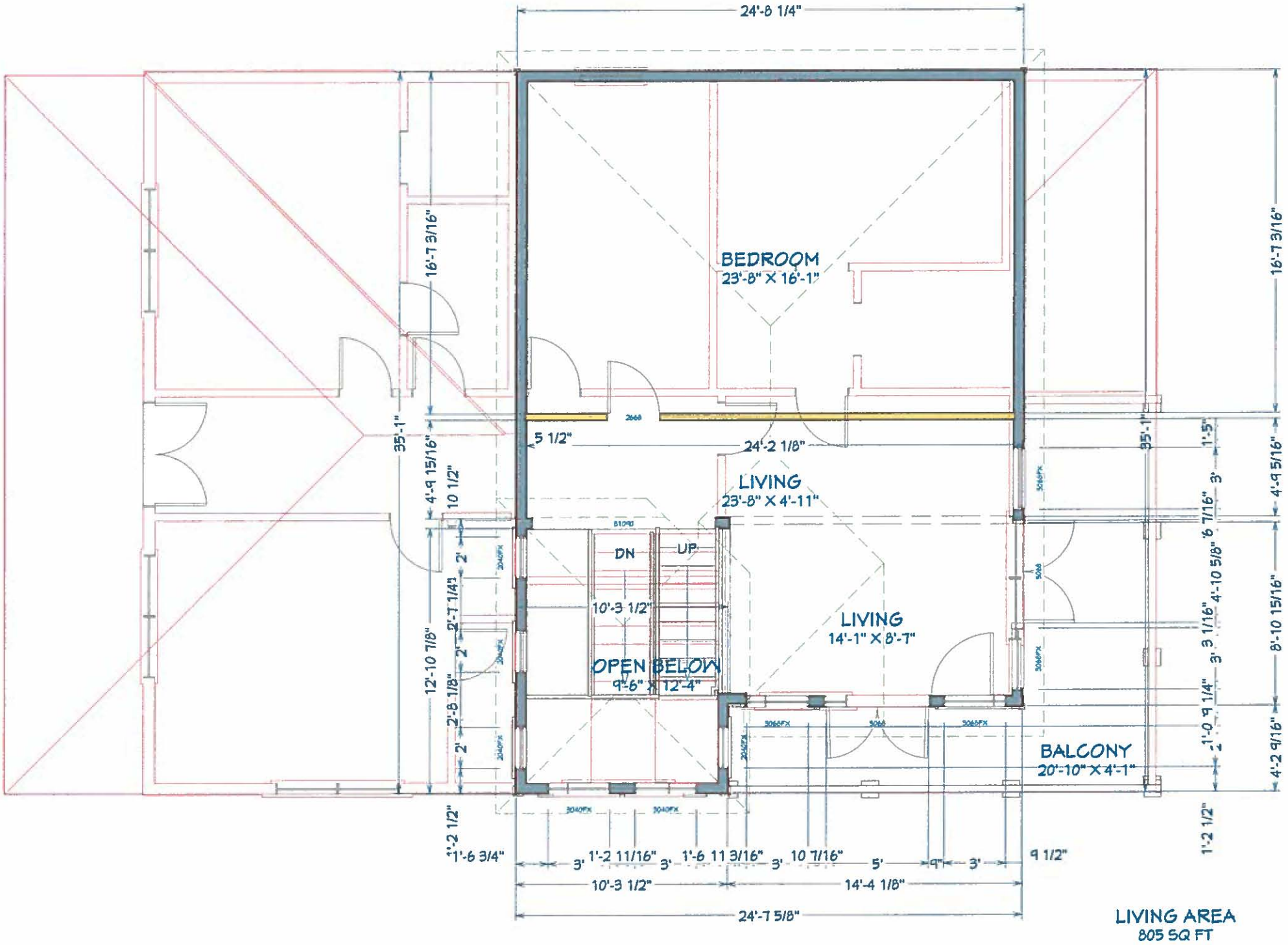
Fax No.: (956) 541-9010
Telephone No.: (956) 541-3777

G.F. No.: 2044364
Job No.: C-241632





LIVING AREA
805 SQ FT


24'-8 1/4"
BEDROOM
23'-8" X 16'-1"
LIVING
23'-8" X 4'-11"
LIVING
14'-1" X 8'-7"
OPEN BELOW
9'-6" X 12'-4"
BALCONY
20'-10" X 4'-1"
DN
UP
10'-3 1/2"
5 1/2"
24'-2 1/8"
24'-7 5/8"
10'-3 1/2"
14'-4 1/8"
16'-7 3/16"
35'-1"
4'-9 15/16"
10 1/2"
12'-10 7/8"
2'-7 1/4"
2'-8 1/8"
1'-2 1/2"
1'-6 3/4"
1'-2 11/16"
1'-6 11 3/16"
10 7/16"
9 1/2"
1'-5"
3'
6 7/16"
4'-10 5/8"
3 1/16"
1'-0 9 1/4"
4'-2 9/16"
8'-10 15/16"
LIVING AREA
805 SQ FT

