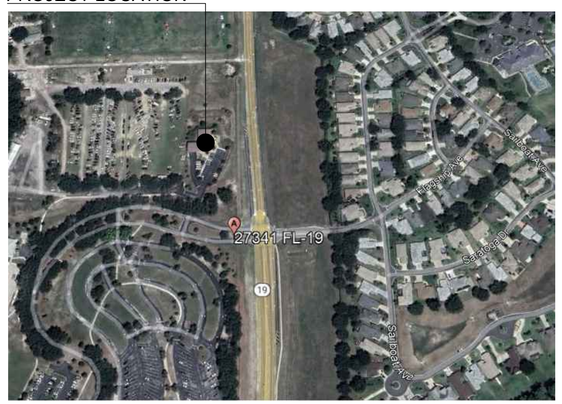
# ADDITION & RENOVATIONS

## PHASE 1

ADMINISTRATION BUILDING LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.



PROJECT LOCATION




LOCATION MAP

NTS

## SHEET DRAWING INDEX

| SHEET # | TITLE | 1 5/5/2025 PERMIT BID SET | 2 9/5/2025 CCRESPONSE | 1 12/05/25 BD RESPONSE |
|---|---|---|---|---|
| **ARCHITECTURAL** | | | | |
| A1.0 | COVER SHEET | ● | ● | |
| A1.1 | PROJECT DATA / SYMBOL LEGEND / NOTES | ● | | |
| A1.2 | TYPICAL ADA STANDARDS | ● | | |
| A3.0 | EXISTING / DEMO. FLOOR PLAN | ● | | |
| A3.1 | LIFE SAFETY PLAN | ● | ● | |
| A3.2 | FLOOR PLAN | ● | ● | |
| A3.3 | REFLECTED CEILING PLAN | ● | | |
| A4.1 | EXTERIOR ELEVATIONS | ● | | |
| A5.1 | SECTIONS & DETAILS | ● | ● | |
| A6.1 | WALL TYPES & DETAILS | ● | ● | |
| A8.1 | DOOR SCHEDULE & DOOR, WINDOW DETAILS | ● | | |
| A8.2 | DOOR & WINDOW DETAILS | ● | | |
| A10.1 | ENLARGED TOILET PLAN & TYP. INTERIOR ELEVS | ● | | |
| A10.2 | INTERIOR ELEVATIONS | ● | ● | |
| A10.3 | INTERIOR DETAILS | ● | | |
| A10.4 | FINISH PLAN & SCHEDULES | ● | | |
| AS1.1 | ARCHITECTURAL SPECIFICATIONS | ● | | |
| AS1.2 | ARCHITECTURAL SPECIFICATIONS | ● | | |
| AS1.3 | ARCHITECTURAL SPECIFICATIONS | ● | | |
| AS1.4 | ARCHITECTURAL SPECIFICATIONS | ● | | |
| AS1.5 | ARCHITECTURAL SPECIFICATIONS | ● | | |
| AS1.6 | ARCHITECTURAL SPECIFICATIONS | ● | | |
| **STRUCTURAL** | | | | |
| S0.1 | STRUCTURAL ABBREVIATIONS, SYMBOLS & LEGEND | ● | | |
| S0.2 | GENERAL NOTES | ● | | |
| S0.3 | GENERAL NOTES | ● | | |
| S1.1 | FRAMING PLAN | ● | | |
| S5.1 | STRUCTURAL DETAILS | ● | | |
| S5.2 | STRUCTURAL DETAILS | ● | | |
| **MECHANICAL** | | | | |
| M0.1 | MECHANICAL SYMBOLS, LEGEND, NOTES & INDEX | ● | | |
| M0.2 | MECHANICAL SPECIFICATIONS | ● | | |
| M1.1 | MECHANICAL NEW WORK PLAN | ● | | |
| M3.0 | MECHANICAL DETAILS | ● | ● | |
| **ELECTRICAL** | | | | |
| E0.1 | ELECTRICAL SYMBOLS, LEGEND, NOTES & INDEX | ● | | |
| E0.2 | ELECTRICAL GENERAL NOTES | ● | | |
| E0.3 | ELECTRICAL GENERAL NOTES | ● | | |
| E0.5 | ELECTRICAL SPECIFICATIONS | ● | | |
| E1.0 | ELECTRICAL LEVEL 1 - DEMOLITION PLAN | ● | | |
| E1.1 | ELECTRICAL LEVEL 1 - POWER NEW WORK PLAN | ● | | |
| E1.2 | ELECTRICAL LEVEL 1 - LIGHTING NEW WORK PLAN | ● | | |
| 1 E1.3 | ELECTRICAL LEVEL 2 - LIGHTING & POWER NEW WORK PL | | | ● |
| E6.0 | ELECTRICAL ONE-LINE DIAGRAM | ● | | |
| E6.1 | ELECTRICAL SCHEDULES | ● | | |
| E6.2 | ELECTRICAL SCHEDULES | ● | ● | |
| **TECHNOLOGY** | | | | |
| T0.1 | TECHNOLOGY SYMBOLS, LEGEND, NOTES & INDEX | ● | | |
| T0.2 | TECHNOLOGY SPECIFICATIONS | ● | | |
| T0.3 | TECHNOLOGY SPECIFICATIONS | ● | | |
| T0.4 | TECHNOLOGY SPECIFICATIONS | ● | | |
| T1.0 | TECHNOLOGY LEVEL 1 - DEMOLITION PLAN | ● | | |
| T1.1 | TECHNOLOGY LEVEL 1 - NEW WORK PLAN | ● | | |
| T5.1 | TECHNOLOGY DETAILS | ● | | |
| T6.1 | TECHNOLOGY SCHEDULES | ● | | |
| **PLUMBING** | | | | |
| P0.1 | PLUMING SYMBOLS, LEGEND, NOTES & INDEX | ● | | |
| P1.0 | PLUMING DEMOLITION PLAN | ● | | |
| P1.2 | PLUMING NEW WORK PLAN | ● | | |
| P1.3 | PLUMING ENLARGED PLAN | ● | | |
| P2.1 | PLUMING RISER DIAGRAMS | ● | ● | |
| P3.1 | PLUMING DETAILS | ● | | |

## LEGAL DESCRIPTION

GOV LOT 6-LESS NORTHEAST CORNER OF GOVERNMENT LOT 5 OF SECTION 13 TOWNSHIP 20 SOUTH RANGE 25 EAST RUN SOUTH 00-28-01 WEST ALONG EAST LINE OF SAID GOVERNMENT LOT 5 A DISTANCE OF 270.16 FEET FOR POINT OF BEGINNING, RUN SOUTH 23-34-33 EAST 64.48 FEET, SOUTH 09-54-21 EAST 189.12 FEET, SOUTH 27-27-00 EAST 49.57 FEET, SOUTH 00-30-28 EAST 171.41 FEET, SOUTH 30-41-01 WEST 57.95 FEET, SOUTH 41-15-18 WEST 64.26 FEET, SOUTH 08-21-43 WEST 25.04 FEET, SOUTH 01-10-40 EAST 140.15 FEET, SOUTH 13-20-37 WEST 64.29 FEET, SOUTH 23-36-11 WEST 11.54 FEET TO A POINT ON EAST LINE OF SAID GOVERNMENT LOT 5, NORTH 00-28-01 EAST 749.89 FEET TO THE POINT OF BEGINNING- ORB 932 PG 792

## SITE ADDRESS:

HICKORY POINT RECREATIONAL FACILITY- OFFICE BUILDING
1 27351 STATE ROAD FL-19
TAVARES, FLORIDA 32778

PARCEL ID: 13-20-25-0003-000-00700

ALTKEY: 1208190

## GENERAL NOTE - DEFERRED SUBMITTALS:

DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN APPROVED PER 107.3.4.1.

THE FOLLOWING STRUCTURAL COMPONENTS SHALL BE TREATED AS DEFERRED SUBMITTALS:

1. LIGHT GUAGE FRAMING

## PROJECT CONTACTS:


### OWNER:

LAKE COUNTY WATER AUTHORITY
LAKE COUNTY BCC
27351 STATE ROAD 19
TAVARES, FL 32778-3119
PH: (352) 343-3777
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CHUCK GROVES
EMAIL: charles.groves@lakecountyfl.gov

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PROFESSIONAL SEAL
ARCHITECT OF RECORD:
ROBERT JEFFREY POWELL, AIA

STATE OF FLORIDA · ROBERT JEFFREY POWELL · AR94675 · REGISTERED ARCHITECT

Robert Jeffrey Powell, AIA
Florida Licensed Architect #AR94675
This item has been digitally signed and sealed by Robert Jeffrey Powell, AIA#AR94675 using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies
2025.12.05 17:17:13-05'00'

PROFESSIONAL SEAL
STRUCTURAL EoR:
CHELSEA SIMPSON

CHELSEA K. SIMPSON · LICENSE · No 88662 · STATE OF FLORIDA · PROFESSIONAL ENGINEER

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Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies
chelsea.simpson@tlc-eng.com
2025.12.07 19:44:08-05'00'

Chelsea K. Simpson, P.E.
Florida License #88662

PROFESSIONAL SEAL
MECHANICAL / PLUMBING EoR:
JAMES MULLEN

JAMES C. MULLEN · LICENSE · No 60195 · STATE OF FLORIDA · PROFESSIONAL ENGINEER

Digitally signed by James C Mullen
DN: C=US, E=jmullen@tlc-eng.com, O=TLC ENGINEERING SOLUTIONS, CN=James C Mullen
Reason: THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY JAMES C. MULLEN ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES
Date: 2025.12.08 08:44:59-05'00'

JAMES C. MULLEN, P.E. FL #60195

PROFESSIONAL SEAL
ELECTRICAL / TECHNOLOGY EOR:
STEPHEN B. COTTON

STEPHEN B. COTTON · LICENSE · No 60046 · STATE OF FLORIDA · PROFESSIONAL ENGINEER

This Item has been digitally signed and sealed by Stephen B. Cotton, PE on the date adjacent to the seal using a Digital Signature. State of Florida.

STEPHEN B. COTTON, P.E. FL #60046


POWELL STUDIO ARCHITECTURE
ARCHITECTURE | INTERIOR DESIGN
713 W. MONTROSE STREET • CLERMONT, FLORIDA 34711
PH: (352) 874-2340 • FAX: (877) 680-7183
www.powellstudioarch.com
AA# 26002236



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CONSULTANT:

OWNER / PROJECT:

ADDITION & RENOVATIONS
PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| 1 | 12/05/25 | BD RESPONSE |

ISSUE DATE: NOVEMBER 14, 2025

COVER SHEET

A1.0
PERMIT / BID SET

S:\Projects\2025_22.00 - LCWA Admin Building Addition and Remodel\03_Drawings\01_ArchCad\2025-22.00_A1.0 - Cover Sheet.dwg, 12/5/2025 4:44:34 PM, AutoCAD PDF (HD LAYER) (General Documentation).pc3

## GENERAL NOTES

1. CONSTRUCTION SHALL COMPLY WITH ALL LAKE COUNTY, AND FEDERAL CODES & STANDARDS.
2. CONTRACTOR SHALL VISIT THE SITE, INVESTIGATE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BIDDING THE PROJECT.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO ANY FURTHER CONSTRUCTION.
4. CONTRACTOR SHALL COMPLY WITH THE CONTENTS OF THE SPECIFICATIONS FOR THE PROJECT.
5. DIMENSIONS LESS THAN 2'-0" MAY BE SHOWN IN INCHES, I.E. 22" = 1'-10".
6. ALL ANGLED CONDITIONS ARE 45 DEGREES UNLESS NOTED OTHERWISE.
7. THE WORD "PROVIDE" MEANS TO FURNISH AND INSTALL COMPLETE, INCLUDING CONNECTIONS, UNLESS OTHERWISE SPECIFIED.
8. ALL ITEMS OUTSIDE THE PROJECT BOUNDARIES SHALL BE PROTECTED SO AS TO INSURE THAT THEY WILL REMAIN INTACT DURING CONSTRUCTION. ALL ITEMS OUTSIDE THE PROJECT BOUNDARIES WHICH ARE DISTURBED, DAMAGED, OR SOILED DUE TO THE ACTS OF THE CONTRACTOR OR SUBCONTRACTORS, SHALL BE CLEANED, REPAIRED OR REPLACED TO THEIR PREVIOUS CONDITION AS DETERMINED BY THE ARCHITECT.
9. THE CONTRACTOR SHALL MAINTAIN FIRE ACCESS AND EGRESS AT ALL TIMES.
10. ALL FIRE SPRINKLER HEADS, SMOKE DETECTORS, OR OTHER CEILING MOUNTED EQUIPMENT SHALL BE MOUNTED IN THE CENTER OF ACOUSTICAL CEILING TILES.
11. IT IS THE INTENT OF THESE DRAWINGS AND DOCUMENTS TO PROVIDE ALL ITEMS REQUIRED FOR COMPLETE SYSTEMS WHETHER SHOWN OR NOT. CONTRACTOR SHALL PROVIDE ALL ESCUTCHEON PLATES, FINISH PLATES, TRIM PIECES, ETC. AS REQUIRED TO PROVIDE A COMPLETE AND FINISHED WORK AS DETERMINED BY THE ARCHITECT.
12. ALL WOOD USED IN CONTACT WITH CONCRETE OR MASONRY SHALL BE TREATED. FASTENERS FOR TREATED WOOD (NAILS, BOLTS, HARDWARE, ETC.) SHALL BE GALVANIZED.
13. ALL INTERIOR PARTITIONS ARE 5/8" GYPSUM BOARD, TAPED AND PAINT TEXTURED WITH ORANGE PEEL FINISH UNLESS OTHERWISE NOTED.
14. PARTITIONS SHALL BE LOCATED TO ALIGN WITH FURRING ON ALL MASONRY WALL CONDITIONS.
15. THE TERM 'WORK' MEANS THE CONSTRUCTION REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING ALL LABOR NECESSARY TO PRODUCE SUCH CONSTRUCTION, AND ALL MATERIALS AND EQUIPMENT INCORPORATED OR TO BE INCORPORATED THEREIN.
16. ALL WORK MENTIONED OR INDICATED IN THE CONTRACT DOCUMENTS SHALL BE PERFORMED BY THE CONTRACTOR AS PART OF THIS CONTRACT UNLESS IT IS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS THAT SUCH WORK IS TO BE DONE BY OTHERS. SHOULD THE DRAWINGS OR THE SPECIFICATIONS DISAGREE IN THEMSELVES OR WITH EACH OTHER, THE CONTRACTOR SHALL PROVIDE THE BETTER QUALITY OR GREATER QUANTITY OF WORK UNLESS OTHERWISE DIRECTED BY WRITTEN ADDENDUM TO THE CONTRACT.
17. IN THE EVENT OF ANY CONFLICT AMONG THE CONTRACT DOCUMENTS, THE DOCUMENTS SHALL BE CONSTRUED ACCORDING TO THE FOLLOWING PRIORITIES:

| | |
|---|---|
| HIGHEST PRIORITY: | MODIFICATIONS |
| SECOND PRIORITY: | AGREEMENT |
| THIRD PRIORITY: | ADDENDA - LATER DATE TO TAKE PRECEDENCE |
| FOURTH PRIORITY: | SUPPLEMENTARY GENERAL CONDITIONS |
| FIFTH PRIORITY: | GENERAL CONDITIONS |
| SIXTH PRIORITY: | SPECIFICATIONS |
| SEVENTH PRIORITY: | DRAWINGS |

18. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL REFER TO ALL OF THE DRAWINGS, INCLUDING THOSE SHOWING PRIMARILY THE WORK OF THE MECHANICAL, ELECTRICAL, AND OTHER SPECIALIZED TRADES, AND TO ALL OF THE SECTIONS OF THE SPECIFICATIONS, AND SHALL PERFORM ALL WORK REASONABLY INFERABLE THEREFROM AS BEING NECESSARY TO PRODUCE THE INDICATED RESULTS.\
19. THE MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS ARE DIAGRAMMATIC ONLY, AND ARE NOT INTENDED TO SHOW THE ALIGNMENT, PHYSICAL LOCATIONS OR CONFIGURATIONS OF SUCH WORK, UNLESS NOTED OTHERWISE. WORK SHALL BE INSTALLED WITHOUT ADDITIONAL COST TO THE OWNER TO CLEAR ALL OBSTRUCTIONS, PERMIT PROPER CLEARANCES FOR THE WORK OF OTHER TRADES, AND PRESENT AN ORDERLY APPEARANCE WHERE EXPOSED.
20. WHERE THE WORK IS TO FIT WITH EXISTING CONDITIONS OR WORK TO BE PERFORMED BY OTHERS, THE CONTRACTOR SHALL FULLY AND COMPLETELY JOIN THE WORK WITH SUCH CONDITIONS OR WORK, UNLESS OTHERWISE SPECIFIED.
21. IN ALL CASES IN WHICH A MANUFACTURER'S NAME, TRADE NAME OR OTHER PROPRIETARY DESIGNATION IS USED IN CONNECTION WITH MATERIALS OR ARTICLES TO BE FURNISHED UNDER THIS CONTRACT, WHETHER OR NOT THE PHRASE 'OR EQUAL' IS USED AFTER SUCH NAME, THE CONTRACTOR SHALL FURNISH THE PRODUCT OF THE NAMED MANUFACTURER(S) WITHOUT SUBSTITUTION, UNLESS WRITTEN REQUEST FOR SUCH SUBSTITUTION HAS BEEN SUBMITTED BY THE CONTRACTOR AND APPROVED IN WRITING BY THE ARCHITECT.
22. WHERE NO EXPLICIT QUALITY OR STANDARDS FOR MATERIALS OR WORKMANSHIP ARE ESTABLISHED FOR WORK, SUCH WORK IS TO BE OF GOOD QUALITY FOR THE INTENDED USE AND CONSISTENT WITH THE QUALITY OF THE SURROUNDING WORK AND THE CONSTRUCTION OF THE PROJECT GENERALLY.
23. THE ARCHITECT AND/OR ENGINEER OF THIS CONTRACT SET OF DOCUMENTS WILL NOT ACCEPT IRRESPONSIBILITY AS TO ANY UNAUTHORIZED CHANGES OR DEVIATIONS TO THIS PROJECT THAT DIFFER FROM THE PLANS AND SPECIFICATIONS WITHOUT FINAL WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER, AS TO SUCH ACTION.

## ABBREVIATIONS

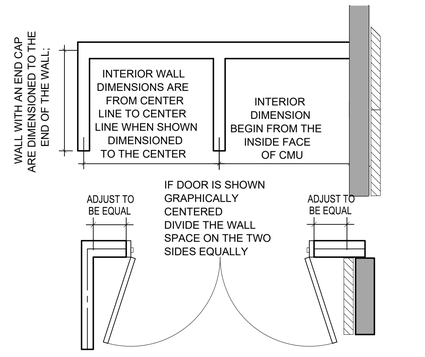
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A.B. | ANCHOR BOLT | CT | CERAMIC TILE | GALV. | GALVANIZED | REQ'D | REQUIRED |
| ABV. | ABOVE | DIA. | DIAMETER | G.C. | GENERAL CONTRACTOR | RND | ROUND |
| A/C | AIR-CONDITIONER | DISP. | DISPOSAL | GFI | GROUND FAULT INTERRUPTER | S.F. | SQUARE FOOT (FEET) |
| ADJ. | ADJUSTABLE | E.W. | EACH WAY | HGT | HEIGHT | SHT | SHEET |
| A.F.F. | ABOVE FINISHED FLOOR | ELEC. | ELECTRICAL | MFGR | MANUFACTURER | SQ. | SQUARE |
| A.H.U. | AIR HANDLER UNIT | ELEV. | ELEVATION | MIN. | MINIMUM | TEMP.A. | TEMPERED |
| BM. | BEAM | EXT. | EXTERIOR | MIR. | MIRROR | TYP. | TYPICAL |
| BOT. | BOTTOM | FBC | FLORIDA BUILDING CODE | N.T.S. | NOT TO SCALE | U.N.O. | UNLESS NOTED OTHERWISE |
| CLG. | CEILING | FIN. FLR. | FINISHED FLOOR | OPN'G | OPENING | VERT. | VERTICAL |
| CJ | CONTROL JOINT | F.G. | FIXED GLASS | PED. | PEDESTAL | VIF | VERIFY IN FIELD |
| COL. | COLUMN | FLR. | FLOOR | PSF | POUNDS PER SQUARE FOOT | VTR | VENT THROUGH ROOF |
| COMP. | A/C COMPRESSOR | FT. | FOOT / FEET | RAD | RADIUS | W/ | WITH |
| | | FX | FIXED | | | W/C | WATER CLOSET |
| | | | | | | WP | WATER PROOF |

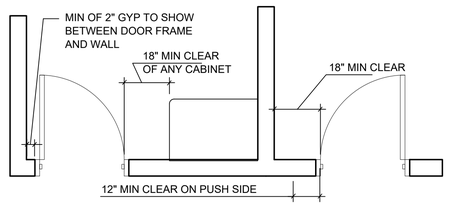
## LEGEND OF SYMBOLS

- 8" NOMINAL CONCRETE MASONRY (CMU) WALL
- INTERIOR FRAME PARTITION (SEE WALL TYPE DETAILS)
- ONE HOUR FIRE RATED INTERIOR FRAME PARTITION
- TWO HOUR FIRE RATED INTERIOR FRAME PARTITION
- TWO HOUR FIRE RATED CONCRETE MASONRY (CMU) WALL
- EXISTING 8" CONCRETE MASONRY (CMU) WALL
- EXISTING INTERIOR FRAME PARTITION
- EXISTING ONE HOUR FIRE RATED INTERIOR FRAME PARTITION
- TACTILE WARNING SURFACE
- WHEELCHAIR CLEAR TURNING DIAMETER (60")
- SITE / PARKING LOT LIGHTING
- SITE SIGN / ACCESSIBLE PARKING SPACE
- DETAIL TARGET (# / A#.#)
- BUILDING / WALL SECTION TARGET (# / A#.#)
- ELEVATION TARGET BASED ON 1ST FINISHED FLOOR AT 100'-0" UNLESS NOTED OTHERWISE
- LEVEL THRESHOLD TRANSITION 1/4" MAX. VERTICAL W/O EDGE TREATMENT 1/2" MAX. VERTICAL W/ BEVEL OF 1:2
- UNIVERSAL SYMBOL OF ACCESSIBILITY
- W.H. WATER HEATER
- ### ROOM NUMBER TAG
- 101A DOOR NUMBER TAG
- X# INTERIOR WALL TYPE TAG
- 00 INTERIOR ELEVATION TARGET
- X WINDOW TYPE ELEVATION TAG
- FE. SURFACED MOUNTED FIRE EXTINGUISHER
- FE FIRE EXTINGUISHER IN RECESSED CABINET
- EMERGENCY LIGHT
- DUAL EMERGENCY / EXIT COMBINATION LIGHT
- CEILING MOUNTED EXIT LIGHT
- CEILING MOUNTED EXIT LIGHT WITH DIRECTIONAL ARROW
- WALL MOUNTED EXIT LIGHT
- CEILING MOUNTED EXHAUST FAN
- RECESSED HVAC SUPPLY DIFFUSER
- RECESSED HVAC RETURN DIFFUSER
- 24" X 48" RECESSED FLUORESCENT LIGHT FIXTURE
- 24" X 24" RECESSED FLUORESCENT LIGHT FIXTURE
- 24" X 24" RECESSED FLUORESCENT LIGHT FIXTURE W/ EMERGENCY POWER / BATTERY BACKUP
- 24" X 24" RECESSED FLUORESCENT LIGHT FIXTURE W/ EMERGENCY POWER / BATTERY BACKUP
- RECESSED CAN LIGHT FIXTURE WITH EMERGENCY POWER / BATTERY BACKUP
- RECESSED CAN LIGHT FIXTURE
- SURFACE MOUNTED SCONCE / DECORATIVE LIGHT FIXTURE
- FIRE ALARM PULL STATION
- F FIRE ALARM HORN AND STROBE LIGHT
- V FIRE ALARM STROBE LIGHT
- A CEILING MOUNTED ACCESS PANEL
- ACCESSIBLE HI / LO DRINKING FOUNTAIN WITH CLEAR FLOOR AREA SHOWN
- MAXIMUM EXIT ACCESS TRAVEL DISTANCE WITH POINT OF BEGINNING
- FIRE SPRINKLER HEAD (CENTER ON CEILING TILE)
- OCCUPANCY SENSOR (CEILING MOUNTED)
- DRYWALL SOFFIT / BULKHEAD
- PRIMARY EGRESS DIRECTION / PATH OF TRAVEL
- 44 EGRESS WIDTH (IN INCHES)
- EGRESS WIDTH OCCUPANTS EGRESS DIRECTION / WIDTH / OCCUPANT LOAD CALCULATION
- 1 DRAWING REVISION TAG SYMBOL AND REVISION CLOUD

## GENERAL "PLAN" DIMENSIONAL CONVENTIONS

ALL PLAN DIMENSIONS SHOWN ARE BASED ON NOMINAL STUD AND CMU WALL DIMENSIONS AND ARE SUBJECT TO FIELD ADJUSTMENT FOR ACTUAL MATERIALS. PLAN DIMENSIONS HAVE A GRAPHIC TOLERANCE OF +1/4". MINIMUM CLEAR AND ALL CORRIDOR DIMENSIONS ARE NOT TO BE REDUCED. COORDINATE ALL EQUIPMENT DIMENSIONS WITH THE MANUFACTURER, OWNER, OR OWNER'S REPRESENTATIVE.




UNLESS A DOOR'S LOCATION IS DIMENSIONED OR LAID OUT SPECIFICALLY, SUCH AS SHOWN CENTERED, TYPICAL DOOR LOCATION IN A WALL SHALL BE PLACED TO MEET THE FLORIDA ACCESSIBILITY CODE FIRST + AND THE ABOVE REQUIREMENTS SECOND.

## CODE INFORMATION

### APPLICABLE CODES AND STANDARDS

| | |
|---|---|
| FLORIDA BUILDING CODE | FBC 2023 8TH ED. |
| FLORIDA PLUMBING CODE | FPC 2023 8TH ED. |
| FLORIDA MECHANICAL CODE | FMC 2023 8TH ED. |
| FLORIDA ENERGY CONSERVATION CODE | FBC 2023 8TH ED. |
| FLORIDA ACCESSIBILITY CODE | FAC 2023 8TH ED. |
| FLORIDA FIRE PREVENTION CODE, 8TH EDITION | FFPC 8TH ED. |
| NFPA-70-2020 | NATIONAL ELECTRICAL CODE |
| NFPA-1 & 101-2021 | LIFE SAFETY CODE (WITH FLORIDA AMENDMENTS) |

### PROJECT SUMMARY

THE LAKE COUNTY WATER AUTHORITY (LCWA) INTENDS TO RENOVATE AND EXPAND ITS EXISTING ADMINISTRATION BUILDING, LOCATED AT 27351 STATE ROAD 19 IN TAVARES, FLORIDA. THE CURRENT ONE-STORY STRUCTURE CONSISTS OF APPROXIMATELY 80% SQUARE FEET OF CONDITIONED OFFICE SPACE AND 20% SQUARE FEET OF NON-CONDITIONED EXISTING GARAGE/STORAGE SPACE.

TO ACCOMMODATE THE OPERATIONAL NEEDS OF ADDITIONAL STAFF AND DEPARTMENTS, LCWA PLANS TO INCREASE THE BUILDING'S CAPACITY BY RENOVATING THE EXISTING GARAGE SPACE AS PART OF A PHASE 1 EXPANSION / ALTERATION.

### OCCUPANCY PER 2023 FBC SECTION 1004

OCCUPANCY / GROUP CLASSIFICATION: B - BUSINESS

| AREA: | SF: | OCCUPANT FACTOR: | TOTAL OCCUPANTS: |
|---|---|---|---|
| EXISTING TO REMAIN | 4,419 GSF | (SEE SHEET A3.1) | |
| RENOVATION / ALTERATION LEVEL 2 | 1,959 GSF | (SEE SHEET A3.1) | |
| | 6,378 GSF (TOTAL W/ MECHANICAL MEZZANINE) | | 98 OCC. (TOTAL FOR BUILDING) |

### CONSTRUCTION: 2023 FBC TABLE 601

TYPE OF CONSTRUCTION: TYPE V-B

AUTOMATIC FIRE SPRINKLER SYSTEM: NO

AUTOMATIC FIRE ALARM SYSTEM: YES

MAX. BUILDING HEIGHT: 40'-0" (NON-SPRINKLERED) (FBC 504.3) ACTUAL BLDG HEIGHT: +/- 23'-0"

MAX. NO. OF STORIES: 2 STORIES (NON-SPRINKLERED) (FBC 504.4) ACTUAL NO. STORIES: 1

ALLOWABLE FLOOR AREA: 9,000 SF (NON-SPRINKLERED) (FBC 506.2) ACTUAL BLDG. AREA: 6,378 GSF (TOTAL W/ MECHANICAL MEZZANINE)

### FIRE PROTECTION

FIRE RESISTANCE RATING REQUIREMENTS: (FBC TABLE 601)

| (FBC 716.5) | MINIMUM FIRE RESISTANCE WALLS AND PARTITIONS | MINIMUM FIRE RESISTANCE OPENING PROTECTIVES |
|---|---|---|
| PRIMARY STRUCTURAL FRAME: | 0 | |
| BEARING WALLS - INTERIOR | 0 | |
| BEARING WALLS - EXTERIOR | 0 | |
| NONBEARING WALLS & PARTITIONS (INT.): | 0 | |
| NONBEARING WALLS & PARTITIONS (EXT.): | 0 | |
| FLOOR CONSTRUCTION: | 0 | |
| ROOF CONSTRUCTION: | 0 | |
| VERTICAL SHAFTS: | 2 HOURS | |
| FIRE DIVISION WALLS: | 3 HOURS | 1-1/2 (B) |
| EXIT ENCLOSURES: | 2 HOURS (X) | 3 (A) |
| HORIZONTAL EXITS: | 2 HOURS | 1-1/2 (B) (X) |
| CORRIDORS: | 1 HOURS | 20 MIN |
| REFUSE CHUTE ACCESS ROOM: | 1 HOURS | 3/4 (C) |

(FBC 803.1.1) FLAME SPREAD INDEX
A (0-25) / B (26-75) / C (76-200)

FINISH REQUIREMENTS BY OCCUPANCY: (FBC 803.11)
VERTICAL EXITS: N/A OTHER EXIT: N/A ROOMS OR SPACES: N/A

### PLUMBING FIXTURE CALCULATIONS

#### PLUMBING FIXTURE CALCULATION TABLE

TOTALS OCCUPANTS: 98 OCCUPANTS, 49 MEN & 49 WOMEN

WATER CLOSETS: 1 PER 25 FOR THE FIRST 50 AND 1 PER 50 FOR THE REMAINDER EXCEEDING 50
LAVATORIES: 1 PER 40 FOR THE FIRST 80 AND 1 PER 80 FOR THE REMAINDER EXCEEDING 80
WATER FOUNTAINS: 1 PER 100
SERVICE SINK: 1 REQUIRED

| | REQUIRED | | PROVIDED | | | |
|---|---|---|---|---|---|---|
| | MEN | WOMEN | UNISEX | MEN | WOMEN | TOTAL FIXTURES |
| WATER CLOSETS | 2 | 2 | 1 | 2 | 2 | **5** |
| LAVATORIES | 2 | 2 | 1 | 2 | 2 | **5** |
| WATER FOUNTAINS | 2 | | 2 (1 HI - 1 LO) | | | **2** |
| SERVICE SINK | 1 | | 1 | | | **1** |

### EXITS

MAXIMUM TRAVEL DISTANCE: 200'-0" (NON-SPRINKLERED) (FBC 1017.2)

MAXIMUM DEAD END HALL: 20'-0" (NON-SPRINKLERED) (FBC 1020.5)

MINIMUM CORRIDOR WIDTH: 44" (FBC 1020.3)

MINIMUM STAIR WIDTH: 44" (FBC 1011.2)

NUMBER OF EXITS REQUIRED: 2

NUMBER OF EXITS PROVIDED: 5 (FBC 1006.3.2)

IS A SEPARATE OR EMERGENCY SOURCE OF LIGHT REQUIRED: NO

IS SPECIAL EGRESS PANIC HARDWARE REQUIRED: NO


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CONSULTANT:

OWNER / PROJECT:

# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

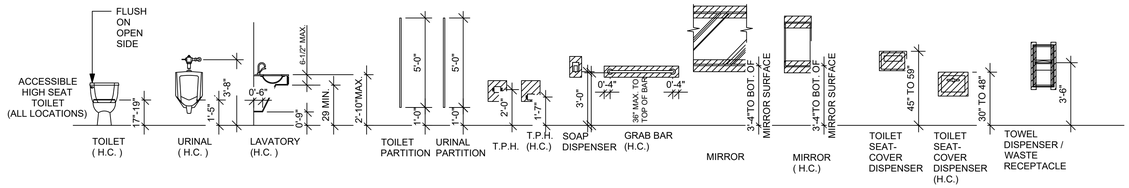
| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

PROJECT DATA / SYMBOL LEGEND / NOTES

A1.1
PERMIT / BID SET


S:\Projects\2025 - 22.00 - LCWA Admin Building Addition and Remodel\03_Drawings\01_Arch\Cad\2025-22.00_A1.1 - Project Data.dwg, 11/14/2025 2:05:15 PM, AutoCAD PDF (NO LAYERS) (General Documentation).pc3

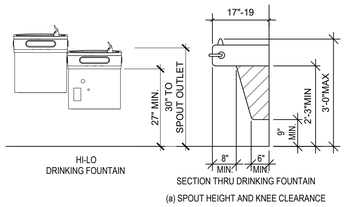



**NOTES:**

1. HORIZONTAL BLOCKING DIMENSIONS ARE MINIMUM.
2. BLOCKING TO BE FRAMED.
3. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ADDITIONAL BLOCKING REQUIREMENTS NOT SHOWN.

