THE CITY OF LAKE WORTH - COMMUNITY SUSTAINABILITY DEPARTMENT
PORCH ENCLOSURE AND NEW OFFICE SPACE

1900 SECOND AVENUE NORTH, LAKE WORTH, FLORIDA 33461

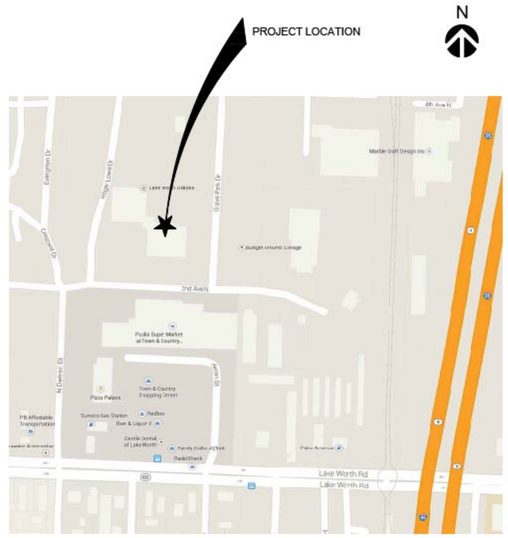
SYMBOLS AND MATERIALS

- KEY NOTE
- REVISION TAG
- DOOR TAG
- WINDOW TAG
- PARTITION TYPE
- COLUMN DESIGNATION
- ROOM NAME & NUMBER (ROOM 101)
- ELEVATION INDICATOR (NAME ELEVATION #)
- ELEVATION INDICATOR (5 / A5.2)
- SECTION INDICATOR (5 / A5.2)
- DETAIL INDICATOR (5 / A5.2)

- UNDISTURBED EARTH OR UNDISTURBED SUBGRADE
- COMPACTED EARTH OR COMPACTED SUBGRADE
- POROUS FILL OR SUBBASE
- CAST IN PLACE CONCRETE
- PRECAST CONCRETE
- GROUT
- CONCRETE MASONRY UNITS
- GLAZES FACED CONCRETE MASONRY UNITS
- BRICK
- GLAZED BRICK
- GLASS UNIT MASONRY
- STEEL
- ALUMINUM

- ORNAMENTAL METAL
- CONTINUOUS WOOD FRAMING
- WOOD BLOCKING
- PLYWOOD
- PARTICLE/FIBER BOARD
- FINISHED WOOD
- BATT INSULATION
- RIGID INSULATION
- LATH AND PLASTER
- GYPSUM BOARD
- CERAMIC TILE
- ACOUSTICAL CEILING

VICINITY MAP



CODE DATA

THE BUILDING DESIGN SHALL COMPLY WITH THE FOLLOWING CODES:

BUILDING CODES:

FLORIDA EXISTING BUILDING CODE	FIFTH EDITION - 2014
FLORIDA MECHANICAL CODE	FIFTH EDITION - 2014
NATIONAL ELECTRICAL CODE	2008, NFPA 70
FLORIDA PLUMBING CODE	FIFTH EDITION - 2014
FLORIDA FIRE PREVENTION CODE	FIFTH EDITION

BUILDING DATA:

OCCUPANCY: EXISTING USE: GROUP B AND S. - NEW ADDITION: GROUP B
CONSTRUCTION TYPE: IIB, SPRINKLERED
CLASSIFICATION OF WORK: ADDITION

EXISTING BUILDING AREA: ± 25,200 SF (STORAGE:16,736 SF; BUSINESS: 8,464 SF)

NEW ADDITION AREA: 1,451 SF

DESIGN LOADS:

ULTIMATE DESIGN WIND SPEED (3 SECOND GUST) = 170 MPH
NOMINAL DESIGN WIND SPEED (3 SECOND GUST) = 132 MPH
EXPOSURE: C
IMPORTANCE FACTOR: I = 1.0
RISK (BUILDING) CATEGORY: II
COMPONENTS AND CLADDING WIND PRESSURE = 53.2 PSF

SCOPE OF WORK

ENCLOSING EXISTING COVERED CONCRETE AREA (PORCH) WITH NEW WALL MATCHING EXISTING STRUCTURE; CREATING NEW OPEN OFFICE SPACE.

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ABBREVIATIONS

ABV	ABOVE	GA	GAGE, GAUGE	REC	RECESSED
AB	ANCHOR BOLT	GALV	GALVANIZED	REF	REFERENCE
ACT	ACOUSTICAL CEILING TILE	GC	GENERAL CONTRACTOR	REINF	REINFORCE
AFF	ABOVE FINISH FLOOR	GL	GLASS, GLAZING	REQ	REQUIRED
ADJ	ADJACENT	GB	GRAB BAR	REV	REVISION
A/C	AIR CONDITIONING	GA	GAUGE	RD	ROOF DRAIN
AHU	AIR HANDLING UNIT	GYP	GYPSUM	RM	ROOM
ALUM	ALUMINUM	GWB	GYPSUM WALL BOARD	RO	ROUGH OPENING
ANOD	ANODIZED				
APPROX	APPROXIMATE	HP	HANDICAPPED	SND	SANITARY NAPKIN DISPENSER
ARCH	ARCHITECTURAL	HVAC	HEATING/VENTILATING/ AIR CONDITIONING	SCHED	SCHEDULE
BM	BEAM	HT	HEIGHT	SECT	SECTION
BRG	BEARING	HP	HIGH POINT	SHT	SHEET
BRK	BRICK	HM	HOLLOW METAL	SH	SHELF, SHELVING
BLDG	BUILDING	HB	HOSE BIBB	SIM	SIMILAR
BUR	BUILT-UP ROOFING	HORIZ.	HORIZONTAL	SD	SOAP DISPENSER
				SPEC	SPECIFICATION
CPT	CARPET	IN	INCH	SQ	SQUARE
CLG	CEILING	INSUL	INSULATE(D), (ION)	SS	STAINLESS STEEL
CL	CENTER LINE	INT	INTERIOR	ST	STAIR
CT	CERAMIC TILE			STL	STEEL
COL	COLUMN	JAN	JANITOR	STRUC	STRUCTURAL
CONC	CONCRETE	JT	JOINT S	SUSP	SUSPENDED
CMU	CONCRETE MASONRY UNIT			SYS	SYSTEM
CONT.	CONTINUOUS	LAM	LAMINATE		
CONTR	CONTRACTOR	LAV	LAVATORY	TKBD	TACKBOARD
CORR	CORRIDOR	LT	LIGHT	TEMP	TEMPERED
				THK	THICK(NESS)
DEPT	DEPARTMENT	MFR	MANUFACTURE (ER)	TPD	TOILET PAPER DISPENSER
DTL	DETAIL	MAS	MASONRY		
DIAG	DIAGONAL	MO	MASONRY OPENING	T&G	TONGUE AND GROOVE
DIAM	DIAMETER	MAX	MAXIMUM	T&B	TOP AND BOTTOM
DIM	DIMENSION	MECH	MECHANICAL	TC	TOP OF CONCRETE
DR	DOOR	MTL	METAL	TF	TOP OF FOOTING
DN	DOWN	MIN	MINIMUM	TJ	TOP OF JOIST
DWG	DRAWING	MISC	MISCELLANEOUS	TSL	TOP OF SLAB
		MIR	MIRROR	TST	TOP OF STEEL
EA	EACH	MR	MOISTURE RESISTANT T	TW	TOP OF WALL
ELEC	ELECTRIC(AL)	MTD	MOUNTED	TYP	TYPICAL
EWC	ELECTRIC WATER COOLER				
EL	ELEVATION	N	NORTH	UC	UNDERCUT
ENG	ENGINEER	NA	NOT APPLICABLE	UL	UNDERWRITER
EQ	EQUAL	NIC	NOT IN CONTRACT	UNO	UNLESS NOTED OTHERWISE
EXP	EXPOSED	NTS	NOT TO SCALE		
EJT	EXPANSION JOINT	NO	NUMBER	UR	URINAL
EXT	EXTERIOR				
EIFS	EXTERIOR INSULATION & FINISH SYSTEM	OC	ON CENTER	VERT	VERTICAL
		OPNG	OPENING	VIF	VERIFY IN FIELD
		OPP	OPPOSITE	VEST	VESTIBULE
FIN	FINISH(ED)	OH	OVER HEAD	VCT	VINYL COMPOSITION TILE
FF	FINISHED FLOOR			VWC	VINYL WALL COVERING
FA	FIRE ALARM	PTD	PAINT(ED)		
FE	FIRE EXTINGUISHER	PNL	PANEL	WC	WATER CLOSET
FEC	FIRE EXTINGUISHER CABINET	PL	PLATE	WH	WATER HEATER
		PWD	PLYWOOD	WR	WATER RESISTANT
FIXT	FIXTURE	PSF	POUNDS PER SQUARE FOOT	WP	WATERPROOFING
FLG	FLASHING			WWF	WELDED WIRE FABRIC
FLR	FLOOR(ING)	PSI	POUNDS PER SQUARE INCH	WWM	WELDED WIRE MESH
FD	FLOOR DRAIN			WIN	WINDOW
FLOUR	FLUORESCENT	PROP	PROPOSED	WM	WIRE MESH
FTG	FOOTING			W/	WITH
FDN	FOUNDATION	QTY	QUANTITY	W/O	WITH OUT
FURR	FURRED (ING)	QT	QUARRY TILE	WD	WOOD

GENERAL NOTES

1. DRAWINGS ARE IN INCHES UNLESS OTHERWISE NOTED.

2. DIMENSIONS ARE GIVEN TO FACE OF CONCRETE PRECAST, FACE OF CONCRETE WITHOUT FINISH AND CENTER OF COLUMN.

3. PERFORM WORK IN ACCORDANCE WITH ALL APPLICABLE LOCAL CODES AND REGULATORY REQUIREMENTS.

4. KEEP THE PREMISES NEAT AND CLEAN AT ALL TIMES.

5. PROTECT ALL AREAS ADJACENT TO THE WORK AREA, OR THROUGH WHICH MATERIALS MUST PASS, TO PREVENT DAMAGE RESULTING FROM CONSTRUCTION OR MATERIALS HANDLING. RESTORE TO ORIGINAL CONSTRUCTION, IF DISTURBED.

6. WHEN "APPROVED EQUAL", "EQUAL TO", OR OTHER GENERAL QUALIFYING TERMS ARE USED, INTERPRET AS "TO BE REVIEWED BY THE ARCHITECT".

7. FOLLOW THE MANUFACTURE'S STRICTEST WRITTEN RECOMMENDATIONS FOR HANDLING, INSTALLATION, AND/OR APPLICATION OF ALL MATERIALS AND/OR PRODUCTS CONSISTENT WITH THE SKILL AND CARE NECESSARY FOR THE ORDERLY PROGRESS OF WORK.

8. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. LARGE SCALE DRAWINGS GOVERN OVER SMALL SCALE DRAWINGS.

9. ALL FLOOR ELEVATIONS ARE GIVEN TO TOP OF CONC. SLAB (TOC), TOP OF WALL (TOW), OR TOP OF FLOOR FINISH (FEE), AS INDICATED.

10. PERFORM ALL WORK IN A WORKMANLIKE MANNER.

11. ALL DISTANCES, DATA AND EXISTING STRUCTURES AND UTILITIES ABOVE OR BELOW THE GROUND, WITHIN THE LIMITS OF THIS PROJECT SHALL BE CHECKED BY THE CONTRACTOR. IN CASE OF CONFLICT, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IN ORDER THAT CLARIFICATION MAY BE MADE.

12. SITE SURVEY DRAWINGS ARE FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY AND PROVIDE ALL SITE SURVEY REQUIRED FOR THE WORK OF THIS PROJECT.

13. DETAILS ARE INTENDED TO SHOW METHOD AND MANNER OF ACCOMPLISHING WORK. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS AND SHALL BE INCLUDED AS PART OF THE CONTRACTORS WORK.

14. THE FOLLOWING REQUIREMENTS SHALL APPLY TO ALL NEW AND REMODEL CONSTRUCTION PROJECTS.

15. IN THE EVENT THE CONTRACTOR DISCOVERS, AT ANY TIME DURING DEMOLITION, CONSTRUCTION AND/OR REMODELING OPERATIONS, CONDITIONS THAT COULD INCLUDE THE PRESENCE OF MOLD AND OR MILDEW THE CONTRACTOR SHALL NOTIFY THE OWNER AND ARCHITECT IMMEDIATELY, IN WRITING OF THE CONCERNS AND/OR SUSPICIONS.

16. CONCURRENTLY, THE CONTRACTOR SHALL BE RESPONSIBLE TO RETAIN A MOLD AND MILDEW CERTIFIED TESTING AGENCY TO PERFORM AN INVESTIGATION AND TESTING AS REQUIRED TO EVALUATE THE NATURE AND EXTENT OF THE PROBLEM. IF HAZARDS ARE CONFIRMED, THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN (2) TWO BIDS FROM COMPANIES QUALIFIED AND LICENSED TO PERFORM ALL NECESSARY REMEDIATION WORK, COMPLYING WITH ALL LOCAL, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS, CODES AND STATUTES.

17. THE CONTRACTOR SHALL COMPLY WITH FEDERAL, ENVIRONMENTAL AND OSHA REGULATIONS AND ALL LOCAL AND STATE HEALTH DEPARTMENT REQUIREMENTS AND RECOMMENDATIONS REGARDING MOLD AND MILDEW.

18. ALL PENETRATIONS SHALL BE SEALED WATER-TIGHT TO PREVENT MOISTURE MIGRATION FROM ENTERING THE STRUCTURE OR WALL CAVITIES.

19. INSURE THERE ARE NO WATER LEAKS IN CONCEALED PLUMBING CHASES. RETURN AIR PATHS AND PLENUMS SHALL BE KEPT DRY. ALL EXISTING SUPPLY AIR PATHS AND DUCTWORK TO BE REUSED SHALL BE CLEANED AND TREATED AS REQUIRED TO REMOVE THE POTENTIAL FOR MOLD AND MILDEW. ALL DAMP AREAS SHALL BE DRIED THOROUGHLY PRIOR TO ENCLOSURE.

PROJECT TEAM

OWNER

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MECH. - PLUMB. - ELECT.

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REVISION HISTORY

REVISION NO.	DATE	NOTES

CERTIFICATION

TO THE BEST OF THE ARCHITECT'S KNOWLEDGE INFORMATION, AND BELIEF, THIS DESIGN IS IN COMPLIANCE WITH APPLICABLE CODES AND LAWS.

I. ILKER UZUN, RA FL. REG. AR095507 DATE

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ISMAIL ILKER UZUN, RA FLAR095507

No.	Date	Revision	By

Designed by:	I.I.U.
Drawn by:	I.I.U.
Checked by:	I.I.U.
Approved by:	I.I.U.
Scale:	
Date:	11/15/15
Job No.:	L10103

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COVER SHEET

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT CITY OF LAKE WORTH

Sheet No.
CS

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GENERAL SPECIFICATION STANDARDS

DIVISION 5 - METALS

05400 COLD FORMED METAL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. FORMED STEEL STUD WALL FRAMING.

1.02 SUBMITTALS

A. PRODUCT DATA: PROVIDE MANUFACTURER'S DATA ON FACTORY-MADE FRAMING CONNECTORS, SHOWING COMPLIANCE WITH REQUIREMENTS.

B. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES, CONDITIONS REQUIRING SPECIAL ATTENTION

1.03 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE TYPES OF PRODUCTS SPECIFIED IN THIS SECTION, AND WITH MINIMUM THREE YEARS OF DOCUMENTED EXPERIENCE.

B. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH MINIMUM FIVE YEARS OF EXPERIENCE.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. METAL FRAMING, CONNECTORS, AND ACCESSORIES:
1. CLARKWESTERN DIETRICH BUILDING SYSTEMS LLC: WWW.CLARKDIETRICH.COM.
2. MARINOWARE: WWW.MARINOWARE.COM.
3. THE STEEL NETWORK, INC: WWW.STEELNETWORK.COM.

2.02 FRAMING SYSTEM

A. PROVIDE PRIMARY AND SECONDARY FRAMING MEMBERS, BRIDGING, BRACING, PLATES, GUSSETS, CLIPS, FITTINGS, REINFORCEMENT, AND FASTENINGS AS REQUIRED TO PROVIDE A COMPLETE FRAMING SYSTEM.

2.03 FRAMING MATERIALS

A. STUDS AND TRACK: ASTM C955; STUDS FORMED TO CHANNEL, "C", OR "SIGMA" SHAPE WITH PUNCHED WEB; U-SHAPED TRACK IN MATCHING NOMINAL WIDTH AND COMPATIBLE HEIGHT.
1. GAGE: 20; UNLESS NOTED OTHERWISE.
2. STUD DEPTH: 4 AND 6 INCH.
3. PROVIDE COMPONENTS FABRICATED FROM ASTM A1008/A1008M, DESIGNATION SS STEEL.

2.04 ACCESSORIES

A. BRACING, FURRING, BRIDGING: FORMED SHEET STEEL, THICKNESS DETERMINED FOR CONDITIONS ENCOUNTERED; FINISH TO MATCH FRAMING COMPONENTS.

B. PLATES, GUSSETS, CLIPS: FORMED SHEET STEEL, THICKNESS DETERMINED FOR CONDITIONS ENCOUNTERED; FINISH TO MATCH FRAMING COMPONENTS.

2.06 FASTENERS

A. SELF-DRILLING, SELF-TAPPING SCREWS, BOLTS, NUTS AND WASHERS: HOT DIP GALVANIZED PER ASTM A153/A153M.

B. ANCHORAGE DEVICES: POWER ACTUATED.

PART 3 EXECUTION

3.01 INSTALLATION OF STUDS

A. INSTALL COMPONENTS IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS AND ASTM C1007 REQUIREMENTS.

3.02 INSTALLATION OF JOISTS AND PURLINS

A. INSTALL FRAMING COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. MAKE PROVISIONS FOR ERECTION STRESSES. PROVIDE TEMPORARY ALIGNMENT AND BRACING.

3.03 WALL SHEATHING

A. WALL SHEATHING: SECURE WITH LONG DIMENSION PERPENDICULAR TO WALL STUDS, WITH ENDS OVER FIRM BEARING AND STAGGERED, USING SELF-TAPPING SCREWS.

05500 FABRICATED WALL PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. FORMED STEEL WALL PANELS.

1.02 SUBMITTALS

A. PRODUCT DATA: PROVIDE MANUFACTURER'S DATA ON FACTORY-MADE FRAMING CONNECTORS, SHOWING COMPLIANCE WITH REQUIREMENTS.

B. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES, CONDITIONS REQUIRING SPECIAL ATTENTION

1.03 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE TYPES OF PRODUCTS SPECIFIED IN THIS SECTION, AND WITH MINIMUM THREE YEARS OF DOCUMENTED EXPERIENCE.

B. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH MINIMUM FIVE YEARS OF EXPERIENCE.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. METAL FRAMING, CONNECTORS, AND ACCESSORIES:
1. MBMI: WWW.MBMISTEELBUILDINGS.COM.

2.02 METAL PANEL SYSTEM

A. PROVIDE METAL PANELS, LOW RIB SOFFITS, CLIPS, FITTINGS, TRIMS, AND FASTENINGS AS REQUIRED TO PROVIDE A COMPLETE METAL WALL SYSTEM.

2.03 METAL PANEL MATERIALS

1. FLORIDA PRODUCT APPROVAL: FL# 1845.3
2. UL 580 UP-LIFT TESTED - CLASS 90 RATED
3. GAGE: 24
4. FACTORY FINISHED KYNAR 500

2.04 ACCESSORIES

A. BRACING, FURRING, BRIDGING: FORMED SHEET STEEL, THICKNESS DETERMINED FOR CONDITIONS ENCOUNTERED; FINISH TO MATCH FRAMING COMPONENTS.

B. PLATES, GUSSETS, CLIPS: FORMED SHEET STEEL, THICKNESS DETERMINED FOR CONDITIONS ENCOUNTERED; FINISH TO MATCH FRAMING COMPONENTS.

2.06 FASTENERS

A. SELF-DRILLING, SELF-TAPPING SCREWS, BOLTS, NUTS AND WASHERS: HOT DIP GALVANIZED PER ASTM A153/A153M.

B. ANCHORAGE DEVICES: POWER ACTUATED.

PART 3 EXECUTION

3.01 INSTALLATION OF PANELS

A. INSTALL COMPONENTS IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS AND REQUIREMENTS.

3.02 INSTALLATION OF JOISTS AND PURLINS

A. INSTALL FRAMING COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. MAKE PROVISIONS FOR ERECTION STRESSES. PROVIDE TEMPORARY ALIGNMENT AND BRACING.

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07210 - BUILDING INSULATION

PART 1 - GENERAL

1.2 SUMMARY
A. THIS SECTION INCLUDES THE FOLLOWING:
1. REFLECTIVE INSULATION.

1.3 QUALITY ASSURANCE
A. SOURCE LIMITATIONS: OBTAIN EACH TYPE OF BUILDING INSULATION THROUGH ONE SOURCE.
B. FIRE-TEST-RESPONSE CHARACTERISTICS: PROVIDE INSULATION AND RELATED MATERIALS WITH THE FIRE-TEST-RESPONSE CHARACTERISTICS INDICATED, AS DETERMINED BY TESTING IDENTICAL PRODUCTS PER TEST METHOD INDICATED BELOW BY UL OR ANOTHER TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. IDENTIFY MATERIALS WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AND INSPECTING AGENCY.
1. SURFACE-BURNING CHARACTERISTICS: ASTM E 84.
2. FIRE-RESISTANCE RATINGS: ASTM E 119.
3. COMBUSTION CHARACTERISTICS: ASTM E 136.

C. REFLECTIVE INSULATION SHALL COMPLY WITH: ASTM 1224, FEDERAL SPECIFICATION HH-I-1252B, SSBCCI REPORT 94101.

1.4 DELIVERY, STORAGE, AND HANDLING
A. PROTECT INSULATION MATERIALS FROM PHYSICAL DAMAGE AND FROM DETERIORATION BY MOISTURE, SOILING, AND OTHER SOURCES. STORE INSIDE AND IN A DRY LOCATION. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR HANDLING, STORING, AND PROTECTING DURING INSTALLATION.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. REFLECTIVE INSULATION (AS SHOWN ON DRAWINGS):
a. FI-FOIL COMPANY, PO BOX 800, AUBURNDALE, FLORIDA 33823. TOLL FREE (800) 448-3401. PHONE (863) 965-1846. FAX (863) 967-0137. WEB SITE WWW.FIFOIL.COM. E-MAIL CUSTSERV@FIFOIL.COM.

2.2 INSULATING MATERIALS
A. GENERAL: PROVIDE INSULATING MATERIALS THAT COMPLY WITH REQUIREMENTS AND WITH REFERENCED STANDARDS.
1. PREFORMED UNITS: SIZES TO FIT APPLICATIONS INDICATED; SELECTED FROM MANUFACTURER'S STANDARD THICKNESSES, WIDTHS, AND LENGTHS.
B. REFLECTIVE INSULATION:
1. NON-PERFORATED VERSION (VAPOR RETARDER).
2. EXPANDS TO FORM 3 REFLECTIVE AIR SPACES. LAYERS HAVE INTERNAL EXPANDERS THAT SEPARATE PAPER FROM FOIL CREATING REFLECTIVE AIR SPACES. THIS AIR SPACE ADJACENT TO OUTSIDE WALL IS DEPENDENT ON THICKNESS OF FURRING STRIP.
3. LAYERS:
A. 35 POUND NATURAL KRAFT PAPER COATED WITH POLYETHYLENE.
B. 30 POUND NATURAL KRAFT PAPER LAMINATED TO 0.00025 INCH PURE ALUMINUM FOIL WITH A FIRE-RETARDANT ADHESIVE.
C. MINIMUM 0.00035 INCH PURE ALUMINUM FOIL.

PART 3 - EXECUTION

3.1 EXAMINATION
A. EXAMINE SUBSTRATES AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR SECTIONS IN WHICH SUBSTRATES AND RELATED WORK ARE SPECIFIED AND OTHER CONDITIONS AFFECTING PERFORMANCE.
B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION
A. CLEAN SUBSTRATES OF SUBSTANCES HARMFUL TO INSULATIONS OR OF INTERFERING WITH INSULATION ATTACHMENT.

3.3 INSTALLATION, GENERAL
A. COMPLY WITH INSULATION MANUFACTURER'S WRITTEN INSTRUCTIONS APPLICABLE TO PRODUCTS AND APPLICATION INDICATED.
B. INSTALL INSULATION THAT IS UNDAMAGED, DRY, AND UNSOILED AND THAT HAS NOT BEEN LEFT EXPOSED AT ANY TIME TO ICE AND SNOW.
C. EXTEND INSULATION IN THICKNESS INDICATED TO ENVELOP ENTIRE AREA TO BE INSULATED. CUT AND FIT TIGHTLY AROUND OBSTRUCTIONS AND FILL VOIDS WITH INSULATION. REMOVE PROJECTIONS THAT INTERFERE WITH PLACEMENT.

3.4 INSTALLATION OF GENERAL BUILDING INSULATION
A. APPLY INSULATION UNITS TO SUBSTRATES BY METHOD INDICATED, COMPLYING WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. IF NO SPECIFIC METHOD IS INDICATED, BOND UNITS TO SUBSTRATE WITH ADHESIVE OR USE MECHANICAL ANCHORAGE TO PROVIDE PERMANENT PLACEMENT AND SUPPORT OF UNITS.
B. SEAL JOINTS BETWEEN CLOSED-CELL (NONBREATHING) INSULATION UNITS BY APPLYING ADHESIVE, MASTIC, OR SEALANT TO EDGES OF EACH UNIT TO FORM A TIGHT SEAL AS UNITS ARE SHOVED INTO PLACE. FILL VOIDS IN COMPLETED INSTALLATION WITH ADHESIVE, MASTIC, OR SEALANT AS RECOMMENDED BY INSULATION MANUFACTURER.
C. SET VAPOR-RETARDER-FACED UNITS WITH VAPOR RETARDER TO WARM SIDE OF CONSTRUCTION, UNLESS OTHERWISE INDICATED. DO NOT OBSTRUCT VENTILATION SPACES, EXCEPT FOR FIRESTOPPING.
1. TAPE JOINTS AND RUPTURES IN VAPOR RETARDER, AND SEAL EACH CONTINUOUS AREA OF INSULATION TO SURROUNDING CONSTRUCTION TO ENSURE AIRTIGHT INSTALLATION. (NOT REQUIRED FOR REFLECTIVE INSULATION)
D. INSTALL MINERAL-FIBER BLANKETS IN CAVITIES FORMED BY FRAMING MEMBERS ACCORDING TO THE FOLLOWING REQUIREMENTS:
1. USE BLANKET WIDTHS AND LENGTHS THAT FILL THE CAVITIES FORMED BY FRAMING MEMBERS. IF MORE THAN ONE LENGTH IS REQUIRED TO FILL CAVITY, PROVIDE LENGTHS THAT WILL PRODUCE A SNUG FIT BETWEEN ENDS.
2. PLACE BLANKETS IN CAVITIES FORMED BY FRAMING MEMBERS TO PRODUCE A FRICTION FIT BETWEEN EDGES OF INSULATION AND ADJOINING FRAMING MEMBERS.
3. FOR METAL-FRAMED WALL CAVITIES WHERE CAVITY HEIGHTS EXCEED 96 INCHES, SUPPORT UNFACED BLANKETS MECHANICALLY AND SUPPORT FACED BLANKETS BY TAPING STAPLING FLANGES TO FLANGES OF METAL STUDS.

3.5 PROTECTION
A. PROTECT INSTALLED INSULATION FROM DAMAGE DUE TO HARMFUL WEATHER EXPOSURES, PHYSICAL ABUSE, AND OTHER CAUSES. PROVIDE TEMPORARY COVERINGS OR ENCLOSURES WHERE INSULATION IS SUBJECT TO ABUSE AND CANNOT BE CONCEALED AND PROTECTED BY PERMANENT CONSTRUCTION IMMEDIATELY AFTER INSTALLATION.

DIVISION 7 - THERMAL & MOISTURE PROTECTION

07211 - FOAMED IN PLACE INSULATION WITH THERMAL BARRIER

PART 1 - GENERAL

1.1 SUMMARY
A. SECTION INCLUDES: LIGHT DENSITY, OPEN CELLED, FLEXIBLE, 100 PERCENT WATER-BLOWN POLYURETHANE FOAM INSULATION.
B. RELATED SECTIONS:
1. DIVISION 07 SECTION 07210 BUILDING INSULATION
C. COORDINATE MECHANICAL VENTILATION AND FRESH AIR SUPPLY WITH MECHANICAL SECTIONS AND ASHRAE GUIDELINES FOR OPTIMUM INDOOR AIR QUALITY.

1.2 REFERENCES
A. AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL (ASTM)
1. ASTM C 518: STANDARD TEST METHOD FOR STEADY-STATE THERMAL TRANSMISSION PROPERTIES BY MEANS OF THE HEAT FLOW METER APPARATUS
2. ASTM E 84: TEST METHOD FOR SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS
3. ASTM E 96: STANDARD TEST METHODS FOR WATER VAPOR TRANSMISSION OF MATERIALS
4. ASTM E 2178: STANDARD TEST METHOD FOR AIR PERMEANCE OF BUILDING MATERIALS
5. ASTM E 283: STANDARD TEST METHOD FOR DETERMINING RATE OF AIR LEAKAGE THROUGH EXTERIOR WINDOWS, CURTAIN WALLS, AND DOORS UNDER SPECIFIED PRESSURE DIFFERENCES ACROSS THE SPECIMEN

1.3 SUBMITTALS
A. PRODUCT DATA FOR EACH TYPE OF INSULATION PRODUCT SPECIFIED.
B. PRODUCT TEST REPORTS PERFORMED BY A QUALIFIED INDEPENDENT TESTING AGENCY EVIDENCING COMPLIANCE OF INSULATION PRODUCTS WITH SPECIFIED REQUIREMENTS INCLUDING THOSE FOR THERMAL RESISTANCE, FIRE-TEST-RESPONSE CHARACTERISTICS, WATER-VAPOR TRANSMISSION, WATER ABSORPTION, AND OTHER PROPERTIES, BASED ON COMPREHENSIVE TESTING OF CURRENT PRODUCTS.
C. EVALUATION REPORT: EVIDENCE OF COMPLIANCE OF FOAM-PLASTIC INSULATIONS WITH INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL RESIDENTIAL CODE (IRC), INTERNATIONAL ENERGY CONSERVATION CODE (IECC).
D. MANUFACTURER'S CERTIFICATE CERTIFYING INSULATION PROVIDED MEETS OR EXCEEDS SPECIFIED REQUIREMENTS.
E. INSTALLER'S CERTIFICATE SHOWING THE ICYNENE INSTALLATION CERTIFICATION.
F. SAMPLE WARRANTY

1.4 QUALITY ASSURANCE
A. MANUFACTURER'S QUALIFICATIONS: PRODUCT PRODUCED IN AN ISO 9001 REGISTERED FACTORY.
B. SINGLE SOURCE RESPONSIBILITY: SINGLE SOURCE PRODUCT FROM ONE MANUFACTURER.
C. INSTALLER QUALIFICATIONS: ENGAGE AN ICYNENE LICENSED CONTRACTOR WHO HAS BEEN TRAINED AND CERTIFIED BY ICYNENE.
D. FIRE-TEST-RESPONSE CHARACTERISTICS: PROVIDE MATERIALS SPECIFIED AS DETERMINED BY TESTING IDENTICAL PRODUCTS PER TEST METHOD INDICATED BELOW BY A TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. IDENTIFY MATERIALS WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AND INSPECTING AGENCY.
1. SURFACE-BURNING CHARACTERISTICS: ASTM E 84
E. TOXICITY/HAZARDOUS MATERIALS
1. PROVIDE PRODUCTS THAT CONTAIN NO UREA-FORMALDEHYDE
2. PRODUCTS AND EQUIPMENT REQUIRING OR USING CFCS, HCFCS, OR HFCS DURING THE MANUFACTURING OR APPLICATION PROCESS WILL NOT BE PERMITTED
3. PROVIDE PRODUCTS THAT CONTAIN NO PBDES
4. PROVIDE PRODUCTS THAT ARE "LOW-EMITTING"

1.5 DELIVERY, STORAGE, AND HANDLING
A. COMPLY WITH MANUFACTURERS WRITTEN INSTRUCTIONS FOR HANDLING AND PROTECTION PRIOR TO AND DURING INSTALLATION.
B. STORE BOTH COMPONENTS IN A TEMPERATURE CONTROLLED AREA BETWEEN 60 DEG F AND 90 DEG F. DO NOT ALLOW PRODUCT TO FREEZE.
C. USE ONLY THOSE COMPONENTS THAT ARE SUPPLIED BY THE MANUFACTURER.

1.6 PROJECT CONDITIONS
A. DO NOT EXPOSE TO SUNLIGHT, EXCEPT TO EXTENT NECESSARY FOR PERIOD OF INSTALLATION AND CONCEALMENT.

1.7 WARRANTY
A. MANUFACTURER'S STANDARD LIMITED LIFETIME WARRANTY.
B. REFER TO WWW.ICYNENE.COM FOR FULL WARRANTY TERMS.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. POLYURETHANE SPRAY FOAM INSULATION: ICYNENE CLASSIC MAX (LD-C-50-V2) BY ICYNENE INC.
B. THERMAL BARRIER COATING: DC 315 BY INTERNATIONAL FIREPROOF TECHNOLOGY, INC.

2.2 MATERIALS
A. GENERAL: PROVIDE INSULATING MATERIALS THAT COMPLY WITH REQUIREMENTS AND WITH REFERENCED STANDARDS.
B. ICYNENE CLASSIC MAX™ (LD-C-50-V2) SPRAY FOAM INSULATION: LIGHT DENSITY, OPEN CELLED, 100% WATER-BLOWN, CONFORMING TO THE FOLLOWING:
1. THERMAL RESISTANCE (R-VALUE/INCH @75 DEG F): ASTM C 518; 3.7 HR/SQ FT/DEGREE F/BTU
a. AVERAGE INSULATION CONTRIBUTION IN A FULL FILL STUD WALL:
1) 2 INCH BY 6 INCH: R20
2. AIR PERMEANCE (FOR 3.5 INCHES OF MATERIAL): ASTM E 283; <0.009 L/S.M2 @75 PA
3. AIR PERMEANCE (FOR 5.5 INCHES OF MATERIAL): ASTM E 2178; < 0.01 L/S.M2 @ 75 PA
4. WATER VAPOR TRANSMISSION (FOR 5.5 INCHES OF MATERIAL): ASTM E 96; 11 PERMS [627 NG /(PA.S.M2)]
5. FLAME SPREAD AND SMOKE DEVELOPED RATING: ASTM E 84
a. FLAME SPREAD: LESS THAN OR EQUAL TO 25
b. SMOKE DEVELOPMENT: LESS THAN OR EQUAL TO 450
6. BACTERIAL AND FUNGAL GROWTH AND FOOD VALUE: TEXAS TECH. UNIVERSITY; NOT A SOURCE OF FOOD FOR MOLD (NO GROWTH)
C. PRODUCT DESCRIPTION:
1. ICC/ES EVALUATION REPORT NO. ESR 1826
2. LIGHT DENSITY, OPEN CELLED, FLEXIBLE, 100% WATER-BLOWN POLYURETHANE FOAM INSULATION.
3. EFFECTIVE VAPOR PERMEABLE, AIR BARRIER MATERIAL THAT CAN MOVE WITH THE BUILDING TO MAINTAIN THE AIR BARRIER CHARACTERISTIC FOR THE LIFE OF THE BUILDING.

2.3 SOURCE QUALITY CONTROL
A. PRODUCT PRODUCED IN AN ISO 9001 REGISTERED FACTORY.

PART 3 - EXECUTION

3.1 EXAMINATION
A. EXAMINE SUBSTRATES AND CONDITIONS, UNDER WHICH WORK IS TO BE PERFORMED. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
1. REVIEW PLACEMENT AREA TO DETERMINE FINAL LOCATION WILL NOT BE WITHIN 3 INCHES OF ANY HEAT SOURCE WHERE THE TEMPERATURE WILL EXCEED 200 DEG F PER ASTM C 411 OR IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION.

3.2 PREPARATION
A. CLEAN SUBSTRATES AND CAVITIES OF LOOSE MATERIALS CAPABLE OF INTERFERING WITH INSULATION PLACEMENT.

3.3 APPLICATION
A. SITE MIX LIQUID COMPONENTS MANUFACTURED BY ICYNENE AND SUPPLIED BY INDEPENDENT ICYNENE LICENSED CONTRACTOR.
B. APPLY INSULATION TO SUBSTRATES IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
C. APPLY INSULATION TO PRODUCE THICKNESS REQUIRED FOR INDICATED R VALUE.
1. R-20 IS ACHIEVED IN A FULL FILL 2 INCH BY 6 INCH STUD WALL.
D. EXTEND INSULATION IN THICKNESS INDICATED TO ENVELOP ENTIRE AREA TO BE INSULATED.
E. WATER-PIPING COORDINATION: IF WATER PIPING IS LOCATED WITHIN INSULATED EXTERIOR WALLS, COORDINATE LOCATION OF PIPING TO ENSURE THAT IT IS PLACED ON WARM SIDE OF INSULATION AND INSULATION ENCAPSULATES PIPING.
F. APPLY DC 315 AS RECOMMENDED BY MANUFACTURER'S INSTALLATION GUIDE AFTER ICYNENE IS CURED.

3.4 REPAIRS
A. ANY REPAIRS MUST BE EFFECTED BY AN ICYNENE LICENSED CONTRACTOR.

3.5 PROTECTION
A. PROTECT INSTALLED INSULATION FROM DAMAGE DUE TO HARMFUL WEATHER EXPOSURES, PHYSICAL ABUSE, AND OTHER CAUSES. PROVIDE TEMPORARY COVERINGS WHERE INSULATION IS SUBJECT TO ABUSE.

07900 - JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. SEALANTS AND JOINT BACKING.
B. PRECOMPRESSED FOAM SEALERS.
C. HOLLOW GASKETS.

1.02 ADMINISTRATIVE REQUIREMENTS

A. COORDINATE THE WORK WITH OTHER SECTIONS REFERENCING THIS SECTION.

1.03 SUBMITTALS

A. PRODUCT DATA: PROVIDE DATA INDICATING SEALANT CHEMICAL CHARACTERISTICS.
B. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES.

1.04 QUALITY ASSURANCE

A. MAINTAIN ONE COPY OF EACH REFERENCED DOCUMENT COVERING INSTALLATION REQUIREMENTS ON SITE.
B. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.
C. APPLICATOR QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING THE WORK OF THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE AND APPROVED BY MANUFACTURER.

1.05 FIELD CONDITIONS

A. MAINTAIN TEMPERATURE AND HUMIDITY RECOMMENDED BY THE SEALANT MANUFACTURER DURING AND AFTER INSTALLATION.

1.06 WARRANTY

A. CORRECT DEFECTIVE WORK WITHIN A FIVE YEAR PERIOD AFTER DATE OF SUBSTANTIAL COMPLETION.
B. WARRANTY: INCLUDE COVERAGE FOR INSTALLED SEALANTS AND ACCESSORIES WHICH FAIL TO ACHIEVE AIRTIGHT SEAL, EXHIBIT LOSS OF ADHESION OR COHESION, OR DO NOT CURE.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. GUNNABLE AND POURABLE SEALANTS:
1. BASF CONSTRUCTION CHEMICALS-BUILDING SYSTEMS: WWW.BUILDINGSYSTEMS.BASF.COM.
2. BOSTIK INC: WWW.BOSTIK-US.COM.
3. DOW CORNING CORPORATION: WWW.DOWCORNING.COM.
4. HILTI, INC: WWW.US.HILTI.COM.
5. PECORA CORPORATION: WWW.PECORA.COM.
6. TREMCO GLOBAL SEALANTS: WWW.TREMCOSEALANTS.COM.
B. PREFORMED COMPRESSIBLE FOAM SEALERS:
1. EMSEAL JOINT SYSTEMS, LTD:: WWW.EMSEAL.COM.
2. TREMCO GLOBAL SEALANTS; WWW.TREMCOSEALANTS.COM.

2.02 SEALANTS

A. GENERAL PURPOSE EXTERIOR SEALANT: POLYURETHANE; ASTM C920, GRADE NS, CLASS 25, USES M, G, AND A; SINGLE COMPONENT.
1. COLOR: MATCH ADJACENT FINISHED SURFACES.
2. APPLICATIONS: USE FOR:
a. JOINTS BETWEEN CONCRETE AND OTHER MATERIALS.
b. JOINTS BETWEEN METAL FRAMES AND OTHER MATERIALS.
c. OTHER EXTERIOR JOINTS FOR WHICH NO OTHER SEALANT IS INDICATED.
B. EXTERIOR EXPANSION JOINT SEALER: PRECOMPRESSED FOAM SEALER; URETHANE WITH WATER-REPELLENT;
1. COLOR: BLACK.
2. SIZE AS REQUIRED TO PROVIDE WEATHERTIGHT SEAL WHEN INSTALLED.
3. APPLICATIONS: USE FOR:
a. EXTERIOR WALL EXPANSION JOINTS.
C. EXTERIOR METAL LAP JOINT SEALANT: BUTYL OR POLYISOBUTYLENE, NONDRYING, NONSKINNING, NONCURING.
1. APPLICATIONS: USE FOR:
a. CONCEALED SEALANT BEAD IN SHEET METAL WORK.
D. GENERAL PURPOSE INTERIOR SEALANT: ACRYLIC EMULSION LATEX; ASTM C834, TYPE OP, GRADE NF SINGLE COMPONENT, PAINTABLE.
1. COLOR: MATCH ADJACENT FINISHED SURFACES.
2. APPLICATIONS: USE FOR:
a. INTERIOR WALL AND CEILING CONTROL JOINTS.
b. JOINTS BETWEEN DOOR AND WINDOW FRAMES AND WALL SURFACES.
c. OTHER INTERIOR JOINTS FOR WHICH NO OTHER TYPE OF SEALANT IS INDICATED.
E. EPOXY CONCRETE FLOOR JOINT FILLER: SELF-LEVELING, POURABLE, SEMI-RIGID SEALANT INTENDED FOR FILLING CRACKS AND CONTROL JOINTS NOT SUBJECT TO SIGNIFICANT MOVEMENT; RIGID ENOUGH TO SUPPORT CONCRETE EDGES UNDER TRAFFIC.
1. COMPOSITION: SINGLE OR MULTI-PART,100 PERCENT SOLIDS BY WEIGHT.
2. HARDNESS: 85, MINIMUM, AFTER 7 DAYS, WHEN TESTED IN ACCORDANCE WITH ASTM D2240, SHORE A.
3. COLOR: CONCRETE GRAY.
4. JOINT WIDTH, MINIMUM: 1/8 INCH (3 MM).
5. JOINT WIDTH, MAXIMUM: 1/4 INCH (6 MM).
6. JOINT DEPTH: PROVIDE PRODUCT SUITABLE FOR JOINTS FROM 1/8 INCH (3 MM) TO 2 INCHES (50 MM) IN DEPTH INCLUDING SPACE FOR BACKER ROD.
7. APPLICATIONS: USE FOR:
a. CONTROL JOINTS IN CONCRETE SLABS AND FLOORS NOT FILLED WITH FILLER PLACED IN FORM.
b. CONSTRUCTION JOINTS IN CONCRETE SLABS AND FLOORS.
G. ACRYLIC SEALANT: ASTM C920, GRADE NS, CLASS 12-1/2, USES NT, M, A, O; SINGLE COMPONENT, SOLVENT CURING, NON-STAINING, NON-BLEEDING, NON-SAGGING.
1. COLOR: MATCH ADJACENT FINISHED SURFACES.
F. BUTYL SEALANT: ASTM C920, GRADE NS, CLASS 12-1/2, USES NT, M, A, G, O; SINGLE COMPONENT, SOLVENT RELEASE, NON-SKINNING, NON-SAGGING.
1. COLOR: MATCH ADJACENT FINISHED SURFACES.
I. SILICONE SEALANT: ASTM C920, GRADE NS, CLASS 25, USES NT, A, G, M, O; SINGLE COMPONENT, SOLVENT CURING, NON-SAGGING, NON-STAINING, FUNGUS RESISTANT, NON-BLEEDING.
1. COLOR: MATCH ADJACENT FINISHED SURFACES.

2.03 ACCESSORIES

A. PRIMER: NON-STAINING TYPE, RECOMMENDED BY SEALANT MANUFACTURER TO SUIT APPLICATION.
B. JOINT CLEANER: NON-CORROSIVE AND NON-STAINING TYPE, RECOMMENDED BY SEALANT MANUFACTURER; COMPATIBLE WITH JOINT FORMING MATERIALS.
C. JOINT BACKING: ROUND FOAM ROD COMPATIBLE WITH SEALANT; ASTM D1056, SPONGE OR EXPANDED RUBBER; OVERSIZED 30 TO 50 PERCENT LARGER THAN JOINT WIDTH.
D. BOND BREAKER: PRESSURE SENSITIVE TAPE RECOMMENDED BY SEALANT MANUFACTURER TO SUIT APPLICATION.

PART 3 EXECUTION

3.01 EXAMINATION

A. VERIFY THAT SUBSTRATE SURFACES ARE READY TO RECEIVE WORK.
B. VERIFY THAT JOINT BACKING AND RELEASE TAPES ARE COMPATIBLE WITH SEALANT.

3.02 PREPARATION

A. REMOVE LOOSE MATERIALS AND FOREIGN MATTER THAT COULD IMPAIR ADHESION OF SEALANT.
B. CLEAN AND PRIME JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
C. PERFORM PREPARATION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND ASTM C1193.
D. PROTECT ELEMENTS SURROUNDING THE WORK OF THIS SECTION FROM DAMAGE OR DISFIGUREMENT.
E. EXPOSED CONCRETE FLOOR JOINTS: TEST JOINT FILLER IN INCONSPICUOUS AREA OF FLOOR SLAB. VERIFY SPECIFIED PRODUCT DOES NOT STAIN OR DISCOLOR SLAB.