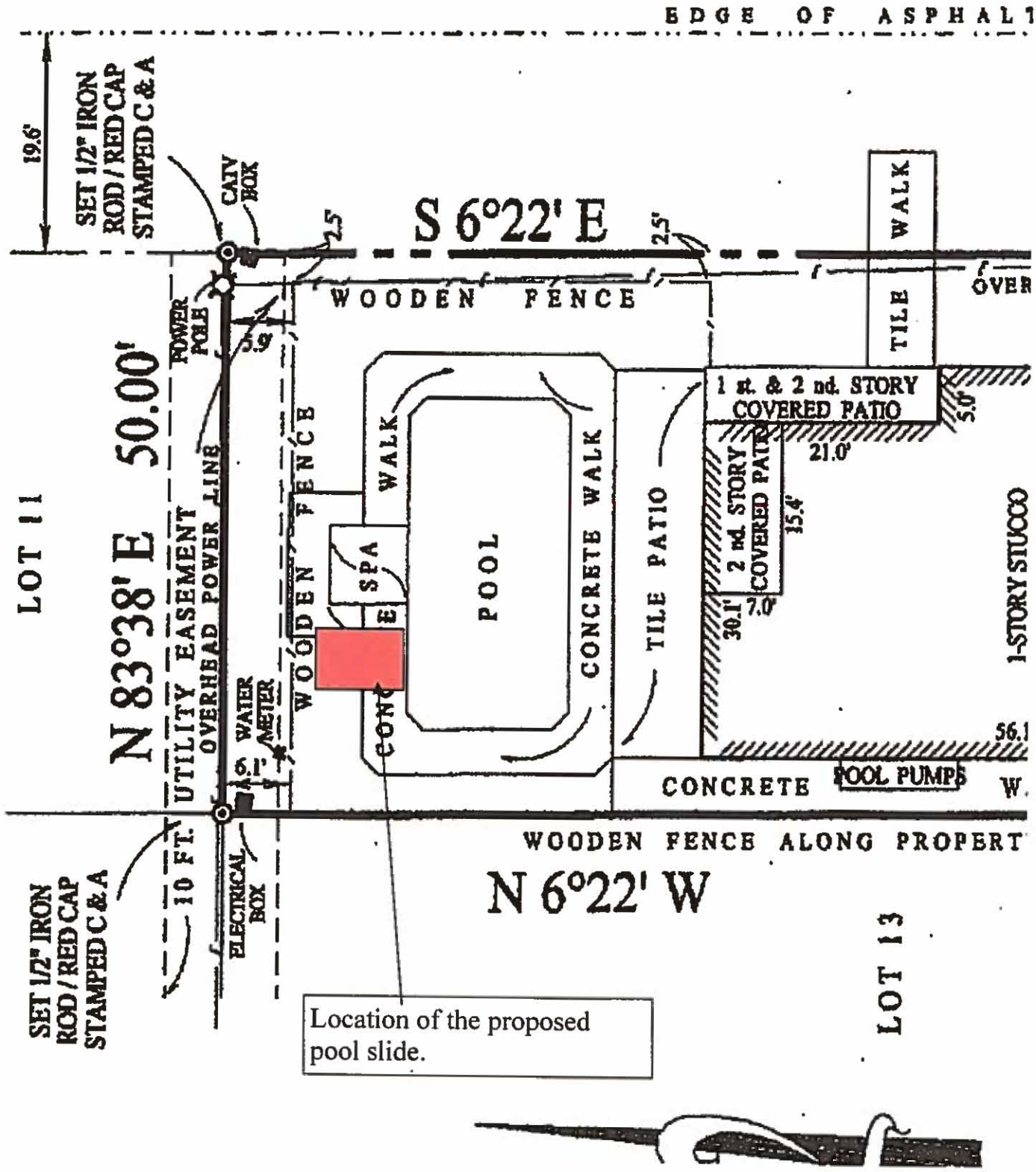
Full Description

G-Force 2 Pool Slide Features:

- Innovative 360° Design
- Extremely durable, Impact Resistant, Space Age Plastic Construction
- Grip-Around handrail for Safe Climbing
- Safe, Slip Resistant Treads Prevent "Slip Throughs"
- Deep Flame Runway
- Fantastic Water Delivery System Outperforms Everything Else
- 15 to 25 Gallons Per Minute Recommended
- 6' (72.5") High at Seating Area
- Fully Molded Treads Provide Safe Access to Slide Flume
- Weight Limit: 250 Pounds
- Color: Summit Gray
- Easy Assembly and Installation

Minimum Recommended Deck Space:

- 8' 6" x 7' 2".


EDGE OF ASPHALT
19.6'
SET 1/2" IRON ROD / RED CAP STAMPED C&A
CATV BOX
S 6°22' E
2.5'
2.5'
WOODEN FENCE
WALK
TILE
OVER
POWER POLE
5.9'
N 83°38' E 50.00'
LOT 11
UTILITY EASEMENT OVERHEAD POWER LINE
WOODEN FENCE
WALK
SPA
POOL
CONCRETE WALK
TILE PATIO
1 st. & 2 nd. STORY COVERED PATIO
5.0'
21.0'
2 nd. STORY COVERED PATIO
15.4'
30.1'
7.0'
1-STORY STUCCO
56.1
WATER METER
CONCRETE
POOL PUMPS
W.
WOODEN FENCE ALONG PROPERT
N 6°22' W
10 FT.
ELECTRICAL BOX
SET 1/2" IRON ROD / RED CAP STAMPED C&A
LOT 13
Location of the proposed pool slide.

LEGEND

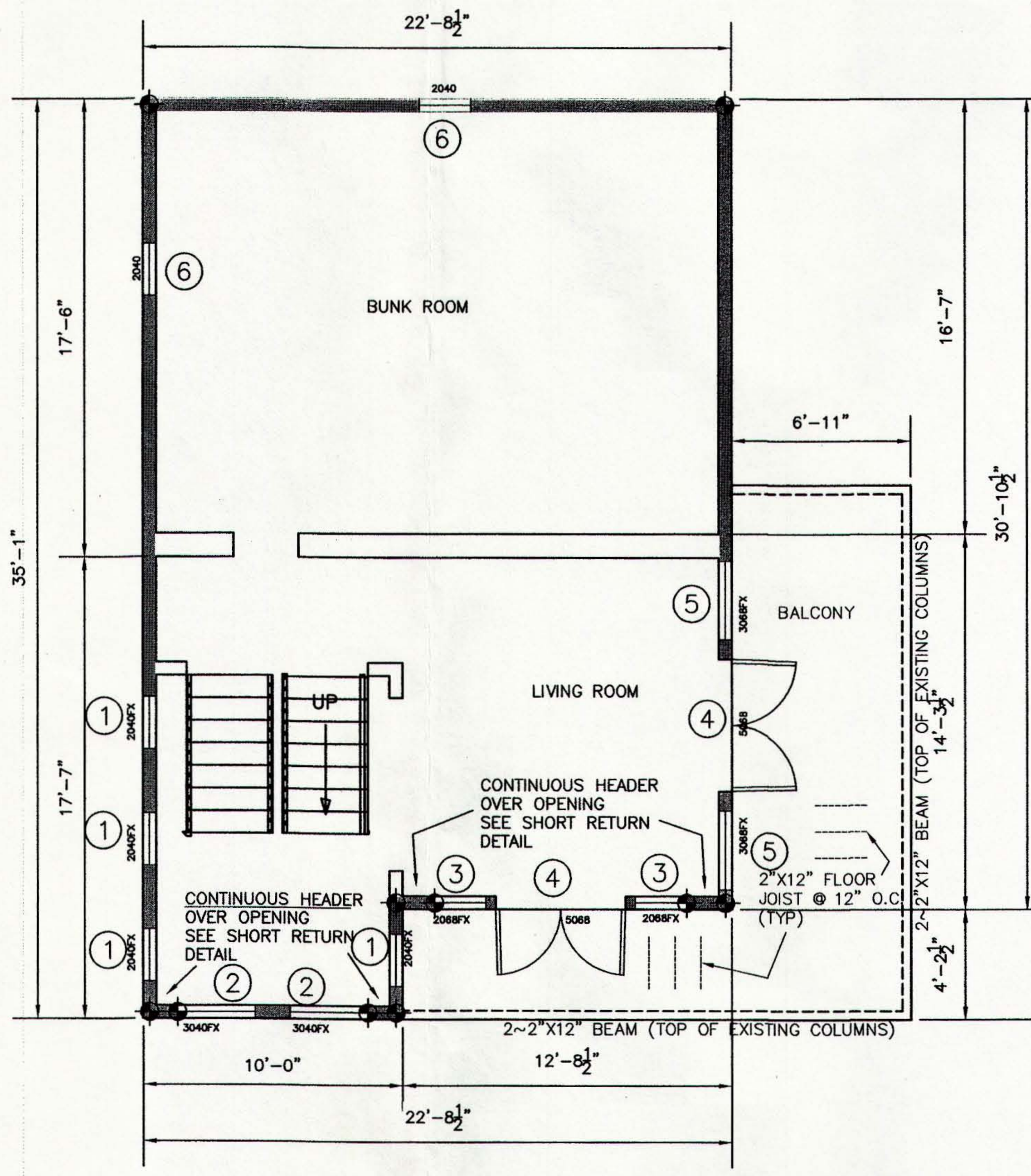
STANDARD SHEARWALL :
EXTERIOR: 5/8" WOOD STRUCTURAL PANEL (W.S.P) WITH 4"/8" NAIL PATTERN, UNLESS OTHERWISE SHOWN.
INTERIOR: 5/8" GYPSUM WALL BOARD (G.W.B.) TYPE "X" WITH 7"/12" NAIL PATTERN, UNLESS OTHERWISE SHOWN.

