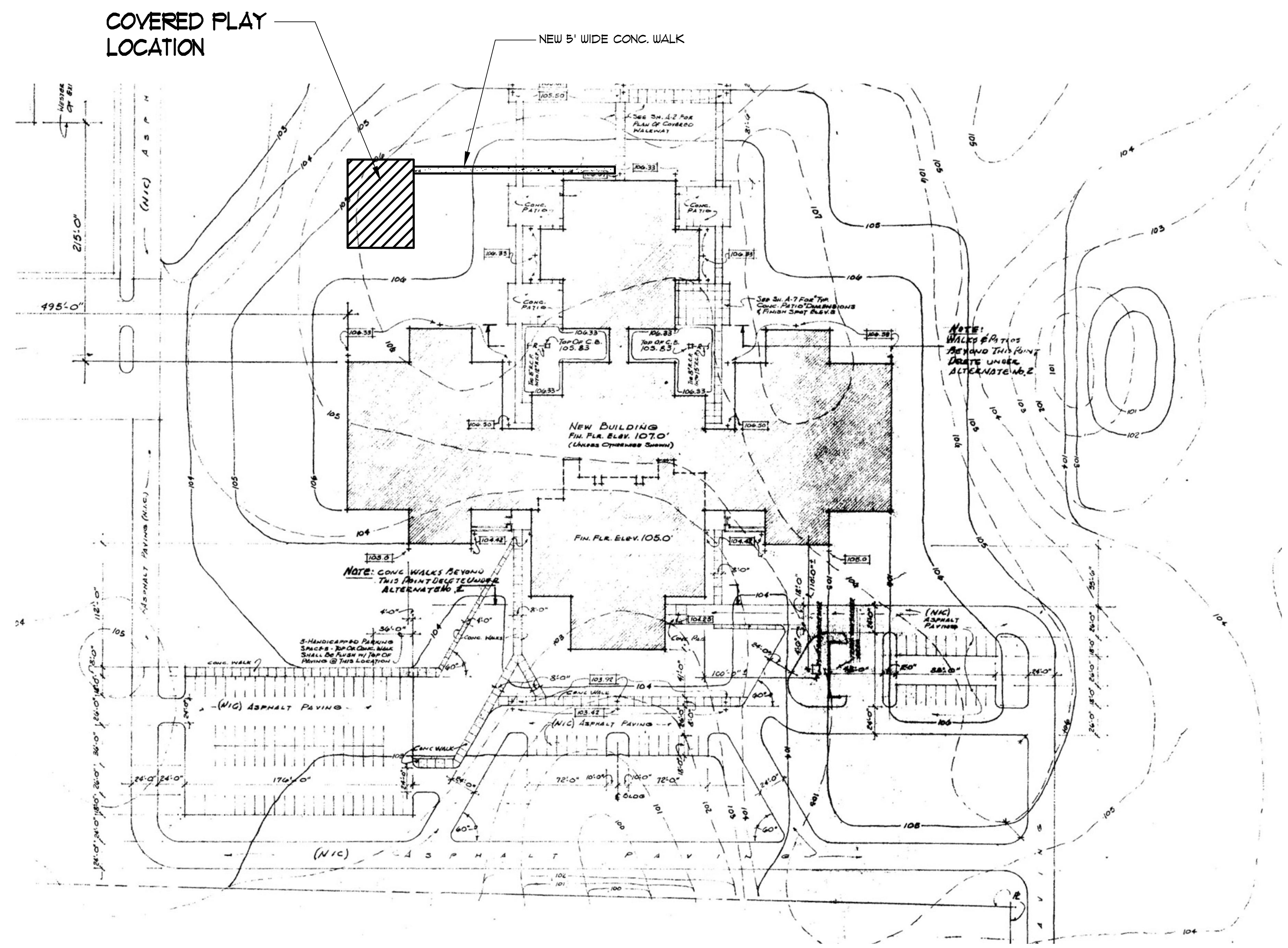
SUWANNEE COUNTY SCHOOL BOARD
SUWANNEE PRIMARY SCHOOL
COVERED PLAY ADDITION

1625 WALKER AVE., SW LIVE OAK, FLORIDA

BID & PERMIT SET

SCSB BID # 14-201



CAMPUS SITE PLAN

SCALE:N.T.S.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
A/C	AIR CONDITIONING
ALT	ALTERNATE
AL, ALUM	ALUMINUM
AB	ANCHOR BOLT
∠	ANGLE
BD	BOARD
BOT	BOTTOM
BRG	BEARING
BLDG	BUILDING
BUR	BUILT UP ROOFING
CLG	CEILING
CT	CERAMIC TILE
CCTV	CLOSED CIRCUIT TELEVISION
CLO	CLOSET
COL	COLUMN
CMU	CONCRETE MASONRY UNIT
CJ	CONTROL JOINT
DEMO	DEMOLISH, DEMOLITION
DIA.	DIAMETER
DIM	DIMENSION
DR	DOOR
DBL	DOUBLE
DN	DOWN
DS	DOWNSPOUT
DF	DRINKING FOUNTAIN
DW	DISHWASHER
DWG	DRAWING
(E)	EXISTING
EA	EACH
ELEC	ELECTRIC (AL)
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
ELEV	ELEVATION
EQ	EQUAL
EJ	EXPANSION JOINT
FFE	FINISH FLOOR ELEVATION
FA	FIRE ALARM
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FH	FIRE HYDRANT
FL	FLOOR (ING)
FD	FLOOR DRAIN
GA	GAGE, GAUGE
GALV	GALVANIZED
GL	GLASS, GLAZING
GB	GRAB BAR
GWB	GYPSUM WALLBOARD
HVAC	HEATING / VENTILATING / AIR COND.
HT	HEIGHT
HC	HOLLOW CORE
HM	HOLLOW METAL
HB	HOSE BIBB
HR	HOUR
IN	INCH
ID	INSIDE DIAMETER
INV	INVERT
JT	JOINT
LAV	LAVATORY
LLV	LONG LEG VERTICAL
LLH	LONG LEG HORIZONTAL
MH	MANHOLE
MFR	MANUFACTURE (ER)
MO	MASONRY OPENING
MAX	MAXIMUM
MECH	MECHANIC (AL)
MTL	METAL
MIN	MINIMUM
MISC	MISCELLANEOUS
NRC	NOISE REDUCTION COEFFICIENT
NOM	NOMINAL
N	NORTH
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO.	NUMBER
O.C.	ON CENTER (S)
OD	OUTSIDE DIAMETER
PTD	PAPER TOWEL DISPENSER
PL	PLATE
PVC	POLYVINYL CHLORIDE
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PL	PROPERTY LINE
QT	QUARRY TILE
R	RADIUS
REF	REFERENCE
REF	REFRIGERATOR
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
RA	RETURN AIR
REV	REVISION (S), REVISED
RD	ROOF DRAIN
RM	ROOM
RO	ROUGH OPENING
SHT	SHEET
SIM	SIMILAR
SC	SOLID CORE
STC	SOUND TRANSMITTANCE COEFFICIENT
SPEC	SPECIFICATION (S)
SPKR	SPRINKLER
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STO	STORAGE
THR	THRESHOLD
TPD	TOILET PAPER DISPENSER
TB	TOWEL BAR
TYP	TYPICAL
UC	UNDERCUT
UL	UNDERWRITER'S LABORATORY
UR	URINAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VCT	VINYL COMPOSITION TILE
VOL	VOLUME
WC	WATER CLOSET
WH	WATER HEATER
WWF	WELDED WIRE FABRIC
W/	WITH
W/O	WITHOUT
WD	WOOD
YD	YARD

GENERAL NOTES

1. ALL GRAPHIC SCALES INDICATED ON THE DRAWINGS ARE FOR 24"X36" PAGE SIZE ONLY.
2. TO THE BEST OF OUR KNOWLEDGE THESE DOCUMENTS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE AND 633 FLORIDA STATUTES.
3. DETAILS SHALL APPLY TO ALL SIMILAR CONDITIONS UNLESS A DIFFERENT DETAIL IS SHOWN.

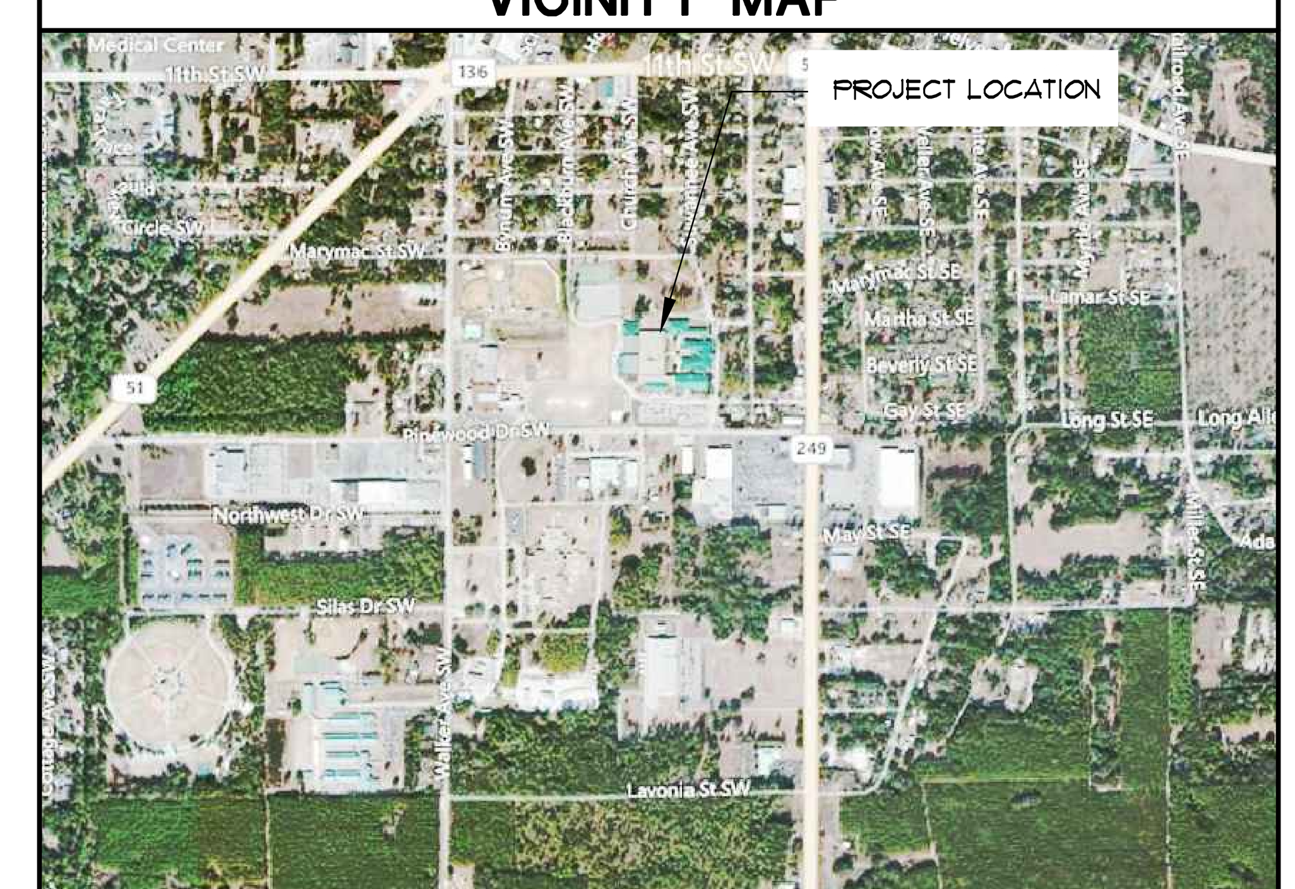
SYMBOLS LIST

- WALL SECTION: DETAIL DESIGNATION (1), SHEET NUMBER (A-1)
- PLAN DETAIL: DETAIL DESIGNATION (1), SHEET NUMBER (A-1)
- INTERIOR ELEVATION: A, B, C, D; DETAIL DESIGNATION (1), SHEET NUMBER (A-1)
- SPEC. DETAIL: SPECIFICATION NUMBER (06 24 00)
- DOOR MARK (SEE DOOR SCH.)
- WINDOW MARK (SEE WIN. SCH.)
- WALL TYPE MARK (SEE WALL TYPES)
- TOILET ACCESSORIES (SEE ACCESSORY LEGEND)

DRAWING LIST

REVISIONS △	SHEET	TITLE
		ARCHITECTURAL
	COV	COVER SHEET
	A-1.0	COVERED PLAY FLOOR PLAN AND DETAILS
		STRUCTURAL
	S-0.1	GENERAL NOTES AND DETAILS
	S-0.2	GENERAL NOTES
	S-0.3	WIND DIAGRAM
	S-1.1	STRUCTURAL PLANS
	S-2.1	DETAILS AND SECTIONS
		ELECTRICAL
	E-0.1	ELECTRICAL LEGEND AND NOTES
	E-0.2	ELECTRICAL SPECIFICATIONS
	E-1.0	ELECTRICAL SITE PLAN

