







WALL LEGEND

- EGRESS FLOOR PLAN
- NEW INTERIOR WALL STANDARDS OVER EXISTING WALL CONSTRUCTION (NON-RATED); 3'-0"/8" METAL STUDS & 5/8" TYPE 'X' GYP BOARD
- EXISTING BEWING WALL (1-HOUR RATED)
- NEW INTERIOR WALL CONSTRUCTION (NON-RATED); 3'-0"/8" METAL STUDS & 5/8" TYPE 'X' GYP BOARD
- DECKING WALL CONSTRUCTION WITH MODULAR WALL PANEL SYSTEM

SHEET KEY NOTES

(KEY NOTE SYMBOL)

1

PROVIDE PORTABLE FIRE EXTINGUISHERS PER NFPA-10, 2-A, 10-B-C RATED MINIMUM TO BE LOCATED ON EACH FLOOR AT 1-48' A.F.F. ONE FOR EACH 3,000 S.F. OF FLOOR AREA AND NOT FURTHER THAN TRAVEL DISTANCE IS 30' IN AREAS HAVING FLAMMABLE LIQUIDS. THE NUMBER OF EXTINGUISHERS SHALL BE DETERMINED BY THE FIRE MARSHAL. THE FIRE MARSHAL, AFTER CONSTRUCTION IS COMPLETED BUT PRIOR TO OCCUPANCY.

EXITING NOTES

EGRESS FLOOR PLAN

- EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. PROVIDE SELF-RELEASING LOCKING DEVICES ON EXIT DOORS.
- A SIGN THAT READS "THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS" SHALL BE INSTALLED ON EACH EXIT DOOR (FRONT ENTRANCE).
- "EXIT" SIGNS SHALL BE IN BLOCK LETTERS, A MINIMUM OF SIX (6) INCHES HIGH WITH A STROKE OF NOT LESS THAN 3/4" INCH. LUMINANCE ON FACE OF SIGN SHALL BE 50 LUX.
- "EXIT" SIGNS SHALL BE ELECTRICALLY ILLUMINATED AND ENERGIZED FROM SEPARATE CIRCUITS. SHOW ON ELECTRICAL PLANS(S). ONE OF THE ABOVE CIRCUITS SHALL BE PART OF THE EMERGENCY LIGHTING SYSTEM.
- STORAGE, DISPENSING, OR USE OF ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS, FLAMMABLE GASES, AND HAZARDOUS CHEMICALS SHALL COMPLY WITH UNIFORM FIRE CODE REQUIREMENTS.
- HIGH PILE STORAGE AREA IS ZERO (0) S.F.
- A SIGN THAT READS "STACKING STOCK SHALL BE NO HIGHER THAN 12'-0" ABOVE FINISH FLOOR WITH A MINIMUM ONE (1) INCH LETTERS SHALL BE PROVIDED IN STOCK ROOM.

FIRE DEPARTMENT NOTES

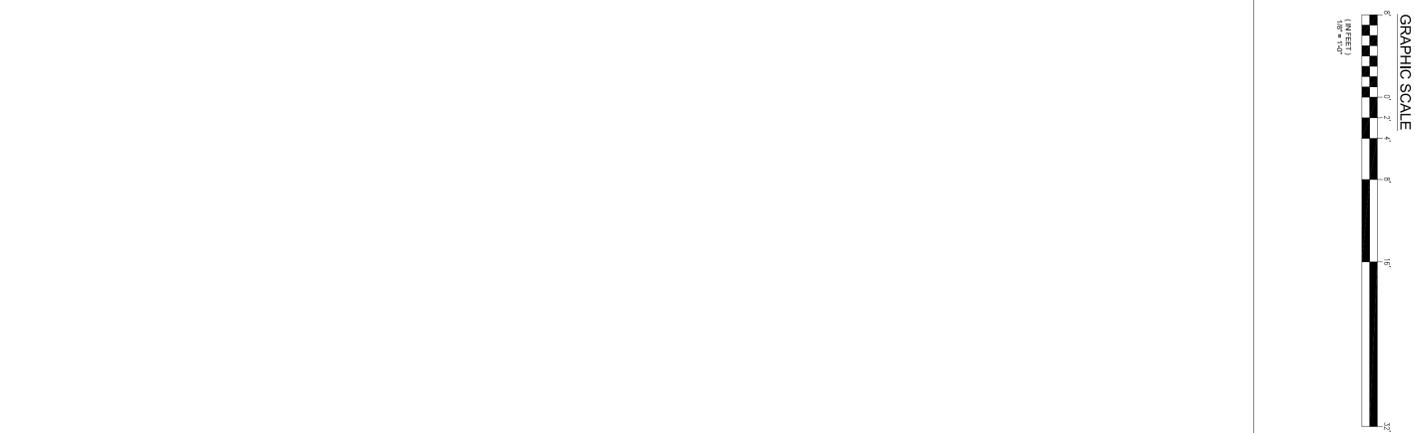
EGRESS FLOOR PLAN

- ALL CONSTRUCTION SHALL COMPLY WITH CURRENT NFPA, UFC AND NEC.
- HAZARDOUS MATERIALS TO BE STORED AND/OR USED WITHIN THE BUILDING SHALL COMPLY WITH QUANTITIES LISTED IN UBC TABLE 303.02 AND LOCAL JURISDICTION.
- FIRE SPRINKLER SYSTEM WORK SHALL BE PERFORMED UNDER SEPARATE PERMITS. FIRE SPRINKLER CONTRACTOR SHALL BECOME FAMILIAR WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS PRIOR TO INSTALLATION. APPROVAL TO THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.
- THE FIRE SPRINKLER SYSTEM SHALL BE MONITORED BY AN APPROVED CENTRAL STATION REMOTE STATION OR PROPRIETARY SUPERVISION STATION WHEN THE NUMBER OF SPRINKLERS IS ONE HUNDRED OR MORE IN ALL OCCUPANCIES NOT NORMALLY OCCUPIED TWENTY-FOUR HOURS A DAY OR PROVIDED WITH A TWENTY-FOUR HOUR GUARD SERVICE.
- FIRE HYDRANTS SHALL BE TESTED AND APPROVED. FIRE ACCESS ROADS MADE SERVICEABLE PRIOR TO DELIVERY OF COMBUSTIBLE MATERIALS ON SITE. ALL CONSTRUCTION WORK IS SUBJECT TO A STOP WORK ORDER IF ACCESS ROADS BECOME IMPASSABLE TO THE FIRE HYDRANTS INOPERABLE.
- G.C. SHALL MAINTAIN ALL EXITS, EXIT LIGHTING, FIRE PROTECTION DEVICES AND ALARMS IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES FOR THE ENTIRE DURATION OF THE WORK.
- FIRE SPRINKLER SYSTEM(S) PER NFPA STANDARD 13 SHALL BE PROVIDED.

GENERAL NOTES

EGRESS FLOOR PLAN

- ALL MATERIAL AND WORK SHALL CONFORM TO THE LATEST EDITION OF THE STATE AND LOCAL BUILDING CODES, ORDINANCES AND REGULATIONS AND OTHER GOVERNING LOCAL AGENCIES AS REQUIRED. ONE (1) COPY OF THESE CODES AND REGULATIONS SHALL BE MADE AVAILABLE AT THE CONTRACTOR'S FIELD OFFICE DURING CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE, AND REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR INTERPRETATION, AND/OR CORRECTIONS PRIOR TO INSTALLATION. COST OF CORRECTING WORK BASED ON MISINTERPRETATION BY CONTRACTOR OR UNREPORTED DIMENSIONAL, ALL DIMENSIONS MARKED DISCREPANCIES SHALL BE BORNE BY THE CONTRACTOR. CLEAR SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF ALL FINISHES INCLUDING CARPET, PAO, GRANITE, ETC., V.C.T., ETC.
- CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ARCHITECT HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
- ALL COSTS FOR INSPECTIONS, TESTS AND BUILDING PERMITS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS.
- THE CONTRACTOR TO INCLUDE COST FOR ALL REQUIRED SITE STAKING.
- CONTRACTOR SHALL PROVIDE EGRESS/BACK PROTECTION AS PER LOCAL JURISDICTION.
- SEPARATE PERMITS REQUIRED FOR GENERAL PROTECTION, DEMOLITION, PILING, ELECTRICAL, MECHANICAL, WORK, HEALTH DEPARTMENT, AND AS REQUIRED BY THE LOCAL GOVERNING AGENCIES.
- THE GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE PROJECT SHALL BE NOTIFIED BY THE CONTRACTOR AND OWNER THAT GRADING IS TO COMMENCE AND MAKE ALL NECESSARY ARRANGEMENT FOR FIELD INSPECTOR.
- SOIL CONTRACTOR SHALL ACQUIRE SEPARATE BUILDING DEPARTMENT PERMITS FOR INSTALLATION OF ALL EXTERIOR BUILDING SIGNS AS REQUIRED BY CODE.
- THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.
- THE CONTRACTOR SHALL LOCATE ALL UTILITY CONNECTIONS WITHIN 5'-0" OF THE BUILDING LINE, PROTECT UNTIL ALL CONNECTIONS AND TESTING ARE COMPLETED. CONTRACTOR SHALL TAG ALL CONNECTION LOCATIONS WHERE FINISH SURFACES ARE PERMANENT (I.E. CONCRETE, A.C. PAVING ETC.)
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE STATE AND THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION REGULATIONS, AND THE AMERICANS WITH DISABILITIES ACT (A.D.A.) REQUIREMENTS.
- THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS FOR CONSTRUCTION WATER. DUST SHALL BE CONTROLLED BY WATERING AS REQUIRED.
- WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE ON THE DRAWINGS. DO NOT SCALE THE DRAWINGS.
- NO FLOORS TO BE POWERED UNTIL ALL ELECTRICAL AND MECHANICAL INSTALLATIONS HAVE BEEN APPROVED BY GOVERNING AGENCIES.
- BROWEL SLAB FOR SMOOTH FINISH WITH NO BROWEL MARKS SHOWING WHEREVER CONCRETE FLOOR IS EXPOSED.
- CONTRACTOR TO PROVIDE MINIMUM CRITERIA FOR FLOOR FINISHES AND FLOOR LEVEL.
  - A. SLAB OVERALL VALUE FF 29.7120
  - B. MINIMUM LOCAL VALUE FF 29.7113
- CONCRETE SHALL BE SPHALTIC CONCRETE PAVING CONCRETE. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY SPALLING OF FRESH CONCRETE.
- ALL COMPLETIBLES CONSISTING OF BONES, SCRAP LUMBER, ETC. ON THE CONSTRUCTION SITE SHALL BE CLEANED UP AND DISPOSED OF IN AN APPROVED MANNER ON A DAILY BASIS.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOLTS, NAILS, FRAMING CLIPS, WASHERS, PLATES, HANGERS, ETC. FOR A COMPLETE INSTALLATION WHETHER OR NOT SPECIFIED OR INDICATED ON THE PLANS.
- CONTRACTOR TO VERIFY THAT ROOF ELEVATIONS SHOWN ON PLANS PROVIDE POSITIVE ROOF DRAINAGE AND THAT THEY CONFORM TO MINIMUM DRAINAGE STANDARDS PRIOR TO BEGINNING.
- HIGH PILE STORAGE IS SHOWN WITHOUT IN BACK SPRINKLER SYSTEM.
- GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL TRADE WORK TO THE ARCHITECT FOR REVIEW, AND ALSO FOR ITEMS CALLED OUT AS "OR EQUAL", AND IN ACCORDANCE WITH THE PROJECT MANUAL.
- THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF DRAWINGS AT THE JOB SITE FOR SUBMITTAL TO THE ARCHITECT AT THE COMPLETION OF THE JOB PER THE PROJECT MANUAL. PROVIDE A COPY FOR THE OWNER PER CONSTRUCTION DOCUMENTS.
- THE CONTRACTOR SHALL NOTIFY THE FIRE DEPT. OF THE REQUIRED FINAL INSPECTION AND SCHEDULE SUCH INSPECTION.
- THE ENTIRE WORK PROVIDED FOR HEREIN IS TO BE CONSTRUCTED AND FINISHED IN EVERY PART IN A GOOD AND SUBSTANTIAL MANNER IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS TO THE FULL INTENT OF THE SAME. ANY WORK DONE BY CONTRACTORS SHALL BE IN ACCORDANCE WITH THE LAWS OF THE COUNTY OR STATE UNDER WHICH JURISDICTION MAY COME AND COST SHALL BE BORNE BY THE CONTRACTORS. ANY SUCH WORK SHALL BE DONE IN CONFORMANCE WITH THE PLAN, BOTH AS TO MANNER AND APPEARANCE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LOCAL GOVERNING AGENCIES.
- THE OWNER AND/OR ARCHITECT RESERVE THE RIGHT TO HAVE TESTS MADE WHEN DEEMED NECESSARY. SHOULD THE ARCHITECT ORDER SPECIAL TESTING OR INSPECTION OF ANY KIND, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF SUCH SPECIAL TESTING OR INSPECTIONS INCLUDING THE ARCHITECT'S EXTRA SERVICES MADE NECESSARY THEREBY. OTHERWISE THE OWNER SHALL BEAR SUCH COST.
- TESTS SHALL BE MADE IN ACCORDANCE WITH RECOGNIZED STANDARDS BY A COMPETENT, INDEPENDENT TESTING LABORATORY. ANY MATERIAL FOUND DEFECTIVE OR NOT IN ACCORDANCE WITH THE RECOGNIZED STANDARDS SHALL BE REPAIRED OR REPLACED AT THE EXPENSE OF THE CONTRACTOR. SAMPLES REQUIRED FOR TESTING WILL BE FURNISHED BY THE CONTRACTOR AND SELECTED AS DIRECTED BY THE ARCHITECT.
- GENERAL CONTRACTOR SHALL SIGN AND SUBMIT TO THE DEPARTMENT OF BUILDING AND SAFETY A "CERTIFICATE OF COMPLIANCE" STATING THAT THE WORK HAS BEEN PERFORMED AND MATERIALS INSTALLED ACCORDING TO THE PLANS AND SPECIFICATIONS PERTAINING TO RESIDENTIAL DWINGS.
- CONTRACTOR TO PROVIDE PERMITS ON SITE FOR BUILDING OFFICIALS ARCHITECTS, THROUGHOUT CONSTRUCTION.
  - 31. AFTER INSTALLING WALL, CEILING, OR FLOOR INSULATION, THE INSTALLER SHALL POST IN A CONSPICUOUS LOCATION IN THE BUILDING A CERTIFICATE SIGNED BY THE INSTALLER STATING THAT THE INSTALLATION CONFORMS WITH THE PLANS AND REQUIREMENTS OF THE PROJECT SPECIFICATIONS. THE CERTIFICATE SHALL ALSO STATE THE MANUFACTURER'S NAME AND MATERIAL IDENTIFICATION AND THE INSTALLED R-VALUE.
  - 32. CONTRACTOR SHALL PROVIDE ACCESS PATHS AS REQUIRED BY PLUMBING, AIR CONDITIONING, SINKS, AND OTHER TRADES.
  - 33. ANY DAMAGE BY OCC. OR SUB-CONTRACTOR TO EXISTING APPLICABLE PAYMENT EXISTING COST TO DEVELOPER OR TENANT.
  - 34. CONTRACTOR TO INSPECT & VERIFY CONDITIONS OF SITE PRIOR TO CONSTRUCTION & NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS & SCOPE OF WORK DESCRIBED IN THESE PLANS & SPECIFICATIONS.
  - 35. THE G.C. SHALL INCLUDE IN THE BID, THE HIGHEST QUALITY AND GREATEST QUANTITY FOR THE PURPOSE OF RESOLVING ANY CONFLICTS IN THE CONSTRUCTION DOCUMENTS, WHICH ARE IMPLIED OR UNDERNEED.
  - 36. ALL SAW CUTTING AND CORING LOCATIONS SHALL BE REVIEWED IN FIELD BY THE OWNER'S REPRESENTATIVE AND STRUCTURAL ENGINEER PRIOR TO CUTTING/CORING.
  - 37. CONTRACTOR TO BE RESPONSIBLE FOR LOSS OR DAMAGE OF ITEMS NOTED ON PLANS, WHETHER IN CONTRACT OR NOT IN CONTRACT, ONCE DELIVERED TO SITE.

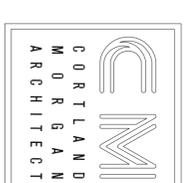


NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.

No.	Description	Date
0712	AS NOTED	08.31.2011

Reviewed By: AS NOTED  
 Date: 08.31.2011  
 File Name: 08.31.2011  
 SHEET TITLE: EGRESS PLAN

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
 LEGACY PLACE  
 11380 LEGACY AVE.  
 PALM BEACH GARDENS, FL, 33410



FLAME SPREAD SPECIFICATIONS

FLAME SPREAD



STYROFOAM BRAND  
4800 DOWNEY ROAD, SUITE 100  
ROSELBURG, VA 22069  
TEL: (800) 227-7286  
WWW.STYROFOAM.COM

To Whom It May Concern:

The following specifications are applicable to our  
Specialty panels

Class C-300  
Fire Rating  
Flame Spread  
Fuel Contribution  
Smoke Density  
Tested by: Harsco Products, Inc., P.O. Box 2789  
Reston, VA 22090  
Method Used: ASTM E-84 Tunnel Furnace

STRUCTURE,  
HEAVY WEIGHT  
FLAME RATED  
FACED  
FRONT  
FRONT

ROSLIN

Property	Test Method	Classified Class C	Classified Class A
Flexural Strength	ASTM D-790	11,000	10,000
Flexural Modulus	D-790	6.0 x 10 <sup>5</sup>	3.1 x 10 <sup>6</sup>
Tensile Strength	D-638	8,000	7,000
Tensile Modulus	D-638	9.43 x 10 <sup>6</sup>	3.1 x 10 <sup>6</sup>
% Elongation	D-638	1.20	1.80
Water Absorption	ASTM D-5110	0.17	0.12
Impact Strength	ASTM D-256	7.0	7.16
Coef. of Linear Thermal Expansion	D-696	2.22 x 10 <sup>-5</sup>	2.29 x 10 <sup>-5</sup>
Barrel Hardness	ASTM D-2583	30	35
Specific Gravity	ASTM D-792	1.6138	1.5743
Air/water Ratio	TABER D-392	0.283	0.391
Flash Ignition Temp.	ASTM E-83	430	410
Small Ignition Temp.	ASTM E-83	430	410
Flame Spread	ASTM E-84	≈ 200	≈ 25
Smoke Generation	ASTM E-84	<450	<450

FOAM TRIM SPECIFICATIONS

SHOWROOM

PRODUCT INFORMATION COMMERCIAL - U.S. CANADA



STYROFOAM® BRAND DECKWATE™ PLUS FA  
EXTENDED POLYSTYRENE FOAM INSULATION

1. PRODUCT NAME  
2. MANUFACTURER  
3. PRODUCT DATA  
4. TECHNICAL DATA  
5. APPLICATIONS  
6. INSTALLATION  
7. MAINTENANCE  
8. SAFETY  
9. CONTACT INFORMATION

PROPERTY	UNIT	STYROFOAM BRAND DECKWATE™ PLUS FA
Flexural Strength	PSI	11,000
Flexural Modulus	PSI	6.0 x 10 <sup>5</sup>
Tensile Strength	PSI	8,000
Tensile Modulus	PSI	9.43 x 10 <sup>6</sup>
% Elongation	%	1.20
Water Absorption	%	0.17
Impact Strength	ft.-lb.	7.0
Coef. of Linear Thermal Expansion	in./in./°F	2.22 x 10 <sup>-5</sup>
Barrel Hardness	Avg.	30
Specific Gravity	N/A	1.6138
Air/water Ratio	% W/T	0.283
Flash Ignition Temp.	°C	430
Small Ignition Temp.	°C	430
Flame Spread	N/A	≈ 200
Smoke Generation	N/A	<450

TABLE 1: U.S. SIZE, NUMBER AND TEST REQUIREMENTS FOR STYROFOAM BRAND DECKWATE™ PLUS FA EXTENDED POLYSTYRENE FOAM INSULATION

INSULATION TYPE	THICKNESS (IN.)	NUMBER PER SQUARE FOOT	TEST METHOD
1/2"	1/2"	24	ASTM E-84
3/4"	3/4"	24	ASTM E-84
1"	1"	24	ASTM E-84
1 1/4"	1 1/4"	24	ASTM E-84
1 1/2"	1 1/2"	24	ASTM E-84
1 3/4"	1 3/4"	24	ASTM E-84
2"	2"	24	ASTM E-84
2 1/4"	2 1/4"	24	ASTM E-84
2 1/2"	2 1/2"	24	ASTM E-84
2 3/4"	2 3/4"	24	ASTM E-84
3"	3"	24	ASTM E-84
3 1/4"	3 1/4"	24	ASTM E-84
3 1/2"	3 1/2"	24	ASTM E-84
3 3/4"	3 3/4"	24	ASTM E-84
4"	4"	24	ASTM E-84
4 1/4"	4 1/4"	24	ASTM E-84
4 1/2"	4 1/2"	24	ASTM E-84
4 3/4"	4 3/4"	24	ASTM E-84
5"	5"	24	ASTM E-84
5 1/4"	5 1/4"	24	ASTM E-84
5 1/2"	5 1/2"	24	ASTM E-84
5 3/4"	5 3/4"	24	ASTM E-84
6"	6"	24	ASTM E-84
6 1/4"	6 1/4"	24	ASTM E-84
6 1/2"	6 1/2"	24	ASTM E-84
6 3/4"	6 3/4"	24	ASTM E-84
7"	7"	24	ASTM E-84
7 1/4"	7 1/4"	24	ASTM E-84
7 1/2"	7 1/2"	24	ASTM E-84
7 3/4"	7 3/4"	24	ASTM E-84
8"	8"	24	ASTM E-84
8 1/4"	8 1/4"	24	ASTM E-84
8 1/2"	8 1/2"	24	ASTM E-84
8 3/4"	8 3/4"	24	ASTM E-84
9"	9"	24	ASTM E-84
9 1/4"	9 1/4"	24	ASTM E-84
9 1/2"	9 1/2"	24	ASTM E-84
9 3/4"	9 3/4"	24	ASTM E-84
10"	10"	24	ASTM E-84
10 1/4"	10 1/4"	24	ASTM E-84
10 1/2"	10 1/2"	24	ASTM E-84
10 3/4"	10 3/4"	24	ASTM E-84
11"	11"	24	ASTM E-84
11 1/4"	11 1/4"	24	ASTM E-84
11 1/2"	11 1/2"	24	ASTM E-84
11 3/4"	11 3/4"	24	ASTM E-84
12"	12"	24	ASTM E-84

TABLE 2: CANADIAN SIZE, NUMBER AND TEST REQUIREMENTS FOR STYROFOAM BRAND DECKWATE™ PLUS FA EXTENDED POLYSTYRENE FOAM INSULATION

INSULATION TYPE	THICKNESS (IN.)	NUMBER PER SQUARE FOOT	TEST METHOD
1/2"	1/2"	24	ASTM E-84
3/4"	3/4"	24	ASTM E-84
1"	1"	24	ASTM E-84
1 1/4"	1 1/4"	24	ASTM E-84
1 1/2"	1 1/2"	24	ASTM E-84
1 3/4"	1 3/4"	24	ASTM E-84
2"	2"	24	ASTM E-84
2 1/4"	2 1/4"	24	ASTM E-84
2 1/2"	2 1/2"	24	ASTM E-84
2 3/4"	2 3/4"	24	ASTM E-84
3"	3"	24	ASTM E-84
3 1/4"	3 1/4"	24	ASTM E-84
3 1/2"	3 1/2"	24	ASTM E-84
3 3/4"	3 3/4"	24	ASTM E-84
4"	4"	24	ASTM E-84
4 1/4"	4 1/4"	24	ASTM E-84
4 1/2"	4 1/2"	24	ASTM E-84
4 3/4"	4 3/4"	24	ASTM E-84
5"	5"	24	ASTM E-84
5 1/4"	5 1/4"	24	ASTM E-84
5 1/2"	5 1/2"	24	ASTM E-84
5 3/4"	5 3/4"	24	ASTM E-84
6"	6"	24	ASTM E-84
6 1/4"	6 1/4"	24	ASTM E-84
6 1/2"	6 1/2"	24	ASTM E-84
6 3/4"	6 3/4"	24	ASTM E-84
7"	7"	24	ASTM E-84
7 1/4"	7 1/4"	24	ASTM E-84
7 1/2"	7 1/2"	24	ASTM E-84
7 3/4"	7 3/4"	24	ASTM E-84
8"	8"	24	ASTM E-84
8 1/4"	8 1/4"	24	ASTM E-84
8 1/2"	8 1/2"	24	ASTM E-84
8 3/4"	8 3/4"	24	ASTM E-84
9"	9"	24	ASTM E-84
9 1/4"	9 1/4"	24	ASTM E-84
9 1/2"	9 1/2"	24	ASTM E-84
9 3/4"	9 3/4"	24	ASTM E-84
10"	10"	24	ASTM E-84
10 1/4"	10 1/4"	24	ASTM E-84
10 1/2"	10 1/2"	24	ASTM E-84
10 3/4"	10 3/4"	24	ASTM E-84
11"	11"	24	ASTM E-84
11 1/4"	11 1/4"	24	ASTM E-84
11 1/2"	11 1/2"	24	ASTM E-84
11 3/4"	11 3/4"	24	ASTM E-84
12"	12"	24	ASTM E-84

TABLE 3: PHYSICAL PROPERTIES (CANADIAN) OF STYROFOAM BRAND DECKWATE™ PLUS FA EXTENDED POLYSTYRENE FOAM INSULATION

PROPERTY	UNIT	STYROFOAM BRAND DECKWATE™ PLUS FA
Flexural Strength	PSI	11,000
Flexural Modulus	PSI	6.0 x 10 <sup>5</sup>
Tensile Strength	PSI	8,000
Tensile Modulus	PSI	9.43 x 10 <sup>6</sup>
% Elongation	%	1.20
Water Absorption	%	0.17
Impact Strength	ft.-lb.	7.0
Coef. of Linear Thermal Expansion	in./in./°F	2.22 x 10 <sup>-5</sup>
Barrel Hardness	Avg.	30
Specific Gravity	N/A	1.6138
Air/water Ratio	% W/T	0.283
Flash Ignition Temp.	°C	430
Small Ignition Temp.	°C	430
Flame Spread	N/A	≈ 200
Smoke Generation	N/A	<450

CASH WRAP SPECIFICATIONS

CASH WRAP

PRODUCT INFORMATION COMMERCIAL - U.S. CANADA



MATERIAL SAFETY DATASHEET

PRODUCTS: Roseburg Urea Formaldehyde Bonded (CASH) Ply/Composite Panels  
 Roseburg Forest Products  
 Date of Preparation: rev. 2/24/10  
 Chemical Name & Synonyms: Roseburg Urea Formaldehyde Bonded Ply/Composite Panels  
 Hazardous Ingredients: Urea, Formaldehyde, Resin, Pigments, Additives  
 Physical Properties: Density, Modulus, Strength, etc.  
 Environmental Information: Biodegradable, Recyclable, etc.  
 Safety Information: Flammable, Irritant, etc.  
 Regulatory Information: OSHA, EPA, etc.  
 Section 2: HAZARD IDENTIFICATION  
 Section 3: COMPOSITION/INFORMATION ON INGREDIENTS  
 Section 4: FIRST AID MEASURES  
 Section 5: FIRE FIGHTING MEASURES  
 Section 6: ACCIDENT PREVENTION  
 Section 7: HANDLING AND STORAGE  
 Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION  
 Section 9: TOXICOLOGY  
 Section 10: STABILITY AND REACTIVITY  
 Section 11: INFORMATION ON TOXICOLOGICAL TESTS  
 Section 12: EC AND DSD Statements  
 Section 13: Other Information

1.1. Fire and explosion hazards  
 1.2. Health hazards  
 1.3. Environmental hazards  
 2.1. Environmental Hazards  
 2.2. Potential health effects  
 2.3. Ecotoxicity  
 3.1. Physical and chemical hazards  
 3.2. Reactivity  
 4.1. First aid procedures  
 4.2. Fire fighting procedures  
 5.1. Environmental hazards  
 5.2. Environmental hazards  
 6.1. Environmental hazards  
 6.2. Environmental hazards  
 7.1. Environmental hazards  
 7.2. Environmental hazards  
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 11.2. Environmental hazards  
 12.1. Environmental hazards  
 12.2. Environmental hazards

1.1. Fire and explosion hazards  
 1.2. Health hazards  
 1.3. Environmental hazards  
 2.1. Environmental Hazards  
 2.2. Potential health effects  
 2.3. Ecotoxicity  
 3.1. Physical and chemical hazards  
 3.2. Reactivity  
 4.1. First aid procedures  
 4.2. Fire fighting procedures  
 5.1. Environmental hazards  
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 10.2. Environmental hazards  
 11.1. Environmental hazards  
 11.2. Environmental hazards  
 12.1. Environmental hazards  
 12.2. Environmental hazards

PUNCH LIST PACKAGE

PUNCH LIST WALK-THROUGH

PRODUCT INFORMATION COMMERCIAL - U.S. CANADA



CHARMING CHARLE

5999 SAVOY DRIVE, HOUSTON TX.  
 T (713) 579-1975  
 WALK-THROUGH INSPECTION CONDUCTED: 201-  
 PUNCHLIST CONDUCTOR: 201-  
 WALK-THROUGH INSPECTION CONDUCTED: 201-  
 PUNCHLIST CONDUCTOR: 201-  
 PRESENT AT PUNCH LIST:  
 ARCHITECT:  
 DEVELOPER:  
 LOCATION:  
 MANAGER'S OFFICE:  
 OTHER:

COMPLETE / TOUCH UP PAINT AS REQUIRED AND WHERE NOTED  
 MEN'S:  
 OTHER:  
 MISCELLANEOUS:  
 OTHER:

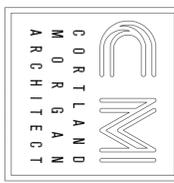
COMPLETE / TOUCH UP PAINT AS REQUIRED AND WHERE NOTED  
 STOCK ROOM:  
 OTHER:  
 DRESSING ROOM:  
 MANAGER'S OFFICE:  
 OTHER:  
 SALES AREA:  
 OTHER:  
 MISCELLANEOUS:  
 OTHER:

GENERAL NOTES AND COMMENTS:

1. ADVISE AND INSTRUCT THE STORE MANAGER AND CHARMING CHARLE CONSTRUCTION REPRESENTATIVE ON THE OPERATION AND FAMILIARIZATION OF ALL BUILDING SYSTEMS INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEMS.  
 2. REVIEW ALL WORK AND SYSTEMS TO BE INSTALLED AND SUBMIT REPORTS TO CHARMING CHARLE CONSTRUCTION REPRESENTATIVE.  
 3. SUBMIT ALL CLOSE OUT DOCUMENTS AS DEFINED IN OUR LEASE AGREEMENT TO ACCEPTANCE AND WITHIN THE TIME FRAME AS ESTABLISHED.  
 4. SUBMIT FINAL BUILDING DIMENSION AS DEFINED.

1. ADVISE AND INSTRUCT THE STORE MANAGER AND CHARMING CHARLE CONSTRUCTION REPRESENTATIVE ON THE OPERATION AND FAMILIARIZATION OF ALL BUILDING SYSTEMS INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEMS.  
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 3. SUBMIT ALL CLOSE OUT DOCUMENTS AS DEFINED IN OUR LEASE AGREEMENT TO ACCEPTANCE AND WITHIN THE TIME FRAME AS ESTABLISHED.  
 4. SUBMIT FINAL BUILDING DIMENSION AS DEFINED.



711 N. FIELDER RD.  
 ARLINGTON, TX 76012  
 PH: (817) 635-5696  
 FAX: (817) 635-5699

NEW TENANT IMPROVEMENT FOR:  
**CHARMING CHARLE**  
 LEGACY PLACE  
 11380 LEGACY AVE.  
 PALM BEACH GARDENS, FL, 33410

CLIENT: CHARMING CHARLE  
 5999 SAVOY DRIVE  
 HOUSTON TEXAS 77036  
 Phone (713) 579-1975

REVISIONS:

No.	Description	Date
0712		

Reviewed By: \_\_\_\_\_  
 Date: 08.31.2011  
 File Name: \_\_\_\_\_  
 SHEET TITLE: FLAME SPREAD AND PUNCH LIST

SHEET NO.: G005

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET G002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.

**GENERAL NOTES**

**BARRICADE PLAN NOTES**

- G.C. IS TO INSTALL GRAPHICS AS SHOWN - IF REQUIREMENTS BY THE LANDLORD/WALL DIFFER FROM WHAT IS SHOWN, CONDITIONS MUST BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY.
- G.C. IS RESPONSIBLE FOR MAINTAINING ALL GRAPHICS ARE IN "LIKE NEW" CONDITION - G.C. TO REPAIR, AS NECESSARY
- CHARMING CHARLIE REP TO COORDINATE DELIVERY OF BARRICADE GRAPHICS.
- ALL GRAPHICS TO BE MOUNTED INSIDE GLAZING AT 1'-0" ABOVE BOTTOM MULLION.



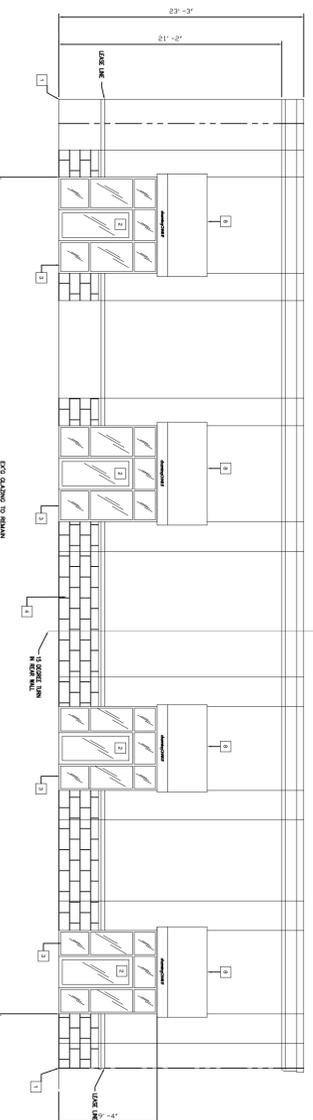
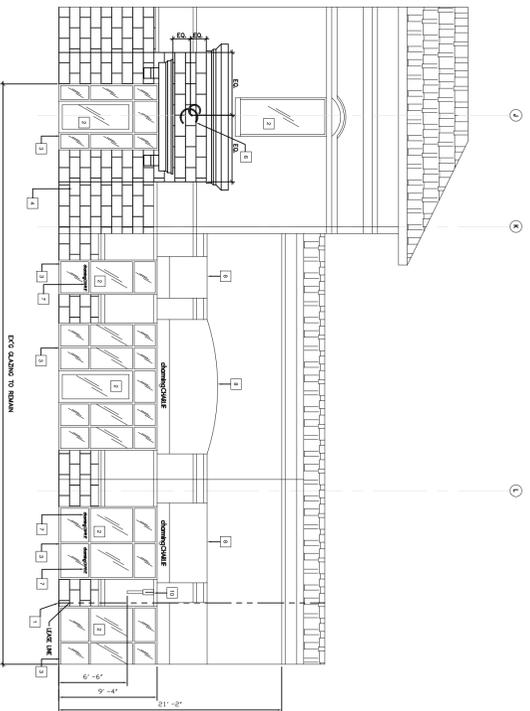
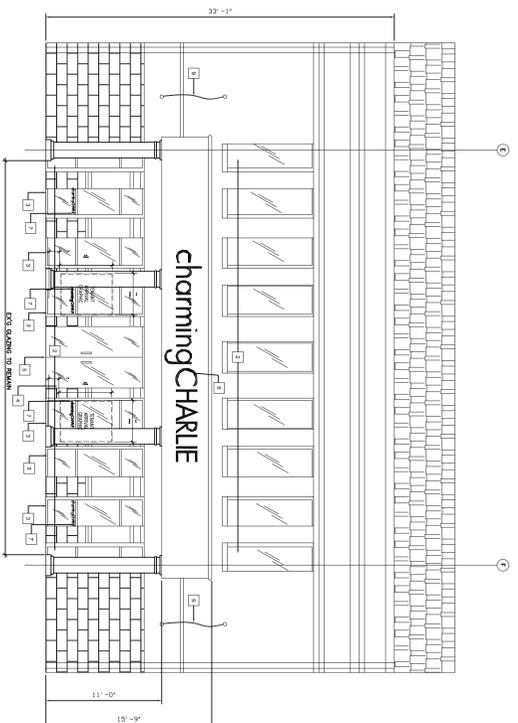
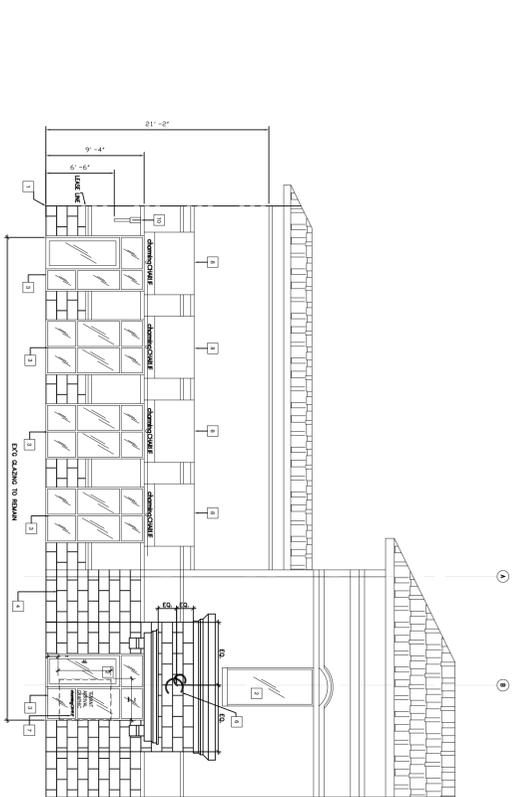
711 N. FELDER RD.  
ARLINGTON, TX 76012  
PH: (817) 635-5696  
FAX: (817) 635-5699

SEAL:

**2 NOT USED**  
SCALE: 1/4" = 1'-0"

**3 NOT USED**  
SCALE: 1/4" = 1'-0"

**4 NOT USED**  
SCALE: N.T.S.



NOTE: EXISTING STOREFRONT; ARRIVAL GRAPHICS ARE PER CHARMING CHARLIE'S SPECIFICATIONS AND CRITERIA.

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
  
LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

A PROJECT FOR:

CLIENT:

CHARMING CHARLIE  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 579-1975

REVISIONS:

No.	Description	Date
Project No.:		0712
Drawn By:		
Reviewed By:		
Scale:		AS NOTED
Date:		08.31.2011
Filename:		
SHEET TITLE:		

ARRIVAL GRAPHICS  
PLAN

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.

SHEET NO.:

**B101**

**1 ENLARGED STOREFRONT ELEVATION**  
SCALE: 1/8" = 1'-0"

**B.O.M.A. STANDARDS**

**GENERAL MEASUREMENT STANDARDS**

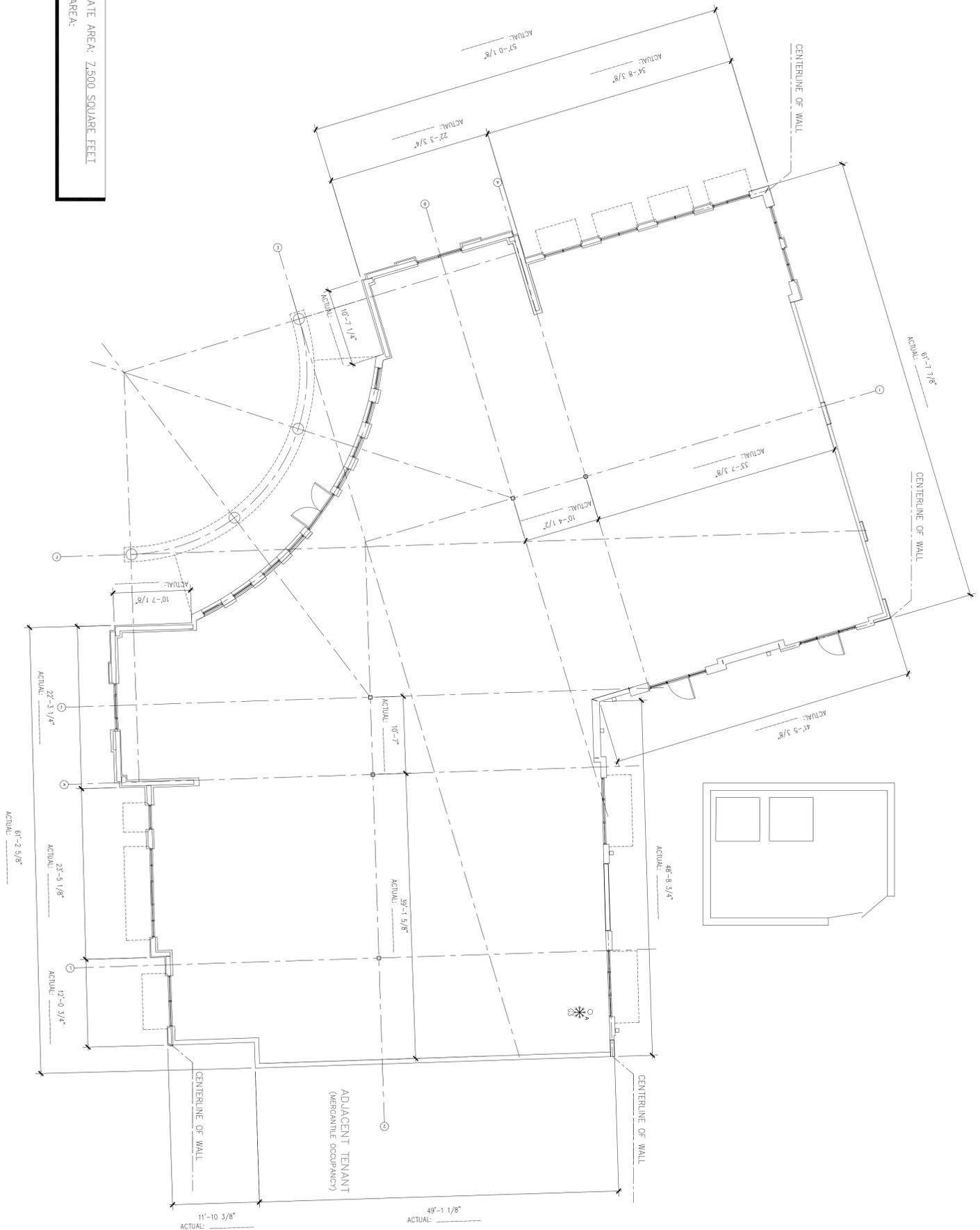
SPACE AND TERM ISSUES IN COMMERCIAL LEASES  
BOOKS, BUILDING OWNERS AND MANAGERS ASSOCIATION INTERNATIONAL STANDARDS

1. COMMON AREAS
  - RETAIL LEASES: INCLUDE TYPICAL PARKING AREAS AND VEHICLE PASSAGES.
  - OFFICE LEASES: RETAIL AREAS PLUS AREAS OF THE BUILDING THAT ARE NOT LEASABLE BUT ARE USED FOR THE BENEFIT OF THE BUILDING. (I.E. CLOSETS, EQUIPMENT ROOMS, ETC.)
2. DESCRIBING THE PREMISES AND SPACE IN THE LEASE
  - A LEGAL DESCRIPTION AND SITE PLAN/DRAWING IS THE BEST WAY TO DESCRIBE THE PREMISES, BUT THE STREET ADDRESS IS ALSO ACCEPTABLE.
3. MEASURING LEASED PREMISES:
  - "GROSS AREA" IS USUALLY THE ENTIRE "FOOTPRINT" OF THE BUILDING= WRAP A TAPE MEASURE AROUND THE BUILDING'S EXTERIOR.
  - "USABLE AREA" IS THE AREA YOU WOULD BUY CARPET FOR (BEFORE YOU ADD THE INTERIOR WALLS AND FURNITURE). (NOTE: THIS IS NOT USEFUL FOR DESIGN OR BID PURPOSES AS IT DOES NOT REFLECT THE USABLE AREA EVEN AS IT DECREASES THE USABLE AREA.)
  - "RENTABLE AREA" IS THE USABLE AREA PLUS A SET SHARE OF THE FLOOR AND BUILDING COMMON AREAS. (NOTE: THE TENANT CANNOT EVER ACCESS OR USE ALL OF THE RENTABLE AREA.) THE DIFFERENCE BETWEEN THE USABLE AND RENTABLE AREAS IS OFTEN CALLED A "LOSS FACTOR" OR "LOAD FACTOR."

**GENERAL CONTRACTOR FINDINGS**

SCALE: N.T.S.

#	CONFIRMATION	EXISTING CONDITION (S)
1	<input type="checkbox"/> YES <input type="checkbox"/> NO	INDICATE UNSEEN CONDITIONS - STORM DRAINS, SHIFTS, MAINS, ETC.
2	<input type="checkbox"/> YES <input type="checkbox"/> NO	SLAB CONDITION - CRACKING, LEVEL, ETC.
3	<input type="checkbox"/> YES <input type="checkbox"/> NO	LEAVE OUT LOCATION, IF ANY; SIZE, DEPTH, AND LOCATION (MARK ON PLAN)
4	<input type="checkbox"/> YES <input type="checkbox"/> NO	VERIFY FRONT/REAR DOOR, ELECTRICAL LOCATIONS, PLUMBING STUB UPS (NEW)
5	<input type="checkbox"/> YES <input type="checkbox"/> NO	VERIFY IF LEVEL LANDING IS PROVIDED AT ALL REQUIRED EXITS
6	<input type="checkbox"/> YES <input type="checkbox"/> NO	VERIFY ELECTRICAL MATCHES REQUIREMENTS INDICATED ON THE PLAN
7	<input type="checkbox"/> YES <input type="checkbox"/> NO	VERIFY WALL BULKHEAD/GLAZING HEIGHT HEIGHT A.F.F.: _____
8	<input type="checkbox"/> YES <input type="checkbox"/> NO	VERIFY LOWEST OBSTRUCTION TO REMAIN (ABOVE) HEIGHT A.F.F.: _____
9	<input type="checkbox"/> YES <input type="checkbox"/> NO	VERIFY LOWEST POINT OF STRUCTURE & DECK HEIGHT A.F.F.: _____
10	<input type="checkbox"/> YES <input type="checkbox"/> NO	VERIFY HIGHEST POINT OF STRUCTURE & DECK HEIGHT A.F.F.: _____



APPROXIMATE AREA: 7500 SQUARE FEET  
VERIFIED AREA:

(GENERAL CONTRACTOR SIGNATURE)  
CONTRACTOR NAME: \_\_\_\_\_  
CONTACT PHONE: ( ) \_\_\_\_\_  
DATE VERIFIED: \_\_\_\_\_

NOTE:  
GCC: TO PLEASE SUBMIT THIS SHEET BACK TO CHARMING CHARLIE WITHIN (1) WEEK POST DEMO OR START OF NEW CONSTRUCTION.

**1 FLOOR PLAN**

SCALE: 1/8" = 1'-0"



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NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:  
CHARMING CHARLIE  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 579-1975

NO.	Description	Date
Project No.:		0712
Drawn By:		
Scale:		AS NOTED
Date:		08.31.2011
Filename:		
SHEET TITLE:	SQUARE FOOTAGE CHECK SHEET	

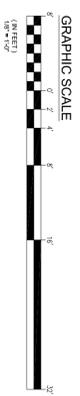
SHEET NO.: **CHK-1**

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.



**WALL LEGEND**  
FIXTURE LAYOUT PLAN

- EXISTING INTERIOR WALL CONSTRUCTION
- ===== NEW INTERIOR WALL CONSTRUCTION (NON-RATED); 3-5/8" METAL STUDS & 5/8" TYPE 'X' GYP BOARD
- NEW INTERIOR WALL STANDARDS OVER EXISTING DENSING WALL; CONTINUOUS BLOCKING WITH MODULAR WALL PANEL SYSTEM.



SCALE: N.T.S.

**2 NOT USED**  
SCALE: N.T.S.

**3 NOT USED**  
SCALE: N.T.S.

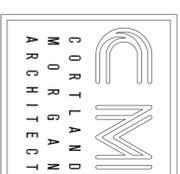
**4 NOT USED**  
SCALE: N.T.S.

**5 NOT USED**  
SCALE: N.T.S.



**1 FIXTURE PLAN**

SCALE: 1/8" = 1'-0"



711 N. FIELDER RD.  
ARLINGTON, TX 76012  
PH: (817) 635-5696  
FAX: (817) 635-5699

SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:

CHARMING CHARLIE  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 579-1975

REVISIONS:

No.	Description	Date
Project No.:		0712
Drawn By:		
Reviewed By:		
Scale:		AS NOTED
Date:		08.31.2011
Filename:		
SHEET TITLE:	FIXTURE LAYOUT	

SHEET NO.:

A101

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.