## 1 A1.2 COMMON AREA RESTROOM ELEVATIONS

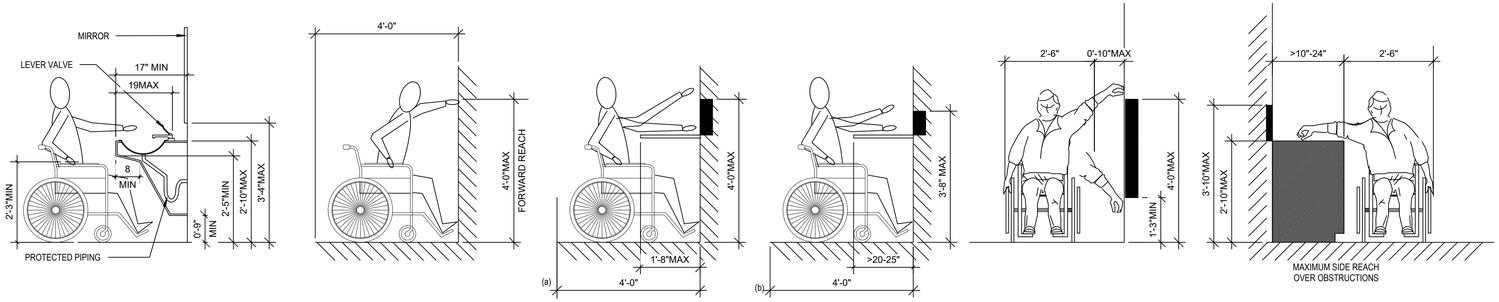
SCALE: 1/4" = 1'-0"




(a) SPOUT HEIGHT AND KNEE CLEARANCE

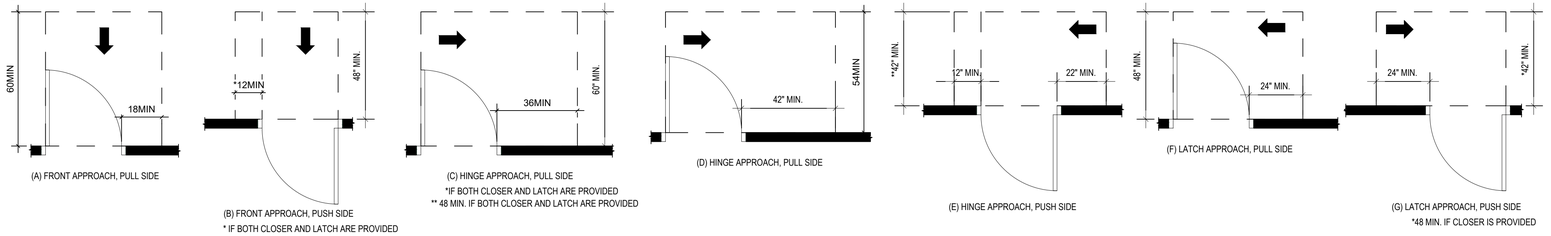
## 2 A1.2 DRINKING FOUNTAIN CLEARANCES

SCALE: 1/2" = 1'-0"




## 3 A1.2 REACH RANGES

SCALE: 1/2" = 1'-0"



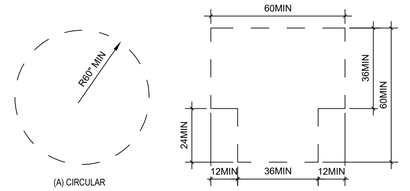

* IF BOTH CLOSER AND LATCH ARE PROVIDED

** 48 MIN. IF BOTH CLOSER AND LATCH ARE PROVIDED

*48 MIN. IF CLOSER IS PROVIDED

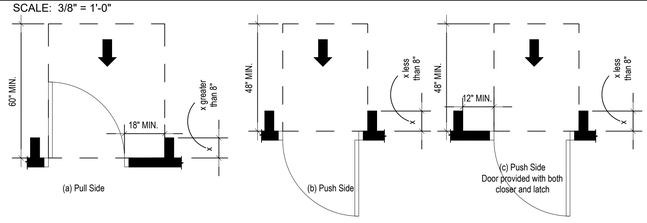
## 4 A1.2 TURNING SPACE CLEARANCE

SCALE: 3/8" = 1'-0"




## 5 A1.2 MANEUVERING CLEARANCES AT SWING DOORS

SCALE: 3/8" = 1'-0"




## 6 A1.2 CLEAR SPACE OF AN ACCESSIBLE ROUTE

SCALE: 1/2" = 1'-0"

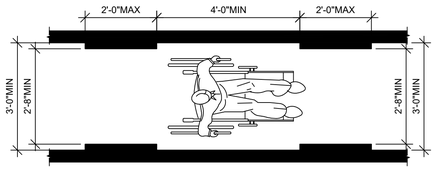
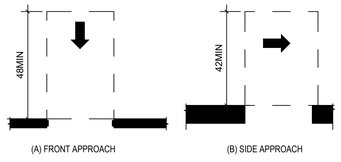



FIG. 403.5
Clear Width of an Accessible Route

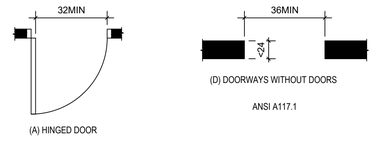
## 7 A1.2 MANEUVERING CLEARANCES AT RECESSED DOORS

SCALE: 3/8" = 1'-0"



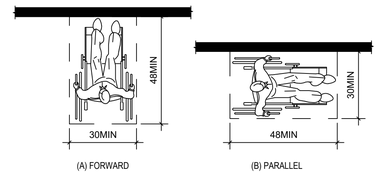

## 8 A1.2

SCALE: 3/8" = 1'-0"




## 9 A1.2 DOORWAY CLEAR WIDTHS

SCALE: 3/8" = 1'-0"




## 10 A1.2 CLEAR FLOOR SPACE

SCALE: 3/8" = 1'-0"

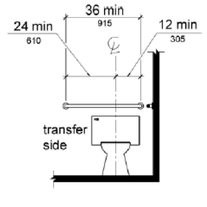



**Figure 604.5.2**
**Rear Wall Grab Bar at Water Closets**

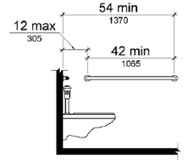



**Figure 604.5.1**
**Side Wall Grab Bar at Water Closets**

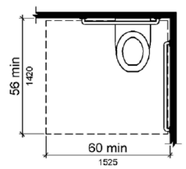
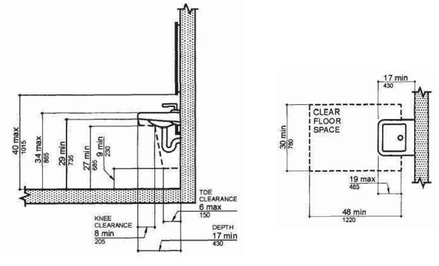



**Figure 604.3.1**
**Size of Clearance at Water Closets**

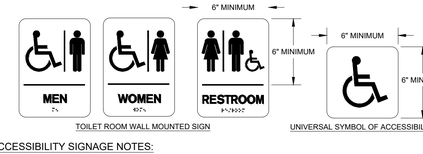
## 11 A1.2 WATER CLOSET CLEARANCES

SCALE: 3/8" = 1'-0"




## 12 A1.2 LAVATORY CLEARANCES

SCALE: 3/8" = 1'-0"




ACCESSIBILITY SIGNAGE NOTES:

CHARACTER PROPORTION:
LETTERS AND NUMBERS ON SIGNS SHALL HAVE A WIDTH-TO-HEIGHT RATIO BETWEEN 3:5 AND 1:1 AND A STROKE-WIDTH-TO-HEIGHT RATIO BETWEEN 1:5 AND 1:10.

RAISED AND BRAILLE CHARACTERS AND PICTORIAL SYMBOL SIGNS (PICTOGRAMS):
LETTERS AND NUMERIC SHALL BE RAISED 1/32 IN., UPPER CASE, SANS SERIF OR SIMPLE SERIF TYPE AND SHALL BE ACCOMPANIED WITH GRADE BRAILLE. RAISED CHARACTERS SHALL BE AT LEAST 5/8" (16 MM) HIGH, BUT NO HIGHER THAN 2 IN. (50 MM). PICTOGRAMS SHALL BE ACCOMPANIED BY THE EQUIVALENT VERBAL DESCRIPTION PLACED DIRECTLY BELOW THE PICTOGRAM. THE BORDER DIMENSION OF THE PICTOGRAM SHALL BE 6 IN. (152 MM) MINIMUM OF HEIGHT.

FINISH AND CONTRAST:
THE CHARACTERS AND BACKGROUND OF SIGNS SHALL BE EGGSHELL, MATTE, OR OTHER NON-GLARE FINISH. CHARACTERS AND SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.

MOUNTING LOCATION AND HEIGHT:
WHERE PERMANENT IDENTIFICATION IS PROVIDED FOR ROOMS AND SPACES, SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE TO THE LATCH SIDE OF THE DOOR, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST, ADJACENT WALL. MOUNTING LOCATION OF SUCH SIGNAGE SHALL BE SO THAT A PERSON MAY APPROACH WITHIN 3 IN. (76 MM) OF SIGNAGE WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE SWING OF THE DOOR. MOUNTING HEIGHT SHALL BE 60 IN. (1525 MM) ABOVE THE FINISH FLOOR TO THE CENTERLINE OF THE SIGN.

SYMBOLS OF ACCESSIBILITY:
FACILITIES AND ELEMENTS REQUIRED TO BE IDENTIFIED AS ACCESSIBLE BY SECTION 4.1 OF THE A.D.A.A.G SHALL USE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.

## 13 A1.2 ACCESSIBILITY SIGNAGE DETAILS

NOT TO SCALE

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ADDITION & RENOVATIONS
PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

TYPICAL ADA STANDARDS

A1.2
PERMIT / BID SET

S:\Projects\2025-22.00 - LCWA Admin Building Addition and Remodel\03_Drawings\01_AutoCad\2025-22.00_A1.2 - Typical ADA Standards.dwg 11/14/2025 2:01:18 PM, AutoCAD PDF (HD LAYERS (General Documentation).pc3

## DEMOLITION KEY NOTES:

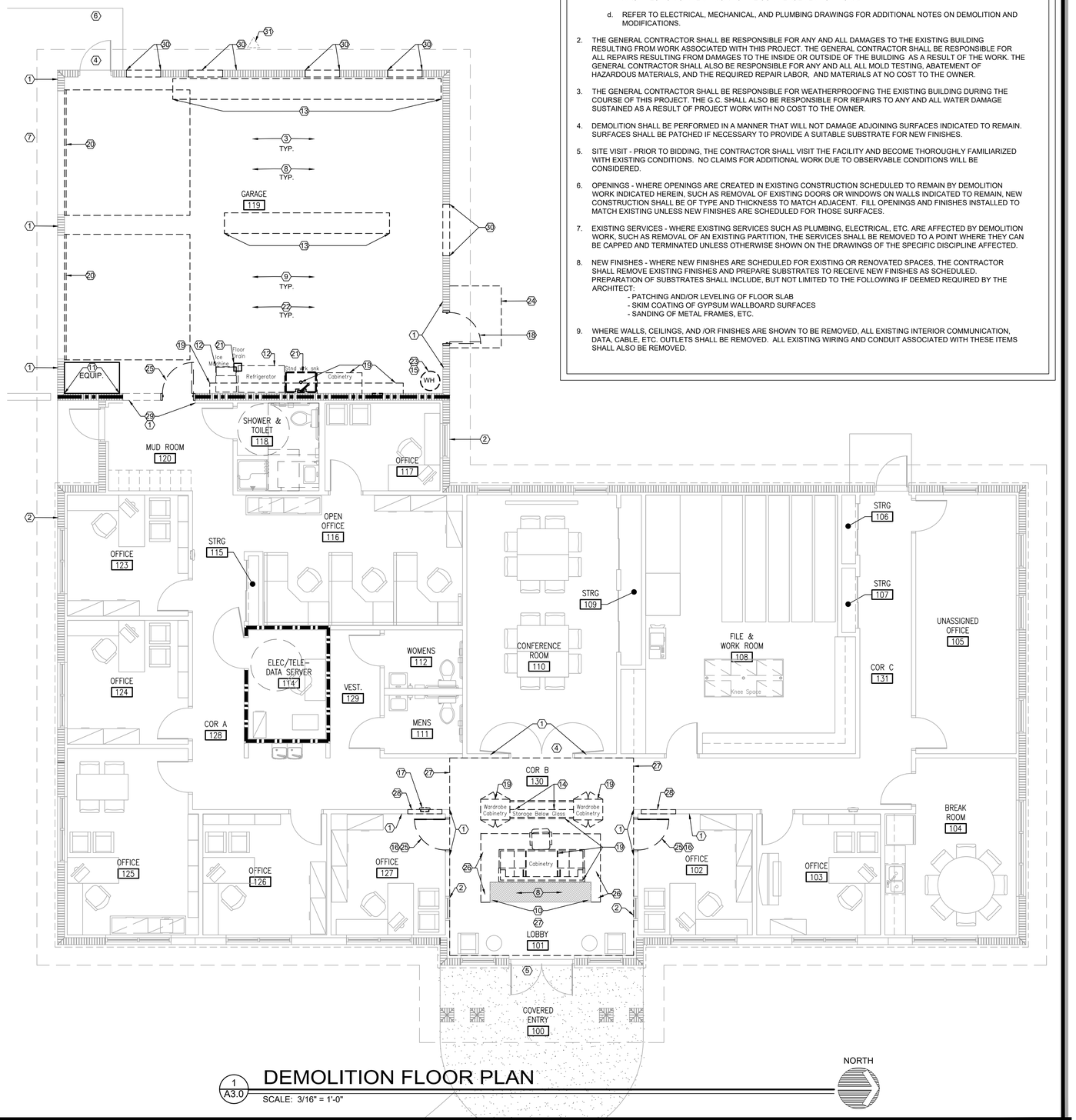
1. EXISTING WALLS TO REMAIN AS SHOWN, VERIFY EXACT LOCATION IN FIELD, TYP.
2. EXISTING STOREFRONT SYSTEM OR HOLLOW METAL WINDOW TO REMAIN; TYP.
3. EXISTING CONCRETE FLOOR SLAB ON EXISTING VISCUINE VAPOR BARRIER ON COMPACTED TERMITE TREATED FILL TO REMAIN; REFER TO NEW WORK FOR ADDITIONAL INFORMATION.
4. EXISTING DOOR AND FRAME TO REMAIN; REFER TO NEW WORK FOR POTENTIAL ADDITIONAL INFORMATION.
5. EXISTING STOREFRONT DOOR AND STOREFRONT FRAME TO REMAIN; REFER TO NEW WORK FOR ADDITIONAL INFORMATION.
6. EXISTING CONCRETE SIDEWALK PAVEMENT TO REMAIN AS SHOWN, VERIFY EXACT LOCATION IN FIELD, TYP.
7. EXISTING ASPHALT PAVEMENT TO REMAIN AS SHOWN, VERIFY EXACT LOCATION IN FIELD, TYP.
8. EXISTING GYP. BD. CEILING SOFFIT TO REMAIN. COORD. WITH RCP'S FOR NEW WORK.
9. EXISTING MECHANICAL UNIT SUSPENDED FROM EXISTING CEILING AND ASSOCIATED ITEMS SHALL REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION; REFER TO MECHANICAL DRAWINGS FOR NEW WORK .
10. EXISTING SEGMENTS OF GYP. BD. CEILING SOFFIT TO REMAIN AND BE MODIFIED. COORD. WITH RCP'S FOR NEW WORK.
11. EXISTING ELECTRICAL SYSTEM TO REMAIN; REFER TO ELECT. DWG'S
12. REMOVE AND TURN OVER TO THE OWNER EXISTING APPLIANCES; TYP.
13. REMOVE AND TURN OVER TO THE OWNER EXISTING WOOD SHELVING UNITS; TYP.
14. REMOVE AND TURN OVER TO THE OWNER EXISTING 1/2" GLAZING W/ OWNER'S LOGO AT AREA ABOVE EXINSTING MILLWORK CABINETRY
15. REMOVE EXISTING HOT WATER HEATER AND ASSOCIATED ITEMS; REFER TO MEP FOR SUPPLEMENTAL INFORMATION.
16. REMOVE AND RE-INSTALL EXISTING WOOD DOOR. COORD. WITH FLOOR PLAN'S FOR NEW WORK.
17. REMOVE AND RE-INSTALL EXISTING FIRE EXTINGUISHER AND CABINET. COORD. WITH FLOOR PLAN'S FOR NEW WORK.
18. REMOVE EXISTING HOLLOW METAL DOOR AND FRAME AS SHOWN. PROVIDE NEW WALL INFILL, COORD. WITH FLOOR PLAN'S FOR NEW WORK.
19. REMOVE EXISTING MILLWORK CABINETRY AND COUNTERTOP IN ITS ENTIRETY; TYP.
20. REMOVE EXISTING GARAGE DOOR ASSEMBLY IN ITS ENTIRETY; TYP.
21. REMOVE EXISTING PLUMBING FIXTURES / FAUCETS AS NECESSARY (REFER TO MEPFP DWGS.) CAP EXISTING PIPING NOT IN USE WITHIN SCOPE OF WORK. COORD. W/ PLANS. PATCH AND REPAIR ADJACENT FINISHES AS NECESSARY, TYP. REFER TO TYP. SLAB INFILL DETAIL ON SHEET A3.2 FOR SUPPLEMENTAL INFORMATION.
22. REMOVE EXISTING UTILITIES AS NECESSARY (REFER TO MEPFP DWGS). CAP EXISTING UTILITIES NOT IN USE THROUGHOUT ENTIRETY OF SPACE WITHIN SCOPE OF WORK. COORD. W/ PLANS. PATCH AND REPAIR ADJACENT FINISHES AS NECESSARY, TYP.
23. REMOVE EXISTING WATER HEATER CONCRETE ELEVATED PAD, PATCH AND REPAIR FLOOR & ADJACENT FINISHES AS NECESSARY AND PREPARE FOR NEW FINISHES.
24. REMOVE EXISTING CONCRETE STOOP PAVEMENT. VERIFY EXACT LOCATION IN FIELD, TYP. RESOD AND REGRADE TO MATCH ADJACENT EXISTING CONDITIONS.
25. REMOVE EXISTING HOLLOW METAL DOOR FRAME AS SHOWN. COORD. WITH FLOOR PLAN'S FOR NEW WORK.
26. REMOVE SEGMENTS OF EXISTING GYP. BD. CEILING SOFFIT. COORD. WITH RCP'S FOR NEW WORK.
27. REMOVE SEGMENTS OF EXISTING 2X2 ACT CEILING GRID AND TILE. COORD. WITH RCP'S FOR NEW WORK.
28. REMOVE SEGMENT OF EXISTING METAL STUD WALL AS SHOWN FOR NEW DOOR. COORD. WITH FLOOR PLAN'S FOR NEW WORK.
29. REMOVE SEGMENT OF EXISTING CMU WALL AS SHOWN FOR NEW CORRIDOR WIDTH. COORD. WITH FLOOR PLAN'S FOR NEW WORK.
30. REMOVE SEGMENT OF EXISTING CMU WALL AS SHOWN FOR NEW WALL OPENING OR NEW DOOR OR STOREFRONT WINDOW OPENING. COORD. WITH FLOOR PLAN'S FOR NEW WORK.
31. EXISTING EQUIPMENT ANTENNA TO REMAIN AND BE PROTECTED.

## EXISTING PLAN / SCOPE OF WORK NOTES:

1. THIS PLAN IS NOT INTENDED TO BE ALL-INCLUSIVE, ACTUAL CONDITIONS MAY VARY. G.C. SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION
2. FIELD VERIFY EXISTING WALL RATINGS, NOTIFY ARCHITECT OF ANY VARIATIONS FROM PLAN.

## DEMOLITION GENERAL NOTES:

1. G.C. SHALL BE RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED TO INSTALL NEW WORK AS SHOWN OR AS OTHERWISE INDICATED ON THIS SET OF CONSTRUCTION DRAWINGS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   a. REMOVE SEGMENTS OF EXISTING NON-LOAD BEARING WALLS, INCLUDING DOORS AND FRAMES, OR STOREFRONT AND ANY OTHER ITEMS INDICATED TO BE REMOVED ON THIS SET OF CONSTRUCTION DOCUMENTS.
   b. CONTRACTOR MUST PLAN, SCHEDULE, AND COORDINATE ALL REMOVALS (AND NEW WORK) TO AVOID INTERRUPTION OF SERVICES, ELECTRICAL, HVAC, PLUMBING, AND FIRE PROTECTION.
   c. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY ALL CONDITIONS AND DIMENSIONS WITHIN THE SCOPE OF WORK FOR THIS PROJECT. G.C. SHALL REPORT ANY PROBLEMS AND/OR DISCREPANCIES TO THE ARCHITECT OR OWNER PRIOR TO THE COMMENCEMENT OF WORK.
   d. REFER TO ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS FOR ADDITIONAL NOTES ON DEMOLITION AND MODIFICATIONS.
2. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES TO THE EXISTING BUILDING RESULTING FROM WORK ASSOCIATED WITH THIS PROJECT. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS RESULTING FROM DAMAGES TO THE INSIDE OR OUTSIDE OF THE BUILDING AS A RESULT OF THE WORK. THE GENERAL CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY AND ALL ALL MOLD TESTING, ABATEMENT OF HAZARDOUS MATERIALS, AND THE REQUIRED REPAIR LABOR, AND MATERIALS AT NO COST TO THE OWNER.
3. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR WEATHERPROOFING THE EXISTING BUILDING DURING THE COURSE OF THIS PROJECT. THE G.C. SHALL ALSO BE RESPONSIBLE FOR REPAIRS TO ANY AND ALL WATER DAMAGE SUSTAINED AS A RESULT OF PROJECT WORK WITH NO COST TO THE OWNER.
4. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ADJOINING SURFACES INDICATED TO REMAIN. SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUBSTRATE FOR NEW FINISHES.
5. SITE VISIT - PRIOR TO BIDDING, THE CONTRACTOR SHALL VISIT THE FACILITY AND BECOME THOROUGHLY FAMILIARIZED WITH EXISTING CONDITIONS. NO CLAIMS FOR ADDITIONAL WORK DUE TO OBSERVABLE CONDITIONS WILL BE CONSIDERED.
6. OPENINGS - WHERE OPENINGS ARE CREATED IN EXISTING CONSTRUCTION SCHEDULED TO REMAIN BY DEMOLITION WORK INDICATED HEREIN, SUCH AS REMOVAL OF EXISTING DOORS OR WINDOWS ON WALLS INDICATED TO REMAIN, NEW CONSTRUCTION SHALL BE OF TYPE AND THICKNESS TO MATCH ADJACENT. FILL OPENINGS AND FINISHES INSTALLED TO MATCH EXISTING UNLESS NEW FINISHES ARE SCHEDULED FOR THOSE SURFACES.
7. EXISTING SERVICES - WHERE EXISTING SERVICES SUCH AS PLUMBING, ELECTRICAL, ETC. ARE AFFECTED BY DEMOLITION WORK, SUCH AS REMOVAL OF AN EXISTING PARTITION, THE SERVICES SHALL BE REMOVED TO A POINT WHERE THEY CAN BE CAPPED AND TERMINATED UNLESS OTHERWISE SHOWN ON THE DRAWINGS OF THE SPECIFIC DISCIPLINE AFFECTED.
8. NEW FINISHES - WHERE NEW FINISHES ARE SCHEDULED FOR EXISTING OR RENOVATED SPACES, THE CONTRACTOR SHALL REMOVE EXISTING FINISHES AND PREPARE SUBSTRATES TO RECEIVE NEW FINISHES AS SCHEDULED. PREPARATION OF SUBSTRATES SHALL INCLUDE, BUT NOT LIMITED TO THE FOLLOWING IF DEEMED REQUIRED BY THE ARCHITECT:
   - PATCHING AND/OR LEVELING OF FLOOR SLAB
   - SKIM COATING OF GYPSUM WALLBOARD SURFACES
   - SANDING OF METAL FRAMES, ETC.
9. WHERE WALLS, CEILINGS, AND /OR FINISHES ARE SHOWN TO BE REMOVED, ALL EXISTING INTERIOR COMMUNICATION, DATA, CABLE, ETC. OUTLETS SHALL BE REMOVED. ALL EXISTING WIRING AND CONDUIT ASSOCIATED WITH THESE ITEMS SHALL ALSO BE REMOVED.




1 A3.0 DEMOLITION FLOOR PLAN

SCALE: 3/16" = 1'-0"


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CONSULTANT:

OWNER / PROJECT:

# ADDITION & RENOVATIONS PHASE 1

ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY

LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|

ISSUE DATE: NOVEMBER 14, 2025

EXISTING / DEMO. FLOOR PLAN

A3.0

PERMIT / BID SET


S:\Projects\2025-22.00 - LCWA Admin Building Addition and Remodel\03_Drawings\01_AutoCad\2025-22.00_A3.0 - Exist-Demo.Plan.dwg, 11/14/2025 2:01:23 PM, AutoCAD PDF (NO LAYERS (General Documentation).pc3

# LIFE SAFETY PLAN GENERAL NOTES:

1. SEE ELECTRICAL PLANS FOR EMERGENCY LIGHTING LOCATIONS & FIRE ALARMS REQUIREMENTS.
2. COMMON PATHY OF EGRESS (CPT), THAT PORTION OF EXIT ACCESS TRAVEL DISTANCE MEASURE FROM THE MOST REMOTE POINT OF EACH ROOM, AREA OR SPACE TO THAT POINT WHERE THE OCCUPANTS HAVE SEPARATE AND DISTINCT ACCESS TO TWO EXITS OR EXIT ACCESS DOORWAYS.
3. EXIT ACCESS TRAVEL DISTANCE (TDE), THE MAXIMUM LENGTH OF EXIT ACCESS TRAVEL MEASURED FROM THE MOST REMOTE POINT WITHIN A STORY TO THE ENTRANCE OF AN EXIT.
4. CONTRACTOR TO PROVIDE AND INSTALL NEW 10LB ABC FIRE EXTINGUISHERS AND COORDINATE PLACEMENTS WITH FIRE MARSHALL. INSTALL QUANTITY AS REQUIRED SO AS NOT TO EXCEED 75' OF TRAVEL TO AN EXTINGUISHER.
5. PROVIDE TACTILE EXIT SIGNS AT ALL EXIT DOORS PER NFPA 101 - 7.10.1.3.
6. VERIFY LOCATION OF ALL FIRE EXTINGUISHERS AND EXIT SIGNAGE WITH AHJ PRIOR TO INSTALLATION.