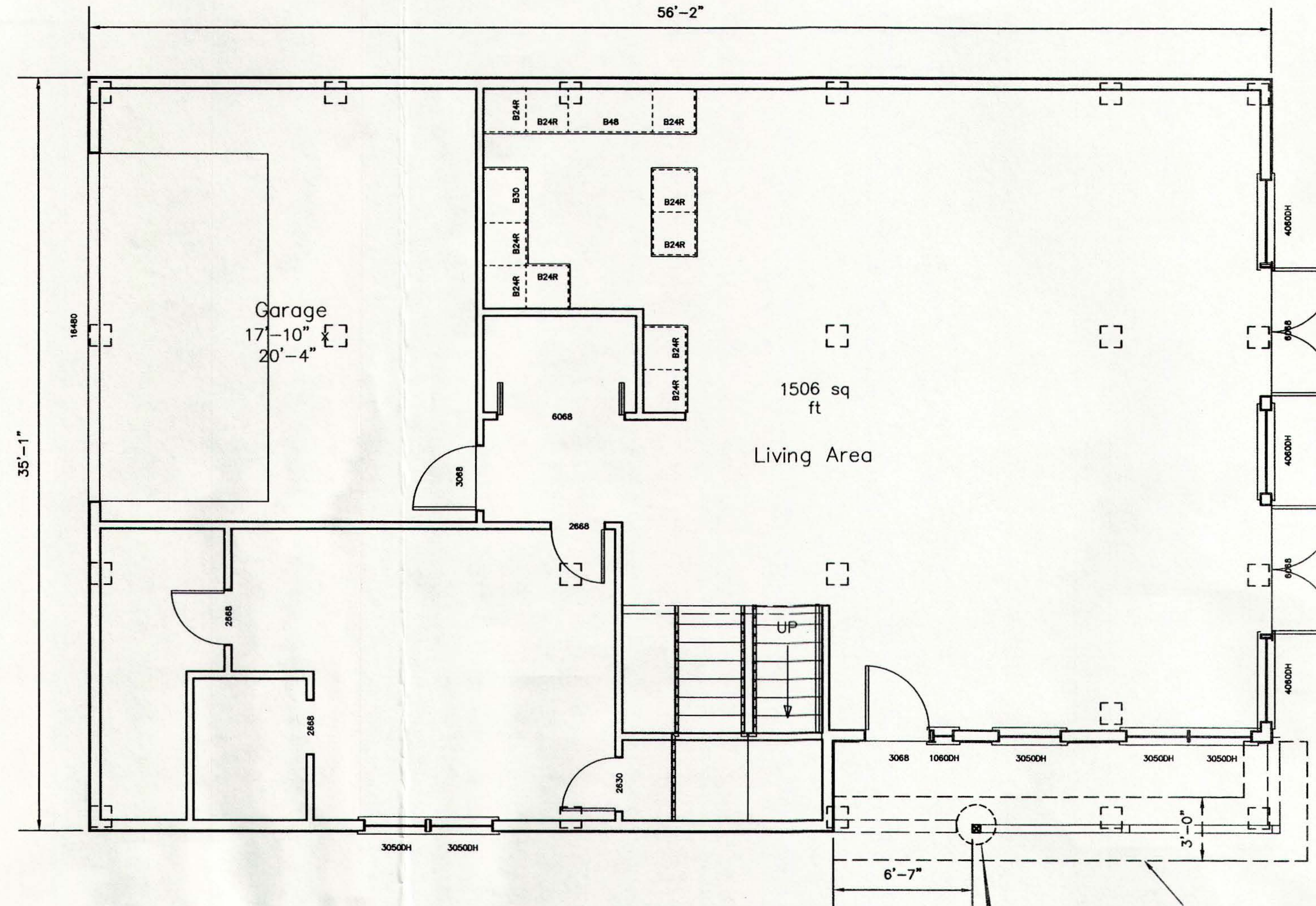
5/8" DIAMETER ANCHOR BOLTS AT 24" O.C,
x"/y" PATTERN — x" EDGE NAIL SPACING, y" FIELD NAIL SPACING