3.03 INSTALLATION

A. PERFORM WORK IN ACCORDANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS FOR PREPARATION OF SURFACES AND MATERIAL INSTALLATION INSTRUCTIONS.

3.04 CLEANING & PROTECTION

A. CLEAN ADJACENT SOILED SURFACES.
B. PROTECT SEALANTS UNTIL CURED.

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GENERAL SPECIFICATIONS

PORCH ENCLOSURE FOR
COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
GS.1

GENERAL SPECIFICATION STANDARDS

DIVISION 8 - DOORS AND WINDOWS

08110 - HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. NON-FIRE-RATED STEEL DOORS AND FRAMES.

1.02 SUBMITTALS

A. PRODUCT DATA: MATERIALS AND DETAILS OF DESIGN AND CONSTRUCTION, HARDWARE LOCATIONS, REINFORCEMENT TYPE AND LOCATIONS, ANCHORAGE AND FASTENING METHODS, AND FINISHES; AND ONE COPY OF REFERENCED GRADE STANDARD.

B. SHOP DRAWINGS: DETAILS OF EACH OPENING, SHOWING ELEVATIONS, GLAZING, FRAME PROFILES, AND IDENTIFYING LOCATION OF DIFFERENT FINISHES, IF ANY.

C. INSTALLATION INSTRUCTIONS: MANUFACTURER'S PUBLISHED INSTRUCTIONS, INCLUDING ANY SPECIAL INSTALLATION INSTRUCTIONS RELATING TO THIS PROJECT.

D. MANUFACTURER'S CERTIFICATE: CERTIFICATION THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.

1.03 QUALITY ASSURANCE

A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED IN THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.

B. MAINTAIN AT THE PROJECT SITE A COPY OF ALL REFERENCE STANDARDS DEALING WITH INSTALLATION.

1.04 DELIVERY, STORAGE, AND HANDLING

A. STORE IN ACCORDANCE WITH NAAMM HMMA 840.

B. PROTECT WITH RESILIENT PACKAGING; AVOID HUMIDITY BUILD-UP UNDER COVERINGS; PREVENT CORROSION.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. STEEL DOORS AND FRAMES:
1. ASSA ABLOY CECO, CURRIES, OR FLEMING: WWW.ASSAABLOYDSS.COM.
2. REPUBLIC DOORS; :WWW.REPUBLICDOOR.COM.
3. STEELCRAFT, AN ALLEGION BRAND; WWW.ALLEGION.COM.

2.02 DOORS AND FRAMES

A. REQUIREMENTS FOR ALL DOORS AND FRAMES:
1. ACCESSIBILITY: COMPLY WITH ANSI/ICC A117.1.
2. DOOR TOP CLOSURES: FLUSH WITH TOP OF FACES AND EDGES.
3. DOOR EDGE PROFILE: BEVELED ON BOTH EDGES.
4. DOOR TEXTURE: SMOOTH FACES.
5. GLAZED LIGHTS: NON-REMOVABLE STOPS ON NON-SECURE SIDE; SIZES AND CONFIGURATIONS AS INDICATED ON DRAWINGS.
6. HARDWARE PREPARATION: IN ACCORDANCE WITH BHMA A156.115, WITH REINFORCEMENT WELDED IN PLACE, IN ADDITION TO OTHER REQUIREMENTS SPECIFIED IN DOOR GRADE STANDARD.
7. GALVANIZING FOR UNITS IN WET AREAS: ALL COMPONENTS HOT-DIPPED ZINC-IRON ALLOY-COATED (GALVANNEALED), MANUFACTURER'S STANDARD COATING THICKNESS.
8. FINISH: FACTORY PRIMED, FOR FIELD FINISHING.

2.03 STEEL DOORS

B. EXTERIOR DOORS :
1. GRADE: ANSI A250.8 LEVEL 2, PHYSICAL PERFORMANCE LEVEL B, MODEL 1, FULL FLUSH.
2. CORE: POLYSTYRENE FOAM.
3. GALVANIZING: ALL COMPONENTS HOT-DIPPED ZINC-IRON ALLOY-COATED (GALVANNEALED) IN ACCORDANCE WITH ASTM A653/A653M, WITH A60/ZF180 COATING.
4. INSULATING VALUE: U-VALUE OF 0.50, WHEN TESTED IN ACCORDANCE WITH ASTM C1363.
5. WEATHERSTRIPPING: INTEGRAL, RECESSED INTO DOOR EDGE OR FRAME.

2.04 STEEL FRAMES

A. GENERAL:
1. COMPLY WITH THE REQUIREMENTS OF GRADE SPECIFIED FOR CORRESPONDING DOOR.
2. FINISH: PAINT.
3. FRAMES WIDER THAN 48 INCHES (1200 MM): REINFORCE WITH STEEL CHANNEL FITTED TIGHTLY INTO FRAME HEAD, FLUSH WITH TOP.

B. EXTERIOR DOOR FRAMES: FACE WELDED, SEAMLESS WITH JOINTS FILLED.
1. GALVANIZING: ALL COMPONENTS HOT-DIPPED ZINC-IRON ALLOY-COATED (GALVANNEALED) IN ACCORDANCE WITH ASTM A653/A653M, WITH A60/ZF180 COATING.
2. WEATHERSTRIPPING: INTEGRAL, RECESSED INTO DOOR EDGE OR FRAME.

2.05 ACCESSORY MATERIALS

A. MECHANICAL FASTENERS FOR CONCEALED METAL-TO-METAL CONNECTIONS: SELF-DRILLING, SELF-TAPPING, STEEL WITH ELECTROPLATED ZINC FINISH.

B. SILENCERS: RESILIENT RUBBER, FITTED INTO DRILLED HOLE; 3 ON STRIKE SIDE OF SINGLE DOOR, 3 ON CENTER MULLION OF PAIRS, AND 2 ON HEAD OF PAIRS WITHOUT CENTER MULLIONS.

C. TEMPORARY FRAME SPREADERS: PROVIDE FOR ALL FACTORY- OR SHOP-ASSEMBLED FRAMES.

2.06 FINISH MATERIALS

A. PRIMER: RUST-INHIBITING, COMPLYING WITH ANSI A250.10, DOOR MANUFACTURER'S STANDARD.

B. BITUMINOUS COATING: ASPHALT EMULSION OR OTHER HIGH-BUILD, WATER-RESISTANT, RESILIENT COATING.

PART 3 EXECUTION

3.01 EXAMINATION

A. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK INCLUDING OPENING SIZES AND TOLERANCES ARE ACCEPTABLE.

3.02 PREPARATION

A. COAT INSIDE OF FRAMES TO BE INSTALLED IN MASONRY OR TO BE GROUTED, WITH BITUMINOUS COATING, PRIOR TO INSTALLATION.

3.03 INSTALLATION

A. INSTALL IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFIED DOOR GRADE STANDARD AND NAAMM HMMA 840.

B. COORDINATE FRAME ANCHOR PLACEMENT WITH WALL CONSTRUCTION.

C. GROUT FRAMES IN MASONRY CONSTRUCTION, USING HAND TROWEL METHODS; BRACE FRAMES SO THAT PRESSURE OF GROUT BEFORE SETTING WILL NOT DEFORM FRAMES.

D. COORDINATE INSTALLATION OF HARDWARE.

3.04 TOLERANCES

A. CLEARANCES BETWEEN DOOR AND FRAME: AS SPECIFIED IN ANSI A250.8.

B. MAXIMUM DIAGONAL DISTORTION: 1/16 IN MEASURED WITH STRAIGHT EDGE, CORNER TO CORNER.

3.05 ADJUSTING

A. ADJUST FOR SMOOTH AND BALANCED DOOR MOVEMENT.

08410 - ALUMINUM-FRAMED ENTRANCES

PART 1 - GENERAL

1.01 SUMMARY

A. THIS SECTION INCLUDES ALUMINUM STOREFRONT ENTRANCES, DOOR HARDWARE AND COMPONENTS.
a. 2.5" X 5" FRAMING FOR WINDOWS;

1.02 PERFORMANCE REQUIREMENTS

A. GENERAL PERFORMANCE: ALUMINUM-FRAMED STOREFRONT SYSTEM SHALL WITHSTAND THE EFFECTS OF THE FOLLOWING PERFORMANCE REQUIREMENTS WITHOUT EXCEEDING PERFORMANCE CRITERIA OR FAILURE DUE TO DEFECTIVE MANUFACTURE, FABRICATION, INSTALLATION, OR OTHER DEFECTS IN CONSTRUCTION:
a. DESIGN WIND LOADS: PER STRUCTURAL DRAWINGS

1.03 SUBMITTALS

A. PRODUCT DATA: INCLUDE CONSTRUCTION DETAILS, MATERIAL DESCRIPTIONS, AND FABRICATION METHODS, DIMENSIONS OF INDIVIDUAL COMPONENTS AND PROFILES, HARDWARE, FINISHES, AND INSTALLATION INSTRUCTIONS FOR EACH TYPE OF ALUMINUM-FRAMED ENTRANCE DOOR INDICATED.

B. SHOP DRAWINGS: INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, HARDWARE, AND ATTACHMENTS TO OTHER WORK, OPERATIONAL CLEARANCES AND INSTALLATION DETAILS.

C. PRODUCT APPROVALS

D. OTHER ACTION SUBMITTALS:
1. ENTRANCE DOOR HARDWARE SCHEDULE: PREPARED BY OR UNDER THE SUPERVISION OF SUPPLIER, DETAILING FABRICATION AND ASSEMBLY OF ENTRANCE DOOR HARDWARE, AS WELL AS PROCEDURES AND DIAGRAMS. COORDINATE FINAL ENTRANCE DOOR HARDWARE SCHEDULE WITH DOORS, FRAMES, AND RELATED WORK TO ENSURE PROPER SIZE, THICKNESS, HAND, FUNCTION, AND FINISH OF ENTRANCE DOOR HARDWARE.

1.04 PROJECT CONDITIONS

A. FIELD MEASUREMENTS: VERIFY ACTUAL DIMENSIONS OF SLIDING ALUMINUM-FRAMED GLASS DOOR OPENINGS BY FIELD MEASUREMENTS BEFORE FABRICATION AND INDICATE FIELD MEASUREMENTS ON SHOP DRAWINGS.

1.05 WARRANTY

A. MANUFACTURER'S WARRANTY: SUBMIT, FOR OWNER'S ACCEPTANCE, MANUFACTURER'S STANDARD WARRANTY.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. KAWNEER COMPANY INC.

B. YKK, Inc.

C. SUBSTITUTIONS AS APPRVD. BY SUBMITTAL OF ALTERNATE PRODUCT
1. GLAZING GASKETS SHALL BE EITHER EPDM ELASTOMERIC EXTRUSIONS OR A THERMOPLASTIC ELASTOMER.
2. PROVIDE ADJUSTABLE GLASS JACKS TO HELP CENTER THE GLASS IN THE DOOR OPENING.

B. SUBSTITUTIONS:
1. PRODUCT LITERATURE AND DRAWINGS: SUBMIT PRODUCT LITERATURE AND DRAWINGS MODIFIED TO SUIT SPECIFIC PROJECT REQUIREMENTS AND JOB CONDITIONS.
2. SUBSTITUTION ACCEPTANCE: ACCEPTANCE WILL BE IN WRITTEN FORM, EITHER AS AN ADDENDUM OR MODIFICATION, AND DOCUMENTED BY A FORMAL CHANGE ORDER SIGNED BY THE OWNER AND CONTRACTOR.

2.02 MATERIALS

A. ALUMINUM EXTRUSIONS: ALLOY AND TEMPER RECOMMENDED BY ALUMINUM-FRAMED GLASS DOOR MANUFACTURER FOR STRENGTH, CORROSION RESISTANCE, AND APPLICATION OF REQUIRED FINISH AND NOT LESS THAN 0.090" WALL THICKNESS AT ANY LOCATION FOR THE MAIN FRAME AND SASH MEMBERS.

B. FASTENERS: ALUMINUM, NONMAGNETIC STAINLESS STEEL OR OTHER MATERIALS TO BE NON-CORROSIVE AND COMPATIBLE WITH SLIDING ALUMINUM-FRAMED GLASS DOOR MEMBERS, TRIM HARDWARE, ANCHORS, AND OTHER COMPONENTS.

C. ANCHORS, CLIPS, AND ACCESSORIES: ALUMINUM, NONMAGNETIC STAINLESS STEEL, OR ZINC-COATED STEEL OR IRON COMPLYING WITH ASTM B 633 FOR SC 3 SEVERE SERVICE CONDITIONS OR OTHER SUITABLE ZINC COATING; PROVIDE SUFFICIENT STRENGTH TO WITHSTAND DESIGN PRESSURE INDICATED.

D. WEATHER SEALS: PROVIDE WEATHER STRIPPING WITH INTEGRAL BARRIER FIN OR FINS OF SEMI-RIGID, POLYPROPYLENE SHEET OR POLYPROPYLENE-COATED MATERIAL. COMPLY WITH AAMA 701 / 702

2.03 GLAZING

A. GLAZING: AS SPECIFIED IN DIVISION 08800 SECTION "GLAZING."

B. GLAZING GASKETS: MANUFACTURER'S STANDARD COMPRESSION TYPES; REPLACEABLE, EXTRUDED EPDM RUBBER.

C. SPACERS AND SETTING BLOCKS: MANUFACTURER'S STANDARD ELASTOMERIC TYPE.

D. BOND-BREAKER TAPE: MANUFACTURER'S STANDARD TFE-FLUOROCARBON OR POLYETHYLENE MATERIAL TO WHICH SEALANTS WILL NOT DEVELOP ADHESION.

2.04 FABRICATION

A. FABRICATE ALUMINUM-FRAMED GLASS ENTRANCE DOORS IN SIZES INDICATED. INCLUDE A COMPLETE SYSTEM FOR ASSEMBLING COMPONENTS AND ANCHORING DOORS.

2.05 FINISHES, GENERAL

A. COMPLY WITH AAMA-AFPA "ANODIC FINISHES/PAINTED ALUMINUM" FOR RECOMMENDATIONS FOR APPLYING AND DESIGNATING FINISHES.

B. APPEARANCE OF FINISHED WORK: VARIATIONS IN APPEARANCE OF ABUTTING OR ADJACENT PIECES ARE ACCEPTABLE IF THEY ARE WITHIN ONE-HALF OF THE RANGE OF APPROVED SAMPLES. NOTICEABLE VARIATIONS IN THE SAME PIECE ARE NOT ACCEPTABLE. VARIATIONS IN APPEARANCE OF OTHER COMPONENTS ARE ACCEPTABLE IF THEY ARE WITHIN THE RANGE OF APPROVED SAMPLES AND ARE ASSEMBLED OR INSTALLED TO MINIMIZE CONTRAST.

2.06 ALUMINUM FINISHES

A. FINISH DESIGNATIONS PREFIXED BY AA COMPLY WITH THE SYSTEM ESTABLISHED BY THE ALUMINUM ASSOCIATION FOR DESIGNATING ALUMINUM FINISHES.

PART 3 - EXECUTION

3.01 EXAMINATION

A. EXAMINE OPENINGS, SUBSTRATES, STRUCTURAL SUPPORT, ANCHORAGE, AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF WORK. VERIFY ROUGH OPENING DIMENSIONS, LEVELNESS OF SILL PLATE AND OPERATIONAL CLEARANCES. EXAMINE WALL FLASHINGS, VAPOR RETARDERS, WATER AND WEATHER BARRIERS, AND OTHER BUILT-IN COMPONENTS TO ENSURE A COORDINATED, WEATHER TIGHT SLIDING DOOR INSTALLATION.
1. MASONRY SURFACES: VISIBLY DRY AND FREE OF EXCESS MORTAR, SAND, AND OTHER CONSTRUCTION DEBRIS.
2. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.02 INSTALLATION

A. COMPLY WITH DRAWINGS, SHOP DRAWINGS, AND MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING ALUMINUM SWING ENTRANCE DOORS, HARDWARE, ACCESSORIES, AND OTHER COMPONENTS.

B. INSTALL ALUMINUM SWING ENTRANCE DOORS LEVEL, PLUMB, SQUARE, TRUE TO LINE, WITHOUT DISTORTION OR IMPEDING THERMAL MOVEMENT, ANCHORED SECURELY IN PLACE TO STRUCTURAL SUPPORT, AND IN PROPER RELATION TO WALL FLASHING AND OTHER ADJACENT CONSTRUCTION.

C. SET SILL THRESHOLD IN BED OF SEALANT, AS INDICATED, FOR WEATHER TIGHT CONSTRUCTION.

D. SEPARATE ALUMINUM AND OTHER CORRODIBLE SURFACES FROM SOURCES OF CORROSION OR ELECTROLYTIC ACTION AT POINTS OF CONTACT WITH OTHER MATERIALS.

3.03 FIELD QUALITY CONTROL

A. MANUFACTURER'S FIELD SERVICES: UPON OWNER'S WRITTEN REQUEST, PROVIDE PERIODIC SITE VISIT BY MANUFACTURER'S FIELD SERVICE REPRESENTATIVE.

3.04 ADJUSTING, CLEANING, AND PROTECTION

A. CLEAN ALUMINUM SURFACES IMMEDIATELY AFTER INSTALLING ALUMINUM FRAMED STOREFRONTS. AVOID DAMAGING PROTECTIVE COATINGS AND FINISHES. REMOVE EXCESS SEALANTS, GLAZING MATERIALS, DIRT, AND OTHER SUBSTANCES.

B. CLEAN GLASS IMMEDIATELY AFTER INSTALLATION. COMPLY WITH GLASS MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR FINAL CLEANING AND MAINTENANCE. REMOVE NONPERMANENT LABELS, AND CLEAN SURFACES.

C. REMOVE AND REPLACE GLASS THAT HAS BEEN BROKEN, CHIPPED, CRACKED, ABRADED, OR DAMAGED DURING CONSTRUCTION PERIOD.

08800 - GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. GLASS, GLAZING COMPOUNDS AND ACCESSORIES.

1.02 SUBMITTALS

A. PRODUCT DATA ON GLASS TYPES: PROVIDE STRUCTURAL, PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS, SIZE LIMITATIONS, SPECIAL HANDLING OR INSTALLATION REQUIREMENTS.

B. PRODUCT DATA ON GLAZING COMPOUNDS: PROVIDE CHEMICAL, FUNCTIONAL, AND ENVIRONMENTAL CHARACTERISTICS, LIMITATIONS, SPECIAL APPLICATION REQUIREMENTS. IDENTIFY AVAILABLE COLORS.

1.03 QUALITY ASSURANCE

A. PERFORM WORK IN ACCORDANCE WITH GANA GLAZING MANUAL AND FGMA SEALANT MANUAL FOR GLAZING INSTALLATION METHODS.

PART 2 PRODUCTS

2.01 GLAZING TYPES

A. HIGH IMPACT RATED GLASS: ASTM C 1172 - STANDARD SPECIFICATION FOR LAMINATED ARCHITECTURAL FLAT GLASS; 2009.
THICKNESS: 9/16 INCH, TWO 1/4" SHEETS LAMINATED WITH PVB INTERLAYER
CLEAR: CLASS 1 (CLEAR); U.N.O.

2.02 GLASS MATERIALS

A. FLOAT GLASS MANUFACTURERS:
1. GUARDIAN INDUSTRIES CORP: WWW.SUNGUARDGLASS.COM.
2. PILKINGTON NORTH AMERICA INC: WWW.PILKINGTON.COM/NA.
3. PPG INDUSTRIES, INC: WWW.PPGIDEASCAPES.COM.

B. FLOAT GLASS: ALL GLAZING IS TO BE FLOAT GLASS UNLESS OTHERWISE INDICATED.
1. ANNEALED TYPE: ASTM C1036, TYPE I, TRANSPARENT FLAT, CLASS 1 CLEAR, QUALITY Q3 (GLAZING SELECT).
2. HEAT-STRENGTHENED AND FULLY TEMPERED TYPES: ASTM C1048.
3. TINTED TYPES: COLOR AND PERFORMANCE CHARACTERISTICS AS INDICATED.
4. THICKNESSES: AS INDICATED; FOR EXTERIOR GLAZING COMPLY WITH SPECIFIED REQUIREMENTS FOR WIND LOAD DESIGN REGARDLESS OF SPECIFIED THICKNESS.

2.03 GLAZING COMPOUNDS

A. MANUFACTURERS:
1. BOSTIK INC: WWW.BOSTIK-US.COM.
2. PECORA CORPORATION: WWW.PECORA.COM.
3. BASF CONSTRUCTION CHEMICALS-BUILDING SYSTEMS: WWW.BUILDINGSYSTEMS.BASF.COM.

2.04 GLAZING ACCESSORIES

A. SETTING BLOCKS: NEOPRENE, 80 TO 90 SHORE A DUROMETER HARDNESS, ASTM C864 OPTION I. LENGTH OF 0.1 INCH FOR EACH SQUARE FOOT OF GLAZING OR MINIMUM 4 INCH X WIDTH OF GLAZING RABBET SPACE MINUS 1/16 INCH X HEIGHT TO SUIT GLAZING METHOD AND PANE WEIGHT AND AREA.

B. SPACER SHIMS: NEOPRENE, 50 TO 60 SHORE A DUROMETER HARDNESS, ASTM C 864 OPTION I. MINIMUM 3 INCH LONG X ONE HALF THE HEIGHT OF THE GLAZING STOP X THICKNESS TO SUIT APPLICATION, SELF ADHESIVE ON ONE FACE.

C. GLAZING TAPE: PREFORMED BUTYL COMPOUND WITH INTEGRAL RESILIENT TUBE SPACING DEVICE; 10 TO 15 SHORE A DUROMETER HARDNESS; COILED ON RELEASE PAPER;; BLACK COLOR.

D. GLAZING GASKETS: RESILIENT SILICONE EXTRUDED SHAPE TO SUIT GLAZING CHANNEL RETAINING SLOT; ASTM C864 OPTION I; T.B.D. COLOR.

E. GLAZING CLIPS: MANUFACTURER'S STANDARD TYPE.

PART 3 EXECUTION

3.01 EXAMINATION

A. VERIFY THAT OPENINGS FOR GLAZING ARE CORRECTLY SIZED AND WITHIN TOLERANCE.

B. VERIFY THAT SURFACES OF GLAZING CHANNELS OR RECESSES ARE CLEAN, FREE OF OBSTRUCTIONS THAT MAY IMPEDE MOISTURE MOVEMENT, WEEPS ARE CLEAR, AND READY TO RECEIVE GLAZING.

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GENERAL SPECIFICATIONS

PORCH ENCLOSURE FOR
COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
GS.2

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GENERAL SPECIFICATION STANDARDS

DIVISION 9 - FINISHES

09260 GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL
1.01 SECTION INCLUDES
A. PERFORMANCE CRITERIA FOR GYPSUM BOARD ASSEMBLIES.
B. GYPSUM WALLBOARD.
C. JOINT TREATMENT AND ACCESSORIES.
D. TEXTURED FINISH SYSTEM.
1.02 REFERENCE STANDARDS
A. ASTM C840 - STANDARD SPECIFICATION FOR APPLICATION AND FINISHING OF GYPSUM BOARD; 2011.
B. GA-216 - APPLICATION AND FINISHING OF GYPSUM BOARD; GYPSUM ASSOCIATION; 2013.
1.04 SUBMITTALS
A. PRODUCT DATA: PROVIDE DATA ON METAL FRAMING, GYPSUM BOARD, ACCESSORIES, AND JOINT FINISHING SYSTEM.
1.05 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: COMPANY SPECIALIZING IN PERFORMING GYPSUM BOARD APPLICATION AND FINISHING, WITH MINIMUM 5 YEARS OF DOCUMENTED EXPERIENCE.
PART 2 PRODUCTS
2.01 GYPSUM BOARD ASSEMBLIES
A. PROVIDE COMPLETED ASSEMBLIES COMPLYING WITH ASTM C840 AND GA-216.
2.02 METAL FRAMING MATERIALS
A. MANUFACTURERS - METAL FRAMING, CONNECTORS, AND ACCESSORIES:
1. CLARKWESTERN DIETRICH BUILDING SYSTEMS LLC: WWW.CLARKDIETRICH.COM.
2. MARINO: WWW.MARINOWARE.COM.
3. PHILLIPS MANUFACTURING COMPANY: WWW.PHILLIPSMFG.COM.
B. NON-LOADBEARING FRAMING SYSTEM COMPONENTS: ASTM C645; GALVANIZED SHEET STEEL, OF SIZE AND PROPERTIES NECESSARY TO COMPLY WITH ASTM C754 FOR THE SPACING INDICATED, WITH MAXIMUM DEFLECTION OF WALL FRAMING OF L/240 AT 5 PSF.
1. FURRING: Z SHAPED, MINIMUM DEPTH OF 1.5 INCH.

2.03 BOARD MATERIALS
A. MANUFACTURERS - GYPSUM-BASED BOARD:
1. AMERICAN GYPSUM: WWW.AMERICANGYPSUM.COM.
2. GEORGIA-PACIFIC GYPSUM: WWW.GPGYPSUM.COM.
3. LAFARGE NORTH AMERICA INC: WWW.LAFARGENORTHAMERICA.COM.
B. GYPSUM WALLBOARD: PAPER-FACED GYPSUM PANELS AS DEFINED IN ASTM C1396/C1396M; SIZES TO MINIMIZE JOINTS IN PLACE; ENDS SQUARE CUT.
1. APPLICATION: USE FOR VERTICAL SURFACES AND CEILINGS, UNLESS OTHERWISE INDICATED.
2. THICKNESS:
a. VERTICAL SURFACES: 5/8 INCH; MOISTURE RESISTANT WHERE INDICATED
C. PAPER-FACED PRODUCTS:
a. AMERICAN GYPSUM; EAGLEROC REGULAR GYPSUM WALLBOARD AND FIREBLOC TYPE X GYPSUM WALLBOARD.
b. GEORGIA-PACIFIC GYPSUM; TOUGHROCK, TOUGHROCK FIREGUARD, AND TOUGHROCK FIREGUARD C GYPSUM WALLBOARD.
c. LAFARGE NORTH AMERICA INC; REGULAR DRYWALL AND FIRECHECK TYPE X AND TYPE C.
2.04 ACCESSORIES
A. FINISHING ACCESSORIES: ASTM C1047, GALVANIZED STEEL OR ROLLED ZINC, UNLESS OTHERWISE INDICATED.
3. TYPES: AS DETAILED OR REQUIRED FOR FINISHED APPEARANCE.
B. JOINT MATERIALS: ASTM C475 AND AS RECOMMENDED BY GYPSUM BOARD MANUFACTURER FOR PROJECT CONDITIONS.
1. TAPE: 2 INCH WIDE, CREASED PAPER TAPE FOR JOINTS AND CORNERS, EXCEPT AS OTHERWISE INDICATED.
2. READY-MIXED VINYL-BASED JOINT COMPOUND.
C. TEXTURED FINISH MATERIALS: LATEX-BASED COMPOUND; PLAIN.
D. SCREWS FOR ATTACHMENT TO STEEL MEMBERS LESS THAN 0.03 INCH IN THICKNESS, TO WOOD MEMBERS, AND TO GYPSUM BOARD: ASTM C1002; SELF-PIERCING TAPPING TYPE; CADMIUM-PLATED FOR EXTERIOR LOCATIONS.
E. SCREWS FOR ATTACHMENT TO STEEL MEMBERS FROM 0.033 TO 0.112 INCH IN THICKNESS: ASTM C954; STEEL DRILL SCREWS FOR APPLICATION OF GYPSUM BOARD TO LOADBEARING STEEL STUDS.
F. NAILS FOR ATTACHMENT TO WOOD MEMBERS: ASTM C514.
PART 3 EXECUTION
3.01 EXAMINATION
A. VERIFY THAT PROJECT CONDITIONS ARE APPROPRIATE FOR WORK OF THIS SECTION TO COMMENCE.
3.02 FRAMING INSTALLATION
A. METAL FRAMING: INSTALL IN ACCORDANCE WITH ASTM C754 AND MANUFACTURER'S INSTRUCTIONS.

3.04 BOARD INSTALLATION
A. COMPLY WITH ASTM C 840, GA-216, AND MANUFACTURER'S INSTRUCTIONS. INSTALL TO MINIMIZE BUTT END JOINTS, ESPECIALLY IN HIGHLY VISIBLE LOCATIONS.
B. SINGLE-LAYER NON-RATED: INSTALL GYPSUM BOARD IN MOST ECONOMICAL DIRECTION, WITH ENDS AND EDGES OCCURRING OVER FIRM BEARING.
C. EXPOSED GYPSUM BOARD IN INTERIOR WET AREAS: SEAL JOINTS, CUT EDGES, AND HOLES WITH WATER-RESISTANT SEALANT.
D. INSTALLATION ON METAL FRAMING: USE SCREWS FOR ATTACHMENT OF ALL GYPSUM BOARD
3.05 INSTALLATION OF TRIM AND ACCESSORIES
A. CONTROL JOINTS: PLACE CONTROL JOINTS CONSISTENT WITH LINES OF BUILDING SPACES AND AS INDICATED.
B. CORNER BEADS: INSTALL AT EXTERNAL CORNERS, USING LONGEST PRACTICAL LENGTHS.
3.06 JOINT TREATMENT
A. FINISH GYPSUM BOARD IN ACCORDANCE WITH LEVELS DEFINED IN ASTM C840, AS FOLLOWS:
1. LEVEL 4: WALLS AND CEILINGS TO RECEIVE PAINT FINISH OR WALL COVERINGS, UNLESS OTHERWISE INDICATED.
B. TAPE, FILL, AND SAND EXPOSED JOINTS, EDGES, AND CORNERS TO PRODUCE SMOOTH SURFACE READY TO RECEIVE FINISHES.
1. FEATHER COATS OF JOINT COMPOUND SO THAT CAMBER IS MAXIMUM 1/32 INCH.
3.07 TEXTURE FINISH
A. APPLY FINISH TEXTURE COATING BY MEANS OF SPRAYING APPARATUS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND TO MATCH APPROVED SAMPLE.

09680 - CARPET

PART 1 GENERAL
1.01 SECTION INCLUDES
A. CARPET, DIRECT-GLUED.
B. REMOVAL OF EXISTING CARPET.
C. ACCESSORIES.
1.02 REFERENCE STANDARDS
A. ASTM D2859 - STANDARD TEST METHOD FOR IGNITION CHARACTERISTICS OF FINISHED TEXTILE FLOOR COVERING MATERIALS; 2006 (REAPPROVED 2011).
B. ASTM E648 - STANDARD TEST METHOD FOR CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS USING A RADIANT HEAT ENERGY SOURCE; 2010E1.
C. CRI (CIS) - CARPET INSTALLATION STANDARD; CARPET AND RUG INSTITUTE; 2009.
D. CRI (GLP) - GREEN LABEL PLUS CARPET TESTING PROGRAM - APPROVED PRODUCTS; CARPET AND RUG INSTITUTE; CURRENT EDITION.
E. NFPA 253 - STANDARD METHOD OF TEST FOR CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS USING A RADIANT HEAT ENERGY SOURCE; NATIONAL FIRE PROTECTION ASSOCIATION; 2011.
1.03 SUBMITTALS
A. PRODUCT DATA: PROVIDE DATA ON SPECIFIED PRODUCTS, DESCRIBING PHYSICAL AND PERFORMANCE CHARACTERISTICS; SIZES, PATTERNS, COLORS AVAILABLE, AND METHOD OF INSTALLATION.
B. MANUFACTURER'S INSTALLATION INSTRUCTIONS: INDICATE SPECIAL PROCEDURES.
1.04 FIELD CONDITIONS
A. STORE MATERIALS IN AREA OF INSTALLATION FOR MINIMUM PERIOD OF 24 HOURS PRIOR TO INSTALLATION.
PART 2 PRODUCTS
2.01 MANUFACTURERS
A. CARPET:
1. MOHAWK CORP.
2.02 CARPET
A. CARPET TYPE : 24"X24" TILE AS INDICATED ON FINISH SCHEDULE
2.03 ACCESSORIES
A. SUB-FLOOR FILLER: TYPE RECOMMENDED BY CARPET MANUFACTURER.
B. MOLDINGS AND EDGE STRIPS: VINYL OWNER SELECTED COLOR.
C. ADHESIVES - GENERAL: COMPATIBLE WITH MATERIALS BEING ADHERED; MAXIMUM VOC CONTENT AS SPECIFIED IN SECTION 01616.
D. CONTACT ADHESIVE: COMPATIBLE WITH CARPET MATERIAL; RELEASABLE TYPE.
PART 3 EXECUTION
3.01 EXAMINATION
A. VERIFY THAT SUB-FLOOR SURFACES ARE SMOOTH AND FLAT WITHIN THE TOLERANCES SPECIFIED FOR THAT TYPE OF WORK AND ARE READY TO RECEIVE CARPET.
B. VERIFY THAT SUB-FLOOR SURFACES ARE DUST-FREE AND FREE OF SUBSTANCES THAT COULD IMPAIR BONDING OF ADHESIVES TO SUB FLOOR SURFACES.
3.02 PREPARATION
A. REMOVE EXISTING CARPET AND CARPET CUSHION.
B. PREPARE FLOOR SUBSTRATES AS RECOMMENDED BY FLOORING AND ADHESIVE MANUFACTURERS.
3.03 INSTALLATION - GENERAL
A. STARTING INSTALLATION CONSTITUTES ACCEPTANCE OF SUB-FLOOR CONDITIONS.
B. INSTALL CARPET AND CUSHION IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND CRI CARPET INSTALLATION STANDARD.
C. VERIFY CARPET MATCH BEFORE CUTTING TO ENSURE MINIMAL VARIATION BETWEEN DYE LOTS.
D. LAY OUT CARPET AND LOCATE SEAMS IN ACCORDANCE WITH SHOP DRAWINGS:
1. LOCATE SEAMS IN AREA OF LEAST TRAFFIC, OUT OF AREAS OF PIVOTING TRAFFIC, AND PARALLEL TO MAIN TRAFFIC.
2. DO NOT LOCATE SEAMS PERPENDICULAR THROUGH DOOR OPENINGS.
3. ALIGN RUN OF PILE IN SAME DIRECTION AS ANTICIPATED TRAFFIC AND IN SAME DIRECTION ON ADJACENT PIECES.
4. LOCATE CHANGE OF COLOR OR PATTERN BETWEEN ROOMS UNDER DOOR CENTERLINE.
5. PROVIDE MONOLITHIC COLOR, PATTERN, AND TEXTURE MATCH WITHIN ANY ONE AREA.
E. INSTALL CARPET TIGHT AND FLAT ON SUBFLOOR, WELL FASTENED AT EDGES, WITH A UNIFORM APPEARANCE.
3.04 DIRECT-GLUED CARPET
A. DOUBLE CUT CARPET SEAMS, WITH ACCURATE PATTERN MATCH. MAKE CUTS STRAIGHT, TRUE, AND UNFRAYED. APPLY SEAM ADHESIVE TO CUT EDGES OF WOVEN CARPET IMMEDIATELY.
B. APPLY CONTACT ADHESIVE TO FLOOR UNIFORMLY AT RATE RECOMMENDED BY MANUFACTURER. AFTER SUFFICIENT OPEN TIME, PRESS CARPET INTO ADHESIVE.
C. APPLY SEAM ADHESIVE TO THE BASE OF THE EDGE GLUED DOWN. LAY ADJOINING PIECE WITH SEAM STRAIGHT, NOT OVERLAPPED OR PEAKED, AND FREE OF GAPS.
D. ROLL WITH APPROPRIATE ROLLER FOR COMPLETE CONTACT OF ADHESIVE TO CARPET BACKING.
E. TRIM CARPET NEATLY AT WALLS AND AROUND INTERRUPTIONS.

09900 - PAINTS AND COATINGS

PART 1 GENERAL
1.01 SECTION INCLUDES
A. SCOPE: FINISH ALL INTERIOR AND EXTERIOR SURFACES EXPOSED TO VIEW, UNLESS FULLY FACTORY-FINISHED AND UNLESS OTHERWISE INDICATED.
B. DO NOT PAINT OR FINISH THE FOLLOWING ITEMS:
1. ITEMS FULLY FACTORY-FINISHED UNLESS SPECIFICALLY SO INDICATED; MATERIALS AND PRODUCTS HAVING FACTORY-APPLIED PRIMERS ARE NOT CONSIDERED FACTORY FINISHED.
2. ITEMS INDICATED TO RECEIVE OTHER FINISHES.
3. ITEMS INDICATED TO REMAIN UNFINISHED.
4. FIRE RATING LABELS, EQUIPMENT SERIAL NUMBER AND CAPACITY LABELS, AND OPERATING PARTS OF EQUIPMENT.
5. FLOORS, UNLESS SPECIFICALLY SO INDICATED, GLASS,CONCEALED PIPES, DUCTS, AND CONDUITS.
1.02 REFERENCE STANDARDS
A. ASTM D16 - STANDARD TERMINOLOGY FOR PAINT, RELATED COATINGS, MATERIALS, AND APPLICATIONS.
1.03 SUBMITTALS
A. PRODUCT DATA: PROVIDE DATA ON ALL FINISHING PRODUCTS, INCLUDING VOC CONTENT.
B. SAMPLES: SUBMIT TWO PAPER CHIP SAMPLES, 2X2 INCH IN SIZE ILLUSTRATING RANGE OF COLORS AND TEXTURES AVAILABLE FOR EACH SURFACE FINISHING PRODUCT SCHEDULED.
C. MAINTENANCE MATERIALS: FURNISH THE FOLLOWING FOR OWNER'S USE IN MAINTENANCE OF PROJECT.
1. EXTRA PAINT AND COATINGS: 1 GALLON OF EACH COLOR; STORE WHERE DIRECTED.
2. LABEL EACH CONTAINER WITH COLOR IN ADDITION TO THE MANUFACTURER'S LABEL.
1.04 QUALITY ASSURANCE
A. MANUFACTURER QUALIFICATIONS: COMPANY SPECIALIZING IN MANUFACTURING THE PRODUCTS SPECIFIED, WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE.
1.05 DELIVERY, STORAGE, AND HANDLING
A. DELIVER PRODUCTS TO SITE IN SEALED AND LABELED CONTAINERS; INSPECT TO VERIFY ACCEPTABILITY.
B. CONTAINER LABEL: INCLUDE MANUFACTURER'S NAME, TYPE OF PAINT, BRAND NAME, LOT NUMBER, BRAND CODE, COVERAGE, SURFACE PREPARATION, DRYING TIME, CLEANUP REQUIREMENTS, COLOR DESIGNATION, AND INSTRUCTIONS FOR MIXING AND REDUCING.
C. PAINT MATERIALS: STORE AT MINIMUM AMBIENT TEMPERATURE OF 45 DEGREES F AND A MAXIMUM OF 90 DEGREES F, IN VENTILATED AREA, AND AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS.
1.06 FIELD CONDITIONS
A. DO NOT APPLY MATERIALS WHEN SURFACE AND AMBIENT TEMPERATURES ARE OUTSIDE THE TEMPERATURE RANGES REQUIRED BY THE PAINT PRODUCT MANUFACTURER.
B. FOLLOW MANUFACTURER'S RECOMMENDED PROCEDURES FOR PRODUCING BEST RESULTS, INCLUDING TESTING OF SUBSTRATES, MOISTURE IN SUBSTRATES, AND HUMIDITY AND TEMPERATURE LIMITATIONS.
C. PROVIDE LIGHTING LEVEL OF 80 FT CANDLES MEASURED MID-HEIGHT AT SUBSTRATE SURFACE.

PART 2 PRODUCTS
2.01 MANUFACTURERS
A. PROVIDE ALL PAINT AND COATING PRODUCTS USED IN ANY INDIVIDUAL SYSTEM FROM THE SAME MANUFACTURER; NO EXCEPTIONS.
B. PAINTS:
1. COLOR WHEEL PAINT, A COMEX GROUP COMPANY: WWW.COLORWHEEL.COM.
2. BENJAMIN MOORE & CO: WWW.BENJAMINMOORE.COM.
3. SHERWIN-WILLIAMS COMPANY: WWW.SHERWIN-WILLIAMS.COM.

2.02 PAINTS AND COATINGS - GENERAL
A. PAINTS AND COATINGS: READY MIXED, UNLESS INTENDED TO BE A FIELD-CATALYZED COATING.
1. PROVIDE PAINTS AND COATINGS OF A SOFT PASTE CONSISTENCY, CAPABLE OF BEING READILY AND UNIFORMLY DISPERSED TO A HOMOGENEOUS COATING, WITH GOOD FLOW AND BRUSHING PROPERTIES, AND CAPABLE OF DRYING OR CURING FREE OF STREAKS OR SAGS.
2. SUPPLY EACH COATING MATERIAL IN QUANTITY REQUIRED TO COMPLETE ENTIRE PROJECT'S WORK FROM A SINGLE PRODUCTION RUN.
3. DO NOT REDUCE, THIN, OR DILUTE COATINGS OR ADD MATERIALS TO COATINGS UNLESS SUCH PROCEDURE IS SPECIFICALLY DESCRIBED IN MANUFACTURER'S PRODUCT INSTRUCTIONS.
B. PRIMERS: WHERE THE MANUFACTURER OFFERS OPTIONS ON PRIMERS FOR A PARTICULAR SUBSTRATE, USE PRIMER CATEGORIZED AS "BEST" BY THE MANUFACTURER.
C. COLORS: TO BE SELECTED FROM MANUFACTURER'S FULL RANGE OF AVAILABLE COLORS.
1. SELECTION TO BE MADE BY OWNER AFTER AWARD OF CONTRACT.
2. ALLOW FOR MINIMUM OF THREE COLORS FOR EACH SYSTEM, UNLESS OTHERWISE INDICATED,
3. IN FINISHED AREAS, FINISH PIPES, DUCTS, CONDUIT, AND EQUIPMENT THE SAME COLOR AS THE WALL/CEILING THEY ARE MOUNTED ON/UNDER.
2.03 PAINT SYSTEMS - EXTERIOR
A. PAINT GE-OP-3L - PLASTER, OPAQUE, LATEX, 3 COAT:
1. ONE COAT OF LATEX PRIMER SEALER.
2. FLAT: TWO COATS OF LATEX.
D. PAINT ME-OP-3L - FERROUS METALS, UNPRIMED, LATEX, 3 COAT:
1. ONE COAT OF LATEX PRIMER.
2. SEMI-GLOSS: TWO COATS OF LATEX ENAMEL.
E. PAINT ME-OP-2L - FERROUS METALS, PRIMED, LATEX, 2 COAT:
1. TOUCH-UP WITH RUST-INHIBITIVE PRIMER RECOMMENDED BY TOP COAT MANUFACTURER.
2. SEMI-GLOSS: TWO COATS OF LATEX ENAMEL.
F. 2.04 PAINT SYSTEMS - INTERIOR
A. PAINT MI-OP-3L - FERROUS METALS, UNPRIMED, LATEX, 3 COAT:
1. ONE COAT OF LATEX PRIMER.
2. SEMI-GLOSS: TWO COATS OF LATEX ENAMEL.
B. SEMI-GLOSS: TWO COATS OF LATEX ENAMEL.
E. PAINT GI-OP-3L - GYPSUM BOARD/PLASTER, LATEX, 3 COAT:
1. ONE COAT OF ALKYD PRIMER SEALER.
2. EGGSHELL: TWO COATS OF LATEX ENAMEL.
2.05 ACCESSORY MATERIALS
A. ACCESSORY MATERIALS: PROVIDE ALL PRIMERS, SEALERS, CLEANING AGENTS, CLEANING CLOTHS, SANDING MATERIALS, AND CLEAN-UP MATERIALS REQUIRED TO ACHIEVE THE FINISHES SPECIFIED WHETHER SPECIFICALLY INDICATED OR NOT; COMMERCIAL QUALITY.
B. PATCHING MATERIAL: LATEX FILLER.
C. FASTENER HEAD COVER MATERIAL: LATEX FILLER.
PART 3 EXECUTION
3.01 EXAMINATION
A. VERIFY THAT SURFACES ARE READY TO RECEIVE WORK AS INSTRUCTED BY THE PRODUCT MANUFACTURER.
B. EXAMINE SURFACES SCHEDULED TO BE FINISHED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY CONDITION THAT MAY POTENTIALLY AFFECT PROPER APPLICATION.
3.02 PREPARATION
A. CLEAN SURFACES THOROUGHLY AND CORRECT DEFECTS PRIOR TO COATING APPLICATION.
B. PREPARE SURFACES USING THE METHODS RECOMMENDED BY THE MANUFACTURER FOR ACHIEVING THE BEST RESULT FOR THE SUBSTRATE UNDER THE PROJECT CONDITIONS.
C. REMOVE OR MASK SURFACE APPURTENANCES, INCLUDING ELECTRICAL PLATES, HARDWARE, LIGHT FIXTURE TRIM, ESCUTCHEONS, AND FITTINGS, PRIOR TO PREPARING SURFACES OR FINISHING.
D. SEAL SURFACES THAT MIGHT CAUSE BLEED THROUGH OR STAINING OF TOPCOAT.
E. WOOD DOORS TO BE FIELD-FINISHED: SEAL WOOD DOOR TOP AND BOTTOM EDGE SURFACES WITH CLEAR SEALER.