VICINITY MAP



REVISIONS AND UPDATES

01/10/14		BID AND PERMIT SET

SUWANNEE COUNTY SCHOOL BOARD
SUWANNEE PRIMARY SCHOOL
COVERED PLAY ADDITION
1625 WALKER AVE., SW LIVE OAK, FLORIDA

COVER SHEET

drawn 12/06/13 CNK	checked 12/06/13 JCZ	approved

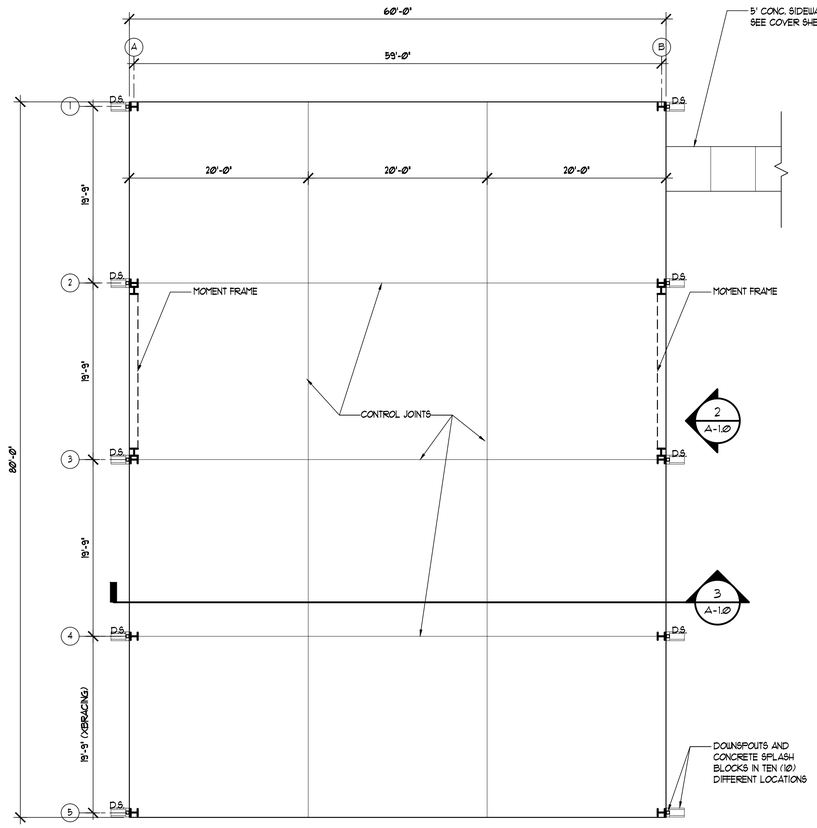
JOHN C. ZWICK, R.A.
FL. REG. AR0009527

AA-C001568

ARCHITECTS RZK, INC.
600 FLORIDA AVENUE SUITE 202 COCOA, FLORIDA 32922 TELEPHONE (321) 631-8039

job no. 201251A

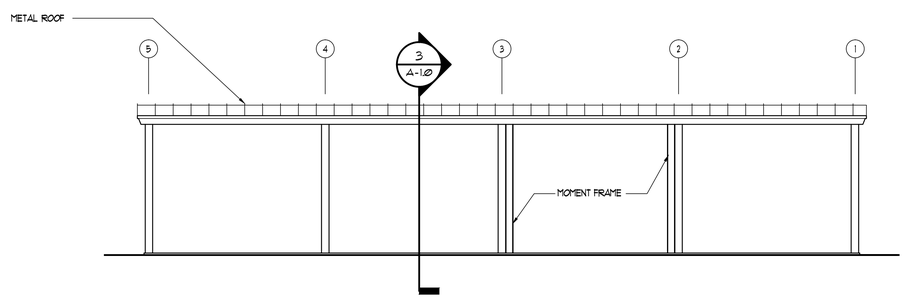
COV



PROJECT NORTH

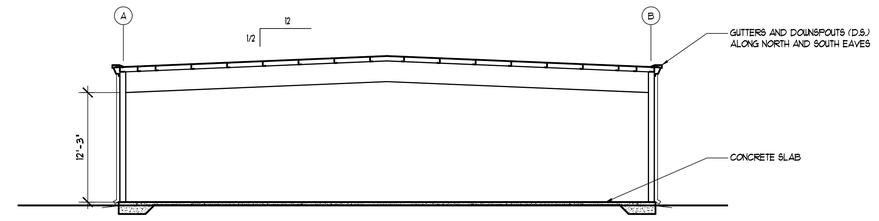
1 COVERED PLAY FLOOR PLAN

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



2 SOUTH ELEVATION (NORTH SIMILAR)

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



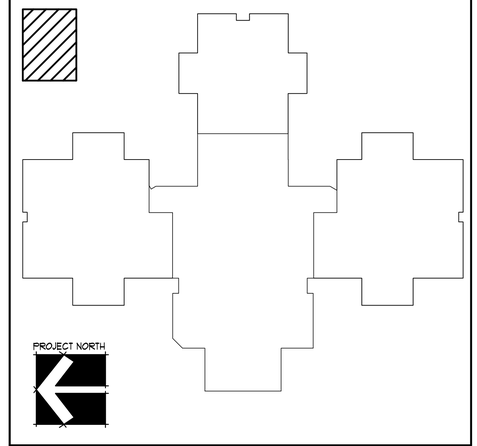
3 BUILDING SECTION

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

NOTES

1. REFER TO MANUAL FOR METAL BUILDING SPECIFICATIONS
2. ALL EXPOSED STEEL SHALL BE PRIMED AND FINISH PAINTED
3. INCLUDE CONCRETE SPLASH BLOCKS AT ALL DOWNSPOUTS

KEY PLAN



REVISIONS AND UPDATES

01/10/14		BID AND PERMIT SET

SUWANNEE COUNTY SCHOOL BOARD

SUWANNEE PRIMARY SCHOOL COVERED PLAY ADDITION

1625 WALKER AVE., SW — LIVE OAK, FLORIDA

COVERED PLAY FLOOR PLANS AND DETAILS

drawn	checked	approved
12/06/13 CNK	12/06/13 JCZ	

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job no. 2012.51A

A-1.0

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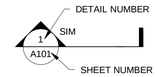
STRUCTURAL ABBREVIATIONS

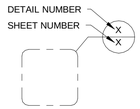
ABBREV	ABBREVIATION
ACI	AMERICAN CONCRETE INSTITUTE
ADD	ADDITIVE
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ALT	ALTERNATE/ALTERNATIVE
ALUM	ALUMINUM
ARCH	ARCHITECTURE/ARCHITECTURAL
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
AWS	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
BCX	BOTTOM CHORD EXTENSION
BLDG	BUILDING
BLK	BLOCK
BM	BEAM
BOT	BOTTOM
BP	BASE PLATE/BEARING PLATE
BRG	BEARING
BTWN	BETWEEN
C	CHANNEL
CB	CONCRETE BEAM
CC	CONCRETE COLUMN
CF	CUBIC FEET (FOOT)
CIP	CAST IN PLACE
CJ	CONTRACTION JOINT
CL	CENTERLINE
CLR	CLEAR/CLEARANCE
CM	CONCRETE MASONRY
CMU	CONCRETE MASONRY UNIT
CO	COMPANY
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CONN	CONNECTION
CONST	CONSTRUCTION
COORD	COORDINATE
CSJ	CONSTRUCTION JOINT
CTR	CENTER
CTRD	CENTERED
CY	CUBIC YARD
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIST	DISTANCE
DL	DEAD LOAD
DN	DOWN
DWG	DRAWING
EA	EACH
EE	EACH END
EF	EACH FACE
EHPA	EMERGENCY HURRICANE PROTECTION AREA
EJ	EXPANSION JOINT
ELEC	ELECTRIC/ELECTRICAL
EL. ELEV	ELEVATION
ENGR	ENGINEER
EOD	EDGE OF DECK
EOR	ENGINEER OF RECORD
EQ SP	EQUAL SPACED
ES	EACH SIDE
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F	FOUNDATION
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISHED FLOOR
FIN	FINISH
FIN GR	FINISH GRADE
FLR	FLOOR
FS	FAR SIDE
FT	FEET/FOOT
FTG	FOOTING
GA	GAGE/GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GEN	GENERAL
GL	GRID LINE
GS	GALVANIZED STEEL
HD	HOT DIPPED
HDG	HOT DIPPED GALVANIZED
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
I	MOMENT OF INERTIA
ID	INSIDE DIAMETER
I.F.	INSIDE FACE
IN.	INCH
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIP (1000 LB)
KLF	KIPS PER LINEAL FOOT
KSI	KIPS PER SQUARE INCH
KWY	KEYWAY

LB	POUND
LGTH	LENGTH
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LSL	LAMINATED STRAND LUMBER
LT WT	LIGHT WEIGHT
LVL	LAMINATED VENEER LUMBER
MATL	MATERIAL
MAX	MAXIMUM
MB	MASONRY BEAM
MC	MISCELLANEOUS CHANNEL/MASONRY COLUMN
MECH	MECHANICAL
MET	METAL
MFR	MANUFACTURE/MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MPH	MILES PER HOUR
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN CONTRACT
NO.	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTERS
OD	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
P/C	PRECAST CONCRETE/PILE CAP
P/T	POST TENSIONED
PAR	PARALLEL
PCB	PRECAST CONCRETE BEAM
PCC	PRECAST CONCRETE COLUMN
PCF	POUNDS PER CUBIC FEET
PEMB	PRE-ENGINEERED METAL BUILDING
PEN	PENETRATION
P.J.	PANEL JOINT CENTERLINE
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLMG	PLUMBING
PLY.	PLYWOOD
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
R/W	REINFORCED WITH
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION
RTU	ROOF TOP UNIT
SB	SOFFIT BEAM
SCHED	SCHEDULE
S.F.	SQUARE FEET
SF	STRIP FOUNDATION
SIM	SIMILAR
SPC	SPACE/SPACES
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SYM	SYMMETRICAL
T/	TOP OF
TB	TIE BEAM
T&B	TOP AND BOTTOM
TCX	TOP CHORD EXTENSION
TDS	TURN DOWN SLAB
TE	THICKENED EDGE
TEMP	TEMPERATURE
TENS	TENSION
THD	THREAD/THREADED
THK	THICK
TOL	TOLERANCE
TRANS	TRANSVERSE
TS	TUBE STEEL
T.S.	THICKENED SLAB
TWF	THICKENED WALL FOUNDATION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VOL	VOLUME
W	WIDE FLANGE SECTION
W/	WITH
W/O	WITHOUT
WD	WOOD
WF	WALL FOOTING
WP	WATERPROOF
W.P.	WORKING POINT
WS	WELDED STUD
WT	WEIGHT/STRUCTURAL TEE SECTION
WWF	WELDED WIRE FABRIC
@	AT DESIGNATION
#	POUNDS / REBAR SIZE NUMBER
+/-	PLUS OR MINUS
L	ANGLE
C.L.	CENTER LINE
&	AND
Sx	SECTION MODULUS
Ix	MOMENT OF INERTIA

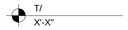
STRUCTURAL SYMBOLS AND LEGEND



SECTION / DETAIL MARK



PLAN / DETAIL MARK



ELEVATION MARK

RECESS OR STEP IN SLAB

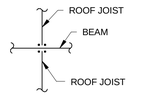
SLOPED SURFACE

PITCHED ROOF

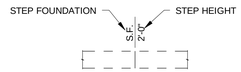
PLAN NOTE


MOMENT CONNECTION

JOIST BEARING ELEVATION



BOLTED JOIST CONNECTION



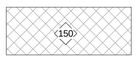
STEPPED FOUNDATION

COLUMN AND FOUNDATION TYPE MARKS

SPOT ELEVATION, TYPICALLY TOP OF ITEM TAGGED (T/WALL, T/FOUNDATION, ETC)

PANEL TYPE SEE SCHEDULE

WALL TYPE DESIGNATION TAG



INCREASED FLOOR LOAD AREA IN PSF

WALL TYPES

LOAD BEARING MASONRY WALL

NON-LOAD BEARING MASONRY WALL

TILT-UP/PRECAST CONCRETE WALL

CIP CONCRETE WALL

STUD WALL

NOTE: SYMBOLS AND LEGEND SHOWN ARE GENERIC AND DO NOT NECESSARILY INDICATE ACTUAL OCCURRENCES IN THESE DRAWINGS.

SPAN DIRECTION


NORTH ARROW

COLUMN GRID LINE


CIP CONCRETE COLUMN ABOVE


TILT-UP/PRECAST CONCRETE COLUMN ABOVE


CONCRETE COLUMN BELOW


METAL DECK

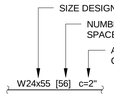

CONCRETE SLAB ON METAL DECK


ELEVATED CAST-IN-PLACE CONCRETE SLAB

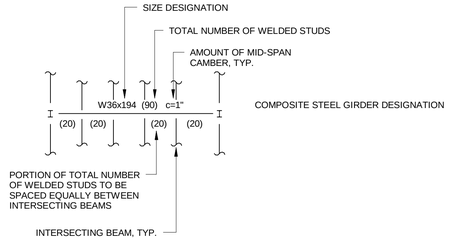

PRECAST CONCRETE PLANK

ELEVATED CAST-IN-PLACE CONCRETE SLAB


WOOD SHEATHING



COMPOSITE BEAM DESIGNATION



COMPOSITE STEEL GIRDER DESIGNATION

874 Dixon Boulevard
Cocoa, FL 32922
Phone: 321-636-0274
Fax: 321-639-8986
ENGINEERING FOR ARCHITECTURE www.tlc-engineers.com

COA #15 TLC NO: 513005

REVISIONS AND UPDATES

1/10/14		BID AND PERMIT SET

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SUWANNEE PRIMARY SCHOOL
COVERED PLAY STRUCTURE
1825 WALKER AVE. SW LIVE OAK, FLORIDA

GENERAL NOTES AND DETAILS

drawn SES | checked GCK | approved GCK

job no. 2012.51A

S-0.1

Gary C. Krueger, P.E.
Florida License #40788

FOR REVIEW
NOT FOR
CONSTRUCTION

Seal

ARCHITECTS RZK, INC.
600 FLORIDA AVENUE SUITE 202 COCOA, FLORIDA 32922 TELEPHONE (321) 631-8039

STRUCTURAL NOTES

<u>1000 GENERAL NOTES:</u>

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR OPENINGS, DEPRESSIONS, EQUIPMENT WEIGHTS AND LOCATIONS, EMBEDDED ITEMS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
2. DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
3. NO STRUCTURAL MEMBER OR COMPONENT SHALL BE CUT, NOTCHED, OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED BY THE ENGINEER OF RECORD FOR REVIEW OF ANY SUCH DEVIATIONS.
4. DO NOT SCALE DRAWINGS.
5. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIEDOWNS.
6. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
7. THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
8. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE AND SAFETY. THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
9. THE STRUCTURAL ENGINEER'S OBLIGATIONS TO REVIEW SHOP DRAWINGS AND OTHER SUBMITTALS AND TO RETURN THEM IN A TIMELY MANNER ARE CONDITIONED UPON THE PRIOR REVIEW AND APPROVAL OF THE SHOP DRAWINGS OR SUBMITTALS BY THE CONTRACTOR AS REQUIRED IN THE CONSTRUCTION CONTRACT AND THE CONTRACTOR'S SUBMITTAL OF THE SHOP DRAWINGS AND OTHER SUBMITTALS IN ACCORDANCE WITH A WRITTEN SCHEDULE DISTRIBUTED IN ADVANCE TO THE ENGINEER IDENTIFYING THE DATES FOR THE SUBMITTAL OF THE VARIOUS SHOP DRAWINGS AND SUBMITTALS.
10. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF TLC ENGINEERING FOR ARCHITECTURE IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK.
11. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXCEED LIFE SPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE OWNER. THIS PROGRAM SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.
12. STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL STAIRS, HANDRAILS, CURTAIN WALL/WINDOW WALL SYSTEMS, COLD-FORMED STEEL FRAMING, OR OTHER SYSTEMS NOT SHOWN IN THE STRUCTURAL DOCUMENTS. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.
13. IN THE PROFESSIONAL OPINION OF TLC ENGINEERING FOR ARCHITECTURE, INC. THE STRUCTURAL CONTRACT DOCUMENTS FOR THIS PROJECT HAVE BEEN PREPARED IN ACCORDANCE WITH THE DESIGN CRITERIA AS SET FORTH IN THE FLORIDA BUILDING CODE, 2010 EDITION.
14. NO PROVISIONS HAVE BEEN MADE FOR VERTICAL OR HORIZONTAL EXPANSION EXCEPT AS SHOWN ON CONTRACT DOCUMENTS.
15. FINISH FLOOR ELEVATION (FIRST FLOOR) OF 0"-0" (100'-0") IS USED AS A REFERENCE ELEVATION. SEE CIVIL DRAWINGS FOR ACTUAL ELEVATION.
16. THE USE OF REPRODUCTIONS OF THESE CONTRACT DOCUMENTS AND USE OF CAD FILES BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFY HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON.
17. IN THE EVENT THAT THE STRUCTURAL CONTRACTS DRAWINGS AND SPECIFICATIONS CONFLICT ON INFORMATION, THE STRUCTURAL CONTRACT DRAWINGS SHALL SUPERSEDE THE SPECIFICATIONS.

<u>1010 BUILDING MOVEMENTS</u>

THE BUILDING MOVEMENT SPECIFIED HEREIN IS ANTICIPATED TO OCCUR AND SHOULD BE CONSIDERED BY THE CONTRACTOR IN THE PERFORMANCE OF THE WORK.