ACCEPTABLE ANCHOR

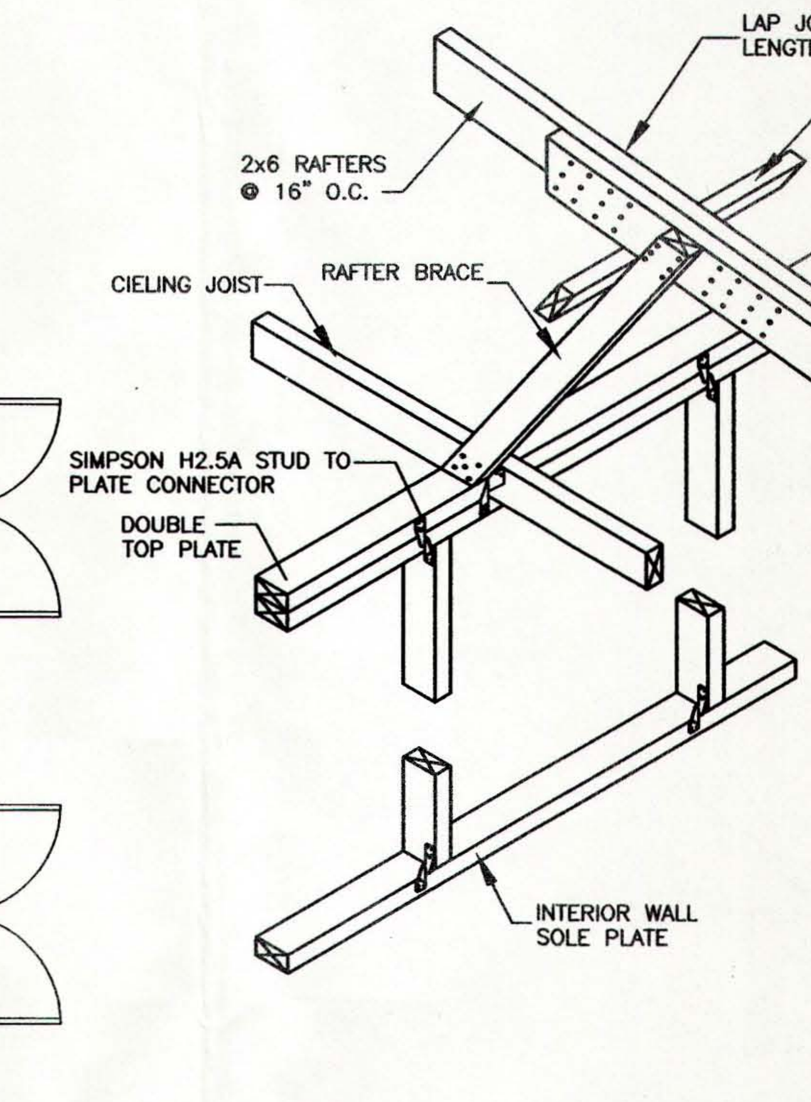
SIMPSON HTT5 OR USP (HTT5) SIMILAR 5/8" DIAMETER ANCHOR BOLT OR EQUAL.(4375 LBS ALLOWABLE TENSION LOAD)

THESE PLANS HAVE BEEN PREPARED IN COMPLIANCE WITH THE 2012 INTERNATIONAL RESIDENTIAL CODE WITH THE TEXAS REVISIONS, FOR SEAWARD AREA. 140 MPH WIND SPEED EXPOSURE CATEGORY "C".





EXISTING 1st. STORY
SCALE: 3/16" = 1'-0"



NOTES:

1. LAP JOINT SHALL BE FASTENED TOGETHER W/ A MINIMUM OF 21-16d COMMON NAILS (3 ROWS OF 7 NAILS) THE RAFTER SHALL BE BRACED DIRECTLY BELOW THE LAP JOINT.
2. ALTERNATELY 2 MEMBERS MAY BE SPLICED TOGETHER BY ATTACHING A ½" THICK MIN. 4'-0" IN LENGTH PIECE OF PLYWOOD TO EACH SIDE OF THE SPLICE. THE PLYWOOD SHALL BE ATTACHED W/ 11-16d COMMON NAILS (11 NAILS ON EACH SIDE OF SPLICE) THE RAFTER SHALL BE BRACED DIRECTLY BELOW THE SPLICE.

RAFTER CONNECTION WITH SPLICED RAFTER
N.T.S.

CONNECTOR SCHEDULE

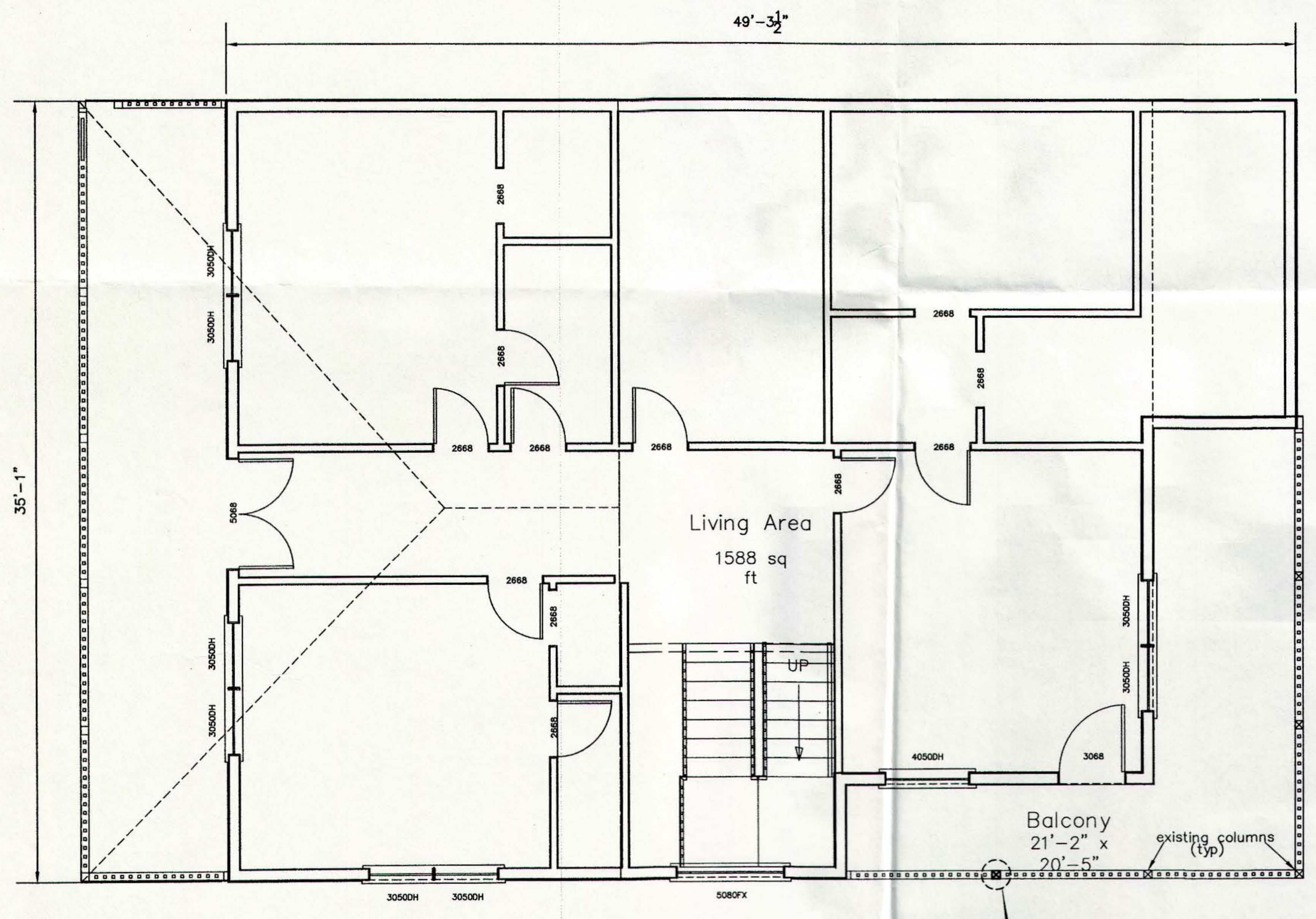
DESC.	LOCATION	PROPOSED CONNECTOR
STUD TO BOTTOM PLATE*	AT BOTTOM PLATE	SIMPSON H2.5A / USP RT7
STUD TO TOP PLATE	AT TOP PLATE	SIMPSON H2.5A / USP RT7
STUD TO TOP PLATE TO RAFTER	AT TOP PLATE	SIMPSON H7 / USP RT20
RAFTER TO DOUBLE TOP PLATE	AT TOP PLATE	SIMPSON H2.5A / USP RT7
RAFTER TO RIDGE BOARD	ACROSS RIDGE BOARD	SIMPSON LSTA24 / USP LSTA24
RAFTER TO DOUBLE TOP PLATE	AT TOP PLATE	SIMPSON H1

