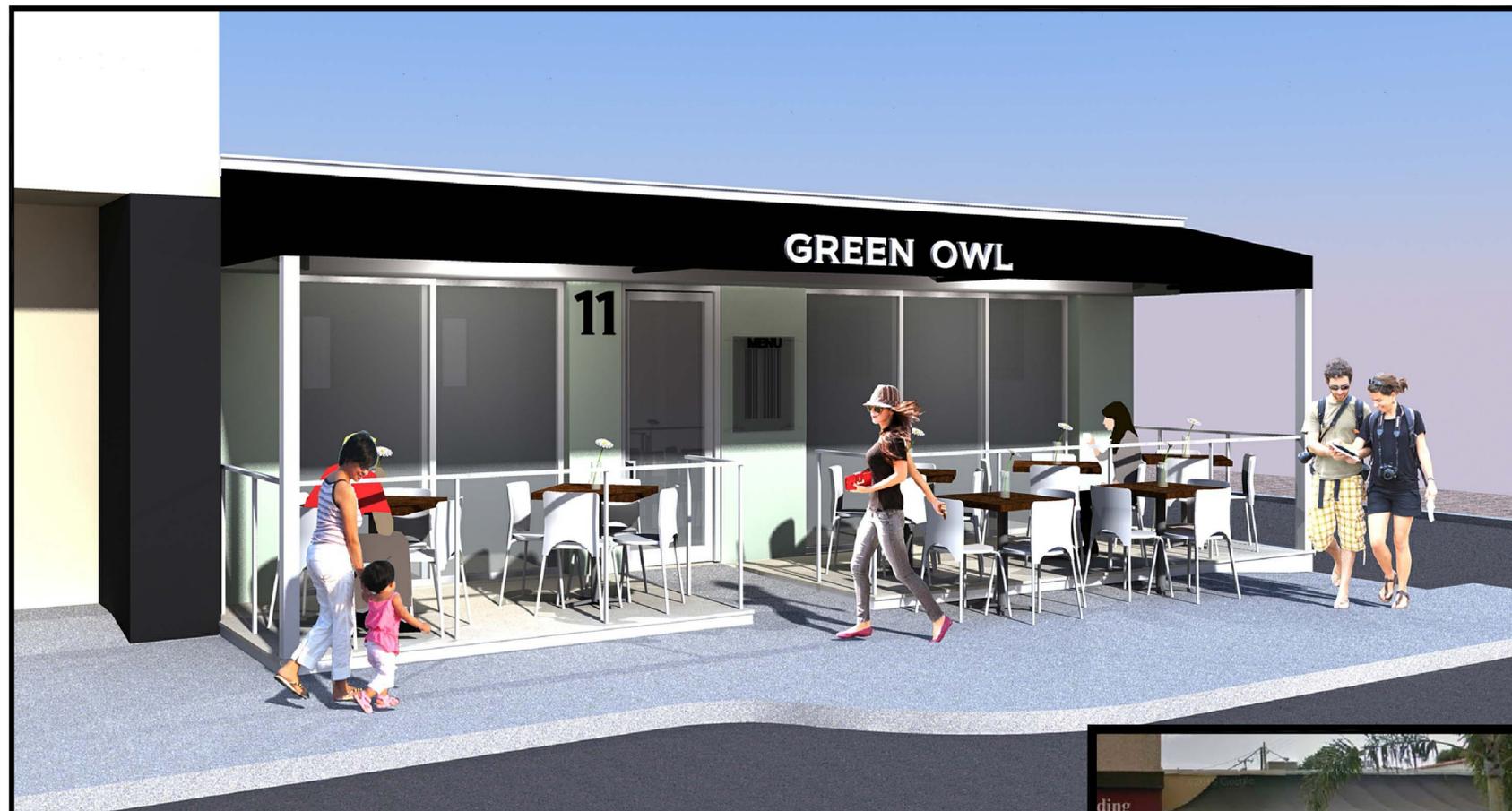


# FACADE MODIFICATION AND LEVEL II ALTERATION GREEN OWL RESTAURANT

11 S.E. 4th Avenue Delray Beach, FL

**A** RCHITECTURE  
RICK BRAUTIGAN  
1025 S DIXIE HIGHWAY  
Delray Beach, FL 33483  
Ph: 561.272.9086  
Fx: 561.272.5636  
AAC002029



Proposed Alteration

Facade Modification  
and  
Level II Alteration  
Green Owl  
Restaurant  
11 SE 4th Ave.  
Delray Beach,  
Florida

R.B.A. PN. 10116.01

Issued

- ⊙ : Permit Set
- ⊙ : G.C. Bid Set
- 4/15/16: Review Set



Existing Building

## INDEX OF DRAWINGS

**BUILDING ARCHITECTURE**  
RICK BRAUTIGAN ARCHITECTURE, INC.  
1025 South Dixie Highway  
Delray Beach, Florida, 33483

**M/E/P ENGINEERS**  
BEACON CONSULTING ENGINEERS  
100 NE 6th Street Suite 102  
Boyton Beach, Florida, 33435

No.	Title	Issued	Revisions
A.1	Cover Sheet.....	4-29-16	
A.2	Existing Site Plan/ Project Data .....	4-29-16	
A.3	Demo Plan/Demo Elevations.....	4-29-16	
A.4	Proposed Floor Plan/ Seating Plan .....	4-29-16	
A.5	Proposed Elevations/Color Elevations.....	4-29-16	
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No.	Title	Issued	Revisions
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M1.1	Mechanical Floor and Roof Plan.....	4-29-16	
M2.1	Mechanical Details.....	4-29-16	
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<b>PLUMBING</b>			
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<b>ELECTRICAL</b>			
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Cover Sheet

# LEVEL II ALTERATION GREEN OWL RESTAURANT

11 S.E. 4th Avenue  
Delray Beach, FL

STATE ROAD 806  
ATLANTIC AVENUE

RICK BRAUTIGAN ARCHITECTURE  
10255 DIXIE HIGHWAY  
Delray Beach, FL 33483  
Ph: 561.272.9086  
F: 561.272.5636  
AAC002029

SITE DATA	
ZONING:	CBD - Central Business District
Area (Building)	Existing to remain
Ground floor area:	1,010 s.f.
PARKING STATEMENT: Existing parking spaces to remain.	

APPLICABLE CODES	
1. Florida Building Code 2014 (5th Edition)	
2. Florida Fire Prevention Code 5th Edition 2012	
3. NFPA 1 & 101 Life Safety Code Florida specific editions	
4. Florida Building Code - Accessibility, 2014 Edition	
5. Florida Building Code - Existing, 2014 Edition	

Existing Occupancy:	Offices - Business Occupancy (B)
Proposed Occupancy:	Restaurant (< 50 occ.) - Business Occupancy (B) Per 303.1.1 FBC
TYPE OF CONSTRUCTION:	II B
NO. OF STORIES:	1 Non-Sprinkled

BUILDING AREAS (No SF added)	
Kitchen	312.0 SF
Indoor Dining	508.0 SF
Restroom/Gen.	190.0 SF
Bldg. Gross Area (A/C)	1,010 SF
Outdoor Dining	202.0 SF

STRUCTURAL DATA:	
1. Basic Wind Speed	170
	3 sec gust
2. Wind Importance Factor	1.0
3. Category	2
4. Wind Exposure	C
5. Internal Pressure Coefficient	See Elevation
6. Building design	Enclosed +/- 0.18

**SCOPE OF WORK:**  
LEVEL II ALTERATION. CHANGE OF USE OF EXISTING OFFICE SPACE TO RESTAURANT. CONSISTING OF TWO NEW ADA RESTROOMS, NEW INDOOR/OUTDOOR DINING AREA AND NEW KITCHEN AREA



**NOTES:**  
1. There is no additional square footage added.  
2. All interior finishes by owner.  
3. Equipment/supply/install by others.

Occupancy	Number of Exits required	Number of Exits provided
B	1	2

TOILET ROOM CALCULATIONS:							
Required plumbing fixtures for use under FBC Plumbing Table 400.1:							
Classification	Occupancy	Water Closets (Urinals See Section 419.2)		Lavatories	Service Sinks	Drinking Fountain (See Section 410.1)	
		Male	Female				
B	49	1/25 for 1st 50 Occupants:	2	1/40 for 1st 80 Occupants:	2	1	No
						Per: 410.3	

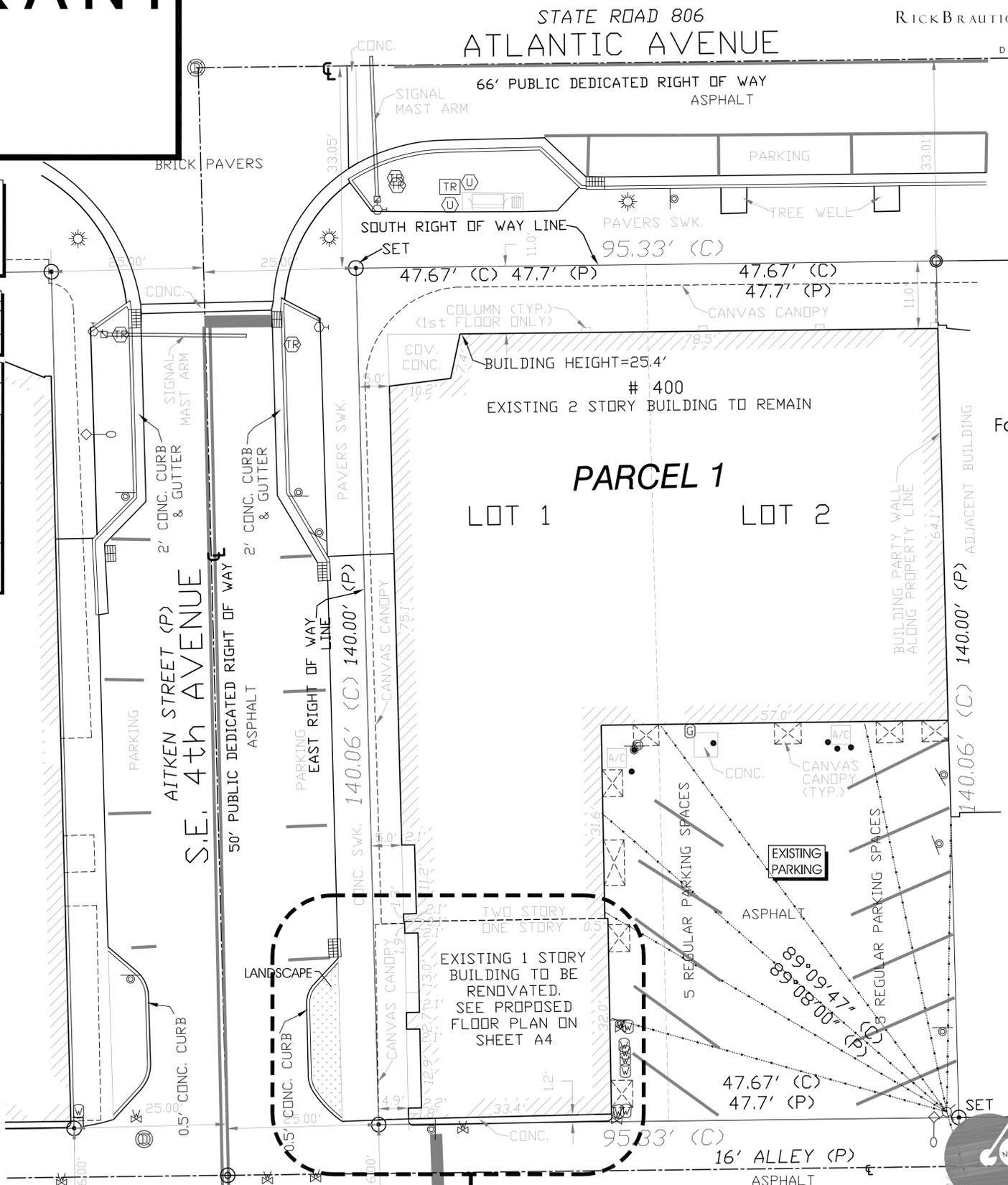
Provided:  
Separate Men's and Women's Restroom with 1 WC & 1 Lav. each (2 water closets and 2 lavatories total) & 1 Service Sink

**ADA ACCESS NOTE:**  
Provide level transition at entrances to building in compliance with ADA. Verify all slopes leading up to entry comply.

NFPA Interior Finish Schedule per section 101.39.3.3.2 & 3	
Floors:	No Requirements
Walls:	Required: Class A, B, or C compliance Provided: Class A Drywall
Ceiling:	Required: Class A, B, or C compliance Provided: Class A Gypsum Board/ Class A Susp. Tile Clg.

OCCUPANT LOAD			
Use	S.F.	S.F./OCC.	Load
Indoor Seating	508 S.F.	15/Occ.	34
Outdoor Seating	202 S.F.	15/Occ.	13
Kitchen	312 S.F.	200/Occ.	2
Total Occupant Load			49

SEE DWG 4 FOR FIRE DEPARTMENT INFORMATION  
SEE DWG 5 FOR STOREFRONT CALCULATIONS



NOTE: This Site Plan extrapolated from survey by Stoner Assoc. Davie, FL

AREA OF WORK THIS PERMIT  
SEE ENHANCED DWG A4 FOR PROPOSED  
PARTIAL SITE PLAN & FLOOR PLAN

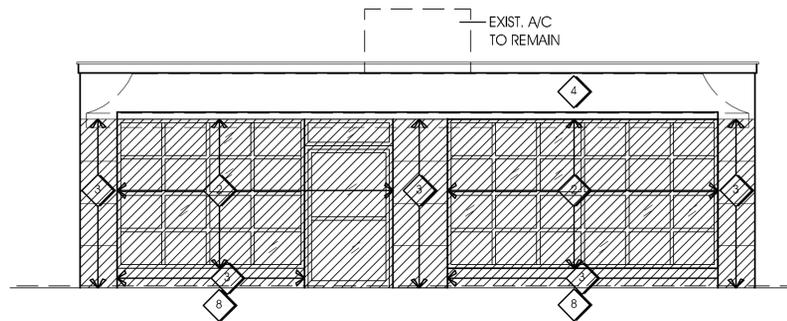
Project Data  
Existing Site Plan 1"=10' SC

Facade Modification and Level II Alteration Green Owl Restaurant  
11 SE 4th Ave.  
Delray Beach, Florida  
RBA.PN.10116.01

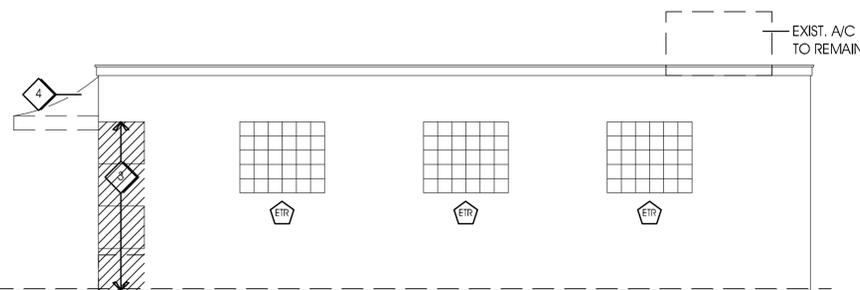
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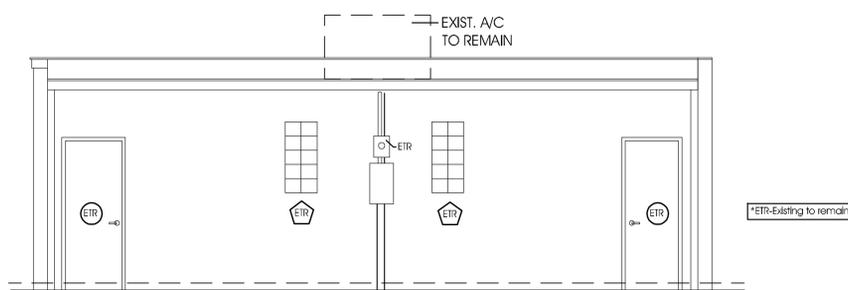
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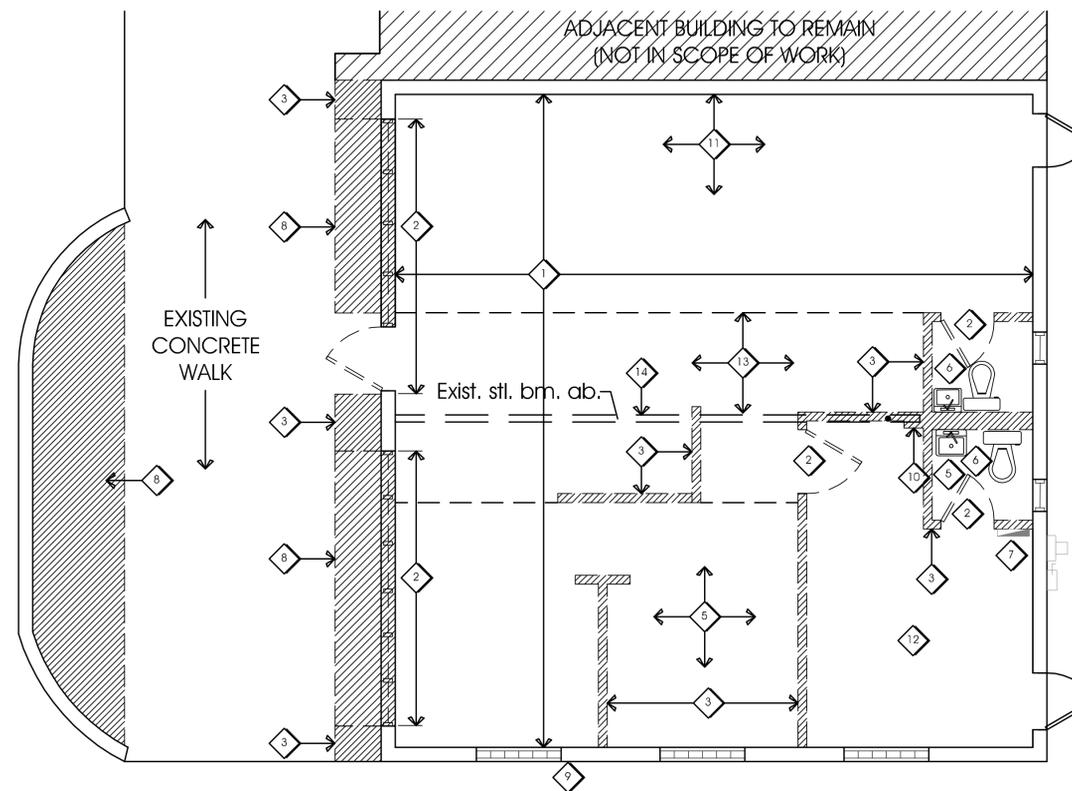
Existing/Demolition Front Elevation  
 1/4" SC



Existing/Demolition Side Elevation  
 1/4" SC



Existing/Demolition Rear Elevation  
 1/4" SC

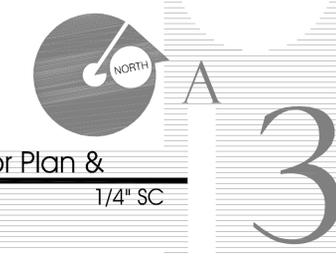


Existing /Demolition Floor Plan  
 1/4" SC

- DEMOLITION PLAN NOTES:**
- 1 Remove existing flooring to slab
  - 2 Remove existing window/door
  - 3 Remove existing walls/portion of wall/column/curb
  - 4 Remove awning
  - 5 Sawcut existing slab as req'd for new plumbing system. See detail 5/25 for repair
  - 6 Remove existing plumbing fixtures
  - 7 Remove/relocate electrical plan
  - 8 Remove landscape
  - 9 VIF loc/size of prop. exhaust fan. Notify Architect
  - 10 VIF exist. T.S. col. loc. Notify Architect
  - 11 Remove exist. lath/plaster (all walls)
  - 12 Remove exist. suspended ceiling
  - 13 Remove exist. G.W.Bd. ceiling to wood joist along with lighting
  - 14 Remove exist. G.W.Bd. from stl. brn.

- GENERAL DEMOLITION NOTES:**
1. Contractor to notify architect of any discrepancies between plans and construction drawings prior to demo.
  2. All waste material and debris shall be removed from the site by the contractor. material shall not be allowed to accumulate or become a safety/fire hazard. Open burning will not be permitted. All the salvaged materials will become the contractors property unless otherwise noted.
  3. The owner reserves the right to inspect the material scheduled for removal and salvage any items they deem usable as spare parts.
  4. Dust control: Use all means necessary to control air pollution and other environmental contamination as required to prevent dust or debris being a nuisance to the public, neighbors, and concurrent performance of other work in the building.
  5. Protection: install and maintain barricades, and pedestrian cautions in accordance with local safety regulations and ordinances. Cutting and patching: it is intended that the general contractor shall perform all cutting and patching for general construction trades, mechanical and electrical. Patching shall mean the restoration of a surface or item to its original condition to match the existing unless otherwise indicated, noted, detailed or specified. cutting and patching shall be done by the proper trades and crafts necessary for the materials involved.
  6. Contractor to field verify removal of any structural members not identified on plans with architect prior to demolition.
  7. Electrician to field inspect and cap appropriate electrical prior to demolition.
  8. N/A
  9. During the execution of the work, all required location, rerouting, etc., of existing equipment and systems in the existing building shall be performed by the contractor, or as required by job conditions and as determined by the architect. In the field, to facilitate the installation of the new systems.
  10. Prior to relocation and/or demolition work, arrange a conference with the architect and/or the owner in the field to inspect each of the items to be removed or relocated. Care shall be taken to protect all equipment designated to be relocated and reused or to remain in operation and be integrated with the new systems.
  11. All deactivation, relocation, and temporary tie-ins shall be provided by the contractor. All demolition, removal and the legal disposal of demolished materials of system designated to be demolished shall be provided by the contractor.

**Shoring Note:**  
 G.C. to shore existing conc./stl. beams (VIF) prior to removing any existing cbs walls under.



**COMMERCIAL GENERAL NOTES:**

- The architect will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and he will not be responsible for the contractor's failure to carry out the work in accordance with the contract documents. The architect will not be responsible for or have control or charge over the acts or omissions of the contractor, subcontractors, or any of their agents or employees, or any other persons performing any of the work.
- All codes having jurisdiction shall be observed strictly in the construction of the project, including all applicable state, city, and county building, zoning, electrical, mechanical, plumbing, fire codes. Contractor shall verify all code requirements and the construction documents.
- Errors and omissions which may occur in contract documents shall be brought to the attention of the architect in writing and written instructions shall be obtained before proceeding with the work. The contractor will be held responsible for the results of any errors, discrepancies, or omissions which the contractor failed to notify the architect of before construction and /or fabrication of the work.
- Contractor and subcontractors are to verify all dimensions and job conditions at the job site sufficiently in advance of work to be performed to assure the orderly progress of work. Do not scale drawings. Architect shall be notified in writing, prior to commencing any work, of any errors or discrepancies in drawings or between prepared drawings and field conditions.
- It is the purpose of these plans and specifications to describe a complete and finished project other than items marked "N.I.C." (not in contract).
- The contractor shall maintain the premises clean and free of all trash, debris and shall protect all adjacent work from damage, soiling, paint overspray, etc. All fixtures, equipment, glazing, floors, etc. shall be left clean and ready for occupancy upon completion of the project.
- All work is to be done under the supervision of the general contractor, in accordance with the owner-contractor agreement.
- All wood in contact with concrete or masonry or below finished floor is to be pressure treated.
- All materials and products used for and in construction are required to have applicable products control code approval.(NOA)
- Contractor shall carry all necessary insurance as required by law and hold harmless the owner or architect from any loss, liability, claim or demand for damages arising out of or relating to the performance of the work as described by these drawings.
- The owner shall effect and maintain fire, extended coverage and vandalism insurance for 100% of the insurable value of all construction on the site.
- The general contractor shall guarantee all work specified and/or described by these drawings free from any defects or malfunctions for a period of one year commencing from the substantial completion date or from the time of occupancy, whichever occurs first. The general contractor is responsible for all work executed by subcontractors or other trades, plumbing equipment.
- The contractor shall acquire all permits and licenses and pay all fees necessary for the execution of the work.