# LIFE SAFETY PLAN SYMBOL LEGEND:

- NEW INTERIOR PARTITION
- TWO HOUR FIRE RATED WALL
- ONE HOUR FIRE RATED WALL
- 68" EGRESS 340 OCCUPANTS — DOOR WIDTH ALLOWABLE OCCUPANTS LOAD
- EXIT SIGN
- FEC — FIRE EXTINGUISHER CABINET
- FE — FIRE EXTINGUISHER
- EXIT TRAVEL PATH

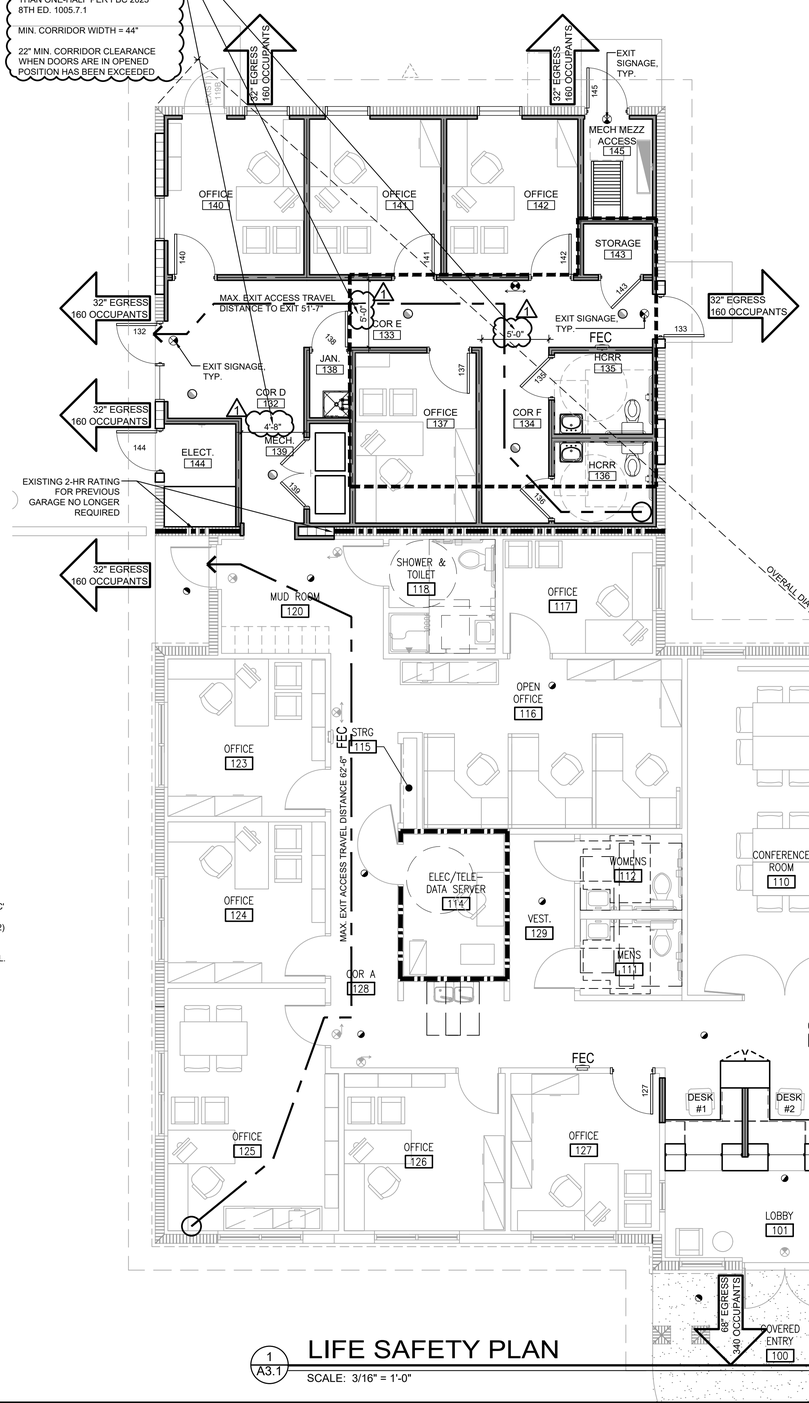
# OCCUPANT LOAD CALCULATION TABLE

| RM. NUM. | ROOM NAME | USE / FUNCTION OF SPACE (PER NFPA 101 CH. 7.3.1.2 & FBC 1004.1.2) | OCCUPANT LOAD FACTOR (1 OCCUP./ 'X' SQ. FT.) | AREA (GSF / NSF) | OCCUP. LOAD (NO. OF PERSONS) |
|---|---|---|---|---|---|
| 101 | LOBBY | ASSEMBLY | 1 OCC. / 7 NSF | 130 GSF | 19 PERSONS |
| 104 | BREAK ROOM | ASSEMBLY | 1 OCC. / 15 NSF | 202 GSF | 13 PERSONS |
| 106 | STORAGE | ACCESSORY/MECH | 1 OCC. / 300 GSF | 17 GSF | 1 PERSON |
| 107 | STORAGE | ACCESSORY/MECH | 1 OCC. / 300 GSF | 15 GSF | 1 PERSON |
| 109 | STORAGE | ACCESSORY/MECH | 1 OCC. / 300 GSF | 51 GSF | 1 PERSON |
| 110 | CONFERENCE ROOM | ASSEMBLY | 1 OCC. / 15 NSF | 363 GSF | 24 PERSONS |
| 114 | ELECTRICAL/ IT | ACCESSORY/MECH | 1 OCC. / 300 GSF | 95 GSF | 1 PERSON |
| 138 | JANITOR | ACCESSORY/MECH | 1 OCC. / 300 GSF | 30 GSF | 1 PERSON |
| 139 | MECHANICAL | ACCESSORY/MECH | 1 OCC. / 300 GSF | 30 GSF | 1 PERSON |
| 143 | STORAGE | ACCESSORY/MECH | 1 OCC. / 300 GSF | 27 GSF | 1 PERSON |
| 144 | ELECTRICAL | ACCESSORY/MECH | 1 OCC. / 300 GSF | 56 GSF | 1 PERSON |
| 145B | MECH MEZZANINE | ACCESSORY/MECH | 1 OCC. / 300 GSF | 385 GSF | 2 PERSONS |
| - - | REMAINDER OF ROOMS ARE ALL BUSINESS USE SPACES; TYP. | BUSINESS | 1 OCC. / 150 GSF | 4,977 GSF | 32 PERSONS |
| | | | | | |
| | TOTAL OFFICE OCCUPANCY: | | | | 98 PERSONS |

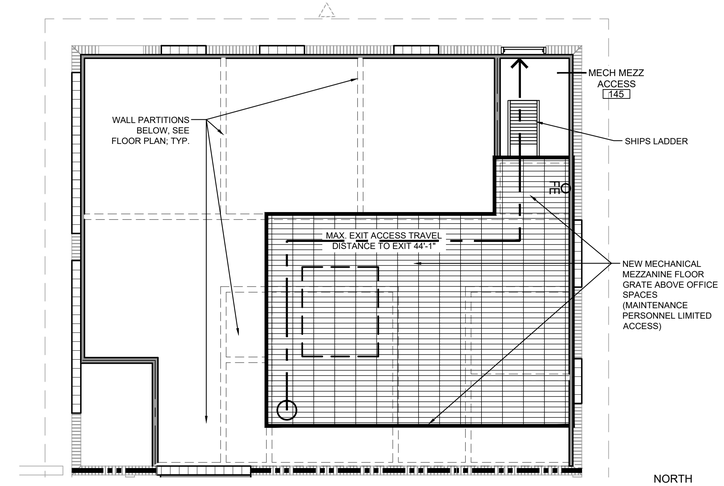
1 **GENERAL NOTE:** DOORS OPENING INTO THE EXIT TRAVEL PATH SHALL NOT REDUCE THE REQUIRED CORRIDOR WIDTH BY MORE THAN ONE-HALF PER FBC 2023 8TH ED. 1005.7.1

MIN. CORRIDOR WIDTH = 44"

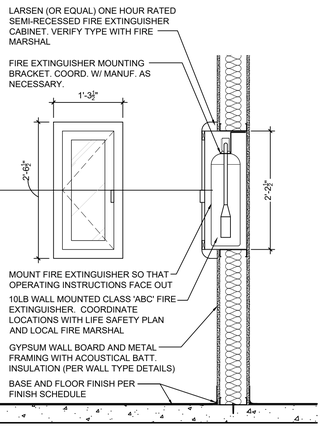
22" MIN. CORRIDOR CLEARANCE WHEN DOORS ARE IN OPENED POSITION HAS BEEN EXCEEDED



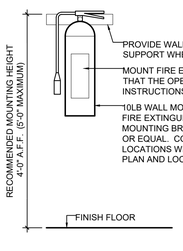

1 A3.1 LIFE SAFETY PLAN
SCALE: 3/16" = 1'-0"




2 A3.1 LIFE SAFETY PLAN - MECH. MEZZANINE
SCALE: 3/16" = 1'-0"




F.E.C.
(FIRE EXTINGUISHER CABINET)




F.E.
(FIRE EXTINGUISHER)

NOTE: G.C. TO COORDINATE TYPE AND LOCATION OF ALL FIRE EXTINGUISHERS WITH FIRE MARSHALL PRIOR TO INSTALLATION. FIRE EXTINGUISHERS TO BE AVAILABLE WITHIN 75'-0" TRAVEL DISTANCE FROM ANY POINT WITHIN FACILITY. FIRE EXTINGUISHERS SHALL BE INSTALLED SO THAT THE TOP OF THE FIRE EXTINGUISHER IS NO MORE THAN 5'-0" A.F.F. THE CABINET HANDLE SHALL BE MOUNTED NO HIGHER THAN 48" A.F.F. PER MANUFACTURER'S GUIDELINES.

2 A3.1 FIRE EXTINGUISHER DETAIL
3/4" = 1'-0"

A LIFE SAFETY PLAN IS INTENDED FOR CODE COMPLIANCE CONFIRMATION ONLY AND IS NOT TO BE USED FOR CONSTRUCTION.

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LAKE COUNTY, FL.

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| 1 | 12/05/25 | BD RESPONSE |

ISSUE DATE: NOVEMBER 14, 2025

LIFE SAFETY PLAN

A3.1
PERMIT / BID SET

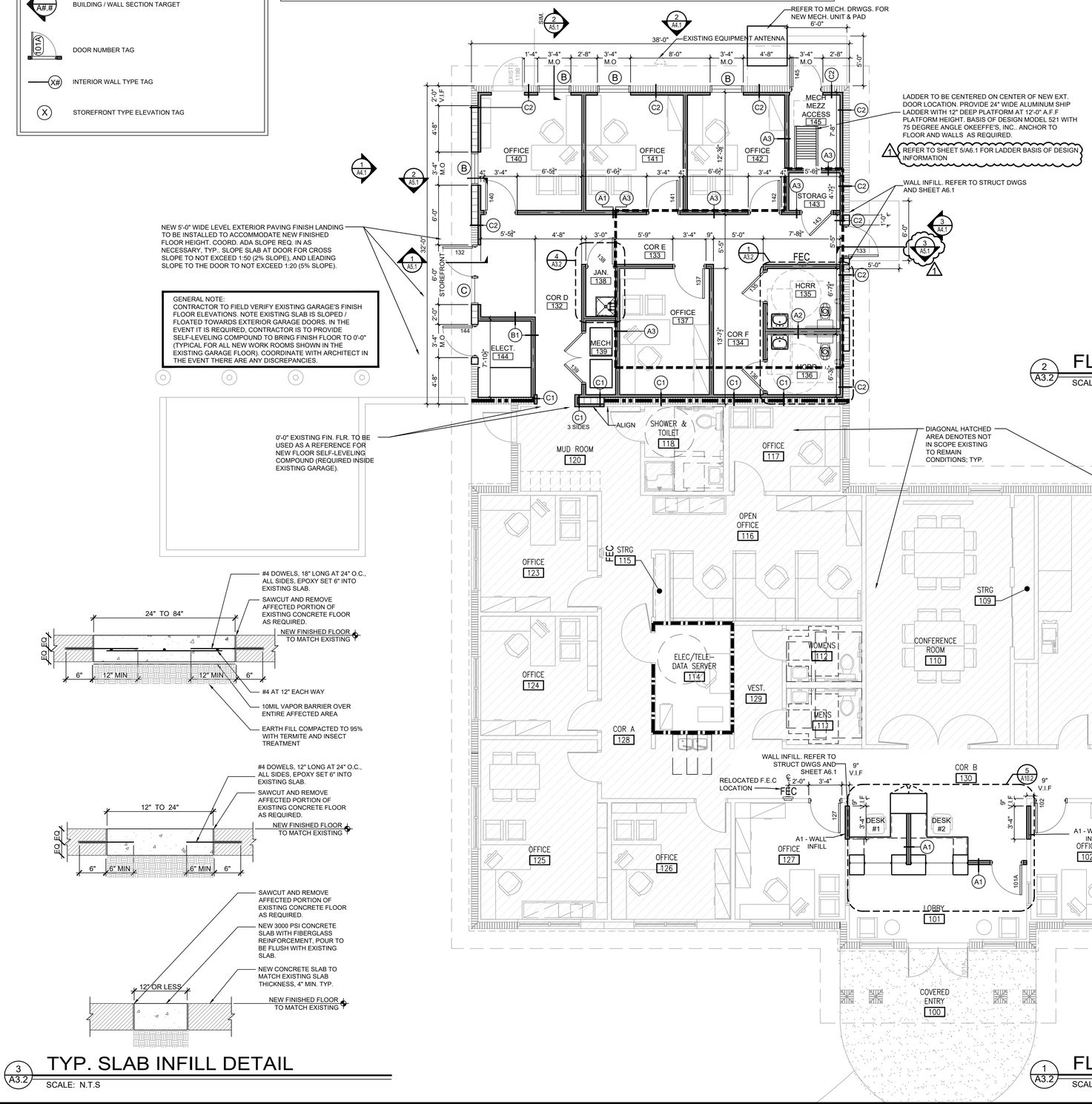
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## FLOOR PLAN SYMBOL LEGEND:

- NEW INTERIOR PARTITION
- ONE HOUR FIRE RATED WALL
- DETAIL TARGET (# / A#.#)
- BUILDING / WALL SECTION TARGET (# / A#.#)
- DOOR NUMBER TAG (101A)
- INTERIOR WALL TYPE TAG (X#)
- STOREFRONT TYPE ELEVATION TAG (X)

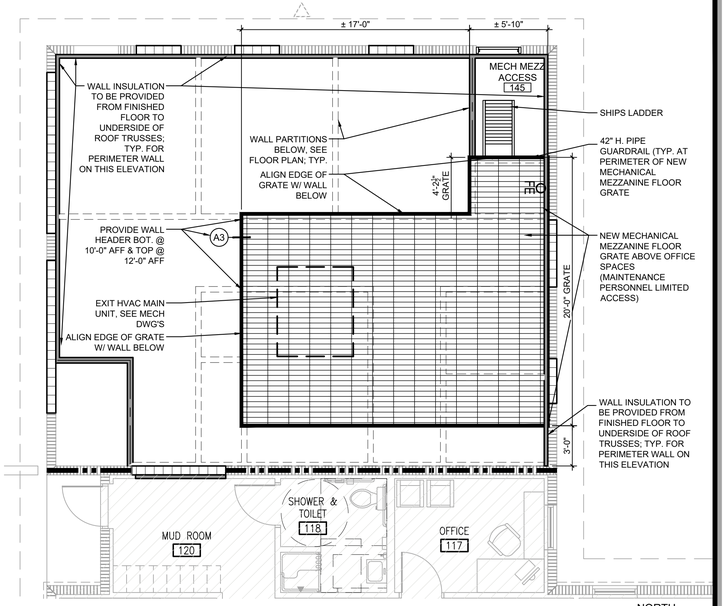
## FLOOR PLAN GENERAL NOTES:

1. CONTRACTOR TO PROVIDE AND INSTALL NEW 10LB ABC FIRE EXTINGUISHERS AND COORDINATE PLACEMENTS WITH FIRE MARSHALL. INSTALL QUANTITY AS REQUIRED SO AS NOT TO EXCEED 75' OF TRAVEL TO AN EXTINGUISHER.
2. DO NOT SCALE THE DRAWINGS. IF ANY DIMENSIONS ARE NOT CLEAR, CONTRACTOR SHALL NOTIFY THE ARCHITECT AND REQUEST CLARIFICATION.
3. THERE ARE NO EXTERIOR SIGNS AS PART OF THIS SCOPE OF WORK. EXTERIOR SIGNAGE WILL BE PERMITTED BY FUTURE TENANT.
4. REFER TO SHEET A1.1 FOR WALL HATCH, DOORS AND WINDOWS SYMBOLS, SHEETS A8.1 FOR DOOR SCHEDULE AND SHEET A8.2 FOR STOREFRONT INFORMATION.
5. REFER TO STRUCTURAL DOCUMENTS FOR LOCATIONS AND INSTALLATION OF MASONRY CONTROL JOINTS.
6. ALL WALLS ARE TO BE ASSUMED A1 U.N.O, TYP.
7. PROVIDE NEW MANUAL, MINI-BLINDS WINDOW TREATMENT,TYP. AT OFFICES 140,141 AND 142 LOCATIONS. SEE FINISH PLAN FOR BLIND MATERIAL FINISH.




## FLOOR PLAN

2 / A3.2 — SCALE: 3/16" = 1'-0"




## FLOOR PLAN - MECH. MEZZANINE

2 / A3.2 — SCALE: 3/16" = 1'-0"










## TYP. SLAB INFILL DETAIL

3 / A3.2 — SCALE: N.T.S

## FLOOR PLAN

1 / A3.2 — SCALE: 3/16" = 1'-0"

NORTH

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# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

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| 1 | 12/05/25 | BD RESPONSE |

ISSUE DATE: NOVEMBER 14, 2025

FLOOR PLAN

A3.2
PERMIT / BID SET

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## REFLECTED CEILING PLAN GENERAL NOTES:

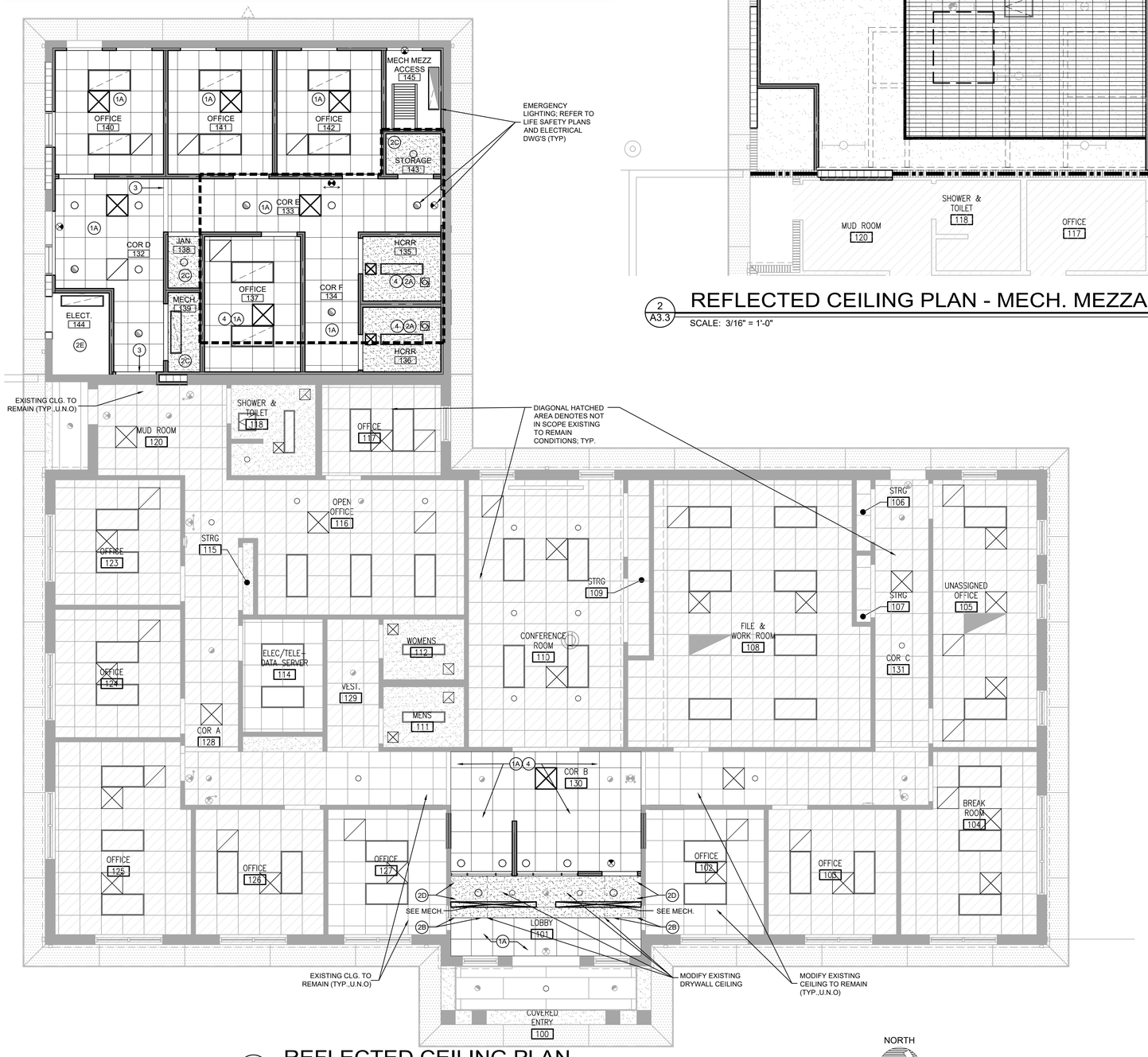
1. UNLESS NOTED OTHERWISE, ALL CEILING HEIGHTS SHALL MATCH EXISTING ACT CEILINGS AT +/- 9'-0" A.F.F (VERIFY IN FIELD).
2. SEE DIMENSIONED FLOOR PLAN FOR INTERIOR DIMENSIONS AS WELL AS DIMENSIONAL TOLERANCES.
3. ALL ITEMS INSTALLED WITHIN CEILING TILES SHALL BE CENTERED WITHIN THE TILE THE ITEM IS INSTALLED (UNLESS OTHERWISE NOTED), INCLUDING BUT NOT LIMITED TO, INCANDESCENT LIGHTING, SMOKE DETECTORS, MOTION SENSORS, ETC.
4. SEE SHEET A6.1 FOR ACOUSTICAL CEILING GRID AND PANEL SPECIFICATIONS.
5. THE FLAME SPREAD RATING OF THE ACOUSTICAL CEILING TILE SHALL BE AS FOLLOWS AND VERIFIED BY THE CONTRACTOR:
   a. FLAME SPREAD: 25 OR UNDER ASTM E-84.
   b. CLASS 'A' FLAME RESISTANCE, NON-COMBUSTIBLE IN ACCORDANCE WITH ASTM 1264, UL LABELED.
   c. NCR RANGE .55 TO .75

## REFLECTED CEILING PLAN KEY:

- (1A) 24" x 24" ACOUSTICAL TILE CEILING AT 9'-0" A.F.F (MATCH EXIST AFF & VERIFY IN FIELD; TYP).
- (2A) DRYWALL CEILING AT 8'-0" A.F.F.
- (2B) DRYWALL CEILING AT 8'-10" A.F.F. (MATCH EXISTING ADJACENT HEIGHT & VERIFY IN FIELD).
- (2C) DRYWALL CEILING AT 9'-0" A.F.F.
- (2D) DRYWALL CEILING AT 9'-4" A.F.F. (MATCH EXISTING ADJACENT HEIGHT & VERIFY IN FIELD).
- (2E) EXISTING TO REMAIN DRYWALL CEILING AT 16'-8" A.F.F. (SHOWN FOR REFERENCE).
- (3) DRYWALL BULKHEAD AT 8'-10" AFF.
- (4) ACOUSTICAL SOUND BATT ABOVE CEILING (ACOUSTIC DAMPENING).

## REFLECTED CEILING PLAN SYMBOL LEGEND:

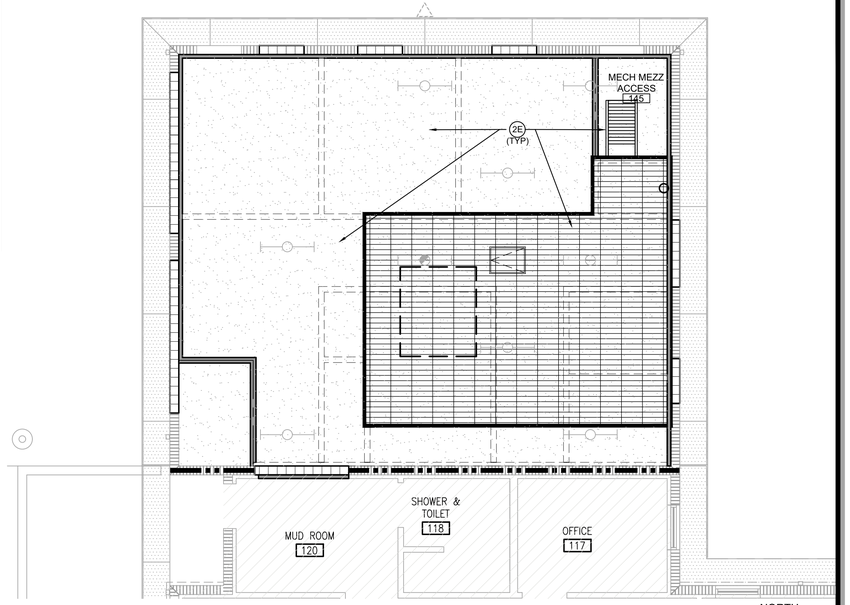
- 2'X2' FLUORESCENT LIGHT FIXTURE
- 2'X4' FLUORESCENT LIGHT FIXTURE
- 2'X4' EMERGENCY FLUORESCENT LIGHT FIXTURE (SEE MEP)
- HVAC SUPPLY
- HVAC RETURN
- EXIT LIGHT
- SMOKE DETECTOR
- DUAL TECHNOLOGY OCCUPANCY SENSOR
- EMERGENCY LIGHT (WALL MOUNTED)
- INTERIOR RECESSED LIGHTING
- INTERIOR PENDANT LIGHTING
- EXTERIOR DOWNLIGHT
- SUSPENDED STRIP LIGHTING
- SUSPENDED EMERGENCY STRIP LIGHTING
- EXTERIOR WALL SCONCE




NORTH

1 A3.3 REFLECTED CEILING PLAN

SCALE: 3/16" = 1'-0"




NORTH

2 A3.3 REFLECTED CEILING PLAN - MECH. MEZZANINE

SCALE: 3/16" = 1'-0"


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# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

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| MARK | DATE | DESCRIPTION |
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ISSUE DATE: NOVEMBER 14, 2025

REFLECTED CEILING PLAN

A3.3

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## EXTERIOR FINISH SELECTIONS:

PAINT:

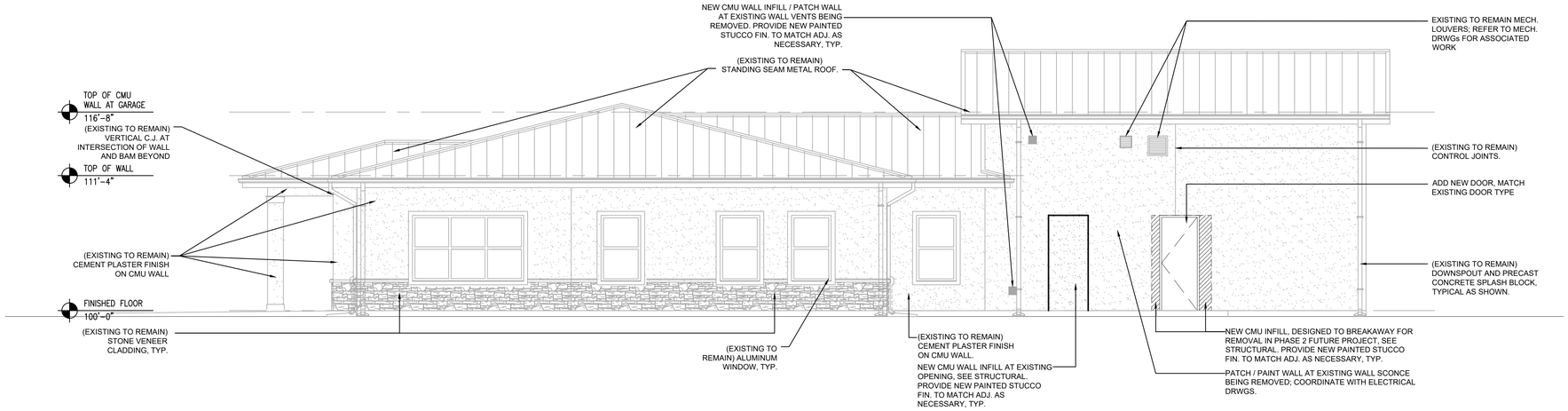
01. COLOR 'A' (PAINT TO MATCH SHERWIN WILLIAMS, COLOR #SW6080, UTTERLY BEIGE)- STUCCO BODY - MATCH EXISTING (VERIFY IN FIELD).
02. COLOR 'B' (PAINT TO MATCH SHERWIN WILLIAMS, COLOR #SW6089, GROUNDED)- SOFFITS, TRIM BANDS, FASCIA - MATCH EXISTING (VERIFY IN FIELD).

ALUMINUM STOREFRONT DOORS, FRAMES & WINDOWS (EXTERIOR:)

04. KAWNEER "CLASSIC BRONZE." TO BE CONFIRMED PER EXISTING CONDITIONS (INFORM ARCHITECT OF ANY DISCREPANCIES)

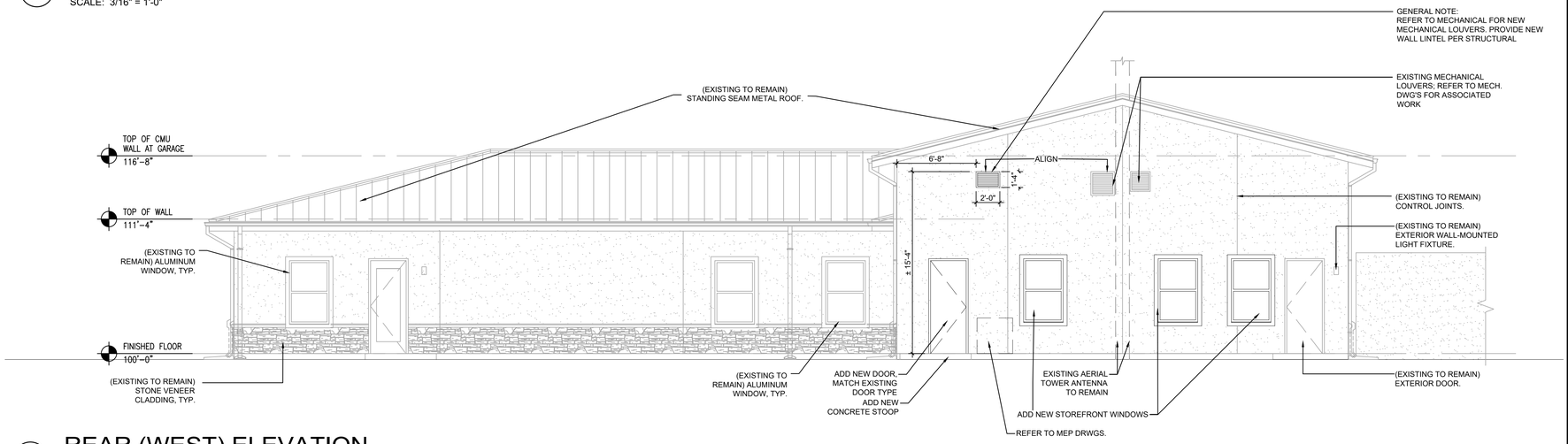
HOLLOW METAL DOORS (EXTERIOR:)

05. COLOR 'B' (SEE FINISH PLANS FOR ADDITIONAL INFO)- EXTERIOR DOORS - MATCH EXISTING (VERIFY IN FIELD).



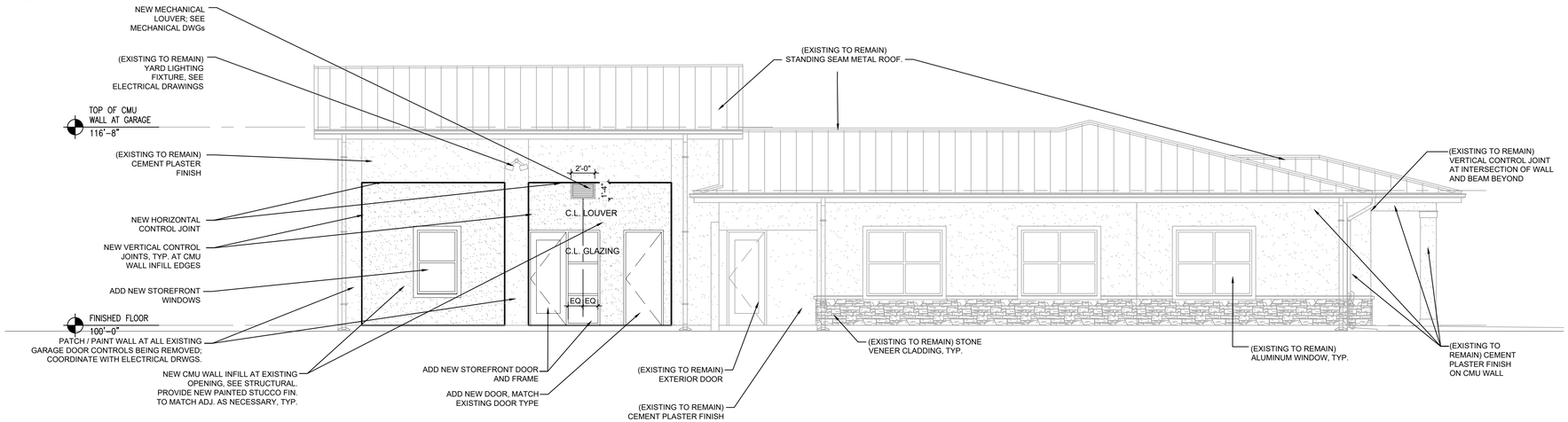

## 3 A4.1 RIGHT SIDE (NORTH) ELEVATION

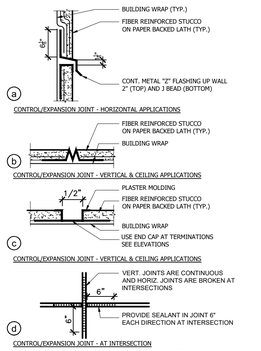
SCALE: 3/16" = 1'-0"




## 2 A4.1 REAR (WEST) ELEVATION

SCALE: 3/16" = 1'-0"




NOTE: STUCCO CONTROL JOINTS TO BE PLACED SO AS NOT TO EXCEED 144 S.F. OF WALL OR 18 L.F. REFER TO ELEVATIONS FOR ADDITIONAL INFORMATION.

