Orange County CORRECTIONS HORIZONS ELEVATOR MODERNIZATION

PERMIT DOCUMENTS

June 16, 2017

Orange County Government

3723 Vision Blvd, Orlando, FL, 32839

MAYOR - TERESA JACOBS

DISTRICT 2 COMMISSIONER - BRYAN NELSON

DISTRICT 3 COMMISSIONER - PETE CLARKE

DISTRICT 4 COMMISSIONER - JENNIFER THOMPSON

DISTRICT 5 COMMISSIONER - EMILY BONILLA

Capital Planning Division

BOARD OF COUNTY COMMISSIONERS

DISTRICT 1 COMMISSIONER - BETSY VANDERLEY

DISTRICT 6 COMMISSIONER - VICTORIA P. SIPLIN

GENERAL SCOPE OF WORK

- ONE (1) NEW WALL-MOUNTED 18 TON CONDENSING UNITS AND SIX (6) NEW 3 TON FAN COIL UNITS. INSTALLATION OF ASSOCIATED
- REFRIGERANT AND CONDENSATE PIPING. 4. ELECTRICAL MODIFICATIONS TO ACCOMMODATE NEW HVAC AND ELEVATOR EQUIPMENT.
- 5. THE NEW HVAC UNITS SHALL BE CONNECTED TO THE BUILDING WIDE MAIN BUILDING AUTOMATION SYSTEM.
- 6. REPLACEMENT OF EXISTING LIGHTS AND OUTLETS IN ELEVATOR
- 7. ADDITIVE BID ITEM 4: NEW ROLL-UP DOOR INTO ELEVATOR MACHINE ROOM AND ASSOCIATED COMPONENTS. NEW JIB CRANE HOIST AND TROLLEY COMBINATION UNIT.

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A149 **MECHANICA**

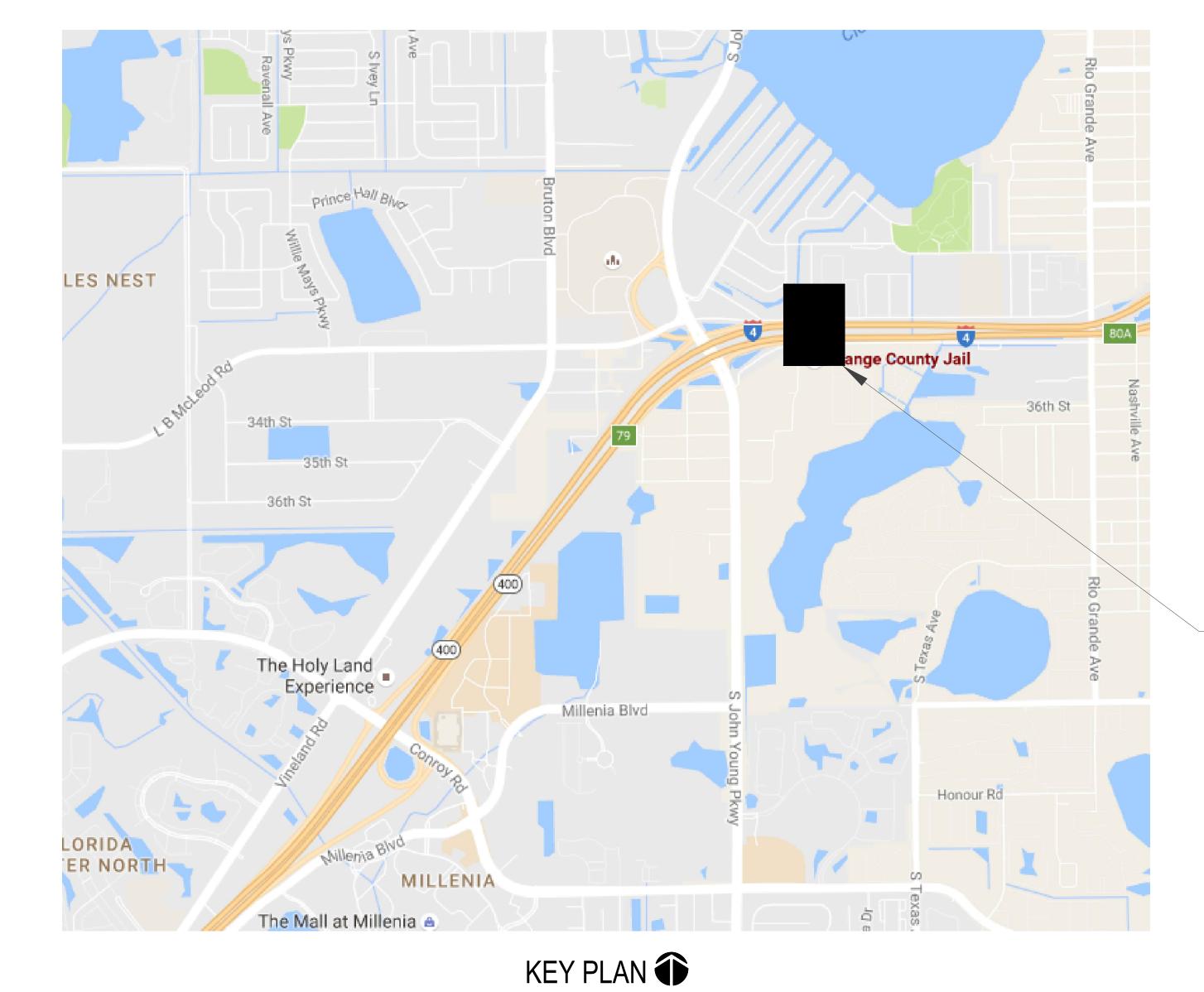
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ELECTRICAL LIGHTING RENOVATION FLOOR PLANS ELECTRICAL PANEL SCHEDULES

PLANS, ELEVATIONS, & DETAILS



PROJECT DESIGN TEAM

mechanical RTM ASSOCIATES

PROJECT LOCATION

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electrical RTM ASSOCIATES 952 S Semoran Blvd Winter Park, FL 32792 ph. (407)678-2055 fax (407) 678-2088

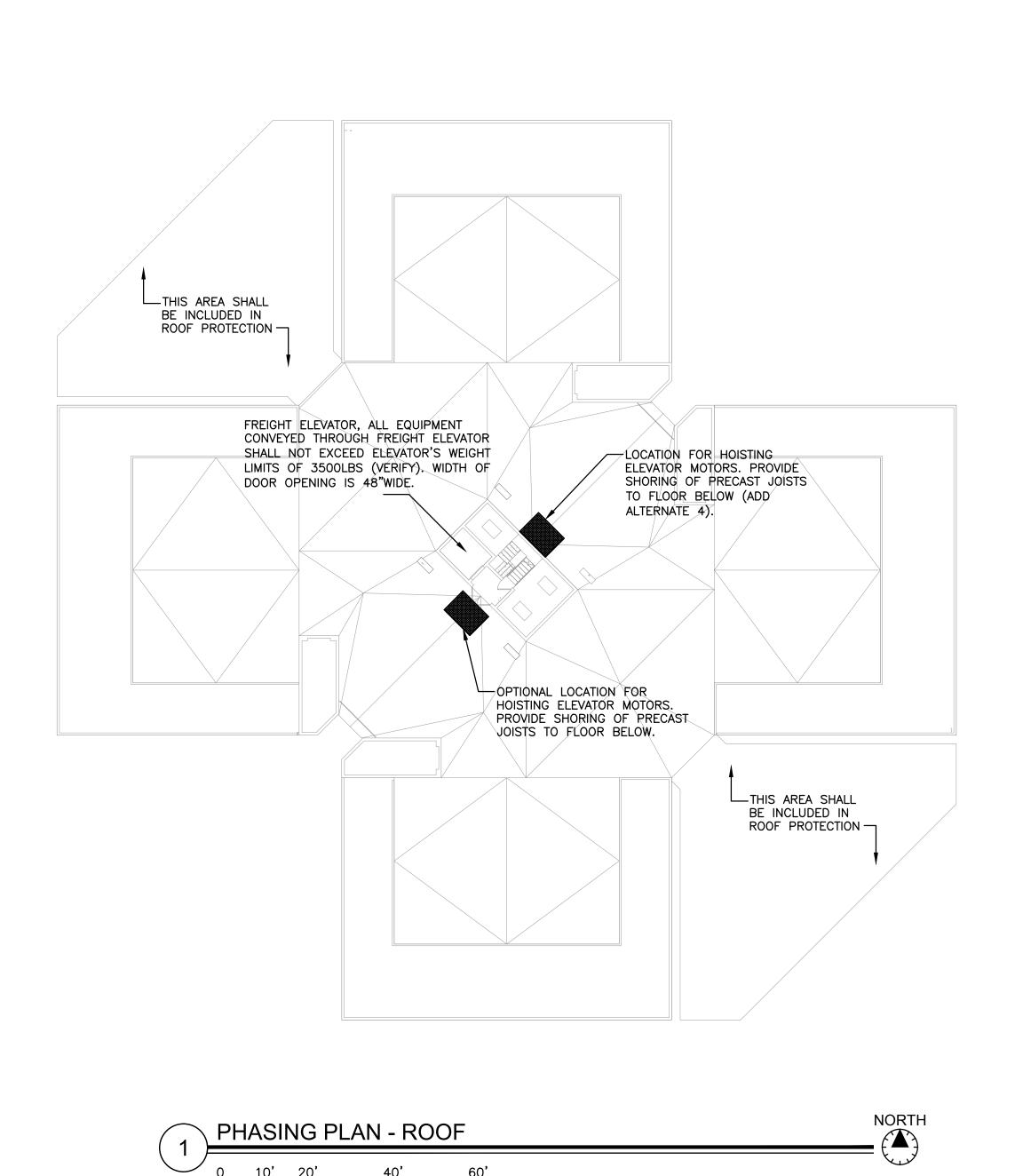
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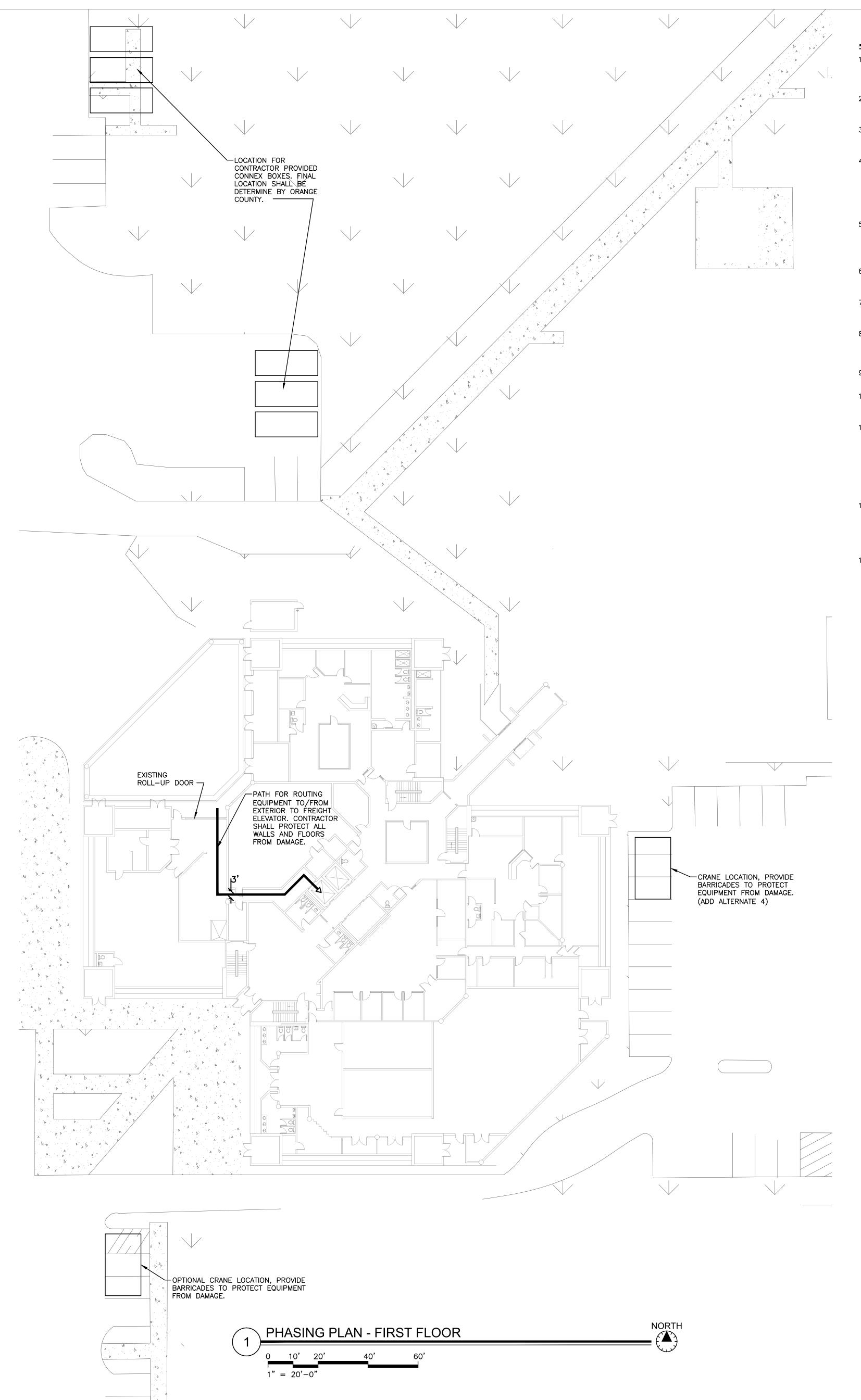
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Laura Barbera Buffa Fl. P.E. Dalrio A. Lewis, P.E. Mitesh K. Smart, P.E. Maximiano Brito, RA, AIA FL. Reg. No AR0015108 P.E. Lic. No 77571 P.E. Lic. No 52772 P.E. Lic. No 74027

PROFESSIONAL SEALS





GENERAL NOTES:

- 1. OC HORIZONS WILL REMAIN OPERATIONAL AT ALL TIMES. CONTRACTOR SHALL SUBMIT CONSTRUCTION PHASING PLANS PRIOR TO START OF WORK FOR APPROVAL BY OPANCE COUNTY AND ENGINEER
- ORANGE COUNTY AND ENGINEER.

 2. CONTRACTOR SHALL NOTIFY ORANGE COUNTY CORRECTIONS AT LEAST TWO WEEKS PRIOR TO SHUT
- CONTRACTOR SHALL COMPLY WITH ALL WEIGHT LIMITATIONS AS NOTED ON STRUCTURAL SHEET FOR TRANSPORTATION OF EQUIPMENT.

DOWN OF ANY ELEVATOR SYSTEMS.

- 4. CONTRACTOR WILL BE REQUIRED TO TAKE PHOTOS AND DOCUMENT THE EXISTING CONDITION OF ROOF AND FIRST FLOOR EQUIPMENT ROUTING PATH PRIOR TO COMMENCEMENT OF WORK AND AFTER COMPLETION OF WORK. CONTRACTOR SHALL PROVIDE BOTH ROOF INSPECTION DOCUMENTS TO ORANGE COUNTY FACILITIES/ENGINEER.
- 5. CONTRACTOR SHALL PROVIDE PLYWOOD SHEET COVERING OVER ROOF TO CAREFULLY TRANSPORT EQUIPMENT AND DEMOLITION DEBRIS ACROSS ROOF AND MINIMIZE DAMAGE TO MAINTAIN ROOFING WARRANTY. REPAIR ANY DAMAGES TO ROOF INCURRED DURING CONSTRUCTION.
- 6. CONTRACTOR SHALL COORDINATE WORK AND ESCORTING REQUIREMENTS WITH ORANGE COUNTY CORRECTIONS PRIOR TO CONTRACT COMMENCEMENT.
- 7. UPON COMMENCEMENT ON OF PROJECT, ELEVATOR CONTRACTOR SHALL TAKE OVER MAINTENANCE CONTRACT FOR ALL ELEVATORS WITHIN SCOPE OF WORK.
- 8. ELEVATOR EQUIPMENT MUST BE BROKEN DOWN INTO THE SMALLEST POSSIBLE COMPONENTS DUE TO THE NARROW TIGHT SPACES OF THE ELEVATOR MACHINE ROOM
- 9. CONTRACTOR SHALL REPLACE A SINGLE ELEVATOR AT A TIME.
- 10. THE FREIGHT ELEVATOR REPLACEMENT SHALL BE ON AN EXPEDITED SCHEDULE. THE OTHER THREE ELEVATORS SHALL BE ON A REGULAR REPLACEMENT SCHEDULE.
- 11. THE FREIGHT ELEVATOR IS USED FOR INMATE
 MEAL—TIME CARTS. THE CONTRACTOR SHALL PROVIDE A
 MATERIALS MOVEMENT SCHEDULE FOR AT LEAST AN
 ENTIRE WEEK IN ADVANCE AROUND THE MEAL SERVICE
 HOURS. HORIZONS FACILITY MEAL SERVICE HOURS ARE
 AS FOLLOWS:
 BREAKFAST 5AM TO 7AM
 LUNCH 10AM TO 12PM
 DINNER 4PM TO 6PM
- 12. THE CONTRACTOR WILL BE DESIGNATED A LAYDOWN AREA FOR CONNEX PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR WILL BE ALLOWED TO KEEP TOOLS INSIDE A SECURABLE GANG BOX INSIDE A LOCKED CONNEX. THESE TOOLS WILL BE INVENTORIED AND ACCOUNTED FOR AT THE END OF EACH WORKDAY.
- 13. CONTRACTOR SHALL COORDINATE ESCORT AND BACKGROUND REQUIREMENTS WITH ORANGE COUNTY CORRECTIONS.





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Structural:



EOR Stamp:

Engineer of Record



06/16/2017 Dalrio Lewis, PE 77571 (FL)

ORANGE COUNTY
CORRECTIONS
HORIZONS ELEVATOR
MODERNIZATION

ocation: 3723 VISION BLVD.

ORLANDO, FL 32839

Issuance:
PERMIT

DOCUMENTS
FOR PERMITTING & CONSTRUCTION

#	DATE	DESCRIPTION

JUNE 16, 2017

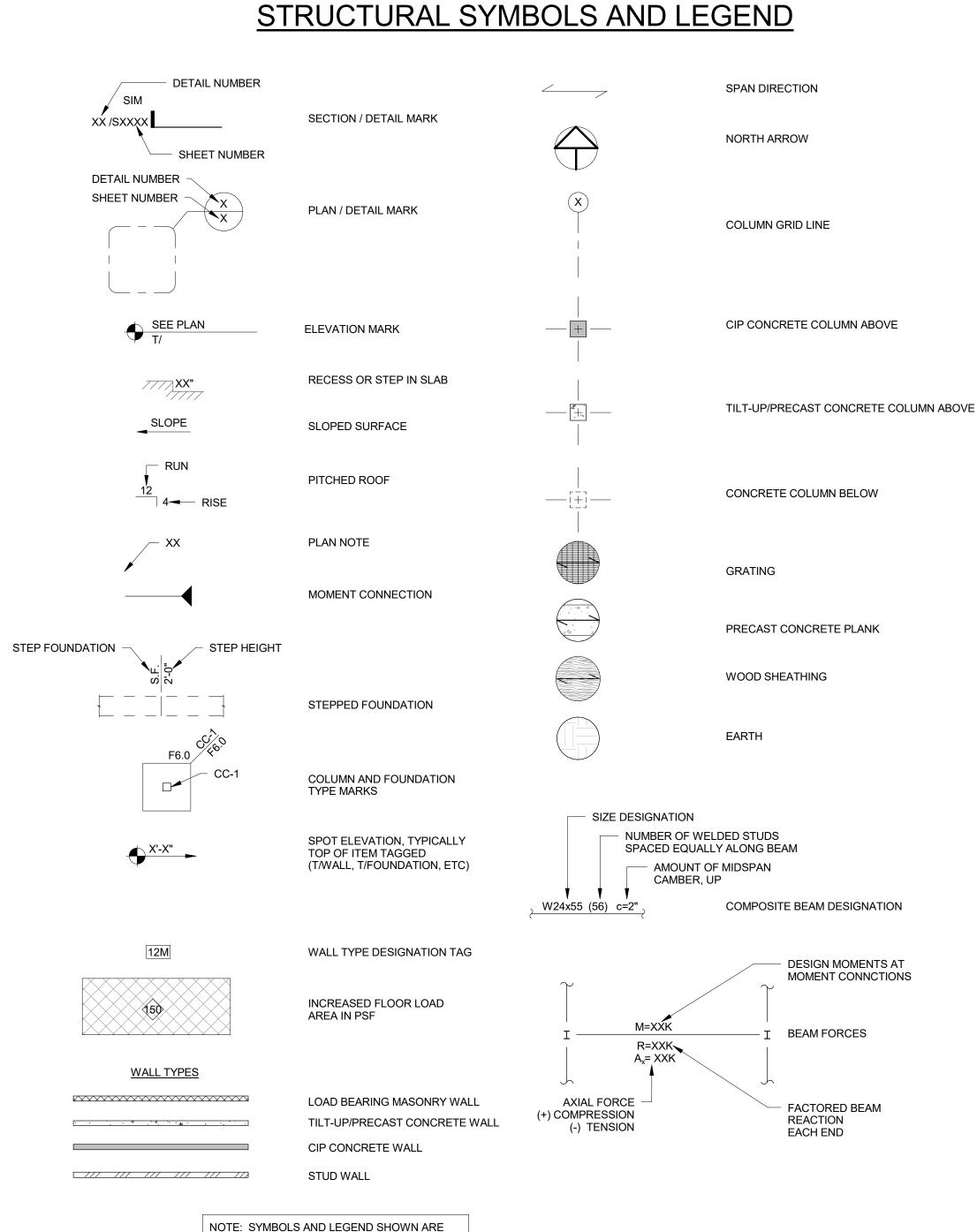
Project Number: 16.0C.033

Drawn By: Checked By: MKS

PHASING PLAN

Sheet No.:
PH101

STRUCTURAL ABBREVIATIONS ABBREV ACI ADD ADDL AFF AISC AISI ALT POUND LENGTH LB LGTH AMERICAN CONCRETE INSTITUTE LIVE LOAD ADDITIONAL LONG LEG HORIZONTAL LONG LEG VERTICAL LONG SIDE HORIZONTAL ABOVE FINISHED FLOOR AMERICAN INSTITUTE OF STEEL CONSTRUCTION AMERICAN IRON AND STEEL INSTITUTE ALTERNATE/ALTERNATIVE XX /SXXXX LONG SIDE VERTICAL LONGITUDINAL ALUM ARCH ASTM AWS LAMINATED STRAND LUMBER ARCHITECTURE/ARCHITECTURAL AMERICAN SOCIETY OF TESTING MATERIALS LVL LAMINATED VENEER LUMBER AMERICAN WELDING SOCIETY MATL MAX MATERIAL B.O. BLDG **BOTTOM OF** MAXIMUM BUILDING MASONRY BEAM BLOCK BEAM MECHANICAL MANUFACTURE/MANUFACTURER BASE PLATE/BEARING PLATE MIDDLE BRG BTWN MINIMUM MISCELLANEOUS BETWEEN MASONRY OPENING CHANNEL CONCRETE BEAM CONCRETE COLUMN CUBIC FEET (FOOT) MILES PER HOUR NATIONAL GEODETIC VERTICAL DATUM NOT IN CONTRACT CAST IN PLACE NUMBER **CONTRACTION JOINT** NEAR SIDE NTS CENTERLINE NOT TO SCALE CL CIP CM COU COL CONC CONT CONST COORD CSJ CTR CTRD CY CLEAR/CLEARANCE CONCRETE MASONRY ON CENTERS OUTSIDE DIAMETER CONCRETE MASONRY UNIT COMPANY OUTSIDE FACE CONCRETE CONTINUOUS OPPOSITE ORIENTED STRAND BOARD CONNECTION CONSTRUCTION PRECAST CONCRETE/PILE CAP POST TENSIONED PRECAST CONCRETE BEAM PRECAST CONCRETE COLUMN POUNDS PER CUBIC FEET COORDINATE CONSTRUCTION JOINT PRE-ENGINEERED METAL BUILDING DEPT DET DIA DIAG DIM DIST PANEL JOINT CENTERLINE DEPARTMENT POUNDS PER LINEAR FOOT DIAMETER DIAGONAL DIMENSION PLYWOOD DISTANCE PREFABRICATED POUNDS PER SQUARE FOOT DEAD LOAD DN DWG POUNDS PER SQUARE INCH PARALLEL STRAND LUMBER DRAWING PRESSURE TREATED STEP FOUNDATION -EACH EACH FACE RD REF REINF. REQD REV RTU EHPA EMERGENCY HURRICANE PROTECTION AREA REFERENCE EJ ELEC EL, ELEV ENGR EOD EOR EOS EQ SP EXPANSION JOINT REINFORCING ELECTRIC/ELECTRICAL REQUIRED ELEVATION REVISION ENGINEER **ROOF TOP UNIT** EDGE OF DECK ENGINEER OF RECORD SB SCHED S.F. SOFFIT BEAM SCHEDULE EDGE OF SLAB SQUARE FEET STRIP FOUNDATION **EQUAL SPACED** ES EW EXIST EACH SIDE EACH WAY EXISTING SPACE/SPACES SPECIFICATIONS **EXPANSION** EXTERIOR STAINLESS STEEL STANDARD **FOUNDATION** STD STIFF FLOOR DRAIN STIFFENER FOUNDATION FINISHED FLOOR **STRUCTURAL** SYM SYMMETRICAL FIN FIN GR FLR FINISH GRADE FLOOR FAR SIDE TIE BEAM TOP AND BOTTOM FEET/FOOT TURN DOWN SLAB THICKENED EDGE TEMP TENS THD THK TOL TRANS GALV GB GC GEN GALVANIZED TENSION GRADE BEAM GENERAL CONTRACTOR THREAD/THREADED GENERAL TOLERANCE TRANSVERSE GALVANIZED STEEL TUBE STEEL THICKENED SLAB THICKENED WALL FOUNDATION HDG HORIZ HSA HSS HOT DIPPED GALVANIZED HORIZONTAL HEADED STUD ANCHOR UNO UNLESS NOTED OTHERWISE HOLLOW STRUCTURAL SECTION VERTICAL VOLUME MOMENT OF INERTIA WIDE FLANGE SECTION INSIDE FACE WITHOUT INTERIOR WOOD WATERPROOF WORKING POINT WELDED STUD KIP (1000 LB) WEIGHT/STRUCTURAL TEE SECTION WELDED WIRE REINFORCEMENT KIPS PER LINEAL FOOT KLF KIPS PER SQUARE INCH KEYWAY AT DESIGNATION POUNDS / REBAR SIZE NUMBER PLUS OR MINUS ANGLE CENTER LINE SECTION MODULUS MOMENT OF INERTIA

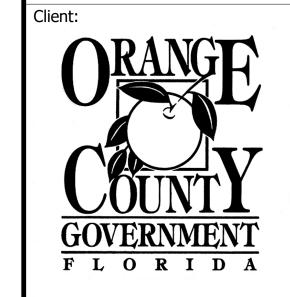


GENERIC AND DO NOT NECESSARILY INDICATE

ACTUAL OCCURRENCES IN THESE DRAWINGS.