*NOTE: ALL CONNECTORS FASTENED TO TREATED SOLE PLATES SHALL BE TRIPLE ZINC COATED AND NAILED WITH STAINLESS STEEL NAILS.

NOTES.

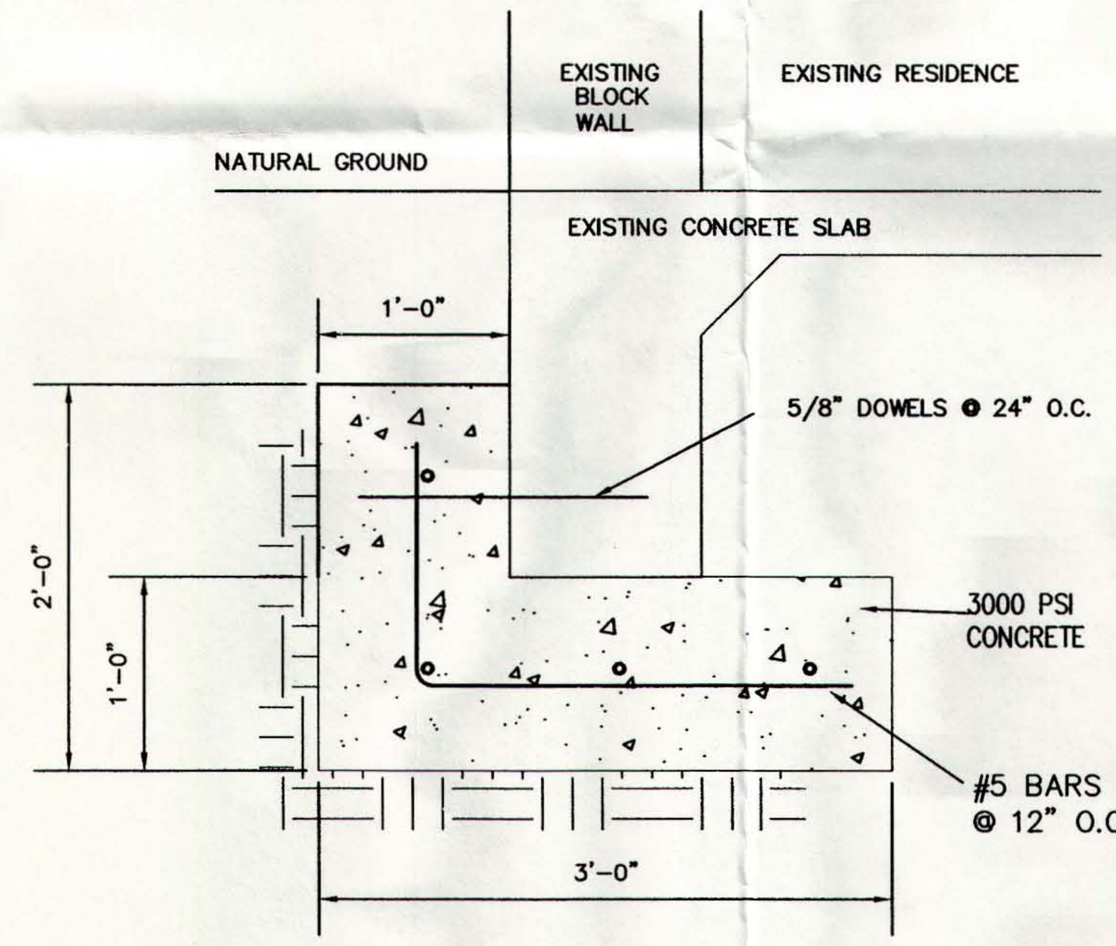
FIELD VERIFY ALL DIMENSIONS, (MATCH EXISTING OUT TO OUT)
PLYWOOD DECK AT BALCONY AREA 3/4" MIN. TREATED
CONTRACTOR TO PROPERLY SLOPE FINISH FLOOR AT BALCONY AREA (1/4 TO 12)
NEW HAND RAILS TO MACH EXISTING
MIN. DISTANCE BETWEEN BALUSTERS 4"

From Table R301.2(2)											
Project Name	112 E PALM STREET										
Project #	W2017-0023										
Location and Wind speed			140mph								
Dimension				Req Design Pressure							
Type	Zone	W (ft)	H (ft)	Eff. A (SF)	(+)	(-)	# of Units	Comment	Location	No. Schem
WINDOW	5	2	4	8.00	35.0	-46.6	4		STAIRS	1
WINDOW	5	3	4	12.00	35.0	-46.6	2		STAIRS	2
WINDOW	5	2	6.66	13.32	34.8	-46.1	2		LIVING	3
DOOR	4	5	6.66	33.30	32.8	-35.8	2		LIVING	4
WINDOW	5	3	6.6	19.80	33.7	-44.1	2		LIVING	5
WINDOW	4	2	4	8.00	35.0	-37.9	2		BUNK ROOM	6