1. THE FOLLOWING PROVISION FOR SUPERIMPOSED LOAD DEFLECTIONS SHALL BE MADE IN THE DESIGN, FABRICATION, AND INSTALLATION OF ALL PARTITIONS, GLASS WALLS, AND OTHER ELEMENTS SUPPORTED BY AND ATTACHED TO THE STRUCTURE.
   A. TYPICAL FLOOR MEMBERS - SPAN/360 BUT NOT LESS THAN 3/8"
   B. TYPICAL ROOF MEMBERS - SPAN/360 BUT NOT LESS THAN 3/8"
2. STORY DRIFT: LATERAL FRAME DEFLECTION OF H/300 IN THE PLANE OF THE WALL OF ONE FLOOR RELATIVE TO AN ADJACENT FLOOR SHALL BE TAKEN INTO ACCOUNT IN THE DESIGN, FABRICATION AND INSTALLATION OF THE BUILDING CLADDING.

<u>1060 DESIGN LOADS:</u>

1. THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, 2010 EDITION, AND AS SUPPLEMENTED BY LOCAL AMENDMENTS.
2. THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED:

2.1. DEAD LOADS

ROOF STRUCTURE	15 PSF
M/E/P LOADS	5 PSF
CEILINGS	5 PSF
COLLATERAL LOADS	10 PSF

2.2. LIVE LOADS

ROOF	20 PSF
FLOOR	100 PSF

2.3. WIND LOADS: PER FLORIDA BUILDING CODE, SECTION 1609.
SEE SHEET ---- FOR COMPONENTS AND CLADDING PRESSURES
ULTIMATE DESIGN WIND SPEED, Vult = 120 MPH (3 SEC. GUST)
NOMINAL DESIGN WIND SPEED, Vasd = 95 MPH (3 SEC. GUST)
RISK CATEGORY II
EXPOSURE = B

<u>1330 SHOP DRAWING REVIEW:</u>

1. SHOP DRAWINGS SHALL ADEQUATELY DEPICT THE STRUCTURAL ELEMENTS AND CONNECTIONS SHOWN ON THE CONTRACT DOCUMENTS. SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC. REVIEW OF SUBMITTALS AND SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THE SHOP DRAWINGS.
2. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR AND MARKED "APPROVED" PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. NON-CONFORMING DRAWING SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
3. SHOP DRAWING SUBMITTALS SHALL INCLUDE, AT A MINIMUM, ONE GOOD QUALITY REPRODUCIBLE AND THREE SETS OF BLUEPRINTS. ONE SET OF PRINTS WILL BE RETAINED BY THE ENGINEER OF RECORD, ONE BY THE ARCHITECT, ONE BY THE LOCAL BUILDING DEPARTMENT (WHERE REQUIRED) AND THE CONTRACTOR SHALL MAKE PRINTS FROM THE REPRODUCIBLE AS REQUIRED FOR DISTRIBUTION.
4. THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER OF RECORD.
5. CHANGES AND ADDITIONS MADE ON RE-SUBMITTALS SHALL BE CLEARLY FLAGGED AND NOTED. THE PURPOSE OF THE RE-SUBMITTALS SHALL BE CLEARLY NOTED ON THE LETTER OF TRANSMITTAL. ARCHITECT/ENGINEER OF RECORD REVIEW WILL BE LIMITED TO THOSE ITEMS CAUSING THE RE-SUBMITTAL. CONTRACTOR IS RESPONSIBLE FOR COSTS CAUSED BY MULTIPLE RE-SUBMITTALS (MORE THAN ONE) AT ARCHITECT/ENGINEERS' CURRENT HOURLY RATES.

<u>1331 SHOP DRAWINGS FOR SPECIALTY ENGINEERED PRODUCTS:</u>

1. THE FOLLOWING SYSTEMS AND COMPONENTS AS A MINIMUM REQUIRE FABRICATION AND ERECTION DRAWINGS PREPARED BY A DELEGATED ENGINEER:
2. SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC PROJECT AND APPLICABLE CODES, LIST THE DESIGN CRITERIA, AND SHOW ALL DETAILS AND DRAWINGS NECESSARY FOR PROPER FABRICATION AND INSTALLATION. CALCULATIONS AND SHOP DRAWINGS SHALL IDENTIFY SPECIFIC PRODUCT UTILIZED. GENERIC PRODUCTS WILL NOT BE ACCEPTED.
3. SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED UNDER THE DIRECT SUPERVISION AND CONTROL OF THE DELEGATED ENGINEER.
4. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA. COMPUTER PRINTOUTS ARE AN ACCEPTABLE SUBSTITUTE FOR MANUAL COMPUTATIONS PROVIDED THEY ARE ACCOMPANIED BY SUFFICIENT DESCRIPTIVE INFORMATION TO PERMIT THEIR PROPER EVALUATION. SUCH DESCRIPTIVE INFORMATION SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA AS AN INDICATION THAT HE/SHE HAS ACCEPTED RESPONSIBILITY FOR THE RESULTS. THE STRUCTURAL ENGINEER WILL RETAIN ONE SIGNED AND SEALED SET FOR THEIR RECORDS.
5. DRAWINGS PREPARED SOLELY TO SERVE AS A GUIDE FOR FABRICATION AND INSTALLATION (SUCH AS REINFORCING STEEL SHOP DRAWINGS OR STRUCTURAL STEEL ERECTION DRAWINGS) AND REQUIRING NO ENGINEERING, DO NOT REQUIRE THE SEAL OF A DELEGATED ENGINEER.
6. CATALOG INFORMATION ON STANDARD PRODUCTS DOES NOT REQUIRE THE SEAL OF A DELEGATED ENGINEER.
7. REVIEW BY THE STRUCTURAL ENGINEER OF RECORD OF SUBMITTALS IS LIMITED TO VERIFYING THE FOLLOWING:
   A. THAT THE SPECIFIED STRUCTURAL SUBMITTALS HAVE BEEN FURNISHED.
   B. THAT THE STRUCTURAL SUBMITTALS HAVE BEEN SIGNED AND SEALED BY THE DELEGATED ENGINEER.
   C. THAT THE DELEGATED ENGINEER HAS UNDERSTOOD THE DESIGN INTENT AND HAS USED THE SPECIFIED STRUCTURAL CRITERIA. NO DETAILED CHECK OF CALCULATIONS WILL BE MADE.
   D. THAT THE CONFIGURATION SET FORTH IN THE STRUCTURAL SUBMITTALS IS CONSISTENT WITH THE CONTRACT DOCUMENTS. NO DETAILED CHECK OF DIMENSIONS OR QUANTITIES WILL BE MADE.
8. SUBMITTALS NOT MEETING THE ABOVE CRITERIA WILL NOT BE REVIEWED AND WILL BE RETURNED.

<u>1333 SUBMITTALS</u>

1. ALL SHOP DRAWINGS MUST BE REVIEWED AND STAMPED APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL.
2. THE GENERAL CONTRACTOR SHALL SUBMIT FOR ENGINEER REVIEW SHOP DRAWINGS FOR THE FOLLOWING ITEMS:
   A. STRUCTURAL STEEL (*)
   B. REINFORCING STEEL
   C. FORMWORK, SHORING, RESHORING (*,#)
   D. CONCRETE MIX DESIGNS
   E. CONSTRUCTION JOINT LOCATIONS IN STRUCTURAL FLOORS
   F. PRE-ENGINEERED METAL BUILDINGS (*)

   ITEMS MARKED (*) SHALL HAVE SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
   ITEMS MARKED (#) SHALL BE SUBMITTED FOR ENGINEERS RECORD ONLY.
3. MANUFACTURER'S LITERATURE. SUBMIT TWO COPIES OF MANUFACTURER'S LITERATURE FOR ALL MATERIALS AND PRODUCTS USED IN CONSTRUCTION ON THE PROJECT.

<u>1334 REQUEST FOR INTERPRETATION (RFI)</u>

1. RFI SHALL ORIGINATE WITH CONTRACTOR AND SHALL BE SUBMITTED IN THE FORM SPECIFIED WITHIN CONTRACT DOCUMENTS. RFI SHALL BE SUBMITTED IN A PROMPT MANNER AS TO AVOID DELAYS IN CONTRACTORS WORK.
2. RFI SHALL BE SUBMITTED AS SPECIFIED WITHIN THE CONTRACT DOCUMENTS AND SHALL BE FORWARDED TO THE ENGINEER VIA THE ARCHITECT OR DIRECTLY TO THE ENGINEER BY THE CONTRACTOR WHEN APPROVED BY THE ARCHITECT.
3. ENGINEER SHALL TAKE UP TO 5 BUSINESS DAYS TO REVIEW AND RETURN RFI'S. HOWEVER, THE ENGINEER WILL ATTEMPT TO EXPEDITE THE REVIEW OF ALL RFI'S WITHIN A REASONABLE TIME FRAME.
4. RFI RESPONSES ARE NOT INTENDED TO AUTHORIZE ANY INCREASE IN CONSTRUCTION COST, SCHEDULE OR TIME EXTENSIONS, OR CONSTRUCTION IN CONFLICT WITH ANY APPLICABLE CODES OR SPECIFIED DESIGN STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGN TEAM IMMEDIATELY OF ANY PERCEIVED SCOPE, SCHEDULE, OR COST IMPACTS OR ADJUSTMENTS. IF CONTRACTOR REQUESTS ANY ADDITIONAL COST, INCREASE IN SCHEDULE OR ADJUSTMENT IN SCOPE, THE CONTRACTOR SHALL NOT PROCEED WITH ADDITIONAL WORK UNTIL APPROVED IN WRITING BY THE CONSTRUCTION ADMINISTRATOR.

<u>2300 FOUNDATIONS - W/O SOIL REPORTS:</u>

1. IN THE ABSENCE OF ANY GEOTECHNICAL RECOMMENDATIONS, THE FOUNDATIONS ARE DESIGNED FOR AN ANTICIPATED ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF ON COMPACTED FILL. FOR PRELIMINARY PRICING PURPOSES ONLY, BEFORE CONSTRUCTION COMMENCES, SOIL BEARING CAPACITY SHALL BE VERIFIED BY A SUBSURFACE INVESTIGATION, AS WELL AS FIELD AND LABORATORY TESTS PERFORMED BY A CERTIFIED TESTING LABORATORY, WHOSE REPORT SHALL INCLUDE ANALYSIS AND RECOMMENDATIONS FOR SITE PREPARATION IN ORDER TO BEAR THE FOUNDATION LOADS. ABOVE REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE FOUNDATION CONSTRUCTION BEGINS.
2. REGARDLESS OF WHETHER OR NOT A GEOTECHNICAL INVESTIGATION IS PERFORMED, NO WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY TLC FOR THE PERFORMANCE OF THE FOUNDATION.
3. AT A MINIMUM, SITE PREPARATION WORK SHALL INCLUDE:
   A. STRIPPING AND GRUBBING OF THE BUILDING FOOTPRINT PLUS A MARGIN OF 5 FEET AROUND THE BUILDING, REMOVING ALL ORGANIC MATERIALS.
   B. PROOF ROLLING THE BUILDING SITE TO LOCATE ANY UNFORESEEN SOFT AREAS. ANY SOFT AREAS SHALL BE\ EXCAVATED AND REPLACED WITH CLEAN FILL. A DENSITY OF AT LEAST 95% FOR A DEPTH OF 2 FEET IS REQUIRED UNDER THE BUILDING FOOTPRINT.
   C. ALL FILL SHALL BE CLEAN SAND AND FREE OF ORGANIC MATERIALS. COMPACT FILL IN 12 INCH (UNCOMPACTED THICKNESS) LIFTS TO A MINIMUM OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY VALUE.
   D. EXCAVATIONS FOR FOUNDATIONS SHALL BE COMPACTED TO 95% FOR A DEPTH OF AT LEAST 2 FEET BELOW THE BOTTOM OF THE FOUNDATION.
   E. DEWATERING MAY BE REQUIRED TO ACHIEVE THE REQUIRED COMPACTION VALUES, AND IF USED, SHOULD DRAW DOWN THE WATER LEVEL TO AT LEAST 2 FEET BELOW THE BOTTOM OF THE EXCAVATION.
4. SLABS ON GRADE SHALL BE PLACED OVER A 15 MIL, CLASS "A" VAPOR RETARDER. VAPOR RETARDER SHALL BE LAPPED A MINIMUM OF 6", OR AS RECOMMENDED BY THE MANUFACTURER (WHICHEVER IS GREATER) AND TAPED AT ALL JOINTS. ALL PUNCTURES IN THE VAPOR RETARDER SHALL BE REPAIRED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ALL PENETRATIONS THROUGH THE VAPOR RETARDER (COLUMNS, PLUMBING, CONDUITS, ETC) SHALL BE SEALED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. VAPOR RETARDER SHALL BE CONTINUOUS UNDER WALL FOUNDATIONS OR SEALED TO EXTERIOR WALLS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

<u>3302 CONCRETE:</u>

1. SHALL BE PER AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:

LOCATION	COMPRESSIVE STRENGTH	SLUMP	MAX AGGREGATE	MAX W/C RATIO
FOUNDATIONS	3000 PSI	4-6"	1"	0.50
SLABS ON GRADE	4000 PSI	4-6"	3/4"	0.46

CONCRETE MIXES SHALL MEET BOTH THE MINIMUM COMPRESSIVE STRENGTH AND MAXIMUM WATER/CEMENT RATIOS LISTED ABOVE.

2. CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ACI STANDARDS AND SPECIFICATIONS.
3. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE.
4. CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM STANDARD C94 FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED.
5. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE.
6. SLABS SHALL BE CURED USING A DISSIPATING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1-CLASS D AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY.
7. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.
8. CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.
9. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318, 6.3.
10. CONCRETE DESIGN MIX SUBMITTALS SHALL INCLUDE TESTED, STATISTICAL BACK-UP DATA AS PER CHAPTER 5 OF ACI 318.
14. WHEN TOTAL WIDTH OF PIPES OR DUCTS CAST INTO A SLAB EXCEED 12" IN A 24" WIDTH THEN THE CONTRACTOR SHALL ADD A LAYER OF #4 @ 12" ABOVE AND PERPENDICULAR TO THE DUCT/PIPE RUNS EXTENDING 12" BEYOND THE LAST DUCT/PIPE ON EACH SIDE.
15. WHEN WATER-BASED ADHESIVE ARE BEING USED ON CONCRETE SURFACES, THE CONTRACTOR SHALL VERIFY THAT THE WATER CONTENT OF THE CONCRETE IS WITHIN THE ALLOWABLE RANGE BEFORE INSTALLATION.

<u>3310 REINFORCING STEEL:</u>

1. SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.
2. PROVIDE CONCRETE COVER OVER PRIMARY REINFORCEMENT, TIES, AND STIRRUPS, AS FOLLOWS, UNLESS OTHERWISE NOTED:

LOCATION AND CONDITION	MINIMUM COVER
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ALL BARS 3"
B. CONCRETE EXPOSED TO EARTH OR WEATHER	#6 OR GREATER 2" #5 OR SMALLER 1.5"
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
1. SLABS, WALLS, AND JOISTS	#11 OR SMALLER 3/4"
2. BEAMS AND COLUMNS	ALL BARS 1.5"

3. SECURE APPROVAL OF SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.
4. PROVIDE STANDARD HOOKS AT DISCONTINUOUS ENDS OF ALL TOP BARS.
5. WHERE REINFORCING IS SHOWN CONTINUOUS, SPLICE BOTTOM BARS OVER SUPPORTS AND TOP BARS AT CENTER OF SPAN. ALL OTHER LAP SPLICES SHALL BE IN ACCORDANCE WITH SPLICE TABLES AND DETAILS SHOWN ON DRAWINGS.
6. PROVIDE DOWELS INTO FOOTINGS, PILE CAPS, SUPPORT BEAMS, ETC. TO MATCH VERTICAL BARS WITH CLASS B TENSION LAP SPLICES, U.N.O.
7. LENGTH OF LAP SPLICES AND BAR EMBEDMENT SHALL BE AS SHOWN IN TABLE, UNLESS OTHERWISE NOTED:

	BAR SIZE	3000 PSI	4000 PSI	5000 PSI
T < 12"	#6 OR LESS	57Db	49Db	44Db
	#7 OR MORE	71Db	61Db	55Db
T > 12"	#6 OR LESS	74Db	65Db	57Db
	#7 OR MORE	81Db	79Db	72Db

WHERE "T" IS DEPTH OF CONCRETE UNDER BARS AND "Db" IS BAR DIAMETER.