**DOOR SCHEDULE** VERIFY ALL EXIST. OPENINGS (WIDTH/HEIGHT)

MARK	SIZE	THK.	TYPE	MAT.	FIN.	WIND PRESS.	NOA	REMARKS
(1)	3080	2"	STOREFRONT	ALUMN/GL	WHITE	-37.0 33.8	YES	EXTERIOR DOOR
(2)	3068	1-3/4"	SOLID CORE/FLUSH	WOOD	PAINT		NO	ADA HDWR.
(3)	3068	1-3/4"	SOLID CORE/FLUSH	WOOD	PAINT		NO	
(4)	3068	1-3/4"	SOLID CORE/FLUSH	WOOD	PAINT		NO	ADA HDWR.
(5)	8080	2"	SGD 2 PC.	ALUMN/GL	WHITE	-39.3 32.1	YES	VERIFY HEIGHT OPNG
(6)	10080	2"	SGD 3 PC.	ALUMN/GL	WHITE	-31.4 28.2	YES	VERIFY HEIGHT OPNG

NOTES:  
 1. All closer & hardware to comply with Florida Accessibility Code.  
 2. Contractor to verify wood / rough openings for all windows and doors and adjust framing as required.  
 3. Contractor to verify that all existing panic hardware on existing egress doors are in working conditions

ETH EXISTING TO REMAIN

**FIRE EXTINGUISHERS:** F.E.

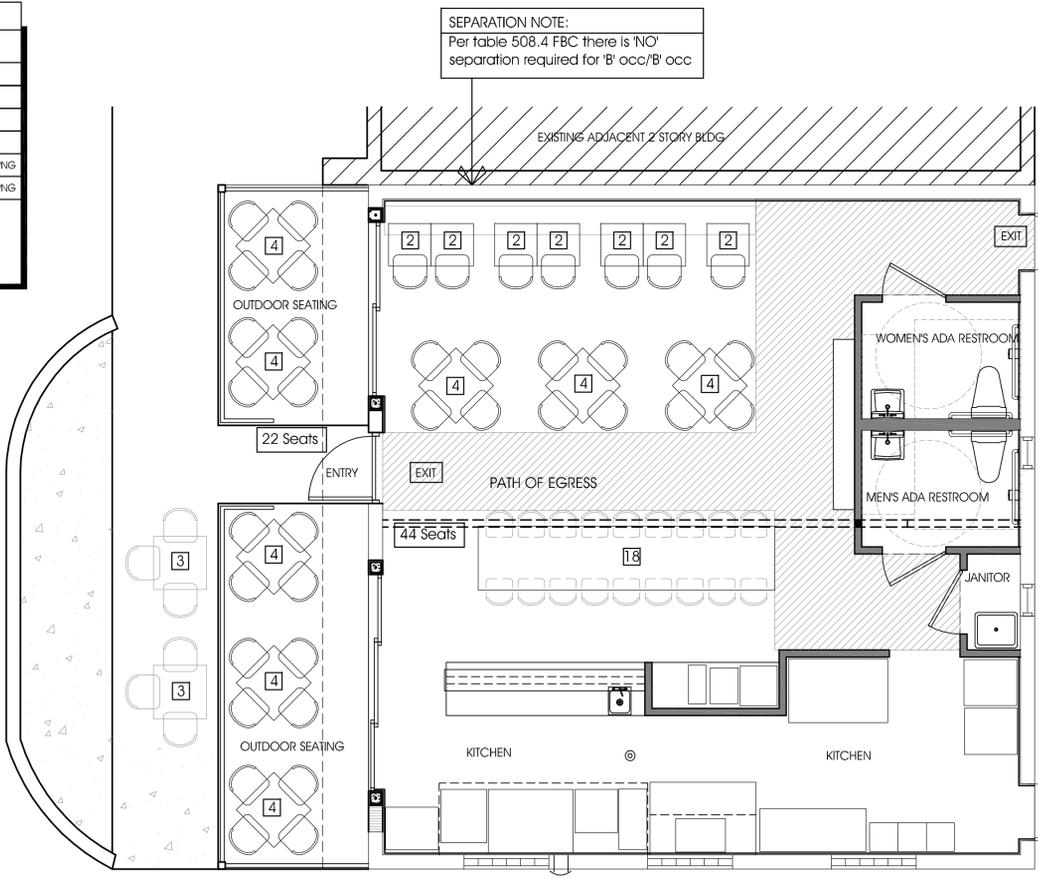
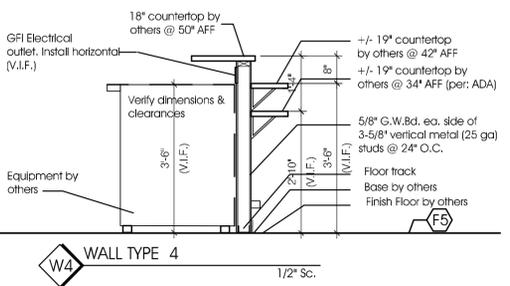
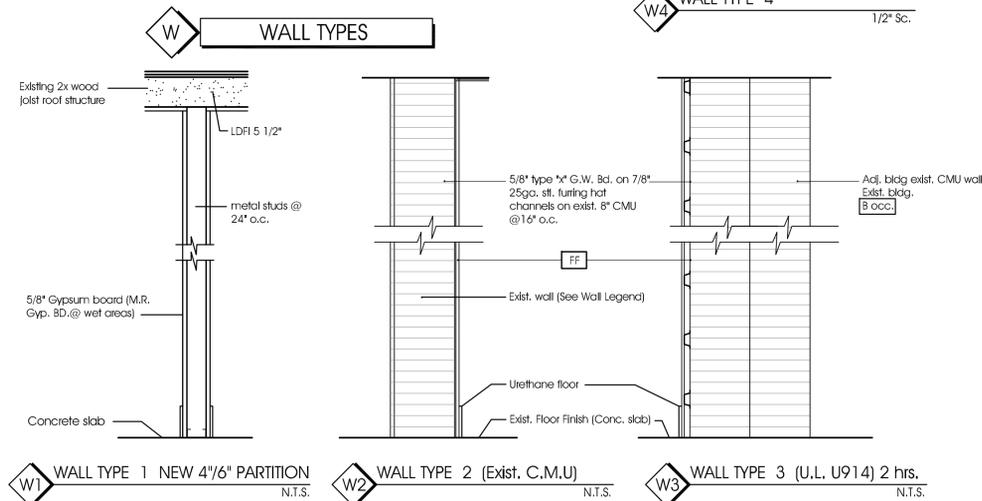
Provide fire extinguishers with a minimum rating of 2-A, 10BC where indicated on plans. Extinguishers are to be located at each exit and with a maximum travel distance of 50'-0" between. Fire extinguishers are to be on site and at the locations shown from start of construction. Construction personnel shall be instructed in the use of the equipment.  
 Provide 2-A, 10BC fire extinguishers at locations determined by the Fire Marshall for light (low) hazard occupancy. Each corridor location shall also have a sign mounted above the fire extinguisher cabinet and perpendicular to the wall identified as 'extinguishers' per code and requirements of fire Marshall.

**COLUMN SCHEDULE**

MARK	TYPE	MATERIAL	REINFORCING
(C1)	8"x8"x8" CONCRETE BLOCK	#5 @ 12" IN 3000 PSI GROUT FILLED CELL SEE DETAIL	
(C2)	EXIST. CMU VERIFY OPEN CELL	#5 @ 12" IN 3000 PSI GROUT FILLED CELL SEE DETAIL	

**FINISH SCHEDULE :**

(F1)	1/4" DECORATIVE URETHANE COMPOSITE FLOORING SYSTEM WITH SEAMLESS COVE BASE OVER ENTIRE FLOOR EXISTING SLAB. MOSAIX CEMENTIGHT BY DUREX COLOR 'JUNGLE'. INSTALL PER MFG. STRICT INSTRUCTIONS.
(F2)	WHITE CERAMIC TILE TO CEILING ON WALL
(F3)	STAINLESS STEEL BACKSPLASH
(F4)	M.R. GLOSS WASHABLE PAINT G.W.BD. ON WALLS
(F5)	M.R. GLOSS WASHABLE PAINT G.W.BD. ON CEILING
(F6)	OUTDOOR SEATING AREA: OVERPOUR EXIST. CONC. WALK WITH EXTERIOR SELF-LEVELING TOPPING BY ARDEX (K301) OR APPROVED EQUAL. PLACE PER MFG. STRICT INSTALL REQUIREMENTS. COVER WITH WATER BOURNE SCALER



**WALL LEGEND**

- Existing exterior wall to remain
- New exterior Infill concrete block wall
- Indicates new interior non-bearing wood stud partition

**FIRE DEPARTMENT NOTES:**

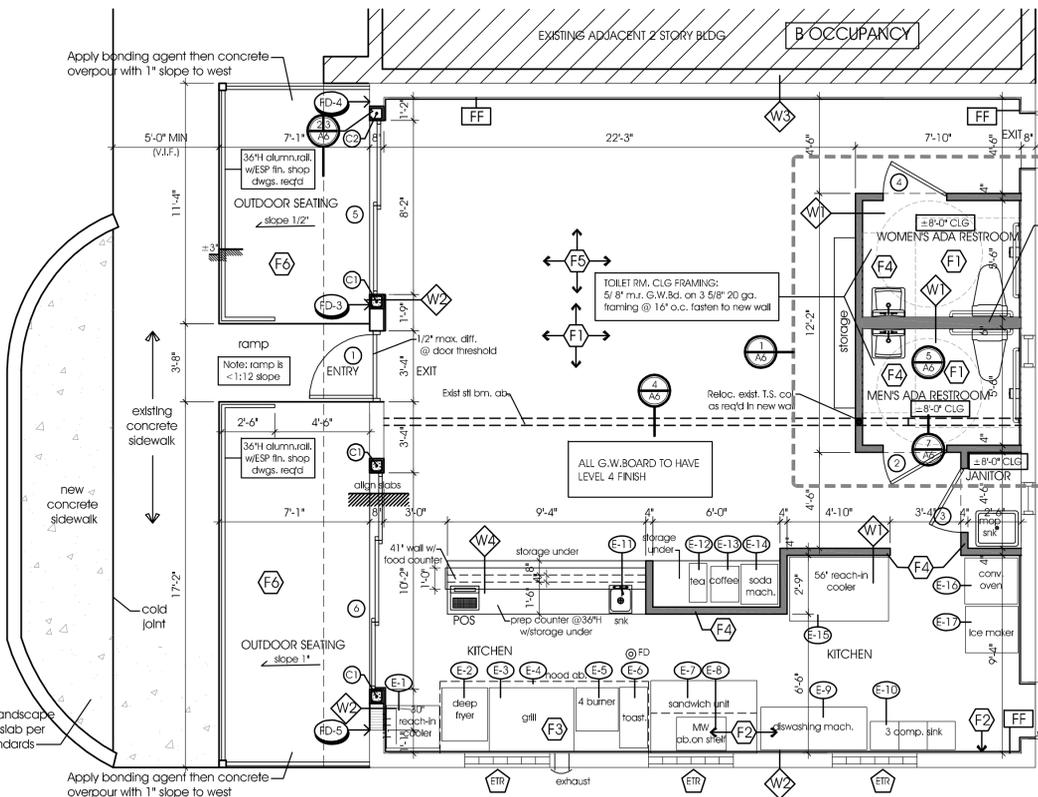
- FD-1 Florida Fire Prevention Code 5th Edition.
- FD-2 Will provide Life Safety plan @ Building Permit.
- FD-3 Knox Box @ +6' Ab. Fin. Walk.
- FD-4 Min. 6'H. Bldg. Numbers (see elevations)
- FD-5 9"X9" REFL. TRUSS SIGN

PER NFPA 101/FPC

**SPRAY FOAM INSULATION SCHEDULE (WALLS/CLG)**

INDICATION	TYPE	THICK	'R'
LDI - 5 1/2"	Light Density Spray Foam Insulation	5 1/2"	20.3
FF	Fl-Foil AA2 Vapor Shield	2 layers	4.1

Medium Density MD-R-200  
 Light Density LD-C-50-V2  
 Designation Based on Isylene  
 ROOF/ EXTERIOR WALL SPRAY FOAM NOTE:  
 Apply min. 2" med. density SF to connection of all joists to sheathing followed by 5 1/2" of light density SF  
 Intumescent barrier use no burn plus XD spray applied per mfg. application recommendation



**WALL LEGEND**

- Existing exterior wall to remain
- New exterior Infill concrete block wall
- Indicates new interior non-bearing wood stud partition

**KITCHEN EQUIPMENT SCHEDULE:**

Item#	Qty.	Description
E-1	1	30" Reach-in cooler
E-2	1	Deep Fryer
E-3	1	Grill
E-4	1	Vent Hood (Per shop dwgs)
E-5	1	4 Burner
E-6	1	Toaster
E-7	1	Sandwich Prep Unit
E-8	1	Microwave
E-9	1	Dishwashing Machine
E-10	1	3-Compartment Sink
E-11	1	Hand Sink
E-12	1	Tea Machine
E-13	1	Coffee Machine
E-14	1	Soda Fountain Machine
E-15	1	56" Reach-in cooler
E-16	1	Convection Oven
E-17	1	Ice Maker

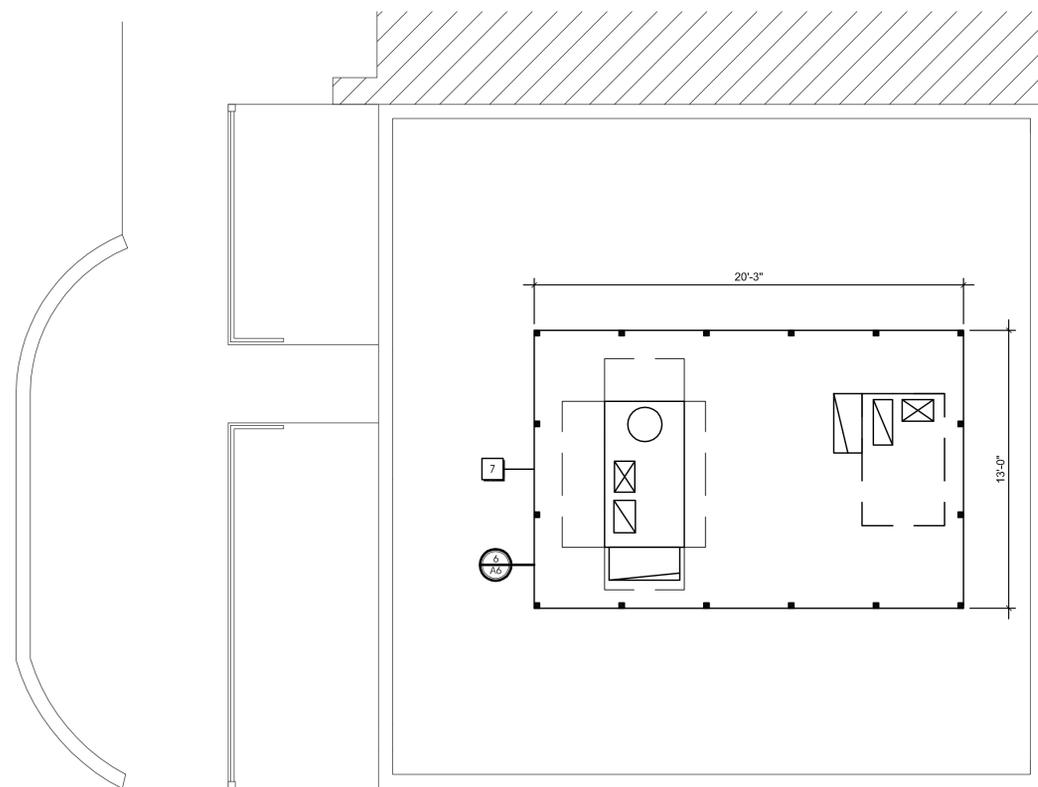
NOTE: All equipment by owner except hood.



Facade Modification and Level II Alteration  
**Green Owl Restaurant**  
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 Delray Beach, Florida  
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Proposed Roof Plan  
 1/4" SC

**COLORS:**

- BB-1 Base building color  
Benjamin Moore - 703 Catalina Blue
- TR-1 Trim color  
Benjamin Moore - OC 35 Spanish White
- SF-1 Storefront  
Frame - Mill Finish  
Glass - Clear

**FINISH NOTES:**

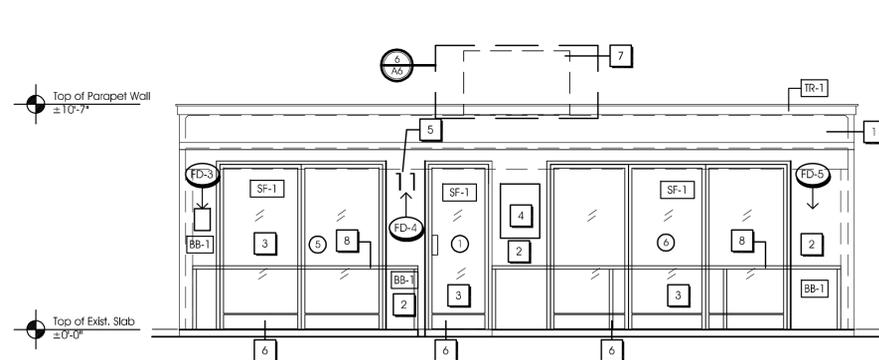
- 1 Awning by owner  
Separate Permit req'd
- 2 Stucco to match exist. finish
- 3 Hurricane Impact SGD/door system
- 4 Menu board by owner
- 5 Building numbers min. 10"H
- 6 8" anodized aluminum @ bottom stile  
kickplate (TYP)
- 7 3"H perforated aluminum A/C equipment  
screening. See detail 6 AC
- 8 2"x3 3/4" aluminum railing w/ white ESP  
finish
- 9 Existing electrical meter/service to remain
- 10 Existing gutter & downspouts to remain
- 11 Contractor to verify that exist. gls. block  
opngs are protected per FBC

**Fire Department Notes:**

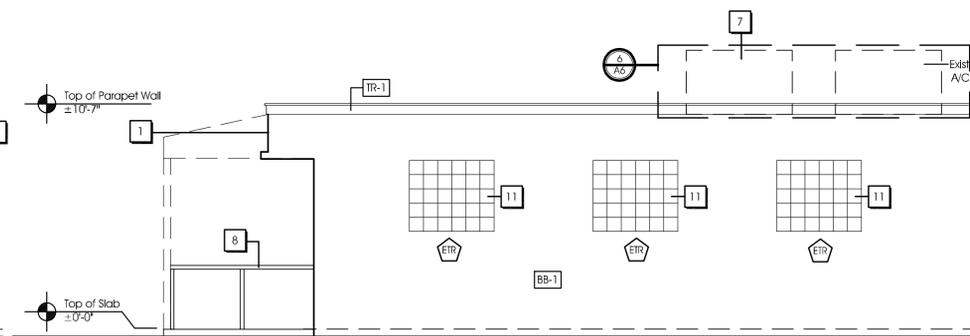
- FD-1 Florida Fire Prevention Code 5th Edition.
- FD-2 Will provide Life Safety plan @ Building Permit.
- FD-3 Knox Box @ +6' Ab. Fin. Walk.
- FD-4 Min. 6"H. Bldg. Numbers (see elevations)
- FD-5 9'x9" REFL. TRUSS SIGN  
  
 PER NFPA 101/FPC

Facade Modification  
 and  
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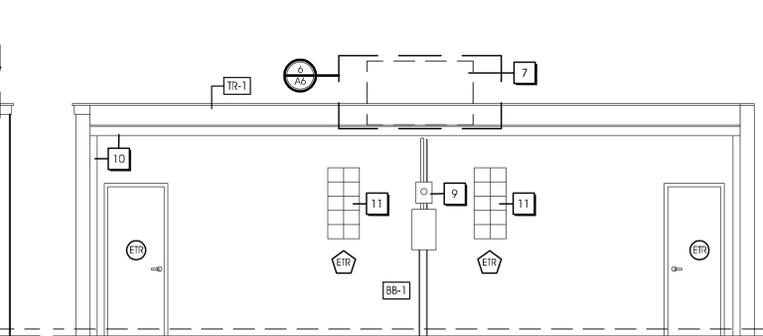
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Proposed Front Elevation (West)  
 1/4" SC



Proposed Side Elevation (South)  
 1/4" SC



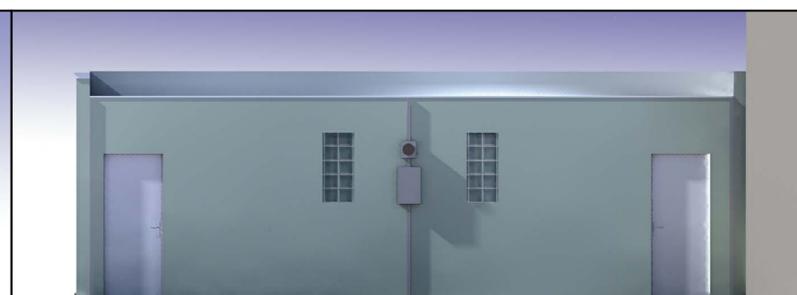
Proposed Rear Elevation (East)  
 1/4" SC



Proposed Front Elevation (West)  
 1/4" SC



Proposed Side Elevation (South)  
 1/4" SC



Proposed Rear Elevation (East)  
 1/4" SC

Proposed Elevations/Color  
 Roof Plan  
 1/4" SC

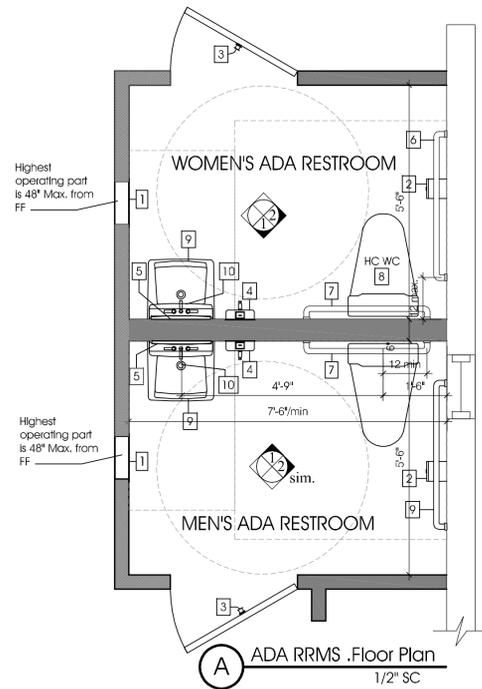
Note: all restrooms shall comply with FBC 1210.2.2: restroom walls shall have a smooth, hard and non absorbent finish to a height of 4' A.F.F.

ADA Bath/Restroom Accessory & Plumbing Fixture Schedule

ITEM	MFR.	MFR. NO.	ITEM DESCRIPTION	REMARKS
1	Bobrick	B-369	Classic series, recessed paper towel dispenser and waste receptacle.	Satin finish.
2	Bobrick	B-2888	Surface mounted multi-roll toilet tissue dispenser.	Satin finish.
3	Bobrick	B-76717	Single Robe Hook	Satin finish.
4	Bobrick	B-4111	Classic Series Surface-Mounted Soap dispenser	Satin finish.
5	Bobrick	B-293-1836	Tilt mirror with stainless steel frame.	18" x 36"
6	Bobrick	B-6806 x 36	1-1/2" dia. stainless steel grab bars w/snap flange.	Satin finish.
7	Bobrick	B-6806 x 42	1-1/2" dia. stainless steel grab bars w/snap flange.	Satin finish.
8	American Standard	#2467.100 1.1gpf ADA	*Cadeit Right Height Elongated pressure-assisted toilet. 1.1 gpf tank with locking device mod. #4142.601.	White
	American Standard	#5901.110	1.1 tank cover for locking device [opt] mod. #735133-401 Standard Commercial Toilet Seat with EverClean surface color: white.	White
9	American Standard	Lucerne 0355.012	Installed to comply with ADA. Grid drain. Include trap and concealed arms support. 4" center holes	Chrome.
10	American Standard	Monteary 5502.145	Two-handle center-set Lavatory Faucet with Lever Handles (4" center).	Stainless Steel

NOTE:

- For installation details and backing requirements, refer to Mfg. cut sheets and specs recommendations.
- For installation heights, requirements, refer to Restrooms Elev., specifically for the ADA required heights and clearances.
- Contractor to notify the Architect in case of any discrepancy, before ordering the product.
- G.C. to request shopdrawings from vendor for toilet partitions, for approval before ordering them.



It is imperative that the general contractor and shell contractor read these plans in their entirety prior to commencing work. All questions and / or discrepancies shall be presented to the Architect in writing with sufficient time allowed for a response (48 hours min). The contractor(s) are directed to the structural notes presented on this page for performance specifications and to the plan notes presented on all plan sheets for information and requirements that may only be given in those notes.

STRUCTURAL NOTES

1. General Notes:

- All dimensions and conditions must be verified in the field, any discrepancies shall be brought to the attention of the architect before proceeding with the affected part of the work.
- The structure is designed to be self-supporting and stable after the building is complete. It is the contractor's responsibility to determine erection procedures and sequence to insure safety of the building and its components during erection. This includes the addition of necessary shoring, steeling, temporary bracing, guys or tie-downs.

2. Concrete:

- Shall be per an approved mix design proportioned to achieve a compressive strength of 3,000 PSI at 28 days with a plastic and workable mix.
- Fly ash may be used in concrete mix design, although it shall be limited to 15% maximum replacement of cement (by weight).

3. Masonry Walls:

- Masonry units shall meet ASTM C-90 for hollow load bearing type masonry with strength of 1,900 PSI on the net area (fm=1500 PSI) mortar shall be type "M" or "S" and meet ASTM C-270. Grout shall be 3,000 PSI minimum compressive strength and meet C-476. Grout shall be 3,000 PSI minimum compressive strength and meet C-476. Provide hooked dowels in footings for all vertical reinforcing above, lap splices 48 bar diameters.
- Dowels shall be used to provide continuity into the structure above and or below, unless noted otherwise. Use metal lath, mortar, or special units to confine concrete and grout to area required.
- Provide 9 gage galvanized horizontal joint reinforcing (Duo-Wall or engineer approved substitute) at alternate block courses.
- Filling of masonry cells with concrete shall be prohibited only mix designs proportioned for grouting masonry shall be approved.
- Masonry walls, as depicted on these plans, have been designed in accordance with section 2122 of the Florida Building Code, and ACI 530; building code requirements for masonry structures and the specifications for masonry structures (ACI 530).
- All reinforced masonry (engineered unit masonry) shall be inspected per the requirements of the building code.

4. Formwork and Shoring:

- No structural concrete shall be stripped until it has reached at least two-thirds of the 28 days design strength. Design, erection and removal of all formwork, shores and reshores shall meet the requirements set forth in ACI standards 347 and 301.