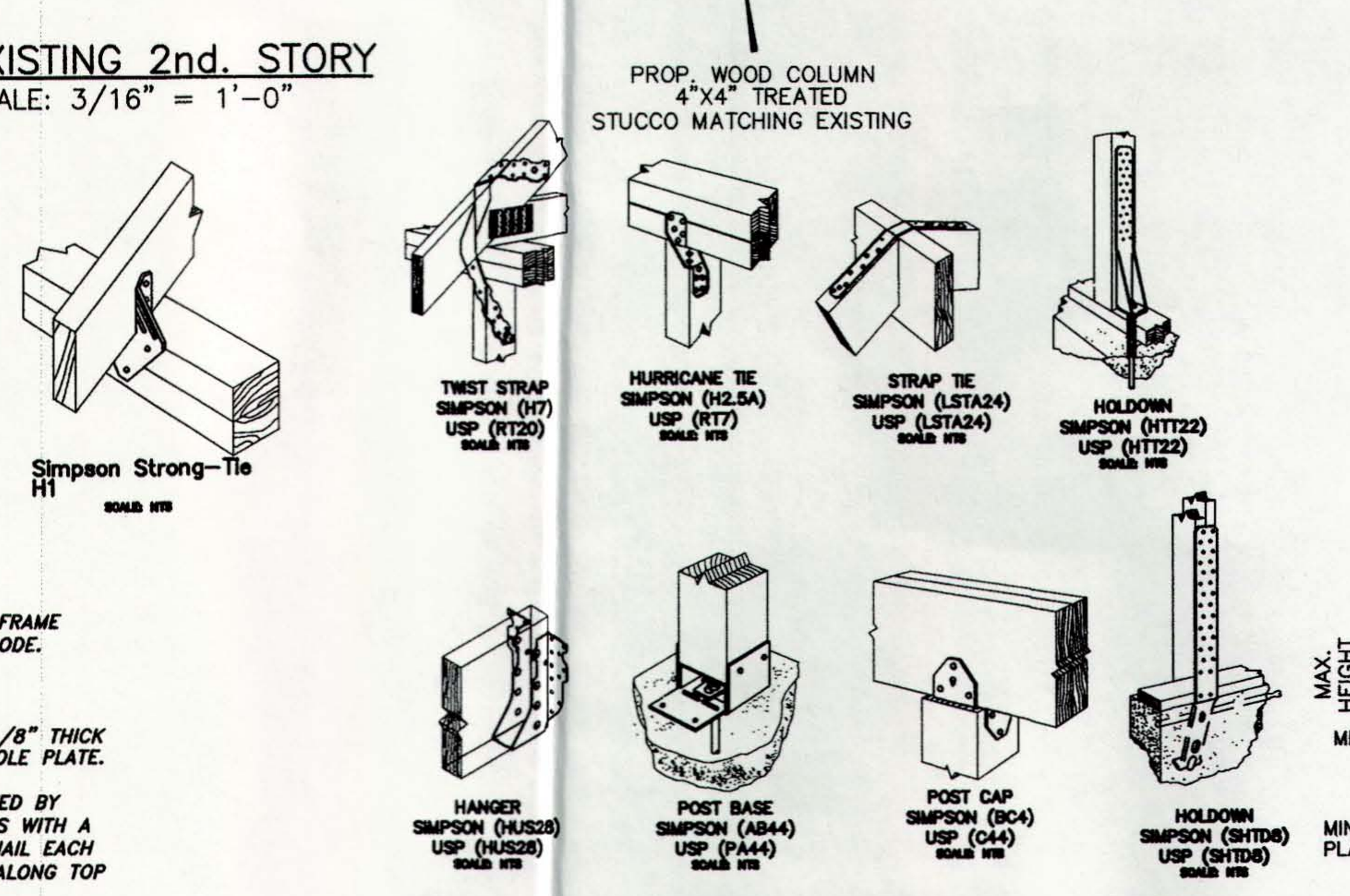


EXISTING 2nd. STORY
SCALE: 3/16" = 1'-0"