UTILIZE CLASS "B" SPLICE FOR ALL SPLICES, U.N.O. ON PLANS OR DETAILS.

8. AT CHANGES IN DIRECTION OF CONCRETE WALLS AND TIE BEAMS, PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL STEEL.

<u>3322 CONSTRUCTION JOINTS:</u>

1. ANY DEVIATION OR ADDITION OF CONSTRUCTION JOINTS FROM THAT SHOWN ON THE DRAWINGS MUST BE REVIEWED AND APPROVED IN WRITING BY THE ENGINEER OF RECORD.
2. ALTERNATE OR ADDED CONSTRUCTION JOINT LOCATIONS ARE ACCEPTABLE ONLY AS A CHANGE ORDER, WHICH WILL INCLUDE ENGINEERING CHARGES BY THE ENGINEER OF RECORD FOR REDESIGN OF THE STRUCTURE, SHORING, ETC.

<u>3400 CONCRETE TESTING:</u>

1. AN INDEPENDENT TESTING LABORATORY SHALL PERFORM THE FOLLOWING TESTS ON CAST IN PLACE CONCRETE:
   A. ASTM C143 - "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE."
   B. ASTM C39 - "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS, FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY. REQUIRED LAB CURED CYLINDER QUANTITIES AND TEST AGE AS FOLLOWS:
   2 AT 7 DAYS
   2 AT 28 DAYS

ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28-DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.

<u>3601 CHEMICAL (ADHESIVE) ANCHORS:</u>

1. SHALL BE A TWO PART EPOXY POLYMER INJECTION SYSTEM, SUCH AS HILTI HIT HY150, HILTI RE500, OR SIMPSON SET ADHESIVE SYSTEM, OR ENGINEER APPROVED SUBSTITUTION.
2. EPOXY TYPES AND BRANDS VARY IN THEIR BOND STRENGTH AND SUITABILITY OF USE, DEPENDING ON TYPE OF LOADING, ANCHOR SPACING, ETC. WHEN A PARTICULAR TYPE OF EPOXY IS SPECIFIED IN THESE DRAWINGS, A UNIQUE CALCULATION HAS BEEN MADE BASED ON THE PROPERTIES OF THAT SPECIFIC TYPE OF EPOXY FOR THE SPECIFIC CONDITION SHOWN IN THE DETAIL. SUBSTITUTION OF EPOXY TYPE IS NOT ALLOWED WHERE DETAIL SPECIFIES ONLY ONE TYPE OF EPOXY, WITHOUT PRIOR WRITTEN APPROVAL BY THE ENGINEER OF RECORD. NOT ALL EPOXY BRANDS OR TYPES WILL BE ALLOWED AS SUBSTITUTES.
3. SUBSTITUTION OF EPOXIES IN ONE CONDITION SHALL NOT BE CONSTRUED AS APPROVAL TO MAKE SIMILAR SUBSTITUTION OF EPOXIES IN OTHER DIFFERING CONDITIONS. EACH SUBSTITUTION MUST RECEIVE PRIOR WRITTEN APPROVAL BY THE ENGINEER OF RECORD.
4. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL TRAIN INSTALLERS.
6. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL HOLE CLEAN-OUT REQUIREMENTS ARE FULLY COMPLETED BY THE INSTALLERS PRIOR TO INJECTING EPOXY INTO THE HOLES.
7. NO LOAD SHALL BE APPLIED TO THE EPOXY ANCHORS UNTIL THE EPOXY HAS FULLY CURED AND HAS ACHIEVED IT'S SPECIFIED STRENGTH.
8. IF DETAIL SHOWS EPOXY ANCHORS IN SLOTTED HOLES, IT IS IMPERATIVE THAT ANY EXCESS EPOXY IS CLEANED UP FROM AROUND THE ANCHOR ROD, SO THAT IT DOES NOT INTERFERE WITH ADJUSTABILITY OF ANCHOR ROD IN SLOTTED HOLE.

<u>3602 MECHANICAL ANCHORS:</u>

1. SHALL BE EITHER HEAVY DUTY CONCRETE SCREW ANCHOR (SUCH AS POWERS WEDGE-BOLT, SIMPSON TITEN HD, OR HILTI HUS-H) OR WEDGE TYPE EXPANSION ANCHOR (SUCH AS POWERS POWER-STUD, SIMPSON WEDGE-ALL, OR HILTI KWIK BOLT 3).
2. TYPE OF ANCHOR SHALL BE AS SPECIFIED ON THE DRAWINGS, WHILE BRAND AND MODEL OF ANCHOR MAY BE SELECTED FROM THE ABOVE LISTED ANCHORS. SUBSTITUTION ANCHORS MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVED IN WRITING BY THE ENGINEER OF RECORD PRIOR TO USE.
3. IN SOME CASES OF CRITICAL LOADING OR GEOMETRIC CONDITIONS, ONLY SPECIFIC ANCHORS WILL BE ALLOWED, AS NOTED ON THE DRAWINGS. IN THESE CASES, THE SPECIFIED BRAND AND MODEL OF ANCHOR MUST BE USED.
4. INSTALL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL TRAIN INSTALLERS.

<u>5500 PRE-ENGINEERED METAL BUILDING:</u>

1. THE PRE-ENGINEERED METAL BUILDING SHALL CONSIST OF A MINIMUM OF ROOF DECK, RIGID FRAMES, METAL WALL PANELS ON FRAMING, CANOPY FRAMING, GUTTERS AND DOWNSPOUTS, AND FLASHING. DEVIATION FROM BAY SPACING SHOWN ON THE DRAWINGS SHALL NOT BE PERMITTED TO SUIT MANUFACTURERS STANDARDS.
2. THE SYSTEM SHALL BE DESIGNED AND DETAILED BY THE MANUFACTURER TO SUSTAIN THE DESIGN LOADS SPECIFIED. THE DESIGN SHALL BE IN ACCORDANCE TO AISC AND AISI SPECIFICATIONS AND MBMA "METAL BUILDING SYSTEMS MANUAL" DESIGN PRACTICES, LATEST ISSUES.
3. THE MANUFACTURER SHALL BE REGULARLY ENGAGED IN METAL BUILDING DESIGN AND MANUFACTURING. CURRENT MBMA MEMBERS ARE APPROVED, OTHERS SHALL SUBMIT PRODUCT DATA FOR REVIEW.
4. COLUMNS SHALL BE DESIGNED AS UNBRACED BY THE MASONRY. LONGITUDINAL WIND BRACING SHALL BE DESIGNED TO TRANSFER LOADS TO THE LOW SIDE MASONRY WALLS.
5. MAXIMUM BUILDING DRIFT AT THE EAVE SHALL NOT EXCEED h/400.
6. SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED PRIOR TO FABRICATION AND BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA. SHOP DRAWINGS SHALL INDICATE THE DESIGN LOADS AND JOB NAME AND NUMBER. THEY SHALL INCLUDE DRAWINGS OF THE FRAMING MEMBERS WITH THE CONNECTIONS, THE ANCHOR BOLT PLAN AND COLUMN BASE REACTIONS. STANDARD CUT SHEETS OF THE ABOVE ARE NOT ACCEPTABLE. STANDARD CUT SHEETS MAY BE SUBMITTED FOR SECONDARY FRAMING CONNECTION DETAILS, FLASHING AND SHEETHING DETAILS, ETC.

<u>5120 STRUCTURAL STEEL:</u>

1. STEEL WORK SHALL BE NEW AND CONFORM TO THE ANSI/AISC 360-05 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
2. MATERIAL SHALL CONFORM TO THE FOLLOWING, EXCEPT AS NOTED:

WIDE FLANGE SHAPES	ASTM A992 (Fy=50 KSI)
S AND M SHAPES	ASTM A36 (Fy=36 KSI)
HP SHAPES	ASTM A572 (Fy=50 KSI)
ANGLES, CHANNELS AND PLATES	ASTM A36 (Fy=36 KSI)
PIPE	ASTM A53, GRADE B (Fy=35 KSI)
RECTANGULAR HSS	ASTM A500, GRADE B (Fy=46 KSI)
ROUND HSS	ASTM A500, GRADE B (Fy=42 KSI)
HIGH STRENGTH BOLTS	ASTM A325 OR A490
TWIST-OFF TENSION CONTROL BOLTS	ASTM F1852
THREADED RODS	ASTM A36 (Fy=36 KSI)
HEAVY HEX NUTS	ASTM A563
HARDENED STEEL WASHERS	ASTM F436
DIRECT-TENSION-INDICATOR WASHERS	ASTM F959
ANCHOR RODS	ASTM F1554 GR. 36 (Fy=36 KSI)

3. ALL STRUCTURAL STEEL EXPOSED TO EXTERIOR CONDITIONS SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AND ALL FASTENERS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153.
4. GROUT UNDER BEARING PLATES SHALL BE NON-METALLIC, NON-SHRINK TYPE WITH A COMPRESSIVE STRENGTH OF AT LEAST 5,000 PSI IN 28 DAYS.
5. SIZE AND SPACING OF CONDUITS IN COMPOSITE SLABS SHALL COMPLY WITH THE REQUIREMENTS OF ASCE 3-91 UNLESS NOTED OTHERWISE ON DRAWINGS.

PAINT CONTRACTOR.

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REVISIONS AND UPDATES

1/10/14		BID AND PERMIT SET

SUWANNEE COUNTY SCHOOL BOARD
SUWANNEE PRIMARY SCHOOL
COVERED PLAY STRUCTURE
1825 WALKER AVE. SW LIVE OAK, FLORIDA

GENERAL NOTES

drawn SES | checked GCK | approved GCK

Gary C. Krueger, P.E.
Florida License #40788

FOR REVIEW NOT FOR CONSTRUCTION

Seal

AA-C001568

job no. 2012.51A

S-0.2

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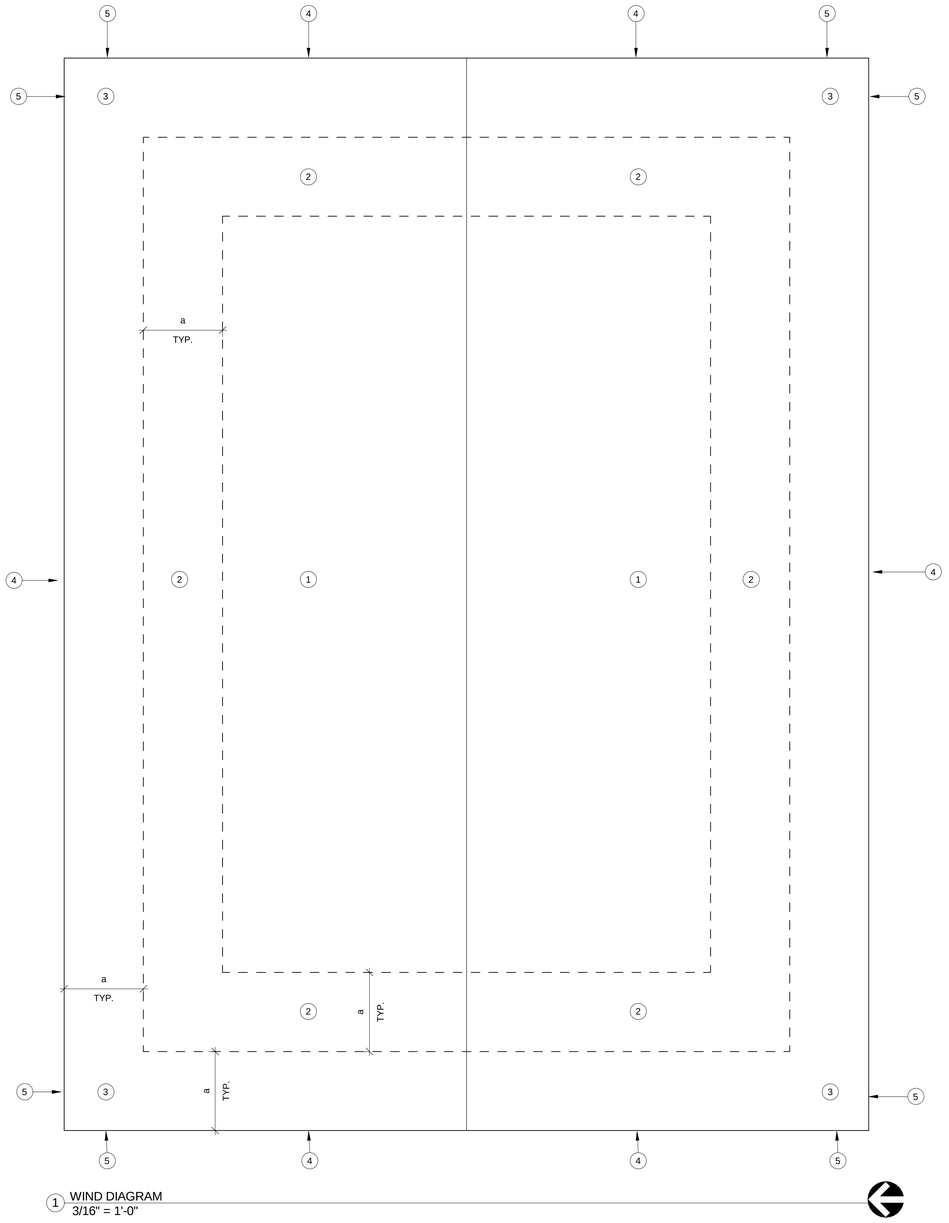


1 WIND DIAGRAM
3/16" = 1'-0"

NOMINAL C&C WIND PRESSURES (ASCE 7-10)									
BUILDING	a (FT)	Vult (MPH)	Vasd (MPH)	A (SF)	ZONE 1 (PSF)	ZONE 2 (PSF)	ZONE 3 (PSF)	ZONE 4 (PSF)	ZONE 5 (PSF)
MAIN	5.9	120	95	<10	+13.1 -12.7	+19.8 -19.4	+26.2 -38.0	+13.1 -12.7	+13.1 -12.7
				20	+13.1 -12.7	+19.8 -19.4	+26.2 -38.0	+13.1 -12.7	+13.1 -12.7
				50	+13.1 -12.7	+19.8 -19.4	+19.8 -19.4	+13.1 -12.7	+13.1 -12.7
				100+	+13.1 -12.7	+19.8 -19.4	+19.8 -19.4	+13.1 -12.7	+13.1 -12.7

NOMINAL C&C WIND PRESSURE PLAN NOTES:

1. PRESSURES SHOWN ABOVE ARE NOMINAL COMPONENTS AND CLADDING PRESSURES, CONVERTED FROM ULTIMATE PRESSURES USING A 0.6 MULTIPLIER FACTOR. NO FURTHER REDUCTION IS ALLOWED.