**WALL LEGEND**

FIXTURE ALLOCATION PLAN

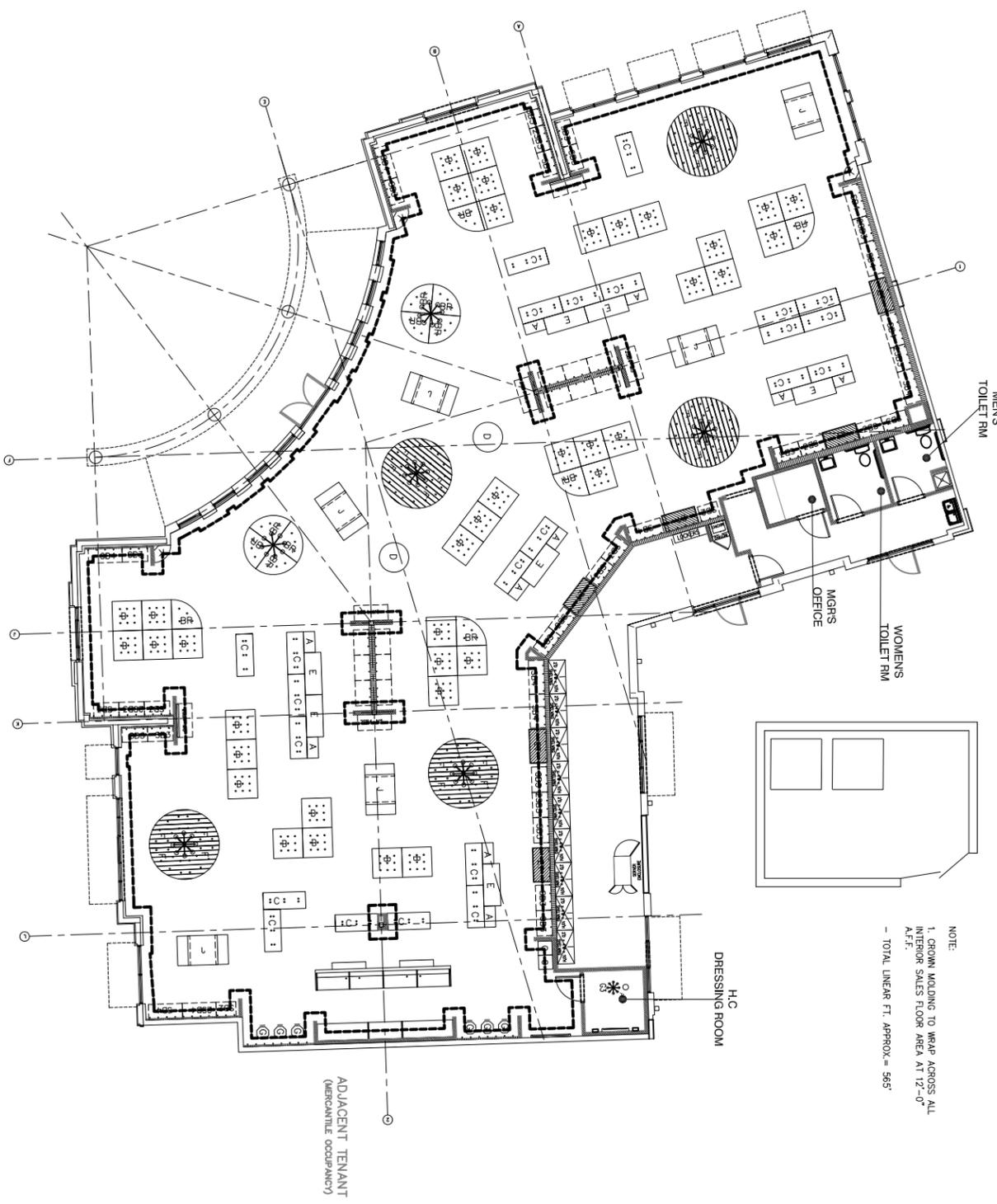
- EXISTING INTERIOR WALL CONSTRUCTION
- NEW INTERIOR WALL CONSTRUCTION (NON-RATED): 3-5/8" METAL STUDS & 5/8" TYPE 'X' GYP BOARD
- NEW INTERIOR WALL STANDARDS OVER EXISTING WALL CONSTRUCTION; CONTINUOUS BLOCKING WITH MODULAR WALL PANEL SYSTEM
- NEW INTERIOR PLUMBING CHASE (NON-RATED): 6" METAL STUDS & 5/8" WATER RESISTANT GYP BOARD
- GROWN MOLDING AT 12'-0" AFF.



**2 NOT USED**  
SCALE: NONE

**3 NOT USED**  
SCALE: NONE

**4 NOT USED**  
SCALE: NONE



NOTE:  
1. GROWN MOLDING TO WRAP AROUND ALL INTERIOR SALES FLOOR AREA AT 12'-0" A.F.F.  
- TOTAL LINEAR FT. APPROX. = 565'

**FIXTURE LEGEND**

MARK	DESCRIPTION
SALES AREA	
CC A	BOOK CASE / CABBY
CC B	42" X 42" TABLE
CC C	42" X 60" TABLE
CC D	42" ROUND TABLE
CC E	APPAREL RACK
CC ET	ETAGERE UPRIGHT FIXTURE
CC F	48" CRESCENT TABLE
CC G	SUNGLASS FIXTURES
CC H	HANG / FOLD 27X51"
CC J	NESTING TABLE 3'-6" X 6'-0"
CC K	30" CORNER UNIT
CC L3	30" CORNER UNIT
CC L4	30" CORNER UNIT
CC M1	IMPUULSE STAND 18" X 48"
CC M3	SALES FLOOR MIRROR- 3'-2 1/2'-0"
CC M5	SM. SALES FLR MIRROR- 3'-2 1/2' X 8'-0"
CC M8	LRG SALES FLR MIRROR- 3'-10" X 8'-0"
CC N	42"X42" NESTING TABLE W/ 2 NESTORS
CC CW16	16" CASH WRAP
CC CW20	20" CASH WRAP
CC BW10	20" BACK WRAP
CC BW10	36"X10" BACK WRAP
CC BW10	36"X7" BACK WRAP
CC SS2	STACKING UNIT STARTER- BASE 18"X24" CABINET, 18"X24" TOP
CC SS3	STACKING UNIT STARTER- BASE 18"X36" CABINET, 18"X36" TOP
CC SS4	STACKING UNIT STARTER- BASE 18"X48" CABINET, 18"X48" TOP
CC SA3	STACKING UNIT ADDER- 18"X36" CABINET
CC SA4	STACKING UNIT ADDER- 18"X48" CABINET
CC P	WALL PANEL SYSTEM
CC WS24	WALL CABINET STARTER- 20"X27 1/4"
CC WS24	WALL CABINET STARTER- 20"X51 1/4"
CC WS424	WALL CABINET ADDER- 20"X27 1/4"
CC WS424	WALL CABINET ADDER- 20"X51 1/4"
CC WE24	WALL CABINET END- 20"X51 1/4"
CC WC	WALL CROWN- LF
CC DP	CC DOOR PULL- 1 SET
CC FT	FOUND TABLE- 36"X22" TABLE
CC LF	LADDER FIXTURE
CC V	VANITY FIXTURE
CC WB	4 1/2"X5 1/2" FRAMED SALES AREA BASE
CC O	18"X18" OTTOMAN
STOCKROOM	
CC SRM	MANAGER'S DESK AND SHELVES
CC SRU	UPRIGHT SHELVING- 24"X48"X10"
CC SRP	PANTRY SHELVING
CC SR348	(3) 10" STANDARDS WITH (5) SHELVES
CC SRSH	(3) 2' STANDARDS WITH (1) SHELF
CC SRH	HARDWARE ASSEMBLY
FITTING ROOM	
CC FRD	36"X10" FITTING ROOM DOOR ASSEMBLY
CC FRB	18"X48" FITTING ROOM BENCH
CC FRBH	24"X48" H/C FITTING ROOM BENCH
CC FRT	3 1/2'X5/8" FITTING ROOM TRIB
CC FRM	FITTING ROOM MIRROR- 3'-8"X6'-6"
CC FRFB	4" FITTING ROOM BASE
CC FRHB	36" HANG BAR
CC FRS	FITTING

NOTE: WALL STANDARDS SHALL BE RECESSED INTO THE WALL PANELS, AND ARE SHOWN RAISED FOR GRAPHIC PURPOSES ONLY (TYPICAL).  
NOTE: SENSORYMATIC DIGITAL DOOR-MAX ANTENNA TO BE MOUNTED TO STORERFRONT FRAMES (RE: TO INSTALLATION 20/2700) (RE: M.E.P. FOR POWER)

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 6002 SUPERSEDES OTHER DRAWINGS BY THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.

711 N. FIELDER RD.  
ARLINGTON, TX 76012  
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FAX: (817) 635-5696

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:  
CHARMING CHARLIE  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 679-1975

No.	Description	Date
Project No.:		0712
Drawn By:		
Reviewed By:		
Scale:		AS NOTED
Date:		08.31.2011
Filename:		
SHEET TITLE:		

**FIXTURE ALLOCATION PLAN**

**A102**

**1 FIXTURE ALLOCATION PLAN**  
SCALE: 1/8" = 1'-0"

FLOORING MATERIAL AND FINISHES SCHEDULE

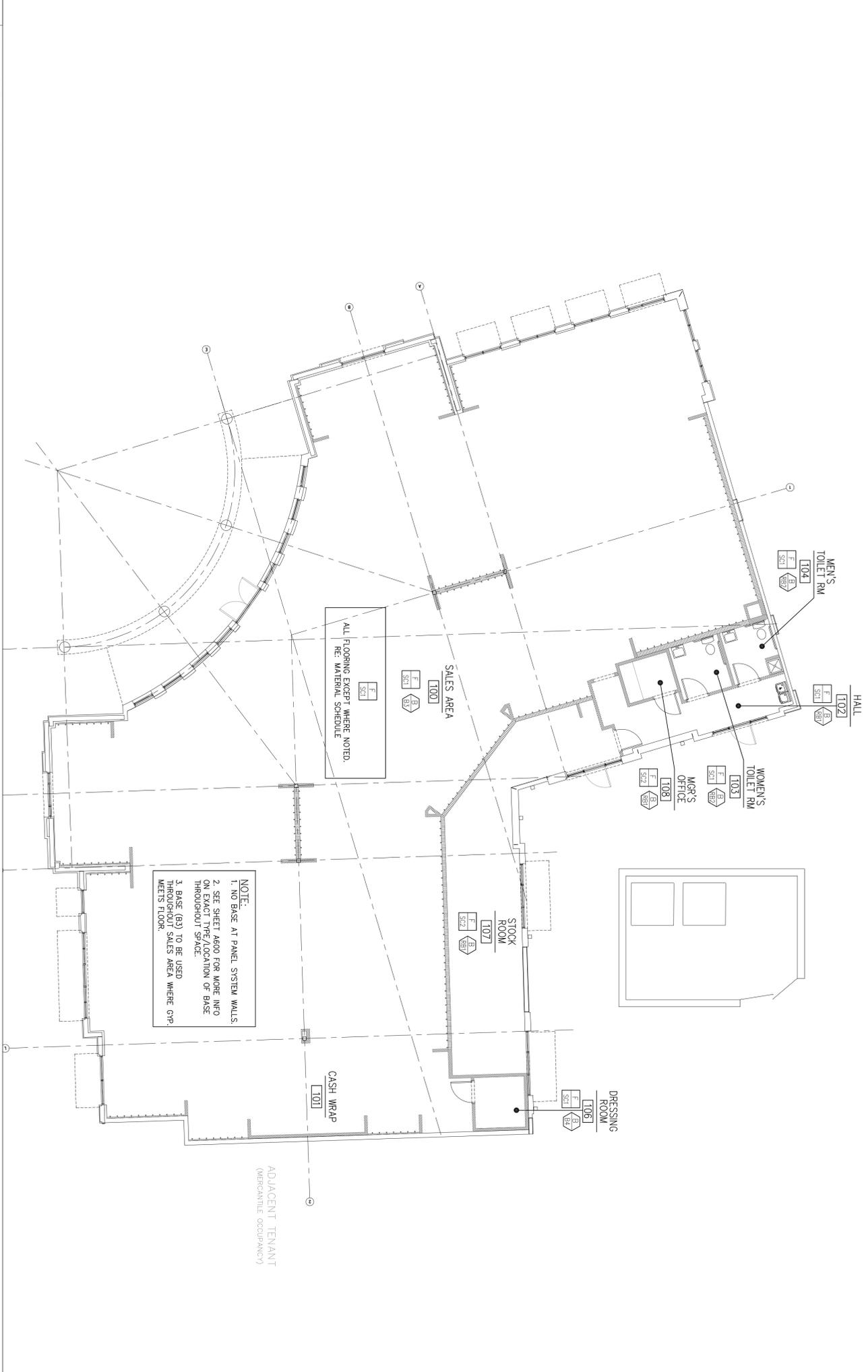
FLOORING						WALL BASE									
TAG	MATERIAL	MFR / SUPPLIER	COLOR / NUMBER	PATTERN / FINISH DESCRIPTION	SIZE	FLAME SPREAD RATING	SOURCE / REMARKS / NOTES	NO.	MATERIAL	MFR / SUPPLIER	COLOR / NUMBER	PATTERN / FINISH DESCRIPTION	SIZE	FLAME SPREAD RATING	SOURCE / REMARKS / NOTES
F1	NOT APPLICABLE	NOT APPLICABLE		PORCELAIN TILE	18"x18"	--	7 PIECES PER CARTON 15.93 SF	RB	RUBBER	ROPPE PINNACLE RUBBER BASE	BLACK BROWN #195	RUBBER BASE	4"	--	CONTINUOUS RUBBER BASE FOR USE IN STOCK ROOM / BREAK AREA / OFFICE
F2	NOT APPLICABLE	NOT APPLICABLE		MIXED MOSAIC MESH MOUNTED	12"x12"	--	10 PIECES PER CARTON	RB	RUBBER	ROPPE PINNACLE RUBBER BASE	BLACK BROWN #195	RUBBER BASE	6"	--	CONTINUOUS RUBBER BASE FOR USE IN BATHROOMS (WHEN STAINED CONCRETE FLOORING IS USED)
F3	NOT APPLICABLE	NOT APPLICABLE		PORCELAIN TILE	18"x18"	--	7 PIECES PER CARTON 15.93 SF ( @ CHARLIE GRU.)	BL	GRANITE	AMERICAN TILE & STONE - HOUSTON 713-939-1077	FLAMED BLACK GRANITE	STOREFRONT TILE BASE	12"x12"	--	CONTACT: STEVE KASISCHKE WITH AMERICAN TILE TEL. NO.: 757-939-1077
F4	STAINED EXISTING / NEW CONCRETE	MINDS IN MOTION - HOUSTON, TX	BRICKFORM "COFFEE"	SO LVENT BASED DYE	--	--	CONTACT: KELLEY FRANK WITH MINDS IN MOTION, HOUSTON, TX TEL. NO.: 281-797-5834	BL	NOT APPLICABLE	ORCHID ETCH SOLE #0645732-277	PAINT (P3) CEILING BRIGHT WHITE (SW7007) DARK WALNUT OR WHITE, PREFINISHED BY VANDON	4" WOOD TRIM PAINTED (P3) IN SALES AREA & CORRIDOR (SEMI GLOSS) 3" WOOD TRIM (FITTING ROOMS) NOTE: INCLUDED W/ WALK PACKAGE	6" X 9"	--	7 PIECES PER CARTON 15.93 SF / FULL SIZE TILE CUT TO HALF SIZE FOR BASE. C.C. TO SET TILE WITH FINISHED SIDE VISIBLE (FACING UP).
F5	SEALED CONCRETE						STOCK / MANAGER'S / TOILET ROOMS	BL	WOOD				4" X 9"	--	CONTACT: MIKE RICE PACIFIC PANEL TEL. NO.: 626-851-0444
F6	WALK-OFF MAT	NOT APPLICABLE					ENTRY VESTIBULE	BL	WOOD				3" X 5/8"	--	CONTACT: MIKE RICE PACIFIC PANEL TEL. NO.: 626-851-0444
F7	GROUT	NOT APPLICABLE		FIELD TILE & MOSAICS			MAPEI KERACOLOR S	BL	WOOD						
F8	GROUT	MAPEI	BLACK	FIELD TILE & MOSAICS			MAPEI KERACOLOR S Sanded Grout								

FLOORING LEGEND

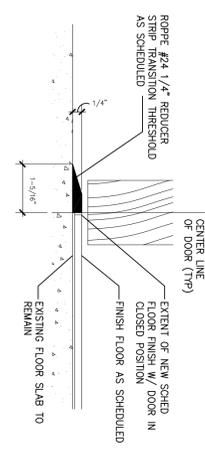
- STAINED EXISTING / NEW EXPOSED CONCRETE, AS SCHEDULED
- SEALED CONCRETE

WALL LEGEND

- DENOTES EXISTING WALL CONSTRUCTION TO REMAIN OR REFINISH AS NOTED
- DENOTES NEW PARTITIONS, AS SPECIFIED - REFER TO SHEET A505 FOR PARTITION TYPE DETAILS
- DENOTES NEW PARTITIONS (PANEL SYSTEM), AS SPECIFIED - REFER TO SHEET A505 FOR PARTITION TYPE DETAILS



THRESHOLD DETAIL: B



THRESHOLD DETAIL (PROVIDED BY LL)

1 FLOOR FINISH PLAN

SCALE: 1/8" = 1'-0"

2 NOT USED

SCALE: 0" = 1'-0"

3

SCALE: NOT TO SCALE



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 FAX: (817) 635-5699

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
 LEGACY PLACE  
 11380 LEGACY AVE.  
 PALM BEACH GARDENS, FL, 33410

CLIENT:  
 CHARMING CHARLIE  
 5999 SAVOY DRIVE  
 HOUSTON, TEXAS 77036  
 Phone (713) 579-1975

No.	Description	Date
Project No.:	0712	
Drawn By:		
Reviewed By:		
Date:	AS NOTED	08.31.2011
Scale:		
Filename:		
SHEET TITLE:		

FLOOR FINISH PLAN

A103

SHEET NO.:  
 ..

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.





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NEW TENANT IMPROVEMENT FOR:  
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LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:  
CHARMING CHARLIE  
5999 SAVOY DRIVE  
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Phone (713) 579-1975

REVISIONS:

No.	Description	Date
0712		

Drawn By:  
Reviewed By:  
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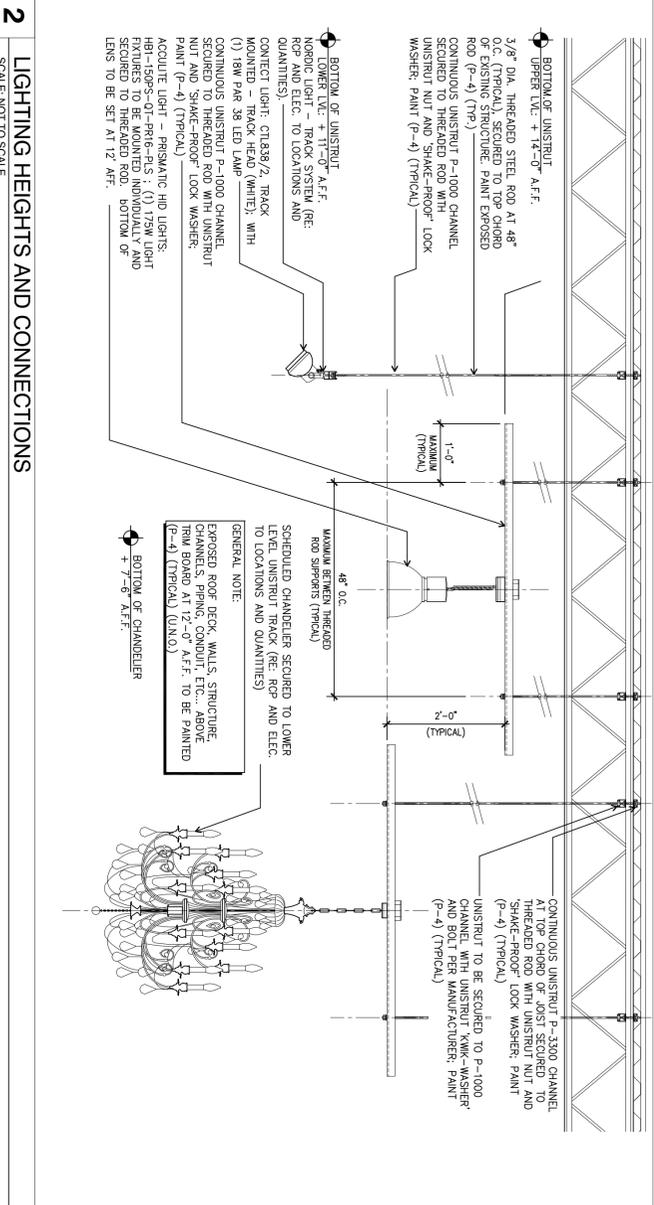
REFLECTED CEILING PLAN

SHEET NO.:

A105

GENERAL R.C.P. NOTES

- COORDINATION:
  - THE GENERAL CONTRACTOR SHALL COORDINATE THE WORK OF AND ASSIST THE CEILING, ELECTRICAL AND VARIOUS SUB-CONTRACTORS IN THE INSTALLATION OF LIGHTS, DIFFUSERS, GRILLES AND PILING THAT ARE TO BE INSTALLED.
  - ELECTRICAL CONTRACTORS SHALL COORDINATE WITH A/C SUBCONTRACTOR TO AVOID CONFLICT DETAILS.
  - IF CONFLICT SHOULD OCCUR ON LAYOUTS BETWEEN MECHANICAL, ELECTRICAL, OR OTHER ENGINEERS, THE ARCHITECT'S PLANS SHALL GOVERN.
  - LOCATION OF LUMINAIRES AND OTHER ITEMS AS SPECIFIED ON REFLECTED CEILING PLAN AND RELATED DOCUMENTS, SHALL NOT BE CHANGED WITHOUT APPROVAL IN WRITING BY THE ARCHITECT.
  - SEE MECHANICAL DWG. FOR DUCT AND DIFFUSER LOCATIONS.
  - INSTALL SPRINKLER HEADS SYMMETRICALLY AND HARBORINGLY IN ALIGNMENT WITH RESPECT TO LUMINAIRES AND OTHER CEILING FIXTURES.
  - ALL SPRINKLER LINES TO BE INSTALLED AS CLOSE AS POSSIBLE TO STRUCTURE ABOVE. (SPRINKLER HEADS AT ALL OPEN CEILINGS TO BE TURNED UP)
  - PROVIDE ADEQUATE CLEARANCES FOR FIXTURES, DUCTS, CEILINGS AND RELATED AND APPURTENANT ITEMS NECESSARY TO MAINTAIN THE SPECIFIED HEIGHT.
  - FOR TYPICAL SEISMIC BRACING AT CEILING (NECESSARY), SEE SHEET AS03. PROVIDE ONE CEILING BRACING ASSEMBLY AS REQUIRED BY LOCAL JURISDICTIONS.
  - INSTALL UNDERWRITERS LABORATORIES, INC. (UL-L) LABELED DEVICES THROUGHOUT, AS REQUIRED BY CODE.
  - TESTING OF EMERGENCY LIGHTING IS REQUIRED AS PER STATE & LOCAL JURISDICTION CONTRACTOR TO CALL FOR TESTING PRIOR TO FINAL INSPECTION (TESTING MUST BE BY DISCONNECTING MAIN).
- SUPPORT STRUTS SHALL REMAIN A 5-WIRE POWER CABLE. SUPPORT STRUTS SHALL BE 16 GAUGE GALVANIZED STEEL, 1 3/4" X 1 3/4" OUTSIDE DIMENSION WITH INTEGRAL BEAD TO SUPPORT FLAT CABLE.
- LIGHTING PLAN SPACES AS REFERENCE ONLY FOR DIAGRAMMATIC PURPOSES - A SITE-SPECIFIC LIGHTING PLAN SHALL BE DEVELOPED AND PROVIDED BY ELECTRICAL ENGINEER FOR EACH PROJECT.
- WHEN NECESSARY PROVIDE SEISMIC BRACING AND COMPRESSION STRUTS TO CEILING. ALL CEILING LIGHT FIXTURES SHALL BE SUSPENDED IN COMPLIANCE WITH GOVERNING CODES.
- GC MUST AM ALL TRACK HEADS TO 60" AFF ON PERIMETER WALLS.
- GC MUST AM TRACK HEADS TO ILLUMINATE ALL FLOOR TABLE TOPS.
- TRACK LIGHT TO BE 4" FROM WALL FIXTURES OR 6" FROM WALLS, TYP. UNLESS OTHERWISE NOTED.
- ALL TRACK LIGHTING TO BE 6" FROM WINDOW MULLIONS TYP. UNLESS OTHERWISE NOTED.
- 30" DIA. DECORATIVE MEDALLION AT TYPE 'G' FIXTURES AT CEILING HEIGHT, SELECTED BY OWNER, INSTALLED BY GC.
- CRYSTORAMA, D119, (PENDANT) DECORATIVE CHANDELER, (12) LIGHTS 2 HER-60W B10, SALES FLOOR CHANDELER
- CRYSTORAMA, D18K, MEDIUM CHANDELER - PENDANT (ENGLISH BRONZE FINISH) SINGLE (HER) 60W MEDIUM BASE
- NIMKA-GROUP, 3123-488, MINI CHANDELER - PENDANT (7X10R BRONZE FINISH) (1) 60W MEDIUM BASE
- CHARIE PINK CHANDELER WITH PINK CRYSTAL HEARTS INSTALLED BY GC
- MEDIUM CHARIE ORL CHANDELER WITH PINK CRYSTAL HEARTS INSTALLED BY GC
- NIMKA WHITE CHANDELER
- FACILITY SOLUTIONS GROUP-EL-12-BLACK/SMOKE, R5P CHANDELER - PENDANT (BLACK FINISH) - (12) 60W MEDIUM BASE
- COOPER LIGHTING - METALUX, Z088-3-32-A125-UNI-EBB1, 2X4 RECESSED TROFFER WITH ACRYLIC LENS (2) 32W - 18 U-TUBE
- COOPER LIGHTING - METALUX, Z088-2-0618-A125-UNI-EBB1, 2X4 RECESSED TROFFER WITH ACRYLIC LENS (2) 32W - 18 U-TUBE
- MERCURY, M4-2-32-0CT-C-ELB-UNI, (12) LAMP SHIPP LIGHT (PENDANT), (2) 32W T-8, PROVIDE CHAIN SET FOR PENDANT MOUNTING FIXTURE, INSTALL AT UNIFORM HEIGHT 36" (MINIMUM) ABOVE HEIGHT OF TENANT SHELVING
- COOPER LIGHTING, 18-332-UNV-UP-L, 1' X 4' (3) 32W T-8, PROVIDE SET FOR PENDANT MOUNTING FIXTURE, INSTALL AT UNIFORM HEIGHT 12' A.F.F. FLUORESCENT WITH HIGH BAY LOOKER LOUVER EM BALLAST TO BE FIELD INSTALLED
- COOPER LIGHTING, 18-332-UNV-UP-L, 1' X 4' (3) 32W T-8, PROVIDE SET FOR PENDANT MOUNTING FIXTURE, INSTALL AT UNIFORM HEIGHT 12' A.F.F. FLUORESCENT WITH HIGH BAY LOOKER LOUVER EM BALLAST TO BE FIELD INSTALLED
- ACQUITE LIGHT - PRISMATIC HD LIGHTS, HB-1-G0P5-01-RH6-P15, (1) 175W LIGHT FIXTURES TO BE MOUNTED INDIVIDUALLY AND SECURED TO THREADED ROD. BOTTOM OF LENS TO BE SET AT 12' A.F.F.
- MERCURY, 2X2 SURFACE MOUNT FIXT WITH ACRYLIC LENS (2) 40W BAY
- MERCURY, 2X2 SURFACE MOUNT FIXT WITH ACRYLIC LENS AND EMERGENCY BALLAST (2) 40W BAY
- M-FM
- PATHWAY FLEXIFLEX - CLEAR SINGLE FACE EDGE-LIT EXIT SIGN WITH RED LETTERS (LED, INCLUDED), PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK-UP (USED ON SALES FLOOR OF CHARLIE & CHARLIE PREMIUM ONLY)
- PATHWAY FLEXOR-DL, THERMOPLASTIC WHITE EXIT SIGN WITH RED LETTERS (LED, INCLUDED), PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK-UP (USED ON SALES FLOOR OF LIFESTYLE & PROMOCHESTER STORES)
- PATHWAY FLEXIFLEX - DOUBLE FACE EDGE-LIT EXIT SIGN WITH RED LETTERS ON WRAPAR BACKGROUNDED, INCLUDED, PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK-UP
- ASTRALE: TP-0-R-W-EM - THERMOPLASTIC WHITE EXIT SIGN WITH RED LETTERS, SPECIFIC SITE-SPECIFIC DIMENSIONS TO BE PROVIDED BY GC. PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK-UP (TO BE USED ON SALES FLOOR WHEN REQUIRED BY LI)
- CHARMING CHARLIE CUSTOM FIXTURE UL APPROVED FOR WET LOCATIONS EXTERIOR SCENES, (2) PAR 20-40 W. COORDINATE MOUNTING HEIGHT WITH ARCH PLANS.
- R5P SCORCELER/CANDELABRA - WALL MOUNTED (BLACK FINISH) (2) 60W MEDIUM BASE
- WORLD IMPORTS - WALL SCORCE BRONZE FINISH WITH WHITE GLASS (1) 60W
- WORLD IMPORTS - WALL SCORCE NICKEL FINISH WITH WHITE GLASS (1) 60W

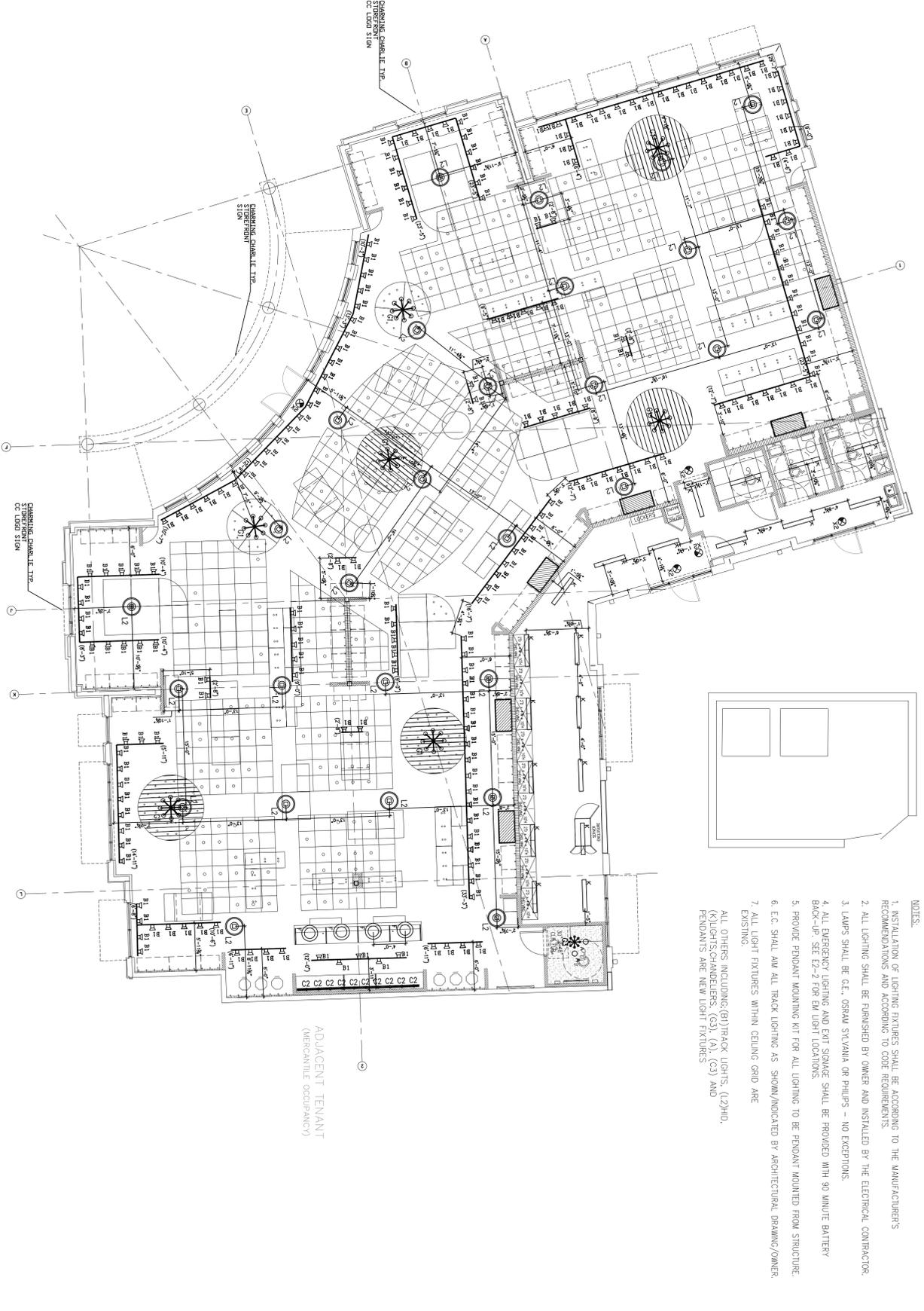


2 LIGHTING HEIGHTS AND CONNECTIONS

SCALE: NOT TO SCALE

1 REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"



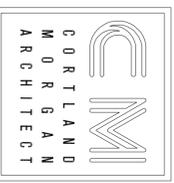
SYMBOL	DESCRIPTION	WATTS
Q1	PATHWAY LIGHTING/RSUITE/08200R, 6" RECESSED ROUND CRT DOWNLIGHT - CLEAR ALZAK TRM	42
Q1-EM	PATHWAY LIGHTING/RSUITE/08200R, 6" RECESSED ROUND CRT DOWNLIGHT - CLEAR ALZAK TRM-WITH EMERGENCY BALLAST	42
B1	CON-TECH LIGHT-C12A339N, TRACK MOUNTED - TRACK HEAD (WHITE); WITH (1) 18W PAR 38 LED LAMP	18
BH	CON-TECH LIGHT-C12A339N, TRACK MOUNTED - TRACK HEAD (WHITE); WITH (1) 18W PAR 38 LED LAMP-WITH MONOPONT LIGHT	18
G2	CON-TECH, C1610, UNIVERSAL LAMP HOLDER TRACK HEAD WHITE (1) 7W PAR 20 LED	7
G3	CON-TECH LIGHT 6" SURFACE MOUNTED - SINGLE CIRCUIT TRACK (WHITE)	--
BP-1	PATHWAY LIGHTING, AZ-2-RL-10, FIXED LENS BAY-HEAD MOUNTED (2) 5.4W (INCLUDED)	12
BP-2	PATHWAY LIGHTING, AZ-2-DL, FIXED LENS BAY-HEAD EMERGENCY LIGHT (WALL OR CEILING MOUNTED) (2) 5.4W (INCLUDED)	12
F	M4 LIGHTING, P2343/498Z, MURRAY P235 PENDANT BK BRONZE FINISH (1) 25W PENDANT WITH 90 MINUTE EMERGENCY BATTERY BACK-UP AT LEANING MIRROR AT 6' AFF; VERY HIGH BAY LIGHTS ON PLAN	100
G	30" DIA. DECORATIVE MEDALLION AT TYPE 'G' FIXTURES AT CEILING HEIGHT, SELECTED BY OWNER, INSTALLED BY GC.	-
G1	CRYSTORAMA, D119, (PENDANT) DECORATIVE CHANDELER, (12) LIGHTS 2 HER-60W B10, SALES FLOOR CHANDELER	720
G2	CRYSTORAMA, D18K, MEDIUM CHANDELER - PENDANT (ENGLISH BRONZE FINISH) SINGLE (HER) 60W MEDIUM BASE	360
G3	NIMKA-GROUP, 3123-488, MINI CHANDELER - PENDANT (7X10R BRONZE FINISH) (1) 60W MEDIUM BASE	60
G4	CHARIE PINK CHANDELER WITH PINK CRYSTAL HEARTS INSTALLED BY GC	-
G5	MEDIUM CHARIE ORL CHANDELER WITH PINK CRYSTAL HEARTS INSTALLED BY GC	-
G6	NIMKA WHITE CHANDELER	-
G7	FACILITY SOLUTIONS GROUP-EL-12-BLACK/SMOKE, R5P CHANDELER - PENDANT (BLACK FINISH) - (12) 60W MEDIUM BASE	720
J	COOPER LIGHTING - METALUX, Z088-3-32-A125-UNI-EBB1, 2X4 RECESSED TROFFER WITH ACRYLIC LENS (2) 32W - 18 U-TUBE	91
K	COOPER LIGHTING - METALUX, Z088-2-0618-A125-UNI-EBB1, 2X4 RECESSED TROFFER WITH ACRYLIC LENS (2) 32W - 18 U-TUBE	91
L	MERCURY, M4-2-32-0CT-C-ELB-UNI, (12) LAMP SHIPP LIGHT (PENDANT), (2) 32W T-8, PROVIDE CHAIN SET FOR PENDANT MOUNTING FIXTURE, INSTALL AT UNIFORM HEIGHT 36" (MINIMUM) ABOVE HEIGHT OF TENANT SHELVING	64
M	COOPER LIGHTING, 18-332-UNV-UP-L, 1' X 4' (3) 32W T-8, PROVIDE SET FOR PENDANT MOUNTING FIXTURE, INSTALL AT UNIFORM HEIGHT 12' A.F.F. FLUORESCENT WITH HIGH BAY LOOKER LOUVER EM BALLAST TO BE FIELD INSTALLED	96
N	COOPER LIGHTING, 18-332-UNV-UP-L, 1' X 4' (3) 32W T-8, PROVIDE SET FOR PENDANT MOUNTING FIXTURE, INSTALL AT UNIFORM HEIGHT 12' A.F.F. FLUORESCENT WITH HIGH BAY LOOKER LOUVER EM BALLAST TO BE FIELD INSTALLED	96
O	ACQUITE LIGHT - PRISMATIC HD LIGHTS, HB-1-G0P5-01-RH6-P15, (1) 175W LIGHT FIXTURES TO BE MOUNTED INDIVIDUALLY AND SECURED TO THREADED ROD. BOTTOM OF LENS TO BE SET AT 12' A.F.F.	175
P	MERCURY, 2X2 SURFACE MOUNT FIXT WITH ACRYLIC LENS (2) 40W BAY	80
Q	MERCURY, 2X2 SURFACE MOUNT FIXT WITH ACRYLIC LENS AND EMERGENCY BALLAST (2) 40W BAY	80
R	M-FM	
S	PATHWAY FLEXIFLEX - CLEAR SINGLE FACE EDGE-LIT EXIT SIGN WITH RED LETTERS (LED, INCLUDED), PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK-UP (USED ON SALES FLOOR OF CHARLIE & CHARLIE PREMIUM ONLY)	5
T	PATHWAY FLEXOR-DL, THERMOPLASTIC WHITE EXIT SIGN WITH RED LETTERS (LED, INCLUDED), PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK-UP (USED ON SALES FLOOR OF LIFESTYLE & PROMOCHESTER STORES)	5
U	PATHWAY FLEXIFLEX - DOUBLE FACE EDGE-LIT EXIT SIGN WITH RED LETTERS ON WRAPAR BACKGROUNDED, INCLUDED, PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK-UP	5
V	ASTRALE: TP-0-R-W-EM - THERMOPLASTIC WHITE EXIT SIGN WITH RED LETTERS, SPECIFIC SITE-SPECIFIC DIMENSIONS TO BE PROVIDED BY GC. PROVIDE WITH 90 MINUTE EMERGENCY BATTERY BACK-UP (TO BE USED ON SALES FLOOR WHEN REQUIRED BY LI)	2.5
W	CHARMING CHARLIE CUSTOM FIXTURE UL APPROVED FOR WET LOCATIONS EXTERIOR SCENES, (2) PAR 20-40 W. COORDINATE MOUNTING HEIGHT WITH ARCH PLANS.	80
X	R5P SCORCELER/CANDELABRA - WALL MOUNTED (BLACK FINISH) (2) 60W MEDIUM BASE	120
Y	WORLD IMPORTS - WALL SCORCE BRONZE FINISH WITH WHITE GLASS (1) 60W	60
Z	WORLD IMPORTS - WALL SCORCE NICKEL FINISH WITH WHITE GLASS (1) 60W	60

LIGHT FIXTURE SCHEDULE

REFLECTED CEILING PLAN

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET G002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.





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SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:  
CHARMING CHARLIE  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 579-1975

REVISIONS:

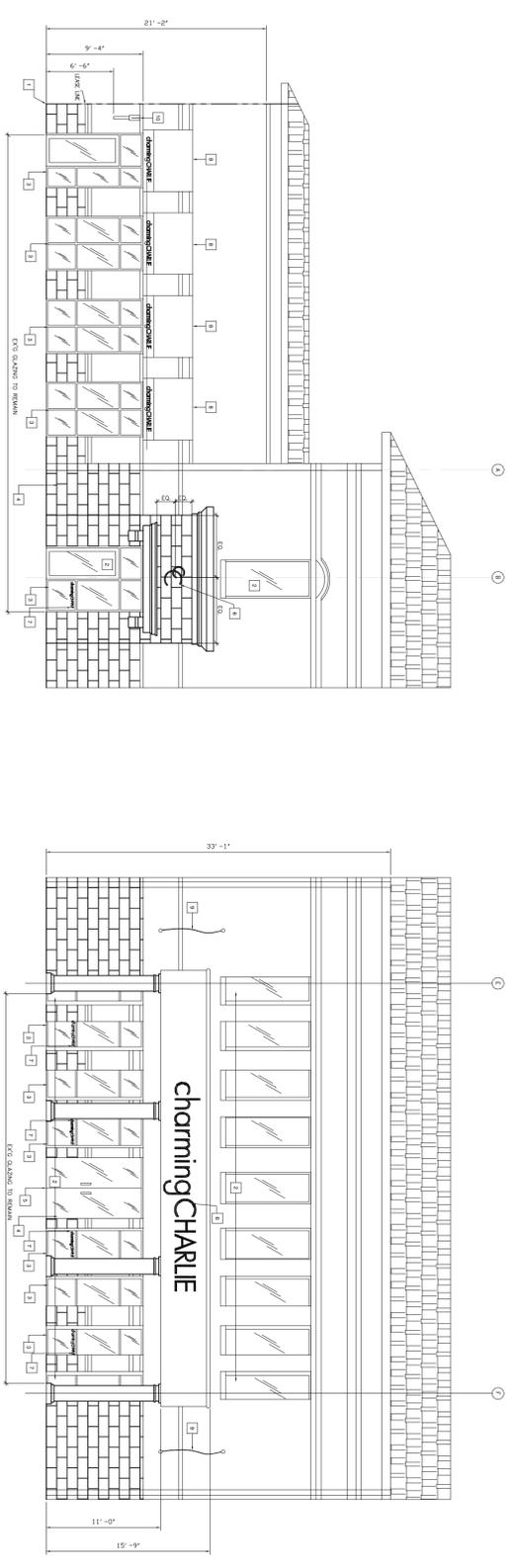
No.	Description	Date
Project No.:		0712
Drawn By:		
Reviewed By:		
Scale:	AS NOTED	
Date:	08.31.2011	
Filename:		
SHEET TITLE:		

STOREFRONT  
ELEVATION

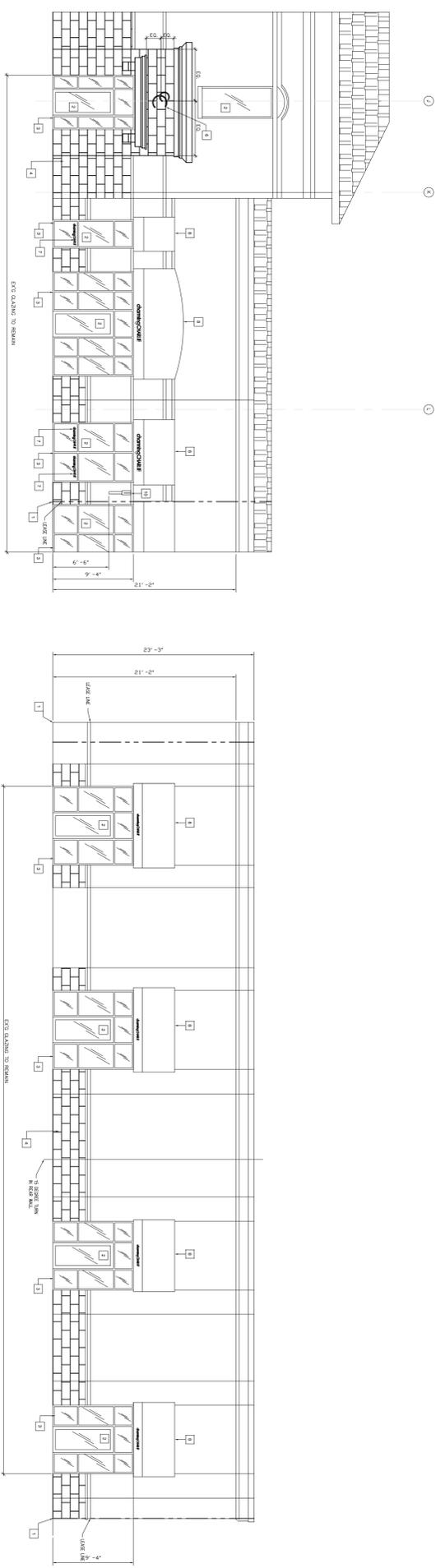
A200

SHEET NO.:

1. TENANT LEASE LINE
2. EXISTING STOREFRONT GLAZING, TO REMAIN (TYPICAL).
3. EXISTING BOTTOM RAIL AT STOREFRONT (TYPICAL).
4. EXISTING TENANT'S STOREFRONT ELEVATION.
5. EXISTING PAIR 3'-0" x 6'-0" GLASS DOORS, HARDWARE AND EQUIPMENT TO REMAIN. ENSURE ALL EXISTING HARDWARE IS FULLY OPERATIONAL AND IN GOOD WORKING ORDER. C.C. TO CLEAN ALL GLAZING PRIOR TO COMPLETION OF WORK.
6. NEW TENANT SIGNAGE TO BE INSTALLED ON EXISTING FACADE BY TENANT SIGN VENDOR PER LANDLORD'S SIGNAGE CRITERIA. PROVIDE FINAL P.N. MOUNTING AND INSTALLATION. C.C. TO PATCH AND REPAIR FINISH, AS REQUIRED, TO MATCH EXISTING STOREFRONT FINISHES.
7. 3" HIGH REVERSE WHITE VINYL DIE-CUT LETTERS TO BE INSTALLED ON INTERIOR SIDE OF GLAZING (CENTER ON PANE) AS SHOWN AT 30' A.F.F.
8. NEW TENANT AMING FABRIC "CHARMING CHARLIE RED" TO REPLACE EXISTING FABRIC BY VENDOR PER TENANT'S CRITERIA.
9. NEW CHARMING CHARLIE BANNER SIGNS 2' WIDE X 6' HIGH.
10. 1"p. CHARMING CHARLIE BLADE SIGN C.C. TO PROTECT DURING CONSTRUCTION.