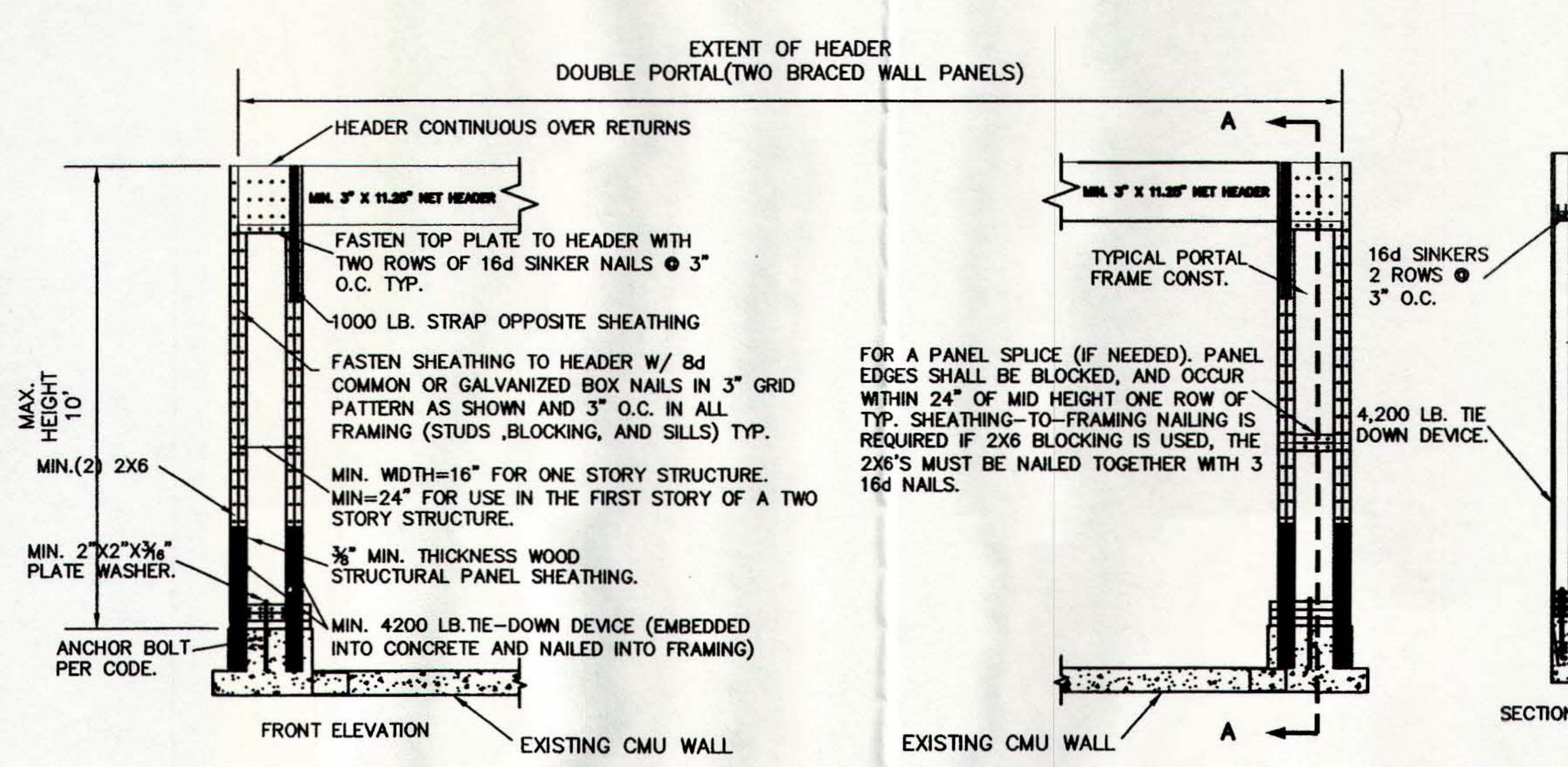
PROP. WOOD COLUMN 4"X4" TREATED STUCCO MATCHING EXISTING



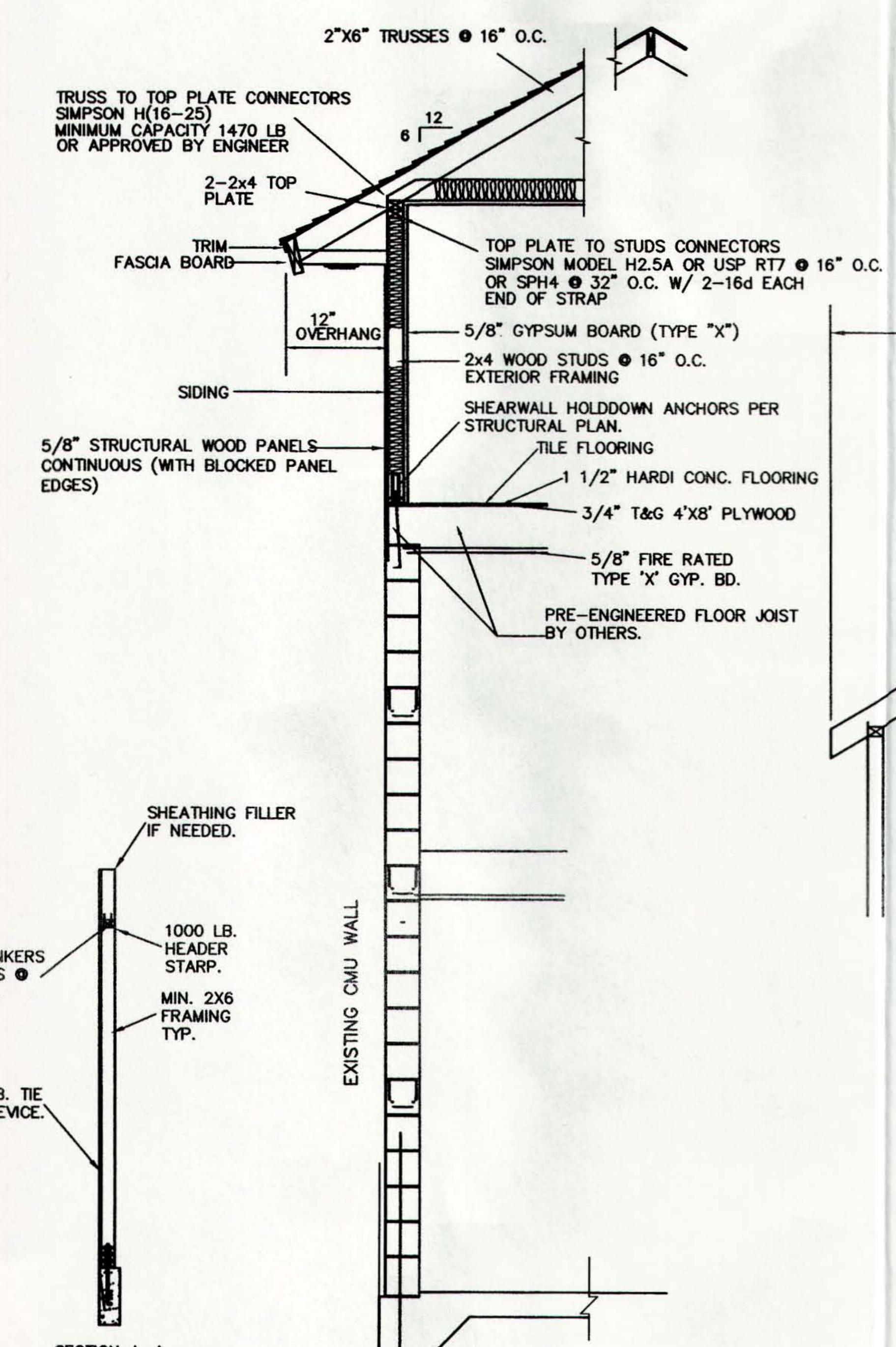
CONCRETE FOOTING DETAIL
NTS



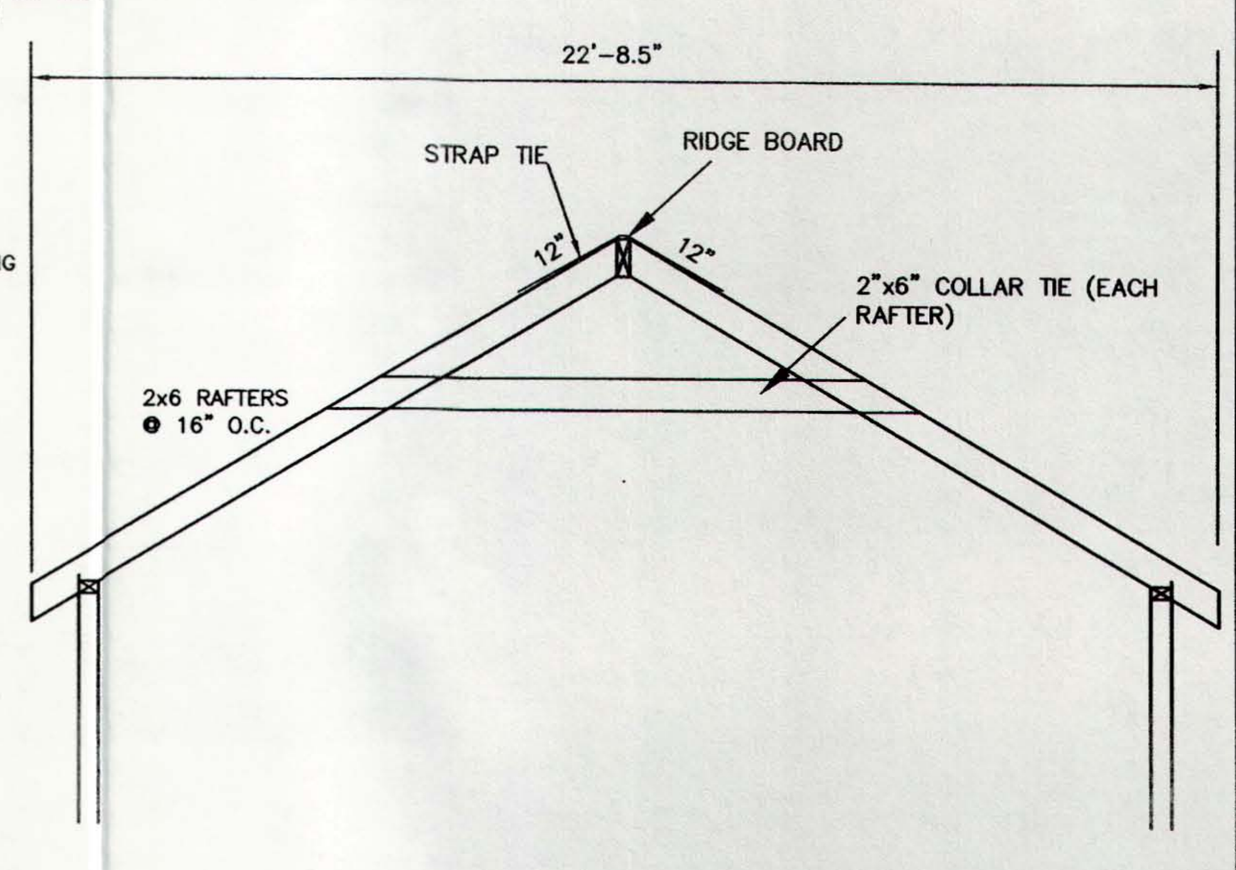
APPROVED CONNECTORS
N.T.S.



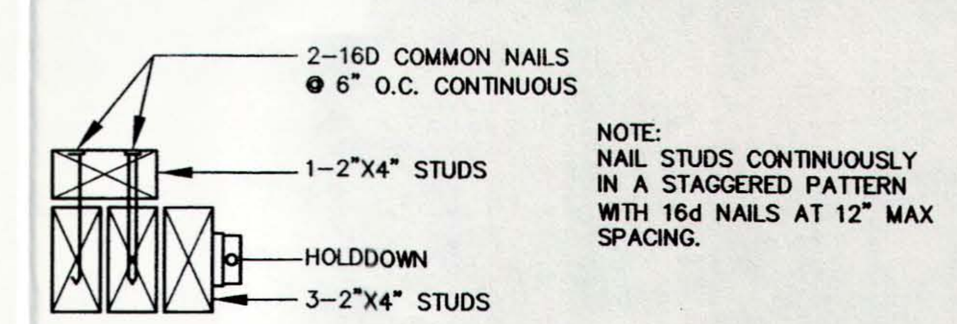
SHORT RETURN DETAIL
N.T.S.



WALL SECTION



BRACED RAFTER CONSTRUCTION
N.T.S.



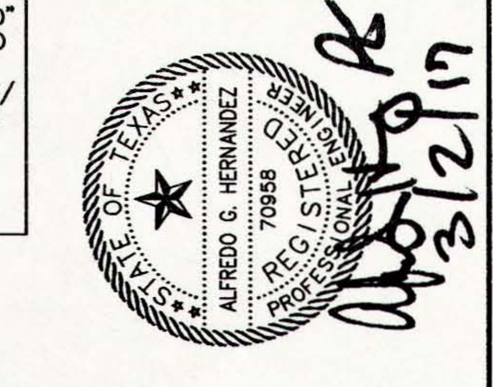
NOTE:
NAIL STUDS CONTINUOUSLY IN A STAGGERED PATTERN WITH 16d NAILS AT 12" MAX SPACING.

TYPICAL CORNER STUD DETAIL
N.T.S.

WOOD CONSTRUCTION NOTES

1. ALL WOOD STRUCTURAL FRAMING WILL BE DONE IN ACCORDANCE WITH THE WOOD FRAME CONSTRUCTION MANUAL (2001 EDITION) AND THE 2012 INTERNATIONAL RESIDENTIAL CODE.
2. ALL EXTERIOR AND INTERIOR SOLE PLATES WILL BE PRESSURE TREATED.
3. ANCHOR BOLTS WILL BE GALVANIZED 5/8" DIAMETER AT 4' O.C. WITH 2" X 2" X 1/8" THICK WASHER. BEGIN ONE ANCHOR BOLT WITHIN 6-INCHES OF CORNER OR CUR END OF SOLE PLATE.
