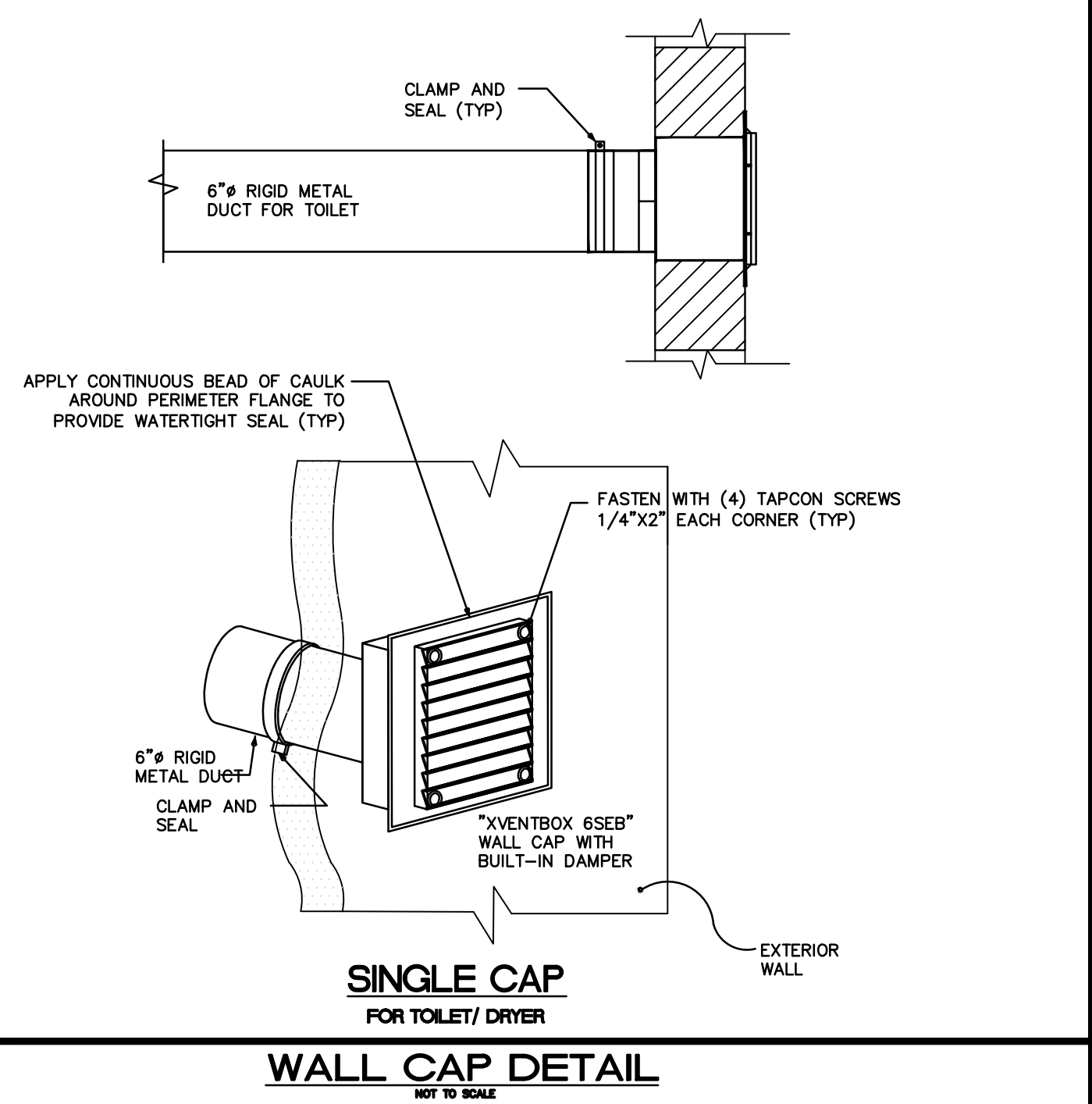


AIR BALANCE SCHEDULE table with columns: UNIT TAG, SUPPLY AIR (CFM), RETURN (CFM), OUTSIDE AIR (CFM), EXHAUST AIR (CFM). Rows include AHU-1, OARTU-1, OARTU-2, EF-1, EF-2, EF-3, EF-4, and TOTAL. Notes specify BLDG IS 6300-5550=750 CFM POSITIVE WHEN A/C UNITS ARE OPERATING.