5. Reinforcing Steel:

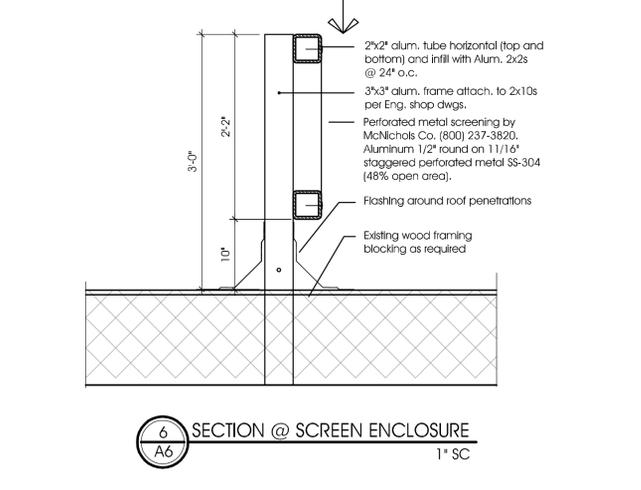
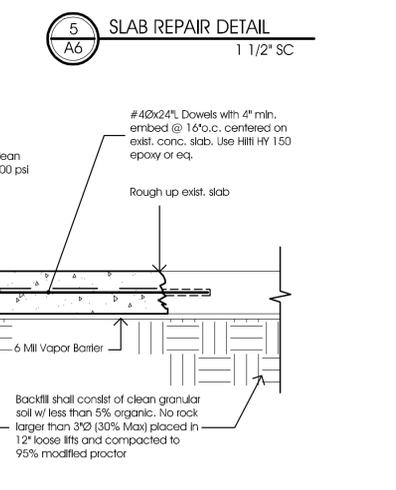
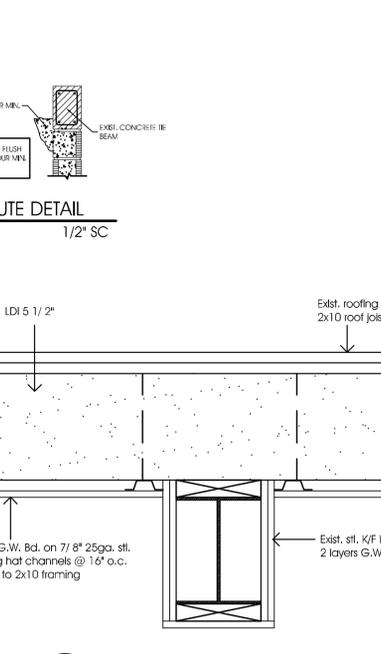
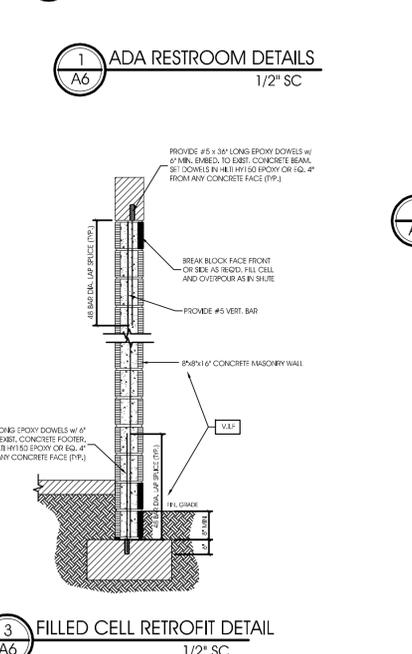
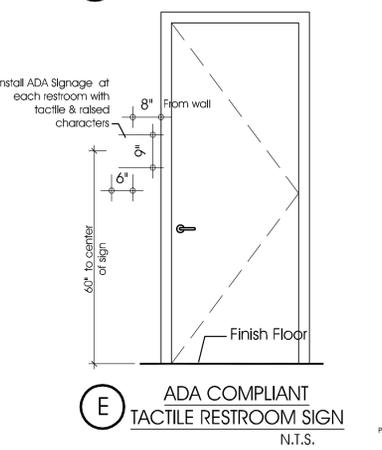
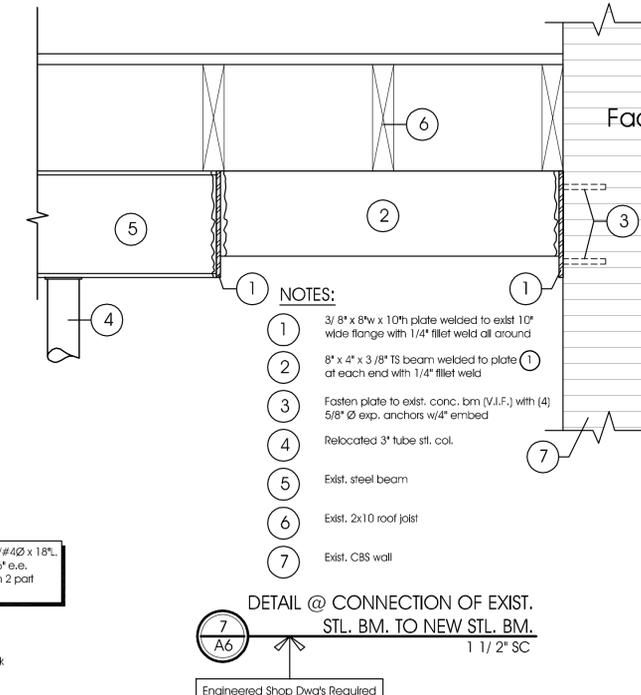
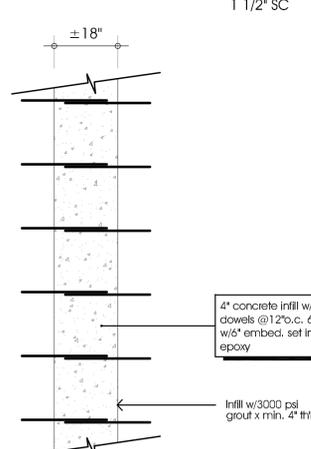
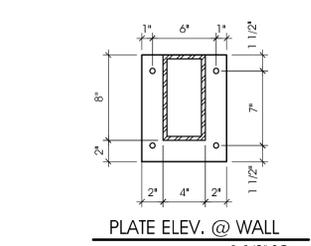
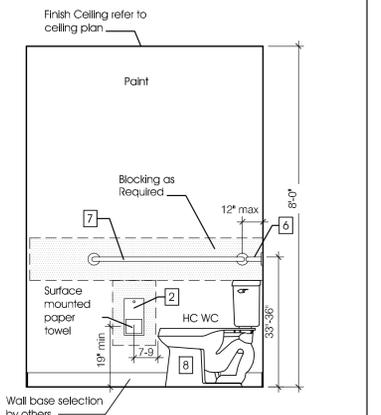
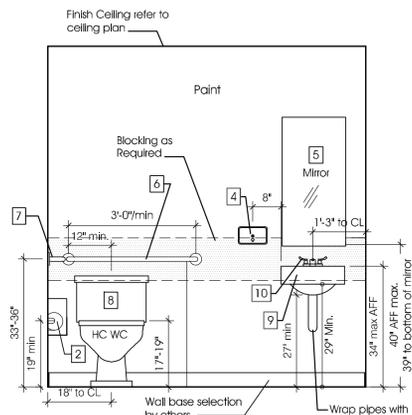
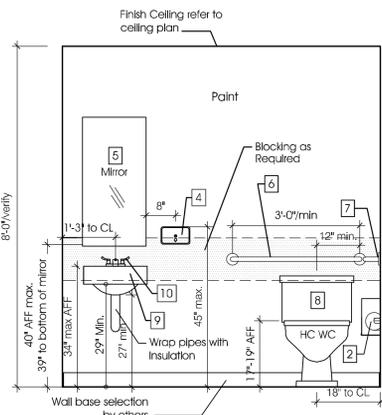
- Shall be ASTM A615 grade 60 deformed bars, free oil, scale and rust and placed in accordance with the typical bending diagram and placing details of ACI standards and specifications. If desired, approval of shop drawings prior to commencement of fabrication may be secured under a separate contract with A.C.R. All bars to be welded shall be those specifically manufactured for welding purposes; certified welders w/ certificates only shall weld these bars; Inspector shall verify weldability and collect certificates.

6. Door Systems:

- All door system shall be designated as specialty engineered items and the design of these "systems" and their connections to the structure depicted on these plans shall be the responsibility of the supplier / specialty engineer. Submit product approval information (or signed and sealed calc's) for approval prior to fabrication.
- Unless indicated otherwise, the minimum buck sizes shall be 2" x 4" P.T. for windows and doors.
- All door systems shall be designed to safely resist the minimum wind pressures shown in these plans. Submit shop drawings and / or product approval verifying conformance.

GENERAL NOTES

- The Architect will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and he will not be responsible for the Contractor's failure to carry out the work in accordance with the contract documents. The Architect will not be responsible for or have control or charge over the acts or omissions of the Contractor, subcontractors, or any of their agents or employees, or any other persons performing any of the work.
- All codes having jurisdiction shall be observed strictly in the construction of the project, including all applicable state, city, and county building, zoning, electrical, mechanical, plumbing, fire codes. Contractor shall verify all code requirements and the construction documents.
- Errors and omissions which may occur in contract documents shall be brought to the attention of the Architect in writing and written instructions shall be obtained before proceeding with the work. The Contractor will be held responsible for the results of any errors, discrepancies, or omissions which the Contractor failed to notify the Architect of before construction and / or fabrication of the work.
- Contractor and subcontractors are to verify all dimensions and job conditions at the job site sufficiently in advance of work to be performed to assure the orderly progress of work. Do not scale drawings. Architect shall be notified in writing, prior to commencing any work, of any errors or discrepancies in drawings or between prepared drawings and field conditions.
- It is the purpose of these plans and specifications to describe a complete and finished project other than items marked "N.I.C." (Not In Contract).
- The Contractor shall maintain the premises clean and free of all trash, debris and shall protect all adjacent work from damage, soiling, paint overspray, etc. All fixtures, equipment, glazing, floors, etc. shall be left clean and ready for occupancy upon completion of the project.
- All work is to be done under the supervision of the General Contractor.
- All wood in contact with concrete or masonry or below finished floor is to be pressure treated.
- Interior partitions shall be 25 gauge steel studs @ 24" O/C with 5/8" gypsum board unless noted otherwise.
- All materials and products used for and in construction are required to have applicable product control approval (NOA).
- Contractor shall carry all necessary insurance as required by law and hold harmless the Owner or Architect from any loss, liability, claim or demand for damages arising out of or relating to the performance of the work as described by these drawings.
- The Owner shall effect and maintain fire, extended coverage and vandalism insurance for 100% of the insurable value of all construction on the site.
- The General Contractor shall guarantee all work specified and/or described by these drawings free from any defects or malfunctions for a period of one year commencing from the substantial completion date or from the time of occupancy, whichever occurs first.
- The General Contractor is responsible for all work executed by subcontractors or other trades, plumbing equipment.
- All structural metal items and fasteners and bolts shall be hot dipped galvanized.
- Structural wood other than heavy timber shall have a minimum bending stress of: FB = 1200 P.S.I.
- All ground under construction shall receive a termite poisoning treatment by approved exterminator who will furnish the Owner with a 1 year bond.
- It is the responsibility of the Contractor to check and coordinate all dimensions of the foundation with the floor plan before beginning construction. Contact Architect in the event of discrepancies.
- The Contractor shall furnish the Architect or Owner with a written certification of the finish floor height above mean sea level by a licensed surveyor.



Facade Modification and Level II Alteration  
Green Owl Restaurant  
11 SE 4th Ave.  
Delray Beach, Florida  
R.B.A. PN. 10116.01

Issued  
 (A) : Permit Set  
 (B) : G.C. Bid Set  
 (C) 4/15/16: Review Set

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Interior Elevations/Details  
Notes/Schedules As Noted

PACKAGE A/C UNIT SCHEDULE		
UNIT DESIGNATION	RTU-2	RTU-1
MANUFACTURER	EXISTING CARRIER	NEW JOHNSON CONTROLS
MODEL NO.	EXISTING	J05ZEE05B2H2BAA4A1
SYSTEM TYPE	DX SYSTEM	DX SYSTEM
SEER/EER	13	14/11.8
NOMINAL TONS	3	5
TOTAL COOLING	36,000	60,500
NET SENSIBLE	EXISTING	34,100
WEIGHT LBS	EXISTING	623
AREA SERVED	KITCHEN	DINING
FAN / COIL SECTION		
TYPE		
TOTAL CFM	1,200	1,275
OUTSIDE AIR CFM	240	470
ENT. AIR (°F)	EXISTING	81.4
E.S.P (IN WG)	EXISTING	0.5
FAN MOTOR H.P.	EXISTING	1.5
DRIVE	EXISTING	BELT
VOLTAGE/PHASE	EXISTING	240/3/60
COIL SIZE (SQ.FT.)	EXISTING	
ROWS/FINS/INCH.	EXISTING	
HEATING CAPACITIES		
CAPACITY BTUH	EXISTING	18,100
TYPE	EXISTING	ELECTRIC
KW/VOLTAGE/PHASE	EXISTING	5/240/3
STAGES/KW EACH	EXISTING	1
CONTROL VOLT	EXISTING	
FILTER SPECIFICATIONS		
TYPE	EXISTING	
SIZE (2")	EXISTING	
QUANTITY	EXISTING	1
CONDENSING SECTION		
TYPE		
REFRIGERANT	EXISTING	410A
COMPR. NO. TYPE	EXISTING	1/SCROLL
COMPRESSOR FLA.	EXISTING	
VOLT/PHASE	EXISTING	240/3/60
FAN #/AMPS/VOLTS/Ø	EXISTING	1/-
MCA *	EXISTING	28.7
MCCP **	EXISTING	35
WEIGHT (LBS)	EXISTING	623
NOTES:		
1- PROVIDE RTU-2 WITH MOTORIZED OUTSIDE AIR DAMPER		
2- PROVIDE 14" N.O.A. 175 MPH RATED WIND CURB FOR RTU-2		
3- PROVIDE RTU-2 WITH ZONE TEMPERATURE SENSOR		
4- PROVIDE RTU-2 WITH FACTORY INSTALLED DISCONNECT SWITCH		
5- PROVIDE RTU-2 WITH PHASE MONITOR		
6- PROVIDE RTU-2 WITH PHASE MONITOR		
7- PROVIDE RTU-2 WITH GALV. BANIZED DRAIN PAN		
8- PROVIDE RTU-2 WITH COIL GUARD		

FAN SCHEDULE		
ITEM #	EF-1	EF-2
MANUFACTURER	GREENHECK	GREENHECK
MODEL	SP-B70	SP-B70
MOUNTING	CEILING	CEILING
AREA SERVED	BATH	BATH
CONDITION OF SERVICE		
CFM	50	50
STATIC PRESSURE (W.G.)	0.25	0.25
RPM (MAX.)	675	675
TIP SPEED (MAX.)		
DRIVE		
DIRECT	X	X
V-BELT		
FAN MOTORS		
WATTS	45	45
VOLTS	115	115
PHASE	1	1
CYCLE	60	60
MOTOR SPEEDS		
TYPE OF MOTOR		
SPECIAL FEATURES		
BIRD SCREEN (MATERIAL)	AL.	AL.
OPTIONS GAGE		
GAGE		
MAT.(AL)(FIBR.GL.)(OTHER)	GALV. STL.	GALV. STL.
SPECIAL COATING		
BUILT IN DISCONNECT		
NOTE:	1,2,3	1,2,3
① PROVIDE BACKDRAFT DAMPER.		
② PROVIDE DISCONNECT SWITCH.		
③ PROVIDE VIBRATION ISOLATORS FOR CEILING HANGING.		

AIR DEVICE SCHEDULE				
TAG	A	B	C	D
MANUFACTURER	TITUS	TITUS	TITUS	TITUS
MODEL	300 FL	300 FL	300 FL	350 FL
TYPE	SUPPLY GRILLE	SUPPLY GRILLE	RETURN GRILLE	RETURN GRILLE
CFM RANGE	264 - 440	170 - 285	0-70	-
NECK SIZE (IN.)	8"	-	5"	-
MODULE SIZE (IN.)	12x12/12x12	12x8/14x10	6x6/6x6	24x24/24x24
BLOW PATTERN	(REFER TO DRAWING)	(REFER TO DRAWING)	(REFER TO DRAWING)	(REFER TO DRAWING)
FRAME/BORDER TYPE	SURFACE	SURFACE	SURFACE	SURFACE
SURFACE FINISH	WHITE	WHITE	WHITE	WHITE
MATERIAL	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
OPTIONS/ACCESSORIES	QBD	QBD		
NOTES	SEE BELOW	SEE BELOW	SEE BELOW	SEE BELOW

NOTES:

- AIR DEVICE SIZES & SCHEDULE AIRFLOW ARE AT THIS SCHEDULE UNLESS OTHERWISE NOTICED ON HVAC FLOOR PLANS.
- BRANCH & OPTIONAL BRANCH DUCT SIZES ARE AT THIS SCHEDULE UNLESS OTHERWISE NOTICED ON HVAC FLOOR PLANS.
- MAXIMUM PRESSURE DROP FOR ALL AIR DEVICES SHALL NOT EXCEED 0.10 IN. W.C.
- COORDINATE WITH ARCHITECT.
- MAXIMUM NC FOR ALL DEVICES SHALL NOT EXCEED 20.
- ALL AIR DEVICES SHALL BE ALUMINUM CONSTRUCTION UNLESS OTHERWISE NOTICED.
- THROW VALUES ARE GIVEN FOR TERMINALS VELOCITIES OF 150, 100 & 50 FPM RESPECTIVELY.

MECHANICAL SYMBOLS (GENERAL)	
-----	ITEMS SHOWN DASHED ARE EXISTING (UNLESS NOTED OTHERWISE)
////	HATCHING INDICATES ITEMS TO BE REMOVED (UNLESS NOTED OTHERWISE)
(X) (X)	KEYED NOTES ON DRAWINGS & SCHEDULES
(X) (X)	REVISIONS
(100)	ROOM NUMBERS
(X) (XXX)	AIR TERMINAL TAGS <sup>X</sup> = AIR DEVICE TYPE <sub>XXX</sub> = AIR QUANTITY (CFM)
XX-1	EQUIPMENT TAGS (XX = MARKS BELOW)
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
BO	BOILER
CC	COOLING COIL
CH	CHILLER
CT	COOLING TOWER
CU	CONDENSING UNIT
EDH	ELEC. DUCT HEATER
EF	EXHAUST FAN
HE	HEAT EXCHANGER
P	PUMP
EDH	ELEC. DUCT HEATER
LVR	WALL LOUVER
EF	EXHAUST FAN
RTU	ROOF TOP UNIT
RF	RETURN FAN
ET	EXPANSION TANK
PCU	PRE-COOLING UNIT
SF	SUPPLY FAN
FH	FUMEHOOD
CWP	CONDENSER WATER PUMP
CHWP	CHILLED WATER PUMP
HC	HEATING COIL
SL	STATIONARY LOUVER
UH	UNIT HEATER
CR	CONDENSATE RECEIVER
PRV	PRESSURE REDUCING VALVE
RHC	REHEAT COIL
HWP	HOT WATER PUMP
FS	FLOW STATION
CS	CHEMICAL SHOT FEEDER
ACCU	AIR COOLED COND. UNIT
ACCH	AIR COOLED CHILLER
SCHW	SECONDARY CHILLED WATER
PCHW	PRIMARY CHILLED WATER
VAV	VAV TERMINAL UNIT
(X) (X)	CONNECTION OF NEW TO EXISTING

DESIGN CRITERIA SCHEDULE	
OUTSIDE DB/WB (SUMMER)	92' / 78°F
OUTSIDE DB (WINTER)	41°F
INDOOR DESIGN DB	75°F
INDOOR DESIGN R.H.	50% (MAX.)
VENTILATION	PER FLORIDA 2014 MECHANICAL CODE
DUCT INSULATION	MIN. R-8.0 SUPPLY & R-6 RETURN DUCT

OUTDOOR AIR CALCULATION							
MARK	SPACE TYPE	SQFT	OCCUPANCY	VENTILATION RATE CFM/PERSON	VENTILATION RATE CFM/SQFT	MINIMUM OUTDOOR AIR REQUIRED	OUTDOOR AIR PROVIDED
RTU-1	DINING	522	44	7.5	0.18	424.0	470
RTU-2	KITCHEN	497	4	7.5	0.18	119.5	240
TOTALS		1019				543.4	710.0
1. OCCUPANT DENSITIES AND VENTILATION RATES BASED ON TABLE 403.3 OF THE FLORIDA MECHANICAL CODE. ACTUAL OCCUPANCY BASED ON INFORMATION PROVIDED BY OWNER AND/OR ARCHITECT.							

AIR BALANCE SCHEDULE						
UNIT	O/A (+)	MAKEUP AIR (+)	E/A (-)	PRESSURE/CFM	R/A (-)	S/A (+)
RTU-1	470	-	-	(+) 470	430	1,275
RTU-2	240	-	-	(+) 240	960	1,200
EXHAUST HOOD	-	-	3,251	(-) 3,251	-	-
MAKEUP HOOD	-	2,601	-	(+) 2,601	-	-
BATHROOMS EXHAUST	-	-	100	(-) 100	-	-
TOTAL	(+) 710	(+) 2,601	(-) 3,351	(+) 110	(-) 1,390	(+) 2,475

MECHANICAL ABBREVIATIONS	
ACC	AIR COOLED CONDENSER
AHU	AIR HANDLER UNIT
A/C	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
[AP]	ACCESS PANEL
ATM.	ATMOSPHERE
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB
dB	DECIBELS
DDC	DIRECT DIGITAL CONTROL
DN.	DOWN
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
E/A	EXHAUST AIR
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
EWI	ENTERING WATER TEMPERATURE
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HP	HORSE POWER
HZ	HERTZ
IN. W.G.	INCHES OF WATER GAUGE
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB TEMPERATURE
LWB	LEAVING WET BULB TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MD	MOTORIZED DAMPER
NC	NORMALLY CLOSED
NK.	NECK
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OBD	OPPOSED BLADE DAMPER
O/A	OUTDOOR AIR
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
PH.	PHASE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH (GAUGE PRESSURE)
R/A	RETURN AIR
RH	RELIEF HOOD
RTU	ROOF TOP UNIT
SF	SUPPLY FAN
S/A	SUPPLY AIR
SP	STATIC PRESSURE
TDE	TOP DUCT ELEVATION
TEMP.	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TYP.	TYPICAL
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE

MECHANICAL SHEET INDEX	
M0.1	MECHANICAL LEGENDS, NOTES, SCHEDULES & SHEET INDEX
M1.1	MECHANICAL FLOOR & ROOF PLAN
M2.1	MECHANICAL DETAILS
M3.1	MECHANICAL SPECIFICATIONS

MECHANICAL SYMBOLS (HVAC)	
(X) (X)	TYP. SUPPLY AIR CEILING DIFFUSER. SHADING INDICATES BLOCKED QUADRANT(S) FOR 1, 2 OR 3-WAY BLOW.
(X) (X)	RETURN AIR GRILLE
(X) (X)	EXHAUST AIR GRILLE
(X) (X)	EXHAUST FAN
(X) (X)	SIDEWALL REGISTER/GRILLE
(X) (X)	FLEXIBLE DUCT (10 FT. MAX. LENGTH)
(X) (X)	RIGID ROUND DUCTWORK TO DIFFUSER
(X) (X)	HUMIDITY SENSOR
(X) (X)	WALL MOUNTED TEMPERATURE SENSOR
(X) (X)	WALL MOUNTED COMB. TEMPERATURE & HUMIDITY SENSOR
(X) (X)	WALL MOUNTED CARBON DIOXIDE SENSOR
(X) (X)	DUCT MOUNTED TEMPERATURE SENSOR
(X) (X)	FIRE DAMPER
(X) (X)	45° SIDE TAKEOFF FITTING TO DIFFUSER, WITH MANUAL VOLUME DAMPER. OUTLET DIAMETER OF FITTING IS EQUAL TO DIFFUSER NECK.
(X) (X)	DUCT SIZE DESIGNATION. SIDE SHOWN IS FIRST DIMENSION. SIZE SHOWN IS INTERNAL CLEAR OPENING. SHEET METAL SIZE MUST BE INCREASED FOR INTERNAL INSULATION WHERE SPECIFIED. (Ø = ROUND DUCT, = FLAT OVAL DUCT)
(X) (X)	TURNING VANES (NUMBER OF VANES SHALL BE BASED ON ACTUAL DUCT SIZE, NOT ON SCHEMATIC SYMBOL ON DRAWING)
(X) (X)	RETURN, EXHAUST OR OUTSIDE AIR DUCT
(X) (X)	DISCHARGE OR SUPPLY DUCT
(X) (X)	FLEXIBLE DUCT CONNECTION
(X) (X)	VOLUME DAMPER (MANUAL)
(X) (X)	MOTORIZED CONTROL DAMPER
(X) (X)	ANGLED DROP IN DUCT
(X) (X)	ANGLED RISE IN DUCT
(X) (X)	SPACE RELATIVE PRESSURE RELATIONSHIP. LACK OF SYMBOL INDICATES NEUTRAL PRESSURE.
* NOTE: NOT ALL SYMBOLS USED	

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 Consulting Engineering

Level II Alteration  
**Green Owl**  
**Restaurant**  
 11 SE 4th Ave.  
 Delray Beach,  
 Florida

R.B.A. P.N. 10116.01

Issued Date:

Richard Tavares P.E.  
 Florida Reg. No. 73704

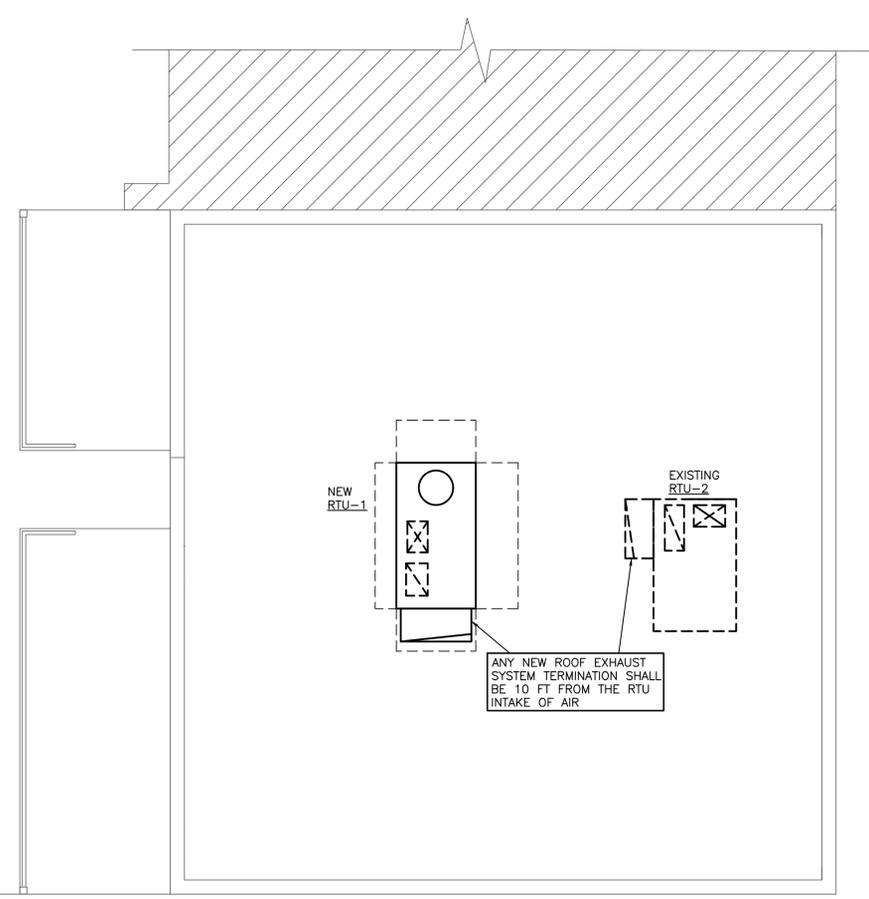
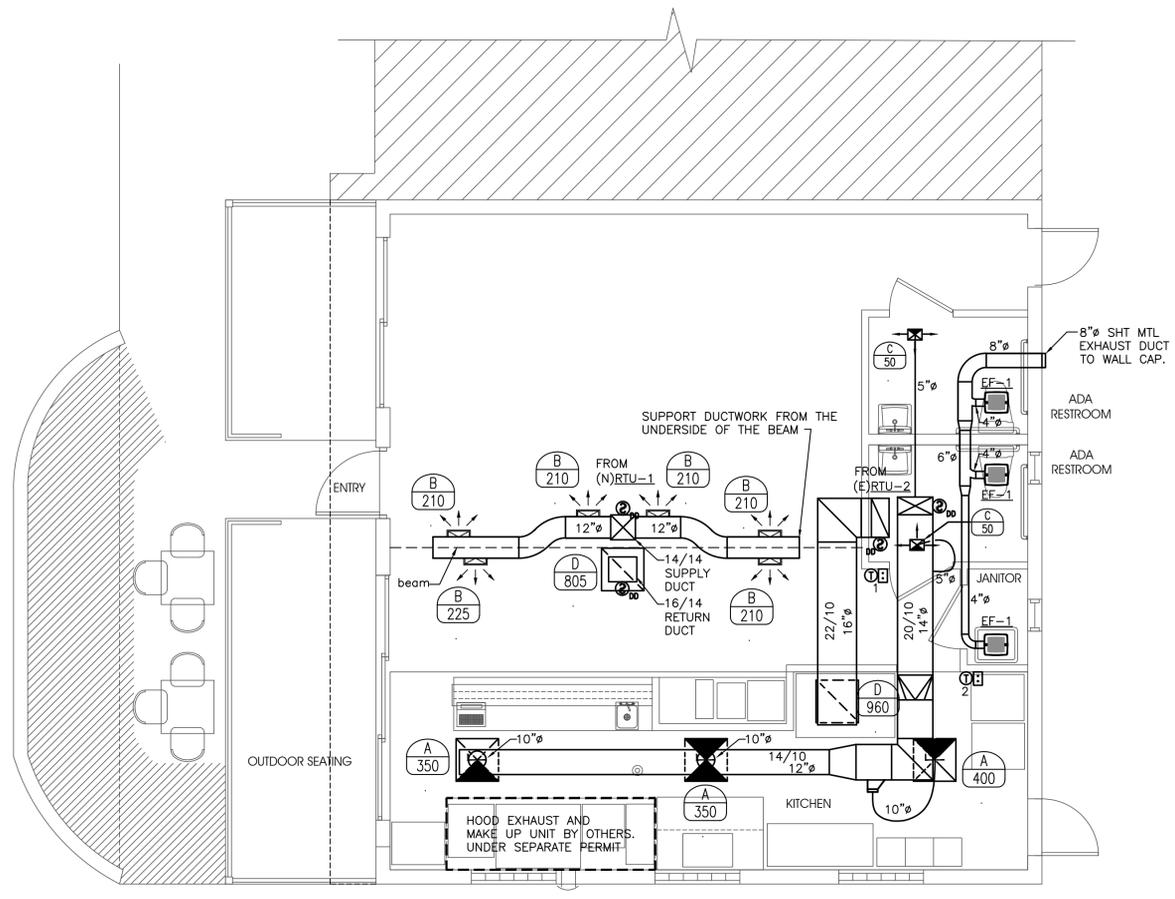


**MECHANICAL NOTES**

AS NOTED

PROGRESS SET/NFC 03/04/2016

**M**  
**0.1**



Level II Alteration  
**Green Owl Restaurant**  
 11 SE 4th Ave.  
 Delray Beach, Florida

R.B.A. PN. 10116.01

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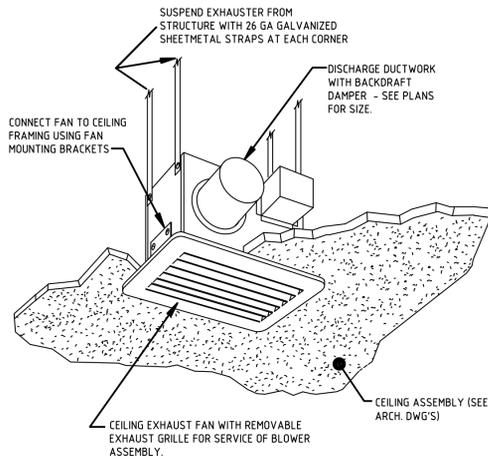
TO THE BEST OF MY KNOWLEDGE THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH THE 2014 FLORIDA BUILDING CODE, ALL AMENDMENTS AND SECTION 633 OF THE FLORIDA STATUTES.