   A - INDICATES TRIBUTARY AREA IN S.F.
   a - INDICATES END ZONE WIDTH IN FT.
   Vult - INDICATES ULTIMATE DESIGN WIND SPEED IN MPH
   Vasd - INDICATES NOMINAL DESIGN WIND SPEED IN MPH

2. GROSS PRESSURES ARE FOR JOISTS, WINDOWS, DOORS, VENEER, LIGHT GAGE METAL FRAMING, METAL DECK ATTACHMENTS, ROOFING, ROOFING ACCESSORIES AND OTHER BUILDING COMPONENTS AND CLADDING.

3. GROSS PRESSURES SHALL BE LINEARLY INTERPOLATED FOR (A) NOT SHOWN IN TABLE.

4. POSITIVE PRESSURES INDICATE PRESSURES ACTING TOWARD A PROJECTED SURFACE. NEGATIVE PRESSURES INDICATE PRESSURES ACTING AWAY FROM A PROJECTED SURFACE.

5. ROOF AND ZONES (1) THRU (3)

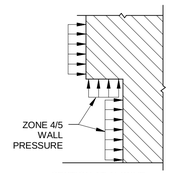
6. WALL ZONES (4) AND (5)

7. OVERHANG ZONES (2H) AND (3H) APPLY ONLY TO ROOF OVERHANGS WHERE THE COMPONENT OR CLADDING RECEIVES PRESSURE SIMULTANEOUSLY ON BOTH SIDES (UPWARD SUCTION ON TOP AND UPWARD PRESSURE ON BOTTOM, SUCH AS AT OPEN SOFFITS), AND IS CONTINUOUS WITH FIELD OF ROOF.

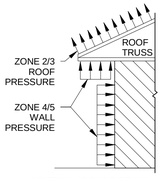
8. NET DESIGN ROOF PRESSURES SHALL BE CALCULATED USING THE SELFWEIGHT (DEAD LOAD) OF THE MATERIALS. HOWEVER, THE MAXIMUM REDUCTION OF WIND UPLIFT PRESSURES SHALL BE LIMITED TO THE SELF WEIGHT OF THE ROOF SYSTEM PLUS 5 PSF FOR SUPERIMPOSED DEAD LOADS.

9. INTERNAL PRESSURE COEFFICIENT FOR ENCLOSED BUILDING EQUALS +0.18 AND -0.18
   INTERNAL PRESSURE COEFFICIENT FOR OPEN STRUCTURE EQUALS +/- 0.00
   INTERNAL PRESSURE COEFFICIENT FOR PARTIALLY ENCLOSED STRUCTURE EQUALS +/- 0.55

10. AT ALCOVES AND CANOPIES, THE TOTAL UPLIFT PRESSURE ON THE ALCOVE SOFFIT OR CANOPY SHALL EQUAL THE WALL PRESSURE IN THAT AREA.



SECTION AT ALCOVE



SECTION AT ROOF TRUSS

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ENGINEERING FOR ARCHITECTURE www.tlc-engineers.com

COA #15 TLC NO: 513005

REVISIONS AND UPDATES		
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WIND DIAGRAM

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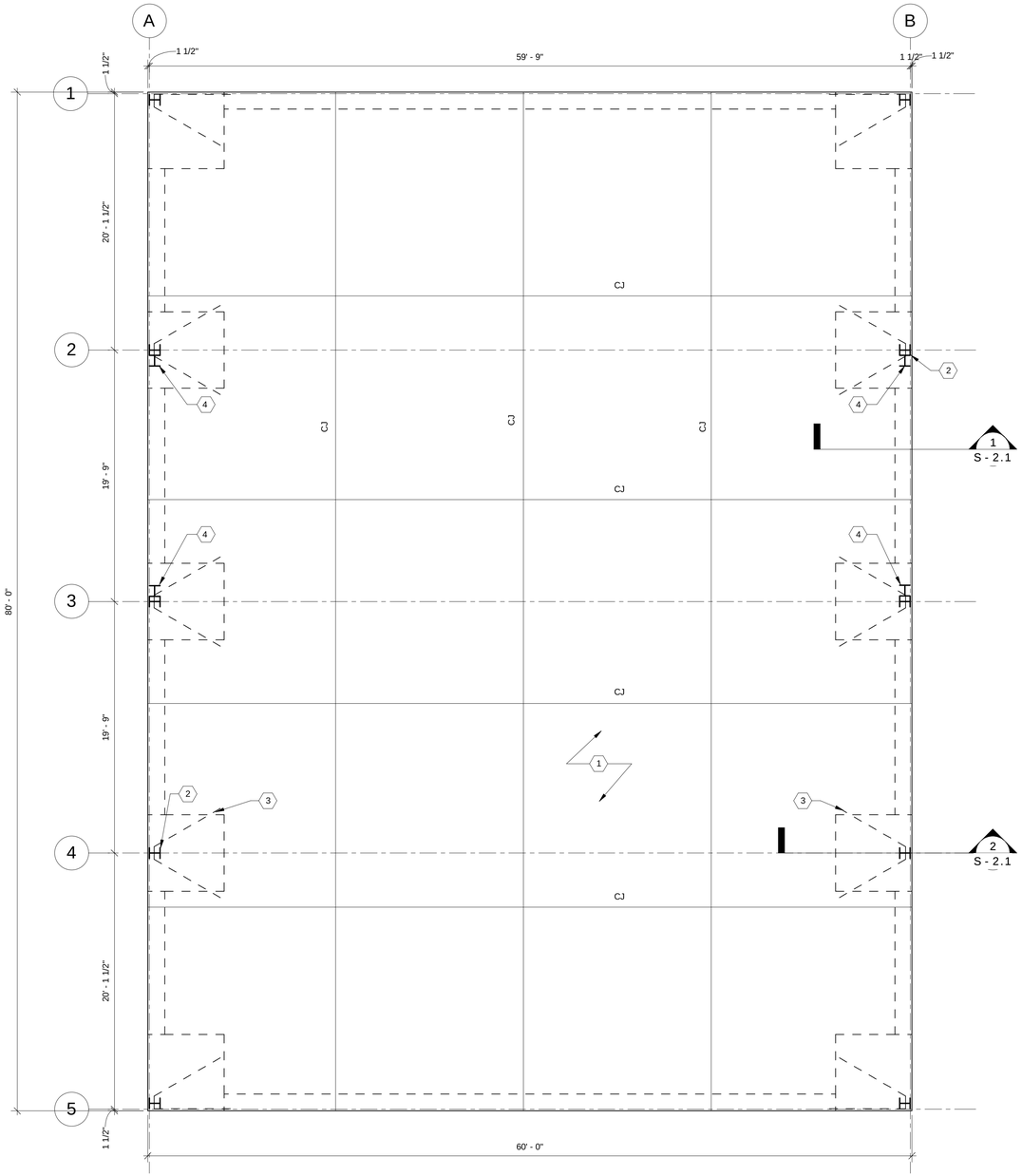
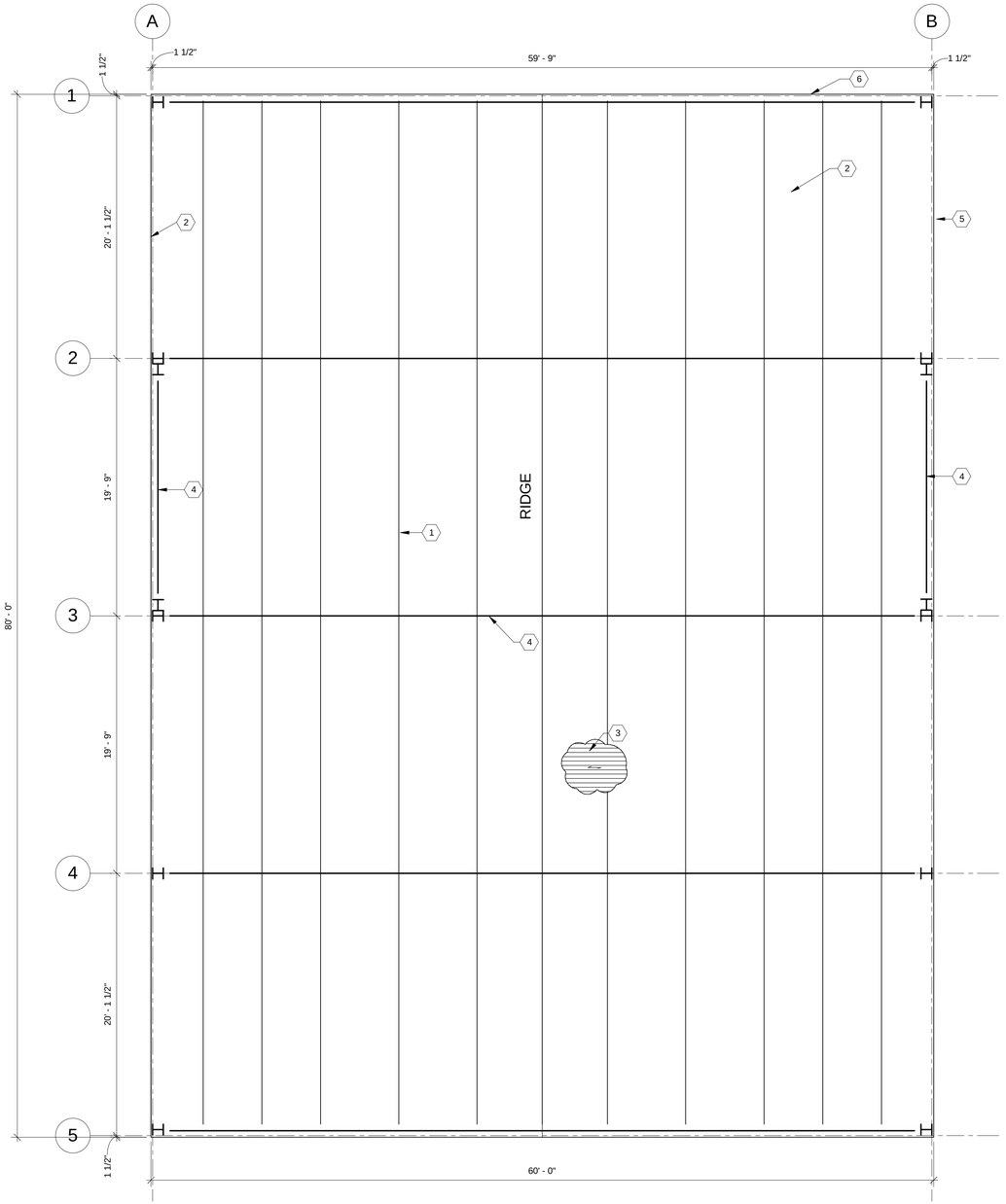


1 FOUNDATION PLAN
3/16" = 1'-0"

T/SLAB
100'-0"



2 ROOF FRAMING PLAN
3/16" = 1'-0"

FOUNDATION PLAN NOTES

1. 4" CONCRETE SLAB REINFORCED WITH 6X6 W2.9 X W.9 WWF AT MID-DEPTH ON 10 MIL, CLASS A VAPOR BARRIER ON COMPACTED FILL.
2. PRE-ENGINEERED METAL BUILDING (PEMB) FRAME.
3. #6 HAIRPIN - SEE DETAIL 3/S-2.1
4. PEMB PORTAL FRAME

ROOF FRAMING PLAN NOTES

1. PEMB PURLINS - GAGE, DEPTH, AND SPACING TO BE EN ACCORDANCE WITH SPECIFIED REQUIREMENTS
2. PEMB FRAME
3. PEMB ROOF PANEL
4. PEMB PORTAL FRAME
5. EAVE STRUT
6. RAKE ANGLE

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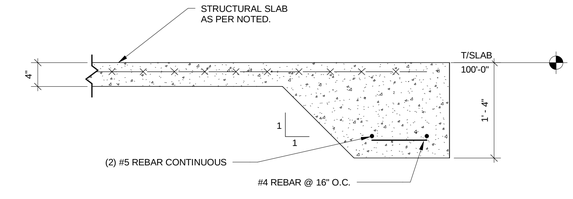
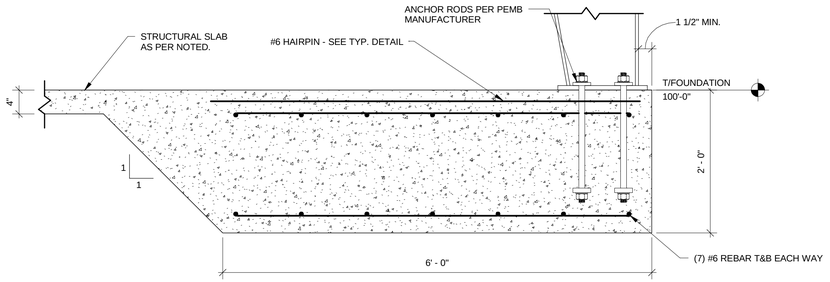
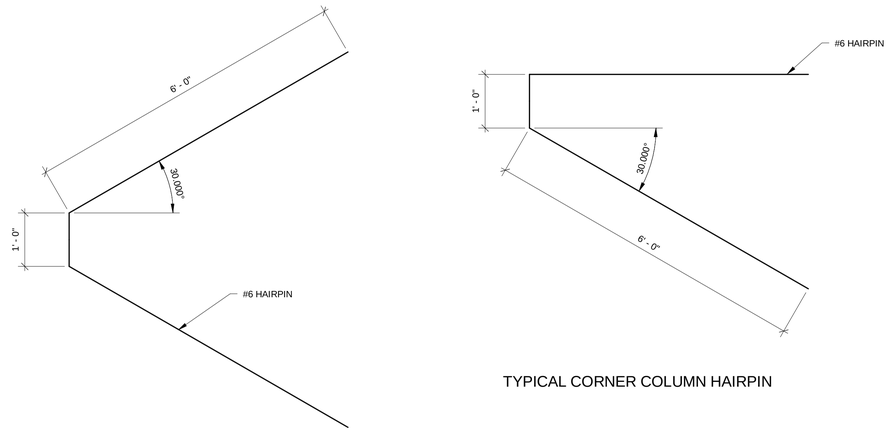


1 TYPICAL THICKENED SLAB EDGE
1" = 1'-0"



NOTE: WWF NOT SHOWN FOR CLARITY

2 TYPICAL FOUNDATION AT COLUMN
1" = 1'-0"



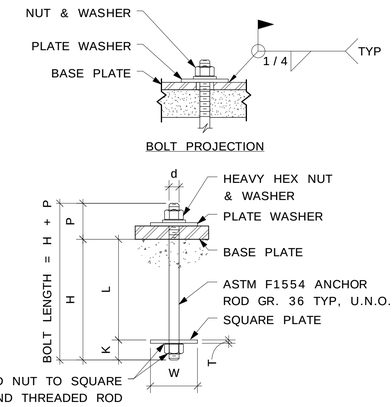
TYPICAL CORNER COLUMN HAIRPIN

3 TYPICAL HAIRPIN
3/4" = 1'-0"

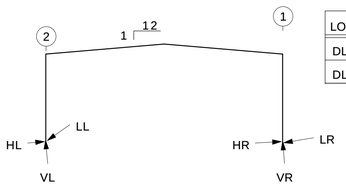
LETTERED DIMENSIONS		ANCHOR ROD DIAMETER (F1554 GR. 36)						
		1/2	5/8	3/4	7/8	1	1 1/4	1 1/2
BASE PL HOLE DIA.		1	1 1/8	1 5/16	1 9/16	1 13/16	2 1/16	2 5/16
SQUARE PLATE	W	2	2	2 1/2	2 3/4	3	4 1/4	4 1/2
	T	1/2	1/2	1/2	3/4	3/4	1	1
	HOLE DIA.	5/8	3/4	7/8	1	1 1/8	1 3/8	1 5/8
L		8	12	13	14	16	20	25
H		9 1/2	12 1/2	15	16	18	22 1/2	28
K		1 1/2	1 1/2	2	2	2	2 1/2	3
P (MIN)		2		2 1/2		3 1/2		
PLATE WASHER		1/4"x2"x2"		1/4"x3"x3"			1/4"x4"	
HOLE DIAMETER		9/16	11/16	13/16	15/16	1 1/16	1 5/16	1 9/16

*ANCHOR EMBEDMENT DEPTH "H" BASED ON 6*DIA. MIN. SPACING AND PURE TENSION.