## 4 A4.1 STUCCO DETAIL

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

## 1 A4.1 LEFT SIDE (SOUTH) ELEVATION

SCALE: 3/16" = 1'-0"


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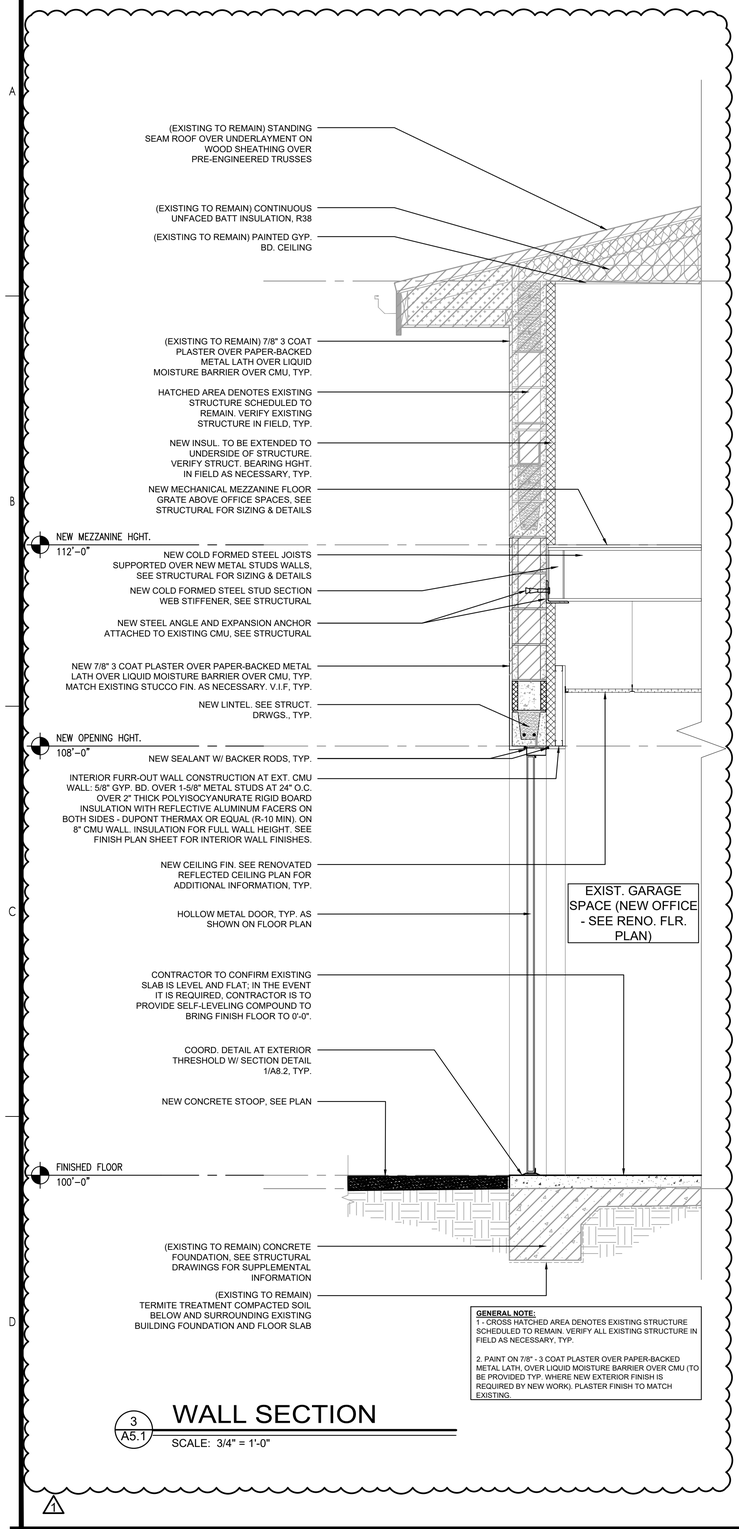
ISSUE DATE: NOVEMBER 14, 2025

EXTERIOR ELEVATIONS

A4.1

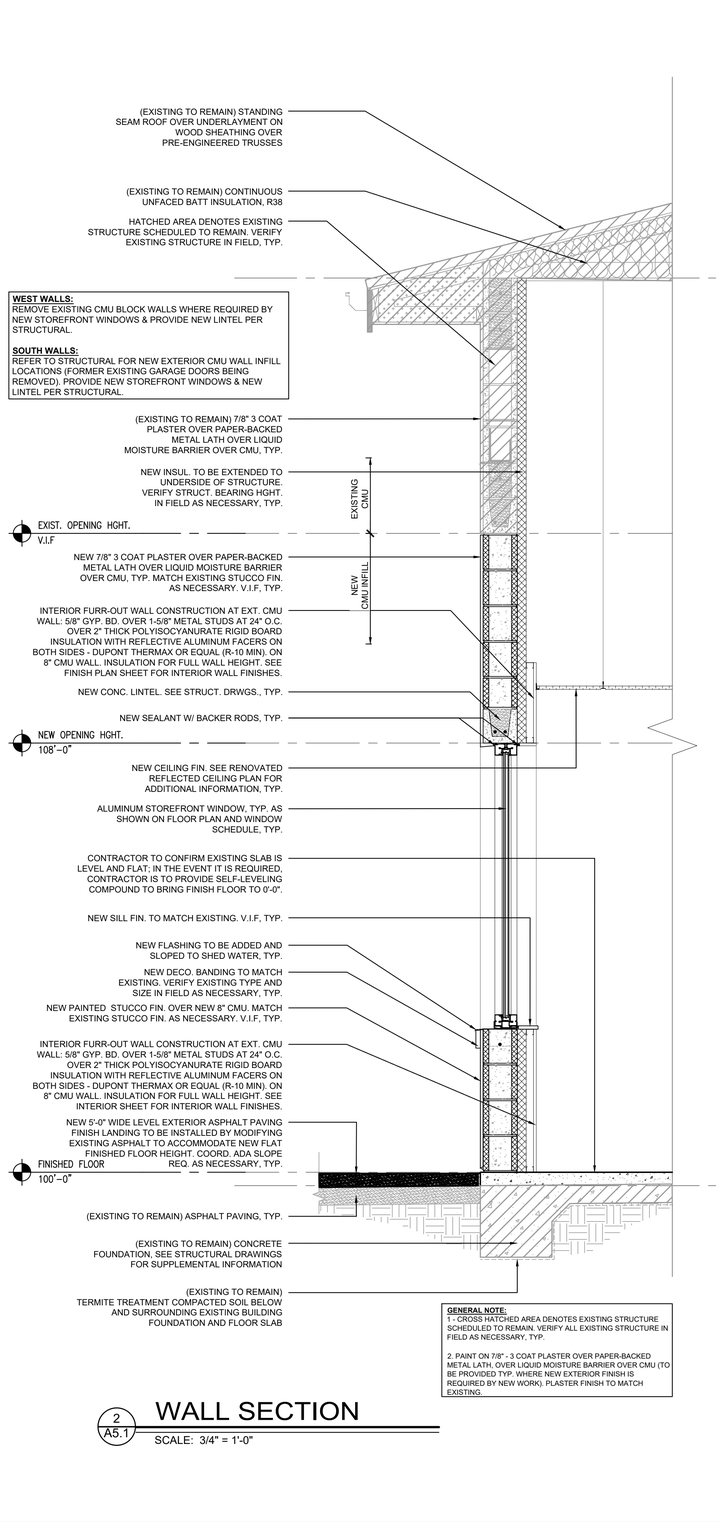
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S:\Projects\2025-22.00 - LCWA Admin Building Addition and Remodel\01_Drawings\01_AutoCad\2025-22.00_A4.1 - Exterior Elevations.dwg, 11/14/2025 1:01:48 PM, AutoCAD PDF (HQ) LAYERS (General Documentation).pc3



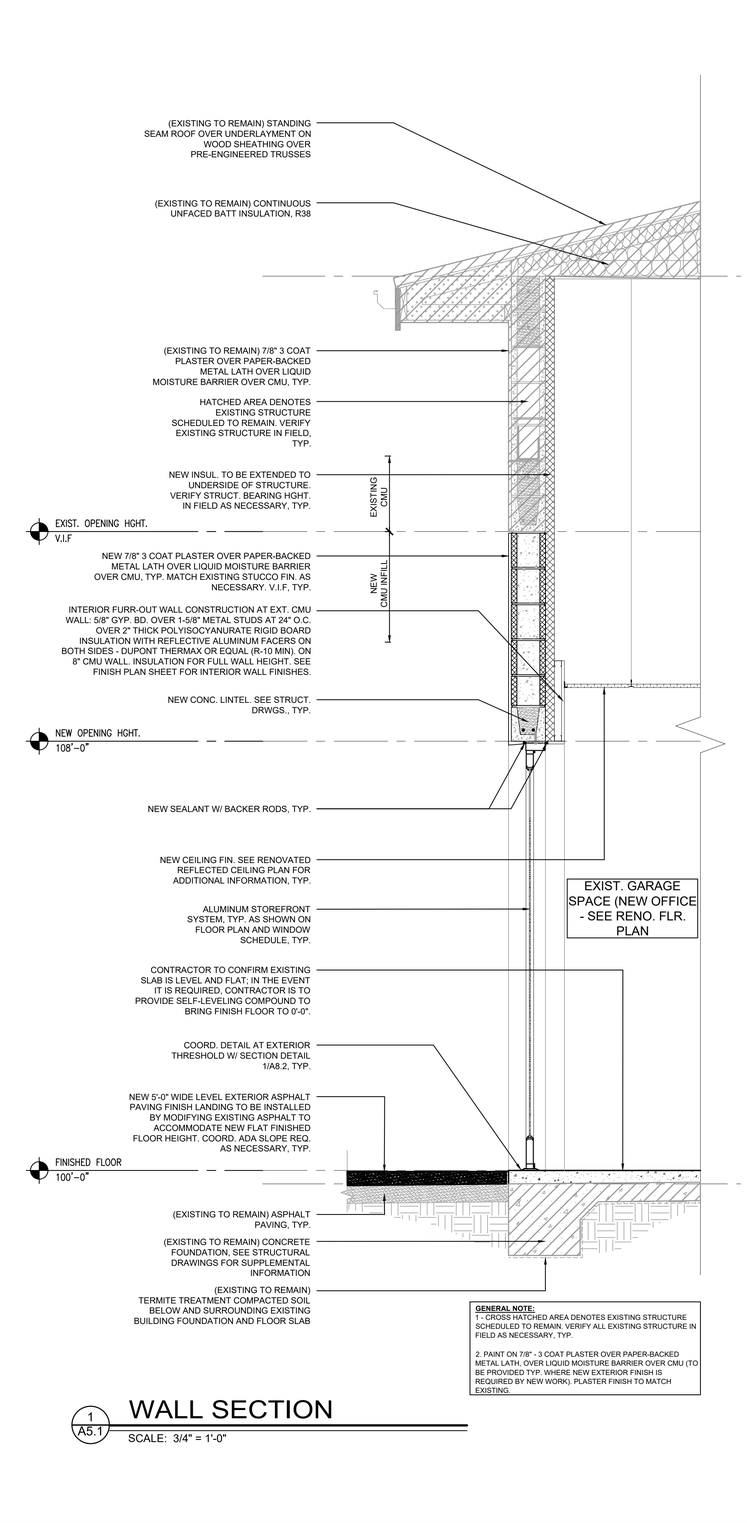

3 A5.1 WALL SECTION

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




2 A5.1 WALL SECTION

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




1 A5.1 WALL SECTION

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

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OWNER / PROJECT:

# ADDITION & RENOVATIONS PHASE 1

ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY

LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| 1 | 12/05/25 | BD RESPONSE |

ISSUE DATE: NOVEMBER 14, 2025

SECTIONS & DETAILS

A5.1

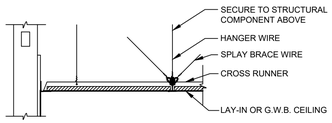
PERMIT / BID SET

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TABLE NO. 1

MINIMUM SIZE OF THE BRACING MEMBER FOR CEILING

| WALL HEIGHT | MAXIMUM SPACING OF THE BRACE | |
|---|---|---|
| | 6'-0" | 8'-0" |
| UP TO 10' | 12 GA WIRE | 12 GA WIRE |
| 12' | 10 GA WIRE | 10 GA WIRE * |
| 14' | 10 GA WIRE | 25 GA STUD |
| 16' | 10 GA WIRE | 25 GA STUD |



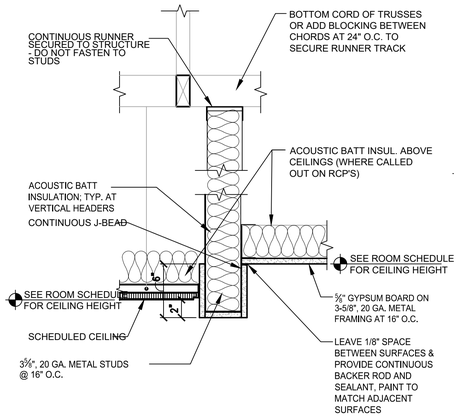

| HANGER WIRE | ALLOW. TENSION |
|---|---|
| 12 GAUGE | 170# |
| 11 GAUGE | 225# |
| 10 GAUGE | 300# |

LATERAL FORCE BRACING NOT TO EXCEED 12'-0" O.C. IN EITHER DIRECTION WITH THE FIRST POINT WITHIN 4' FROM EACH WALL.

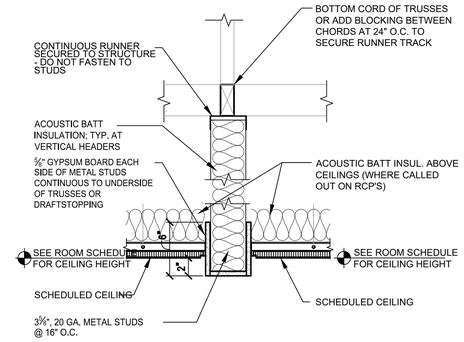
CONTINUE HORIZONTAL STRUT TO PREVENT SPREADING OF RUNNERS. LOCKING CLIP TO FASTEN CROSS RUNNER TO MAIN RUNNER.

CEILING SYSTEM HANGER WIRES AND BRACE WIRES MUST CONNECT TO STRUCTURAL COMPONENTS ONLY. STEEL JOIST AND GIRDER BOTTOM CHORDS, OR BEAM AND CHANNEL BOTTOM FLANGES SUPPORT AND BRACING WIRES ARE NOT ALLOWED TO BE CONNECTED TO: PIPING OR CONDUITS, JOIST BRACING, ROOF DECK, HVAC DUCTWORK.

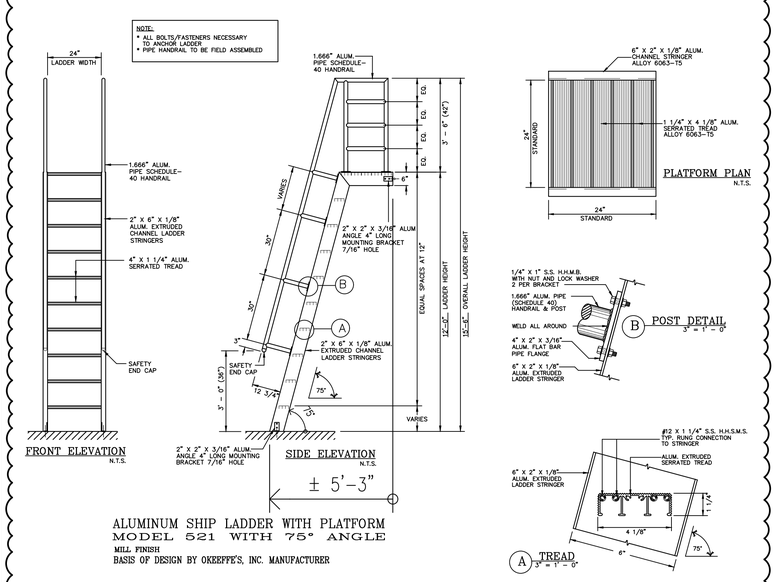
## 4 ACOUSTIC CEILING DETAIL
A6.1 SCALE: N.T.S



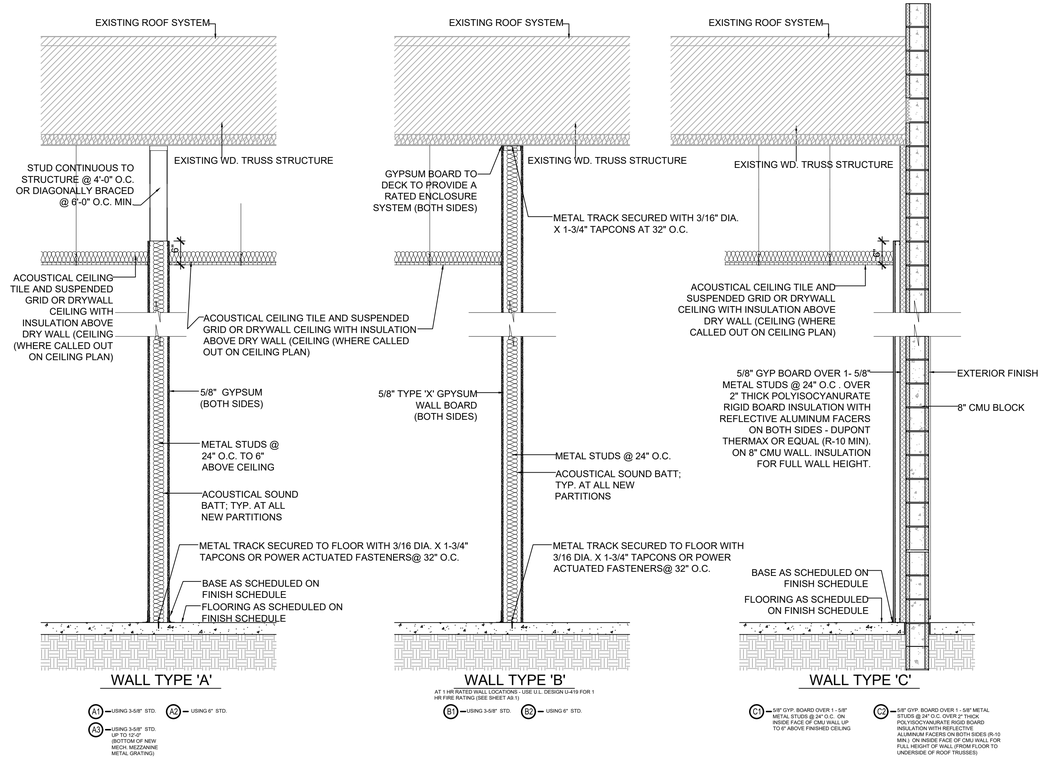

## 3 HEADER DETAIL
A6.1 SCALE: 1-1/2" = 1'-0"




## 2 HEADER DETAIL
A6.1 SCALE: 1-1/2" = 1'-0"




## 5 MEZZANINE LADDER DETAIL
A6.1 SCALE: N.T.S




## 1 WALL TYPES
A6.1 SCALE: 1/2" = 1'-0"


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WALL TYPES & DETAILS

A6.1
PERMIT / BID SET


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# Door Hardware Sets

Addition & Renovations Phase1
Administration Bldg Lake County Water Authority
Lake County, FL

Set #001 - ALD EXTERIOR
Doors: 132

| | | | | |
|---|---|---|---|---|
| 1.0 | Cylinder | AS REQ'D | 630 | SCH |

NOTE: ALL REMAINING HARDWARE BY DOOR SUPPLIER.

Set #002 - HMD EXTERIOR CARD READER
Doors: 133

| | | | | |
|---|---|---|---|---|
| 1.0 | Hinge | 662HD EPT12C | AL | BES |
| 1.0 | Power Transfer | EPT-12C | | PRE |
| 1.0 | Exit Device | C HC TS 2103 LD A 4903 | 630 | PRE |
| 1.0 | Rim Cylinder | AS REQ'D | 630 | SCH |
| 1.0 | Electric Strike | 9600 | 630 | HES |
| 1.0 | Overhead Stop | 910 S | 689 | DKA |
| 1.0 | Door Closer | QDC115 BF | 689 | DKC |
| 1.0 | Kick Plate | KP50 10" Door Width less 2" CSK B4E Heavy | 630 | BRN |
| 1.0 | Threshold | 896 S LAR (1/4-20 SS MS/EA) | A | NGP |
| 1.0 | Gasketing | 700S Head & Jambs (2) | A | NGP |
| 1.0 | Sweep | 200S LAR | A | NGP |
| 1.0 | Drip Cap | 16 4" ODW | A | NGP |
| 1.0 | Power Supply | DKPS-2A | | RCI |
| 1.0 | Door Position Switch | 9540 | B | RCI |
| 1.0 | Wiring Harness | WH-192P | | BES |
| 1.0 | Wiring Harness | WH-LAR | | BES |
| 1.0 | Wiring Diagram | BY HARDWARE SUPPLIER | | |

NOTE: CARD READER BY OWNER'S SECUIRTY VENDOR. OPERATIONS NARRATIVE: DOOR NORMALLY CLOSED AND LOCKED. VALID CARD READ RELEASES ELECTRIC STRIKE FOR INGRESS. EMERGENCY INGRESS BY KEY. FREE EGRESS AT ALL TIMES. TS SWITCH SHUNTS ALARM. EXIT DEVICE IS FAIL SECURE.

Set #003 - HMD EXTERIOR
Doors: 144

| | | | | |
|---|---|---|---|---|
| 1.0 | Hinge | 662HD | AL | BES |
| 1.0 | Mortise Lock | 45H 0 TD 15 H WS | 630 | BES |
| 1.0 | Mortise Cylinder | AS REQ'D | 630 | SCH |
| 1.0 | Overhead Stop | 910 S | 689 | DKA |
| 1.0 | Door Closer | QDC115 BF | 689 | DKC |
| 1.0 | Kick Plate | KP50 10" Door Width less 2" CSK B4E Heavy | 630 | BRN |
| 1.0 | Threshold | 896 S LAR (1/4-20 SS MS/EA) | A | NGP |
| 1.0 | Gasketing | 700S Head & Jambs (2) | A | NGP |
| 1.0 | Sweep | 200S LAR | A | NGP |
| 1.0 | Drip Cap | 16 4" ODW | A | NGP |
| 1.0 | Latch Protector | 621 | 603 | BRN |



Addition & Renovations Phase1
Administration Bldg Lake County Water Authority
Lake County, FL

Set #004 - PAIR DOORS STOREROOM LOCKSET/FLUSH BOLTS
Doors: 139

| | | | | |
|---|---|---|---|---|
| 6.0 | Hinge | FBB179 NRP 45X45 | 26D | BES |
| 2.0 | Flushbolt | 1855S/1857S | US26D | ABH |
| 1.0 | Dust Proof Strike | 1870 | US26D | ABH |
| 1.0 | Mortise Lock | 45H 0 D 15 H | 626 | BES |
| 1.0 | Mortise Cylinder | AS REQ'D | 626 | SCH |
| 1.0 | Door Closer | QDC113 BF | 689 | DKC |
| 2.0 | Kick Plate | KP50 10" Door Width less 1" CSK B4E Heavy | 630 | BRN |
| 2.0 | Silencer | 500 | Gray | BRN |
| 1.0 | Wall Stop | 570/575 | 630 | BRN |
| 2.0 | Mop Plate | MP50 Door Width less 1" 4" CSK B4E Heavy | 630 | BRN |

Set #005 - SINGLE DOOR CARD READER
Doors: 101A

| | | | | |
|---|---|---|---|---|
| 3.0 | Hinge | FBB168 NRP 45X45 | 26D | BES |
| 1.0 | Power Transfer | EPT-12C | | PRE |
| 1.0 | Exit Device | C TS 2103 LD A 4903 | 630 | PRE |
| 1.0 | Rim Cylinder | AS REQ'D | 626 | SCH |
| 1.0 | Electric Strike | 0162 | 32D | RCI |
| 1.0 | Door Closer | QDC113 BF | 689 | DKC |
| 1.0 | Kick Plate | KP50 10" Door Width less 2" CSK B4E Heavy | 630 | BRN |
| 3.0 | Silencer | 500 | Gray | BRN |
| 1.0 | Power Supply | DKPS-2A | | RCI |
| 1.0 | Door Position Switch | 9540 | B | RCI |
| 1.0 | Wiring Harness | WH-192P | | BES |
| 1.0 | Wiring Harness | WH-LAR | | BES |
| 1.0 | Wiring Diagram | BY HARDWARE SUPPLIER | | |
| 1.0 | Mop Plate | MP50 Door Width less 1" 4" CSK B4E Heavy | 630 | BRN |

NOTE: CARD READER BY OWNER'S SECURITY VENDOR. OPERATIONS NARRATIVE: DOOR NORMALLY CLOSED AND LOCKED. VALID CARD READ RELEASES ELECTRIC STRIKE FOR INGRESS. EMERGENCY INGRESS BY KEY. FREE EGRESS AT ALL TIMES. TS SWITCH SHUNTS ALARM. ELECTRIC STRIKE IS FAIL SECURE.

Set #006 - SINGLE DOOR STOREROOM LOCKSET
Doors: 138

| | | | | |
|---|---|---|---|---|
| 3.0 | Hinge | FBB179 NRP 45X45 | 26D | BES |
| 1.0 | Mortise Lock | 45H 0 D 15 H | 626 | BES |
| 1.0 | Mortise Cylinder | AS REQ'D | 626 | SCH |
| 1.0 | Door Closer | QDC111 BF | 689 | DKC |
| 1.0 | Kick Plate | KP50 10" Door Width less 2" CSK B4E Heavy | 630 | BRN |
| 3.0 | Silencer | 500 | Gray | BRN |
| 1.0 | Wall Stop | 570/575 | 630 | BRN |
| 1.0 | Mop Plate | MP50 Door Width less 1" 4" CSK B4E Heavy | 630 | BRN |



Addition & Renovations Phase1
Administration Bldg Lake County Water Authority
Lake County, FL

Set #007 - SINGLE DOOR STOREROOM LOCKSET
Doors: 143

| | | | | |
|---|---|---|---|---|
| 3.0 | Hinge | FBB179 NRP 45X45 | 26D | BES |
| 1.0 | Mortise Lock | 45H 0 D 15 H | 626 | BES |
| 1.0 | Mortise Cylinder | AS REQ'D | 626 | SCH |
| 1.0 | Door Closer | QDC113 BF | 689 | DKC |
| 1.0 | Kick Plate | KP50 10" Door Width less 2" CSK B4E Heavy | 630 | BRN |
| 3.0 | Silencer | 500 | Gray | BRN |

Set #008 - SINGLE DOOR ENTRANCE LOCKSET
Doors: 141, 142, 137

| | | | | |
|---|---|---|---|---|
| 3.0 | Hinge | FBB179 45X45 | 26D | BES |
| 1.0 | Mortise Lock | 45H 0 AB 15 H | 626 | BES |
| 1.0 | Mortise Cylinder | AS REQ'D | 626 | SCH |
| 3.0 | Silencer | 500 | Gray | BRN |
| 1.0 | Wall Stop | 570/575 | 630 | BRN |

Set #009 - SINGLE DOOR ENTRANCE LOCKSET
Doors: 102, 127, 140

| | | | | |
|---|---|---|---|---|
| 3.0 | Hinge | FBB179 45X45 | 26D | BES |
| 1.0 | Mortise Lock | 45H 0 AB 15 H | 626 | BES |
| 1.0 | Mortise Cylinder | AS REQ'D | 626 | SCH |
| 1.0 | Overhead Stop | 910 S | 689 | DKA |
| 3.0 | Silencer | 500 | Gray | BRN |

Set #010 - SINGLE DOOR INDICATOR PRIVACY SET
Doors: 136

| | | | | |
|---|---|---|---|---|
| 3.0 | Hinge | FBB179 45X45 | 26D | BES |
| 1.0 | Mortise Lock | 45H 0 L 15 H VIBC L | 626 | BES |
| 1.0 | Door Closer | QDC111 BF | 689 | DKC |
| 1.0 | Kick Plate | KP50 10" Door Width less 2" CSK B4E Heavy | 630 | BRN |
| 3.0 | Silencer | 500 | Gray | BRN |
| 1.0 | Wall Stop | 570/575 | 630 | BRN |

Set #011 - SINGLE DOOR INDICATOR PRIVACY SET
Doors: 135

| | | | | |
|---|---|---|---|---|
| 3.0 | Hinge | FBB179 45X45 | 26D | BES |
| 1.0 | Mortise Lock | 45H 0 L 15 H VIBC L | 626 | BES |
| 1.0 | Door Closer | QDC113 BF | 689 | DKC |
| 1.0 | Kick Plate | KP50 10" Door Width less 2" CSK B4E Heavy | 630 | BRN |
| 3.0 | Silencer | 500 | Gray | BRN |
| 1.0 | Mop Plate | MP50 Door Width less 1" 4" CSK B4E Heavy | 630 | BRN |



Addition & Renovations Phase1
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Lake County, FL

Set #012 - EXTERIOR DOOR AND FRAME
Doors: 145

| | | | | |
|---|---|---|---|---|
| 1.0 | Hinge | 662HD | AL | BES |
| 1.0 | Exit Device | HC 2103 A 4903 | 630 | PRE |
| 1.0 | Rim Cylinder | AS REQ'D | 630 | SCH |
| 1.0 | Overhead Stop | 910 S | 689 | DKA |
| 1.0 | Door Closer | QDC115 BF | 689 | DKC |
| 1.0 | Kick Plate | KP50 10" Door Width less 2" CSK B4E Heavy | 630 | BRN |
| 1.0 | Threshold | 896 S LAR (1/4-20 SS MS/EA) | A | NGP |
| 1.0 | Gasketing | 700S Head & Jambs (2) | A | NGP |
| 1.0 | Sweep | 200S LAR | A | NGP |
| 1.0 | Drip Cap | 16 4" ODW | A | NGP |

Set #013 - EXISTING EXTERIOR DOOR AND FRAME CARD READER
Doors: 119B

| | | | | |
|---|---|---|---|---|
| 1.0 | Hinge | 662HD EPT12C | AL | BES |
| 1.0 | Power Transfer | EPT-12C | | PRE |
| 1.0 | Exit Device | C HC TS 2103 LD A 4903 | 630 | PRE |
| 1.0 | Rim Cylinder | AS REQ'D | 630 | SCH |
| 1.0 | Electric Strike | 9600 | 630 | HES |
| 1.0 | Door Closer | QDC115 BF | 689 | DKC |
| 1.0 | Overhead Stop | 910 S | 689 | DKA |
| 1.0 | Kick Plate | KP50 10" Door Width less 2" CSK B4E Heavy | 630 | BRN |
| 1.0 | Threshold | 896 S LAR (1/4-20 SS MS/EA) | A | NGP |
| 1.0 | Gasketing | 700S Head & Jambs (2) | A | NGP |
| 1.0 | Sweep | 200S LAR | A | NGP |
| 1.0 | Drip Cap | 16 4" ODW | A | NGP |
| 1.0 | Power Supply | DKPS-2A | | RCI |
| 1.0 | Door Position Switch | 9540 | B | RCI |
| 1.0 | Wiring Harness | WH-192P | | BES |
| 1.0 | Wiring Harness | WH-LAR | | BES |
| 1.0 | Wiring Diagram | BY HARDWARE SUPPLIER | | |

NOTE: CARD READER BY OWNER'S SECURITY VENDOR. OPERATIONS NARRATIVE: DOOR NORMALLY CLOSED AND LOCKED. VALID CARD READ RELESES ELECTRIC STRIKE FOR INGRESS. EMEGENCY INGRESS BY KEY. FREE EGRESS AT ALL TIMES. TS SWITCH SHUNTS ALARM. ELECTRIC STRIKE IS FAIL SECURE. GC TO VERIFY EXISTING DOOR AND FRAME ARE IN GOOD WORKING ORDER AND CODE COMLIANT.

NOTE: GC TO VERIFY EXISITING DOOR AND FRAME ARE IN GOOD WORKING ORDER AND CODE COMPLIANT. GC IS RESPONSIBLE FOR ALL PREPS REQUIRED FOR NEW HARDWARE.

**END OF SECTION**



## ALUMINUM STOREFRONT NOTES:

EXTERIOR FIXED WINDOW SYSTEM BASIS OF DESIGN: KAWNEER 521T FIXED ALUMINUM STOREFRONT FRAMING SYSTEM OR EQUAL, THERMALLY BROKEN, INSULATED CENTER SET, LEVEL D LARGE MISSILE IMPACT RESISTANCE, FLUSH GLAZED STOREFRONT SYSTEM, WITH MANUF. STANDARD EPDM GLAZING GASKET, WHERE LOCATED ON THE DRAWINGS. FL. PRODUCT APPROVAL # 47012.1.