2 STOREFRONT LEFT SIDE ELEVATION AND MAIN ENTRY  
SCALE: 1/4" = 1'-0"



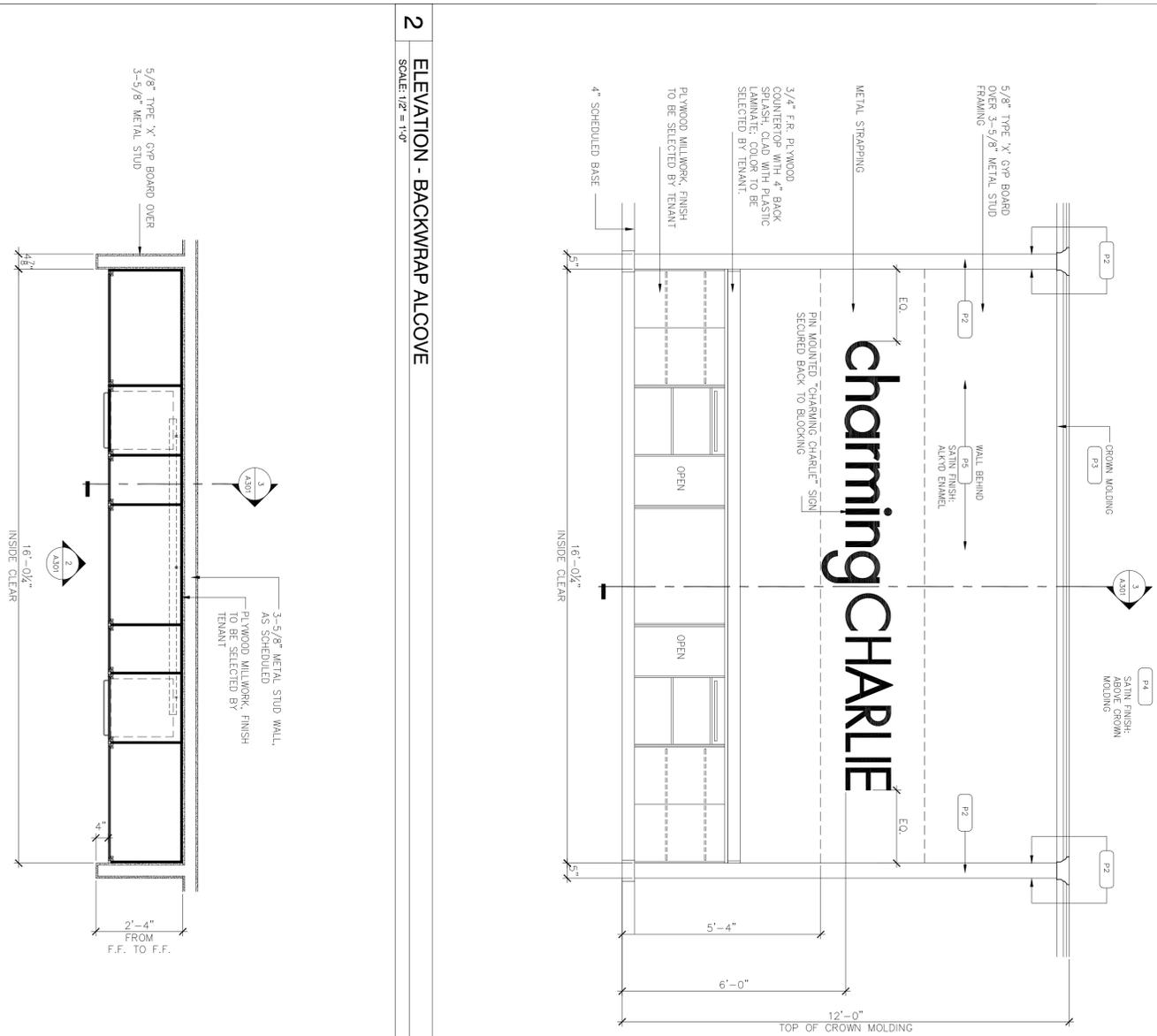
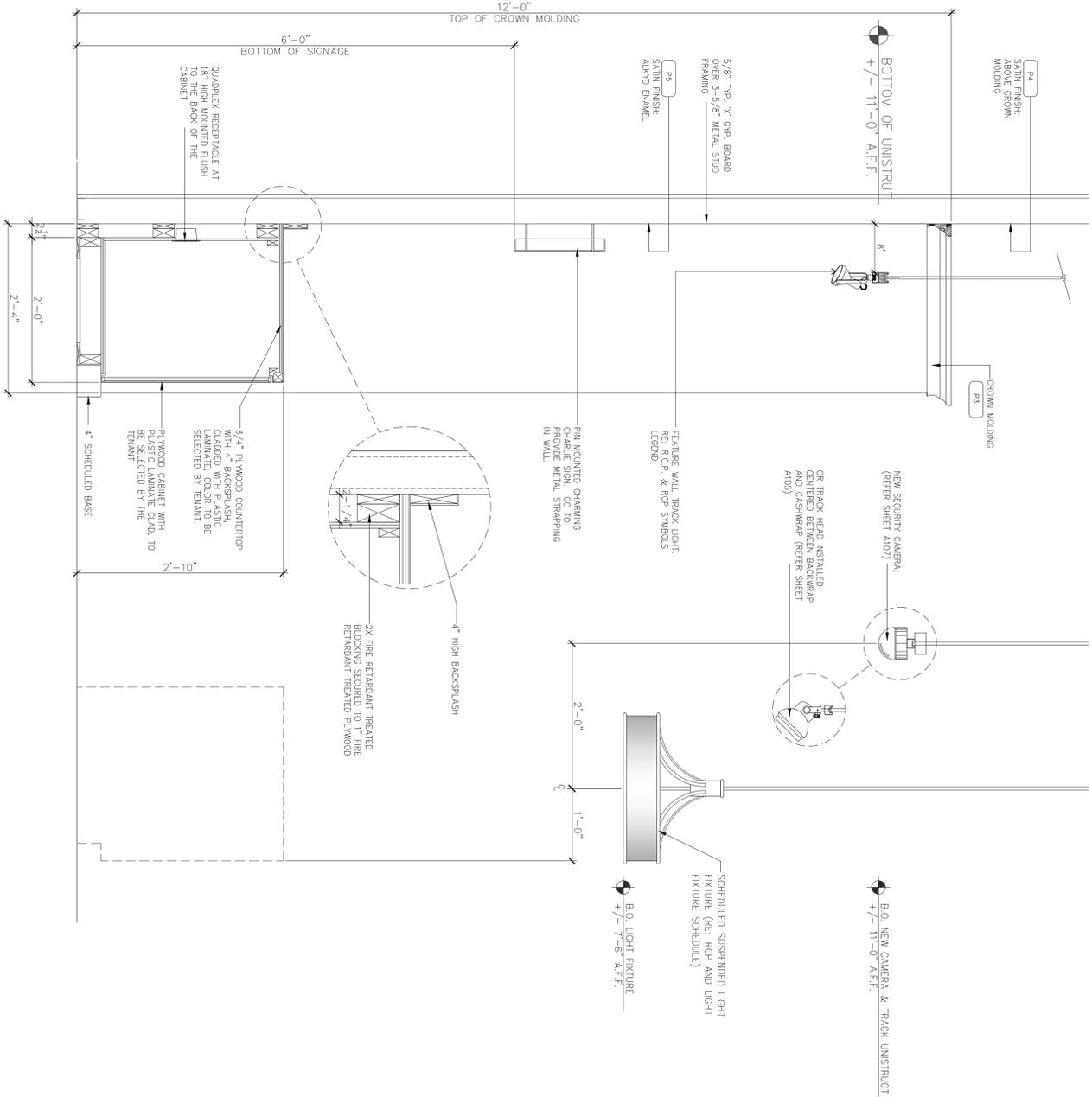
3 STOREFRONT RIGHT SIDE ELEVATION AND REAR ELEVATION  
SCALE: 1/4" = 1'-0"

4 N/A ENLARGED STOREFRONT SCALE: NONE (KEY NOTE SYMBOL) #

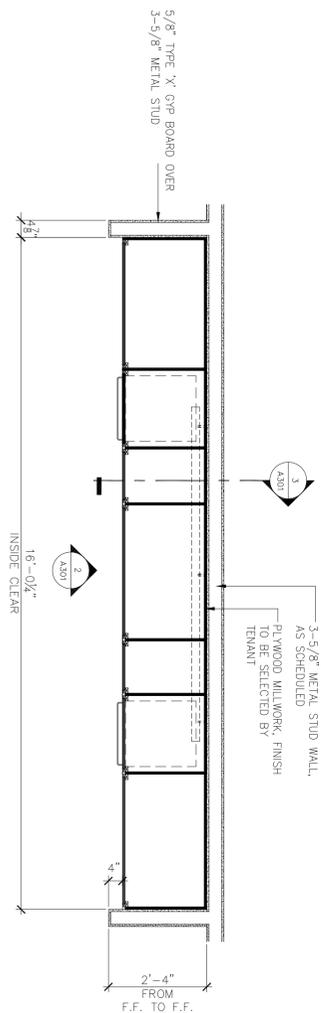
1 KEY NOTES STOREFRONT ELEVATION SCALE: NONE (KEY NOTE SYMBOL) #

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.

No.	Description	Date
Project No.:		07/12
Drawn By:		
Reviewed By:		
Date:		08.31.2011
Filename:		
SHEET TITLE:		



1 ENLARGED PLAN - BACKWRAP ALCOVE



3 SECTION AT BACK WRAP ALCOVE

2 ELEVATION - BACKWRAP ALCOVE

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.



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**charming CHARLIE**  
LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:

CHARMING CHARLIE  
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REVISIONS:

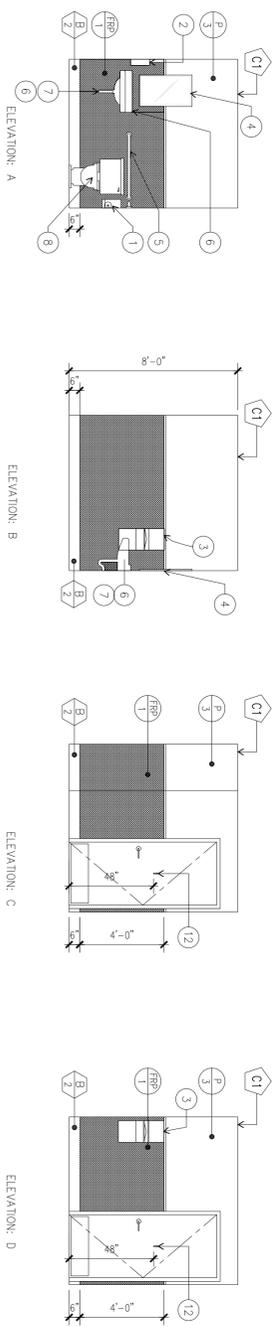
No.	Description	Date
0712		
AS NOTED		
08.31.2011		

Project No.:  
Drawn By:  
Reviewed By:  
Date:  
Filename:  
SHEET TITLE:

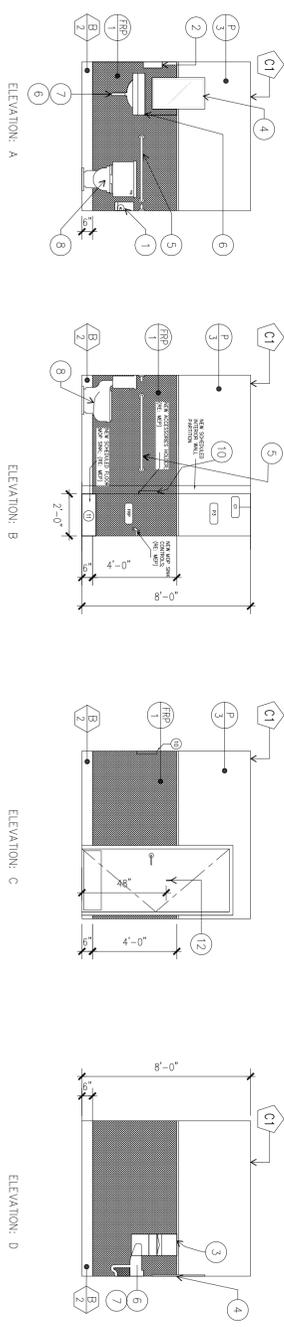
ENLARGED TOILET,  
MANAGER OFFICE PLANS,  
ELEVATIONS, AND NOTES

SHEET NO.:

A400



4 MEN'S RESTROOM ELEVATIONS  
SCALE: 1/4" = 1'-0"

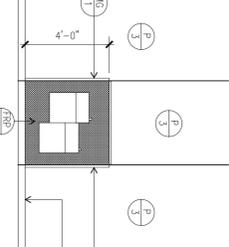


3 WOMEN'S RESTROOM ELEVATIONS  
SCALE: 1/4" = 1'-0"

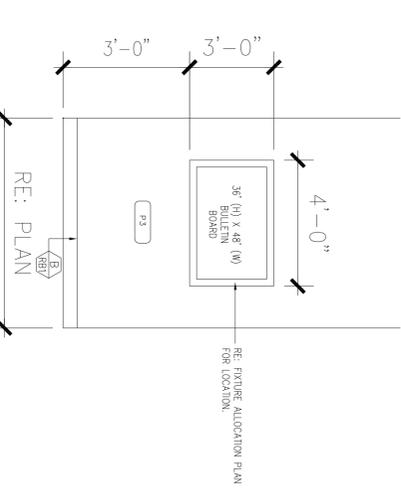
SYMBOL	DESCRIPTION	REMARKS
1	TOILET PAPER DISPENSER BOBROCK #P-2688	SURFACE MOUNTED
2	SOAP DISPENSER BOBROCK #P-2112	SURFACE MOUNTED
3	PAPER TOWEL DISPENSER & WASTE BOBROCK #P-3699	SURFACE MOUNTED
4	MIRROR AT LAVATORIES BOBROCK #P-193 1830	18" W x 30" H
5	ACCESSIBLE GRAB BARS BOBROCK #8606 SERIES	1 1/2" DIA. x 36" L AND 1 1/2" DIA. x 42" L LOOKED 35° TO TOP OF GRAB BAR ABOVE FINISHED FLOOR W/ NON-SLIP FINISH TO WALL SURFACES TO SUPPORT 250 LBS. OF FORCE APPLIED IN ANY DIRECTION. GRAB BARS MUST HAVE 1 1/2" CLEAR BETWEEN WALL & GRAB BAR PH: (813) 579-1975 (SEE DIMS). GRAB BAR WHERE REQD. (SEE DIMS).
6	LAVATORY	REFER TO MEP DIMS
7	INSULATION BELOW LAVATORY- RUBBER HAND LAY-QUARD	INSULATE P-T-RAP AND ANGLE VALVES W/ FULLY MOLDED INSULATION KIT PER ADAAG REQUIREMENTS
8	WATER CLOSET	REFER TO MEP DIMS
9	ENLARGED SEAT	REFER TO MEP DIMS
10	DRINKING FOUNTAIN	REFER TO MEP DIMS
11	SEAT COVER DISPENSER BOBROCK #P-221	SURFACE MOUNTED
12	MOP SINK	REFER TO MEP DIMS
	COAT HOOK	REFER TO DOOR SCHEDULE

10 ACCESSORIES SCHEDULE  
SCALE: NONE

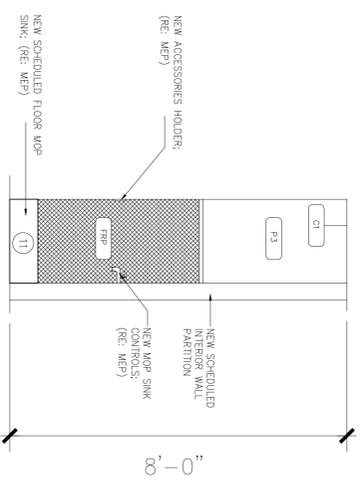
NOTE: O.C. TO PROVIDE DRINKING FOUNTAIN  
SPRINK ON HIGH SIDE OF ED AS SHOWN.



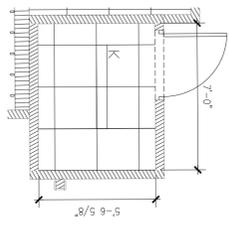
9 DRINKING FOUNTAIN ELEVATION  
SCALE: 1/4" = 1'-0"



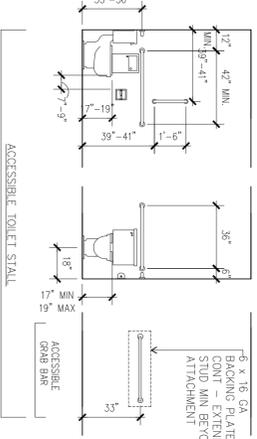
16 TYP. BULLETIN BOARD MOUNTING HEIGHTS  
SCALE: 1/2" = 1'-0"



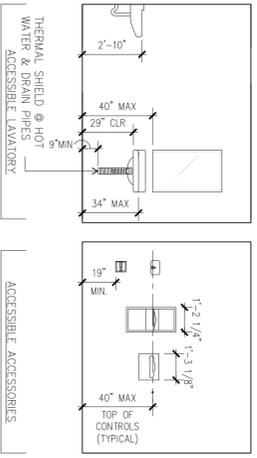
14 ENLARGED MOP SINK ELEVATION  
SCALE: 1/2" = 1'-0"



15 ENLARGED MANAGERS OFFICE RCP  
SCALE: 1/4" = 1'-0"



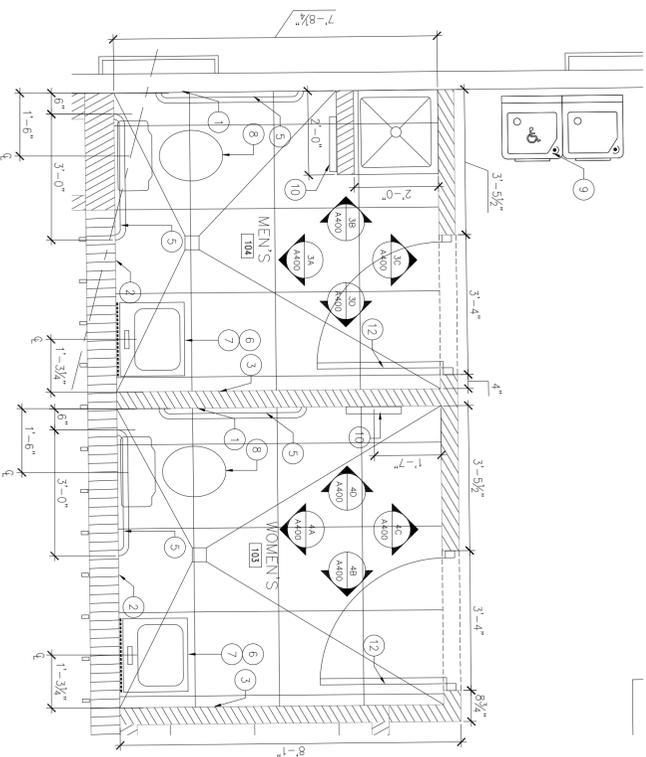
18 ENLARGED MANAGERS OFFICE PLAN  
SCALE: 1/4" = 1'-0"



14 ENLARGED MOP SINK ELEVATION  
SCALE: 1/2" = 1'-0"

NOTE: SEE SHEET 0003 FOR ADDITIONAL INFORMATION  
ON REQUIRED MOUNTING HEIGHTS AND CLEARANCES

13 ADA SANITARY FACILITIES  
MOUNTING HEIGHTS - TOILET FIXTURES & ACCESSORIES SCALE: 1/4" = 1'-0"



1 ENLARGED RESTROOM FLOOR PLAN  
SCALE: 1/2" = 1'-0"

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.



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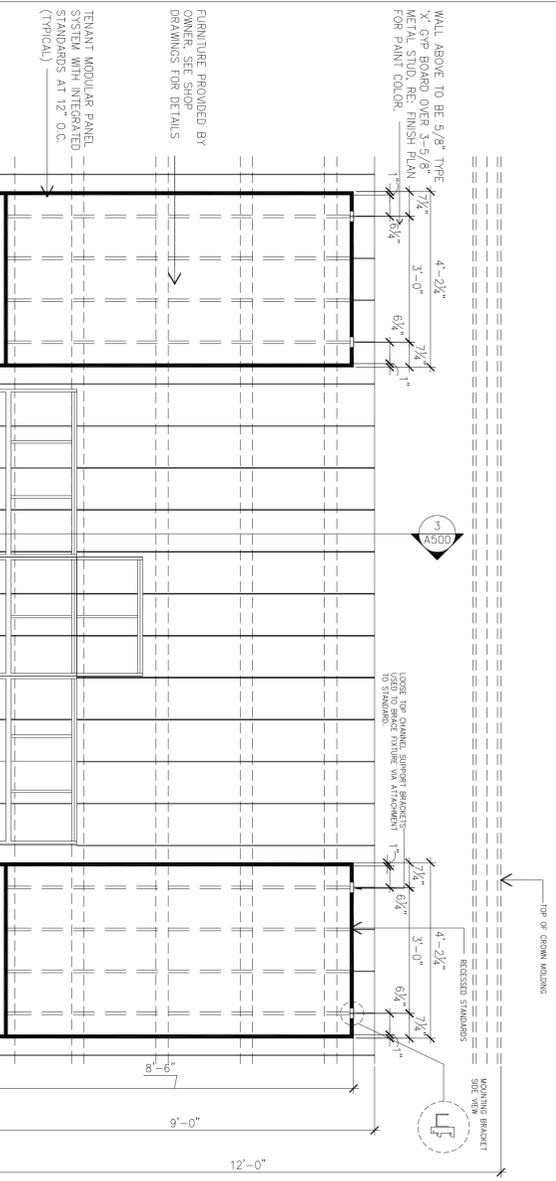
REVISIONS:

No.	Description	Date
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Drawn By:		
Reviewed By:		
Scale: AS NOTED		
Date: 08.31.2011		
Filename:		
SHEET TITLE:		

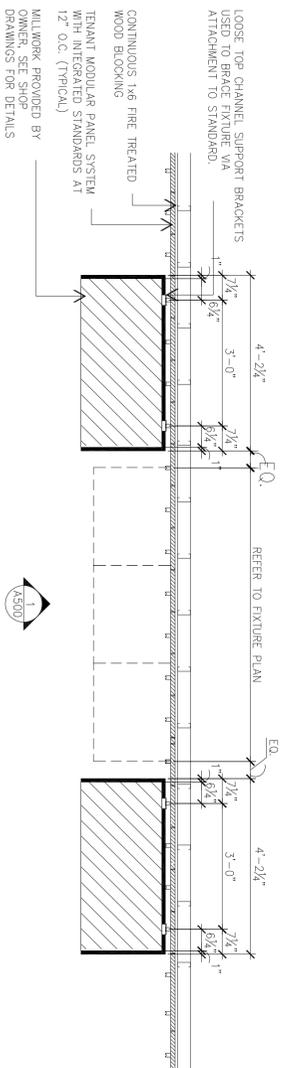
ENLARGED SALES ROOM  
MILLWORK PLAN &  
ELEVATIONS

SHEET NO.:

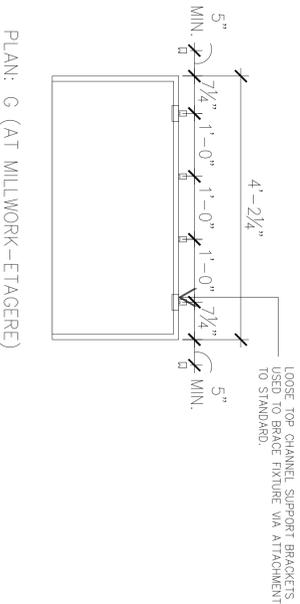
A5000



1 ENLARGED ELEVATION OF ETAGERE WALL FIXTURE & STACKING BENCH AT SALES AREA  
SCALE: 1/2" = 1'-0"



3 ENLARGED PLAN OF ETAGERE WALL FIXTURE & STACKING BENCH AT SALES AREA  
SCALE: 1/2" = 1'-0"

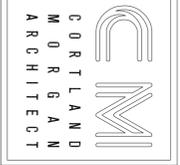


PLAN: G (AT MILLWORK-ETAGERE)

2 ETAGERE INSTALLATION DETAIL IN PLAN  
SCALE: NOT TO SCALE

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.





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ARLINGTON, TX 76012  
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SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:

CHARMING CHARLIE  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 579-1975

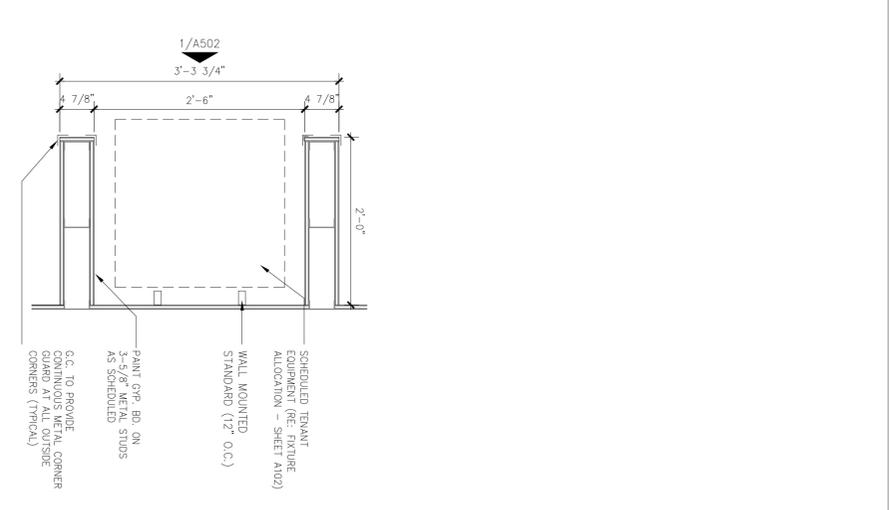
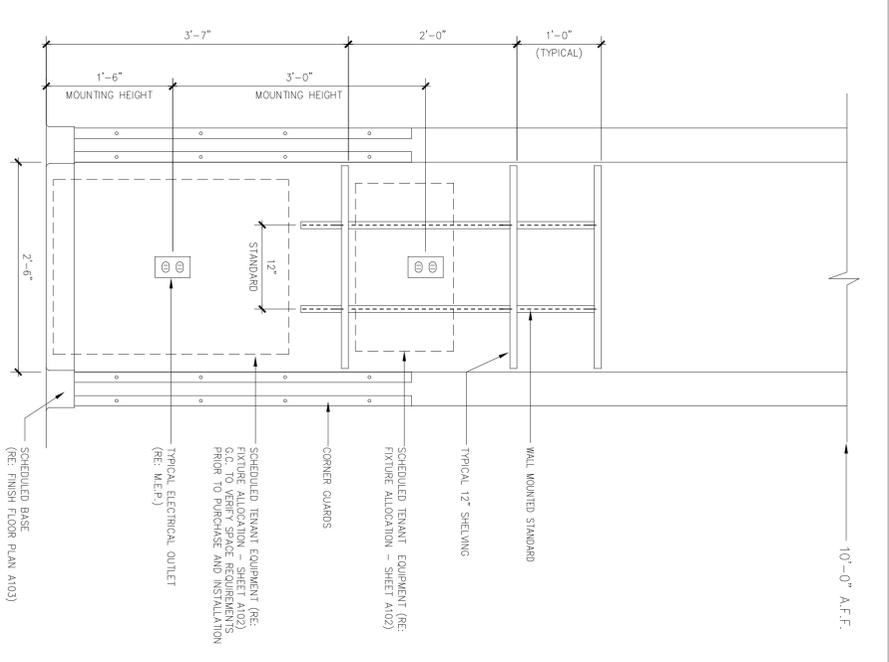
REVISIONS:

No.	Description	Date
Project No.:		07/12
Drawn By:		
Reviewed By:		
Scale:	AS NOTED	
Date:	08.31.2011	
Filename:		
SHEET TITLE:		

**SECTIONS, DETAILS & NOTES**

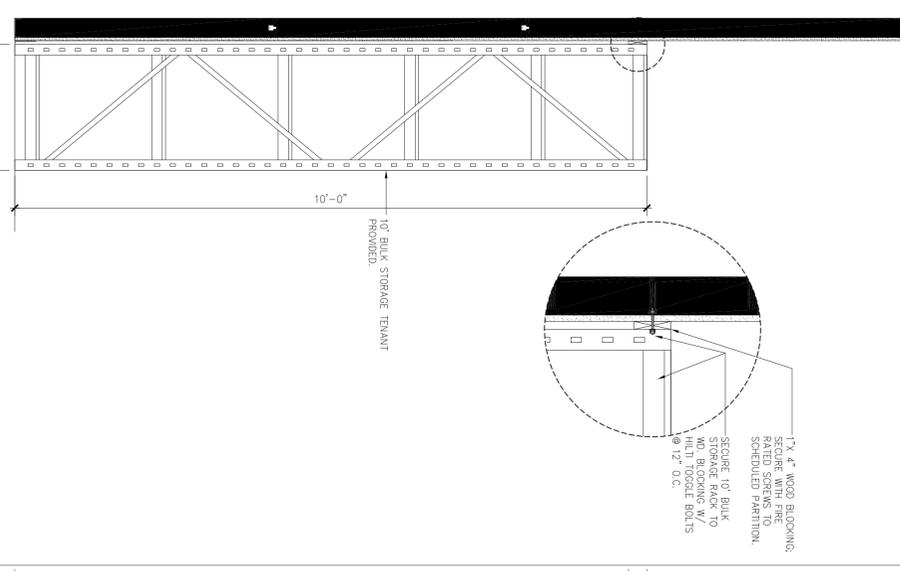
SHEET NO.:

**A502**

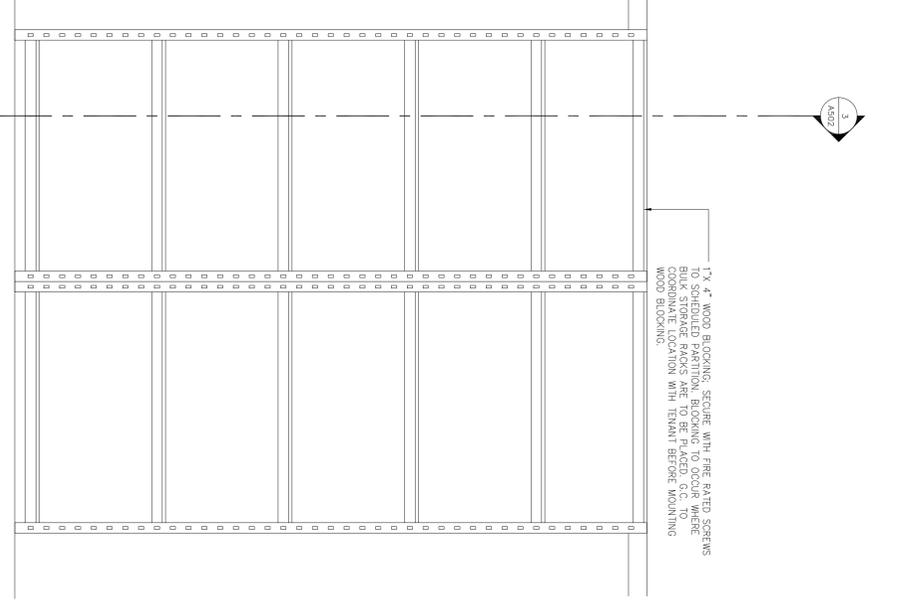


**1 ELEVATION AT MICROWAVE NICHE WALL**  
SCALE: 1" = 1'-0"

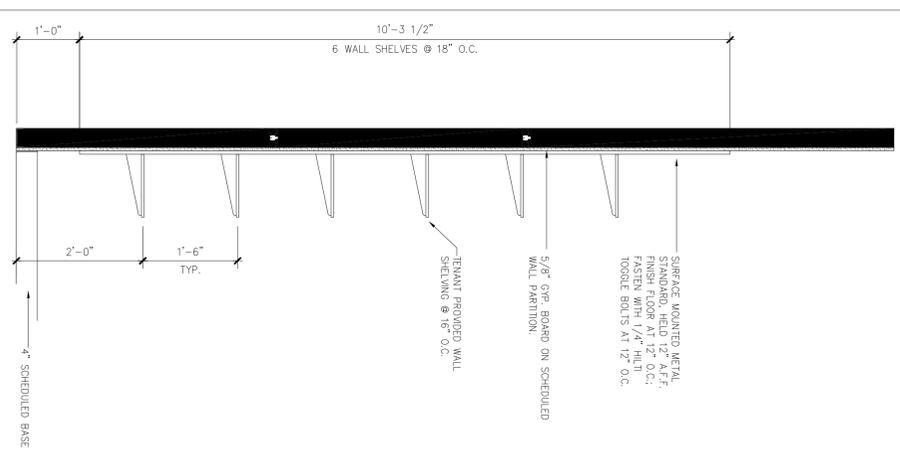
**2 ENLARGED MICROWAVE NICHE PLAN**  
SCALE: 1" = 1'-0"



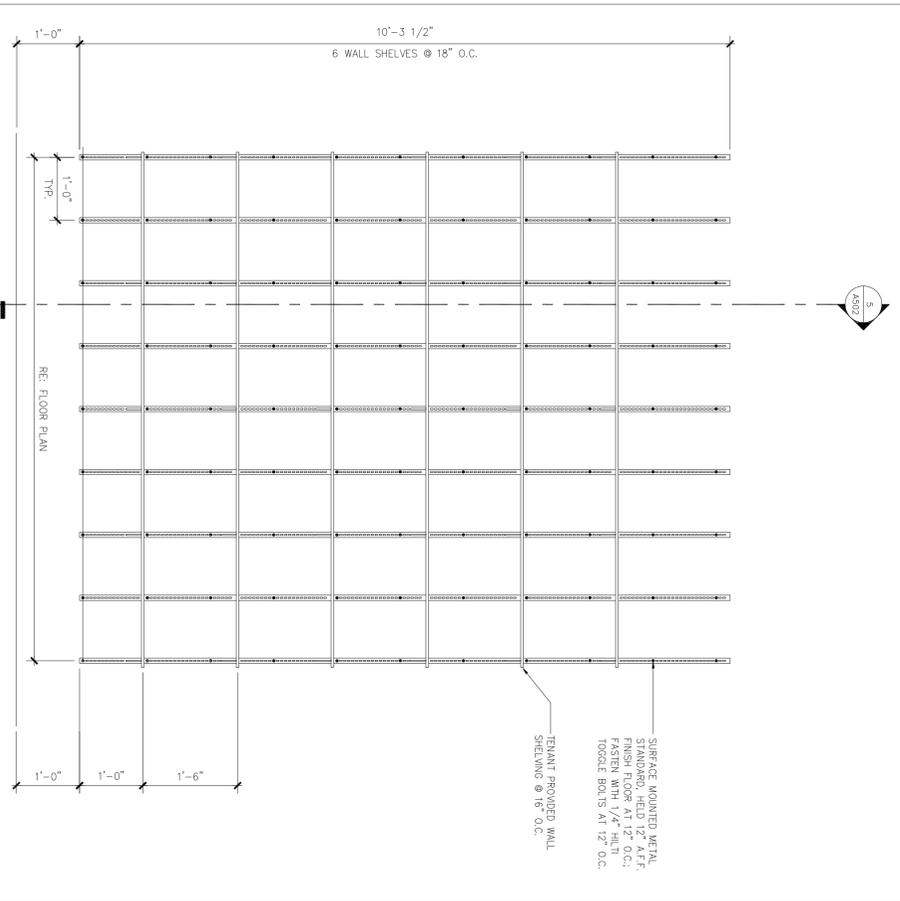
**3 SECTION AT STOCKROOM SHELVING UNIT**  
SCALE: 3/4" = 1'-0"



**4 ELEVATION OF STOCKROOM SHELVING UNIT**  
SCALE: 3/4" = 1'-0"



**5 SECTION AT STOCKROOM SHELVING**  
SCALE: 3/4" = 1'-0"



**6 ELEVATION OF STOCKROOM STANDARDS & SHELVING**  
SCALE: 3/4" = 1'-0"

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.







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PALM BEACH GARDENS, FL, 33410

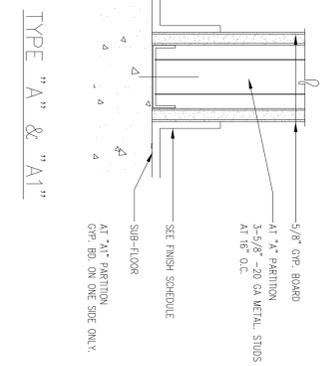
CLIENT:  
CHARMING CHARLIE  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 579-1975

REVISIONS:

No.	Description	Date
Project No.:	0712	
Drawn By:		
Reviewed By:		
Scale:	AS NOTED	
Date:	08.31.2011	
Filename:		
SHEET TITLE:		

PARTITION TYPES  
AND DETAILS

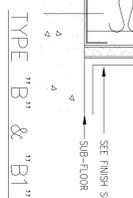
SHEET NO.:  
A505



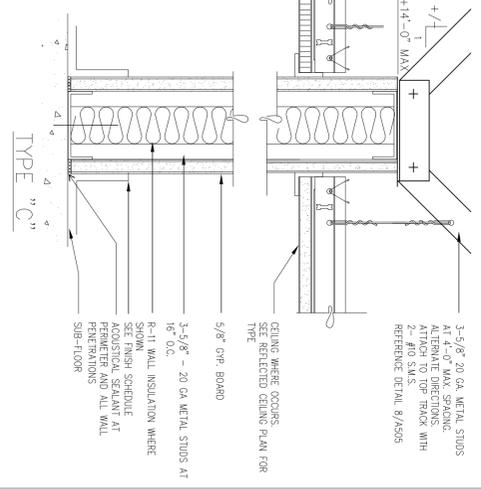
2- 1/4" DIAMETER WOOD SCREW AT 24" O.C.  
TO (E) FRAMING OR (N) BLOCKING.

TO BOTTOM SIDE OF CHORD  
DEFLECTION TRACK  
TO MIN. 4" ABOVE CEILING OR FULL HEIGHT  
AS REQUIRED BY CODE. GYP BOARD OR GYP BOARD ON  
AT LEAST ONE SIDE OF FULL HEIGHT WALLS -  
AND ON THE FULL HEIGHT WALLS OF ROOMS  
OPEN TO STRUCTURE.  
CEILING WHERE OCCURS, SEE REFLECTED  
CEILING PLAN FOR TYPE  
GYP BOARD

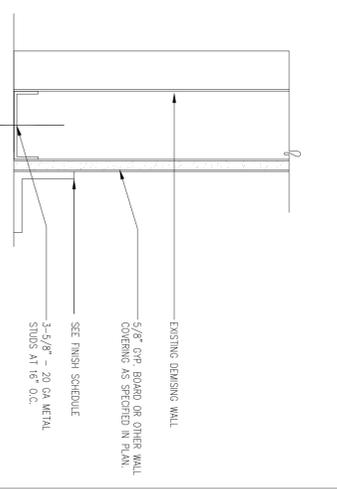
NOTE:  
NON-BEARING WALLS AND PARTITIONS: 3-5/8" - 20 GA  
METAL STUDS AT 16" O.C. WHEN HEIGHT IS LESS THAN  
14'-0" 6" x 20 GA STUDS @ 16" O.C. WHEN HEIGHT IS  
LESS THAN 20'-0".  
AT PARTITION "B" PROVIDE R-11 INSULATION.



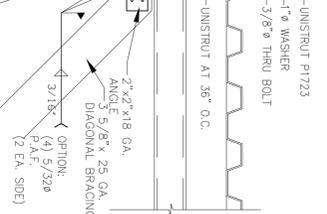
3-5/8" 20 GA METAL STUDS  
AT 4'-0" MAX SPACING.  
ALTERNATE DIRECTIONS:  
SPACING TRACK WITH  
2- #10 SMS.  
REFERENCE DETAIL B/A505



5/8" GYP BOARD  
1-5/8" - 20 GA METAL STUDS AT  
16" O.C.  
R-11 WALL INSULATION WHERE  
SHOWN.  
SEE FINISH SCHEDULE  
ACOUSTICAL SEALANT AT  
FENESTRATIONS  
SUB-FLOOR

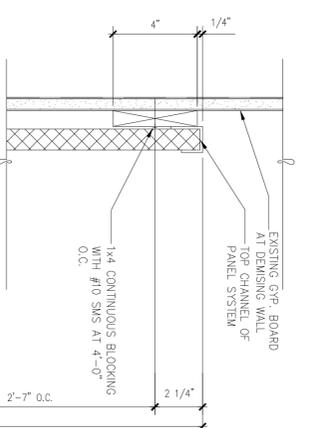


EXISTING DEMISING WALL  
5/8" GYP BOARD OR OTHER WALL  
COVERING AS SPECIFIED IN PLAN.  
SEE FINISH SCHEDULE  
3-5/8" - 20 GA METAL  
STUDS AT 16" O.C.  
TYPE "D1"  
NEW DEMISING WALL - GC  
TO MATCH FINISHES AND  
FIRE RATING TO ADJACENT  
WALLS.



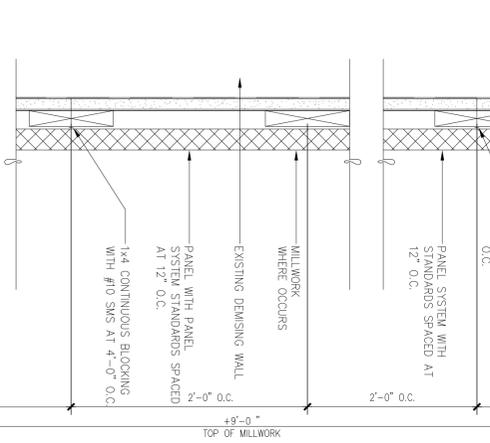
TYPE "E1"  
AS SHOWN WITH ONE LAYER 5/8"  
TYPE "X" GYP BOARD, OPPOSITE  
SIDE (FULL HEIGHT)

TYPE "E2"  
AS SHOWN WITH 6" METAL STUD  
FRAMING



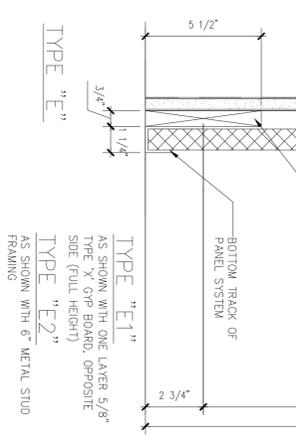
TYPE "E1"  
AS SHOWN WITH ONE LAYER 5/8"  
TYPE "X" GYP BOARD, OPPOSITE  
SIDE (FULL HEIGHT)

TYPE "E2"  
AS SHOWN WITH 6" METAL STUD  
FRAMING

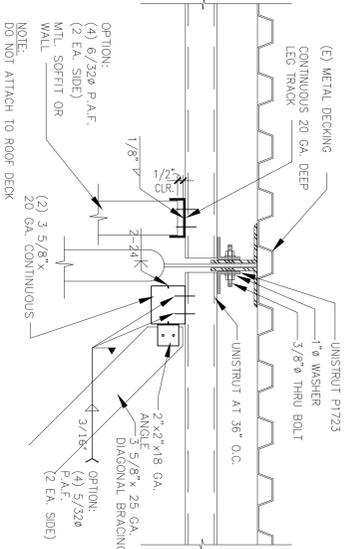


TYPE "E1"  
AS SHOWN WITH ONE LAYER 5/8"  
TYPE "X" GYP BOARD, OPPOSITE  
SIDE (FULL HEIGHT)

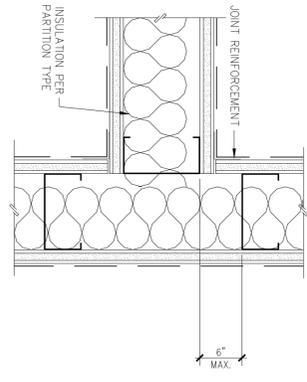
TYPE "E2"  
AS SHOWN WITH 6" METAL STUD  
FRAMING



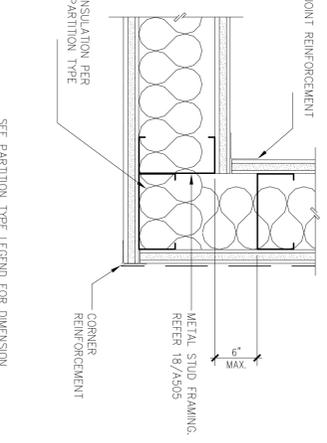
PARTITION LEGEND  
AT STANDARDS SCALE 3" = 1'-0"



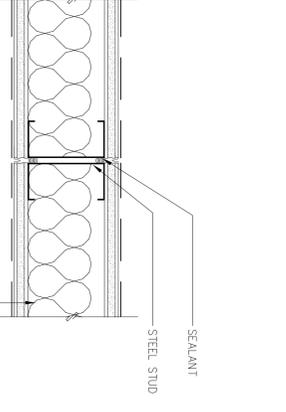
DIAGONAL BRACING TO DECK  
SCALE: 1/16" = 1'-0"



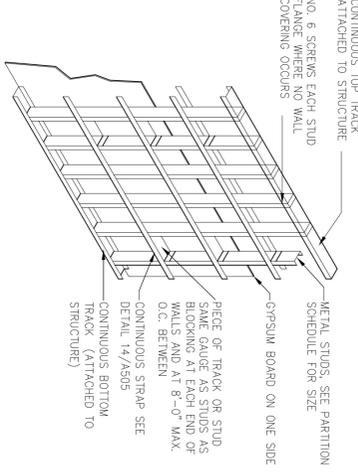
TYPICAL PARTITION  
AT INTERSECTION SCALE 3" = 1'-0"



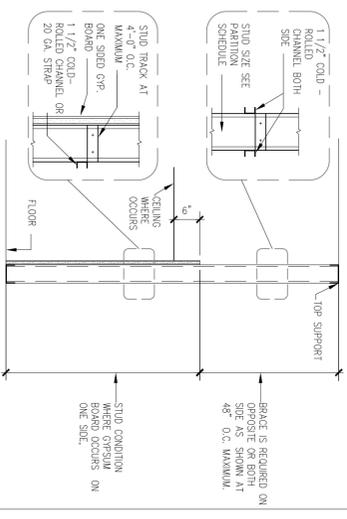
TYPICAL PARTITION  
AT CORNER SCALE 3" = 1'-0"



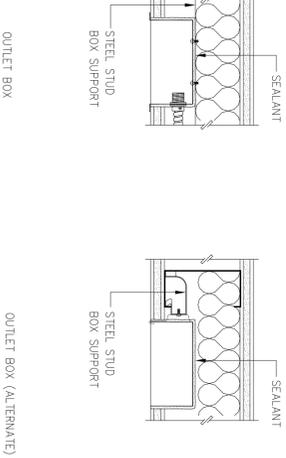
WALL CONTROL JOINT  
AT INTERIOR PARTITION SCALE 3" = 1'-0"



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



BRACING SECTION  
SCALE: 3" = 1'-0"

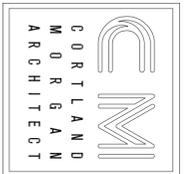


OUTLET BOX DETAIL  
SCALE: 3" = 1'-0"

STUD SPACING	STUD SPACING	FINISH MATERIAL	BRITTLE MATERIAL	UNSPARTED HEAVY LIFT	REMARKS
16" O.C.	24" O.C.	—	—	—	—
1 5/8" X 25 GA.	—	—	—	—	1. THE SPACING OF STUDS IS MAXIMUM UNLESS OTHERWISE STATED.
1 5/8" X 20 GA.	—	—	—	—	2. THE DIMENSIONS AND GAUGE OF THE STEEL STUDS ARE MINIMUM. THE STEEL STUDS ARE MINIMUM THE GAUGE AND/OR LARGER DIMENSIONS THAN SPECIFIED.
2 1/2" X 25 GA.	—	—	—	—	3. IF THE PARTITION CALLS FOR A FIRE RATED PARTITION, THE STUDS IN CORNER BOARD MUST BE TAPERED WITH JOINT COMPOUND.
2 1/2" X 20 GA.	—	—	—	—	—
2 1/2" X 18 GA.	—	—	—	—	—
3 5/8" X 23 GA.	—	—	—	—	—
3 5/8" X 20 GA.	—	—	—	—	—
3 5/8" X 18 GA.	—	—	—	—	—
3 5/8" X 16 GA.	—	—	—	—	—
4" X 23 GA.	—	—	—	—	—
4" X 20 GA.	—	—	—	—	—
4" X 18 GA.	—	—	—	—	—
4" X 16 GA.	—	—	—	—	—
6" X 20 GA.	—	—	—	—	—
6" X 18 GA.	—	—	—	—	—
6" X 16 GA.	—	—	—	—	—

STUD HEIGHT SCHEDULE  
SCALE: NONE

NOT USED  
SCALE: NONE



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SEAL:

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 PALM BEACH GARDENS, FL, 33410

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REVISIONS:

No.	Description	Date
Project No.:		0712
Drawn By:		
Reviewed By:		
Scale:	AS NOTED	
Date:	08.31.2011	
Filename:		
SHEET TITLE:	INTERIOR ELEVATIONS	

SHEET NO.:

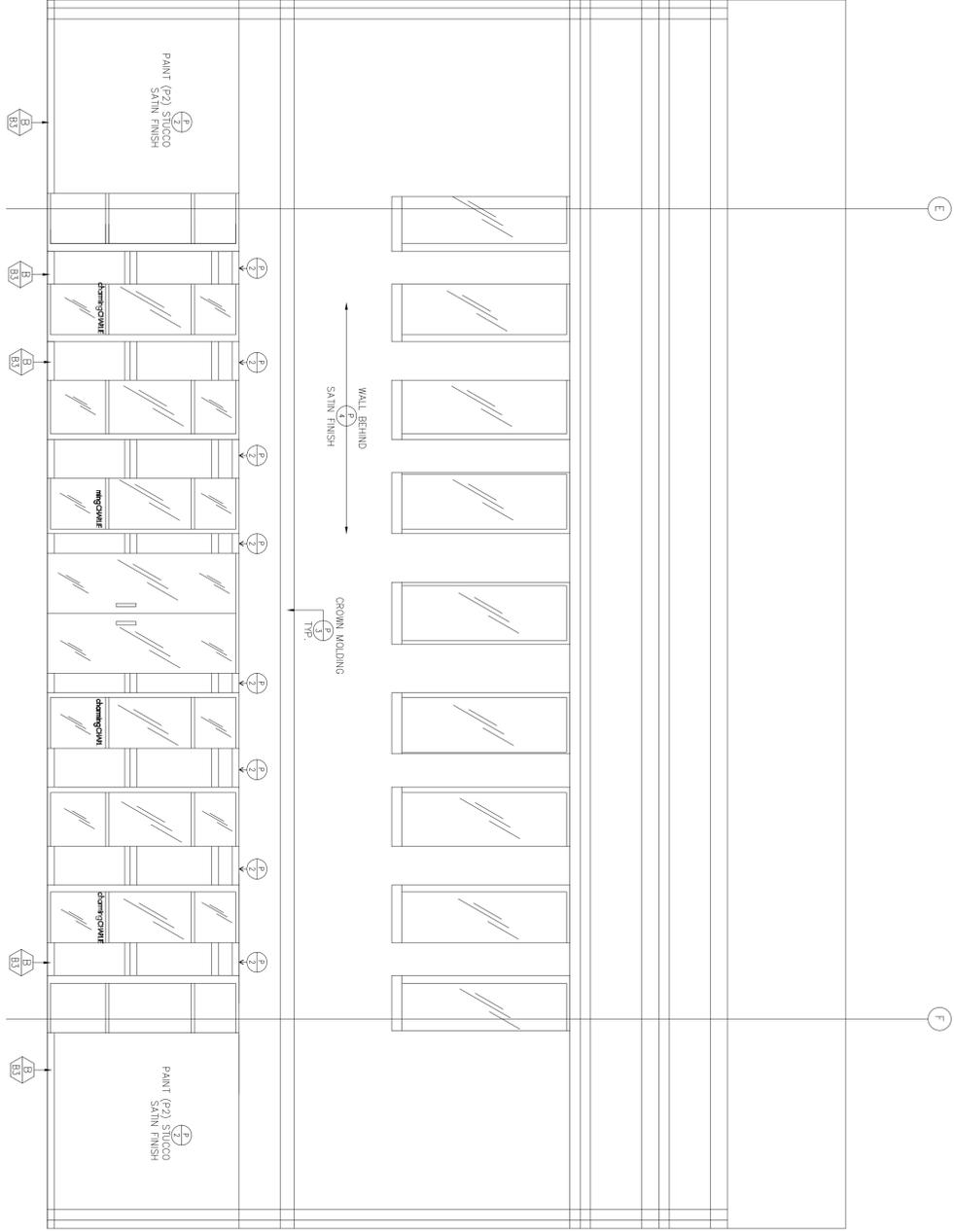
A600.1

NOT USED

SCALE  
 1/4" = 1'-0"

4

A PROJECT FOR:



INTERIOR ELEVATION - SALES AREA

SCALE  
 NOT TO SCALE

1

NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.