OUTSIDE AIR CALCULATIONS (BASED ON FLORIDA BUILDING CODE, MECHANICAL) table for CAMP CANINE. Columns include AREA SERVED, NET OCCUPIABLE AREA, VENTILATION RATE, ACTUAL OCCUP, COMBINED TOTAL, COMBINED TOTAL NOTES. Rows include RETAIL AREA, OFFICE 1, OFFICE 2, BREAK AREA, EXISTING RESTROOM, CLOSET, CORRIDOR, ANIMAL AREA, and TOTAL.

EXHAUST AIR CALCULATIONS table. Columns include SPACE SERVED OR UNIT TAG, SPACE AREA, SPACE HEIGHT, SPACE VOLUME, VENTILATION REQ'D, TOTAL CFM REQUIRED, TOTAL CFM PROVIDED, EXHAUST FAN. Rows include EXIST BATHROOM 1, EXIST BATHROOM 2, ANIMAL AREA, and TOTAL. Notes specify calculations are based on local code requirements.



MECHANICAL NOTES

- 1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, THE FLORIDA BUILDING CODE 2014 AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LISTED EDITION OF THE FOLLOWING PUBLICATIONS: SMACNA/ANSI-2005; SMACNA-10, 85; ASHRAE-15-2010; 34-2010; 62.1-2010; NFPA 70-2011, 72-2010, 90A-2012, 90B-2012, 91-2010, 96-2008, 101-2012; NEBB-2005; NAIMA-2002; NFRC-100-2010, 200-2010, 400-2010; ANSI Z10.1-98, Z10.3-98, Z21.8-94, Z21.83-98.
- 2. THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
- 3. THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES.
- 4. THE CONTRACTOR SHALL SUPPLY THE ARCHITECT/ENGINEER WITH "AS-BUILT" DRAWINGS.
- 5. CONTRACTOR SHALL SUBMIT, FOR APPROVAL FIVE (5) COPIES OF A COMPLETE SET OF SHOP DWGS, MANUFACTURER'S SUBMITTALS FOR EACH PIECE OF EQUIPMENT & CONTROLS INCLUDED IN CONTRACT.
- 6. ALL MATERIAL SHALL BE NEW U.S. MANUFACTURER OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED AT INDUSTRY STANDARD QUALITY LEVEL BY CERTIFIED PROFESSIONALS. ALL EQUIPMENT SHALL BE UL OR ETL LISTED.
- 7. ALL INSTALLATIONS SHALL COMPLY WITH FMC 2014, CH. 3, GENERAL REGULATIONS.
- 8. FOR BUILDINGS LOCATED WITHIN 3,000 FT FROM THE OCEAN, CONTRACTOR SHALL UTILIZE NON-FERROUS MATERIALS OR PROVIDE CORROSION COATING FOR ALL OUTDOOR EXPOSED METAL/STEEL EQUIPMENT, SUPPORTS, STANDS, FASTENERS, ETC. BY 3RD PARTY AS APPLIED BY BLYGOLD, LUVATA, ADVANCOAT (ENSEAL CR) OR APPROVED EQUAL WITH STANDARD 5-YEAR WARRANTY.
- 9. DUCTWORK: a. ALL AIR CONDITIONING DUCT WORK SHALL BE OF 1" (R-4.2) STANDARD DUTY FOIL REINFORCED FIBERGLASS WITH MANUFACTURER'S LOGO PRINTED ON VAPOR BARRIER ALL FLEXIBLE DUCT TO BE R-4.2 WITH A MAX. TOTAL LENGTH NOT TO EXCEED 15 FT. INSTALL UL LISTED FOR PLENUM, FLEXIBLE DUCTWORK ELBOW SUPPORTS AT EACH DIFFUSER, GRILLE, AND REGISTER EQUAL TO "FLEXIRIGHT" BY TITUS OR "FLEXLOW ELBOW" AS MANUFACTURED BY "THERMAFLEX".