ENTRANCE FRAMING SYSTEM (STOREFRONT DOORS) BASIS OF DESIGN: KAWNEER 500 HEAVY WALL IR ENTRANCES OUTSWING ALUMINUM DOOR SYSTEM OR EQUAL WITH LEVEL D LARGE MISSILE IMPACT RESISTANCE. FL. PRODUCT APPROVAL # 15850

GLAZING: 1- 5/16" LAMINATED GLASS (LMI-LEVEL D); 1/4" OUTBOARD / 1/2" AIR SPACE / 1/4" INBOARD / 0.090 PVB INTERLAYER / 1/4" INBOARD - INTERLAYER AS PER APPROVED FLORIDA PRODUCT APPROVAL; OR EQUAL.

A. FRAME FINISH: MATCH EXISTING (VERIFY IN FIELD PRIOR TO ORDERING SYSTEM)

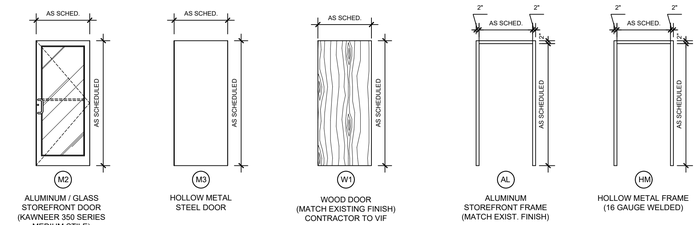
B. T = TEMPERED GLASS.

C. GENERAL CONTRACTOR TO VERIFY ALL OPENINGS AND HARDWARE PRIOR TO FABRICATION OF ALUMINUM STOREFRONT AND WINDOWS.

## DOOR SCHEDULE

| NO. | DOOR | ROOM NAME | FRAME | TYPE | FIRE RATING | HARDWARE SET | REMARKS |
|---|---|---|---|---|---|---|---|
| 101A | 3'-0" x 7'-0" x 1-3/4" | LOBBY | HM | W1 | N/A | 5 | NEW MAG LOCKS WITH ELECTRIC STRIKE FUNCTION TO REMAIN |
| 102 | 3'-0" x 7'-0" x 1-3/4" | OFFICE | HM | W1 | N/A | 9 | REINSTALL EXISTING DOOR IN NEW FRAME & NEW DOOR HARDWARE |
| 119B | 3'-0" x 7'-10" x 1-3/4" | OFFICE (NEW #140) | HM | M3 | N/A | 13 | EXISTING MAG LOCKS WITH ELECTRIC STRIKE FUNCTION TO REMAIN |
| 127 | 3'-0" x 7'-0" x 1-3/4" | OFFICE | HM | W1 | N/A | 9 | REINSTALL EXISTING DOOR IN NEW FRAME & NEW DOOR HARDWARE |
| 132 | 3'-0" x 7'-10" x 2" | CORRIDOR D | AL | M2 | N/A | 1 | NEW MAG LOCKS WITH ELECTRIC STRIKE FUNCTION TO REMAIN. COORDINATE DOOR HARDWARE WITH FL PRODUCT APPROVAL FOR STOREFRONT SYSTEM |
| 133 | 3'-0" x 7'-10" x 1-3/4" | CORRIDOR E | HM | M3 | N/A | 2 | NEW MAG LOCKS WITH ELECTRIC STRIKE FUNCTION TO REMAIN |
| 135 | 3'-0" x 7'-0" x 1-3/4" | HCRR | HM | W1 | N/A | 11 | |
| 136 | 3'-0" X 7'-0" X 1-3/4" | HCRR | HM | W1 | N/A | 10 | |
| 137 | 3'-0" x 7'-0" x 1-3/4" | OFFICE | HM | W1 | N/A | 8 | |
| 138 | 2'-8" x 7'-0" x 1-3/4" | JANITOR | HM | W1 | N/A | 6 | |
| 139 | PAIR 2'-6" x 7'-0" x 1-3/4" | MECHANICAL | HM | W1 | N/A | 4 | |
| 140 | 3'-0" x 7'-0" x 1-3/4" | OFFICE | HM | W1 | N/A | 9 | |
| 141 | 3'-0" x 7'-0" x 1-3/4" | OFFICE | HM | W1 | N/A | 8 | |
| 142 | 3'-0" x 7'-0" x 1-3/4" | OFFICE | HM | W1 | N/A | 8 | |
| 143 | 3'-0" x 7'-0" x 1-3/4" | STORAGE | HM | W1 | N/A | 7 | |
| 144 | 3'-0" x 7'-10" x 1-3/4" | ELECTRICAL | HM | M3 | N/A | 3 | |
| 145 | 3'-0" x 7'-10" x 1-3/4" | MECH. MEZZ. ACCESS | HM | M3 | N/A | 12 | |

## DOOR TYPES & FRAMES




## GENERAL NOTES

1. EXTERIOR DOORS, FRAMES AND GLAZING TO MEET LEVEL D LARGE MSSILE IMPACT RESISTANCE. REFER TO STRUCTURAL FOR WIND LOADING CRITERIA TO BE MET. TYPICAL FOR ALL NEW EXTERIOR OPENINGS.

POWELL STUDIO
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DOOR SCHEDULE & DOOR, WINDOW DETAILS

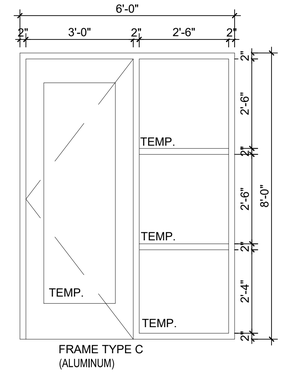
A8.1

PERMIT / BID SET

S:\Projects\2025-22.00 - LCWA Admin Building Addition and Remodel\03_Drawings\01_ArchCad\2025-22.00_A8.1 - Door & Window Details.dwg 11/14/2025 2:02:03 PM, AutoCAD PDF (NO LAYERS (General Documentation).pc3

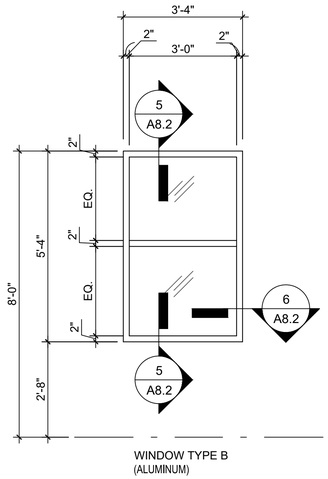
NOTE: SEE EXT. ELEVS. FOR INSTALLATION HGTS. - TYP.

GENERAL EXTERIOR CEMENT PLASTER NOTE:
PAINT ON 7/8" - 3 COAT PLASTER OVER PAPER-BACKED METAL LATH, OVER LIQUID MOISTURE BARRIER OVER CMU (TO BE PROVIDED TYP. WHERE NEW EXTERIOR FINISH IS REQUIRED BY NEW WORK). PLASTER FINISH TO MATCH EXISTING.



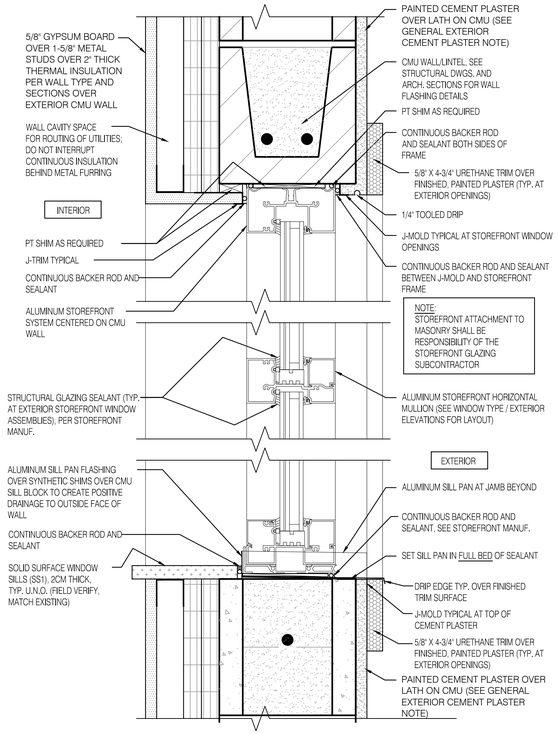

FRAME TYPE C
(ALUMINUM)

10 A8.2 STOREFRONT ELEVATION
SCALE: 1/2" = 1'-0"

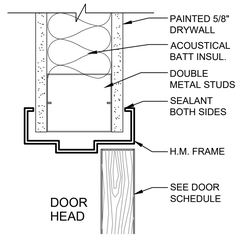



WINDOW TYPE B
(ALUMINUM)

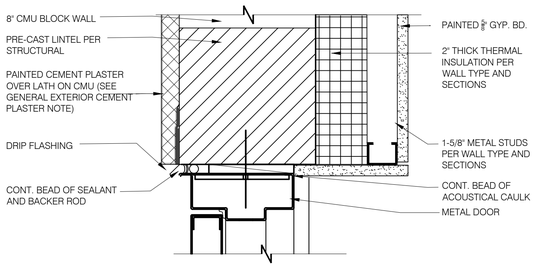
9 A8.2 WINDOW TYPE ELEVATIONS
SCALE: 1/2" = 1'-0"



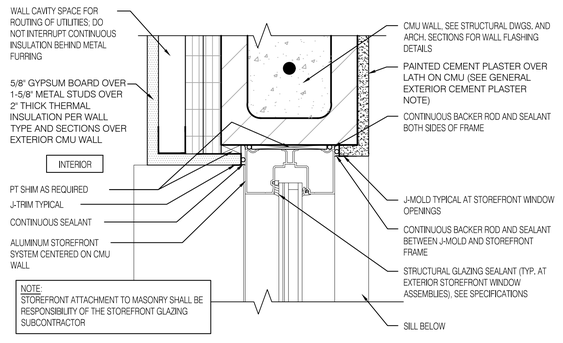

5 A8.2 EXT. ALUM. STOREFRONT WINDOW
SCALE: 3" = 1'-0"



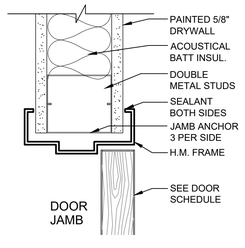

8 A8.2 HEAD @ INT. WOOD DOOR
SCALE: 3" = 1'-0"



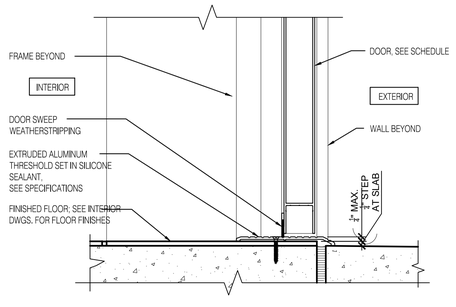

7 A8.2 EXT. MTL. DOOR HEAD
SCALE: 3" = 1'-0"



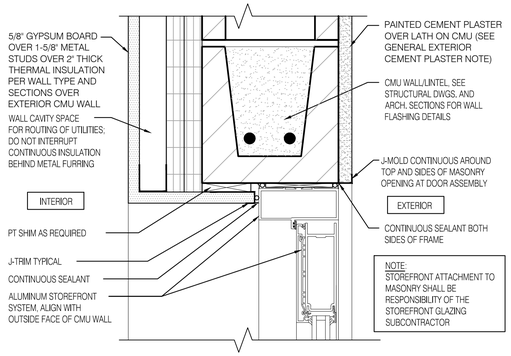

6 A8.2 EXT. ALUM. STOREFRONT WINDOW
SCALE: 3" = 1'-0"



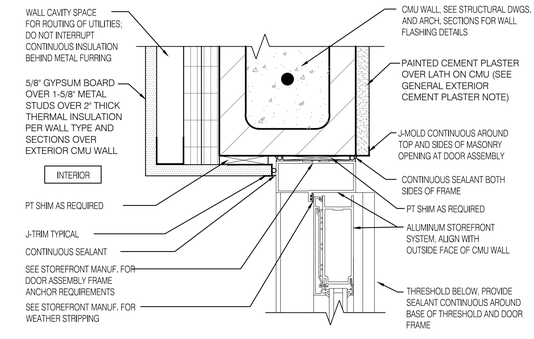

4 A8.2 JAMB @ INT. WOOD DOOR
SCALE: 3" = 1'-0"




3 A8.2 THRESHOLD @ EXT. DOOR
SCALE: 3" = 1'-0"




2 A8.2 HEAD @ EXT. ALUM. DOOR
SCALE: 3" = 1'-0"




1 A8.2 JAMB @ EXT. ALUM. DOOR
SCALE: 3" = 1'-0"

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# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

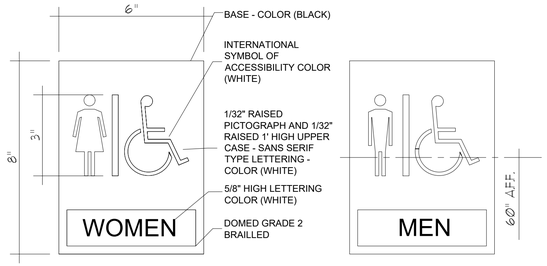
| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

DOOR & WINDOW DETAILS

A8.2
PERMIT / BID SET

S:\Projects\2025-22.00 - LCWA Admin Building Addition and Remodel\03_Drawings\01_AutoCad\2025-22.00_A8.2 - Door & Window Details.dwg, 11/14/2025 5:20:10 PM, AutoCAD PDF (MC) LAYERS (General Documentation).pc3




## 3 A10.1 RESTROOM SIGNAGE

SCALE: 3/8" = 1'-0"

## GENERAL NOTES:

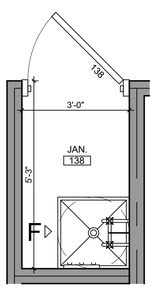
01. DASHED LINE INDICATES CLEAR FLOOR AREA REQUIRED BY FLORIDA ACCESSIBILITY CODE FOR DOORS, PLUMBING FIXTURES AND/OR CLEAR TURNING SPACE

02. PROVIDE REINFORCEMENT IN WALL FOR SHOWER SEAT TO PROVIDE STRUCTURAL STRENGTH AS FOLLOWS: 1) BENDING STRESS IN A GRAB BAR OR SEAT INDUCED BY THE MAXIMUM BENDING MOMENT FROM THE APPLICATION OF 250 LBF (1112 N) SHALL BE LESS THAN THE ALLOWABLE STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT; 2) SHEAR STRESS INDUCED IN A GRAB BAR OR SEAT BY THE APPLICATION OF 250 LBF (1112 N) SHALL BE LESS THAN THE ALLOWABLE SHEAR STRESS FOR THE MATERIAL OF THE GRAB BAR OR SEAT. IF THE CONNECTION BETWEEN THE GRAB BAR OR SEAT AND ITS MOUNTING BRACKET OR OTHER SUPPORT IS CONSIDERED TO BE FULLY RESTRAINED, THEN DIRECT AND TORSIONAL SHEAR STRESSES SHALL BE TOTALED FOR THE COMBINED SHEAR STRESS, WHICH SHALL NOT EXCEED THE ALLOWABLE SHEAR STRESS; 3) SHEAR FORCE INDUCED IN A FASTENER OR MOUNTING DEVICE FROM THE APPLICATION OF 250 LBF (1112 N) SHALL BE LESS THAN THE ALLOWABLE LATERAL LOAD OF EITHER THE FASTENER OR MOUNTING DEVICE OR THE SUPPORTING STRUCTURE, WHICHEVER IS THE SMALLER ALLOWABLE LOAD; 4) TENSILE FORCE INDUCED IN A FASTENER BY A DIRECT TENSION FORCE OF 250 LBF (1112 N) PLUS THE MAXIMUM MOMENT FROM THE APPLICATION OF 250 LBF (1112N) SHALL BE LESS THAN THE ALLOWABLE WITHDRAWAL LOAD BETWEEN THE FASTENER AND THE SUPPORTING STRUCTURE; 5) GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS

03. SLOPE FLOOR AT TOILET ROOMS AND ANY SHOWER ROOM AT 1/8" PER FOOT TO FLOOR DRAIN

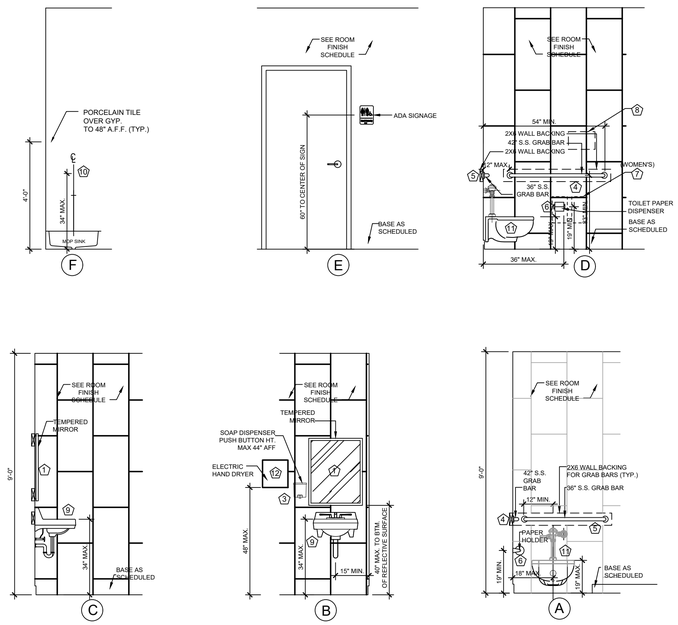
## TOILET ACCESSORIES

| MARK | DESCRIPTION | MFGR. | MODEL NO. | FURNISHED BY | INSTALLED BY |
|---|---|---|---|---|---|
| 1 | FRAMELESS STAINLESS STEEL MIRROR | BOBRICK | # B-165-1836 | CONTRACTOR | CONTRACTOR |
| 2 | NOT USED | | | | |
| 3 | SOAP DISPENSER | BOBRICK | # B-2112 | CONTRACTOR | CONTRACTOR |
| 4 | 1-1/2" DIA. GRAB BAR S.S. **PEENED GRIP, CONCEALED** MOUNT W SNAP-FLANGE COVER | BOBRICK | # B-6806 X 42" | CONTRACTOR | CONTRACTOR |
| 5 | 1-1/2" DIA. GRAB BAR S.S. PEENED GRIP, CONCEALED MOUNT W SNAP-FLANGE COVER | BOBRICK | # B-6806 X 36" | CONTRACTOR | CONTRACTOR |
| 6 | TOILET TISSUE DISPENSER | BOBRICK | #B-7686 | CONTRACTOR | CONTRACTOR |
| 7 | SANITARY NAPKIN DISPOSAL | BOBRICK | # B-254 | CONTRACTOR | CONTRACTOR |
| 8 | TOILET SEAT COVER DISPENSER SURF. MOUNTED | BOBRICK | # B-221 | CONTRACTOR | CONTRACTOR |
| 9 | LAVATORY | (SEE PLUMB) | (SEE PLUMB) | CONTRACTOR | CONTRACTOR |
| 10 | MOP RACK | BOBRICK | B-223X24 | CONTRACTOR | CONTRACTOR |
| 11 | WATER CLOSET | (SEE PLUMB) | (SEE PLUMB) | CONTRACTOR | CONTRACTOR |
| 12 | ELECTRICAL HAND DRYER SURF. MOUNTED (110 - 120 V) | XLERATOR | #H-3887 - STAINLESS STEEL | CONTRACTOR | CONTRACTOR |



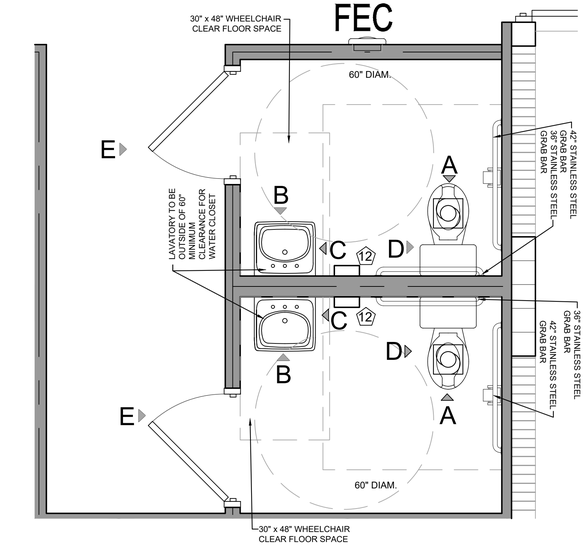

## 4 A10.1 ENLARGED JANITOR'S PLAN

SCALE: 1/2" = 1'-0"




## 2 A10.1 TYP. INTERIOR ELEVATIONS

SCALE: 3/8" = 1'-0"




## 1 A10.1 ENLARGED TOILET PLAN

SCALE: 1/2" = 1'-0"


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| MARK | DATE | DESCRIPTION |
|---|---|---|

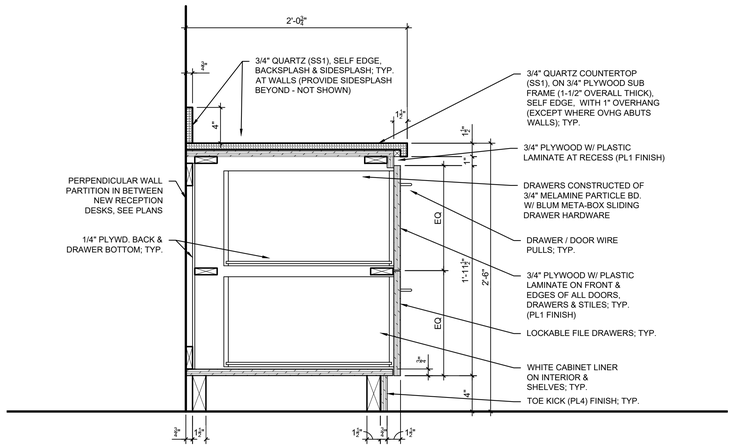
ISSUE DATE: NOVEMBER 14, 2025

ENLARGED TOILET PLAN & TYP. INTERIOR ELEVATIONS

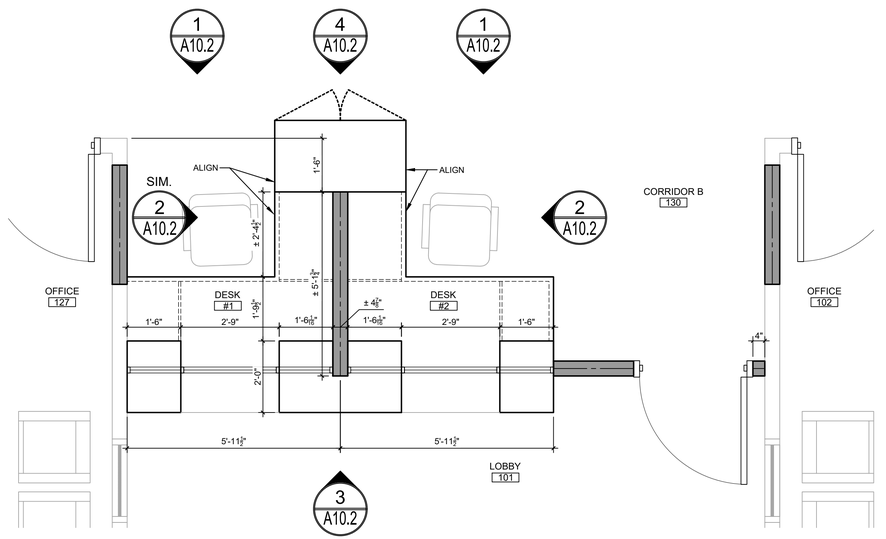
**A10.1**

PERMIT / BID SET

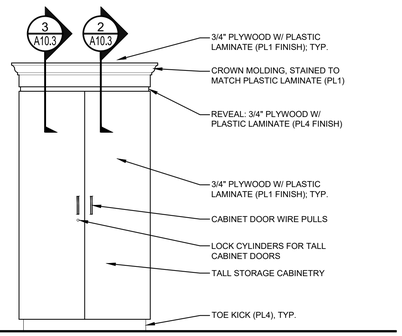

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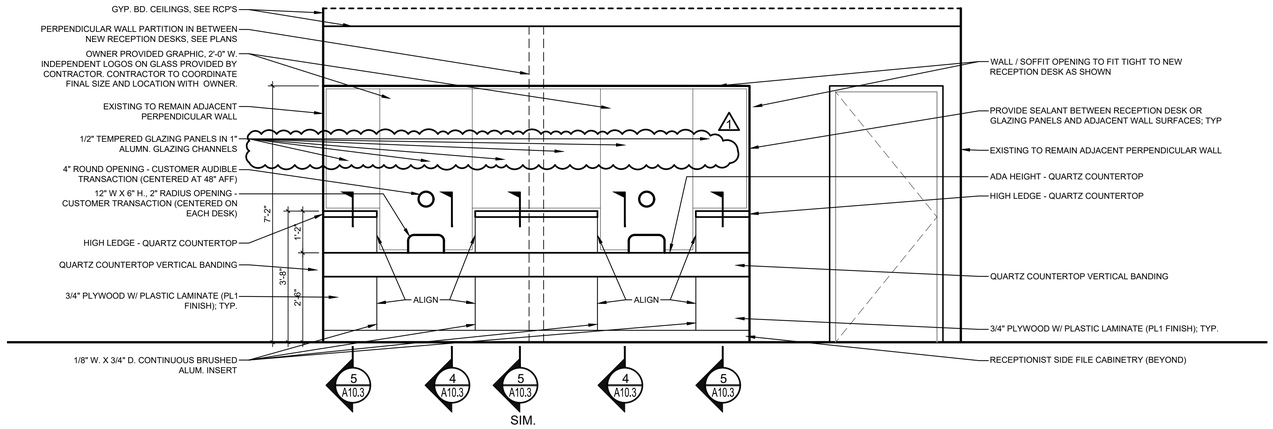

6 A10.2 SIDE FILE CABINET SECTION
1-1/2" = 1'-0"



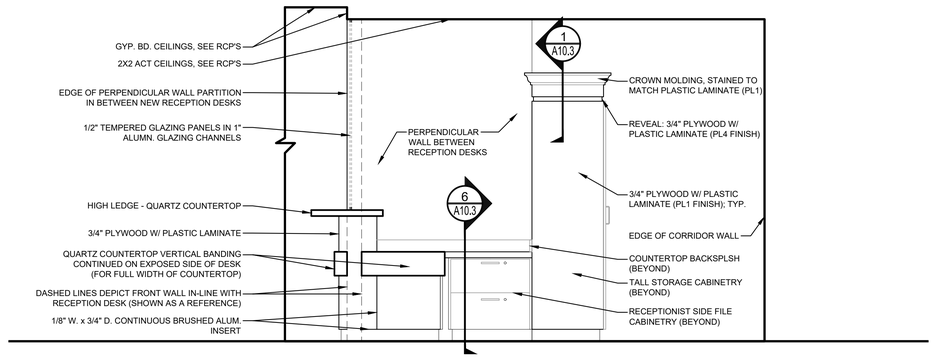

5 A10.2 LOBBY 101 DESK - ENLARGED PLAN
1/2" = 1'-0"



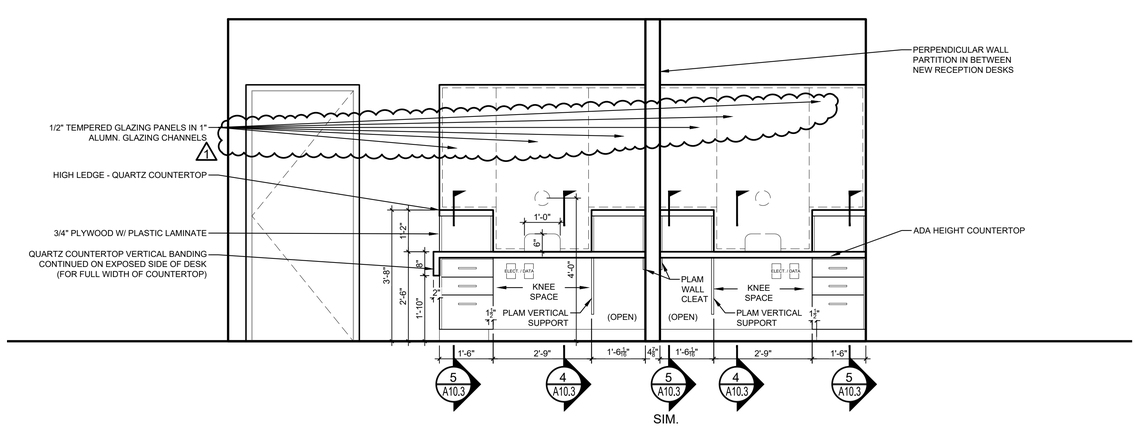

4 A10.2 LOBBY 101 DESK - STAFF REAR ELEV.
1/2" = 1'-0"




3 A10.2 LOBBY 101 DESK - PUBLIC ELEVATION
1/2" = 1'-0"




2 A10.2 LOBBY 101 DESK - STAFF SIDE ELEV.
1/2" = 1'-0"




1 A10.2 LOBBY 101 DESK - STAFF ELEVATION
1/2" = 1'-0"

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LAKE COUNTY, FL.