NOTES:
1. ALL ANCHOR RODS, NUTS, WASHERS AND PLATES SHALL BE HOT DIP GALVANIZED AND SHIPPED AS COMPLETE ASSEMBLIES BY THE FABRICATOR.
2. ANCHOR ROD SIZE AND SPACING BY PEMB MANUFACTURER.



4 TYPICAL ANCHOR ROD SCHEDULE / DETAIL
3/4" = 1'-0"



LOAD	HL	VL	LL	HR	VR	LR
DL+LL	16.0	14.0	0.0	- 16.0	14.0	0.0
DL+WL	18.0	15.0	0.0	- 18.0	15.0	0.0

REACTION NOTES:
1. LOADS ARE UNFACTORED IN KIPS
2. DL = DEAD LOAD
3. LL = LIVE LOAD
4. WL = WIND LOAD
5. REACTIONS ARE REVERSIBLE FOR LOAD CASES WITH WIND LOADS
6. REACTIONS PROVIDED ARE PRELIMINARY AND ARE FOR REFERENCE ONLY. COLUMN REACTIONS AS DETERMINED BY THE PRE-ENGINEERED METAL BUILDING MANUFACTURER IN EXCESS OF TABULATED VALUES WILL RESULT IN CHANGES TO THE FOUNDATION DESIGN.

6 COVERED PLAY MAIN FRAME REACTIONS
1/4" = 1'-0"

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DETAILS & SECTIONS

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ELECTRICAL SYMBOL LEGEND

BASIC MATERIALS

SYMBOL	DESCRIPTION
S_a	SINGLE POLE SWITCH (SUBSCRIPT INDICATES ITEM CONTROLLED)
S_3	THREE-WAY SWITCH
S_4	FOUR-WAY SWITCH
S_{WP}	SINGLE POLE SWITCH WITH WEATHERPROOF COVER
S_{WPL}	SINGLE POLE SWITCH WITH WEATHERPROOF LOCKING COVER
S_L	SINGLE POLE SWITCH WITH SECURITY LOCKING KEY
S_{LV}	LOW VOLTAGE SWITCH FOR OVERRIDE ON
S_F	FAN SWITCH
S_M	MANUAL MOTOR STARTER WITH OVERLOAD HEATERS
S_{MP}	MANUAL MOTOR STARTER WITH OVERLOAD HEATERS AND PILOT LIGHT
	DUPLEX RECEPTACLE
	FLOOR OUTLET BOX AND DUPLEX RECEPTACLE WITH APPROPRIATE FLANGE.
	FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE AND ONE COMBINATION W/ VOICE/DATA OUTLET
	FLOOR OUTLET BOX WITH TWO DUPLEX RECEPTACLES AND ONE COMBINATION W/ VOICE/DATA OUTLET
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
	DUPLEX RECEPTACLE WITH TOP HALF SWITCHED
WP	GFI RECEPTACLE. WP DENOTES UL LISTED AS WEATHERPROOF IN USE AND UL LISTED WEATHER RESISTANT. MOUNTED AT 48" AFF.
	GFI RECEPTACLE MOUNTED ABOVE COUNTER
	TWO DUPLEX RECEPTACLES WITH COMMON COVER
	TWO DUPLEX RECEPTACLES WITH COMMON COVER MOUNTED ABOVE COUNTER
IG	ISOLATED GROUND DUPLEX RECEPTACLE, (ORANGE DEVICE)
	DUPLEX RECEPTACLE NOTE: TICK MARKS SHOWN ON ANY DEVICE REPRESENTS RECEPTACLE CONNECTED TO THE EMERGENCY CIRCUIT (RED DEVICE) TYPICAL FOR ANY DEVICE IN LEGEND
	SPECIAL PURPOSE RECEPTACLE, RATING AS NOTED
	LIGHTING CONTROL TIME CLOCK
	PHOTOCELL, MOUNTED ON ROOF FACING NORTH
GND	GROUND BAR
J	JUNCTION BOX
J	JUNCTION BOX- WALL MOUNTED
SPD	SURGE PROTECTION DEVICE
ST	SHUNT-TRIP BUTTON - FLUSH MOUNTED UNLESS OTHERWISE NOTED NEMA 3R FOR EXTERIOR LOCATIONS
	MAGNETIC MOTOR STARTER OR CONTACTOR SIZE AS NOTED
5	MOTOR CONNECTION, NUMBER DENOTES HORSEPOWER
VFD	VARIABLE FREQUENCY DRIVE
DDC	DIRECT DIGITAL CONTROL PANEL
T	TRANSFORMER
	AUTOMATIC TRANSFER SWITCH
30AR / NF	NON-FUSED DISCONNECT SWITCH, SIZE AS NOTED NF DENOTES NON-FUSED
30AR / 20AF	FUSED DISCONNECT AR DENOTES AMP RATING OF SWITCH AF DENOTES AMP FUSE SIZE, * DENOTES SIZE PER MANUFACTURER RECOMMENDATIONS.
MCP SIZE, # OF POLES, 30/3, 0, 3R	COMBINATION MAGNETIC MOTOR STARTER, SIZE & # OF POLES 3 POLE UNLESS OTHERWISE NOTED ENCLOSURE NEMA RATING. NEMA STARTER SIZE

BASIC MATERIALS CONT.

SYMBOL	DESCRIPTION
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT PANELBOARD, OVER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANELBOARD, OVER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT CONDUIT CONCEALED ABOVE CEILING OR IN WALL. CONDUIT SHALL INCLUDE PHASE, NEUTRAL AND GROUND CONDUCTORS AS REQUIRED FOR CIRCUITS (UNLESS OTHERWISE NOTED).
	GROUND ROD 3/4" x 20'
UP	CONDUIT TURNING UP
DN	CONDUIT TURNING DOWN
	CONDUIT STUB
	CONDUIT CONTINUED
	DISCRETE CONTROL CABLES
	ANALOG CONTROL CABLES
G	LIGHTNING PROTECTION CU CABLE GROUND LOOP

LIGHTING

	FLUORESCENT STRIP FIXTURE
	FLUORESCENT STRIP FIXTURE DIAGONAL SHADING DENOTES EMERGENCY LIGHT FIXTURE.
FIXTURE DESIGNATION: A; CIRCUIT NUMBER: 2; a	FLUORESCENT FIXTURE LOWER CASE LETTER INDICATES CONTROL CIRCUIT SWITCH LEG
	FLUORESCENT FIXTURE DIAGONAL SHADING DENOTES EMERGENCY LIGHT FIXTURE.
	FLUORESCENT WALL MOUNTED FIXTURE WITH WALL OUTLET BOX
	HID, FLUORESCENT, OR INCANDESCENT FIXTURE
	FLUORESCENT, OR INCANDESCENT WALL WASHER.
	EXIT LIGHT FIXTURE DIRECTION ARROWS AS SHOWN (SHADED QUADRANT INDICATES FACE(S) OF FIXTURE)
	WALL MOUNTED EXIT LIGHT FIXTURE
	BATTERY PACK WITH TWIN HEADS
	DUAL TECHNOLOGY OCCUPANCY SENSOR
PC	PHOTO CELL, ORIENT PHOTO CELL TO FACE NORTH

TELEPHONE/COMPUTER RACEWAY SYSTEM

	DATA/COMM OUTLET WITH FLUSH MOUNTED 4" SQUARE SINGLE GANG JUNCTION BOX. PROVIDE COVER PLATE. EXTEND 1" CONDUIT TO ELECTRICAL ROOM NEAR TELEPHONE TERMINAL BOARD AND STUB-OUT WITH PLASTIC BUSHING. INSTALL (4) CAT6 CABLE FROM OUTLET TO PATCH PANEL IN ELECTRICAL ROOM.
	TELEPHONE OUTLET WITH FLUSH MOUNTED 4" SQUARE SINGLE GANG JUNCTION BOX. PROVIDE COVER PLATE. EXTEND 1" CONDUIT TO TELEPHONE TERMINAL BOARD AND STUB-OUT WITH PLASTIC BUSHING. INSTALL (1) CAT6 CABLE FROM OUTLET TO PATCH PANEL IN ELECTRICAL ROOM.
TTB	TELEPHONE/COMPUTER TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET

FIRE ALARM/DETECTION SYSTEM

SYMBOL	DESCRIPTION
F	MANUAL PULL STATION
	CEILING SMOKE DETECTOR, PHOTO-ELECTRIC TYPE UNLESS OTHERWISE NOTED E = ELEVATOR WITH RECALL CONTACTS I = IONIZATION
R	SUPERVISED CONTROL RELAY
F / XXCD	COMBINATION SPEAKER/VISUAL NOTIFICATION DEVICE CD = CANDELA RATING
SS / XXCD	FIRE ALARM SPEAKER - CEILING MOUNTED CD = CANDELA RATING
FS / XXCD	WALL MOUNTED SPEAKER WITH STROBE CD = CANDELA RATING
SS / XXCD	FIRE ALARM SPEAKER - WALL MOUNTED CD = CANDELA RATING
F	FIRE ALARM SPEAKER WITH STROBE - CEILING MOUNTED CD = CANDELA RATING
F	VISUAL SIGNALING UNIT, WALL MOUNTED (NO AUDIO DEVICE)
TS	SPRINKLER TAMPER SWITCH CONNECTION
FS	SPRINKLER WATERFLOW SWITCH CONNECTION
H	CEILING HEAT DETECTOR 135° F UNLESS OTHERWISE INDICATED.
T	BEAM DETECTOR - TRANSMITTER
R	BEAM DETECTOR - RECEIVER
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FAAP	FIRE ALARM ANNUNCIATOR PLAN - FLUSH MOUNTED

SECURITY EQUIPMENT

PTZ	VANDAL RESISTANT FIXED DOME NETWORK CAMERA, BY OTHERS.
CR	CARD READER, BY OTHERS. MOUNT JUNCTION BOX AT 48" AFF. CONCEAL 1" CONDUIT TO SECURITY ALARM PANEL.
DC	DOOR CONTACT SWITCH. MOUNT JUNCTION BOX AT 48" AFF. CONCEAL 1" CONDUIT TO SECURITY ALARM PANEL.
I	INTERCOM, BY OTHERS. MOUNT JUNCTION BOX AT 48" AFF. CONCEAL 1" CONDUIT TO SECURITY ALARM PANEL.
PE	PUSH TO EXIT. MOUNT JUNCTION BOX AT 48" AFF. CONCEAL 1" CONDUIT TO SECURITY ALARM PANEL.

LIGHTNING PROTECTION SYSTEM

CONTRACTOR SHALL PROVIDE A COMPLETE ROOF MOUNTED LIGHTNING PROTECTION SYSTEM FOR THE ENTIRE FACILITY PER THE REQUIREMENTS OF THE DIVISION 26 SPECIFICATIONS, UL96A & NFPA 780.

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT.

GENERAL NOTES:

1. ALL WORK AND EQUIPMENT UNDER DIVISION 26 AND 27 SHALL BE IN STRICT COMPLIANCE WITH THE CODES, STANDARDS AND PRACTICES LISTED HEREIN, AND THEIR RESPECTIVE DATES ARE FURNISHED AS THE MINIMUM LATEST REQUIREMENTS.

   1. STATE OF FLORIDA.
   2. LIFE SAFETY CODE - NFPA 101.
   3. UNDERWRITERS LABORATORIES, INC. PUBLICATIONS
   4. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
   5. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
   6. NATIONAL ELECTRICAL CODE - NFPA 70.
   7. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE).
   8. NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA).
   9. REQUIREMENTS OF LOCAL POWER COMPANY.
   10. 2010 FLORIDA BUILDING CODE.
   11. THE AMERICANS WITH DISABILITIES ACT (ADA)
   12. FLORIDA ACCESSIBILITY CODE.
   13. CITY OF SUWANNEE LOCAL CODES.

2. REFER TO THE MECHANICAL, PLUMBING, CIVIL, AND STRUCTURAL DRAWINGS FOR RELATED INFORMATION AND ADDITIONAL INSTALLATION REQUIREMENTS.
3. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTION OF INTERLOCKING AND CONTROLS OF MECHANICAL UNITS AND THERMOSTAT LOCATIONS.
5. COORDINATE OUTLET BOX LOCATIONS WITH MASONRY TO MINIMIZE CUTTING OF BRICK OR BLOCK.
6. ALL MOUNTING HEIGHTS TO CENTERLINE OF DEVICE UNLESS OTHERWISE NOTED. VERIFY ALL OUTLET LOCATIONS ON THE JOB PRIOR TO ROUGH-IN.
7. WHEN INCREASED CONDUCTOR SIZES ARE SHOWN ON THE PLANS, THE LARGER CONDUCTOR SIZE SHALL BE USED THROUGHOUT THE LENGTH OF THE CIRCUIT, INCLUDING NEUTRAL AND GROUND.
8. EACH DATA, TELEPHONE, VIDEO OR OTHER SYSTEMS OUTLET REQUIRES 1" C. WITH PULL STRING STUBBED TO TTB UNLESS OTHERWISE NOTED ON PLANS. PROVIDE INSULATED BUSHINGS ON ALL CONDUITS. LABEL CONDUIT TO IDENTIFY ITS INTENDED USE (IE: TELEPHONE, DATA, ETC.).
9. EACH BRANCH CIRCUIT RACEWAY SHALL HAVE A FULL SIZE EQUIPMENT GROUND CONDUCTOR. WHERE ISOLATED GROUND CIRCUITS ARE SHOWN ON THE PLANS. PROVIDE AN ISOLATED GROUND CONDUCTOR THROUGHOUT THE LENGTH OF THE CIRCUIT IN ADDITION TO THE PHASE, NEUTRAL AND EQUIPMENT GROUND CONDUCTORS.
10. PROVIDE 18" LONG (MIN). CONDUIT SLEEVES THRU ALL WALLS WHERE CABLES ARE INDICATED OR REQUIRED TO PASS THRU WALLS. PROVIDE BUSHINGS ON BOTH ENDS. SIZE CONDUIT FOR CABLES INSTALLED. AT CABLE TRAYS, PROVIDE ONE 4" CONDUIT SLEEVE FOR EACH 4" WIDTH OF CABLE TRAY. MAXIMUMS SHALL BE.
    2"C = 10 CABLES
    2 1/2"C = 20 CABLES
    3"C = 30 CABLES
    4"C = 50 CABLES
11. ALL BRANCH CIRCUIT HOMERUNS SHALL BE ROUTED IN 3/4"C. MINIMUM.
12. LIGHT SWITCHES SHALL BE MOUNTED 48 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS NOTED OTHERWISE.
13. RECEPTACLES SHALL BE LOCATED 18 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED. ABOVE-COUNTER RECEPTACLES SHALL BE MOUNTED 6" ABOVE BACK SPLASH TO CENTERLINE OF DEVICE UNLESS NOTED OTHERWISE.
14. EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED, WITH APPROPRIATE NEMA ENCLOSURE RATING.