	STRUCTURAL SH	EET	NDE	X		
		AL.	AL		C	CURRENT REVISION
SHEET#	SHEET TITLE	100% DD SUBMITT	100% CD SUBMITT	REVISION NUMBER	DATE	DESCRIPTION
S001	ABBREVIATIONS SYMBOLS AND SHEET INDEX					
S002	STRUCTURAL GENERAL NOTES					
S301	SECTIONS & DETAILS					





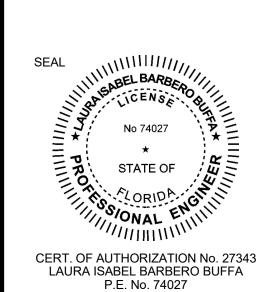
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STRUCTURAL:





Project:
ORANGE COUNTY
CORRECTIONS
HORIZONS ELEVATOR
MODERNIZATION

Location:

3723 VISION BLVD, ORLANDO FL 32839 Issuance: PERMIT

DOCUMENTS
FOR PERMITTING & CONSTRUCTION
Revisions:

Date Description

ONS COMPLY WITH THE

Date:

JUNE 16, 2017
Project Number:
16.OC.033

Drawn By: Checked

MR LBB

ABBREVIATIONS
SYMBOLS AND
SHEET INDEX

eet No.:

GENERAL NOTES

- A. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, SHOP DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE ALL ELEVATIONS AND DIMENSIONS, INCLUDING BUT NOT LIMITED TO THOSE FOR OPENINGS IN WALLS AND IN ROOF AND FLOOR SYSTEMS, WITH THE OTHER DISCIPLINES. THE GENERAL CONTRACTOR SHALL COMPARE ALL CONTRACT DRAWINGS AND REPORT ANY DISCREPANCY BETWEEN DISCIPLINES AND WITHIN A GIVEN DISCIPLINE TO THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE
- AFFECTED PART OF THE WORK. B. ALL DIMENSIONS, ELEVATIONS, AND ANY OTHER CONDITIONS OF ANY EXISTING STRUCTURES OR OTHER FEATURES SHALL BE VERIFIED BY THE GENERAL CONTRACTOR AND ANY DISCREPANCIES WITH THE CONTRACT DRAWINGS REPORTED TO THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK. DURING THE CONSTRUCTION PROCESS, IT SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF THE EXISTING STRUCTURE AND TO PROTECT FROM DAMAGE ANY PORTIONS THAT ARE TO REMAIN.
- C. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL CONTRACT DOCUMENTS AND LATEST ADDENDA AND TO SUBMIT TO ALL SUBCONTRACTORS AND SUPPLIERS PRIOR TO THE SUBMITTAL OF
- D. IF A CONFLICT EXISTS AMONG THE STRUCTURAL DRAWINGS, GENERAL NOTES, OR THE SPECIFICATIONS, THE STRICTEST REQUIREMENTS, AS INDICATED BY THE ENGINEER, SHALL GOVERN.
- E. UNLESS OTHERWISE NOTED, DETAILS SHOWN ON ANY DRAWING ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS. DETAILS LABELED TYPICAL DETAILS ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE SIMILAR OR SAME TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION CAN BE DETERMINED BY THE TITLE OF
- DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS AND FOR SAFETY PRECAUTIONS AND PROGRAMS. DURING THE CONSTRUCTION PROCESS, IT SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF THE EXISTING STRUCTURE
- G. BASE CONSULTANTS, INC., SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSION OF THE CONTRACTOR OR FOR THEIR FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE

AND TO PROTECT FROM DAMAGE ANY PORTIONS THAT ARE TO REMAIN.

- CONTRACT DOCUMENTS. H. PERIODIC SITE OBSERVATION BY BASE CONSULTANTS, INC. IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND LIFESPAN AND TO INSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE BUILDING OWNER. THIS PROGRAM SHALL INCLUDE SUCH ITEMS SUCH AS BUT NOT LIMITED TO PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATING FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO A SALT ENVIRONMENT OR
- OTHER HARSH CHEMICALS. ANY MATERIALS OR PRODUCTS SUBMITTED FOR APPROVAL THAT ARE DIFFERENT FROM THE MATERIAL OR PRODUCTS SPECIFIED IN THE STRUCTURAL CONTRACT DOCUMENTS WILL BE APPROVED ONLY IF THE FOLLOWING CRITERIA ARE SATISFIED:
- 1. A COST SAVINGS TO THE OWNER IS DOCUMENTED AND SUBMITTED WITH THE REQUEST. 2. THE MATERIAL OR PRODUCT HAS BEEN APPROVED BY THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO) AND THE ICBO REPORT IS SUBMITTED WITH THE REQUEST. SUBMITTALS NOT SATISFYING THE ABOVE CRITERIA WILL NOT BE CONSIDERED. BASE CONSULTANTS RETAINS THE RIGHT TO REJECT ANY SUBSTITUTION REQUEST.
- K. CONTRACTOR TO ISSUE REQUEST FOR INFORMATION (RFI) FOR ANY INFORMATION NOT CLEAR/NOT SHOWN IN THE DRAWINGS. L. DO NOT SCALE DRAWINGS
- M. STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL STAIRS, HANDRAILS, CURTAIN/WINDOW WALL SYSTEMS, COLD FORMED METAL FRAMING OR OTHER SYSTEMS NOT SHOWN IN THE STRUCTURAL DRAWINGS. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.
- N. NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED BY ENGINEER OF RECORD FOR THE REVIEW.

A. THE CONTRACT DOCUMENTS ARE BASED ON THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2014 WITH 2016 SUPPLEMENT

- B. DESIGN WIND LOADS: ULTIMATE WIND SPEED RISK CATEGORY **EXPOSURE**
- INTERNAL PRESSURE COEFF ULTIMATE COMPONENTS AND CLADDING WIND LOADS - SEE LOAD TABLE ON THIS SHEET
- C. THE CONTRACTOR SHALL VERIFY ALL MECHANICAL EQUIPMENT WEIGHTS, LOCATIONS AND ASSOCIATED OPENINGS WITH THE MECHANICAL CONTRACTOR AND SUBMIT SUCH INFORMATION PRIOR TO FABRICATION OF THE SUPPORTING STRUCTURE. PROMPTLY NOTIFY THE ENGINEER IF THE ACTUAL WEIGHT EXCEEDS THE WEIGHT SHOWN ON THE STRUCTURAL DRAWINGS.
- D. PROVISIONS SHALL BE MADE IN THE DETAILING, FABRICATION, AND ERECTION OF ALL CLADDING, PARTITIONS, WALLS, ETC. TO ACCOUNT FOR FLOOR TO FLOOR DEFLECTIONS AND LATERAL FRAME
- DESIGN LOAD FOR RESTROOM ACCESSORIES GRAB BARS, TUB AND SHOWER SEATS, FASTENERS, AND MOUNTING DEVICES SHALL BE DESIGNED TO RESIST A CONCENTRATED LOAD OF 250 LBF AT ANY LOCATION AND IN ANY DIRECTION.

III. POST-INSTALLED ANCHORS

- A. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED
- ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE GIVEN TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED PER THE MANUFACTURER'S INSTRUCTIONS. ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AT NOT LESS THAN MINIMUM EDGE DISTANCES AND/OR SPACINGS INDICATED IN THE MANUFACTURER'S LITERATURE. CONTACT MANUFACTURER PRIOR TO
- UNLESS SPECIFIED OTHERWISE, ANCHORS SHALL BE EMBEDDED IN THE APPROPRIATE SUBSTRATE WITH A MINIMUM EMBEDMENT OF 8 TIMES THE NOMINAL ANCHOR DIAMETER OR THE EMBEDMENT REQUIRED
- SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE LISTED BELOW, SHALL BE SUBMITTED TO THE ENGINEER WITH CALCULATIONS THAT ARE PREPARED & SEALED BY A REGISTERED PROFESSIONAL ENGINEER SHOWING THAT THE SUBSTITUTED PRODUCT WILL ACHIEVE AN EQUIVALENT CAPACITY USING THE APPROPRIATE DESIGN PROCEDURE REQUIRED BY THE BUILDING CODE FOR REVIEW AND APPROVAL. BASE CONSULTANTS RETAINS THE RIGHT TO REJECT ANY SUBSTITUTION REQUEST. ADHESIVE ANCHORS SHALL BE EVALUATED BY ICC-ES ACCEPTANCE CRITERIA 308 AND BE SPECIFICALLY APPROVED FOR USE IN CRACKED CONCRETE. MECHANICAL ANCHORS SHALL BE EVALUATED BY ICC-ES ACCEPTANCE CRITERIA 193 AND BE SPECIFICALLY APPROVED FOR USE IN CRACKED CONCRETE.
- ACCEPTABLE PRODUCTS ARE: 1. "CRACKED CONCRETE" MECHANICAL ANCHORS:
 - a. "HILTI KB-TZ" BY HILTI. b. APPROVED EQUAL
 - 2. "CRACKED CONCRETE" ADHESIVE ANCHORS: a. "HIT RE 500- V3" BY HILTI.

ANCHOR INSTALLATION, IF TRAINING IS REQUIRED.

b. APPROVED EQUAL

A. ALL HOT ROLLED STEEL PLATES, SHAPES, SHEET PILING, AND BARS SHALL BE NEW STEEL

- CONFORMING TO ASTM SPECIFICATION A6-98A. B. STRUCTURAL STEEL SHALL BE AS FOLLOWS, U.N.O.:
- 1. ALL OTHER STRUCTURAL STEEL ASTM A36 FY = 36 KSI
- CONNECTION MATERIALS:
 - a. ALL OTHER CONNECTION MATERIAL, U.N.O.: ASTM A36 UNLESS A HIGHER GRADE OF STEEL IS REQUIRED BY STRENGTH AND PROVIDED THE RESULTING SIZES ARE COMPATIBLE WITH THE
- STRUCTURAL STEEL SHALL MEET THE LATEST AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- D. ALL STRUCTURAL STEEL SHALL BE SHIPPED WITH ONE COAT OF SHOP PRIMER EXCEPT THOSE MEMBERS THAT ARE GALVANIZED OR IN AREAS SCHEDULED TO RECEIVE FIRE PROOFING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AREAS TO BE FIRE PROOFED.

- A. HOLLOW CONCRETE BLOCK (MASONRY) UNITS SHALL BE NORMAL WEIGHT WITH A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI ON THE NET AREA AND 1000 PSI ON THE GROSS AREA (F'M =
- 1500PSI) AND SHALL CONFORM TO ASTM C-90. B. ALL MORTAR FOR USE IN MASONRY SHALL CONFORM TO ASTM C-270, TYPE M OR S. ALL GROUT FOR USE IN MASONRY SHALL CONFORM TO ASTM C-476, MIN. 3000 PSI.
- C. ALL CMU TO BE LAID IN RUNNING BOND PATTERN.

- a. FOR FILLING SPACES 4" OR LARGER IN BOTH HORIZONTAL DIRECTIONS, USE "COARSE GROUT" WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. THE GROUT SHALL BE TESTED IN ACCORDANCE WITH ASTM C1019. FOR FILLING SPACES LESS THAT 4" IN ONE OR BOTH HORIZONTAL DIRECTIONS, USE "FINE GROUT" PROPORTIONED PER ASTM C476.
- b. USE 3000 PSI NORMAL-WEIGHT CONCRETE FOR FILLING SPACES 10" AND LARGER IN BOTH DIRECTIONS. THE GROUT SHALL BE TESTED IN ACCORDANCE WITH ASTM C1019.
- c. ALL GROUT MIX DESIGN SUBMITTALS SHALL INCLUDE THE RESULTS OF THE TESTS PERFORMED IN ACCORDANCE WITH ASTM C1019.
- d. SLUMP RANGE AT POINT OF FINAL DISCHARGE: 8" TO 11".
- e. THE USE OF ADMIXTURES IS NOT ALLOWED. 2. LOW-LIFT GROUTING PROCEDURES SHALL BE USED FOR ALL FILLED-CELL MASONRY
- 3. IF HIGH-LIFT GROUTING PROCEDURES ARE FOLLOWED, PROVIDE CLEANOUTS AT EACH LOCATION. a. GROUT POURS SHALL NOT EXCEED 5 FEET PER LIFT, UNLESS CLEANOUTS ARE PROVIDED IN
- THE BOTTOM COURSE OF EACH 5 FOOT LIFT. b. MECHANICALLY VIBRATE ALL LIFTS IN EXCESS OF 1 FOOT. SHALL NOT BE STOPPED WITHIN 1-1/2" OF BED JOINT. TOTAL GROUT POUR SHALL NOT EXCEED 24 FEET WHEN GROUTING THE
- CELLS OF HOLLOW MASONRY.
- 4. PROVIDE CLEAN-OUTS FOR ALL GROUT POURS EXCEEDING 5 FEET.
- 5. GROUT FILL ALL CELLS AND ALL WALLS BELOW GRADE. SLUSH JOINT BETWEEN WYTHES. E. REINFORCEMENT
- 1. REINFORCING BARS TO MEET ASTM A-615, GRADE 60.
- 2. VERTICAL AND HORIZONTAL REINFORCING SHALL BE CONTINUOUS AND LAPPED A MINIMUM OF 3. HOLD VERTICAL BARS STRAIGHT AND TRUE AND ACCURATELY LOCATED IN WALL AS DETAILED.

INSTALL REBAR POSITIONERS @ 4'-0"OC MAXIMUM THAT ARE DESIGNED TO HOLD REBAR IN

- PROPER LOCATION WITHIN THE GROUTED CELL. 4. PROVIDE #9 TRUSS TYPE JOINT REINFORCEMENT AT 16"OC FOR TYPICAL HORIZONTAL
- MINIMUM LAP OF ALL REINFORCEMENT SHALL BE 48 BAR DIAMETERS (EX.: 30" FOR #5 BARS AND 42" FOR #7 BARS). LONGER LAP LENGTHS MAY BE SHOWN IN DETAILS/SCHEDULES. DO NOT LAP VERTICAL REINFORCEMENT AT INTERSECTING BOND BEAMS; REINFORCEMENT SHALL BE CONTINUOUS THROUGH INTERSECTING BOND BEAMS.
- PROVIDE HORIZONTAL REINFORCEMENT IN BED JOINTS EVERY OTHER COURSE (MAX. 16" SPACING). REINFORCEMENT SHALL BE TRUSS-TYPE WITH 9 GAGE SIDE RAILS FABRICATED FROM HIGH-STRENGTH, COLD-DRAWN WIRE CONFORMING TO ASTM A82. TRUSSES SHALL BE GALVANIZED AFTER FABRICATION. ALSO PLACE THREE ROWS OF REINFORCEMENT @ 8" O.C. IMMEDIATELY ABOVE ALL WALL OPENINGS, AND AT THE TOPS OF WALLS. SIDE LAP RAILS A
- CONTROL JOINTS SHALL BE PROVIDED IN ALL CONCRETE MASONRY CONSTRUCTION AT
- LOCATIONS INDICATED ON THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. SPECIFIC CONTROL JOINT DETAILS ARE AS SHOWN IN THE ARCHITECTURAL DRAWINGS. IN ADDITION, PLACE JOINTS IN ACCORDANCE WITH THE FOLLOWING MINIMUM REQUIREMENTS: a. MAXIMUM SPACING: 25 FEET
- b. MAXIMUM LENGTH/HEIGHT RATIO: 2.0 TO 1
- 2. PLACEMENT GUIDELINES
- a. AT ALL CHANGES IN WALL HEIGHT
- b. AT ALL CHANGES IN WALL THICKNESS c. AT ALL CHASES, RECESSES, AND PENETRATIONS
- d. AT SIDES OF WALL OPENINGS
- (1) OPENINGS SIX FEET OR LESS ONE SIDE, AT THE END OF THE LINTEL
- (2) OPENINGS OVER 6 FEET BOTH SIDES, AT THE ENDS OF THE LINTEL
- HORIZONTAL WALL REINFORCING SHALL BE STOPPED EACH SIDE OF CONTROL JOINTS. 4. SEE ARCHITECTURAL DRAWINGS FOR SEALANT REQUIREMENTS AT CONTROL JOINTS
- PROVIDE SOLID GROUTED U-BLOCKS OR KNOCK-OUT BLOCK BOND BEAMS UNDER ALL WINDOW

VI. SPECIALTY ENGINEERING REQUIREMENTS

THE FLORIDA STATE OF PROFESSIONAL ENGINEERS HAS ISSUED STATEMENTS ON RESPONSIBILITIES OF PROFESSIONAL ENGINEERS, IN ACCORDANCE WITH RULE 21H-19.00(3) CERTAIN COMPONENTS OF THE STRUCTURE REQUIRE THE WORK OF A SPECIALTY ENGINEER FOR THE DESIGN OF THOSE COMPONENTS.

A. THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR FOR THE ENGINEER'S REVIEW:

- MISCELLANEOUS STEEL 2. STRUCTURAL STEEL, SHOP AND ERECTION DRAWINGS
- 3. EMBEDDED ITEMS' (PLATES, ANGLES, POST INSTALLED ANCHORS, BOLTS, ETC.) PRODUCT DATA. 4. REINFORCING STEEL





Architect



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STRUCTURAL





ORANGE COUNTY CORRECTIONS HORIZONS ELEVATOR **MODERNIZATION**

P.E. No. 74027

3723 VISION BLVD ORLANDO FL 32839 Issuance:

PERMIT DOCUMENTS FOR PERMITTING & CONSTRUCTION **Revisions:** Description

JUNE 16, 2017

16.OC.033

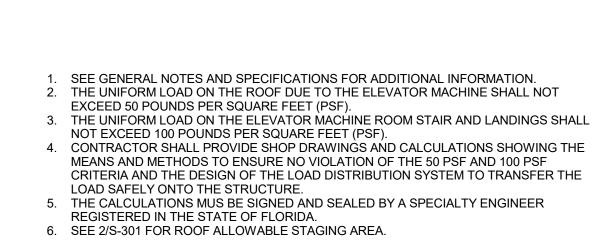
STRUCTURAL **GENERAL**

ULTIMATE DESIGN WIND PRESSURE (PSF) COMPONENTS AND CLADDING

AREA	ZONE	TRIBUTARY AREA					
AREA		10 SF	20SF	50 SF	100 SF		
ROOF	ZONE 1	+16.0/-97.6	+16.0/92.1	+16.0/-84.0	+16.0/-79.4		
ROOF	ZONE 2	+16.0/-153.2	+16.0/-145.3	+16.0/-134.1	+16.0/-127.8		
ROOF	ZONE 3	+16.0/-208.8	+16.0/-198.9	+16.0/-184.3	+16.0/-176.1		
WALL	ZONE 4	+66.7/-66.7	+66.7/-66.7	+60.8/-62.7	+57.5/-60.5		
WALL	ZONE 5	+66.7/-122.3	+66.7/-122.3	+60.8/-106.4	+57.5/-97.6		

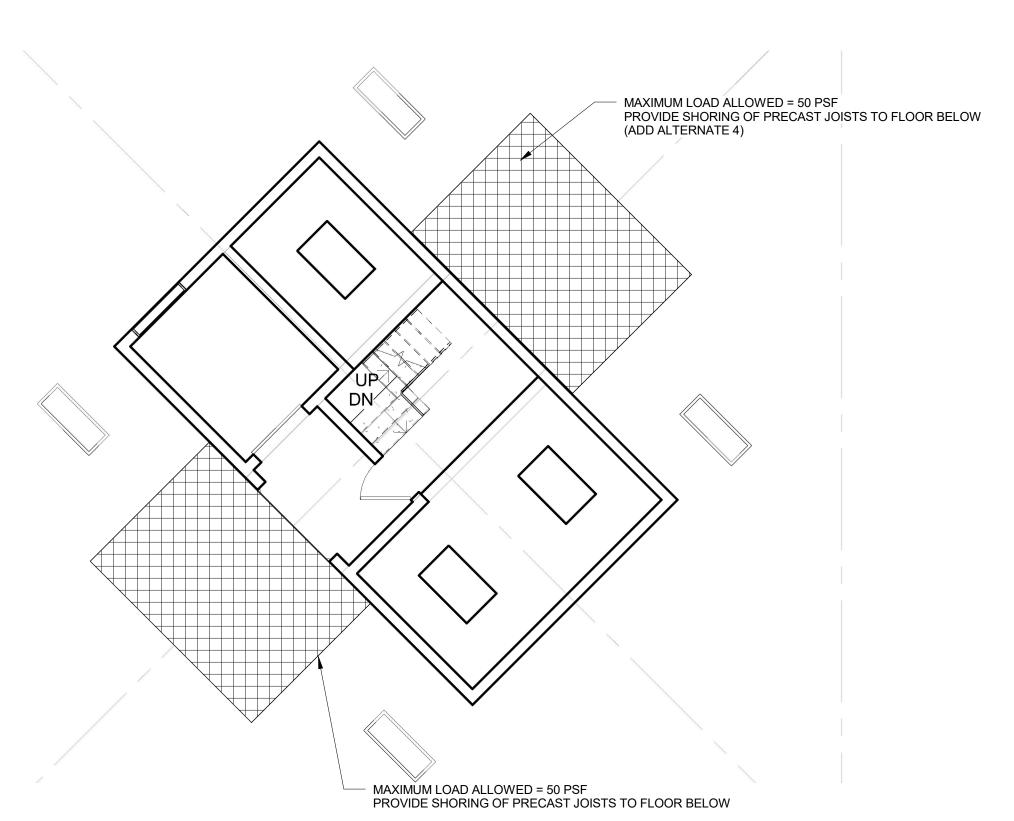
- NOTES:

 1. ALL LOADS GIVEN IN THIS TABLE ARE ULTIMATE LOADS.
- 2. THE "a" WIDTH FOR EDGE STRIPS SHALL BE 20'-8" 3. NEGATIVE NUMBERS DENOTE WIND FORCES ACTING AWAY FROM THE SURFACE UNDER CONSIDERATION (I.E. SUCTION).
- 4. DESIGN PRESSURE FOR COMPONENTS AND CLADDING SHALL NOT BE LESS THAN 16.0 PSF (ULTIMATE) ACTING IN EITHER DIRECTION
- NORMAL TO THE SURFACE.