**MECHANICAL PLANS**  
 AS NOTED  
 PROGRESS SET/NFC 03/04/2016

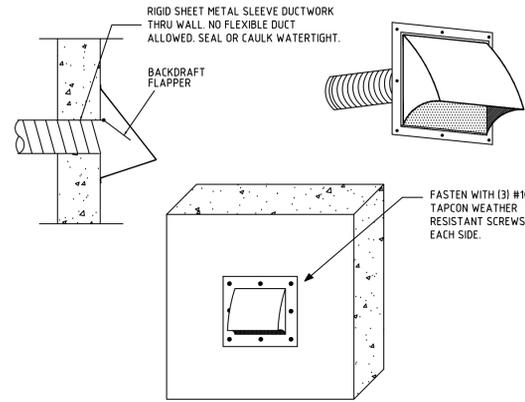
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**1.1**

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 2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ADVISE ARCHITECT OF ANY DISCREPANCIES. CONSTRUCTION SHALL NOT PROCEED UNTIL SAID DISCREPANCIES HAVE BEEN RESOLVED.  
 3. NO MATERIALS OR SYSTEMS ARE TO BE FABRICATED UNTIL ALL DIMENSIONS HAVE BEEN VERIFIED BY CONTRACTOR'S SHOP DRAWINGS HAVE BEEN REVIEWED AND ACCEPTED BY THE ARCHITECT.

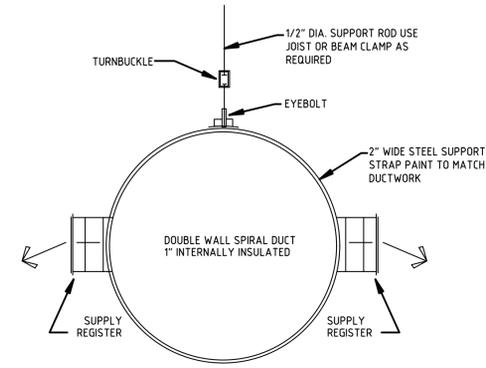




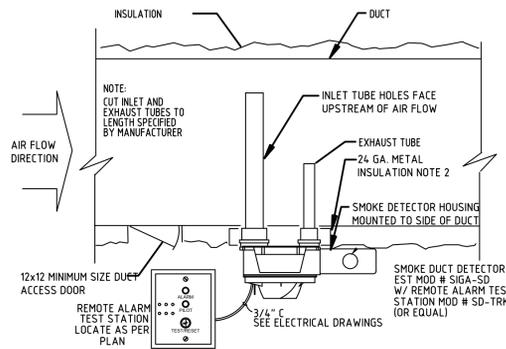
**CEILING MOUNTED FAN DETAIL**



**WALL CAP DETAIL**

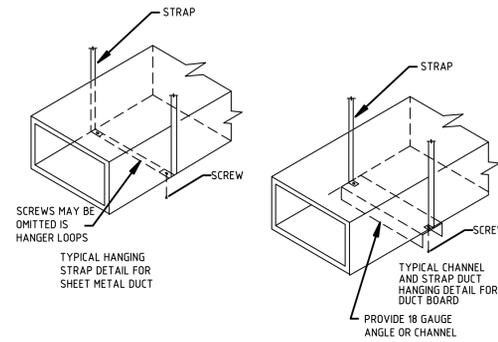


**EXPOSED DUCT SUPPLY REGISTER DETAIL**



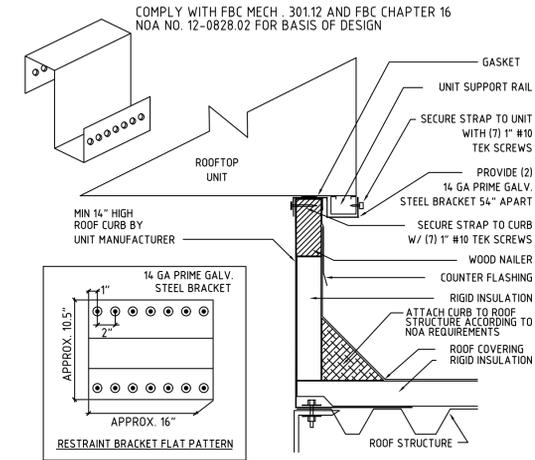
**NOTES:**  
 1. DETAIL SHOWS GENERAL INSTALLATION METHODS. REFER TO INDIVIDUAL MANUFACTURER FOR THEIR SPECIFIC INSTALLATION AND LOCATION INSTRUCTIONS.  
 2. STANDOFF BRACKET NOT REQUIRED ON NON-INSULATED DUCT.  
 3. CONNECT DUCT DETECTOR TO BUILDINGS FIRE ALARM SYSTEM IN ACCORDANCE WITH FBC-M 606.4.1

**DUCT MOUNTED SMOKE DETECTOR DETAIL**



**NOTE: ALL STRAP SHALL BE A MINIMUM OF 1-1/2, 26 GA GALVANIZED STEEL, WITH A 6 FT MAXIMUM SPACING.**

**METHODS OF HANGING RIGID DUCT DETAIL**



**RTU MOUNTING DETAIL**



TO THE BEST OF MY KNOWLEDGE THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH THE 2014 FLORIDA BUILDING CODE, ALL AMENDMENTS AND SECTION 633 OF THE FLORIDA STATUTES.

**MECHANICAL DETAILS**

AS NOTED

PROGRESS SET/NFC 03/04/2016

15100 - BASIC MECHANICAL REQUIREMENTS

A. CODES & REFERENCES

1. FLORIDA BUILDING CODE 2010 (WITH AMENDMENTS).
2. SMACNA
3. NFPA 101
4. NFPA 90A
5. NFPA 99

B. SCOPE OF WORK

1. PROVIDE ALL REQUIRED PERMITS, LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THE SCOPE OF THE PROJECT SHOWN ON THE DRAWINGS AND READY FOR OCCUPANCY AND USE BY OWNER. THE WORK SHALL INCLUDE BUT IS NOT LIMITED TO:
  - a. REMOVAL, RELOCATION AND RE-INSTALLATION OF EXISTING EQUIPMENT AND SYSTEM.
  - b. CONNECTIONS TO EXISTING OR NEW EQUIPMENT AND SYSTEMS.
  - c. CUTTING AND PATCHING TO REMOVE EXISTING OR INSTALL NEW WORK.
  - d. CLEANING AND TESTING.
  - e. INSTRUCTION TO OWNER'S PERSONNEL.
2. ALL REMOVAL WORK AND DISRUPTIONS OF EXISTING SERVICES SHALL BE COORDINATED AND SCHEDULED IN ADVANCE WITH OWNER'S REPRESENTATIVES.
3. PROVIDE ALL BUILDING PENETRATIONS REQUIRED TO COMPLETE PROJECT. ALL PENETRATIONS TO BE PATCHED AND SEALED TO BE WATERTIGHT. MAINTAIN FIRE RATINGS OF EXISTING STRUCTURE.
4. PROVIDE ALL NECESSARY DUCT, EQUIPMENT AND PIPE SUPPORTS AND MATERIALS REQUIRED FOR INSTALLATION. PER THE REQUIREMENTS OF LOCAL, STATE OR FEDERAL CODES.
5. NOT ALL COMPONENTS REQUIRED ARE INDICATED ON THESE DRAWINGS. REFER TO MANUFACTURERS INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS INCLUDING CONNECTION LOCATIONS, TYPES AND SIZES. PROVIDE ISOLATING VALVES AND UNIONS AT ALL EQUIPMENT CONNECTIONS.

C. REQUIRED SHOP DRAWINGS

1. INSULATION.
2. AIR DEVICES.
3. DUCTWORK COORDINATION DRAWINGS.
4. CONTROLS.
5. ROOF TOP UNITS
6. THERMOSTATS.
7. FANS.
8. FILTERS

D. MAINTENANCE MANUALS

1. PROVIDE MAINTENANCE MANUALS FOR ALL NEW EQUIPMENT CONTAINING ALL OPERATING AND MAINTENANCE DATA, SUBMITTALS, WARRANTIES, DIAGRAMS, AHRI CERTIFICATES, INSPECTION REPORTS AND VALVE LISTS IN A 3 RING BINDER WITH POCKETS FOR DRAWINGS. PROVIDE OWNER WITH 2 COPIES.
2. PROVIDE AN INDEX INSIDE THE BINDER COVER WITH A LIST OF EACH EQUIPMENT ITEM. EACH ITEM SHALL BE INDIVIDUALLY TABBED.
3. PROVIDE A LIST OF ALL REQUIRED REGULAR MAINTENANCE ACTIONS.
4. MAINTENANCE LIST SHALL REFERENCE TABULATED ITEM AND SHALL INCLUDE THE TITLE OR PUBLICATION NUMBER FOR THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF PRODUCT.

E. AS-BUILT DRAWINGS

1. THE CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF ALL CHANGES MADE TO THE CONTRACT DOCUMENTS (AS-BUILT).
2. THE CONTRACTOR SHALL PROVIDE THE ENGINEER 2 SETS OF COMPLETED AS-BUILT DRAWINGS.
3. THE PROJECT WILL NOT BE CONSIDERED COMPLETE UNTIL ACCURATE AS-BUILTS ARE DELIVERED.

F. SUBSTITUTIONS

1. EQUIPMENT AND DESIGN OF SYSTEMS INDICATED ON THE DESIGN DRAWINGS AND WITHIN THESE SPECIFICATIONS SHALL BE CONSIDERED AS "SPECIFIED STANDARD" OF QUALITY. NO SUBSTITUTIONS SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER 10 DAYS PRIOR TO BID DATE.
2. ANY DEVIATION FROM SPECIFIED EQUIPMENT THAT AFFECTS THE ELECTRICAL REQUIREMENTS SHALL BE COORDINATED BY THE MECHANICAL CONTRACTOR AND EQUIPMENT VENDOR WITH THE ELECTRICAL CONTRACTOR PRIOR TO SUBMITTING BIDS.

G. WIND LOADS

1. ALL EQUIPMENT TO BE MOUNTED OUTSIDE SHALL BE FURNISHED WITH A NOA (NOTICE OF ACCEPTANCE) FOR WINDSTORM OR BE FURNISHED WITH AN ENGINEERED DETAIL GOOD FOR THE LOCAL WIND RATE.

15500 - BASIC MATERIALS AND METHODS

A. ACCESS PANELS - FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY GENERAL CONTRACTOR.

1. PROVIDE FOR ACCESS TO ALL SERVICEABLE EQUIPMENT IN WALLS AND CEILINGS.
2. MICOR STYLE M FOR DRYWALL.
3. MICOR STYLE K FOR PLASTER.
4. MINIMUM SIZE 16"x16".
5. NYSTROM, KARP, J.L. INDUSTRIES OR WILLIAMS POINT.

B. LABELING

1. PROVIDE RIGID PLASTIC EMBOSSED EQUIPMENT NAMETAGS FOR ALL NEW EQUIPMENT AND DISCONNECTS. SETON NAMEPLATE CORPORATION.
2. PAINT ALL MECHANICAL PIPING IN EQUIPMENT ROOMS, BOILER ROOMS AND WHERE EXPOSED OR OUTDOORS. MATCH EXISTING COLOR CODES USED ON SIMILAR SYSTEMS.

C. FLASHING AND COUNTER FLASHING

1. FURNISH MATERIALS AND COORDINATE INSTALLATION FOR ALL PENETRATIONS OF ROOF BY ALL DUCT AND PIPE.
2. SHEET METAL - 24ga. ASTM A525.
3. SHEET LEAD 6 lbs PER SQ. FT. (WHERE ALLOWED)
4. STAINLESS STEEL 20 ga.

D. MECHANICAL SYSTEMS CLEANING

1. CLEAN AND TOUCH UP ALL FACTORY FINISHES.
2. FLUSH ALL HVAC SYSTEMS BEFORE CONNECTION TO EQUIPMENT.

E. CLEANING TESTING AND ADJUSTING

1. THE MECHANICAL CONTRACTOR, AT HIS EXPENSE, SHALL CLEAN, REPAIR, ADJUST, CHECK, BALANCE AND PLACE IN SERVICE THE VARIOUS SYSTEMS HEREIN SPECIFIED WITH THEIR RESPECTIVE EQUIPMENT, ACCESSORIES AND PIPING. HE/SHE SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS REQUIRED TO PERFORM TESTS REQUIRED BY THESE SPECIFICATIONS AND BY THE GOVERNING AUTHORITIES.
2. NO WORK SHALL BE COVERED OR CONCEALED UNTIL PROPERLY INSPECTED AND TESTED.

F. HANGERS AND SUPPORTS

1. PROVIDE ALL NECESSARY DUCTWORK, PIPE SUPPORTS, HANGERS, RODS, CLAMPS AND ATTACHMENTS TO PROPERLY INSTALL AND SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM THE BUILDING STRUCTURE.
2. PROVIDE ANY ANGLE IRON OR UNISTRUT AND SUSPENSION RODS REQUIRED TO INSTALL EQUIPMENT, PIPING AND DUCTWORK.
3. ALL SUPPORTS EXPOSED TO OUTDOORS SHALL BE CLEANED, PRIMED AND PAINTED TO PREVENT RUSTING. FINISH COLOR AS SELECTED BY OWNER.
4. THE USE OF BALING WIRE OR PERFORATED METAL STRAPPING IS NOT PERMITTED FOR SUPPORTS.

G. WARRANTY/GUARANTEE

1. THE CONTRACTOR SHALL WARRANTY/GUARANTEE AND MAINTAIN THE STABILITY OF WORK AND MATERIALS AND KEEP SAME IN PERFECT REPAIR AND CONDITION OF THE PERIOD OF ONE YEAR.
2. DEFECTS OF ANY KIND DUE TO THE FAULTY WORK OR MATERIALS APPEARING DURING THE ABOVE MENTIONED PERIOD MUST BE IMMEDIATELY MADE GOOD BY THE CONTRACTOR AT HIS OWN EXPENSE TO THE ENTIRE SATISFACTION OF THE OWNER AND ENGINEER. SUCH RECONSTRUCTION AND REPAIRS SHALL INCLUDE DAMAGE TO THE FINISH OR FURNISHINGS OF THE BUILDING RESULTING FROM THE ORIGINAL DEFECT OR REPAIR THERETO.

15103 - SLEEVES

A. SLEEVES TO BE 18 GAGE SHEET METAL OR SCHEDULE 40 PIPE. SLEEVE THE FOLLOWING:

1. MASONARY WALLS SLEEVE ALL PIPE PENETRATIONS.
2. FLOORS SLEEVE ALL HVAC PIPING. EXTEND SLEEVES 1/2" ABOVE FINISHED FLOOR (2" ABOVE FINISHED FLOORS IN MECHANICAL ROOMS).
3. FIRE RATED DRY WALL PARTITIONS SLEEVE
4. NON-FIRE RATED PARTITIONS NO SLEEVES REQUIRED. SEAL WALL TO INSULATION.
5. USE U.L. LISTED ASSEMBLY FOR ALL PENETRATIONS THRU RATED CONSTRUCTION.

15242 - VIBRATION ISOLATION

A. ACCEPTABLE MANUFACTURERS:

1. MASON INDUSTRIES.
2. KINETICS NOISE CONTROL.
3. KORFUND.
4. AMBER BOOTH.

B. MASON TYPE SLF CONTROL AIR COMPRESSOR

C. MASON TYPE HS CEILING SUSPENDED FANS

15250 - INSULATION

A. INSULATION, ADHESIVES, COATINGS, SEALERS, TAPES, ETC. SHALL HAVE A FLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPMENT OF 50 OR LESS IN ACCORDANCE WITH ASTM E-84, NFPA 225, UL 723 AND MEET THE REQUIREMENTS OF NFPA 90A. ALL INSULATING R-VALUES TO MEET THE REQUIREMENTS OF THE FLORIDA ENERGY CODE.

B. FIBERGLASS PIPE INSULATION, JOHNS MANVILLE MICRO-LOK 850, CERTIANTEED, KNAUF, OWENS CORNING. JACKET: ASJ KRAFT PAPER WITH ALUMINUM FOIL.

C. FLEXIBLE ELASTOMERIC INSULATION, ARMSTRONG "AP ARMAFLEX", MITCHEL, RUBATEX:

1. CONDENSATE DRAINS - 3/4" THICK.
2. REFRIGERATION MACHINE EVAPORATOR - 2 LAYERS - 3/4" THICK.
3. REFRIGERATION SUCTION LINES: 3/4" THICK

STANDARD WHITE WB FINISH. PRIOR TO APPLYING THE FINISH, THE INSULATION SHALL BE WIPED CLEAN WITH DENATURED ALCOHOL. THE FINISH SHALL NOT BE TINTED.

2. ALL OUTDOOR EXPOSED PIPING SHALL HAVE THE ENDS COATED WITH TWO COATS OF ARMAFLEX THE PIPE.

6. CONTACT MANUFACTURER FOR ALTERNATIVE PRODUCTS.

D. BLANKET TYPE DUCT INSULATION, JOHNS MANVILLE, CERTAINTEED, KNAUF, OWENS CORNING, MINIMUM R-6.0, FOIL FACED KRAFT VAPOR BARRIER:

1. ALL SUPPLY, OUTSIDE AIR AND RETURN WHERE CONCEALED FROM VIEW, R-6.

E. SEMI RIGID BOARD TYPE DUCT INSULATION 1.5lb DENSITY, CERTAINTEED 1B-300, JOHNS MANVILLE, KNAUF, OWENS CORNING.

F. 1. ALL SUPPLY, RETURN AND OUTSIDE AIR WHERE EXPOSED.

2. MINIMUM DUCT INSULATION THICKNESS AND R VALUES ARE AS FOLLOWS:

- a. SUPPLY AND RETURN AIR IN UNCONDITIONED SPACE: 2" (R-6 MIN.)
- b. SUPPLY AND RETURN AIR IN UNCONDITIONED INTERIOR SPACE: 1.5" (R-4.2 MIN.)
- c. OUTSIDE AIR: 2" (R-6 MIN.)
- d. SUPPLY AIR IN CEILING RETURN AIR PLENUM: 1.5" (R-4.2 MIN.)
- e. RETURN AIR IN CEILING RETURN AIR PLENUM: NOT REQUIRED.
- f. DUCTWORK OUTSIDE OF BUILDING: 3" (R-8 MIN.)

FLEXIBLE INSULATED DUCT FOR SUPPLY AND RETURN AIR.

A. FLEXIBLE DUCT: UL 181, CLASS 1, MULTIPLE LAYERS OF ALUMINUM LAMINATE SUPPORTED BY HELICALLY WOUND, SPRING-STEEL WIRE, FIBROUS-GLASS INSULATION, POLYETHYLENE OR ALUMINIZED VAPOR-BARRIER FILM. FLEXMASTER, MASTERDUCT TYPE 5M LOW PRESSURE INSULATED OR EQUAL.

1. PRESSURE RATING: 10-INCH WG POSITIVE AND 1.0-INCH WG NEGATIVE.
2. MAXIMUM AIR VELOCITY: 4000 FPM.
3. TEMPERATURE RANGE: MINUS 20 TO PLUS 210 DEG F.
4. INSULATION R-VALUE: COMPLY WITH ASHRAE/IESNA 90.1, R-6 MINIMUM.
5. FLAME SPREAD: LESS THAN 25
6. SMOKE DEVELOPED: LESS THAN 50

B. CONNECT FLEXIBLE DUCTS TO METAL DUCTS, DIFFUSERS, OR TAKE-OFFS WITH DRAW BANDS AND PRESSURE SENSITIVE TAPE.

C. COMPLY WITH FMC SECTION 603, DUCT CONSTRUCTION AND INSTALLATION.

D. SPLICING OF TWO OR MORE SECTIONS SHALL NOT BE PERMITTED. DO NOT EXCEED CENTERLINE BEND RADIUS OF 15 X DIAMETER. TRIM DUCTS TO PROPER LENGTHS AND DO NOT ALLOW DUCTS TO SAG.

E. DUCTS SHALL BE SUPPORTED WITH APPROVED HANGERS IN ACCORDANCE WITH THE REQUIREMENTS OF FMC SECTIONS 603.10.1 THROUGH 603.10.3, OR BY OTHER APPROVED DUCT SUPPORT SYSTEMS DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE. FLEXIBLE DUCTS SHALL BE CONFIGURED AND SUPPORTED SO AS TO PREVENT THE USE OF EXCESS DUCT MATERIAL, PREVENT DUCT DISLOCATION OR DAMAGE, AND PREVENT CONSTRUCTION OF THE DUCT BELOW THE RATED DUCT DIAMETER IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

1. DUCTS SHALL BE INSTALLED FULLY EXTENDED. THE TOTAL EXTENDED LENGTH OF DUCT MATERIAL SHALL NOT EXCEED 5 PERCENT OF THE MINIMUM REQUIRED LENGTH FOR THAT RUN.
2. BENDS SHALL MAINTAIN A CENTER LINE RADIUS OF NOT LESS THAN ONE DUCT DIAMETER.
3. TERMINAL DEVICES SHALL BE SUPPORTED INDEPENDENTLY OF THE FLEXIBLE DUCT.
4. HORIZONTAL DUCT SHALL BE SUPPORTED AT INTERVALS NOT GREATER THAN 5 FEET. DUCT SAG BETWEEN SUPPORTS SHALL NOT EXCEED 1/2 INCH (12.7 MM) PER FOOT OF LENGTH. SUPPORTS SHALL BE PROVIDED WITHIN 1-1/2 FEET OF INTERMEDIATE FITTINGS AND BETWEEN INTERMEDIATE FITTINGS AND BENDS. CEILING JOISTS AND RIGID DUCT OR EQUIPMENT MAY BE CONSIDERED TO BE SUPPORTS.
5. VERTICAL DUCT SHALL BE STABILIZED WITH SUPPORT STRAPS AT INTERVALS NOT GREATER THAN 6 FEET.
6. HANGERS, SADDLES AND OTHER SUPPORTS SHALL MEET THE DUCT MANUFACTURER'S RECOMMENDATIONS AND SHALL BE OF SUFFICIENT WIDTH TO PREVENT RESTRICTION OF THE INTERNAL DUCT DIAMETER. IN NO CASE SHALL THE MATERIAL SUPPORTING FLEXIBLE DUCT THAT IS IN DIRECT CONTACT WITH IT BE LESS THAN 1-1/2 INCHES WIDE.

15890 - SHEETMETAL DUCTWORK

- A. ALL DUCT TO BE INSTALLED ACCORDING TO LATEST SMACNA STANDARDS.
- B. ALL EXPOSED DUCT WORK SHALL BE DOUBLE WALL INTERNALLY INSULATED
- C. ALL SYSTEMS TO BE LEAKAGE TESTED.

15910 - SHEETMETAL ACCESSORIES

A. AIR INLETS AND OUTLET.

1. REFER TO SCHEDULE.
2. ALL ALUMINUM CONSTRUCTION.
3. ACCEPTABLE MANUFACTURERS: TITUS, PRICE, METAL-AIRE, CARNES, ANEMOSTAT, NAILOR.

B. FLEXIBLE DUCTWORK

1. TO BE FLEXMASTER TYPE 3, WIREMOLD TYPE WCK OMNIAIR 1200, OR THERMAFLEX.
2. FLEXIBLE DUCTWORK SHALL BE ACOUSTICAL LOW PRESSURE TYPE WITH INTERIOR LINER, METAL HELIX, FIBERGLASS INSULATION WITH AN R VALUE OF 6.0 OR GREATER AND COPOLYMER SEAMLESS OUTSIDE SLEEVE. THE ENTIRE FLEXIBLE DUCT ASSEMBLY SHALL BE LISTED IN ACCORDANCE WITH UL-181 CLASS 1 AIR DUCT MATERIAL. THE MAXIMUM LENGTH OF ANY FLEX DUCT SHALL BE 6'-0". FLEXIBLE DUCTWORK SHALL MEET THE FLORIDA MODEL ENERGY EFFICIENCY CODE. ALL JOINTS AT CONNECTIONS TO DIFFUSERS AND DUCTWORK SHALL BE SEALED WITH GLASS, FABRIC AND MASTIC.
3. FLEXIBLE NON-INSULATED DUCT SHALL BE FLEXMASTER ALUMINUM TRIPLE-LOCK METAL DUCT, MODEL NI-TL OR APPROVED EQUAL, ETL CLASS 0, MAXIMUM LENGTH USED SHALL BE 6 FT.