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REVISIONS:

No.	Description	Date
0712	AS NOTED	08.31.2011

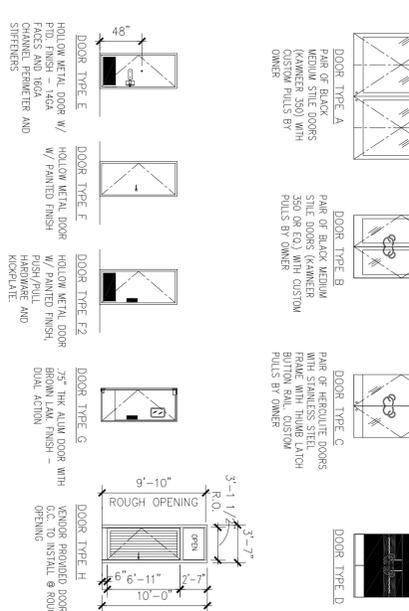
Drawn By: \_\_\_\_\_  
Reviewed By: \_\_\_\_\_  
Date: 08.31.2011  
File Name: \_\_\_\_\_  
Sheet Title: DOOR AND ROOM SCHEDULES AND DETAILS

SHEET NO.:

A700

MARK	ROOM NAME	SIZE (ft x ft x h)	DOOR TYPE	FRAME TYPE	HW SET	FRM FINISH	HEAD	JAMB	THRESHOLD	REMARKS
100A	SALES AREA	EXISTING	---	E	HW-2	HRD	---	---	---	VERIFY DOOR HEIGHT IN FIELD (EXISTING STOREFRONT)
102	HALL (REAR EGRESS)	EXISTING	---	E	HW-4	HRD	---	---	---	EXIST. HW. REAR EGRESS DOOR TO BE RE-USED. GC TO ADD DETEX-HDRK
103	WOMEN	3'-0"x7'-0"x1'-3/4"	F	HM-2	HW-4	HRD	13/A200	14/A200	---	PROVIDE ROUGH OPENING AT DOOR LOCATION PER DOOR MFR REQUIREMENTS
104	MEN	3'-0"x7'-0"x1'-3/4"	F	HM-2	HW-4	HRD	13/A200	14/A200	---	PROVIDE ROUGH OPENING AT DOOR LOCATION PER DOOR MFR REQUIREMENTS
105	H.C. FITTING ROOM	3'-0"x10'-0"x1'-3/4"	H	---	HW-5	---	6/A200	5/A200	---	PROVIDE ROUGH OPENING AT DOOR LOCATION PER DOOR MFR REQUIREMENTS
106	H.C. FITTING ROOM	3'-0"x10'-0"x1'-3/4"	H	---	HW-5	---	6/A200	5/A200	---	PROVIDE ROUGH OPENING AT DOOR LOCATION PER DOOR MFR REQUIREMENTS
107	STOCK ROOM	3'-0"x7'-0"x1'-3/4"	F2	---	HW-6	---	9/A200	9/A200	---	---
108	MANAGER'S OFFICE	3'-0"x7'-0"x1'-3/4"	F	HM-2	HW-3	---	13/A200	14/A200	---	---

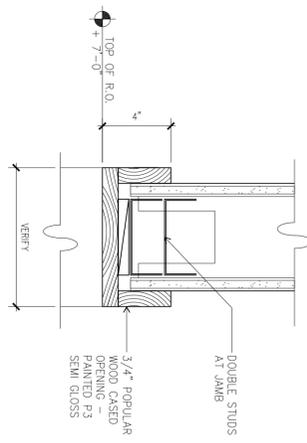
NOTES:  
1. ALL EXITS ARE TO BE OPENABLE FROM INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE.  
2. MAIN ENTRANCE/EXIT DOORS SHALL REMAIN OPEN DURING ALL BUSINESS HOURS. TENANT SHALL POST A SIGN IN A CLEARLY CONSPICUOUS LOCATION STATING "THIS DOOR SHALL REMAIN OPEN WHEN BUILDING IS OCCUPIED" AND LOCATE AT THE JOB SITE AS DIRECTED BY CITY BUILDING INSPECTOR.  
3. ALL DOORS DESIGNATED WITH AN (E) ARE EXISTING TO REMAIN WITH EXISTING HARDWARE & FINISH TYPICAL UNLESS NOTED OTHERWISE NOTED



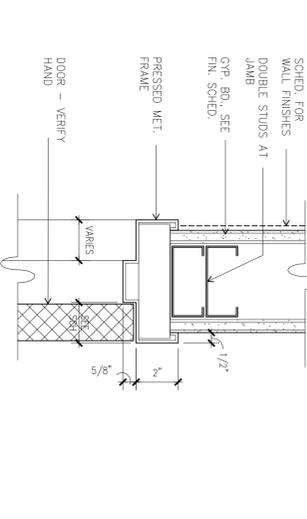
7 DOOR SCHEDULE  
SCALE: NONE

SET NO.	DESCRIPTION
HW-1	(1 PR.) OFFSET PIVOT HINGERS (1 PR.) CONCEALED CLOSERS (1 PR.) CUSTOM PUSH/PULL HANDLES (1 PR.) BOTTOM KICKPLATE WITH CONICER LOCKS (1 PR.) RECESSED FLOOR STRIKES FOR BOTH OPEN AND CLOSED POSITIONS
HW-2	<b>NOT APPLICABLE</b>
HW-3	(1-1/2 PR.) BUTT HINGES, HAGER #BB1279, 4-1/2" X 4-1/2" X 4-1/2", 626 (1) OFFICE FUNCTION LOCKSET, SCHLAGE #9050 17, 626 (3) SIENGENERS, IVES #5964 (1) COAT HOOK, BALDWIN #0740264, 3" PROJECTION, SATIN CHROME FINISH
HW-4	(1-1/2 PR.) BUTT HINGES, HAGER #BB1279, 4-1/2" X 4-1/2" X 4-1/2", 626 (1) PRIVACY FUNCTION LOCKSET, SCHLAGE #9040 17, 626 (1) CLOSER, LON #4041, DURANOMIC FINISH (2) DOOR STOP, TRIMCO #1231 (3) SIENGENERS, IVES #5964 (1) COAT HOOK, BALDWIN #0740264, 3" PROJECTION, SATIN CHROME FINISH
HW-5	(1-1/2 PR.) BUTT HINGES, HAGER #BB1279, 4-1/2" X 4-1/2" X 4-1/2", 626 (1) CLASSROOM FUNCTION LOCKSET, SCHLAGE #80890, 626 (1) CHARMING CHARLIE FINISH, 645# (KNOB AND OPERATOR) • CHARLIE GIRL FINISH, 619 - SATIN NICKEL (1) CLOSER, LON #4041, DURANOMIC FINISH (1) DOOR STOP, TRIMCO #1231 (3) SIENGENERS, IVES #5964
HW-6	(1-1/2 PR.) BUTT HINGES, HAGER #BB1279, 4-1/2" X 4-1/2" X 4-1/2", 626 (1) EXIT DEVICE, DETEX #406B, ALUMINUM EXIT DEVICE (1) CLOSER, DORMA #7601, TOP JAMB MOUNT (3) SIENGENERS, IVES #5964 (3) THRESHOLD, HAGER #412S (1) KICKPLATES, ROCKWOOD #K1059F, 10" X 34" (1) DOOR VIEWER, HAGER MODEL #7355, MATCH FRAME FINISH
HW-7	<b>NOT APPLICABLE</b>

10 CASSED OPENING HEAD DETAIL  
AT STOCK ROOM SCALE: 3" = 1'-0"



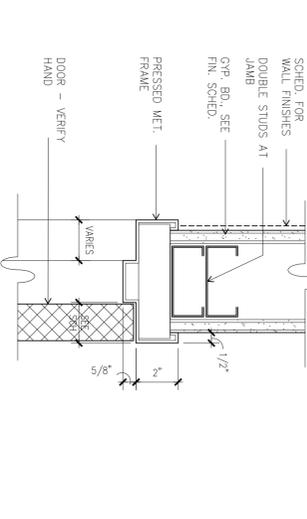
14 DOOR JAMB  
AT METAL DOOR FRAME SCALE: 3" = 1'-0"



18 NOT USED  
SCALE: NOT TO SCALE



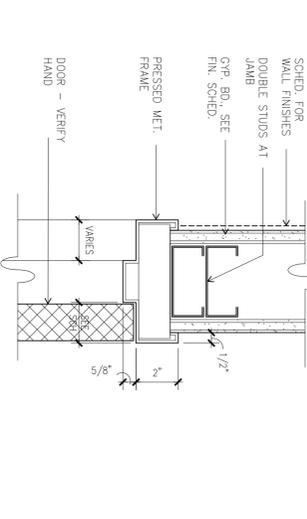
15 ROOM FINISH SCHEDULE  
SCALE: NONE



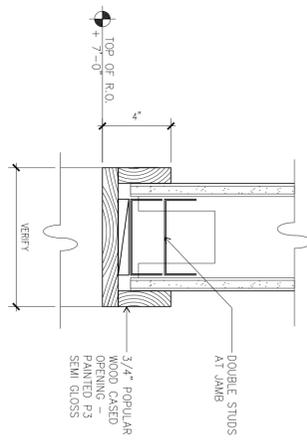
17 EXTERIOR THRESHOLD  
AT EGRESS DOOR SCALE: 3" = 1'-0"



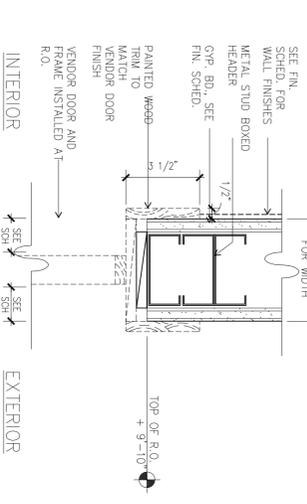
13 DOOR HEAD  
AT METAL DOOR FRAME SCALE: 3" = 1'-0"



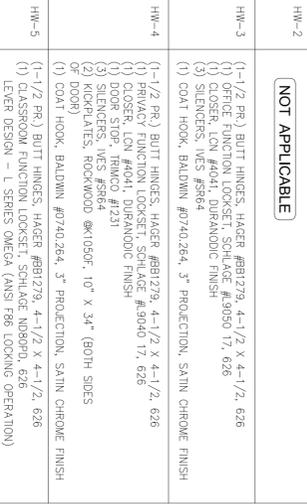
9 CASSED OPENING  
AT CORRIDOR SCALE: 3" = 1'-0"



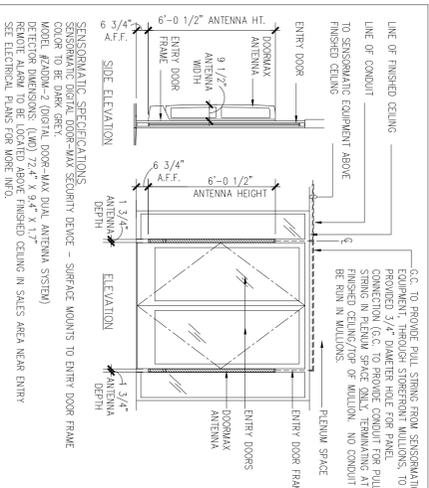
5 DOOR JAMB  
AT WOOD FRAME SCALE: 3" = 1'-0"



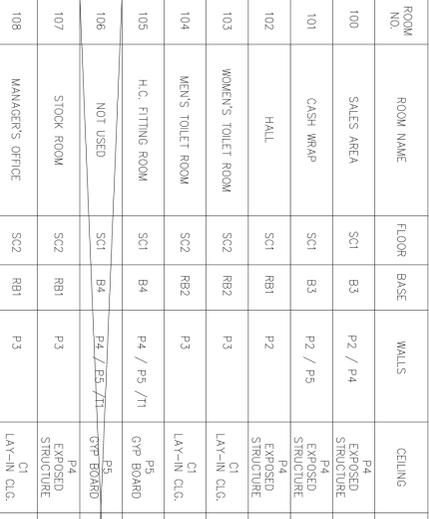
1 HARDWARE GROUPS  
SCALE: NONE



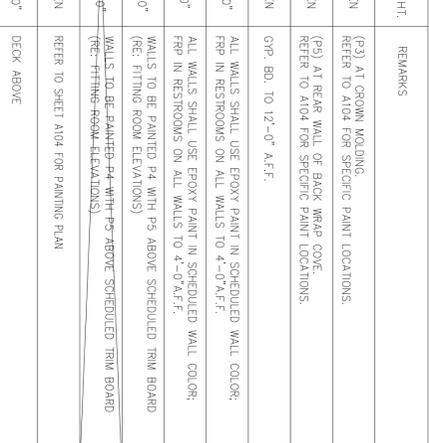
20 DOOR MAX SECURITY SYSTEM DTL.  
INSTALLATION DETAIL SCALE: NTS



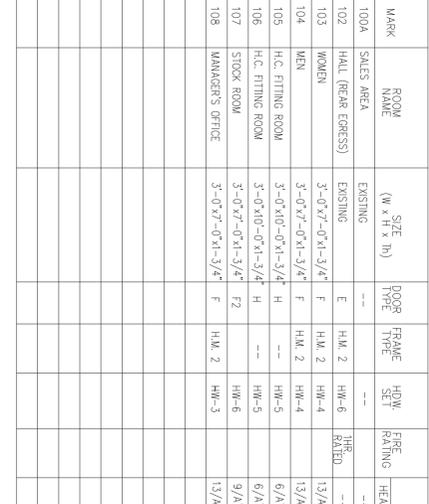
19 NOT USED  
SCALE: NONE



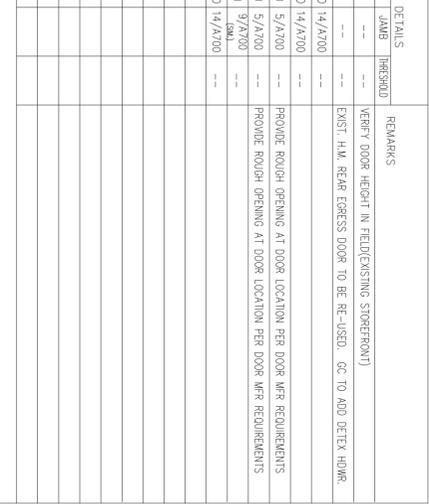
16 DOOR JAMB  
AT METAL DOOR FRAME SCALE: 3" = 1'-0"



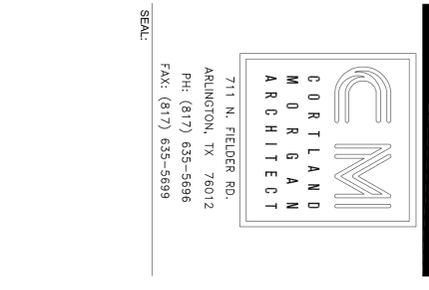
15 ROOM FINISH SCHEDULE  
SCALE: NONE



14 DOOR JAMB  
AT METAL DOOR FRAME SCALE: 3" = 1'-0"



13 DOOR HEAD  
AT METAL DOOR FRAME SCALE: 3" = 1'-0"



12 DOOR JAMB  
AT WOOD FRAME SCALE: 3" = 1'-0"



11 DOOR JAMB  
AT WOOD FRAME SCALE: 3" = 1'-0"



10 CASSED OPENING HEAD DETAIL  
AT STOCK ROOM SCALE: 3" = 1'-0"



9 CASSED OPENING  
AT CORRIDOR SCALE: 3" = 1'-0"



8 DOOR JAMB  
AT WOOD FRAME SCALE: 3" = 1'-0"



7 DOOR SCHEDULE  
SCALE: NONE



6 DOOR HEAD  
AT WOOD FRAME SCALE: 3" = 1'-0"



5 DOOR JAMB  
AT WOOD FRAME SCALE: 3" = 1'-0"



4 DOOR JAMB  
AT WOOD FRAME SCALE: 3" = 1'-0"



3 DOOR JAMB  
AT WOOD FRAME SCALE: 3" = 1'-0"



2 DOOR JAMB  
AT WOOD FRAME SCALE: 3" = 1'-0"



1 HARDWARE GROUPS  
SCALE: NONE



NOTE: THE RESPONSIBILITY SCHEDULE ON SHEET 0002 SUPERSEDES OTHER DRAWINGS IN THE PLAN SET WHERE A CONFLICT IN SCOPE OCCURS.





SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**

LEGACY PLACE  
 11380 LEGACY AVE.  
 PALM BEACH GARDENS, FL. 33410

CLIENT:



CHARMING CHARLIE  
 5999 SAVOY DRIVE  
 HOUSTON, TEXAS 77036  
 Phone (713) 579-1975

REVIEWS:

No.	Description	Date
Project No.:		11460
Drawn By:		
Reviewed By:		
Scale:		
Date:		09.02.2011
Filename:		
SHEET TITLE:		

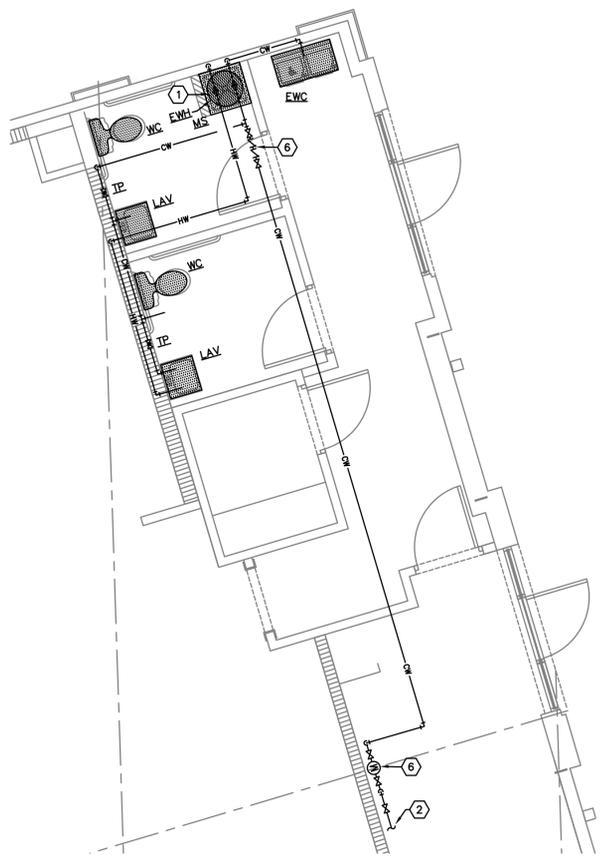
**PLUMBING PLAN**

**FIELD VERIFY ALL CONDITIONS**  
 DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

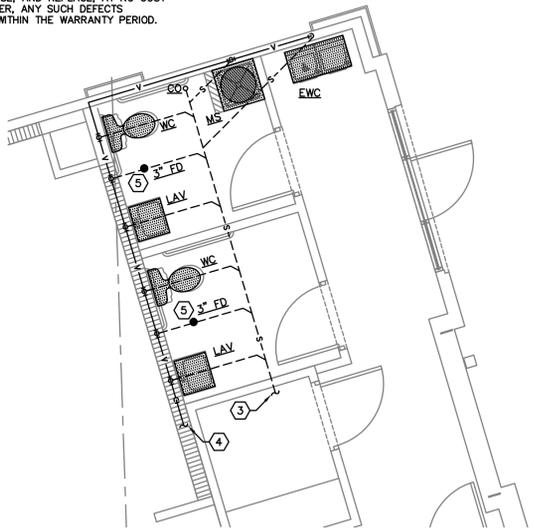
BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

SHEET NO.:

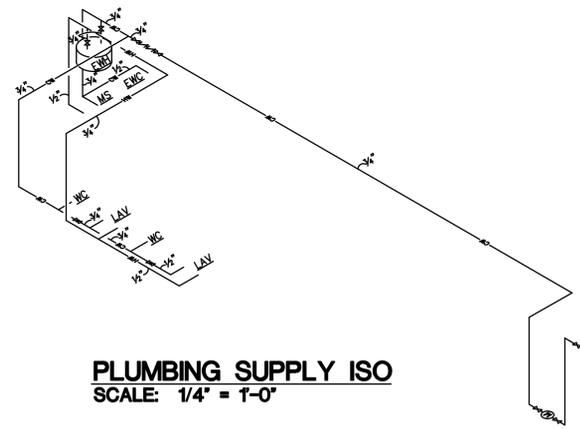
**P1.1**



**PLUMBING SUPPLY PLAN**  
 SCALE: 1/4" = 1'-0"



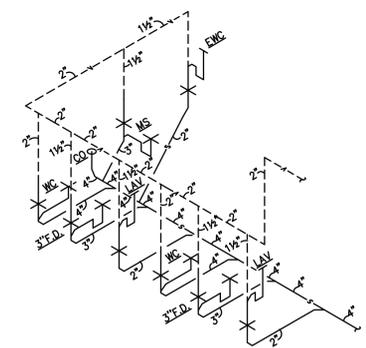
**PLUMBING SAN & VENT PLAN**  
 SCALE: 1/4" = 1'-0"



**PLUMBING SUPPLY ISO**  
 SCALE: 1/4" = 1'-0"

**FIXTURE SCHEDULE**

<b>EWC</b>	ELECTRIC WATER COOLER: DUAL HEIGHT, OASIS MODEL PBACSL, BARRIER-FREE WATER COOLER PROVIDE UNITS ACCESSIBLE TO BOTH WHEELCHAIRS AND TO INDIVIDUALS WHO HAVE DIFFICULTY BENDING OR STOOPING. PROVIDE A HI-LOW FOUNTAIN UTILIZING TWO SPOUTS AT DIFFERENT HEIGHTS AND MEETING THE ADA ACCESSIBILITY GUIDELINES. INCLUDE MANUAL HAND WHEEL TYPE SHUTOFF VALVES AND CONNECTING STEM PIPES TO PERMIT OUTLET SERVICING WITHOUT SHUT-DOWN OF WATER SUPPLY PIPING SYSTEMS.
<b>EW</b>	WATER HEATER - A.O. SMITH #DEL-10, 10 GALLON, 2000 WATT, 120V., 1 PHASE.
<b>ED</b>	FLOOR DRAIN - SQUARE NICKEL BRONZE JR SMITH #2010-B STRAINER. PROVIDE TRAP PRIMER JR SMITH #2699 FOR THE TRAP OF THE FLOOR DRAIN.
<b>LAV</b>	AMERICAN STANDARD MODEL 0356.012, LUCERNE WALL HUNG LAVATORY WITH FAUCET LEDGE, FAUCET HOLES ON 4" CENTERS & WALL HANGER. FAUCET SHALL BE CHICAGO MODEL 404A-317-327A, CHROME, 4" CENTERSET, 1/2" CONNECTIONS AND 4" WRIST BLADE HANDLES. FURNISH CHROME STOPS, SUPPLIES AND A 1-1/4" WHEELCHAIR LAVATORY DRAIN WITH STAINLESS STEEL GRID AND P-TRAP. PROTECT TRAP AND SUPPLIES WITH A TRAP WRAP KIT SOOR AS MANUFACTURED BY BROCAR PRODUCTS INC. LAVATORY MOUNTING HEIGHT SHALL BE AS DETAILED ON ARCHITECTURAL DRAWINGS.
<b>TP</b>	TRAP PRIMER, EQUAL TO PRECISION PLUMBING PRODUCT, INC. MODEL PR-500-DU-2.
<b>WC</b>	WATER CLOSET: AMERICAN STANDARD MODEL 2462.016 CADET RIGHT HEIGHT ADA 16-1/2" HIGH ELONGATED TOILET WITH ALL ASSOCIATED TRIM, FITTINGS AND HARDWARE. SEAT SHALL BE WHITE SOLID PLASTIC WITH OPEN FRONTLESS COVER. PROVIDE COMPLETE WITH CHROME SUPPLY AND SERVICE STOP.
<b>MS</b>	MOP SINK - FIAT MODEL MSB2424 24"x24"x10"H MOLDED STONE MOP SINK WITH VINYL BUMPER GUARDS #E-77-AA ON ALL CURBS. PROVIDE MOP SINK WITH #B32-AA HOSE AND HOSE BRACKET AND #B99-CC MOP HANGER. FAUCET SHALL BE CHICAGO FAUCET #B97 WITH BACK SUPPLIES ON ADJUSTABLE CENTERS AND A POLISHED CHROME FINISH.
<b>WA</b>	WATER HAMMER ARRESTER, EQUAL TO PRECISION PLUMBING PRODUCT, INC. SC SERIES.



**PLUMBING SAN & VENT ISO**  
 SCALE: 1/4" = 1'-0"

**PLUMBING SPECIFICATIONS**

**GENERAL**

THE GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS AND INSTRUCTIONS TO BIDDERS SHALL APPLY TO AND BE PART OF THIS SPECIFICATION.  
 CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, RULES AND REGULATIONS.  
 CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, CERTIFICATES OF INSPECTION AND APPROVALS REQUIRED.  
**SCOPE OF WORK**  
 WATER PIPING SYSTEMS  
 SOIL, WASTE, AND VENT PIPING SYSTEMS  
 PLUMBING FIXTURES  
 PLUMBING EQUIPMENT  
 PAINTING AND ELECTRICAL WORK IS NOT PART OF THIS CONTRACT.

**GENERAL STANDARDS**

THE APPLICABLE PROVISIONS OF THE FOLLOWING STANDARDS SHALL GOVERN:  
 AMERICAN SOCIETY FOR TEST MATERIALS (ASTM)  
 AMERICAN STANDARDS ASSOCIATION (ASA); UNDERWRITERS LABORATORIES (UL); NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)  
 STATE BUILDING CODE.  
 THE INSTALLATION OF ALL PLUMBING WORK SHALL CONFORM TO THE APPLICABLE LOCAL PLUMBING CODES AND STATUTES.  
**EXCAVATION AND BACKFILL**  
 DO ALL EXCAVATION AND BACKFILLING. LAY SANITARY AND UNDERGROUND PIPING LINES ON 6" COMPACTED SAND. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.

**WATER PIPING SYSTEMS**

**INTERIOR BACKFLOW PREVENTERS WITH FUNNELS AND DRAINS**  
 DOMESTIC COLD-WATER PIPING  
 DOMESTIC HOT-WATER PIPING  
 TRAP PRIMERS FOR FLOOR DRAINS  
**INTERIOR WATER PIPING:**  
 TUBE SIZE 2" AND SMALLER: COPPER TUBE. WALL THICKNESS: TYPE L, HARD-DRAWN TEMPER.  
 FITTINGS: WROUGHT-COPPER, SOLDER-JOINTS.  
 TUBE SIZE 2-1/2" AND LARGER: COPPER TUBE. WALL THICKNESS: TYPE L, HARD-DRAWN TEMPER.  
 FITTINGS: WROUGHT-COPPER, SOLDER-JOINTS.

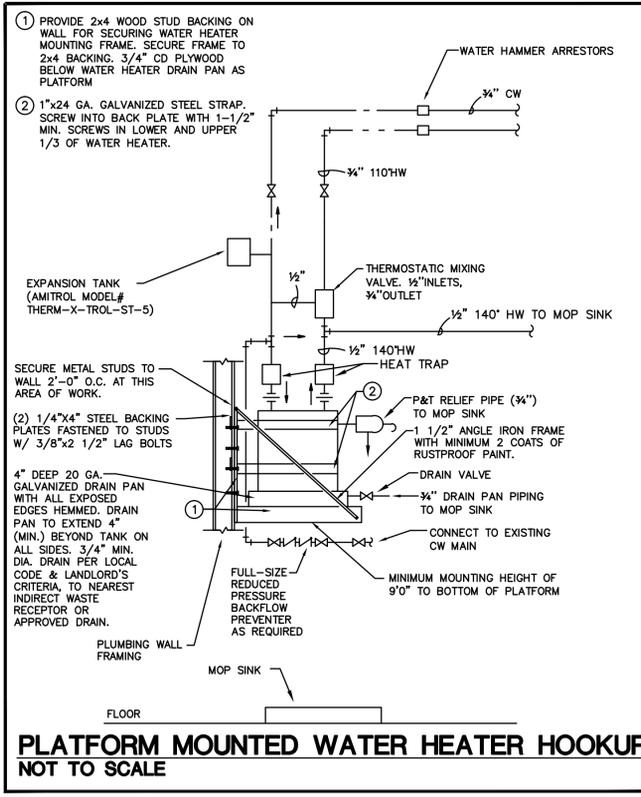
THIS CONTRACTOR SHALL FURNISH AND INSTALL SHUT-OFF VALVES TO ISOLATE EACH FIXTURE, ITEM OR UNIT AT THE FIXTURE ITEMS OR UNIT WHETHER FURNISHED BY THIS CONTRACTOR OR BY OTHERS.  
 FIXTURES, ITEM OR UNITS FURNISHED BY THE MANUFACTURER WITH INTEGRAL STOPS OR STOPS SPECIFIED WITH THE FIXTURE ARE CONSIDERED TO BE PROPERLY VALVED OFF AT THE FIXTURES.  
 ACCESS SHALL BE PROVIDED TO ALL VALVES.  
**PIPE JOINTS AND CONNECTION**  
 ALL CUTTING AND PATCHING OF FINISHED CONSTRUCTION OF BUILDING SHALL BE PERFORMED BY THIS CONTRACTOR UNDER THE SECTION OF SPECIFICATIONS COVERING THESE MATERIALS.  
 ANY MINOR ADJUSTMENT IN LOCATION OF ALIGNMENT OF NEW WORK OR TO CONNECT TO EXISTING UTILITIES SHALL BE PERFORMED AS DIRECTED BY THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.  
 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO THE GROUNDS, WALKS, ROAD, BUILDING, PIPING SYSTEMS, ELECTRICAL SYSTEMS, AND THEIR EQUIPMENT AND CONTENTS, CAUSED BY LEAKS IN THE PIPING SYSTEMS BEING INSTALLED OR HAVING BEEN INSTALLED BY HIM. HE SHALL REPAIR AT HIS EXPENSE ALL DAMAGED SO CAUSED. ALL REPAIR WORK SHALL BE DONE AS DIRECTED BY AND IN SUCH MANNER AS SATISFACTORY TO THE ARCHITECT.  
 OWNER RESERVES THE RIGHT TO MAKE EMERGENCY REPAIRS AS REQUIRED TO KEEP EQUIPMENT IN OPERATION WITHOUT VOIDING THE CONTRACTOR'S GUARANTEE BOND NOR RELIEVING THE CONTRACTOR OF HIS RESPONSIBILITIES DURING THE BONDING PERIOD.

**SOIL, WASTE AND VENT PIPING SYSTEM**

FURNISH AND INSTALL A COMPLETE SOIL, WASTE AND VENT SYSTEM IN THE BUILDING AND ON THE SITE AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN. NO-HUB CAST IRON MAY BE USED ABOVE FLOOR SLAB.  
 ABOVE GROUND SOIL, WASTE AND VENT PIPING WITHIN BUILDINGS INCLUDING SOIL STACKS, VENT STACKS, HORIZONTAL BRANCHES, TRAPS, AND CONNECTIONS TO FIXTURES AND DRAINS.  
 UNDERGROUND BUILDING DRAIN PIPING INCLUDING MAINS, BRANCHES, TRAPS, CONNECTIONS TO FIXTURES AND DRAINS, AND CONNECTIONS TO STACKS, TERMINATING AT CONNECTION TO EXISTING SANITARY SEWER.  
**FLOOR DRAINS**  
 INTERIOR PIPING:  
 CAST IRON SOIL PIPING AND FITTINGS SERVICE WEIGHT ASTM A-74 WITH ASTM C-564 GASKETED JOINTS.  
 WASTE AND VENT PIPING 2-1/2" AND UNDER - TYPE "M" COPPER ASTM B88.62.  
 SOIL, WASTE AND VENT PIPING 3" AND OVER IN SIZE AND ALL UNDERGROUND CAST IRON SOIL PIPING AND FITTINGS, ASTM A-74, SERVICE WEIGHT.  
 NO-HUB CAST IRON PIPE AND FITTINGS MAY BE USED ABOVE FLOOR FOR SOIL, WASTE, AND VENT PIPING.  
 PIPING ALIGNMENT SHALL BE AS INDICATED ON THE DRAWINGS USING APPROVED BRANCHES OR EIGHT BANDS FOR DIRECTION CHANGES AND SHALL BE SURELY SUPPORTED OR SECURED TO MAINTAIN SUCH ALIGNMENT.  
 PITCH OF PIPING SHALL BE UNIFORM AT A MINIMUM OF 1/4" PER FOOT FOR BUILDING DRAINS AND AS INDICATED ON THE DRAWINGS FOR SEWERS.  
 PROTECTION SHALL BE GIVEN ALL FOOTINGS, OTHER STRUCTURAL ELEMENTS DURING UNDERGROUND WORK ADJACENT TO SUCH ITEMS. REFER TO STRUCTURAL DRAWINGS.  
 VENT ALL FIXTURES. CONNECT BRANCH VENTS TO MAIN VENT RISERS AT LEAST THREE FEET AND SIX INCHES ABOVE VENTED FIXTURES. PITCH VENT LINES BACK TO SOIL OR WASTE PIPE, FREE OF DROPS AND SAGS.  
 CLEANOUTS SHALL BE FULL SIZE OF PIPE UP TO 4", AND 4" FOR LARGER SIZES. FOR UNDERGROUND AND CONCEAL LINES, PROVIDE CLEANOUTS IN ACCESSIBLE POSITIONS AT EACH RIGHT ANGLE TURN AND AT INTERVALS NOT TO EXCEED FIFTY FEET. IN FLOORS, INSTALL FLUSH WITH FINISH FLOOR WITH EXTENSION PIPE FROM CLEANOUT "Y".  
**FLOOR DRAINS**  
 REFER TO SCHEDULE ON DRAWINGS.  
 NOTE: ALL FLOOR DRAINS LOCATED IN ROOMS WHICH HAVE TILE FLOORS (TOILET

ROOMS, KITCHEN, ETC.) SHALL HAVE SQUARE TOPS (TYPE "S" STRAINER).  
 THE PLUMBING CONTRACTOR SHALL PROVIDE AND INSTALL TRAP PRIMERS FOR ALL FLOOR DRAINS. TRAP PRIMER SHALL BE EQUAL TO PPP INC. MODEL "OREGON #1" TRAP PRIMER VALVE.  
**PLUMBING FIXTURES**  
 WATER CLOSETS.  
 LAVATORIES.  
 SERVICE SINKS.  
 WATER COOLERS.  
**FIXTURE SCHEDULE**  
 SEE PLUMBING DRAWINGS FOR FIXTURE SCHEDULE.  
**PLUMBING EQUIPMENT**  
 ELECTRIC WATER HEATERS  
 CIRCULATING PUMPS  
 THERMOSTATIC MIXING VALVE  
**CATHODIC PROTECTION**  
 PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.  
**SHOCK ABSORBERS**  
 REMOVE SHOCK CONDITIONS FROM ALL PIPING. PROVIDE AND INSTALL SHOCK ABSORBERS ON ALL PIPING SERVING FLUSH VALVE FIXTURES.  
**VALVES**  
 MAIN SHUT OFF VALVES SHALL BE INSTALLED AS SHOWN ON THE PLANS. SHUT OFF VALVES SHALL BE NIBCO S/T 580 BALL VALVES OF EQUAL VALVES SHALL HAVE BLOWOUT PROOF STEM, TFE SEATS AND BRASS BALL. PRESSURE RATING OF ALL MAIN VALVES SHALL HAVE A RATING OF AT LEAST 400 PSI WORKING PRESSURE.  
 VALVES SHALL BE INSTALLED AS SHOWN ON THE PLANS. WHEN VALVES ARE NOT SHOWN IN DETAIL ON THE PLANS, THE CONTRACTOR SHALL FURNISH AND INSTALL VALVES NECESSARY FOR THE CONTROL, OPERATION AND ISOLATION OF EQUIPMENT. PITCH ALL PIPE TO LOW POINTS AND INSTALL DRAIN VALVES.  
 GATE VALVES OR BALL VALVES SHALL BE USED IN SERVICES REQUIRING THE VALVES TO BE FULLY OPENED OR TIGHTLY CLOSED. GLOBE OR ANGLE VALVES SHALL BE USED WHERE THROTTLING OR FLOW CONTROL IS DESIRED, OR IN BY-PASS LINES. GLOBE AND ANGLE VALVES SHALL BE EQUIPPED WITH THE APPROPRIATE DISC MATERIAL FOR THE INTENDED SERVICE. COLD WATER GLOBE VALVES SHALL HAVE RUBBER DISC; HOT WATER SHALL HAVE COMPOSITION DISC.

EXISTING SERVICES, THIS CONTRACTOR SHALL FIRST NOTIFY THE ARCHITECT THAT AN INTERRUPTION IS REQUIRED. IT SHOULD BE NOTED THAT FACILITIES MUST BE KEPT IN OPERATION AS MUCH AS POSSIBLE.  
 THIS CONTRACTOR SHALL ADVISE THE ARCHITECT OF THE LENGTH OF TIME THE SERVICE WILL BE INTERRUPTED AND SHALL GET PERMISSION FROM THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.  
**WARRANTY**  
 THIS CONTRACTOR SHALL WARRANT THAT ALL WORK UNDER THIS SECTION SHALL BE FREE OF DEFECTIVE WORK, MATERIALS AND PARTS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE WORK AND SHALL REPAIR, REVISE, AND REPLACE, AT NO COST TO THE OWNER, ANY SUCH DEFECTS OCCURRING WITHIN THE WARRANTY PERIOD.



**PLATFORM MOUNTED WATER HEATER HOOKUP**  
 NOT TO SCALE

**GENERAL PLUMBING NOTES**

PRIOR TO BID, CONTRACTOR SHALL VISIT THE JOB SITE AND FIELD VERIFY THE EXISTING CONDITIONS. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE EXISTING SUB-IN, TAPS, ETC. FOR PLUMBING AND MECHANICAL SYSTEMS FOR THE TENANT SPACE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES FOUND BETWEEN PLANS AND FIELD CONDITIONS IN ORDER TO PREVENT UNKNOWN ADDITIONAL COSTS TO THE TENANT.  
 ALL PIPING SYSTEMS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH STATE, LOCAL CODE AND LANDLORD'S REQUIREMENTS.  
 PROVIDE SHUTOFF VALVE(S) FOR ALL FIXTURES AND EQUIPMENT.  
 ALL WASTE AND VENT PIPING SHALL BE CAST IRON WITH NO HUB STYLE CONNECTORS.  
 ALL UNDERGROUND SANITARY PIPES SHALL BE SCHEDULE 40 PVC. ALL ABOVE FLOOR SANITARY AND VENT PIPING SHALL BE SERVICE WEIGHT NO-HUB CAST IRON.  
 SLOPE ALL SANITARY PIPING 4" AND LARGER AT 1/8" PER FOOT. SLOPE ALL SMALLER SANITARY PIPING AT 1/4" PER FOOT.  
 ALL PLUMBING PIPING DROPS TO PLUMBING FIXTURES SHALL BE INSTALLED IN WALL SPACE EXCEPT WHERE NOTED.  
 SUSPEND ALL HORIZONTAL WATER AND VENT PIPING AS HIGH AS POSSIBLE ABOVE CEILING.  
 SAW CUT ALL SLAB PENETRATIONS. SEAL AROUND ALL WALL, FLOOR AND CEILING PIPE PENETRATIONS WITH APPROVED SEALANT MATERIAL AND ENSURE PENETRATIONS REMAIN FIRE RESISTANT AND WATER TIGHT. WRITTEN NOTIFICATION MUST BE SUBMITTED TO THE LANDLORD'S REPRESENTATIVE PRIOR TO ANY SAW CUTTING.  
 ALL EQUIPMENT, INSTALLATIONS AND MATERIALS SHALL COMPLY WITH APPLICABLE LANDLORD CRITERIA, LOCAL AND STATE CODES.  
 PROVIDE AND INSTALL WATER HAMMER ARRESTORS PER PDI REQUIREMENTS.  
 LABEL ALL BELOW SLAB PIPING.

**GENERAL DEMO PLUMBING NOTES**

AT ALL LOCATIONS WHERE PLUMBING FIXTURES ARE TO BE REMOVED, PLUMBING SUBCONTRACTOR SHALL REMOVE PIPING (WATER, WASTE, VENT) TO A POINT BEYOND FINISH SURFACE AND CAP OFF. WHERE PIPING SERVING EXISTING FIXTURE TO BE REMOVED ALSO SERVES FIXTURES THAT ARE TO REMAIN, PIPING SHALL BE REROUTED AND RECONNECTED AS REQUIRED TO ACCOMMODATE REMODELED AREAS AS REQUIRED.  
 WHERE EXISTING WALLS ARE REMOVED AND PIPING IS FOUND THAT MUST REMAIN, PLUMBING SUBCONTRACTOR SHALL REROUTE AND RECONNECT PIPING AS REQUIRED, E.G. DOMESTIC WATER PIPING, GAS, SOIL, WASTE, VENT, AND ROOF LEADER PIPING.  
 ALL PLUMBING PIPING THAT IS FOUND TO NO LONGER SERVE ANY PURPOSE SHALL BE REMOVED AND CAPPED OFF BEYOND FINISH SURFACE.  
 WHEREVER POSSIBLE, NEW PIPING AND RELOCATED PIPING SHALL BE RUN CONCEALED. COORDINATE LOCATION OF ALL PIPING WITH HVAC AND ELECTRIC SUBCONTRACTOR. COORDINATE CUTTING AND PATCHING WITH GENERAL CONTRACTOR.  
 WHEREVER FIXTURES REQUIRING PLUMBING CONNECTIONS ARE FURNISHED BY OTHERS, OWNER, OR ARE RELOCATED, PLUMBING SUBCONTRACTOR SHALL FURNISH AND INSTALL CARRIERS, "P" TRAP AND STOPS AND MAKE FINAL PLUMBING CONNECTIONS AT NEW LOCATIONS.  
 ALL CUTTING AND PATCHING FOR REMOVAL, REMODELING OR INSTALLATION OF NEW PLUMBING WORK SHALL BE DONE BY PLUMBING CONTRACTOR.  
 REFER TO ARCHITECTURAL DEMOLITION PLANS FOR EXTENT OF DEMOLITION WORK. COORDINATE WITH SAME.

PLUMBING LEGEND	
SYMBOL	DESCRIPTION
---S---	SANITARY/WASTE PIPING, S, W
---V---	VENT, V
---CW---	COLD WATER PIPING, CW
---HW---	HOT WATER PIPING, HW
⊗	GATE VALVE
⊕	CHECK VALVE
□	CLEANOUT
●	FLOOR DRAIN, F.D.

FIXTURE CONNECTION SCHEDULE				
P#	DESCRIPTION	WASTE	HOT WATER	COLD WATER
WC	FLOOR SET TANK TYPE WATER CLOSET (A.D.A.)	4"	N.A.	1/2"
LAV	WALL HUNG LAVATORY (A.D.A.)	1-1/2"	1/2"	1/2"
MS	MOP SINK	3"	1/2"	1/2"
EWC	ELECTRIC WATER COOLER (A.D.A.)	1-1/2"	N.A.	1/2"

REFER TO ARCHITECTURAL ELEVATIONS PLAN FOR MOUNTING HEIGHT OF ALL FIXTURES

SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
 LEGACY PLACE  
 11380 LEGACY AVE.  
 PALM BEACH GARDENS, FL, 33410

CLIENT:



CHARMING CHARLIE  
 5999 SAVOY DRIVE  
 HOUSTON, TEXAS 77036  
 Phone (713) 579-1975

REVISIONS:

**# POWER CODED NOTES:**

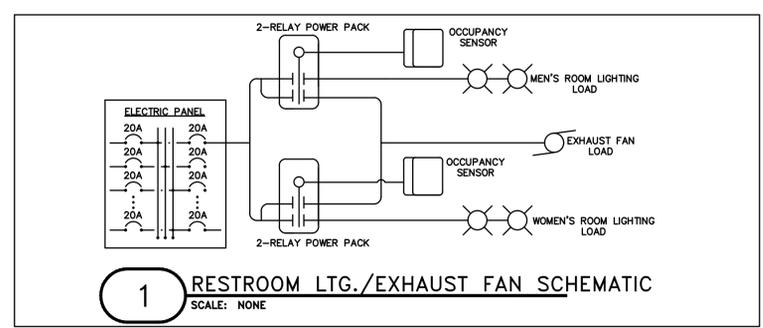
1. PROVIDE JUNCTION BOX AND DISCONNECT SWITCH IN A NON-VISIBLE, BUT ACCESSIBLE LOCATION FOR STOREFRONT SIGNAGE. PROVIDE FLEXIBLE WHIP FOR CONNECTION TO SIGNAGE. SIGNAGE FIXTURE FURNISHED AND INSTALLED BY OWNER'S SIGNAGE VENDOR. COORDINATE EXACT LOCATION WITH OWNER AND SIGNAGE VENDOR.
2. PROVIDE JUNCTION BOX ABOVE DOOR AND DEDICATED 120V CIRCUIT FOR SENSORMATIC FLOORMAX SYSTEM (INSTALLED BY OWNER). POWER FOR SENSORMATIC SYSTEM TO BE ROUTED THROUGH STOREFRONT TO ABOVE CEILING, THEN IN CONDUIT TO JUNCTION BOX ABOVE CEILING. VERIFY EXACT REQUIREMENTS WITH THE SENSORMATIC VENDOR PRIOR TO COMMENCING ANY WORK. POWER PACK TO BE MOUNTED ABOVE CEILING.
3. REFER TO DETAIL 1 ON SHEET E3.1 FOR MORE INFORMATION.
4. PROVIDE 4"x4"x3/4" PLYWOOD BACKBOARD AND 24 PORT WALL MOUNTED CATEGORY 5 PATCH PANEL FOR TERMINATION OF VOICE AND DATA CABLING. COORDINATE EXACT REQUIREMENTS WITH OWNER PRIOR TO INSTALLATION.
5. TELEPHONE/DATA OUTLET. PROVIDE CAT 5 MODULAR JACK MATCHING ADJACENT ELECTRICAL RECEPTACLE STYLE AND COLOR. PROVIDE CAT 5 CABLE, 1 PER DROP UNLESS NOTED OTHERWISE, ROUTED TO TELEPHONE/DATA PATCH PANEL. CABLING INSTALLATION MUST BE TESTED TO MEET CAT 5 REQUIREMENTS FOR ROUTING, SUPPORT, TERMINATION AND SPEED.
6. PROVIDE (1) 1" CONDUIT FOR POWER AND (2) 1" CONDUITS FOR TELE/DATA AND BUZZER WIRING. CONDUITS SHALL BE TRENCHED FROM NEAREST FULL HEIGHT WALL/COLUMN, BELOW SLAB OVER TO CASHWRAP. CONDUITS SHALL BE OFFSET 12" LEFT OF CENTERLINE OF CASHWRAP. PROVIDE JUNCTION BOXES IN THE BASE OF THE MILLWORK FOR CONDUIT TERMINATIONS. COORDINATE JUNCTION BOX LOCATIONS WITH OWNER AND MILLWORK MANUFACTURER PRIOR TO INSTALLATION. COORDINATE SLAB TRENCHING REQUIREMENTS (I.E. X-RAY) WITH LANDLORD PRIOR TO COMMENCEMENT OF WORK.
7. DEVICES TO BE INSTALLED WITHIN MILLWORK. PROVIDE FLEXIBLE CONDUIT CONNECTIONS FROM JUNCTION BOXES TO DEVICES. CONCEAL FLEXIBLE CONNECTIONS WITHIN MILLWORK. COORDINATE ROUTING WITH FIXTURE MANUFACTURER.
8. REFER TO RISER DIAGRAM ON SHEET E4.1 FOR MORE INFORMATION ON THE ELECTRICAL GEAR.
9. PROVIDE DELIVERY BUZZER PUSH-BUTTON AT 48" AFF. REFER TO DETAIL 2 ON SHEET E3.1 FOR MORE INFORMATION.
10. PROVIDE NEW DELIVERY BUZZER TRANSFORMER AND BUZZER. MOUNT AT 108" AFF. REFER TO DETAIL 2 ON SHEET E3.1 FOR MORE INFORMATION.
11. PROVIDE (2) 1" CONDUITS TO TELEPHONE BOARD.
12. PROVIDE AND INSTALL A DUPLEX RECEPTACLE AT STOREFRONT SHOW WINDOW, MOUNT FLUSH IN SOFFIT. PAINT TO MATCH SOFFIT. WHERE THERE IS NO SOFFIT, MOUNT RECEPTACLE IN WALL 6" ABOVE WINDOW.
13. CIRCUIT SHALL BE CONNECTED THROUGH LIGHTING CONTROL SYSTEM. REFER TO SHEET E3.2 FOR MORE INFORMATION.
14. PROVIDE NEW DELIVERY BUZZER. LOCATE BUZZER IN WITHIN OPEN CELL OF BACKWRAP. COORDINATE EXACT LOCATION WITH TENANT PROJECT MANAGER PRIOR TO COMMENCEMENT OF RELATED WORK. REFER TO DETAIL 2 ON SHEET E3.1 FOR MORE INFORMATION.
15. PROVIDE 2-GANG JUNCTION BOX ON INSIDE OF RIGHT WINGWALL FOR MUSIC SYSTEM VOLUME CONTROL. LOCATE 48" AFF TO CENTER OF BOX.
16. EXISTING DISCONNECTS, FEEDERS, AND CONDUIT SHALL REMAIN. EXTEND/TRUNCATE FEEDERS AND CONDUIT TO SWITCHBOARD KDP1 AS REQUIRED, MATCH EXISTING AND FIELD VERIFY. EXISTING RTU SERVICE RECEPTACLES SHALL REMAIN. EXTEND/TRUNCATE FEEDERS AND CONDUIT TO RELOCATED PANEL B, CIRCUIT B-29, MATCH EXISTING AND FIELD VERIFY.
17. PROVIDE NEMA-1 ENCLOSURE FOR CONTACTORS.
18. PROVIDE 30A/1P DISCONNECT SWITCH AND FINAL CONNECTION FOR NEW ELECTRIC WATER HEATER. PROVIDE (2)#10, (1)#10 GND IN 3/4" CONDUIT.
19. INSTALL OWNER PROVIDED LC&D "SILVERBULLET" T24-12-SM CURRENT LIMITING PANEL FOR TRACK LIGHTING. REFER TO SILVER BULLET PANEL SCHEDULE ON SHEET E2.1 FOR MORE INFORMATION.
20. PROVIDE (7) REMOTE ANNUNCIATOR TEST SWITCH STATIONS FOR EXISTING DUCT SMOKE DETECTORS. REFER TO ELECTRICAL SPECIFICATIONS FOR MORE INFORMATION.
21. CONNECT EXHAUST FAN TO SAME CIRCUIT FEEDING THE LIGHTING IN THIS ROOM AND INTERLOCK WITH OCCUPANCY SENSOR. SEE DETAIL 1 ON THIS SHEET INFORMATION.
22. PROVIDE RECEPTACLE FOR HAND STEAMER. PROVIDE LABEL AT RECEPTACLE LOCATION TO READ "STEAMER". COORDINATE EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO ROUGH-IN.
23. PROVIDE JUNCTION BOXES, DISCONNECT SWITCH AND 120 VOLT CIRCUIT FOR ALL EXTERIOR SIGNAGE, SCONCES AND OTHER ILLUMINATED ELEMENTS. COORDINATE LOCATIONS WITH OWNER. REFER TO EXTERIOR ELEVATIONS ON ARCHITECTURAL SHEETS. CONNECT CIRCUITS TO THE SIGNAGE/EXTERIOR CONTACTORS FOR CONTROL BY TIMECLOCK. REFER TO SHEET E3.2 FOR DETAILS.
24. E.C. SHALL SALVAGE EXISTING FIRE ALARM DEVICES WHEREVER POSSIBLE FOR REUSE AND RELOCATE AS SHOWN. IF CONDITION IS UNACCEPTABLE, PROVIDE FIRE ALARM DEVICES AS SHOWN. FIRE ALARM DEVICES SHALL BE BY THE SAME MANUFACTURER OF THE LANDLORD'S CENTRAL SYSTEM TO ENSURE COMPATIBILITY IN CONNECTION OF SYSTEMS. PROVIDE ALL POWER SUPPLIES, CONTROL MODULES, TRANSDUCERS, ETC. TO ENSURE A COMPLETE FUNCTIONAL SYSTEM. PROVIDE WIRING AND FINAL CONNECTION TO THE LANDLORD'S FIRE ALARM CONTROL PANEL. COORDINATE ALL WORK REQUIRED FOR THE FIRE ALARM SYSTEM WITH LANDLORD PRIOR TO BID.