    A. WORKING CLEARANCES AND DEDICATED SPACE FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC 110.

15. WHEN ELECTRICAL BOXES ARE LOCATED IN VERTICAL FIRE-RESISTIVE ASSEMBLIES, (CLASSIFIED AS FIRE/SMOKE AND SMOKE PARTITIONS), THEY SHALL BE INSTALLED WITHOUT AFFECTING THE FIRE CLASSIFICATION. ALL OF THE FOLLOWING CONDITIONS SHALL BE MET:

    A. ALL ELECTRICAL BOXES SHALL BE METALLIC.

    B. BOX OPENING SHALL OCCUR ONLY ON ONE SIDE OF FRAMING SPACE.

    C. BOX OPENING SHALL NOT EXCEED 16 SQUARE INCHES.

    D. ALL CLEARANCES BETWEEN OUTLET BOX AND GYPSUM BOARD SHALL BE COMPLETELY FILLED WITH JOINT COMPOUND (OR OTHER APPROVED MATERIAL).

    E. PROVIDE A WALL AROUND OUTLETS LARGER THAT 16 SQUARE INCHES. THE INTEGRITY OF THE WALL RATING SHALL BE MAINTAINED.

    F. THE TOTAL AGGREGATE SURFACE AREA OF THE BOXES SHALL NOT EXCEED 100 SQUARE INCHES PER 100 SQUARE FEET.

    G. OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE-RESISTIVE ASSEMBLIES SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES.

    H. OUTLET BOXES SHALL BE SECURELY FASTENED TO WALL FRAMING MEMBERS.

    I. THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT NOT TO EXCEED 1/8 INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.

16. ALL DEVICES SHALL BE MOUNTED VERTICAL, UNLESS OTHERWISE NOTED.
17. ALL RECEPTACLES SHALL BE MOUNTED SUCH THAT THE GROUND PIN IS MOUNTED UP.
18. ALL BRANCH CIRCUIT CONDUITS SHALL CONTAIN A MINIMUM OF (2) #12AWG INSULATED COPPER CONDUCTORS, PLUS A MINIMUM OF (1) #12AWG GROUND WIRE UNLESS OTHERWISE NOTED. ALL BRANCH CIRCUITS AND FEEDERS SHALL HAVE INDIVIDUAL NEUTRAL CONDUCTORS.
19. COORDINATE THE LOCATION OF ALL DEVICES AND BOXES WITH WINDOWS, BUILT-INS, AND CABINETS PRIOR TO INSTALLATION OF CONDUITS OR BOXES. CONTRACTOR SHALL CONSULT ALL CONTRACT DRAWINGS TO VERIFY CONFLICTS PRIOR TO BIDDING.
20. COORDINATE HEIGHTS OF WALL MOUNTED LIGHTING FIXTURES TO CLEAR MIRRORS, CABINETS AND BUILT-INS.
21. PROVIDE A PERMANENT SIGN ON THE MAIN ELECTRICAL ROOM DOOR TO THE BUILDING STATING THAT THE MAIN SERVICE DISCONNECT(S) ARE LOCATED INSIDE.
22. COORDINATE INSTALLATION OF ANY DEVICE LOCATED IN MILLWORK WITH ARCHITECTURAL DRAWINGS AND DETAILS PRIOR TO ROUGHING IN BOXES AND ROUTING CONDUIT.
23. LOCATIONS OF EQUIPMENT SPECIFIED BY OTHER TRADES OR PROVIDED BY OWNER ARE APPROXIMATE. COORDINATE EXACT LOCATIONS IN FIELD PRIOR TO ROUGHING IN AND ROUTING CONDUIT.
24. SEE ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF LIGHT FIXTURES IN LAY-IN OR DRYWALL CEILINGS, AND ON INTERIOR AND EXTERIOR WALLS.
25. CONTRACTOR SHALL UPSIZE FEEDER AND BRANCH CIRCUIT WIRE SIZE AS REQUIRED TO COMPENSATE VOLTAGE DROP FROM LENGTHENING OF CIRCUITS DUE TO FIELD ROUTING. FINAL INSTALLATION SHALL MEET FLORIDA BUILDING CODE REQUIREMENT OF: MAXIMUM BRANCH CIRCUIT VOLTAGE DROP OF 3%:
26. REFER TO VOLTAGE DROP CHART BELOW FOR CONDUCTOR SIZES FOR BRANCH CIRCUITS

120 VOLT CIRCUIT LENGTH	MIN. CONDUCTOR UP SIZE FOR VOLTAGE DROP
0 - 70'	#12 AWG
71' - 115'	#10 AWG
116' - 180'	#8 AWG

181' AND ABOVE TO BE SUBMITTED BY EC AND APPROVED BY ENGINEER.

277 VOLT CIRCUIT LENGTH	MIN. CONDUCTOR UP SIZE FOR VOLTAGE DROP
0' - 140'	#12 AWG
141' - 220'	#10 AWG
221' - 350'	#8 AWG

351' AND ABOVE TO BE SUBMITTED BY EC AND APPROVED BY ENGINEER.

27. EMERGENCY BALLAST BATTERY PACKS AND EMERGENCY EXIT SIGNS, WHERE USED, SHALL BE CONNECTED AHEAD OF LOCAL SWITCHING.
28. PROVIDE HACR RATED CIRCUIT BREAKERS FOR ALL HVAC EQUIPMENT.
29. ELECTRICAL CONTRACTOR SHALL PROVIDE COORDINATION SHOP DRAWINGS WITH PLUMBING, FIRE PROTECTION, AND MECHANICAL DEMONSTRATING COMPLIANCE WITH DEDICATED SPACE AND WORKING CLEARANCE PER NEC.
30. CONTRACTOR SHALL PROVIDE WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE RECORD DRAWINGS OF THE ACTUAL INSTALLATION INCLUDING: SINGLE LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.
31. TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THESE PLANS AND SPECIFICATIONS COMPLY WITH THE 2010 FLORIDA BUILDING CODE AND THE FLORIDA FIRE PREVENTION CODE (2010) AND ALL LOCAL CODES AND ORDINANCES.
32. CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRICAL SERVICE FOR USE BY ALL TRADES DURING CONSTRUCTION. REMOVE TEMPORARY POWER AT THE COMPLETION OF THE PROJECT. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS TO OBTAIN TEMPORARY ELECTRICAL SERVICE.
33. CONTRACTOR SHALL PROVIDE MAIN BREAKER SETTINGS AND ALL ADJUSTABLE BREAKER SETTINGS. PROVIDE AND SUBMIT COORDINATION STUDY SHOWING COORDINATION BETWEEN MAIN BREAKER(S) AND THE REST OF POWER DISTRIBUTION. PROVIDE ADJUSTABLE BREAKER FOR AMAPCITY LARGER THAN 100A.
34. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUITS, BACK BOXES, RACEWAYS, SLEEVES, SITE CONDUIT DUCT BANKS AND MANHOLES FOR THE TELECOMMUNICATIONS SYSTEM. THE STRUCTURED CABLING CONTRACTOR (SCC) SHALL PROVIDE AND INSTALL THE WIRE AND CABLE FOR THE SYSTEMS THEY ARE INSTALLING. THE SCC SUPERVISE THE CONDUIT INSTALLATION AND VERIFY EXACT BACK BOX LOCATIONS AND CONDUIT STUB-UP LOCATIONS IN THE EQUIPMENT ROOMS.
35. PROVIDE AN ADDRESSABLE FIRE ALARM SYSTEM PER NFPA AND ALL STATE AND LOCAL CODE REQUIREMENTS. COMPLY WITH NFPA 72 AND ADA REQUIREMENTS. ALL WIRE SHALL BE INSTALLED IN CONDUIT. STATE CERTIFIED AND LICENSED FIRE ALARM CONTRACTOR SHALL PROVIDE ENGINEERED DRAWINGS AS REQUIRED. PREPARE AND SUBMIT SIGNED AND SEALED DRAWINGS FOR LOCAL JURISDICTION PERMITTING AUTHORITY.
36. FIELD VERIFY LOCATION OF AREA SMOKE DETECTORS AND HEAT DETECTORS. DO NOT LOCATE WITHIN 36" OF A HVAC DIFFUSER (SUPPLY OR RETURN), IN A DIRECT AIR FLOW PATH OR WITHIN 36" OF A SPRINKLER HEAD. SMOKE DETECTORS FOR DOOR RELEASE SHALL BE LOCATED ON THE CENTER LINE OF THE DOOR AND A MAXIMUM OF 5 FEET FROM THE DOOR. THE MINIMUM DISTANCE FROM THE DOOR IS THE DEPTH OF THE WALL SECTION ABOVE THE DOOR, BUT NOT LESS THAN 12".
37. EQUIPMENT SHUTDOWN RELAY SHALL BE LOCATED WITHIN 3 FEET OF THE EQUIPMENT CONTROLS AND THE WIRING TO THE RELAY SHALL BE MONITORED.
38. COORDINATION DRAWINGS
    THIS PROJECT REQUIRES SUBMISSION OF COORDINATION DRAWINGS. THE DIVISION 23 CONTRACTOR IS RESPONSIBLE FOR THE INITIATION AND PREPARATION OF THE COORDINATION DRAWINGS. THIS CONTRACTOR SHALL PARTICIPATE IN THE COORDINATION DRAWING PREPARATION PROCESS AND PROVIDE ALL NECESSARY INFORMATION REQUIRED TO COORDINATE ALL TRADE INFORMATION.
39. PROVIDE PERMANENT LABEL ON ALL PANELS STATING "DO NOT WIRK ON EQUIPMENT WHILE ENERGIZED, LOCK-OUT TAG-OUT REQUIRED".
40. SEAL ALL CONDUIT PENETRATIONS THAT PASS THROUGH EXTERIOR BUILDING WALLS.

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COA #15 TLC NO: 513005

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COVERED PLAY ADDITION
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ELECTRICAL LEGEND AND NOTES

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ELECTRICAL SPECIFICATIONS

GENERAL:

THE INSTALLATION SHALL COMPLY WITH ALL LOCAL LAWS AND ORDINANCES APPLICABLE TO ELECTRICAL INSTALLATIONS, AND WITH THE REGULATIONS OF THE NFPA WHERE SUCH REGULATIONS DO NOT CONFLICT WITH THOSE LAWS. OBTAIN ALL PERMITS REQUIRED.

MANUFACTURERS DRAWINGS AND DATA:
SUBMIT TO THE ENGINEER FOR APPROVAL FIVE (5) COPIES OF THE COMPLETE LIST OF ALL ELECTRICAL MATERIALS WHICH ARE PROPOSED TO BE FURNISHED FOR THIS PROJECT. AS A MINIMUM THE SUBMITTAL SHALL INCLUDE PANELBOARDS, A.I.C. OF BREAKERS INSTALLED, AND LIGHT FIXTURES.

STANDARD OF MATERIALS AND WORKMANSHIP:
ALL MATERIALS, EQUIPMENT AND APPARATUS COVERED BY THIS SPECIFICATION SHALL BE NEW, OF CURRENT MANUFACTURE AND SHALL BEAR THE SEAL OF APPROVAL OF THE UNDERWRITERS LABORATORIES. ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT AND MECHANICAL APPEARANCE WHEN COMPLETED.

STORAGE OF MATERIALS:
THE CONTRACTOR SHALL PROVIDE SUITABLE STORAGE FACILITIES FOR ALL MATERIAL FURNISHED BY HIM UNDER THIS CONTRACT. ALL ITEMS TO BE INSTALLED MUST BE FREE OF RUST AND DIRT.

FIREPROOFING:
ALL CONDUIT AND BOXES PASSING THROUGH OR INSTALLED WITHIN FIRE WALLS AND SMOKE WALLS SHALL BE INSTALLED SO AS TO MAINTAIN THE INTEGRITY OF THE WALL THROUGH WHICH IT PASSES. BOXES TO BE INSTALLED WITH 1/8" OF WALL SURFACE.

TESTING:
AT THE COMPLETION OF THE WORK, A THOROUGH TEST SHALL BE MADE IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE, AND THE ENTIRE SYSTEM SHALL BE SHOWN TO BE IN PERFECT WORKING CONDITION AS INTENDED BY THESE SPECIFICATIONS.

GUARANTEE:
THE CONTRACTOR SHALL LEAVE THE ENTIRE ELECTRICAL SYSTEM INSTALLED BY HIM UNDER THIS CONTRACT IN PROPER WORKING ORDER AND SHALL REPLACE, WITHOUT ADDITIONAL CHARGE, ALL WORK OR MATERIAL WHICH MAY DEVELOP DEFECTS, ORDINARY WEAR AND TEAR OR DAMAGE RESULTING FROM IMPROPER HANDLING EXCEPTED, WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF FINAL TESTING AND ACCEPTANCE BY THE ENGINEER. BALLASTS SHALL BE INCLUDED BUT LAMPS SHALL BE EXCLUDED.

IDENTIFICATION:

EQUIPMENT:
EQUIPMENT IDENTIFICATION SHALL BE MADE USING ENGRAVED LAMINATED PHENOLIC OR MICARTA PLATES (INDENTED TAPE LABELS WILL NOT BE PERMITTED). CHARACTERS SHALL BE WHITE ON A BLACK BACKGROUND AND 1/4" HIGH MINIMUM. PLATES SHALL BE SECURED TO THE PANELS BY MEANS OF SCREWS OR METAL PRESSURE PINS. CEMENT, BY ITSELF, WILL NOT ACCEPTABLE. ALL NAMEPLATES SHALL BE MOUNTED ON THE OUTSIDE SURFACE OF THE PIECE OF EQUIPMENT. INDIVIDUALLY ENCLOSED SAFETY SWITCHES, CIRCUIT BREAKERS, AND MOTOR STARTERS, PULL BOXES, CONTROL CABINETS AND OTHER SUCH ITEMS SHALL BE IDENTIFIED INDICATING LOAD, ELECTRICAL CHARACTERISTICS, AND SOURCE.

JUNCTION BOX IDENTIFICATION:
EACH JUNCTION BOX COVER SHALL BE LABELED WITH A PERMANENT "MAGIC" MARKER OR OTHER MEANS TO IDENTIFY THE CIRCUITS WITHIN. FOR EXAMPLE, A JUNCTION BOX CONTAINING LIGHTING CIRCUITS 21, 23, 25 FROM PANEL L2A WOULD BE LABELED "L2A-21,23,25". TELEPHONE JUNCTION BOXES SHALL BE LABELED "T". FIRE ALARM AND OTHER SYSTEM JUNCTION BOXES SHALL BE LABELED ACCORDINGLY.

GROUNDING:

IN GENERAL A GROUND WIRE SHALL BE INSTALLED IN EVERY CONDUIT. THE CONDUIT INSTALLATION ITSELF SHALL SERVE AS AN ADDITIONAL GROUNDING MEANS.

WHERE CONDUITS TERMINATE WITHOUT MECHANICAL CONNECTION (I.E. LOCKNUTS AND BUSHINGS) TO PANELBOARDS, AND FOR ALL TERMINATIONS OF CONDUIT CONTAINING #4 AWG OR LARGER WIRE; AND FOR ALL SIZES OF METALLIC CONDUIT (RIGID OR FLEXIBLE) TERMINATING IN CONCENTRIC KNOCKOUTS, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED: EACH CONDUIT SHALL BE PROVIDED WITH AN INSULATING GROUND BUSHING AND EACH BUSHING CONNECTED WITH A BARE COPPER CONDUCTOR TO THE GROUND BUS IN THE ELECTRICAL EQUIPMENT. THE GROUND CONDUCTOR SHALL BE IN ACCORDANCE WITH THE ARTICLE OF GROUNDING OF NEC.