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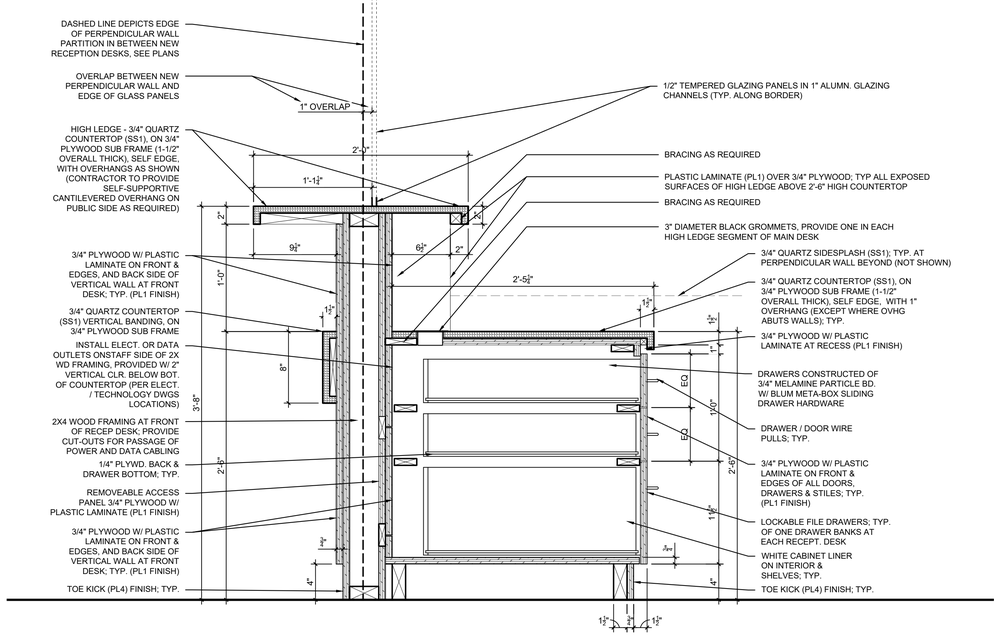
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ISSUE DATE: NOVEMBER 14, 2025

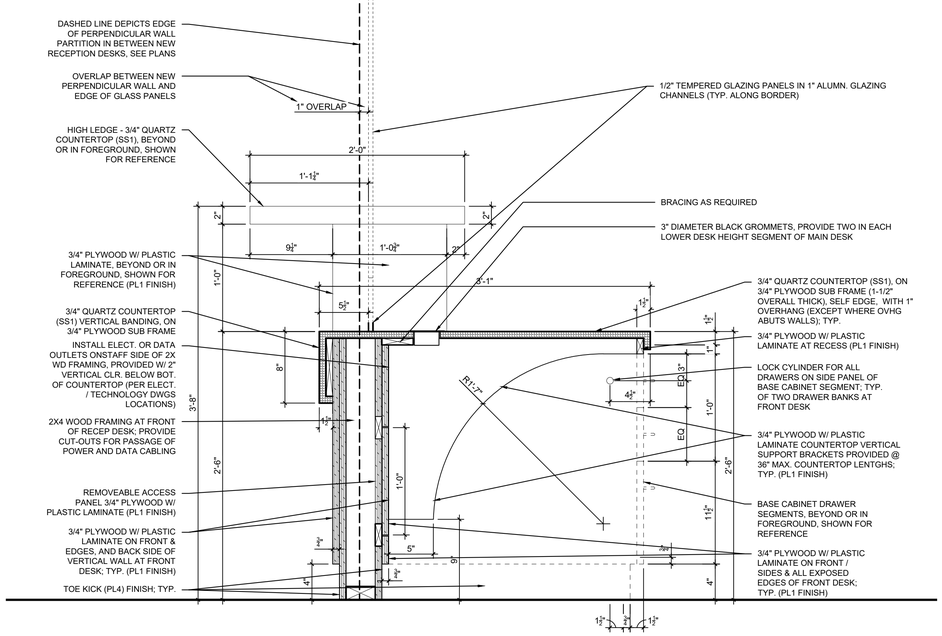
INTERIOR ELEVATIONS

A10.2
PERMIT / BID SET

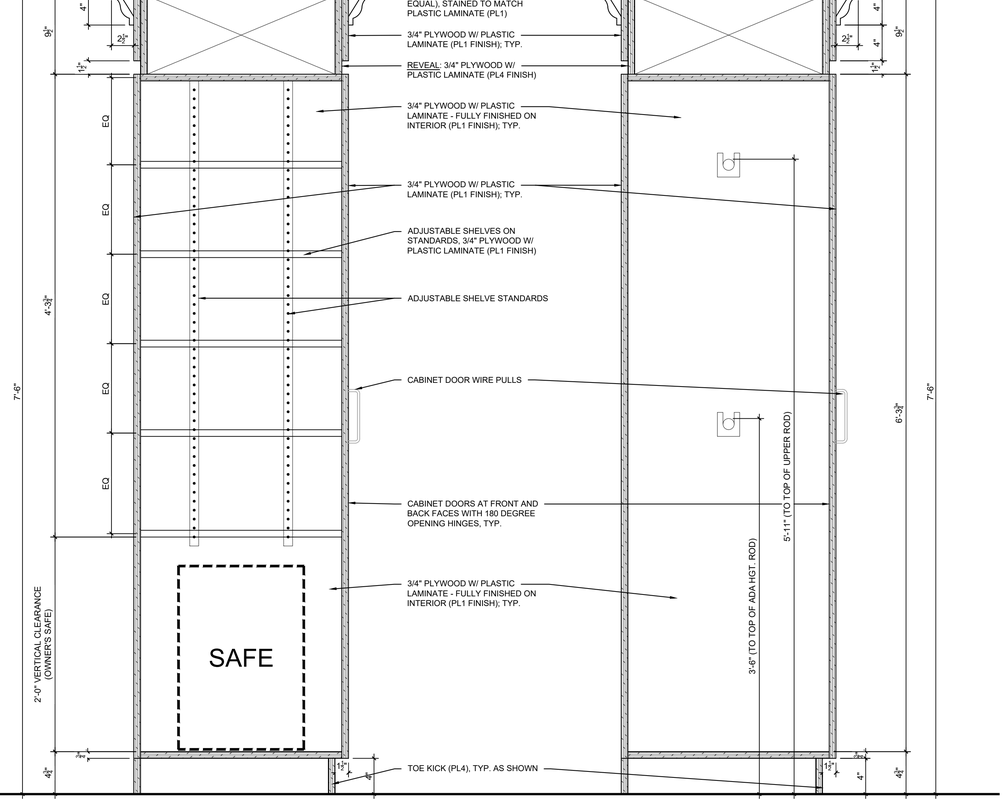
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5 A10.3 FRONT DESK CABINET SECTION 2
1-1/2" = 1'-0"




4 A10.3 FRONT DESK CABINET SECTION 1
1-1/2" = 1'-0"

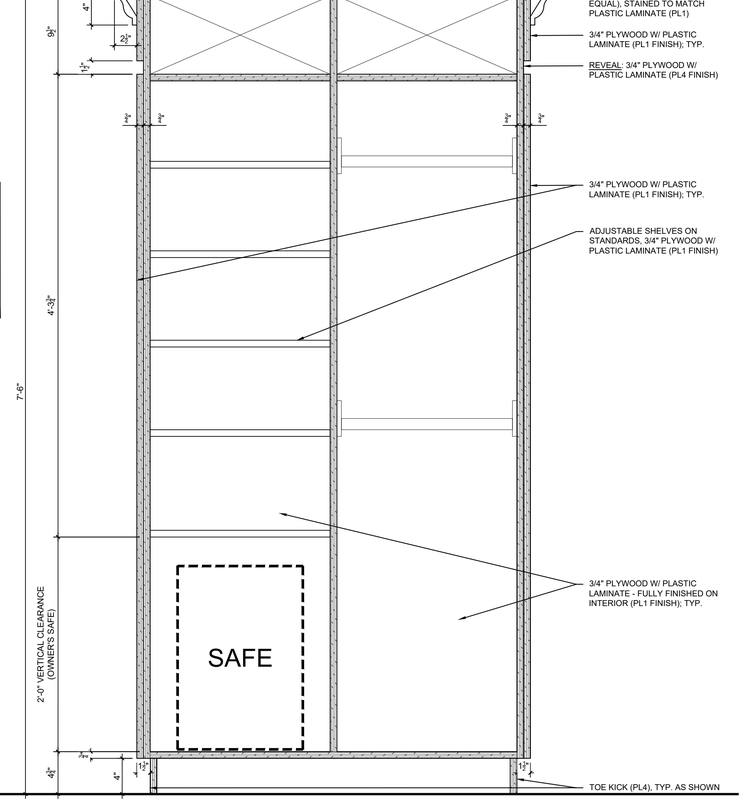



3 A10.3 TALL STORAGE CABINET SECTION 3
1-1/2" = 1'-0"

2 A10.3 TALL STORAGE CABINET SECTION 2
1-1/2" = 1'-0"

**GENERAL MILLWORK CABINETRY NOTE:**

REFER TO FINISH PLAN SHEET FOR CABINETRY FINISH SELECTIONS AND INTERIORS GENERAL NOTES; TYP.




1 A10.3 TALL STORAGE CABINET SECTION 1
1-1/2" = 1'-0"

S:\Projects\2025-22.00 - LCWA Admin Building Addition and Remodel\03_Drawings\01_ArchCad\2025-22.00_A10.2-10.3 Millwork, Elevations & Details.dwg, 11/14/2025 2:02:26 PM, AutoCAD for Mac 24.1 (Service Bureau Installation) p14.1

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|---|---|---|

ISSUE DATE: NOVEMBER 14, 2025

INTERIOR DETAILS

**A10.3**
PERMIT / BID SET

# FINISHES LEGEND

## SURFACE FINISHES

PL1: WILSONART 7959K-78, HAMPTON WALNUT; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

PL2: NOT IN USE.

PL3: NOT IN USE.

PL4: PIONITE LAMINATE SE101, BLACK, SUEDE FINISH; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

## QUARTZ/SOLID SURFACE

SS1: CAMBRIA PRODUCT CODE: 5500, BLACKWOOD ; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

## PAINT

* NOTE: ALL PAINT SHEEN TO BE SEMI-GLOSS AT WET AREAS, INCLUDING BREAK ROOMS, TOILET ROOMS, ETC.

P1: EGGSHELL WALLS: BENJAMIN MOORE PAINT TO MATCH ICI PAINTS #A1802, BRAZIL NUT; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

P2: NOT IN USE.

P3: NOT IN USE.

P4: SEMI-GLOSS TRIM: BENJAMIN MOORE PAINT TO MATCH ICI PAINTS #A1817, CAMELCOAT; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

P5: FLAT CEILING PAINT ON GYPSUM BOARD, LEVEL 4 FINISH: BENJAMIN MOORE PAINT TO MATCH ICI PAINTS #A0143, PEARL DROP; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

P6: EPOXY SEMI-GLOSS: BENJAMIN MOORE PAINT TO MATCH ICI PAINTS #A0143, PEARL DROP; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

P7: EPOXY SEMI-GLOSS: BENJAMIN MOORE PAINT TO MATCH ICI PAINTS #A1802, BRAZIL NUT; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

## DOOR STAIN (TYP. AT ALL WOOD DOORS)

S1: STAIN COLOR TO MATCH (PL1) WILSONART 7959K-78, HAMPTON WALNUT; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

## TILE

T1: FLORIM USA, STONEFIRE, NOCE - GLAZED PORCELAIN TILE BY MASTER TILE; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.
12"X12" QUARTER-TURN;
CONTACT: ANDY SHODIS AT (321)229-3252

T2: FLORIM USA, STONEFIRE, NOCE - GLAZED PORCELAIN TILE BY MASTER TILE; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.
18"X18" QUARTER-TURN;
CONTACT: ANDY SHODIS AT (321)229-3252

## CARPET

C1: BROADLOOM CARPET BY SHAW CONTRACT GROUP: STYLE: TEXT, STYLE NUMBER: 5A123, COLOR: 23500 GRANITE; CONTACT: VIRNA MITCHELL AT (407)405-0422. LONG AXIS INSTALLED NORTH/SOUTH. ; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

## GROUT

GROUT A: STAR QUARTZ INDUSTRIES URETHANE QUARTZ-LOCK2 GROUT, COLOR: 255 SOLID BUFF; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

## BASE FINISHES

V2: 4" VINYL COVE BASE BY JOHNSONITE, 1/8" GAUGE, COLOR: 45 SANDALWOOD; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

C2: 4" HIGH CARPET BORDER BASE (SHAW CONTRACT GROUP STYLE: DESIGN SERIES V 30, STYLE NUMBER: 5A032, COLOR: 32546 TOGGLE; CONTACT: VIRNA MITCHELL AT (407)405-0422. BIND EDGES AS NEATLY AS POSSIBLE WITH COORDINATING BINDING AT ALL EXPOSED EDGES; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

T3: FLORIM USA, STONEFIRE, NOCE - GLAZED PORCELAIN TILE BY MASTER TILE; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.
3"X12" BULLNOSE;
CONTACT: ANDY SHODIS AT (321)229-3252.

## TRANSITION FINISHES

TS1: SCHLUTER RENO-TK, 8MM, IN SATIN ANODIZED ALUMINUM, AETK80, INSTALLED AT TRANSITION OF C1 TO T1; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

TS2: SCHLUTER RENO-TK, 10MM, IN SATIN ANODIZED ALUMINUM, AETK100, INSTALLED AT TRANSITION OF T2 AND C1 - OR - TRANSITION OF T2 AND T1; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

## CEILING FINISHES

A1: 2' X 2' SUSPENDED ACOUSTICAL CEILING TILE AND GRID - TEGULAR EDGE; CONTRACTOR FIELD VERIFY TO MATCH EXISTING.

## EPOXY FLOOR SYSTEM

EP1: EPOXY FLOOR SYSTEM IS INCLUDED AS DEX-O-TEX CHEMINERT HD (APPROX. 1/8TH OF AN INCH THICK.)

# MILLWORK NOTES

**NOTE: CONTRACTOR TO VERIFY IN FIELD AND MATCH EXISTING CONDITIONS UNO.

1. CABINET STYLE: FRAMELESS UNO. BASE CABINET DEPTH IS 24", UNO. WALL CABINET DEPTH IS 12", UNO COUNTER HEIGHT IS 36" UNO.
2. COUNTERTOP STYLE: 1-1/2" THICK, SELF EDGE, 1" OVERHANG, EXCEPT ADJACENT TO WALLS AND ON ENDS OF CABINETS 1/2", UNO
3. CABINET LAMINATE: HIGH-PRESSURE PLASTIC LAMINATE. SEE FINISH PLAN AND INTERIOR ELEVATIONS.
4. COUNTERTOPS: HIGH-PRESSURE PLASTIC LAMINATE UNO: SEE FINISH PLAN AND INTERIOR ELEVATIONS.
5. DOOR HINGES: EUROPEAN STYLE - MEPLA, BLUM, OR HAFELE
6. DRAWERS:MEDIUM GRADE FULL EXTENSION GLIDES, ACCURIDE OR EQUAL.
7. INTERIORS SHELVING & DRAWERS: WHITE MELAMINE
8. ALL SHELVES ARE ADJUSTABLE UON. LINE BORE AT 1" O.C. PROVIDE SHELVES ALL CABINETS EXCEPT SINK CABINETS OR UNO.
9. BACKSPLASHES: SEE DRAWINGS. MATCH ADJACENT COUNTERTOP. UNO
10. DRAWER AND DOOR PULLS: HAEFELE CAT. NO. 117.05.600, ~5 1/2" (146mm) MATTE STAINLESS STEEL PULL HANDLE.
11. TOE KICKS AND REVEALS: PL4 UNO. REVEAL FACE ONLY, SIDES TO COORDINATE WITH FACE; SEE SHEET SERIES A10'S FOR MILLWORK ELEVATIONS AND DETAILS
12. PROVIDE WIDE STILE WHEREVER CABINETS ABUT SIDE WALLS, CABINETS, EQUIPMENT OR OTHER OBSTRUCTION. VERIFY ALL DIMS IN FIELD PRIOR TO SUBMITTING SHOP DRAWINGS.
13. CABINETS SHALL BE SCRIBED IN PLACE AND INSTALLED LEVEL, PLUMB, AND TRUE ON FINISHED FLOOR. COORDINATE ALL ELECTRIC, TELEPHONE AND DATA OUTLETS AND UNDER CABINET LIGHTS (IF ANY) WITH ELECTRICAL DRAWINGS AND ELECTRICAL CONTRACTOR.
14. CAULK ALL GAPS AFTER INSTALLATION WITH LAMINATE MATCHING PAINTABLE POLYURETHANE SEALANT OR EQUAL.
15. ALL HINGES SHALL BE ADJUSTED AND HAVE ALL SET SCREWS INSTALLED AFTER PRIMARY INSTALLATION TO ASSURE THAT DOORS CLOSE FLUSH AND LEVEL AND REVEALS ARE EQUAL.
16. ALL DRAWER GLIDES SHALL BE ADJUSTED AND LUBRICATED AFTER PRIMARY INSTALLATION TO ENSURE SMOOTH OPERATION.
17. ALL NON-EXPOSED SURFACES SHALL BE LAMINATED WITH MELAMINE OR PLASTIC LAMINATE UNO.
18. WHERE ELECTRICAL WORK OCCURS IN MILLWORK, FIXTURES AND LAMPS ARE TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR. CUTOUTS FOR FIXTURES, SWITCHES, ETC. SHALL BE MADE BY THE MILLWORK CONTRACTOR IN COORDINATION WITH THE ELECTRICAL CONTRACTOR. CUT-OUT LOCATIONS SHALL BE INCLUDED ON SHOP DRAWINGS.
19. PERFORM FINAL COORDINATION OF GROMMETS & LOCKS WITH OWNER PRIOR TO INSTALLATION OF CABINETS.

# GENERAL FINISH NOTES

**NOTE: CONTRACTOR TO VERIFY IN FIELD AND MATCH EXISTING CONDITIONS UNO.

A. VERIFY ALL MATERIALS AND FINISHES WITH OWNER PRIOR TO ORDERING.

B. CARPET ADHESIVE SHALL BE LABELED AS BEING OF LOW VOC CONTENT

C. WHERE TWO DIFFERENT FLOOR FINISHES ABUT, CONTRACTOR SHALL SUBMIT A SAMPLE OF A COORDINATING SCHULTER STRIP WHERE CARPET AND VCT ABUT OR WHERE CARPET AND TILE ABUT. SEE TS1 AND TS2.

D. FLASH PATCH ALL AREAS WHERE FLOOR IS NOT LEVEL OR TRUE PRIOR TO THE INSTALLATION OF FLOOR COVERING.

E. ALL FLOORS TO BE C1 UNO AS DESIGNATED ON FINISH PLAN.

F. ALL BASE TO BE C2 UNO AS DESIGNATED ON FINISH PLAN.

G. ALL WALLS TO BE P1, UNO AS DESIGNATED ON FINISH PLAN.

H. BASE OF DRYWALL SHALL BE PROPERLY INSTALLED AND FINISHED TO ENSURE THAT BASE INSTALLATION IS SMOOTH AND FREE OF BUBBLES, BUMPS AND GAPS.

I. PAINT APPLICATION TO BE ONE (1) PRIME COAT AND TWO (2) FINISH COATS UNLESS OTHERWISE NOTED OR AS REQUIRED TO COVER EXISTING CONDITIONS.

J. BENJAMIN MOORE PAINTS IS BASIS OF DESIGN; ALTERNATE PAINT MANUFACTURERS ARE ACCEPTED WITH APPROVAL BY ARCHITECT; **COLORS SHALL MATCH EXISTING.**

K. ALL DRYWALL, PLASTER, METAL, ETC. SHALL BE PROPERLY PREPARED PER MANUFACTURER'S REQUIREMENTS PRIOR TO THE APPLICATION OF PRIMER OR PAINT.

L. SEE SPECIFICATIONS FOR WINDOW BLINDS; PROVIDE BLINDS AT ALL WINDOWS, UNO.

M. ALL WALL PLATES TO BE BISCUIT/ALMOND, SEE ELECTRICAL DRAWINGS

N. ALL DOOR FRAMES TO BE PAINTED P4; CONTRACTOR TO PREP EXISTING FRAMES AS RECOMMENDED BY PAINT MANUFACTURER.

O. ALL FLOORING FINISHES, INCLUDING TOP COATS AND SEALERS, MUST MEET THE MOST STRINGENT AND CURRENT FBC, NFSI AND ANSI STANDARDS FOR DRY AND WET CONDITIONS.

# FLAME SPREAD RATING FINISH NOTES

1. PER FFPC 101:10.2.3 AND 101:10.2.7, THE FLAME SPREAD RATING OF THE FOLLOWING INTERIOR WALL, CEILING AND FLOOR FINISH MATERIALS DESIGNATIONS IS AS FOLLOWS:

A. ACOUSTIC CEILING TILE:
   1. FLAME SPREAD: 25 OR UNDER PER ASTM E-84
   2. CLASS 'A' FLAME RESISTANCE, NON-COMBUSTIBLE IN ACCORDANCE WITH ASTM 1264, UL LABELED.
   3. NCR RANGE .55 TO .75

B. WALL FINISH & WALL BOARD:
TO BE 5/8" GYPSUM BOARD EACH SIDE OF METAL STUDS IN ALL SPACES NOTED ON PLAN. WALL PAINT MANUFACTURER TO PROVIDE NECESSARY TEST REPORT ON PAINT COMPOUND MIXTURE & FLAME SPREAD RATING TO THE BUILDING OFFICIAL UPON REQUEST. CLASS 'B' CORRIDORS & EXIT LOCATIONS:
CLASS 'B' AREA OTHER THAN EXITS: FLAME SPREAD 26-75; SMOKE DEVELOPMENT: 0-450.

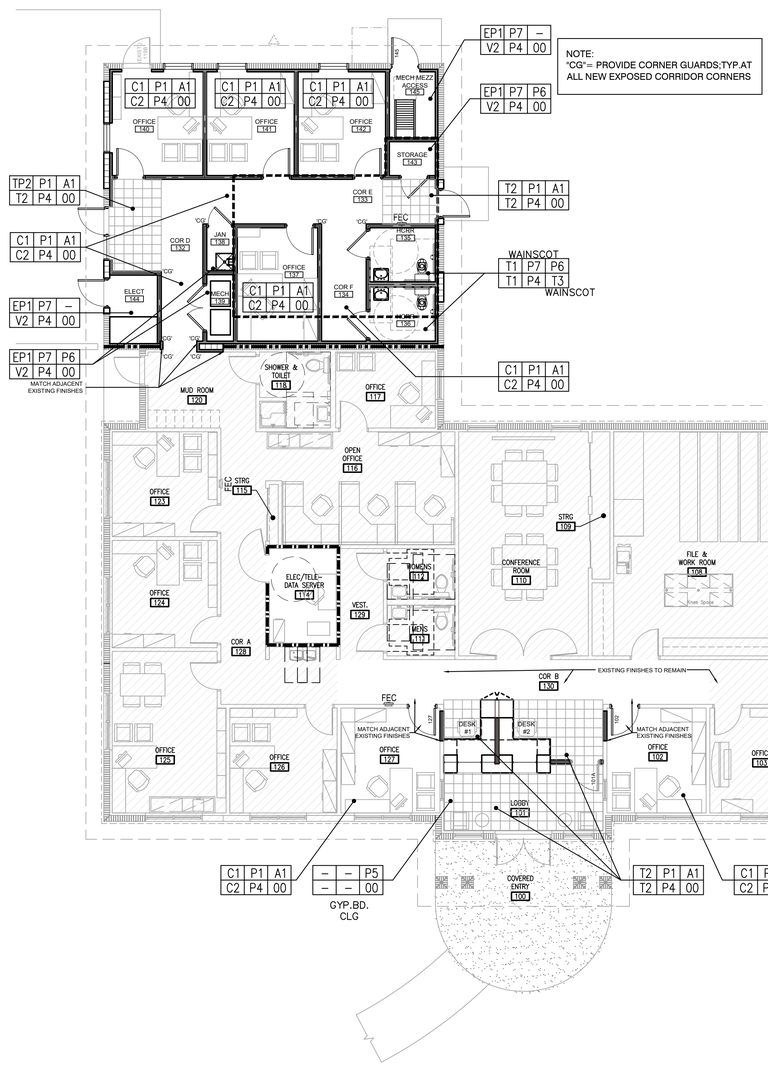
C. INTERIOR FLOOR FINISH IN EXITS AND EXIT ACCESS CORRIDORS SHALL NOT BE LESS THAN CLASS II. IN ALL OTHER AREAS, CLASS I.
   1. CLASS I INTERIOR FLOOR FINISH SHALL BE CHARACTERIZED BY A CRITICAL RADIANT FLUX NOT LESS THAN 0.45 W/cm2, AS DETERMINED BY NFPA 253 OR ASTM E648

D. WORK STATIONS AND FURNITURE:
FLAME SPREAD RATING BETWEEN 26 AND 75, SMOKE DEVELOPMENT INDEX 0-450.

## FINISH TAG KEY




TAGS REFERENCE FINISHES SPECIFIED ON FINISHES SHEETS




# ROOM FINISH SCHEDULE

| RM. NUM. | ROOM NAME | CARPET | PORCELAIN TILE | EPOXY FLOOR | PORCELAIN TILE | CARPET BASE | VINYL BASE | EPOXY PAINT | GYPSUM WALL BOARD | PORCELAIN TILE (WAINSCOT) | GYPSUM WALL BOARD | ACOUSTIC CEILING TILE | OPEN TO STRUCTURE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FLOOR | | | BASE | | | WALLS | | | CEILING | | | |
| 101 | LOBBY / CORRIDOR B | | ● | | ● | | | | ● | | ● | ● | | NOTES:<br>1. ALL GWB TO BE LEVEL-4 AT WALLS AND LEVEL-5 AT CEILINGS SLICK DRYWALL FINISH, PRIMED AND READY FOR PAINT.; TYP.<br>2. ALL GWB CEILINGS TO BE PAINTED; TYP.<br>3. PROVIDE MOISTURE RESISTANT GYP WALL BOARD ON WALLS AND CEILINGS; TYP. OF WET AREAS |
| 102 | OFFICE | ● | | | | ● | | | ● | | | ● | | REPLACE DISTURBED FINISHES (MATCH EXISTING) |
| 127 | OFFICE | ● | | | | ● | | | ● | | | ● | | REPLACE DISTURBED FINISHES (MATCH EXISTING) |
| 132 | CORRIDOR D | ● | ● | | ● | ● | | | ● | | | ● | | |
| 133 | CORRIDOR E | ● | ● | | ● | ● | | | ● | | | ● | | |
| 134 | CORRIDOR F | ● | | | | ● | | | ● | | | ● | | |
| 135 | HCRR | | ● | | ● | | | ● | ● | ● | ● | | | PROVIDE PORCELAIN TILE 48" HIGH WAINSCOT |
| 136 | HCRR | | ● | | ● | | | ● | ● | ● | ● | | | PROVIDE PORCELAIN TILE 48" HIGH WAINSCOT |
| 137 | OFFICE | ● | | | | ● | | | ● | | | ● | | |
| 138 | JANITOR | | | ● | | | | ● | ● | | ● | | | PROVIDE PORCELAIN TILE 48" HIGH WAINSCOT AT MOP SINK. |
| 139 | MECH. | | | ● | | | | ● | ● | | ● | | | |
| 140 | OFFICE | ● | | | | ● | | | ● | | | ● | | |
| 141 | OFFICE | ● | | | | ● | | | ● | | | ● | | |
| 142 | OFFICE | ● | | | | ● | | | ● | | | ● | | |
| 143 | STORAGE | | | ● | | | | ● | ● | | ● | | | |
| 144 | ELECT. | | | ● | | | | ● | ● | | | | ● | |
| 145 | MECH. MEZZ. ACCESS | | | ● | | | | ● | ● | | | | ● | |

1 A10.4 FINISH PLAN
SCALE: 1/8" = 1'-0"


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CONSULTANT:

OWNER / PROJECT:

ADDITION & RENOVATION PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|

ISSUE DATE: NOVEMBER 14, 2025

FINISH PLAN & SCHEDULES

A10.4
PERMIT / BID SET


S:\Projects\2025-22.00 - LCWA Admin Building Addition and Remodel\03_Drawings\01_ArchCAD\2025-22.00_A10.4 - Finish Plan.dwg, 11/14/2025 2:02:39 PM, AutoCAD PDF (NO LAYERS (General Documentation).pc3

## DIVISION 5 - METALS

**SECTION 05500 METAL FABRICATIONS**

PART 1 - GENERAL
1.01 DESCRIPTION
A. SCOPE OF THE WORK:
1. FURNISH ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL MISCELLANEOUS METAL WORK AS CALLED FOR ON THE DRAWINGS OR AS SPECIFIED.
2. FURNISH ALL BOLTS, SPACERS, WASHERS AND FASTENERS NECESSARY FOR ERECTION OF THE WORK.

1.02 SUBMITTALS
A. SHOP DRAWINGS:
1. SUBMIT SHOWING LAYOUT AND DETAILS PRIOR TO FABRICATION.

PART 2 - PRODUCTS
2.01 MATERIALS
A. ALL MATERIALS SHALL BE NEW, CLEAN, UNDAMAGED, UN-RUSTED STOCK OF SIZES SHOWN ON THE DRAWINGS OR AS SPECIFIED HEREIN AND FABRICATED OF A36 STEEL.
B. STEEL BAR GRATING WITH REMOVABLE RAILING, SEE STRUCTURAL DRAWINGS - DELEGATED ENGINEER. PROVIDE DELEGATED ENGINEER'S SHOP DRAWINGS FOR ARCHITECTURAL REVIEW AS PART OF THE SHOP DRAWING PROCESS.

PART 3 - EXECUTION
3.01 INSPECTION
A. EXAMINE THE AREAS AND CONDITIONS UNDER WHICH MISCELLANEOUS METAL ITEMS ARE TO BE INSTALLED, AND CORRECT CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY COMPLETION OF THE WORK.
B. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.02 ADJUSTMENT AND CLEANING
A. AFTER ERECTION, CLEAN FIELD WELDS, BOLTED CONNECTIONS, AND ABRADED AREAS OF SHOP PAINT AND PAINT EXPOSED AREAS WITH SAME MATERIAL AS USED FOR SHOP PAINTING.

## DIVISION 6 - CARPENTRY

**SECTION 06100 ROUGH CARPENTRY**

PART 1 - GENERAL
1.01 DESCRIPTION
A. WORK INCLUDES ALL ROUGH CARPENTRY WORK AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

1.02 JOB CONDITIONS
A. MEASUREMENTS:
1. VERIFY ALL DIMENSIONS SHOWN ON THE DRAWINGS BY TAKING FIELD MEASUREMENTS; PROPER FIT AND ATTACHMENT OF ALL PARTS IS REQUIRED.
2. BEFORE COMMENCING WORK, CHECK ALL LINES AND LEVELS AND SUCH WORK AS HAS BEEN COMPLETED.
3. SHOULD THERE BE ANY DISCREPANCIES, IMMEDIATELY REPORT TO THE ARCHITECT IN WRITING.
4. IN THE EVENT OF FAILURE TO DO SO, BE RESPONSIBLE FOR CORRECTION OF ANY ERRORS.
B. COORDINATION: COORDINATE WORK WITH OTHER TRADES (ELECTRICAL, MECHANICAL, PLUMBING, ETC.) AND DO ALL CUTTING AND PATCHING REQUIRED TO ACCOMMODATE THEIR WORK. PROTECT ADJACENT WORK.

1.03 QUALITY ASSURANCE
A. CONFORM WITH ALL REQUIREMENTS OF U.S. DEPARTMENT OF COMMERCE COMMERCIAL STANDARDS AND AMERICAN WOOD PRESERVE ASSOCIATION STANDARDS, AS THEY APPLY.
B. ALL WOOD IN CONTACT WITH MASONRY OR STEEL, OR USED OUTSIDE OF CONDITIONED AREAS, SHALL BE PRESSURE TREATED L.L.S.P., HAVE AN APPROVED SEPARATING MATERIAL, OR HAVE A GALVANIZED ANCHOR SEAT.

PART 2 - PRODUCTS
2.01 MATERIALS
A. FASTENERS:
1. NAILS: BRIGHT COMMON WIRE NAILS, GALVANIZED FOR EXTERIOR WORK.
2. BOLTS: BOLTS SHALL BE ASTM A307, GALVANIZED, UNLESS OTHERWISE INDICATED.
3. LAG SCREWS AND SCREWS
4. METAL BRACKETS: GALVANIZED PER ASTM A153, ASTM A36 STEEL.
B. GENERAL ROUGH LUMBER: NAILERS, BLOCKING, FURRING AND GROUNDS:
1. NO. 2 SOUTHERN PINE MOISTURE CONTENT: 19% MAXIMUM.
2. WOOD MATERIALS EXPOSED TO MOISTURE OR IN CONTACT WITH CONCRETE OR MASONRY SHALL BE, PRESSURE-TREATED.
C. PLYWOOD: PSI 1-74, OF SIZES INDICATED ON DRAWINGS; GRADE C-C EXT-APA, EXTERIOR.

PART 3 - EXECUTION
3.01 INSTALLATION
A. GENERAL:
1. CUT AND FRAME ALL OPENINGS REQUIRED BY OTHER TRADES.
2. STRUCTURAL MEMBERS SHALL NOT BE CUT, NOTCHED OR DRILLED, EXCEPT AS NOTED OR SHOWN ON THE DRAWINGS.
B. LUMBER:
1. PROVIDE ALL WOOD BACKING, FURRING, STRIPPING OR BLOCKING INDICATED OR REQUIRED FOR INSTALLATION AND ATTACHMENT OF WORK FOR ALL OTHER TRADES.
2. CUT AND FRAME ALL OPENINGS REQUIRED BY OTHER TRADES.
3. DO NOT CUT, NOTCH OR DRILL STRUCTURAL MEMBERS EXCEPT AS NOTED OR SHOWN ON THE DRAWINGS.
4. CAUTION
a. ALL BLOCKING IN PARTITION CAVITIES CONTAINING MEDICAL GAS PIPING, OUTLETS, VALVES OR EQUIPMENT SHALL BE NON-COMBUSTIBLE.
b. WHERE CONDITIONS REQUIRE WOOD BLOCKING IN PARTITION CAVITIES WHICH CONTAIN MEDICAL GAS PIPING, THEN ALL MEDICAL GAS PIPING IN THAT AREA SHALL BE SHEATHED IN METAL, PROPERLY WRAPPED FOR PROTECTION AGAINST GALVANIC CORROSION.
C. FASTENERS:
1. SUBDRILL FOR NAILING WHERE NECESSARY TO AVOID SPLITTING.
2. DRILL BOLT HOLES 1/32-INCH LARGER THAN BOLT DIAMETER.
3. USE SQUARE PLATE OR MALLEABLE IRON WASHERS UNDER HEADS AND NUT OF BOLTS, WHERE THEY ARE AGAINST WOOD.
4. SUBDRILL FOR LAG SCREWS/BOLTS AND WOOD SCREWS; USE SQUARE PLATE OR MALLEABLE IRON WASHER UNDER LAG SCREW HEADS WHEN THEY BEAR ON WOOD.