**ELECTRICAL POWER & SYSTEMS PLAN**  
 SCALE: 1/8" = 1'-0"

**POWER GENERAL NOTES**

- A. RECEPTACLE CIRCUITS UP TO 100'-0" IN LENGTH SHALL UTILIZE #12 CONDUCTORS MINIMUM. RECEPTACLE CIRCUITS FROM 101'-0" TO 150'-0" IN LENGTH SHALL UTILIZE #10 CONDUCTORS MINIMUM. RECEPTACLE CIRCUITS FROM 151'-0" TO 250'-0" IN LENGTH SHALL UTILIZE #8 CONDUCTORS MINIMUM. RECEPTACLE CIRCUITS ABOVE 250'-0" IN LENGTH SHALL UTILIZE #6 CONDUCTORS MINIMUM.
- B. ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OTHER ALARM SYSTEM CONNECTIONS.
- C. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO REVIEW ALL ARCHITECTURAL DRAWINGS, ELECTRICAL DRAWINGS AND NOTES TO INSURE THAT ALL ELECTRICAL REQUIREMENTS ARE MET.
- D. ALL POWER AND ALARM WIRING FOR EXIT DOORS SHALL BE CONCEALED IN DOOR FRAME.
- E. DUCTWORK AND PIPING SHALL NOT BE ROUTED OVER ELECTRIC PANELS OR TRANSFORMERS.
- F. ALL CONDUITS SHALL BE CONCEALED IN WALLS AND OUTLET BOXES SHALL BE FLUSH WITH FINISHED WALL UNLESS OTHERWISE NOTED.
- G. RECEPTACLES AND DATA/TELEPHONE SHALL BE MOUNTED +18" A.F.F. UNLESS OTHERWISE NOTED, NO LOWER THAN +15" A.F.F. TO BOTTOM OF DEVICE.
- H. DISCONNECT AND DISCARD ALL EXISTING ELECTRICAL EQUIPMENT AND DEVICES, WIRING, CONDUIT, LIGHT FIXTURES, ETC. NOT BEING REUSED.
- I. ANY PENETRATIONS THROUGH FIRE-RESISTANT/RATED WALLS, PARTITIONS, FLOORS, AND CEILINGS SHALL BE FIRESTOPPED USING APPROVED METHODS TO MAINTAIN THE FIRE RESISTANCE RATING.
- J. ELECTRICAL CONTRACTOR SHALL PROVIDE JUNCTION BOX AND RACEWAY FOR THERMOSTATS AND HVAC LOW VOLTAGE CONTROLS AT 48" A.F.F. THERMOSTATS AND HVAC LOW VOLTAGE CONTROLS INSTALLED AND WIRED BY MECHANICAL CONTRACTOR. COORDINATE EXACT LOCATIONS WITH MECHANICAL CONTRACTOR. TYPICAL OF ALL.
- K. WHERE OPEN-AIR INSTALLATION METHODS (EITHER EXPOSED ABOVE THE CEILINGS, IN BRIDLE RINGS OR IN CABLE TRAYS) ARE PERMITTED, PROVIDE PLENUM-RATED CABLES WHEREVER PLENUM CEILINGS (IF ANY) EXIST AND INSTALL PER NEC.
- L. ACCESS TO LANDLORD'S JUNCTION BOXES MUST BE MAINTAINED. PROVIDED ACCESS PANELS AS REQUIRED.



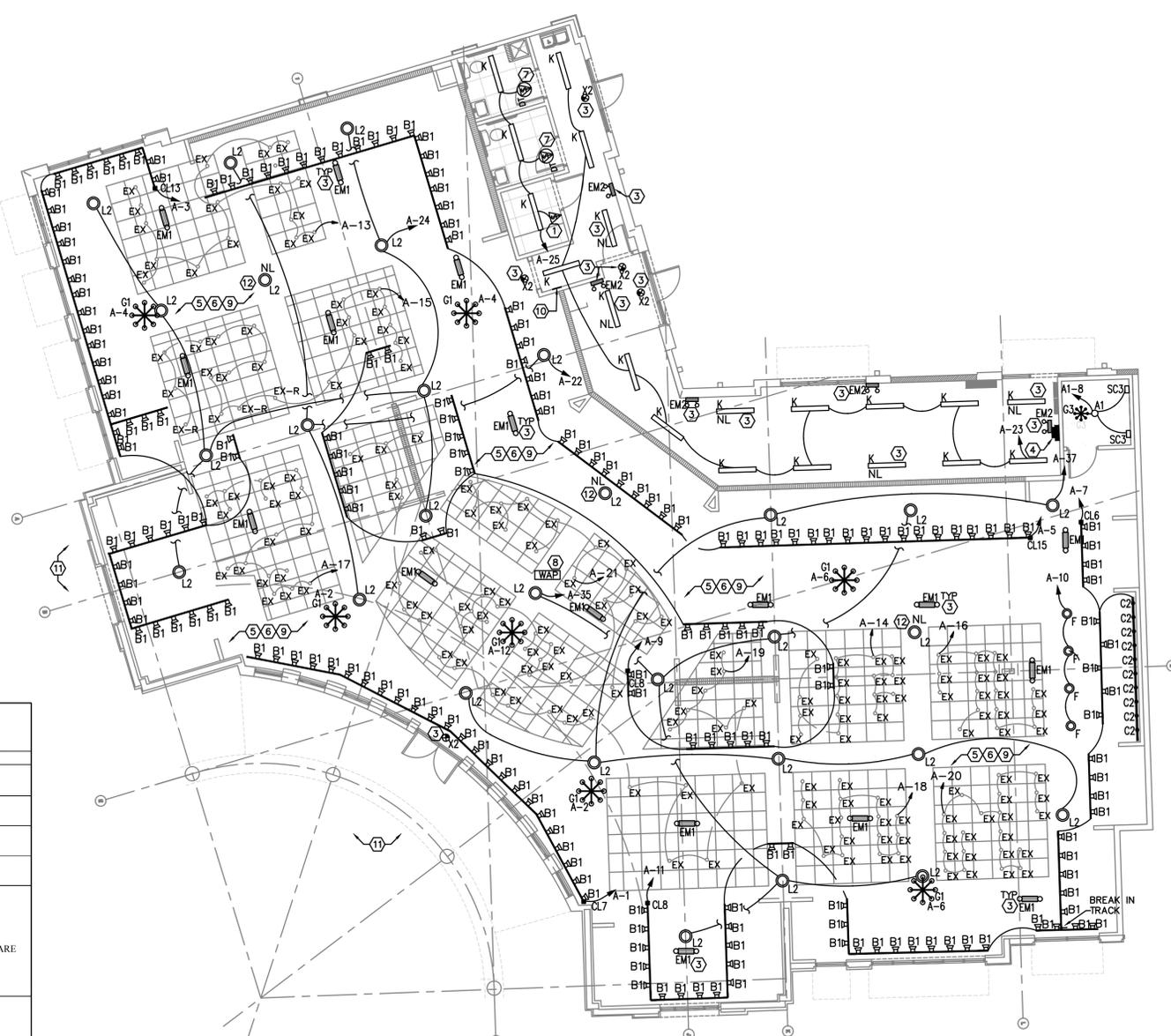
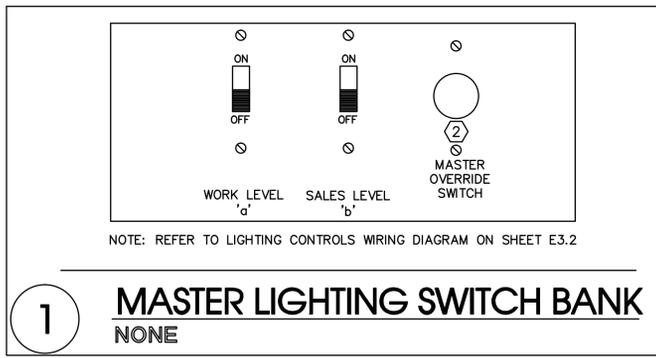
No.	Description	Date
Project No.:		11460
Drawn By:		
Reviewed By:		
Scale:		
Date:		09.02.2011
Filename:		
SHEET TITLE:		

**ELECTRICAL POWER & SYSTEMS PLAN**

SHEET NO.:

**E1.1**

Silver Bullet Panel Schedule						
Panel Location: Stock Room						
Silver Bullet Ckt #	Breaker ID	Load Name	Relay ID	VA (wattage) Required	Breaker Size (Ampere)	
1	A-1	TRACK LTG - PERIMETER	1	600	7	
2	A-3	TRACK LTG - PERIMETER	2	1125	7.5	
3	A-5	TRACK LTG - PERIMETER	3	1325	7.5	
4	A-7	TRACK LTG - PERIMETER	4	550	6	
5	A-9	TRACK LTG - CENTER	5	700	8	
6	A-11	TRACK LTG - PERIMETER	6	725	8	
7		SPARE	7	0	10	
8		SPARE	8	0	8	
9		SPARE	9	0	6	
10		SPARE	10	0	4	
11		SPARE	11	0	0	
12		SPARE	12	0	0	



LUMINAIRE SCHEDULE									
TYPE	MFR	CATALOG NUMBER	DESCRIPTION	VOLT	WATTS	MOUNTING	HEIGHT	LAMP	REMARKS
A1	PATHWAY LIGHTING	FS81UTE4 / CF8200R	8" RECESSED ROUND CFL DOWNLIGHT - CLEAR ALZAK TRIM	UNI	42	RECESSED		(1) 42W 4P CFL	
B1	CON-TECH	CTL2838N	PAR38 FRONT LOADING GIMBAL RING (WHITE)	UNI	18	TRACK	11'-0" AFF	(1) LED18 PAR38	SPACING 2" ON CENTER
C2	CON-TECH	CTL610	UNIVERSAL LAMP HOLDER TRACK HEAD (WHITE)	120	7	TRACK	11'-0" AFF	(1) 7 WATT PAR 20	ALWAYS 7 HEADS TO BE TRACK MOUNTED AT BACKWRAP
C3	CON-TECH	LT-# (# = LENGTH IN FEET)	SINGLE CIRCUIT TRACK (WHITE)	120	--	SURFACE		N/A	
EM1	ENCORE	12ELP-27-2D	ADJUSTABLE DUAL-HEAD EMERGENCY LIGHT WITH TIME DELAY - WALL OR CEILING MOUNTED	UNI	12	WALL OR CEILING	12'-0" AFF	(2) 12W (INCLUDED)	- PROVIDED WITH 90 MINUTE BATTERY BACK-UP TIME DELAY SHALL BE 3 MINUTES (MINIMUM) ONLY TO BE USED WHEN ALL LIGHTS IN AREA ARE METAL HALIDE WITH RESTRIKE DELAY
EM2	ENCORE	12ELP-27-2	ADJUSTABLE DUAL-HEAD EMERGENCY LIGHT - WALL OR CEILING MOUNTED	UNI	12	WALL OR CEILING	12'-0" AFF	(2) 12W (INCLUDED)	- PROVIDED WITH 90 MINUTE BATTERY BACK-UP
F	MM LIGHTING	F2343/4DBZ	MURRAY FEISS SHADE PENDANT - DARK BRONZE FINISH	120	100	PENDANT	8'-0" AFF TO BOTTOM	(4) 25W MEDIUM BASE	- ALWAYS (4) PENDANTS AT CASHWRAP MOUNTED 7'6" AFF - (1) PENDANT AT LEANING MIRROR MOUNTED 8'6" AFF
G1	CUSTOM CHARMING CHARLIE CHANDELIER	CRYSTORAMA D119	12-LIGHT, 2-TIER CUSTOM CHANDELIER- ENGLISH BRONZE FINISH, CLEAR CRYSTAL ACCENTS	120	720	PENDANT	7'-6" AFF TO BOTTOM	(12) 60W B10	COORDINATE HEIGHT WITH ARCHITECTURAL PLANS - THIS IS THE CHARMING CHARLIE SALES FLOOR CHANDELIER
G3	MINKA GROUP	3123-489	1-LIGHT MINI CHANDELIER- TAYLOR BRONZE FINISH, CLEAR CRYSTAL ACCENTS	120	60	PENDANT	7'-6" AFF TO BOTTOM	(1) 60W MEDIUM BASE	COORDINATE HEIGHT WITH ARCHITECTURAL PLANS. BASE CHANDELIER PER CHARMING CHARLIE FITTING ROOM
K	MERCURY	MM-2-32-OCT-C-ELB-UNI	4' 2-LAMP LINEAR STRIP LIGHT	UNI	64	PENDANT	12'-0" AFF	(2) 32W T8	COORDINATE HEIGHT WITH ARCHITECTURAL PLANS. - TO BE USED IN STOCK ROOM ONLY FOR CHARLIE, CHARLIE PREMIUM, AND LIFESTYLE STORES - USE THROUGHOUT BACKROOM AREAS OF POWER CENTERS (THIS INCLUDES RESTROOMS, COORIDORS, MANAGERS OFFICE, STOCKROOM) - PROVIDE CHAIN SET FOR PENDANT MOUNTING FIXTURE.
L2	ACCULITE	1B1-150PS-QT-PR16 ED 17	HIGHBAY WITH PRISMATIC ACRYLIC REFLECTORS	120	175	PENDANT		REFER TO ARCHITECTURAL SHEETS (1) 150W ED 17 LAMP	COORDINATE HEIGHT WITH ARCHITECTURAL PLANS. - GRID SPACING IS 14 x 14 FT ON CENTER
SC2	CUSTOM RSVP SCENCE	EL17830W2B	2-LIGHT WALL SCENCE - BLACK FINISH WITH BLACK CRYSTAL	120	120	WALL		REFER TO ARCHITECTURAL SHEETS (2) 60W CANDELAB	COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL PLANS
SC3	WORLD IMPORTS	7821-WH-88	1-LIGHT WALL SCENCE - BRONZE FINISH WITH WHITE GLASS	120	60	WALL		REFER TO ARCHITECTURAL SHEETS (1) 60W B10	- 2 SCENCES PER CHARMING CHARLIE FITTING ROOM - COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL PLANS.
X2	PATHWAY	PEXUR-DL	THERMOPLASTIC WHITE EXIT SIGN WITH RED LETTERS	UNI	5	SURFACE	11'-0" AFF	L.E.D. INCLUDED	- TO BE USED IN STOCK ROOM, BACK COORIDOR AND RESTROOMS - TO BE USED THROUGHOUT SALES FLOOR OF LIFESTYLE AND POWER CENTER STORES - PROVIDED WITH 90 MINUTE BATTERY BACK-UP

- NOTES:
- INSTALLATION OF LIGHTING FIXTURES SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO CODE REQUIREMENTS.
  - ALL LIGHTING SHALL BE FURNISHED BY OWNER AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
  - LAMPS SHALL BE G.E., OSRAM SYLVANIA OR PHILIPS - NO EXCEPTIONS
  - ALL EMERGENCY LIGHTING AND EXIT SIGNAGE SHALL BE PROVIDED WITH 90 MINUTE BATTERY BACK-UP
  - PROVIDE PENDANT MOUNTING KIT FOR ALL LIGHTING TO BE PENDANT MOUNTED FROM STRUCTURE.
  - E.C. SHALL AIM ALL TRACK LIGHTING AS SHOWN/INDICATED BY ARCHITECTURAL DRAWING/OWNER.

- Ⓕ LIGHTING CODED NOTES**
- PROVIDE ROUGH-IN AND INSTALL OCCUPANCY SENSOR, WATTSTOPPER W-200 OR EQUIVALENT, AUTOMATIC "ON" WALL SWITCH. MOUNT AT +48" AFF.
  - PROVIDE 2-HOUR OVERRIDE TIME SWITCH EQUAL TO INTERMATIC FF SERIES. OVERRIDE SWITCH SHALL SERVE AS THE EXTERNAL OVERRIDE SIGNAL TO TIMECLOCK TC1. PROVIDE PRINTED LABEL AT SWITCH LOCATION TO READ "OVERRIDE SWITCH".
  - EMERGENCY/NIGHT LIGHTS AND EXIT SIGNS SHALL BE CIRCUITED TO UNSWITCHED, LOCKED CIRCUIT A-41.
  - NEW LIGHTING CONTROL SYSTEM, REFER TO DETAILS ON SHEET E3.2 FOR ADDITIONAL INFORMATION AND ZONE SCHEDULE.
  - PROVIDE WIRE AS REQUIRED FOR OWNER PROVIDED SPEAKERS. COORDINATE EXACT SPEAKER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN. REFER TO DETAIL 1 ON SHEET E3.1 FOR ADDITIONAL INFORMATION ON THE SOUND SYSTEM. COORDINATE EXACT REQUIREMENTS WITH CHARMING CHARLIE PROJECT MANAGER PRIOR TO INSTALLATION.
  - PROVIDE WIRE AS REQUIRED FOR OWNER SECURITY SYSTEM DEVICES. COORDINATE EXACT CAMERA LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN. REFER TO DETAIL 1 ON SHEET E3.1 FOR ADDITIONAL INFORMATION ON THE SECURITY SYSTEM. COORDINATE EXACT REQUIREMENTS WITH CHARMING CHARLIE PROJECT MANAGER PRIOR TO INSTALLATION.
  - PROVIDE ROUGH-IN AND INSTALL CEILING OCCUPANT SENSOR, WATTSTOPPER CI-200 OR EQUIVALENT. PROVIDE ALL NECESSARY POWER PACKS, RELAYS, ETC. FOR A COMPLETE AND FUNCTIONAL SYSTEM. REFER TO DETAIL 2 ON SHEET E1.1 FOR RESTROOM LIGHTING/EXHAUST FAN CONTROLS.
  - WIRELESS ACCESS POINT UNIT CENTRALLY LOCATED, COORDINATE EXACT LOCATION IN FIELD, AND MOUNT TO THE VERTICAL SOFFIT WALL OR SURFACE MOUNT TO STRUCTURE - OPPOSITE THE MAIN ENTRY. UNIT HAS A CAT-5E PLENUM CABLE HOMERUN FROM THE WAP TO THE PHONE BOARD IN THE BACK OF HOUSE. GC TO UTILIZE CONDUIT AS REQUIRED BY CODE.
  - CONNECT TRACK LIGHTING BRANCH CIRCUITS THROUGH CURRENT LIMITING PANEL. REFER TO CURRENT LIMITING PANEL SCHEDULE ON THIS SHEET FOR MORE INFORMATION.
  - LIGHTING SWITCHBANK. REFER TO DETAIL 1 ON THIS SHEET FOR ADDITIONAL INFORMATION.
  - PROVIDE JUNCTION BOX, DISCONNECT SWITCH AND 120 VOLT CIRCUIT FOR ALL EXTERIOR SIGNAGE, SCENCES AND OTHER ILLUMINATED ELEMENTS. COORDINATE LOCATIONS WITH OWNER. CONNECT CIRCUITS TO THE SIGNAGE/EXTERIOR CONTACTORS FOR CONTROL BY TIMECLOCK. REFER TO SHEET E3.2 FOR DETAILS.
  - NIGHT LIGHTS IN THE SALES AREA SHALL BE CIRCUITED TO UNSWITCHED, LOCKED CIRCUIT A-42.

- Ⓕ LIGHTING GENERAL NOTES**
- LIGHT FIXTURES SHOWN FADED AND LABELED "EX" ARE EXISTING TO REMAIN. CONNECT TO NEW CIRCUIT AND CONTROLS AS SHOWN. MAINTAIN EXISTING BRANCH CIRCUITRY BETWEEN FIXTURES WHEREVER POSSIBLE. SOME LIGHT FIXTURES ON EXISTING CIRCUIT ARE REMOVED. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO ENSURE THAT ANY DOWNSTREAM AND/OR UPSTREAM LIGHT FIXTURES BE RECONNECTED AS REQUIRED TO MAINTAIN CONTINUITY OF THE LIGHTING CIRCUIT.
  - LIGHT FIXTURES SHOWN FADED AND LABELED "EX-R" ARE EXISTING TO BE RELOCATED. CONNECT TO NEW CIRCUIT AND CONTROLS AS SHOWN. MAINTAIN EXISTING BRANCH CIRCUITRY BETWEEN FIXTURES WHEREVER POSSIBLE. MULTIPLE CONNECTIONS TO A SINGLE LIGHT FIXTURE FOR VOLTAGE DROP CONDITIONS OR AS A RESULT OF A FIELD CONDITION ARE ACCEPTABLE. LIGHTING FIXTURES SHALL BE MANUFACTURED TO ACCOMMODATE THRU-WIRING. ANY RELATED COSTS FOR MULTIPLE CONNECTIONS SHALL BE INCLUDED IN BID.
  - ALL WIRING DEVICES (RECEPTACLES, SWITCHES, ETC.) AND COVERPLATES SHALL BE WHITE, NO EXCEPTIONS.
  - LIGHTING SHALL BE CIRCUITED EXACTLY AS SHOWN ON PLANS. CIRCUITING SHALL BE THRU-WIRING WHEREVER POSSIBLE. MULTIPLE CONNECTIONS TO A SINGLE LIGHT FIXTURE FOR VOLTAGE DROP CONDITIONS OR AS A RESULT OF A FIELD CONDITION ARE ACCEPTABLE. LIGHTING FIXTURES SHALL BE MANUFACTURED TO ACCOMMODATE THRU-WIRING. ANY RELATED COSTS FOR MULTIPLE CONNECTIONS SHALL BE INCLUDED IN BID.
  - LIGHTING CIRCUITS UP TO 100'-0" IN LENGTH SHALL UTILIZE #12 CONDUCTORS MINIMUM. LIGHTING CIRCUITS FROM 101'-0" TO 150'-0" IN LENGTH SHALL UTILIZE #10 CONDUCTORS MINIMUM. LIGHTING CIRCUITS FROM 151'-0" TO 250'-0" IN LENGTH SHALL UTILIZE #8 CONDUCTORS MINIMUM. LIGHTING CIRCUITS ABOVE 251'-0" IN LENGTH SHALL UTILIZE #6 CONDUCTORS MINIMUM.
  - ELECTRICAL CONTRACTOR'S BID SHALL INCLUDE THE INSTALLATION OF ALL LIGHT FIXTURES AND ASSOCIATED WIRING FURNISHED BY OWNER. SOME FIXTURES REQUIRE ASSEMBLY. E.C. IS RESPONSIBLE TO ENSURE THE ADJUST ABILITY OF ALL DIRECTIONAL FIXTURES AFTER INSTALLATION AND SHALL AIM THE FIXTURES PER DIRECTION FROM G.C. IF THE CEILING SYSTEMS ARE FIRE RATED, E.C. SHALL CLOSELY COORDINATE RECESSED FIXTURE REQUIREMENTS WITH OWNER AND SUPPLIER TO MAINTAIN THE FIRE RATING OF THE CEILING.
  - FIXTURES INSTALLED IN FURRED SPACES SHALL BE CONNECTED BY MEANS OF FLEXIBLE CONDUIT AND "AF" WIRE RUN TO A BRANCH CIRCUIT OUTLET BOX WHICH IS INDEPENDENT OF THE FIXTURE.
  - EMERGENCY AND EXIT FIXTURES SHALL BE INSTALLED AND CIRCUITED PER LOCAL AND LATEST NATIONAL ELECTRICAL CODES.
  - ALL NIGHT LIGHTS (SHOWN WITH "NL" DESIGNATION) SHALL BE WIRED AHEAD OF SWITCHING.
  - EMERGENCY FIXTURES, EMERGENCY BALLASTS SHALL BE PROVIDED WITH AN UNSWITCHED "HOT" TO PROVIDE CONTINUOUS POWER TO BALLAST EVEN WHEN FIXTURE IS OFF.
  - EXIT/EMERGENCY LIGHTS AT THE STOREFRONT SHALL BE CEILING MOUNTED AND CENTERED OVER OPENINGS. EXIT/EMERGENCY LIGHTS AT DOOR TO NON-SALES AREAS SHALL BE CEILING MOUNTED AND CENTERED ABOVE DOOR.
  - IT SHALL BE THE E.C.'S RESPONSIBILITY TO UNLOAD INVENTORY AND STORE LIGHTING PACKAGE. THE E.C. SHALL ALSO SHIP ANY EXCESS MATERIALS BACK TO THE ELECTRICAL PACKAGE DISTRIBUTOR.
  - DISCONNECT AND DISCARD ALL EXISTING ELECTRICAL EQUIPMENT AND DEVICES, WIRING, CONDUIT, LIGHT FIXTURES, ETC. NOT BEING REUSED.

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SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
 LEGACY PLACE  
 11380 LEGACY AVE.  
 PALM BEACH GARDENS, FL, 33410

CLIENT:  
  
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REVISIONS:

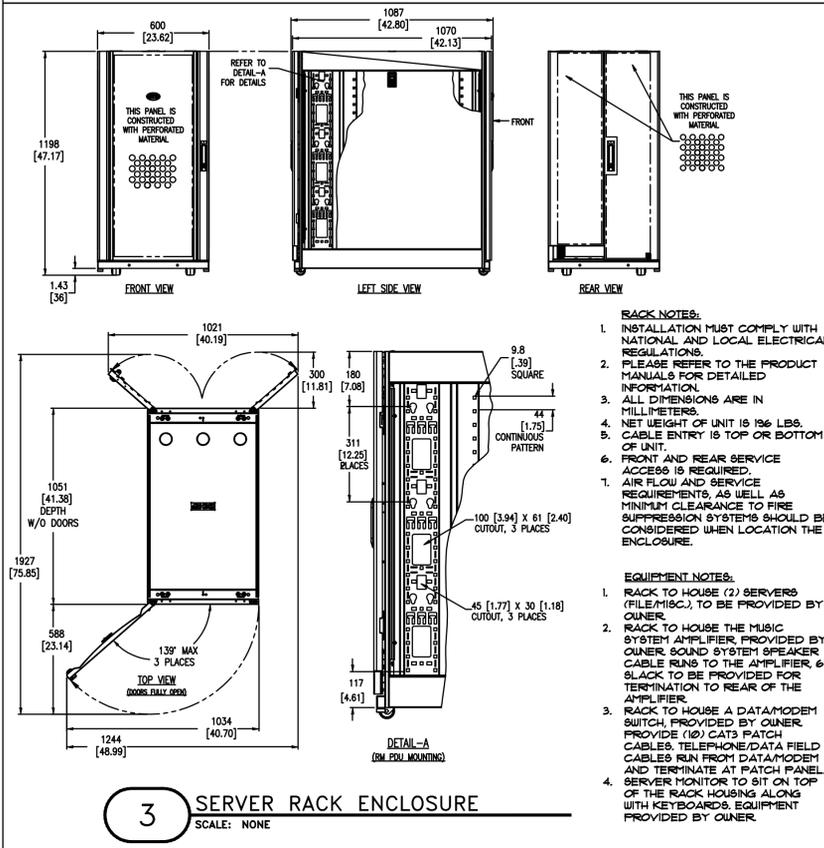
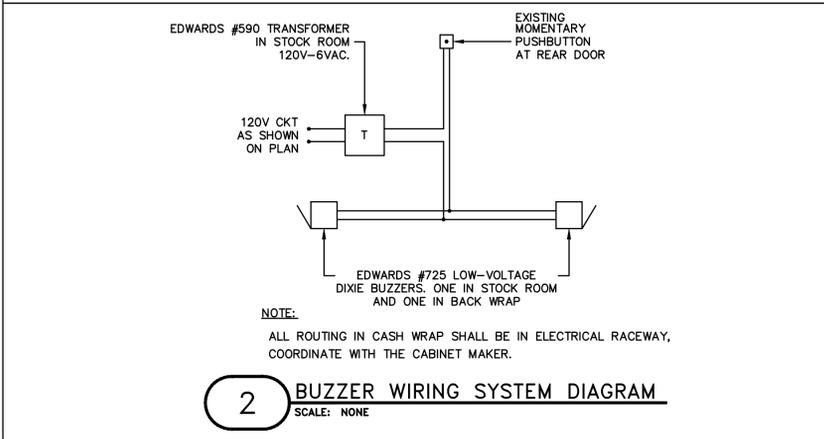
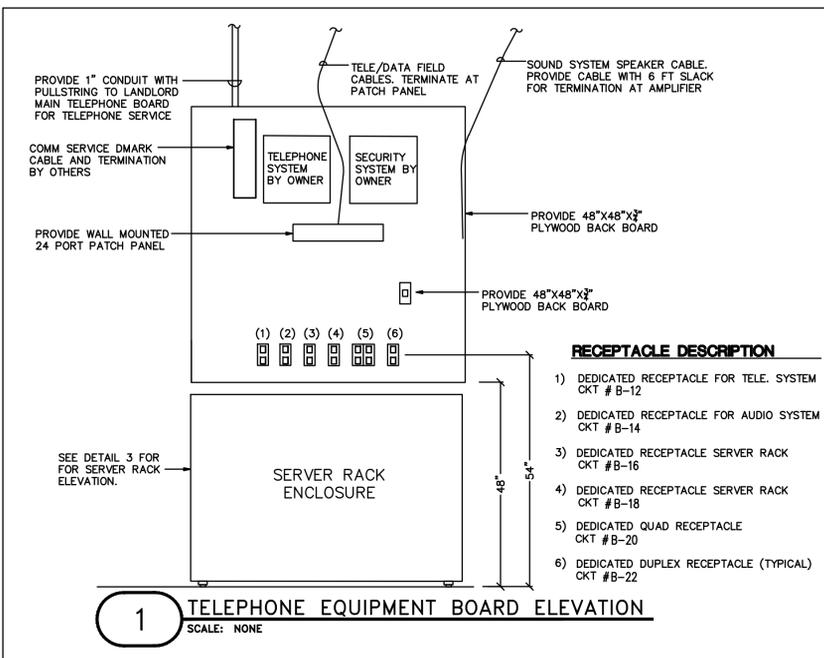
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Project No.:		11460
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Reviewed By:		
Scale:		
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Filename:		
SHEET TITLE:		

**ELECTRICAL LIGHTING PLAN**

SHEET NO.:

**E2.1**

ELECTRIC LEGEND	
SYMBOL	DESCRIPTION
<b>LIGHTING CONTROL/SWITCHING</b>	
NL nl	UNSWITCHED NIGHT-LIGHT FIXTURE
\$	SINGLE POLE SWITCH
3/\$	3-WAY SWITCH
LA LA	LIGHTING CONTACTOR ("L" INDICATES CONTACTOR DESIGNATION)
▲	OCCUPANCY SENSOR (PIR) AUTO WALL SWITCH @ 48" AFF /AUTO-OFF & DIP SW. CHOICE OF AUTO OR MANUAL ON, 180 DEG./1000 SQ.FT. (WS #WI-200, 0-800W/120V, 0-1200W/277V)
LCP LCP	LIGHTING CONTROL PANEL SEE SPECIFICATION SECTION 16860
CS	DIMMER SYSTEM LIGHTING CONTROL STATION SEE SPECIFICATION SECTION 16860
<b>RECEPTACLES/MISCELLANEOUS OUTLETS</b>	
⊕	DUPLEX RECEPTACLE
⊕⊕	DOUBLE DUPLEX RECEPTACLE ("QUAD")
⊕	DUPLEX GFCI RECEPTACLE - COUNTER HEIGHT OR SPECIAL HEIGHT - DO NOT FEED DOWNSTREAM OUTLETS FROM LOAD SIDE TERMINALS UNLESS SPECIFICALLY NOTED OTHERWISE ON DWGS.
⊕	FLUSH CEILING DUPLEX RECEPTACLE
⊕	FLOOR OUTLET SEE SPECIFICATION SECTION 16220
<b>MISCELLANEOUS</b>	
⊕	THERMOSTAT (LOW VOLTAGE) - FURNISHED, INSTALLED AND WIRED BY H.C. OUTLET BOX AND CONDUIT STUB-UP BY E.C.
⊕	TEMPERATURE CONTROL SENSOR (LOW VOLTAGE) - FURNISHED, INSTALLED & WIRED BY H.C. OUTLET BOX AND CONDUIT STUB-UP BY E.C.
■	INDICATES A DIRECT CONNECTION TO EQUIPMENT
□	HEAVY DUTY DISCONNECT SWITCH (NON-FUSED)
□	HEAVY DUTY DISCONNECT SWITCH (FUSED)
⊕	MOTOR
⊕	MOTOR OPERATED DAMPER (120V) - FURNISHED AND INSTALLED BY H.C., POWER AND INTERLOCK WIRING BY E.C.
⊕	TIME CLOCK
—	RECESSED OR SURFACE MOUNTED PANELBOARD AS INDICATED ON PLANS
—	PLYWOOD EQUIPMENT BOARD BY E.C. (SEE DIVISION 16 SPECIFICATIONS)
⊕	CIRCUIT BREAKER (NEMA 1 ENCLOSURE UNLESS INDICATED OTHERWISE)
⊕	INDICATES GROUNDING BY E.C. PER N.E.C. ARTICLE 250 MINIMUM
⊕	TRANSFORMER
⊕	ELECTRIC METER
⊕	SECURITY CAMERA BY OTHERS. PROVIDE SINGLE GANG BOX WITH PLASTER RING AND 3/4" CONDUIT TO TELEPHONE BOARD AS REQUIRED. VERIFY EXACT REQUIREMENTS.
⊕	SPEAKER (BY OTHERS). PROVIDE SINGLE GANG BOX WITH PLASTER RING AND SPEAKER CABLE TO AUDIO AMPLIFIER AS REQUIRED. VERIFY EXACT REQUIREMENTS.
<b>DATA/VOICE</b>	
▼ #	TELEPHONE OUTLET - DESKTOP/TABLETOP PHONE # = NUMBER OF CABLES (PROVIDE ONE CABLE DROP WHERE NO NUMBER IS INDICATED)
▼ #	DATA OUTLET # = NUMBER OF CABLES (PROVIDE ONE CABLE DROP WHERE NO NUMBER IS INDICATED)
▼ #D #V	COMBINATION TELE/DATA OUTLET; #D = # OF DATA CABLES; #V = # OF VOICE CABLES. PROVIDE SINGLE GANG BOX WITH PLASTER RING AND 3/4" CONDUIT TO ABOVE THE ACCESSIBLE CEILING. PROVIDE CAT 5 MODULAR JACK MATCHING ADJACENT ELECTRICAL RECEPTACLE IN STYLE AND COLOR. PROVIDE CAT 5 CABLE, 1 PER DROP, ROUTED TO TELEPHONE/DATA PATCH PANEL. CABLING INSTALLATION MUST BE TESTED TO MEET CAT 5 REQUIREMENTS FOR ROUTING, SUPPORT, TERMINATION AND SPEED.
<b>FIRE ALARM LEGEND</b>	
⊕	FIRE ALARM SYSTEM DUCT SMOKE DETECTOR
⊕	FIRE ALARM SYSTEM HORN/STROBE UNIT
⊕	FIRE ALARM SYSTEM KEYED TEST SWITCH WITH L.E.D. INDICATOR LIGHT MOUNT NO HIGHER THAN 5'-0" A.F.F. TO THE CENTER OF THE DEVICE
⊕	FIRE ALARM SYSTEM MANUAL PULL STATION
<b>DOOR OPERATORS/DEVICES</b>	
⊕	DOOR BELL WITH TRANSFORMER & PUSHBUTTONS AS SPECIFIED UNDER SPEC. SECTION 16810
⊕	FLUSH PUSHBUTTON FOR DOOR CHIME OR DOOR BELL (SEE SPEC. SECTION 16810)
<b>RACEWAY/WIRE/CABLE</b>	
→(1,3)	HOME RUN WITH CIRCUIT NUMBER(S)
—	CABLING/RACEWAY - CEILING OR WALL - SEE SPECS. FOR APPL. CONDUIT/RACEWAY REQ'TS. (FULLY CONCEALED IN FINISHED AREAS; CONCEALED TO OVERHEAD STRUCTURE IN UNFIN. AREAS)
—	CABLING/RACEWAY - BELOW FLOOR/GRADE - SEE SPECS. FOR APPL. CONDUIT/RACEWAY REQ'TS.
⊕	JUNCTION BOX - ABOVE ACCESSIBLE CEILING OR AT STRUCTURE IN AREAS WITH NO CEILING
⊕	JUNCTION BOX - WALL (FLUSH IN FINISHED AREAS)
○	CONDUIT UP OR DOWN
<b>ABBREVIATIONS AND NOTES</b>	
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
AFF	ABOVE FINISHED FLOOR (OR GRADE/PAVEMENT WHERE APPLICABLE) TO CENTER OF OUTLET (UNLESS OTHERWISE NOTED)
W/P	PROVIDE WEATHERPROOF EQUIPMENT/FIXTURE/DEVICE
42"	DISTANCE ABOVE FINISHED FLOOR (OR GRADE/PAVEMENT WHERE APPLIC.) TO CENTER OF OUTLET
GFI / GFCI	GROUND FAULT CIRCUIT INTERRUPTER DEVICE (UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS, DO NOT FEED DOWNSTREAM OUTLETS FROM LOAD SIDE TERMINALS OF GFI RECEP.TS.)
IG	INDICATES ISOLATED GND. DEVICE W/PARTY SIZED ISOLATED/INSULATED EQT. GND. CONDUCTOR (GREEN W/YELLOW TRACER). PROVIDE DEDICATED #10 AWG NEUTRAL COND. FOR EA. PHASE COND.
EWG	ELECTRIC WATER COOLER



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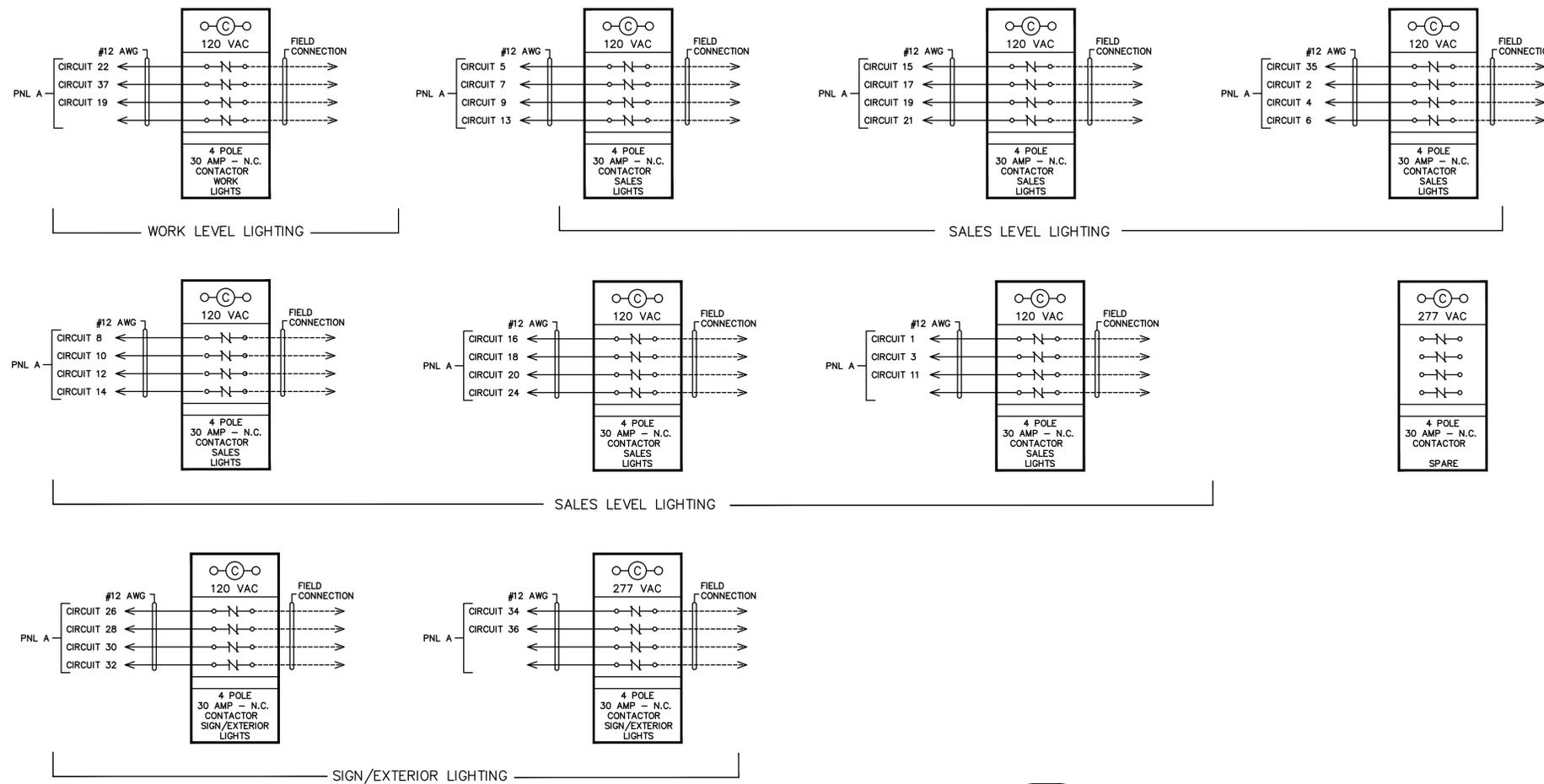
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REVISIONS:

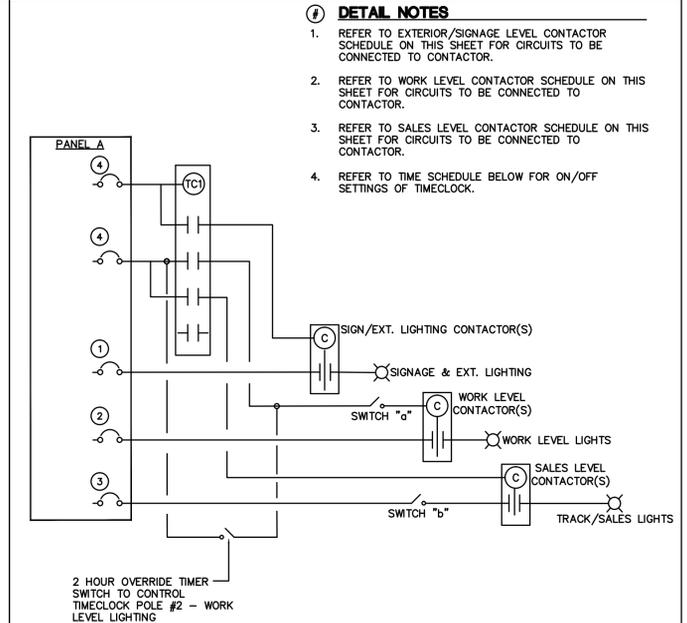
No.	Description	Date
Project No.:		11460
Drawn By:		
Reviewed By:		
Date:		09.02.2011
Filename:		
SHEET TITLE:	<b>ELECTRICAL LEGEND AND DETAILS</b>	

SHEET NO.:

E3.1



**1 LIGHTING CONTROLS WIRING DIAGRAM**  
SCALE: NONE



**DETAIL NOTES**

- REFER TO EXTERIOR/SIGNAGE LEVEL CONTACTOR SCHEDULE ON THIS SHEET FOR CIRCUITS TO BE CONNECTED TO CONTACTOR.
- REFER TO WORK LEVEL CONTACTOR SCHEDULE ON THIS SHEET FOR CIRCUITS TO BE CONNECTED TO CONTACTOR.
- REFER TO SALES LEVEL CONTACTOR SCHEDULE ON THIS SHEET FOR CIRCUITS TO BE CONNECTED TO CONTACTOR.
- REFER TO TIME SCHEDULE BELOW FOR ON/OFF SETTINGS OF TIMELOCK.

**LIGHTING CONTROL DESIGN INTENT**

**STOREFRONT LIGHTING AND SIGNAGE:**  
HARDWARE: LIGHTING CONTACTOR(S) AND TIMELOCK.  
CONTROL INTENT: STOREFRONT LIGHTING, RECEPTACLES AND SIGNAGE SHALL TURN "ON" AND "OFF" BASED ON THE TIME SCHEDULE(S) PROGRAMMED INTO THE TIMELOCK.

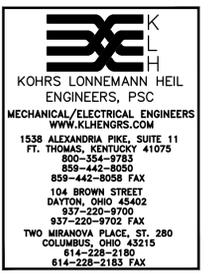
**SALES AREA DISPLAY LIGHTS AND TRACK LIGHTING:**  
HARDWARE: WALL MOUNTED TOGGLE SWITCH, LIGHTING CONTACTOR AND TIMELOCK.  
CONTROL INTENT: DURING BUSINESS HOURS (HOURS PROGRAMMED INTO TIMELOCK) THE SALES AREA DISPLAY LIGHTS AND TRACK LIGHTING SHALL TURN "ON" AND "OFF" BASED ON THE TIME SCHEDULE(S) PROGRAMMED INTO THE TIMELOCK.