C. TERMINAL CONNECTORS

1. GENERAL - CONNECTORS SHALL BE RATED FOR 12" W.G., AND MEET NFPA 90A REQUIREMENTS. DUCT SHALL BE FABRICATED OR ALUMINUM SPIRAL HELIX AND REINFORCED RIP STOP ALUMINUM POLYESTER. PRESSURE DROP SHALL NOT EXCEED 0.6"/100'-0" AT 1000 FPM. WHERE INSULATION IS REQUIRED, FURNISH FACTORY APPLIED FIBERGLASS WITH REINFORCED VAPOR-BARRIER JACKET. INSULATION CONDUCTANCE VALUE SHALL NOT EXCEED 0.23. NON-INSULATED DUCT SHALL BE EQUAL TO FLEXMASTER TYPE 3. INSULATED DUCT SHALL BE EQUAL TO FLEXMASTER 3M.
2. HIGH VELOCITY - MAXIMUM DEVELOPED LENGTH OF CONNECTOR SHALL BE 6'-0". USE METAL DUCTS AND FITTINGS TO REACH WITHIN 6'-0" WHERE CONNECTORS ARE ATTACHED TO INSULATED DUCT, FURNISH INSULATED FLEXIBLE DUCT.

D. BALANCING DAMPERS

1. GENERAL - IN ALL DUCTWORK SYSTEMS, PROVIDE DAMPERS FOR PROPER CONTROL AND BALANCING OF AIR QUANTITIES. CONCEALED DAMPERS TO HAVE CONCEALED DAMPER REGULATOR. ALL COMPONENTS FOR PROPER OPERATION; (i.e. GEARS, LINKAGES, CABLE, ETC.) SHALL BE INCLUDED.
2. TYPE: OPPOSED BLADE.
3. MATERIAL: STEEL, 3V TYPE BLADES MOUNTED IN STEEL CHANNEL FRAME.
4. SHAFT: 1/2" SQUARE ROD OPERATOR WITH END BEARINGS AND GASKET SEAL AT DUCT PENETRATIONS. TERMINATE SHAFT IN DAMPER FRAME WITH BUSHINGS.
5. OPERATOR: LOCKING QUADRANT HANDLE WITH DAMPER POSITION INDICATOR AND INSULATION STAND OFF MOUNTING BRACKET FOR EXTERNALLY INSULATED DUCTWORK.

E. ACCESS DOORS

1. ACCEPTABLE MANUFACTURERS: RUSKIN, VENCO, NAILOR.
2. SIZE ACCESS DOOR AS FOLLOWS:

15970 - TEMPERATURE CONTROLS

A. EXTEND EXISTING CONTROL SYSTEM TO NEW EQUIPMENT AND PROVIDE ALL MODIFICATIONS NECESSARY FOR A FULLY FUNCTIONING SYSTEM.

B. AIR HANDLING UNIT AND CONSTANT VOLUME REHEAT BOXES

1. THE EXISTING CONTROL SYSTEM IS TO BE MODIFIED BY THE OWNERS EXISTING CONTROL VENDOR.
2. AUTOMATIC CONTROL VALVES SHALL BE FULLY PROPORTIONING WITH MODULATING PLUG OR V-PORT INNER GUIDES OR BALL TYPE. THE VALVE SHALL BE QUIET IN OPERATION AND FAIL-SAFE IN THE NORMALLY OPEN POSITION IN THE CONTROL EVENT OF CONTROL FAILURE. CONTROL VALVES SHALL BE SIZED BY THE CONTROL MANUFACTURER AND SHALL BE WARRANTED TO MEET THE HEATING AND COOLING LOADS AS SPECIFIED. CONTROL VALVES SHALL BE SUITABLE FOR THE PRESSURE CONDITIONS AND SHALL CLOSE AGAINST THE DIFFERENTIAL PRESSURE INVOLVED. VALVE OPERATORS SHALL BE OF THE PNEUMATIC OR ELECTRIC 24 VOLT TYPE. BODY PRESSURE RATING AND CONNECTION TYPE (SCREWED FLANGED OR FLANGED) SHALL CONFORM TO PIPE SCHEDULE ELSEWHERE IN THIS SPECIFICATION.
3. CONTROL CONTRACTOR SHALL PROVIDE ALL WIRING REQUIRED FOR THE CONTROL SYSTEM TO OPERATE. IF THE JOB CONTAINS SMOKE DAMPERS OR CAV/VAV BOXES THEY SHALL ALSO BE WIRED BY T.C.C.
4. MOUNT THERMOSTATS 48" A.F.F. ALIGN WITH LIGHT/SWITCHES, DOOR SWINGS AND OTHER WALL MOUNTED DEVICES. COORDINATE LOCATION WITH ARCHITECT.

15990 - TEST AND BALANCE

A. PROVIDE COMPLETE TEST AND BALANCE OF ALL AIR SYSTEMS IN ACCORDANCE WITH NEBB (NATIONAL ENVIRONMENTAL BALANCING BUREAU) OR AABC (ASSOCIATED AIR BALANCE COUNCIL) STANDARDS.

B. TEST AND BALANCE FIRM TO BE:

1. CERTIFIED TEST & BALANCE - (561) 961-5068, OR (954) 532-4772.
2. DADE TEST AND BALANCE, INC. - (954) 791-3194.
3. TOTAL DYNAMIC BALANCE - (954) 425-0764.
4. EARL HAGOOD, INC. - (305) 266-7070.
5. OR APPROVED EQUAL.

C. CONTRACTOR SHALL:

1. VISIT SITE AT START OF PROJECT AND COORDINATE REQUIRED BALANCING EQUIPMENT AND DAMPERS WITH MECHANICAL CONTRACTOR.
2. AIR SYSTEMS:
  - a. MAKE CHANGES TO BELTS, PULLEYS, DAMPERS, VOLUME BOXES, ETC. TO OBTAIN DESIGN CONDITIONS AS REQUIRED BY TAB PROCEDURES.
  - b. BALANCE SUPPLY, RETURN AND EXHAUST AIR OUTLETS WITHIN 10% OF DESIGN WHILE MAINTAINING REQUIRED PRESSURE RELATIONSHIPS. RECORD DESIGN AND ACTUAL TOTALS.
  - c. MEASURE AND REPORT FAN RPM, FAN SUCTION PRESSURE, FAN DISCHARGE PRESSURE, PRESSURE, FAN TOTAL PRESSURE AND PRESSURE DROP ACROSS COMPONENTS. DESIGN AND ACTUAL SUPPLY, RETURN, OUTSIDE AND EXHAUST AIR.
  - d. ACTUAL AND DESIGN NAMEPLATE AMPERAGE ON FAN MOTORS.
  - e. PRESSURE DIFFERENTIAL ACROSS DUCT SMOKE DETECTORS.
  - f. ADJUST FANS FOR LOWEST STATIC PRESSURE REQUIRED TO DELIVER TO OUTLETS AS NOTED IN NEBB OR AABC PROCEDURES.
  - g. MEASURE SUPPLY AND RETURN ENTERING AND LEAVING TEMPERATURES (DB/WB) ACROSS EACH COIL AND AT EACH SUPPLY DISCHARGE AND RETURN INLET AT UNIT.
3. CONFIRM OPERATION AND PROPER CALIBRATION OF ALL CONTROLS, THERMOMETERS AND SENSING DEVICES.
4. PROVIDE WRITTEN REPORT AT LEAST ONE WEEK BEFORE FINAL INSPECTION AND A TECHNICIAN DURING FINAL INSPECTION OF PROJECT.

PART 2 - PRODUCTS

ROOFTOP EQUIPMENT

A. ACCEPTABLE MANUFACTURERS

1. TRANE
2. CARRIER
3. JOHNSON CONTROL

B. AIR CONDITIONING UNIT

1. SELF-CONTAINED, PACKAGED ROOF MOUNTED, AIR-TO-AIR DX AIR CONDITIONING UNIT HAVING THE CAPABILITY OF COOLING THE REQUIRED CAPACITY OF OUTSIDE AIR FROM 91 DEGREE FDB/78 DEGREE FWB SO AS TO SUPPLY ROOM AIR AT 75 DEGREE FDB/50 PERCENT RH. HEATING IS NOT REQUIRED.
2. UNIT TO BE FACTORY ASSEMBLED PRE-WIRED, DRAW-THRU UNIT WITH A MINIMUM OF 13 SEER SUITABLE FOR LOW PRESSURE OPERATION AND CONSIST OF A CABINET AND FRAME, SUPPLY FAN, CONTROLS, AIR FILTERS, VERTICAL DISCHARGE DUCTING, ROOF CURB, SERVICEABLE ACCESS PANELS WITH SCREWDRIVER OPERATED FLUSH CAM TYPE FASTENERS, REFRIGERANT COOLING COIL AND COMPRESSOR, CONDENSER COIL AND FAN AND COMPRESSOR REHEAT RECOVERY CONTROLLED BY A DUCT MOUNTED HUMIDISTAT.
3. PROVIDE UNIT WITH A MOTORIZED OUTSIDE AIR DAMPER AND A MANUAL VOLUME DAMPER FOR FIXED OUTSIDE AIR MAKEUP QUANTITY.

C. CASING

1. GALVANIZED STEEL BONDERIZED AND COATED WITH BAKED ENAMEL FINISH, ACCESS DOORS OR REMOVABLE ACCESS PANELS WITH QUICK SCREWDRIVER OPERATED FLUSH CAM TYPE FASTENERS. STRUCTURAL MEMBERS TO BE MINIMUM 18 GAUGE. REMOVABLE PANELS TO BE MINIMUM 20 GAUGE. INSULATE UNIT WITH 1/2 INCH THICK, 3 PCF DENSITY, NEOPRENE COATED GLASS FIBER INSULATION, "K" VALUE OF 0.26 AT 75 DEGREE F. INSULATION TO BE ADHERED AND PINNED TO THE CASING.
2. CONSTRUCT DRAIN PAN FROM GALVANIZED STEEL WITH WELDED CORNERS AND A BOTTOM DRAIN. PITCH ENTIRE PAN TO DRAIN CONNECTION.
3. THE MANUFACTURER WILL BE RESPONSIBLE FOR PROVIDING ADDITIONAL RIGID BOARD TYPE INSULATION TO PREVENT THE UNIT FROM SWEATING UNDER THE ENCOUNTERED OPERATING CONDITIONS.

D. SUPPLY FAN

1. FORWARD CURVED, DOUBLE WIDTH, DOUBLE INLET CENTRIFUGAL TYPE FAN RESILIENTLY MOUNTED WITH V-BELT DRIVE AND RUBBER ISOLATED HINGE MOUNTED MOTOR.

E. CONDENSER FAN

1. DIRECT DRIVE, STATICALLY AND DYNAMICALLY BALANCED PROPELLER FAN, PERMANENTLY LUBRICATED AND WEATHERPROOF MOTOR UL LISTED FOR OUTDOOR USE, RESILIENTLY MOUNTED WITH FAN GUARD, MOTOR OVERLOAD PROTECTION, WIRED TO OPERATE WITH COMPRESSOR.

F. MOTORS AND DRIVES

1. MOTORS: MAXIMUM HORSEPOWER AS INDICATED AND SPECIFIED. PROTECT MOTOR AGAINST CONTACT FAILURE, LOSS OF ANY PHASE (SINGLE PHASING), LOW VOLTAGE, HIGH VOLTAGE, VOLTAGE UNBALANCE, PHASE REVERSAL AND WIND FOR SPECIFIED VOLTAGE HAVING A MINIMUM POWER FACTOR OF 85 TO 100 PERCENT AND A MINIMUM EFFICIENCY OF 91.7 PERCENT AT 100 PERCENT LOAD AS PER IEEE TEST PROCEDURE 112, METHOD B. REFER TO SECTION 15052 - VARIABLE FREQUENCY DRIVE OR SECTION 15055 - MOTORS.
2. DESIGN FOR CONTINUOUS OPERATION IN 40 DEGREE C ENVIRONMENT AND FOR TEMPERATURE RISE UNDER PROVISIONS OF ANSI/NEMA MG 1 LIMITS FOR INSULATION CLASS, SERVICE FACTOR AND MOTOR ENCLOSURE.

G. EVAPORATOR COIL

1. EVAPORATOR COIL WITH MINIMUM 3/8 INCH COPPER TUBES MECHANICALLY EXPANDED ONTO ALUMINUM PLATE FINIS.

H. FILTER SECTION

1. PROVIDE FLAT TYPE FILTER SECTION CONSTRUCTED OF GALVANIZED STEEL AND CONTAINING FILTER GUIDES AND HINGED ACCESS DOORS ON BOTH SIDES FOR SIDE LOADING OF FILTERS.
2. PROVIDE 2 INCH DEPTH FILTER SECTION, UL CLASS 2, MEDIUM EFFICIENCY, GLASS FIBER, DISPOSABLE PLEATED TYPE AIR FILTERS WITH AN ATMOSPHERIC DUST SPOT (ADS) EFFICIENCY OF 40-45 PERCENT AND AN AVERAGE ARRESTANCE OF NOT LESS THAN 96 PERCENT.

I. REFRIGERANT CIRCUIT

1. UNIT TO CONTAIN ONE (1) SEALED REFRIGERANT CIRCUIT INCLUDING ONE HERMETIC COMPRESSOR, THERMAL EXPANSION VALVE METERING DEVICE, FINNED TUBE AIR-TO-REFRIGERANT HEAT EXCHANGER, REFRIGERANT EXPANSION VALVE AND SERVICE PORTS.
2. COMPRESSOR TO BE A HIGH EFFICIENCY TYPE DESIGNED FOR COOLING ONLY AND MOUNTED ON VIBRATION ISOLATORS. PROVIDE COMPRESSOR MOTOR WITH INTERNAL OVERLOAD PROTECTION.
3. FINNED TUBE COIL TO BE CONSTRUCTED OF FLANGED ALUMINUM FINIS NOT EXCEEDING ELEVEN PER INCH BONDED TO RIFLED COPPER TUBES IN A STAGGERED PATTERN NOT LESS THAN ROWS DEEP AND HAVE A 450 PSIG WORKING PRESSURE.
4. REFRIGERANT CIRCUIT TO BE EQUIPPED WITH HOT-GAS REHEAT FOR CONTROL OF THE RELATIVE HUMIDITY OF THE SUPPLY AIR.

J. ROOF CURB

1. MINIMUM 18 INCH HIGH GALVANIZED STEEL CHANNEL FRAME WITH GASKETS AND NAILER STRIPS.

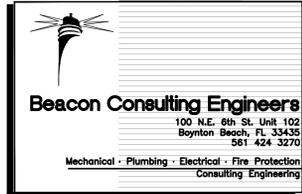
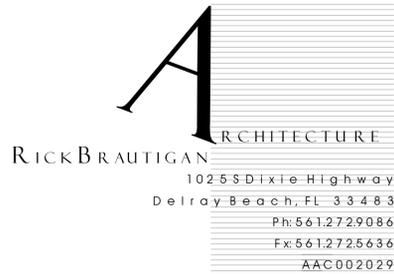
K. PIPING

1. CONDENSER AND CONDENSATE DRAIN CONNECTIONS TO BE CONSTRUCTED OF BRASS FEMALE PIPE THREAD FITTINGS MOUNTED FLUSH TO SIDE OF CABINET EXTERIOR WITH OPTIONAL STAINLESS STEEL, BRAIDED HOSE KIT WITH SWIVEL CONNECTORS. CONDENSATE PIPING TO BE SCHEDULE 40 PVC.

L. ELECTRICAL

1. FACTORY OR FIELD INSTALLED ENERGY MANAGEMENT RELAY TO ALLOW UNIT CONTROL BY AN EXTERNAL SOURCE.
2. PROVIDE A LOCKOUT INDICATING TERMINAL IN THE LOW VOLTAGE CIRCUIT.
3. WHEN THE SAFETY CONTROLS ARE ACTIVATED TO PREVENT COMPRESSOR SHORT CYCLING, THE LOCKOUT CIRCUIT MUST BE RESET AT THE THERMOSTAT OR MAIN CIRCUIT BREAKER.
4. DISCONNECT SWITCH: FACTORY MOUNT DISCONNECT SWITCH.

TO THE BEST OF MY KNOWLEDGE THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH THE 2014 FLORIDA BUILDING CODE, ALL AMENDMENTS AND SECTION 633 OF THE FLORIDA STATUTES.



Level II Alteration  
Green Owl  
Restaurant  
11 SE 4th Ave.  
Delray Beach,  
Florida

R.B.A. P.N. 10116.01

Issued Date:

Richard Tavares P.E.  
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MECHANICAL SPECS

AS NOTED

PROGRESS SET/NFC 03/04/2016

M 3.1

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1. DIMENSIONS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER ALL SCALED DIMENSIONS. 2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ADVISE ARCHITECT OF ANY DISCREPANCIES. CONSTRUCTION SHALL NOT PROCEED UNTIL SAID DISCREPANCIES HAVE BEEN RESOLVED.  
3. NO MATERIALS OR METHODS ARE TO BE FABRICATED UNTIL ALL DIMENSIONS HAVE BEEN VERIFIED BY CONTRACTOR BY SHOP DRAWINGS HAVE BEEN REVIEWED AND ACCEPTED BY THE ARCHITECT.

PLUMBING LEGEND	
C.O.	CLEAN OUT
CW	DOMESTIC COLD WATER
HW	DOMESTIC HOT WATER
VTR	VENT THRU ROOF
DN	DOWN
V.I.F.	VERIFY IN FIELD
WHA	WATER HAMMER ARRESTER- PDI #
SOV	SHUT-OFF VALVE
T.P.	TRAP PRIMER
	GAS COCK
	CHECK VALVE
	BALL VALVE
	BALL VALVE IN VERTICAL
	HOSE BIBB WITH VACUUM BREAKER
	SOLENOID VALVE
	WATER HAMMER ARRESTER- PDI #
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING (110°F)
	DOMESTIC HOT WATER PIPING (120°F)
	PRESSURE & TEMPERATURE RELIEF LINE
	DOMESTIC LP/N.G. GAS PIPING
	CONDENSATE PIPING
	VENT PIPING
	SANITARY SEWER PIPING
	IN-DIRECT WASTE PIPING
	GREASE WASTE PIPING
	PIPE DROP DOWN
	PIPE RISER UP
	CAPPED END OF PIPE
	P-TRAP
	CLEAN OUT
	UNION - SCREWED OR FLANGED
	CONDENSATE PIPE SUPPORT
	FLOOR DRAIN
	FLOOR SINK W/ 1/2 GRATE

GENERAL PLUMBING NOTES	
1.	ALL WORK SHALL COMPLY WITH THE 2014 EDITION OF THE FLORIDA PLUMBING, ENERGY CONSERVATION, ACCESSIBILITY AND FUEL GAS CODES, AND ALL LOCAL CODE AMENDMENTS.
2.	DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL LAYOUT OF PLUMBING SYSTEMS.
3.	CONTRACTOR SHALL VISIT THE EXISTING SITE (IF APPLICABLE) PRIOR TO BIDDING AND SHALL INVESTIGATE ALL CONDITIONS THAT AFFECT HIS WORK; VERIFY LOCATIONS, SIZES, DIMENSIONS, AND INVERT ELEVATIONS OF ALL ON-SITE SANITARY SEWERS, STORM DRAINS, WATER MAINS AND NATURAL GAS MAINS, AND MAKE CERTAIN THAT ALL CONNECTIONS CAN BE MADE. THE CONTRACTOR SHALL MAKE THE ARCHITECT/ENGINEER AWARE OF ANY CONFLICTS.
4.	CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL AND OTHER DRAWINGS PRIOR TO BID AND SHALL COORDINATE ALL TRADES TO PROVIDE A COMPLETE PRODUCT TO AVOID CONFLICTS BETWEEN THE TRADES, AND TO DETERMINE WHICH TRADE IS TO PERFORM THE NECESSARY WORK. CONTRACTOR SHALL RESOLVE ALL QUESTIONS OR CONFLICTS WITH THE ENGINEER BEFORE ANY EQUIPMENT IS ORDERED, MATERIALS FABRICATED OR SYSTEMS INSTALLED. CONSULT THE ARCHITECT'S DRAWINGS FOR ALL GRADE AND FINISH FLOOR ELEVATIONS.
5.	CONTRACTOR SHALL GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
6.	CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTION AND TESTS. CONTRACTOR SHALL OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO COMMENCEMENT OF WORK OR ORDERING EQUIPMENT. PLUMBING CONTRACTOR SHALL BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
7.	CONTRACTOR SHALL PROVIDE RECORD DRAWINGS TO THE BUILDING OWNER AND ARCHITECT. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.
8.	CONTRACTOR SHALL PROVIDE INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
9.	CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL EQUIPMENT AT ONE TIME, BOUND IN THREE-RING BINDERS, INDEXED IN A NEAT AND ORDERLY MANNER. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. PLUMBING CONTRACTOR SHALL NOT ORDER ANY EQUIPMENT WITHOUT APPROVAL FROM PLUMBING ENGINEER, ARCHITECT, OWNER, AND INTERIOR DESIGNER (IF APPLICABLE).
10.	CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES. ACCESS PANELS IN RATED WALLS OR CEILINGS MUST MAINTAIN THE SAME RATING AND MUST MATCH THE FINISH OF THE WALL OR CEILING IN WHICH IS INSTALLED.
11.	TRENCHING, BACKFILL AND CONCRETE WORK ASSOCIATED WITH PLUMBING SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS.
12.	CONTRACTOR SHALL PROVIDE AND INSTALL ALL SLEEVES THROUGH FLOORS AND WALLS. PIPING THROUGH FLOORS SHALL BE SLEEVED, CAULKED AND FLASHED TO PREVENT LEAKAGE. SEAL ALL WALL PENETRATIONS WATER TIGHT WITH SILICONE CAULKING AND BACKER ROD, OR COVERED WITH ESCUTCHEON PLATES. IT SHALL ALSO BE THE RESPONSIBILITY OF THE PLUMBING SUBCONTRACTOR TO PROVIDE ALL LAYOUT, SLEEVING, CONCRETE CUTTING AND PATCHING, AND CONCRETE COREBORING AS REQUIRED TO COMPLETE ALL OF PLUMBING WORK. ALL LAYOUT OF REQUIRED CONCRETE CUTTING MUST BE APPROVED BY THE GENERAL CONTRACTOR PRIOR TO PLUMBING SUBCONTRACTOR'S EXECUTION OF SAME.
13.	PIPE PENETRATIONS THROUGH FIRE RATED WALLS OR FLOORS SHALL HAVE EQUIVALENTLY RATED SLEEVES AND SHALL BE SEALED AND FIRE CAULKED WITH A UL LISTED FIRE STOPPING SYSTEM INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LISTED DETAILS AND SPECS.
14.	LAYOUT PIPES TO FALL (CONCEALED) WITHIN PARTITION WALL OR CHASES. NOTIFY ARCHITECT IF ADDITIONAL WALL SPACE IS REQUIRED. COORDINATE PIPE DROP WITH FOOTINGS, STRUCTURAL STEEL, FIRE RATED WALLS, WHICH MAY FALL BELOW PARTITION WALL OR CHASE. MAKE NECESSARY ADJUSTMENT TO PIPING TO AVOID CONFLICT WITH BUILDING OBSTRUCTIONS. CONSULT WITH ARCHITECT AND CONTRACT DOCUMENTS FOR LOCATION OF ALL RATED WALLS, CEILINGS, FLOORS AND ROOF. FURNISH AND INSTALL APPROPRIATE AND APPROVED FIRE BARRIER AT ALL PENETRATIONS. INSTALLATION SHALL BE PER MANUFACTURER'S SPECIFICATIONS.
15.	NO COMBUSTIBLE MATERIAL TO BE USED IN MECHANICAL ROOM(S) OR IN CEILING SPACE(S) WHERE USED AS RETURN AIR PLenums.
16.	NO WATER, SANITARY OR DRAINAGE PIPING PERMITTED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
17.	CONTRACTOR SHALL PROVIDE PIPE HANGERS FOR ALL PIPING. HANGER RODS AND DEVICES SHALL BE USED FOR SUPPORT OF ALL PIPING. MAKESHIFT DEVICES WILL NOT BE ACCEPTABLE. HANGER DEVICES SHALL BE SIZED TO FIT AROUND INSULATION. PROVIDE GALVANIZED STEEL SADDLES AS REQUIRED. PIPING SUPPORT SPACING SHALL COMPLY WITH THE FLORIDA PLUMBING CODE-2014.
18.	SANITARY, VENT PIPING AND DOMESTIC WATER PIPING SHALL BE TESTED IN ACCORDANCE WITH SECTION 312 OF THE FLORIDA PLUMBING CODE-2014.
19.	DILECTRIC COUPLINGS ARE REQUIRED BETWEEN ALL DISSIMILAR METAL IN PIPING AND EQUIPMENT CONNECTIONS.
20.	IN AREAS OF EXPOSED CMU, ALL PIPING SHALL BE WITHIN CMU WALL. NO EXPOSED PIPING SHALL BE ALLOWED. COORDINATION WITH OTHER TRADES SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
21.	MAINTAIN A MINIMUM SEPARATION OF 5 FEET BETWEEN POTABLE WATER PIPE AND BUILDING SEWER. WHEN THERE IS LESS THAN 5 FEET OF SEPARATION MAINTAIN A MINIMUM OF 12 INCHES BETWEEN INVERT OF POTABLE WATER AND TOP OF SEWER.
22.	MATERIALS AND EQUIPMENT SHALL BE NEW OF AMERICAN MANUFACTURER, FREE OF DEFECTS AND IT SHALL MEET THE REQUIREMENTS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, ASTM & ANSI SPECIFICATIONS WHERE SUCH EXIST, STANDARD AND LOCAL BUILDING CODES, AND SHALL BE SUITABLE FOR THE USE INTENDED.
23.	PLUMBING PIPING SHALL BE LABELED WITH CONTENT DESCRIPTION AND FLOW DIRECTION. REFER TO MARKER PLACEMENT RECOMMENDATION DETAIL FOR FURTHER INFORMATION.

PLUMBING FIXTURE SCHEDULE										
MARK	FIXTURE	PIPE SIZE			QTY	DFU	TOTAL WSFU	TOTAL WFSU	REMARKS	
		C.W.	H.W.	WASTE						
HLAV	LAVATORY (HANDICAPPED)	1/2"	1/2"	2"	1-1/2"	2	1	2.0	4.0	
HWC	WATER CLOSET (HANDICAPPED)	1/2"	-	3"	INT.	2	4	8	5.0	10.0 3x4
E-9	DISHWASHING MACHINE	1/2"	1/2"	I.D.	-	1	0	0	4.5	4.5
E-11	HAND SINK	1/2"	1/2"	2"	1-1/2"	1	2	1.4	1.4	
E-10	THREE-COMPARTMENT SINK	1/2"	1/2"	I.D.	-	1	0	0	4.0	4.0
MS	MOP SINK	1/2"	1/2"	3"	3"	1	2	3	3.0	
FD	FLOOR DRAIN			3"	3"	1	0	0	0.0	1/2" T.P.
FS	FLOOR SINK			3"	3"	1	5	0	0.0	
<b>TOTAL</b>						<b>19</b>			<b>26.9 WSFU</b>	<b>22.2 GPM</b>

NOTES:  
1. ALL FIXTURES SHALL COMPLY WITH TABLE 604.4 (MAX. FLOW RATES), TABLE 604.5 (MIN. SIZES OF WATER SUPPLY), & TABLE 709.1 (MIN. SIZE OF TRAP) OF F.B.C.-PLUMBING  
2. PROVIDE A 1" WATER SERVICE LINE AS PER FBC-PLUMBING APPENDIX E TABLE E103.3(3) (ESTIMATING DEMAND) AND FIGURE E103.3(2) GPM Vs. PRESSURE DROP (MAX. VELOCITIES 6 FT/SEC HOT WATER AND 8 FT/SEC COLD WATER).