10523 - FIRE EXTINGUISHERS AND ACCESSORIES

PART 2 PRODUCTS
2.01 MANUFACTURERS
A. FIRE EXTINGUISHERS:
1. ANSUL, INC: WWW.ANSUL.COM.
2. PYRO-CHEM: WWW.PYROCHEM.COM.
3. JL INDUSTRIES, INC: WWW.JLINDUSTRIES.COM.
B. FIRE EXTINGUISHER ACCESSORIES:
1. ANSUL, INC.: WWW.ANSUL.COM.
2. JL INDUSTRIES, INC: WWW.JLINDUSTRIES.COM.
3. LARSEN'S MANUFACTURING CO: WWW.LARSENSMFG.COM.
2.02 FIRE EXTINGUISHERS
A. FIRE EXTINGUISHERS - GENERAL: COMPLY WITH PRODUCT REQUIREMENTS OF NFPA 10 AND APPLICABLE CODES, WHICHEVER IS MORE STRINGENT.
1. PROVIDE EXTINGUISHERS LABELED BY UL FOR THE PURPOSE SPECIFIED AND INDICATED.
B. FE-36 TYPE FIRE EXTINGUISHERS: STAINLESS STEEL TANK, WITH PRESSURE GAGE.
1. CLASS: A:B:C.
2. SIZE: 10 POUND.
3. SIZE AND CLASSIFICATION AS SCHEDULED.
2.03 ACCESSORIES
A. EXTINGUISHER BRACKETS: FORMED STEEL, CHROME-PLATED.
PART 3 EXECUTION
3.01 EXAMINATION
A. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK.
B. VERIFY ROUGH OPENINGS FOR CABINET ARE CORRECTLY SIZED AND LOCATED.
3.02 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

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Designed by: I.I.U.
Drawn by: I.I.U.
Checked by: I.I.U.
Approved by: I.I.U.
Scale:
Date: 11/15/15
Job No.: L10103
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GENERAL SPECIFICATIONS

PORCH ENCLOSURE FOR
COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
GS.3

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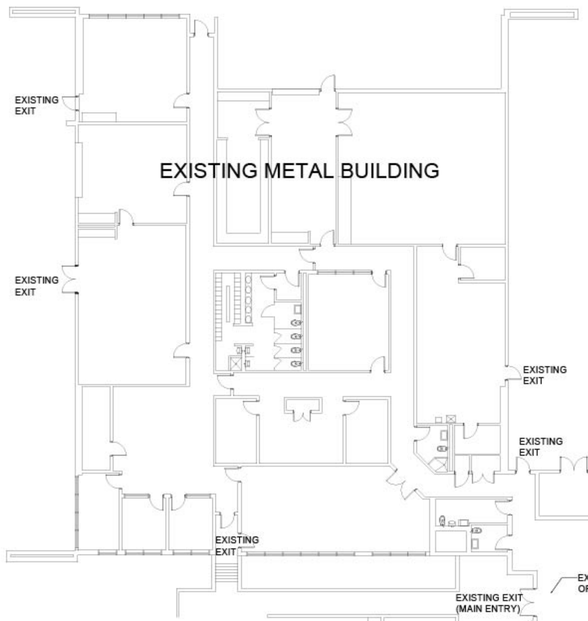
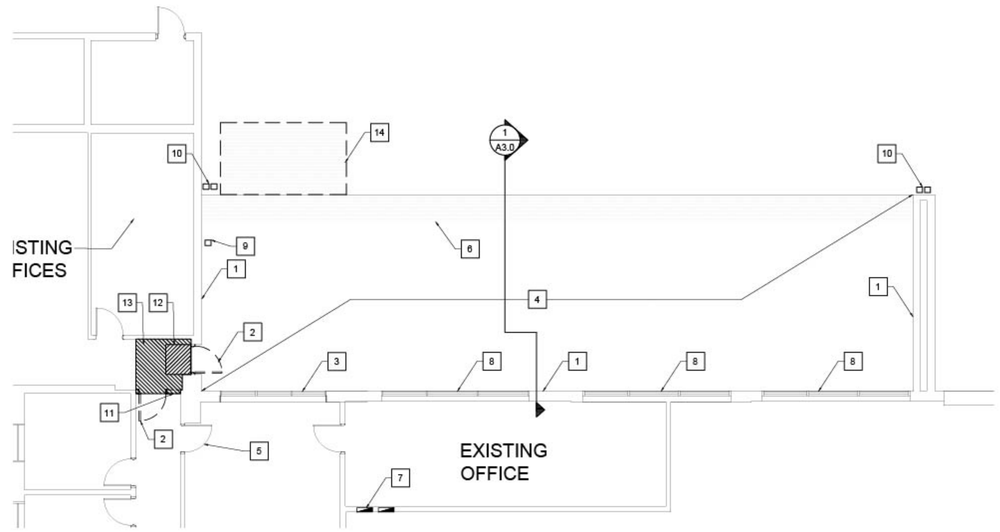
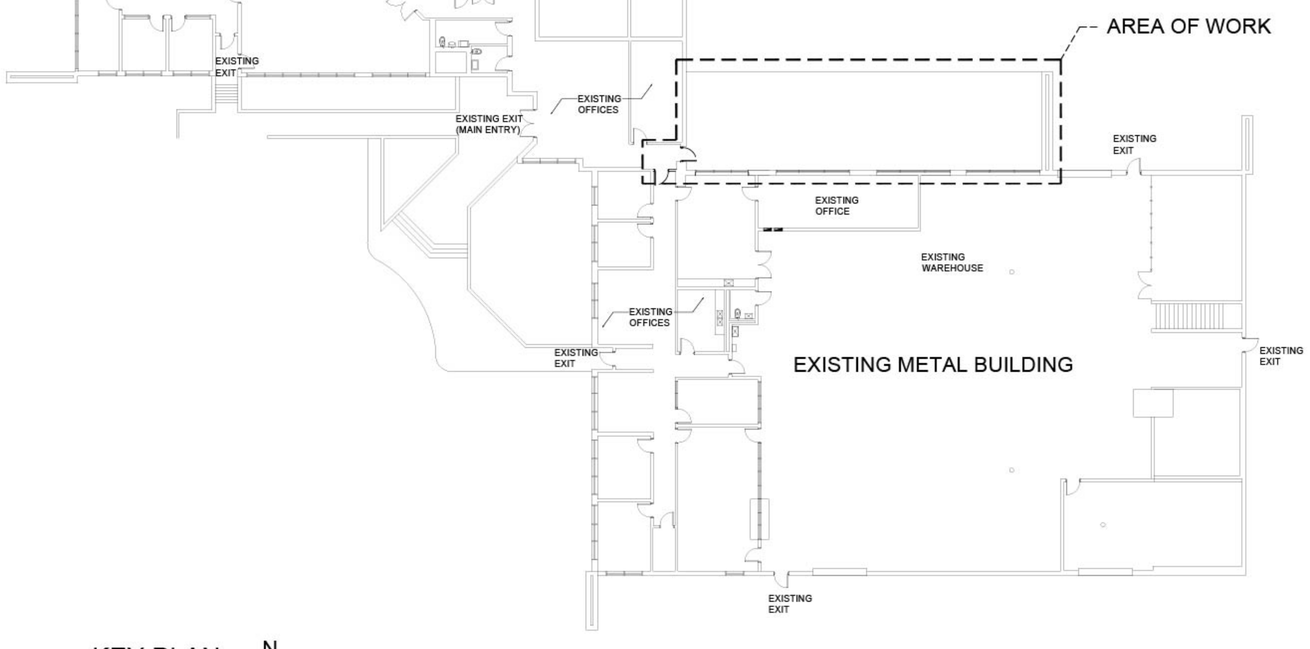




EXISTING / DEMOLITION PLAN

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



KEY PLAN

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

KEY NOTES

1. EXISTING METAL PANEL WALLS TO REMAIN. CLEAN AND PREPARE FOR NEW PAINT.
2. REMOVE EXISTING DOOR, HARDWARE & FRAME.
3. EXISTING WINDOW TO REMAIN.
4. EXISTING CONCRETE SLAB TO REMAIN. CUT EXISTING CONCRETE SLAB PER STRUCTURAL DRAWINGS.
5. EXISTING DOOR TO REMAIN (TYP.)
6. HATCHED AREA INDICATES PORTION OF EXISTING SLAB TO BE CUT. SEE STRUCTURAL DRAWINGS FOR DIMENSIONS.
7. EXISTING ELECTRICAL PANELS TO REMAIN
8. EXISTING LOUVERS TO REMAIN
9. EXISTING NON CONNECTED DOWNSPOUT TO BE REMOVED.
10. EXISTING DOWNSPOUTS TO REMAIN
11. EXISTING WALL TO BE REMOVED 2" UNDER CEILING. PREPARE FOR NEW HEADER. SEE CEILING PLAN.
12. EXISTING RECESSED ENTRY MAT TO BE REMOVED. PREPARE FOR NEW FLOOR FINISH.
13. REMOVE EXISTING VINYL FLOORING. PREPARE FOR NEW.
14. REMOVE ASPHALT AS NECESSARY. SEE FLOOR PLAN NOTE #15.

DEMOLITION AREA:

CONCRETE SLAB : 1740 S.F.
VINYL FLOOR : 35 S.F.
WINDOW AND DOOR : 88 S.F.
METAL CEILING AND PANELS: 1753 S.F.

TOTAL DEMOLITION AREA: 3616 S.F.

GENERAL DEMOLITION REQUIREMENTS

THE FOLLOWING REQUIREMENTS FOR DEMOLITION, CUTTING AND PATCHING APPLY TO ALL WORK WHICH IS ALTERED, WHETHER SUCH WORK IS NEW, EXISTING, RENOVATED OR REPLACED:

PRIOR TO DEMOLITION, CUTTING AND PATCHING, THE CONTRACTOR SHALL LOCATE AND DISCONNECT UTILITY SERVICES AND ELECTRICAL / MECHANICAL SYSTEMS, OR TEMPORARILY CAP OFF SUCH SERVICES TO THE AFFECTED AREAS. GIVE NOTICE TO, AND COORDINATE WITH UTILITY COMPANIES. OBTAIN WRITTEN APPROVAL FROM, AND COOPERATE WITH OTHER PARTIES WHO MAY BE AFFECTED BY INTERRUPTION OF SERVICES.

CLEARLY MARK THE AREAS AND LIMITS OF DEMOLITION, CUTTING AND PATCHING. IF FEASIBLE, PRE-CUT THE LINE OF SEPARATION BETWEEN AREAS OF DEMOLITION AND AREAS TO BE PRESERVED. UTILIZE DEMOLITION AND CUTTING TECHNIQUES WHICH ARE LEAST LIKELY TO DAMAGE SURROUNDING OR ADJOINING WORK. WHERE FEASIBLE, USE HAND TOOLS AND SMALL POWER TOOLS THAT ARE DESIGNED FOR SAWING AND GRINDING, NOT HAMMERING OR CHOPPING. DO NOT USE EXPLOSIVES.

STRUCTURAL REQUIREMENTS: DO NOT CUT AND PATCH STRUCTURAL WORK IN A MANNER WHICH WILL REDUCE LOAD-CARRYING CAPACITY OR LOAD-DEFLECTION RATIO. WHERE STRUCTURAL WORK MUST BE CUT, PROVIDE ADEQUATE TEMPORARY SUPPORT (BRACING AND/OR SHORING) TO RESIST VERTICAL, LATERAL AND DYNAMIC LOADS IN THE ENTIRE TRIBUTARY AREA OF THE AFFECTED STRUCTURAL MEMBERS. WHERE REQUIRED, ENGAGE A LICENSED STRUCTURAL ENGINEER TO DESIGN SHORING / BRACING SYSTEMS AND JOINT OR CONNECTION DETAILS.

OPERATIONAL AND SAFETY LIMITATIONS: DO NOT CUT AND PATCH OPERATIONAL ELEMENTS OR SAFETY RELATED COMPONENTS IN A MANNER WHICH WILL REDUCE INTENDED PERFORMANCE OR SAFETY FACTOR, OR WHICH WILL RESULT IN INCREASED MAINTENANCE OR REDUCED OPERATIONAL LIFE.

VISUAL REQUIREMENTS: DO NOT CUT AND PATCH WORK IN A MANNER WHICH WILL RESULT IN LESSENING OF THE AESTHETIC QUALITIES OF THE BUILDING OR SITE, OR THAT WILL RESULT IN VISUAL EVIDENCE OF CUT AND PATCH WORK. WHERE REQUIRED, EXTEND FINISH MATERIALS OVER ENTIRE UNBROKEN SURFACE AREAS AFFECTED BY CUT AND PATCH WORK. REMOVE AND REPLACE CUT AND PATCH WORK WHICH DOES NOT MEET VISUAL REQUIREMENTS.

PROTECTION: PROTECT OTHER WORK DURING CUTTING AND PATCHING OPERATIONS TO PREVENT DAMAGE. PROVIDE PROTECTION OF ALL WORK FROM ADVERSE WEATHER CONDITIONS. WHERE OPENINGS ARE CREATED IN ROOF OR EXTERIOR WALLS, PROVIDE TEMPORARY ENCLOSURE OF SUCH OPENINGS ON A DAILY BASIS, AND WHENEVER ADVERSE WEATHER THREATENS OR EXISTS.

DEMOLITION NOTES

1. THESE DRAWINGS WERE PREPARED BASED ON INFORMATION ATTAINED FROM A SITE SURVEY. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS IN FIELD PRIOR TO DEMOLITION & NOTIFY THIS OFFICE IN CASE OF DISCREPANCIES ASAP.
2. ALL MEASUREMENTS INDICATED ON THE PLAN SHALL BE VERIFIED ON THE ACTUAL CONDITION. ANY DISCREPANCY IN THE MEASUREMENT SHALL BE REPORTED TO THE ARCHITECT BEFORE THE START OF DEMOLITION.
3. DO NOT SCALE DRAWINGS. ALL MEASUREMENTS INDICATED ON THE PLAN SHALL BE VERIFIED ON THE ACTUAL CONDITION. ANY DISCREPANCY IN THE MEASUREMENT SHALL BE REPORTED TO THE ARCHITECT BEFORE THE START OF DEMOLITION.
4. DEMOLITION IS TO BE EXECUTED SO AS NOT TO DISTURB EXISTING STRUCTURAL & ROOFING SYSTEMS, AND OTHER AREAS THAT ARE INTENDED TO REMAIN INTACT. VERIFY ALL CONSTRUCTION TO BE REMOVED THAT IS NOT INTEGRAL TO STRUCTURAL SYSTEM PRIOR TO DEMOLITION.
5. ALL DIMENSIONS SHOWN AS EXISTING SHOULD BE FIELD VERIFIED BY CONTRACTOR PRIOR TO DEMOLITION. VERIFY ALL DEMOLITION WORK w/ NEW CONSTRUCTION & INSTALLATION DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
6. ELECTRICAL DEMOLITION NOTE: REMOVE ALL ELECTRICAL LIGHTS, OUTLETS, WIRING AND CONDUITS. CAP LINES AT MAIN DISTRIBUTION PANEL. FIELD VERIFY ELECTRICAL DEMOLITION WITH CONTRACTOR.
7. DEMOLITION CONTRACTOR TO COORDINATE & REVIEW ALL CONSTRUCTION DOCUMENTS & DETERMINE THE EXTENT OF DEMOLITION WORK & BECOME FAMILIAR WITH THEM THOROUGHLY BEFORE PERFORMING ANY DEMOLITION WORK. BY THE ACT OF STARTING DEMOLITION, THE CONTRACTOR WILL BE DEEMED TO HAVE COMPLIED WITH THE FOREGOING, TO HAVE ACCEPTED SUCH CONDITIONS, AND TO HAVE MADE THE NECESSARY ALLOWANCES IN PREPARING HIS BID.
8. VERIFY DISPOSITION OF ALL FURNISHINGS, MILLWORK, LIGHTING FIXTURES, ETC. TO BE REMOVED w/ OWNER. ALL ITEMS TO BE DISPOSED SHALL BE DISPOSED OF OFF-SITE AND IN AN EXPEDITIOUS MANNER.
9. CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING AS REQUIRED TO MAINTAIN STRUCTURAL STABILITY OF THE EXISTING STRUCTURE DURING ALL PHASES OF CONSTRUCTION.
10. PROTECT FROM DAMAGE DURING CONSTRUCTION ALL EXISTING WALLS, FLOORS, CEILINGS, ETC. THAT ARE TO REMAIN. CONTRACTOR TO PATCH & REPAIR ANY DAMAGED PORTIONS OF THE EXISTING BUILDING AS REQUIRED TO MATCH THE EXISTING ADJACENT CONSTRUCTION & FINISHES.
11. THIS PLAN INDICATES A GENERAL SCOPE OF WORK TO BE PERFORMED AND DOES NOT RELIEVE THE CONTRACTOR TO COMPLETE THE BUILDING MODIFICATIONS AS SHOWN AND REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO PLUMBING, ELECTRICAL & HVAC WORK.
12. IF CONTRACTOR ENCOUNTERS ANY HAZARDOUS MATERIALS DURING DEMOLITION OR CONSTRUCTION, HE SHALL IMMEDIATELY SUSPEND WORK & NOTIFY THE ARCHITECT BEFORE PROCEEDING.
13. THE SUB-CONTRACTOR SHALL FIELD VERIFY THE EXTENT OF DEMOLITION. THE WORK INCLUDES, BUT IS NOT LIMITED TO THE DEMOLITION AND REMOVAL OF ANY WALLS, COUNTERS, FURNITURE, BULKHEADS, DOORS, PLUMBING, MECHANICAL AND ELECTRICAL ITEMS INCLUDING CONDUITS AND DUCTWORK AS SHOWN ON THE DRAWINGS OR AS REQUIRED TO COMPLETE THE INSTALLATION OF THE NEW WORK FOR A COMPLETE JOB.
14. ALL DEMOLITION SHALL BE CARRIED OUT IN A SAFE MANNER & IN STRICT ACCORDANCE WITH OSHA REGULATIONS.
15. REMOVE ANY SINKS, WATER CLOSETS, URINALS, LAVATORIES, FLOOR DRAINS, NOTED ON DRAWINGS AS WELL AS ALL ASSOCIATED PLUMBING ACCESSORIES. CAP, PLUG ALL ABANDONED SUPPLY & WASTE LINES. PATCH & SEAL ALL FLOOR PENETRATIONS. SEE MECHANICAL & PLUMBING DRAWINGS FOR DETAILED DEMOLITION NOTES.
16. WHEN UTILITIES ARE REMOVED, CAP & SEAL A MINIMUM OF 8" BELOW FINISH FLOOR OR A MINIMUM OF 12" ABOVE FINISH CEILING.
17. THE CONTRACTOR MAY DETERMINE THAT THE COST OF REMOVAL & REPLACEMENT OF EXISTING WALLS IS LESS EXPENSIVE THAN KEEPING EXISTING WALLS. IT IS THE CONTRACTOR'S PREROGATIVE TO DEMO EXISTING WALLS AT NO ADDITIONAL EXPENSE TO THE OWNER.
18. CONTRACTOR TO FIELD VERIFY SUBSTRATES BELOW FLOOR FINISHES FOR ANY CONDITIONS THAT MAY AFFECT THE COST OF INSTALLATION OF THE SPECIFIED MATERIAL
19. CLEAN & LEVEL FLOOR AS REQUIRED IN DEMO OR SPECIFIED AREAS CONTRACTOR TO DISPOSE OF ANY ITEMS THE OWNER DETERMINES ARE NOT ACCEPTABLE FOR RE-USE.

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Designed by:	I.L.U.
Drawn by:	I.L.U.
Checked by:	I.L.U.
Approved by:	I.L.U.
Scale:	
Date:	11/15/15
Job No.:	L10103

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DEMOLITION PLAN

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
D1.0

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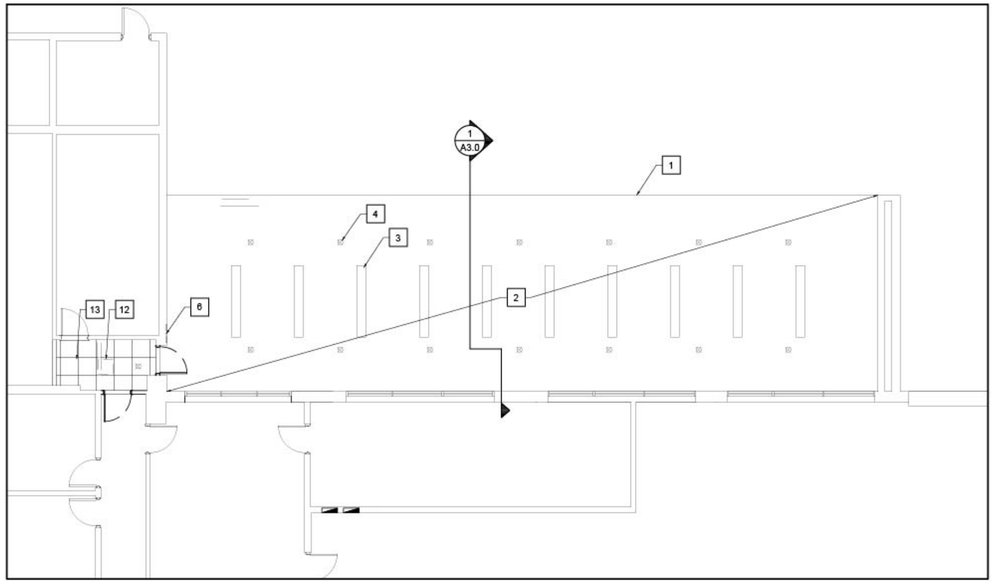

EXISTING / DEMOLITION CEILING PLAN

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

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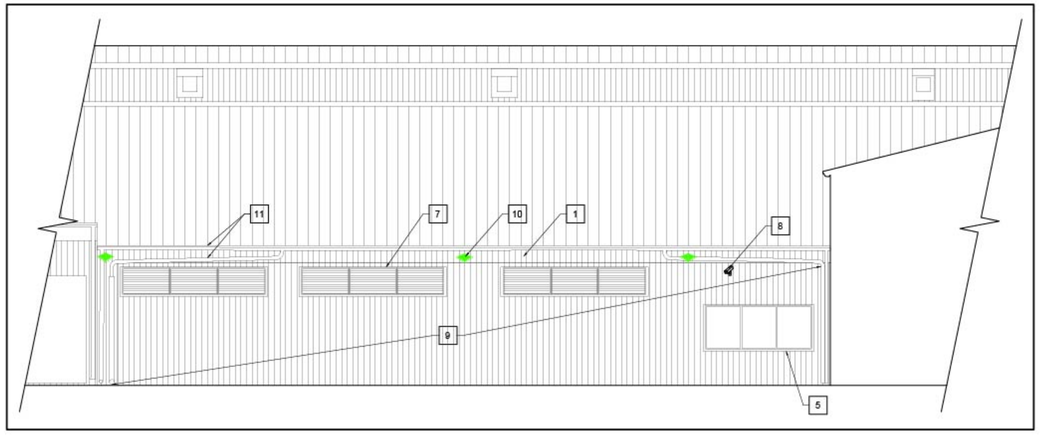

EXISTING / DEMOLITION ELEVATION

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

EXISTING BUILDING PHOTO

KEY NOTES

1. EXISTING METAL PANEL FASCIA TO REMAIN.
2. EXISTING METAL CEILING TO REMAIN. CLEAN FROM RUST AND PREPARE FOR PAINT.
3. EXISTING LIGHT FIXTURES TO BE REMAIN. SEE ELECTRICAL DRAWINGS.
4. EXISTING SPRINKLER HEADS TO REMAIN.
5. EXISTING WINDOW TO REMAIN.
6. EXISTING LOUVER TO BE REMOVED. G.C. TO INVESTIGATE AREA THAT LOUVER SERVES, PRIOR TO START ANY WORK AND REPORT TO ARCHITECT. SEE SHEET A2.0 AND MECHANICAL DRAWINGS FOR NEW LOUVER AND DUCTS.
7. EXISTING LOUVERS TO REMAIN (TYP.)
8. RELOCATE EXISTING SECURITY CAMERA. COORDINATE LOCATION WITH OWNER.
9. EXISTING METAL PANEL WALLS TO REMAIN. CLEAN FROM ANY DIRT AND EXCESSIVE RUST.
10. EXISTING LIGHTS TO REMAIN (TYP.)
11. EXISTING GUTTER AND DOWNSPOUTS TO REMAIN (TYP. U.N.O.)
12. 2X2 EXISTING LIGHT FIXTURE TO BE RELOCATED. SEE SHEET A1.1
13. EXISTING ACOUSTICAL CEILING SYSTEM TO REMAIN.

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14. ALL DEMOLITION SHALL BE CARRIED OUT IN A SAFE MANNER & IN STRICT ACCORDANCE WITH OSHA REGULATIONS.
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19. CLEAN & LEVEL FLOOR AS REQUIRED IN DEMO OR SPECIFIED AREAS CONTRACTOR TO DISPOSE OF ANY ITEMS THE OWNER DETERMINES ARE NOT ACCEPTABLE FOR RE-USE.

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No.	Date	Revision	By
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Designed by:	I.L.U.
Drawn by:	I.L.U.
Checked by:	I.L.U.
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Scale:	
Date:	11/15/15
Job No.:	L10103

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DEMOLITION CEILING PLAN AND ELEVATION

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT CITY OF LAKE WORTH

Sheet No.
D2.0

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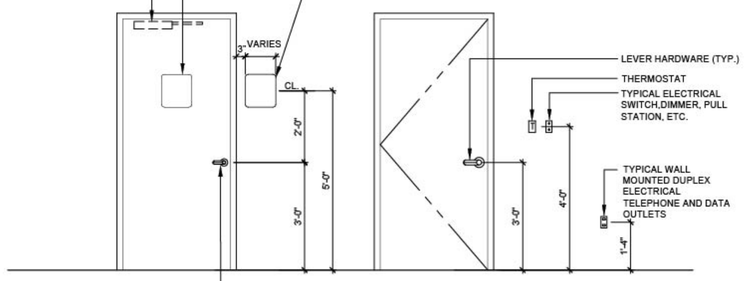
MISC. ADA REQUIREMENTS

DOOR CLOSERS SWEEP PERIOD SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90°, THE DOOR WILL TAKE AT LEAST 5 SECONDS TO MOVE TO A POINT 3 IN. FROM THE LATCH, MEASURED TO THE LEADING EDGE OF THE DOOR. ADJUST FOR 5 LB. MAX FORCE FOR INTERIOR DOORS; AND 8.5 FOR EXTERIOR DOORS (PER FBC 2010 404.2)

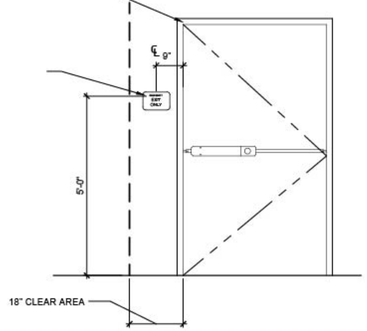
IN ACCORDANCE WITH ADA REQUIREMENTS, ALL PERMANENT ROOM IDENTIFICATION SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR, AND SHALL BE MOUNTED WITH THE CENTERLINE OF THE SIGN AT 5'-0" A.F.F. MOUNTING LOCATION FOR SIGN SHALL BE SUCH THAT A PERSON MAY APPROACH WITHIN 3" OF THE SIGN WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING IN THE SWING OF THE DOOR. IF THERE IS INSUFFICIENT WALL SPACE ADJACENT TO THE LATCH SIDE OF THE DOOR, THE SIGN SHALL BE MOUNTED ON THE NEAREST ADJACENT WALL. ADA SIGNAGE SHALL COMPLY WITH THE DETAILS PROVIDED AT THE RIGHT.



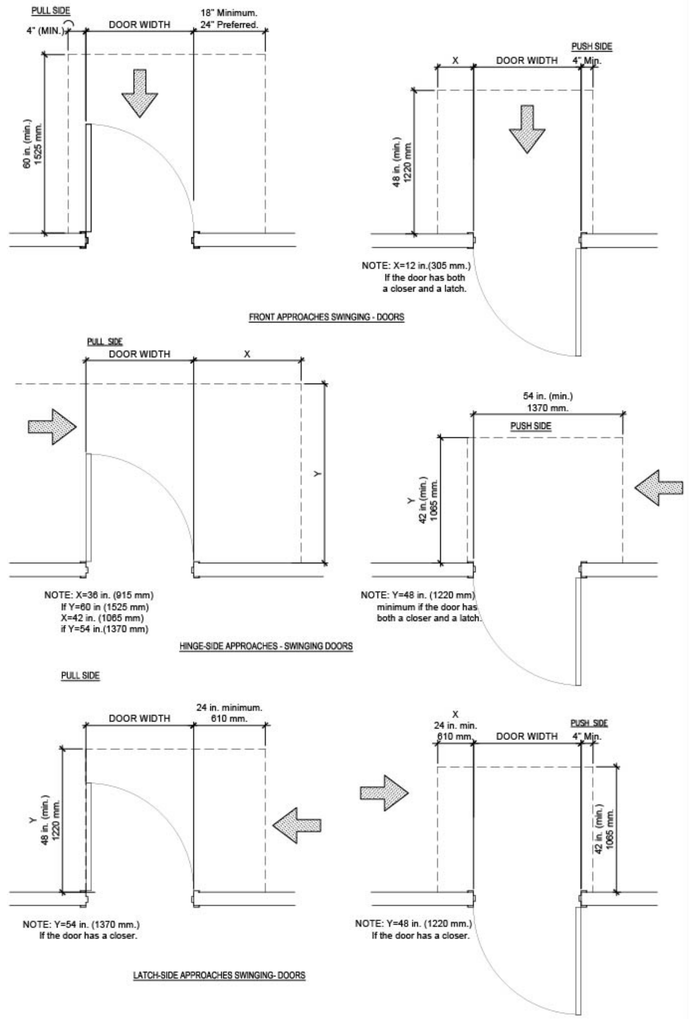
DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE. HARDWARE REQUIRED FOR ACCESSIBLE DOOR PASSAGE SHALL BE MOUNTED AT 36" (in.) ABOVE FINISH FLOOR.

LATCH SIDE OF DOOR

TACTILE "EMERGENCY EXIT ONLY" SIGN RE: DETAIL ON THIS SHEET



MANEUVERING CLEARANCE AT DOORS



SIGNAGE LEGEND

HANDICAP SIGNAGE MOUNTED WITHIN 8" OF JAMB ON STRIKE SIDE

1. REQUIRED ACCESSIBLE ELEMENTS SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AT THE FOLLOWING LOCATIONS

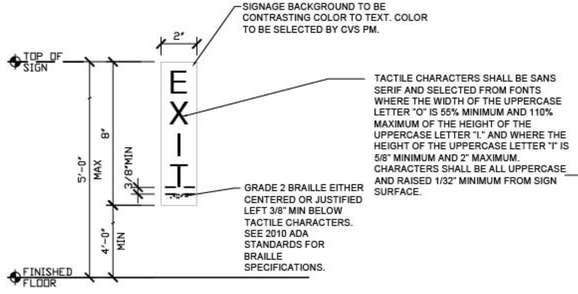
   -ACCESSIBLE ENTRANCES WHERE NOT ALL ENTRANCES ARE ACCESSIBLE.

   -EMERGENCY EXITS THAT ARE ACCESSIBLE.

2. TACTILE SIGNAGE SHALL BE LOCATED ON THE WALL TO THE DOOR'S LATCH SIDE AT A HEIGHT OF 60" AFF TO THE BASELINE OF THE HIGHEST TACTILE CHARACTER. SIGNS MAY BE PLACED ON THE NEAREST ADJACENT WALL WHEN THERE IS NO WALL SPACE ON THE LATCH SIDE.

3. CHARACTER AND SYMBOLS OF SIGNS SHALL BE IN CONTRAST WITH THEIR BACKGROUND AND SHALL BE EGGSHELL, MATTE, OR OTHER NON-GLARE MATERIALS OR FINISHES.

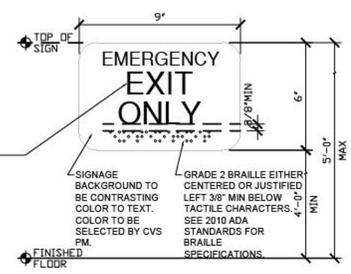
4. ACCESSIBLE SIGNAGE SHALL USE GRADE II BRAILLE AND MUST COMPLY WITH ANSI A117.1 SECTION 703.4.



SIGNAGE BACKGROUND TO BE CONTRASTING COLOR TO TEXT. COLOR TO BE SELECTED BY CVS PM.

TACTILE CHARACTERS SHALL BE SANS SERIF AND SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 55% MINIMUM AND 110% MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I." AND WHERE THE HEIGHT OF THE UPPERCASE LETTER "I" IS 5/8" MINIMUM AND 2" MAXIMUM. CHARACTERS SHALL BE ALL UPPERCASE AND RAISED 1/32" MINIMUM FROM SIGN SURFACE.

GRADE 2 BRAILLE EITHER CENTERED OR JUSTIFIED LEFT 3/8" MIN BELOW TACTILE CHARACTERS. SEE 2010 ADA STANDARDS FOR BRAILLE SPECIFICATIONS.



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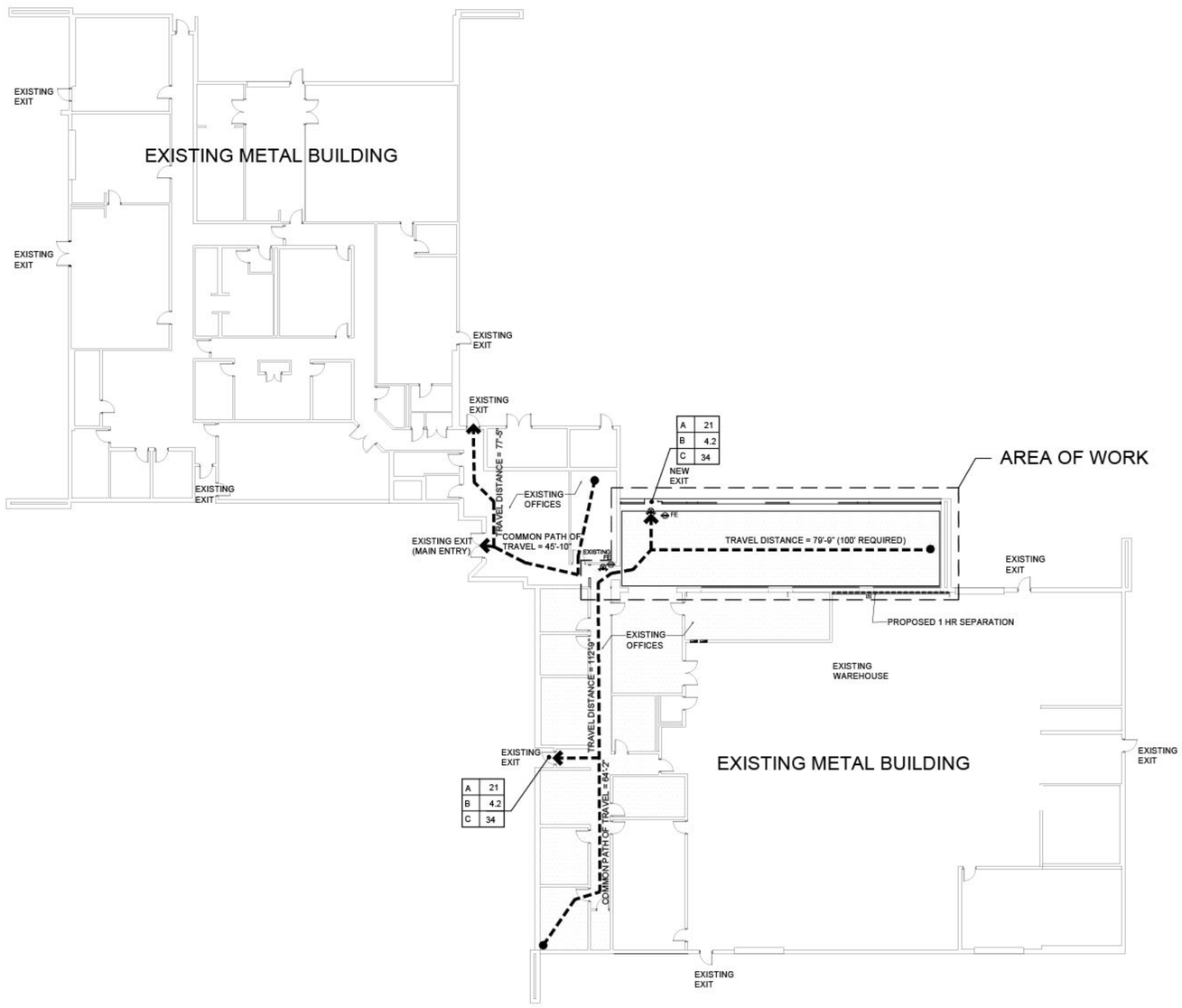
ADA REQUIREMENTS

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
A0.1



LIFE SAFETY PLAN

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

N

LIFE SAFETY INFO. & BUILDING DATA

FLORIDA EXISTING BUILDING CODE	2010
FLORIDA MECHANICAL CODE	2010
NATIONAL ELECTRICAL CODE	2008, NFPA 70
FLORIDA PLUMBING CODE	2010
FLORIDA FIRE PREVENTION CODE	2010
NFPA 101 FLORIDA EDITION & NFPA 1	2009
FLORIDA ACCESSIBILITY CODE	2012

OCCUPANCY CLASS: B - BUSINESS
CONSTRUCTION TYPE: TYPE IIIB; SPRINKLERED
TOTAL SQUARE FOOTAGE: 1,451 SF

OCCUPANT LOAD

OCCUPANCY IN NEW OFFICE AREA
1,451 SQ. FT. / 100 SQ. FT. PER PERSON = 15 PEOPLE

TOTAL BUSINESS OCCUPANCY IN HATCHED AREAS
4169 SQ. FT. / 100 SQ. FT. PER PERSON = 42 PEOPLE

TOTAL REQUIRED EXITS IN NEW OFFICE AREA = 1 (FBC 1021.1 D)
EXITS PROVIDED = 1

TOTAL REQUIRED WIDTH = .2 X15 = 3 INCHES
WIDTH PROVIDED = 32 INCHES

EXIT REQUIREMENTS

BUSINESS OCCUPANCY:

MAXIMUM ALLOWABLE TRAVEL DISTANCE: (FBC 1016.1)	ALLOWED	250'
	PROVIDED	112'-9"
MAXIMUM ALLOWABLE DEAD END: (FBC 1018.4)	ALLOWED	20'
	PROVIDED	N/A
MAXIMUM COMMON PATH OF TRAVEL: (FBC 1014.3)	ALLOWED	100'
	PROVIDED	N/A

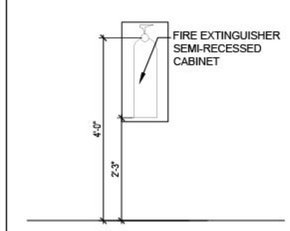
SYMBOL LEGEND

- 1 HR FIRE SEPERATION
- TRAVEL PATH
- START OF TRAVEL
- EXIT ARROW
- EMERGENCY / EXIT LIGHT COMBO PACK
- EM — EMERGENCY LIGHTS
- FE — SEMI-RECESSED CABINET (BY JL INDUSTRIES OR APPROVED EQUAL). ; 6LB, CLASS 2-A:10-B:C TYPE IN COMPLIANCE WITH NFPA 10

EGRESS CALCULATION:

A	OCCUPANT LOAD AT THIS EXIT
B	REQUIRED EXIT WIDTH (INCHES)
C	PROVIDED EXIT WIDTH (INCHES)

FIRE EXTINGUISHER MOUNTING HT.



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LIFE SAFETY PLAN

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
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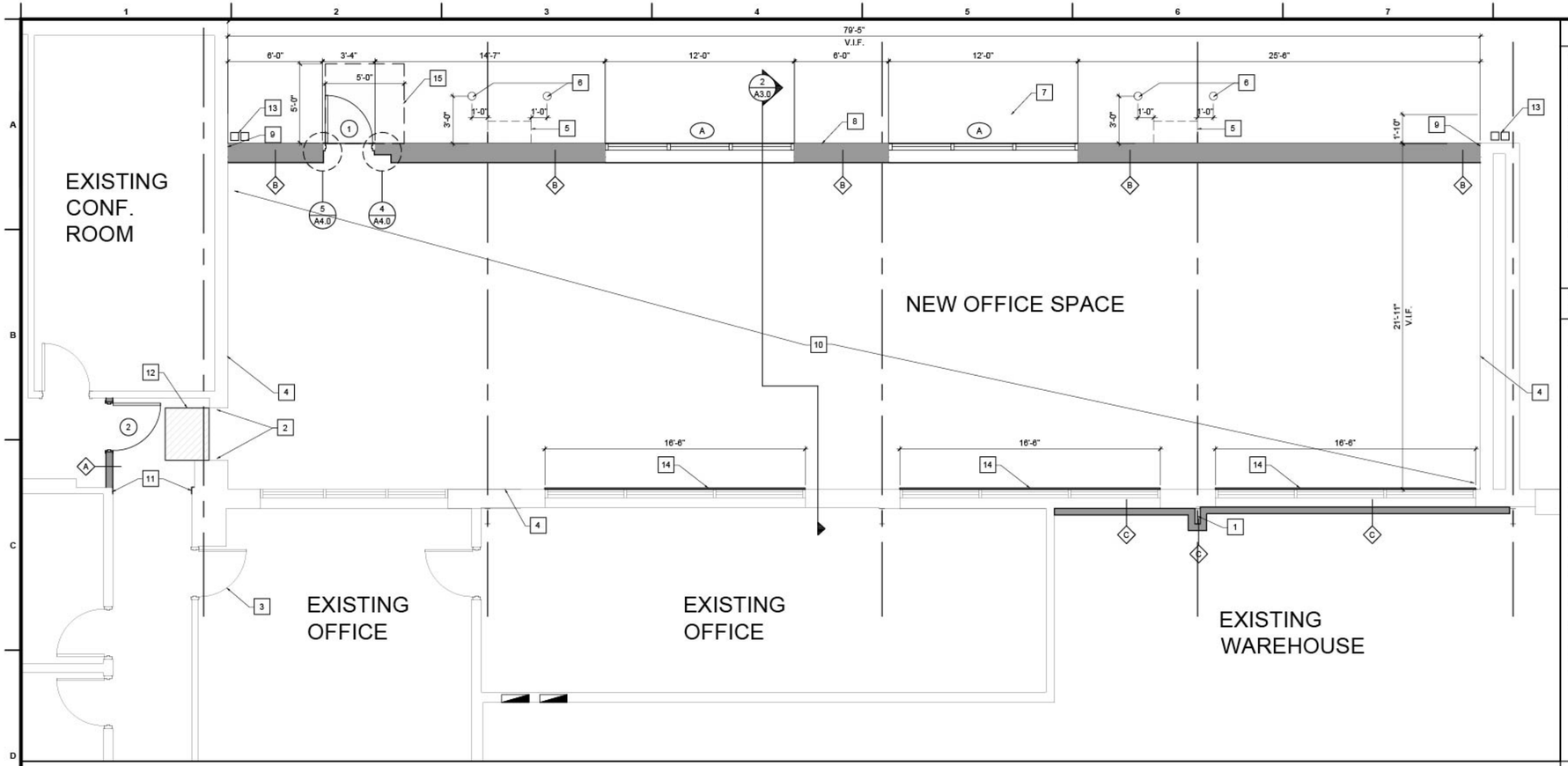


FLOOR PLAN

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

N

GENERAL NOTES

1. THE PLAN LOCATION OF FIXTURES AND EQUIPEMNT AND ARE INTENDED TO CONVEY THE GENERAL INTENT OF THE WORK IN SCOPE AND LAYOUT. THEY ARE NOT INTENDED TO SHOW IN MINUTE DETAIL FOR EVERY AND ALL OF THE ACCESSORIES INTENDED FOR THE PURPOSE OF EXECUTION OF THE WORK, BUT IT IS UNDERSTOOD THAT SUCH DETAILS ARE PART OF THIS WORK.

2. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN A NEAT AND FIRST CLASS WORKMANLIKE MANNER. THE ARCHITECT RESERVES THAT RIGHT TO DIRECT THE REMOVAL AND REPLACEMENT OF ANY ITEM, IN HIS OPINION THAT DOES NOT PRESENT AN ORDERLY AND REASONABLY NEAT OR WORKMANLIKE APPEARANCE. THE REMOVAL AND REPLACEMENT SHALL BE DONE WHEN DIRECTED BY THE GENERAL CONTRACTOR AND WITHOUT ADDITIONAL COST TO THE OWNER.

3. THE CONTRACTOR SHALL COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS TO THE EXTENT PRINTED INFORMATION IS MORE DETAILED OR STRINGENT THAN REQUIREMENTS CONTAINED DIRECTLY IN THE PLANS.

4. PATCH AND REPAIR ALL AREAS AFFECTED BY RENOVATION TO MAINTAIN THE INTENDED USE AND IN FULL SATISFACTION OF SPECIFICATIONS AND WARRANTIES OF (AFFECTED ITEM/S) MANUFACTURER.

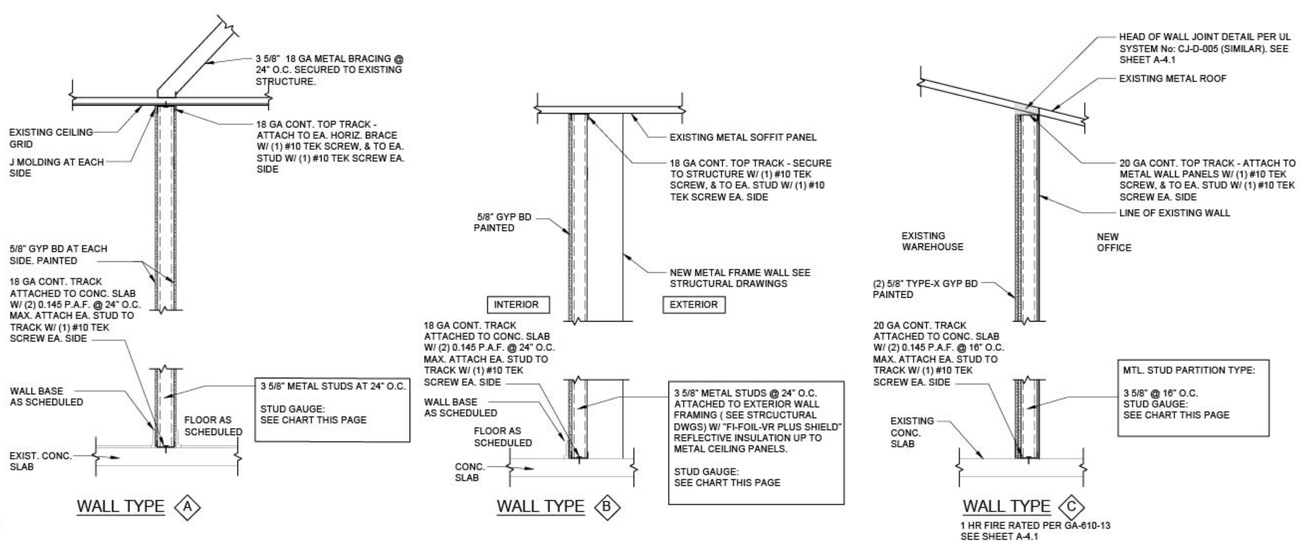
5. CONTRACTOR SHALL FIELD VERIFY ALL SITE CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO FABRICATIONS AND CONSTRUCTION. CONTRACTOR SHALL NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATIONS AND CONSTRUCTION.