4. RAFTER ANCHORAGE WILL CONSIST OF SIMPSON (H7)/USP (RT 20) OR AS APPROVED BY ENGINEER. ALL RAFTERS AT RIDGE BEAM SHALL BE STRAPPED ACROSS BOTH RAFTERS WITH A SIMPSON (LSTA24) STRAP OR EQUIVALENT. IN ADDITION TO METAL CONNECTOR, TOE NAIL EACH RAFTER TO TOP PLATE W/ A MINIMUM OF 4 8D NAILS AND PROVIDE 2X4 BLOCKING ALONG TOP PLATE BETWEEN EACH RAFTER.
5. ROOF DECK WILL BE MINIMUM 5/8" PLYWOOD CDX GRADE WITH EXTERIOR GLUE ATTACHED WITH 8D GALV NAILS. SHALL BE NAILED AT A FOUR INCH SPACING THROUGHOUT.
6. ROOF COVERING MUST HAVE PRODUCT EVALUATION ACCEPTABLE TO TDI FOR SEAWARD CLASSIFICATION AND MUST BE INSTALLED PER PRODUCT EVALUATION PROVISIONS. ALL ROOF COVERINGS MUST BE CAPABLE OF WITHSTANDING A 130 MPH WIND SPEED.
7. ALL EXTERIOR WINDOWS, DOORS AND EXTERIOR ENCLOSURES MUST BE APPROVED BY ENGINEER PRIOR TO INSTALLATION AND MUST BE INSTALLED PER PRODUCT EVALUATION PROVISIONS.

Date	FEBRUARY 2017	
Job No.	W2017-0023	
Sheet	1 of 1	
3	3/2/17	CITY COMMENTS
2	3/1/17	floor plan changes
1	2/27/17	2"X6" FRAMING



112 E. PALM STREET
SOUTH PADRE ISLAND , TEXAS

STRUCTURAL PLAN

AGH
ENGINEERING & SURVEYING
FIRM No.F-5197

1 of 2