3 S301

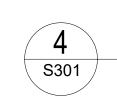
STRUCTURAL NOTES FOR ELEVATOR MACHINE REPLACEMENT



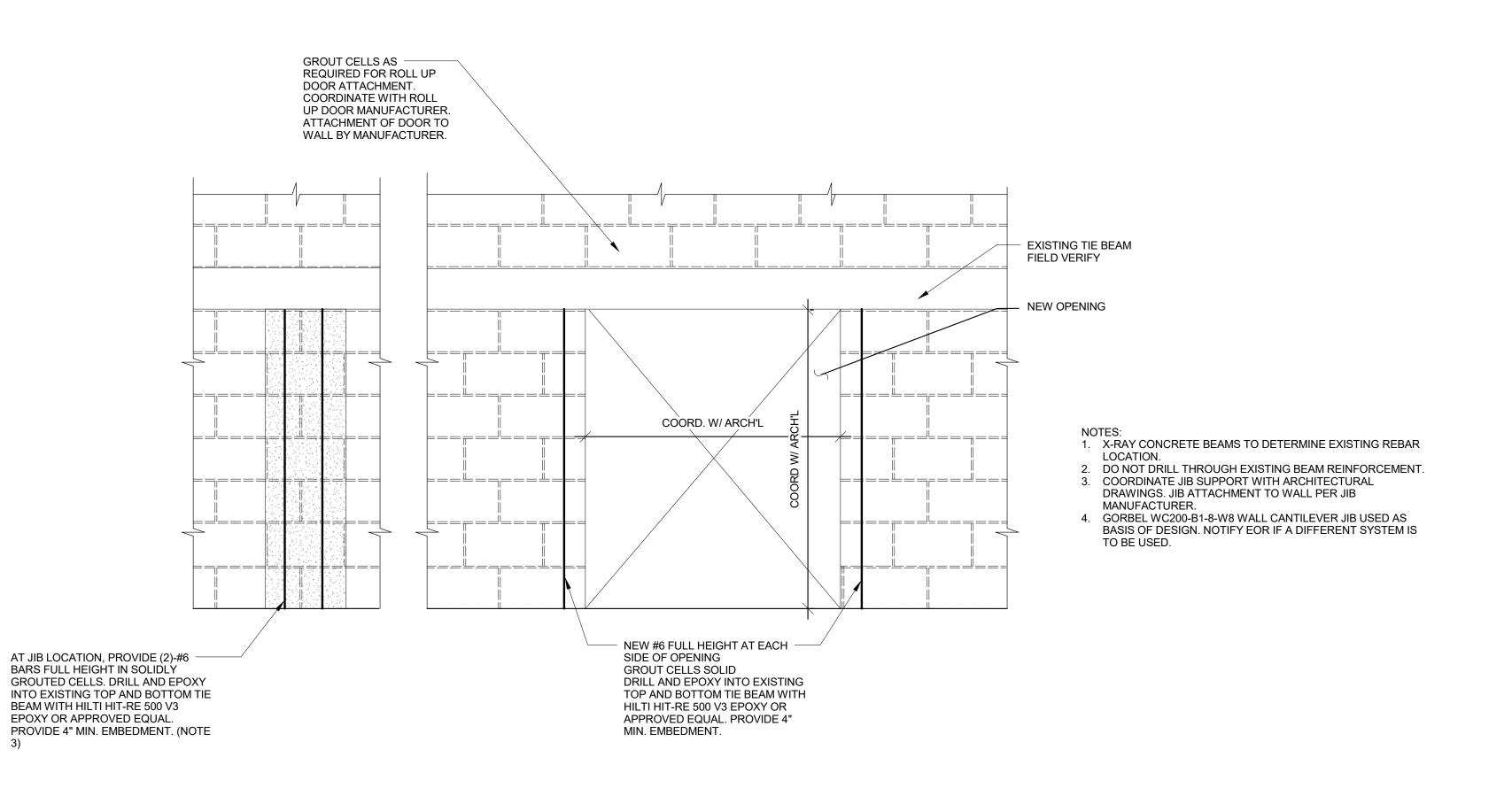
L3x3x1/4 3/4" DIA. THREADED ROD INTO CMU WALL WITH HILTI HIT-HY 70 OR APPROVED EQUAL. PROVIDE 6-3/4" MIN. EMBEDMENT INTO GROUT FILLED CELLS. (NOTE 5). - EXISTING 8" MASONRY WALL FIELD VERIFY

> NOTES:
>
> 1. TWO STEEL FRAMES ARE REQUIRED AT EACH CU LOCATION. COORDINATE SPACING WITH CU DIMENSIONS. TWO STEEL FRAMES ARE REQUIRED AT EACH CO LOCATION. COORDINATE SPACING WITH CO DIMENSIONS.
> VERIFY FINAL DIMENSIONS WITH MECHANICAL CONTRACTOR/EQUIPMENT SHOP DRAWINGS.
> WEIGHT OF NEW MECHANICAL UNITS IS ASSUMED NOT TO EXCEED 700 LBS. NOTIFY EOR IF WEIGHT EXCEEDS THIS LIMIT.
> ATTACHMENT OF MECHANICAL UNIT TO SUPPORT FRAME BY MANUFACTURER.
> ONLY ONE ANCHOR ALLOWED PER CELL. MINIMUM DISTANCE FROM EDGE OF BLOCK: 4".

46" MAX



CU MOUNT DETAIL



ROLL UP DOOR OPENING AND JIB SUPPORT - ADDITIVE BID ITEM 4 S301 3/4" = 1'-0"



F L O R I D A

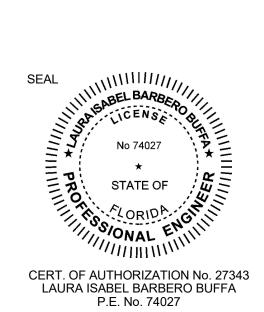
Architect

rhodes + brito ARCHITECTS

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STRUCTURAL:





ORANGE COUNTY CORRECTIONS HORIZONS ELEVATOR **MODERNIZATION**

3723 VISION BLVD, ORLANDO FL 32839

Description

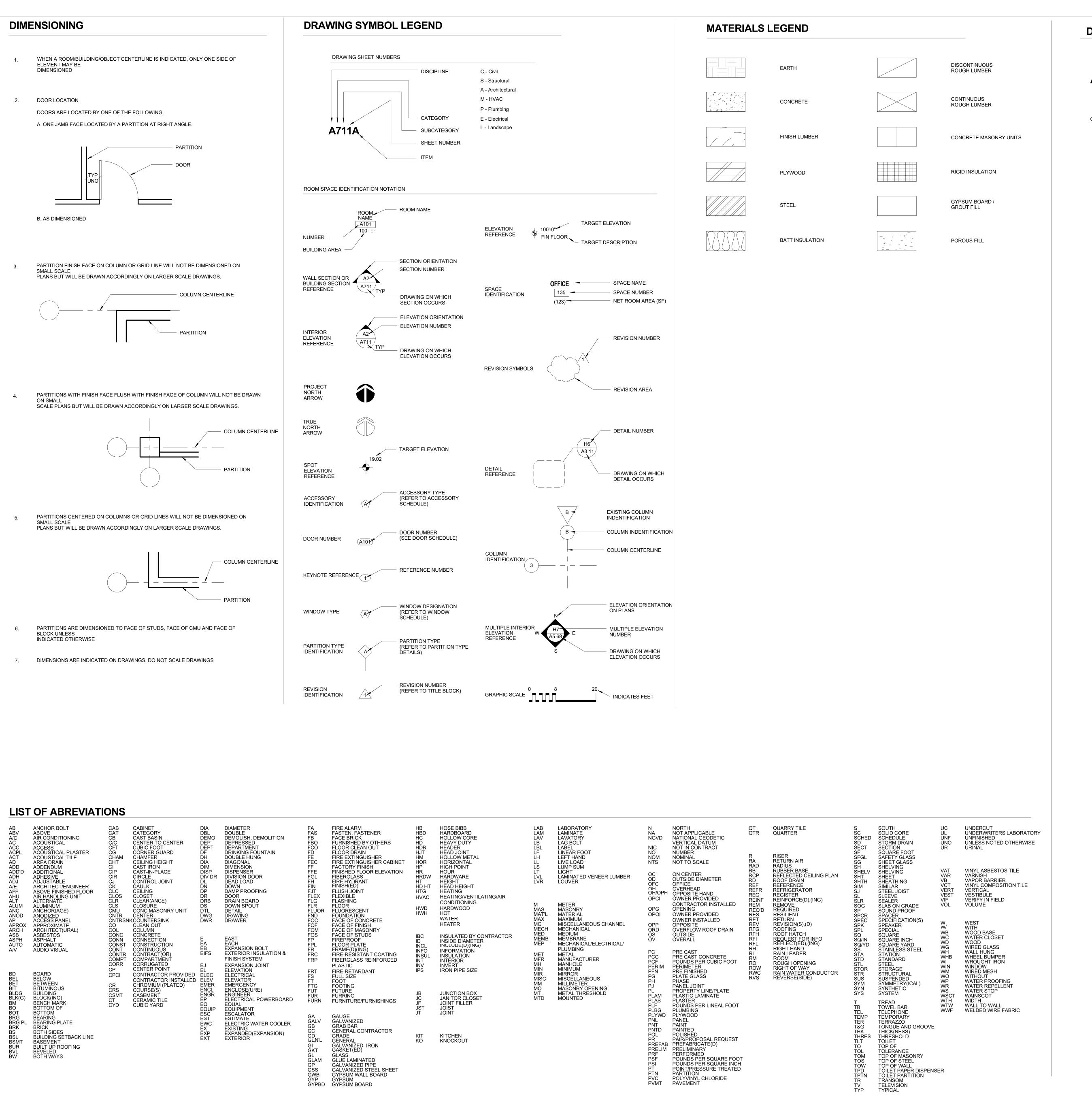
PERMIT DOCUMENTS FOR PERMITTING & CONSTRUCTION Revisions:

JUNE 16, 2017 Project Number: 16.OC.033

Checked By:

SECTIONS & DETAILS

S301



DRAWING INDEX

ARCHITECTURAL
REV. NO. SHEET NAME

REV. NO. SHEET NAME

A000 GENERAL INFORMATION

AD149 FLOOR PLAN - DEMOLITION

A149 PLANS, ELEVATIONS, & DETAILS

Grand total: 3





Architect



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STRUCTURAL



AOR Stamp: 06/16/16

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Project:
ORANGE COUNTY
CORRECTIONS
HORIZONS ELEVATOR
MODERNIZATION

Location:

Date

3723 VISION BLVD, ORLANDO FL 32839

Issuance:
PERMIT
DOCUMENTS
FOR PERMITTING & CONSTRUCTION
Revisions:

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Description

JUNE 16, 2017
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Drawn By: Checked By:

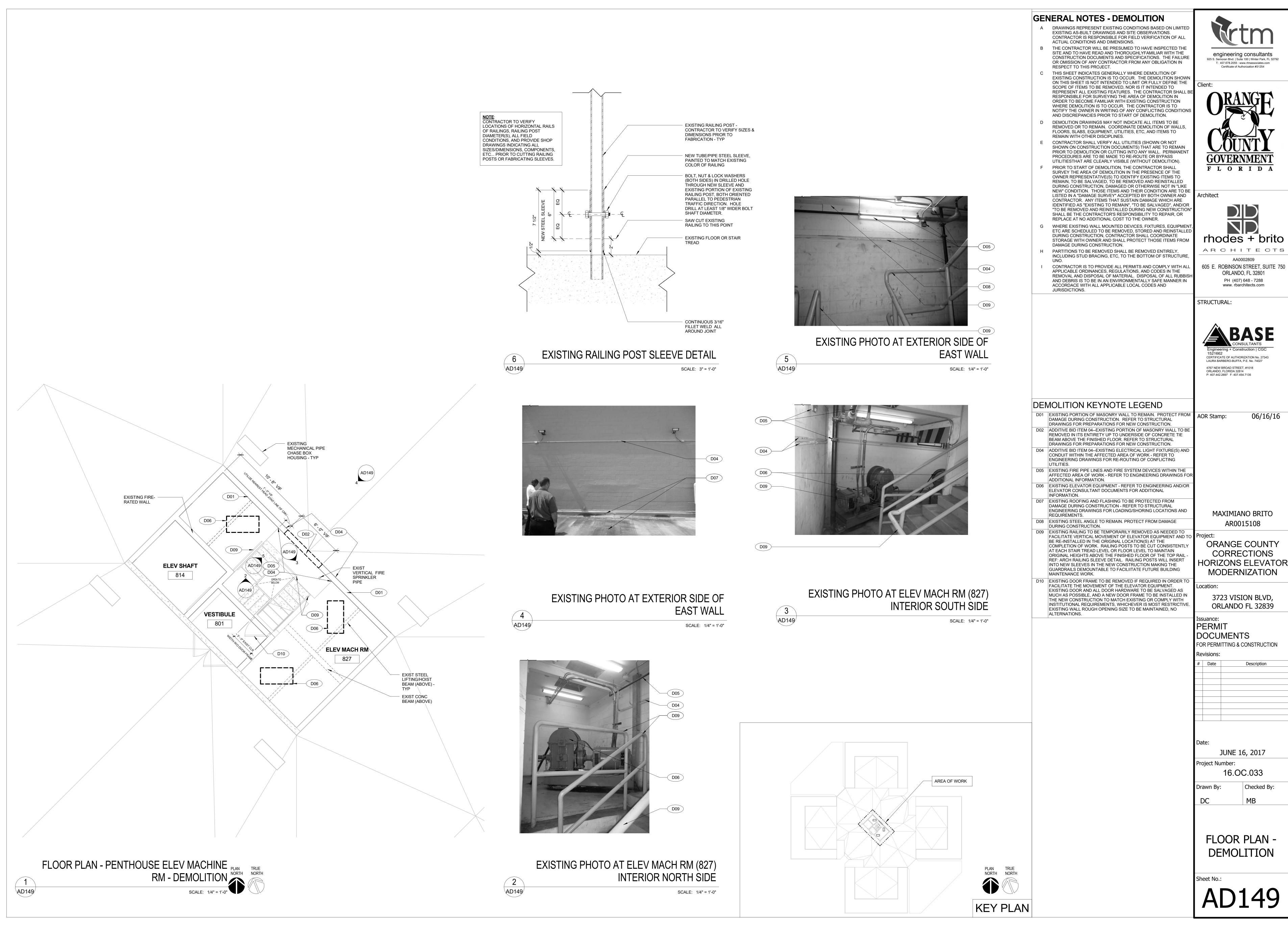
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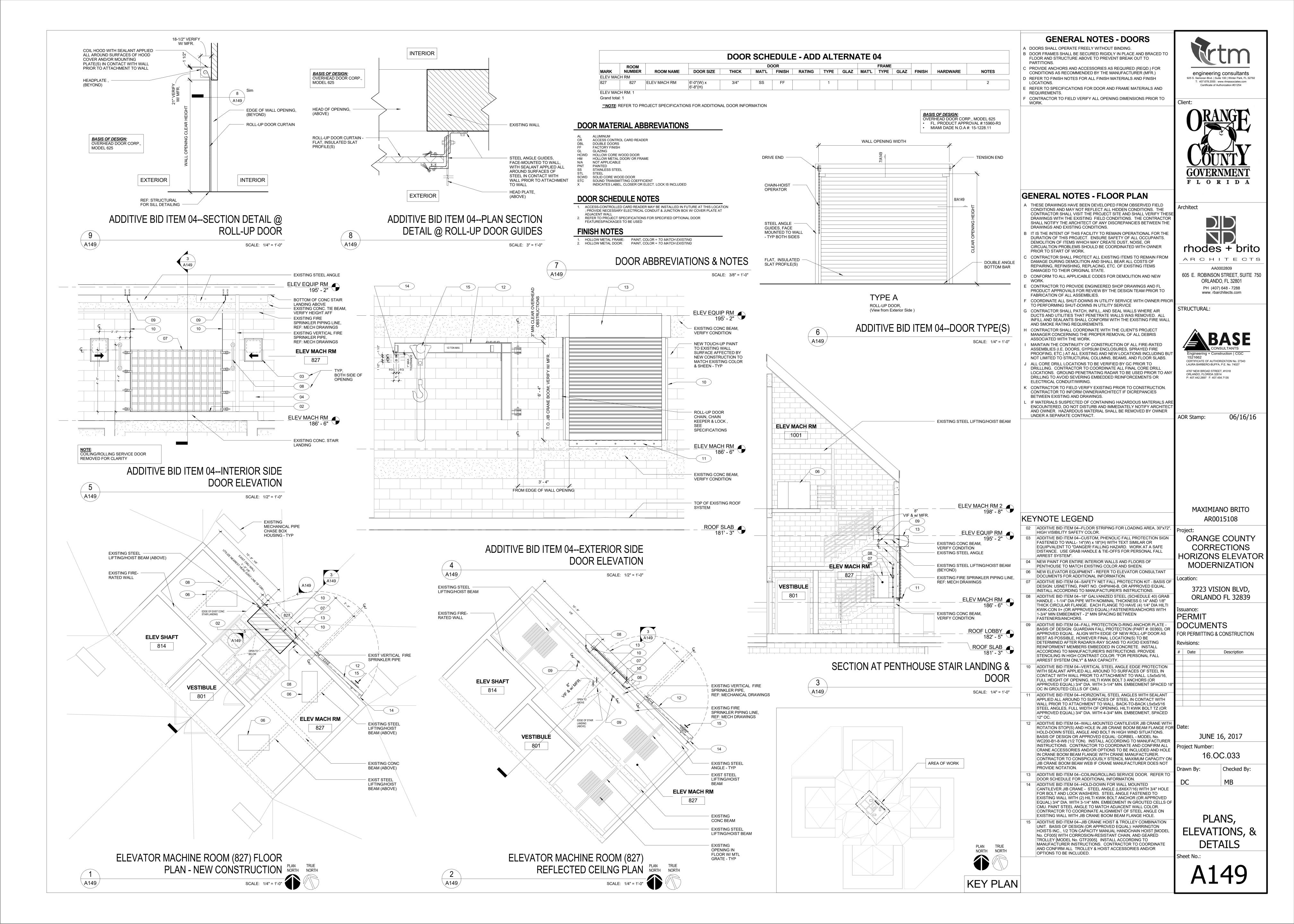
GENERAL

INFORMATION

Sheet No.:

A000





	LEGEND
SYMBOL	DESCRIPTION
- ✓►	INDICATES DIRECTION OF AIRFLOW
	THERMOSTAT
☐ CDP	CONDENSATE PUMP WITH SAFETY FLOAT SWITCH TO DE-ENERGIZE MAIN AC IN CASE OF OVERFLOW MODEL: LITTLE GIANT VCMA-15 OR EQUAL

THIS IS A GENERAL LIST OF SYMBOLS. ALL SYMBOLS MAY NOT BE USED ON A SPECIFIC PROJECT

PI	PING LEGEND
SYMBOL	DESCRIPTION
REF	REFRIGERANT PIPING CONDENSATE LINE DIRECTION OF FLOW TOP CONNECTION, 45 OR 90 DEGREES BOTTOM CONNECTION, 45 OR 90 DEGREES SIDE CONNECTION CAPPED OUTLET
;	DROP IN PIPING RISE IN PIPING

		AB	BREVIATIONS		
AC	AIR CONDITIONING	F	FAHRENHEIT	PRESS	PRESSURE
ACH	AIR CHANGES PER HOUR	FA	FILTER ACCESS	PVC	POLYVINYLCHLORIDE
AD	ACCESS DOOR	FACP	FIRE ALARM CONTROL PANEL	RA	RETURN AIR
AFF	ABOVE FINISHED FLOOR	FCD	FLOW CONTROL DAMPER	RD	ROOF DRAIN
AG	ABOVE GRADE	FCU	FAN COIL UNIT	REF	REFRIGERANT
AHU	AIR HANDLING UNIT	FD	FIRE DAMPER	RG	RETURN GRILLE
Al	ANALOG INPUT	FSD	FIRE SMOKE DAMPER	RL	RAIN LEADER
AO	ANALOG OUTPUT	FL	FLOOR	RLA	RUNNING LOAD AMPS
AP	ACCESS PANEL	FLA	FULL LOAD AMPACITY	RPM	REVOLUTIONS PER MINUTE
	APPROXIMATELY	FPF	FINS PER FOOT	RS	REFRIGERANT SENSOR
BAS	BUILDING AUTOMATION SYSTEM		FINS PER INCH	RTU	ROOFTOP A/C UNIT
BDD	BACK DRAFT DAMPER	FPM	FEET PER MINUTE	RTU	ROOF TOP UNIT
BFF	BELOW FINISHED FLOOR	FPM	FINS PER MINUTE	SA	SUPPLY AIR
BHP	BRAKE HORSE POWER	FSD	FIRE/SMOKE DAMPER	SD	SUPPLY DIFFUSER
BOD	BOTTOM OF DUCT	GPH	GALLONS PER HOUR	SD	FIRE STAT
BOT	BOTTOM	GPM	GALLONS PER MINUTE	SD	SMOKE DETECTOR
BTU	BRITISH THERMAL UNIT	H	HUMIDITY	SEN	SENSIBLE
CAP	CAPACITY	HC	HEATING COIL	SG	SUPPLY GRILLE
CC	COOLING COIL	HP	HORSEPOWER	SP	STATIC PRESSURE
CD	CONDENSATE DRAIN	HHWR	HEATING HOT WATER RETURN		STRUCTURAL
CFM	CUBIC FEET PER MINUTE	HHWS	HEATING HOT WATER SUPPLY	SYS	SYSTEM
CHWR		HZ	HERTZ		TEMPERATURE
CHWR	CHILLED WATER SURPLY	IN-H20		TSP	TOTAL STATIC PRESSURE
CLG	CHILLED WATER SUPPLY CEILING	KW	KILOWATT	TYP	TYPICAL
CMU	CONCRETE MASONRY UNIT	LAT	LEAVING AIR TEMPERATURE	UC	UNDERCUT
CONN	CONNECTION	LAT	LATENT	UG	UNDERGROUND
CONIN	COOLING TOWER	LD	LOUVERED DOOR	UL	UNDERWRITERS LABORATORY
CU	COOLING TOWER CONDENSING UNIT	LPC	LOW PRESSURE CONDENSATE	UON	UNLESS OTHERWISE NOTED
DB	DRY BULB	LPS	LOW PRESSURE STEAM	UV	
	DIRECT DIGITAL CONTROL		LOCKED ROTOR AMPS		UNIT VENTILATOR
DDC DG		LRA		VAV	VARIABLE AIR VOLUME
	DOOR GRILLE	LVG	LEAVING	VD	VOLUME DAMPER
DI	DIGITAL INPUT	LWT	LEAVING WATER TEMPERATURE		VARIABLE FREQUENCY DRIVE
	DOWN				VARIABLE REFRIGERANT FLOW
DO	DIGITAL OUTPUT	MBH	1000xBTU	VRF	VARIABLE REFRIGERANT VOLUM
DP DV	DEW POINT	MCA	MINIMUM CIRCUIT AMPACITY	WB	WET BULB
DX	DIRECT EXPANSION	MEZZ	MEZZANINE		
EA	EXHAUST AIR	MIN	MINIMUM		
EAT	ENTERING AIR TEMPERATURE	MISC	MISCELLANEOUS		
EA	EXHAUST AIR	NC	NORMALLY CLOSED		
EER	ENERGY EFFICIENCY RATIO	NIC	NOT IN CONTRACT		
EF	EXHAUST FAN	NO NTC	NORMALLY OPEN		
EG	EXHAUST GRILLE	NTS	NOT TO SCALE		
EL	ELEVATION	OA	OUTSIDE AIR		
ELEC	ELECTRICAL	OAI	OUTSIDE AIR INTAKE		
ENT	ENTERING	OAL	OUTSIDE AIR LOUVER		
EQUIP	EQUIPMENT	OC	ON CENTER		
ESP	EXTERNAL STATIC PRESSURE	PD	PRESSURE DROP		
ET	EXPANSION TANK	PKU	PACKAGE UNIT		
EXH	EXHAUST	PH	PHASE		
EXIST	EXISTING	POC	POINT OF CONNECTION		

THIS IS A GENERAL LIST OF ABBREVIATIONS AND MAY NOT BE USED ON A SPECIFIC PROJECT. IF AN ABBREVIATION IS USED ON A PROJECT AND IS NOT REPRESENTED IN THIS LIST, CONTRACTOR SHALL SUBMIT

A REQUEST FOR INFORMATION.