FLOOR PLAN KEY NOTES

1. EXISTING STEEL COLUMN.
2. REPLACE EXISTING DOOR FRAMES WITH NEW KNOCK DOWN FRAMES WITHOUT HINGE AND LATCH. ("TIMELY" OR EQUAL) .COLOR TO MATCH EXISTING.
3. EXISTING DOOR (TYP. U.N.O.)
4. EXISTING EXTERIOR METAL PANEL WALL TO BE CLEAN AND PAINTED INSIDE NEW OFFICE SPACE.
5. NEW WALL HUNG MECHANICAL UNITS. SEE MECHANICAL DRAWINGS.
6. NEW 48" H, 6" DIA. STEEL PIPE BOLLARDS. SEE 3/ A-4.1
7. PROVIDE ASPHALT PAVEMENT BETWEEN NEW WALL AND EXISTING ASPHALT.
8. NEW METAL PANEL WALL ("SUPERSPAN-X BY MBMI" OR EQUAL). SEE STRUCTURAL DRAWINGS. G.C. TO PROVIDE CALCULATIONS SINGED AND SEALED BY ENGINEER PER JURISDICTIONS REQUIREMENTS.
9. PROVIDE CORNER DETAILS PER METAL BUILDING MANUFACTURER'S DETAILS.
10. EXISTING CONCRETE FLOOR. PREPARE PER FLOOR FINISH.
11. PATCH AND MATCH EXISTING WALL WITH GYPSUM BOARD.
12. FILL EXISTING FLOOR RECESS WITH SELF LEVELING CONCRETE. FINISH FLOOR TO MATCH EXISTING. SEE FINISH PLAN.
13. EXISTING DOWNSPOUTS. REMOVE AND INSTALL BACK AS NEEDED DURING CONSTRUCTION AS NEEDED.
14. 16'-6"X 3'-3" EXISTING LOUVERS; COVER WITH 1/2" FIRE PROOF TREATED PLYWOOD. PAINT TO MATCH INTERIOR. G.C. TO PROVIDE ALTERNATE PRICING.
15. EXTERIOR FLOOR TO BE LEVELED WITH INSIDE IN DASHED LINE. SLOPE ASPHALT AROUND TO HAVE MAXIMUM 2% SLOPE.

FLOOR PLAN LEGEND

- EXISTING WALL TO PRESERVE
- NEW METAL STUD WALL
- KEY NOTE
- DOOR TAG
- WINDOW TAG
- WALL TAG; REFER TO WALL TYPES



1 A1.0 WALL TYPES

SCALE: 3/4" =1'-0"

INTERIOR METAL STUD FRAMING CHART

SIZE	GAUGE	LIMITING/ UNBRACED HEIGHT
3 5/8"	20	14'-0"
3 5/8"	18	16'-0"
3 5/8"	16	18'-0"
4"	20	16'-0"
4"	18	18'-0"
4"	16	19'-0"
6"	20	21'-0"
6"	18	24'-0"
6"	16	25'-0"

GENERAL NOTES

1. LIMITING HEIGHT (UNBRACED HEIGHT) IS THE CLEAR DISTANCE FROM THE FINISH FLOOR TO TOP OF WALL OR BRACE LOCATION (HORIZONTAL OR DIAGONAL KNEE BRACE).
2. ALL METAL STUDS PROPERTIES TO BE AS MANUFACTURED METAL STUD MANUFACTURES ASSOCIATIONS PER ICBO REPORT NO. 4943 OR APPROVED EQUIVALENT. ALLOWABLE UNBRACED HEIGHT AS PER CHART ABOVE.
3. ALL CONNECTION AND FASTENERS TO BE AS PER DETAILS. ALL MANUFACTURERS AND ICBO REPORT # TO BE STRICTLY ADHERED TO BY GC UNLESS APPROVAL FOR EQUAL SUBSTITUTION IS RECEIVED FROM VPI.
4. ALL GYP BOARD TO BE 5/8" TYPE "X" ON ALL PARTITIONS THROUGHOUT. ATTACH WITH 1" TYPE "S" DRYWALL SCREWS 12" O,C, VERTICALLY AT STUDS AND 8" O.C. AROUND PERIMETER UNLESS NOTED OTHERWISE.

INTERIOR STUD FRAMING NOTES:

1. LIMITING HEIGHT FOR 5/8" GYP PANELS AND 5 PSF UNIFORM LOAD PERPENDICULAR TO PARTITION OR FURRING.
2. USE ONE-LAYER HEIGHTS FOR UNBALANCED ASSEMBLIES. USE TWO LAYER HEIGHTS FOR MULTI-LAYER ASSEMBLIES.
3. FOR FURRING STUD ATTACHED TO TOP AND BOTTOM RUNNERS AND FREE-STANDING UP TO 12'-0" HEIGHT.
4. STUDS EXCEEDING 12'-0" HEIGHT REQUIRE MID-HEIGHT ANCHOR TO EXTERIOR WALL. ASSEMBLIES WITHOUT FACE PANELS AND CHASE WALLS PARTITIONS REQUIRE VERTICAL CROSS BRACES 4'-0" O.C. MAX. LIMITING CRITERIA D-DEFLECTION, F-BENDING STRESS, V-END REACTION SHEAR.
5. THE TYPICAL PHYSICAL AND STRUCTURAL PROPERTIES AND APPLICABLE TABLES PUBLISHED WITH THIS CHART REPRESENT CHARACTERISTICS AND/OR STEEL STUDS CURRENTLY AVAILABLE FROM A GROUP OF STEEL STUD MANUFACTURERS.
6. GENERAL CONTRACTOR TO CONSULT STUD MANUFACTURER FOR ACTUAL PHYSICAL AND STRUCTURAL PROPERTIES, STUD THICKNESS AND LIMITING HEIGHT TABLES TO DETERMINE FINAL STUD SELECTION.

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FLOOR PLAN AND WALL DETAILS

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT CITY OF LAKE WORTH

Sheet No.
A1.0

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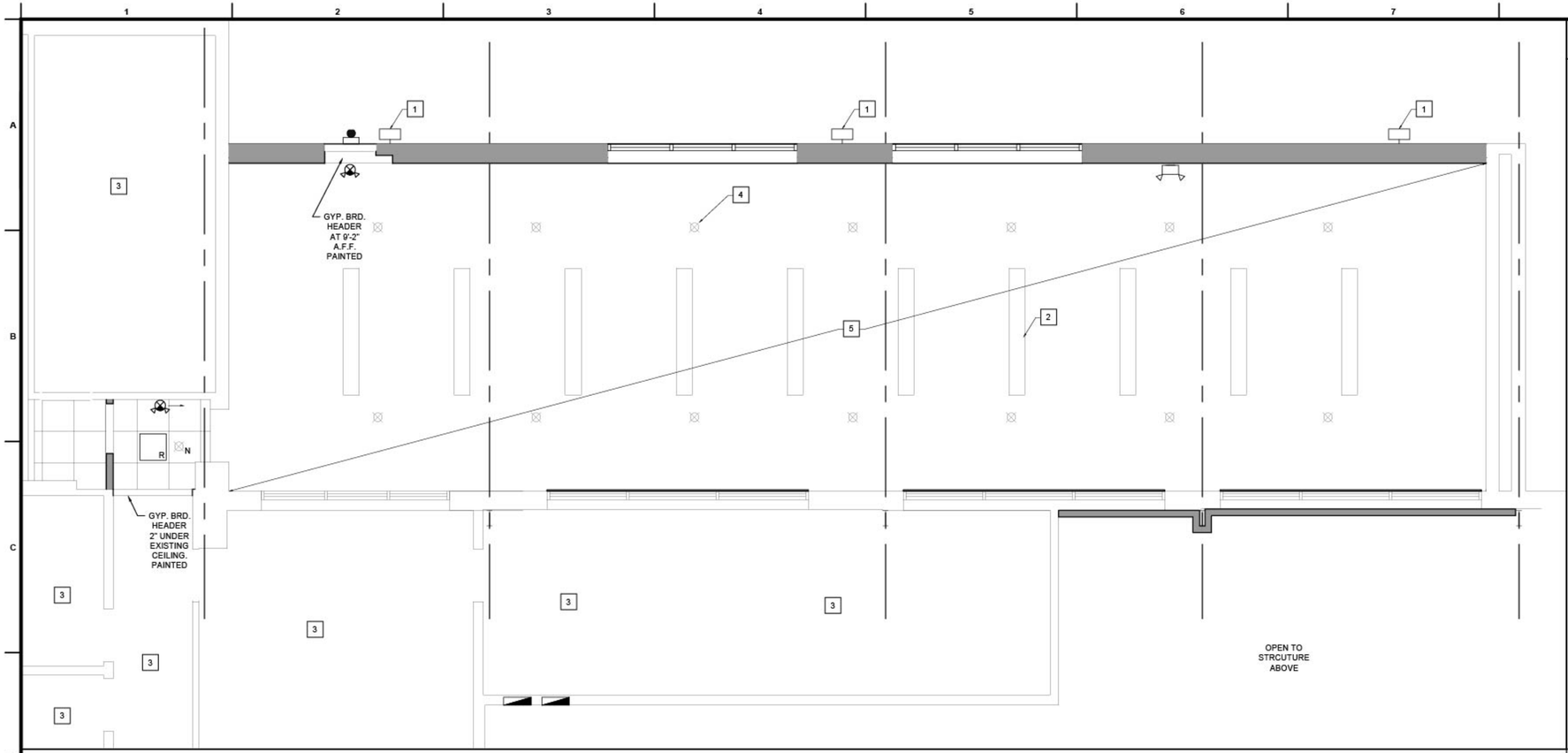

REFLECTED CEILING PLAN

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

N

REFLECTED CEILING PLAN LEGEND

- EXISTING 2'X2' CEILING GRID W/ ACUSTICAL LAY-IN CEILING TILES. REPLACE DAMAGED TILES WITH NEW.
- 2X2 LIGHT FIXTURE - RELOCATED
- EXISTING FLOOD LIGHTS
- EXIT SIGN, EMERGENCY LIGHT COMBO WITH BATTERY PACK WITH DIRECTION
- EXIT SIGN, EMERGENCY LIGHT COMBO WITH BATTERY PACK
- EXISTING SPRINKLER HEADS
- NEW SPRINKLER HEAD IN ACOUSTICAL CEILING.
- SUPPLY DIFFUSER - REFER TO MECHANICAL
- RETURN DIFFUSER - REFER TO MECHANICAL
- LINE OF EXISTING STEEL BEAMS ABOVE CEILING
- EMERGENCY LIGHT WITH BATTERY BACKUP
- WALL MOUNTED EMERGENCY BATTERY PACK

CEILING PLAN KEY NOTES

1. EXISTING LIGHT TO REMAIN
2. EXISTING FLUORESCENT LIGHT. CLEAN AND RE-LAMP. SEE ELECTRICAL DRAWINGS. (TYPICAL)
3. EXISTING CEILING TO REMAIN.
4. EXISTING FIRE SPRINKLER HEAD TO REMAIN (TYPICAL).
5. EXISTING PERFORATED METAL CEILING PANELS TO BE CLEANED AND PAINTED. SEE SPECS.

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REFLECTED CEILING PLAN

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
A1.1

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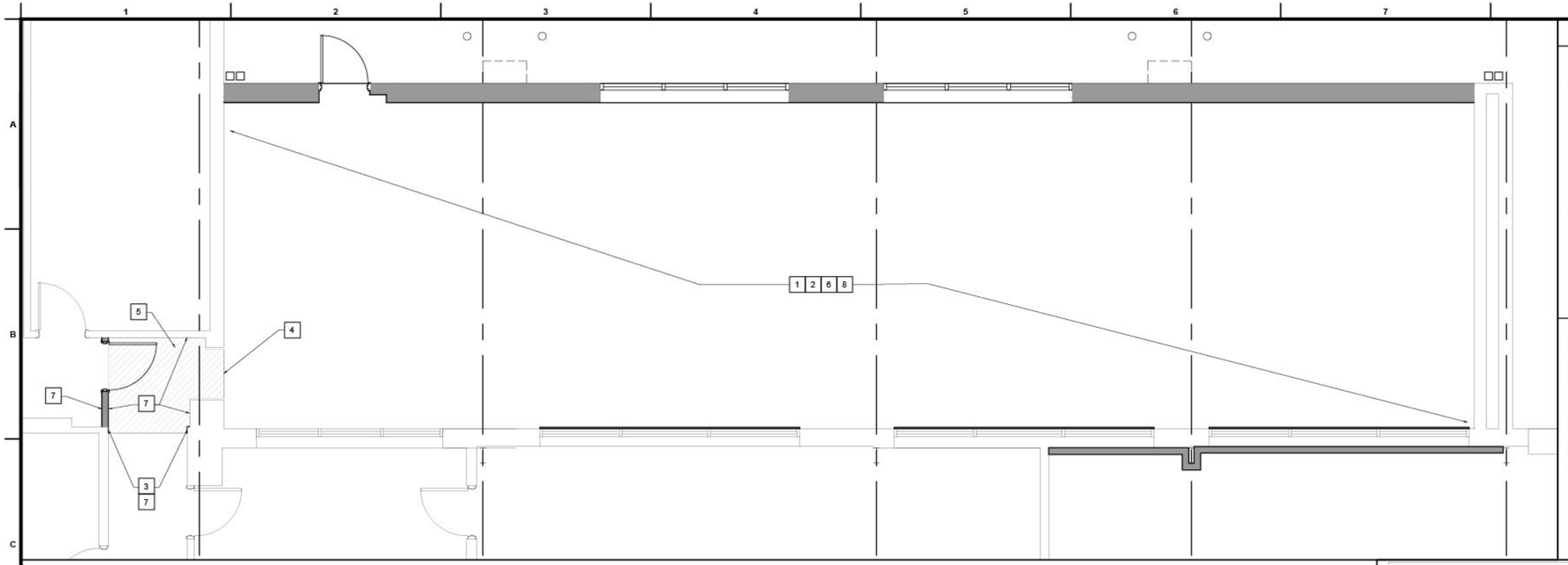

FINISH FLOOR PLAN

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

N

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KEY NOTES

1. EXISTING CONCRETE SLAB TO HAVE P2. SEE SCHEDULE BELOW.
2. ALL WALLS AND CEILING TO BE PAINTED P1. UNLESS NOTED OTHERWISE.
3. WALL PAINTED TO MATCH EXISTING WALL COLOR.
4. PROVIDE TRANSITION STRIPS AT ALL FINISH JOINTS
5. NEW VINYL TILE TO MATCH EXISTING IN HATCHED AREA
6. PROVIDE NEW VINYL BASE - VB-1 (G.C. TO PROVIDE ALTERNATE PRICING)
7. PROVIDE NEW VINYL BASE (MATCH EXISTING)
8. PROVIDE NEW CARPET C1 (G.C. TO PROVIDE ALTERNATE PRICING)

INTERIOR FINISH SCHEDULE

TAG	MATERIAL / DESCRIPTION	MFR.	STYLE/ CAT. NO.	COLOR	NOTES
CARPET					
C1	CARPET TILE	MOHAWK GROUP	PLACES & SPACES III	GLAZE II LAS VEGAS	INSTALL QUARTER TURNS
PAINTS / SEALANTS					
P1	PAINT	BENJAMIN MOORE	876	ATRIUM WHITE (AKA ALABASTER)	ECO SPEC WB N374, 2 COATS,
P2	MOISTURE BLOCK	VEXCON	MOISTURE BLOC MX WB	CLEAR	INSTALL PER SPECS
VINYL					
V1	RUBBER WALL BASE	ROPPE	700 SERIES	DARK GRAY	

INTERIOR FINISH NOTES:

1. ALL INTERIOR FLOORING FINISHES SHALL CONFORM TO A CLASS 1 RATING WHEN TESTED PER ASTM E 684, AND A MAXIMUM SPECIFIC OPTICAL DENSITY OF 450 OR LESS WHEN TESTED PER ASTM E 662.

2. ALL INTERIOR WALL FINISHES SHALL CONFORM TO A CLASS A FLAME SPREAD RATING AND A MAXIMUM DEVELOPING RATING OF 450.

3. ALL ACOUSTICAL CEILINGS SHALL CONFORM TO A MAXIMUM FLAME SPREAD INDEX OF 25 AND A MAXIMUM SMOKE DEVELOPED INDEX OF 50.

4. ALL PAINTS SHALL BE LOW V.O.C.

5. PROVIDE V1 BASE AT ALL NEW WALLS. MATCH EXISTING WALL BASE COLOR IN EXISTING SPACES.

6. PROVIDE SAMPLES OF FINISHES FOR OWNER'S APPROVAL.

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Drawn by: I.I.U.
Checked by: I.I.U.
Approved by: I.I.U.
Scale:
Date: 11/15/15
Job No.: L10103
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Survey L.B. No. 7143
Arch. Lic. No. AA26000926
Lndscp. Lic. No. LC0000296

FINISH PLAN AND SCHEDULES

PORCH ENCLOSURE FOR
COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
A1.2

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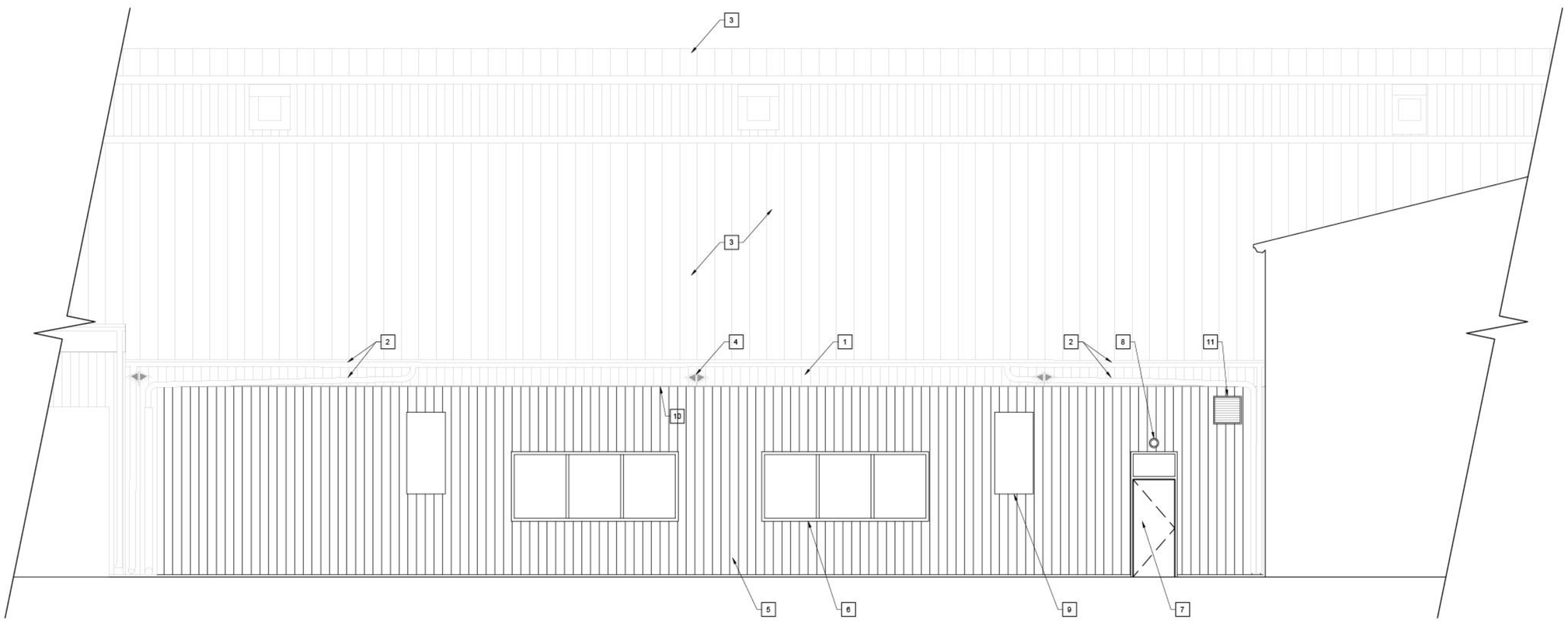
KEY NOTES

1. EXISTING METAL PANEL FASCIA. PAINT TO MATCH NEW PANEL.
2. EXISTING GUTTER AND DOWNSPOUTS.
3. EXISTING METAL ROOF.
4. EXISTING LIGHT FIXTURES (TYP.)
5. NEW METAL PANEL WALL "SUPERSPAN-X BY MBMI" OR EQUAL. COLOR: HAWAIIAN BLUE
6. NEW WHITE COATED ALUMINUM WINDOWS WITH IMPACT RESISTANT GLASS. SEE SHEET A4.0.
7. NEW EXTERIOR METAL DOOR WITH TRANSOM. SEE SHEET A4.0. COLOR: WHITE
8. NEW EMERGENCY LIGHT
9. NEW WALL HUNG HVAC UNIT (TYP. OF TWO). SEE MECHANICAL DRAWINGS.
10. TUCK NEW PANEL UNDER EXISTING PER MANUFACTURER'S INSTRUCTION.
11. NEW 2'X2' LOUVER. SIZE TO MATCH EXISTING. VERIFY IN FIELD. SEE MECHANICAL DRAWINGS. G.C. TO INVESTIGATE AREA THAT EXISTING LOUVER SERVES PRIOR TO START ANY WORK AND REPORT TO ARCHITECT.



EXTERIOR ELEVATION

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

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No.	Date	Revision	By
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EXTERIOR ELEVATION

PORCH ENCLOSURE FOR
COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
A2.0

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GENERAL NOTES

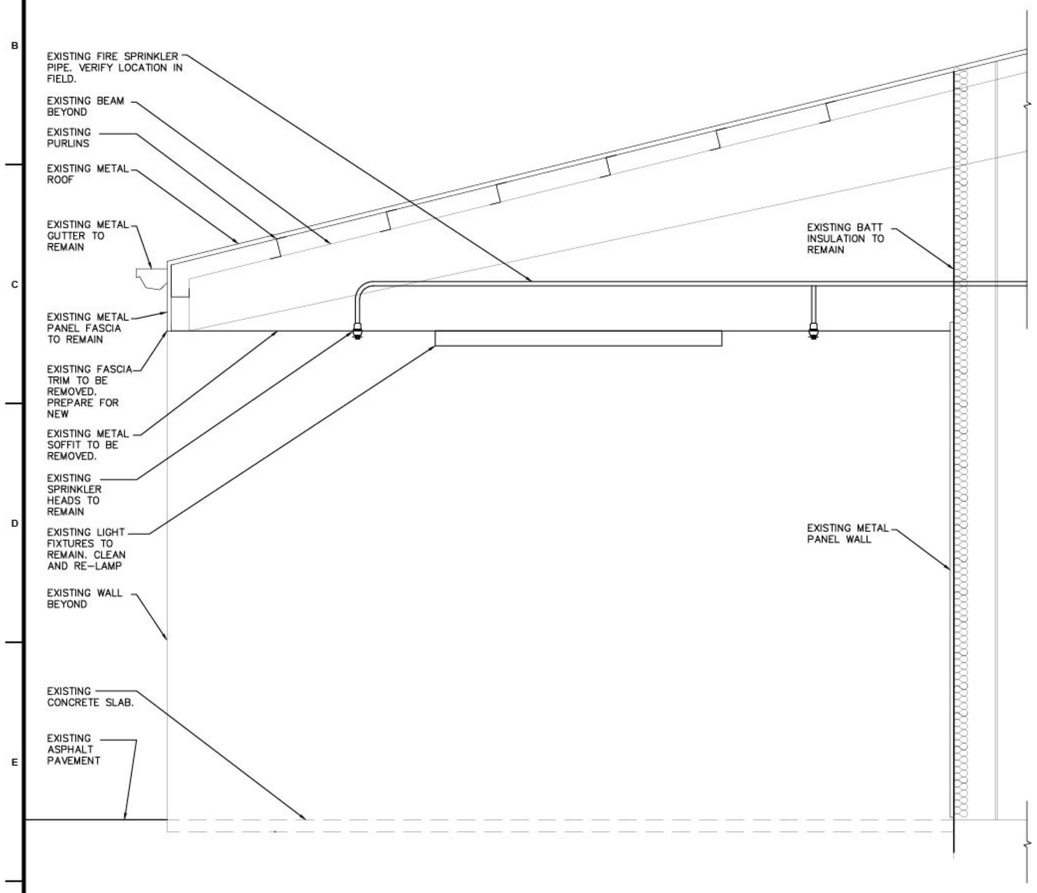
1. SEE SHEET A1.0 FOR WALL TYPE DETAILS.

2. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN A NEAT AND FIRST CLASS WORKMANLIKE MANNER. THE ARCHITECT RESERVES THAT RIGHT TO DIRECT THE REMOVAL AND REPLACEMENT OF ANY ITEM, IN HIS OPINION THAT DOES NOT PRESENT AN ORDERLY AND REASONABLY NEAT OR WORKMANLIKE APPEARANCE. THE REMOVAL AND REPLACEMENT SHALL BE DONE WHEN DIRECTED BY THE GENERAL CONTRACTOR AND WITHOUT ADDITIONAL COST TO THE OWNER.

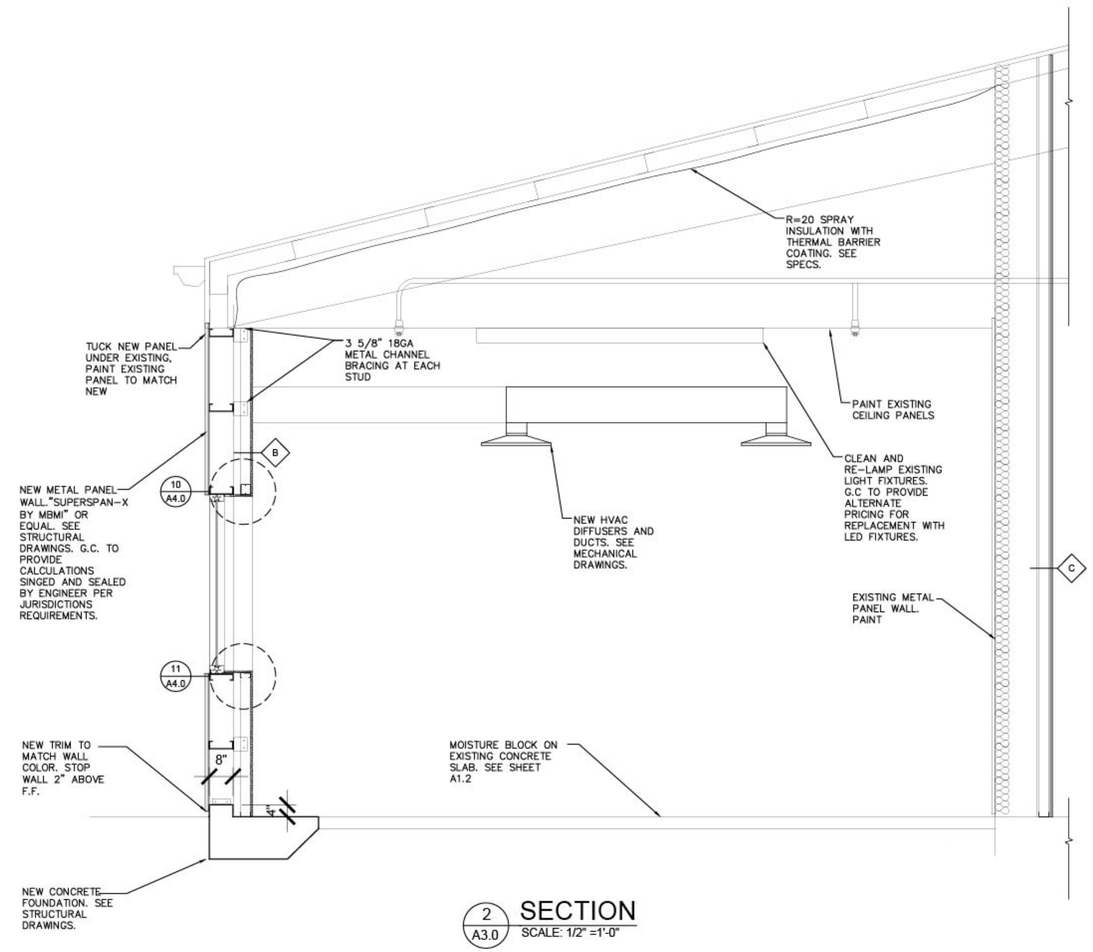
3. THE CONTRACTOR SHALL COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS TO THE EXTENT PRINTED INFORMATION IS MORE DETAILED OR STRINGENT THAN REQUIREMENTS CONTAINED DIRECTLY IN THE PLANS.

4. PATCH AND REPAIR ALL AREAS AFFECTED BY RENOVATION TO MAINTAIN THE INTENDED USE AND IN FULL SATISFACTION OF SPECIFICATIONS AND WARRANTIES OF (AFFECTED ITEM/S) MANUFACTURER.

5. CONTRACTOR SHALL FIELD VERIFY ALL SITE CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO FABRICATIONS AND CONSTRUCTION. CONTRACTOR SHALL NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATIONS AND CONSTRUCTION.



1 / A3.0 EXISTING SECTION
SCALE: 1/2" =1'-0"



2 / A3.0 SECTION
SCALE: 1/2" =1'-0"

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SECTIONS

PORCH ENCLOSURE FOR
COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
A3.0

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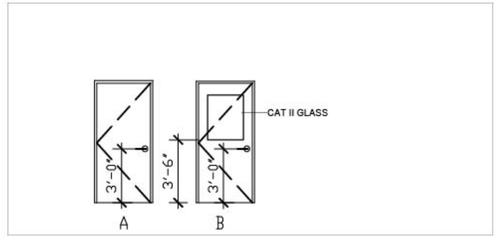
DOOR AND FRAME SCHEDULE

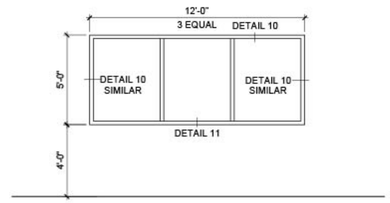
TAG	TYPE	DOOR SIZE WD	DOOR SIZE HGT	DOOR SIZE THK	DOOR MATL	GLAZING	LOUVER WD	LOUVER HGT	FRAME MATL	FRAME DETAIL HEAD	FRAME DETAIL JAMB	FRAME DETAIL SILL	FIRE RATING LABEL	HARDWARE SET NO.	NOTES
1	A	3'-0"	7'-0"	1 3/4"	INS. H.M.				H.M.	3/A-4.01 6/A-4.01	4/A-4.0 5/A-4.0	6/A-4.0	—	HWS-01	1. 3.
2	B	3'-0"	7'-0"	1 3/4"	WD.				H.M.	8/A-4.01	8/A-4.0	9/A-4.0	—	HWS-02	1. 2.

REMARKS
1. PAINT PUSH SIDE DOOR & FRAME PI
2. 24"x30" CAT II GLASS VISION PANEL, PAINT WINDOW FRAME PI
3. WITH PANIC HARDWARE

NOTE: CONSULT OWNER FOR KEYING INSTRUCTIONS PRIOR TO ORDERING ANY HARDWARE.



1 A4.0 DOOR TYPES
SCALE: 1/4" =1'-0"



2 A4.0 WINDOW ELEVATIONS
SCALE: 1/4" =1'-0"

DOOR HARDWARE GROUP

HARDWARE SET #1
1. CLOSER: 4111 H-CUSH ALUM
2. HINGE: HAGER ROTON 780-112HD 83", CLEAR ANODIZED FINISH.
3. PANIC HARDWARE: EXIT ONLY PANIC, NO CYLINDER VON DUPRIN 9975EO LD 36" SP28
4. PULL HANDLE: VON DUPRIN 990 DT US 26D
5. 12" LATCH GUARD
6. WEATHER STRIPPING: NATIONAL GUARD 160V. 36" x 84"
7. DOOR SILENCERS: HAGER, QUANTITY = 3.
8. THRESHOLD: NATIONAL GUARD PRODUCTS, INC. SADDLE TYPE THRESHOLD 325HD. 36" WIDE x 1/2" RISE (ADA ACCESSIBLE).
9. DOOR SWEEP: NATIONAL GUARD 101AV 36"

HARDWARE SET #2
1. HINGES: (3) HAGER BB1279 US26D 4 1/2x4 1/2, OR EQUAL
2. LOCKSET: SCHLAGE ND80PD RHODES US26D FINISH
3. CLOSER: 4111 H-CUSH ALUM

GENERAL NOTES

1. THE PLAN LOCATION OF FIXTURES AND EQUIPEMNT AND ARE INTENDED TO CONVEY THE GENERAL INTENT OF THE WORK IN SCOPE AND LAYOUT. THEY ARE NOT INTENDED TO SHOW IN MINUTE DETAIL FOR EVERY AND ALL OF THE ACCESSORIES INTENDED FOR THE PURPOSE OF EXECUTION OF THE WORK, BUT IT IS UNDERSTOOD THAT SUCH DETAILS ARE PART OF THIS WORK.

2. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN A NEAT AND FIRST CLASS WORKMANLIKE MANNER. THE ARCHITECT RESERVES THAT RIGHT TO DIRECT THE REMOVAL AND REPLACEMENT OF ANY ITEM, IN HIS OPINION THAT DOES NOT PRESENT AN ORDERLY AND REASONABLY NEAT OR WORKMANLIKE APPEARANCE. THE REMOVAL AND REPLACEMENT SHALL BE DONE WHEN DIRECTED BY THE GENERAL CONTRACTOR AND WITHOUT ADDITIONAL COST TO THE OWNER.

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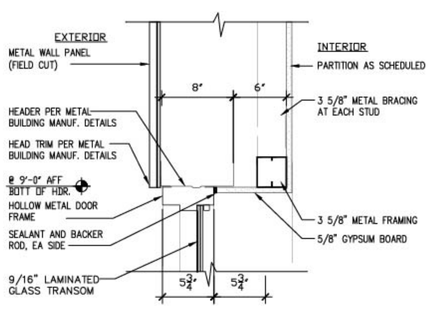
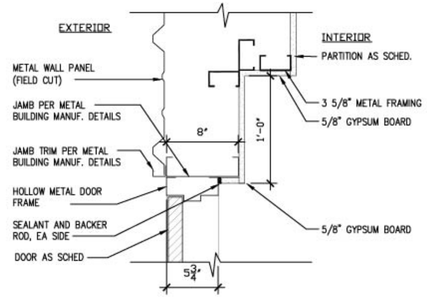
MANUFACTURER'S PRODUCT APPROVAL TABLE

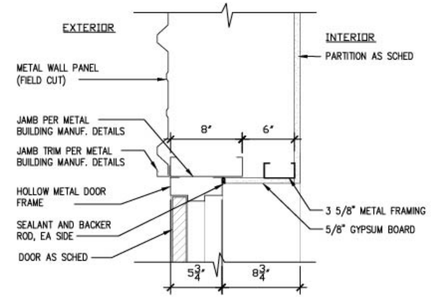
PRODUCT CATEGORY	SUB CATEGORY	MANUFACTURER	STATE OF FLORIDA APPROVAL NUMBER/NOTICE OF ACCEPTANCE (NOA) NUMBER	EXPIRATION DATE
DOORS	EXTERIOR SWING	CURRIES DIVISION OF AADG, INC.	FL 11537	
WINDOWS	STOREFRONT	YKK AP AMERICA, INC. KAWNEER COMPANY, INC.	FL 14218.2 FL 8787.1 / NOA 11-0915.06	 02/15/2017



3 A4.0 HEAD DETAIL
SCALE: 3" =1'-0"

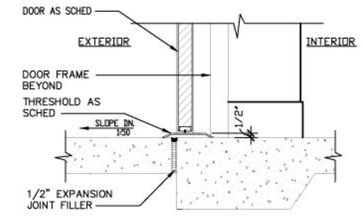


4 A4.0 JAMB DETAIL
SCALE: 3" =1'-0"

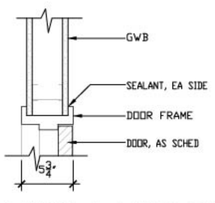


5 A4.0 JAMB DETAIL
SCALE: 3" =1'-0"

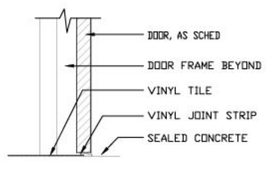
6 A4.0 NOT USED
SCALE: 3" =1'-0"



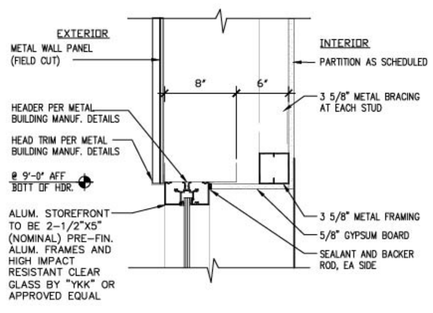
7 A4.0 TRESH. DETAIL
SCALE: 3" =1'-0"



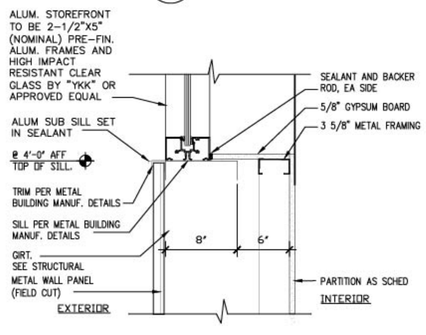
8 A4.0 HEAD & JAMB DETAIL
SCALE: 3" =1'-0"



9 A4.0 TRESH. DETAIL
SCALE: 3" =1'-0"



10 A4.0 HEAD & JAMB DETAIL
SCALE: 3" =1'-0"



11 A4.0 SILL DETAIL
SCALE: 3" =1'-0"

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DOOR AND WINDOW SCHEDUELS & DETAILS

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
A4.0

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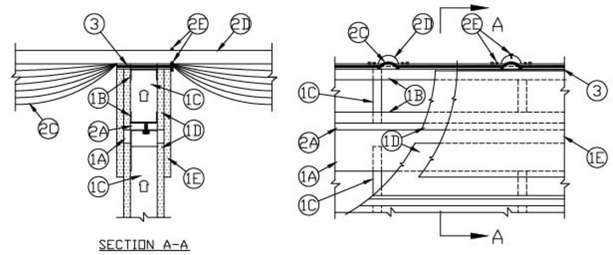
System No. CJ-D-0005
April 19, 2012
Assembly Rating - 1 Hr
Nominal Joint Width - 2 in.
Class II Movement Capabilities - 100% Compression and Extension

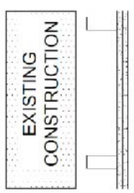


1. Wall Assembly — The minimum 1 hr fire rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Ceiling Deflection Channel — U-shaped channel formed from min 16 ga steel sized to accommodate steel studs (Item 1C) and provided with nom 5 in. (127 mm) flanges. Deflection channel installed parallel with and aligned with web of purlin and secured to bottom flange of purlin with min No. 14 self-tapping, hex-head, plated steel or stainless steel screws spaced max 24 in. (610 mm) OC.
   B. Steel Floor and Ceiling Runners — Floor runner of the wall assembly and the floor and ceiling runners of the cripple wall above the wall assembly shall consist of min 1-1/4 in. (32 mm) deep min 25 ga galv steel channels sized to accommodate steel studs (Item 1C). Floor runner of cripple wall aligned with and resting atop flange of purlin. Ceiling runner of cripple wall installed to compress insulation (Item 2C) to min thickness of 3/8 in. (10 mm) by wedging lengths of stud (Item 1C) between the runners. Steel studs of cripple wall attached to web of purlin with steel screws driven through opposite side of purlin web.
   C. Studs — Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut max 2 in. (51 mm) less in length than the wall assembly height with bottom nesting in and resting on the floor runner and with top nesting in ceiling deflection channel without attachment. Width of stud to be equal to or greater than width of purlin flange. Stud spacing not to exceed 24 in. (610 mm) O.C. Studs of cripple wall cut to length as required to compress insulation (Item 2C) to min thickness of 3/8 in. (10 mm) and spaced max 24 in. (610 mm) OC.
   D. Gypsum Board* — (CKNX) — Min 5/8 in. (16 mm) thick gypsum board sheets installed on each side of wall. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory except that a max 2 in. (51 mm) wide gap shall be maintained between the gypsum board of the wall assembly below the purlin and the gypsum board of the cripple wall. Top edge of gypsum board of wall assembly to be max 2 in. (51 mm) below top of ceiling deflection channel. Bottom edge of gypsum board of cripple wall to be flush with top of ceiling deflection channel. Screws securing gypsum board to steel studs of wall assembly to be located 2-1/4 in. to 2 1/2 in. (57 to 64 mm) below flange of ceiling deflection channel. Screws securing gypsum board of cripple wall to be driven into web of purlin and into studs and runners of cripple wall. No screws are to be driven into flanges of ceiling deflection channel.
   E. Gypsum Board* — (CKNX) — Min 5/8 in. (16 mm) thick "rip strip" of gypsum board installed to cover first layer of gypsum board on cripple wall and to lap min 3 in. (76 mm) onto gypsum board of wall assembly on each side of wall. The "rip strip" of gypsum board is to be the same material used for the wall assembly and is to be secured to the web of purlin and into studs and runners of the cripple wall. No screws are to be driven into flanges of ceiling deflection channel. Joints of "rip strip" to be offset from joints of gypsum board on wall assembly.
   Max separation between top of wall assembly gypsum board and bottom of cripple wall gypsum board (at time of installation of joint system) is 2 in. (51 mm). The joint system is designed to accommodate a max 100 percent compression or extension from its installed width.
2. Nonrated Horizontal Assembly — The nonrated horizontal assembly shall be constructed of the materials and in the manner described in the individual Roof Deck Constructions (Guide TGKX) in the UL Roofing Materials and Systems Directory and shall include the following construction features:
   A. Purlin — Min 16 ga coated steel. Max spacing as specified in the individual Roof Deck Construction.
   B. Lateral Bracing — (Not Shown) – As required.
   C. Batts and Blankets* – Insulation — Any faced compressible glass-fiber blanket insulation having a min 6 in. (152 mm) thickness before compression and a min density of 0.6 pcf (9.6 kg/m3). Insulation draped over purlins prior to installation of panel clips (Item 2F) and/or metal roof deck panels (Item 2D). Side edges of the batts shall be butted or overlapped a max of 3 in. (76 mm).
      See Batts and Blankets (BZJZ) category in the UL Fire Resistance Directory or Batts and Blankets (BKNV) category in the UL Building Materials Directory for names of manufacturers.
   D. Metal Roof Deck Panels* — Min 26 ga coated steel. Panels continuous over two or more spans. Roof panel end laps, if required, centered over purlins with min 3 in. (76 mm) panel overlap as specified in the individual Roof Deck Construction. A line of tube sealant or tape sealant may be used at panel end and side laps.
      See Metal Roof Deck Panels (TJPV) category in the UL Roofing Materials and Systems Directory for names of manufacturers.
   E. Fasteners — Fasteners used for panel-to-purlin and panel-to-panel connections to be self-tapping, hex-head, plated steel or stainless steel screws with either an integral or a separate steel washer fitted with a compressible sealing washer. Fastener type, length, pilot hole diam and spacing to be as specified in the individual Roof Deck Construction.
   F. Roof Deck Fasteners* – Panel Clips — (Not Shown) – Panel clips used for panel-to-purlin connections to be secured to purlin through insulation as specified in the individual Roof Deck Construction.
      See Roof Deck Fasteners (TLSX) category in the UL Roofing Materials and Systems Directory for names of manufacturers.
   G. Thermal Spacer Blocks — (Not Shown) – Expanded polystyrene strips cut to fit between panel clips (Item 2F) as specified in the individual Roof Deck Construction. Thermal spacer blocks, when used, are to be installed between insulation (Item 2C) and metal roof deck panels (Item 2D) over purlins.
3. Fill, Void or Cavity Material* (XHHW) — Caulk — Min 5/8 in. (16 mm) thickness of fill material installed to fill any gap between top of cripple wall gypsum board and insulation (Item 2C) or purlin flange on each side of the wall.

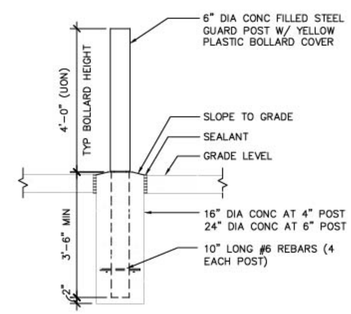
3M COMPANY 3M FIRE PROTECTION PRODUCTS — CP 25WB+ Caulk

*Bearing the UL Classification Mark

One-Hour Wall Membrane
(Based on UL Design U301)



The membrane consists of two layers of 5/8" (15.9 mm) type X gypsum board directly applied to framing or furring. The base layer of gypsum board is applied either parallel or at right angles to wall or partition framing 16" (406 mm) o.c. and attached with 1" (25 mm) Type S or S-12 drywall screws (for steel framing) or 1-7/8" (48 mm) nails or 1-1/4" (32 mm) Type W or S drywall screws (for wood framing) spaced 6" (150 mm) o.c. The face layer of gypsum board is applied either parallel or at right angles to the framing and attached with 1-5/8" (41 mm) Type S or S-12 drywall screws (for steel framing) or 2-3/8" (60 mm) nails or 1-7/8" (48 mm) Type W or S drywall screws (for wood framing) spaced 8" (203 mm) o.c. Joints of the face layer are offset 24" (610 mm) from the joints in the base layer. Face layer joints and fasteners are finished to Level 1 as specified in GA-214, *Levels of Gypsum Board Finish*.