WATER PIPING SYSTEM NOTES			
1.	WATER PIPING SHALL BE: COPPER PIPING (ABOVE GRADE): ASTM B88, TYPE L, HARD DRAWN. FITTINGS: (a) SOLDERED: ANSI/ASME B16.23, CAST BRASS OR ANSI/ASME B16.29, WROUGHT COPPER. (b) PRESSED: ASME B16.18 OR ASME B16.22, COPPER PRESS FITTING WITH EPDM O-RING AND SMART CONNECT (SC FEATURE). JOINTS: (a) SOLDERED: ANSI/ASTM B32, LEAD-FREE SOLDER, GRADE 95TA. (b) PRESSED: ASME B16.18 OR ASME B16.22, COPPER PRESS FITTING WITH EPDM O-RING AND SMART CONNECT (SC FEATURE).		
	COPPER PIPING (UNDERGROUND BUILDING EXTERIOR): ASTM B88, TYPE K, HARD DRAWN. FITTINGS: (a) SOLDERED: ANSI/ASME B16.29, WROUGHT COPPER. (b) PRESSED: ASME B16.18 OR ASME B16.22, COPPER PRESS FITTING WITH EPDM O-RING AND SMART CONNECT (SC FEATURE). JOINTS: (a) SOLDERED: ANSI/ASTM B32, LEAD-FREE SOLDER, GRADE 95TA. (b) PRESSED: ASME B16.18 OR ASME B16.22, COPPER PRESS FITTING WITH EPDM O-RING AND SMART CONNECT (SC FEATURE).		
	COPPER PIPING (UNDERGROUND UNDER BUILDING SLAB): ASTM B878, TYPE K, SOFT DRAWN. FITTINGS: (a) SOLDERED: ANSI/ASME B16.29, WROUGHT COPPER. (b) PRESSED: ASME B16.18 OR ASME B16.22, COPPER PRESS FITTING WITH EPDM O-RING AND SMART CONNECT (SC FEATURE). JOINTS: (a) SOLDERED: ANSI/ASTM B32, LEAD-FREE SOLDER, GRADE 95TA. (b) PRESSED: ASME B16.18 OR ASME B16.22, COPPER PRESS FITTING WITH EPDM O-RING AND SMART CONNECT (SC FEATURE).		
	FITTINGS AND JOINTS SHALL COMPLY WITH SECTIONS 605.14.1 THROUGH 605.14.5 OF FBC-PLUMBING. WATER VALVES 2" AND SMALLER SHALL BE A BRONZE BALL VALVE, TWO-PIECE BODY, 600 PSI WORKING PRESSURE, NIBCO MODEL S-585-80-LF (NSF-61 LEAD FREE) OR APPROVED EQUAL. THE USE OF GATE VALVES SHALL BE PROHIBITED.		
2.	DOMESTIC AND SERVICE HOT WATER PIPING SHALL BE INSULATED AS PER: 2014 FLORIDA BUILDING CODE-PLUMBING, SECTION 607.5 WITH 1" INSULATION FOR AUTOMATIC MAINTENANCE SYSTEMS AND 1/2" INSULATION THE FIRST 8 FEET OF HOT WATER PIPING FROM A HOT WATER SOURCE THAT DOES NOT HAVE HEAT TRAPS. INSULATION MATERIAL SHALL HAVE A CONDUCTIVITY NOT EXCEEDING 0.27 BTU PER INCH/HRS.F.T. INSULATION MATERIAL SHALL BE FIBERGLASS (JOHN MANVILLE MICRO-LOK), ARMACELL ELASTOMER (AP ARMAFLEX) OR APPROVED EQUAL. COVER VALVES, FITTINGS AND FLANGES WITH INSULATION SIMILAR TO ADJACENT PIPE. COVERING EXTERIOR ABOVE GRADE WATER PIPING SHALL BE FINISHED WITH AN ALUMINUM JACKET SECURED WITH 1/2" ALUMINUM BANDS AND SEALS, ALUMINUM SCREWS, OR POP RIVETS ON "9" PLACE LAPs TO SHED WATER, AND CAULK WHERE NECESSARY TO PREVENT WATER INTRUSION. INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS.		
3.	NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE PURGED OF DELETERIOUS MATTER AND WHERE REQUIRED BY THE ADMINISTRATIVE AUTHORITY, DISINFECTED PRIOR TO UTILIZATION. THE METHOD TO BE FOLLOWED SHALL BE AS PER SECTION 610 OF FPC-2014.		
4.	ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS. COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.		
5.	PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.		
6.	PROVIDE A WATER HAMMER ARRESTOR ON ALL WATER SUPPLY LINES SERVING FLUSH VALVE PLUMBING FIXTURES, SOLENOID VALVES, ETC. INCLUDING OTHER FIXTURES OR EQUIPMENT WITH QUICK CLOSING VALVES (ICE MAKERS, & DISHWASHERS). USE SIOUX CHIEF SHOCK ARRESTORS, P.D.I.#A 1/2"CONN., P.D.I.#B : 3/4"CONN. P.D.I.#C : 1"CONN. APPROVED FOR INSTALLATION WITH NO ACCESS PANEL REQUIRED. CONFORMS WITH ANSI/ASSE 1010 STANDARDS.		
7.	PROVIDE AUTOMATIC TRAP PRIMER ON COLD WATER CONNECTION TO LAVATORY FIXTURE WITH COLD WATER TUBE TO FLOOR DRAIN AUXILIARY INLET FITTING. FLOOR DRAINS IN AREAS WHERE A LAVATORY (TRAP PRIMER) CONNECTION IS NOT AVAILABLE, PROVIDE A TRAP PRIMER DISTRIBUTION UNIT PRECISION PLUMBING PRODUCTS, MODEL PR-500 (OR APPROVED EQUAL) AND A SHUT-OFF VALVE IN ACCESSIBLE AREA.		
10.	DO NOT PENETRATE DOMESTIC WATER PIPING USED FOR ELECTRICAL GROUNDING THROUGH AND WHERE REQUIRED BY THE ADMINISTRATIVE AUTHORITY, TERMINATE THE PIPE OUTSIDE OF THE ELECTRICAL ROOM AND PROVIDE GROUND STRAPS.		
11.	ESCUTCHEONS SHALL BE CHROME PLATED BRASS WITH LOCKING SCREWS WHERE PIPES PASS THROUGH FINISHED WALLS.		
12.	INSTALL VACUUM BREAKERS ON ALL HOSE BIBBS AND HYDRANTS.		

PLUMBING FIXTURE LIST			
TAG	MFG.	MODEL	REMARKS
LAV-1	AMERICAN STANDARD	0476.028 7385V05 .003.002	AQUALYN COUNTER TOP LAVATORY. FAUCET, 0.5 GPM, GRID DRAIN, LESS POP-UP HOLE VANDAL RESISTANT, INDEXED METAL LEVER HANDLE.
LAV-2	AMERICAN STANDARD	0497.221 7385V05 .003.002	OVALYN UNDER COUNTER TOP LAVATORY. FAUCET, 0.5 GPM, GRID DRAIN, LESS POP-UP HOLE VANDAL RESISTANT, INDEXED METAL LEVER HANDLE.
LAV-3	AMERICAN STANDARD	0355.012 7385V05 .003.002	LUCERNE WALL HUNG LAVATORY, WITH CARRIER FAUCET, 0.5 GPM, GRID DRAIN, LESS POP-UP HOLE VANDAL RESISTANT, INDEXED METAL LEVER HANDLE.
HLAV	AMERICAN STANDARD	0355.012 7385V05 .003.002	WALL HUNG HANDICAPPED LAVATORY, WITH CARRIER ZURN Z1231 CONCEALED ARM SYSTEM. PROVIDE OPTION -SL WHEN BACK WALL IS 4" OR LARGER. FAUCET, 0.5 GPM, GRID DRAIN, LESS POP-UP HOLE, VANDAL RESISTANT, INDEXED METAL LEVER HANDLE, PROVIDE TRUEBRO DRAIN/PIPE INSULATION.
WC	AMERICAN STANDARD	2386.010	TANK TYPE WATER CLOSET MADERA(1.6 GPF) CADET ELONGATED, AND OLSONITE #95 SEAT.
HWC	AMERICAN STANDARD	2386.012 4142.801	HANDICAPPED TANK TYPE WATER CLOSET (1.6 GPF) CADET ADA ELONGATED, 16-1/2"H PROVIDE ALTERNATE TANK CONFIGURATION WITH TRIP LEVER ON RIGHT SIDE WHERE REQUIRED.
FD	ZURN	Z415BZ -NH3-P	FLOOR DRAIN, DURA COATED CAST IRON BODY WITH BOTTOM OUTLET, POLISHED BRONZE ROUND LEVELING STRAINER TOP, NO HUB, 3"Ø SIZE, 1/2" TRAP PRIMER CONNECTION.
TP	ZURN	Z1022	SANI-GUARD AUTOMATIC TRAP PRIMER, ALL BRONZE BODY WITH INTEGRAL VACUUM BREAKER. 1/2" PIPE SIZE.
FS	ZURN	FD237H -NH3-H	NO HUB FLOOR SINK, 12" X 12". 1/2 GRATE, CAST IRON BODY WITH A WHITE ACID-RESISTANT PORCELAIN ENAMEL INTERIOR COATING, AND AN ABS ANTI-SPLASH DOME STRAINER.
MS	FIAT	MSB-2424	MOLDED STONE MOP BASIN, 830-AA FAUCET, 899-CC MOP HANGER,832-AA HOSE AND HANGER, MSG 2424 S.S. WALL GUARD
HB	ZURN	Z1341-P34	HOSE BIBB W/ VACUUM BREAKER. ROUGH BRONZE.
WHA	SIOUX CHIEF OR WILKINS	HYDRA RESTER 1250	WATER HAMMER ARRESTOR, CONFORM TO PDI #WH-201, ANSI A112.26.16, ASSE 1010, SEE ISOMETRIC DIAGRAM FOR SIZES AND LOCATION.
INLINE BACKFLOW OR PREVENTOR	WILKINS OR WATTS	740 SD3-MF	INLINE BACKFLOW PREVENTOR, ASSE 1022 APPROVED, 3/8"CONNECTION. SEE ISOMETRIC DIAGRAM FOR LOCATION. PROVIDE AN INDIRECT WASTE CONNECTION TO FLOOR SINK. INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS.

FUEL GAS SYSTEM NOTES	
1.	ABOVE GRADE GAS PIPING INSTALLED IN THE INTERIOR OF THE BUILDING SHALL BE SCHEDULE 40 GALVANIZED STEEL WITH MALLEABLE THREADED FITTINGS UP TO 4"Ø OR WELDED FITTINGS FOR PIPING LARGER THAN 4"Ø. PIPING SHALL COMPLY WITH EITHER ASME B 36.10, 10M OR ASTM A 53, OR ASTM A 106 STANDARD. INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS. EXCEPTIONS: A. TUBING JOINED BY BRAZING. B. FITTINGS LISTED FOR USE IN CONCEALED LOCATIONS AS DEFINED IN NFPA 54 NATIONAL FUEL GAS CODE SECTION 7.3, THE UNIFORM PLUMBING CODE, AND THE INTERNATIONAL FUEL GAS CODE.
2.	GAS PIPING INSTALLED IN CONCEALED LOCATIONS AS PER FBC-FUEL GAS SECTION 404.3 SHALL NOT HAVE UNIONS, TUBING FITTINGS, RIGHT AND LEFT COUPLINGS, BUSHINGS, COMPRESSION COUPLINGS AND SWING JOINTS MADE BY COMBINATIONS OF FITTINGS. EXCEPTIONS: A. TUBING JOINED BY BRAZING. B. FITTINGS LISTED FOR USE IN CONCEALED LOCATIONS AS DEFINED IN NFPA 54 NATIONAL FUEL GAS CODE SECTION 7.3, THE UNIFORM PLUMBING CODE, AND THE INTERNATIONAL FUEL GAS CODE.
3.	GAS PIPING INSTALLED ON THE EXTERIOR OF THE BUILDING AND ABOVE GRADE SHALL BE SCHEDULE 40 GALVANIZED STEEL WITH MALLEABLE THREADED FITTINGS AND SHALL COMPLY WITH EITHER ASME B 36.10, 10M OR ASTM A53, OR ASTM A106 STANDARD. PIPE SHALL BE COVERED WITH 2 COATS OF A WATERPROOF ASPHALTIC COATING (OR EQUAL) TO PREVENT CORROSION OF THE PIPE.
4.	AN INSULATED COPPER TRACER WIRE OR OTHER APPROVED CONDUCTOR SHALL BE INSTALLED ADJACENT TO UNDERGROUND NONMETALLIC (PLASTIC) PIPING. ACCESS SHALL BE PROVIDED TO THE TRACER WIRE OR THE TRACER WIRE SHALL TERMINATE ABOVE GROUND AT EACH END OF THE NONMETALLIC GAS PIPING. THE TRACER WIRE SHALL NOT BE LESS THAN 18 AWG AND THE INSULATION TYPE SHALL BE SUITABLE FOR BURIAL.
5.	UNDERGROUND PIPING SHALL BE INSTALLED TO ALLOW PROPER MAINTENANCE AND TO PROTECT AGAINST CONTACT OR DAMAGE RESULTING FROM PROXIMITY TO OTHER STRUCTURES. UNDERGROUND PLASTIC PIPING SHALL BE INSTALLED WITH SUFFICIENT CLEARANCE FROM ANY HEAT SOURCE.
6.	PIPING INSTALLED UNDERGROUND BENEATH BUILDINGS IS PROHIBITED EXCEPT WHERE THE PIPING IS ENCASED IN A CONDUIT OF WROUGHT IRON, PLASTIC PIPE OR STEEL PIPE DESIGNED TO WITHSTAND THE SUPERIMPOSED LOADS. SUCH CONDUIT SHALL EXTEND INTO AN OCCUPIABLE PORTION OF THE BUILDING AND, AT THE POINT WHERE THE CONDUIT TERMINATES IN THE BUILDING, THE SPACE BETWEEN THE CONDUIT AND THE GAS PIPING SHALL BE SEALED TO PREVENT THE POSSIBLE ENTRANCE OF ANY GAS LEAKAGE.
7.	GAS PIPING SHALL NOT PENETRATE BUILDING FOUNDATION WALLS AT ANY POINT BELOW GRADE. GAS PIPING SHALL ENTER AND EXIT A BUILDING AT A POINT ABOVE GRADE AND THE ANNULAR SPACE BETWEEN THE PIPE AND THE WALL SHALL BE SEALED.
8.	CONNECTIONS MADE OUTSIDE AND UNDERGROUND BETWEEN METALLIC AND PLASTIC PIPING SHALL BE MADE ONLY WITH TRANSITION FITTINGS CATEGORIZED AS CATEGORY I IN ACCORDANCE WITH ASTM D 2513.
9.	PIPING SHALL NOT BE INSTALLED IN OR THROUGH A CIRCULATING AIR DUCT, CLOTHES CHUTE, CHIMNEY OR GAS VENT, VENTILATING DUCT, DUMBWATER OR ELEVATOR SHAFT.
10.	CONTRACTOR SHALL PAY ALL FEES AND OBTAIN ALL PERMITS REQUIRED FOR THE INSTALLATION OF GAS SERVICE TO BUILDING, SEPARATE GAS PERMIT WILL BE REQUIRED.
11.	ALL GAS LINES SHALL BE BLOWN CLEAN OF DEBRIS AND FOREIGN MATTER WITH COMPRESSED AIR PRIOR TO FINAL CONNECTION TO EQUIPMENT.
12.	BEFORE ANY SYSTEM OF PIPING IS PUT IN SERVICE OR CONCEALED, IT SHALL BE TESTED TO ENSURE THAT IT IS GAS TIGHT. TESTING, INSPECTION AND PURGING OF PIPING SYSTEMS SHALL COMPLY WITH FBC-FUEL GAS, SECTION 406.
13.	ALL PENETRATIONS OF GAS PIPING THROUGH SLABS AND FOUNDATION WALLS SHALL BE SLEEVED WITH A PIPE SLEEVE.
14.	FROM GAS HEADER INSTALL PIPE DROP WITH A 6" LONG SEDIMENT TRAP. PROVIDE GAS SHUT OFF VALVE ACCESSIBLE FOR MANUAL SHUT-OFF OF GAS TO EQUIPMENT.
15.	PRESSURE REGULATORS THAT REQUIRE A VENT SHALL HAVE AN INDEPENDENT VENT TO THE OUTSIDE OF THE BUILDING. THE VENT SHALL BE DESIGNED TO PREVENT THE ENTRY OF WATER OR FOREIGN OBJECTS. EXCEPTION: A VENT TO THE OUTSIDE OF THE BUILDING IS NOT REQUIRED FOR REGULATORS EQUIPPED WITH AND LABELED FOR UTILIZATION WITH APPROVED VENT-LIMITING DEVICES INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
16.	FROM GAS VALVE INSTALL APPROVED FLEXIBLE HOSE AND QUICK DISCONNECT WITH RESTRAINING DEVICE AND MAKE FINAL CONNECTION TO MOVEABLE EQUIPMENT(IF APPLICABLE).
17.	CONTRACTOR SHALL PROVIDE NECESSARY REGULATORS FOR EACH APPLIANCE TO DROP GAS LINE PRESSURE TO APPLIANCE'S REQUIREMENTS.
18.	CONTINUE GAS SERVICE AND PROVIDE CONNECTION TO MAIN GAS SERVICE LINE.
19.	LOCATION OF CONNECTION, INCLUDING GAS METER, MAIN SHUT-OFF VALVE, ETC., SHALL BE COORDINATED WITH CIVIL DOCUMENTS AND/OR LOCAL GAS COMPANY.
20.	AS PER FBC- FUEL GAS, SECTION 401.5, FOR OTHER THAN STEEL PIPE, EXPOSED GAS PIPING SHALL BE IDENTIFIED BY A YELLOW LABEL MARKED "GAS" IN BLACK LETTERS. THE MARKING SHALL BE SPACED AT INTERVALS NOT EXCEEDING 5 FEET. THE MARKING SHALL NOT BE REQUIRED ON PIPE LOCATED IN THE SAME ROOM AS THE EQUIPMENT SERVED.
21.	COORDINATE WITH KITCHEN HOOD FIRE SUPPRESSION SYSTEM CONTRACTOR FOR LOCATION OF INTERLOCK CONTROL WIRING FOR AUTOMATIC SHUT OFF OF GAS VALVE.
22.	REFER TO FOOD SERVICE DRAWINGS AND EQUIPMENT MANUFACTURER'S DATA SHEETS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

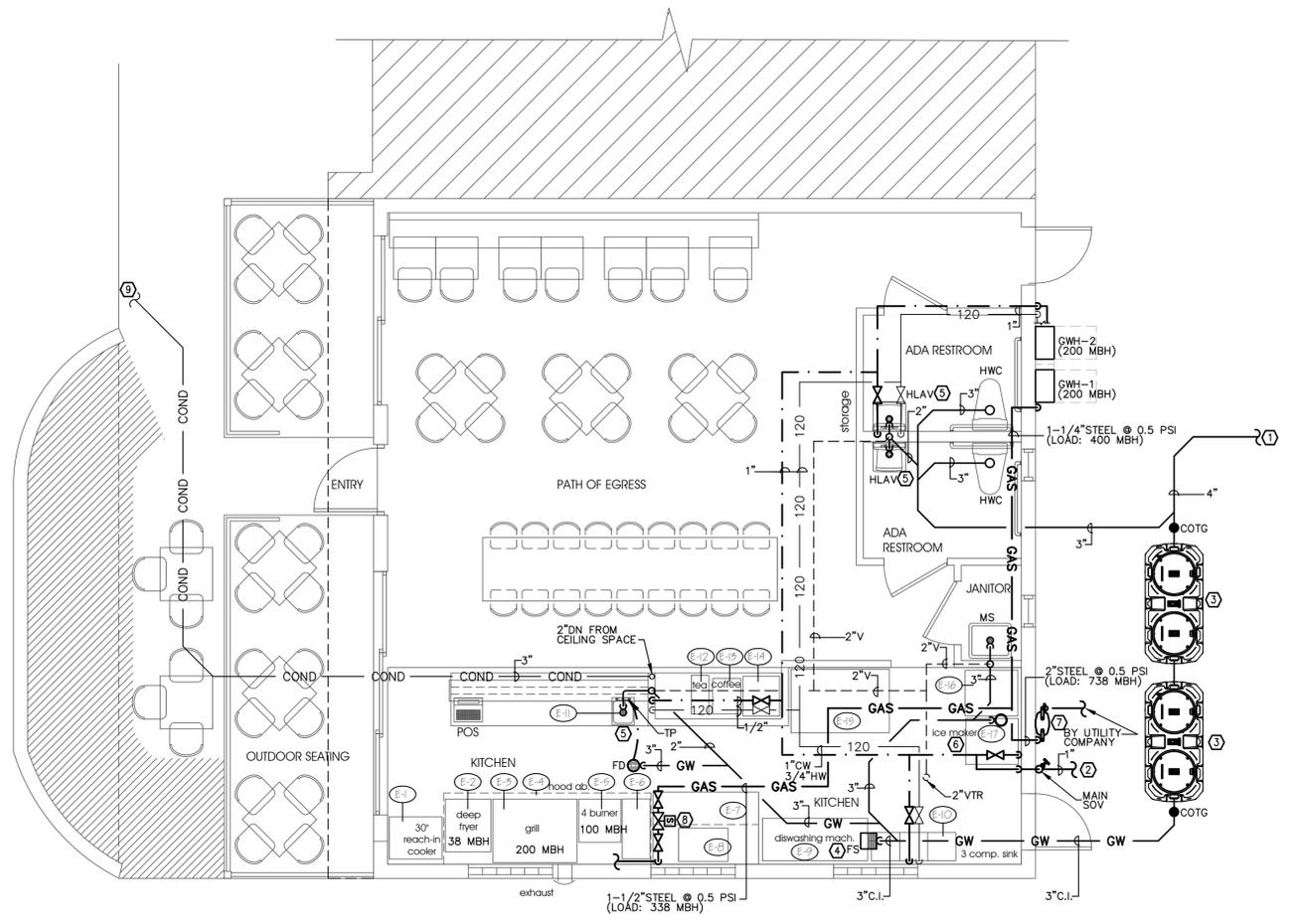
PLUMBING SHEET INDEX	
P0.1	PLUMBING LEGEND, NOTES & INDEX
P1.1	PLUMBING FLOOR & ROOF PLAN
P2.1	PLUMBING ISOMETRIC DIAGRAMS
P3.1	PLUMBING DETAILS

WATER HEATER SCHEDULE - NAT. GAS					
DESIGNATION	MFG.	MODEL No.	BTU/HR	CAPACITY	SET POINT (°F)
GWH-1	RINNAI	C199nN	199,999	TANKLESS	120
GWH-2	RINNAI	C199nN	199,999	TANKLESS	120

NOTE:  
1. CONTRACTOR TO CONSULT MANUFACTURER FOR SPECIFIC INSTALLATION REQUIREMENTS.  
2. INSTALL TEMPERATURE CONTROLLER INDOORS.  
3. ELECTRONICALLY LINK BOTH UNITS WITH REU-EZ0-1US CONNECT CABLE. COORDINATE ELECTRICAL CONTRACTOR.

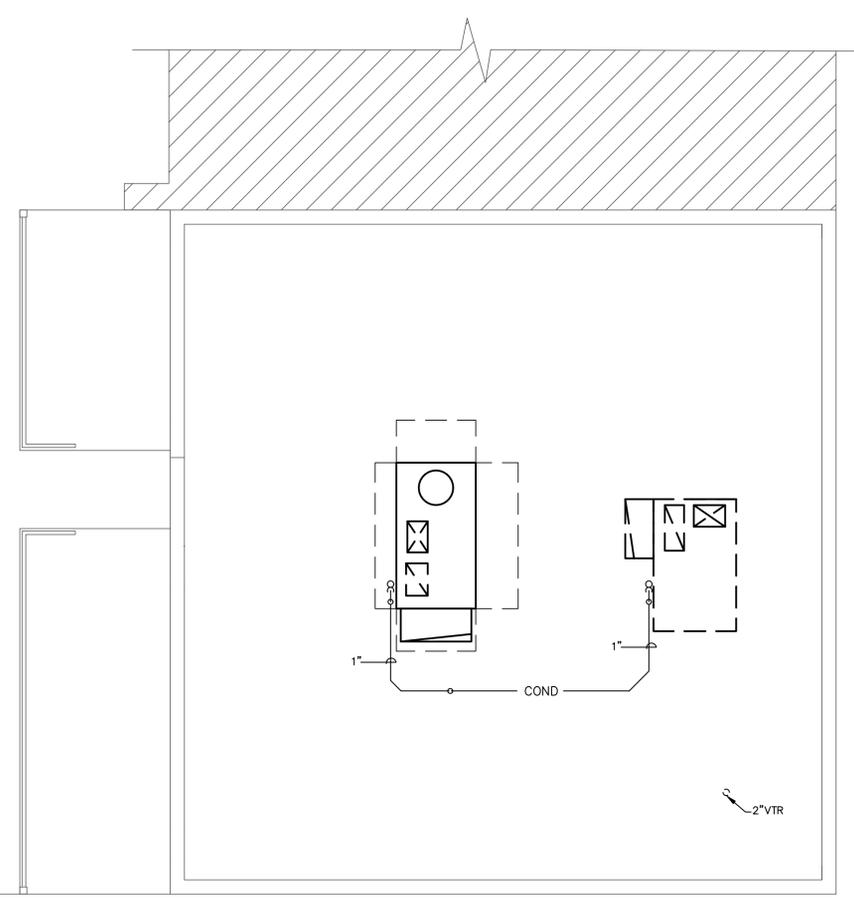
CONNECTION TO EXISTING PLUMBING SYSTEM NOTES	
1.	INSTALLATION OF WORK AND NEW CONNECTION TO EXISTING PLUMBING LINES SHALL BE MADE AT TIME WHICH WILL NOT INTERFERE OR INTERRUPT THE NORMAL BUILDING OPERATION.
2.	EXACT LOCATIONS, SIZE, AND ELEVATION OF EXISTING PIPING SHALL BE FIELD VERIFIED BEFORE START OF ANY WORK. ACTUAL FIELD CONDITIONS MAY REQUIRE ADJUSTMENT OR MODIFICATION TO PROPOSED ROUGHING, LAYOUT, AND ROUTING OF PIPING, INCLUDING POINT OF CONNECTION TO EXISTING WORK OF ADEQUATE SIZE TO ACCOMMODATE NEW WORK.
3.	PROVIDE NECESSARY ADJUSTMENT OF NEW INSTALLATION DUE TO INTERFERENCE WITH BUILDING CONDITIONS, INCLUDING WORK OF OTHER TRADES.
4.	PIPING MATERIAL, VALVES, PIPE SUPPORTS, PIPE COVERING, ETC. USED IN THE INSTALLATION OF WORK OF THIS CONTRACT SHALL BE NEW AND SHALL MATCH EXISTING, PROVIDING SAME MEETS ALL APPLICABLE BUILDING AND PLUMBING CODES.
5.	PROVIDE NEW PLUMBING ROUGHING WITH CONNECTIONS NECESSARY OR REQUIRED FOR PROPER FUNCTION OF PLUMBING EQUIPMENT.
6.	EXISTING PIPING SHALL BE MODIFIED AND/OR REMOVED TO POINT THAT WOULD ACCOMMODATE CONNECTION OF NEW (WATER AND WASTE) PLUMBING ROUGHING.
7.	ROUTING OF NEW PIPING AND POINT OF CONNECTION TO EXISTING PIPING IS BASED ON ASSUMPTION THAT PIPING IS AT LOCATION SHOWN ON PLAN.
8.	PROVIDE NECESSARY TEST TO DETERMINE TIGHTNESS OF EXISTING AND NEW PLUMBING PIPING SYSTEMS. ALL LEAKS AND OPEN OUTLETS FOUND DURING TEST SHALL BE REPAIR BY CAPING OR PLUGGED. PERFORM ADDITIONAL TEST UNTIL IT IS DETERMINED THAT THE PLUMBING PIPING SYSTEMS IS WATER TIGHT.
9.	CAP AND PLUG OF INACTIVE SANITARY PIPING SHALL BE TO POINT OF CONNECTIONS TO ACTIVE LINES. NO DEAD END SHALL BE PROVIDED.
10.	ALL OPENINGS, HOLES, ETC; MADE FOR THE REMOVAL OF PLUMBING PIPING, FIXTURES, ETC; SHALL BE PATCHED WITH MATERIAL TO MATCH EXISTING.
11.	IF FIELD CONDITION FINDS THAT EXISTING SANITARY, VENT, AND DOMESTIC WATER LINES CAN BE UTILIZED, CONNECT NEW SANITARY, VENT, AND DOMESTIC WATER LINES TO EXISTING. MAKE NECESSARY ADJUSTMENTS TO ACCOMMODATE NEW SANITARY, VENT AND DOMESTIC WATER LINES.