A BONDING AND SINGLE POINT GROUNDING SYSTEM SHALL BE PROVIDED TO INTERCONNECT THE MAIN ELECTRIC SERVICE GROUND AND ALL SPECIAL ELECTRONIC SYSTEM ISOLATED GROUNDS.

CONDUIT AND FITTINGS:

MC CABLE IS ACCEPTABLE FROM ELECTRICAL PANEL TO EACH DEVICE/LIGHT FIXTURE.

NOT MORE THAN THREE CIRCUITS MAY BE INSTALLED IN ANY ONE CONDUIT UNLESS OTHERWISE INDICATED.

ALL CONDUITS SHALL BE CONCEALED UNLESS OTHERWISE NOTED ON THE DRAWINGS. EXPOSED CONDUIT WILL BE PERMITTED ONLY AS SHOWN ON THE DRAWINGS. EXPOSED CONDUIT SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO THE BUILDING WALLS. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PLASTIC OR NYLON FISH WIRE.

FLEXIBLE CONDUIT IN ALL AREAS OTHER THAN CEILING PLENUM SUBJECT TO MOISTURE SHALL BE LIQUID-TIGHT FLEXIBLE CONDUIT. ALL ELECTRICAL CONNECTIONS TO VIBRATION ISOLATED EQUIPMENT SHALL BE MADE WITH FLEXIBLE CONDUIT. ALL CONDUITS ENTERING THE BUILDING SHALL BE SUITABLY SEALED TO PREVENT THE ENTRANCE OF MOISTURE.

RACEWAYS CONCEALED IN GROUND OUTSIDE BUILDING SHALL BE A MINIMUM OF 2 FEET BELOW GRADE.

CONDUCTORS:

ALL CONDUCTORS SHALL BE COPPER OF NOT LESS THAN NINETY-EIGHT PERCENT (98%) CONDUCTIVITY, WITH NEC TYPE THHN/THWN, 600 VOLT INSULATION. CONDUCTORS NO. 12 THROUGH NO. 10 MAY BE SOLID OR STRANDED AND NO. 8 AND LARGER SHALL BE STRANDED. NO CONDUCTORS SMALLER THAN NO. 12 SHALL BE USED EXCEPT AS OTHERWISE NOTED. CONTROL CONDUCTORS SHALL BE NO. 14.

NEUTRAL WIRES SHALL BE PIGTAILED TO RECEPTACLES SO THAT RECEPTACLE CAN BE REMOVED FOR REPLACEMENT WITHOUT THE NEUTRAL CONNECTION TO OTHER RECEPTACLES ON THE CIRCUIT BEING DISCONNECTED. WHEN STRANDED WIRE IS USED FOR RECEPTACLE AND LIGHTING CIRCUIT, CONNECTIONS TO THE DEVICES SHALL BE MADE USING VINYL INSULATED "STAKON" CONNECTOR TERMINALS.

CABLE AND WIRE SPLICES:

THE MATERIALS SHALL BE COMPATIBLE WITH THE CONDUCTORS, INSULATIONS AND PROTECTIVE JACKETS OF THE RESPECTIVE CABLES AND WIRES.

FOR CONDUCTOR SIZED NO. 6 AWG OR LARGER: SPLICES IN CONDUCTORS SHALL BE MADE WITH INDENTER, CRIMP CONNECTORS AND COMPRESSION TOOLS OR WITH BOLTED CLAMP TYPE CONNECTORS TO INSURE A SATISFACTORY MECHANICAL AND ELECTRICAL JOINT.

JUNCTION BOXES:

ALL JUNCTION BOXES AND PULL BOXES SHALL BE SIZED PER N.E.C. REQUIREMENTS AND BE OF THE PROPER NEMA CLASSIFICATION FOR THE LOCATIONS WHERE THEY ARE INSTALLED. WHERE BOXES OCCUR ABOVE OTHER THAN LIFT-OUT CEILINGS, ACCESS PANELS MUST BE PROVIDED.

OUTLET BOXES:

SWITCH AND RECEPTACLE OUTLET BOXES SHALL BE FOUR INCH (4") SQUARE OR FOUR AND ELEVEN SIXTEENTHS INCH (4-11/16") A MINIMUM OF 1-1/2" DEEP WITH SWITCH RING AS REQUIRE OR GANG BOXES A MINIMUM OF 2" DEEP WHEN MORE THAN TWO DEVICES MOUNT UNDER A COMMON COVER.

WALL TELEPHONE OUTLETS SHALL BE FOUR INCH (4") SQUARE BOXES WITH STANDARD SWITCH COVERS AND TELEPHONE COVER PLATES.

LOCATION OF OUTLETS:
THE APPROXIMATE LOCATIONS OF OUTLETS, ETC. ARE SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE DETERMINED AT THE BUILDING. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTE THE LOCATIONS AND HEIGHTS OF CABINETS, ETC. BEFORE THE INSTALLATION OF OUTLETS.

SAFETY SWITCHES:

SAFETY SWITCHES SHALL BE "HD" (HEAVY DUTY) UNLESS NOTED OTHERWISE, FUSED OR NON-FUSIBLE AS INDICATED WITH NUMBER OF POLES AS SHOWN OR REQUIRED. SAFETY SWITCHES FOR EQUIPMENT MAY BE NON-FUSED ONLY IF EQUIPMENT IS UL TESTED WITH CIRCUIT BREAKER PROTECTION. DISCONNECT SWITCHES SHALL BE PROVIDED FOR ALL MOTORS.

ACCEPTABLE MANUFACTURERS: SQ-D, GE, SIEMENS.

MOTORS AND MOTOR CONTROLS:

MOTOR STARTERS SHALL BE ACROSS-THE-LINE MAGNETIC TYPE SIZED FOR MOTOR HORSEPOWER. OVERLOADS SHALL BE PROVIDED IN EACH PHASE. HAND-OFF-AUTO SELECTOR SWITCHES, RUN PILOT LIGHTS AND AUXILIARY CONTACTS SHALL BE INCLUDED. CONTROL SHALL BE 120V, ALL CONTROL, ALARM AND INTERLOCK WIRING SHALL BE IN CONDUIT AND SHALL BE COLOR CODED.

WIRING DEVICES:

WALL SWITCHES:
ALL SWITCHES SHALL BE FLUSH ENCLOSED TYPE, SPECIFICATION GRADE, RATED AT 20 AMPERES, 120/277 VOLTS, ALTERNATING CURRENT ONLY, AND QUIET OPERATION.

MOTOR SWITCHES:
WITH INHERENT THERMAL OVERLOAD PROTECTION SHALL BE SQUARE D, TYPE F FOR FLUSH OR SURFACE MOUNTING AS REQUIRED BY THE LOCATION OF THE UNIT. UNITS SHALL BE FURNISHED WITH PILOT LIGHTS AS INDICATED.

RECEPTACLES:
GROUNDING TYPE DUPLEX RECEPTACLE, SPECIFICATION GRADE, RATED 20 AMPERES, 125 VOLTS, 2 WIRE, 3 POLE WITH GROUNDED SHUNT (YOKE PERMANENTLY GROUNDED TO THIRD CLIP).

DEVICE COLOR SHALL BE SELECTED BY ARCHITECT.

DEVICES PLATES:
ALL PLATES FOR SWITCH, RECEPTACLES AND TELEPHONE OUTLETS LOCATED IN FINISHED WALLS SHALL BE SMOOTH THERMOPLASTIC. COLOR TO MATCH DEVICE. ALL PLATES FOR OUTLETS LOCATED ON UNFINISHED WALL OR ON CONDULET TYPE FITTINGS SHALL BE ZINC COATED SHEET METAL WITH ROUNDED OR BEVELED EDGES.

ACCEPTABLE MANUFACTURERS: HUBBELL, LEVITON, P&S.

PANELBOARDS:

INTERRUPTING RATINGS SHALL BE COORDINATED WITH THE AVAILABLE SHORT CIRCUIT CURRENT. BRANCH CIRCUIT PROTECTION DEVICES SHALL BE MOLDED CASE CIRCUIT BREAKERS BOLT-ON TYPE. PANELS SHALL BE FULLY RATED.

HARDWARE SHALL CONSIST OF COMBINATION LATCH AND LOCK, ALL KEYED THE SAME.

PANEL ENCLOSURES SHALL BE FURNISHED WITHOUT KNOCKOUTS. ALL KNOCKOUTS TO BE FIELD CUT.

TYPED DIRECTORY CARDS SHALL BE FURNISHED IN EACH PANEL.

ALL PANELS SHALL BE PROVIDED WITH COPPER BUSSING, A COPPER EQUIPMENT GROUNDING BUS SIMILAR TO, BUT ISOLATED FROM THE COPPER SOLID-NEUTRAL BUS.

PANELS SHALL BE CAREFULLY ALIGNED AND RIGIDLY SECURED IN PLACE WITH THE TOP OF THE CABINETS LOCATED 78 INCHES ABOVE THE FINISHED FLOOR. FLUSH MOUNTED PANEL SHALL HAVE EIGHT (8) 1" EMPTY CONDUITS RUN FROM THE PANEL TO AN ACCESSIBLE LOCATION ABOVE THE CEILING. THE EMPTY CONDUITS SHALL BE CAPPED AND MARKED TO INDICATE THEIR ORIGIN.

EACH PANEL SHALL BE FURNISHED WITH AN IDENTIFICATION PLATE AS SPECIFIED IN THE "IDENTIFICATION" SECTION OF THIS SPECIFICATION.

ACCEPTABLE MANUFACTURERS: SQ-D, GE, SIEMENS.

LIGHTING FIXTURES:

IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY CATALOG NUMBERS IN THE FIXTURE SCHEDULE TO ENSURE THAT MATCHES THE DESCRIPTION GIVEN AND FOR PROPER CEILING MOUNTING, REQUIRED ACCESSORIES, ETC.

SURGE PROTECTION:

SURGE PROTECTION DEVICES SHALL BE PROVIDED FOR ALL NEW DISTRIBUTION EQUIPMENT. IT SHALL BE INSTALLED ON THE MAIN ELECTRICAL SERVICE, ALL DISTRIBUTION PANELS AND SELECTED SUB-PANELS, POWER SUPPLIES OF SPECIAL SYSTEMS, AND ON CIRCUITS FEEDING SELECTED MAJOR ITEMS THAT HAVE A SENSITIVE ELECTRICAL NATURE.

DEVICES SHALL BE UL 1449 3RD EDITION LISTED.

FIRE ALARM SYSTEM:

DESCRIPTION:
FURNISH, INSTALL, AND PLACE INTO OPERATING CONDITION A COMPLETE CLASS B, ADDRESSABLE FIRE ALARM SYSTEM. THE FIRE ALARM SYSTEM SHALL BE LISTED BY UNDERWRITERS' LABORATORIES INC., BE ADA COMPLIANT, BE CONSTRUCTED AND INSTALLED IN STRICT ACCORDANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION 70 AND 72 AND COMPLY WITH THE APPLICABLE REQUIREMENTS OF STATE AND LOCAL CODES. THE SYSTEM SHALL USE CLOSED LOOP INITIATING DEVICE CIRCUITS WITH INDIVIDUAL ZONE SUPERVISION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE RELATED WORK WITH ALL TRADES INVOLVED.

SHOP DRAWINGS:
SHOP DRAWINGS SHALL BE COMPLETE WITH DETAILED INFORMATION ON ALL SYSTEM COMPONENTS AS WELL AS SYSTEM WIRING DIAGRAMS. PROVIDE BATTERY SIZE AND VOLTAGE DROP CALCULATIONS, PREPARED BY A NICET LEVEL III INSTALLER.

ACCEPTABLE MANUFACTURERS: NOTIFIER, SIEMENS, SIMPLEX, SILENT KNIGHT, HOCHIKI. SYSTEM SHALL BE NON-PROPRIETARY.

PRODUCTS:
MANUAL PULL STATIONS:
DOUBLE ACTION, ADDRESSABLE

SMOKE DETECTORS:
PHOTOELECTRIC TYPE, PLUG-IN BASE, ADDRESSABLE.

DUCT SMOKE DETECTORS:
PHOTOELECTRIC TYPE, PLUG-IN BASE, ADDRESSABLE. PROVIDE WITH REMOTE STATUS INDICATORS.

HEAT DETECTORS:
135° FIXED TYPE, PLUG-IN BASE, ADDRESSABLE.

ALARM SIGNALS:
ALARM SIGNALS SHALL BE HORNS AND STROBES AS SHOWN ON THE PLAN. STROBES SHALL MEET THE MINIMUM CANDELA RATING REQUIRED BY ADA. HORNS SHALL BE ELECTRONIC TYPE, RECESSED AND HAVE A MINIMUM OUTPUT OF 90 Db AT 10 FEET.

WIRING:
WIRING SHALL BE STRANDED #14 AWG, COLOR CODED, AND NUMBERED. INSULATION SHALL BE TYPE THHN OR XHHW.

INSTALLATION:
ALL FIRE ALARM WIRING SHALL BE INSTALLED IN METAL RACEWAYS. JUNCTION BOXES SHALL BE SIZED IN ACCORDANCE WITH THE NUMBER OF WIRES AND TERMINATIONS TO BE INSTALLED. JUNCTION BOXES HAVING MORE THAN TWELVE TERMINATIONS SHALL HAVE TERMINAL STRIPS. ALL CONNECTIONS SHALL BE MADE BY OR UNDER THE DIRECT SUPERVISION OF A QUALIFIED SYSTEM TRAINED TECHNICIAN.

CERTIFICATION:
UPON COMPLETION OF INSTALLATION, THE ENTIRE SYSTEM SHALL BE TESTED BY THE MANUFACTURER 'S TECHNICIAN IN THE PRESENCE OF REPRESENTATIVES OF THE OWNER, THE ENGINEER, AND THE LOCAL AUTHORITY HAVING JURISDICTION. PRIOR TO THE FINAL CLOSE-OUT TEST, A CERTIFICATION SHALL BE FORWARDED TO THE ENGINEER AND THE LOCAL AUTHORITY HAVING JURISDICTION BY THE TECHNICIAN STATING THAT HE HAS PERSONALLY VERIFIED THE FOLLOWING:

THE SYSTEM BEING IN ACCORDANCE WITH THE SPECIFICATIONS;
THE SYSTEM BEING IN CORRECT OPERATING CONDITION.

REVISIONS AND UPDATES

01.10.14		BID AND PERMIT SET

SUWANNEE COUNTY SCHOOL BOARD
SUWANNEE PRIMARY SCHOOL
COVERED PLAY ADDITION
1625 WALKER AVE., SW LIVE OAK, FLORIDA

ELECTRICAL SPECIFICATIONS

drawn CVM | checked MMH | approved Approver

FOR REVIEW
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Seal

job no. 2012.51A

E-0.2

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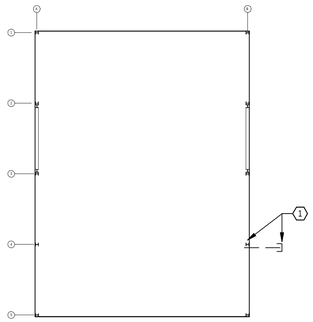

CODED NOTES:

1. PROVIDE (2) 1" CONDUITS WITH PULL STRING TO 10' OUTSIDE BUILDING PEREMITER. STUB CONDUITS UP 6' AFF AT COLUMN. CAP AND MARK CONDUITS FOR FUTURE CONNECTION.

ELECTRICAL SITE PLAN
1" = 20'-0"

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ELECTRICAL SITE PLAN

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