VRF REFRIGERANT PIPING NOTES

PRE-INSTALLATION CONSIDERATIONS (PIPING). VRV SYSTEMS SHALL BE INSTALLED BY A MANUFACTURE CERTIFIED AND TRAINED CONTRACTING COMPANY AND SHALL HAVE DOCUMENTATION OF VRV INSTALLATION & COMMISSIONING TRAINING. FIELD SUPERINTENDENT SHALL HAVE VRV TRAINING

- AND CERTIFICATION. HOBBS WILL PROVIDE THE CONTRACTOR WITH A LG AIR CONDITIONING TECHNICAL SOLUTIONS (LATS) PIPING DIAGRAM. ALL PIPING SIZES TO BE INSTALLED MUST HAVE ORIGINATED FROM A LATS DESIGNED FILE, PRODUCED BY AN LG TRAINED
- NO PIPE WORK SHOULD BE DONE WITHOUT AN LATS PIPING DIAGRAM. WHEN PIPE ROUTING OR UNIT LOCATIONS ARE CHANGED FROM THE MOST RECENT LATS FILE, IT IS CRITICAL THAT A REVISED
- LATS DESIGN BE PERFORMED PRIOR TO PIPE WORK. IT IS IMPORTANT THAT INDOOR/OUTDOOR UNIT LOCATIONS AND PIPE ROUTES BE FINALIZED PRIOR TO PIPE WORK
- INSTALLATION TO DETERMINE NEAR ACTUAL LENGTHS. AS PIPING INSTALLATION COMMENCES, ALL CHANGES IN PROPOSED LENGTHS MUST BE FORWARDED TO HOBBS FOR RE-CALCULATION IN LATS AND A NEW FIELD DRAWING PRODUCED BEFORE PIPING IS INSTALLED. LINE LENGTHS MUST BE DOCUMENTED ON AS-BUILT DRAWINGS AND DELIVERED TO HOBBS BEFORE START-UP OF EQUIPMENT
- CAN BE SCHEDULED. PLEASE INSURE TO PAY ATTENTION TO A POSSIBLE CHANGE IN UNIT CAPACITIES AS PIPE LENGTH CHANGES.
- FULL PORT BALL VALVES

•• IT IS RECOMMENDED THAT FIELD SUPPLIED FULL PORT BALL VALVES BE USED ON BOTH LINES TO ALL INDOOR UNITS. THIS

- WILL ENABLE YOU TO EASILY MAKE FUTURE PIPING OR INDOOR UNIT REPAIRS WITHOUT RECOVERING THE ENTIRE SYSTEM THE MINIMUM PRESSURE RATING FOR THE FULL PORT VALVES IS 600 PSI, THOUGH A RATING OF 700 PSI IS RECOMMENDED.
- VALVES WITH SCHRADER PORTS SHOULD BE UTILIZED TO FACILITATE RECOVERY AND EVACUATION. •• VALVES SHOULD ALSO BE USED WHEN A SYSTEM IS DESIGNED FOR FUTURE EXPANSION.
- VALVES SHOULD ONLY BE INSTALLED IN THE MAIN LINES, BEFORE THE HEAT RECOVERY BOXES, AFTER THE "Y" CONNECTION.
- INSTALLATION TOOLS (IN ADDITION TO STANDARD TOOLS THAT ARE NECESSARY TO PERFORM PIPING INSTALLATION)
- DEDICATED R-410A MANIFOLD GAUGE SET IS HIGHLY RECOMMENDED WITH 5/16" HOSES SO AS NOT TO CONTAMINATE THE SYSTEM WITH OTHER OILS, SUCH AS MINERAL AND POE.
- R-410A SERVICE ACCESS PORT WILL REQUIRE A SPECIAL ADAPTER TO ATTACH STANDARD 1/4" HOSES.
- SCHRADER CORE REMOVAL TOOL (5/16"). NITROGEN REGULATOR (550 PSI TEST).
- R-410A FLARING TOOL. THE INDUSTRY STANDARD "OLD SCHOOL" FLARING TOOL IS NOT SUFFICIENT.
- PLEASE DO NOT INSTALL DRIERS, SIGHT GLASSES, SOLENOID VALVES, OR ANY OTHER COMPONENTS IN THE PIPING NETWORK. FULL PORT BALL VALVES ARE THE ONLY EXCEPTION.
- DO NOT INSTALL TRAPS IN THE MAIN PIPING LINES. USE ONLY ACR (HARD) COPPER ON MAIN LINES.
- ANNEALED TEMPER (SOFT) COPPER CAN BE USED AFTER HEAT RECOVERY UNITS (HRU). PLEASE USE BEST PRACTICES DURING PIPING INSTALLATION. INSURE THAT ENDS OF ALL COPPER ARE SEALED TO PROTECT
- THE PIPE FROM DUST, WATER, AND OTHER CONTAMINANTS. ONLY USE APPROVED TUBING CUTTERS TO CUT THE TUBING, NOT HACKSAWS, RECIPROCATING SAWS, ETC.
- ALWAYS REMOVE INNER AND OUTER BURRS BEFORE FLARING AND BRAZING. BE SURE TO TIGHTEN FLARE NUTS TO PROPER TORQUE. HOBBS CAN PROVIDE A TABLE, IF NECESSARY.
- BRAZE PIPING WITH 15% SILVER SOLDER AND A NITROGEN PURGE DURING THE BRAZING PROCESS. •• NITROGEN FLOW DURING BRAZING PROCESS SHOULD BE @ 1-3 PSI TO PREVENT OXIDATION.
- NITROGEN PURGE PRESSURE MUST BE INTRODUCED THROUGH BOTH THE LIQUID AND SUCTION LINES AT THE SAME TIME. REMOVE THE HOT GAS SCHRADER CORE IN THE ODU TO RELIEVE PRESSURE.
- ALL PIPE WORK MUST BE INSULATED. USE MINIMUM 1/2" WALL, CLOSED CELL TUBING INSULATION.
- LIQUID, SUCTION, AND HOT GAS TUBES MUST BE INSULATED SEPARATELY. PROPER HANGING AND SUPPORT OF PIPING IS CRITICAL.
- •• APPROVED PRODUCTS FOR HANGING AND SUPPORT ARE: CUSH-A-CLICK STRUT SYSTEM
 - CUSH-A-CLAMP STRUT SYSTEM KLO-SHURE INSULATED COUPLINGS STRUT HANGER
 - CUSH-A-THERM
- EXPANSION AND CONTRACTION OF COPPER PIPING SYSTEM MUST BE CONSIDERED IN DESIGN. POSSIBLE MOVEMENT OF THE PIPING AS THE TEMPERATURE CHANGES IS ABOUT 0.001 INCH PER DEGREE, PER 10 FEET OF
- THE SUCTION LINE CAN GO FROM 50 DEGREES TO 120 DEGREES WHEN CHANGING FROM COOLING TO HEATING. THIS 120-DEGREE TEMPERATURE DIFFERENCE CAN CAUSE UP TO 1-3/8" EXPANSION OR CONTRACTION PER 100 FEET OF PIPE.
- PROPER ALLOWANCE FOR EXPANSION/CONTRACTION CANNOT BE ALLOWED FOR IF HELD RIGIDLY BY PIPE CLAMPS. FLARE JOINT CONSIDERATIONS •• WHEN MAKING THE CONNECTION TO THE INDOOR UNIT (IDU) AND CHANGING TO SOFT COPPER AT THE IDU, A LONG RADIUS
- SWEEP IS USED BEFORE THE CONNECTION TO THE SOFT COPPER. A BRACKET MUST BE USED BETWEEN THE HARD COPPER/SOFT COPPER BRAZE JOINT AND THE FLARE CONNECTION TO ASSURE A LEAK DOES NOT DEVELOP AT THE FLARE
- THERE SHALL BE NO BENDS 4 TO 6 INCHES FROM THE FLARE CONNECTIONS.
- THE "20-INCH RULE" MUST BE APPLIED BETWEEN FITTINGS, WHICH INCLUDES "Y-BRANCH" FITTINGS. •• "Y-BRANCH" JOINTS CAN BE ORIENTED IN EITHER A HORIZONTAL OR VERTICAL POSITION. ••• IN THE HORIZONTAL POSITION, THE POSITION MUST NOT EXCEED 10 DEGREES IN LATERAL POSITION, UP/DOWN.
- IN THE VERTICAL POSITION, THE OUTLET OF THE "Y" MUST FACE UPWARDS, WITHIN 3 DEGREES. THE "Y-BRANCH" CONNECTIONS ALWAYS HAVE THE SINGLE PIPE END FACING THE OUTDOOR UNIT (ODU). ALL HEADER JOINTS PIPES MUST BE IN A HORIZONTAL PLANE.
- •• NOT ALL STUBS IN A HEADER CONNECTION NEED TO BE USED. ADDITIONAL HEADERS CANNOT BE CONNECTED TO A PORT OF A HEADER.
- •• A HEADER CAN BE INSTALLED AFTER A "Y-BRANCH", IF ABSOLUTELY NECESSARY. HOWEVER, HOBBS MUST BE CONTACTED
- PIPE CONNECTIONS BETWEEN OUTDOOR UNITS MUST BE LESS THAN 32.8 FEET. THE DIFFERENCE IN HEIGHT BETWEEN OUTDOOR UNITS MUST BE LESS THAN 16 FEET.
- A HORIZONTAL PIPE RUN SLOPE TO THE OUTDOOR UNITS CANNOT BE DOWNHILL, LEVEL OR UPHILL IS ACCEPTABLE. SUFFICIENT PIPING PROTECT AT THE OUTDOOR UNITS MUST BE ASSURED. PLEASE CONTACT HOBBS IF YOU NEED ASSISTANCE IN DETERMINING THE PROPER METHOD FOR YOUR PARTICULAR INSTALLATION.
- INSTALLATION OF HEAT RECOVERY UNITS AND OTHER EQUIPMENT
- THE HRU MUST NOT BE INSTALLED UPSIDE DOWN OR SIDEWAYS. THE HRU MUST BE SUPPORTED FROM TWO (2) HANGERS, BOTH SIDES.
- BE SURE TO CONNECT THE PROPER PIPE TO THE CORRECT CONNECTION. THE CORRECT CONNECTION IS CLEARLY LABELED ON •• ALWAYS CONNECT TO HR PORTS IN NUMERICAL ORDER, STARTING WITH PORT (1).
- NEVER SHIP A PORT. FOR EXAMPLE, IF CONNECTING ONLY (3) IDU'S TO A (4) PORT HR, UNIT MUST BE PIPED TO PORTS 1,
- •• THE THREE SYSTEMS ON ONE SIDE OF THE HRU ARE CAPPED WITH A PROCESS THESE TUBES ARE NOT INTENDED TO REMAIN IN PLACE. ALWAYS CUT THESE OFF AND MAKE SYSTEM CONNECTIONS TO THIS SIDE OF THE UNIT WHENEVER POSSIBLE. IF NOT, PROPER PIPE CAPS MUST BE BRAZED ON. ONCE AGAIN, PLEASE OBSERVE THE 20" RULE BETWEEN FITTINGS.
- IDU'S PIPED TO THE SAME HRU MUST NOT EXCEED A MAXIMUM ELEVATION DIFFERENCE OF 49 FEET. UNIT SERIAL NUMBERS MUST BE NOTED NEXT TO THE EQUIPMENT MODEL NUMBERS, ON THE AS-BUILT DRAWINGS, AND DELIVERED TO HOBBS BEFORE START-UP IS SCHEDULED.

PRESSURE TESTING LEAK TEST ONLY THE PIPING AND INDOOR UNITS. LEAVE ALL OUTDOOR UNIT SERVICE VALVES TUBE.

- PRESSURIZE ALL THREE (3) REFRIGERANT LINES ON THE HEAT RECOVERY UNITS WITH NITROGEN.
- •• STEP 1: PRESSURIZE TO 150 PSI FOR FIVE (5) MINUTES. •• STEP 2: INCREASE PRESSURE TO 300 PSI FOR AN ADDITIONAL FIFTEEN (15) MINUTES.
- •• STEP 3: INCREASE PRESSURE TO 550 PSI. THIS STEP SHALL BE HELD FOR TWENTY-FOUR (24) HOURS. •• IF ALL THREE (3) STEPS ARE PASSED, EVACUATION PROCEDURES SHALL COMMENCE.

EVACUATION PROCEDURE

- EVACUATE ONLY THE PIPING AND INDOOR UNITS. LEAVE ALL OUTDOOR UNIT SERVICE VALVES CLOSED. START EVACUATION WITH VACUUM PUMP WITH NEW OIL. WHEN MICRON GAUGE REACHES 1000, CLOSE VACUUM PUMP VALVE FOR RISE TEST. MICRON LEVEL SHOULD RISE A BIT, BUT
- MUST STOP EVENTUALLY STOP RISING FOR FIFTEEN (15) MINUTES. IF THE LEVEL CONTINUES TO RISE, THERE IS A LEAK. IF THE LEVEL RISE STOPS, RE-OPEN PUMP VALVE AND CONTINUE TO LOWEST MICRON LEVEL POSSIBLE.
- CLOSE PUMP VALVE RECORD ACTUAL SYSTEM MICRONS WHEN GAUGE STAYS STEADY AT ONE READING FOR A MINIMUM OF FIFTEEN (15) MINUTES. IF THIS HAPPENS ABOVE 500, CONTINUE EVACUATION UNTIL MICRON LEVEL IS <500.

IF VACUUM DOES NOT RISE, BUT 500 MICRONS CANNOT BE REACHED, TRIPLE EVACUATION MAY BE NECESSARY.

- TRIPLE EVACUATION PROCEDURE (IF NECESSARY)
- EVACUATE THE SYSTEM TO LOWEST MICRON LEVEL POSSIBLE.
- BREAK VACUUM WITH 50 PSI NITROGEN PURGE. PURGE NITROGEN DOWN TO 1-3 PSI.
- EVACUATE TO LOWEST MICRON LEVEL. BREAK VACUUM WITH 50 PSI NITROGEN PURGE.

PURGE NITROGEN DOWN TO 1-3 PSI.

EVACUATE TO STATIC MICRON LEVEL OF <500. MICRON LEVEL MUST REMAIN <500 FOR 24 HOURS.

CONTROL WIRING

- ALL CONTROL WIRING MUST BE COMPLETED IN 18 GAUGE, 2-CONDUCTOR, STRANDED, SHIELDED WIRE. USE ROUND PRESSURE TERMINALS FOR CONNECTIONS TO THE POWER TERMINAL BLOCK. BE SURE TO MAINTAIN SUFFICIENT SPACING OF COMMUNICATION AND POWER WIRING THAT ARE RUNNING PARALLEL TO ONE
- ANOTHER •• SPACING FOR 100 VAC OR MORE:
- ••• 10A: 11-13/16" 50A: 19-11/16"
- 100A: 39-3/8"
- ••• >100A: 59-1/16" ALL WIRING MUST BE IN A DAISY CHAIN CONFIGURATION. "STAR" CONFIGURATION IS NOT ACCEPTABLE SPLICE SHIELDS TOGETHER AT IDUS, BUT DO NOT GROUND. GROUND ONLY AT ODU MASTER.
- WHEN USING AC EZ CENTRAL CONTROLLER, 12 VDC POWER MAY BE OBTAINED FROM THE FIRST MASTER ODU. RUN TWO (2) ADDITIONAL CONDUCTORS FOR THIS PURPOSE.
- PREPARING FOR COMMISSIONING INSURE ALL INSTALLATION METHODS PREVIOUSLY LISTED IN THIS DOCUMENTS HAVE BEEN COMPLETED.
- COMPLETE THE INSTALLATION CHECKLISTS.
- LATS AS-BUILT PROVIDE MODEL AND SERIAL NUMBERS OF ALL EQUIPMENT, MATCHED PER SYSTEM.

MECHANICAL GENERAL NOTES

- APPLICABLE CODES: FLORIDA BUILDING CODE FIFTH EDITION INCLUDING MECHANICAL, PLUMBING, FUEL GAS, NEC 2011, SMACNA, ASHRAE, NFPA.
- 2. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS. THE APPLICABLE BUILDING CODE AND ALL OTHER APPLICABLE STATE, COUNTY, AND LOCAL ORDINANCES AND THE LATEST ADDITION OF THE FOLLOWING PUBLICATIONS: SMACNA, ASHRAE, NFPA 90A, 90B, 91, AND ANSI B-9.1 MECHANICAL REFRIGERATION.
- 3. THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WITH ALL OTHER TRADES.
- 4. THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH "AS-BUILT" DRAWINGS. IF FIELD CHANGES ARE MADE, CONTRACTOR NEEDING DRAWINGS CHANGED FOR INSPECTION, SHALL SUBMIT CHANGES WITH SUFFICIENT TIME TO MAKE DRAWINGS CHANGES. THE CONTRACTOR WILL BE BILLED HOURLY FOR CADD CHANGES IF THE CHANGES WERE NOT PRE-APPROVED BY THE ENGINEER AND OWNER.
- 5. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL FIVE (5) COPIES OF MANUFACTURER'S DRAWINGS FOR EACH PIECE OF EQUIPMENT AND CONTROLS INCLUDED IN CONTRACT. CONTRACTOR SHALL ALSO SUBMIT OPERATION AND MAINTENANCE MANUALS FOR ALL EQUIPMENT TO THE OWNER. CONTRACTOR SHALL ALSO SUBMIT WITH MANUFACTURER SUBMITTALS A NOTICE TO OWNER FOR TRAINING. TRAINING SHALL BE PROVIDED BY THE CONTRACTOR FOR ALL EQUIPMENT AND CONTROLS WITH NECESSARY TIME TO ENSURE THE OWNER HAS UNDERSTOOD THE SYSTEM. MINIMUM TRAINING HOURS SHALL BE SCHEDULED AT 4-HOURS. ALL COSTS AND TIME OF TRAINING SHALL BE INCLUDED IN THE BID.
- 6. ALL MATERIAL SHALL BE NEW OF 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. DUCT SIZES SHOWN ARE INSIDE AIRFLOW DIMENSIONS. WHERE INTERNAL LINERS ARE USED, INSIDE DIAMETER OF DUCT SHALL COMPENSATE FOR INSULATION THICKNESS.
- 8. ALL SUPPLY AND RETURN BRANCH TAKE-OFFS TO BE PROVIDED WITH MANUAL VOLUME DAMPERS. ALL ELBOWS AND TEE'S MUST BE FURNISHED IN TURNING VANES. PROVIDE MANUAL VOLUME DAMPERS AND EXTRACTOR AT ALL FLEX TAKE OFFS.
- 9. PROVIDE "CONSTRUCTION" AIR FILTERS IN ALL AIR MOVING EQUIPMENT AND ROUGHED IN AIR DEVICE BOOTS. FOR ALL ROUGHED IN FLEX RUN-OUTS PULL AND TWIST THE END SECTION OF THE OUTER FOIL FACE ONLY, SPIN SO THE FOIL CLOSES, SECURE WEATHER TIGHT WITH ZIP TIE TO PREVENT MOISTURE INTRUSION. PROVIDE NEW FILTERS FOR ALL AIR MOVING EQUIPMENT PRIOR TO START-UP. REPLACE ALL FILTERS PRIOR TO FINAL ACCEPTANCE BY OWNER. SUBMIT A NOTICE TO THE OWNER OF FILTER QUANTITIES, SIZES, AND LOCATIONS OF ALL FILTERS CHANGED.
- 10. THERMOSTAT LOCATION SHALL BE APPROVED BY THE OWNER AND ENGINEERS BEFORE INSTALLATION. INSTALL 48" A.F.F. PER A.D.A REQUIREMENTS.
- 11. ALL INSULATION SHALL HAVE FIRE/SMOKE RATING LESS THAN 25/50.
- 12. PROVIDE MINIMUM OF 3' CLEARANCE IN FRONT OF ALL 120-240 VOLT PANELS AND 4' CLEARANCE IN FRONT OF ANY 480 VOLT PANEL. PROVIDE ADEQUATE SIDE CLEARANCE PER NEC.
- 13. MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCHITECTURAL, PLUMBING, ELECTRICAL, AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS, AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 14. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO BIDDING, ORDERING, FABRICATING, OR INSTALLATION OF MATERIALS OR EQUIPMENT.
- 15. ALL WORK SHALL BE DONE IN ACCORDANCE WITH FLORIDA BUILDING CODE FIFTH EDITION, NFPA, ASHRAE, AND SMACNA DUCT CONSTRUCTION STANDARDS.
- 16. ROUTE ALL DUCTWORK, PIPING AND ACCESSORIES IN A MANNER TO AVOID BUILDING COMPONENTS, STRUCTURE, AND LIGHTING. COORDINATE TRANSITIONS MADE TO MAXIMUM PRESSURE DROPS PER FAN AND PUMP MANUFACTURERS CURVES.
- 17. WHERE REFRIGERANT LINES ARE INSTALLED. SIZE PER MANUFACTURER'S INSTRUCTIONS WITH RESPECT TO LENGTH. AND FITTINGS TO BE INSTALLED IN PIPING.
- 18. ALL DEBRIS SHALL BE PROPERLY DISPOSED OF OFF SITE. CLEANUP SITE DAILY AFTER WORK IS COMPLETE. IF CLEAN UP IS PERFORMED BY OWNER'S REPRESENTATIVE AS A RESULT OF SUBCONTRACTOR NOT PERFORMING CLEAN UP OPERATIONS. OWNER WILL HAVE THE RIGHT TO CHARGE SUBCONTRACTOR FOR CLEAN UP LABOR.

19. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY SUPPORTING DEVICES FOR ALL ACCESSORIES INCLUDED WITHIN



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ORANGE COUNTY CORRECTIONS HORIZONS ELEVATOR

MODERNIZATION

3723 VISION BLVD.

ORLANDO, FL 32839 Issuance: PERMIT **DOCUMENTS**

FOR PERMITTING & CONSTRUCTION Revisions:

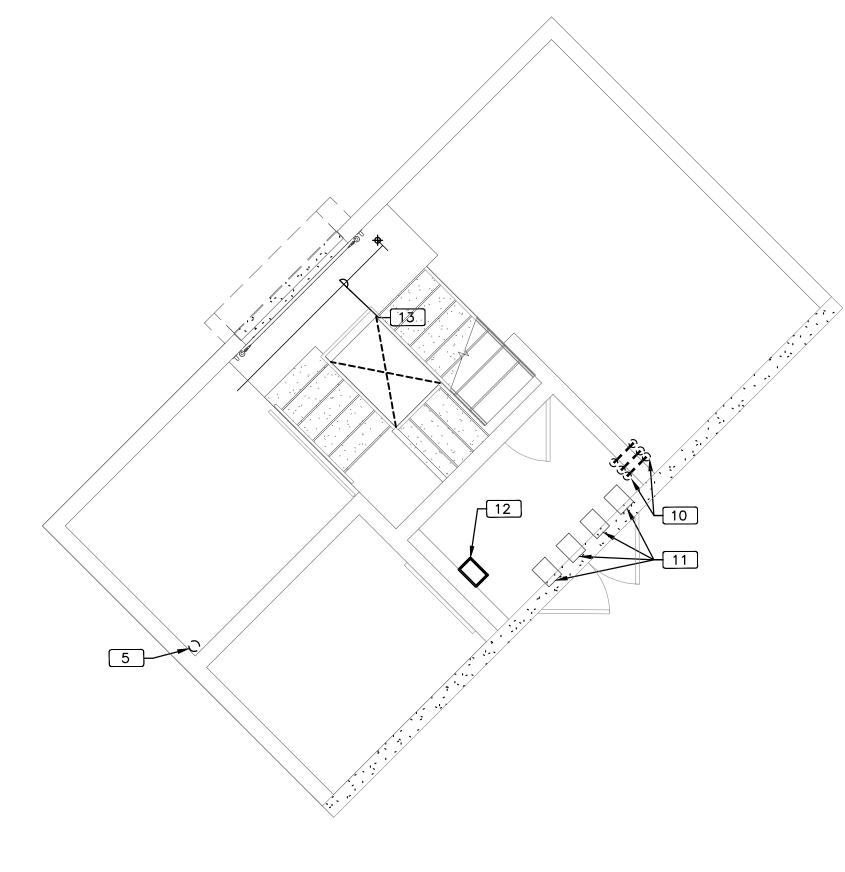
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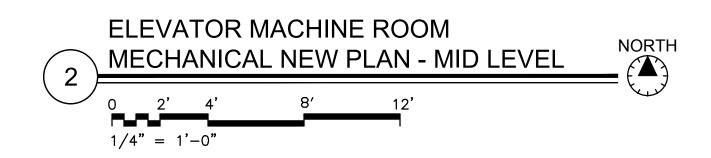
JUNE 16, 2017

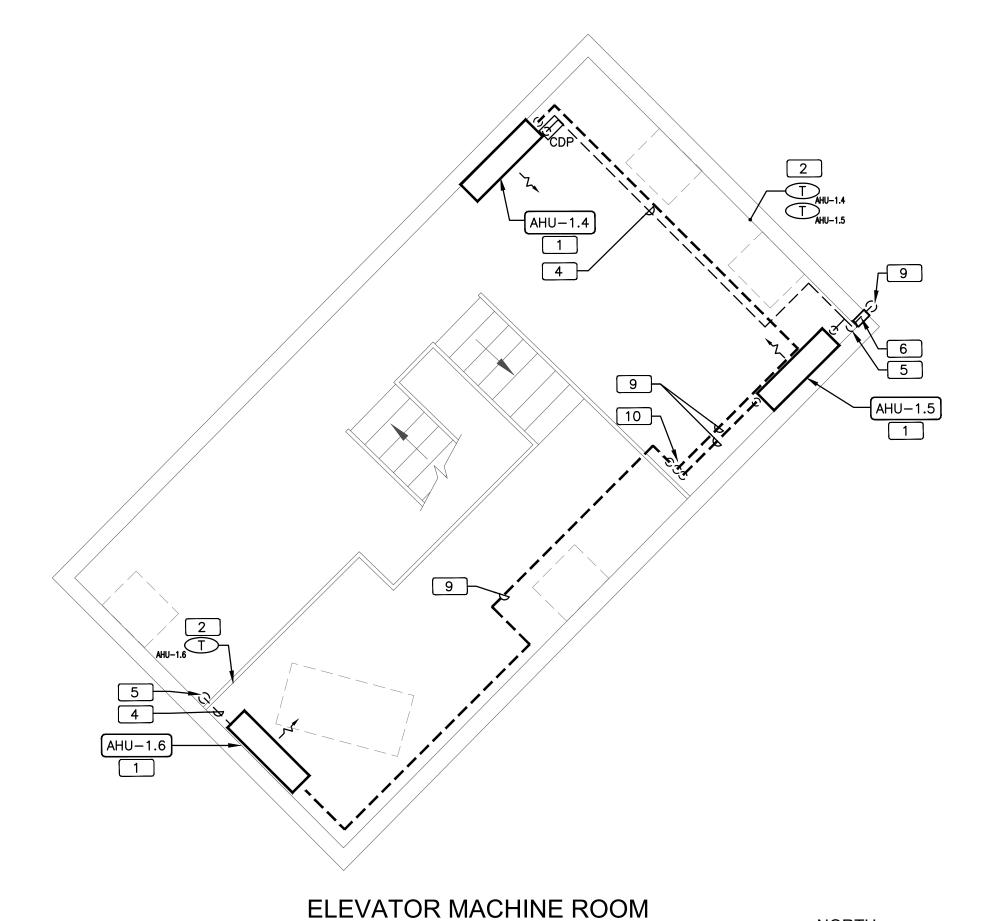
Project Number: 16.0C.033 Drawn By:

> **MECHANICAL GENERAL NOTES**

> > AND LEGEND

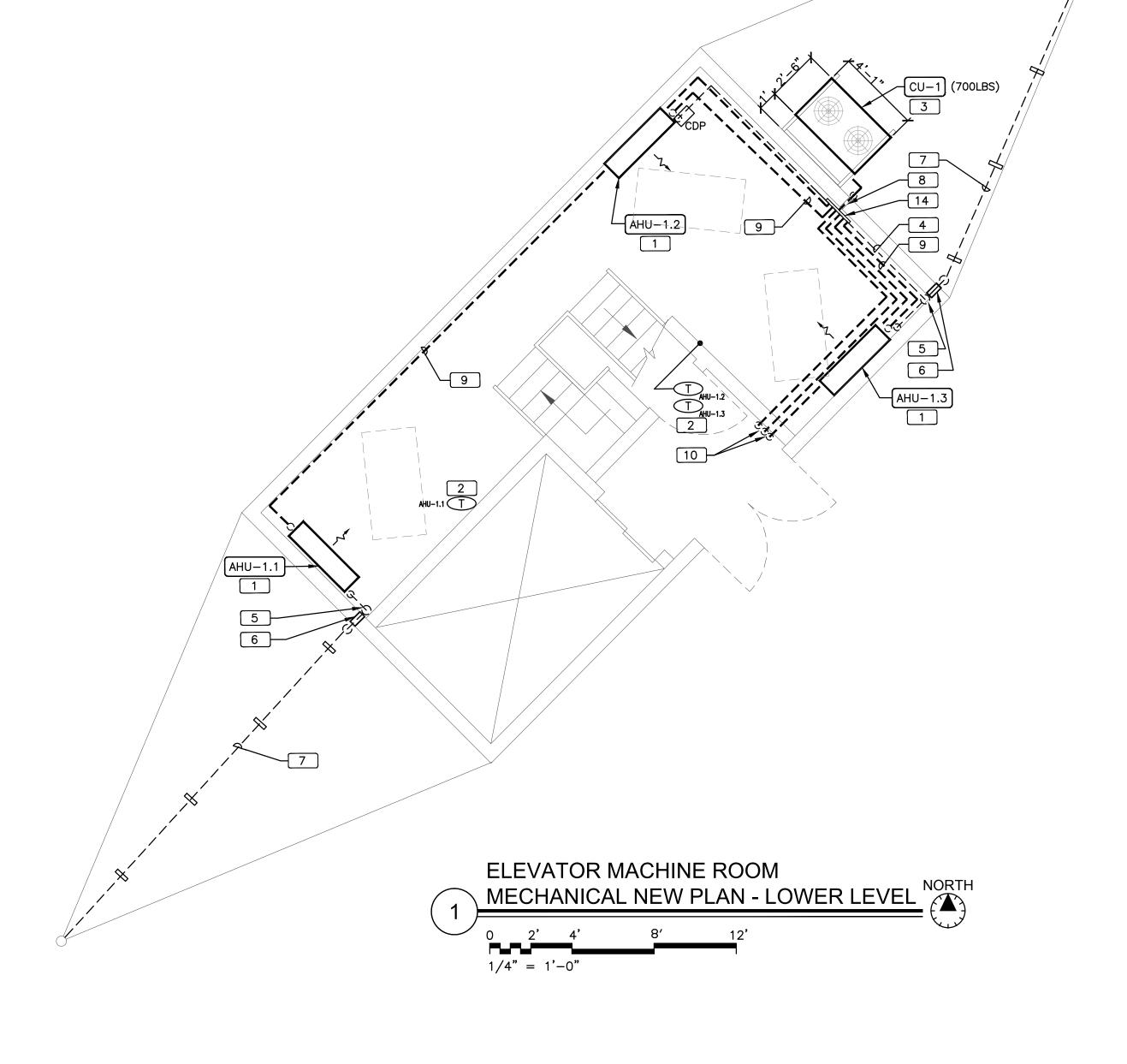






MECHANICAL NEW PLAN - UPPER LEVEL

1/4" = 1'-0"



GENERAL NOTES:

- REFER TO MANUFACTURER'S RECOMMENDATIONS FOR ALL REFRIGERANT PIPE SIZES ACCORDING TO FINAL LENGTH OF
- PROVIDE INSULATED BACKING ON ALL T-STATS MOUNTED ON EXTERIOR WALLS.
- 3. ALL RENOVATION CONTROL WORK AND CONNECTION TO THE EXISTING BAS SYSTEM SHALL BE PERFORMED BY JCI.
- 4. CONTRACTOR SHALL AVOID ROUTING ANY PIPING ABOVE ELECTRICAL EQUIPMENT.

PLAN NOTES:

1 MOUNT AHU A MINIMUM OF 7'-6" A.F.F.

- 2 PROVIDE TEMPERATURE/HUMIDITY SENSOR IN LOCATION SHOWN.
- 3 INSTALL CONDENSING UNIT AT MINIMUM 2'-0" ABOVE FINISHED ROOF. PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCES FOR MAINTENANCE AND AIR FLOW. SEE STRUCTURAL SHEETS FOR CONDENSING UNIT SUPPORT AND TIE-DOWN DETAILS.
- 4 PROVIDE 1" INSULATED CONDENSATE PIPING. SLOPE PIPING AT 1/8" PER FOOT. PROVIDE CLEANOUTS AT EVERY CHANGE IN DIRECTION.
- 5 ROUTE 1-1/4" INSULATED CONDENSATE PIPING DOWN.
- 6 ROUTE 1-1/4" INSULATED CONDENSATE PIPING THROUGH EXTERIOR WALL. CONTRACTOR TO CORE DRILL AS REQUIRED AND SEAL PENETRATION WATER TIGHT.
- 7 ROUTE 1-1/4" INSULATED CONDENSATE PIPING TO WITHIN 1"
 OF NEAREST ROOF DRAIN, SLOPING AT 1/8" PER FOOT.
 PROVIDE CLEANOUTS AT EVERY CHANGE IN DIRECTION AND PIPE
 SUPPORTS ON ROOF.
- 8 ROUTE REFRIGERANT PIPE THROUGH EXTERIOR WALL.
 CONTRACTOR TO CORE DRILL WALL AS REQUIRED AND SEAL
 PENETRATION WATER TIGHT. REFER TO DETAILS FOR MORE
 INFORMATION.
- 9 ROUTE REFRIGERANT PIPE TO AHU.
- 10 ROUTE REFRIGERANT PIPE UP TO AHU-1.4 THRU 1.6. PROVIDE NEW FLOOR/WALL PENETRATION OR RE-USE EXISTING EXISTING FLOOR/WALL PENETRATIONS. CAP AND SEAL PENETRATION WATER TIGHT.
- 11 EXISTING VFD CONTROLLERS, RELAYS AND ACCESSORIES FOR AHU-8 THRU AHU-11 TO REMAIN. CONTRACTOR SHALL PROTECT EXISTING EQUIPMENT THROUGHOUT ALL PHASES OF CONSTRUCTION.
- 12 NEW VRF CONTROLS SYSTEM, SYSTEM SHALL INTERFACE WITH EXISTING JOHNSON CONTROLS (BAS) BY JCI. BAS SHALL PROVIDE SET—POINT ADJUSTMENTS AND MONITOR ALARMS FROM NEW VRF CONTROL SYSTEM.
- ADD ALTERNATE 4: RELOCATE FIRE SPRINKLER PIPE AND HEAD TIGHT TO DECK AS REQUIRED TO AVOID CLEARANCE FOR EXISTING ROLL—UP DOOR. FIELD VERIFY EXISTING PIPE SIZE AND PROVIDE ALL THE NECESSARY COMPONENTS TO A COMPLETE SYSTEM AT NO ADDITIONAL COST TO OWNER. CONTRACTOR SHALL SHUT OFF RISER, DRAIN PIPE AND PROVIDE/INSTALL A NEW SHUT—OFF VALVE IN FIRE SPRINKLER RISER AT THE BASE OF THE STACK IN THE ELEVATOR MACHINE ROOM. ALL FIRE SPRINKLER LINE RELOCATION SHALL BE COORDINATED WITH ORANGE COUNTY FACILITIES.
- 14 PROVIDE 7-PORT HEADER





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STATE OF

06/16/2017

Dalrio Lewis, PE 77571 (FL)

Project:
ORANGE COUNTY
CORRECTIONS
HORIZONS ELEVATOR
MODERNIZATION

Location: 3723 VISION BLVD.

Issuance:
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Revisions:

DATE DESCRIPTION

JUNE 16, 2017

Project Number: 16.0C.033

16.0C.03

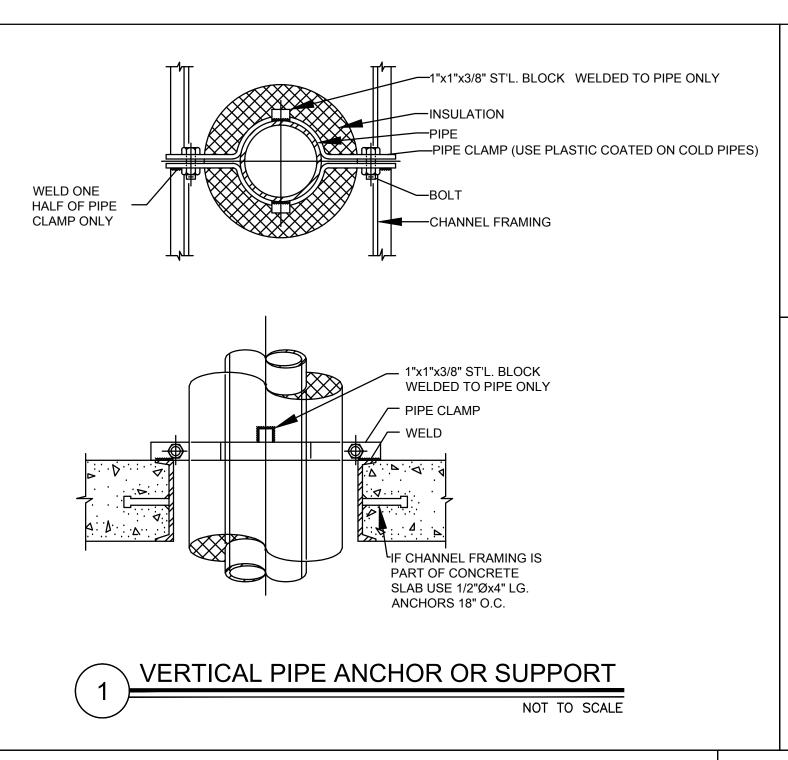
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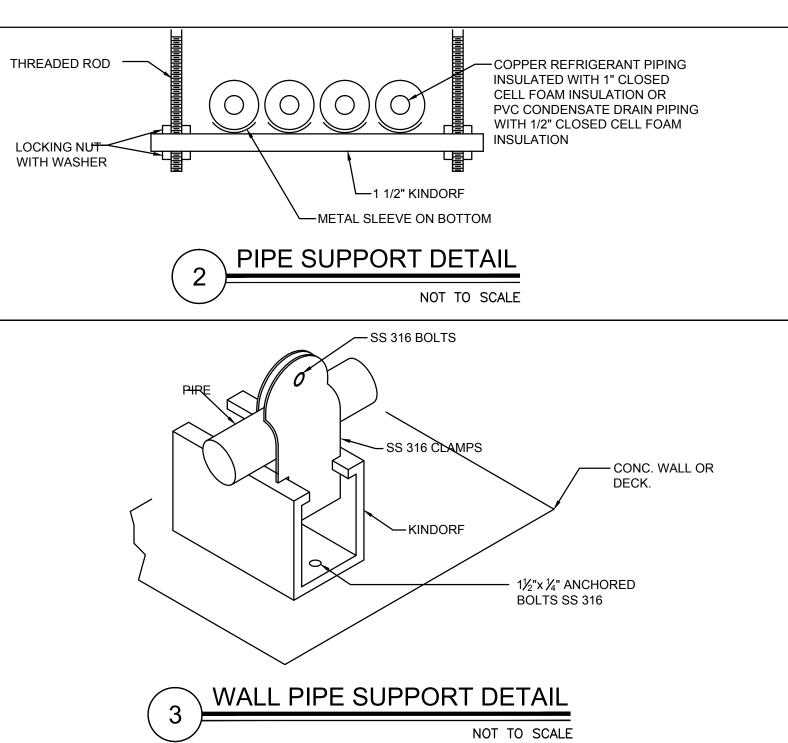
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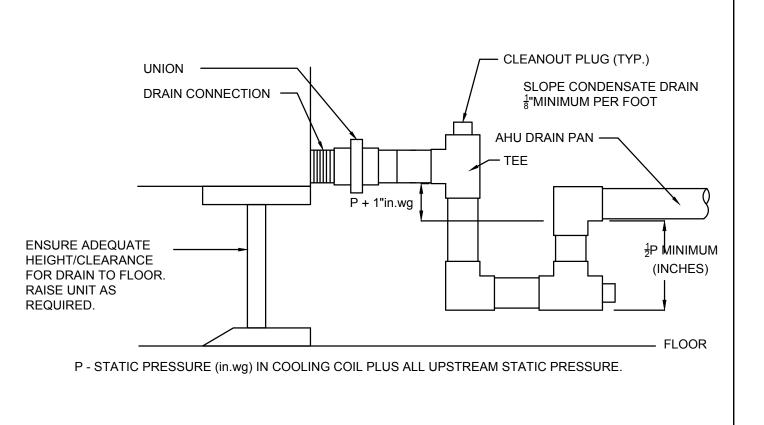
ELEVATOR
MACHINE ROOM
MECHANICAL NEW
PLANS