- 10. SPECIAL NOTE: SMACNA DUCT PRESSURE CLASSES BASED ON OPERATING PRESSURE ARE: 1/2", 1", 2", 3", 4", 6", AND 10". EACH DUCT SYSTEM SHALL BE CONSTRUCTED FOR THE SPECIFIC DUCT PRESSURE CLASS SHOWN ON PLANS. WHERE NO PRESSURE CLASS IS SPECIFIED FOR CONSTANT VOLUME SYSTEMS, 1" W.G. PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THE SMACNA STANDARDS REGARDLESS OF VELOCITY. WHERE NO PRESSURE CLASS IS SPECIFIED FOR VARIABLE VOLUME SYSTEMS, 2" W.G. PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THE SMACNA STANDARDS FOR DUCTWORK UPSTREAM OF VAV BOXES. ALL DUCTWORK SHALL BE SEALED TO SMACNA "HVAC DUCT CONSTRUCTION STANDARDS" FOR ITS PRESSURE CLASS SEALING METHODS.
- 11. ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS. ALL OUTSIDE AIR DUCT SHALL BE INSULATED WITH EXTERNAL BLANKET INSULATION R-4.2 MIN. ALL METAL EXHAUST, MAKE-UP OR OTHERWISE DUCTS INSTALLED IN LOCATIONS WHERE DEWPOINT CONDITIONS CAN OCCUR INSIDE THE DUCT SHALL BE EXTERNALLY INSULATED WITH R-4.2 MIN. AIR INTAKE AND EXHAUST OPENINGS SHALL BE SCREENED WITH A CORROSION RESISTANT MATERIAL PER FMC 2014, GENERAL MECHANICAL CONTRACTOR ON BEHALF OF CLIENT. CONTRACTOR TO PROVIDE WIND LOAD CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED STRUCTURAL ENGINEER FOR NON PRE-APPROVED CONFIGURATIONS DEVIATING FROM THE ORIGINAL CONSTRUCTION DOCUMENTS.
- 12. ALL INSULATION WILL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
- 13. HVAC CONTRACTOR SHALL PROVIDE VENTILATION CONTROLS COMPLIANT WITH FMC 2014, SEC. 403.5-403.7 AND 405. FOR ALL SYSTEMS AND SHALL VERIFY EXISTING CONDITIONS FOR COMPLIANCE, AS REQUIRED, FOR A FULL OPERATIONAL SYSTEM. VENTILATION FOR ENCLOSED PARKING GARAGES SHALL COMPLY WITH FMC 2014, SEC. 404.
- 14. MECHANICAL EQUIPMENT ON ROOF OR ELEVATED STRUCTURES SHALL COMPLY WITH FMC 2014 PAR. 306.5 IF INSTALLED HIGHER THAN 16 FEET A.F.F. MECHANICAL EQUIPMENT INSTALLED IN ATTICS SHALL MEET THE REQUIREMENTS OF FMC 2014 PAR. 306.3 IF THE EQUIPMENT CAN NOT BE SERVICED/REMOVED THROUGH REQUIRED OPENING. MECHANICAL EQUIPMENT SHALL BE PROTECTED WITH MECHANICAL BARRIERS IF EXPOSED TO MECH. DAMAGE. ALL EQUIPMENT SHALL BE INSTALLED ON CONCRETE PADS AT GRADE LEVEL, SIZED PER STRUCTURAL PLANS.
- 15. SPECIAL NOTE: ALL WIND LOAD AND OTHER COMPLIANCE CALCULATIONS AND/OR INSTALLATION DETAILS FOR ROOF MOUNTED EQUIPMENT AS REQUIRED BY FMC 2014, SEC. 1509, 1522 AND CHAPTER 15, SHALL BE PROVIDED BY A STRUCTURAL ENGINEER AND ARE SHOWN ON THESE PLANS FOR REFERENCE ONLY. SUCH CALCULATIONS SHALL BE PROVIDED BY THE EQUIPMENT MANUFACTURER OR BY THE GENERAL MECHANICAL CONTRACTOR ON BEHALF OF CLIENT. CONTRACTOR TO PROVIDE WIND LOAD CALCULATIONS SIGNED AND SEALED BY A FLORIDA REGISTERED STRUCTURAL ENGINEER FOR NON PRE-APPROVED CONFIGURATIONS DEVIATING FROM THE ORIGINAL CONSTRUCTION DOCUMENTS.
- 16. PROVIDE A MIN. OF 36" CLEARANCE IN FRONT OF ALL 120-208/240 VOLT PANELS AND MIN. 42" CLEARANCE IN FRONT OF ANY 277-480 VOLT PANEL. PROVIDE ADEQUATE SIDE CLEARANCE PER NEC 110.26.