**SALES AREA GENERAL LIGHTING AND STOCK ROOM/CORRIDOR LIGHTS:**  
HARDWARE: WALL MOUNTED TOGGLE SWITCHES, LIGHTING CONTACTOR AND TIMELOCK.  
CONTROL INTENT: DURING BUSINESS HOURS (HOURS PROGRAMMED INTO TIMELOCK) THE SALES AREA GENERAL LIGHTING AND STOCK ROOM/CORRIDOR LIGHTS SHALL TURN "ON" AND "OFF" BASED ON THE TIME SCHEDULE(S) PROGRAMMED INTO THE TIMELOCK.  
THE OVERRIDE SWITCH SHALL OVERRIDE THE TIMELOCK SCHEDULING (FOR A MAXIMUM OF 2-HOURS) AND ALLOW FOR AFTER HOURS CONTROL OF THE LIGHTING.

**NORMAL WORK TIME SCHEDULE:**  
WORK LEVEL: ON- 8am  
OFF- 10pm  
SALES LEVEL: ON- 8am  
OFF- 10pm  
SIGNAGE/EXTERIOR: ON- 5pm  
OFF- 12 am

**HOLIDAY TIME SCHEDULE (NOV. 20 - JAN. 1):**  
WORK LEVEL: ON- 7am  
OFF- 11pm  
SALES LEVEL: ON- 7am  
OFF- 11pm  
SIGNAGE/EXTERIOR: ON- 5pm  
OFF- 12 am

**2 LIGHTING CONTROLS WIRING DIAGRAM**  
SCALE: NONE



SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:  
 CHARMING CHARLIE  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 579-1975

REVISIONS:

No.	Description	Date
Project No.:		11460
Drawn By:		
Reviewed By:		
Scale:		
Date:		09.02.2011
Filename:		
SHEET TITLE:		

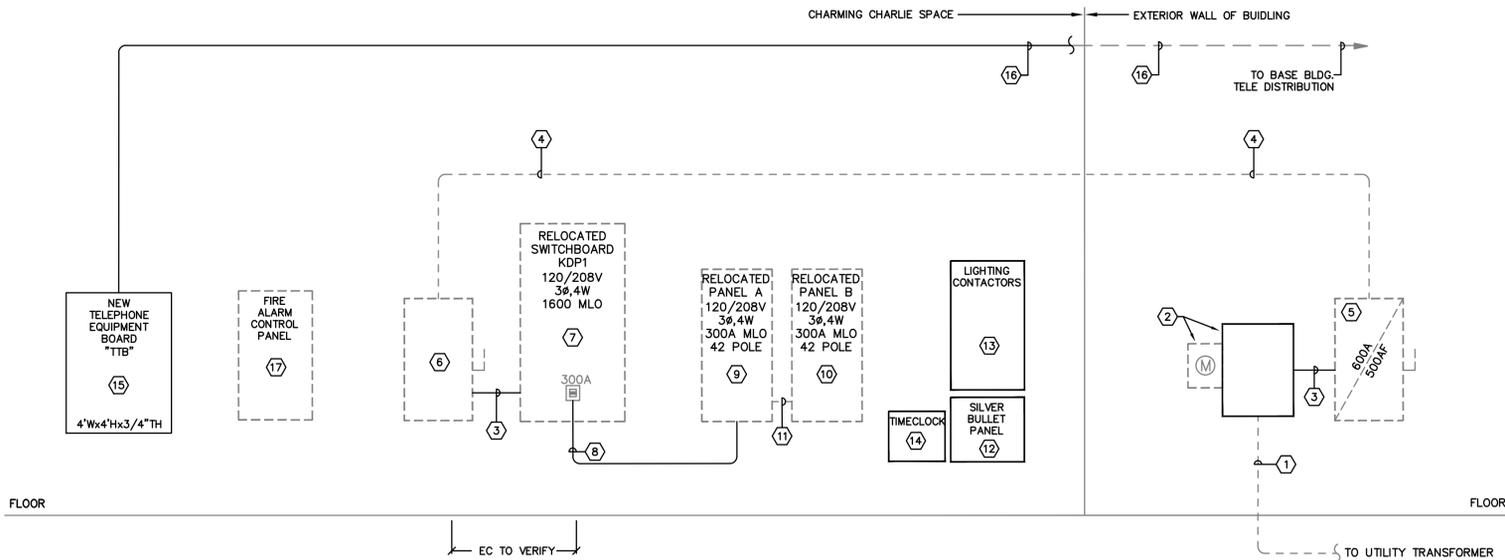
LIGHTING CONTROL DETAILS

SHEET NO.:

**E3.2**

NOTE:  
EQUIPMENT SHOWN FADED AND  
DASHED ARE EXISTING TO REMAIN.

INFORMATION IN THIS DIAGRAM IS TAKEN FROM AS-BUILT DOCUMENTS.  
PRIOR TO INSTALLATION, E.C. SHALL VERIFY EXISTING SYSTEM DATA  
AND ADJUST WIRE SIZES, CONDUIT SIZES, BREAKER SIZES, ETC. AS  
REQUIRED AND IMMEDIATELY NOTIFY ENGINEER PRIOR TO CHANGES.



**1 ELECTRICAL RISER DIAGRAM**  
SCALE: NONE

**RISER CODED NOTES**

- EXISTING FEEDERS AND CONDUIT SHALL REMAIN.
- EXISTING METER SHALL REMAIN. COORDINATE NEW CT REQUIREMENTS WITH LANDLORD, OWNER AND LOCAL UTILITY COMPANY PRIOR TO BID AND COMMENCEMENT OF WORK AND PROVIDE ALL NECESSARY EQUIPMENT, ETC. PROVIDE NAME PLATE TO READ "CHARMING CHARLIE".
- PROVIDE (2) PARALLEL SETS OF (4)#250, (1)#2 GND EACH IN 2-1/2" CONDUIT.
- EXISTING (LANDLORD PROVIDED) (2) PARALLEL SETS OF (4)#250, (1)#2 GND EACH IN 2-1/2" CONDUIT SHALL REMAIN.
- EXISTING (LANDLORD PROVIDED) 600AS/3P/500AF, 240V NEMA-3R HEAVY DUTY FUSIBLE DISCONNECT SHALL REMAIN. PROVIDE NEW 500A FUSES AS REQUIRED.
- EXISTING 600A/3P HEAVY DUTY DISCONNECT (LANDLORD PROVIDED) SHALL REMAIN. IF LOCATION IS UNDESIRABLE, RELOCATE AS NEEDED AND PROVIDE ALL NECESSARY PULL/SPLICE BOXES FOR A COMPLETE AND FUNCTIONAL SYSTEM. FIELD VERIFY AND MATCH EXISTING. REFER TO GENERAL NOTE A.
- RELOCATE EXISTING SWITCHBOARD "KDP1" TO LOCATION SHOWN ON PLAN. REFER TO SCHEDULE ON THIS SHEET FOR MORE INFORMATION. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED. REPLACE EXISTING FLUSH COVER WITH NEW SURFACE MOUNT COVER.
- PROVIDE (4)#300, (1)#2 GND IN 2-1/2" CONDUIT.
- RELOCATE EXISTING PANEL "A" (FORMERLY LABELED PANEL "LP1, SECTION 1") TO LOCATION SHOWN ON PLAN. REFER TO SCHEDULE ON THIS SHEET FOR MORE INFORMATION. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED. REPLACE EXISTING FLUSH COVER WITH NEW SURFACE MOUNT COVER.
- RELOCATE EXISTING PANEL "B" (FORMERLY LABELED PANEL "LP1, SECTION 2") TO LOCATION SHOWN ON PLAN. REFER TO SCHEDULE ON THIS SHEET FOR MORE INFORMATION. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED. REPLACE EXISTING FLUSH COVER WITH NEW SURFACE MOUNT COVER. RENUMBER CIRCUIT BREAKERS 1-42.
- EXISTING FEEDERS AND CONDUIT SHALL BE RELOCATED WITH PANELS "A" AND "B". MAINTAIN EXISTING CONNECTION.
- INSTALL OWNER PROVIDED LC&D SILVER BULLET PANEL, MODEL NUMBER T24-12-SM.
- PROVIDE NEW CONTACTORS IN A NEMA-1 ENCLOSURE.
- PROVIDE NEW TIMECLOCK. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
- PROVIDE NEW PLYWOOD TELEPHONE EQUIPMENT BOARD, 4'W x 4'H x 3/4"TH.
- EXISTING (LANDLORD PROVIDED) 1" CONDUIT FOR TELEPHONE/DATA. EXTEND EXISTING 1" CONDUIT TO NEW TELEPHONE BOARD LOCATION. PROVIDE ALL TELEPHONE/DATA CABLING AS REQUIRED FOR TELEPHONE AND DATA SERVICES. NO EXPOSED TELEPHONE CABLES IN RETURN AIR PLENUMS. E.C. SHALL CONTACT THE LOCAL TELEPHONE COMPANY TO ARRANGE FOR TELEPHONE SERVICE IN OWNER'S NAME. COORDINATE EXACT REQUIREMENTS WITH CONSTRUCTION MANAGER AND LANDLORD.
- RELOCATE EXISTING FIRE ALARM CONTROL PANEL AS SHOWN. COORDINATE WITH LANDLORD AND LANDLORD FIRE ALARM CONTRACTOR FOR FINAL TIE-IN TO LANDLORD CENTRAL FIRE ALARM SYSTEM AT TENANT'S COST.

**RISER GENERAL NOTES**

- PARALLEL FEEDER CONDUCTORS SHALL BE CUT TO EXACTLY THE SAME LENGTHS AND SHALL BE FROM THE SAME FACTORY RUN. ALL CONNECTIONS FOR SAME SHALL BE TORQUED TO IDENTICAL VALUES.
- EXTERIOR ELECTRICAL WORK SHALL NOT ONLY BE WEATHERPROOF AND WATER-TIGHT, BUT SHALL ALSO BE RUST-RESISTANT.
- CONDUCTORS BELOW GRADE OR SUBJECT TO MOISTURE SHALL BE "XHHW-2".
- PROVIDE FACTORY SERIES COORDINATION FOR ALL CIRCUIT BREAKERS (INCLUDING ALL BRANCH BREAKERS), RELATIVE TO "UPSTREAM" BREAKERS, SO THAT ONLY THE BREAKER CLOSEST IN THE CIRCUIT TO THE LOAD TRIPS UPON AN OVERLOAD OR FAULT CONDITION.
- POWER DISTRIBUTION EQUIPMENT SUPPLIER SHALL PROVIDE EQUIPMENT APPROPRIATELY RATED AND BRACED TO ACCOMMODATE THE AVAILABLE FAULT CURRENT AT THE UTILITY COMPANY TRANSFORMER SECONDARIES. THIS SUPPLIER SHALL ACCORDINGLY PROVIDE ANY RELATED CALCULATIONS SO THAT THEIR EQUIPMENT IS PROPERLY COORDINATED FOR THE AVAILABLE FAULT CURRENT. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THIS SUPPLIER WITH COPIES OF THE ELECTRICAL DOCUMENTS AS REQUIRED SO THAT PROPERLY RATED/BRACED EQUIPMENT IS PROVIDED UNDER BASE BID.
- GROUNDING ELECTRODE CONDUCTORS SHALL BE PROVIDED IN STRICT COMPLIANCE WITH N.E.C., INCLUDING N.E.C. ARTICLE 250 AND TABLE 250-66. THESE CONDUCTORS MAY NOT BE INDICATED ON RISERS OR SINGLE-LINES, BUT SHALL BE PROVIDED UNDER BASE BID NEVERTHELESS.
- EQUIPMENT GROUNDING CONDUCTORS SHALL BE PROVIDED IN STRICT COMPLIANCE WITH N.E.C., INCLUDING N.E.C. ARTICLE 250 AND TABLE 250-122. THESE CONDUCTORS MAY NOT BE INDICATED ON RISERS OR SINGLE-LINES, BUT SHALL BE PROVIDED UNDER BASE BID NEVERTHELESS.
- WORKING CLEARANCES SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT (SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, STARTERS, DISCONNECTS, ETC. AS APPLICABLE) IN STRICT COMPLIANCE WITH N.E.C. CHAPTER 1, PART B, SECTION 110-26(c). LOCATIONS SHOWN ON FLOOR PLANS ARE SCHEMATIC AND DIAGRAMMATIC IN NATURE. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING COMPLIANCE WITH THE ABOVE N.E.C. REFERENCE. THIS REQUIREMENT APPLIES TO EQUIPMENT ON FLOOR PLANS AS WELL AS TO EQUIPMENT SHOWN ON RISER.
- HOLD ALL NEW OVERHEAD ELECTRICAL WORK AS TIGHT AS POSSIBLE TO THE BOTTOM OF THE OVERHEAD STRUCTURE. LOCATE ANY RELATED PULLBOXES SO THAT THEY WILL BE FULLY ACCESSIBLE AFTER ALL CONSTRUCTION WORK IS COMPLETE. AS WITH ALL WORK, COORDINATE IN ADVANCE WITH ALL OTHER TRADES.
- ROUTE FEEDER CONDUITS BELOW GRADE WHEREVER POSSIBLE. VERY LIMITED SPACE EXISTS ABOVE ACOUSTICAL TILE CEILINGS AND MANY, IF NOT MOST, OF THE SPACE ABOVE THE GYPSUM BOARD CEILING IS NOT AVAILABLE FOR RUNNING CONDUIT. STUDY ALL ARCHITECTURAL STRUCTURE & MECHANICAL DRAWINGS VERY CAREFULLY BEFORE LAYING OUT FEEDER ROUTES.
- ALL PANELS HAVE NEMA 1 ENCLOSURES UNLESS NOTED OTHERWISE.
- E.C. SHALL BE RESPONSIBLE FOR BALANCING ALL PHASES LOADS TO WITHIN 10%.
- PROVIDE HACR CIRCUIT BREAKER FOR ALL MOTOR LOADS.

**KDP1(EXISTING)**

ROOM		VOLTS 208Y/120V 3P 4W			AIC REFER TO SINGLE-LINE DIAGRAM		
MOUNTING REFER TO SINGLE-LINE DIAGRAM		BUS AMPS REFER TO SINGLE-LINE DIAGRAM			MAIN BKR REFER TO SINGLE-LINE DIAGRAM		
FED FROM UTILITY		NEUTRAL 100%			LUGS STANDARD		
NOTE							
#	CIRCUIT DESCRIPTION	KVA LOAD			BREAKER TRIP/POLES	LUGS	
		A	B	C		A	B
1	RTU-1	5.16	5.16	5.16	45/3		
2	RTU-2	4.25	4.25	4.25	45/3		
3	RTU-3	4.18	4.18	4.18	35/3		
4	RTU-4	4.25	4.25	4.25	45/3		
5	RTU-5	4.25	4.25	4.25	45/3		
6	RTU-6	4.37	4.37	4.37	45/3		
7	PANEL A	15.5	16.1	22.6	300/3 EX		
8	RTU-7	4.25	4.25	4.25	45/3		
9	SPARE	0	0	0	20/3		
10	SPARE	0	0	0	20/3		
11	SPARE	0	0	0	20/3		
12	SPARE	0	0	0	20/3		
13	SPARE	0	0	0	20/3		
14	SPARE	0	0	0	20/3		
TOTAL CONNECTED KVA BY PHASE		46.2	46.8	53.3			
CONN. KVA					CONN. KVA	CALC. KVA	
LARGEST MOTOR 10.6		33.6 (125%)			9.26		11.6 (125%)
OTHER MOTORS 48.8		48.8 (100%)			10.2		10.2 (100%)
RECEPTACLES 7.74		7.74 (50%>10)			0		(N/A)
Diverse 0		0 (0%)			0		(N/A)
TOTAL KVA		146			158		
BALANCED THREE PHASE AMPS		439					

**A (EXISTING)**

ROOM		VOLTS 208Y/120V 3P 4W			AIC REFER TO SINGLE-LINE DIAGRAM		
MOUNTING REFER TO SINGLE-LINE DIAGRAM		BUS AMPS REFER TO SINGLE-LINE DIAGRAM			MAIN REFER TO SINGLE-LINE DIAGRAM		
FED FROM KDP1		NEUTRAL 100%			LUGS REFER TO SINGLE-LINE DIAGRAM		
NOTE							
#	CIRCUIT DESCRIPTION	KVA LOAD			CIRCUIT DESCRIPTION	KVA LOAD	
		A	B	C		A	B
1	EX 20/1 TRACK LITS	0.84			2 EX 20/1 CHANDELLIER	1.44	
3	EX 20/1 TRACK LITS	1.56	1.8		4 EX 20/1 CHANDELLIER	1.44	1.44
4	EX 20/1 TRACK LITS				6 EX 20/1 CHANDELLIER		
7	EX 20/1 TRACK LITS	0.72			8 EX 20/1 DOWNLITS, CHANDELLIER, SCONCE	0.344	1.44
9	EX 20/1 TRACK LITS	0.96			10 EX 20/1 CASHWRAP PENDANT	0.4	0.4
11	EX 20/1 TRACK LITS			0.96	12 EX 20/1 CHANDELLIER		0.72
13	EX 20/1 EX DOWNLIGHTS	0.8	1.1		14 EX 20/1 EX DOWNLIGHTS	0.8	0.8
15	EX 20/1 EX DOWNLIGHTS				16 L 20/1 EX DOWNLIGHTS	0.8	0.8
17	EX 20/1 EX DOWNLIGHTS	1.35	1.35	0.8	18 EX 20/1 EX DOWNLIGHTS	1	0.8
19	EX 20/1 EX DOWNLIGHTS				20 EX 20/1 EX DOWNLIGHTS		
21	EX 20/1 EX DOWNLIGHTS				22 EX 20/1 SALES GLOBE LT		0.7
23	EX 20/1 BOH, CORR LIGHTING			0.744	24 EX 20/1 SALES GLOBE LT		1.4
25	EX 20/1 OFF, RR LIGHTING	0.186			26 EX 20/1 SIGNAGE	1.2	1.2
27	EX 20/1 TIMECLOCK	0.5	0.5		28 EX 20/1 SIGNAGE	1.2	1.2
29	L 20/1 CONTACTOR			0.5	30 EX 20/1 SIGNAGE		1.2
31	L 20/1 CONTACTOR	0.5	0.5		32 EX 20/1 REC - CEILING	0.72	0.72
33	L 20/1 CONTACTOR	0.5	0.5		34 EX 20/1 REC - CEILING	0.54	0.54
35	EX 20/1 SALES GLOBE LT	1.23	1.23		36 EX 20/1 REC - CEILING		1.08
37	EX 20/1 SALES GLOBE LT				38 EX 20/1 SPARE		
39	EX 20/1 SPARE	0	0		40 EX 20/1 SPARE	0	0
41	L 20/1 EM/NL LTS, EXIT SIGNS	0.75	0.75	0.42	42 EX 20/1 SPARE	0	0.75
TOTAL CONNECTED KVA BY PHASE		15.5	16.1	22.6			
TOTAL CONNECTED AMPS BY PHASE		43.4	50.4	84.2			
LUG LOAD: PANEL B					TOTAL CONNECTED KVA BY PHASE		129
CONN. KVA		CALC. KVA			CONN. KVA		CALC. KVA
LARGEST MOTOR 0		0 (125%)			0		11.6 (125%)
OTHER MOTORS 0		0 (100%)			10.2		10.2 (100%)
RECEPTACLES 7.74		7.74 (50%>10)			0		(N/A)
Diverse 0		0 (0%)			0		(N/A)
TOTAL KVA		54.1			63.2		
BALANCED THREE PHASE AMPS		176					

**B (EXISTING)**

ROOM		VOLTS 208Y/120V 3P 4W			AIC REFER TO SINGLE-LINE DIAGRAM		
MOUNTING REFER TO SINGLE-LINE DIAGRAM		BUS AMPS REFER TO SINGLE-LINE DIAGRAM			MAIN REFER TO SINGLE-LINE DIAGRAM		
FED FROM A		NEUTRAL 100%			LUGS REFER TO SINGLE-LINE DIAGRAM		
NOTE							
#	CIRCUIT DESCRIPTION	KVA LOAD			CIRCUIT DESCRIPTION	KVA LOAD	
		A	B	C		A	B
1	EX 20/1 SPARE	0	0.8		2 L 20/1 SENSORMATIC	0.18	0
3	EX 20/1 REC - FRIDGE			1.5	4 EX 20/1 SPARE		1.5
6	EX 20/1 MICROWAVE	0.5			8 EX 20/1 STEAMER RECEPTACLE	1.5	0.72
9	EX 20/1 BUZZER		0.72		10 EX 20/1 MGR OFFICE REC		
11	EX 20/1 CASH WRAP		0.72	0.72	12 L 20/1 REC TELEPHONE	0.18	0.18
13	EX 20/1 CASH WRAP	0.72	0.72		14 L 20/1 REC AUDIO	0.18	0.18
15	L 20/1 CASH WRAP				16 L 20/1 REC SERVER	0.18	0.18
17	EX 20/1 BOH REC	0.54	0.54		18 L 20/1 REC SERVER		0.18
19	EX 20/1 SALES REC		0.72		20 L 20/1 REC TELEPHONE	0.36	0.18
21	EX 20/1 SALES REC				22 L 20/1 REC TELEPHONE		0.18
23	EX 20/1 SALES REC		0.54	0.54	24 EX 20/1 WATER HEATER		2
25	EX 20/1 RR OFI RECEPTACLE	0.36			26 EX 20/1 SPARE	0	0
27	EX 20/1 EWC REC	1	1.26		28 EX 20/1 SPARE	0	0
29	EX 20/1 RTU SERVICE RECEPTACLES	0	0		30 EX 20/1 SPARE	0	0
31	EX 25/2 SPARE				32 EX 15/2 SPARE	0	0
33	EX 15/2 SPARE				34	0	0
35	EX 15/2 SPARE				36 EX 15/2 SPARE	0	0
37	EX 15/2 SPARE				38	0	0
39	EX 15/2 SPARE				40 EX 15/2 SPARE	0	0
41	EX 15/2 SPARE				42	0	0
TOTAL CONNECTED KVA BY PHASE		4.34	5.04	8.42			
TOTAL CONNECTED AMPS BY PHASE		36.2	42	70.2			
CONN. KVA		CALC. KVA			CONN. KVA		CALC. KVA
LARGEST MOTOR 0		0 (125%)			2.16		2.7 (125%)
OTHER MOTORS 0		0 (100%)			10.2		10.2 (100%)
RECEPTACLES 5.4		5.4 (50%>10)			0		(N/A)
Diverse 0		0 (0%)			0		(N/A)
TOTAL KVA		17.8			18.3		
BALANCED THREE PHASE AMPS		51					

**HVAC ELECTRICAL COORDINATION SCHEDULE**

ABBREVIATIONS	CONTRACTOR TYPE	MOTOR CONTROL TYPE	CONTROL TYPE
DC	LOCAL DISCONNECT	CS	COMBINATION STARTER
MC	MOTOR CONTROL (POWER)	MCC	MOTOR CONTROL CENTER
SD	DUCT SMOKE DETECTOR	MC	MAGNETIC STARTER OR CONTACT
CN	CONTROLS	MS	MANUAL STARTER
TS	TOGGLE SWITCH	VFD	VARIABLE FREQUENCY DRIVE
C/B	H.A.C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD	MFR	MANUAL STARTER W/CONTROL RELAY
FUSE	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)	PC	PLUMBING CONTRACTOR
FLA	OPERATING FULL LOAD AMPS	OR	OWNER OR OTHERS
MCA	MINIMUM CIRCUIT AMPACITY		
CP	CORD AND PLUG CONNECTION		

MARK	DESCRIPTION	VOLTS	PHASE	EMERG	BHP	HP	HTG KW	WATTS	FLA	MCA	DCP	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	SD QUAN
EF-1	EXHAUST FAN	120	1			1/25						MFR	MFR	MFR	MG	MFR	MFR	MAN	EC	EC	EC	0	
EX RTU-1	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-2	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-3	EXIST. ROOFTOP UNIT	208	3				3.3		28.4	34.8	35	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-4	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-5	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-6	EXIST. ROOFTOP UNIT	208	3				4.9		36.4	43.7	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-7	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1

**KLH**  
**KOHRS LÖNNEMANN HEIL**  
**ENGINEERS, PSC**  
**MECHANICAL/ELECTRICAL ENGINEERS**  
 WWW.KLHENGINEERS.COM  
 1538 ALEXANDRIA PIKE, SUITE 11  
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 800-354-9783  
 859-442-8050  
 859-442-8058 FAX  
 104 BROWN STREET  
 DAYTON, OHIO 45402  
 937-220-9700  
 937-220-9702 FAX  
 TWO MIRANOVIA PLACE, ST. 280  
 COLUMBUS, OHIO 43215  
 614-228-2180  
 614-228-2183 FAX

SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
 LEGACY PLACE  
 11380 LEGACY AVE.  
 PALM BEACH GARDENS, FL, 33410

CLIENT:  
  
**CHARMING CHARLIE**  
 5999 SAVOY DRIVE  
 HOUSTON, TEXAS 77036  
 Phone (713) 579-1975

REVISIONS:

No.	Description
-----	-------------

1. GENERAL REQUIREMENTS

The General Provisions of the Contract including any General and Supplemental Conditions and General Requirements apply to the work in this section. Before submitting a bid, examine all Mechanical, Architectural, and/or Structural documents, visit the site and get acquainted with the location and conditions of the work to be performed. Take measurements and note any conditions that may affect the execution of this contract. Take measurements and be responsible for exact size and locations of all openings required for the installation of work. Figured dimensions are reasonably accurate and should govern in setting out work. Where detailed method of installation is not indicated or where variations exist between described work and approved practice, direction of the Owner's representative on job site shall be followed.

The contract includes all items of material and labor required for the complete installation and full operation of the electrical work as shown on drawings and equipment specifications. All work materials and equipment shall have a one year warranty after acceptance of the work by the Owner. Any defective items shall be removed and replaced at the electrical sub-contractor's expense and to the satisfaction of the Engineer.

Perform work under this contract in close harmony with other contractors so completed work shall present a neat and workmanlike installation. Exposed finished materials and equipment shall be carefully cleaned and wiped to remove grease, smudges, dust and other spots and left smooth and clean after the progress of the work. The electrical sub-contractor shall be responsible for the safety of his men and shall leave the premises and all portions of the building in which he is working free of debris and in a clean and safe condition.

Tighten electrical connectors and terminals, including screws and bolts, in accordance with equipment manufacturer's published torque tightening values for equipment connectors. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in applicable UL and NEC Standards.

Whenever the words "contractor", "this contractor", etc. appear on drawings or in these specifications for the Electrical Work, it shall refer to the Electrical Sub-Contractor. Whenever the word "provide" appears in these documents, it shall be interpreted to mean "Furnish & Install".

Outlet mounting heights as indicated on the plans are approximate to be used for bidding purposes only. The exact mounting height of outlets shall be determined in the field with relation to architectural details and equipment being served. It shall be the responsibility of this contractor to coordinate outlet location with equipment. The Owner's representative shall be permitted to relocate any outlet at any height or at no additional charge in contract price. All fasteners and equipment shall be installed in accordance with methods of hanging exposed work in finished areas shall be submitted to the Owner's representative for approval before installation. If during construction it becomes apparent that certain minor changes in layout will effect a neater job or better arrangement, such alterations shall be made as part of the contractor. Engineer's approval shall be obtained before making such changes. Workmanship throughout shall conform to the standards of best practice. Marks, dents or finish scratches will not be permitted on any exposed materials, fixtures or fittings. Inside of panels & equipment boxes shall be left clean.

The system shall ring entirely free from ground when tested out in the presence of the Owner's representative. This contractor shall be responsible for the proper instruction of each system to the satisfaction of the Owner's representative. Upon completion of the job, this contractor shall furnish the Owner with a complete set of operating instructions on all electrical systems installed.

The Electrical Contractor shall consult the plans of all other trades in all instances before installing his work so that his piping will not interfere with those branches. In the event of a conflict, this contractor shall report to the Owner's representative at once and do no further work until a satisfactory arrangement is decided upon. Any work done, or equipment placed in position by this contractor, creating a conflict in violation hereof, shall be readjusted to the satisfaction of the Owner's representative at the expense of the contractor. The decision of the Owner's representative shall be final in regard to changes due to conflicting conditions.

TEMPORARY ELECTRIC SERVICE

Unless directed otherwise, the general contractor will pay for all current for all trades during construction. The electrical contractor shall provide and maintain all power lines (including circuit protection, physical protection, grounding, etc.) to the temporary offices of all trades requiring same, extending from the temporary electrical service. Where applicable, provide temporary security site lighting as required and/or as directed in field.

Make all necessary arrangements with local utility companies for temporary electrical service and pay all associated fees for inspections, connections, initiation, etc.

Power may be derived from the existing building electrical systems. Coordinate carefully in advance with the owner and do not permit any electric welders to be used from any building service.

Electrical contractor shall furnish all temporary lighting (including lamps) and power complete with all wiring and similar equipment as required, for all work on the site and within the affected buildings during the construction period. Feeders shall be properly sized and ground fault protection shall be provided for all feeders. Feeders and lamps shall be physically protected along their entire length. Temporary branch circuit wiring shall be installed per NEC in each area with outlets on minimum ten foot centers to accommodate lamps and with receptacles on nominal fifty foot centers to accommodate extension cords provided by the contractor. All wiring shall be installed in accordance with applicable codes and standards.

The electrical contractor shall furnish and maintain all lamps required for the duration of the job. Sufficient sections cord circuit capacity shall be provided for all construction areas. A minimum of 10 foot candles of illumination shall be maintained in all spaces or as required by OSHA.

Provide all necessary specialty temporary power and/or supplementary light for all trades requiring same. At the conclusion of the project, all temporary electric service materials shall be removed by the electrical contractor and become the property of same.

2. SHOP DRAWINGS

The contractor shall submit shop drawings on all items of material and equipment for approval by the Engineer. The contractor is not authorized to purchase any material until such approval is obtained. A minimum of six separate sets of drawings is required and will be distributed as follows: 1 copy for Engineer's file; 1 copy for Architect's file; 2 copies for the Owner's file; 2 drawings for the contractor. Shop drawings shall be prepared by the contractor and shall be submitted to the Engineer for approval. A single submission is preferred having all items included. Loose sheets or incomplete submittals will not be accepted. All items of material to be supplied which do not require shop drawing submission such as conduit, wire, boxes, etc., shall be listed as separate material showing manufacturer's name and catalog number and type and shall be included with shop drawings submitted.

3. RECORD DRAWINGS AND OPERATING INSTRUCTIONS & SERVICE MANUAL

Two sets of mechanical/electrical drawings shall be provided as record drawings which shall be separate, clean, legible reproduces reserved for the purpose of showing a complete picture of the work as actually installed. These drawings shall also serve as work progress report sheets and the electrical sub-contractor shall make any notations, neat and legible thereon daily as work proceeds. The drawings shall be available for inspection at all times and shall be kept at the job at a location designated by the Owner's representative at the completion of the work, these record drawings shall be signed by the electrical sub-contractor, dated and returned to the Owner's representative. Final payment of contract will not be made until receipt and review of said drawings. Provide two neatly bound (with tabbed sections) copies of maintenance and instruction books, parts list pertaining to all equipment furnished. Submit to the Owner's representative for approval. Final payment will not be made until drawings for record, maintenance and instruction manuals are delivered to the Owner's representative.

4. PERMITS AND REGULATIONS

The latest edition of the National Electric Code shall be the minimum requirement for all work. All electrical materials used in this work and all workmanship and tests performed thereon, unless specifically specified shall conform to the latest rules and regulations and specifications of the National Board of Fire Underwriters, local and state codes and authorities having jurisdiction and utility company. Examine the drawings and specifications for compliance with prevailing codes, regulations and ordinances and base bid and work accordingly. Any minor discrepancy between these drawings/specifications and codes, laws, ordinances, rules and regulations shall be corrected by this contractor as required without any additional reimbursement. Major discrepancies shall immediately be brought to the attention of the engineer (in writing), prior to installation, along with the contractor's proposed cost for correction. This contractor shall obtain and pay for all permits or certificates of inspection and approval required for this branch of the work. Owner shall be furnished with certificates of final inspection and approval prior to final acceptance of the branch of the work.

5. DRAWINGS AND SPECIFICATIONS

The specifications and accompanying drawings are intended to describe the scope of all electric/mechanical work. The drawings are an outline to indicate the approximate location and arrangement of raceways, wiring and equipment. The drawings shall be followed as closely as possible in executing of the work. Should there be a conflict between drawings and specifications, this contractor shall refer the matter to the Owner's representative for a decision as to method or material. Electrical Contractor shall refer to drawings and specifications of other work and route his work so as not to conflict with any other branch. This contractor shall be responsible for checking quantities of equipment mentioned in the specifications with those shown on the drawings. If discrepancies are noted, provide the greater of the quantities or the better of the qualities as applicable.

6. MATERIALS AND EQUIPMENT

All materials and equipment shall be new. All materials, apparatus and equipment shall bear the Underwriter's Laboratories Inc., label where regularly supplied. Certain manufacturers of material and equipment are specified and plans are detailed according to this material. This contractor shall base his bid on furnishing and installing this make of material and equipment. Where more than one make of material or equipment is specified, the contractor shall state in his bid which make he proposes to furnish.

7. ELECTRICAL IDENTIFICATION

Provide manufacturer's standard self-adhesive vinyl tape not less than 3 mils thick by 1-1/2" wide. Where applicable, install on all concealed raceways at connection to all junction boxes, pull boxes, equipment, wall/floor, etc. Unless otherwise indicated or required by governing regulations, provide orange tape with black letters.

Provide circuit identification bands for all cables and conductors. Provide manufacturer's standard color coding for cable/conductor jacket and/or insulation for all cables and conductors of all systems. Match identification with marking system used in existing systems (where applicable), shop drawings, contract documents, and similar previously established identification for project's electrical work. Provide on all conductors of all systems.

Install engraved plastic-laminated sign on major units of electrical equipment, including central or master unit of each electrical system including communication/control/signaling systems, unless unit is specifically identified on drawings as identification or signal system. Except as otherwise indicated, provide single line of text, 1/2" high lettering, on 1-1/2" high sign (2" high where 2 lines are required), white lettering in black field. Unless determined otherwise in field, provide text matching terminology and numbering of the contract documents and shop drawings. Secure to substrate with fasteners, except use adhesive where fasteners should not or cannot penetrate substrate. Use a minimum providing signs for each unit of the following categories of electrical work where such work exists on the project all starters and disconnects; All remote fixture or equipment switching devices (via engraved wallplates); All system devices, ports, tabs, J.B.'s, P.B.'s, etc.; Panelboards, electrical cabinets; Any other equipment designated by Owner or engineer in field.

All equipment & system identification nomenclature shown on drawings or listed herein is shown for general design and installation reference only. The actual nomenclature, etc. nomenclature for this project shall be verified by electrical contractor in field prior to fabrication and where applicable, shall be an extension of existing nomenclature used on the site as determined in field by electrical contractor.

In addition to the above, all labeling for all electrical wiring (for all systems) shall be in 3M DCI No. OS4007-11954 "SMD" Write-on Tape Dispenser Kit with factory provided special fast drying marker included with kit. All markings shall be clear and legible.

As determined in field, provide color coding for junction boxes, pull boxes and associated plates to match existing building standards. The following insulation color code shall be used for system and voltage identification for feeder and branch circuit wiring.

277/480V System - Brown, Orange, Yellow & Gray (neutral)  
120/208V System - Black, Red, Blue & White (neutral)  
Equipment Grounding - Green  
Systems - To match existing, verify in field.

8. GROUNDING

All metallic conduit, surface wireways, supports, cabinet and equipment shall be grounded in accordance with the latest issue of the National Electrical Code and shown on plans. The ground terminals of all receptacles and all conductors shall be connected to a ground bus of the source branch circuit panelboard. All grounding conductors shall be protected from mechanical injury. All connections to equipment or conduit shall be made with an approved conductor and some shall be bolted or clamped to equipment and conduit. All contact surfaces shall be thoroughly cleaned and bright before connections to insure a good metal contact.

All new branch circuiting installed under this contract shall be provided with redundant insulated partized sized green ground wire by this contractor, installed in strict accordance with NEC Article 517. This contractor shall field test all exposed conductive surfaces in all new "Patient Vicinity" areas, and provide all necessary corrective work (if any) to comply with grounding requirements of NEC Article 517. Provide documentation of all testing results to engineer and state electrical inspector.

9. CONDUIT AND FITTINGS

All wiring for different power voltages shall be installed in raceway systems separate from each other (i.e. 24V separate from 120/208V). Receptacles Telephone Outlets (desk phone) Telephone Outlets (Wall phone) Data Cable Outlets Fire Alarm manual pull stations Fire Alarm A/V alarms

Only voice and data cables may share raceways.

All wiring run in finished spaces shall be run in Wiremold surface steel raceway.

All conduit installed indoors shall be galvanized steel EMT (3/4" minimum); all fittings for same shall be set screw type steel, with insulator spirovents. All wiring of all systems shall be installed in conduit unless specifically indicated otherwise herein or on drawings.

Conduit runs exceeding 100 feet in length or having in excess of three 90 degree turns shall be provided with pull boxes. Conduit fill shall not exceed 30 percent. All conduit systems (including J.B.'s, P.B.'s, etc.) shall be permanently identified. New branch circuit home-run conduits shall be no larger than 1-1/4" diameter. Conduit fill shall not exceed NEC requirements.

Conduit shall be cleaned inside before any wires are pulled. Conduit ends shall be capped and plugged with standard accessories as soon as conduit has been permanently installed. Conduit installed without conductors shall be provided with sweep bends and baling wire for pulling.

All joints shall be made tight with watertight couplings matching conduit and all corners shall be made with long radius. The ends of all conduits shall be cut square and reamed and all joints brought to a shoulder. Conduit shall be continuous between outlets to make a complete installation and to effect a continuous ground. Suitable supports and fastening shall be provided for conduit.

Conduit shall be supported by approved struts, fasteners and hangers. Hangers shall be suspended from rods. Perforated struts on metal surfaces and wood screws on wood construction. All conduit shall be supported independently from all other building systems and shall be supported directly from structural components.

Provide sleeves for all fire wall and smoke partition penetrations (sealed accordingly). All raceways shall be entirely free of plaster, insulator, water and other foreign matter. Raceways installed under this contract without conductors shall have baling wire left in raceways from outlet to outlet for future pulling of conductors. Raceways open ends shall be plugged or capped in an approved manner.

Where "fishing" through existing hollow partitions is mandatory, use minimum 3/4" "greenfield" (steel) for low voltage cabling and metal-clad/armored cable (listed for use in health care facilities) for power. Otherwise type MC/AC cable may only be used for 6' fixture wires, unless a case-by-case permission is granted by engineer and owner.

10. METHOD OF WIRING - POWER

Neatly dress all work. Install all work parallel and perpendicular to surfaces or exposed structural members, and follow surface contours, where possible. Keep conductor splices to minimum. Install splices and tap connectors which possess equivalent or better mechanical strength and insulation rating than conductors being spliced. Use splice and tap connectors which are compatible with conductor material. All wires shall be run continuous from outlet to outlet/fixture to fixture. Insulation value of joints to be 100% in excess of wire. Provide adequate length of conductors within electrical enclosures and train the conductors to terminal points with no excess slack. All conductors larger than no. 10 AWG cabled in individual circuits. Make terminations so there is no bare conductor at the terminal.

Branch subfeeder circuits shall be installed as shown on the floor plans. Where outlets are indicated by letters on plans, they shall be controlled by corresponding switches. No wire size smaller than No. 12 shall be used for any branch circuit unless otherwise noted on plans for control circuits. Larger sizes shall be used where required and/or indicated on the plans. Distances from panel to first outlet of a 15 or 20 ampere branch circuit shall require the following minimum wire size to the first outlet.

Up to 100 feet: #12  
100 TO 200 FEET: #10  
More than 200 feet: # 8

All branch circuits more than 200 feet in length shall be minimum No. 10 to the last outlet. Control circuits shall be No. 14 except for runs exceeding 300 feet where they shall be No. 12. Outlets shall be located approximately as shown on the plans and shall be wired to provide control outlets indicated on wires of any circuit.

All wires shall be run continuous from outlet to outlet. Insulation value of joints to be 100% in excess of wire. Mechanical wire splices shall be Scotchlock installed type, T&B Station or approved equal. The conductors terminating at each wired outlet shall be left not less than 8" long at their outlet fittings to facilitate installation of devices of fixtures. Friction and rubber tape control to Federal Specifications HH-T-11 and HH-T-11. Plastic electrical tape shall be Scotch #33+ or approved equal.

Type MC Cable shall be formed from continuous length of spirally wound, interlocked zinc-coated or galvanized (inside & outside) strip steel. All conductors shall be rated for 90 deg. C. minimum. Provide with fully part sized green insulated equipment ground strip steel. All conductors shall be insulated with integral red plastic insulated throat bushings, compliant with NEC 350-5. Cables shall be 90 deg. C. rated with all components and fittings listed for grounding and compliant with the following:

- a) UL Std.4 and UL Std. 83.
- b) ANSI E119 and E814.
- c) NEC Articles 250 and 333.

Type MC cable may be utilized only if NEC approved and if approved by local authority having jurisdiction and if included in the limited applications defined below.

- 1) All new 15 or 20 ampere branch circuit work. This shall apply only under all of the following circumstances and conditions. a) Only where concealed (all exposed wiring shall be installed in conduit).
- b) Route all cables perpendicular and parallel to the building architectural lines/surfaces/structural members, keeping offsets to a minimum and following surface contours where possible. Maintain a uniform elevation for all cable runs wherever possible. All cables shall be supported/anchored at maximum 4 foot intervals and within 12" of box or outlet and shall not sag. Install cables in a manner that prevents overheating. Cables shall be fastened directly to the structure using factory clamps/clips specifically designed for the respective cable (Caddy or equal).

11. COMMUNICATION TECHNOLOGY SYSTEMS

GENERAL

Voice and data cables shall be installed in "J-Hook" style pathway where indicated on drawings. All other wiring/cables of communication technology and other systems shall be installed in conduit, 1" minimum. Verify route for "J-Hook" work above ceiling in field in advance with owner.

Provide outlet boxes and conduit stubs for systems as indicated on drawings. Conduit stubs shall be turned out in just space and, where located in areas with drywall ceilings, shall be extended to the nearest area with no ceiling or with acoustical tile ceiling. Provide conduit, bridge rings and raceways as required. All conduits shall be provided with sweep "L" 90's and insulated throat fittings (or bushings).

Typical outlets shall consist of a flush wall mounted 4" square X 2-1/8" deep box with a double gang plaster ring. Maximum conduit fill for new work shall be 40%, based on manufacturer's published data of cable outside diameter.

Cable, terminations, jacks, labeling, hardware, shall be provided by a certified Communication Technology Contractor. Cabling system shall be provided as required for a turnkey, complete working system.

Determine exact locations of communication technology equipment, equipment outlets, etc. in field. Use caution not to exceed the allowed bending radius of the cables and not to compromise the integrity of the cables during installation by pulling tie-wraps too tightly, damaging cables, etc. Raceway/Cabling bending radii shall be minimum as directed by cable manufacturer. Use pulling compound or lubricant, where necessary; compound must not deteriorate conductor or insulation. Neatly dress all cable work. Cable work shall be installed in accordance with the following results in maintaining a minimum distance of 24 inches from feeder/branch circuit raceways and from any ballasted lighting fixtures.

Provide color coded jackets to identify runs of different systems. Neatly route cables parallel and perpendicular to building architectural lines. Group cables by system type wherever possible. Verify exact locations of telephone switch, data server(s), head-end equipment, equipment outlets, etc. in field.

Review all termination and labeling requirements with Owner in advance. All cable shall be provided with permanent adhesive labeling identification by this contractor. Provide transparent adhesive coverings over each label, wrapped around the labels at least two inches from the ends of the labels and installed be parallel to the long axis of the respective cable assemblies. Labels shall be approximately 1-1/2" long by 3/8" high.

Install power cables in a manner which prevents over-heating. Otherwise, wherever possible, bundle cables of the same system together. Also provide color coded jackets, or other approved labeling/identification method, to identify runs of different systems.

All cables which are not routed in conduit shall be neatly bundled, secured at four foot intervals and identified at ten foot intervals. Wherever possible, bundle cables of the same system together. Conduit sizes (and systems furniture whips where applicable) shall be provided as follows. Provide additional wall outlet boxes and additional whips as necessary furnished at systems furniture to achieve same.

Table with 2 columns: Conduit Diameter, Application. (1) 3/4" All Wall Phones (1) 1" All Wall Tech. Outlets at Individual Desks or tables (1) 1" All Wall Tech. Outlets at Individual Work Stations, P.C.'s, Copiers, Faxes, etc.

Ceiling cavities will not be used as environmental air plenums. "J-Hook" Pathways

Cable distribution bridge rings shall be equal to Caddy #48RT64 or Mono-Systems Inc. "The Hook" (minimum 4" diameter or 4" square unless internal area) constructed of aluminum or corrosion resistant steel with rolled edges or equivalent to prevent damage to cable jackets and insulation. Provide splices or openings so that cables can be laid in the rings rather than threaded through. Provide maximum 30% fill (in cross section), based on outside diameter of cables. Accordingly, provide multiple sets of rings along any routes as/if required.

Provide rings at four foot intervals and at all offsets. Route rings through corridors and similar open areas wherever possible to minimize wall penetrations. Securely anchor (mechanical - not adhesive) all rings directly to structural components of the building. Rings shall not be anchored to ductwork, conduit, piping, fixtures, equipment, ceiling supports, etc. All rings shall be fully and evenly accessible to installation. Neatly route bridge ring paths parallel and perpendicular to building architectural lines and at a consistent elevation wherever possible.

Route all bridge ring paths and cables perpendicular and parallel to the building architectural lines, keeping offsets to a minimum. Install bridge rings in a uniform plane/elevation wherever possible, keeping vertical offsets to an absolute minimum. Prior to installation, submit sealed coordination drawings showing all proposed routing and ring locations for review by Owner. Keep offsets to an absolute minimum. Bridge ring paths shall be routed so that a minimum of 24" exists between any cables and any EMI source such as ballasts, motors, power wiring, etc.

12. WIRE, JUNCTION AND SWITCHBOXES

Gang type outlet boxes shall not be used. The outlet box locations indicated on drawings shall be considered approximate, and the contractor shall verify the exact locations of the boxes with the general construction with relation to spaces and equipment surrounding each outlet. All outlet, switch and junction boxes shall be made of code galvanized steel complete with rings and screw cover plates and located where shown and noted on drawings. Where installation is concealed, boxes shall not be less than 4" square x 1-1/2" deep. All boxes shall be equipped with proper covers to bring flush with finished wall surface.

Where outlet boxes occur in block, cinder, or concrete block, facing tile or other material where such materials form the finished wall surface, the contractor shall be responsible for the general construction with relation to spaces and equipment surrounding each outlet. All outlet, switch and junction boxes shall be made of code galvanized steel complete with rings and screw cover plates and located where shown and noted on drawings. Where installation is concealed, boxes shall not be less than 4" square x 1-1/2" deep. All boxes shall be equipped with proper covers to bring flush with finished wall surface.

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13. HEIGHT OF BOXES

Prior to rough-in, verify all box/device mounting heights and locations in field with Owner's representative relative to equipment being served and relative to existing conditions where applicable. In general, where not located at counter areas, the height of boxes from finished floor to center of boxes shall be as follows, unless otherwise noted on plans:

Table with 2 columns: Switches, Receptacles, Telephone Outlets (desk phone), Telephone Outlets (Wall phone), Data Cable Outlets, Fire Alarm manual pull stations, Fire Alarm A/V alarms

14. WIRE AND CABLE

Furnish and install all necessary cable of the size and type indicated on the drawings or specified hereinafter. All wire shall be color coded wire. No wire smaller than #12 AWG shall be installed unless specifically designated. Use of #14 color coded wire will be allowed for control circuits only. All wiring shall be in conduit unless specifically indicated otherwise herein. All conductors shall be copper. Provide stranded conductors for all sizes unless indicated otherwise.

Provide THHN/THWN insulation for all conductors size 500 MCM (kcmil) and larger, and no. 8 AWG and smaller. For all other sizes provide THW or THHN/THWN insulation as appropriate for the locations where installed. Provide color coded insulation/packet for phase identification. All wires shall be rated at 600 volts.

Provide type XHHW-2 insulation for all wiring subject to moisture, for all wiring below grade and for all wiring fed from isolated power systems.

Keep conductor splices to minimum. Pull conductors simultaneously where more than one is being installed in same raceway. Use UL listed pulling compound or lubricant, where necessary. Install splice and tap connectors which possess equivalent or better mechanical strength and insulation rating than conductors being spliced. Use splice and tap connectors which are compatible with conductor material. Increase wire sizes per NEC to offset voltage drop as/If required.

15. WIRING DEVICES

DEVICE COLORS: Unless indicated otherwise within contract documents or directed otherwise in field, all normal devices on white walls shall be white in color.

SPECIFICATION GRADE RECEPTACLES: Duplex receptacles shall be equal to Leviton #5362 series (NEMA 5-20R).

Ground fault circuit interrupter duplex receptacles shall be equal to Leviton #8899 series (NEMA 5-20R). Duplex isolated ground receptacles shall be equal to Leviton #5362-IG.