Sheet No

M102







AIR HANDLING UNIT DRAINS

#12TEK SCREW (TYP.)-

ROOF MEMBRANE CEMENT-

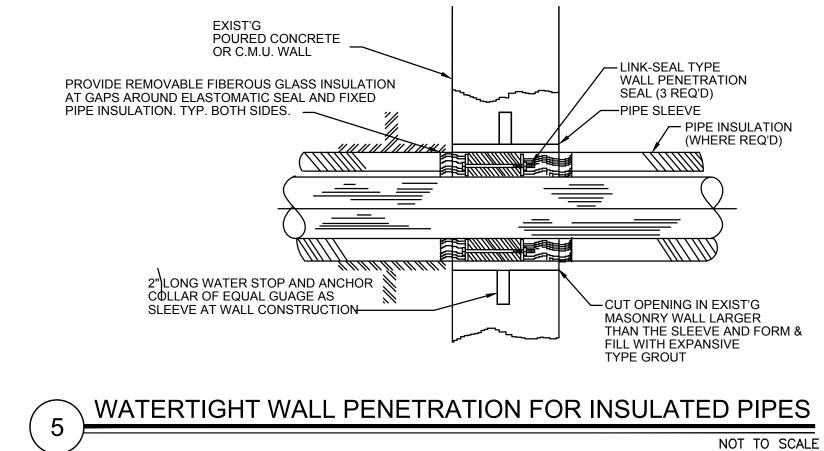
-PLUMBER STRAP

ROOF SYSTEM

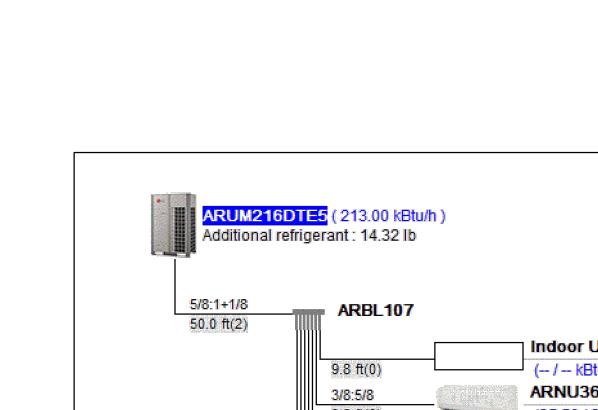
SCHEDULE 40 PVC

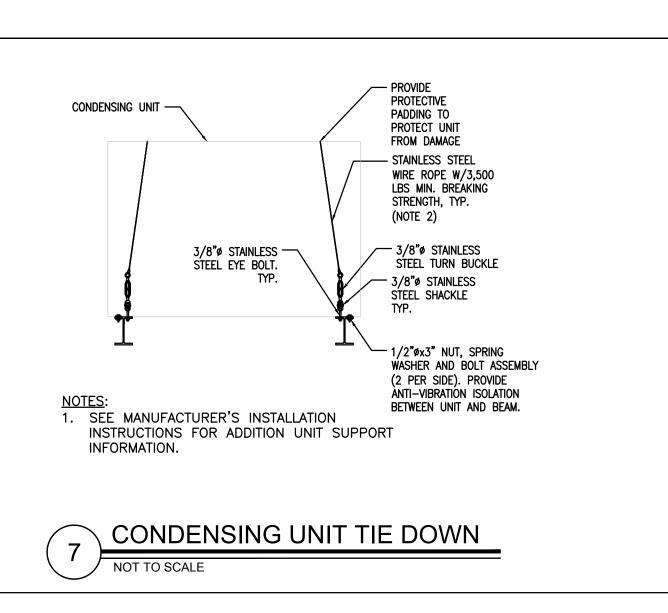
CONDENSATE PIPING

MICRO PIPE SUPPORT

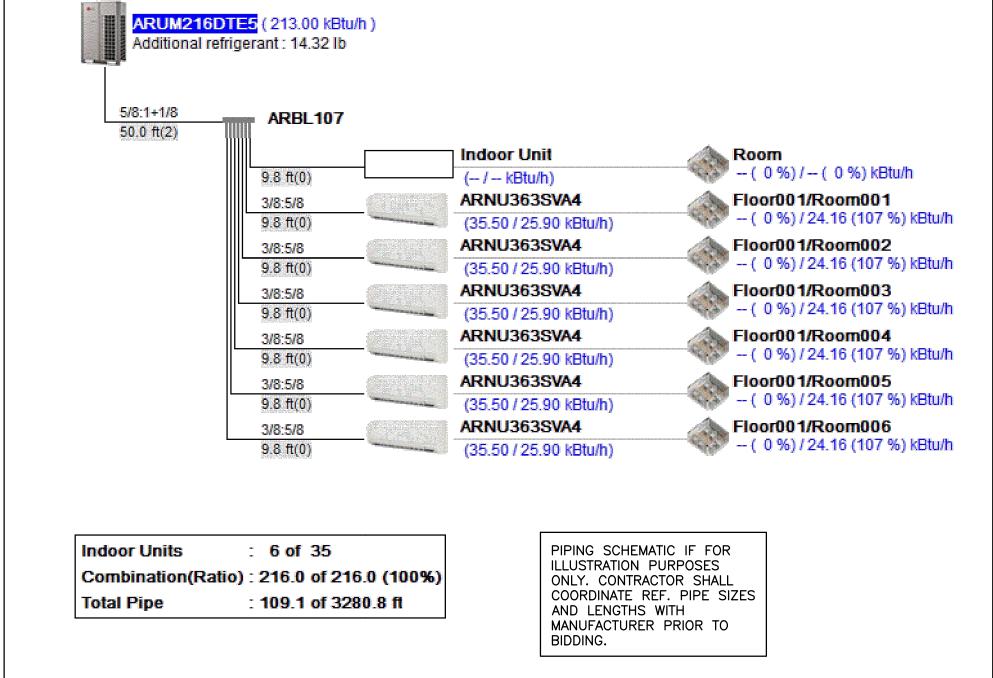


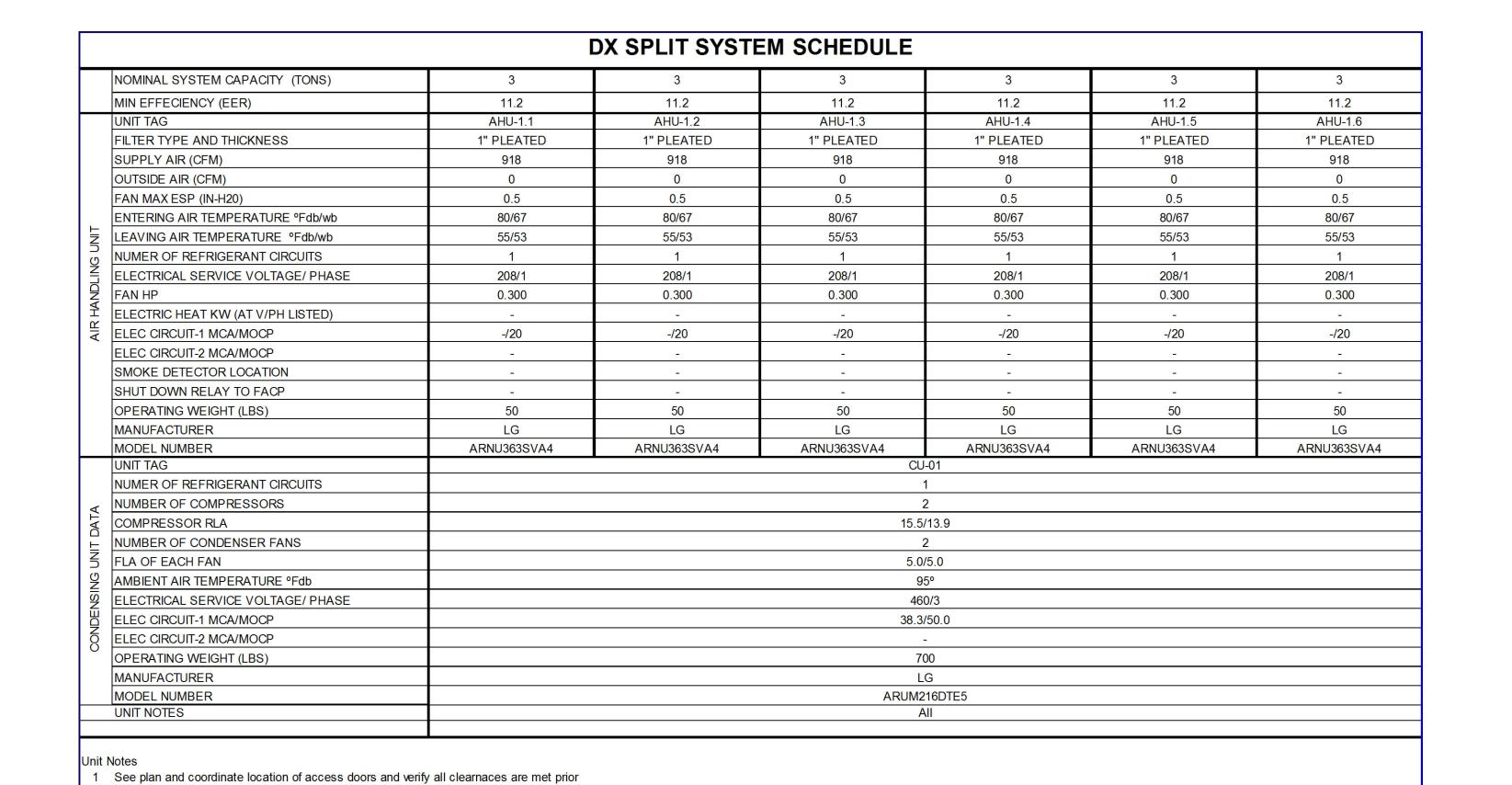
WALL PIPE SUPPORT DETAIL NOT TO SCALE
EXIST'G POURED CONCRETE OR C.M.U. WALL PROVIDE REMOVABLE FIBEROUS GLASS INSULATION AT GAPS AROUND ELASTOMATIC SEAL AND FIXED PIPE INSULATION. TYP. BOTH SIDES. 2*LONG WATER STOP AND ANCHOR COLLAR OF EQUAL GUAGE AS SLEEVE AT WALL CONSTRUCTION CUT OPENING IN EXIST'G MASONRY WALL LARGER THAN THE SLEEVE AND FORM & FILL WITH EXPANSIVE TYPE GROUT





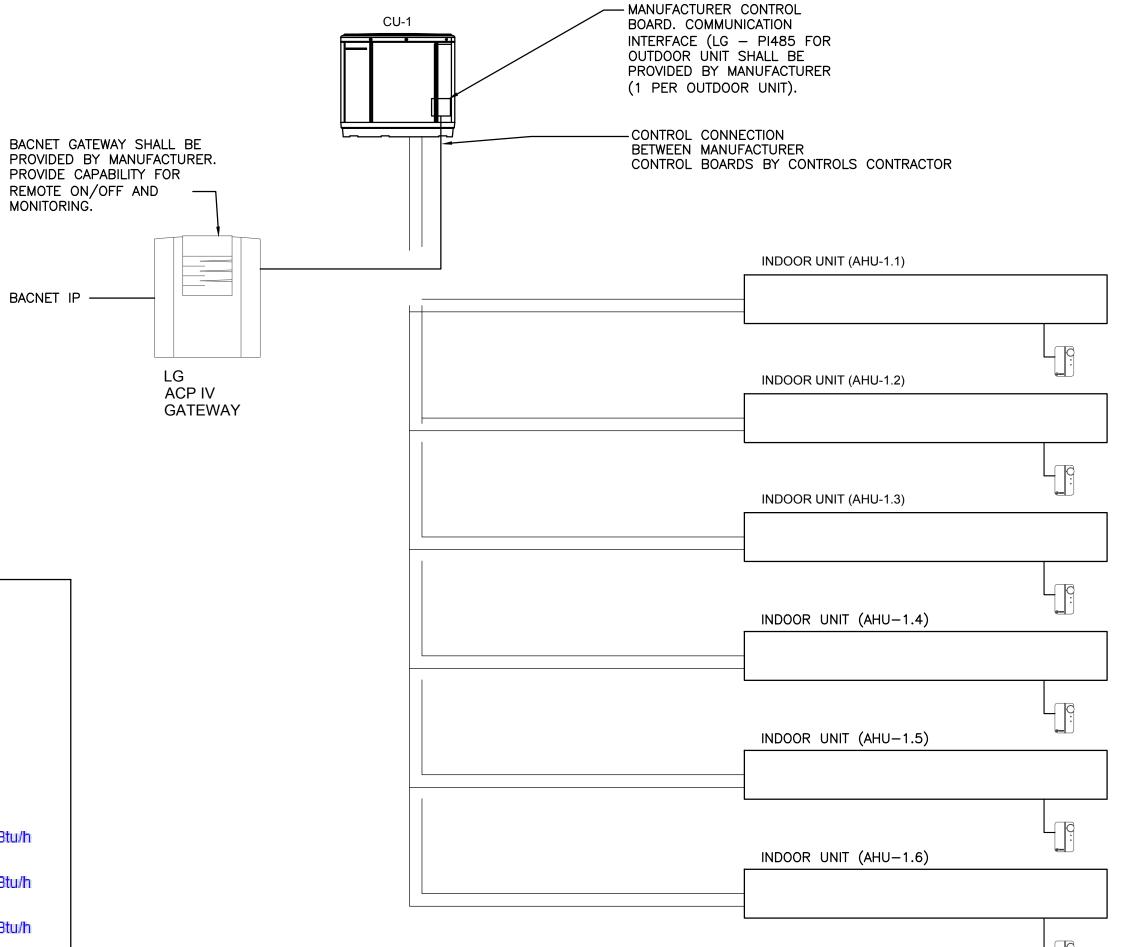
CONDENSATE PIPE SUPPORT ON ROOF





has been performed by manfuacturer. Provide condenser coil guards Provide low ambient controls down to 5F Provide inverter compressor 5 Provide (2) extra set of wasable filters - replace (1) set at Certificate of Occupancy 6 Provide temperature/humidistat controller (LG: PREMTBVC1) Provide BACnet gateway for all units.

to ordering equipment - Submission or submittals or shop drawings constitutes this item



SEQUENCE OF OPERATION FOR DX-SPLIT SYSTEMS

THE CONTROLS FOR DX-SPLIT SYSTEMS WILL EACH FUNCTION AS FOLLOWS:

THESE DX UNITS WILL CIRCULATE AND CONDITION AIR TO CONDITIONED SPACES

THESE SYSTEMS SHALL PROVIDE START, STOP AND STATUS CAPABILITIES BY THE BUILDING AUTOMATION SYSTEM. CONTROLS CONTRACTOR SHALL COORDINATE INTEGRATION POINTS AVAILABLE BY THE MANUFACTURER WITH THE ENGINEER AND OWNER PRIOR TO START OF WORK.





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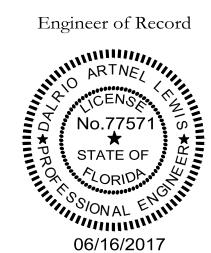


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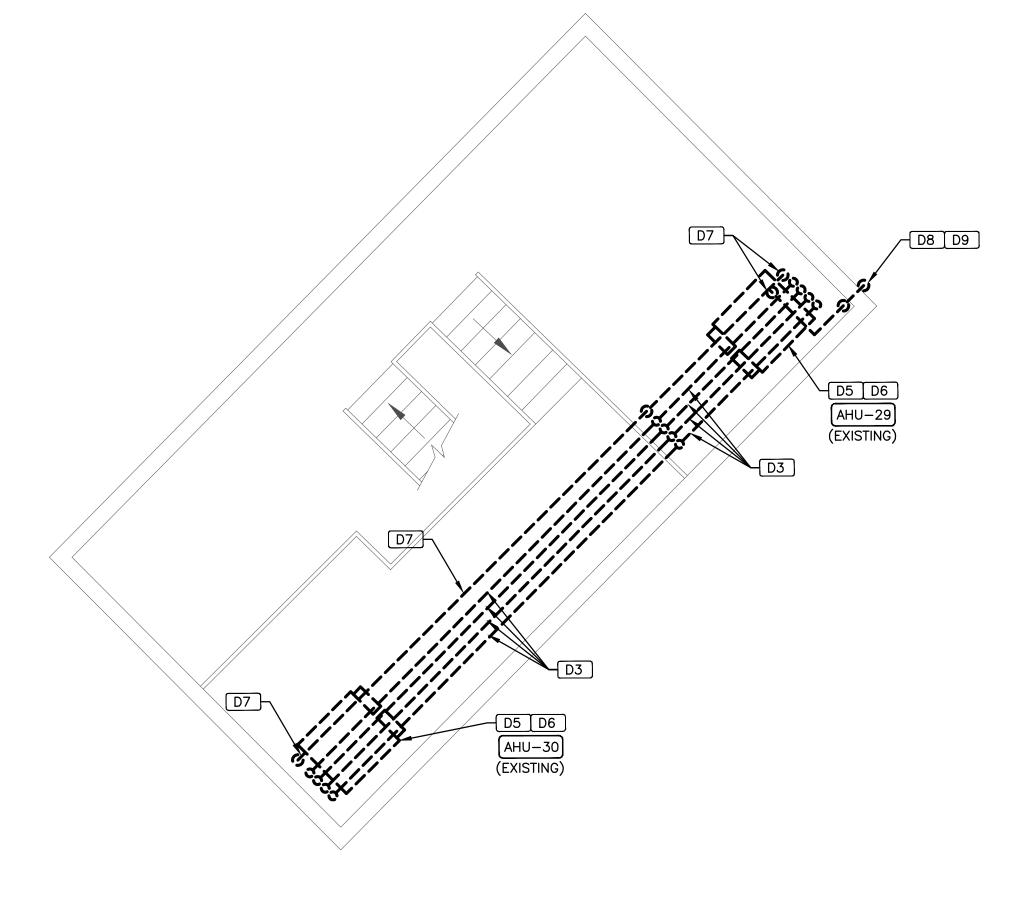
JUNE 16, 2017

Project Number: 16.0C.033

Drawn By:

MECHANICAL DETAILS, SCHEDULES AND CONTROLS

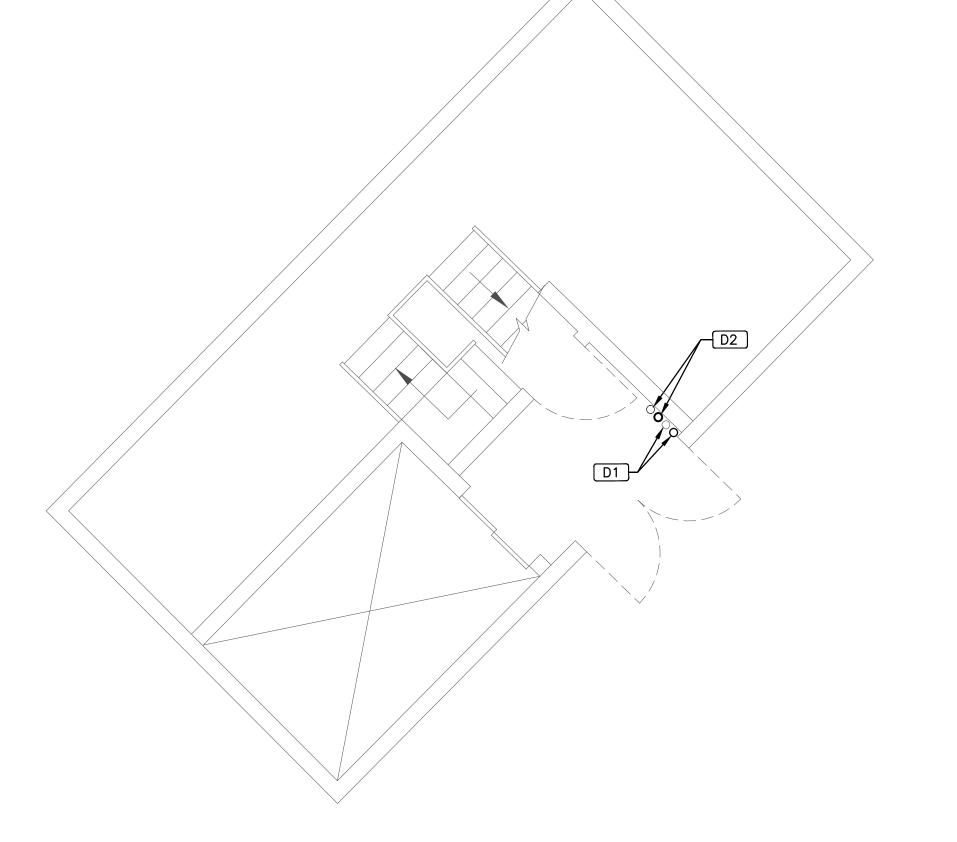
M103

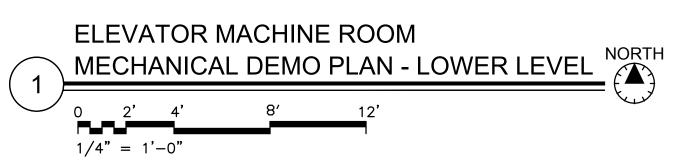


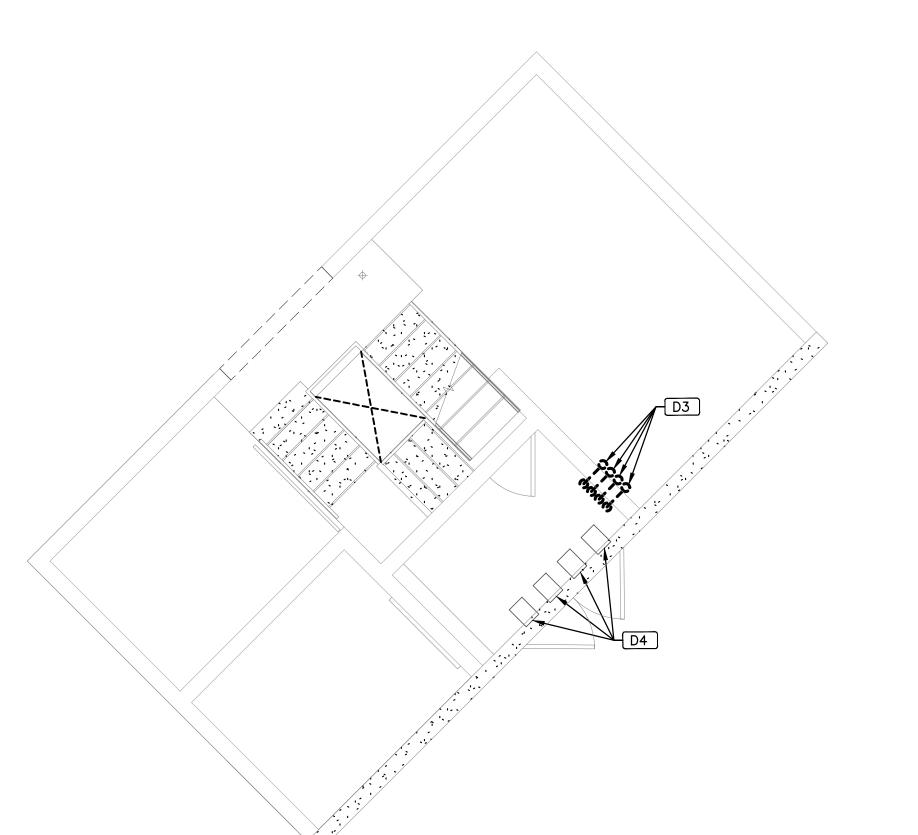
1/4" = 1'-0"

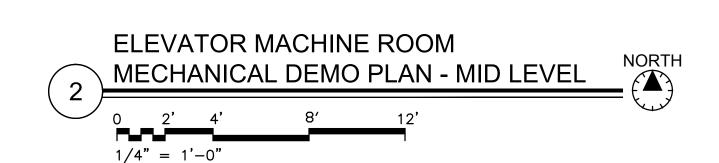
ELEVATOR MACHINE ROOM

MECHANICAL DEMO PLAN - UPPER LEVEL









GENERAL NOTES:

- 1. ALL UNUSED SLAB PENETRATIONS SHALL BE PROPERLY PATCHED AND SEALED TO MATCH EXISTING BLDG ENVELOPE.
- 2. ALL UNUSED ROOF AND EXTERIOR PENETRATIONS SHALL BE PROPERLY CAPPED AND SEALED WATER TIGHT.
- ALL EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING AND ACCESSORIES ARE SCHEDULED TO REMAIN UNLESS NOTED OTHERWISE. EXISTING WORK MAY NOT BE SHOWN FOR CLARITY.
- 4. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL FOR ALL MECHANICAL EQUIPMENT. IF OWNER REFUSES SALVAGE, CONTRACTOR SHALL DISPOSE AT NO ADDITIONAL COST TO THE
- 5. THE FACILITY SHALL REMAIN FULLY OCCUPIED AND OPERATIONAL FOR THE DURATION OF THE PROJECT.
- 6. ALL DEMOLITION CONTROL WORK FOR THE EXISTING BAS SYSTEM SHALL BE PERFORMED BY JCI.

PLAN NOTES:

- D1 REMOVE AND DISCARD EXISTING CHILLED WATER PIPING UP THROUGH FLOOR AND EXISTING SHUT OFF VALVES TO REMAIN. REMOVE ALL PIPING ABOVE SHUT-OFF VALVES. CAP, SEAL, AND INSULATE REMAINING END OF VALVES. PROVIDE PERMANENT PIPE IDENTIFICATION LABELS ON PIPING TO REMAIN.
- D2 REMOVE AND DISCARD EXISTING HEATING HOT WATER PIPING UP THROUGH FLOOR AND EXISTING SHUT OFF VALVES TO REMAIN. REMOVE ALL PIPING ABOVE SHUT—OFF VALVES. CAP, SEAL, AND INSULATE REMAINING END OF VALVES. PROVIDE PERMANENT PIPE IDENTIFICATION LABELS ON PIPING TO REMAIN.
- D3 REMOVE AND DISCARD ALL EXISTING CHILLED WATER AND HEATING HOT WATER PIPING IN AREA. REMOVE ALL PIPE HANGERS, SUPPORTS, AND ASSOCIATED HARDWARE. ALL EXISTING ENVELOPE PENETRATIONS NOT BEING RE-USED SHALL BE PATCHED, SEALED, AND REPAIRED TO MATCH EXISTING CONDITIONS.
- D4 EXISTING VFD CONTROLLERS, RELAYS AND ACCESSORIES FOR AHU-8 THRU AHU-11 TO REMAIN.
- D5 REMOVE EXISTING HORIZONTAL CHILLED WATER AIR HANDLING UNIT. REMOVE ALL STRUCTURAL SUPPORTS, CONDENSATE DRAIN PAN AND ALL REMAINING HARDWARE. DISCONNECT POWER WIRING AND PULL WIRE BACK TO PANEL.
- D6 EXISTING BUILDING AUTOMATION SYSTEM (BAS) ARE BY JOHNSON CONTROLS (JCI). JCI SHALL BE RESPONSIBLE FOR REMOVAL OF ALL CONTROL DEVICES & WIRING OF AIR HANDLING UNIT, AND RE-PROGRAMING NEW UNITS INTO EXISTING BAS AFTER DEMOLITION.
- D7 REMOVE EXISTING CONDENSATE DRAIN PIPING IN AREA AND ALL PIPE HANGERS / SUPPORTS.
- D8 REMOVE EXISTING CONDENSATE DRAIN PIPING DOWN EXTERIOR WALL AND ALONG ROOF TO POINT OF TERMINATION. REMOVE ALL PIPE HANGERS AND SUPPORTS.
- D9 EXISTING CONDENSATE PIPING WALL PENETRATION TO REMAIN. REMOVE EXISTING PIPING, PREPARE AREA FOR NEW WORK.