1 / A4.1 GA DESIGN GA-610-13
SCALE: N.T.S.

2 / A4.1 UL DESIGN CJ-D-005
SCALE: N.T.S.

3 / A4.1 BOLLARD DETAIL
SCALE: 1/2" = 1'-0"

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1	11/15/15		

Designed by:	I.I.U.
Drawn by:	I.I.U.
Checked by:	I.I.U.
Approved by:	I.I.U.
Scale:	
Date:	11/15/15
Job No.:	L10103

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DETAILS

PORCH ENCLOSURE FOR
COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
A4.1

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GENERAL

1. THIS STRUCTURE HAS BEEN DESIGNED TO MEET THE REQUIREMENTS OF THE 2010 FLORIDA BUILDING CODE (FBC 10) IN ACCORDANCE WITH ASCE 7-10, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES."

2. DESIGN LOADS

LIVE LOAD:
FLOOR: 100 PSF

LATERAL LOADS (WIND):

RISK CATEGORY:	CATEGORY II
DESIGN WIND SPEED (ULTIMATE):	V = 170 MPH
DESIGN WIND SPEED (ASD):	V = 140 MPH
EXPOSURE:	
-(MWFRS)	C
-(COMPONENTS & CLADDING)	C
MEAN ROOF HEIGHT:	14 FT.
INTERNAL PRESSURE COEFFICIENTS:	+/- 0.85
Pnet @ 15 TO 21 FEET:	34.21 PSF

THE GENERAL CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION SHOWN ON THE DRAWINGS. ANY QUESTIONS OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE STARTING CONSTRUCTION.

3. ALL STRUCTURAL WORK SHALL BE INSPECTED IN ACCORDANCE WITH THE 2009 INTERNATIONAL BUILDING CODE.

SHALLOW FOUNDATIONS

1. FOUNDATIONS HAVE BEEN DESIGNED TO BEAR ON PROPERLY COMPACTED FILL HAVING AN ALLOWABLE BEARING CAPACITY OF 2500 PSF OR GREATER.

COMPACTION:

THE EXISTING SOIL AND ALL ADDED FILL BENEATH ALL FOUNDATIONS AND FLOOR SLAB AREAS SHALL BE COMPACTED TO 95% OF THE MODIFIED PROCTOR TEST IN ACCORDANCE WITH ASTM D-1557 IN COMPACTED LIFTS AS NOTED.

PRIOR TO BACK-FILLING WITH STRUCTURAL FILL, THE EXISTING LAYER OF SOIL WITHIN THE BUILDING FOOTPRINT , ALONG WITH 2 FEET OUTSIDE ALL SIDES OF THE BUILDING FOOTPRINT MUST BE PROOF-ROLLED/COMPACTED BY USING A 10-TON ROLLER WITH A MINIMUM OF 40 PASSES.

REPLACE REMOVED SOIL UP TO EXISTING GRADE AND BEYOND (TO CLIENTS DESIRED FILL-HEIGHT) USING WELL-GRADED ROCK FILL (¾" MIN. TO 3" MAX.) BACK-FILL IN 10" LIFTS MAX. AND COMPACT EACH LIFT USING A 10-TON ROLLER AND COMPACT AT A MINIMUM OF 40 PASSES.

THE FINAL 2 FEET LAYER OF SOIL SHOULD BE CRUSHER-RUN, PLACED IN 12" LIFTS AND COMPACT EACH LIFT WITH A 10-TON ROLLER AT A MINIMUM OF 40 PASSES.

2. THE CONTRACTOR SHALL OBSERVE WATER CONDITIONS AT THE SITE AND TAKE THE NECESSARY PRECAUTIONS TO INSURE THAT THE FOUNDATION EXCAVATIONS REMAIN DRY DURING CONSTRUCTION. PROVIDE FOR DEWATERING AS NECESSARY.

CONCRETE

1. ALL REINFORCED CONCRETE WORK SHALL BE IN CONFORMANCE WITH ACI 318, LATEST EDITION, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND ACI 301, LATEST EDITION, "SPECIFICATIONS FOR STRUCTURAL CONCRETE"

2. MINIMUM REQUIRED COMPRESSIVE STRENGTH: fc (AT 28 DAYS)

FOOTINGS & SLAB ON GRADE:	(423 LBS CEMENT/CY) MIN f'c=4000 PSI MAXIMUM WATER/CEMENT RATIO 0.40
ALL ELEVATED CONCRETE:	N/A

3. SLUMP, (AT POINT OF PLACEMENT): 5" (+/- 1")

4. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE, (145 PCF +/-) ALL CEMENT SHALL CONFORM TO ASTM C150, TYPE 1. MAXIMUM AGGREGATE SIZE SHALL BE 1½" INCHES FOR FOUNDATIONS, AND ¾" FOR ALL SLABS AND SHALL CONFORM TO ASTM C33.

5. CONCRETE REINFORCING

DEFORMED BARS:	ASTM A615, GRADE 60
WELDED WIRE FABRIC:	ASTM A185

6. MINIMUM COVER FOR CAST-IN-PLACE CONCRETE REINFORCEMENT, UNLESS OTHERWISE SHOWN ON DRAWINGS, SHALL BE AS FOLLOWS (REFER TO ACI-318 CHAPTER 7):

FOUNDATIONS :	3"
SLABS :	¾" FROM TENSION SIDE OF SLAB
ELEVATED BEAMS:	2"

7. ALL CONCRETE REINFORCEMENT SHALL BE, FABRICATED, INSTALLED, SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH ACI 315, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"

8. SPLICES IN REINFORCEMENT (WHERE PERMITTED)

WELDED WIRE FABRIC	8"
ALL OTHERS:	48 BAR DIAMETER

(SPLICES IN TOP REINFORCEMENT SHALL BE MADE AT MIDSPAN. SPLICES IN BOTTOM REINFORCEMENT SHALL BE OVER SUPPORTS UNLESS NOTED OTHERWISE).

9. ALL REINFORCING SHALL BE HELD SECURELY IN POSITION WITH STANDARD ACCESSORIES DURING PLACEMENT OF CONCRETE. REINFORCING SUPPORTS FOR ALL EXPOSED CONCRETE SHALL BE GALVANIZED WITH PLASTIC COATED FEET.

10. CONTRACTOR SHALL VERIFY DIMENSIONS AND LOCATIONS OF ALL SLOTS, PIPE SLEEVES, ETC., AS REQUIRED FOR MECHANICAL TRADES BEFORE CONCRETE IS PLACED.

11. CALCIUM CHLORIDE SHALL NOT BE USED IN ANY FORM.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE FOLLOWING CODES AND STANDARDS:

*AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES."
*AISC "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" INCLUDING "COMMENTARY" AND SUPPLEMENTS THERETO AS ISSUED.
*AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS."
*AMERICAN WELDING SOCIETY (AWS) D1.1 "STRUCTURAL WELDING CODE-STEEL."
*ASTM A 6 "GENERAL REQUIREMENTS FOR DELIVERY OF ROLLED STEEL PLATES, SHAPES, SHEET PILING AND BARS FOR STRUCTURAL USE."

2. ALL STRUCTURAL STEEL SHAPES AND FASTENERS SHALL CONFORM TO THE FOLLOWING STANDARDS:

*WIDE-FLANGE SHAPES	ASTM A 992
*CHANNELS, ANGLES PLATES & BARS	ASTM A 36
*MISCELLANEOUS, PLATES AND BARS	ASTM A 36
*STEEL TUBING	ASTM A 500 GRADE B
*STEEL PIPING	ASTM A 53, GRADE B
*ANCHOR BOLTS	ASTM A 307
*HIGH-STRENGTH BOLTS	ASTM A 325, 3/4" DIA.

ELECTRODES FOR WELDING SHALL COMPLY WITH AWS CODE

GALVANIZED STRUCTURAL STEEL
a. STRUCTURAL SHAPES AND RODS ASTM A123.
b. BOLTS, FASTENERS AND HARDWARE ASTM A153.

ALL STRUCTURAL STEEL NOTED ON THE DRAWINGS AS STAINLESS STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 40,000, PSI AND SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
a. STRUCTURAL BARS, ROUNDS, AND HOT ROLLED SHAPES ASTM A276.
b. HIGH STRENGTH BOLTING MATERIAL ASTM A193.
c. HIGH STRENGTH NUTS ASTM A194.

3. ALL BOLTED CONNECTIONS SHALL USE ASTM A-325 BOLTS (N OR X).

ALL HEADED SHEAR STUDS SHALL CONFORM TO ASTM A 108, GRADE 1015 OR 1020, COLD FINISHED CARBON STEEL.

ALL BASE PLATE ANCHOR BOLTS SHALL BE ASTM A307 AND A MINIMUM 3/4" DIAMETER UNLESS NOTED OTHERWISE.

4. ALL WELDING SHALL BE IN ACCORDANCE WITH THE STRUCTURAL WELDING CODE, AWS D1.1, LATEST EDITION, OF THE AMERICAN WELDING SOCIETY. ELECTRODES SHALL BE E7OXX FOR MANUAL ARC WELDING AND F7X-EXXX FOR SUBMERGED ARC WELDING. ALL WELDING WORK MUST BE PERFORMED BY WELDERS WHO HAVE SUCCESSFULLY PASSED AWS QUALIFICATION TESTS.

5. CUTS, HOLES AND COPING, ETC. REQUIRED FOR OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWING AND MADE IN THE SHOP. CUTS OR BURNING OF HOLES IN STRUCTURAL STEEL IN THE FIELD WILL NOT BE PERMITTED.

6. BEFORE PAINTING, ALL STRUCTURAL STEEL MUST BE FREE OF RUST, LOOSE MILL SCALE AND SPATTER, SLAG OR FLUX DEPOSITS.

7. ALL STRUCTURAL STEEL WORK, EXCEPT PORTIONS OF MEMBERS TO BE WELDED, FIREPROOFED OR HAVE SLIP CRITICAL CONNECTIONS, SHALL BE SHOP PAINTED WITH PAINT CONFORMING TO STEEL STRUCTURES PAINTING COUNCIL (SSPC) PAINT 13. APPLY PRIME PAINT ACCORDING TO SSPC PAINT SYSTEM GUIDE NO. 7.00 CLEAN STEEL FREE OF LOOSE SCALE, RUST, OIL AND GREASE. ADDITIONAL AREAS SHALL BE FIELD PAINTED AFTER WELDING.

8. FIELD CORRECTIONS TO MAIN STRUCTURAL MEMBERS SHALL BE MADE ONLY WITH THE APPROVAL OF THE ENGINEER.

9. BEAMS AND GIRDERS SHALL BE CAMBERED AS SHOWN ON THE STRUCTURAL DRAWINGS. CAMBER INDICATED IS THE FINAL FIELD CAMBER, INCLUDING ALL MILL TOLERANCES, AND SHOULD NOT BE EXCEEDED.

10. LEVELING GROUT SHALL BE NON-SHRINK, NON-METALLIC TYPE, FACTORY PRE-MIXED GROUT TESTED IN ACCORDANCE WITH CE-CRD-0621 OR ASTM C109, WITH f'c OF NOT LESS THAN 5000 PSI.

11. ALL STRUCTURAL STEEL FRAMES SHALL BE SECURELY BRACED UNTIL ALL FLOOR SLABS, ROOF DECKS AND SHEAR WALLS HAVE BEEN INSTALLED AND BECOME CAPABLE OF STABILIZING THE FRAMES.

12. CONTRACTOR SHALL SUBMIT TO ENGINEER FOR APPROVAL, SHOP DRAWINGS REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO FABRICATION.

13. BOLT AND WELD TESTING:
a. ALL SHOP AND FIELD BOLTS SHALL BE TESTED PER AISC REQUIREMENTS. SEE AISC DESIGN GUIDE 17 FOR ALL SNUG TIGHT CONNECTION REQUIREMENTS.
b. ALL WELDS SHOULD BE VISUALLY INSPECTED.
c. TEN PERCENT OF ALL WELDS AT BEAM AND GIRDER SHEAR CONNECTIONS SHALL BE RANDOMLY INSPECTED BY MAGNETIC PARTICLE METHOD, COMPLYING WITH ASTM E109, PERFORMED ON ROOT PASS AND ON FINISHED WELD.
d. ONE HUNDRED PERCENT OF FULL PENETRATION WELDS SHALL HAVE ULTRASONIC INSPECTION, COMPLYING WITH ASTM E164.
e. ONE HUNDRED PERCENT OF WELDS IN BEAM AND COLUMN MOMENT CONNECTIONS SHALL HAVE ULTRASONIC INSPECTION, COMPLYING WITH ASTM E164.

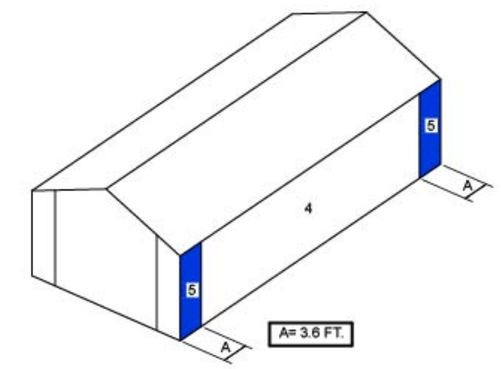
LIGHT GAGE METAL

1. 16 GA. AND HEAVIER STUDS SHALL HAVE A MINIMUM YIELD STRESS OF 50,000 PSI. 18 GA. AND LIGHTER STUDS AND TRACKS SHALL HAVE A MINIMUM YIELD STRESS OF 33,000 PSI.

2. STUDS AND TRACKS SHALL BE 18 GA. MINIMUM U.N.O. THEY SHALL BE MANUFACTURED BY DIETRICH INDUSTRIES, INC. OR APPROVED EQUAL.

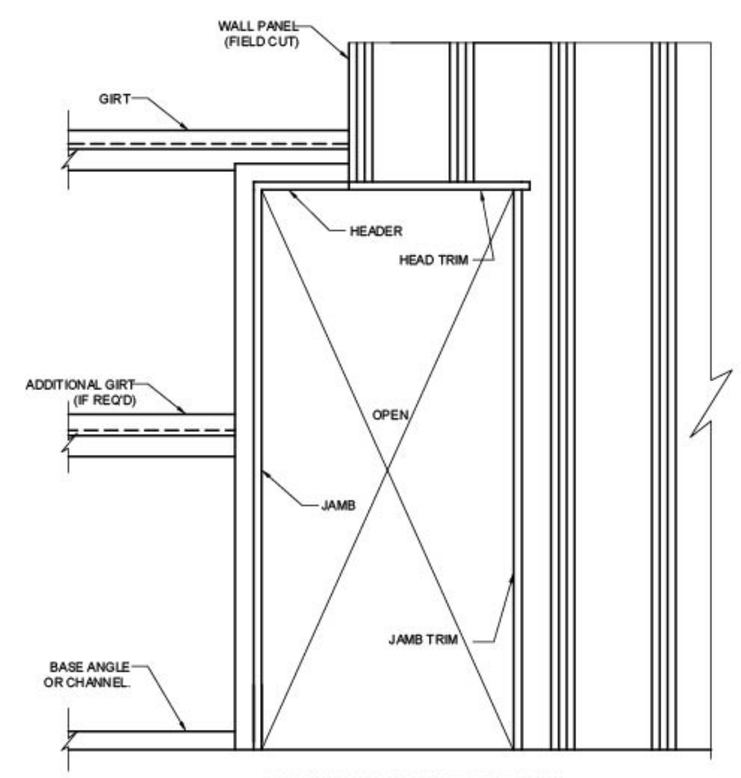
3. PROVIDE DOUBLE STUDS FOR FULL HEIGHT OF WALL EACH SIDE OF ALL OPENINGS UNLESS OTHERWISE NOTED. WELD STUDS TO EACH OTHER WITH 1 1/2" LONG 1/8" FILLET WELDS AT 12" O.C. EACH SIDE. PROVIDE STUD TRACK AT EACH HEAD AND SILL.

4. REFER TO PLANS AND DETAILS FOR CONNECTION OF STUD WALLS TO FOUNDATION, FLOOR OR ROOF.



ASCE 7-10
COMPONENT AND CLADDING
WALL PRESSURE

ZONE	EFFECTIVE WIND AREA (sq. ft)	COEFFICIENT	ULTIMATE DWP PNET (psf)		NOMINAL DWP PNET (psf)	
4	10	0.85	40.37	-43.79	24.22	-26.27
4	20	0.85	38.66	-42.08	23.19	-25.25
4	50	0.85	35.92	-39.68	21.55	-23.81
4	100	0.85	34.21	-37.63	20.53	-22.58
4	200	0.85	32.84	-36.26	19.71	-21.76
5	10	0.85	40.37	-54.05	24.22	-32.43
5	20	0.85	38.66	-50.63	23.19	-30.38
5	50	0.85	35.92	-45.50	21.55	-27.30
5	100	0.85	34.21	-42.08	20.53	-25.25
5	200	0.85	32.84	-38.66	19.71	-23.19



A MAIN DOOR ELEVATION
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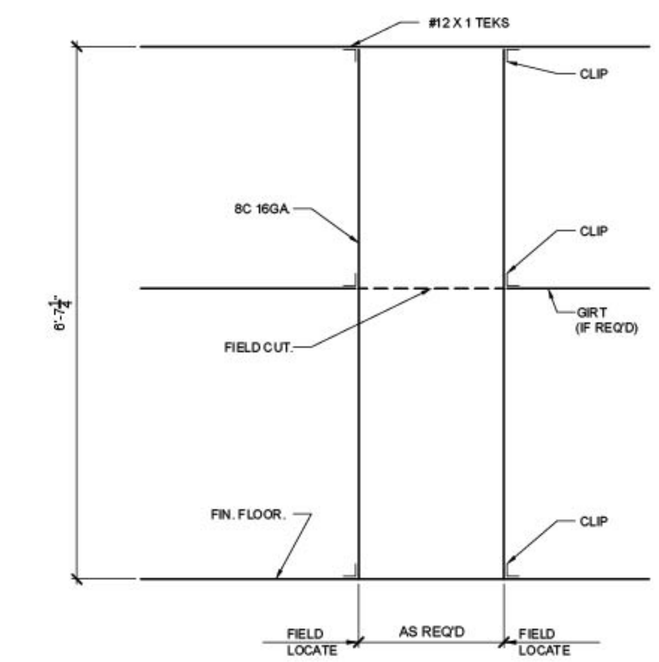

B MAIN DOOR FRAMED OPENING
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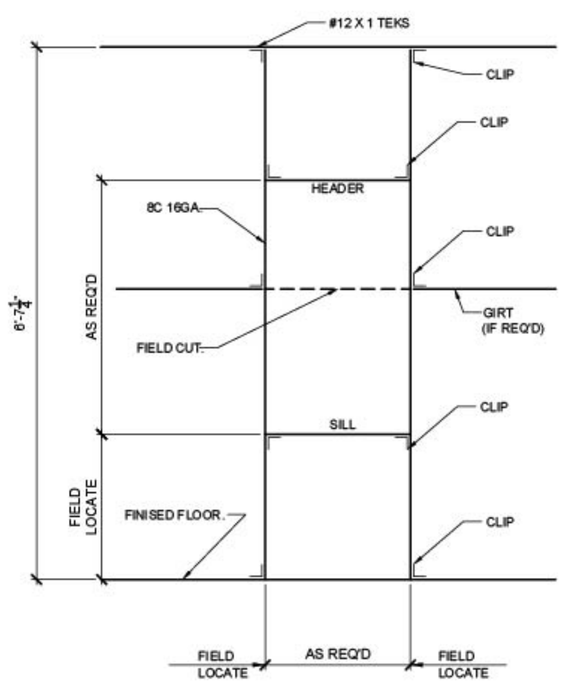

C WINDOW FRAMED OPENING
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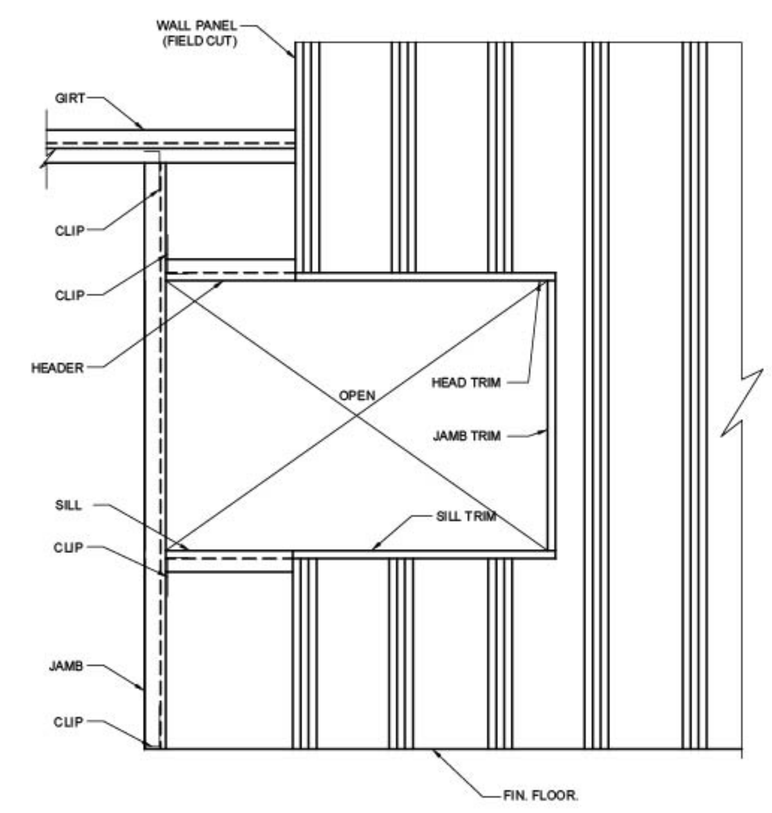

D OPENING W/ SILL ELEVATION
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No.	Date	Revision	By

Designed by:	J.M.O.
Drawn by:	S.M.H.
Checked by:	J.M.O.
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STRUCTURAL NOTES

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
S1.0

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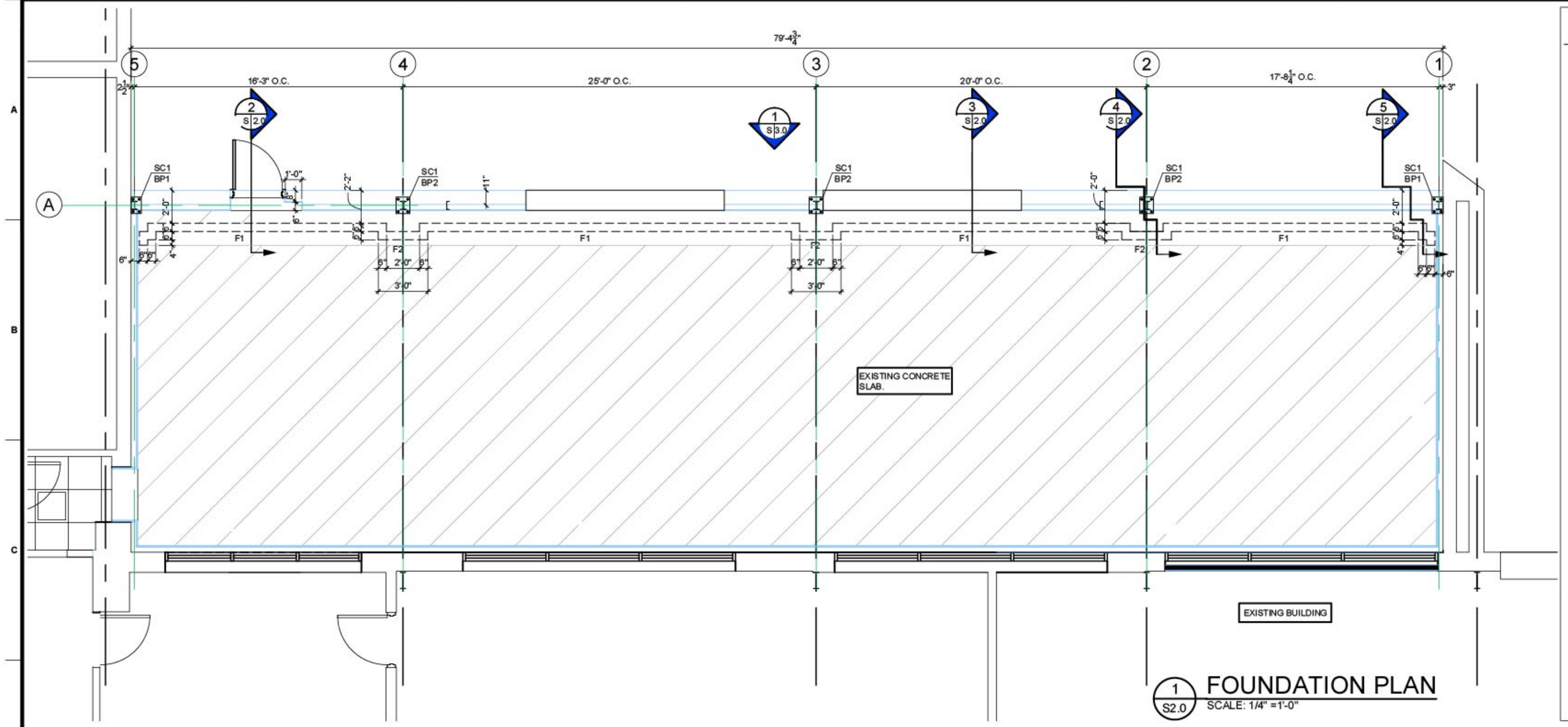


1 S2.0 FOUNDATION PLAN
SCALE: 1/4" =1'-0"

FOUNDATION PLAN

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

PLAN NOTES:

1. BPX DENOTES STEEL COLUMN BASE PLATE (SEE SCHEDULE)
2. SCX DENOTES STEEL COLUMN (SEE SCHEDULE).
3. PRISMATIC MAT FOUNDATION 5" THICK W/ 6" THICKENED EDGES. PROVIDE THE FOLLOWING REINFORCEMENT: W2.9xW2.9/6x6 WWF TOP . PROVIDE 10 MIL VAPOR BARRIER.
4. ELEVATIONS SHOWN ARE REFERECE ELEVATIONS ONLY, WITH THE TOP OF GROUND LEVEL FINISH FLOOR REFERENCE ELEVATION = 0'-0". SEE APPROVED ARCHITECTURAL PLANS FOR ACTUAL ELEVATIONS.
5. ———— DENOTES TOP REINFORCEMENT.
6. USE HILTI HIT RE 500 EPOXY FOR DOWELS EMBEDMENT.

FOUNDATION SCHEDULE

MARK	WIDTH x LENGTH	MIN. DEPTH	REINFORCEMENT	REMARKS	REFERENCE ELEV. TOP OF FOOTING
F1	2'-6" X CONT.	11"	(3) #5 CONT. #4@12" O.C.	THICKENED EDGE CONT. FOOTING	0'-0"
F2	3'-0" X 3'-0"	11"	(3) #5 CONT. (3) #5	THICKENED EDGE SPREAD FOOTING	0'-0"
F3	6" X CONT.	11"	(2) #5 CONT.	THICKENED EDGE CONT. FOOTING	0'-0"

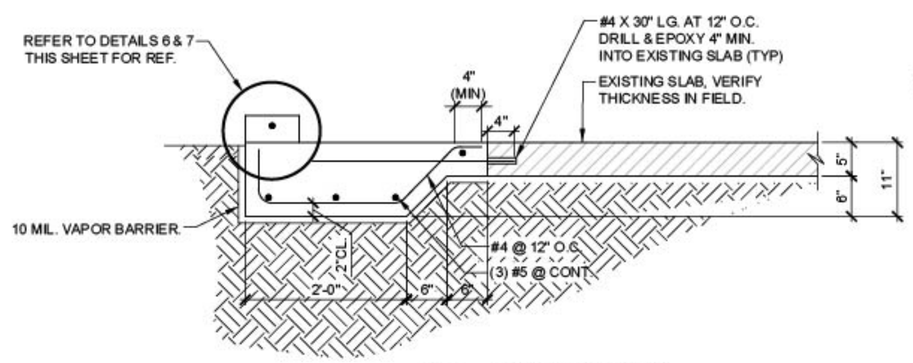
BASE PLATE SCHEDULE

MARK	BASE PLATE			ANCHOR BOLTS			REMARKS
	"B"	"N"	"t"	QUANTITY	SIZE	"L"	
BP1	12"	8"	1"	(4)	1" DIA. A307	10"+4"	A36
BP2	12"	10"	1"	(4)	1" DIA. A307	10"+4"	A36

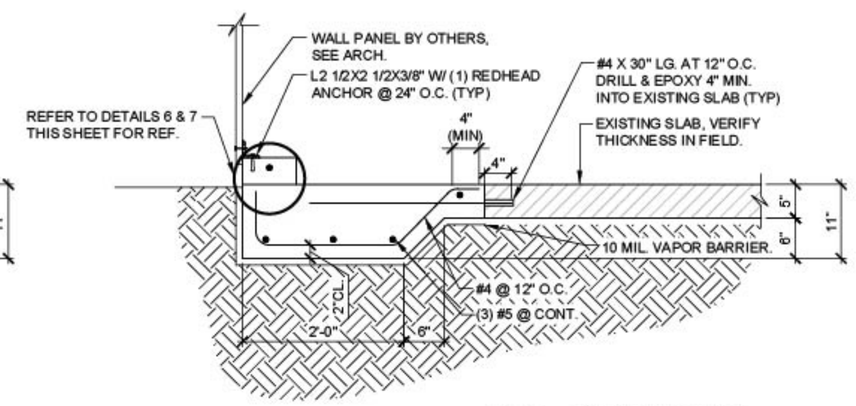
ALL BASE PLATE ANCHOR BOLTS SHALL BE ASTM A307

STEEL COLUMN SCHEDULE

MARK	SHAPE	MATERIAL
SC1	W6X25	A992 fy = 50 ksi



2 S2.0 SECTION
SCALE: 3/4" =1'-0"



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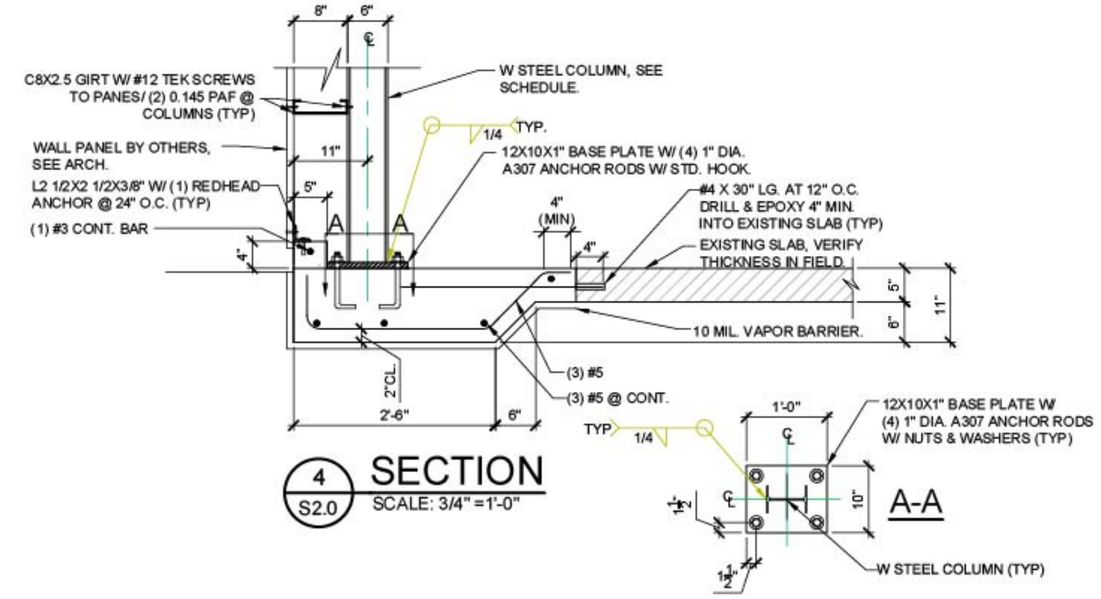

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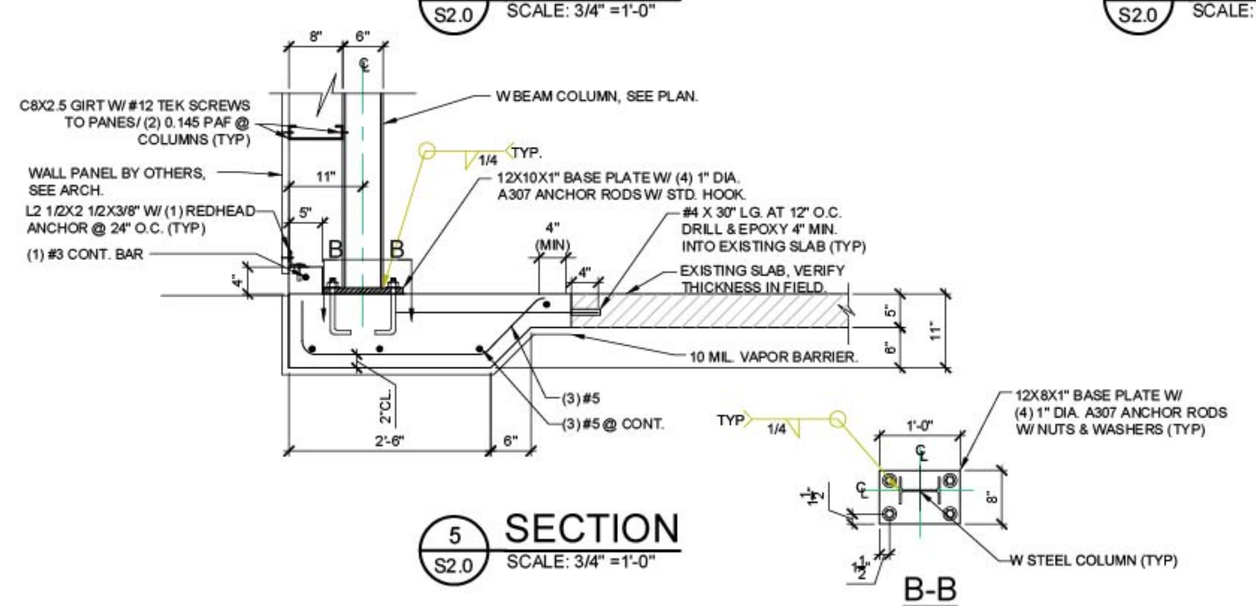

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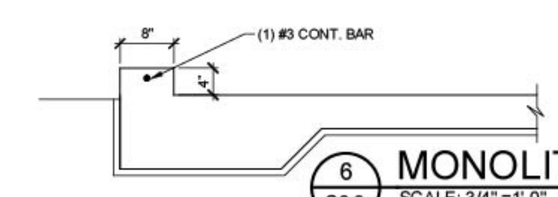
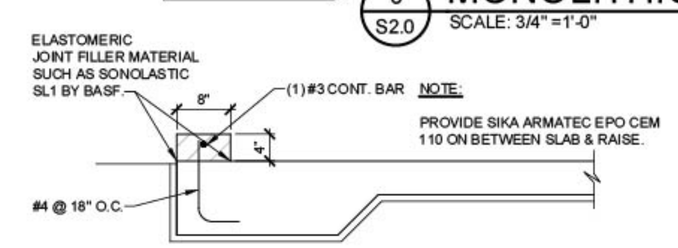


6 S2.0 MONOLITHICALLY DETAIL
SCALE: 3/4" =1'-0"



7 S2.0 NON-MONOLITHICALLY DETAIL
SCALE: 3/4" =1'-0"

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FOUNDATION PLAN AND SECTIONS

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
S2.0

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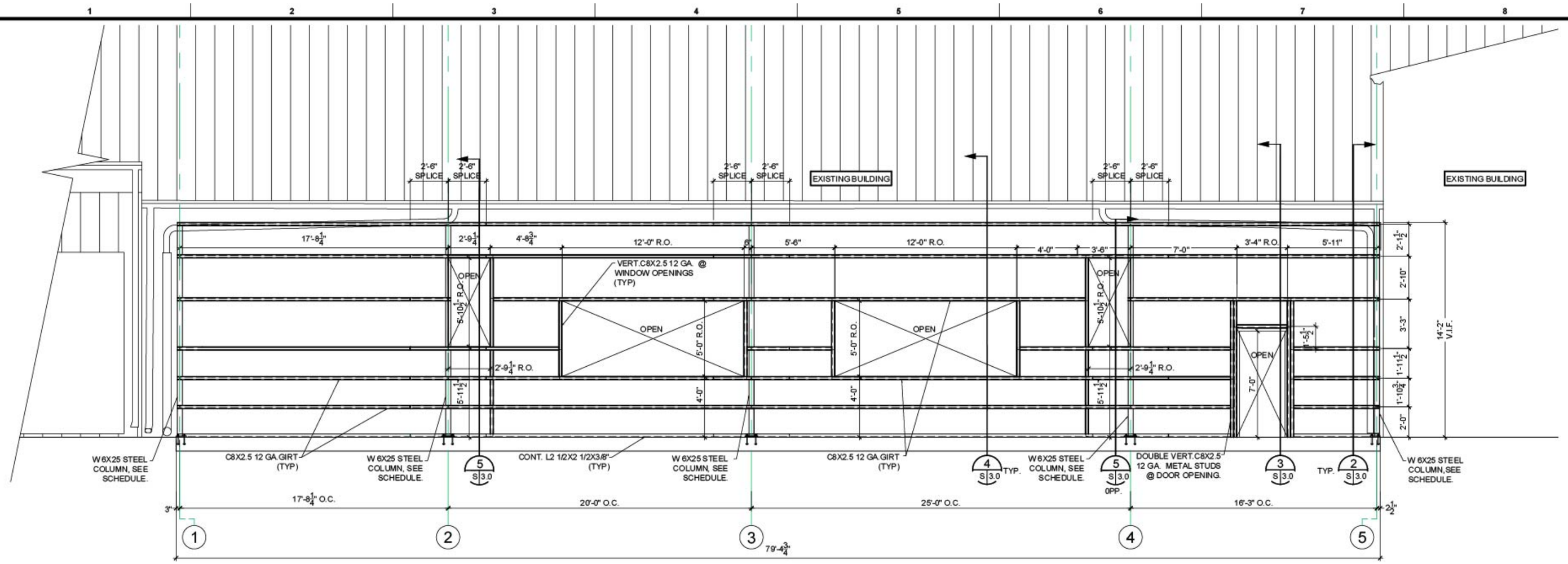
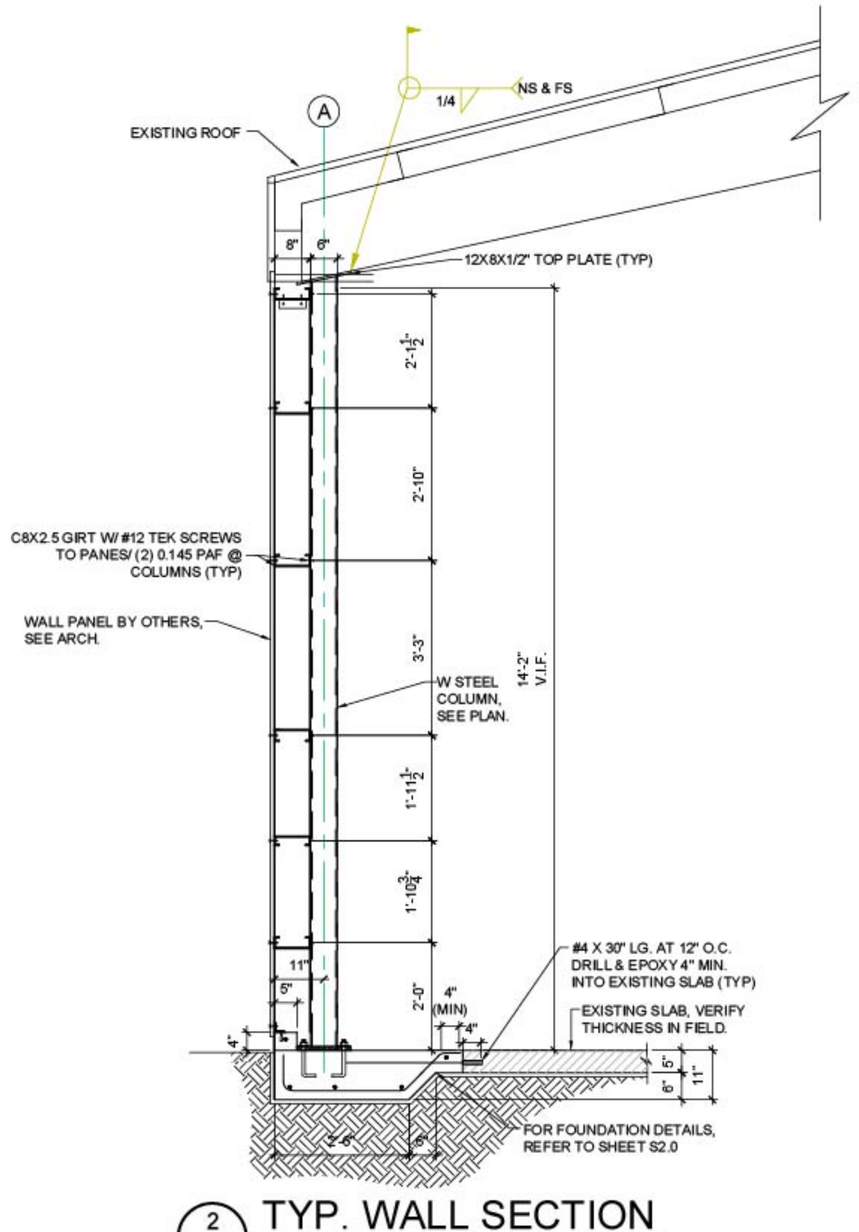
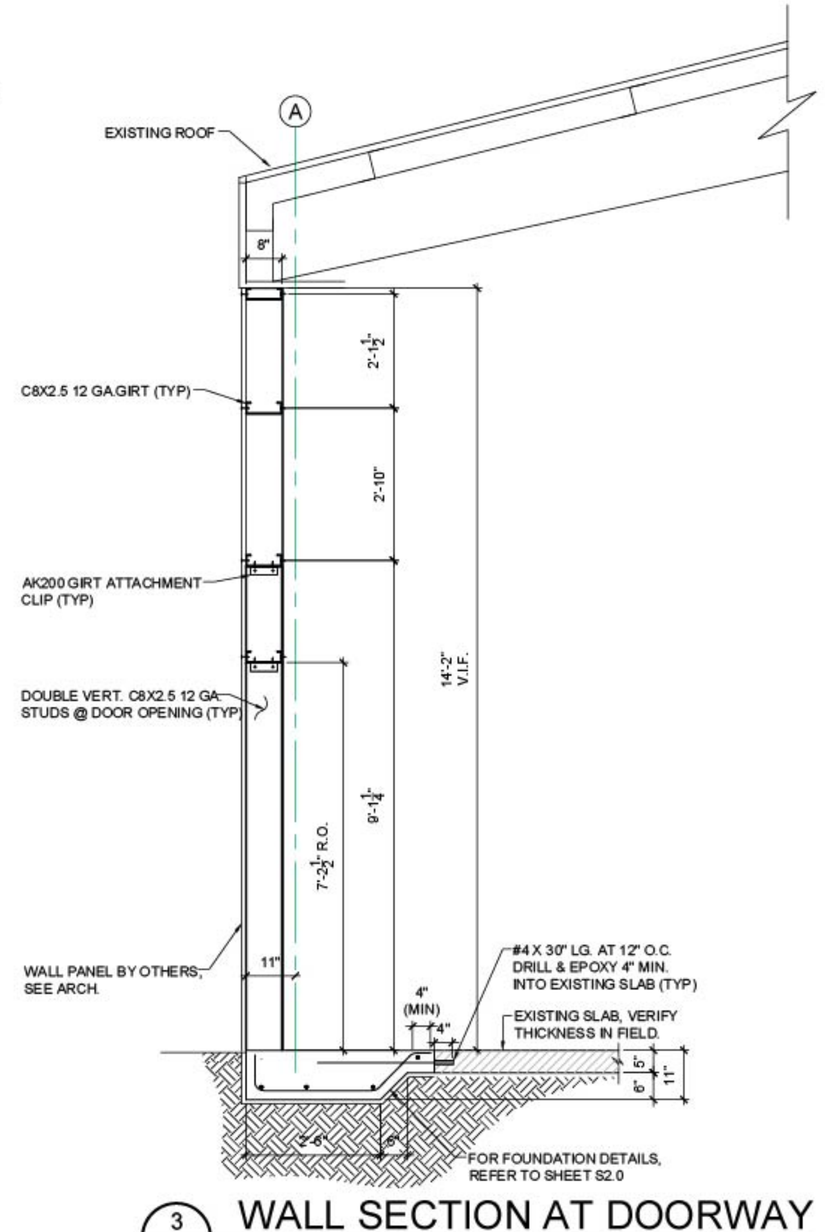