- 17. MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL, FIRE SPRINKLER, AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS SHALL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CHANGES IN DUCTWORK SIZE AND ROUTE WILL BE REQUIRED TO AVOID STRUCTURAL, PLUMBING, FIRE SPRINKLER AND ARCHITECTURAL, BUILDING FEATURES. DUCTWORK CHANGES MAY BE MADE BY CONTRACTOR USING EQUIVALENT SIZED DUCT. CONTACT ENGINEER IF DUCT AREA WILL NOT FIT.
- 18. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATION OR INSTALLATION OF MATERIALS OR EQUIPMENT. IN ORDER TO PROVIDE A FULLY INTEGRATED MECHANICAL AND CONTROLS SYSTEMS WITH THE EXISTING ONES, ANY DISCREPANCY BETWEEN EXISTING CONDITIONS AND PLANS, OR ADDITIONAL CLARIFICATION REQ'D SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER PRIOR TO FINAL BIDDING AND WORK.
- 19. MATERIALS ALLOWED IN RETURN AIR PLENUMS OR ABOVE CEILINGS USED AS RETURN AIR PLENUM SHALL COMPLY WITH FMC 2014, SEC. 602.2.1. IF SPACE WITH RETURN AIR PLENUM HAS ANY DECK TO DECK PARTITIONS, AIR TRANSFER DUCTS MUST BE INSTALLED. WHEN CPVC PIPING IS USED FOR FIRE SPRINKLER SYSTEMS, THE R/A GRILLES LAYOUT SHALL BE (FIELD) COORDINATED WITH SUCH PIPING SO THAT NO PORTION OF THE GRILLES WILL BE DIRECTLY BELOW THE CPVC PIPING. STUB CAVITIES AND JOIST SPACE PLENUMS SHALL COMPLY WITH FMC 2014, SEC. 602.3.
- 20. CONDENSATE DRAIN PIPING TO BE AS SPECIFIED PER PLUMBING PLANS. IF NOT SPECIFIED THEY SHALL BE TYPE "L" COPPER OR PVC WHERE ALLOWED BY CODE WITH INSULATION THICKNESS PER FMC 2014 TABLE 503.2.8. PROVIDE APPROVED WATER LEVEL DETECTOR OR FLOAT SWITCH TO AUTOMATICALLY SHUT DOWN THE AIR COND. UNIT, AS A SECONDARY DRAIN SYSTEM TO COMPLY WITH FMC 2014, SEC. 307 SUPPLY CONDENSATE PUMP WHERE NECESSARY AS IMPOSED BY FIELD CONDITIONS OR INSTALLATION CHANGES AND PIPE TO CONDENSATE DRAIN PER PLUMBING PLANS.
- 21. MANUFACTURER'S WARRANTY: CONTRACTOR SHALL PROVIDE WARRANTY FOR A PERIOD OF (1) ONE YEAR AFTER BUILDING C.O. FOR ALL MECHANICAL SYSTEMS, DUCTWORK, CONTROLS ACCESSORIES AND ALL OTHER EQUIPMENT, PARTS AND LABOR UNDER THESE DRAWINGS AND ALL SPECIFICATIONS. CONTRACTOR SHALL PROVIDE WARRANTY FOR COMPRESSORS FOR (5) FIVE YEARS. ANY REPAIRS REQUIRING SYSTEM SHUTDOWN WILL BE DONE DURING NON-OPERATIONAL PERIODS OR AS AGREED WITH OWNER.
- 22. CLEARANCE FOR MAINTENANCE, SERVICE, REPAIRS, AND REPLACEMENT FOR ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED TO COMPLY WITH FMC 2014, SEC. 306. SERVICE ACCESS PANELS FOR MECH. EQUIPMENT IN CONCEALED SPACES SHALL BE PROVIDED TO COMPLY WITH THE REQUIREMENTS OF SEC. 306.
- 23. IF REMODELING AN EXISTING SPACE, THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID. CONTRACTOR SHALL INSPECT ALL EXISTING AND NEW COMPONENTS OF THE MECHANICAL SYSTEMS AND ENSURE THAT ALL ARE OPERATIONAL AND WORKING AS SHOWN ON THE APPROVED CD PLANS AT THE TIME OF C.O.