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ocation:

3723 VISION BLVD. ORLANDO, FL 32839

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#	DATE	DESCRIPTION

JUNE 16, 2017

Project Number: 16.0C.033

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ELEVATOR
MACHINE ROOM
MECHANICAL
DEMOLITION
PLANS

Sheet No.:

MD101

				<u> </u>	
GENERAL ELECTRICAL NOTES	ABBREVIATIONS	REN	OVATION/DEMOLITION LEGEND		LIGHTING PLAN LEGEND
THE ELECTRICAL WORK IS SUBJECT TO ALL OF THE PURCHASER'S TERMS CONDITIONS AND SPECIFICATIONS INCLUDING WORKANSHIP TO BE SUBJECT TO ALL OF THE PURCHASER'S	A AMPERE AF AMPERE FRAME	SYMBOL:	DESCRIPTION:	SYMBOL:	DESCRIPTION:
TERMS, CONDITIONS AND SPECIFICATIONS, INCLUDING WORKMANSHIP. 2. GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA 1 "STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION" (ANSI). 3. IT IS THE INTENT OF THESE ELECTRICAL DRAWING SHEETS TO CALL FOR FINISHED WORK; TESTED, AND READY FOR OPERATION. FOR THE ELECTRICAL WORK, "PROVIDE" IS AN ALL—INCLUSIVE TERM REQUIRING CONTRACTOR TO PROCURE, FABRICATE, FURNISH, INSTALL, MOUNT, WIRE, CONNECT AND SUPPLY ALL MATERIAL AND LABOR NECESSARY TO COMPLETE THE WORK TO THE ACCEPTANCE OF THE OWNER AND THE AUTHORITY HAVING JURISDICTION (AHJ).	AFC AVAILABLE FAULT CURRENT AFCI ARC FAULT CIRCUIT INTERRUPTER AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AHU AIR HANDLER UNIT (HVAC) AHJ AUTHORITY HAVING JURISDICTION AIC AMPERE INTERRUPTING CAPACITY AT AMPERE TRIP AWG AMERICAN WIRE GAUGE BKR BREAKER C CONDUIT OR CONDUCTOR CB CIRCUIT BREAKER	<e> '////////////////////////////////////</e>	EXISTING TO REMAIN. EXISTING TO BE REMOVED. EXISTING TO BE RELOCATED.	A Q	LED STRIP LIGHTING FIXTURE. UPPER CASE LETTER DENOTES FIXTURE TYPE. REFER TO 'LIGHTING FIXTURE SCHEDULE' FOR FIXTURE SPECIFICATIONS WALL MOUNTED LIGHTING FIXTURE, SOLID—HALF SHADING INDICATES EMERGENCY LIGHT FIXTURE. FIXTURE SHALL BE CONNECTED AHEAD OF ANY CONTROL SOURCE ON THE SAME CIRCUIT AS THE OTHER FIXTURES IN THAT ROOM OR AREA AND FIXTURE SHALL HAVE AN INTEGRAL EMERGENCY BALLAST FOR 90 MIN OF CONTINUOUS OPERATION.
4. ALL MATERIAL PROVIDED BY THE CONTRACTOR SHALL BE NEW AND FREE OF DEFECTS, LISTED/LABELED FOR THE INTENDED PURPOSE BY UNDERWRITERS LABORATORY (UL) OR OTHER ORGANIZATION THAT IS ACCEPTABLE TO THE AHJ.	CLG CEILING CO CONDUIT ONLY CPT CONTROL POWER TRANSFORMER CU CONDENSING UNIT (HVAC), COPPER DS DISCONNECT (SAFETY) SWITCH		DUIT RACEWAY & WIRING LEGEND	\$	WALL SWITCH, SINGLE POLE, 125/277VAC, 20A, MOUNT 48" AFF UON.
5. ALL MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE	EC EMPTY CONDUIT EF EXHAUST FAN	SYMBOL:	DESCRIPTION:	_	POWER PLAN LEGEND
MANUFACTURER'S WRITTEN INSTRUCTIONS. UNLESS OTHERWISE NOTED.	EL EMERGENCY LIGHT (UNSWITCHED) ELE ELECTRICAL, ELECTRIC EM EMERGENCY		RACEWAY CONDUIT CONCEALED ABOVE CEILING OR WITHIN WALL UNLESS OTHERWISE NOTED. EACH CIRCUIT SHALL CONSIST OF	SYMBOL:	DESCRIPTION:
 CONTRACTOR SHALL INSPECT SITE FOR FIELD VERIFICATION OF ALL ASPECTS OF THE WORK PRIOR TO BIDDING. ALL DISCREPANCIES ON DRAWING SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO SUBMISSION OF BIDS. CONTRACTORS SUBMISSION OF A BID CONSTITUTES ACCEPTANCE OF ALL CONDITIONS INCLUDING FIELD CONDITIONS. 	EMT ELECTRICAL METALLIC TUBING ENT ELECTRICAL NONMETALLIC TUBING EWH ELECTRIC WATER HEATER EX EXISTING FBC FLORIDA BUILDING CODE FDS FUSED DISCONNECT (SAFETY) SWITCH FLOUR FLUORESCENT FMC FLEXIBLE METAL CONDUIT	A-1:3	PHASE, NEUTRAL AND GROUND CONDUCTORS. EVERY CIRCUIT SHALL HAVE IT'S OWN INDIVIDUAL NEUTRAL. FOR LIGHTING CIRCUITS PROVIDE REQUIRED SWITCH LEGS TO ACHIEVE SWITCHING INDICATED ON PLANS. HOME RUN TO PANEL ALL HOMERUNS SHALL BE #10 AWG, 3/4"C., MINIMUM. WIRING HOME RUN: LETTER INDICATES PANEL; NUMBER IS BRANCH CIRCUIT(S)	⊕ •	DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT 18" AFF UON. QUAD RECEPTACLE, 2 OF NEMA 5-20R, MOUNT 18" AFF UON. SPECIAL PURPOSE OUTLET, NEMA CONFIGURATION AS SHOWN.
8. THE ELECTRICAL SHEETS ARE DIAGRAMMATICAL IN NATURE AND INDICATE THE GENERAL LOCATION OF OUTLETS, EQUIPMENT, AND THE CIRCUIT ARRANGEMENT OF THE REQUIRED WIRING. ALTHOUGH THE DRAWINGS DO NOT NECESSARILY INDICATE THE ACTUAL ROUTES OF CONDUITS, WHERE INDICATED, THEY SHALL BE FOLLOWED AS	FMT FLEXIBLE METAL TUBING GND GROUND (ELECTRICAL) GEN GENERATOR GFI GROUND FAULT INTERRUPTER GWH GAS WATER HEATER	Ţ	GROUNDING CONDUCTOR.	Ф ^{GFI} Ф	DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT 18" AFF UON (GROUND FAULT CIRCUIT INTERRUPTED)
CLOSELY AS PROPER COORDINATION WITH THE WORK OF OTHER TRADES AND SPACE WILL PERMIT. WHERE CONDUIT RUNS ARE NOT	HH HAND HOLE HID HIGH INTENSITY DISCHARGE LIGHT		CONDUIT IN/UNDER SLAB OR UNDERGROUND.		JUNCTION BOX WITH BLANK PLATE; BRACKET INDICATES WALL MOUNTED.
SHOWN ON THE DRAWINGS, COORDINATE CONDUIT RUNS WITH THE WORK OF OTHER TRADES AND STRUCTURE. SIMPLIFY INSTALLATION WHEREVER POSSIBLE, BUT SUBJECT TO APPROVAL BY THE	HP HORSE POWER HPS HIGH PRESSURE SODIUM LIGHT HZ HERTZ (ELECTRICAL)	—— <u> </u>	CONDUIT CAP.		PANELBOARD.
ARCHITECT FOR VISUAL AND STRUCTURAL REASONS. IT IS NOT WITHIN THE SCOPE OF THE DRAWINGS TO SHOW ALL NECESSARY	ICCB INSOLATÈD CASE CÍRCUIT BREAKER IG ISOLATED GROUND	——P——	CONDUIT FOR POWER.		ELECTRICAL MAIN DISTRIBUTION PANELBOARD OR SWITCHBOARD
OFFSETS, BENDS, PULL BOXES, AND OBSTRUCTIONS. THE DRAWINGS ARE NOT INTENDED TO BE SCALED, REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS. IN CASE OF DISCREPANCY BETWEEN	IMC INTERMEDIATE METAL CONDUIT JB JUNCTION BOX KCMIL THOUSAND CIRCULAR MILS	——● DN	CONDUIT STUB-DOWN.	SD	FIRE ALARM SMOKE DETECTOR
ELECTRICAL AND ARCHITECT SHEET SET FOR MOUNTING ELEVATIONS OR REFLECTED CEILINGS, FOLLOW ARCHITECT SHEETS.	KVA KILOVOLT-AMPERE KW KILOWATT KWH KILOWATT-HOUR		CONDUIT STUB-UP.	H	FIRE ALARM HEAT DETECTOR
9. MAINTAIN ON THE JOB SITE, IN GOOD CONDITION, ONE SET OF UP-TO-DATE ELECTRICAL DRAWINGS. PROGRESSIVELY, NEATLY,	LTG LIGHT, LIGHTING LFMC LIQUIDTIGHT FLEXIBLE METAL CONDUIT			J ▼	FIRE ALARM SPEAKER/STROBE
LEGIBLY, AND EXACTLY RECORD ON THESE DRAWINGS THE LOCATION OF ALL CONCEALED CONDUIT RUNS AND ALL WORK WHICH IS INSTALLED DIFFERENTLY THAN IN THE LOCATION AND MANNER	LFNC LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER	FIRE	ALARM EQUIPMENT LEGEND	Ţ Ţ Ţ	TOP NUMBER = FUSE RATING, BOTTOM NUMBER = DISCONNECT RATING
INDICATED ON THE DRAWINGS. ON COMPLETION OF THE WORK, THE DRAWINGS SHALL BE TURNED OVER TO THE ARCHITECT FOR APPROVAL AND POSSESSION AS A PERMANENT AND COMPLETE	MCCB MOLDED CASE CIRCUIT BREAKER MDP MAIN DISTRIBUTION PANEL MH METAL HALIDE LIGHT, MAN HOLE	SYMBOL:	DESCRIPTION:	1	USE ALL RK-1 FUSES.
RECORD DOCUMENT OF THE ELECTRICAL WORK.	MLO MAIN LUGS ONLY N, NEUT NEUTRAL (ELECTRICAL)	FACP	FIRE ALARM CONTROL PANEL WITH VOICE EVACUATION MOUNT TOP 66" AFF.	-	SAFETY (DISCONNECT) SWITCH, NON-FUSED NUMBER = DISCONNECT RATING
10. WHEN FOLLOWED BY THE PHRASE "OR EQUAL", SPECIFIC MANUFACTURERS PRODUCTS ARE USED AS AS A BASIS OF DESIGN. ALTERNATE PRODUCT MAY BE PROVIDED IF APPROVED "AS EQUAL"	NEC NATIONAL ELECTRICAL CODE) NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSN. NFPA NATIONAL FIRE PROTECTION ASSOCIATION NL NIGHT LIGHT	FAA	FIRE ALARM ANNUNCIATOR PANEL MOUNT TOP 66" AFF.	XFR KVA	TRANSFORMER (NON-UTILITY) NUMBER INDICATES KVA, EX: 45=45KVA
BY THE ENGINEER OF RECORD AND THE AHJ. 11. FOR ALL ELECTRICAL & COMMUNICATIONS DEVICES AND CIRCUITS,	P POLE PB PULL BOX	F	FIRE ALARM MANUAL PULL STATION MOUNT 42" TO 48" AFF	o company	
CONTRACTOR SHALL FIELD VERIFY WITH OWNER AND COORDINATE WITH ALL OTHER TRADES FINAL LOCATION(S) PRIOR TO ROUGH IN.	PCB POWER CIRCUIT BREAKER PH PHASE (ELECTRICAL) PNL PANEL	R	FAN SHUT DOWN RELAY		TRANSFORMER (UTILITY)
12. PRIOR TO FINAL ACCEPTANCE, CLEAN ALL SWITCHES, CABINETS, DEVICE PLATES, FIXTURES, AND OTHER ITEMS FURNISHED UNDER	PNLB PANELBOARD PVC PLASTIC CONDUIT	↓ F	HEAT DETECTOR, FIXED TEMPERATURE, CEILING MOUNT		SECURITY CAMERA
THIS CONTRACT, AND ENSURE THAT ALL PANEL BOARD DIRECTORIES ARE IN PLACE AND COMPLETED OR REVISED AS REQUIRED BY THE WORK, AND THAT ALL MARKING AND IDENTIFICATION OF ALL	PWR POWER (ELECTRICAL) RCPT RECEPTACLE RMC RIGID METAL CONDUIT	P	SMOKE DETECTOR, PHOTOELECTRIC CEILING MOUNT		SECURITY DOOR CONTACT
EQUIPMENT, JUNCTION BOXES, AND OTHER ITEMS IS COMPLETED. REPAIR OR REPLACE, AS DIRECTED BY THE OWNER, ANY ITEMS	RNC RIGID NONMETALLIC CONDUIT RTU ROOF TOP UNIT (HVAC)		STROBE NOTIFICATION APPLIANCE, WALL MOUNT, ADJUSTABLE CD.		
DAMAGED DUE TO INSTALLATION OR RELOCATION OF EQUIPMENT OR DEVICES AT NO ADDITIONAL COST TO THE OWNER.	SD SMOKE DETECTOR SF SUPPLY FAN SH SHIELDED		VISUAL & AUDIBLE NOTIFICATION APPLIANCE, WALL MOUNT, ADJUSTABLE CD.	<u>IC</u>	INTERCOM
13. UPON THE COMPLETION OF THE WORK, THE ENTIRE ELECTRICAL SYSTEM SHALL BE TESTED AND SHALL BE SHOWN TO BE IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE INTENT OF	SW SWITCH SWBD SWITCHBOARD TEL TELEPHONE	₽P_	DUCT SMOKE DETECTOR		NOT ALL SYMBOLS ARE USED IN EVERY DESIGN
THE SPECIFICATIONS AND DRAWINGS, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL SYSTEMS READY	TTB TELEPHONE TERMINAL BOARD UG UNDERGROUND	TS	TAMPER SWITCH		CODE DISCLAIMERS
FOR OPERATION AND TO HAVE AN ELECTRICIAN AVAILABLE TO OPERATE SAME IN ACCORDANCE WITH OR UNDER THE SUPERVISION OF THE ARCHITECT/ENGINEER AND OR AHJ. THE CONTRACTOR SHALL BE AVAILABLE TO ASSIST IN REMOVAL OF PANEL FRONTS. ETC. TO PERMIT INSPECTION AS REQUIRED.	UL UNDERWRITERS LABORATORY UPS UNINTERRUPTABLE POWER SUPPLY UON UNLESS OTHERWISE NOTED V, VAC VOLT, VOLT AC W WATT WP WEATHERPROOF	FS	WATER FLOW SWITCH	ACCORI ELECTR INCORP	ALL MAIN FEEDERS HAVE BEEN SIZED FOR A MAXIMUM OF 2% VOLTAGE DROP AND ALL BRANCH CIRCUIT FEEDERS HAVE BEEN OF AND 2014 SIZED FOR A MAXIMUM OF 3% CIRCUIT FEEDERS HAVE BEEN
14. ALL WORK SHALL MEET OR EXCEED THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, NATIONAL ELECTRIC CODE (NFPA 70), LOCAL ORDINANCES AND THE AUTHORITY HAVING JURISDICTION.	XFMR POWER TRANSFORMER			EDITION	A BUILDING CODE AND 2014 SIZED FOR A MAXIMUM OF 3% I OF THE FLORIDA FIRE VOLTAGE DROP PER FBC—5TH ITION CODE. EDITION.
15. FLEXIBLE CONDUIT INSTALLED OUT OF DOORS, IN ANY MECHANICAL EQUIPMENT ROOM, OR IN NORMALLY WET AREAS SHALL BE LIQUID TIGHT FLEX WITH SUITABLE FITTINGS.	NOT ALL ABBREVIATIONS ARE USED IN EVERY DESIGN				
16. COORDINATE WITH ALL MECHANICAL TRADES FOR SPACE REQUIREMENTS IN MECHANICAL ROOMS, CORRIDORS, SHAFTS, ABOVE CEILING, ETC. THIS INCLUDES SPACE ABOVE PANELS WHERE DUCTS AND PIPING ARE PROHIBITED.				SHEET	NO. ELECTRICAL SHEET INDEX

FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT, SEE MECHANICAL PLANS.

18. PROVIDE CONDUIT EXPANSION FITTINGS WITH BONDING JUMPERS FAR ALL CONDUITS PASSING THROUGH EXPANSION JOINTS.

ELECTRICAL GENERAL INFORMATION
ELECTRICAL POWER DEMOLITION FLOOR PLANS
ELECTRICAL LIGHTING DEMOLITION FLOOR PLANS
ELECTRICAL RENOVATION FLOOR PLANS
ELECTRICAL RENOVATION FLOOR PLANS
ELECTRICAL PANEL SCHEDULES





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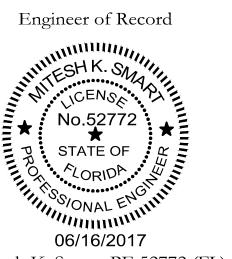
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ORANGE COUNTY CORRECTIONS HORIZONS ELEVATOR MODERNIZATION

Location: 3723 VISION BLVD. ORLANDO, FL 32839

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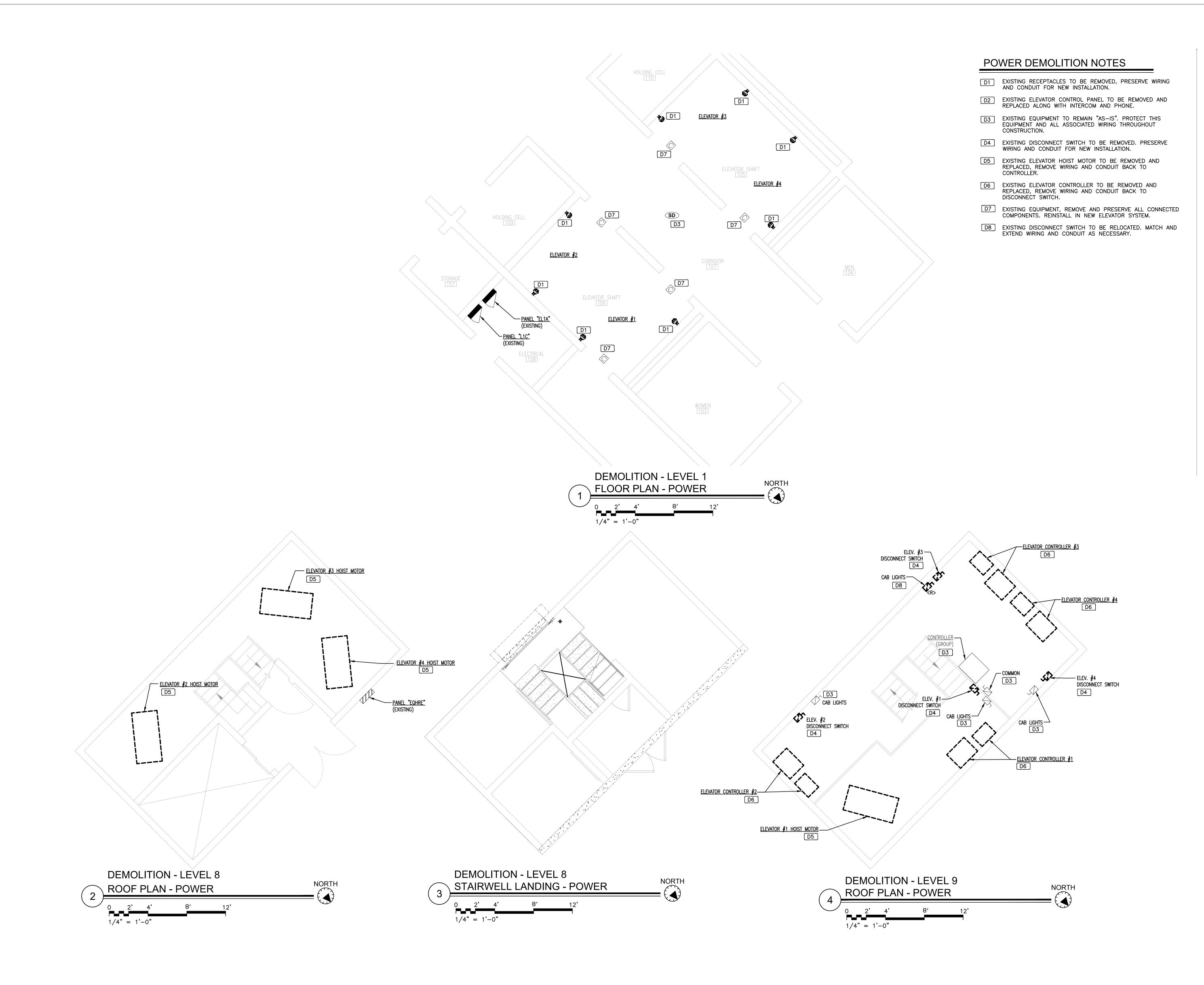
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Project Number: 16.0C.033

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ELECTRICAL GENERAL INFORMATION

E101









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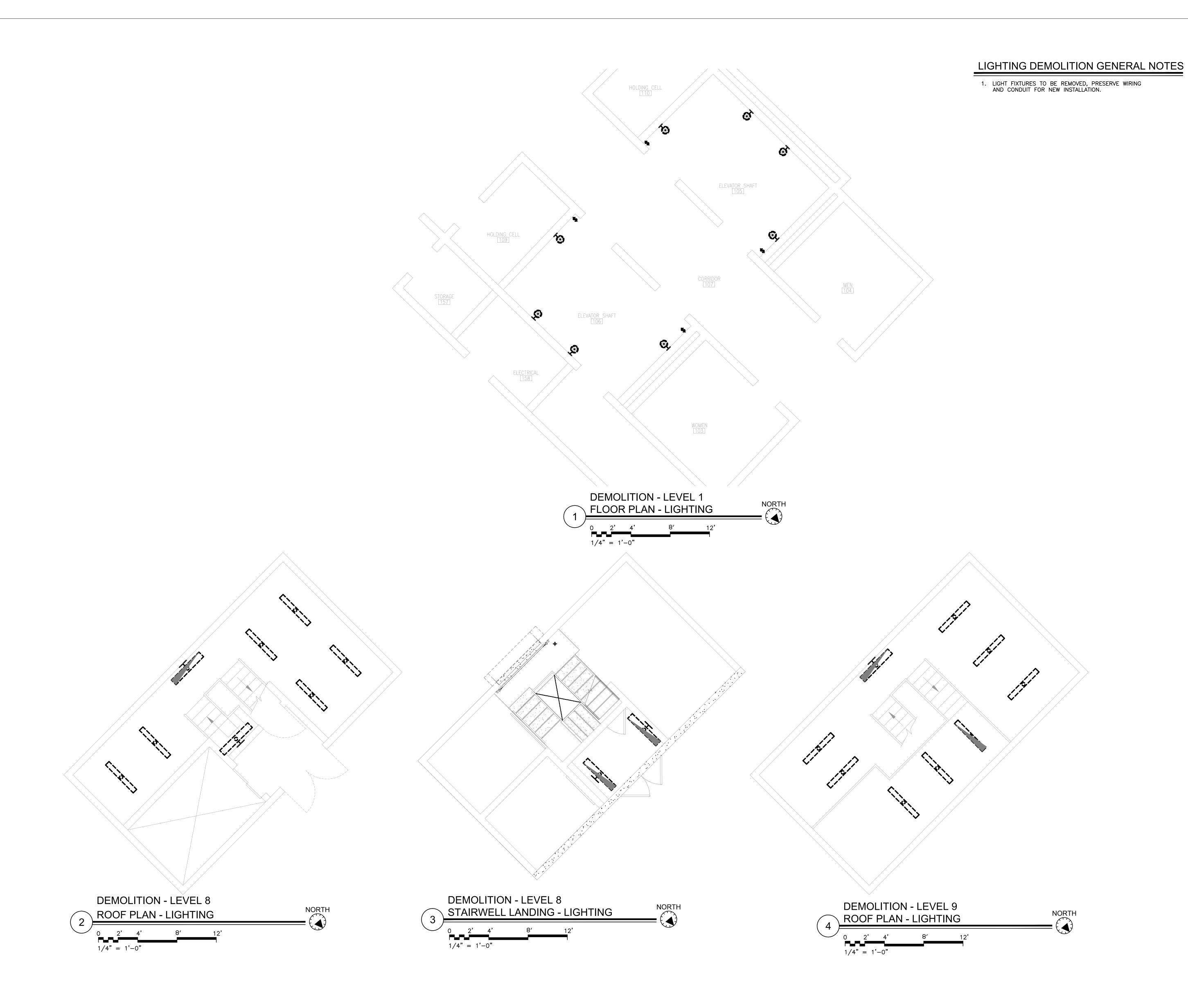
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ELECTRICAL POWER DEMOLITION FLOOR PLANS

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ELECTRICAL

ELECTRICAL LIGHTING DEMOLITION FLOOR PLANS

ED102

ELEVATOR #3 3 ELEVATOR SHAFT ELEVATOR #4 3 3 3 ELEVATOR #2 ELEVATOR #1 (EXISTING) -<u>FIRE CONTROL PANEL</u> WOMEN 103

POWER RENOVATION GENERAL NOTES

- 1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2010 FLORIDA ELEVATOR CODE, THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE 2011 NATIONAL ELECTRICAL CODE (NEC).
- 2. ALL BRANCH CIRCUITS FOR 120 VOLT, 20 AMP CIRCUITS EXCEEDING EIGHTY FEET IN LENGTH SHALL BE INCREASED IN SIZE AS REQUIRED TO ALLOW FOR VOLTAGE DROP LOSSES.
- 3. PACK ALL SLEEVES FOR CONDUITS PASSING THROUGH FIRE RATED WALLS AND FLOOR SLABS WITH FIRE RESISTANT MATERIALS. ALL PENETRATIONS SHALL BE UL
- 4. ALL EMPTY CONDUITS (EC) SHALL BE PROVIDED WITH
- 5. ALL CONDUITS ABOVE SLAB, WHETHER EXPOSED OR CONCEALED, SHALL BE EMT, IMC, OR RIGID GALVANIZED
- 6. FLEXIBLE METAL RACEWAYS SHALL NOT EXCEED 6' IN
- 7. "LIQUID-TIGHT" TYPE FLEXIBLE WEATHERPROOF RACEWAYS SHALL HAVE A METALLIC INTERIOR AND NOT 17 EXCEED 6' IN LENGTH.
- 8. ALL BOXES, PLASTER RINGS, EXTENSION RINGS, AND BOX COVERS SHALL BE METAL.
- 9. ALL CONDUIT SHALL BE PARALLEL AND PERPENDICULAR TO STRUCTURAL MEMBERS.
- 10. ALL BENDS SHALL BE MADE IN CONDUIT USING PROPER EQUIPMENT AND MEET NATIONAL ELECTRICAL CODE (NEC) REQUIREMENTS.