**SECTION 06400 MILLWORK**

PART 1 - GENERAL
1.01 DESCRIPTION
A. WORK INCLUDES ALL CABINET WORK AS SHOWN ON THE DRAWINGS AND AS SPECIFIED.
B. DESCRIPTION OF SYSTEM:
1. PLASTIC LAMINATE COVERED CABINETS:
1.A. HARD LAMINATE EXTERIORS WHERE EXPOSED TO VIEW.
1.B. CABINET INTERIORS, INCLUDING DRAWERS: LAMINATED IN WHITE MELAMINE OVERLAY.
2. WOOD VENEER COVERED CABINETS:
2.A. VENEER WOOD EXTERIORS WHERE EXPOSED TO VIEW.
2.B. CABINET INTERIORS, INCLUDING DRAWERS: LAMINATED IN WHITE MELAMINE OVERLAY.

1.02 QUALITY ASSURANCE
A. CABINET MANUFACTURER SHALL HAVE ADEQUATE PLANT AND EQUIPMENT TO PRODUCE QUALITY CASEWORK.
B. PERFORM CABINET WORK IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MILLWORK STANDARDS OF THE ARCHITECTURAL WOODWORK INSTITUTE (AWI), CUSTOM GRADE.
1.03 SUBMITTALS
A. SHOP DRAWINGS:
1. SUBMIT SHOWING THE WORK AT APPROPRIATE SCALE TO SHOW SIZES, METHODS OF CONSTRUCTION, CONNECTION TO ADJACENT MEMBERS AND INSTALLATION.
2. SUBMIT ONE REPRODUCIBLE AND ONE COPY.
3. THE MARKED UP REPRODUCIBLE WILL BE RETURNED FOR DISTRIBUTION.
1.04 DELIVERY, STORAGE AND HANDLING
A. STORE ALL WORK AWAY FROM THE SITE AT NO ADDITIONAL COST TO THE OWNER, UNTIL ALL WET WORK, SANDING AND GRINDING, PAINTING AND SIMILAR OPERATIONS WHICH COULD DAMAGE, SOIL OR DETERIORATE CASEWORK HAS BEEN COMPLETED IN THE AREA OF INSTALLATION.
B. DO NOT STORE OR INSTALL CASEWORK IN THE PROJECT UNTIL ENVIRONMENTAL CONDITIONS WITHIN THE STRUCTURE ARE DRY, WITH RELATIVE HUMIDITY NO GREATER THAN 55% AND NOT LESS THAN 25%, AT 75 DEGREES F.
C. ADEQUATELY PROTECT ALL MATERIAL FROM INJURY AND DAMAGE TO THE FINISH, DURING STORAGE, DELIVERY AND INSTALLATION.

PART 2 - PRODUCTS
2.01 MATERIALS
A. MATERIALS SHALL BE NEW, AND ALL WOOD OR LUMBER SHALL BE IN ACCORDANCE WITH AMERICAN WOODWORK INSTITUTE STANDARD OF QUALITY.
B. FRAMING: FIR, WHITE PINE, OR POPLAR WITH MOISTURE CONTENT NOT TO EXCEED 12%.
C. PLYWOOD:
1. 3/4" DOUBLE SIDED LAMINATED PLASTIC 7 PLY.
2. 3/4" DOUBLE SIDED LAMINATED MELAMINE 7 PLY.
3. 3/4" DOUBLE SIDED WOOD VENEER, SPECIE TO BE SELECTED BY OWNER, 7 PLY.
4. 1/2" DOUBLE SIDED LAMINATED MELAMINE, 5 PLY.
5. 1/4" DOUBLE SIDED LAMINATED MELAMINE, 3 PLY.
D. HARDWARE:
1. HINGES: BLUME OR EQUAL, CONCEALED, SELF-CLOSING, SIX-WAY ADJUSTABLE, 125-DEGREE SWING DESIGN.
2. PULLS: WIRE TYPE STANLEY 4484, OR EQUAL, US 28.
3. DRAWER GLIDES:
3.A. STEEL, FULL EXTENSION TYPE, WITH DURABLE ELECTROSTATICALLY APPLIED EPOXY FINISH AND WITH FOUR (4) NYLON ROLLERS.
3.B. 100 POUND CAPACITY
**3.C. SELF-CLOSING WITHIN LAST 2 INCHES OF TRAVEL.**
3.D. EQUIPPED WITH AUTOMATIC STOP.
4. SHELF STANDARDS: KNAP & VOGT: 255 NP WITH 256 SHELF SUPPORTS.
5. COAT HOOKS: IVES 570, HEAVY DUTY ALUMINUM (2 IN EACH LOCKER).
6. LOCKS: NATIONAL LOCK C8053-14A, OR EQUAL, BRIGHT NICKEL.
E. LAMINATES:
1. VERTICAL SURFACES: .030"
2. HORIZONTAL SURFACES: .050"
3. BACKSPLASHES (ALL EXPOSED FACES): .050"
4. COUNTER TOPS: 1/16" THICK
5. BACKING SHEET: .050"
6. IN COLORS AS SELECTED BY THE OWNER
F. ACCESSORIES:
1. MANUFACTURER: OUTWATER PLASTICS INDUSTRIES, INC., 1-800-631-8375.
1.A. WIRE MANAGEMENT GROMMET: #31BK, BLACK PLASTIC, (2" DIAMETER) OR EQUAL.
1.B. TRASH RECEPTACLE GROMMET: #38BK, BLACK PLASTIC (6" DIAMETER) OR EQUAL.
G. GLASS: 1/8" UP TO 47" IN LARGEST DIMENSION, 3/16" LARGER THAN 47" IN LARGEST DIMENSION, CLEAR PLATE FOR CABINET DOORS.
2.02 FABRICATION
A. GENERAL: ALL CONSTRUCTION SHALL BE GLUED, DOWELED AND SCREWED CONSTRUCTION, WITH DOWEL SPACING NOT TO EXCEED 2-INCHES.
B. CAREFULLY FABRICATE CABINETS TRUE, SQUARE, WITHOUT WARP AND ALL PARTS IN PERFECT ALIGNMENT.
C. FABRICATE ALL CABINET WORK WITH NEAT AND TIGHT FITTING JOINTS THROUGHOUT; FIT JOINTS FLUSH AND TO HAIRLINE.
D. FIT MOVABLE PARTS SUCH AS DOORS TO CLOSE TOLERANCE.
E. FACE BEST GRADE SURFACE OF PLYWOOD TO EXPOSED SIDE.
F. SHOP FABRICATE CABINET WORK IN WHOLE UNITS OR IN PARTIAL UNITS AS MOST PRACTICABLE FOR HANDLING AND TRANSPORTATION.
G. ASSEMBLE PARTIAL UNITS IN PLACE IN SUCH MANNER THAT EACH CABINET BECOMES A UNIFIED WHOLE, VISUALLY AND STRUCTURALLY.
H. VISUAL JOINTS WILL NOT BE ACCEPTABLE.
I. MAKE ALL CUTS REQUIRED TO ACCOMMODATE WORK OF OTHER TRADES.
J. TREAT UNDERSIDES OF COUNTERTOPS AND CURB TOPS AND BACK FACES OF SPLASHES WITH TWO (2) COATS OF WATER SEALANT, THOMPSON WATER SEAL OR EQUAL.
K. INSTALL SHELF STANDARDS FULLY MORTISED, FULL LENGTH OF CABINET BODY.
**L. PLASTIC LAMINATE BASE AND WALL UNITS:**
1. SHELL UNIT: FABRICATE TOTALLY ENCLOSED FIVE-SIDED BOX.
2. TOPS, SIDES, BOTTOMS: 3/4" THICK, DOUBLE SIDED LAMINATE, SEVEN PLY A-C EXTERIOR PLYWOOD.
3. BACKS: MORTISED INTO THE SIDES, GLUED AND SCREWED, 1/4" DOUBLE SIDED LAMINATE (MELAMINE) PLYWOOD.
4. ALL EXPOSED SURFACES SHALL HAVE A FINISHED LAMINATE PLASTIC SURFACE.
5. ALL NON-EXPOSED SURFACES SHALL HAVE A WHITE MELAMINE PLASTIC OVERLAY.
6. CROSS RAILS
6.A. LOCATE BETWEEN CUPBOARD OPENINGS AND BANKS OF DRAWERS.
6.B. LOCATE UPRIGHT SUPPORTS BEHIND DOUBLE DOORS ON 42" OR LARGER UNITS.
6.C. LAMINATE ALL EXPOSED SURFACES TO MATCH CABINET FACES.
7. HANGING RAILS: 1 X 3 FRAMING LUMBER FULLY MORTISED INTO THE SIDE PANELS OF THE UNIT, GLUED AND SCREWED.
8. DRAWERS
8.A. FRONTS: DOUBLE SIDED LAMINATED 3/4" THICK SEVEN PLY PLYWOOD; LAMINATE ALL EXPOSED EDGES WITH SAME LAMINATE.
8.B. BODIES
8.B.A. UP TO 30" WIDE (FRONT DIMENSION): PROVIDE AN INDEPENDENT FIVE-SIDED BOX WITH ½"DOUBLE-SIDED LAMINATE MELAMINE 5 PLY PLYWOOD SIDES, MORTISED IN, GLUED AND SCREWED; LAMINATE ALL EXPOSED EDGES WITH SAME MELAMINE.
8.B.B. WIDER THAN 30": PROVIDE AN INDEPENDENT FIVE-SIDED BOX WITH 3/4" DOUBLE-SIDED LAMINATE MELAMINE 7 PLY PLYWOOD SIDES, MORTISED IN, GLUED AND SCREWED; LAMINATE ALL EXPOSED EDGES WITH SAME MELAMINE.
8.C. BOTTOMS: 1/4" LAMINATED (MELAMINE) PLYWOOD, MORTISED IN, GLUED AND SCREWED.
8.D. EQUIP ALL DRAWERS WITH SILENCERS.
9. DOORS:
9.A. DOUBLE SIDED LAMINATED 3/4" THICK SEVEN PLY PLYWOOD: LAMINATE ALL EXPOSED EDGES WITH SAME LAMINATE.
9.B. DOORS 35" TO 70" HIGH SHALL HAVE THREE (3) HINGES, DOORS OVER 70" HIGH SHALL HAVE FOUR (4) HINGES.
9.C. EQUIP ALL DOORS WITH SILENCERS.
10. SHELVES: DOUBLE-SIDED, LAMINATED 3/4" SEVEN PLY PLYWOOD WITH LAMINATE (MELAMINE) ON ALL EDGES.
M. WOOD VENEER BASE AND WALL UNITS:
1. SHELL UNIT: FABRICATE TOTALLY ENCLOSED FIVE-SIDED BOX.
2. TOPS AND EXPOSED SIDES: 3/4" THICK, DOUBLE SIDED VENEERED SEVEN PLY A-C EXTERIOR PLYWOOD.
3. CONCEALED SIDES AND BOTTOMS: 3/4" THICK, DOUBLE SIDED LAMINATE, SEVEN PLY A-C EXTERIOR PLYWOOD WITH VENEER APPLIED TO EXPOSED EDGE.
4. BACKS: MORTISED INTO THE SIDES, GLUED AND SCREWED, 1/4" DOUBLE SIDED LAMINATE (MELAMINE) PLYWOOD.
5. ALL EXPOSED SURFACES SHALL HAVE A VENEERED SURFACE.
6. ALL NON-EXPOSED SURFACES TO HAVE A WHITE MELAMINE PLASTIC OVERLAY.
7. CROSS RAILS
7.A. LOCATE BETWEEN CUPBOARD OPENINGS AND BANKS OF DRAWERS IN MATCHING SPECIE AS VENEER.
7.B. LOCATE UPRIGHT SUPPORTS BEHIND DOUBLE DOORS ON 42" OR LARGER UNITS
8. HANGING RAILS: 1 X 3 FRAMING LUMBER FULLY MORTISED INTO THE SIDE PANELS OF THE UNIT, GLUED AND SCREWED.
9. DRAWERS
9.A. FRONTS: DOUBLE SIDED WOOD VENEERED 3/4" THICK SEVEN PLY PLYWOOD.
9.B. BODIES:
9.B.A. UP TO 30" WIDE (FRONT DIMENSION): PROVIDE AN INDEPENDENT FIVE-SIDED BOX WITH ½"DOUBLE-SIDED LAMINATE MELAMINE 5 PLY PLYWOOD SIDES, MORTISED IN, GLUED AND SCREWED; LAMINATE ALL EXPOSED EDGES WITH SAME MELAMINE.
9.B.B. WIDER THAN 30": PROVIDE AN INDEPENDENT FIVE-SIDED BOX WITH 3/4" DOUBLE-SIDED LAMINATE MELAMINE 7 PLY PLYWOOD SIDES, MORTISED IN, GLUED AND SCREWED; LAMINATE ALL EXPOSED EDGES WITH SAME MELAMINE.
9.C. BOTTOMS: 1/4" LAMINATED (MELAMINE) PLYWOOD, MORTISED IN, GLUED AND SCREWED.
9.D. EQUIP ALL DRAWERS WITH SILENCERS.
10. DOORS
10.A. FLUSH:
10.A.A. DOUBLE SIDED WOOD VENEERED 3/4" THICK SEVEN PLY PLYWOOD.
10.A.B. DOORS 35" TO 70" HIGH SHALL HAVE THREE (3) HINGES, DOORS OVER 70" HIGH SHALL HAVE FOUR (4) HINGES.
10.A.C. EQUIP ALL DOORS WITH SILENCERS.
10.B. GLAZED
10.B.A. DOUBLE SIDED WOOD VENEERED 3/4" THICK SEVEN PLY PLYWOOD WITH FULL RABBIT FOR GLAZING.
10.B.B. STILES: 2 ½" WIDE
10.B.C. RAILS: 2 ½" TOP, 4" BOTTOM, MINIMUM
11. SHELVES
11.A. CONCEALED: DOUBLE-SIDED, LAMINATED 3/4" SEVEN PLY PLYWOOD WITH LAMINATE (MELAMINE) ON ALL EDGES.
11.B. EXPOSED DOUBLE-SIDED WOOD VENEERED 3/4" SEVEN PLY PLYWOOD WITH EITHER HARDWOOD EDGE STRIPS OR VENEERED EDGE STRIP.
2.03 LAMINATES
A. GLUE PLASTIC LAMINATES UNDER PRESSURE TO THE BACKING, FORMED AS SHOWN ON THE DRAWINGS, AND IN ACCORDANCE WITH PLASTIC LAMINATE MANUFACTURER'S INSTRUCTIONS.
B. TOP FACE OF PLASTIC LAMINATE SHALL OVERLAP EDGES.
C. RECESSED CABINET BASE TOE KICKS SHALL BE LAMINATED WITH BLACK LAMINATE.
D. LAMINATE ALL EXPOSED UNDERSIDES OF ALL COUNTER TOPS TO MATCH CABINET COUNTER TOP.
E. LAMINATE UNDERSIDES OF OVERHEAD CABINETS AND UNDERSIDES OF ALL CABINET VALANCES TO MATCH FACE OF CABINET.

**PART 3 - EXECUTION**
3.01 INSPECTION
A. MEASUREMENTS:
1. TAKE SUCH FIELD MEASUREMENTS AS MAY BE REQUIRED, AND BE RESPONSIBLE FOR SAME.
2. REPORT ANY MAJOR DISCREPANCIES BETWEEN PLAN AND FIELD DIMENSIONS TO THE ARCHITECT.
3. FILLERS SHALL NOT EXCEED 3/4-INCH.
3.02 INSTALLATION
A. INSTALL WITHOUT DISTORTION, SET STRAIGHT, LEVEL PLUMB, AND SECURELY ANCHORED.
B. SCRIBE AND CLOSELY FIT CABINETS TO WALLS AND ADJACENT CABINETS.
C. ALL CABINET TOPS OVER WATER CLOSETS SHALL BE REMOVABLE.
D. FILL AND PATCH ALL HOLES CUT FOR INSTALLATION BEFORE FINAL ACCEPTANCE.
E. EXPOSED SHELVED CABINETS AND BOOKCASE UNITS SHALL HAVE NO VISIBLE HOLES OR SCREWS FOR ATTACHMENT; COUNTERSINK, FILL AND PATCH BEFORE FINAL ACCEPTANCE.
F. CABINETS SHALL HAVE NO EXTERNAL OR INTERNAL VOIDS, CRACKS OR UNEVEN JOINTS WHICH WOULD ALLOW INSECTS TO PENETRATE CONCEALED CABINET AREAS.
G. SUCH VOIDS, CRACKS OR JOINTS SHALL BE CAULKED AND FILLED PRIOR TO FINAL ACCEPTANCE.
H. INSTALL AND SEAL BACK SPLASH TIGHT TO WALL AND COUNTER TOP.
3.03 ADJUSTMENT
A. ADJUST ALL DRAWERS, DOORS AND MOVABLE PARTS TO OPERATE EASILY AND SMOOTHLY WITHOUT BINDING.

**SECTION 07210 INSULATIONS**

PART 1 - GENERAL
1.01 DESCRIPTION
A. WORK INCLUDES THE FURNISHING AND INSTALLATION OF THOSE VARIOUS TYPES OF INSULATIONS REQUIRED IN THE NEW WORK WHICH ARE NOT COVERED IN OTHER SECTIONS.
PART 2 - PRODUCTS
2.01 THERMAL INSULATIONS
A. PERIMETER MASONRY WALLS:
1. 2" THICK POLYISOCYANURATE RIGID BOARD INSULATION, WITH REFLECTIVE ALUMINUM FACERS ON BOTH SIDES, R=10 MIN., DUPONT THERMAX, OR EQUAL.
2. FLAME SPREAD OF LESS THAN 75.
3. SMOKE GENERATION OF LESS THAN 450.
2.02 ACOUSTIC INSULATION
A. PARTITIONS:
1. NOMINAL 4-INCH THICK OR 6-INCH THICK SQUARE-CUT UNFACED, SEMI-RIGID FIBERGLASS BATTS.
2. FLAME SPREAD OF LESS THAN 75.
3. SMOKE GENERATION OF LESS THAN 450.
2.03 SAFING
A. UNITED STATES GYPSUM, OR EQUAL, THERMAFIBER SAFING.

PART 3 - EXECUTION
3.01 INSTALLATION
A. PERIMETER MASONRY WALLS:
1. INSTALL ON THE INNER FACE OF THE MASONRY, CONTINUOUSLY TO THE UNDERSIDE OF THE ROOF DECKING OVER STANDARD PRESSURE TREATED WOOD FURRING STRIPS.
2. HOLD IN PLACE ON MASONRY WALLS ABOVE THE CEILING BY "Z" FURRING STRIPS, PRESSURE TREATED WOOD FURRING STRIPS, OR GLUE IN PLACE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. PERIMETER STEEL FRAMED WALLS: INSTALL SNUG FIT TO BE AIR TIGHT AND FULL WITHIN THE VOIDS. AT ALL STEEL COLUMNS IN EXTERIOR STEEL FRAMED WALLS, INSTALL RIGID INSULATION WITHIN THE WALL CAVITY, BETWEEN THE STEEL STUDS, ON THE OUTSIDE OF THE STEEL COLUMN.
C. ACOUSTIC INSULATION:
1. PARTITIONS: INSTALL SNUG FIT TO BE AIR TIGHT AND FULL WITHIN THE VOIDS.
2. CEILINGS: INSTALL SNUG FIT IN 4 FOOT LENGTHS MAXIMUM ABOVE ACOUSTICAL CEILING TILES AND AS CONTINUOUS ABOVE DRYWALL CEILINGS AND SOFFIT AREAS AS PRACTICAL, ALL TO BE AIR TIGHT AND FULL WITHIN THE VOIDS.
D. SAFING: INSTALL AT THE SAME FOUR POUND DENSITY AS IT IS RECEIVED FROM THE FACTORY.

**SECTION 07920 SEALANTS, CAULKING AND SEALS**

PART 1 - GENERAL
1.01 DESCRIPTION
A. WORK INCLUDES SEALING AND CAULKING WHERE SHOWN ON THE DRAWINGS AND REQUIRED TO PROVIDE A POSITIVE BARRIER AGAINST PASSAGE OF AIR AND MOISTURE.
B. RELATED WORK SPECIFIED ELSEWHERE:
1. SECTION 09250: GYPSUM WALLBOARD SYSTEM
1.02 GUARANTEE
A. PROVIDE A GUARANTEE PERIOD OF FIVE (5) YEARS ON ALL SEALANT INSTALLATION AGAINST JOINT FAILURE.
B. JOINT FAILURE IS DEFINED AS LEAKS OF AIR OR WATER; EVIDENCE OF LOSS OF COHESION, FADING OF SEALANT MATERIAL, MIGRATION OF SEALANT, OR EVIDENCE OF LOSS OF ADHESION BETWEEN SEALANT AND JOINT EDGE.

PART 2 - PRODUCTS
2.01 MATERIALS
A. USE CAULKING AND SEALING COMPOUNDS OF THE FOLLOWING KINDS, OR A COMBINATION OF BOTH, AT CONTRACTOR'S OPTION.
B. USE PRIMERS THAT ARE QUICK-DRYING, COLORLESS, NON-STAINING SEALERS OF TYPE AND CONSISTENCY AS RECOMMENDED BY MANUFACTURER OF CAULKING MATERIAL FOR THE PARTICULAR SURFACE INVOLVED.
C. ELASTOMERIC SEALANTS:
1. POLYSULFIDE-BASED COMPOUND: ONE COMPONENT POLYSULFIDE LIQUID POLYMER BASE RUBBER WHICH CURES AT NORMAL TEMPERATURE TO A FLEXIBLE FILM RUBBER, IN GUN GRADE CONSISTENCY.
2. BUTYL-BASED COMPOUND
a. SMOOTH FLOWING, SINGLE COMPONENT, ARCHITECTURAL GRADE, SYNTHETIC, GENERAL PURPOSE CAULKING COMPOUND, COMPOSED OF 80-100% SOLIDS, BUTYL, NON-OILY, NON-HARDENING, CURING TO A TACK-FREE SURFACE, PAINTABLE, IN GUN GRADE CONSISTENCY.
b. MASTIC: BUTYL-BASED COMPOUND, KNIFE OR TROWEL CONSISTENCY.
3. EXTERIOR JOINT SEALANTS: DOW PC-790.
D. ACOUSTICAL SEALANTS FOR USE FOR SEALING AREAS IN AND AROUND FIRE/SMOKE PRIORITY WALLS: NON-FLAMMABLE, NON-DRYING, NON-HARDENING, NON-OIL BASED, NON-BLEEDING PERMANENTLY FLEXIBLE ACOUSTICAL SEALANT, AS MANUFACTURED BY USG.
E. SILICONE BUILDING SEALANT FOR USE IN SEALING JOINT BETWEEN ALUMINUM WINDOW FRAMING AND SUB-STRATE / SUB-SURFACE. SEALANT SHALL BE DOW CORNING 790 SILICONE BUILDING SEALANT.

PART 3 - EXECUTION
3.01 INSPECTION
A. EXAMINE SUB SURFACES TO RECEIVE WORK AND REPORT IN WRITING TO THE CONTRACTOR, WITH A COPY TO THE ARCHITECT, ANY CONDITIONS DETRIMENTAL TO THE WORK.
B. FAILURE TO OBSERVE THIS CONSTITUTES A WAIVER TO ANY SUBSEQUENT CLAIM TO THE CONTRARY, AND WILL MAKE THIS CONTRACTOR RESPONSIBLE FOR ANY CORRECTIONS WHICH MAY BE REQUIRED BY THE ARCHITECT.
C. COMMENCEMENT OF THE WORK WILL BE CONSTRUED AS ACCEPTANCE OF ALL SUB SURFACES.

3.02 PREPARATION
A. CLEAN AND PREPARE SURFACES TO WHICH SEALANT IS TO BE APPLIED, PER MANUFACTURER'S RECOMMENDATIONS.
B. SCRAPE AND WIRE BRUSH ANY CONCRETE AND SIMILAR SURFACES AS REQUIRED; ALL SURFACES SHALL BE DRY.
C. PRIME SURFACES IF REQUIRED BY THE MANUFACTURER.

3.03 APPLICATION
A. APPLIED MATERIALS SHALL BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED DIRECTIONS; OBSERVE MANUFACTURER'S REQUIREMENTS REGARDING TEMPERATURE CONTROL, USABILITY OF MATERIALS AND PROTECTION OF ADJACENT SURFACES.
B. MAKE SEALING SURFACES SLIGHTLY CONCAVE, FREE OF WRINKLES AND SKIPS, UNIFORMLY SMOOTH AND WITH PERFECT ADHESION ALONG BOTH SIDES OF JOINT.
C. PROTECT ADJACENT SURFACES FROM EXCESS MATERIALS; LEAVE JOINTS IN A CLEAN, NEAT CONDITION.
D. DEFECTIVE JOINTS SHALL BE REMOVED, CLEANED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.

## DIVISION 8 - DOORS AND WINDOWS

**SECTION 08110 STEEL DOORS AND FRAMES**

PART 1 - GENERAL
1.01 DESCRIPTION
A. SCOPE OF THE WORK:
1. FURNISH ALL METAL DOORS AND FRAMES AS SHOWN ON THE DRAWINGS, THE SCHEDULES, AND AS SPECIFIED OF STANDARD TYPES.
B. RELATED WORK SPECIFIED ELSEWHERE:
1. SECTION 08210: WOOD DOORS
2. SECTION 08710: FINISH DOOR HARDWARE
3. SECTION 08810: GLASS AND GLAZING
4. SECTION 09900: PAINTING AND FINISHING
1.02 SUBMITTALS
A. SHOP DRAWINGS:
1. SUBMIT SCHEDULE USING THE SAME REFERENCING AS SHOWN ON THE DRAWINGS.
2. SUBMIT INDICATING DOOR AND FRAME SIZES, TYPES, ELEVATIONS, PROFILES, SECTIONS, MATERIALS, GAUGES, FINISHES, REINFORCEMENT, ANCHORAGE, DIMENSION AND LOCATION, SIZE AND DETAILS OF VISION (LITE) PANELS AND LOUVER OPENINGS.
3. SUBMIT CERTIFICATION OF COMPLIANCE WITH HURRICANE RESISTANCE REQUIREMENTS OF THE FLORIDA BUILDING CODE AND WIND LOAD CALCULATIONS FOR ALL EXTERIOR STEEL DOORS AND FRAMES.
B. PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS FOR EACH TYPE OF METAL DOOR SPECIFIED FOR USE ON THIS PROJECT.
1.03 QUALITY ASSURANCE
A. SUPPLY ALL METAL DOORS AND FRAMES BY ONE MANUFACTURER.
B. KNOCK-DOWN STEEL FRAMES SHALL NOT BE ACCEPTABLE FOR USE ON THIS PROJECT.
C. INDUSTRY STANDARDS:
1. STANDARD FOR FIRE DOORS AND WINDOWS, NFPA 80-2016
2. LIFE SAFETY CODE: NFPA 101-2015
D. ACCEPTABLE MANUFACTURERS:
1. STEELCRAFT MANUFACTURING-CINCINNATI, OHIO
2. CURRIES MANUFACTURING-MASON CITY IOWA
3. CECO MANUFACTURING-MILAN, TENNESSEE
E. FURNISH FIRE RATED COMPONENTS BEARING PERMANENTLY ATTACHED, METAL EMBOSSED, FACTORY APPLIED PHYSICAL LABELS OF UNDERWRITER'S LABORATORIES, INC., (UL) OR OTHER INDEPENDENT TESTING LABORATORY / AGENCY LOCATED AT HINGE JAMB AND DOOR EDGE BETWEEN THE UPPER TWO HINGES.
1.04 DELIVERY AND STORAGE: DELIVER ALL MATERIALS UNDER PROTECTIVE COVER AND STORE IN A DRY, ENCLOSED SPACE AT SITE.

PART 2 - PRODUCTS
2.01 MATERIALS
A. COLD ROLLED STEEL SHEETS: COMMERCIAL QUALITY, CARBON STEEL, COMPLYING WITH ASTM A366 AND ASTM A568.
B. HOT ROLLED STEEL SHEETS AND STRIP: COMMERCIAL QUALITY CARBON STEEL, PICKLED AND OILED, IN COMPLIANCE WITH ASTM A568 AND ASTM A569.
C. GALVANIZED STEEL SHEETS: COMMERCIAL QUALITY, ZINC COATED CARBON STEEL, COMPLYING WITH ASTM A525 A60 ZINC COATING MILL PHOSPHATIZED WITH ASTM A526.
2.02 FABRICATION
A. DOORS:
1. FABRICATE TO SIZES SHOWN ON THE DRAWINGS; PROVIDE NECESSARY CLEARANCES AND BEVELS TO PERMIT OPERATION WITHOUT BINDING AND TO ACCOMMODATE THRESHOLDS WHERE REQUIRED.
2. INTERIOR DOORS: SEAMLESS FACE SHEET STEEL OF NOT LESS THAN 18 GAUGE FIRST GRADE, COLD ROLLED STEEL.
3. EXTERIOR DOORS: SEAMLESS FACE SHEET STEEL OF NOT LESS THAN 16 GAUGE STEEL
4. MINIMUM HARDWARE REINFORCEMENT SHALL BE AS FOLLOWS:
a. HINGES: 7 GAUGE
b. STRIKES: 16 GAUGE
c. CLOSERS: 12 GAUGE
5. SURFACE MOUNTED HARDWARE: 12 GAUGE
6. SOUND DEADENING MATERIAL: INORGANIC, NONCOMBUSTIBLE.
7. GLASS MOLDINGS AND STOPS:
a. FIXED STEEL SHAPES SECURELY FASTENED TO DOOR.
b. LOOSE STOPS NOT LESS THAN 20 GAUGE STEEL, MITERED CORNER JOINTS, SECURED WITH CADMIUM OR ZINC COATED COUNTERSUNK SCREWS.
8. CLEAN THOROUGHLY, FILL JOINTS SMOOTH AND PRIME WITH FACTORY BAKED-ON NEUTRAL GRAY RUST-INHIBITING PAINT, TESTED IN ACCORDANCE WITH ASTM D-714 AND B-117.

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**SECTION 08110 STEEL DOORS AND FRAMES (CONTINUED FROM SHEET AS1.1)**

C. FRAMES:
1. EXTERIOR FRAMES: FABRICATE OF 16-GAUGE GALVANIZED MATERIAL AND 14-GAUGE MATERIAL FOR OPENINGS OVER 4'-0" WIDE.
2. STANDARD INTERIOR FRAMES: FABRICATE OF 16-GAUGE MATERIAL.
3. MAKE BREAKS, ARISES AND ANGLES STRAIGHT, SHARPLY DEFINED AND TRUE.
4. MITER CORNERS, ACCURATELY FIT, WELD AND GRIND SMOOTH TO PROVIDE INVISIBLE JOINTS.
5. MAKE ALL FRAMES DOUBLE RABBET AND CASED OPENINGS, FURNISHED AND INSTALLED AS SHOWN ON THE DRAWINGS.
6. PROVIDE NOT LESS THAN THREE 14-GAUGE ANCHORS PER JAMB SPACED FOR MAXIMUM STIFFNESS. FOR FRAMES FOR DOORS TALLER THAN 7' 0" PROVIDE 4 ANCHORS PER JAMB.
7. PROVIDE -INCH LONG FILLET WELD TO INSIDE FACE OF JAMBS AT TOP AND BOTTOM ANCHORS.
8. PROVIDE 14-GAUGE ADJUSTABLE FLOOR CLIPS AT EACH JAMB, PUNCHED FOR SECURING TO FLOOR.
9. NOTCH, MITER, WELD AND FINISH SMOOTH ALL HEADS AND JAMBS.
10. MAKE CUTOUTS FOR REQUIRED HARDWARE FROM TEMPLATES FURNISHED.
11. PROVIDE ANGLE SPREADER FOR FRAMES DURING SHIPPING, HANDLING AND INSTALLATION.
12. CLEAN THOROUGHLY AND PAINT WITH ONE COAT NEUTRAL RUST-INHIBITING PRIMER TESTED PER ASTM D-714 AND B-117.
13. MINIMUM HARDWARE REINFORCEMENT SHALL BE AS FOLLOWS:
    a. HINGES: 7 GAUGE
    b. STRIKES: 16 GAUGE
    c. CLOSERS: 12 GAUGE
    d. SURFACE-MOUNTED HARDWARE: 12 GAUGE
14. SHOP APPLY BACK SURFACES OF FRAMES SCHEDULED FOR GROUT FILL SET IN MASONRY OR CONCRETE WITH HEAVY-BODIED BITUMINOUS PAINT.