MECHANICAL SHEET INDEX

MECHANICAL SHEET INDEX table with columns: SHEET#, DESCRIPTION. Rows include M0.1 (MECHANICAL NOTES, LEGEND & INDEX), M2.1 (MECHANICAL PLAN), M3.1 (MECHANICAL ROOF PLAN), M6.1 (MECHANICAL SCHEDULES & DETAILS), M7.1 (MECHANICAL DETAILS).

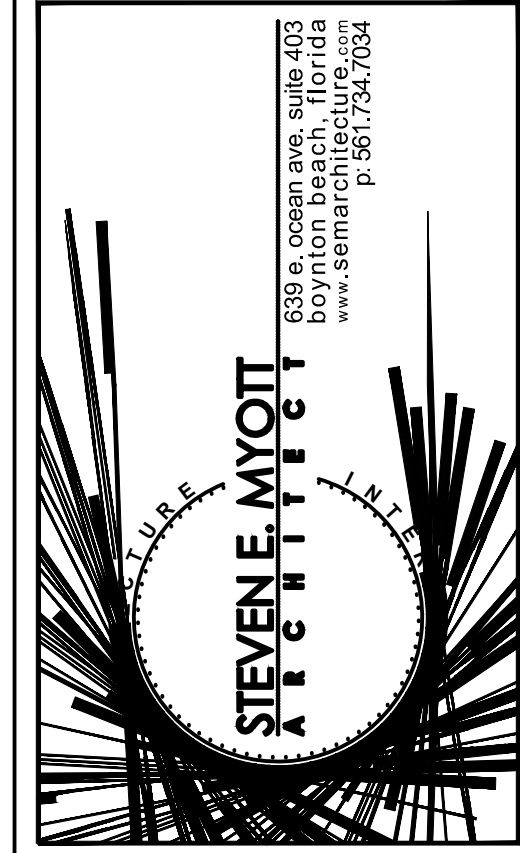
HVAC ABBREVIATION LEGEND

HVAC ABBREVIATION LEGEND table with columns: ABBREVIATION, DESCRIPTION. Rows include AFF, AHU, CU, EW, EAG, EF, EXH, FD, E/A, S/A, N, E, GR, MCA, MOCP, LWT, R/A, RAG, O/A, M/A, WMS, CG, BDD, RE, and descriptions like ABOVE FINISH FLOOR, AIR HANDLING UNIT, CONDENSING UNIT, etc.

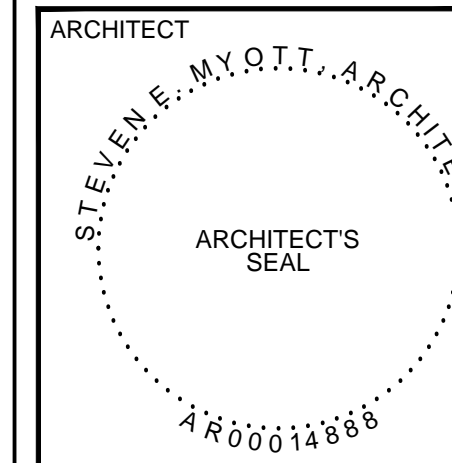
MECHANICAL LEGEND

MECHANICAL LEGEND table with columns: SYMBOL, DESCRIPTION. Rows include NEW S/A CEILING DIFFUSER, NEW R/A CEILING GRILLE, EXISTING S/A CEILING DIFFUSER, EXISTING R/A CEILING GRILLE, SLOT / LINEAR DIFFUSER, WALL LOUVER, VOLUME CONTROL DAMPER, REDUCER OR INCREASER, NEW FLEX DUCT, EXISTING FLEX DUCT, NEW DUCTWORK, EXISTING DUCTWORK, "Z" BOOT TRANSFER DUCT, ROUND UP, BELLMOUTH TAP, FIRE DAMPER, DUCT SMOKE DETECTOR, CEILING EXHAUST FAN, INLINE EXHAUST FAN, VARIABLE FREQ. DRIVE CONTROL PANEL, SUPPLY AIR DIFFUSER OR GRILLE DESIGNATION, RETURN/EXHAUST AIR DIFFUSER OR GRILLE DESIGNATION, EQUIPMENT TAG, THERMOSTAT, HUMIDISTAT, TEMPERATURE SENSOR, POC - POINT OF CONNECTION, SUPPLY AIR, RETURN AIR, DOOR UNDER CUT, AP - ACCESS PANEL, SECTION MARK.

NOT ALL SYMBOLS MAY APPLY TO THESE PLANS



Camp Canine - INTERIOR RENOVATION - PENN DUTCH PLAZA 3191 SR7 MARGATE, FLORIDA 33063



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PROJECT NO: 16049 DRAWN BY: SV CHECKED BY: SM

NO. DATE: ISSUED FOR: 1. 05/10/16 PRELIMINARY REVIEW 2. 08/04/16 PERMIT / BIDDING

MECHANICAL NOTES

M0.1

ISSUED FOR PERMIT 08-04-2016 ISSUED FOR CONSTRUCTION

KAMM CONSULTING PROJECT #: 2016-0501 PROJECT MANAGER: NICK RODRIGUEZ

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KAMM Consulting logo and signature area with date 08-04-2016 and signature line.