SWITCHES:

Occupancy sensor lighting switches shall be manufactured by Watt Stopper.

WALL PLATES:

Wall plates with engraved legends where indicated on drawings and/or where required per ELECTRICAL IDENTIFICATION Section. All device wallplates shall be standard size, "midway", "oversized" ("jumbo") or "extra deep" wallplates shall not be acceptable. Construct with metal screws for securing plates to devices; screw heads colored to match finish of plates. Wallplates on white walls shall be commercial specification grade, white, with beveled edges, equal to Leviton Type 430 series. Wallplateless red wall shall be black.

16. SUPPORTS, INSERTS, CUTTING AND PATCHING

This contractor shall do all cutting and patching required for the admission of his work. Any damage done by this contractor to the building during the progress of his work shall be made good at his own expense. All patching shall be done by a skilled craftsman in that specialty. The contractor shall be responsible for the installation of, and pay for, all work done, and pay for all additional materials, wood or metal and labor which may be required to support any type of permanent or temporary electrical apparatus employed in the execution of this contractor's work.

SEAL ALL NEW FLOOR, CEILING, WALL, SLAB, ETC. PENETRATIONS TO MATCH OR EXCEED EXISTING/NEW ASSEMBLY FIRE RATINGS. PROVIDE SEALS FOR ALL SLEEVES, PROVIDE SLEEVES FOR ALL PENETRATIONS, VERIFY REQUIREMENTS IN FIELD. ALL PENETRATIONS THROUGH WALLS, FLOORS, CEILINGS, ETC. SHALL BE SEALED IMMEDIATELY AFTER RACEWAYS ARE INSTALLED. ALL NEW ELECTRICALLY RELATED WORK SHALL BE SUPPORTED DIRECTLY FROM BUILDING STRUCTURAL MEMBERS. NEW ELECTRICALLY RELATED WORK SHALL NOT BE SUPPORTED FROM DUCTWORK, DUCTWORK HANGERS, CEILING SUPPORTS, SUSPENSION SYSTEMS, ETC. ALL CONDUITS (AND CABLE ASSEMBLIES, WHERE APPLICABLE) SHALL BE ROUTED PARALLEL TO BUILDING STRUCTURAL MEMBERS. ANY AND ALL NONCOMPLYING WORK INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE REMOVED AND REINSTALLED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AND THE ENGINEER, AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

17. LIGHTING FIXTURES

All surface mounted ballasted fixtures shall be mounted with air spaces between fixture and surface per latest edition of NFPA/NEC. All recessed fixtures shall be equipped with necessary plastic frames and surface trim. All recessed fluorescent components shall be equipped and suitably constructed to operate with "P" rated ballasts. All recessed mounted incandescent and H.I.D. fixtures shall have UL approved thermal protection per latest edition of NFPA/NEC. All junction boxes and serviceable components (ballasts, thermal protection devices, fuses, etc.) for recessed fixtures shall be readily accessible for service or replacement from below the ceiling, without removing any ceiling components (other than tiles).

Where plaster frames are inferred for lighting fixtures (either by narrative or by catalog number or by application) the actual function shall be taken to mean for mounting within gypsum board or similar type ceiling system (i.e. not within wet plaster ceiling system).

All lighting fixtures utilized for emergency egress lighting shall be connected ahead of switching. All ballasts of the same type shall be of the same manufacturer and catalog number.

Provide low energy solid state rapid start electronic fluorescent lamp ballasts (less than or equal to 20% THD) specifically designed for operating lamp types indicated. Fluorescent ballasts shall be Motorola or Advance equal.

All fixtures shown on drawings with multi-level switching shall be provided with multiple ballasts to accommodate same. All other fixtures may contain either single ballasts or multiple ballasts as required to fulfill required function and as required to comply with construction schedule.

Incandescent lamps shall be Sylvania or Philips, long life type (3000 hours). All incandescent lamps shall be inside frosted unless specifically directed otherwise. Provide socket adapters/extenders if required for accommodating the specified lamp.

Fluorescent lamp color temperature shall be 3500K.

Compact fluorescent twin tube/duad twin tube lamps shall be Osram or Philips, 82 CRI, minimum 10,000 hours rated. Long fluorescent twin tube lamps shall be Osram or Philips, 82 CRI, 3150 Initial lumens, minimum 20,000 hours rated.

F32T8 fluorescent lamps shall be rapid start, energy saving type, minimum 75 CRI, minimum 2850 Initial lumens and minimum 20,000 hours rated. Lamps shall be Sylvania, Osram or Philips, equal to Sylvania #F032/R3.

All surface and recessed ceiling fixtures installed on grid or tile ceilings shall be installed to agree with module of ceiling either displacing a tile, or unit on center of tile, or centered on grid lines.

Provide fixtures and/or fixture outlet boxes with hangers to properly support fixture weight. All lighting fixtures installed in or on suspended ceiling system shall be anchored directly to the building structural system above (anchored per NEC). Such anchoring shall be independent of the ceiling support system. All fixtures shall be installed plumb and level. Support surface mounted fixtures greater than 2 feet in length at a point in addition to the outlet box fixture stud.

Replace defective lamps for a period of one year following the time of Substantial Completion, where used for temporary lighting prior to time of Substantial Completion, replace all incandescent lighting fixture lamps, as well as any lamps which are defective, damaged or burned out.

For all existing fixtures which are scheduled for reuse, remove from existing ceilings during demolition; protect during construction; clean, service (if required), relamp (with lamps to match building standard or per this section as noted) and reinstall at locations indicated.

For all existing fixtures which are scheduled to be removed and turned over to Owner, the fixtures shall be disconnected, carefully removed and turned over to Owner. Transfer such fixtures to storage area as directed in field.

18. MECHANICAL EQUIPMENT

Provide all conduit and outlet boxes as required for all control wiring and thermostats. Furnish and install power wiring and make line connections to all heating, ventilating and air conditioning equipment. Electrical Contractor shall examine the approved drawings of all branches and shall wire and connect all motors, disconnects, control devices and other items requiring electricity for operation. This contractor shall make the necessary electrical connections between the specified equipment and the junction box near equipment with flexible metallic conduit and matched connectors. No flexible conduit shall be exposed in finished rooms. Each motor shall have disconnect switch or manual starter installed by this contractor ahead of motor or motor magnetic starter. The Electrical Contractor shall provide control and interlock wiring as specifically indicated on the drawings. All other control wiring required for operation of the systems shall be provided by the Heating Contractor.

**FIRE PROTECTION SPECIFICATION**

**GENERAL**

THE GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS AND INSTRUCTIONS TO BIDDERS SHALL APPLY TO AND BE PART OF THIS SPECIFICATION.

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, RULES AND REGULATIONS.

CONTRACTOR SHALL BID ACCORDING TO ALL APPLICABLE CODES, RULES AND REGULATIONS.

CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, CERTIFICATES OF INSPECTION AND APPROVALS REQUIRED.

CONTRACTOR SHALL SUBMIT SPRINKLER DRAWINGS TO LANDLORD'S RISK INSURER FOR APPROVAL.

**SCOPE OF WORK**

FIRE PROTECTION DEMOLITION OF ALL UNUSED SPRINKLER HEADS AND BRANCH SPRINKLER PIPING.

FIRE PROTECTION DISTRIBUTION PIPING FROM EXISTING MAINS AND SPRINKLERS TO NEW SPRINKLER HEAD LOCATIONS. MODIFY EXISTING SPRINKLER PIPING (MAINS AND BRANCHES) AS REQUIRED TO ACHIEVE THE DESIGN INTENT. PROVIDE ANY AND ALL ADDITIONAL SPRINKLER HEADS AS REQUIRED TO PROVIDE A COMPLETE CODE COMPLIANT SPRINKLER SYSTEM.

SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING AND REPLACING OF CEILINGS IN AREAS WHERE NEW PIPING IS TO BE INSTALLED IN THE EXISTING BUILDING.

WHERE CONCEALING SPRINKLER PIPING IS NOT POSSIBLE, SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR PAINTING ALL EXPOSED SPRINKLER PIPING IN FINISHED SPACES. COORDINATE COLOR WITH ARCHITECT.

**GENERAL STANDARDS**

THE APPLICABLE PROVISIONS OF THE FOLLOWING STANDARDS SHALL GOVERN:

- AMERICAN SOCIETY FOR TEST MATERIALS (ASTM);
- AMERICAN STANDARDS ASSOCIATION (ASA);
- UNDERWRITERS LABORATORIES (UL);
- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA);
- STATE BUILDING CODE;
- OWNER'S INSURANCE UNDERWRITER LOCAL FIRE DEPARTMENT REGULATIONS

THE INSTALLATION OF ALL SPRINKLER WORK SHALL CONFORM TO THE APPLICABLE LOCAL CODES AND STATUTES.

**QUALITY ASSURANCE**

MANUFACTURERS: FIRMS REGULARLY ENGAGED IN MANUFACTURE OF FIRE PROTECTION PIPING SYSTEMS PRODUCTS, OF TYPES, MATERIALS, AND SIZES REQUIRED, WHOSE PRODUCTS HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR NOT LESS THAN 5 YEARS.

INSTALLER: FIRM WITH AT LEAST 3 YEARS OF SUCCESSFUL INSTALLATION EXPERIENCE ON PROJECTS WITH FIRE PROTECTION PIPING SYSTEMS WORK SIMILAR TO THAT REQUIRED FOR PROJECT.

NFPA CODE: COMPLY WITH ANSI/NFPA 13, "INSTALLATION OF SPRINKLER SYSTEMS".

UL LABELS: PROVIDE FIRE SPRINKLER PIPING PRODUCTS WHICH HAVE BEEN APPROVED AND LABELED BY UNDERWRITERS LABORATORIES.

LOCAL FIRE DEPARTMENT/MARSHALL REGULATIONS: COMPLY WITH GOVERNING REGULATIONS PERTAINING TO FIRE PROTECTION PIPING.

STATE BUILDING CODE: COMPLY WITH GOVERNING REGULATIONS PERTAINING TO FIRE PROTECTION SYSTEMS.

**SUBMITTALS**

PRODUCT DATA: SUBMIT MANUFACTURER'S DATA FOR FIRE PROTECTION SYSTEMS, MATERIALS AND PRODUCTS.

SHOP DRAWINGS: SUBMIT SCALED LAYOUT DRAWINGS FOR FIRE PROTECTION PIPE AND FITTINGS INCLUDING, BUT NOT NECESSARILY LIMITED TO, PIPE AND TUBE SIZES, LOCATIONS, ELEVATIONS AND SLOPES OF HORIZONTAL RUNS, WALL AND FLOOR PENETRATIONS, AND CONNECTIONS. SHOW INTERFACE AND SPATIAL RELATIONSHIP BETWEEN PIPING AND PROXIMATE EQUIPMENT.

SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL, PRIOR TO SUBMISSION TO APPROPRIATE AUTHORITY AND PRIOR TO INSTALLATION OF ANY PORTION OF BOTH UNDERGROUND AND OVERHEAD SYSTEMS.

APPROVAL DRAWINGS: PREPARE APPROVAL DRAWINGS OF FIRE PROTECTION SYSTEMS INDICATING PIPE SIZES, PIPE LOCATIONS, FITTINGS, SHUTOFFS, EQUIPMENT, ETC. SUBMIT ONE COPY, BEARING THE STAMP AND SIGNATURE OF A LICENSED SPRINKLER CONTRACTOR, TO THE AGENCY HAVING JURISDICTION, BEFORE PROCEEDING WITH INSTALLATION.

APPROVAL CALCULATION: PREPARE HYDRAULIC CALCULATIONS OF FIRE PROTECTION SYSTEMS. SUBMIT ONE COPY, BEARING THE STAMP AND SIGNATURE OF A LICENSED SPRINKLER CONTRACTOR TO THE

AGENCY HAVING JURISDICTION, BEFORE PROCEEDING WITH INSTALLATION.

CERTIFICATE OF INSTALLATION: SUBMIT CERTIFICATE UPON COMPLETION OF FIRE PROTECTION PIPING WORK WHICH INDICATES THAT WORK HAS BEEN TESTED IN ACCORDANCE WITH ANSI/NFPA 13, AND ALSO THAT SYSTEM IS OPERATIONAL, COMPLETE, AND HAS NO DEFECTS.

**FIRE PROTECTION PIPING MATERIALS AND PRODUCTS**

GENERAL: PROVIDE PIPING MATERIALS AND FACTORY-FABRICATED PIPING PRODUCTS OF SIZES, TYPES, PRESSURE RATINGS, TEMPERATURE RATINGS, AND CAPACITIES AS INDICATED. WHERE NOT INDICATED, PROVIDE PROPER SELECTION AS DETERMINED BY INSTALLER TO COMPLY WITH INSTALLATION REQUIREMENTS. PROVIDE SIZES AND TYPES MATCHING PIPING AND EQUIPMENT CONNECTIONS; PROVIDE FITTINGS OF MATERIALS WHICH MATCH PIPE MATERIALS USED IN FIRE PROTECTION PIPING SYSTEMS. WHERE MORE THAN 1 TYPE OF MATERIALS OR PRODUCTS ARE INDICATED, SELECTION IS INSTALLER'S OPTION.

**BASIC IDENTIFICATION**

GENERAL: PROVIDE IDENTIFICATION IN ACCORDANCE WITH THE FOLLOWING LISTING:

FIRE PROTECTION PIPING: PLASTIC PIPE MARKERS.

FIRE PROTECTION VALVES: PLASTIC VALVE TAGS.

**BASIC PIPE, TUBE, AND FITTINGS**

GENERAL: PROVIDE PIPE, TUBE, AND FITTINGS COMPLYING WITH DIVISION-15 BASIC MATERIALS AND METHODS SECTIONS, IN ACCORDANCE WITH THE FOLLOWING LISTING:

**INTERIOR PIPING:**

**BLACK STEEL PIPE:**

PIPE WEIGHT: SCHEDULE 40 UP TO 8"; SCHEDULE 30 FOR 8" AND LARGER. FITTINGS: CLASS 125, CAST-IRON THREADED.

PIPE WEIGHT: SCHEDULE 40 FOR LESS THAN 8"; SCHEDULE 30 FOR 8" AND LARGER. FITTINGS: MECHANICAL GROOVED PIPE COUPLINGS AND FITTINGS; CUT GROOVE TYPE.

**BLACK STEEL PIPE:**

PIPE WEIGHT: SCHEDULE 10 FOR 5" AND SMALLER; 0.134" WALL THICKNESS FOR 6"; AND 0.188" WALL THICKNESS FOR 8" AND 10". FITTINGS: WROUGHT-STEEL BUTTWELDING.

PIPE WEIGHT: SCHEDULE 10 FOR 5" AND SMALLER; 0.134" WALL THICKNESS FOR 6"; AND 0.188" WALL THICKNESS FOR 8" AND 10". FITTINGS: MECHANICAL GROOVED PIPE COUPLINGS AND FITTINGS; ROLL-GROOVE OR MECHANICAL LOCKING TYPE.

**BASIC PIPING SPECIALTIES**

GENERAL: PROVIDE PIPING SPECIALTIES COMPLYING WITH DIVISION-15 BASIC MATERIALS AND METHODS SECTIONS IN ACCORDANCE WITH THE FOLLOWING LISTING:

PIPE ESCUTCHEONS DIELECTRIC UNIONS DRIP PANS SLEEVES SLEEVE SEALS

**BASIC SUPPORTS, ANCHORS, AND SEALS**

GENERAL: PROVIDE SUPPORTS, ANCHORS, AND SEALS IN ACCORDANCE WITH THE FOLLOWING LISTING:

ADJUSTABLE STEEL CLEVISSES, ADJUSTABLE STEEL BAND HANGERS, ADJUSTABLE BAND HANGERS, FOR HORIZONTAL PIPING HANGERS AND SUPPORTS.

TWO-BOLT RISER CLAMPS FOR VERTICAL PIPING SUPPORTS.

STEEL TURNBUCKLES, AND MALLEABLE IRON SOCKETS FOR HANGER-ROD ATTACHMENTS.

CONCRETE INSERTS, TOP-BEAM C-CLAMPS, SIDE-BEAM OR CHANNEL CLAMPS, AND CENTER BEAM CLAMPS FOR BUILDING ATTACHMENTS.

COPPER FLASHINGS FOR PIPING PENETRATIONS.

FIRE BARRIER PENETRATION SEALS.

**BASIC VALVES**

GENERAL: PROVIDE VALVES COMPLYING WITH DIVISION-15 BASIC MATERIALS AND METHODS SECTIONS IN ACCORDANCE WITH THE FOLLOWING LISTING:

INTERIOR VALVES:

SECTIONAL: GATE VALVES.

CHECK: SWING CHECK VALVES.

FIRE PROTECTION SPECIALTIES

GENERAL: PROVIDE FIRE PROTECTION SPECIALTIES, UL LISTED, IN ACCORDANCE WITH THE FOLLOWING LISTING. PROVIDE SIZES AND TYPES WHICH MATE AND MATCH PIPING AND EQUIPMENT CONNECTIONS.

WATER FLOW INDICATORS: PROVIDE VANE

TYPE WATER FLOW DETECTORS.

SUPERVISORY SWITCHES: PROVIDE PRODUCTS RECOMMENDED BY MANUFACTURER FOR USE IN SERVICE INDICATED.

AUTOMATIC SPRINKLERS: PROVIDE AUTOMATIC SPRINKLERS OF TYPE INDICATED ON DRAWINGS, AND IN ACCORDANCE WITH THE FOLLOWING LISTING. PROVIDE FUSIBLE LINKS FOR 165 DEG. F (74 DEG. C) UNLESS OTHERWISE INDICATED.

FINISH: CONCEALED WHITE PLATE FOR OCCUPIED AREAS, CAST BRASS UPRIGHT FOR UNOCCUPIED AREAS.

WHERE SUSPENDED LAY-IN CEILINGS OCCUR LOCATE HEAD IN CENTER OF TILE IN AT LEAST ONE DIRECTION.

SPRINKLER CABINET AND WRENCH: FURNISH STEEL, BAKED RED ENAMELED, SPRINKLER BOX WITH CAPACITY TO STORE 10 SPRINKLERS AND WRENCH SIZED TO SPRINKLERS.

AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING FIRE PROTECTION SPECIALTIES WHICH MAY BE INCORPORATED IN THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

MANUFACTURER: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE FIRE PROTECTION SPECIALTIES OF ONE OF THE FOLLOWING:

- CENTRAL SPRINKLER CORP.
- ITT GRINELL
- GRINELL CORP.
- RELIABLE AUTOMATIC SPRINKLER CO., INC.
- VIKING CORP.
- VICTAULIC
- CLOSE FIRE SPRINKLER CORPORATION
- POTTER ELECTRIC SIGNAL COMPANY
- HONEYWELL

**INSTALLATION OF PIPE, TUBE, AND FITTINGS**

GENERAL: INSTALL PIPE AND PIPE FITTINGS IN ACCORDANCE WITH DIVISION-15 BASIC MATERIALS AND METHODS SECTIONS.

**FIRE SPRINKLER PIPING SYSTEMS:**

GENERAL: COMPLY WITH REQUIREMENTS OF ANSI/NFPA 13 AND NFPA 14 FOR INSTALLATION OF FIRE SPRINKLER PIPING MATERIALS. INSTALL FIRE SPRINKLER PIPING PRODUCTS WHERE INDICATED, IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT FIRE SPRINKLER PIPING COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES.

COORDINATE WITH OTHER WORK, INCLUDING PLUMBING PIPING, AS NECESSARY TO INTERFACE COMPONENTS OF ARE SPRINKLER PIPING PROPERLY WITH OTHER WORK.

SPRINKLER CONTRACTOR SHALL COORDINATE THE INSTALLATION OF HEADS WITH HVAC DUCTWORK. INSTALL HEADS ABOVE AND BELOW DUCTWORK WHERE REQUIRED TO PROVIDE COMPLETE COVERAGE.

INSTALL DRAIN PIPING AT LOW POINTS OF PIPING SYSTEMS.

INSTALL WATER FLOW INDICATORS WHERE INDICATED AND REQUIRED.

MOUNT SUPERVISORY SWITCHES ON ALL CONTROL VALVES.

INSTALL VALVED HOSE CONNECTIONS OF SIZES INDICATED, OR 3/4" SIZE IF NOT OTHERWISE INDICATED ON SPRINKLER AT ENDS OF BRANCH LINES AND CROSS MAINS AS REQUIRED.

INSTALL INSPECTOR'S TEST CONNECTION AS REQUIRED, OR AT MOST REMOTE POINT OF RISER. PIPE INSPECTOR TESTS TO OUTSIDE.

**ADJUST AND CLEAN**

SPRINKLER PIPING FLUSHING: PRIOR TO CONNECTING SPRINKLER RISERS FOR FLUSHING, FLUSH WATER FEED MAINS, LEAD-IN CONNECTIONS AND CONTROL PORTIONS OF SPRINKLER PIPING. AFTER FIRE SPRINKLER PIPING INSTALLATION HAS BEEN COMPLETED AND BEFORE PIPING IS PLACED IN SERVICE, FLUSH ENTIRE SPRINKLER SYSTEM, AS REQUIRED TO REMOVE FOREIGN SUBSTANCES, UNDER PRESSURE AS SPECIFIED IN ANSI/NFPA 13. CONTINUE FLUSHING UNTIL WATER IS CLEAR, AND CHECK TO ENSURE THAT DEBRIS HAS NOT CLOGGED SPRINKLERS.

**FIELD QUALITY CONTROL**

HYDROSTATIC TESTING: AFTER FLUSHING SYSTEM, TEST FIRE SPRINKLER PIPING HYDROSTATICALLY, FOR PERIOD OF 2 HOURS, AT NOT LESS THAN 200 PSI OR AT 50 PSI IN EXCESS OF MAXIMUM STATIC PRESSURE WHEN MAXIMUM STATIC PRESSURE IS IN EXCESS OF 150 PSI. CHECK SYSTEM FOR LEAKAGE OF JOINTS. MEASURE HYDROSTATIC PRESSURE AT LOW POINT OF EACH SYSTEM OR ZONE BEING TESTED.

REPAIR OR REPLACE PIPING SYSTEM AS REQUIRED TO ELIMINATE LEAKAGE IN ACCORDANCE WITH ANSI/NFPA STANDARDS FOR "LITTLE OR NO LEAKAGE", AND RETEST AS SPECIFIED TO DEMONSTRATE COMPLIANCE.

PROVIDE A VALVED DRAIN AT THE LOW POINT IN EACH PIPING SYSTEM.

ALL VALVES AND OTHER PIPING SPECIALTIES SHALL BE FULL LINE SIZE

**GENERAL FIRE PROTECTION NOTES:**

THE TENANT'S FIRE PROTECTIONS SPRINKLER SYSTEM SHALL BE DESIGNED TO MEET ORDINARY HAZARD REQUIREMENTS.

IF NO CEILINGS OCCUR, IN MECHANICAL ROOMS, ETC., SPRINKLER HEADS AND PIPING TO BE EXPOSED BRASS UPRIGHT TYPE. ALL OTHER AREAS OF BUILDING WHERE SUSPENDED CEILINGS OCCUR SHALL BE CONCEALED WHITE PLATE HEADS.

MAKE PROVISIONS FOR DRAINING AND PROVIDE INSPECTOR TESTS AS REQUIRED. ALL DRAIN PIPING SHALL BE PIPED TO OUTSIDE OR INDIRECTLY TO SINK OR F.D.

ALL PIPE AND FITTINGS SHALL MATCH LOCAL FIRE DEPARTMENT THREADS.

ALL FIRE SUPPRESSION WORK SHALL BE PERFORMED BY STATE LICENSED FIRE PROTECTION CONTRACTOR.

ALL SPRINKLER HEADS SHALL BE LOCATED IN CENTER OF CEILING TILE IN AT LEAST ONE DIRECTION. (WHEN APPLICABLE)

WHEN MODIFYING EXISTING SPRINKLER SYSTEMS SPRINKLER CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE EXISTING SPRINKLER ZONES. COORDINATE WITH NEW FIRE RATING PLANS IF APPLICABLE.

NO PVC PIPE SHALL BE PERMITTED.

CURRENT SHELL SPRINKLERS ARE EXTENDED COVERAGE HEAD SPRINKLERS.

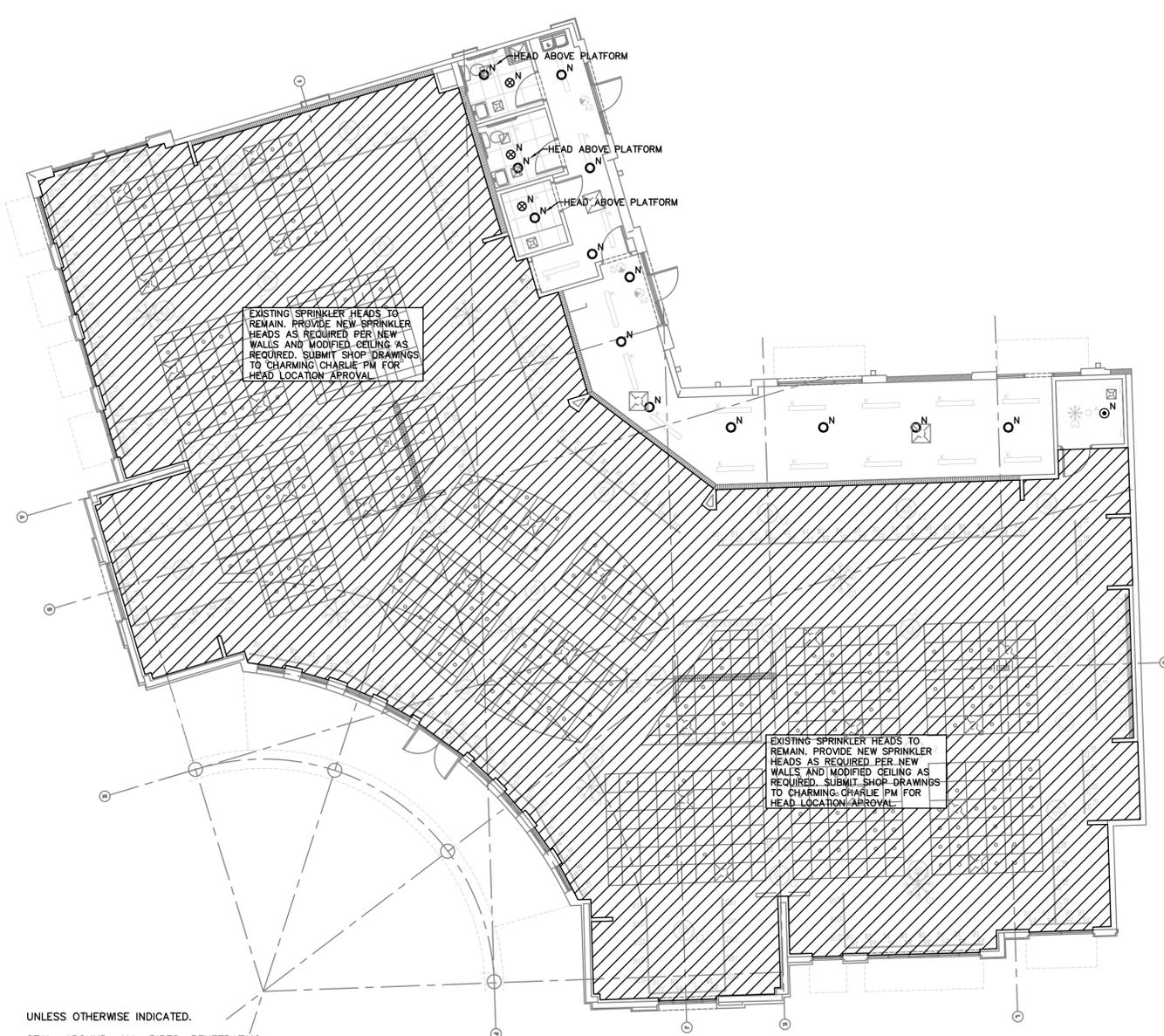
RENOVATED AREAS SHALL BE 100% SPRINKLED.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL CODES, LAWS, AND REGULATIONS.

CONTRACTOR SHALL VISIT SITE AND BE FULLY COGNIZANT OF ALL CONDITIONS PRIOR TO SUBMITTING PROPOSAL.

PROVIDE A VALVED DRAIN AT THE LOW POINT IN EACH PIPING SYSTEM.

ALL VALVES AND OTHER PIPING SPECIALTIES SHALL BE FULL LINE SIZE



**SPRINKLER NEW WORK PLAN**  
SCALE: 1/8" = 1'-0"

**DEMOLITION NOTES**

- AT ALL LOCATIONS WHERE FIRE PROTECTION PIPE, HEADS OR FIXTURES ARE TO BE REMOVED, FIRE PROTECTION SUBCONTRACTOR SHALL REMOVE PIPING TO A POINT BEYOND FINISH SURFACE AND CAP OFF. WHERE PIPING SERVING EXISTING FIXTURE TO BE REMOVED ALSO SERVES FIXTURES THAT ARE TO REMAIN, PIPING SHALL BE REROUTED AND RECONNECTED TO ACCOMMODATE REMODELED AREAS AS REQUIRED.
- WHERE EXISTING WALLS ARE REMOVED AND PIPING IS FOUND THAT MUST REMAIN, FIRE PROTECTION SUBCONTRACTOR SHALL REROUTE AND RECONNECT PIPING AS REQUIRED.
- ALL FIRE PROTECTION PIPING THAT IS FOUND TO NO LONGER SERVE ANY PURPOSE SHALL BE REMOVED AND CAPPED OFF BEYOND FINISH SURFACE.
- WHEREVER POSSIBLE, NEW PIPING AND RELOCATED PIPING SHALL BE RUN CONCEALED. COORDINATE LOCATION OF ALL PIPING WITH ALL DISCIPLINE SUBCONTRACTORS. COORDINATE CUTTING AND PATCHING WITH GENERAL CONTRACTOR.
- ALL CUTTING AND PATCHING FOR REMOVAL, REMODELING OR INSTALLATION OF NEW FIRE PROTECTION WORK SHALL BE DONE BY THE FIRE PROTECTION CONTRACTOR.
- REFER TO ARCHITECTURAL DEMOLITION PLANS FOR EXTENT OF DEMOLITION WORK. COORDINATE WITH SAME.

**SPRINKLER NOTES**

- SPRINKLER SYSTEM TO BE IN ACCORDANCE WITH NFPA-13; THE STATE AND LOCAL FIRE MARSHAL'S OFFICE; THE LANDLORD'S INSURANCE COMPANY AND OWNER'S INSURER
- COORDINATE HEAD LOCATIONS WITH REFLECTED CEILING PLAN AND THE DUCT DISTRIBUTION SYSTEM ABOVE.

**THIS DRAWING IS FOR REFERENCE ONLY.** TENANT'S GENERAL CONTRACTOR AND/OR HIS/HER SPRINKLER SUBCONTRACTOR TO HIRE A LOCAL SPINKLER/FIRE PROTECTION ENGINEER (UNLESS SUCH WORK IS COMPLETED BY A QUALIFIED INDIVIDUAL WORKING DIRECTLY FOR THE SPRINKLER SUBCONTRACTOR, IF ALLOWED BY LAW/CODE) TO ENGINEER A SPRINKLER SYSTEM WHICH THIS SAME CONTRACTOR IS TO FURNISH AND INSTALL NEW OR MODIFY EXISTING AS REQUIRED, MEETING ALL LOCAL CODES AND FIRE MARSHALL REQUIREMENTS.

SPRINKLER LEGEND	
SYMBOL	DESCRIPTION
⊙ <sup>N</sup>	NEW CONCEALED PLATE SPRINKLER HEAD
⊗ <sup>N</sup>	NEW SEMI-RECESSED SPRINKLER HEAD
○ <sup>N</sup>	NEW BRASS UPRIGHT SPRINKLER

**KLH**  
**KOHR'S LONNEMANN HIEL**  
**ENGINEERS, PSC**  
MECHANICAL/ELECTRICAL ENGINEERS  
WWW.KLHENGRS.COM  
1538 ALEXANDRIA PIKE, SUITE 11  
FT. THOMAS, KENTUCKY 41075  
800-354-9783  
859-442-8000  
859-442-8058 FAX  
104 BROWN STREET  
DAYTON, OHIO 45402  
937-220-9700  
937-220-9702 FAX  
TWO MIRANOVA PLACE, ST. 280  
COLUMBUS, OHIO 43215  
614-228-2180  
614-228-2183 FAX

SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:



CHARMING CHARLIE  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 579-1975

REVISIONS:

No.	Description	Date
Project No.:		11460
Drawn By:		
Reviewed By:		
Scale:		
Date:		09.02.2011
Filename:		
SHEET TITLE:		

**FIRE PROTECTION**  
**SPRINKLER PLAN &**  
**SPECIFICATIONS**

SHEET NO.:

**FP1.1**

SEAL:

A PROJECT FOR:

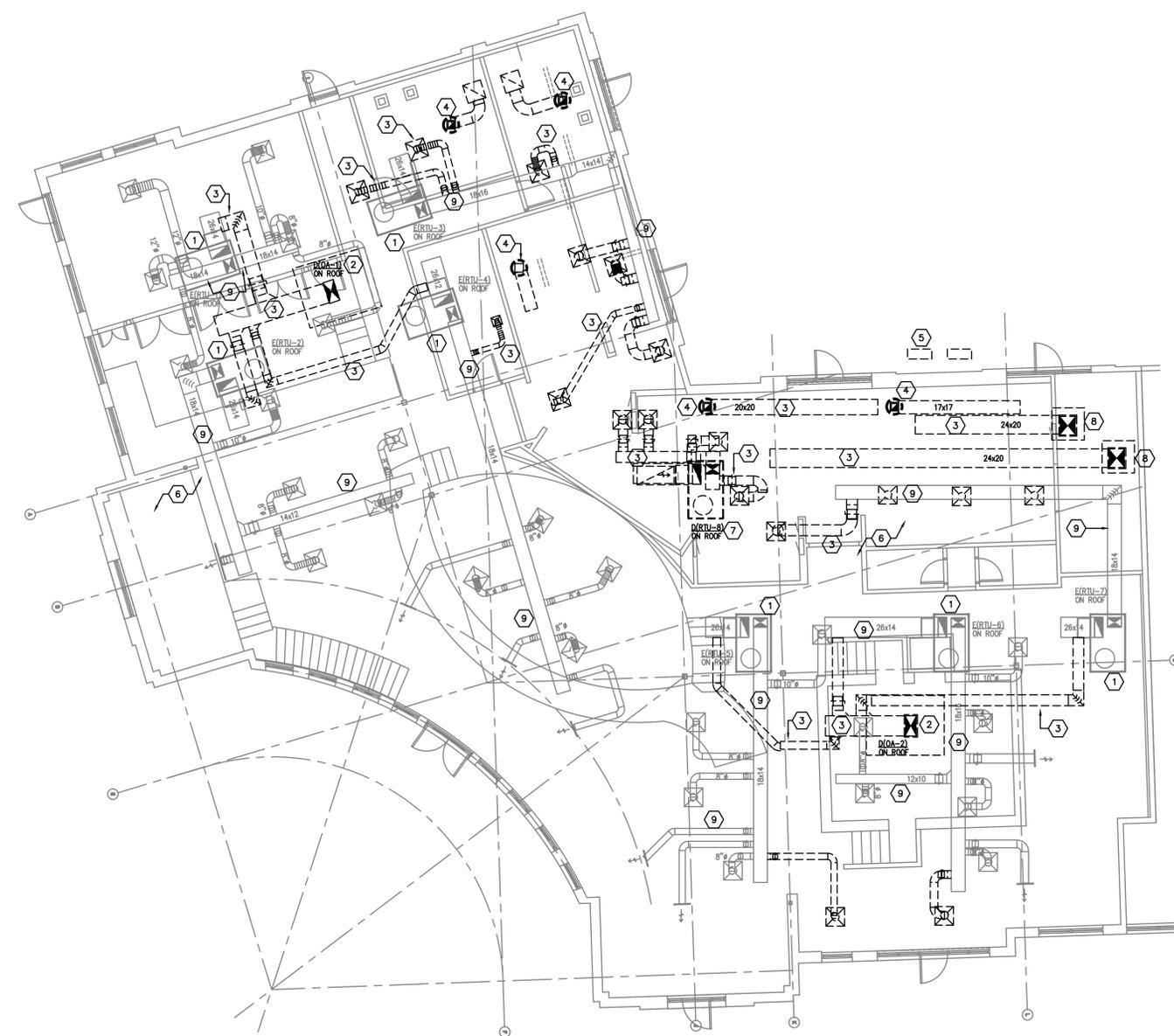
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REVISIONS:



**HVAC DEMO PLAN**  
 SCALE: 1/8" = 1'-0"

**GENERAL DEMOLITION NOTE**

FIELD VERIFY DEMO SCOPE OF WORK WITH GC AND LL PRIOR TO BID.

**HVAC CODED DEMOLITION NOTES:**

1. EXISTING RTU TO REMAIN. EXISTING ASSOCIATED DUCT DROPS AND SMOKE DETECTORS TO REMAIN. REMOVE ASSOCIATED THERMOSTATS AND CONTROLS.
2. REMOVE EXISTING OUTSIDE AIR UNIT AND ALL ASSOCIATED DUCTWORK, CONTROLS, ETC. FIELD VERIFY EXACT LOCATION AND SCOPE PRIOR TO BID. PATCH ROOF TO LIKE NEW CONDITION. LL APPROVED ROOFING CONTRACTOR TO BE USED FOR ALL ROOF WORK AT GC'S EXPENSE.
3. REMOVE EXISTING DUCTWORK NOT INTENDED FOR REUSE. CAP EXISTING DUCTWORK TO REMAIN AT THE MAIN.
4. REMOVE EXISTING EXHAUST FAN, EXHAUST DUCTWORK AND EXHAUST GRILL. PATCH ROOF TO LIKE NEW CONDITION. LL APPROVED ROOFING CONTRACTOR TO BE USED FOR ALL ROOF WORK AT GC'S EXPENSE.
5. REMOVE EXISTING CONDENSING UNITS AND ALL ASSOCIATED CONTROLS, PIPING, ETC. NOT INTENDED FOR REUSE, FIELD VERIFY EXACT SCOPE PRIOR TO BID.
6. REMOVE EXISTING AIR HANDLERS IN MEZZANINE AND WINE COOLERS. REMOVE ALL ASSOCIATED DUCTWORK, PIPING, CONTROLS, DIFFUSERS, ETC. NOT INTENDED FOR REUSE. FIELD VERIFY EXACT SCOPE PRIOR TO BID.
7. REMOVE EXISTING ROOFTOP UNIT AND ALL ASSOCIATED DUCTWORK, CONTROLS, DIFFUSERS, ETC. NOT INTENDED FOR REUSE. FIELD VERIFY EXACT LOCATION AND SCOPE PRIOR TO BID. PATCH ROOF TO LIKE NEW CONDITION. LL APPROVED ROOFING CONTRACTOR TO BE USED FOR ALL ROOF WORK AT GC'S EXPENSE.
8. REMOVE EXISTING SUPPLY FANS AND ALL ASSOCIATED DUCTWORK, CONTROLS, ETC. NOT INTENDED FOR REUSE. PATCH ROOF TO LIKE NEW CONDITION. LL APPROVED ROOFING CONTRACTOR TO BE USED FOR ALL ROOF WORK AT GC'S EXPENSE.
9. EXISTING DUCTWORK TO REMAIN.

HVAC LEGEND	
SYMBOL	DESCRIPTION
	EXISTING WORK TO REMAIN
	DEMO WORK

**FIELD VERIFY ALL CONDITIONS**

DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

No.	Description	Date
Project No.:		11460
Drawn By:		
Reviewed By:		
Scale:		
Date:		09.02.2011
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SHEET TITLE:		

HVAC DEMO PLAN

SHEET NO.:

**M0.1**

SEAL:

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 LEGACY PLACE  
 11380 LEGACY AVE.  
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CLIENT:  
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REVISIONS:

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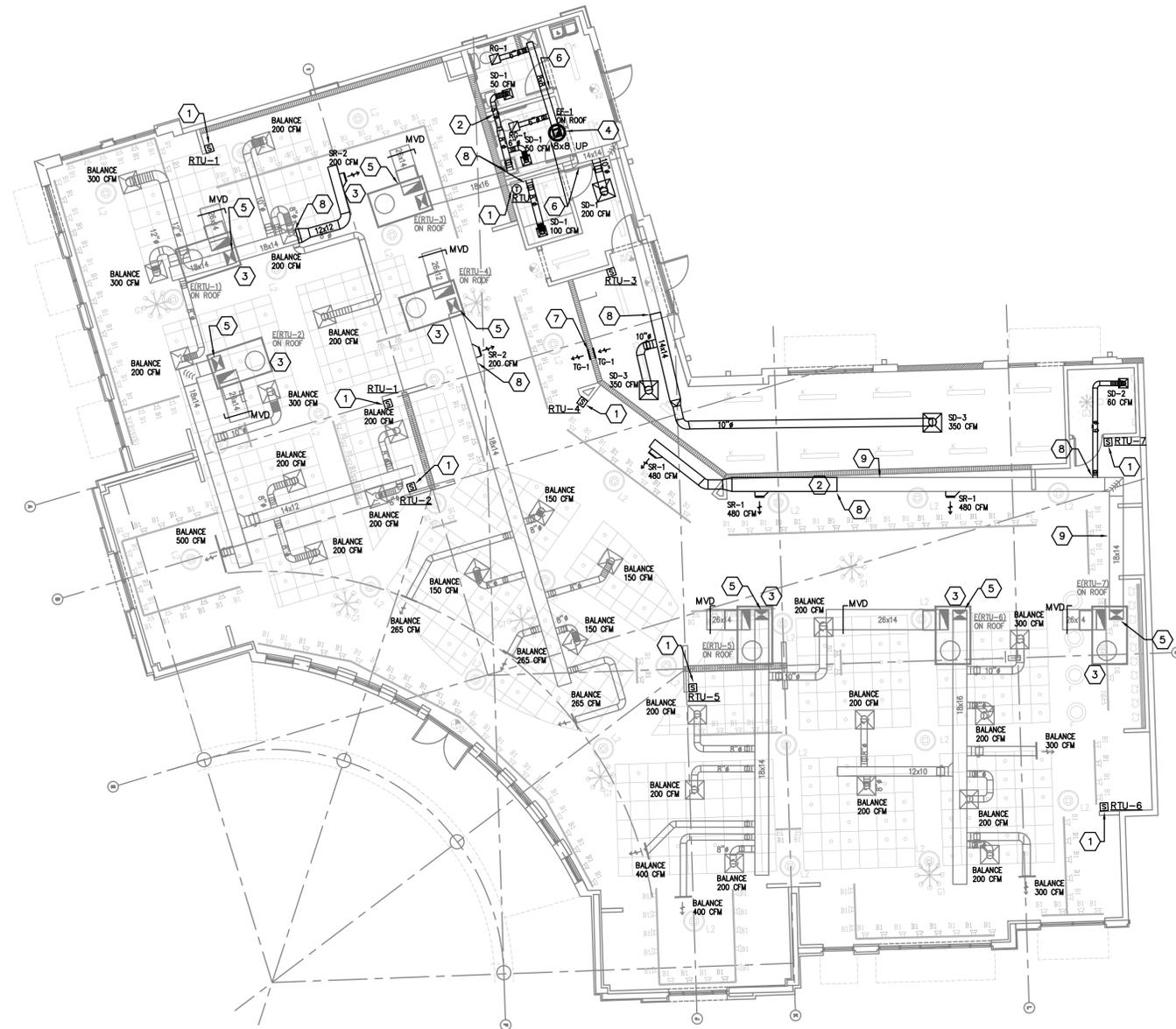
HVAC NEW WORK PLAN

SHEET NO.:

**M1.1**

**HVAC GENERAL NOTES:**

- A ALL RECTANGULAR RETURN AIR AND SUPPLY AIR DUCTWORK SHALL BE LINED WITH ACOUSTICAL LINER THE FIRST 15 FEET, THE REMAINDER SHALL BE WRAPPED. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION. IN GENERAL, HOLD DUCTWORK TIGHT TO UNDERSIDE OF STRUCTURE UNLESS OTHERWISE NOTED OR REQUIRED BY FIELD CONDITIONS.
- B CONICAL BELLMOUTH FITTINGS WITH MANUAL BALANCING DAMPER TO BE USED FOR ALL ROUND BRANCH TAPS ABOVE ACCESSIBLE LAY-IN CEILINGS. CONICAL BELLMOUTH FITTINGS WITHOUT MANUAL BALANCING DAMPERS TO BE USED FOR ALL ROUND BRANCH TAPS ABOVE INACCESSIBLE DRYWALL CEILINGS WITH BALANCING REQUIRED WITHIN 2 FT. OF DIFFUSER WITH PLASTER FRAME.
- C FLEX DUCT SHALL BE LIMITED TO 5'-0" IN LENGTH, NO DUCT BOARD ALLOWED, WIDTH OF DUCT SUPPORTS SHALL BE 2" WIDER THAN THE DUCT.
- D THE HVAC CONTRACTOR IS RESPONSIBLE FOR COORDINATING BOX-OUT LOCATIONS FOR ALL DRYWALL MOUNTED AIR DEVICES WITH GENERAL CONTRACTOR AND CEILING FRAMING.
- E MECHANICAL CONTRACTOR TO PROVIDE TENANT WITH AS-BUILT DRAWINGS, ALL EQUIPMENT SHOP DRAWINGS, INFORMATION ON THERMOSTATS, CONTROL WIRING DIAGRAMS AND OTHER PERTINENT INFORMATION AT COMPLETION OF PROJECT.
- F MECHANICAL CONTRACTOR IS TO PROVIDE AND INSTALL FIRE-RATED PIPE SLEEVES AND SEALS ON ALL EXISTING OR NEW PIPING THAT PENETRATES A FIRE-RATED PARTITION, WHERE REQUIRED BY CODE.
- G MECHANICAL CONTRACTOR IS TO PROVIDE AND INSTALL FIRE DAMPERS ON ALL EXISTING OR NEW DUCTWORK THAT PENETRATES A FIRE RATED PARTITION, WHERE REQUIRED BY CODE.
- H SEE ARCHITECTURAL DRAWINGS FOR CEILING HEIGHTS.
- I CONTRACTOR SHALL VERIFY SUFFICIENT SPACE TO RUN DUCTWORK, AND SHALL IDENTIFY ANY OBSTRUCTIONS THAT COULD HINDER THE ROUTING OF THE DUCTWORK.
- J THIS CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT, PIPING AND DUCTWORK, NOT SHOWN TO REMAIN IS FULLY REMOVED AND NOT ABANDONED.
- K IT IS REQUIRED THAT THE MECHANICAL CONTRACTOR MUST VISIT THE JOB SITE TO BECOME FAMILIAR WITH MAJOR ITEMS SUCH AS STRUCTURAL ELEMENTS, PLUMBING LOCATIONS AND ELECTRICAL RUNS. ADDITIONALLY MECHANICAL CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DIMENSIONS OF SUCH ITEMS AS HVAC UNITS, DUCTWORK, ETC. PRIOR TO BID, AND CONTACT THE OWNERS CONSTRUCTION REP./ ARCHITECT/ ENGINEER AND REPORT ANY DIFFERENCES/ DISCREPANCIES IN THE DRAWINGS FOR A DECISION
- L ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NON-COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.



**HVAC NEW WORK PLAN**  
 SCALE: 1/8" = 1'-0"

- # HVAC NEW WORK CODED NOTES:
- PROVIDE THERMOSTAT BANK (7) AT MANAGER'S DESK AND REMOTE TEMPERATURE SENSOR AS INDICATED.
  - INSTALL NEW DUCTWORK TIGHT TO STRUCTURE AS HIGH AS POSSIBLE. CONFIRM ALL CLEARANCES PRIOR TO BEGINNING WORK. COORDINATE WITH ALL OTHER TRADES.
  - EXISTING RTU AND CURB TO REMAIN. TENANT'S NAME AND SPACE NUMBER TO BE STENCILED ON UNIT. BALANCE TO SCHEDULED CFM. REFURBISH TO LIKE NEW CONDITION: REPLACE BELTS, MOTORS, COMPRESSORS, RECHARGE REFRIGERANT, CLEAN COILS, RETURN OUTSIDE AIR INTAKE HOOD AND ECONOMIZER (IF EXISTING) TO FULL OPERATING CONDITIONS. VERIFY UNIT OPERATION AND PROVIDE A RECONDITIONING REPORT TO OWNER AND LANDLORD.
  - PROVIDE AND BALANCE NEW ROOF MOUNTED EXHAUST FAN WITH INTEGRAL BACKDRAFT DAMPER AND MANUFACTURER'S ROOF CURB. LANDLORD APPROVED CONTRACTOR TO BE USED AT GC'S EXPENSE FOR ALL ROOF WORK.
  - EXISTING DUCT SMOKE DETECTOR IN SUPPLY AIR DUCT TO REMAIN. IF THERE IS NO SMOKE DETECTOR, ELECTRICAL CONTRACTOR TO PROVIDE NEW. INSTALLED BY MECHANICAL CONTRACTOR. WIRED BY ELECTRICAL CONTRACTOR AND LL CONTRACTOR.
  - PROVIDE NEW TRANSFER AIR GRILLE FOR RETURN AIR TRANSFER. INSTALL ABOVE SALES CEILING.
  - CONNECT NEW DUCTWORK TO EXISTING DUCTWORK. VERIFY EXACT LOCATION PRIOR TO BEGINNING WORK.
  - REMOVE INSULATION AND REPAIR DUCT AND PATCH AS REQUIRED. PREPARE FOR PAINT.