TEMPORARY LIGHTING SHALL PROVIDE ADEQUATE NYLON PULL WIRES. LIGHT SO THAT THE INDIVIDUAL TRADES WORK CAN BE COMPLETED.

LISTED.

16. A GREEN INSULATED COPPER GROUND CONDUCTOR SHALL BE INSTALLED IN ALL RACEWAYS.

11. ALL WIRE, INCLUDING BUT NOT LIMITED TO

12. ALL BREAKERS SHALL BE "FULL SIZE". NO

AIC RATING FOR EXISTING PANEL.

ELECTRICAL CONTRACTOR SHALL BE

BE COPPER - #10 AWG THWN MINIMUM.

13. ALL DEVICES SHALL BE SPECIFICATION GRADE.

RESPONSIBLE FOR TEMPORARY POWER AND

TEMPORARY LIGHTING DURING CONSTRUCTION. TEMPORARY POWER SHALL PROVIDE ADEQUATE POWER FOR NORMAL CONSTRUCTION USE.

FEEDERS AND BRANCH CIRCUIT WIRING, SHALL

TANDEM, PIGGY BACK, TWIN, OR HALF SIZE

BREAKERS WILL BE ACCEPTED. MATCH EXISTING

GROUNDING SYSTEM SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250 AND APPLICABLE REQUIREMENTS OF IEEE STANDARDS 142 AND

ALL ELECTRICAL EQUIPMENT SHALL BE UL

18. CONDUCTORS ARE SIZED FOR VOLTAGE DROP PER N.E.C. ARTICLE 210.19 (A)(1) FPN NO.4 AND F.B.C. 505.7.3.1&2 ON ANY CIRCUITS THAT ARE INSTALLED THAT DIFFER FROM THE DESIGN SHOWN IN THESE PLANS. FEEDER CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 2% AND BRANCHCIRCUIT CONDUCTORS 3% AT DESIGN LOAD.

POWER RENOVATION NOTES

- 1 REPLACE EXISTING RECEPTACLES, CONNECT TO EXISTING CIRCUIT. ALL RECEPTACLES SHALL BE GROUND FAULT CIRCUIT INTERRUPTING TYPE WITH WEATHERPROOF COVERS.
- 2 NEW ELEVATOR CONTROL PANEL WITH INTERCOM/PHONE. 3 EXISTING EQUIPMENT TO REMAIN "AS-IS". PROTECT THIS EQUIPMENT
- AND ALL ASSOCIATED WIRING THROUGHOUT CONSTRUCTION.

4 2P TOGGLE TYPE DISCONNECT SWITCH, MOUNT NEAR AHU HEIGHT.

- 5 VERIFY THAT ALL 120 VAC RECEPTACLES IN ELEVATOR MACHINE AND EQUIPMENT ROOMS ARE GFCI PROTECTED AND REPLACE IF REQUIRED.
- 6 NEW 3P-100A FUSED DISCONNECT SWITCH. VERIFY FINAL OVER CURRENT PROTECTION/FUSE SIZE REQUIRED WITH ELEVATOR MANUFACTURER'S NAME PLATE PRIOR TO ORDERING. MATCH AND EXTEND WIRING AND CONDUIT TO NEW DISCONNECT SWITCH AS NECESSARY. INSTALL 3#3 AND 1#8 GROUND IN 1-1/4" CONDUIT FROM DISCONNECT TO CONTROLLER AND MAKE ALL CONNECTIONS PER ELEVATOR MANUFACTURER'S REQUIREMENTS. PROVIDE GROUNDING FOR CONTROLLER ISOLATION TRANSFORMER PER N.E.C. SEE ELEVATOR DRAWINGS AND SPECIFICATIONS FOR EXACT REQUIREMENTS. PROVIDE FIRE ALARM RELAYS AND ALL REQUIRED EQUIPMENT FOR CONNECTION TO EXISTING FIRE ALARM SYSTEM.
- 7 INSTALL 3#3 AND 1#8 GROUND IN 1-1/4" CONDUIT FROM ELEVATOR CONTROLLËR TO NEW ELEVATOR HOIST MOTOR AND MAKE ALL CONNECTIONS PER ELEVATOR MANUFACTURER'S REQUIREMENTS. SEE ELEVATOR DRAWINGS AND SPECIFICATIONS FOR EXACT REQUIREMENTS.
- 8 NEW NEMA 3R, 3P-30A FUSED DISCONNECT SWITCH.
- 9 PANEL "EL7A" IS LOCATED IN A 7TH FLOOR ELECTRICAL ROOM NEAR THE ELEVATORS. IN PANEL "EL7A"; RELOCATE EXISTING 1 POLE, 20 AMP CIRCUIT BREAKER AND WIRING FEEDING FIRE ALARM FROM CIRCUIT 22 TO CIRCUIT 20. INSTALL A NEW 2 POLE, 20 AMP CIRCUIT BREAKER AT CIRCUITS 22/24 TO FEED (4) NEW AIR HANDLING UNITS AHU-1.1 THRU 2.2. UPDATE CIRCUIT DIRECTORY IN PANEL WITH NEW LOADS. NEW CIRCUIT BREAKERS BEING ADDED MUST MATCH AIC RATING OF EXISTING BREAKERS. PANEL "EL7A" IS RATED AT 10KAIC (CONTRACTOR TO VERIFY).

- 10 PANEL "L7A" IS LOCATED IN A 7TH FLOOR ELECTRICAL ROOM NEAR THE ELEVATORS.
- 11 PROVIDE AND INSTALL TELEPHONE CONNECTION TO ELEVATOR CONTROLLER AS REQUIRED.
- 12 PROVIDE AND INSTALL FIRE ALARM SYSTEM CONNECTION TO

SHUNT TRIP CONNECTED TO SPRINKLER SYSTEM HEAT

DETECTORS IN ELEVATOR EQUIPMENT/MACHINE ROOMS AND

- ELEVATOR CONTROLLER AS REQUIRED. 13 VERIFY THAT CIRCUIT BREAKERS FEEDING ELEVATORS HAVE A
- PROVIDE AS REQUIRED. 14 ELEVATORS ARE FED THROUGH AUTOMATIC TRANSFER SWITCH ATS#3 IN MAIN ELECTRICAL ROOM ON FIRST FLOOR. TIMERS IN ATS MUST BE SET FOR 30 SECOND PRE AND POST TIME
- 15 NEW VRF CONTROLS SYSTEM.

DELAY DURING TRANSFER OF POWER.

- 16 CONNECT TO NEAREST EXISTING RECEPTACLE CIRCUIT.
- 17 INSTALL A LISTED, WEATHERPROOF TRANSIENT VOLTAGE SURGE SUPPRESSOR ON PANEL AND CONNECT PER MANUFACTURER'S INSTRUCTIONS.
- 18 VERIFY THAT THE TRIP SETTING ON EXISTING 100 AMP CIRCUIT BREAKER THAT FEEDS ELEVATOR IS ADJUSTABLE TO MEET REQUIREMENTS OF NEW ELEVATOR AND ADJUST AS REQUIRED. FEEDERS TO NEW ELEVATOR DISCONNECT SWITCH SHOULD BE 3#3 AND 1#8 GROUND IN 1-1/4" CONDUIT
- EXISTING DISCONNECT SWITCH FOR ELEVATOR CAB TO BE REUSED. RECONNECT AND MAKE ALL CONNECTIONS TO NEW ELEVATOR EQUIPMENT PER ELEVATOR INSTALLERS





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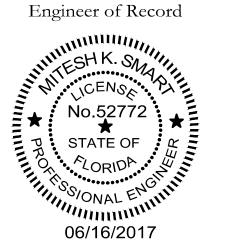
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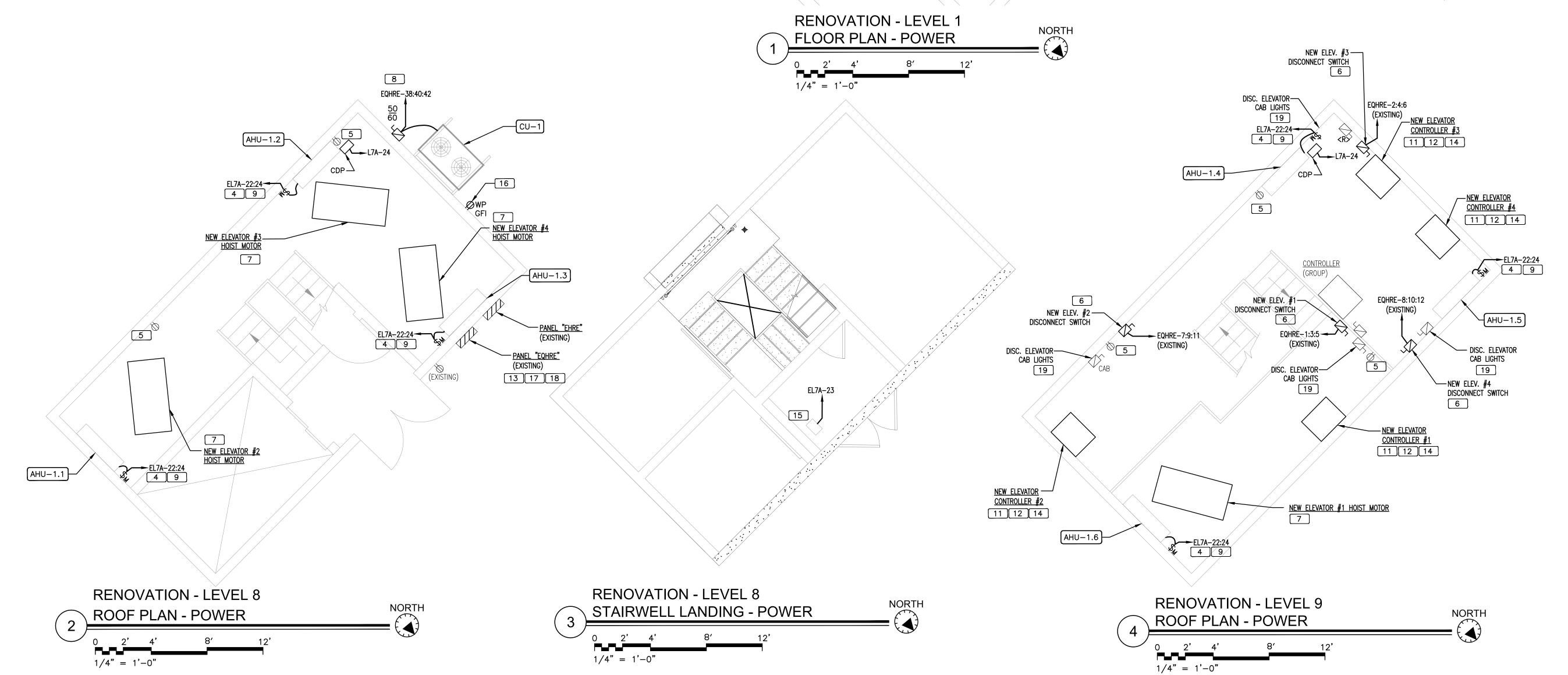
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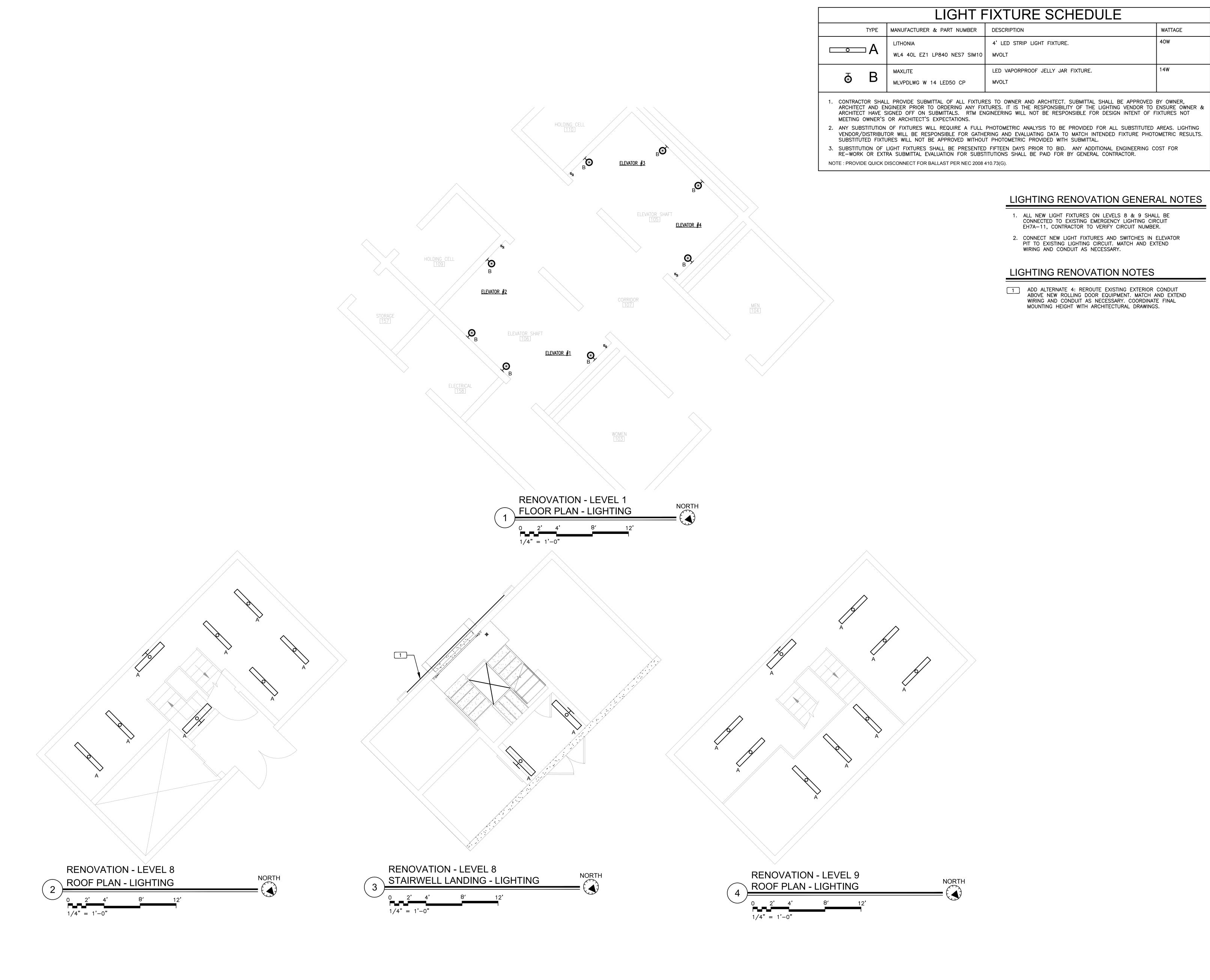
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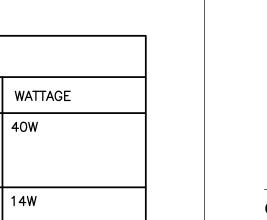
ELECTRICAL **POWER** RENOVATION FLOOR PLANS

Sheet No.:

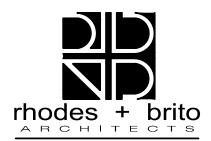
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JUNE 16, 2017

Project Number: 16.0C.033

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MKS ELECTRICAL

LIGHTING RENOVATION FLOOR PLANS

Sheet No.:

E103

UPDATED: 5/5/2017 4:02 pm ISSUED FOR: APPROVAL PANEL L7A (EXIS		ATED: 5/4/2017 2:09 pm ED FOR: APPROVAL	PANEL EL7A (EX	(ISTING)
LOCATION: ELEC RM MAIN: 400A MLO VOLTAGE: 120Y/208V SYSTEM: 3Ø, 4W TRIM: SURFACE BUS RATING 400A	CONN. LOAD: 22.9 KVA FEED: TOP GROUND BUS: YES COPPER	LOCATION: ELEC RM VOLTAGE: 120Y/208V TRIM: SURFACE	MAIN: 100A MLO SYSTEM: 3ø, 4W BUS RATING 100A	CONN. LOAD: 28.1 KVA FEED: TOP GROUND BUS: YES COPPER
CKT LOAD SERVED COND PHASE NEUT GND BKR DMD L1 L2 L3 DMD BKR COND	PHASE NEUT GND LOAD SERVED CKT CKT	LOAD SERVED COND PHASE NEUT	GND BKR DMD L1 L2 L3 DMD BKR CON	D PHASE NEUT GND LOAD SERVED CKT
1 LIGHTS 20/1 L 1200 R 20/1	RECEPTS 2 1	LIGHTING CONTROL	20/1 N 800 N 20/1	OUTLET FOR SERVER 2
3 LIGHTS 20/1 L 1200 R 20/1	RECEPTS 4 3	CARD ACCESS	20/1 N 800 N 20/1	ELEV CONTROL 4
5 LIGHTS 20/1 L 1200 R 20/1	RECEPTS 6 5	EMCS	20/1 N 1200 N 20/1	ELEV CONTROL 6
7 LIGHTS 20/1 L 1200 R 20/1	RECEPTS 8 7	EMCS	20/1 N 1200 N 20/1	ELEV CONTROL 8
9 ROOF RECEPTACLE 20/1 R 600 R 20/1	RECEPTS 10 9	EMCS	20/1 N 1200 N 20/1	ELEV CONTROL 10
11 ROOF RECEPTACLE 20/1 R 600 R 20/1	RECEPTS 12 11	EMCS	20/1 N 1200 N 20/1	EMCS 12
13 ROOF RECEPTACLE 20/1 R 600 R 20/1	RECEPTS 14 13	EMCS	$20/1$ N $\frac{1200}{1200}$ N $20/1$	EMCS 14
15 ROOF RECEPTACLE 20/1 R 600 N 20/1	EWC 16 15	EMCS	20/1 N 1200 N 20/1	EMCS 16
17 EXISTING LOAD 20/1 N 1000 N 20/1	EWC 18 17	EMCS	20/1 N 1200 N 20/1	EMCS 18
19 EXISTING LOAD 20/1 N 1000	SPACE 20 19	EMCS	20/1 N 1200 N 20/1	FIRE ALARM 20
21 SPACE - 1500 N 20/1 3/4"	#10 #10 #10 CDP 22 21	EXISTING LOAD		" #10 #10 #10 ELEVATOR AHU 1.1–2.2 22
23 SPACE - 1500 N 20/1 3/4"	#10 #10 #10 CDP 24 23	ELEVATOR – VRF CONTROL 3/4" #10 #10		#10 24
INTERRUPT RATING: 7300 7600 8000	FROM:	INTERRUPT RATING:	8500 9675 9875	FROM:
LOADS (IN VA) CONNECTED DEMAND MINIMUM FACTOR FEEDER LOADS CONNECTED DEMAND MINIMUM FACTOR FEEDER	REMAINING CONTINUOUS LOADS 0 1.25 0 LO	ADS (IN VA) CONNECTED DEMAND MINIMUM FACTOR FEEDER	LOADS CONNECTED DEMAND MINIMUM FACTOR FEEDER	REMAINING CONTINUOUS LOADS 0 1.25 0
LIGHTING 4800 1.25 6000 NON-SEASONAL MOTORS 0 1.0 0 RECEPTS TO 10 KVA 10000 1.0 10000 LARGEST MOTOR 0 0.25 0	DEMAND LOADS 0 1.0 8000 RE	SHTING 0 1.25 0 CEPTS TO 10 KVA 0 1.0 0 CEPTS REMAINING 0 0.5 0	NON-SEASONAL MOTORS 0 1.0 0 LARGEST MOTOR 0 0.25 0	REMAINING NON-CONTINUOUS LOADS 24700 1.0 24700 DEMAND LOADS 0 1.0 0
SPACE HEATING 0 0.0 0 WATER HEATING 0 1.0 0 AIR CONDITIONING 0 1.0 0 KITCHEN EQUIP. 0 1.0 0		ACE HEATING 0 0.0 0 R CONDITIONING 3350 1.0 3350	WATER HEATING 0 1.0 0 KITCHEN EQUIP. 0 1.0 0	TOTAL CONNECTED LOAD 28.1 KVA 77.9 AMPS MIN. FEEDER/PANEL CAP. 28.1 KVA 77.9 AMPS OVERALL DEMAND FACTOR 1.00

		ATION: ELE TAGE: 277 1: SUF	Y/480 RFACE						SYSTE	400A M: 3ø, RATING	4W	1		FE GR	ED: T	OP	54.7 KVA ES COPPER	
CKT	LOAD SERVED	COND	PHASE	NEUT	GND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	GND	LOAD SERVE	ED
1	ELEV #1 (40HP)					100/3	Ν	14410 14410			N	100/3					ELEV #3 (40H	IP)
3							Ν		14410 14410		N							
5							Ν			14410 14410	N							
7	ELEV #2 (40HP)					100/3	Ν	14410 14410			N	100/3					ELEV #4 (40H	IP)
9							Ν		14410 14410		N							
11							Ν			14410 14410	N							
13	RF (3HP)					15/3	Ν	1330 1330			N	15/3					RF (3HP)	
15							Ν		1 <u>330</u> 1 <u>330</u>		N							
17							Ν			1330 1330	N							
19	RF (3HP)					15/3	Ν	1330 1330			N	15/3					RF (3HP)	
21							Ν		1 <u>330</u> 1 <u>330</u>		N							
23							Ν			1330 1330	N							
25	RF (3HP)					15/3	Ν	1330 1330			N	15/3					RF (3HP)	
27							Ν		1 <u>330</u> 1 <u>330</u>		N							
29							Ν			1330 1330	N							
31	RF (3HP)					15/3	Ν	1 <u>3</u> 30 1 <u>3</u> 30			N	15/3					RF (3HP)	
33							Ν		1 <u>330</u> 1 <u>330</u>		N							
35							Ν			1330 1330	N							
37	EXISTING LOAD					30/3	N	6000 10614			Α	50/3	1"	#6	#6	#10	CU - 1	
39							N		6000 10614		Α			#6				
41							N			6000 10614	Α			#6				
43		_	_	_	_	-	-	_			_	_	_	_	_	-		
45	_	_	_	_	_	_	_				_	_	_	_	_	-	_	
47	-	_	-	_	-	-	_				-	_	-	_		-	_	

LOADS (IN VA)	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	01.250
LIGHTING RECEPTS TO 10 KVA RECEPTS REMAINING	 	1.25 1.0 0.5	0 0 0	NON-SEASONAL MOTORS LARGEST MOTOR	0	1.0 0.25	0 998	REMAINING NON-CONTINUOUS LOADS DEMAND LOADS	<u>222840</u> 1.0 <u>222840</u> <u>0</u> 1.0 <u>0</u>
SPACE HEATING	0	0.0	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	<u>254.7</u> KVA <u>306.5</u> AN
AIR CONDITIONING	31842_	1.0	31842	KITCHEN EQUIP.	0	1.0	0	MIN. FEEDER/PANEL CAP. OVERALL DEMAND FACTOR	255.7 KVA 307.7 A





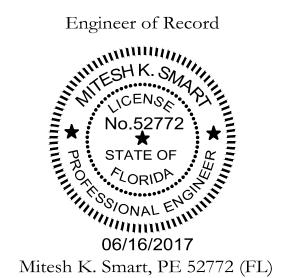


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Project Number: 16.0C.033

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ELECTRICAL PANEL SCHEDULES

Sheet No.: **E201**