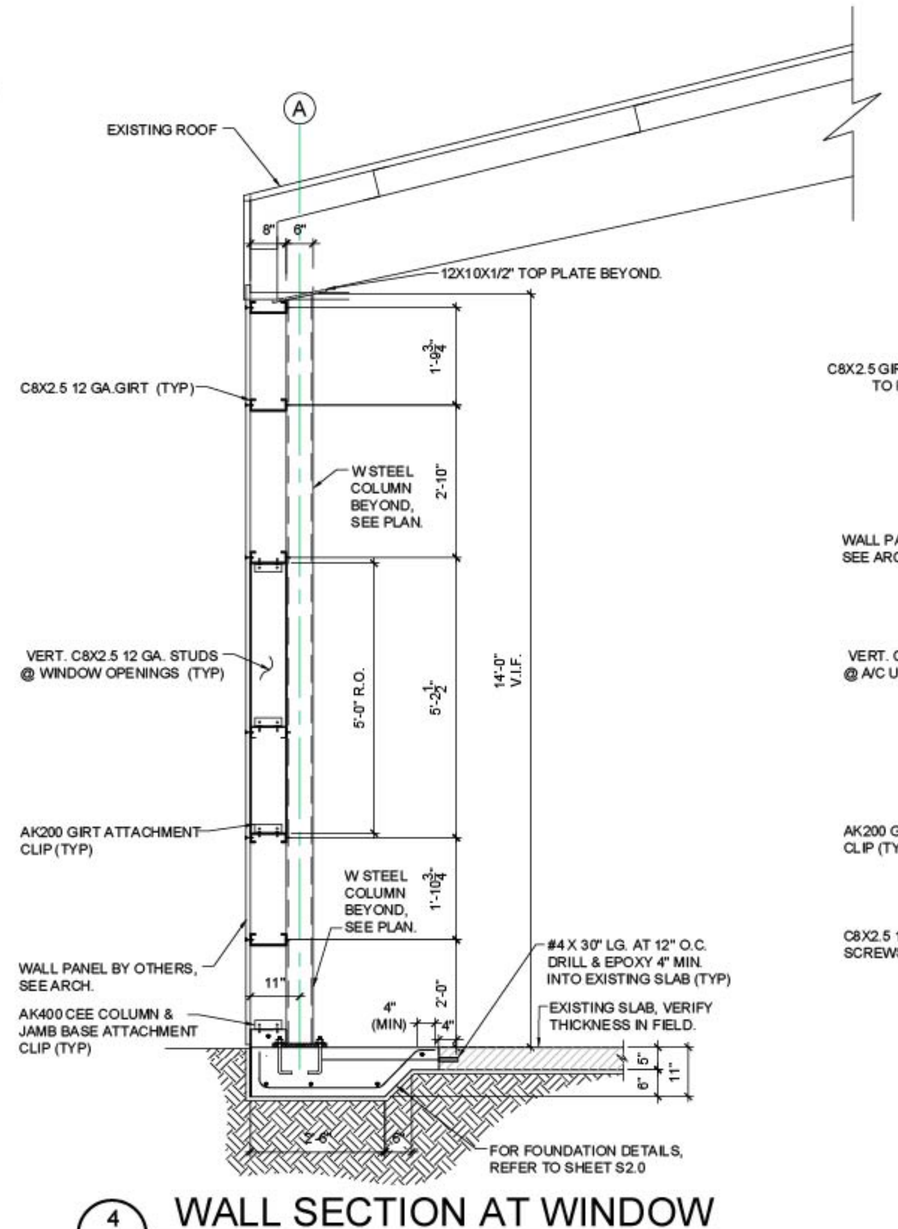
1 S3.0 BUILDING ELEVATION
SCALE: 1/4" =1'-0"



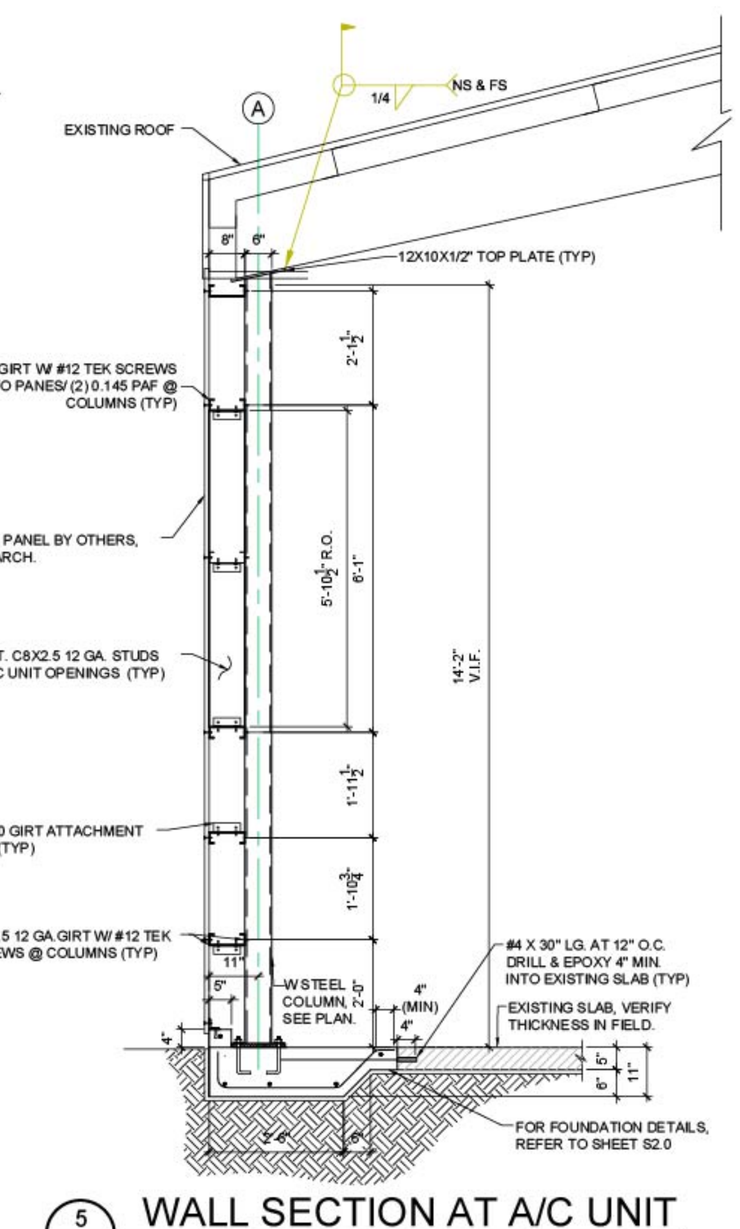
2 S3.0 TYP. WALL SECTION
SCALE: 1/2" =1'-0"



3 S3.0 WALL SECTION AT DOORWAY
SCALE: 1/2" =1'-0"



4 S3.0 WALL SECTION AT WINDOW
SCALE: 1/2" =1'-0"



5 S3.0 WALL SECTION AT A/C UNIT
SCALE: 1/2" =1'-0"

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Designed by:	J.M.O.
Drawn by:	S.M.H.
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BLDG. ELEVATION AND SECTIONS

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
S3.0

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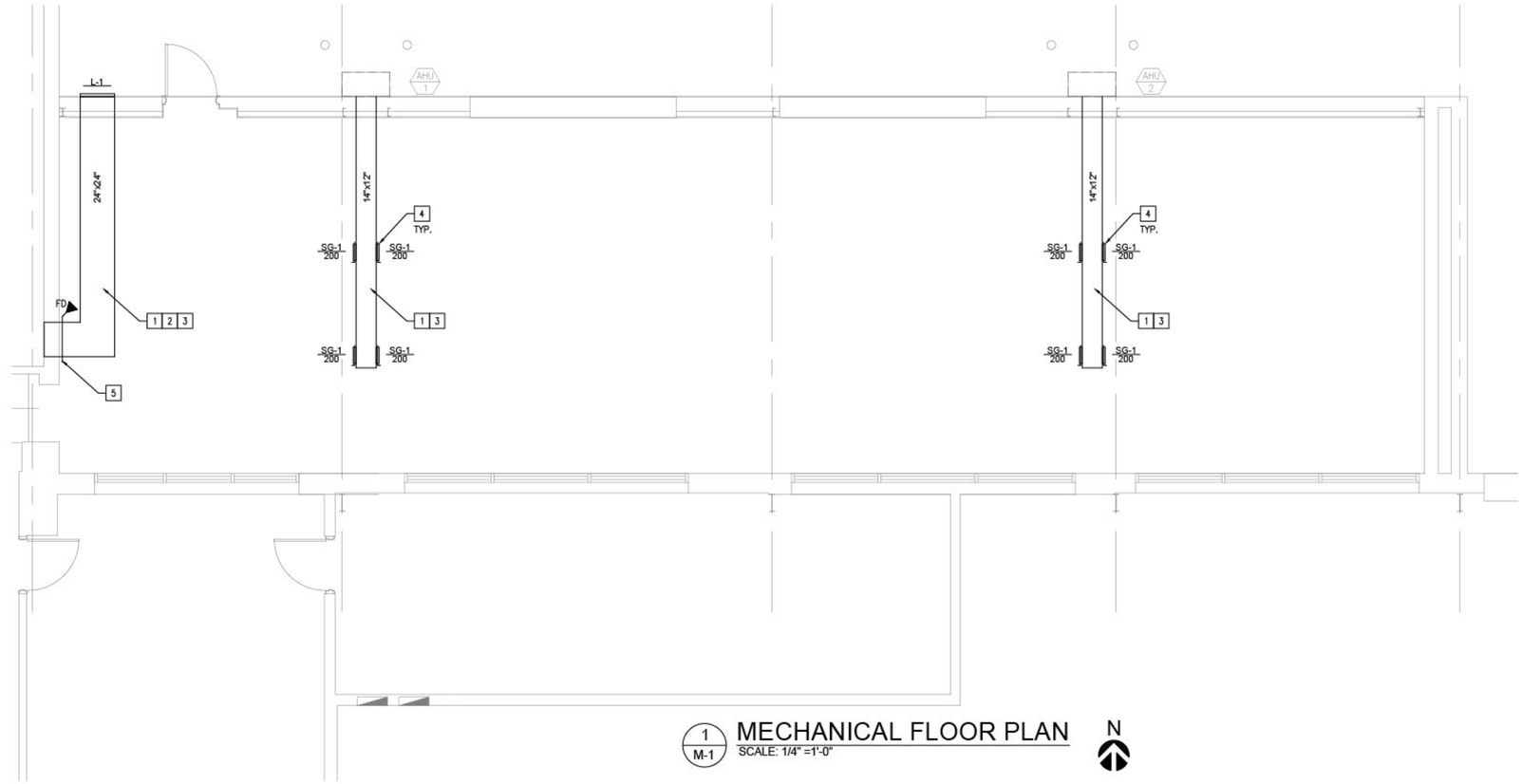

1 / M-1 MECHANICAL FLOOR PLAN
SCALE: 1/4" =1'-0"

N

GENERAL NOTES:

1. REFER TO SPECIFICATION SHEETS SP–1 AND SP–2.
2. COORDINATE WORK WITH ALL OTHER TRADES.

MECHANICAL PLAN NOTES:

1. CONTRACTOR SHALL PROVIDE METAL RECTANGULAR DUCT LINED ON THE INTERIOR WITH INSULATION. DIMENSIONS INDICATED ARE INTERIOR CLEAR DIMENSIONS.
2. CONNECT EXISTING LOUVER TO NEW LOUVER OF MATCHING DIMENSIONS, TYPE, AND SPECIFICATIONS, ON NEW EXTERIOR WALL. CONTRACTOR TO VERIFY LOUVER DIMENSION, TYPE, AND SPECIFICATIONS BEFORE BID. ROUTE DUCT LEVEL WITH BOTTOM AND TOP OF EXISTING LOUVER.
3. BOTTOM OF DUCTWORK TO BE 11'–0" AFF.
4. PROVIDE FACE ADJUSTABLE OPPOSED BLADE DAMPER.
5. PROVIDE 1.5 HOUR DYNAMIC FIRE DAMPER. MODEL RUSKIN DFD60 OR APPROVED EQUAL.

PACKAGED UNIT SCHEDULE

PLAN MARK	MODEL NUMBER	TONNAGE	COOLING PERFORMANCE					OUTDOOR AIR TEMPERATURE (95°F)			ELECTRICAL/ELECTRIC HEAT DATA					SUPPLY FAN				
			GROSS COOLING CAPACITY(MBH)	ARI RATED AIR FLOW (CFM)	SOUND RATING NUMBER(db)	TOTAL UNIT POWER(KW)	EER (BTU/WATT)	ENTERING WET BULB TEMPERATURE(°F)	TOTAL COOLING CAPACITY(MBH)	SENSIBLE COOLING (MBH)	BLOWER DRIVE TYPE	VOLTS/AMPS /PHASE/ HZ	HEATER (kW)	MCA	MOCP	SUPPLY AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	E.S.P. (IN. OF WG.)	UNIT WEIGHT (LBS)	NOTES
AHU-1 AHU-2	BARD WALL MOUNTED A/C UNIT W24A2-A08MPSX3E	2	24.0	1100	-	-	9	67	24.0	18.5	ECM	208/1PH/60HZ	8	46	50	800	65	0.30	375	1-5

1. PROVIDE BAROMETRIC FRESH AIR DAMPER
2. STAINLESS STEEL CABINET (316 MARINE GRADE).
3. COATED COILS (TECHNI-COAT).
4. LOW TEMP CONTROL.
5. 8 KW HEATER.

GRILLE AND LOUVER SCHEDULE

PLAN MARK	MANUFACTURER	MODEL NUMBER	TYPE	NECK SIZE (L"xW")	FACE SIZE (L"xW")	FRAME TYPE	NOISE CRITERIA	NOTES
SG–1	TITUS	300FL	SUPPLY	10"x6"	11.75"x7.75"	SURFACE MOUNT	<20	1,2
RG–1	BARD	RG–2W	RETURN	12"x20"	24.25"x16.25"	SURFACE MOUNT	<30	–
L–1	GREENHECK	ESD	LOUVER	20"x20"	20"x20"	WALL MOUNT	–	–

NOTES:
1. PROVIDE WITH OPPOSED BLADE DAMPER AT AIR DEVICE ADJUSTABLE FROM FROM OF GRILLE
2. ADJUST THROW PATTERN TO 22.5'

VENTILATION CALCULATION: PER FBC MECH 403.3 V=RpPz+RaAz

SPACE	AREA, S.F. (Az)	CFM/S.F. (Ra)	CFM REQ'D	CFM/PERSON (Rp)	PEOPLE/1000 S.F.	No. OF PEOPLE (Pz)	CFM REQ'D
OFFICE	1500	0.06	90	5	5	8	40
TOTAL			90				40

TOTAL O/A REQ'D = 130 CFM. TOTAL CFM PROVIDED = 130 CFM
BUILDING PRESSURE: 130 CFM
0.08 CFM / SF POSITIVE BUILDING PRESSURE

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No.	Date	Revision	By
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2			
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Designed by: I.I.U.
Drawn by: I.I.U.
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MECHANICAL PLAN

PORCH ENCLOSURE FOR
COMMUNITY SUSTAINABILITY DEPARTMENT
CITY OF LAKE WORTH

Sheet No.
M-1

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GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH CODES AND STANDARDS LISTED IN THE SPECIFICATIONS.
2. THE DRAWINGS ARE DIAGRAMMATIC AND THE OMISSION OF AN ITEM NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING THAT ITEM.
3. NOTIFY ARCHITECT/ ENGINEER OF ANY CONFLICTS PRIOR TO PURCHASING EQUIPMENT AND PRIOR TO CUTTING OPENING.
4. PRIOR TO BID, COORDINATE ALL ELECTRICAL WORK WITH MECHANICAL WORK AND OTHER TRADES. SEE SPECIFICATIONS FOR REQUIREMENTS.
5. CONTRACTOR SHALL NOT CONCEAL ANY WORK UNTIL INSPECTED BY ELECTRICAL INSPECTOR AND/OR ARCHITECT/ENGINEER. CONTRACTOR SHALL NOTIFY A/E OF A SCHEDULED INSPECTION TIME WITHIN 72 HOURS. CONTRACTORS SHALL NOT CONCEAL WORK UNTIL APPROVED.
6. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND GENERAL CONTRACTOR ON REQUIREMENTS FOR STRUCTURAL SUPPORT AND FRAMING FOR ALL ELECTRICAL EQUIPMENT AND SYSTEMS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND VERIFYING STRUCTURAL SUPPORT AND FRAMING.
7. THE SIZE, LOCATION, WEIGHT, AND NEC ARTICLE 110/384 REQUIRED SERVICE CLEARANCES OF EQUIPMENT INSTALLED UNDER DIVISION 16 ELECTRICAL SHALL BE COORDINATED WITH ALL OTHER TRADES.
8. WHERE CROWDED LOCATIONS EXIST OR WHERE THERE IS A POSSIBILITY OF CONFLICT BETWEEN TRADES, CONTRACTOR SHALL MAKE COMPOSITE DRAWINGS SHOWING THE EXACT LOCATION OF DUCTS, CONDUIT AND EQUIPMENT. DRAWINGS SHALL BE BASED ON FIELD MEASUREMENTS AND, AFTER CONSULTATION AND AGREEMENT BETWEEN THE TRADES, SHALL BE APPROVED BY THE ARCHITECT BEFORE INSTALLATION OF THE WORK.
9. SURGE PROTECTION SHALL BE PROVIDED ON ALL CABLES ENTERING/ EXITING BUILDINGS THAT CONNECT TO ELECTRICAL EQUIPMENT.
10. INSTALL SURGE SUPPRESSOR IN EACH PANEL WITH EQUIPMENT SHOWN ON THE PANEL SCHEDULE AS SURGE OR TVSS.
11. ALL SITE EXCAVATION OR TRENCHING SHALL BE DONE BY HAND. ALL CONDUITS SHALL HAVE A MINIMUM BURIAL DEPTH OF 24".
12. ELECTRICAL CONTRACTOR IS TO PROVIDE PULL STRINGS IN ALL EMPTY CONDUIT AND RACEWAYS WITH LABELING TAGS AT EACH END.
13. ALL RACEWAY TERMINATION'S SHALL HAVE BUSHINGS AND BE GROUNDED WHERE RACEWAY IS METAL.
14. ALL WALL OUTLETS AND FLOOR OUTLETS SHALL HAVE A 3/4" MINIMUM CONDUIT STUBBED UP AND OUT INTO ACCESSIBLE CEILING SPACE (OF ROOM OUTLET SERVICES) UNLESS SHOWN OTHERWISE ON DRAWINGS.
15. ALL NEW PANELS SHALL BE BONDED TO THE BUILDING'S GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC ARTICLE 250-58.
16. ALL BARE METAL SURFACES SHALL BE PRIMED AND PAINTED TO PREVENT ANY RUST, INCLUDING BUT NOT LIMITED TO ANGLE FRAMING, EQUIPMENT SUPPORTS, MOUNTING HARDWARE, ETC.
17. NO SPLICES SHALL BE PERMITTED IN UNDERGROUND/FLUSH IN-GRADE PULL BOXES WITHOUT PRIOR WRITTEN APPROVAL BY OWNER
18. DO NOT SCALE FROM THESE DRAWINGS. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS.
19. ALL EXIT AND EMERGENCY LIGHTING SHALL BE CONNECTED TO THE UNSWITCHED LEG OF THE LOCAL LIGHTING CIRCUIT.
20. ALL MECHANICAL EQUIPMENT SHALL HAVE A MEANS OF DISCONNECT AS REQUIRED BY NEC.
21. ALL RACEWAYS SHALL HAVE A GREEN GROUNDING CONDUCTOR.
22. WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE WALL, FLOOR, OR PARTITION FOR THE PURPOSE OF RUNNING RACEWAY CARRYING ELECTRICAL, TELEPHONE, TELEVISION, OR LOCAL COMMUNICATION AND/OR SIGNALING CIRCUITS, PROVIDE FIRE STOPPING AROUND THE OPENING OF THE RACEWAY PER THE STATE BUILDING CODE. MAINTAIN COORDINATION WITH THE GENERAL CONTRACTOR TO INSURE THAT THIS FIRE STOPPING IS ACCOMPLISHED.
23. EC SHALL FURNISH AND INSTALL EXPANSION JOINTS AT ALL LOCATIONS WHERE BUILDING EXPANSION JOINTS ARE USED.
24. COORDINATE LIGHTING, SWITCHING AND RECEPTACLE LOCATIONS IN MECHANICAL SPACES WITH RESPECT TO ACTUAL MECHANICAL EQUIPMENT INSTALLATION FOR OPTIMUM LIGHTING AND UTILIZATION OF RECEPTACLES.

ELECTRICAL SYMBOL LEGEND

Symbol	Description
|—o—|	FLUORESCENT (STRIP) LIGHT FIXTURE.
	WALL OUTLET BOX AND EXIT LIGHT/TWIN HEAD EMERG.
$OS	WALL MOUNTED OCCUPANCY SENSOR SWITCH.
	WALL OUTLET BOX & 20 AMP DUPLEX RECEPTACLE.
XX/XX/XX	DISCONNECT SWITCH – XX/XX/X = FRAME SIZE / FUSE SIZE / POLES
	MOTOR CONNECTION.
J	FLUSH WALL OR ABOVE CEILING JUNCTION BOX.
	FLUSH MOUNTED 120/208V. PANEL.
OS	OCCUPANCY SENSOR CEILING MOUNTED, DUAL TECHNOLOGY.
PP	POWER PACK FOR OCCUPANCY SENSOR. PROVIDE QUANTITY AS REQUIRED.
FIXTURE TYPE (A2), CIRCUIT NUMBER (1), SWITCH LEG (a/b)	LIGHTING NOMENCLATURE.
NAME #	MECHANICAL MOTORIZED EQUIPMENT CONNECTION. SEE MOTORIZED EQUIPMENT SCHEDULE.

NOTE:
1. THESE ARE STANDARD SYMBOLS AND MAY NOT ALL APPEAR ON THE PROJECT DRAWINGS.
2. FIRE ALARM DEVICES AND WIRING INSTALLED BY FIRE ALARM CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ROUGH-IN BACK BOX AND CONDUIT AS REQUIRED. VERIFY ALL DEVICES AND LOCATIONS WITH FIRE ALARM CONTRACTORS DRAWINGS.

EXISTING PANELBOARD PP2A TUB 1 SCHEDULE

VOLTAGE: 208Y/120V MAINS 200A MLO MOUNTING SURFACE REMARKS: PANELBOARD ASSEMBLY
BUS SIZE: 200 AMP TOTAL LOAD 0.0 KVA FAULT DUTY 42K/10K MINIMUM

No.	SERVES	LOAD (KVA) LTG	RCPT	MTR	A/C	HTG	MISC	BRKR TRIP	P	PH A	B	C	P	BRKR TRIP	LOAD (KVA) MISC	HTG	A/C	MTR	RCPT	LTG	SERVES	No.
1	Existing Load							20	1				1	20							Existing Load	2
3	Existing Load							20	1				1	20							Existing Load	4
5	Existing Load							20	1				1	20							Existing Load	6
7	Existing Load							20	1				1	20							Existing Load	8
9	Existing Load							20	1				1	20							Existing Load	10
11	Existing Load							20	1				1	20							Existing Load	12
13	Existing Load							20	1				1	20							Existing Load	14
15	Existing Load							20	1				1	20							Existing Load	16
17	Existing Load							20	1				1	20							Existing Load	18
19	Existing Load							20	1				1	20							Existing Load	20
21	Existing Load							20	1				1	20							Existing Load	22
23	Existing Load							20	1				1	20							Existing Load	24
25	Existing Load							20	1				1	20							Existing Load	26
27	Existing Load							20	1				1	20							Existing Load	28
29	Existing Load							20	1				1	20							Existing Load	30
31	Existing Load							20	1				1	20							Existing Load	32
33	Existing Load							20	1				1	20							Existing Load	34
35	Existing Load							20	1				1	20							Existing Load	36
37	Existing Load							20	1				1	20							Existing Load	38
39	**AHU-1 OFFICE ADDITION**							50	2				2	50							**AHU-2 OFFICE ADDITION**	40
41																						42
															0.0	0.0	0.0	0.0	0.0	0.0	CONNECTED KVA 0.0	
															0.0	0.0	0.0	0.0	0.0	0.0	DEMAND KVA 0.0	
																					DEMAND AMPS 0	

NOTE: REVISE CIRCUITRY AS REQUIRED TO ACCOMMODATE RECEPTACLE NEEDS. PROVIDE CIRCUIT BREAKERS WHERE REQUIRED. PROVIDE TYPEWRITTEN ACCURATE CIRCUIT INDEX CARD REFLECTING ALL CHANGES AND EXISTING CONDITIONS

EXISTING PANELBOARD PP2A TUB 2 SCHEDULE

VOLTAGE: 208Y/120V MAINS 200A MLO MOUNTING SURFACE REMARKS: PANELBOARD ASSEMBLY
BUS SIZE: 200 AMP TOTAL LOAD 9.3 KVA FAULT DUTY 42K/10K MINIMUM

No.	SERVES	LOAD (KVA) LTG	RCPT	MTR	A/C	HTG	MISC	BRKR TRIP	P	PH A	B	C	P	BRKR TRIP	LOAD (KVA) MISC	HTG	A/C	MTR	RCPT	LTG	SERVES	No.
1	**Recepts. Office Addition**		1.1					20	1				1	20					1.1		**Recepts. Office Addition**	2
3	**Recepts. Office Addition**		1.1					20	1				1	20					1.1		**Recepts. Office Addition**	4
5	Existing Load							20	1				1	20							Existing Load	6
7	Existing Load							20	1				1	20							Existing Load	8
9	**Recepts. Office Addition**		1.1					20	1				1	20							Existing Load	10
11	**Recepts. Office Addition**		1.1					20	1				1	20							Existing Load	12
13	Existing Load							20	1				1	20							Existing Load	14
15	Existing Load							20	1				1	20							Existing Load	16
17	Existing Load							20	1				1	20							Existing Load	18
19	Existing Load							20	1				1	20							Existing Load	20
21	Existing Load							20	1				1	20							Existing Load	22
23	**Recepts. Office Addition**		1.3					20	1				1	20							Existing Load	24
25	Existing Load							20	1				1	20							Existing Load	26
27	Existing Load							20	1				1	20							Existing Load	28
29	**Lts. Office Addition**	1.4						20	1				1	20							Existing Load	30
31	Existing Load							20	1				1	20							Existing Load	32
33	Existing Load							20	1				1	20							Existing Load	34
35	Existing Load							20	1				1	20							Existing Load	36
37	Existing Load							20	1				1	20							Existing Load	38
39	Existing Load							20	1				1	20							Existing Load	40
41	Existing Load							20	1				1	20							Existing Load	42
															0.0	0.0	0.0	0.0	7.9	1.4	CONNECTED KVA 9.3	
															0.0	0.0	0.0	0.0	7.9	1.8	DEMAND KVA 9.6	
																					DEMAND AMPS 27	

NOTE: REVISE CIRCUITRY AS REQUIRED TO ACCOMMODATE RECEPTACLE NEEDS. PROVIDE CIRCUIT BREAKERS WHERE REQUIRED. PROVIDE TYPEWRITTEN ACCURATE CIRCUIT INDEX CARD REFLECTING ALL CHANGES AND EXISTING CONDITIONS

MOTOR/EQUIPMENT WIRING SCHEDULE

TAG	DESCRIPTION	ELECTRICAL RATING HP	KW	VPH	CONTROLLER TYPE	SIZE	CONT	OCP	LOCAL DISC. SWF	FEEDER/HOMERUN PANEL	NOTES
AHU-1	WALL MNT. A/C/ UNIT		7.9	208/3					30AS/25AF, WP	(3) #10, #10 GRD. 3/4"C.	1,2,3
AHU-2	WALL MNT. A/C/ UNIT		7.9	208/3					30AS/25AF, WP	(3) #10, #10 GRD. 3/4"C.	1,2,3

1. INSTALLED BY OTHERS. POWER WIRING BY E.C.
2. DISCONNECT BY ELECTRICAL CONTRACTOR.
3. CONTROLLER FURNISHED WITH EQUIPMENT

LIGHTING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	LAMPS QTY.	LAMPS TYPE	INPUT WATTS	MOUNTING	REMARKS
A1	8' LED GENERAL LIGHTING LINEAR CURVE LUMINAIRE	ELITE #8-OC-LED-8000L	LED	SOLID STATE	70	PENDANT	OR APPROVED EQUAL
EX	EXIT SIGN / TWIN HEAD EMERGENCY EGRESS FIXTURE WITH BATTERY BACK UP & REMOTE 9W WEATHERPROOF HEADS. FIXTURE SHALL HAVE BATTERY CAPACITY FOR REMOTE HEADS	COOPER # AP SERIES REMOTE HEADS COOPER #6X-9DW-WH		LED / HALOGEN		SURFACE WALL OR CEILING	OR APPROVED EQUAL
EM	TWIN HEAD EMERGENCY EGRESS FIXTURE WITH BATTERY BACK UP.	COOPER # AP2SQ		LED		SURFACE WALL OR CEILING	OR APPROVED EQUAL

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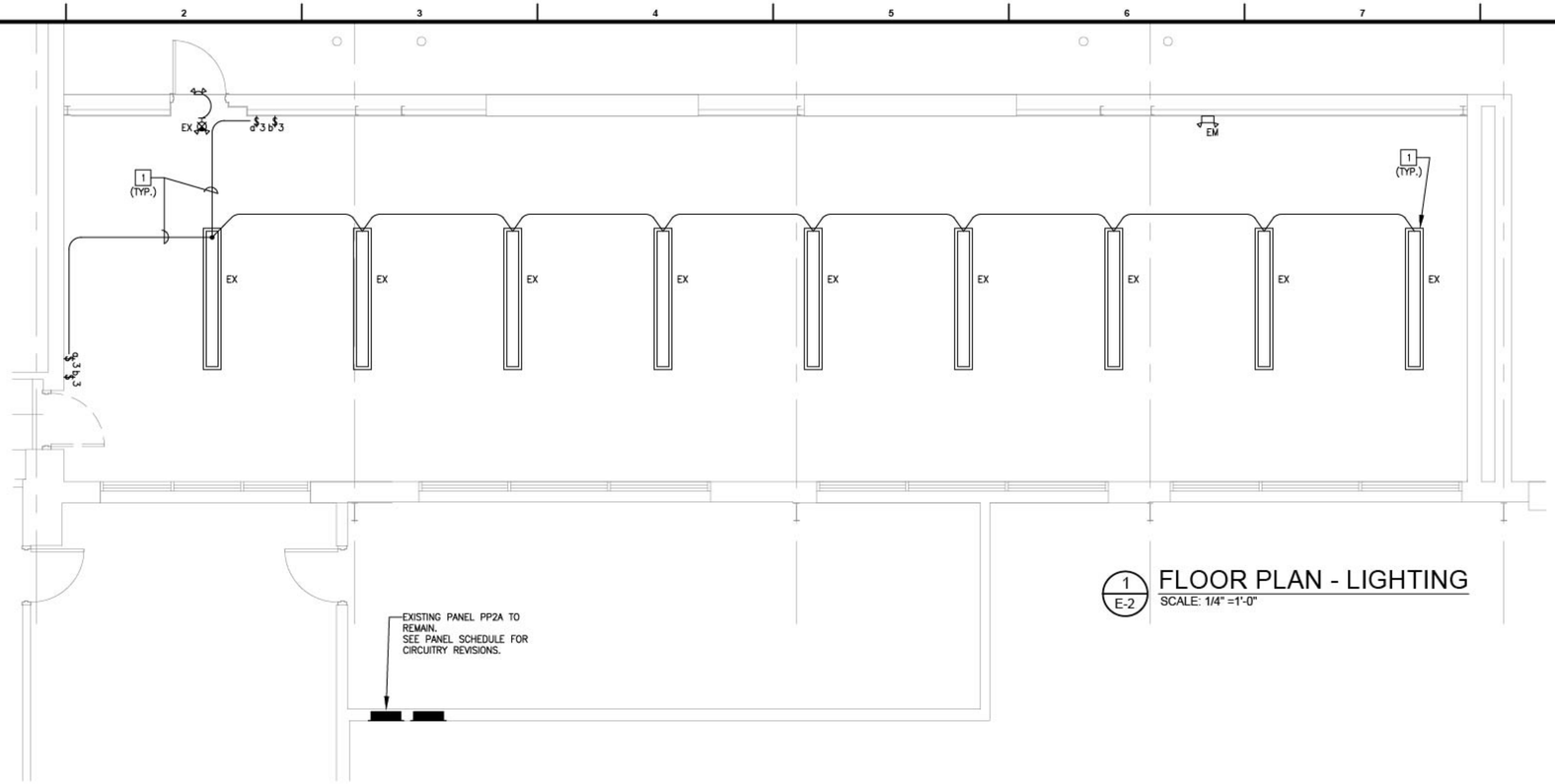
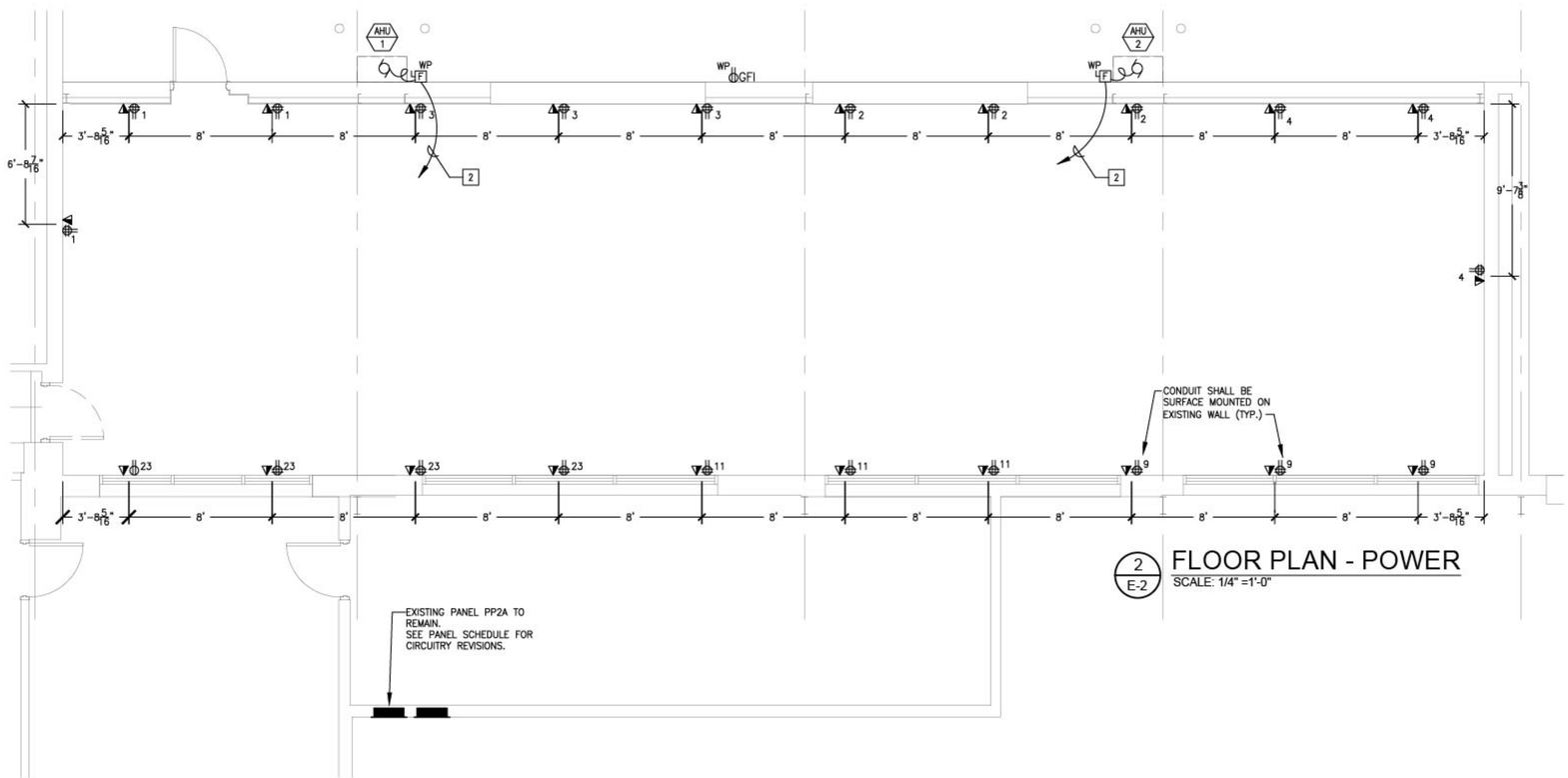
ELECTRICAL GENERAL NOTES & PANEL SCHEDULES

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT CITY OF LAKE WORTH

Sheet No.
E-1



1 E-2 FLOOR PLAN - LIGHTING
SCALE: 1/4" =1'-0"



2 E-2 FLOOR PLAN - POWER
SCALE: 1/4" =1'-0"

GENERAL NOTES:

1. REFER TO SPECIFICATION SHEETS SP-1 AND SP-2.
2. REFER TO SYMBOL LEGEND THIS SHEET.
3. UNLESS OTHERWISE INDICATED ALL CIRCUITS SHALL ORIGINATE FROM EXISTING PANEL PP2A.

ELECTRICAL PLAN NOTES:

1. EXISTING LIGHTING FIXTURES TO REMAIN. CONTRACTOR SHALL CLEAN, REPAIR AND RE-LAMP EXISTING LIGHTING FIXTURES. REVISE CONTROL ARRANGEMENT AS INDICATED. G.C. PROVIDE ALTERNATE PRICING FOR NEW LED LIGHTS. SEE A1 AT LIGHTING SCHEDULE SHEET E-1.
2. CONDUIT AND WIRING TO EXISTING PANEL PP2A. PROVIDE (2) 50A-2POLE BREAKERS IN EXISTING SPACES. SEE MOTORIZED EQUIPMENT SCHEDULE.

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No.	Date	Revision	By

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FLOOR PLAN - ELECTRICAL

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT CITY OF LAKE WORTH

Sheet No.
E-2

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SECTION 15000 – MECHANICAL GENERAL CONDITIONS

1.01 REQUIREMENTS

A. PROVISIONS OF GENERAL REQUIREMENTS SHALL GOVERN ALL WORK UNDER THIS SECTION. MECHANICAL PLANS, PLUMBING PLANS, GENERAL PLANS, STRUCTURAL PLANS, AND ALL ASSOCIATED SPECIFICATIONS ARE PART OF THIS SPECIFICATION. IN CASE OF ANY DISCREPANCIES BETWEEN THIS SECTION AND THE GENERAL CONDITIONS, THE GENERAL CONDITIONS SHALL APPLY.

B. STRICT COORDINATION BETWEEN TRADES IS ESSENTIAL. CONTRACTORS OR SUBCONTRACTORS SHALL BE HELD RESPONSIBLE TO AVOID CONFLICT WITH THE WORK OF THE OTHER TRADES. FAILURE ON THE PART OF ANY CONTRACTOR OR SUBCONTRACTOR TO ABIDE BY THIS REQUIREMENT MAY RESULT IN HIS BEING REQUIRED TO REMOVE AND REINSTALL THE CONFLICTING WORK AT NO ADDITIONAL COST TO THE OWNER.

1.02 DRAWINGS

A. THE MECHANICAL DRAWINGS SHOW THE SCOPE AND THE GENERAL ARRANGEMENT OF ALL PIPING, EQUIPMENT AND APPURTENANCES AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION, SITE CONDITIONS, AND THE WORK OF OTHER TRADES WILL PERMIT. DISCUSS CONFLICTS WITH ARCHITECT/ENGINEER.

1.03 CODES AND STANDARDS

ALL MATERIAL AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES, INDUSTRY STANDARDS AND UTILITY COMPANY REGULATIONS.

A. IN CASE OF DIFFERENCE BETWEEN BUILDING CODES, SPECIFICATIONS, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS AND UTILITY COMPANY REGULATIONS AND THE CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN.

B. NONCOMPLIANCE: SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE BUILDING CODES, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND UTILITY COMPANY REGULATIONS, HE SHALL BEAR ALL COSTS ARISING IN CORRECTING THE DEFICIENCIES.

1.04 SUBSTITUTION CLAUSE

A. EACH ITEM SPECIFIED HEREIN SHALL REQUIRE PRIOR APPROVAL OF THE ARCHITECT OR OWNER FOR ANY SUBSTITUTIONS. IF ANY CONTRACTOR WISHES TO BID ON ANY EQUIPMENT OTHER THAN THE MANUFACTURERS LISTED, HE SHALL REQUEST WRITTEN APPROVAL OF SAID EQUIPMENT AT LEAST SEVEN (7) CALENDAR DAYS PRIOR TO BID DATE.

B. IT SHALL BE THE CONTRACTORS OR SUBCONTRACTORS RESPONSIBILITY TO ASCERTAIN THE AVAILABILITY OF ALL ITEMS WHICH HE IS REQUIRED TO FURNISH AND ORDER SAME, ALLOWING SUPPLIER SUFFICIENT TIME TO PROCURE ITEM FROM FACTORY OR WAREHOUSE BEFORE IT IS ACTUALLY REQUIRED FOR DELIVERY TO THE JOB SITE FOR INSTALLATION. NO SUBSTITUTIONS FOR EQUIPMENT OR FIXTURES WHICH HAVE BEEN APPROVED IN SHOP DRAWINGS SUBMITTALS WILL BE AUTHORIZED BECAUSE OF FAILURE ON THE PART OF THE CONTRACTOR TO ABIDE BY THIS REQUIREMENT.

C. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT ANY SUBSTITUTED EQUIPMENT SHALL FIT AVAILABLE SPACE REQUIREMENTS. ANY COST CHANGES THAT COULD OCCUR FROM THE USE OF SUBSTITUTED EQUIPMENT SHALL BE BORN BY THE CONTRACTOR USING SUBSTITUTED EQUIPMENT.

1.05 INSTALLATION AND ARRANGEMENT

A. CONTRACTOR SHALL VISIT THE SITE OF THIS PROJECT BEFORE SUBMITTING A PROPOSAL ON THIS WORK, AND SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS. FAILURE ON HIS PART TO DO THIS WILL NOT BE CAUSE FOR EXTRAS AFTER THE CONTRACT IS SIGNED, BY REASON OF UNFORESEEN CONDITIONS.

B. EXCAVATION AND BACKFILL:

PERFORM ALL EXCAVATING & BACKFILLING ACCORDING TO LOCAL CODES & REGULATIONS.

1.06 DUCTWORK

A. THE CONTRACTOR SHALL INSTALL THE SIZE OF THE DUCTWORK AS SHOWN ON THE PLANS. IF THE DUCT DIMENSION NEEDS CHANGING, SUBMIT WRITTEN REQUEST TO THE ARCHITECT.

1.07 DRAWINGS BY CONTRACTOR

A. SEE SUBMITTALS.

B. RECORD (AS-BUILT) DRAWINGS – THE CONTRACTOR SHALL FURNISH TO THE OWNER A COMPLETE SET OF REPRODUCIBLE TRACINGS SHOWING THE LOCATION AND SIZING OF PIPING FOR THE HVAC AND PLUMBING SYSTEMS. PIPING SIZES, REROUTING, ETC, FOR BOTH UNDER FLOOR AND ABOVE CEILING PIPING SHALL BE SHOWN. ALSO PROVIDE A REPRODUCIBLE TRACING OF THE SITE PLAN SHOWING SANITARY SEWER, STORM SEWER, DOMESTIC COLD WATER, AND NATURAL GAS PIPING TO THE BUILDING. IN ADDITION TO THESE DRAWINGS, A COMPLETE SET OF APPROVED SHOP DRAWINGS AND TEMPERATURE CONTROL DRAWINGS SHALL BE INCLUDED IN THIS SET OF DRAWINGS.

1.08 EQUIPMENT AND MATERIALS

ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE MANUFACTURERS NAMES, TRADE NAME AND THE UL LABEL IN EVERY CASE WHERE A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR MATERIAL. THE EQUIPMENT TO BE FURNISHED UNDER EACH SECTION OF THE SPECIFICATIONS SHALL BE ESSENTIALLY THE STANDARD PRODUCT OF A UNITED STATES MANUFACTURER, MANUFACTURED IN THE U.S.A. REGULARLY ENGAGED IN THE PRODUCTION OF THE REQUIRED TYPE OF EQUIPMENT, AND SHALL BE THE MANUFACTURER'S LATEST AND APPROVED DESIGN.

A. DELIVERY AND STORAGE: EQUIPMENT AND MATERIALS SHALL BE DELIVERED TO THE SITE AND STORED IN ORIGINAL CONTAINERS, SUITABLY SHELTERED FROM THE ELEMENTS, BUT READILY ACCESSIBLE FOR INSPECTION UNTIL INSTALLED. ALL ITEMS SUBJECT TO MOISTURE DAMAGE (SUCH AS CONTROLS, MOTORS, AND ELECTRICAL EQUIPMENT) SHALL BE STORED IN DRY, HEATED SPACES.

B. EQUIPMENT AND MATERIALS OF THE SAME GENERAL TYPE SHALL BE OF THE SAME MAKE THROUGHOUT THE WORK TO PROVIDE UNIFORM APPEARANCE, OPERATION AND MAINTENANCE.

1.09 IDENTIFICATION FOR MECHANICAL EQUIPMENT

A. IDENTIFICATION FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED AND FURNISHED USING ITEM NUMBERS AND NOMENCLATURE AS SHOWN ON THE MECHANICAL DRAWINGS, OR PER OWNER'S DIRECTION. NAMEPLATES SHALL BE BLACK WITH WHITE BACKGROUND AND SHALL HAVE 1" OR 1/2" IF SPACE IS TOO SMALL. PLATES SHALL BE ADHESIVE BACKED OR BE RIVETED TO EQUIPMENT.

B. ITEMS TO BE IDENTIFIED AND NOMENCLATURE USED SHALL BE SUBMITTED TO ARCHITECT FOR APPROVAL.

1.10 AIR SYSTEMS, AIR DISTRIBUTION TEST AND BALANCE

A. THIS SPECIFICATION IS TO INCLUDE AIR BALANCE TESTS FOR ALL AIR MOVING SYSTEMS. REFER TO THE PLANS FOR SCHEDULES LISTING AIR QUANTITIES, PRESSURE DROPS, AND TEMPERATURES.