HVAC LEGEND	
SYMBOL	DESCRIPTION
	EXISTING WORK TO REMAIN
	NEW WORK

HVAC DUCTWORK LEGEND	
SYMBOL	DESCRIPTION
	RETURN REGISTER
	CEILING DIFFUSER
	LINEAR SLOT DIFFUSER
	LOW VOLTAGE THERMOSTAT
	LINE VOLTAGE THERMOSTAT
	MOTOR OPERATED DAMPER
	MANUAL VOLUME DAMPER
	BRANCH TAKE OFF
	1" LINED DUCTWORK
	FLEXIBLE DUCTWORK CONNECTION
	LOW VOLTAGE TEMPERATURE SENSOR
	DUCT MOUNTED SMOKE DETECTOR
	CARBON DIOXIDE SENSOR
	FIRE AND/OR SMOKE DAMPER. MATCH WALL RATING
	REFRIGERANT PIPING
	CONDENSATE PIPING

**FIELD VERIFY ALL CONDITIONS**

DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

## AIR DISTRIBUTION DEVICES (ALL TITUS)

- NOTES: 1. SYMBOL KEY - FIRST LETTER: S-SUPPLY R-RETURN E-EXHAUST  
 SECOND LETTER: D-DIFFUSER R-REGISTER G-GRILLE  
 2. CATALOG NUMBERS REFER TO TITUS AIR DEVICES.  
 3. 1, 2, 3, AND 4-WAY AIR DEVICES ARE DETERMINED BY DIRECTIONAL ARROWS ON DRAWINGS.  
 4. DAMPERS SHALL BE OPERABLE FROM FACE  
 "A" OPPOSED BLADE  
 "B" RADIAL OPPOSED BLADE  
 "C" BUTTERFLY
5. FINISH-  
 "A" METALLESSENT ALUM. BAKED ENAMEL  
 "B" ETCHED FINISH WITH CLEAR FINISH OR ANODIZED  
 "C" #25 STANDARD WHITE  
 "D" STANDARD OFF WHITE FINISH G.C. TO FIELD PAINT TO MATCH CEILING OR WALLS
6. BORDER STYLE-  
 "A" SURFACE MOUNTED  
 "B" LAY-IN MOUNTING  
 "C" LAY-IN PANEL, PROVIDE TITUS MODEL # XY-13363 FRAME FOR PLASTER CEILING MOUNTING.

SYMBOL	CATALOG #	SIZE		MOUNTING			MATERIAL		FINISH	ACCESSORIES			BORDER STYLE	REMARKS
		MOD.	NECK	SIDE-WALL	CEILING	DUCT	STEEL	ALUM.		DPR.	EQUAL GRID	FIRE DPR.		
SD-1	TMS	12"x12"	PER PLAN		●		●		C	B			A	
SD-2	OMNI	12"x12"	PER PLAN		●		●		C	B			A	
SD-3	TMS	24"x24"	PER PLAN			●	●		C	B				
SR-1	300RL	12"x10"				●	●		C					
SR-2	300RL	12"x6"				●	●		C					
RG-1	50F	12"x12"			●		●		C				A	
TG-1	301RL	14"x14"		●			●		C				A	

## HVAC ELECTRICAL COORDINATION SCHEDULE

ABBREVIATIONS		CONTRACTOR TYPE		MOTOR CONTROL TYPE		CONTROL TYPE	
DC	LOCAL DISCONNECT	EC	ELECTRICAL CONTRACTOR	CS	COMBINATION STARTER	TC	TIMECLOCK
MC	MOTOR CONTROL (POWER)	EX	EXISTING	MCC	MOTOR CONTROL CENTER	CPT	CONTROL POWER TRANSFORMER
SD	DUCT SMOKE DETECTOR	FC	FIRE PROTECTION CONTRACTOR	MG	MAGNETIC STARTER OR CONTACT	BAS	BUILDING AUTOMATION SYSTEM
ON	CONTROLS	GC	GENERAL CONTRACTOR	MS	MANUAL STARTER	LOW	LOW VOLTAGE CONTROLS
TS	TOGGLE SWITCH	HC	HVAC CONTRACTOR	VFD	VARIABLE FREQUENCY DRIVE	LINE	LINE VOLTAGE CONTROLS
C/B	H.A.C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD	MFR	MANUFACTURER	MSR	MANUAL STARTER W/CONTROL RELAY	RLINE	REVERSE ACTING LINE VOLTAGE STAT
FUSE	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)	PC	PLUMBING CONTRACTOR	OV	OVERCURRENT PROTECTION	MAN	MANUAL
FLA	OPERATING FULL LOAD AMPS	OR	OWNER OR OTHERS			FA	FIRE ALARM
MCA	MINIMUM CIRCUIT AMPACITY					CO	CARBON MONOXIDE SENSOR
CP	CORD AND PLUG CONNECTION					INT	INTEGRAL TO EQUIPMENT

MARK	DESCRIPTION	VOLTS	PHASE	EMERG	BHP	HP	HTG KW	WATTS	FLA	MCA	DCP	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	SD QUAN
EF-1	EXHAUST FAN	120	1			1/25						MFR	MFR	MFR	MG	MFR	MFR	MFR	MAN	EC	EC	EC	0
EX RTU-1	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-2	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-3	EXIST. ROOFTOP UNIT	208	3				3.3		28.4	34.8	35	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-4	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-5	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-6	EXIST. ROOFTOP UNIT	208	3				4.9		36.4	43.7	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1
EX RTU-7	EXIST. ROOFTOP UNIT	208	3				4.9		35.4	43	45	EX	EX	EX	EX	EX	EX	EX	LDW	HC	HC	HC	1

## HVAC EXHAUST FAN SCHEDULE

MARK	DESCRIPTION	AREA SERVED	MFR	MODEL	VOLTS	PHASE	WEIGHT	EMERG	CFM	STATIC	BHP	HP	WATTS	RPM	ACCESS	FLA	DCP
EF-1	EXHAUST FAN	RESTROOMS	GREENHECK	G-075-D	120	1	13		160	0.2		1/25			3		

## HVAC SYSTEM EQUIPMENT SCHEDULE

MARK	DESCRIPTION	AREA SERVED	MFR	MODEL	MIN EER	MIN COP	VOLTS	PHASE	WEIGHT	EMERG	CFM	STATIC	DA CFM	BHP	HP	RPM	NDM TDN	COND GPM	CLG MBH	CLG SENS	CLG GPM	CW EWT	CW LWT	HTG MBH	HTG GPM	HW EWT	HW LWT	GAS HTG IN	GAS HTG OUT	HTG KW	ACCESS	FLA	MCA	DCP
EX RTU-1	EXIST. ROOFTOP UNIT	SALES	EX. CARRIER	EX. 50TFG005		208	3				1600	0.5	240				4		49	37	0.00			21	0.00			4.9			35.4	43	45	
EX RTU-2	EXIST. ROOFTOP UNIT	SALES	EX. CARRIER	EX. 50TFG005		208	3				1600	0.5	240				4		49	37	0.00			21	0.00			4.9			35.4	43	45	
EX RTU-3	EXIST. ROOFTOP UNIT	SALES	EX. CARRIER	EX. 50TFG004		208	3				1150	0.5	92				3		30	26	0.00			16	0.00			3.3			28.4	34.8	35	
EX RTU-4	EXIST. ROOFTOP UNIT	SALES	EX. CARRIER	EX. 50TFG005		208	3				1600	0.5	240				4		49	37	0.00			21	0.00			4.9			35.4	43	45	
EX RTU-5	EXIST. ROOFTOP UNIT	SALES	EX. CARRIER	EX. 50TFG005		208	3				1600	0.5	240				4		49	37	0.00			21	0.00			4.9			35.4	43	45	
EX RTU-6	EXIST. ROOFTOP UNIT	SALES	EX. CARRIER	EX. 50TFG006		208	3				1900	0.5	304				5		60	45	0.00			25	0.00			4.9			36.4	43.7	45	
EX RTU-7	EXIST. ROOFTOP UNIT	SALES	EX. CARRIER	EX. 50TFG005		208	3				1510	0.5	272				4		49	36	0.00			21	0.00			4.9			35.4	43	45	

## HVAC VENTILATION SCHEDULE

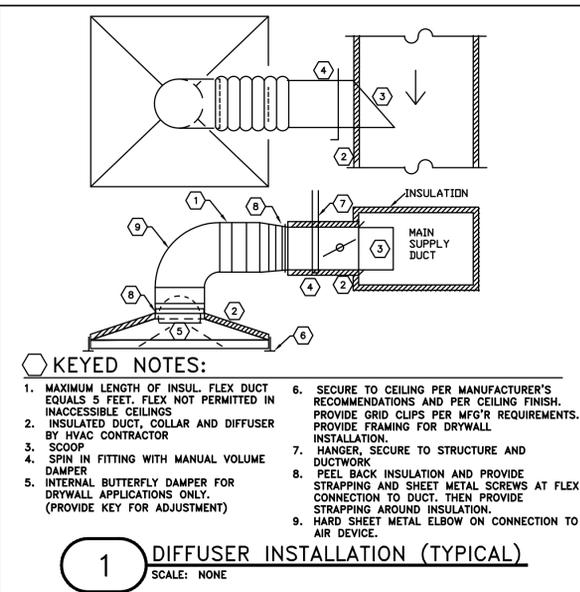
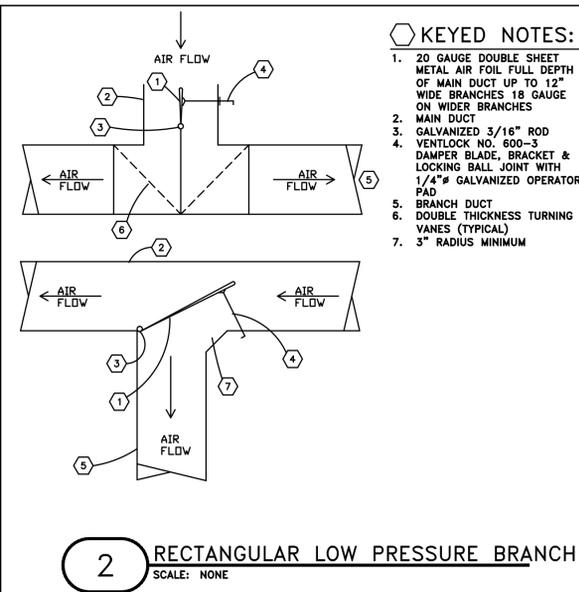
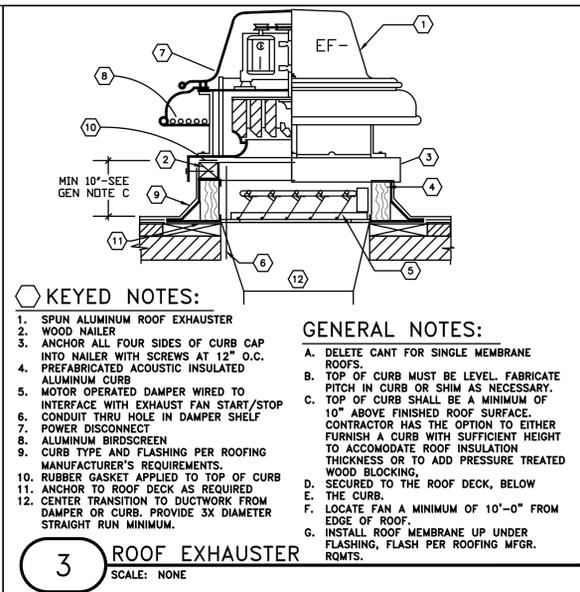
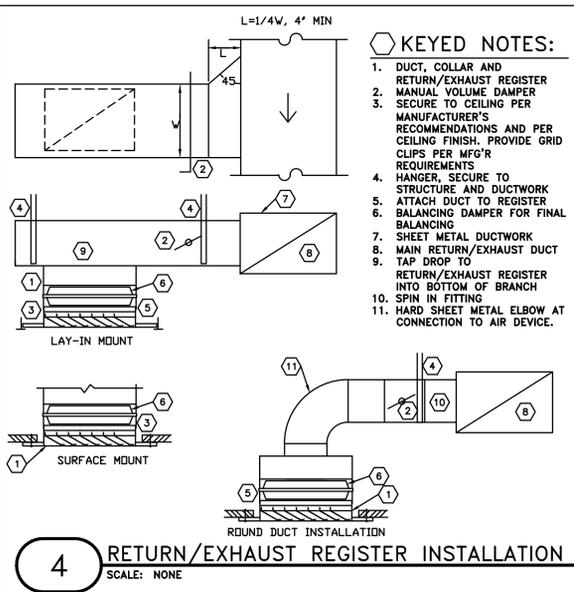
ROOMNUM	ROOMNAME	SYSTEM	ZONE	AREA	CLNGHT	AIR CHGS	DA CHGS	PEOPLE DES	PEOPLE RED	DA PER	DA SFT	REQ SUP	ACT SUP	REQ DA	ACT DA	ACT RET	ACT EXH	CRIT DA	PRESSURE	
100 A	SALES A	1		1011	0	0	0	15	15		7.5	0.12	1560	1600	234	240	1600	0	0.1462	E
100 B	SALES B	2		1011	0	0	0	15	15		7.5	0.12	1560	1600	234	240	1600	0	0.1462	E
100 C	SALES C	4		1011	0	0	0	15	15		7.5	0.12	1560	1600	234	240	1600	0	0.1462	E
100 D	SALES D	5		1011	0	0	0	15	15		7.5	0.12	1560	1600	234	240	1600	0	0.1462	E
100 E	SALES E	6		1263	0	0	0	19	19		7.5	0.12	1838	1900	294	304	1900	0	0.1547	E
100 F	SALES F	7		1011	0	0	0	15	15		7.5	0.12	1422	1450	256	261	1450	0	0.1613	E
101	FITTING	7		51	0	0	0	1	1		7.5	0.12	61	60	11	11	60	0	0.2333	E
102	STOCK	3		562	0	0	0	2	2		0	0.12	688	750	55	60	750	0	0.0893	E
103	CORRIDOR	3		154	0	0	0	0	0		0.06	188	200	15	16	200	0	0.0450	E	
104	OFFICE	3		39	0	0	0	1	1		5	0.06	88	100	7	8	100	0	0.0700	E
105	RESTROOM A	3		55	0	0	0	0	0		0	0	50	50	4	4	0	80	0.0000	N
106	RESTROOM B	3		55	0	0	0	0	0		0	0	50	50	4	4	0	80	0.0000	N

## HVAC ACCESSORIES

- ACCESSORIES:
- |                   |                        |                      |                        |                  |                            |
|-------------------|------------------------|----------------------|------------------------|------------------|----------------------------|
| 1. MOTOR DAMPER   | 5. INTAKE HOOD         | 9. ACCESS DOOR       | 13. FACE/BYPASS DAMPER | 17. DUCT FLANGES | 21. ECOD POWERED EXHAUST   |
| 2. ECODIMIZER     | 6. VIBRATION ISOLATION | 10. FLEX CONNECTIONS | 14. CONDENSATE PUMP    | 18. BASE RAIL    | 22. ECOD BARDMETRIC RELIEF |
| 3. ROOF CURB      | 7. FLAT FILTER         | 11. MOUNTING COLLAR  | 15. MOTOR GUARD        | 19. HUMIDIFIER   | 23. HEAT RECLAIM COIL      |
| 4. SMOKE DETECTOR | 8. FILTER/MIXING BOX   | 12. HOT GAS BYPASS   | 16. GREASE TRAP        | 20. CO2 SENSORS  |                            |

## HVAC LOAD SCHEDULE

MARK	ROOF	CWALL	CPART	CGLASS	CSOLAR	CLIGHTS	CEQUIP	CPSENS	CSSENS	CFAN	CDAS	CTSENS	CPLAT	CDAL	CTLAT	CTDT	HRDOF	HWALL	HPART	HGLASS	HSLAB	HSPACE	HDA	HTDT
EX RTU-1	7.0	2.5	0.0	8.3	21.2	33.6	0.8	12.0	85.7	1.0	4.3	37.3	10.0	8.8	11.8	49.1	6.2	3.7	0.0	17.7	8.5	36.3	7.0	18.2
EX RTU-2	2.1	0.7	0.0	2.5	6.5	10.3	0.2	3.6	26.3	1.0	4.3	37.3	3.0	8.8	11.8	49.1	1.9	1.1	0.0	5.4	2.6	11.1	7.0	18.2
EX RTU-3	1.8	3.4	0.0	0.0	0.0	5.7	2.7	0.7	14.5	0.7	1.6	25.6	0.6	3.3	3.9	29.5	1.6	5.1	0.0	0.0	1.2	8.0	2.7	10.7
EX RTU-4	2.1	0.7	0.0	2.5	6.5	10.3	0.2	3.6	26.3	1.0	4.3	37.3	3.0	8.8	11.8	49.1	1.9	1.1	0.0	5.4	2.6	11.1	7.0	18.2
EX RTU-5	2.1	0.7	0.0	2.5	6.5	10.3	0.2	3.6	26.3	1.0	4.3	37.3	3.0	8.8	11.8	49.1	1.9	1.1	0.0	5.4	2.6	11.1	7.0	18.2
EX RTU-6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	5.4	44.7	0.0	11.1	15.0	59.7	0.0	0.0	0.0	0.0	0.0	8.9	22.9	
EX RTU-7	0.1	0.2	0.0	0.0	0.0	0.5	0.0	0.2	1.1	1.0	4.8	36.0	0.2	9.9	13.2	49.2	0.0	0.3	0.0	0.0	0.3	0.8	8.0	20.0



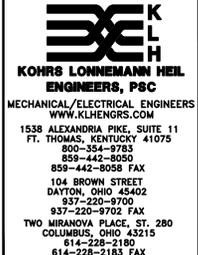
**KLH**  
**KOHR'S LONNEMANN HEIL**  
**ENGINEERS, PSC**  
 MECHANICAL/ELECTRICAL ENGINEERS  
 WWW.KLHENGINEERS.COM  
 1538 ALEXANDRIA PIKE, SUITE 11  
 FT. THOMAS, KENTUCKY 41075  
 800-354-9783  
 859-442-8050  
 859-442-8058 FAX  
 104 BROWN STREET  
 DAYTON, OHIO 45402  
 937-220-9700  
 937-220-9702 FAX  
 TWO MIRANOVA PLACE, ST. 280  
 COLUMBUS, OHIO 43215  
 614-228-2180  
 614-228-2183 FAX

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**  
 LEGACY PLACE  
 11380 LEGACY AVE.  
 PALM BEACH GARDENS, FL, 33410

CLIENT:  
  
**CHARMING CHARLIE**  
 5999 SAVOY DRIVE  
 HOUSTON, TEXAS 77036  
 Phone (713) 579-1975

REVISIONS:

No.	Description	Date
Project No.:		11460
Drawn By:		
Reviewed By:		
Scale:		



SEAL:

A PROJECT FOR:

NEW TENANT IMPROVEMENT FOR:  
**charming CHARLIE**

LEGACY PLACE  
11380 LEGACY AVE.  
PALM BEACH GARDENS, FL, 33410

CLIENT:



**CHARMING CHARLIE**  
5999 SAVOY DRIVE  
HOUSTON, TEXAS 77036  
Phone (713) 579-1975

REVISONS:

No.	Description	Date
Project No.:		11460
Drawn By:		
Reviewed By:		
Scale:		
Date:		09.02.2011
Filename:		
SHEET TITLE:		

## HVAC SPECIFICATIONS

# M3.1

HVAC/Temperature Control Contractor shall provide all other necessary conduit, raceway and wiring related work. Conduit shall be identified in ceiling cavity and shall be provided with sweep bends, bushings and dragline.

General Control Wiring Requirements and Installation Methods:  
Except where specifically indicated otherwise above, the HVAC/Temperature Control Contractor shall provide all electrical work as required for all temperature control related wiring (i.e. conduit, raceway, outlet boxes, junction boxes, wiring, etc.) in accordance with Division 16 requirements. All conduit shall be 3/4" minimum.

Coordinate all thermostat/sensor locations in field (case by case) with Architect, Owner and Electrical Contractor to ensure that they are placed in locations that will not interfere with furniture, equipment, artwork, wall-hung specialties, room finishes, etc. All thermostat/sensor wall locations indicated on HVAC drawings are schematic only and must be verified case-by-case prior to rough-in. All electrical work as described in this specification shall be per the latest edition of the National Electrical Code (NEC) and per applicable state and local codes.

Where "free-air" installation methods (either exposed above the ceilings, in bridge rings or in cable trays) are permitted under Division 16 above ceilings, provide plenum-rated cables wherever plenum ceilings (if any) exist and install as defined under Division 16. Install low-voltage circuits, located in concrete slabs and masonry walls, in inaccessible locations, or exposed in occupied areas, in electrical conduit regardless of what wiring methods are permitted under Division 16.

Where cable trays or bridge rings are provided by the electrical contractor for low voltage cables, these raceways may be utilized for control wiring by this contractor (provide special color coded jackets, label cable jackets per Division 16 and group control wiring cables together). Provide conduit drops from cable tray/bridge ring paths to wall outlet boxes and equipment unless directed otherwise under Division 16. Regardless of permitted methods in Division 16, all cables/wiring installed concealed by gypsum board, masonry or other inaccessible materials in walls or above ceilings shall be installed in conduit, 3/4" minimum.

All conduit, bridge rings, raceway, outlet boxes, etc. necessary for complete operational installation of control wiring shall be provided (furnished and installed) by the temperature control contractor in strict compliance with Division 16 documents. Coordinate all work with all other applicable trades including the electrical contractor.

Provide all required conduit work to and between equipment in a manner compliant with that described above (i.e. between VAV boxes, to boilers, starters, condensing units, etc. as applicable).

Install control wiring without splices between terminal points, color-coded. Install in neat workmanlike manner, securely fastened. Install in accordance with National Electrical Code and per Division 16.

Install circuits over 25 volt with color-coded No. 12 wire in electrical metallic tubing, per Division 16. Install circuits under 25 volt with color-coded No. 18 wire with 0.031" high temperature (105 degs. F [41 degs C]) plastic insulation on each conductor and plastic sheath over all. Install electronic circuits with color-coded No. 22 wire with 0.023" polyethylene insulation on each conductor with plastic-jacketed copper shield over all.

SMOKE DETECTOR:  
All duct smoke detectors will be furnished by electrical contractor, installed by the HVAC contractor, and wired by the electrical contractor per local codes. HVAC contractor will interlock RTU fan with smoke detector.

MOTOR OPERATED DAMPERS:  
All fresh air intakes and exhaust louvers shall have motor operated dampers. Dampers shall be low leak with blade and edge seals. Motor operated dampers shall be provided, installed and wired by the mechanical contractor unless otherwise noted. Provide all necessary transformers, controllers, controls and wiring for interlocking equipment to motor operated dampers.

TESTING, ADJUSTING, AND BALANCING  
Test, adjust, and balance the following mechanical systems:  
Supply air systems, all pressure ranges including variable volume and double duct systems:  
Return air systems:  
Exhaust air systems:  
Quality Assurance  
Codes and Standards:  
ASHRAE: "National Standards for Total System Balance".  
ASHRAE: ASHRAE Handbook, 1984 Systems Volume, Chapter 37, Testing, Adjusting, and Balancing.

SUBMITTALS  
Certified Reports: Submit testing, adjusting, and balancing reports bearing the seal and signature of the Test and Balance Engineer. The reports shall be certified proof that the systems have been tested, adjusted, and balanced in accordance with the referenced standards; are an accurate representation of how the systems have been installed; are a true representation of how the systems are operating at the completion of the testing, adjusting, and balancing procedures; and are an accurate record of all final quantities measured, to establish normal operating values of the systems. Follow the procedures and format specified below.

Final Report: Upon verification and approval prepare final reports, type written, and organized and formatted as specified below. Submit 2 complete sets of final report to the owner / landlord.  
Report Format: Report forms shall be those standard forms prepared by the referenced standard for each respective item and system to be tested, adjusted, and balanced.

QUALIFICATIONS  
The contractor shall procure the services of an independent Balance and Testing Agency, approved by the Engineer, and a member of Associated Air Balance Council (AABC) or NEBB, which specializes in the balancing and testing of heating, ventilating and air conditioning systems, to balance, adjust and test all air and water systems and equipment as herein specified. All work by this agency shall be done under direct supervision of a qualified heating and ventilating Engineer employed by this agency. All instruments used by this agency shall be accurately calibrated and maintained in good working order.

SEQUENCING AND SCHEDULING  
Test, adjust, and balance air in systems before hydronic, steam, and refrigerant systems.  
Test, adjust and balance air conditioning systems during summer season and heating systems during winter season, including at least a period of operation at outside conditions within 5 deg F wet bulb temperature of maximum summer design condition, and within 10 deg F dry bulb temperature of minimum winter design condition. Take final temperature readings during summer season operation.  
Check all filters for cleanliness, provide new as required. Check dampers (volume and fire) for correct and locked position, and temperature control for completeness of installation before starting fans. Place outlet dampers in full open position. Lubricate all motors and bearings. Check fan belt tension. Check fan rotation.  
Open valves to full open position. Remove and clean all strainers. Set temperature controls so all coils are calling for full flow.

Air balance and testing shall not begin until the system has been completed and is in full working order. The Contractor shall put all heating, ventilating and air conditioning systems and equipment into full operation and shall continue the operation of same during each working day of testing and balancing. The contractor shall submit within 30 days after receipt of contract, 8 copies of submittal data for the testing and balancing of the air conditioning, heating, and ventilating systems. The Air Balance and Testing Agency shall provide proof of having successfully completed at least five projects of similar size and scope.  
The air balancing contractor shall include the additional cost to change every fan factory installed shelve, pulley and/or belt in order to obtain the design air flow.  
Renovations: In areas where existing HVAC equipment is being utilized, balancing contractor shall include the cost to pre-check each equipment air flows, serving the area of work, prior to demolition, and re-check and adjust each air handler after new construction. Air flows of existing air handlers serving existing spaces shall be similar after project is complete.

PERFORMING TESTING, ADJUSTING, AND BALANCING  
Perform testing and balancing procedures on each system identified, in accordance with the detailed procedures outlined in the referenced standards.

Cut insulation, ductwork, and piping for installation of test probes to the minimum extent necessary to allow adequate performance of procedures.

Patch insulation, ductwork, and housings, using materials identical to those removed.

Seal ducts and piping, and test for and repair leaks.  
Seal insulation to re-establish integrity of the vapor barrier.

Mark equipment settings, including damper control positions; valve indicators, fan speed control levers, and similar controls and devices, to show final settings. Mark with paint or other suitable, permanent identification materials.  
Retest, adjust, and balance systems subsequent to significant system modifications, and resubmit test results.

DUCTWORK INSULATION:  
Provide insulation on all new/existing concealed supply, return and outside air ductwork. All liners, insulation and adhesives shall have a flame spread index not more than 25 and a smoke developed index of not more than 50.

Rigid Fiberglass Ductwork Insulation: Glass fibers bonded with a thermosetting resin. Comply with ASTM C 612, Type III, without facing and with vapor barrier all-service jacket manufactured from kraft paper, reinforcing scrim, aluminum foil, and vinyl film. Insulation shall have a minimum R value as required by Code.

Flexible Fiberglass Ductwork Insulation: Glass fibers bonded with a thermosetting resin. Comply with ASTM C 563, Type II, without facing and with vapor barrier all-service jacket manufactured from kraft paper, reinforcing scrim, aluminum foil, and vinyl film. Insulation shall have a minimum R value as required by Code.

Vapor Barrier Material for Ductwork: Paper-backed aluminum-foil, except as otherwise indicated; strength and permeability rating equivalent to factory-applied vapor barriers on adjoining ductwork insulation, where available; with following additional construction characteristics:  
High Puncture Resistance: Low vapor transmission (for ducts in exposed areas: Mech. Rooms, etc.)  
Moderate Puncture Resistance: Medium vapor transmission (for ducts in concealed areas).

GUARANTEE  
The contractor shall provide a guarantee in written form stating that all work under this section shall be free of defective work, materials, or parts for a period of one year from the date of owner's final acceptance and shall repair, revise or replace at no cost to the owner any such defects occurring within the guarantee period. Contractor shall also state in written form that any items or occurrences arising during the guarantee period will be attended to in a timely manner and will in no case exceed four (4) working days from date of notification by owner.

### CEILING AIR DIFFUSERS:

Diffuser Faces:  
Square: Square housing, core of square concentric louvers, square or round duct connection.  
Diffuser Mountings:  
Surface Mount: Diffuser shall have rolled edge below finished ceiling for surface mounting or diffuser shall be furnished with accessory plaster frame.

Lay-in: Diffuser housing sized to fit between ceiling exposed suspension tee bars and rest on top surface of tee bar.  
Diffuser Dampers:  
Opposed Blade Dampers: Opposed blade dampers connected to linkage adjustable from face of diffuser with key.

Diffuser Accessories: **Plaster Ring: Perimeter ring designed to act as plaster stop and diffuser anchor.**  
Thus TRM frame kit

Diffuser Finishes: White Enamel: Semi-gloss white enamel prime finish.

**Manufacturer: Subject to compliance with requirements, provide diffusers of one of the following:**  
Amenostat Products Div., Dynamics Corp. of America.  
Metal-Aire  
Tlus Products Div., Philips Industries, Inc.  
Tuttle and Bailey.  
Price

CEILING & WALL REGISTERS & GRILLES:  
Steel Construction: Manufacturer's standard stamped sheet steel frame and adjustable blades.

Register Dampers:  
Opposed Blade: Adjustable opposed-blade damper assembly, key operated from face of register.  
Register and Grille Finishes: White Enamel: Semi-gloss white enamel prime finish.  
Register and Grille Acoustic Performance: NC less than or equal to 30

**Manufacturer: Subject to compliance with requirements, provide diffusers of one of the following:**  
Amenostat Products Div., Dynamics Corp. of America.  
Metal-Aire  
Tlus Products Div., Philips Industries, Inc.  
Tuttle and Bailey.  
Price

FANS AND VENTILATORS  
CENTRIFUGAL ROOF VENTILATORS  
Provide centrifugal roof type, curb mounted, power ventilators of type, size, and capacity as scheduled, and as specified herein.

Type: Centrifugal fan, direct or belt driven as scheduled. Provide aluminum, galvanized steel, or fiberglass weatherproof housings as scheduled. Provide square base to suit roof curb. Provide permanent split-capacitor type motor for direct driven fans, capacitor-start, induction-run type motor for belt driven fans.  
Provide the Following Types of Housing Design:  
Hooded dome type  
Electrical: Provide factory-wired non-fusible type disconnect switch at motor in fan housing. Provide thermal overload protection in fan motor. Provide conduit chase within unit for electrical connection.

Provide NEMA 1 disconnect factory mounted. For single phase fractional HP fans use a toggle type disconnect switch. On three phase integral HP fans use a NEMA 1 safety switch.

Bird Screens: Provide removable bird screens, 1/2" mesh, 16-ga aluminum or brass wire.

Roof Curbs: Provide factory fabricated roof curbs by the same manufacturer as the equipment. Roof curb to be insulated.  
Manufacturer: Subject to compliance with requirements, provide centrifugal roof ventilators of the following:  
Amenostat Products Div., Dynamics Corp. of America.  
Bredert  
Carnes  
Cook Co. Loren  
Greenheck Fan Corp.  
Penn Ventilator Co., Inc.  
Jenn  
Twin City Fan & Blower

PREFABRICATED ROOF CURBS  
General: Provide manufacturer's standard shop-fabricated units, modified if necessary to comply with requirements.  
Fabricate structural framing for units of structural quality sheet steel, formed to manufacturer's standard profiles for coordination with roofing, insulation and deck construction. Include 45 deg. cant strips and deck flanges with offsets to accommodate roof insulation. Weld corners and seams to form watertight joints.  
Clean and paint units with manufacturer's standard rust-inhibitive metal primer paint.

Reinforce continuous runs of over 3'-0" length, by inserting welded stiffeners of heavy gage with flanges as required to provide sufficient rigidity and strength to withstand maximum lateral forces in addition to superimposed vertical loads.

Sloping Roof Decks: For deck slopes of 1/4" per foot and more, fabricate support units to form level top edge.

Gage and Height: Fabricate units of metal gage and to height above roof surface as indicated.  
Where gage or height are not indicated, fabricate units of 14-ga metal, and nominal height of 14".  
Provide pressure treated wood matter, not less than 1/4" thick and of width indicated, but not less than width of support wall assembly. Anchor nailer securely to top of metal frame unit.

Provide lumber pressure treated with water-borne preservatives for "above ground" use.

Insulate units inside structural support wall with rigid glass fiber insulation board of approximately 3-lb. density and 1-1/2" minimum thickness, except as otherwise indicated.

Manufacturer: Subject to compliance with requirements, provide prefabricated roof curbs of one of the following:  
Custom Curb, Inc.  
Equipment Manufacturer:  
MicroMet  
Pate Co.  
Shipman

THROUGH INSPECTION  
General: Examine areas and conditions under which power and gravity ventilators are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected.

INSTALLATION OF POWER AND GRAVITY VENTILATORS  
The power ventilator(s) shall be installed a minimum of 10'-0" from any roof edge regardless of location indicated on plans, unless a screen wall or railing is installed per the local building code. See the architectural plans for coordination.

Coordinate ventilator work with work of roofing, walls, and ceilings, as necessary for proper interlocking.  
Provide access doors in duct below ventilator to service damper.  
Solder bottom joints and up 2" of side joints of duct under roof ventilator to retain any moisture entering ventilator.

Access: Provide access and service space around and over fans as indicated, but in no case less than that recommended by manufacturer.

Roof Curbs: Furnish roof curbs to roofing installer for installation. Install according to roofing manufacturer's recommendation and specifications.

Electrical Wiring: Install electrical devices furnished by manufacturer but not specified to be factory-mounted. Furnish copy of manufacturer's wiring diagram submittal to Electrical Installer.

Verify that electrical wiring installation is in accordance with manufacturer's submittal and installation requirements of Division-16 sections. Ensure that rotation is in direction indicated and intended for proper performance. Do not proceed with centrifugal fan start-up until wiring installation is acceptable to fan installer.

FIELD QUALITY CONTROL  
Testing: After installation of ventilators has been completed, test each ventilator to demonstrate proper operation of units at performance requirements specified. When possible, field correct manufacturing units, then re-test to demonstrate compliance. Replace units, which cannot be satisfactorily corrected.  
ADJUSTING AND CLEANING  
Cleaning: Clean factory-finished surfaces. Repair any marred or scratched surfaces with manufacturer's touch-up paint.

SPARE PARTS  
General: Furnish to Owner, with receipt, one spare set of belts for each belt drive power ventilator.

SEQUENCE OF OPERATION:  
PACKAGED ROOF TOP UNITS  
Packaged Rooftop Unit  
1. Startup  
The unit shall operate on a 7 day/night programmable thermostat.

During startup, the fan shall run with the dampers in the full recirculation position. Provide occupied changeover sequence with optimum start function. When the return air temperature reaches occupied setpoint (adjustable), the minimum outside air damper shall open to the controlled minimum outdoor air constant.

2. Supply Fan Control  
The supply fan speed shall be position and set to the required CFM.  
3. Space Temperature Control  
Provide local wall mounted room temperature thermostat with digital display of room temperature and setpoint (+/- deg. F. adjustable), and override feature.

4. Minimum Outside Air Control  
During occupied mode the minimum outside air damper shall be open. Provide motorized outdoor air damper.  
5. Economizer Control (if existing)  
Economizer control shall be enabled whenever the outside air enthalpy is lower than the return air enthalpy. Enthalpy shall be calculated from sensors which are tied to the same controller for accuracy. During economizer mode, the outside air damper shall modulate to 100% open. The economizer damper shall modulate open on a call for cooling and modulate closed on a call for heating. The return damper shall modulate inversely with the economizer damper.

6. Cooling Control  
Cooling shall be controlled to maintain temperature setpoint. On a call for cooling, the heating shall be off. On a further call for cooling the mechanical cooling shall be staged on.  
7. Heating Control  
Heating shall be controlled to maintain temperature setpoint. On a call for heating, the mechanical cooling shall be off. On a further call for heating the heat pump then electric heating shall be staged on.

8. Smoke Detector  
When the smoke detector is alarmed, the system shall be alarmed and the air handler shall fall safe with manual reset. Electrical contractor shall furnish HVAC Contractor shall mount & Electrical contractor shall wire a UL listed photoelectric smoke detector per local code authority having jurisdiction.

9. Unoccupied Mode  
During the unoccupied mode of operation, the RTU shall go into night setback mode.  
10. Night Setback/Shutdown  
At night setback/shutdown the RTU shall go to fall safe position. Fall safe position is defined by the following: The supply fan is off, the outdoor air intake damper is closed, the heating is off and the mechanical cooling is off. The supply fan shall cycle in conjunction with either the heating or cooling system to maintain a minimum/maximum space temperature depending on the season.

EXHAUST FANS  
Toler Exhaust Fans (Manual)  
Exhaust fans shall be controlled by local manual switch furnished, installed and wired by electrical contractor. When activated, exhaust fan motor damper shall open and fan shall start.  
(Indicated by EC on MESCH schedule)

CONTROLS  
Electrical contractor will provide power wiring. HVAC contractor shall provide all the low voltage wiring of HVAC units and controls, thermostats and controllers. Thermostat shall be by the manufacturer of the HVAC unit (heat/cool/auto/off) with night setback. Provide plastic protective cover for all thermostats. Replace controls on existing unit, adjust and calibrate controls.

CONTROL WIRING  
Low Voltage Thermostats  
Low voltage thermostats shall be furnished, installed and wired by the HVAC contractor. The electrical contractor shall provide 4" square x 1-1/2" deep wall outlet boxes (with single-gang rings) for all thermostats/sensors. The electrical contractor shall provide one 3/4" empty conduit from each thermostat/sensor location, turned out above accessible ceilings (in joint space or against overhead slab/deck). The

### HVAC SPECIFICATION

#### GENERAL:

General Provisions of the Contract including General and Supplementary Conditions and General Requirements apply to work of this section.

#### SCOPE:

The base bid includes furnishing all materials, labor, tools, and equipment and the performance of all work required to install a complete heating and air conditioning system as outlined herein.

#### QUALITY ASSURANCE:

Provide a complete installation in conformance with the following standards:  
AGA: American Gas Association  
ASHRAE: American Society of Heating, Refrigerating and Air Conditioning Engineers  
NFPA: National Fire Protection Association  
SMACNA: Sheet Metal and Air Conditioning Contractors National Association.  
Statewide Building Code  
IMC: International Mechanical Code

#### PERMITS, FEES, INSPECTIONS, LAWS, AND REGULATIONS:

Permits and fees of every nature required in connection with this work shall be obtained and paid for by this contractor who shall also pay for all the installation fees and similar charges. Laws and regulations, which bear upon or affect the various branches of this work shall be complied with by this contractor and are hereby made a part of this contract. All work, which such laws require to be inspected, shall be submitted to the proper public official for inspection and a certificate of final approval must be furnished.

#### SEISMIC BRACING:

Provide seismic bracing of mechanical and electrical components where required by code.

#### QUALITY ASSURANCE

The contractor shall provide seismic restraint systems to meet total design lateral force requirements for support and restraint of piping, conduit, cable trays and other similar systems and equipment where required by the applicable building code.

#### SEISMIC BRACING AND SUPPORT OF SYSTEMS AND COMPONENTS

Seismic restraint designer shall coordinate all attachments with the structural engineer of record. Provide engineered stamped and signed drawings of seismic design.  
Seismic restraint designer shall provide visual inspection after installation and approve installation of seismic design components.  
Design analysis shall include calculated dead loads, static seismic loads, and capacity of materials utilized for the connection of the equipment or system to the structure.  
Analysis shall detail anchoring methods, bolt diameter, and embedment depth.  
All seismic restraint devices shall be designed to accept without failure the forces calculated per the applicable building code.  
Friction from gravity loads shall not be considered resistance to seismic forces.  
Fire protection systems shall meet the requirements of NFPA-13 and NFPA-14 for the building seismic requirements.

#### WORK IN EXISTING SPACES:

General: Care shall be taken when working in existing spaces so as not to damage existing walls and ceilings where work is being performed.  
Ceilings: Where work is being performed above ceilings, and the architectural drawings do not indicate ceiling modifications by the general contractor, it shall be the responsibility of this contractor to remove and replace existing ceilings where work is being performed. In those instances, all repair and installation of new grid, ceiling panels, etc shall be the responsibility of this contractor. Match existing finishes.  
Walls & Floors: It shall be the responsibility of this contractor to patch existing walls and floors and match existing finishes where work is being removed or installed and patching is being performed, unless noted otherwise on the architectural drawings.

#### DEMOLITION:

Any Equipment to be demolished shall also include the demolition of any and all ductwork, piping etc serving or served by the equipment, all accessories, air devices, wiring, gas piping, venting, control wiring and power wiring associated with the equipment.  
Demolition shall be coordinated with all trades. All materials shall be lamed over to the owner or disposed at the owner's direction.  
Contractor is responsible for reclaiming any refrigerant in association with the demolition in accordance with all local, state and federal regulations.  
Any roof or wall penetration shall be patched watertight to the satisfaction of the architect.

#### TESTS AND ADJUSTMENTS:

No ducts, piping, fixtures or equipment shall be concealed or covered until they have been inspected and approved by the Architect and the inspector who shall be notified by the contractor when the work is ready for inspection.  
Work shall be completely installed, tested and leak tight before inspection is required. All tests shall be repeated to the satisfaction of those making the inspection.

#### METAL DUCTWORK

DUCTWORK MATERIALS  
Exposed Ductwork Materials: Where new/existing ductwork is indicated to be exposed to view in occupied spaces, provide materials which are free from visual imperfections including pitting, seam marks, roller marks, stains and discolorations, and other imperfections, including those which would impair painting. For existing ductwork, repair as required. Exposed ductwork which is to be painted shall have paint grip applied.  
Sheet Metal: Except as otherwise indicated, fabricate ductwork from galvanized sheet steel, lock forming quality, with G 90 zinc coating and mill phosphatized for exposed locations. Minimum gage shall be 24.

#### MISCELLANEOUS DUCTWORK MATERIALS

Volume Dampers: Provide volume dampers in all branch ducts or as required for balancing to required air flows.

Fittings: Provide radius type fittings fabricated of multiple sections with maximum 15 deg. change of direction per section. Unless specifically detailed otherwise, use 45 deg. laterals and 45 deg. elbows for branch takeoff connections. Where 90 deg. branches are indicated, provide conical type tees.

Duct Sealant: Non-hardening, non-migrating mastic or liquid elastic sealant, type applicable for fabrication/installation detail, as compounded and recommended by manufacturer specifically for sealing joints and seams in ductwork.

Duct Cement: Non-hardening migrating mastic or liquid neoprene base cement, type applicable for fabrication/installation detail, as compounded and recommended by manufacturer specifically for cementing fitting components, or longitudinal seams in ductwork.

Ductwork Support Materials: Except as otherwise indicated, provide hot-dipped galvanized steel fasteners, anchors, rods, straps, trim and angles for support of ductwork.

#### FLEXIBLE DUCTS:

Either spiral-wound spring steel with flameproof vinyl sheathing, or corrugated aluminum. Unless specifically mentioned, the maximum length of flex duct on the supply equals 5 feet. Flex is not allowed for return, relief or exhaust applications. The flexible ducts indicated for use in the H.V.A.C. system shall conform to the requirements of UL 181 for Class 0 or Class 1 flexible air ducts and shall be so identified.  
Flexible Ducts: Where installed in unconditioned spaces other than return air plenums, provide 1" thick 1-1/2 lb. continuous flexible fiberglass sheath with vinyl vapor barrier jacket.

Flexible Ducts: Installation is not permitted above drywall ceilings and inaccessible ceilings.

#### FABRICATION

Shop fabricate ductwork in 4, 8, 10 or 12" lengths, unless otherwise indicated or required to complete runs. All ductwork shall be Pittsburgh Construction with a minimum thickness of 24 gauge. In addition, ductwork used in systems over 3" W.G. shall have cold sealant applied. Shop fabricate ductwork of gauges and reinforcement complying with SMACNA HVAC Duct Construction Standards".

#### LINED DUCT

Fabricate ductwork with duct liner in each section of duct where indicated. Laminate liner to internal surfaces of duct in accordance with instructions by manufacturers of lining and adhesives, and fasten with mechanical fasteners. Duct liner to be 3-lb density for acoustic requirements 1" thick or as noted. Size of ductwork shown on the drawings is free net area, outside dimension of ducts will need to be increased if lined duct to be used.  
Size of ductwork shown on the drawings is free net area, outside dimension of ducts will need to be increased if lined duct is used.  
Duct Liner: Fibrous glass of thickness indicated. 3-lb density. All liners, insulation and adhesives shall have a flame spread index not more than 25 and a smoke developed index of not more than 50.

Duct Liner Adhesive: Comply with SMACNA HVAC Duct Construction Standards.

#### INSTALLATION OF METAL DUCTWORK

General: Assemble and install ductwork in accordance with recognized industry practices which will achieve air-tight (5% leakage for systems rated 3" and under; 1% for systems rated over 3") and noiseless (no objectionable noise) systems, capable of performing each indicated service. Install each run with minimum number of joints. Align ductwork accurately at connections, within 1/8" misalignment tolerance and with interior surfaces smooth. Support ducts rigidly with suitable ties, braces, hangers and anchors of type which will hold ducts true-to-shape and to prevent buckling. Support vertical ducts at every floor.

Sealing: Seal all longitudinal seams, S's and drives and all joints with mastic or cement. Install according to SMACNA standards.  
Balancing Dampers: The sheet metal contractor shall be fully responsible for installing balancing dampers in the ductwork, (whether shown on the drawing or not) in order to arrive at the intended air flow. The balancing sub-contractor shall provide direction and assistance in determining locations where dampers are required. Additional dampers, if required shall be installed at no additional cost to the owner.  
Wall Penetrations: Seal and pack around all ducts and piping sleeves which pass through walls that extend to bottom side of structure and rated walls.

Field Fabrication: Complete fabrication of work at project as necessary to match shop-fabricated work and accommodate installation requirements.

Routing: Locate ductwork runs, except as otherwise indicated, vertically and horizontally and avoid diagonal runs wherever possible. Run ductwork in shortest route which does not obstruct useable space or block access for servicing building and its equipment. Hold ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building. Limit clearance to 1/2" where turning is shown for enclosure or concealment of ducts, but allow for insulation thickness, if any. Where possible, locate insulated ductwork for 1" clearance outside of insulation. Wherever possible in finished and occupied spaces, conceal ductwork from view, by locating in mechanical shafts, hollow wall construction or above suspended ceilings. Do not enclose horizontal runs in solid partitions, except as specifically shown. Coordinate layout with suspended ceiling and lighting layouts and similar finished work.

Electrical Equipment Spaces: Do not route ductwork through transformer vaults and their electrical equipment spaces and enclosures.  
Penetrations: Where ducts pass through interior partitions and exterior walls, and are exposed to view, conceal space between construction opening and duct or duct insulation with sheet metal flanges of same gage as duct. Overlay opening on 4 sides by at least 1-1/2". Fasten to duct and substrate.  
Where ducts pass through fire-rated floors, walls, or partitions, provide fire dampers and freestopping between duct and substrate, in accordance with requirements of Division 7 Section "Firestopping".

Coordination: Coordinate duct installations with installation of accessories, dampers, coil frames, equipment, controls and other associated work of ductwork systems.

#### INSTALLATION OF DUCT LINER

General: Install duct liner in accordance with SMACNA HVAC Duct Construction Standards. Size of ductwork shown on the drawings is free net area, outside dimension of ducts will need to be increased if lined duct is used.

Store internally lined ductwork up off of the floor. Protect internally lined ductwork from water and dust. Butter the leading edge of all internal duct lining with the manufacturer's recommended adhesive.  
Inspect and repair all damaged lining prior to installation of ductwork.

#### INSTALLATION OF FLEXIBLE DUCTS

Maximum Length: For any duct run using flexible ductwork, do not exceed 5' - 0" extended length. Installation shall have smooth full radius turns down to diffuser.  
Installation not permitted above inaccessible ceilings.

#### ACCESS PANELS:

Furnish all access panels required for proper servicing of equipment. Provide access panels for all concealed valves, vents, controls and cleanout doors, and sprinkler devices required by NFPA. Provide frame as required for finish. Furnish panels to General Contractor. Exact locations to be approved by the Architect. Minimum size to be 12" x 12", units to be 16 gauge steel, locking device shall be screwdriver cam locks.

#### HANGERS AND SUPPORTS:

Support all piping, ductwork and equipment by hangers or brackets. Furnish structural steel members where required to support piping and equipment. No portion of piping or valves shall be supported by equipment.

#### DUCTWORK

Support by means of hangers as follows:  
Duct Width Hanger Size and Type Max. Spacing  
30 or less (#16 gage) 8  
31 to 60 (#14 gage) 8  
61 to 90 3/8" dia. Rod 8  
A pair of hangers shall be located at every transverse joint and elsewhere according to the table.