SANITARY, VENT, & CONDENSATE DRAIN SYSTEMS	
1.	SANITARY WASTE AND VENT DRAIN PIPING ABOVE GROUND SHALL BE ANY OF THE FOLLOWING: A. HUBLESS CAST-IRON SOIL PIPE AND FITTINGS COMPLIANT WITH ASTM A 74, ASTM A 888, AND CISPI 301. PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL INSTITUTE AND LISTED BY INTERNATIONAL COUPLINGS SHALL BE STANDARD SHIELDED, & STAINLESS-STEEL COMPLIANT WITH CISPI 310, WITH S.S. CORRUGATED SHIELD, S.S. BANDS AND TIGHTENING DEVICES, AND ASTM C 564, RUBBER SLEEVE. B. COPPER DWV TUBE: ASTM B 306, DRAINAGE TUBE, DRAWN TEMPER. COPPER DRAINAGE FITTINGS: ASME B16.23, CAST COPPER OR ASME B16.29, WROUGHT COPPER, SOLDER-JOINT FITTINGS. C. SCHEDULE 40 PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT CEMENTED JOINTS COMPLIANT WITH ASTM D 2665. SANITARY WASTE PIPING BELOW GROUND SHALL BE SOLID WALL SCHEDULE 40 PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED JOINTS COMPLIANT WITH ASTM D 2665
	GREASE WASTE PIPING UNDERGROUND AND ABOVEGROUND SHALL BE HUBLESS CAST-IRON PIPE AND FITTINGS COMPLIANT WITH ASTM A 74, ASTM A 888, CISPI 301. COUPLINGS SHALL BE STANDARD(ABOVEGROUND) & HEAVY-DUTY(BELOWGROUND), SHIELDED, & STAINLESS-STEEL COMPLIANT WITH CISPI 310, WITH S.S. CORRUGATED SHIELD, S.S. BANDS AND TIGHTENING DEVICES, AND ASTM C 564, RUBBER SLEEVE. UNDERGROUND PIPING SHALL BE COATED WITH ONE LAYER OF LATEX PAINT ON EXTERIOR OF PIPE PRIOR TO INSTALLATION. SOLID WALL SCHEDULE 40 PVC PIPE MAY BE USED IF PIPE MANUFACTURER APPROVES THE USE OF SUCH FOR GREASE WASTE LINES. ALL FLOOR SINKS RECEIVING HOT WATER ABOVE 140°F (STEAMERS, HOT RINSE DISHWASHERS, KETTLES) SHALL HAVE THE P-TRAP AND A MINIMUM OF 10 FEET OF THE DRAIN LINE BE CAST-IRON.
2.	CONDENSATE DRAIN PIPING SHALL BE SOLID WALL SCHEDULE 40 PVC COMPLIANT WITH ASTM D 2665. PROVIDE 3/4" THICK AP/ARMAFLEX SS (SELF-SEAL) INSULATION FOR ALL HORIZONTAL ABOVE-GRADE CONDENSATE PIPING. INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS.
3.	CONDENSATE DRAIN PIPING SHALL BE SOLID WALL SCHEDULE 40 PVC COMPLIANT WITH ASTM D 2665 BELOW GRADE AND HUBLESS CAST IRON OR TYPE "DMV" COPPER ABOVE SLAB. PROVIDE 3/4" THICK AP/ARMAFLEX SS (SELF-SEAL) INSULATION FOR ALL HORIZONTAL ABOVE-GRADE PIPING. SCHEDULE 40 PVC MAY BE USED IF NOT IN A RETURN AIR PLenum RATED SPACE. ALL CONDENSATE PIPING ABOVE ROOF DECK SHALL BE SCHEDULE 40 PVC WITH NO INSULATION. PVC PIPING EXPOSED TO SUNLIGHT SHALL BE COATED WITH AN ULTRA VIOLET INHIBITING MATERIAL. INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS.
4.	PROVIDE CHROME PLATED COMBINATION COVER PLATE AND CLEANOUT PLUG OR ACCESS PANEL FOR ALL WALL CLEANOUTS.
5.	MAINTAIN A MINIMUM SLOPE OF 1/4" PER FOOT FOR DRAIN PIPING 2-1/2" OR LESS, AND 1/8" PER FOOT FOR PIPES 3" AND LARGER.
6.	ALL DRAINAGE P-TRAPS FOR SINKS, LAVATORIES, AND WATER COOLERS SHALL BE OF A SLIP-JOINT TYPE.
7.	ALL VENT AND BRANCH VENT PIPES SHALL BE SO GRADED AND CONNECTED AS TO D



**PLUMBING FLOOR PLAN**

SCALE: 1/4" = 1'-0"



**PLUMBING ROOF PLAN**

SCALE: 1/4" = 1'-0"

PLAN KEY NOTES	
①	ROUTE AND CONNECT TO EXISTING SANITARY SERVICE LINE.
②	ROUTE AND CONNECT TO EXISTING WATER SERVICE LINE AND METER/BACKFLOW PREVENTER.
③	UNDERGROUND GREASE INTERCEPTOR, SCHIER MODEL GB-250.
④	ROUTE INDIRECT WASTE LINE(S) TO FLOOR SINK, TERMINATE WITH AIR GAP. FIELD COORDINATE EXACT ROUTING METHOD PRIOR TO INSTALLATION.
⑤	PROVIDE A THERMOSTATIC MIXING VALVE FOR HAND SINK. USE WATTS MODEL # MMV-M1. SET TEMPERATURE TO 105° F. SEE DETAIL ON SHEET P-3.02.
⑥	TERMINATE ICE MAKER DRAIN LINE ABOVE HUB DRAIN.
⑦	NATURAL GAS METER AND 0.5 PSI REGULATOR BY UTILITY COMPANY. LOAD: 738 MBH.
⑧	EMERGENCY MECHANICAL SHUT-OFF VALVE INTERLOCKED W/ HOOD FIRE SUPPRESSION SYSTEM.
⑨	ROUTE AND CONNECT NEW CONDENSATE LINE TO EXISTING CATCH BASIN. FIELD VERIFY EXACT LOCATION PRIOR TO START OF WORK.

GENERAL NOTES	
A.	CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL REQUIRED ACCESS PANELS FOR SHUT OFF VALVES WHETHER OR NOT THEY ARE SHOWN ON THE DRAWINGS.
B.	CONTRACTOR SHALL COORDINATE ALL FINAL PLUMBING CONNECTIONS TO KITCHEN AND BAR EQUIPMENT WITH KITCHEN/BAR EQUIPMENT SUPPLIER/MANUFACTURER. CONFIRM WITH ARCHITECT & OWNER FOR FURTHER DETAILS.
C.	PROVIDE A SHUT-OFF VALVE FOR EACH GAS EQUIPMENT IN AN ACCESSIBLE SPACE. COORDINATE EXACT LOCATION AND PIPING ARRANGEMENTS OF GAS LINE WITH EQUIPMENT MANUFACTURER. INSTALLATION OF GAS LINE TO EQUIPMENT SHALL BE AS PER MANUFACTURER'S INSTALLATION MANUAL.
D.	GAS LOADS SHOWN ON PLANS ARE ESTIMATES. CONTRACTOR SHALL VERIFY ACTUAL LOAD AND NOTIFY ARCHITECT AND ENGINEER IF ACTUAL LOAD IS HIGHER THAN ESTIMATED LOAD.
E.	CONTRACTOR SHALL FIELD COORDINATE WITH UTILITY COMPANY EXACT LOCATION OF NATURAL GAS METER AND PRESSURE REGULATOR PRIOR TO INSTALLATION.
F.	ALL (VTR'S) VENT THRU ROOF PENETRATIONS INDICATED ON PLANS ARE PRELIMINARY. FINAL LOCATIONS SHALL BE COORDINATED WITH ALL TRADES. ALL VTR'S SHALL BE A MINIMUM OF 10'-0" FORM OUTDOOR AIR INTAKE OPENINGS.
G.	MAKE ALL NECESSARY ADJUSTMENTS TO SUIT FIELD CONDITIONS AND ACCOMMODATE NEW PLUMBING LINE(S).

KITCHEN/ BAR EQUIPMENT SCHEDULE:		
Item#	Qty.	Description
E-1	1	30" Reach-in cooler
E-2	1	Deep Fryer
E-3	1	Grill
E-4	1	Vent Hood
E-5	1	4 Burner
E-6	1	Toaster
E-7	1	Sandwich Prep Unit
E-8	1	Microwave
E-9	1	Dishwashing Machine
E-10	1	3-Compartment Sink
E-11	1	Hand Sink
E-12	1	Tea Machine
E-13	1	Coffee Machine
E-14	1	Soda Fountain Machine
E-15	1	56" Reach-in cooler
E-16	1	Convection Oven
E-17	1	Ice Maker
E-18	1	

TO THE BEST OF MY KNOWLEDGE THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH THE 2014 FLORIDA BUILDING CODE, ALL AMENDMENTS AND SECTION 633 OF THE FLORIDA STATUTES.

**PLUMBING PLANS**  
 AS NOTED  
 PROGRESS SET/NFC 03/04/2016

**Level II Alteration  
 Green Owl  
 Restaurant**

11 SE 4th Ave.  
 Delray Beach,  
 Florida

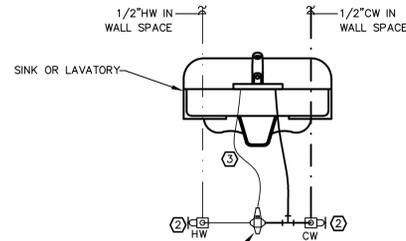
R.B.A. PN. 10116.01

Issued Date:

Richard Tavares P.E.  
 Florida Reg. No. 73704



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 3. NO MATERIALS OR SYSTEMS ARE TO BE FABRICATED UNLESS ALL DIMENSIONS HAVE BEEN REFERRED BY CONTRACTOR TO SHEET DRAWINGS HAVE BEEN REVIEWED AND ACCEPTED BY THE ARCHITECT.

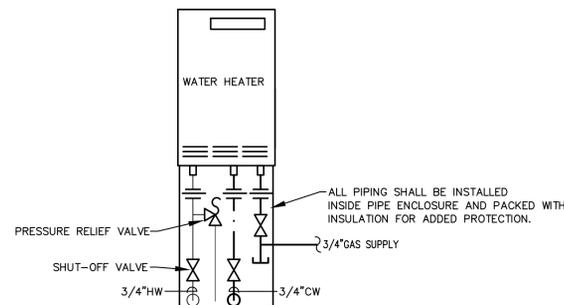


- ① THERMOSTATIC MIXING VALVE - WATTS MMV-M1, COMPLIANT WITH ASSE 1017, ASSE 1070, & ASSE 1069. INTEGRAL CHECKS TO PREVENT CROSS-FLOW. SET TEMPERATURE TO 105° F.
- ② WATER SUPPLY STOP.
- ③ 3/8" TEMPERED WATER.

**NOTES:**

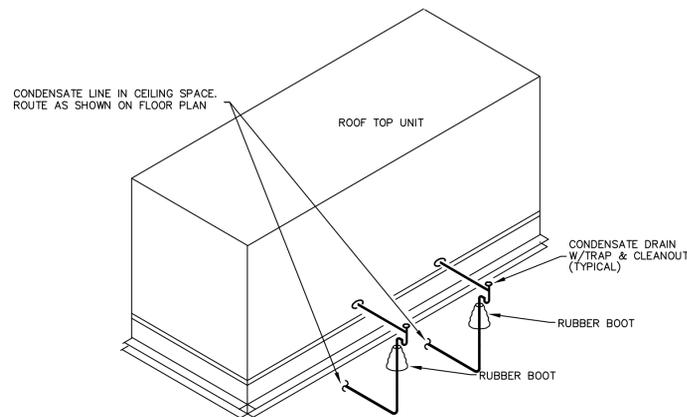
1. EXACT PIPING ARRANGEMENTS, LOCATION OF THERMOSTATIC MIXING VALVE AND CONNECTIONS TO BE DETERMINED IN THE FIELD.
2. THERMOSTATIC MIXING VALVE SHALL BE PROVIDED AS PER 2007 FBC-PLUMBING, SECTIONS 416.5 AND 607.1.

INDIVIDUAL THERMOSTATIC MIXING VALVE DETAIL  
N.T.S.

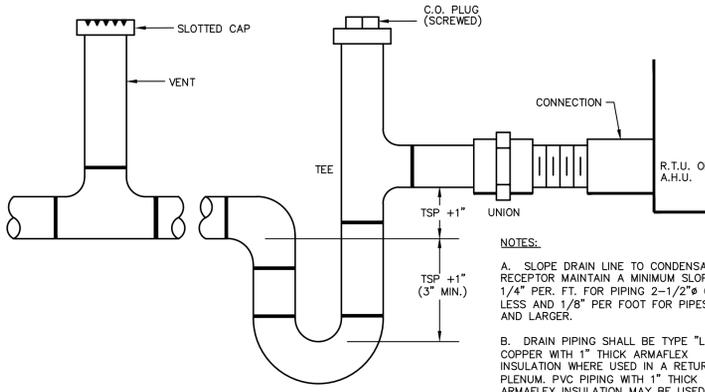


GROUND

OUTDOOR TANKLESS GAS WATER HEATER DETAIL  
N.T.S.



ROOF TOP UNIT-CONDENSATE THRU ROOF DECK DETAIL  
N.T.S.



CONDENSATE P-TRAP DETAIL  
N.T.S.

- NOTES:**
- A. SLOPE DRAIN LINE TO CONDENSATE RECEPTOR MAINTAIN A MINIMUM SLOPE OF 1/4" PER FT. FOR PIPING 2-1/2" OR LESS AND 1/8" PER FOOT FOR PIPES 3" AND LARGER.
  - B. DRAIN PIPING SHALL BE TYPE "L" COPPER WITH 1" THICK ARMAFLEX INSULATION WHERE USED IN A RETURN AIR PLENUM. PVC PIPING WITH 1" THICK ARMAFLEX INSULATION MAY BE USED IN LOCATIONS WHERE ALLOWED BY LOCAL CODES.
  - C. TSP = FAN TOTAL STATIC PRESSURE.

## Grease Interceptor Sizing

Date: 04/27/16  
Green Owl, Delray Beach  
100 Meals Per Day  
Sized to 90 day pump out cycle  
Prepared by: Lee S.

**STEP 1: FLOW RATE**

*Florida Building Code Section 1003.3.4*  
Grease interceptors and automatic grease removal devices shall be sized in accordance with PDI G101, ASME A112.14.3.

**[4" drain pipe requires a min of 75 GPM]**

Pipe Size (inches)	Full Pipe Flow @ 1% slope	Interceptor size 1 minute drain	Interceptor size 2 minute drain
2"	19.44 gpm	20 gpm	10 gpm
3"	58.67 gpm	75 gpm	35 gpm
4"	125.77 gpm	-	75 gpm

**STEP 2: GREASE PRODUCTION**

1. Enter approximate number of Meals Served Daily
2. Enter number of days between pump out cycle (quarterly cycle is 90 days)
3. Select Great Basin™ unit that most closely matches flow rate and grease storage lbs.

ENTER # Meals Per Day	Restaurant Type	Grease per Meal (See Sizing Guidelines at link below)	Days between Pump Out	Grease Storage Needed (lbs.)
<b>Restaurants washing dishes and flatware</b>				
0	Low Grease With Flatware	0.0065	0	0
0	Medium Grease With Flatware	0.0325	0	0
400	High Grease With Flatware	0.0455	90	1,638
<b>Restaurants using disposable plates and flatware.</b>				
0	Low Grease No Flatware	0.005	0	0
0	Medium Grease No Flatware	0.025	0	0
0	High Grease No Flatware	0.035	0	0
<b>TOTAL GREASE STORAGE NEEDED IN LBS.</b>				<b>1,638</b>
<b>RECOMMENDED GREAT BASIN UNIT</b>				<b>2-GB-250</b>
<b>2-GB-250's are certified to the ASME 112.14.3 standard at 100 GPM to hold 2,152 lbs of grease.</b>				

GB INSTALLATION: [http://www.schierproducts.com/GI/gb\\_redesign/inst/gb\\_series\\_installation\\_o&m.PDF](http://www.schierproducts.com/GI/gb_redesign/inst/gb_series_installation_o&m.PDF)

GREASE PRODUCTION SIZING METHOD: [http://schierproducts.com/sizing/GB\\_Sizing.pdf](http://schierproducts.com/sizing/GB_Sizing.pdf)

grease interceptors

oil separators

solids interceptors

chemical waste tanks

process systems

## SPECIFICATIONS

**NOTES**

1. 4" plain end inlet/outlet
2. Unit weight - w/composite covers: 230 lbs; w/cast iron covers: 340 lbs.
3. Maximum operating temperature: 180° F continuous
4. Capacities - Liquid: 275 gal; Grease: 1,076 lbs. (147.4 gal.); Solids: 105 gal.
5. Built-in Flow control.
6. For gravity drainage applications only.
7. Do not use for pressure applications.
8. Cover placement allows full access to tank for proper maintenance.
9. Vent not required unless per local code.
10. Engineered inlet and outlet diffusers are removable to inspect/clean piping.
11. Integral air relief / Anti-siphon / Sampling access.

**DIFFUSION FLOW TECHNOLOGY**

The inlet diffuser splits influent into three paths, creating laminar flow and utilizing the entire liquid volume of the tank for efficient grease separation. The calibrated openings greatly reduce effluent turbulence. The effluent enters the main chamber without disturbing the existing grease or sediment layers.

The integral air relief / anti-siphon in the top of the outlet diffuser allows pressure stabilization within the unit during operation. The bottom of the outlet diffuser allows only effluent which is free of grease to exit the tank. It can easily be attached to any of the three outlets provided to ease job site piping layouts.

**ENGINEER SPECIFICATION GUIDE**

Schier Great Basin™ grease interceptor model # GB-250 shall be lifetime guaranteed and made in USA of seamless, rotationally-molded polyethylene. Interceptor shall be furnished for above or below grade installation. Interceptor shall be certified to ASME A112.14.3 (type C) and CSA B4811, with field adjustable riser system, built-in flow control, built-in test caps and three outlet options. Interceptor flow rate shall be 100 GPM. Interceptor grease capacity shall be 1,076 lbs. Cover shall provide water/gas-tight seal and have minimum 16,000 lbs. load capacity.

**CERTIFIED PERFORMANCE**

Great Basin hydromechanical grease interceptors are third party performance tested and listed by IAPMO to ASME A112.14.3 and CSA B4811 grease interceptor standards and greatly exceed requirements for grease separation and storage. They are compliant to the Uniform Plumbing Code and the International Plumbing Code.

<b>SCHIER</b> LIFETIME GUARANTEED GREASE INTERCEPTORS	MODEL NUMBER: <b>GB-250</b>	DESCRIPTION: Polyethylene Grease Interceptor 100 GPM - 275 gallon capacity
PART #: 4055-001-XX	DRAWN BY: C. O'Boyle	DATE: 10/08/2016
REV: 0 / 201		ISS: 0

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# A

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11 SE 4th Ave.  
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R.B.A. PN. 10116.01

Issued Date:

Richard Tavares P.E.  
Florida Reg. No. 73704

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**PLUMBING DETAILS**

AS NOTED

PROGRESS SET/NFC 03/04/2016

P  
3.1

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**ELECTRICAL GENERAL NOTES:**

1. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE DRAWINGS, WHERE A DISCREPANCY OR CONFLICT IS FOUND BETWEEN ONE DRAWING AND ANOTHER THE CONTRACTOR SHALL NOTIFY THE A/E IMMEDIATELY IN WRITTEN FORM. CONTRACTOR SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL A WRITTEN DIRECTIVE HAS BEEN RETURNED. IN GENERAL, THE MOST STRINGENT REQUIREMENT SHALL GOVERN UNLESS THE DISCREPANCY CONFLICTS WITH APPLICABLE CODES, WHEREIN THE CODE SHALL GOVERN.
2. THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EVERY DETAIL OF CONSTRUCTION, METHODS, MATERIALS AND EQUIPMENT, OR EXACT LOCATIONS, ROUTING, ETC. THEY INDICATE THE RESULT TO BE ACHIEVED BY THE ASSEMBLAGE OF SEVERAL SYSTEMS FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM. DO NOT SCALE THE CONTRACT DOCUMENTS. COORDINATE EXACT EQUIPMENT LOCATIONS WITH THE ARCHITECTURAL PORTIONS OF THE CONTRACT DOCUMENTS, AS WELL AS FIELD CONDITIONS, APPROVED SHOP DRAWINGS, AND WORK OF ALL OTHER DIVISIONS/TRADES.
3. THE TERM "PROVIDE" USED IN THE CONTRACT DOCUMENTS INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL MATERIALS, INCLUDING ALL COST FOR SHIPPING, UNLOADING, STORAGE, UNPACKING, ERECTION, ANCHORING, ETC. REQUIRED FOR CORRECT INSTALLATION OF A COMPLETE SYSTEM, UNLESS SPECIFICALLY NOTED OTHERWISE.
4. UNLESS NOTED AS EXISTING, ALL ELECTRICAL INDICATED IN THE CONTRACT DOCUMENTS SHALL BE NEW. EQUIPMENT SHALL BE INSTALLED AND USED IN ACCORDANCE WITH ANY INSTRUCTIONS INCLUDED IN THE LISTING OR LABELING.
5. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), ALL APPLICABLE LOCAL CODES, ORDINANCES AND ALL REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION (AHJ), AS A MINIMUM.
6. THE CONTRACTOR SHALL CARRY ALL INSURANCE REQUIRED TO PROTECT AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THIS PROJECT.
7. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP ARE FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE A/E AND OWNER. THE CONTRACTOR, AT NO ADDITIONAL COSTS, SHALL PROVIDE THE CORRECTION OF ANY DEFECTS INCLUDING REPAIR OR REPLACEMENT.
8. THE CONTRACTOR SHALL VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND/OR SITE AFFECTED BY THIS WORK PRIOR TO SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT MAY AFFECT EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT AND/OR MATERIALS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED THAT COULD HAVE REASONABLY BEEN OBSERVED BY THE CONTRACTOR WILL NOT BE RECOGNIZED.
9. THE CONTRACTOR SHALL COORDINATE ALL PROJECT SCHEDULING REQUIREMENTS WITH A/E AND OWNER PRIOR TO SUBMITTING PROPOSAL. THIS PROJECT MAY REQUIRE PHASING SEQUENCES AND POTENTIAL PREMIUM TIME WORK AND ALL COSTS FOR SUCH SHALL BE INCLUDED IN THE CONTRACTOR'S PROPOSAL. THE CONTRACTOR SHALL PROVIDE ADEQUATE WORK FORCE, EQUIPMENT, AND SHALL WORK SUCH HOURS INCLUDING PREMIUM TIME AS MAY BE REQUIRED IN ORDER TO ADHERE TO THE PROJECT SCHEDULE. ADDITIONALLY, THE CONTRACTOR SHALL ENSURE THAT LONG-LEAD ITEMS DO NOT IMPACT THE PROJECT'S SCHEDULE OR PHASING.
10. ALL TEMPORARY DOWNTIME REQUIRED FOR SYSTEM TIE-IN OR SWITCHOVER FOR ANY PORTION OF THE ELECTRICAL SYSTEM SHALL BE PRE-APPROVED BY THE OWNER AND SCHEDULED IN ADVANCE.
11. IF HAZARDOUS MATERIALS ARE ENCOUNTERED, THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE RULES, REGULATIONS AND GUIDELINES CONCERNING REMOVAL, HANDLING, DISPOSAL, AND PROTECTION AGAINST ENVIRONMENTAL EXPOSURE OR POLLUTION. CONTRACTOR SHALL PROVIDE DOCUMENTATION OF SAID COMPLIANCE.
12. CONDUCT WORK OPERATIONS AND DEBRIS REMOVAL IN A MANNER THAT ENSURES MINIMUM INTERFERENCE WITH NORMAL BUSINESS OPERATIONS, TRAFFIC, PARKING, ETC. ONGOING IN ADJACENT OCCUPIED SPACES OR FACILITIES. PROVIDE ALL THAT IS REQUIRED TO EFFECTIVELY PROTECT SURROUNDING OCCUPANTS, EQUIPMENT, FINISHES, FURNITURE, ETC. FROM DAMAGE OR EXCESSIVE NOISE THROUGHOUT THE DURATION OF THIS PROJECT. ANY DAMAGE TO SURROUNDING ELEMENTS RESULTING FROM THE CONTRACTOR'S FAILURE TO ADHERE TO THIS REQUIREMENT SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR, TO THE SATISFACTION OF THE A/E AND OWNER, AT NO ADDITIONAL COSTS. REPORT ANY SUCH OCCURRENCE TO THE A/E AND OWNER IMMEDIATELY AND AWAIT WRITTEN DIRECTION PRIOR TO PROCEEDING WITH REPAIRS.
13. CONTRACTOR SHALL MAINTAIN A CURRENT ACCURATE SET OF PROJECT RECORD DOCUMENTS (AS-BUILTS) AT THE SITE THROUGHOUT THE DURATION OF THIS PROJECT. RECORD DRAWINGS SHALL BE UPDATED EACH DAY TO REFLECT THE ACTUAL LOCATIONS, SIZES, ROUTING, ETC. OF EACH PORTION OF THE ELECTRICAL SYSTEM AFFECTED BY THIS WORK. A FINAL SET OF RECORD DOCUMENTS SHALL BE ISSUED TO THE A/E FOR REVIEW AND THEN SUBMITTED TO THE OWNER AT THE CONCLUSION OF THE PROJECT.
14. ALL 120V, 20A BRANCH CIRCUITS OVER 80'-0" IN LENGTH SHALL BE #10 AWG CU. CONDUCTORS, CIRCUITS OVER 150'-0" IN LENGTH SHALL BE #8 AWG CU CONDUCTORS MINIMUM TO ACCOMMODATE VOLTAGE DROP. WHERE A CONFLICT EXISTS BETWEEN THIS REQUIREMENT AND CONDUCTOR SIZES INDICATED ELSEWHERE IN THE CONTRACT DOCUMENTS, THIS REQUIREMENT SHALL TAKE PRECEDENCE.
15. IN GENERAL, VOLTAGE DROP FOR ANY BRANCH CIRCUIT SHALL NOT EXCEED 3%. VOLTAGE DROP FOR ANY FEEDER SHALL NOT EXCEED 2%. WHERE VOLTAGE DROP EXCEEDS THESE REQUIREMENTS, THE CONTRACTOR SHALL INCREASE THE SIZE OF THE CONDUCTORS AND RACEWAY AS REQUIRED.
16. CONTRACTOR SHALL PROVIDE ALL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS. COORDINATE LOCATIONS AND SIZES WITH THE ARCHITECTURAL AND STRUCTURAL PORTIONS OF THE CONTRACT DOCUMENTS, FIELD CONDITIONS, AND WORK OF ALL OTHER DIVISIONS/TRADES. ALL OPENINGS SHALL BE SEALED WATERTIGHT.
17. WHERE OPENINGS PENETRATE A FIRE RATED FLOOR, WALL, CEILING, OR ROOF, FIRESTOPPING SHALL BE PROVIDED. MEET ALL REQUIREMENTS FOR THE U.L. ASSEMBLY AND RACEWAYS INVOLVED.
18. ALL COMPONENTS OF THE ELECTRICAL SYSTEM LOCATED OUTDOORS OR INDOORS WHERE EXPOSED TO SIGNIFICANT MOISTURE SHALL BE RAINPROOF TYPE NEMA 3R (MINIMUM), WHETHER INDICATED ON CONTRACT DOCUMENTS OR NOT.
19. ALL WORK ON THE ELECTRICAL SYSTEM REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE COORDINATED WITH THE WORK OF ALL OTHER DIVISIONS/TRADES PRIOR TO THE COMMENCEMENT OF WORK. AVOID INTERFERENCES WITH THE PROGRESS OF OTHER DIVISIONS/TRADES. CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS TO INCLUDE HVAC, POWER, LIGHTING AND SPECIAL SYSTEMS COMPONENTS PRIOR TO INSTALLATION, FAILURE TO COMPLY WITH THIS REQUEST MAY RESULT IN DIRECTIVE TO REMOVE SUCH SYSTEM DEVICE.
20. COORDINATE THE EXACT LOCATIONS OF ALL DEVICES (RECEPTACLES, TELECOMMUNICATIONS OUTLETS, FIRE ALARM, SECURITY, ETC.) WITH THE ARCHITECTURAL PLANS, FURNITURE SYSTEMS PLAN, OWNERS REPRESENTATIVE, APPROVED MILLWORK SHOP DRAWINGS, AND FIELD CONDITIONS PRIOR TO ROUGH-IN.
21. COORDINATE THE EXACT REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO PREPARING SUBMITTALS (PRODUCT DATA & SHOP DRAWINGS). THE CONTRACTOR SHALL PROVIDE ALL RACEWAYS, CONDUCTORS, BOXES, EQUIPMENT, DISCONNECT SWITCHES, CIRCUIT BREAKERS, CONTROL CIRCUITS, CONTROL TRANSFORMERS, FIRE ALARM SHUTDOWN, ETC. REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. VERIFY EXACT LOCATION OF ALL MECHANICAL EQUIPMENT PRIOR TO COMMENCEMENT OF WORK.
22. THE USE OF ALUMINUM CONDUCTORS, RACEWAYS, BOXES, BUSSING, WINDINGS, ETC. ARE PROHIBITED UNLESS SPECIFICALLY NOTED OTHERWISE.
23. ALL FEEDER AND BRANCH CIRCUIT CONDUCTORS, INCLUDING LOW VOLTAGE SYSTEMS, SHALL BE INSTALLED IN A COMPLETE RACEWAY SYSTEM UNLESS SPECIFICALLY NOTED OTHERWISE.
24. ALL BRANCH CIRCUITS SHALL BE INSTALLED IN 1/2" TRADE SIZE RACEWAY MINIMUM, INCLUDING FLEXIBLE METAL CONDUIT AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT (FMC & LFMC).
25. FLEXIBLE METAL CONDUIT AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT (FMC & LFMC) SHALL NOT BE USED IN LENGTHS THAT EXCEED 6'-0" UNLESS SPECIFICALLY NOTED OTHERWISE, OR UNLESS A/E AND OWNER GRANTS WRITTEN PERMISSION.
26. PROVIDE TYPED PANEL DIRECTORIES FOR ALL PANELBOARDS.
27. ALL DEVICE OUTLET BOXES, JUNCTION BOXES, PULL BOXES, AND RACEWAYS SHALL BE CONCEALED IN CEILINGS, WALLS OR BELOW SLAB UNLESS SPECIFICALLY NOTED OTHERWISE, OR UNLESS A/E AND OWNER GRANTS WRITTEN PERMISSION.
28. ALL LIGHTING FIXTURES SHALL BE PROVIDED COMPLETE WITH LAMPS.
29. PROVIDE WET LOCATION LISTED FUSING AT EACH EXTERIOR LIGHTING FIXTURE THAT CONTAINS BALLASTS.
30. NEW HEATING, VENTILATION AND AIR CONDITIONING EQUIPMENT SHALL BE PROTECTED WITH HACR RATED CIRCUIT BREAKERS OR FUSES.
31. ALL WIRING DEVICES WILL BE BACKWIRED.
32. ALL CONDUCTORS SHALL BE STRANDED.
33. FOR EXACT LOCATION OF NEW LIGHT FIXTURES REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN.
34. CONTRACTOR SHALL COORDINATE LIGHT FIXTURE INSTALLATION WITH EXISTING CEILING CONDITIONS AND PROVIDE NECESSARY HARDWARE, OR ADJUST FIXTURE MODEL NUMBER TO INCLUDE PROPER MOUNTING OPTIONS.

**ELECTRICAL GENERAL NOTES: (CONT.)**

35. CONTRACTOR SHALL PROVIDE AN UNSWITCHED CIRCUIT TO NEW EXIT SIGN AND WALL MOUNTED EMERGENCY LIGHT FIXTURES. CIRCUIT SHALL BE SAME AS THAT OF THE NORMAL LIGHTING CIRCUIT FOR THE ROOM.
36. ALL EMERGENCY LIGHT FIXTURES AND EXIT SIGNS SHALL HAVE AN INTEGRAL BATTERY THAT WILL PROVIDE A MINIMUM OF 90 MINUTES OF EMERGENCY OPERATION.
37. NEW LIGHT FIXTURES SHALL BE LISTED AND SUITABLE FOR THE SPECIFIC APPLICATION AND SHALL BEAR LABEL STATING SUCH.
38. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND ACCEPTANCE FOR ALL DEVICES, FIXTURES AND MATERIALS USED PRIOR TO ORDERING.
39. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE OF DEFECTS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE.
40. PROVIDE FIELD MARKINGS WARNING PERSONNEL OF POTENTIAL ARC FLASH HAZARDS IN ACCORDANCE WITH NEC 110.

**ELECTRICAL DEMOLITION NOTES:**

1. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO COMMENCING ANY DEMOLITION EFFORT.
2. COORDINATE ALL WORK AND PHASING (DEMOLITION AND NEW) WITH ARCHITECTURAL AND OTHER M.E.P. CONTRACT DOCUMENTS. ALSO COORDINATE ALL WORK (DEMOLITION AND NEW) WITH ALL CONTRACTORS.
3. COMPLETELY REMOVE ALL ELECTRICAL COMPONENTS INCLUDING, BUT NOT LIMITED TO: WIRING, LIGHTING FIXTURES, SWITCHES, RECEPTACLES, EXHAUST FANS, ALARM DEVICES, SPEAKERS, J-BOXES, SAFETY SWITCHES, PANELBOARDS.
4. CONDUIT & RACEWAY MAY BE REUSED IF IN GOOD CONDITION AND MEETS N.E.C. AND SPECIFICATION REQUIREMENTS OF THIS PROJECT. IF NOT, THEY SHALL BE COMPLETELY REMOVED.
5. REMOVE SERVICE PANELS, METERS, C.T. ENCLOSURES, RISERS, SAFETY SWITCHES, ETC. COORDINATE ALL WORK (DEMOLITION AND NEW) WITH UTILITY.

**ELECTRICAL LIGHTING LEGEND**

	2'x4' RECESSED LIGHT FIXTURE.
	2'x2' RECESSED LIGHT FIXTURE.
	RECESSED DOWNLIGHT.
	EMERGENCY BATTERY BACKUP FIXTURE
	20 AMP, 120/277 VOLT SINGLE POLE TOGGLE SWITCH MOUNTED 48" AFF, UNLESS OTHERWISE NOTED. (D = DIMMER SWITCH)
	DUAL TECHNOLOGY WALL MOUNTED VACANCY SENSOR SWITCH WITH OVERRIDE
	3-WAY SWITCH
	DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR SWITCH WITH OVERRIDE.
	2000 WATT, 120 OR 277 VOLT PHOTOCELL WITH LIGHT LEVEL SELECTOR AND WALL MOUNTING BRACKET. MOUNT AS HIGH AS POSSIBLE, FACING NORTH.
	40 AMP, 120 OR 277 VOLT, 24-HOUR, 7-DAY, DIGITAL DPDT TIME CLOCK WITH 16-HOUR CARRYOVER MINIMUM IN A NEMA 1 ENCLOSURE (NEMA 3R FOR OUTDOOR LOCATIONS).
	30 AMP, 120 OR 277 VOLT ELECTRICALLY HELD MULTIPOLE LIGHTING CONTACTOR IN A NEMA 1 ENCLOSURE (NEMA 3R FOR OUTDOOR LOCATIONS). PROVIDE NUMBER OF POLES AS REQUIRED FOR NUMBER OF CIRCUITS CONTROLLED, PLUS 2 SPARES MINIMUM. CONTACTOR LABELING "C1, C2 & C3" TYPICAL FOR MULTIPLE CONTACTORS.

**ELECTRICAL SYSTEMS LEGEND**

	CEILING MOUNTED ADDRESSABLE COMBINATION FIXED TEMPERATURE AND RATE OF RISE HEAT DETECTOR.
	CEILING MOUNTED ADDRESSABLE SMOKE DETECTOR.
	SINGLE ACTION MANUAL PULL STATION MOUNTED 48" AFF, UNLESS OTHERWISE NOTED.
	FIRE ALARM SPEAKER AND VISUAL UNIT MOUNTED AT 80" AFF, UNLESS OTHERWISE NOTED. "X" INDICATES CANDELA INTENSITY.
	FIRE ALARM VISUAL UNIT ONLY MOUNTED AT 80" AFF, UNLESS OTHERWISE NOTED. "X" INDICATES CANDELA INTENSITY.
	FIRE ALARM ANNUCIATOR PANEL.
	FIRE ALARM CONTROL PANEL.
	VACANCY LIGHT SWITCH
	VACANCY SENSOR
	COMBINATION EXIT AND EMERGENCY LIGHT FIXTURE

NOTE:  
NOT ALL SYMBOLS ARE USED.

**COORDINATION NOTE:**

EACH CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF HIS EQUIPMENT AND WORK WITH THE GENERAL CONTRACTOR AND WORK OF ALL OTHER CONTRACTORS, SUB CONTRACTORS AND TRADES. ANY AND ALL EQUIPMENT, FIXTURES AND/OR MATERIAL REMOVED AND/OR INSTALLED WITHOUT THE PROPER COORDINATION SHALL BE REMOVED AND/OR REINSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.

**AS BUILT NOTE:**

AS-BUILT CONDITIONS MAY NOT COINCIDE WITH THOSE INDICATED ON THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION, BUT NOT LIMITED TO, ALL THE ITEMS LISTED FOR DEMOLITION IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS AND SHALL BE RESPONSIBLE FOR DEMOLITION OF EXISTING WORK AS REQUIRED TO COMPLETE THE NEW WORK.

**ELECTRICAL SHEET INDEX**

E0.1	ELECTRICAL - LEGENDS, NOTES & SHEET INDEX
E1.1	ELECTRICAL FLOOR & ROOF POWER PLANS
E2.1	ELECTRICAL FLOOR LIGHTING PLAN
E3.1	ELECTRICAL RISER DIAGRAM & PANEL SCHEDULES

**ELECTRICAL POWER LEGEND**

	HOMERUN TO PANEL. "X" INDICATES PANEL, "Y" INDICATES CIRCUIT NUMBER(S).
	RECEPTACLE LABELING WHEN NOT SHOWING CONDUIT AND WIRE. "X" INDICATES PANEL, "Y" INDICATES CIRCUIT NUMBER(S), (TYPICAL FOR ALL POWER SYMBOLS). MOUNTING HEIGHT 18" A.F.F. TO ⌀.
	QUADRUPLEX RECEPTACLE
	CEILING MOUNTED DROP CORD WITH DUPLEX RECEPTACLE (EX - INDICATES EXISTING TO REMAIN)
	RECEPTACLE, ABOVE THE COUNTER
	RECEPTACLE, WITH GROUND FAULT CIRCUIT INTERRUPTER
	SPECIAL PURPOSE RECEPTACLE - PROVIDE MATCHING PLUG AS REQUIRED.
	DATA AND TELEPHONE OUTLET MOUNTED 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE X 2 1/2" BOX WITH SINGLE GANG PLASTER RING AND 1" C
	DENOTES ABOVE THE COUNTER. COORDINATE HEIGHT OF THE OUTLET WITH THE COUNTER OR MILLWORK BEFORE ROUGH-IN. REFER TO ARCHITECTURAL PLANS FOR COUNTER HEIGHTS
	JUNCTION BOX MOUNTED IN OR ABOVE CEILING.
	NONFUSED DISCONNECT SWITCH. XX=AMP SIZE, X=POLES AND ENCLOSURE AS INDICATED. "WP" INDICATES WEATHERPROOF NEMA 3R ENCLOSURE.
	FUSED DISCONNECT SWITCH. AMP SIZE, POLES, FUSING AND ENCLOSURE AS INDICATED. "WP" INDICATES WEATHERPROOF NEMA 3R ENCLOSURE.
	VARIABLE SPEED DRIVE UNIT.
	SURFACE MOUNTED POWER OR APPLIANCE PANELBOARD.
	FLUSH MOUNTED POWER OR APPLIANCE PANELBOARD.
	MOTOR OUTLET, "X" INDICATES ESTIMATED HORSEPOWER.
	TRANSFORMER.
	MOTOR RATED OCCUPANCY SENSOR, 120V

NOTE:  
NOT ALL SYMBOLS ARE USED.

TO THE BEST OF MY KNOWLEDGE THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH THE 2014 FLORIDA BUILDING CODE, ALL AMENDMENTS AND SECTION 633 OF THE FLORIDA STATUTES.

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R.B.A. PN. 10116.01

Issued Date:

Joeven M. Valenzuela P.E.  
 Florida Reg. No. 60287



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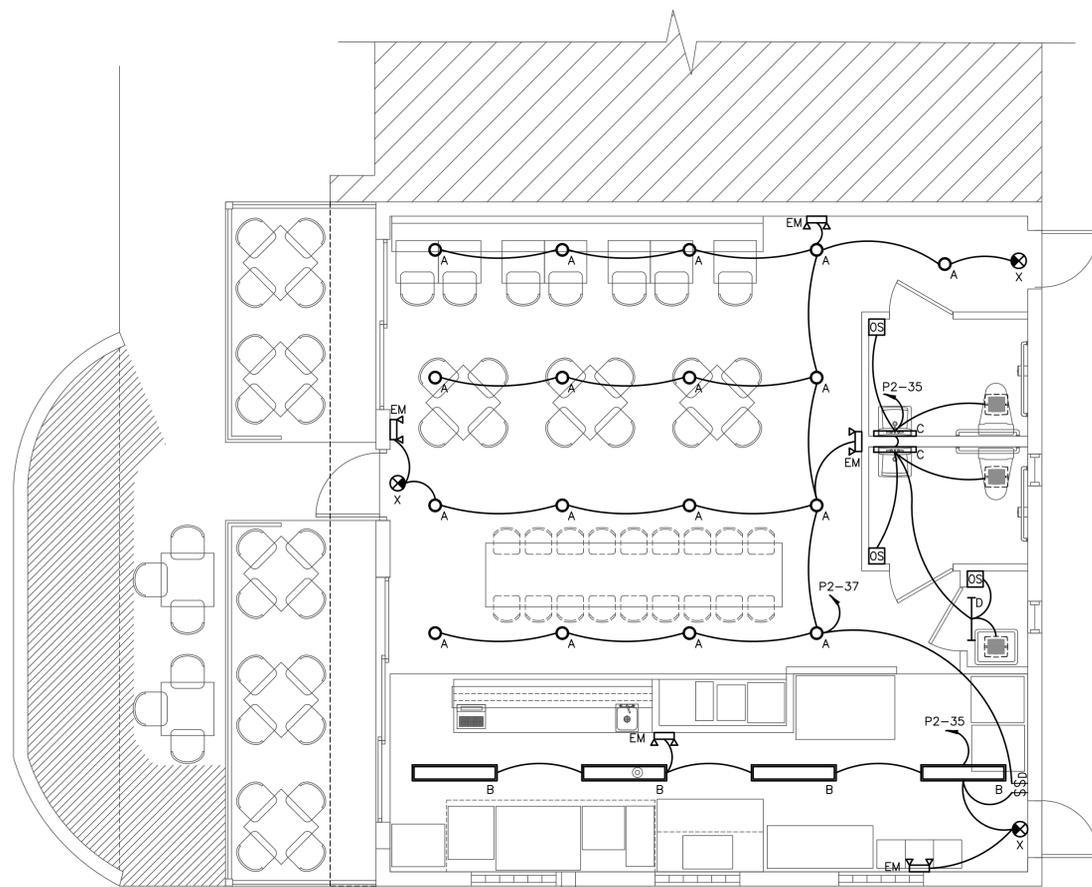
**ELECTRICAL NOTES**

AS NOTED

PROGRESS SET/NFC 03/04/2016

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 3. NO MATERIALS OR SYSTEMS ARE TO BE FABRICATED UNTIL ALL DIMENSIONS HAVE BEEN REVIEWED BY CONTRACTOR & SHOP DRAWINGS HAVE BEEN REVIEWED AND ACCEPTED BY THE ARCHITECT.





LIGHTING FIXTURE SCHEDULE							
TYPE	FIXTURE DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLT	LAMPS	MOUNTING	REMARKS
A	RECESSED LED DOWNLIGHT	DMF LIGHTING	DRD2M10935/DRD2TRJSWH	120	LED	RECESSED	
B	4' LOW PROFILE WRAPAROUND	COLUMBIA LIGHTING	LAW4-35ML-EU	120	LED	SURFACE	
C	SURFACE FIXTURE OVER MIRROR	-	-	120	-	SURFACE	
D	24" SURFACE STRIP	-	-	120	-	SURFACE	
EM	LED EMERGENCY LIGHT WITH 90 MIN. BATTERY BACKUP	EVENLITE	TCL2-W	120	LED	SURFACE	
X	LED EXIT LIGHT	EVENLITE	TLX-EM-RU-W	120	LED	SURFACE	

**ELECTRICAL LIGHTING PLAN**

SCALE: 1/4" = 1'-0"

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 Delray Beach,  
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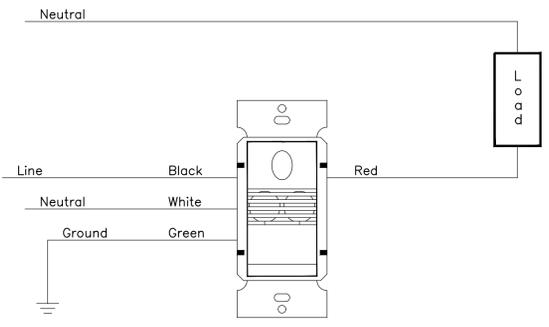
**LIGHTING PLAN**

AS NOTED

PROGRESS SET/NFC 03/04/2016

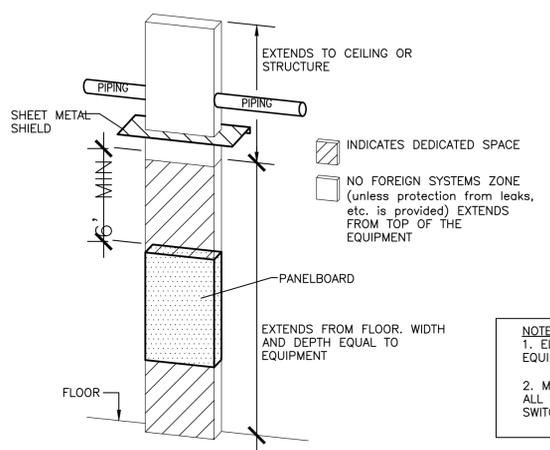
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### WATTSTOPPER DW-100 WALL SWITCH/OCCUPANCY SENSOR

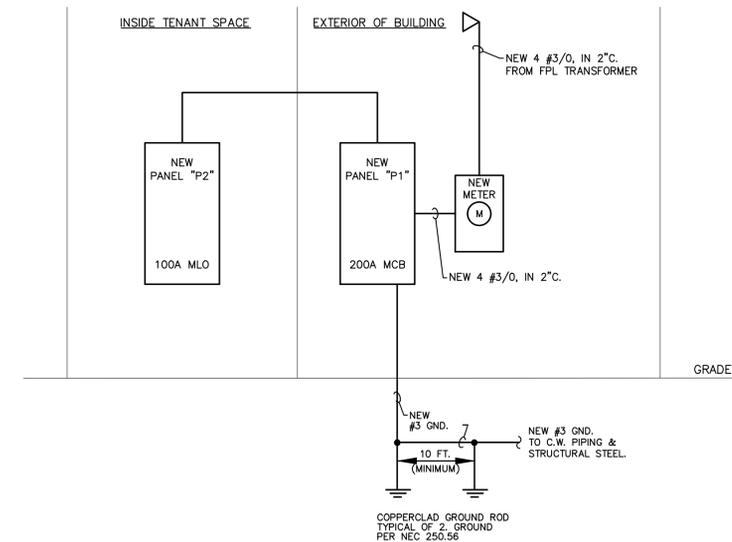
N.T.S.



### DEDICATED EQUIPMENT SPACE

N.T.S.

NOTES:  
 1. ELECTRICAL CONTRACTOR SHALL COORDINATE EQUIPMENT LOCATIONS WITH ALL OTHER TRADES  
 2. MAINTAIN MINIMUM 3'-0" CLEAR SPACE IN FRONT OF ALL SWITCHGEAR, PANELBOARDS, STARTERS, SAFETY SWITCHES, ETC., OR AS REQUIRED BY N.E.C.



### ELECTRICAL RISER DIAGRAM

A.I.C. RATING		10,000 AIC		FED FROM		PANEL "P1"		MAINS		100A MLO								
TYPE		SQ. D. NOOB		PANEL		P2 (NEW)		BUS RATING		100A								
MOUNTING		FLUSH		VOLTAGE		120/240V, 3PH, 4W		VOLTAGE		120/240V, 3PH, 4W								
DESCRIPTION	WIRE	GRD.	COND.	CB	CKT.	KILOWATTS			DESCRIPTION	WIRE	GRD.	COND.	CB	CKT.	KILOWATTS			
RECEPT - REACH-IN COOLER (E-1)	2#12	#12	3/4"	20	1	0.9			RECEPT - TEA MACHINE (E-12)	2#12	#12	3/4"	20	2	20	3/4"	#12	2#12
SPACE					3				RECEPT - COFFEE MACHINE (E-13)	2#12	#12	3/4"	20	4	40	3/4"	#10	2#8
RECEPT - FRYER & GRILL (E-2 & 3)	2#12	#12	3/4"	20	5	0.2			RECEPT - SODA FOUNTAIN (E-14)	2#12	#12	3/4"	20	7	7	0.2		
RECEPT - 4-BURNER (E-5)	2#12	#12	3/4"	20	7	0.2			RECEPT - REACH-IN COOLER (E-15)	2#12	#12	3/4"	20	11	11	1.7		
SPACE					9				RECEPT - CONVECTION OVEN (E-16)	2#12	#12	3/4"	20	13	13	1.1		
RECEPT - TOASTER (E-6)	2#12	#12	3/4"	20	11	1.7			RECEPT - ICE MAKER (E-17)	2#12	#12	3/4"	20	17	17	1.5		
RECEPT - SANDWICH PREP UNIT (E-7)	2#12	#12	3/4"	20	13	1.1			RECEPT - GENERAL (KITCHEN)	2#12	#12	3/4"	20	19	1.1			
SPACE					15				SPACE					21				
RECEPT - MICROWAVE (E-8)	2#12	#12	3/4"	20	17	1.5			RECEPTS - GENERAL (DINING)	2#12	#12	3/4"	20	23	1.0			
RECEPT - DISHWASHER (E-9)	2#12	#12	3/4"	20	19	1.1			RECEPTS - RESTROOMS	2#12	#12	3/4"	20	25	1.5			
SPACE					21				SPACE					27				
RECEPT - POS	2#12	#12	3/4"	20	23	1.0			SPACE					29				
RECEPTS - SM. APP.	2#12	#12	3/4"	20	25	1.5			SPACE					31				
SPACE					27				SPACE					33				
J-BOX - SIGN	**	2#12	#12	3/4"	20	29	1.2		SPACE					35				
J-BOX - HOOD CONTROLS & LIGHTS	2#12	#12	3/4"	20	31	0.3			SPACE					37				
SPACE					33				SPACE					39				
LIGHTING - KITCHEN, JAN, RR'S	2#12	#12	3/4"	20	35	0.4			SPACE					41				
LIGHTING - DINING	2#12	#12	3/4"	20	37	0.3			SPACE					42				
SPACE					39				SPACE					43				
SPACE					41				SPACE					44				
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