B. THE CONTRACTOR SHALL BALANCE, ADJUST, AND TEST AIR MOVING EQUIPMENT AND AIR DISTRIBUTION AND/OR EXHAUSTING SYSTEMS AS HEREIN SPECIFIED. ALL INSTRUMENTS USED SHALL BE ACCURATELY CALIBRATED AND MAINTAINED IN GOOD WORKING ORDER.

C. UPON THE COMPLETION OF THE AIR CONDITIONING SYSTEM, THE CONTRACTOR SHALL PERFORM THE FOLLOWING TESTS, COMPILE THE TEST DATA, AND SUBMIT TWO (2) COPIES OF THE COMPLETE TEST DATA TO THE GENERAL CONTRACTOR FOR FORWARDING TO THE ARCHITECT AND OWNER FOR EVALUATION AND APPROVAL.

D. TESTING PROCEDURE" THE CONTRACTOR SHALL PERFORM THE FOLLOWING TEST, AND BALANCE SYSTEM IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

1. ADJUST ALL MAIN SUPPLY, RETURN AND EXHAUST AIR DUCTS TO PROPER DESIGN CFM.
2. TEST AND ADJUST EACH DIFFUSER, GRILLE, AND REGISTER TO WITHIN 5% OF DESIGN REQUIREMENTS.
3. EACH GRILLE, DIFFUSER, AND REGISTER SHALL BE IDENTIFIED AS TO LOCATION AND AREA.
4. SIZE, TYPE, AND MANUFACTURER OF DIFFUSERS, GRILLES, REGISTERS, AND ALL TESTED EQUIPMENT SHALL BE IDENTIFIED AND LISTED. MANUFACTURERS RATINGS ON ALL EQUIPMENT SHALL BE USED TO MAKE REQUIRED CALCULATIONS.
5. READINGS AND TESTS OF DIFFUSERS, GRILLES, AND REGISTERS SHALL INCLUDE REQUIRED CFM AND TEST RESULTANT CFM AFTER ADJUSTMENTS.
6. ALL DIFFUSERS, GRILLES, AND REGISTERS SHALL BE ADJUSTED TO MINIMIZE DRAFTS IN ALL AREAS.

1.11 EQUIPMENT START-UP AND TESTING

A. OPERATING TEST BY CONTRACTOR: THE CONTRACTOR SHALL PROVE THE OPERATION OF THE MECHANICAL AND ELECTRICAL SYSTEMS. AT LEAST TEN DAYS NOTICE SHALL BE GIVEN PRIOR TO SUCH TESTS.

B. SHOULD ANY ITEM OF THE SYSTEMS FAIL TO PERFORM IN AN APPROVED MANNER, THIS TEST SHALL BE REPEATED UNTIL THE OPERATING TEST IS APPROVED.

1.12 OPERATING AND MAINTENANCE MANUALS

A. PROVIDE TWO MANUALS FOR OPERATION AND MAINTENANCE OF MECHANICAL EQUIPMENT, ONE FOR OWNER AND ONE TO THE ARCHITECT.

SECTION 15060 – PIPE & PIPE FITTINGS & RELATED MATERIALS

1.01 PIPE SPECIFICATIONS AND STANDARDS

A. THE CONTRACTOR SHALL USE MATERIALS WHICH CONFORM TO THESE MINIMUM STANDARDS BELOW.

1.02 PRODUCTS

A. PIPING AND FITTINGS SHALL CONFORM TO THE FOLLOWING:

1. SEWER: PVC SCH.40 – ASTM D2466-90a
2. SEWER VENT: PVC SCH.40 – ASTM D2466-90a
3. WATER: COPPER (K,L,M) ASTM B8851
4. GAS: BLACK STEEL, ASTM A120-47
5. UNDER FLOOR: ALL PIPING SHALL BE CAST IRON, OR SCH. 40 PVC WHERE ALLOWED BY CODE.
NOTE: JOINING METHODS SHALL MEET ACCEPTED STANDARDS OF INDUSTRY FOR TYPE OF PIPING LISTED.

B. DOMESTIC WATER PIPING

1. ALL HOT AND COLD WATER PIPING, UNLESS OTHERWISE NOTED ON DRAWINGS, SHALL BE CPVC, IF ALLOWED BY LOCAL CODE, OR NEW HARD-DRAWN COPPER TUBE WITH MADE-UP, WROUGHT OR FORGED COPPER FITTINGS AND 95-5 TIN-ANTIMONY (NO LEAD) SOLDER. BELOW-GRADE AND BELOW-SLAB PIPES SHALL BE TYPE "K"; ALL OTHER PIPING SHALL BE TYPE "L". REFER TO SECTION 15180 INSULATION. NO JOINTS UNDER SLAB.

1.03 VALVES

A. ALL VALVES SHALL BE HAMMOND QUALITY OR EQUAL, UNLESS OTHERWISE NOTED.

1.04 HANGERS & SUPPORTS, PIPING

A. TYPICAL CLEVIS-TYPE HANGER ASSEMBLY; GRINNELL OR B-LINE SYSTEMS.

1.05 INSTALLATION

A. GENERAL

1. PIPING SHALL BE RUN PARALLEL WITH THE LINES OF THE BUILDING UNLESS DISTINCTLY SHOWN OR NOTED OTHERWISE. AMPLE CLEARANCE FOR INSULATION SHALL BE PROVIDED BETWEEN ADJACENT PIPE AND BETWEEN PIPING AND OTHER WORK. ENDS OF PIPE SHALL BE TEMPORARILY PLUGGED WHILE WORK IS IN PROGRESS TO PREVENT RUBBISH FROM ENTERING THE PIPES.
2. THIS CONTRACTOR SHALL MAKE NECESSARY OFFSETS IN PIPING WHERE REQUIRED TO AVOID CONSTRUCTION, DUCTS OR REQUIRED TO PRESENT A NEAT APPEARANCE OR NECESSARY TO ALLOW FOR EXPANSION. ALL PIPING SHALL BE CONCEALED IN FINISHED SPACES.
3. ON DOMESTIC WATER SYSTEMS PROVIDE SHOCK ABSORBERS OF SAME SIZE AS SUPPLY PIPE AT ALL UTILIZATION EQUIPMENT SUPPLY CONNECTIONS.

B. JOINTS

1. SWEAT JOINTS SHALL BE MADE USING 95-5 TIN-ANTIMONY (NO LEAD) JOINT SOLDER. PIPE ENDS AND FITTINGS SHALL BE PROPERLY FLUXED BEFORE JOINTING. CUT TUBING SO AS TO ASSURE SQUARE ENDS. CLEAN ENDS BY REAMING OR FILLING. THERE SHALL BE NO JOINTS UNDER SLAB FOR 1" AND SMALLER SIZES. SIZES 1-1/4" AND LARGER SHALL UTILIZE SECTIONS OF TUBING LESS THAN STANDARD LENGTH ONLY WHERE NECESSARY TO COMPLETE RUN SO AS TO MINIMIZE JOINTS. JOINTS FOR 1-1/4" AND LARGER UNDER SLAB SHALL BE MADE WITH SILVER BRAZING.

C. SOIL AND WASTE PIPING

1. FURNISH AND INSTALL ALL WASTE, SOIL AND VENT LINES TO SERVE ALL THE FIXTURES LOCATED IN THE BUILDINGS OF THIS PROJECT.
2. HORIZONTAL WASTE AND SOIL PIPE SHALL BE PLACED WITH A MINIMUM FALL OF 1/4" PER FOOT ON LINES 3" OR SMALLER AND NOT LESS THAN 1/8" PER FOOT ON LINES THAT ARE LARGER.
3. ALL CHANGES IN DIRECTION SHALL BE MADE AS REQUIRED BY LOCAL CODE.
4. THERE SHALL BE NO CROSS CONNECTIONS OF ANY TYPE BETWEEN WATER SYSTEMS AND DRAINAGE SYSTEMS.
5. EACH FIXTURE, FLOOR DRAIN AND PIECE OF EQUIPMENT REQUIRING CONNECTION TO THE WASTE DRAINAGE SYSTEM SHALL BE EQUIPPED WITH A TRAP PLACED AS CLOSE AS POSSIBLE TO THE FIXTURE IT SERVES. THE PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL TRAPS FOR EQUIPMENT SPECIFIED UNDER OTHER SECTIONS AS WELL AS FOR THE FIXTURES INSTALLED AS HIS RESPONSIBILITY.
6. VENT RISERS SHALL EXTEND TO NOT LESS THAN 10", OR PER LOCAL REQUIREMENTS, ABOVE THE ROOF AND BE PROPERLY FLASHED.
7. ALL SYSTEMS WHICH REQUIRE VENTS FOR PROPER OPERATION OR PLUMBING CODE REASONS SHALL BE VENTED AS NECESSARY EVEN WHERE NOT SHOWN ON DRAWINGS.

D. PIPE EXPANSION

1. ALL PIPING SUBJECT TO EXTENSIVE EXPANSION OR CONTRACTION SHALL BE PROVIDED BY EXPANSION LOOPS IN MAINS AND/OR SWING JOINTS, CORNERS AND SWING JOINTS AT ALL BRANCH LINES. PIPING SHALL BE SO INSTALLED THAT NO EXPANSION CAN OVER STRESS ANY FITTING, STRUCTURE OR INSULATION.

SECTION 15090 – SUPPORTS, ANCHORS, AND SEALS

1.01 WORK INCLUDED

A. PIPE HANGERS, ANCHORS, AND SUPPORTS.
B. DUCT HANGERS AND SUPPORTS.
C. FLASHING FOR MECHANICAL EQUIPMENT.
D. SLEEVING FOR MECHANICAL EQUIPMENT.

1.02 REFERENCE STANDARDS

A. PIPE SUPPORTS: ANSI B31.1, POWER PIPING.
B. DUCT HANGERS: SMACNA DUCT MANUALS

1.03 PIPE HANGERS, ANCHORS AND SUPPORTS

A. HANGERS: PIPE SIZES ½ INCH TO 1½ INCH; ADJUSTABLE WROUGHT STEEL RING.
B. HANGERS: PIPE SIZES 2 INCHES TO 4 INCHES; ADJUSTABLE WROUGHT STEEL CLEVIS.
C. MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SPACERS AND HANGER RODS.
D. WALL SUPPORT: PIPE SIZES TO 3 INCHES, CAST IRON HOOK.
E. WALL SUPPORT FOR PIPE SIZES 4 INCHES AND OVER: WELDED STEEL BRACKET AND WROUGHT STEEL CLAMP.
F. DESIGN HANGERS TO IMPEDE DISENGAGEMENT BY MOVEMENT OF SUPPORTED PIPE.
G. PROVIDE PLASTIC COATED HANGERS AND SUPPORTS FOR COPPER PIPING OR PROVIDE APPROVED PACKING BETWEEN HANGER OR SUPPORT AND PIPING.
H. VERTICAL SUPPORT: STEEL RISER CLAMPS FOR STEEL PIPE, COPPER PLATED CLAMPS FOR COPPER PIPE.
I. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY PIPING SUPPORTS THAT SHALL BE REQUIRED WHILE PERMANENT SUPPORTS ARE BEING INSTALLED.

1.04 HANGER RODS

A. PROVIDE STEEL HANGER RODS, THREADED BOTH ENDS OR CONTINUOUS THREADED.

1.05 DUCT HANGERS AND SUPPORTS

A. HANGERS: GALVANIZED STEEL BAND IRON.
B. WALL SUPPORTS: GALVANIZED STEEL BAND IRON OR FABRICATED ANGLE BRACKET.
C. VERTICAL SUPPORT AT FLOOR: ROLLED ANGLE.

1.06 FLASHING

A. STEEL FLASHING: 26 GAUGE GALVANIZED STEEL.
B. GENERAL FLASHING: PROVIDE SHEET NEOPRENE FOR WATERPROOFING OF FLOOR DRAINS.
C. CAPS: STEEL, 22 GAUGE MINIMUM.

1.07 SLEEVES

A. PIPES THROUGH FLOORS: FORM WITH 18 GAUGE GALVANIZED STEEL.
B. PIPES THROUGH BEAMS, WALLS, FOOTINGS, POTENTIALLY WET FLOOR: FORM WITH STEEL PIPE OR 18 GAUGE GALVANIZED STEEL.
C. ROUND DUCTS: FORM WITH GALVANIZED STEEL.
D. SIZE LARGE ENOUGH TO ALLOW FOR MOVEMENT DUE TO EXPANSION AND TO PROVIDE FOR CONTINUOUS INSULATION.

1.08 PIPE HANGERS AND SUPPORTS INSTALLATION

A. SUPPORT HORIZONTAL STEEL AND COPPER PIPING AS FOLLOWS:

NOMINAL PIPE SIZE (IN.)	MAXIMUM DISTANCE BETWEEN SUPPORT (FT)	HANGER ROD DIA. (IN.)
½" TO 1"	6	3/8
1½" TO 2"	9	3/8
2½" TO 3"	10	1/2
4"	12	5/8
5" & 6"	14	3/4

B. SUPPORT HORIZONTAL PVC OR CPVC PIPING AS FOLLOWS:

NOMINAL PIPE SIZE (IN.)	MAXIMUM DISTANCE BETWEEN SUPPORT (FT) SCH. 40	SCH. 80	HANGER ROD DIA. (IN.)
½" TO 1¼"	3	4	3/8
1½" TO 2"	4	5	3/8
3" TO 4"	5	7	1/2
6" TO 8"	6	9	3/4

C. SEALS

1. SEAL AROUND PIPES THAT PENETRATE FIRE WALLS WITH UL APPROVED FIRE PROOF SEALANT.

SECTION 15100 – VALVES, COCKS, AND FAUCETS

1.01 IN GENERAL, WORK INCLUDED

A. GATE VALVES.
B. GLOBE OR ANGLE VALVES.
C. CHECK VALVES.
D. PLUG COCKS.
E. DRAIN VALVES.

1.02 ACCEPTABLE MANUFACTURERS

A. PROVIDE VALVES OF SAME MANUFACTURER THROUGHOUT WHERE POSSIBLE.
B. PROVIDE VALVES WITH MANUFACTURER'S NAME AND PRESSURE RATING CLEARLY MARKED ON OUTSIDE OF BODY.
C. ACCEPTABLE MANUFACTURERS ARE NIBCO, CRANE, MILWAUKEE, JENKINS, AND NORDSTROM.

1.03 VALVE CONNECTIONS

A. PROVIDE VALVES SUITABLE TO CONNECT TO ADJOINING PIPING AS SPECIFIED FOR PIPE JOINTS. USE PIPE SIZE VALVES.
B. THREAD PIPE SIZES 2½" AND SMALLER.
C. FLANGE PIPE SIZES 3" AND LARGER.
D. SOLDER OR SCREW TO SOLDER ADAPTERS FOR COPPER TUBING.

1.04 GATE VALVES (AS REQUIRED)

A. BRONZE, RISING STEM, INSIDE SCREW, SOLID WEDGE, SOLDER OR SCREWED ENDS CRANE 431 OR CRANE 1334.

1.05 GLOBE OR ANGLE VALVES

A. BRONZE, RISING STEM, INSIDE SCREW, RENEWABLE DISC, SOLDER OR SCREWED ENDS. GLOBE: CRANE 1 OR CRANE 1310. ANGLE: CRANE 2.

1.06 CHECK VALVES

A. BRONZE, SWING DISC, SOLDER OR SCREWED ENDS. CRANE 37 OR CRANE 1342.

1.07 PLUG COCKS (GAS SERVICE ONLY)

A. IRON BODY, BRASS PLUGS AND WASHERS, AIR TESTED, SCREWED ENDS. NORDSTROM #142.
B. IRON BODY AND PLUG, PRESSURE LUBRICATED TYPE, FLANGED ENDS. NORDSTROM #143.

1.08 BALL VALVE (AS REQUIRED)

A. NIBCO T-580 OR S-580, BRONZE BODY, TEFLON SEAT, 125 LB SWP.

1.09 PRESSURE RATINGS

A. UNLESS OTHERWISE INDICATED, USE VALVES SUITABLE FOR 125 MINIMUM PSIG. SWP AND 450 DEG. F. AND 200 PSIG AND 250 DEG. F.

1.10 VALVE OPERATORS

A. PROVIDE SUITABLE HANDWHEELS FOR GAUGE, GLOBE AND DRAIN VALVES, AND INSIDE HOSE BIBS.
B. PROVIDE ONE PLUG COCK WRENCH FOR EVERY TEN PLUG COCKS SIZED 2" AND SMALLER, MINIMUM OF ONE. PROVIDE EACH PLUG COCK SIZED 2½" AND LARGER WITH A WRENCH, WITH SET SCREW.

1.11 INSTALLATION

A. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED.
B. INSTALL GATE VALVES FOR SHUT-OFF AND ISOLATING SERVICE, TO ISOLATE EQUIPMENT, PART OF SYSTEMS OR VERTICAL RISERS.
C. INSTALL GLOBE VALVES FOR THROTTLING SERVICE AND CONTROL DEVICE OR BY-PASS.
D. USE PLUG COCKS FOR GAS SERVICE.
E. PROVIDE DRAIN VALVES AT MAIN SHUT-OFF VALVES, LOW POINTS OF PIPING AND APPARATUS.

SECTION 15250 – PIPING AND EQUIPMENT INSULATION

1.01 WORK INCLUDED

A. PIPING INSULATION.
B. EQUIPMENT INSULATION.
C. ADHESIVE, TIE WIRES, TAPES.
D. RECOVERING.

1.02 ACCEPTABLE MANUFACTURERS

A. MANUFACTURER AND TYPE: OWENS-CORNING, MANVILLE, CERTAIN-TEED OR EQUAL.

1.03 PREPARATION

A. DO NOT INSTALL COVERING BEFORE PIPING AND EQUIPMENT HAS BEEN TESTED AND APPROVED.
B. ENSURE SURFACE IS CLEAN AND DRY PRIOR TO INSTALLATION. ENSURE INSULATION IS DRY BEFORE AND DURING APPLICATION. FINISH WITH SYSTEMS AT OPERATING CONDITIONS.
C. REPAIR SEPARATION OF JOINTS OR CRACKING OF INSULATION DUE TO THERMAL MOVEMENT OR POOR WORKMANSHIP.

1.04 INSULATION THICKNESS SCHEDULE

PIPING	PIPE SIZES (IN)	INSULATION THICKNESS INCHES
DOMESTIC COLD WATER PIPING	ALL SIZES UP TO 1 OVER 1	 1/2 1
DOMESTIC HOT WATER PIPING (SUSPENDED)	ALL SIZES UP TO 2 OVER 2	 1 1 1/2
DOMESTIC HOT WATER	ALL SIZES	3/4" PIPING (BURIED) ARMAFLEX
CONDENSATE DRAINS	AS RECOMMENDED BY MANUFACTURER	AS RECOMMENDED BY MANUFACTURER

SECTION 15258 – DUCT INSULATION

1.01 WORK INCLUDED

A. DUCT THERMAL INSULATION.
B. DUCT LINER INSULATION.
C. ADHESIVES, TIE WIRES, TAPES.
D. RECOVERY.

1.02 SUBMITTALS (SEE 1.04 BELOW)

1.03 JOB CONDITIONS

A. DELIVER MATERIAL TO JOB SITE IN ORIGINAL NON-BROKEN FACTORY PACKAGING, LABELED WITH MANUFACTURER'S DENSITY AND THICKNESS.
B. PERFORM WORK AT AMBIENT AND EQUIVALENT TEMPERATURES AS RECOMMENDED BY THE ADHESIVE MANUFACTURER.

1.04 ALTERNATIVES

A. ALTERNATIVE INSULATIONS ARE SUBJECT TO APPROVAL. ALTERNATIVES TO PROVIDE SAME THERMAL RESISTANCE WITHIN 10%, AT NORMAL CONDITIONS AS MATERIAL SPECIFIED.

1.05 ACCEPTABLE MANUFACTURERS

A. MANUFACTURER AND TYPE: OWENS-CORNING, MANVILLE, CERTAIN-TEED, AND P.P.G.

1.06 GENERAL REQUIREMENTS

A. ADHESIVES AND INSULATION MATERIALS: COMPOSITE FIRE AND SMOKE HAZARD RATINGS MAXIMUM 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED. ADHESIVES TO BE WATERPROOF.
B. ALL INSULATION MATERIAL SHALL BE APPROVED FOR CEILING PLENUM INSTALLATION.

1.07 MATERIALS AND COMPONENTS

A. DUCT WRAP: FLEXIBLE FIBROUS GLASS INSULATION, "K" VALUE AT 75 DEGREES F. MAXIMUM 0.26 BTU/IN/SQ FT/DEG.F./HR. WITH FACTORY APPLIED REINFORCES ALUMINUM FOIL VAPOR BARRIER.

1.08 INSTALLATION

A. DUCT WRAP: ADHERE FLEXIBLE INSULATION TO DUCTWORK WITH ADHESIVE APPLIED TO 6 INCH WIDE STRIPS ON 16 INCH CENTERS. PROVIDE 16 GAUGE ANNEALED TIE WIRE TIED, SPIRAL WOUND OR HALF HITCHED AT 16 INCH CENTERS FOR SECURING DUCT INSULATION UNTIL ADHESIVE SETS. BUTT INSULATION AND SEAL JOINTS AND BREAKS WITH 2 INCH LAP OF FOIL ADHERED OVER JOINT.

1.09 INSULATION THICKNESS SCHEDULE

A. DUCT WRAP (SUPPLY, RETURN, & OUTSIDE AIR DUCT): ADHERE FLEXIBLE INSULATION TO DUCTWORK WITH ADHESIVE APPLIED TO 6 INCH WIDE STRIPS ON 16 INCH CENTERS. PROVIDE 16 GAUGE ANNEALED TIE WIRE TIED, SPIRAL WOUND OR HALF HITCHED AT 16 INCH CENTERS FOR SECURING DUCT INSULATION UNTIL ADHESIVE SETS. BUTT INSULATION AND SEAL JOINTS AND BREAKS WITH 2 INCH LAP OF FOIL ADHERED OVER JOINT.

DUCT & EQUIPMENT	INSULATION THICKNESS (IN)
DUCT WRAP INSULATION	1 1/2

SECTION 15400 – PLUMBING SYSTEMS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. FLOOR SINKS
B. AIR CHAMBERS OR WATERHAMMER ARRESTERS
C. FLOOR DRAINS
D. DOMESTIC WATER HEATERS
E. SANITARY SEWER SERVICE CONNECTIONS
F. WATER SERVICE CONNECTIONS
G. NATURAL GAS SERVICE CONNECTIONS
H. ALL CONNECTIONS TO KITCHEN EQUIPMENT.

PART 2 – PRODUCTS

2.01 FLOOR SINKS

A. FLOOR SINKS SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS OR AS REQUIRED BY CODE IN ALL SANITARY WASTE AND SEWER PIPING.

2.02 WATER HAMMER ARRESTERS

A. FIT WATER SUPPLY TO EACH FIXTURE BRANCH WITH A WATER HAMMER ARRESTOR THE SAME SIZE AS SUPPLY LINE.

2.03 FLOOR DRAINS – SEE PLUMBING FIXTURE SCHEDULE ON PLANS

2.04 DOMESTIC WATER HEATERS – SEE PLUMBING FIXTURE SCHEDULE ON PLANS

A. WATER HEATERS TO BE A.O. SMITH, AS A MINIMUM STANDARD, FOR GAS OR ELECTRIC SERVICE AS REQUIRED. INSTANTANEOUS HOT WATER UNITS ARE APPROVED FOR USE.
B. WATER HEATERS SHALL BE EQUIPPED WITH AUTOMATIC CONTROLS, SAFETY CUT-OFF DEVICES, OVERFLOW BASIN AND PRESSURE AND TEMPERATURE RELIEF VALVES PIPED TO NEAREST DRAIN IN HARD COPPER TUBING.
C. UNITS SHALL BE A.G.A. OR U.L. APPROVED.

2.05 INSTALLATION

A. BURY OUTSIDE WATER AND DRAINAGE PIPE MINIMUM 3 FEET, GAS PIPE MINIMUM 2 FEET.
B. PROVIDE NEW SANITARY SEWER SERVICES. BEFORE COMMENCING WORK, CHECK INVERT ELEVATIONS REQUIRED FOR SEWER CONNECTIONS, CONFIRM INVERTS AND ENSURE THAT THESE CAN BE PROPERLY CONNECTED WITH SLOPE FOR DRAINAGE AND COVER TO AVOID FREEZING. ADVISE ARCHITECT OF ANY PROBLEMS ENCOUNTERED.

SECTION 15450 – PLUMBING FIXTURES & TRIM

PART 1 – GENERAL

1.01 WORK INCLUDED

A. PLUMBING FIXTURES AND TRIM
B. ROUGH-IN AND CONNECT ITEMS FURNISHED BY OWNER OR OTHER EQUIPMENT SUPPLIER.

1.02 SUBMITTALS

A. SUBMIT MANUFACTURER'S PRODUCT DATA AND INSTALLATION INSTRUCTIONS IN ACCORDANCE WITH SECTION 15000.

PART 2 – PRODUCTS

SEE PLUMBING SCHEDULE FOR PRODUCT ITEM, MANUFACTURER, AND PART NUMBER.

SECTION 15771 – SPLIT SYSTEM AHU'S & HEAT PUMPS, OR ROOF TOP UNITS

1.01 GENERAL UNIT CONFIGURATION

A. PROVIDE HVAC UNITS HAVING ELECTRIC CONDENSERS (OR HEAT PUMPS IF SPECIFIED) AND ELECTRIC HEAT (IF REQ'D) IN AHU'S, OR PACKAGED RTU'S.
B. UNITS SHALL BE SELF-CONTAINED, PACKAGED, FACTORY ASSEMBLED AND PRE-WIRED, CONSISTING OF CABINET AND FRAME, SUPPLY FAN, HEAT EXCHANGER AND, CONTROLS, AIR FILTER, AND MATCHING CONDENSER OR HEAT PUMP UNIT.
C. MUST MEET THE REQUIREMENTS OF UL AND APPLICABLE CODES.
D. TEST AND RATE COOLING SYSTEMS TO ARI STANDARDS.

1.02 ACCEPTABLE MANUFACTURERS

A. MANUFACTURERS ARE CARRIER OR APPROVED EQUAL. SEE MECHANICAL EQUIPMENT SCHEDULE.

1.03 OPERATING CONTROLS

A. PROVIDE LOW VOLTAGE, MANUALLY ADJUSTABLE THERMOSTAT TO CONTROL CONDENSER OR HEAT PUMP.

1. INCLUDE SYSTEM SELECTOR SWITCH [HEAT COOL OFF] AND FAN CONTROL [ON-AUTO].
2. PROVIDE DOUBLE ACTING THERMOSTAT WITH MINIMUM 2 STAGE HEATING AND 1 STAGE COOLING
3. LOCATE THERMOSTAT IN ROOM AS SHOWN ON PLANS.

B. PROVIDE REMOTE MOUNTED FAN CONTROL SWITCH (ON-AUTO).
C. PROVIDE IN SUPPLY AIR FLOW LIMIT THERMOSTAT TO CLOSE OUTSIDE AIR DAMPER AND STOP SUPPLY FAN.
E. DISCONNECT SWITCH: NEC AND UL APPROVED NON-FUSE SWITCH SHALL PROVIDE UNIT POWER SHUT OFF. SHALL BE ACCESSIBLE FROM OUTSIDE THE UNIT AND SHALL PROVIDE POWER OFF LOCKOUT CAPABILITY.

1.04 INSTALLATION

A. MOUNT CONDENSERS (OR HEAT PUMPS) ON SLABS PER PLANS. RTU'S TO BE MOUNTED ON ROOF CURBS PER PLANS.

SECTION 15820 – AIR DISTRIBUTION EQUIPMENT

1.01 WORK INCLUDED

A. FAN ACCESSORIES
B. CEILING MOUNTED EXHAUST FANS

1.02 QUALITY ASSURANCE

A. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SECTION 15000.
B. SUBMIT WITH SHOP DRAWINGS, OPERATING POINT PLOTTED ON CURVES.
C. SUBMIT MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.

1.03 JOB CONDITIONS

A. DO NOT OPERATE FANS FOR ANY PURPOSE, TEMPORARY OR PERMANENT UNTIL DUCTWORK IS CLEAN, FILTERS IN PLACE, BEARINGS LUBRICATED AND FAN HAS BEEN RUN UNDER OBSERVATION.

1.04 ACCEPTABLE MANUFACTURERS

A. PROVIDE AND INSTALL ITEMS AS LISTED IN MECHANICAL SCHEDULE ON THE DRAWINGS.

1.05 INSTALLATION

A. INSTALL FAN PER MANUFACTURER'S REQUIREMENTS.
B. TEST, BALANCE, START UP, INSTRUCTION REFER TO SECTION 15000 1.10 AND 1.11.

SECTION 15840 – DUCTWORK & SHEET METAL

1.01 CONTRACTUAL REQUIREMENTS

A. FURNISH AND INSTALL ALL DUCTWORK FOR ALL SYSTEMS SHOWN ON THE PLANS, AND SPECIFIED UNDER THIS SECTION.

1.02 DESCRIPTION OF WORK

A. THIS SIZE, LOCATION AND QUANTITY OF ALL SHEET METAL SPECIALTIES INDICATED ON THE DRAWINGS. ITEMS SHALL BE DELIVERED TO SITE IN FIRST CLASS CONDITION, UNDAMAGED AND PROPERLY CRATED. COORDINATE LOCATION OF ALL SHEET METAL SPECIALTIES WITH OTHER TRADES ON PROJECT AS NECESSARY TO ASSURE ADEQUATE CLEARANCE, NECESSARY FRAMING FOR OPENINGS AND ACCESS DOORS IN FURRED SPACES WHERE NECESSARY TO PROVIDE ACCESS TO OPERATORS OR CONTROL RODS AND TO VERIFY ALL SHEET METAL SPECIALTIES WILL FIT INTO THE ALLOTTED SPACE BEFORE FABRICATION OR PURCHASE.
B. PROTECT ALL ITEM FROM PHYSICAL AND WEATHER DAMAGE. RUSTED OR DAMAGED PARTS ON ANY ITEM SPECIFIED UNDER THIS SECTION WILL BE CAUSE FOR REJECTION.
C. SUBMIT MANUFACTURER'S DATA ON SHEET METAL SPECIALTIES.

1.03 CODES AND STANDARDS

A. COMPLY WITH THE REQUIREMENTS AND STANDARDS OF NFPA, UL, NEC, AMCA, SMACNA, ASHRAE, ADC AND OTHER APPLICABLE CODES AND STANDARDS.

1.04 SHEET METAL

1. ALL DUCTWORK SHALL BE METAL, INCLUDING TOILET EXHAUST DUCTS EXCEPT WHERE DUCT BOARD IS NOTED. DUCTBOARD SHALL BE A MINIMUM 2" R6.0 PER SMACNA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS. ALL CLOSURE SYSTEMS SHALL MEET THE REQUIREMENTS OF UL181A.

1.05 SPECIALTIES

A. GENERAL: ALL SHEET METAL SPECIALTIES SPECIFIED HEREIN INDICATE THE LEVELS OF QUALITY AND PERFORMANCE TO BE FURNISHED. ITEMS ON JOB MUST MEET OR EXCEED THESE LEVELS.
B. TURNING VANES: USE TWO-PIECE TURNING VANES WHERE DUCT ELBOWS ARE 45 OR GREATER. TURNING VANES SHALL BE SAME MATERIAL AS DUCT AND DESIGNED FOR LOW PRESSURE DROP.
C. VOLUME EXTRACTORS: AT EACH BRANCH TAKE-OFF, PROVIDE A VOLUME EXTRACTOR ADJUSTED TO PROVIDE THE AIR FLOW TO THAT BRANCH INDICATED ON THE DRAWINGS.
D. SPLITTER DAMPERS: PROVIDE SPLITTER DAMPERS IN THE SIZE INDICATED ON THE DRAWINGS OR WHERE A MAIN TRUNK DUCT DIVIDES TO FORM TWO (2) DUCTS. SPLITTER SHALL HAVE ADJUSTABLE CONTROL ROD EXTENDED THROUGH THE SIDE OF THE DUCT. CONTROL ROD MUST BE SET IN POSITION TO DIVERT THE AIR FLOWS INDICATED WITH SET SCREW HOLDING ROD IN PLACE. PROVIDE AN ACCESS DOOR IN FURRING IF DUCT IS ENCLOSED IN FURRING.
E. FLEXIBLE CONNECTIONS: PROVIDE 6" MAX FLEXIBLE CONNECTIONS AT THE INLET AND OUTLET OF EACH PIECE OF AIR-MOVING EQUIPMENT SUCH AS FANS AND AIR HANDLERS. HOLD IN PLACE WITH AIR TIGHT COLLAR AND METAL BAND. FABRIC TO BE NON-COMBUSTIBLE AND COMPLY WITH UL STANDARDS 214 AND NFPA 90A. WEIGHT: 30 OUNCES PER SQUARE YARD.
F. VOLUME DAMPERS:

1. CONSTRUCT DAMPER FRAMES FROM GALVANIZED CHANNELS 3" X 1" X 1 1/2". FRAMES SHALL BE CORNER BRACED AND SHALL BE SIZED TO FIT THE CONSTRUCTION WHERE THEY ARE TO BE INSTALLED.
2. DAMPER BLADES SHALL BE OF THE OPPOSED-BLADE TYPE WITH EXPOSED LINKAGE. BLADES SHALL BE FABRICATED FROM 16-GAUGE GALVANIZED STEEL. BLADE WIDTHS SHALL NOT EXCEED 6" AND ALL BLADES SHALL BE FORMED WITH ½" V-GROOVES ALONG THEIR LONGITUDINAL CENTERLINE AND ALONG BOTH EDGES. FORMED-EDGE GROOVES SHALL PROVIDE FOR A ⅜" INTERLOCK BETWEEN ADJACENT BLADES. CLEARANCES BETWEEN BLADE ENDS AND SUPPORTING CHANNEL FRAMES SHALL NOT EXCEED ⅛". POLYURETHANE FOAM SEALS SHALL BE ATTACHED TO ALL BLADE EDGES AND WIND STOPS.
3. DAMPER BLADE SHAFTS OR AXLES SHALL BE 1/2" CARBON STEEL AND SHALL EXTEND COMPLETELY THROUGH THE BEARINGS. BEARINGS SHALL BE OF THE SELF LUBRICATING TYPE.
4. DAMPERS SHALL BE OPERATED BY A MANUAL LOCKING DEVICE MOUNTED ON THE EXTERIOR OF THE SHEET METAL DUCT.

1.06 GRILLES, REGISTERS AND DIFFUSERS

A. PROVIDE GRILLES, REGISTERS AND DIFFUSERS OF THE SIZES AND TYPES INDICATED ON THE DRAWINGS PLANS AND MECHANICAL SCHEDULE. ALL SUPPLY AND RETURN REGISTERS AND DIFFUSERS SHALL HAVE OPPOSED-BLADE DAMPER MATCHED TO AIR DIFFUSION DEVICE. THE STATIC PRESSURE DROP REQUIRED TO OBTAIN THE INDICATED CAPACITY SHALL NOT EXCEED 0.1" WATER GAUGE OR THAT OF THE DIFFUSION DEVICE SPECIFIED, WHICHEVER IS LESS. SEE DRAWING SCHEDULE OF GRILLES, REGISTERS AND DIFFUSERS FOR TYPE, COLOR AND ACCESSORIES. APPLY RUST-PROOFING PROCEDURE TO DEVICES BEFORE PRIME COATING.

1.07 INSTALLATION

INSTALL ALL SHEET METAL SPECIALTIES SPECIFIED HEREIN IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS AND IN ACCORDANCE WITH GOOD INDUSTRY PRACTICE. INSTALL ALL SCREWS, GASKETS, PINS, ETC., TO ASSURE A COMPLETE AND WORKING INSTALLATION. TEST ALL DAMPERS FOR PROPER OPERATION AT THE SPECIFIED CONDITIONS. REPLACE ANY DAMPERS THAT RATTLE OR PRODUCE OTHER UNDESIRABLE NOISE. ELIMINATE WHISTLE-FORM AIR DIFFUSION DEVICES IF CONDITION OCCURS. ADJUST AIR DIFFUSION DEVICES TO PROVIDE EVEN AIR FLOW WITHOUT OBJECTIONABLE DRAFTS.

1.08 DUCT DEVICES

A. FURNISH AND INSTALL ALL SPECIALTY ITEMS REQUIRED, SUCH AS BALANCE AND VOLUME REGULATORS, FIRE DAMPERS (WHERE REQUIRED), TURNING VANES, SMOKE DETECTORS AS REQUIRED BY LOCAL CODES.

SECTION 15870 – AIR OUTLETS

1.01 GENERAL

A. REFER TO MECHANICAL PLANS FOR CFM OUTLET AIR FLOW.
B. MAKE AIR FLOW TESTS AND SOUND LEVEL MEASUREMENTS IN ACCORDANCE WITH APPLICABLE ADC EQUIPMENT TEST CODES AND ASHRAE STANDARDS.
C. REFER TO MECHANICAL SCHEDULE FOR GRILLE AND ACCESSORY MANUFACTURERS.

END OF DIVISION 15.

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SPECIFICATIONS

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT CITY OF LAKE WORTH

Sheet No.
SP-1

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SECTION 16000 – ELECTRICAL GENERAL CONDITIONS

1.01 GENERAL REQUIREMENTS

A. THIS PORTION OF THE WORK IS PART OF TOTAL PROJECT AND ALL PROVISIONS OF THE PROJECT GENERAL REQUIREMENTS, CONDITIONS OF THE CONTRACT, SUPPLEMENTARY CONDITIONS AND ALL OTHER CONTRACT DOCUMENTS SHALL, ALSO APPLY TO THIS SECTION OF THE PROJECT. ALL THE PLANS AND SPECIFICATIONS ARE TO BE A PART OF THE TOTAL PROJECT AND ALL CONTRACTORS ARE HEREBY DIRECTED TO THESE PLANS AND SPECIFICATIONS FOR THE TOTAL SCOPE OF THE WORK. ANY DISCREPANCY OR DIFFERENCES BETWEEN ANY OF THESE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR INTERPRETATION.

B. THE ELECTRICAL DRAWINGS SHOW THE SCOPE AND THE GENERAL ARRANGEMENT OF ALL ELECTRICAL, EQUIPMENT, AND WIRING DEVICES AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION, SITE CONDITIONS, AND AS THE WORK OF OTHER TRADES PERMITS. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY, AND ARE NOT INTENDED TO INCLUDE ALL THE DETAILS OR DIMENSIONS SHOWN ON THE ARCHITECTURAL, STRUCTURAL, OR MECHANICAL DRAWINGS, AND CONVERSELY THE SAME; HOWEVER, EACH DRAWING IS INTENDED TO SUPPLEMENT THE OTHERS, AND THE INTERPRETATION OF THE DRAWINGS SHALL BE SUCH THAT THE ARCHITECTURAL, STRUCTURAL, MECHANICAL OR ELECTRICAL DETAILS ARE INCLUDED ON ALL THE VARIOUS DRAWINGS. FIGURED DIMENSIONS, WHERE SHOWN, SHALL TAKE PRECEDENCE OVER SCALED DRAWINGS. WHEN NO FIGURES OR DIMENSIONS ARE NOTED, THE DRAWINGS SHALL BE ACCURATELY FOLLOWED. IN THE EVENT CERTAIN DETAILS AND ITEMS NECESSARY FOR THE COMPLETE BUILDING AND TO OBTAIN THE DESIRED RESULTS ARE OMITTED FROM THE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL REQUEST INSTRUCTIONS AND INSTALL SAME. THE ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS SHOWN ON ALL OF THE DRAWINGS. GENERAL AND STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ELECTRICAL DRAWINGS. THE CONTRACTOR SHALL INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING THE WORK AND SHALL ARRANGE HIS WORK ACCORDINGLY.

C. IN THE EVENT CERTAIN DISCREPANCIES ARE DISCOVERED BETWEEN PLANS AND SPECIFICATIONS AFTER BIDDING HAS TAKEN PLACE, THE INTERPRETATION OF THE INTENDED FUNCTION WILL BE BY THE OWNER. THE CONTRACTOR SHALL BEAR THE COST OF FURNISHING AND INSTALLING THE REQUIRED MATERIAL SO AS TO PROVIDE A COMPLETE AND WORKING SYSTEM.

1.02 SUBSTITUTION CLAUSE

A. EACH ITEM SPECIFIED HEREIN SHALL REQUIRE PRIOR APPROVAL OF THE ARCHITECT FOR ANY SUBSTITUTIONS. IF ANY CONTRACTOR WISHES TO BID ON ANY EQUIPMENT OTHER THAN THE MANUFACTURERS LISTED, HE SHALL REQUEST IN WRITING APPROVAL OF SAID EQUIPMENT AT LEAST SEVEN (7) CALENDAR DAYS PRIOR TO BID DATE OR AS SET FORTH IN THE ARCHITECTURAL SPECIFICATIONS. (ARCHITECTURAL SPECIFICATIONS TAKE PRECEDENCE). ALL ITEMS SUBMITTED FOR PRIOR APPROVAL SHALL BE BOUND IN A BINDER AND ARRANGED AS OUTLINED IN SECTION 16000, 1.07 PARAGRAPHS B, C, & D.

1.03 SCOPE

ALL LABOR, MATERIAL, SERVICES AND SKILLED SUPERVISION NECESSARY FOR CONSTRUCTION, ERECTION, INSTALLATION, AND CONNECTION OF ALL CIRCUITS AND ELECTRICAL EQUIPMENT SPECIFIED HEREIN OR SHOWN ON DRAWINGS, IN FIRST CLASS MANNER. DELIVER TO OWNER UPON COMPLETION READY FOR USE IN ALL RESPECTS, THE FOLLOWING COMPLETE ELECTRICAL SYSTEM:

1. COMPLETE SECONDARY SERVICES AND BRANCH CIRCUIT WIRING
2. COMPLETE EQUIPMENT WIRING
3. ALL LIGHTING FIXTURES COMPLETE WITH LAMPS AS SPECIFIED HEREIN
4. TELEPHONE CONDUIT SYSTEM & PULL STRING
5. FIRE ALARM AND WIRING OF DEVICES INDICATED
6. ALL CONTROL WIRING FOR TEMPERATURE CONTROLS
7. ALL TEMPORARY WIRING FOR LIGHTS AND POWER DURING CONSTRUCTION
8. AUTOMATION WIRING FOR ALL EQUIPMENT SPECIFIED UNDER MECHANICAL SECTION
9. ALL EMPTY RACEWAYS AS SHOWN ON PLANS WITH PULL STRING
10. PUBLIC ADDRESS OR MUSIC SYSTEMS
11. RELOCATION OF ANY EXISTING ELECTRICAL EQUIPMENT AS REQUIRED

FAILURE TO MENTION ANY SPECIFIC ITEMS NECESSARY FOR A COMPLETE SYSTEM SHALL NOT EXCUSE THE CONTRACTOR FROM FURNISHING AND INSTALLING SAME.

1.04 CODES AND STANDARDS

ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES, INDUSTRY STANDARDS, LATEST EDITION OF THE NEC, AND UTILITY COMPANY REGULATIONS. IN NO CASE WILL WORK OR MATERIALS INFERIOR TO THESE SPECIFICATIONS BE ACCEPTED EVEN IF PERMITTED BY CODE.

A. IN CASES OF DIFFERENCE BETWEEN BUILDING CODES, SPECIFICATIONS, STATE LAWS, LOCAL ORDINANCES, INDUSTRY STANDARDS AND UTILITY COMPANY REGULATIONS AND THE CONTRACT DOCUMENTS, THE MOST STRINGENT WILL GOVERN.

1.05 COORDINATION

A. THE ELECTRICAL WORK SHALL BE COORDINATED WITH THE REQUIREMENTS OF THESE SPECIFICATIONS, AND ALSO WITH THE REQUIREMENTS OF THE OTHER DIVISIONS AND WITH ALL OF THE DRAWINGS FOR THE ENTIRE PROJECT. THE ELECTRICAL WORK SHALL BE ACCOMPLISHED ON SUCH A SCHEDULE AND IN SUCH A MANNER AS NOT TO DELAY NOR INTERFERE WITH OTHER CONSTRUCTION WORK.

B. THE CONTRACTOR SHALL PROMPTLY REPORT TO THE OWNER ANY DELAY OR DIFFICULTIES ENCOUNTERED IN THE INSTALLATION OF HIS WORK WHICH MIGHT PREVENT PROMPT AND PROPER INSTALLATION OF HIS WORK OR MAKE IT UNSUITABLE TO CONNECT OR RECEIVE THE WORK OF OTHERS. HIS FAILURE TO SO REPORT SHALL CONSTITUTE AN ACCEPTANCE OF THE WORK OF THE CONTRACTOR AS BEING FIT AND PROPER FOR THE RECEPTION OF HIS WORK.

C. THE CONTRACTOR SHALL CAREFULLY LAY OUT HIS WORK ON THE PREMISES AND MAKE PROPER PROVISION FOR THE OTHER WORK. OFFSETS SHALL BE MADE WHEREVER IT IS NECESSARY TO CLEAR FINISH ROOMS, STRUCTURAL MEMBERS, OR OTHER OBSTRUCTIONS. THE CONTRACTOR SHALL CAREFULLY PLAN HIS WORK SO AS TO MINIMIZE THE NUMBER OF OFFSETS REQUIRED.

D. THE CONTRACTOR SHALL ALSO CAREFULLY COORDINATE THE LOCATION OF ALL EQUIPMENT CONDUIT RUNS, FLOOR AND WALL PENETRATIONS, ETC., WITH THE INSTALLATION OF WORK IN DIVISION 15000 AND OTHER SECTIONS OF THESE SPECIFICATIONS. ANY WORK INSTALLED BY THE CONTRACTOR WITHOUT CONSIDERING EQUIPMENT, DUCTWORK, PIPING, ETC., OF OTHER TRADES, SHALL BE CHANGED OR RELOCATED AS REQUIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THIS INCLUDES ALL ELECTRICAL DEVICES, SWITCHES, RECEPTACLES, PHONE/COMMUNICATION OUTLETS, ETC. THAT ARE MOUNTED IN WALLS ABOVE OR AROUND CABINETS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY FINAL LOCATION AND MOUNTING HEIGHTS WITH ARCHITECTURAL CASEWORK/INTERIOR ELEVATIONS/DETAILS. WHERE APPLICABLE, THE CONTRACTOR SHALL ALSO VERIFY WITH THE OWNER OR OWNER'S REPRESENTATIVE FOR ANY SPECIFIC CONDITIONS OR REQUIREMENTS FOR ELECTRICAL DEVICES MENTIONED ABOVE.

E. ALL ELECTRICAL SERVICE AND TELEPHONE SERVICE REQUIREMENTS SHALL BE COORDINATED BY THE CONTRACTOR AS SHOWN ON PLANS AND CONFIRMED WITH THE UTILITY COMPANY BY THE CONTRACTOR TO ENSURE THAT UTILITIES ARE ACCEPTED BY THE UTILITY COMPANY IT CONCERNS.

1.06 INSTALLATION AND ARRANGEMENT

A. THE CONTRACTOR SHALL ARRANGE CONDUITS, RACEWAYS AND ELECTRICAL EQUIPMENT TO PERMIT READY ACCESS TO COMPONENTS AND TO CLEAR THE OPENING TO SWINGING AND OVERHEAD DOORS AND OF ACCESS PANELS. THIS ALSO INCLUDES THE INSTALLATION OF ALL SERVICE DISCONNECTS AT MECHANICAL EQUIPMENT. THE CONTRACTOR SHALL MOUNT SERVICE DISCONNECTS ON AN ADJACENT WALL OR NON-REMOVABLE PANELS TO ALLOW REMOVABLE PANELS TO BE REMOVED FOR FUTURE SERVICING OF EQUIPMENT.

1.07 TEMPORARY LIGHT AND POWER

A. THE CONTRACTOR SHALL PROVIDE TEMPORARY FEEDERS OF SUFFICIENT CAPACITY FROM LOCAL BUILDING SERVICES OR FROM THE LOCAL UTILITY COMPANY AS APPLICABLE TO TAKE CARE OF THE ELECTRIC REQUIREMENTS FOR THE BUILDING DURING CONSTRUCTION. BASE TEMPORARY LIGHTS ON 200 WATT LAMPS PER 1,000 SQUARE FEET FLOOR SPACE. MOTORS UP TO $\frac{1}{2}$ HP, 120 VOLT ONLY PROVIDED FOR. INSTALL SUFFICIENT WIRING AND OUTLETS TO INSURE PROPER LIGHTING CORRIDORS. NECESSARY TRANSFORMERS, METERS, CABLES, PROTECTIVE DEVICES, SWITCHES, ETC. PROVIDED AS REQUIRED. PROVIDE SUFFICIENT NUMBER OF OUTLETS SO THAT EXTENSION CORDS OF NOT OVER 50 FT. WILL REACH ALL WORK REQUIRING LIGHT AND POWER. CONTRACTORS OF OTHER TRADES TO FURNISH THEIR OWN EXTENSION CORDS AND LAMPS AND SHALL PAY FOR THE COST OF WIRING OF CONSTRUCTION OFFICES USED BY THEM. GENERAL CONTRACTOR TO PAY FOR THE COST OF ENERGY CONSUMED BY ALL TRADES, INCLUDING THE COST OF LAMP REPLACEMENT. ANY TEMPORARY WIRING OF SPECIAL NATURE FOR LIGHT SHALL BE PAID FOR BY THE CONTRACTOR USING SAME. TEMPORARY CONNECTIONS SHALL BE SAFE AND IN ACCORDANCE WITH NEC AND OSHA.

1.08 RECORD DRAWINGS ("AS-BUILTS")

A. RECORD DRAWINGS – THE CONTRACTOR SHALL FURNISH TO THE OWNER AND ARCHITECT RECORD DRAWINGS SHOWING CONDUIT SYSTEMS WHERE APPLICABLE. CONDUIT SIZES, REROUTING, ETC., FOR UNDER FLOOR CONDUITS SHALL BE SHOWN. ALSO PROVIDE A REPRODUCIBLE TRACING OF THE SITE PLAN SHOWING POWER, TELEPHONE, CABLE, TV, SITE LIGHTING, ETC. IN ADDITION TO THESE DRAWINGS, A COMPLETE SET OF DRAWINGS FOR FIRE ALARM AND COMMUNICATION SYSTEM.

B. TYPEWRITTEN OR NEATLY HAND WRITTEN PANEL SCHEDULES SHALL BE PROVIDED FOR PANELBOARDS INDICATING THE LOADS SERVED AND THE CORRECT BRANCH CIRCUIT NUMBER, AS INSTALLED. ALSO LEAVE LEGIBLE CIRCUIT CARD IN POCKET OF BREAKER PANEL DOOR.

1.09 EQUIPMENT AND MATERIALS

ALL MATERIALS SHALL BE NEW AND SHALL BEAR THE MANUFACTURER'S NAME, TRADE NAME AND THE UL LABEL IN EVERY CASE WHERE A STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR MATERIAL. THE EQUIPMENT TO BE FURNISHED UNDER EACH SECTION OF THE SPECIFICATIONS SHALL BE ESSENTIALLY THE STANDARD PRODUCT OF A UNITED STATES OF AMERICA MANUFACTURER REGULARLY ENGAGED IN THE PRODUCTION OF THE REQUIRED TYPE OF EQUIPMENT AND SHALL BE THE MANUFACTURER'S LATEST AND APPROVED DESIGN.

A. DELIVERY AND STORAGE: EQUIPMENT AND MATERIALS SHALL BE DELIVERED TO THE SITE AND STORED IN ORIGINAL CONTAINERS, SUITABLY SHELTERED FROM THE ELEMENTS, BUT READILY ACCESSIBLE FOR INSPECTION UNTIL INSTALLED. ALL ITEMS SUBJECT TO MOISTURE DAMAGE SHALL BE STORED IN DRY, HEATED SPACES.

B. EQUIPMENT AND MATERIALS OF THE SAME GENERAL TYPE SHALL BE OF THE SAME MAKE THROUGH THE WORK TO PROVIDE UNIFORM APPEARANCE, OPERATION AND MAINTENANCE.

C. PROTECTION OF WORK: THE CONTRACTOR SHALL TAKE PRECAUTIONS AT ALL TIMES TO PROPERLY PROTECT THE ELECTRICAL EQUIPMENT FROM DAMAGE. UNINSTALLED EQUIPMENT SHALL REMAIN CRATED AND COVERED WITH CANVAS OR HEAVY PLASTIC TARPAULINS UNTIL INSTALLED. EQUIPMENT THAT IS BEING INSTALLED, OR HAS BEEN INSTALLED, SHALL BE PROTECTED AGAINST DIRT, WATER, CONSTRUCTION DEBRIS, WEATHER, THEFT, AND CHEMICAL OR MECHANICAL DAMAGE. ALL DAMAGED EQUIPMENT SHALL BE REPAIRED AND/OR REPLACED. AT THE COMPLETION OF THE WORK, ALL FIXTURES, EQUIPMENT, AND MATERIALS SHALL BE THOROUGHLY CLEANED AND POLISHED. THE CONTRACTOR SHALL REPAIR AND CORRECT, AT HIS OWN EXPENSE, ALL DAMAGES AND DEFECTS WHICH DEVELOP BEFORE THE WORK IS ACCEPTED BY THE OWNER.

D. SAFETY WARNING SIGNS SHALL BE FURNISHED AND INSTALLED AT ALL ELECTRICAL EQUIPMENT AND SWITCHGEAR.

E. DIMENSIONS: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT ITEMS TO BE FURNISHED FIT THE SPACE AVAILABLE. HE SHALL MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS, AND SHALL FURNISH AND INSTALL SIZES AND SHAPES OF EQUIPMENT SO THAT THE FINAL INSTALLATION SHALL SUIT THE TRUE INTENT AND MEANING OF THE DRAWINGS AND SPECIFICATIONS.

F. MANUFACTURER'S DIRECTIONS SHALL BE FOLLOWED COMPLETELY IN DELIVERY, STORAGE, PROTECTION AND INSTALLATION OF ALL EQUIPMENT AND MATERIALS. THE CONTRACTOR SHALL PROMPTLY GIVE NOTICE IN WRITING OF ANY CONFLICT BETWEEN ANY REQUIREMENT OF THE CONTRACT DOCUMENTS AND THE MANUFACTURER'S DIRECTIONS AND SHALL OBTAIN THE WRITTEN INSTRUCTION BEFORE PROCEEDING WITH THE WORK. SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE MANUFACTURER'S DIRECTIONS OR SUCH WRITTEN INSTRUCTIONS, HE SHALL BEAR ALL COSTS ARISING IN CORRECTING THE DEFICIENCIES.

1.10 EQUIPMENT ACCESSORIES

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT, ACCESSORIES, CONNECTIONS, AND INCIDENTAL ITEMS NECESSARY TO FULLY COMPLETE THE WORK, READY FOR USE, OCCUPANCY AND OPERATION BY THE OWNER.

A. WHERE EQUIPMENT REQUIRING DIFFERENT ARRANGEMENT OF CONNECTIONS FROM THOSE SHOWN OR APPROVED, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL THE EQUIPMENT TO OPERATE PROPERLY AND IN HARMONY WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL MAKE ALL INCIDENTAL CHANGES IN HEATERS, PANELBOARD, CONDUIT, WIRING, ETC. HE SHALL PROVIDE ANY ADDITIONAL MOTORS, CONTROLLERS, AND OTHER ADDITIONAL EQUIPMENT REQUIRED FOR THE PROPER OPERATION OF THE SYSTEM RESULTING FROM THE SELECTION OF EQUIPMENT, INCLUDING ALL REQUIRED CHANGE IN AFFECTED TRADES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LOCATION OF ROUGHING-IN AND CONNECTIONS. SUCH CHANGES SHALL BE MADE AT NO INCREASE IN THE CONTRACT AMOUNT OR ADDITIONAL COST TO THE OTHER TRADES.

B. ANCHORS, BOLTS, AND SCREWS: SECURELY FASTEN CONDUIT STRAPS, CUTOUT SWITCHES, ETC., TO WALLS, SLABS, ETC., WITH CADMIUM PLATED SCREWS AND ACKERMAN-JOHNSON LEAD CINCH ANCHORS, EXPANSION BOLTS OR APPROVED EQUAL ANCHORS, FITTED IN HOLES DRILLED WITH STAR DRILL, AND FOR MORE SEVERE SERVICES, USE LEAD CINCH ANCHOR BOLTS OR APPROVED MANUFACTURER. FOR EXPOSED WORK, USE CADMIUM PLATED BOLTS. WOOD PLUGS WILL NOT BE ACCEPTED.

1.11 ELECTRICAL WORKMANSHIP

WHEREVER EQUIPMENT REQUIRING ELECTRICAL CONNECTION IS SPECIFIED, ALL WORKMANSHIP AND MATERIALS SHALL CONFORM WITH THE REQUIREMENTS OF THE ELECTRICAL SECTION OF THE SPECIFICATIONS. ALL DISCONNECT SWITCHES, STARTERS, PUSH BUTTON STATIONS, AND HAND-OFF AUTO SWITCHES SHALL BE FURNISHED, INSTALLED AND WIRED BY THE CONTRACTOR EXCEPT WHERE LISTED SPECIFICALLY TO BE FURNISHED WITH THE ITEM OF EQUIPMENT IT CONTROLS, IN WHICH CASE THE CONTRACTOR SHALL MOUNT AND WIRE COMPLETELY. ADDITIONAL DISCONNECTS REQUIRED BY THE ELECTRICAL CODE SHALL BE FURNISHED, INSTALLED AND CONNECTED UNDER THE ELECTRICAL SECTION OF THE SPECIFICATIONS.

A. COORDINATION: THE CONTRACTOR SHALL CHECK THE MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS TO ASSURE THE PROPER LOCATION AND ELECTRICAL SERVICE CHARACTERISTICS TO THE INDIVIDUAL OUTLETS SERVING MECHANICAL AND ELECTRICAL EQUIPMENT AND SHALL REQUEST APPROVAL OF ANY REQUIRED MODIFICATION TO SUIT THE ACTUAL EQUIPMENT TO BE FURNISHED.

B. IDENTIFICATION FOR ELECTRICAL EQUIPMENT AND CIRCUITS SHALL BE PROVIDED AND FURNISHED UNDER THIS SECTION, USING ITEM NUMBERS AND NOMENCLATURE AS SHOWN ON THE ELECTRICAL DRAWINGS, OR AS INSTRUCTED BY THE ARCHITECT.

1. ALL SWITCHGEAR, DISTRIBUTION PANELBOARDS, TRANSFORMERS, PANELBOARDS, DISCONNECTS, ASSOCIATED MOTOR STARTERS, CONTACTORS, AND TIME CLOCKS FURNISHED BY THE CONTRACTOR SHALL BE IDENTIFIED, BY NAMEPLATES INDICATING DESIGNATED LEGEND, VOLTAGE AND PHASE AND SHALL BE SECURELY FASTENED TO THE EQUIPMENT.

1.12 SYSTEM OPERATING TESTS

A. NECESSARY TESTS AND ADJUSTMENTS: ALL NECESSARY TESTS AND ADJUSTMENTS FOR THE PROPER OPERATION OF THE ELECTRICAL SYSTEM SHALL BE PERFORMED BY THE CONTRACTOR WITH INSTRUMENTS FURNISHED BY HIM FOR THIS PURPOSE. THE TEST RESULTS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT FOR REVIEW AND APPROVAL.

1.13 INSTRUCTIONS TO OWNER

THE CONTRACTOR SHALL INSTRUCT THE OPERATING PERSONNEL OF THE OWNER IN THE PROPER OPERATION AND MAINTENANCE OF ALL ELEMENTS OF THE ELECTRICAL SYSTEMS.

1.14 OPERATING AND MAINTENANCE MANUALS

SPARE PARTS LISTS, OPERATING INSTRUCTIONS, MANUFACTURER'S RECOMMENDED PREVENTATIVE MAINTENANCE INSTRUCTIONS AND SPECIFICATIONS SHEETS FOR EACH ITEM OF THE ELECTRICAL EQUIPMENT SHALL BE SUBMITTED, IN TRIPLICATE, BY THE CONTRACTOR AT THE PAY APPLICATION FOR 75% COMPLETION. ALL PAYMENT REQUEST OVER 75% WILL BE DENIED UNTIL THIS INFORMATION IS RECEIVED.

SECTION 16111 – CONDUITS

1.01 GENERAL

A. ALL WIRES AND CABLES SHALL BE RUN IN CONDUIT, WHICH SHALL BE STANDARD HEAVY WALL, INTERMEDIATE, OR ELECTRIC METALLIC TUBING (EMT). RIGID PVC CONDUIT MAY BE USED FOR UNDERGROUND WORK IF APPROVED BY LOCAL CODE.

1.02 PRODUCTS

A. RIGID CONDUIT: THICK WALL HOT-DIPPED GALVANIZED, ASA STANDARD SPECIFICATION NO. C80-1, ENAMELED INSIDE AND OUT JOINTS SHALL BE WATERTIGHT THREADED TYPE WITH APPROVED SEALANT APPLIED TO MALE THREADS.

B. ELECTRIC METALLIC TUBING (EMT): ELECTRO-GALVANIZED, ANSI STANDARD SPECIFICATION NO. C80-3, ENAMELED INSIDE AND OUT. FITTINGS SHALL BE ALL STEEL COMPRESSION TYPE AS MANUFACTURED BY T & B.

C. RIGID STEEL AND EMT CONDUITS AS MANUFACTURED BY YOUNGSTOWN, TRIANGLE, GENERAL ELECTRIC, NATIONAL, REPUBLIC, OR ALLIED.

D. SCHEDULE 40 PVC CONDUIT, USED FOR UNDERGROUND INSTALLATION, SHALL BE AT LEAST 2 FEET BELOW FINISH GRADE. ALL JOINTS SHALL BE WATERTIGHT. WHERE STUBBED UP THROUGH FLOOR, SLAB OR ABOVE GRADE, A 90' RIGID GALVANIZED ELBOW SHALL BE USED WITH RIGID GALVANIZED STUB UP TO 2 INCHES ABOVE GRADE. A BARE GROUND WIRE TO MEET CODE REQUIREMENTS SHALL BE INSTALLED WITH ALL CIRCUITS PULLED INTO PVC CONDUITS. CONDUIT SHALL BE AS MANUFACTURED BY CARLON. JOINT SEALANT SHALL BE AS PER MANUFACTURER'S RECOMMENDATION FOR SPECIAL PIPE.

E. CONDUIT SUPPORTS: ALL CONDUITS SHALL BE SECURED IN PLACE WITH APPROVED STRAPS, HANGER, OR CLAMPS PER NEC. NO WIRE FOR SUPPORT WILL BE ALLOWED.

F. FLEXIBLE CONDUIT: CONDUIT CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT SHALL BE MADE WITH 18-INCH MAXIMUM OF TYPE U.S. GRAY LIQUID AND TIGHT NEOPRENE JACKETED FLEXIBLE CONDUIT AS MANUFACTURED BY ANACONDA. FITTINGS SHALL BE LIQUID TIGHT INSULATED THROAT TYPE AS MANUFACTURED BY T. & B. BX WILL NOT BE PERMITTED.

1.03 INSTALLATION

A. CONDUITS INSTALLED IN OR UNDER CONCRETE OR BELOW GRADE SHALL BE THICK WALL PVC (SCH. 40) OR RIGID STEEL IF REQUIRED BY LOCAL CODES. SERVICE CONDUITS EXPOSED SHALL BE RIGID STEEL.

B. ALL POWER AND LIGHTING CONDUITS IN BUILDING SHALL BE EMT UNLESS OTHER TYPE IS REQUIRED BY LOCAL CODES.

C. USE FACTORY ELBOWS FOR 1 ½" CONDUIT AND LARGER.

D. WHERE FLEXIBLE CONDUIT IS USED FROM OUTLET BOXES TO LIGHTING FIXTURES, USE 1/2" INCH FLEXIBLE METAL CONDUIT WITH AN APPROVED GROUNDING CONNECTOR. MC CABLE WITH APPROVED GROUNDING CONDUCTOR IS ALLOWED.

E. QUANTITY OF CONDUCTORS IN CONDUIT, PER NEC.

F. REAM AND CLEAN CONDUIT BEFORE INSTALLATION AND PLUG OPENINGS AND BOXES TO KEEP THEM CLEAN DURING CONSTRUCTION.

G. ALL EXPOSED CONDUIT SHALL RUN NEATLY AT RIGHT ANGLES, PLUMB AND PARALLEL TO WALLS. ALIGN CONDUIT TERMINATIONS AT PANELBOARDS, SWITCHBOARDS, JUNCTION BOXES, ETC., AND INSTALL PLUMB. PROVIDE SUPPORTS AS REQUIRED TO HOLD ALIGNMENT.

H. CONDUITS SHALL BE NEATLY GROUPED WHERE SEVERAL LINES FOLLOW A PARALLEL COURSE. THEY SHALL BE WALL SUPPORTED, USING RING OR TRAPEZE-TYPE HANGERS. PERFORATED STRAP HANGERS OR TWISTED WIRE SHALL NOT BE ACCEPTED. HANGERS SHALL BE INSTALLED ON ALL CONDUIT RUNS AND SHALL NOT EXCEED 8'-0" ON CENTER.

SECTION 16120 – WIRES AND CABLES

1.01 GENERAL

A. ALL WIRES SHALL BE NEW SOFT DRAWN, ANNEALED COPPER HAVING CONDUCTIVITY NOT LESS THAN 98% OF PURE COPPER AND WITH 600V THERMO-PLASTIC INSULATION. WIRE SHALL CONFORM TO THE LATEST REQUIREMENT OF THE NEC, MEET ASME AND ANSI SPECIFICATIONS AND SHALL BE STANDARD AWG SIZE.

1.02 PRODUCTS

A. LIGHTING AND RECEPTACLE, BRANCH MOTOR POWER AND PANEL FEEDERS CIRCUITS SHALL HAVE TYPE THHN/THWN/MTW (90' C) INSULATION BUILDING WIRE. ALL CONDUCTORS INSTALLED IN DAMP OR WET LOCATIONS OR UNDER GRADE SHALL HAVE INSULATION MEETING NEC. ALL WIRING INSTALLED IN HIGH-TEMPERATURE AREAS SHALL HAVE TYPE AVA INSULATION.

B. ALL STRANDED CONDUCTORS SHALL BE FURNISHED WITH FINISHED FORGED COPPER CONNECTING LUGS, DRILLED OR REAMED THE FULL DIAMETER OF BASE CONDUCTORS.

C. ALL MAINS AND FEEDERS ARE TO RUN THE ENTIRE LENGTH IN CONTINUOUS PIECES WITHOUT JOINTS OR SPLICES. JOINTS IN BRANCH CIRCUITS SHALL OCCUR ONLY AT OUTLETS AND J BOXES WITH NO SPLICES OR TAPS IN CONDUITS.

D. PHASE COLORS PER ELECTRICAL STANDARDS.

E. AC, MC, BX CABLES PERMITTED AS ALLOWED BY LOCAL CODE. MC CABLE ALLOWED FOR TERMINATING LIGHTING FIXTURES IN SUSPENDED CEILINGS,

SECTION 16130 – OUTLET BOXES

1.01 GENERAL

A. EACH OUTLET SHALL BE PROVIDED WITH A ONE-PIECE, STAMPED ELECTRO-GALVANIZED STEEL OUTLET BOX PROVIDED WITH 3/8-INCH MALLEABLE IRON FIXTURE STUDS AND BOX HANGERS WHERE REQUIRED.

1.02 PRODUCTS

A. LIGHTING OUTLETS SHALL BE STANDARD 4-INCH OUTLET BOXES PROVIDED WITH $\frac{3}{8}$-INCH MALLEABLE IRON FIXTURE STUDS AND BOX HANGERS WHERE REQUIRED.

B. SWITCH AND RECEPTACLE OUTLETS LOCATED IN WALLS SHALL BE STANDARD SINGLE OR GANGED 4-INCH BOXES WITH COVERS AS REQUIRED FOR CONCEALED WORK.

C. BOXES SHALL BE MANUFACTURED BY APPLETON ELECTRIC CO., UNIVERSAL, RACO, NATIONAL ELECTRIC PRODUCTS, OR STEEL CITY.

SECTION 16131 – PULL AND JUNCTION BOXES

1.01 GENERAL

A. FURNISH AND INSTALL JUNCTION OR PULL BOXES IN THE RACEWAY SYSTEM WHERE NECESSARY TO FACILITATE CONDUCTOR INSTALLATION.

1.02 PRODUCTS

A. ALL BOXES SHALL BE MADE OF GALVANIZED STEEL, GAUGE AND PHYSICAL SIZE AS REQUIRED BY THE NEC FOR THE NUMBER AND SIZE OF CONDUITS AND CONDUCTORS INVOLVED. BOXES SHALL HAVE REMOVABLE SCREW COVERS FOR INSTALLATION AS INDICATED ON THE PLANS.

1.03 INSTALLATION

A. BOX SHALL BE SECURELY MOUNTED WITH SUPPORTS INDEPENDENT OF THE CONDUITS ENTERING OR LEAVING THE BOXES.

SECTION 16140 – WIRING DEVICES

1.01 GENERAL

A. PROVIDE EACH SWITCH AND RECEPTACLE OUTLET UNLESS OTHERWISE NOTED OR HEREIN SPECIFIED WITH UNDERWRITER'S APPROVED SPECIFICATION GRADE DEVICES AS LISTED BELOW:

1.02 PRODUCTS

CATALOG NUMBERS ARE HARVEY HUBBELL CO., UNLESS NOTED OTHERWISE.

A. WALL SWITCHES

	120/277V, 20A
S.P. ROCKER SWITCH, 120/277V WITH PILOT LIGHT	2121 IL
S.P. ROCKER SWITCH, 120/277V WITH PILOT LIGHT	2123 IL
SLIDING DIMMER SWITCH, 1000W	AS11103
FRACTIONAL H.P. (MAN. MOTOR STARTER)	30311A

B. RECEPTACLES

TYPE	
DUPLEX 125V/15A (5-15R)	5252-1
W.P. DUPLEX 125v/15A	5252 W/ DUPLEX LIFT COVER
SPECIAL OUTLETS	AS INDICATED ON PLANS
GFCI TYPE	GF5252-I

C. DEVICE PLATES: ALL SWITCHES AND RECEPTACLES SHALL BE EQUIPPED WITH SMOOTH NYLON PLATES. WHERE UNITS ARE GROUPED TOGETHER, THEY SHALL BE UNDER ONE COMMON PLATE. COLOR PER ARCHITECTURAL SPECIFICATIONS. PLATES SHALL BE STAINLESS STEEL IN ALL KITCHEN AREAS OF RESTAURANTS.

D. THE ABOVE SPECIFIED DEVICES ARE HUBBELL AND CONSTITUTE THE QUALITY AND TYPE OF DEVICES. COMPARABLE DEVICES AS MANUFACTURED BY P & S, WOODHEAD, & ARROW HART WILL BE ACCEPTABLE.

1.03 INSTALLATION

A. MOUNT SWITCHES 48" ABOVE FLOOR TO CENTERLINE OF BOX.

B. COORDINATE SWITCH MOUNTING LOCATION WITH DETAILS.

C. IN GENERAL, MOUNT WALL RECEPTACLES 12" ABOVE FLOOR.

SECTION 16170 – DISCONNECT SAFETY SWITCHES

1.01 GENERAL

A. PROVIDE AND INSTALL ALL CIRCUIT DISCONNECT SWITCHES AS INDICATED ON PLANS AND SPECIFIED HEREIN

1.02 PRODUCTS

A. DISCONNECT SWITCHES SHALL BE TYPE H.D. HEAVY DUTY, QUICK-MAKE QUICK-BREAK HORSEPOWER RATED, AND IN NEMA-1 ENCLOSURE. UNITS IN OUTDOOR LOCATIONS SHALL BE NEMA-3R ENCLOSURES.

B. UNITS SHALL HAVE VISIBLE CIRCUIT CONDITION IDENTIFICATION AND SHALL BE COVER INTERLOCKED. PROVISIONS SHALL BE MADE FOR PADLOCKING THE HANDLE IN THE "OFF" OR "ON" POSITION.

C. ALL FUSED UNITS SHALL BE EQUIPPED WITH FUSETRON CARTRIDGE FUSES AS MANUFACTURED BY BUSSMAN MANUFACTURING.

D. ALL SWITCHES THROUGHOUT SHALL BE OF THE SAME MANUFACTURER AND SHALL HAVE U.L. LABEL. UNITS SHALL BE AS MANUFACTURED BY GENERAL ELECTRIC, SQUARE "D", EATON OR SIEMENS.

SECTION 16401 – TEMPORARY ELECTRICAL SERVICES

1.01 GENERAL

A. CONTRACTOR SHALL HAVE RESPONSIBILITY FOR THE BASIC TEMPORARY WIRING, ALONG WITH MAINTENANCE THROUGHOUT THE DURATION OF THE PROJECT. BASIC TEMPORARY WIRING SHALL INCLUDE LIGHTING, POWER AND WIRING REQUIREMENTS FOR TEMPORARY CONSTRUCTION USE. IT IS NOT TO FORESEE ALL THE USAGE FOR TEMPORARY; HENCE, ONLY THE BASIC ITEMS SHOULD BE INVOLVED AND IF ADDITIONAL POWER OR LIGHTING IS REQUIRED, THEN THOSE REQUIRING SAME SHALL MAKE PROVISIONS FOR TEMPORARY LIGHTING AS REQUIRED TO PERFORM THEIR OWN WORK.

1.02 PRODUCTS

A. ALL UTILITY CHARGES OR ELECTRICAL USE SHALL BE PAID BY OTHERS.

B. THE CHARGES BY THE UTILITY COMPANY FOR PROVIDING SERVICE CONNECTIONS SHALL BE INCORPORATED AS A PART OF THESE SPECIFICATIONS AND SHALL BE PAID BY THE ELECTRICAL CONTRACTOR.

C. THE TEMPORARY SERVICE SHALL BE 200 AMPERE, 1 PHASE, 3 WIRE MINIMUM IN LOCATIONS AS REQUIRED. THE ELECTRICAL SERVICE AND SERVICING EQUIPMENT SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND THE REQUIREMENTS OF THE SERVICING UTILITY COMPANY.

D. RECEPTACLES SHALL BE SPACES SO THAT ALL PARTS OF THE WORK AREA MAY BE REACHED BY A 50-FOOT EXTENSION CORD FOR 120 VOLT APPLIANCES, AND 100 FOOT EXTENSION CORD FOR 208 VOLT OR 240 VOLT EQUIPMENT. DISTANCES FOR LENGTH OF EXTENSION CORDS SHALL BE MEASURED HORIZONTALLY ALONG FLOOR LINES. THESE APPLIANCE CIRCUITS SHALL BE LIMITED TO 20 AMPERE.

1.03 INSTALLATION

A. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING, AND REMOVING THE TEMPORARY LIGHTING AND POWER WIRING AS HEREIN DESCRIBED. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ONLY THIS AMOUNT OF WORK AND IF ADDITIONAL TEMPORARY WIRING IS REQUIRED BY ANY CONTRACTOR, THEN THE COST OF SAME SHALL BE BORNE BY THOSE REQUIRING ADDITIONAL WIRING.

B. ADEQUATE LIGHTING SHALL BE PROVIDED IN PASSAGEWAYS AND STAIRWAYS. ARTIFICIAL ILLUMINATION, WHEN REQUIRED, SHALL BE AS PER O.S.H.A. REQUIREMENTS.

C. PROVIDE GROUND-FAULT CIRCUIT PROTECTION IN ACCORDANCE WITH N.E.C.

SECTION 16450 – GROUNDING

1.01 GENERAL

A. THE IDENTIFIED (WHITE) NEUTRAL AND THE COMPLETE CONDUIT SYSTEM SHALL BE EFFECTIVELY GROUNDED PER ARTICLE 250 OF NEC. IDENTIFIED NEUTRAL SHALL BE RUN IN CONDUIT WITH OTHER CONDUCTORS AND SHALL BE INSULATED COPPER.

1.02 PRODUCTS

A. ALL GROUNDING CONDUCTORS SHALL BE GREEN AND INDICATED WHEN REQUIRED AS MARKED ON CONDUIT RUNS. THE GROUND WIRE SHALL BE INSULATED COPPER. GROUNDING CLAMPS SHALL BE OF THE APPROVED TYPE AND GROUND CONNECTIONS SHALL BE SUCH THAT RESISTANCE WILL NOT INCREASE WITH PASSAGE OF TIME. MAXIMUM GROUND RESISTANCE SHALL NOT EXCEED 5 OHMS.

1.03 INSTALLATION

A. FOLLOWING ARE INCLUDED AS REQUIRED GROUNDED: ELECTRIC SERVICE, ITS EQUIPMENT AND ENCLOSURES: CONDUITS AND OTHER CONDUCTOR ENCLOSURES, NEUTRAL OR IDENTIFIED CONDUCTORS OF WIRING SYSTEM: MAIN SWITCH, POWER AND LIGHTING PANELBOARDS, TRANSFORMERS, NONCURRENT-CARRYING METAL PARTS OF FIXED EQUIPMENT SUCH AS MOTORS, STARTERS, CONTROLLERS AND LIGHTING FIXTURES.

SECTION 16471 – PANELBOARDS

1.01 GENERAL

A. CONTRACTOR SHALL FURNISH AND INSTALL ALL DISTRIBUTION POWER AND LIGHTING PANELBOARDS AS HEREIN AFTER DESCRIBED AND AS SCHEDULED ON PLANS. ALL PANELBOARDS SHALL BE DEAD-FRONT TYPE, MANUFACTURED IN ACCORDANCE WITH THE LATEST NEMA STANDARDS AND BEAR THE UL LABEL.

1.02 PRODUCTS

A. PANELBOARDS SHALL BE MOUNTED IN CODE GAUGE GALVANIZED SHEET STEEL CABINETS WITH A 4-INCH MINIMUM GUTTER SPACE ON ALL SIDES. CABINETS SHALL BE EQUIPPED WITH ADJUSTABLE MOUNTING STUDS AND TRIM CLAMPS. FRONTS TO INCLUDE PAINTED STEEL FRAME, SEMI-CONCEALED HINGED DOOR WITH FLUSH CHROME-PLATED COMBINATION CYLINDER LOCK AND CATCH, ALL KEYED ALIKE. DOOR SHALL BE EQUIPPED WITH DIRECTORY FRAME AND CARDS COMPLETELY TYPEWRITTEN OUT FOR PROPER BRANCH CIRCUIT IDENTIFICATION AND PLASTIC COVER. PANEL FRONTS SHALL BE FINISHED WITH ONE COAT OF BONDRIZED, ONE COAT OF PRIMER AND SURFACER, AND ONE COAT OF GRAY LACQUER FINISH.

B. PANEL INTERIORS SHALL BE RIGIDLY MOUNTED ON STEEL SUPPORTS WITH SELF-SUPPORTING BUS-BAR STRUCTURE ON INSULATING BASES. ALL INDIVIDUAL BRANCHES SHALL BE REMOVABLE WITHOUT DISTURBING ADJACENT UNITS, BUSSING OR CONNECTORS. BRANCHES SHALL BE CHANGEABLE WITHOUT ALTERING BUSSING. ALL TERMINALS SHALL BE OF THE SOLDERLESS ANTI-TURN TYPE SUITABLE FOR COPPER OR ALUMINUM WIRE. BRANCHES SHALL BE ARRANGED FOR BUSSES TO MAINTAIN SEQUENCE PHASING.

C. BRANCHES: SHALL COMPLY WITH FOLLOWING: MOLDED CASE BREAKERS SHALL BE DEION TYPE, WITH QUICK-MAKE, QUICK-BREAK MECHANISM FOR MANUAL AND AUTOMATIC OPERATION; THE UNITS INVERSE TIME TYPE CHARACTERISTICS SHALL BE BY METALLIC TRIPPING ELEMENT WITH MAGNETIC THREE-POLE UNITS SHALL HAVE COMMON TRIP. ALL UNITS SHALL BE OF THE INDICATING TYPE PROVIDING ON/OFF AND TRIPPED POSITIONS OF THE HANDLE.

D. 120/230 VOLT PANELBOARDS: 1 PHASE, 3 WIRE, SOLID NEUTRAL DESIGN WITH SEQUENCE STYLE BUSSING AND FULL CAPACITY NEUTRAL, COMPOSED OF AN ASSEMBLY OF BOLT-IN-PLACE MOLDED CASE AUTOMATIC AIR CIRCUIT BREAKERS WITH THERMAL AND MAGNETIC TRIP AND TRIP FREE POSITION SEPARATE FROM EITHER "ON" OR "OFF" POSITIONS. PROVIDE COMMON SIMULTANEOUS TRIP FOR 1 AND 2 POLE BREAKERS. PROVIDE INTERRUPTING RATINGS AS REQUIRED BE LOCAL UTILITY.

E. BUS BARS SHALL BE 98% COPPER. PROVIDE ALTERNATE BID FOR ALUMINUM BUS BARS.

F. PANELS SHALL BE MANUFACTURED BY SQUARE D COMPANY, G.E., EATON OR SIEMENS.

1.03 INSTALLATION

A. PANELS SHALL BE SECURELY MOUNTED TO WALLS OR RECESSED CAVITIES.

B. PANEL SPACES SHALL BE EQUIPPED WITH BLANK COVERS.

SECTION 16501 – LAMPS

1.01 GENERAL

A. PROVIDE AND INSTALL ITEMS AS LISTED ON LIGHTING FIXTURE SCHEDULE ON PLANS.

1.02 SUBMITTALS

A. SUBMIT PRODUCT DATA IN ACCORDANCE WITH SECTION 16000

1.03 ACCEPTABLE MANUFACTURERS

A. MANUFACTURER: GENERAL ELECTRIC, SYLVANIA, PHILLIPS LIGHTING COMPANY, OSRAM.

1.04 INSTALLATION

A. INSTALL LAMPS PER MANUFACTURER'S INSTRUCTIONS.

B. ALL LAMPS BROKEN OR BURNED OUT DURING THE CONSTRUCTION SHALL BE REPLACES WITHOUT COST TO THE CUSTOMER.

SECTION 16510 – INTERIOR BUILDING LIGHTING

1.01 WORK INCLUDED

A. THIS SECTION INCLUDES SUPPLY AND INSTALLATION OF LUMINARIES, SUPPORTS AND ACCESSORIES; AND SUPPLY OF PLASTER FRAMES, TRIM RINGS AND BACK BOXES FOR PLASTER OR DRYWALL CEILINGS OR CONCRETE. RECESSED INCANDESCENT FIXTURES ABOVE 100 WATTS SHALL BE EQUIPPED WITH A THERMAL CUT OUT DEVICE WHEN INSTALLED IN PLASTER OR DRY WALL CEILING.

1.02 SUBMITTALS

A. SUBMIT PRODUCT PERFORMANCE DATA IN ACCORDANCE WITH SECTION 16000.

B. SUBMIT PRODUCT INFORMATION INDICATING PERTINENT PHYSICAL CHARACTERISTICS.

C. SUBMIT SAMPLES OF LUMINARIES PRIOR TO FINAL PRODUCTION IF REQUESTED OR WHEN SPECIFIED ON PLANS.

1.03 COORDINATION

A. CONFIRM COMPATIBILITY AND INTERFACE OF OTHER MATERIALS WITH LUMINARY AND CEILING SYSTEM. REPORT DISCREPANCIES TO THE ARCHITECT, AND DEFER ORDERING UNTIL CLARIFIED.

B. COORDINATE WITH DIVISION 15 TO AVOID CONFLICTS BETWEEN LUMINARIES, SUPPORTS, FITTINGS, AND MECHANICAL EQUIPMENT.

C. CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL CEILINGS PLANS FOR ALL MOUNTING OF LIGHT FIXTURES IN CEILINGS. SUPPLY NECESSARY KITS/RINGS AND HARDWARE TO MOUNT FIXTURES.

1.04 REQUIREMENTS OF REGULATORY AGENCIES

A. ALL LIGHT FIXTURES SHALL BE APPROVED BY LOCAL AUTHORITY FOR THE TYPE OF APPLICATION FIXTURE HAS BEEN UTILIZED.

1.05 ACCEPTABLE MANUFACTURERS SHALL BE AS SPECIFIED ON FIXTURE SCHEDULE

1.06 RECESSED LUMINARIES

A. RECESSED INCANDESCENT LUMINARIES: PREWIRED TYPE WITH JUNCTION BOX FORMING AN INTEGRAL PART OF THE ASSEMBLY. SPLICE BOX ASSEMBLY CWA ACCESSIBLE FROM BELOW THE CEILING.

B. SUPPLY RECESSED LUMINARIES COMPLETE WITH TRIM TYPE REQUIRED FOR CEILING SYSTEM INSTALLED. BEFORE ORDERING, CONFIRM CEILING CONSTRUCTION DETAILS AND ARCHITECTURAL FINISH FOR EACH AREA.

1.07 EXIT LIGHTS

A. THIS PROFILE, CAST ALUMINUM FRAME WITH CAST ALUMINUM FACEPLATES 6 INCHES HIGH CUTOUT LETTERS WITH RED OR GREEN PLASTIC BACKING, AS SPECIFIED ON FIXTURE SCHEDULE.

1.08 AUXILIARY LIGHTING

A. THIS PORTION OF SPECIFICATIONS REFER TO LIGHT FIXTURES THAT SUPPLY BUILDING LIGHTING ONLY DURING LOSS OF BUILDING POWER, VOLTAGE DIPS, LOW TEMPERATURES, MOMENTARY POWER DROPS CAUSED BY LIGHTING OR TRANSFORMER BANK SWITCHING OR ANY OTHER PHENOMENON CAUSING HIGH INTENSITY LIGHT FIXTURE TO EXTINGUISH.

B. REFER TO LIGHT FIXTURE SCHEDULE AND PLANS.

1.09 EMERGENCY LIGHTING (FLUORESCENT FIXTURE)

A. THIS PORTION OF SPECIFICATIONS REFERS TO FLUORESCENT LIGHT FIXTURES UTILIZED BOTH AS MEANS OF NORMAL AND EMERGENCY SOURCE OF BUILDING LIGHTING (SEE PLANS FOR LOCATIONS). THE EMERGENCY SYSTEM SHALL INCLUDE SEALED NICKEL CADMIUM BATTERIES, RECTIFIER AND INVERTER CIRCUIT, ALL PRE-ASSEMBLED AND PACKAGED TO ONE SINGLE ASSEMBLY. THIS UNIT SHALL BE MOUNTED INSIDE THE FLUORESCENT LIGHT FIXTURE AND SHALL BE WIRED INTO THIS LIGHT FIXTURE IN ORDER TO ENERGIZE A SINGLE FLUORESCENT TUBE DURING THE BUILDING'S NORMAL POWER LOSS. THE UNIT SHALL FURNISH UP TO 90 MINUTES OF ILLUMINATION UNTIL BUILDING'S NORMAL POWER IS RESTORED. UNITS SHALL BE DESIGNED FOR MOUNTING INSIDE LIGHT FIXTURES, SHALL PROVIDE NO LESS THAN 100% OF LAMP RATED LUMENS AND THE ELECTRONICS MUST CARRY A MINIMUM OF 3 YEARS UNCONDITIONAL GUARANTEE. REFER TO PLANS AND LIGHT FIXTURE SCHEDULE FOR EMERGENCY ILLUMINATION.

1.10 MOUNTING CHANNELS

A. PROVIDE STEEL SUPPORT CHANNEL FOR MOUNTING FLUORESCENT LUMINARIES AND WIRING BETWEEN LUMINARIES; SUSPENDED BELOW MECHANICAL PIPING AND DUCT WORK.

1.11 INSTALLATION

A. LUMINARY SUPPORTS (EXPOSED STRUCTURES)

1. SUPPORT FLUORESCENT LUMINARIES DIRECTLY FROM BUILDING STRUCTURE BY ROD HANGERS AND INSERTS OR METAL ANGLE HEADERS SUPPORTED FROM FRAMING STRUCTURE OF CEILING SUSPENSION SYSTEM.
2. SUPPORT LUMINARIES MORE THAN 2 FT. WIDE BY FOUR HANGERS PER FIXTURE MINIMUM INDEPENDENT OF CEILING STRUCTURE OR TEE BARS.

B. RECESSED LUMINARIES

1. INSTALL RECESSED LUMINARIES TO PERMIT REMOVAL FROM BELOW, TO GAIN ACCESS TO OUTLET OR PREWIRED FIXTURE BOX.
2. CONNECT RECESSED LUMINARY TO BOXES WITH FLEXIBLE CONDUIT AND FIXTURE WIRE, OR MC CABLE WITH GROUNDING CONDUCTOR IF ALLOWED BY LOCAL CODE.
3. MOUNTED IN SUSPENDED CEILING WITH EXPOSED TEE BAR GRID SYSTEM, SUPPORT FROM CEILING TEE PAR GRID STRUCTURE AND SECURE THERETO.

C. ALIGNMENT

1. ALIGN LUMINARIES AND CLEAN DIFFUSERS PRIOR TO FINAL ACCEPTANCE.

SECTION 16601 – FIRE STOPS & PENETRATION SEALS

1.01 GENERAL

A. ALL PENETRATIONS THROUGH FIRE TREATED FLOORS AND WALLS SHALL BE SEALED WITH CTC PR-855 FIRE RESISTANT FOAM SEALANT, TO PREVENT THE SPREAD OF SMOKE, FIRE, TOXIC GAS OR WATER THROUGH THE PENETRATION EITHER BEFORE, DURING OR AFTER A FIRE. THE FIRE RATING OF THE PENETRATION SEAL SHALL BE AT LEAST THAT OF THE FLOOR OR WALL INTO WHICH IT IS INSTALLED, SO THAT THE ORIGINAL FIRE RATING OF THE FLOOR OR WALL IS MAINTAINED AS REQUIRED BY ARTICLE 300-21 OF THE NATIONAL ELECTRICAL CODE.

B. FIRE STOPS SHALL BE PROVIDED AND INSTALLED AS REQUIRED BY NFPA AND LOCAL CODES.

1.02 PRODUCTS

A. THE SEALANT SHALL REMAIN SOFT AND PLIABLE TO ALLOW FOR THE REMOVAL AND/OR ADDITION OF CABLES WITHOUT THE NECESSITY OF DRILLING HOLES. IT SHALL PERMIT THE VIBRATION, EXPANSION AND/OR CONTRACTION OF ANYTHING GOING THROUGH THE PENETRATION WITHOUT THE SEAL CRACKING OR CRUMBLING.

B. THE FOAM SEALANT SHALL MEET ALL OF THE FIRE TEST AND HOSE STREAM TEST REQUIREMENTS OF ASTM E119-73 AND SHALL BE UL CLASSIFIED. THE SEALANT SHALL BE CHASE-FO-AM, CTC PR-855 FIRE RESISTANT FOAM SEALANT FROM CHASE TECHNOLOGY CORPORATION, HUNTINGTON STATION, NEW YORK 11746, OR EQUAL.

1.03 INSTALLATION

A. THE FOAM SEALANT SHALL BE CAPABLE OF BEING INSTALLED BY A SINGLE TRADESMAN.

B. WHEN DAMMING MATERIALS ARE TO BE LEFT IN PLACE AFTER THE SEAL IS COMPLETE, THEN ALL SUCH MATERIALS SHALL BE NONFLAMMABLE.

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SPECIFICATIONS

PORCH ENCLOSURE FOR COMMUNITY SUSTAINABILITY DEPARTMENT CITY OF LAKE WORTH

Sheet No.
SP-2

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