PART 3 - EXECUTION

3.01 INSTALLATION
A. GENERAL:
1. EXCEPT FOR FRAMES LOCATED IN CAST-IN-PLACE CONCRETE, PLACE FRAMES PRIOR TO SURROUNDING CONSTRUCTION OF ENCLOSING WALLS AND CEILINGS USING 3 ANCHORS PER JAMB LOCATED AT STRIKE AND HINGE POINTS FOR DOORS UP TO 7'-0" AND 4 ANCHORS FOR DOORS OVER 7'-0" TALL.
2. SET FRAMES ACCURATELY IN POSITION, PLUMBED, ALIGNED AND BRACED UNTIL PERMANENT ANCHORS ARE SIT.
3. AFTER WALL CONSTRUCTION IS COMPLETED, REMOVE TEMPORARY BRACES AND SPREADERS, LEAVING SURFACES UNDAMAGED.
B. FRAMES IN CAST IN PLACE CONCRETE:
1. INSTALL GROUT FILLED FRAMES IN CAST IN PLACE CONCRETE USING 3/8" COUNTER SUNK FLUSH ANCHOR BOLTS INTO EXPANSION SHIELDS OR INSERTS.
2. FILL HEADS WITH BODY PUTTY AND GRIND SMOOTH.
3. INSTALL SEALANT BETWEEN FRAME AND CONCRETE.
C. FRAMES IN CONCRETE MASONRY:
1. INSTALL GROUT FILLED FRAMES IN MASONRY.
2. STRIKE MASONRY JOINT AROUND FRAME TO MATCH JOINTS OF ADJACENT MASONRY.
D. BORROW LITE FRAMES: INSTALL USING A MINIMUM OF 2 ANCHORS PER JAMB OR AT 2'-0" O.C.
E. DOORS: FIT DOORS ACCURATELY INTO THEIR SCHEDULED FRAMES WITH THE FOLLOWING TOLERANCES.
1. JAMBS AND HEADS: 3/32"
2. MEETING EDGES, PAIR OF DOORS: 1/8"
3. BOTTOM: 3/4" WITHOUT THRESHOLD, 1/8" WITH THRESHOLD
4. LABELED DOORS: PER NFPA NO. 80

3.02 ADJUSTMENT AND CLEANING
A. CLEAN FRAMES SOILED FROM INSTALLATION PROCEDURE.
B. TOUCH UP PRIMER DAMAGED AS A RESULT OF INSTALLATION, AND LEAVE READY FOR FINAL PAINTING.
C. CHECK AND READJUST OPERATING FINISH HARDWARE PRIOR TO FINAL INSPECTION.
D. REMOVE AND REPLACE DEFECTIVE WORK INCLUDING DOORS OF FRAMES WHICH ARE WARPED, BOWED OR OTHERWISE DEFECTIVE.

**SECTION 08210 WOOD DOORS AND FRAMES**

PART 1 - GENERAL

1.01 DESCRIPTION
A. WORK INCLUDES WOOD DOORS AND FRAMES.

1.02 QUALITY ASSURANCE
A. REFERENCE STANDARDS:
1. THE AMERICAN WOODWORK INSTITUTE (AWI) "ARCHITECTURAL WOODWORK QUALITY STANDARDS, 6TH EDITION, VERSION 1.1, 1994.
2. THE NATIONAL WOODWORK MANUFACTURER'S ASSOCIATION INDUSTRY STANDARD I.S. 1 "WOOD FLUSH DOOR", LATEST REVISION.
3. NATIONAL FIRE PROTECTION ASSOCIATION, NFPA 80: FIRE DOORS AND WINDOWS.
B. FURNISH FIRE RATED DOORS BEARING PERMANENTLY ATTACHED, METAL EMBOSSED, FACTORY APPLIED PHYSICAL LABELS OF UNDERWRITER'S LABORATORIES, INC., (UL) OR OTHER INDEPENDENT TESTING LABORATORY / AGENCY LOCATED AT DOOR EDGE BETWEEN THE UPPER TWO HINGES. MYLAR LABELS WILL NOT BE ACCEPTABLE.

1.03 DELIVERY AND STORAGE: DOORS AND FRAMES SHALL BE PROTECTED FROM PHYSICAL OR MOISTURE DAMAGE. ANY DOORS WITH THE SLIGHTEST IMPERFECTION OR DAMAGE SHALL BE REPLACED.

1.04 GUARANTEE
A. SUBMIT WRITTEN AGREEMENT ON DOOR MANUFACTURER'S STANDARD FORM SIGNED BY THE MANUFACTURER,
INSTALLER AND CONTRACTOR, AGREEING TO REPAIR OR REPLACE DEFECTIVE DOORS WHICH HAVE WARPED (BOW, CUP OR TWIST) OR WHICH SHOW PHOTOGRAPHING OF CONSTRUCTION BELOW IN FACE VENEERS, OR DO NOT CONFORM TOP TOLERANCE LIMITATIONS OF NWWDA.
B. THE GUARANTEE TO INCLUDE REFINISHING AND REINSTALLATION WHICH MAY BE REQUIRED DUE TO REPAIR OR REPLACEMENT OF DEFECTIVE DOORS.
C. THE GUARANTEE SHALL BE IN EFFECT FOR THE LIFE OF THE ORIGINAL INSTALLATION AFTER THE DATE OF ACCEPTANCE.

PART 2 - PRODUCTS

2.01 WOOD DOORS
A. INTERIOR DOORS (NON-RATED AND 20-MINUTE RATED DOORS):
1. 1 3/4" FLUSH, SOLID CORE WOOD CONFORMING TO AWI SPECIFICATIONS PC-7.
2. FACE VENEERS: STAIN GRADE PLAIN SLICED BIRCH
3. FURNISH PRE-DRILLED AND READY FOR HARDWARE INSTALLATION.
4. MAINTAIN CONSISTENT SIDE AND TOP RAILS FOR DOORS WITH LITES.
    a. TOP RAILS: 6"
    b. SIDE STILES: 10"
5. GLAZING STOPS: FLUSH WOOD IN SAME SPECIES AS VENEER.
6. PROVIDE WITH UNDERWRITERS LABORATORIES OR WARNOCK HERSEY LABELS FOR 20-MINUTE ASSEMBLIES.
B. INTERIOR DOORS (RATED GREATER THAN 20-MINUTE):
1. 1 3/4" FLUSH, SOLID MINERAL CORE WOOD CONFORMING TO AWI SPECIFICATIONS FD-7.
2. FACE VENEERS: STAIN GRADE PLAIN SLICED BIRCH
3. PROVIDE WITH UNDERWRITERS LABORATORIES OR WARNOCK HERSEY LABELS.
4. PROVIDE VISION PANELS WITH WIRE GLASS INSTALLED IN A RATED WOOD FRAMES (SPECIE TO MATCH FACE VENEERS) OR APPROVED METAL FRAMES.
C. FACTORY PRE-FINISH:
1. PROVIDE AWI CUSTOM GRADE FACTORY PRE-FINISH INCLUDING SEALING, STAINING, AND FINAL COATING OF TRANSPARENT POLYURETHANE VARNISH, SATIN FINISH IN STAIN COLOR AS SELECTED BY THE OWNER.
2. SEAL TOP AND BOTTOM EDGES OF ALL DOORS.

2.02 WOOD FRAMES
A. WOOD FRAMES MAY BE USED FOR PRE-HUNG DOORS WITH FLAT JAMB: SPLIT JAMBS ARE NOT ACCEPTABLE.
B. SPECIES: SOLID, SINGLE PIECE (NO JOINTS) POPLAR FOR OPAQUE PAINT FINISH.
C. PROVIDE JAMBS WITH FLAT STOP WITH MORTISED NEOPRENE GASKET (PEMKO N11-BL, BLACK OR EQUAL) FOR FIELD APPLICATION AT HEAD AND JAMBS..

PART 3 -EXECUTION

3.01 INSPECTION
A. INSPECT EACH DOOR AND VERIFY:
1. THAT THE DOOR FURNISHED IS THE PROPER DOOR FOR THE OPENING AS DESCRIBED ON THE DOOR SCHEDULE.
2. THAT THE DOOR IS IN SOUND CONDITION, UNBLEMISHED, WITHOUT WARP, TWIST, BOW, OR OTHER ATTRIBUTES CAUSING IT TO BE REJECTED UPON INSTALLATION.
B. EXAMINE FRAMES TO RECEIVE DOORS FOR PROPER HANDING AND HAVE BEEN INSTALLED AS REQUIRED FOR PROPER HANGING OF DOORS.

3.02 FACTORY HARDWARE PREPARATION
A. PREPARE EACH DOOR FOR HARDWARE FROM TEMPLATES FURNISHED BY THE HARDWARE SUPPLIER.
B. CUT ALL NON-RATED DOORS FOR FIT TO PROVIDE 1/6-INCH TO 1/8-INCH CLEARANCE AT JAMBS AND HEADS.
C. CUT ALL RATED DOORS FOR FIT COMPLYING WITH NFPA 80.
D. BEVEL LOCK STILES TO 1/8 INCH IN 2 INCHES; EASE ALL EDGES OF DOORS.

3.03 INSTALLATION
A. INSTALL DOORS WITH SPECIFIED TOLERANCES:
1. MEETING STILES FOR PAIRS OF DOORS: 1/8"
2. BOTTOM OF DOOR ABOVE DECORATIVE FLOOR FINISH
    a. NON-RATED ASSEMBLIES: 1/4"
    b. RATE ASSEMBLIES: COMPLY WITH NFPA 80, BUT NO MORE THAN 1/4"
3. BOTTOM OF DOOR ABOVE THRESHOLD: 1/4"

3.04 ADJUSTMENT AND CLEANING
A. REHANG OR REPLACE DOORS WHICH DO NOT SWING OR OPERATE FREELY, OR DO NOT REMAIN IN A NEUTRAL POSITION WHEN NOT FULLY OPENED OR LATCHED.
B. REPLACE DOOR WHICH CANNOT BE PROPERLY REFINISHED DUE TO EXCESSIVE DAMAGE DURING THE INSTALLATION PROCESS.
C. PROTECT INSTALLED DOORS FROM DAMAGE OR DETERIORATION UNTIL FINAL ACCEPTANCE.

**SECTION 08410 ALUMINUM ENTRANCES AND STOREFRONTS**

PART 1 - GENERAL

1.01 DESCRIPTION
A. WORK INCLUDES FURNISHING ALL MATERIALS, LABOR AND INCIDENTALS NECESSARY FOR THE COMPLETE INSTALLATION AND PROPER OPERATION OF ALL ALUMINUM ENTRANCES AND STOREFRONTS (FIXED WINDOWS) AS SHOWN ON THE DRAWINGS.

1.02 SUBMITTALS
A. SHOP DRAWINGS: INCLUDE SYSTEM AND COMPONENT DIMENSIONS, COMPONENTS WITHIN ASSEMBLY, FRAMED OPENING REQUIREMENTS AND TOLERANCES, ANCHORAGE AND FASTENERS, GLASS AND INFILLS, DOOR HARDWARE REQUIREMENTS, WIND LOAD CERTIFICATION AND CERTIFICATION OF COMPLIANCE WITH FLORIDA BUILDING CODE HURRICANE RESISTANCE REQUIREMENTS AND RELATED WORK.

1.03 JOB CONDITIONS
A. MEASUREMENTS: VERIFY ALL EXISTING DIMENSIONS BY TAKING FIELD MEASUREMENTS BEFORE ANY STOREFRONT SYSTEMS ARE FABRICATED OR SHIPPED TO THE JOB SITE.

1.04 DELIVERY AND STORAGE
A. DELIVER AND STORE MATERIALS IN PROTECTED AREAS.
B. PROTECT GLASS, WHETHER INSTALLED OR NOT, AGAINST DAMAGE, AND PROTECT PRE-FINISHED ALUMINUM SURFACES.
C. REPLACE BROKEN OR DEFECTIVE GLASS AT NO ADDITIONAL COST TO THE OWNER.

PART 2 -PRODUCTS

2.01 SYSTEM DESCRIPTION
A. GENERAL:
1. PROVIDE ALL ENTRANCES AND STOREFRONT FOR THIS WORK, UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE ARCHITECT, THE PRODUCT OF ONE MANUFACTURER.
2. ENTRANCE AND STOREFRONT DESIGN IS BASED ON PRODUCTS OF KAWNEER 500 HEAVY WALL IR SERIES COMPARABLE COMPONENTS OF OTHER MANUFACTURES MEETING THE DESIGN CRITERIA ESTABLISHED WILL BE CONSIDERED.
3. FINISH: **MATCH EXISTING, VERIFY IN FIELD**.
4. PROVIDE LEVEL D LARGE MISSILE IMPACT RESISTANCE SYSTEM.

B. COMPONENTS:
1. ENTRANCE FRAMING SYSTEM: KAWNEER 521T FIXED ALUMINUM SERIES STOREFRONT SYSTEM (MONOLITHIC GLAZING).
2. DOORS: KAWNEER 500 HEAVY WALL IR SERIES ALUMINUM SWING DOOR, SERIES WIDE STILE DOORS, WITH MANUFACTURER'S STANDARD EPDM GLAZING GASKET.

2.02 FIXED WINDOW SYSTEM
A. KAWNEER 521T FIXED ALUMINUM STOREFRONT SYSTEM, DOUBLE GLAZED. WITH MANUFACTURER'S STANDARD EPDM GLAZING GASKET., FABRICATED AS SHOWN AND WHERE SHOWN ON THE DRAWINGS.
B. FINISH: **MATCH EXISTING, VERIFY IN FIELD**.

2.03 FABRICATION
A. FABRICATE SYSTEM CUSTOM DESIGNED TO SUIT JOB CONDITION AND CONFORM TO THE DETAILS AND DIMENSIONS AS SHOWN ON THE DRAWINGS.
B. PROVIDE SYSTEMS COMPLETE WITH ALL DOORS, REINFORCING, ANCHORS, WEATHERSTRIPPING, TRIM HARDWARE AND OTHER ACCESSORIES AND PERTINENT PARTS REQUIRED TO COMPLETE THE WORK. SYSTEM COMPONENTS SHALL INCLUDE SILL PAN FLASHING WITH WELDED EDGE UP-TURNS.
C. PREFABRICATE AND DELIVER FRAMING PRE-ASSEMBLED TO THE EXTENT POSSIBLE.

PART 3 - EXECUTION

3.01 INSTALLATION
A. FIELD ERECT BY MANUFACTURER'S FRANCHISED REPRESENTATIVE AND BY PERSONNEL EXPERIENCED AND REGULARLY EMPLOYED IN THIS TRADE.
B. INSTALL COMPLETE ANCHORAGE SYSTEM TO SECURE ALL COMPONENTS IN A RIGID MANNER TO DEVELOP THE FULL DESIGN CRITERIA OF THE SYSTEM AND INSTALL ALL FASTENERS, CAULKING AND SEALANTS NECESSARY OR REQUIRED TO MAKE THE SYSTEM COMPLETE, SOUND AND WATER TIGHT.
C. ALUMINUM FRAMING OF FIXED WINDOW SYSTEM SHALL BE SEALED AGAINST VAPOR BARRIER MEMBRANE USING THE TESTED AND WARRANTED SYSTEM BY DOW CORNING, IN ACCORDANCE WITH SECTION 07920 OF THESE SPECIFICATIONS AND IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND WRITTEN INSTRUCTIONS.

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CONSULTANT:

OWNER / PROJECT:

# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
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ISSUE DATE: NOVEMBER 14, 2025

ARCHITECTURAL SPECIFICATIONS

AS1.2

PERMIT / BID SET

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## DOOR HARDWARE

**PART 1 GENERAL**

**1.1 Section Includes**

1.1.1 Hardware for aluminum, hollow metal, wood, and existing doors.
1.1.2 Hardware for fire-rated doors.
1.1.3 Electrically operated and controlled hardware.
1.1.4 Lock cylinders for doors with balance of hardware specified in other sections.
1.1.5 Thresholds.
1.1.6 Weatherstripping and gasketing.

**1.2 Related Requirements**

1.2.1 Section 079200 - Joint Sealants: Sealants for setting exterior door thresholds.
1.2.2 Section 081113 - Hollow Metal Doors and Frames.
1.2.3 Section 081416 - Flush Wood Doors.
1.2.4 Section 084313 - Aluminum-Framed Storefronts: Door hardware, except cylinders.
1.2.5 Section 102600 - Wall and Door Protection: Door and frame protection.
1.2.6 Section 281000 - Access Control: Electronic access control devices.

**1.3 Reference Standards**

1.3.1 ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
1.3.2 BHMA A156.1 - Standard for Butts and Hinges; 2021.
1.3.3 BHMA A156.3 - Exit Devices; 2025.
1.3.4 BHMA A156.4 - Door Closers and Pivots; 2024.
1.3.5 BHMA A156.5 - Cylinders and Input Devices for Locks; 2020.
1.3.6 BHMA A156.6 - Standard for Architectural Door Trim; 2021.
1.3.7 BHMA A156.7 - Template Hinge Dimensions; 2022.
1.3.8 BHMA A156.8 - Door Controls - Overhead Stops and Holders; 2021.
1.3.9 BHMA A156.13 - Mortise Locks & Latches Series 1000; 2022.
1.3.10 BHMA A156.16 - Standard for Auxiliary Hardware; 2023.
1.3.11 BHMA A156.21 - Thresholds; 2025.
1.3.12 BHMA A156.22 - Standard for Gasketing; 2021.
1.3.13 BHMA A156.25 - Electrified Locking Devices; 2023.
1.3.14 BHMA A156.28 - Standard for Recommended Practices for Mechanical Keying Systems; 2023.
1.3.15 BHMA A156.31 - Electric Strikes and Frame Mounted Actuators; 2024.
1.3.16 BHMA A156.115 - Hardware Preparation in Steel Doors and Frames; 2016.
1.3.17 BHMA A156.115W - Hardware Preparation in Wood Doors with Wood or Steel Frames; 2006.
1.3.18 DHI (H&S) - Sequence and Format for the Hardware Schedule; 2019.
1.3.19 DHI (KSN) - Keying Systems and Nomenclature; 2019.
1.3.20 FLA (FBC-B) - Florida Building Code: Building (8th Edition); 2023, with Supplement (2024).
1.3.21 ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.





1.3.22 ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.
1.3.23 ITS (DIR) - Directory of Listed Products; Current Edition.
1.3.24 Miami (APD) - Approved Products Directory; Miami-Dade County; Current Edition.
1.3.25 MIL-STD-810 - Environmental Engineering Considerations and Laboratory Tests; 2019h, with Editorial Revision (2022).
1.3.26 NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
1.3.27 NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.
1.3.28 NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives; 2025.
1.3.29 NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.
1.3.30 UL (DIR) - Online Certifications Directory; Current Edition.
1.3.31 UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
1.3.32 UL 1034 - Standard for Safety Burglary-Resistant Electrical Locking Mechanisms; Current Edition, Including All Revisions.
1.3.33 UL 1784 - Standard for Air Leakage Tests of Door Assemblies and Other Opening Protectives; Current Edition, Including All Revisions.

**1.4 Administrative Requirements**

1.4.1 Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
1.4.2 Sequence installation to ensure facility services connections are achieved in an orderly and expeditious manner.
1.4.3 Preinstallation Meeting: Convene a preinstallation meeting one week prior to commencing work of this section; require attendance by affected installers and the following:
- a. Architect.
- b. Installer's Architectural Hardware Consultant (AHC).
- c. Hardware Installer.
- d. Owner's Security Consultant.

1.4.4 Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
1.4.5 Keying Requirements Meeting:
- a. Architect will schedule meeting at project site prior to Contractor occupancy.
- b. Attendance Required:
  - (1) Installer's Architectural Hardware Consultant (AHC).
  - (2) Door Hardware Installer.
  - (3) Owner's Security Consultant.
- c. Agenda:
  - (1) Establish keying requirements.
  - (2) Verify locksets and locking hardware are functionally correct for project requirements.
  - (3) Verify that keying and programming complies with project requirements.
  - (4) Establish keying submittal schedule and update requirements.
- d. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
  - (1) Access control requirements.
  - (2) Key control system requirements.
  - (3) Schematic diagram of preliminary key system.
  - (4) Flow of traffic and extent of security required.





- e. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.
- f. Deliver established keying requirements to manufacturers.

**1.5 Submittals**

1.5.1 See Section 013000 - Administrative Requirements for submittal procedures.
1.5.2 Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
1.5.3 Shop Drawings - Door Hardware Schedule: A detailed listing that includes each item of hardware to be installed on each door.
- a. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
- b. Comply with DHI (H&S) using door numbering scheme and hardware set numbers as indicated in Contract Documents.
  - (1) Submit in vertical format.
- c. List groups and suffixes in proper sequence.
- d. Include complete description for each door listed.
- e. Include manufacturer's and product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.
- f. Include account of abbreviations and symbols used in schedule.

1.5.4 Shop Drawings - Electrified Door Hardware: Include diagrams for power, signal, and control wiring for electrified door hardware that include details of interface with building safety and security systems. Provide elevations and diagrams for each electrified door opening as follows:
- a. Prepared by or under supervision of Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC).
- b. Elevations: Include front and back elevations of each door opening showing electrified devices with connections installed and an operations narrative describing how opening operates from either side at any given time.
- c. Diagrams: Include point-to-point wiring diagrams that show each device in door opening system with related colored wire connections to each device.

1.5.5 Manufacturer's Instructions: Indicate special procedures and perimeter conditions requiring special attention.
1.5.6 Supplier's qualification statement.
1.5.7 Operation and Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- a. Include manufacturer's parts lists and templates.

1.5.8 Keying Schedule:
- a. Submit three copies of Keying Schedule complying with requirements established during Keying Requirements Meeting unless otherwise indicated.

1.5.9 Executed Warranty.
1.5.10 Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
- a. See Section 016000 - Product Requirements, for additional provisions.
- b. Tools: One set of each special wrench or tool applicable for each different or special hardware component, whether supplied by hardware component manufacturer or not.

**1.6 Quality Assurance**

1.6.1 Standards for Fire-Rated Doors: Maintain one copy of each referenced standard on site, for use by Architect and Contractor.





1.6.2 Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.
1.6.3 Supplier Qualifications: Company with certified Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC) to assist in work of this section.
1.6.4 Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.

**1.7 Delivery, Storage, and Handling**

1.7.1 See Section 017419 - Construction Waste Management and Disposal for packaging waste requirements.
1.7.2 Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

**1.8 Warranty**

1.8.1 See Section 017800 - Closeout Submittals for additional warranty requirements.
1.8.2 Manufacturer Warranty: Provide manufacturer warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion. Complete forms in Owner's name and register with manufacturer.
- a. Closers: Limited Lifetime.
- b. Exit Devices:
  - (1) Mechanical: Five years.
- c. Locksets:
  - (1) Mechanical: Limited Lifetime.
- d. Cylinders: Three years.
- e. Other Hardware: Two years.

**PART 2 PRODUCTS**

**2.1 General Requirements**

2.1.1 Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
2.1.2 Provide individual items of single type, of same model, and by same manufacturer.
2.1.3 Locks: Provide a lock for each door, unless it's indicated that lock is not required.
- a. Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's Series. As indicated in hardware sets.
- b. Trim: Provide lever handle or pull trim on outside of each lock, unless otherwise indicated.
- c. Strikes:
  - (1) Finish: To match lock or latch.
  - (2) Curved-Lip Strikes: Provide as standard, with extended lip to protect frame, unless otherwise indicated.
  - (3) Center Strike At Pairs of Doors: 7/8 inch (22.2 mm) lip.

2.1.4 Closers:
- a. Provide door closer on each exterior door, unless otherwise indicated.
- b. Provide door closer on each fire-rated and smoke-rated door.
- c. Spring hinges are not an acceptable self-closing device, unless otherwise indicated.

2.1.5 Overhead Stops and Holders (Door Checks):.
- a. Provide stop for every swinging door, unless otherwise indicated.
- b. Overhead Stop is not required if positive stop feature is specified for door closer; positive stop feature of door closer is not an acceptable substitute for a stop, unless otherwise indicated.
- c. Overhead stop is not required if a floor or wall stop has been specified for the door.





2.1.6 Drip Guards: Provide at head of outswinging exterior doors unless protected by roof or canopy directly overhead.
2.1.7 Thresholds:
- a. Exterior Applications: Provide at each exterior door, unless otherwise indicated.

2.1.8 Weatherstripping and Gasketing:
- a. Provide weatherstripping on each exterior door at head, jambs, and meeting stiles of door pairs, unless otherwise indicated.
- b. Provide door bottom sweep on each exterior door, unless otherwise indicated.

2.1.9 Electrically Operated and/or Controlled Hardware: Provide necessary power supplies, power transfer hinges, relays, and interfaces as required for proper operation; provide wiring between hardware and control components and to building power connection in compliance with NFPA 70.
2.1.10 See Section 281000 for additional access control system requirements.
2.1.11 Fasteners:
- a. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
  - (1) Aluminum fasteners are not permitted.
  - (2) Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.
- b. Provide machine screws for attachment to reinforced hollow metal and aluminum frames.
  - (1) Self-drilling (Tek) type screws are not permitted.
- c. Provide stainless steel machine screws and lead expansion shields for concrete and masonry substrates.
- d. Provide wall grip inserts for hollow wall construction.
- e. Fire-Resistance-Rated Applications: Comply with NFPA 80.
  - (1) Provide wood or machine screws for hinges mortised to doors or frames, strike plates to frames, and closers to doors and frames.
  - (2) Provide steel through bolts for attachment of surface mounted closers, hinges, or exit devices to door panels unless proper door blocking is provided.

**2.2 Performance Requirements**

2.2.1 Provide door hardware products that comply with the following requirements:
- a. Applicable provisions of federal, state, and local codes.
- b. Accessibility: ADA Standards and ICC A117.1.
- c. Fire-Resistance-Rated Doors: NFPA 80, listed and labeled by qualified testing agency for fire protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.
- d. Hardware on Fire-Resistance-Rated Doors: Listed and classified by UL (DIR), ITS (DIR), or testing firm acceptable to authorities having jurisdiction as suitable for application indicated.
- e. Hardware for Smoke and Draft Control Doors (Indicated as "S" on Drawings): Provide door hardware that complies with local codes, and requirements of assemblies tested in accordance with UL 1784.
- f. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.
- g. Hardware Preparation for Wood Doors with Wood or Steel Frames: BHMA A156.115W.
- h. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified.

**2.3 Hinges**

2.3.1 Manufacturers: Conventional butt hinges.
- a. BEST, dormakaba Group: www.bestaccess.com/#sle.
- b. Ives.
- c. McKinney.





2.3.2 Manufacturers: Continuous hinges.
- a. Architectural Builders Manufacturing, Inc. (ABH): www.abhmfg.com/#sle.
- b. BEST, dormakaba Group: www.bestaccess.com/#sle.
- c. Roton.

2.3.3 Properties:
- a. Butt Hinges: As applicable to each item specified.
  - (1) Standard Weight Hinges: Minimum of two (2) permanently lubricated non-detachable bearings.
  - (2) Heavy Weight Hinges: Minimum of four (4) permanently lubricated bearings on heavy weight hinges.
  - (3) Template screw hole locations.
  - (4) Bearing assembly installed after plating.
  - (5) Bearings: Exposed fully hardened bearings.
  - (6) Bearing Shells: Shapes consistent with barrels.
  - (7) Pins: Easily seated, non-rising pins.
    - (a) Fully plate hinge pins.
    - (b) Non-Removable Pins: Slotted stainless steel screws.
  - (8) UL 10C listed for fire-resistance-rated doors.
- b. Continuous Hinges: As applicable to each item specified.
  - (1) Geared Continuous Hinges: As applicable to each item specified.
    - (a) Non-handed.
    - (b) Anti-spinning through-fastener.
    - (c) UL 10C listed for fire-resistance-rated doors.
      - (1) Metal Door Installation: Rated up to 90 minutes.
      - (2) Wood Door Installation: Rated up to 60 minutes.
    - (d) Sufficient size to permit door to swing 180 degrees

2.3.4 Sizes: See Door Hardware Schedule.
- a. Hinge Height: 3-1/2 by 3-1/2 inches (89 by 89 mm).
- b. Hinge Width: 1-3/8 inches (35 mm).
- c. Hinge Length: 83 inches (2108 mm).
- d. Sufficient size to allow 180 degree swing of door.

2.3.5 Finishes: See Door Hardware Schedule.
- a. Fully polish hinges; front, back, and barrel.

2.3.6 Grades:
- a. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.

2.3.7 Material: Base metal as indicated for each item by BHMA material and finish designation.
2.3.8 Types:
- a. Butt Hinges: Include full mortise hinges.
- b. Continuous Hinges: Include geared hinges.

2.3.9 Options: As applicable to each item specified.
- a. Provide electric power transfer (EPT) as listed in hardware sets.

2.3.10 Quantities:
- a. Butt Hinges: Three (3) hinges per leaves up to 90 inches (2286 mm) in height. Add one (1) for each additional 30 inches (762 mm) in height or fraction thereof.
  - (1) Hinge weight and size unless otherwise indicated in hardware sets:
    - (a) For doors up to 36 inches (914 mm) wide and up to 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.134 inch (3.4 mm) and a minimum of 4-1/2 inches (114 mm) in height.





  - (b) For doors from 36 inches (914 mm) wide up to 42 inches (1067 mm) wide and up to 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.145 inch (3.7 mm) and a minimum of 4-1/2 inches (114 mm) in height.
  - (c) For doors from 42 inches (1067 mm) wide up to 48 inches (1219 mm) wide and up to 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.180 inch (4.6 mm) and a minimum of 5 inches (127 mm) in height.
  - (d) For doors greater than 1-3/4 inches (44.5 mm) thick provide hinges with a minimum thickness of 0.180 inch (4.6 mm) and a minimum of 5 inches (127 mm) in height.
- b. Continuous Hinges: One per door leaf.

2.3.11 Applications: At swinging doors.
- a. Provide non-removable pins at out-swinging doors with locking hardware and all exterior doors.

2.3.12 Products:
- a. Butt Hinges:
  - (1) Ball Bearing, Five (5) Knuckle.
- b. Continuous Hinges:
  - (1) Aluminum geared hinges.

**2.4 Bolts**

2.4.1 Manufacturers:
- a. Architectural Builders Hardware Mfg (ABH): www.abhmfg.com#sle.
- b. Ives.
- c. Rockwod.

2.4.2 Properties:
- a. Flush Bolts:
  - (1) Manual Flush Bolts: Manually latching upon closing of door leaf.
    - (a) Bolt Throw: 3/4 inch (19 mm), minimum.
- b. Dustproof Strikes: For bolting into floor, provide except at metal thresholds.

2.4.3 Options:
- a. Extension Bolts: In leading edge of door, one bolt into floor, one bolt into top of frame.

2.4.4 Products:
- a. Manual flush bolts.

**2.5 Exit Devices**

2.5.1 Manufacturers:
- a. BEST, dormakaba Group: www.bestaccess.com/#sle.
- b. Sargent.
- c. Von Duprin.

2.5.2 Properties:
- a. Actuation: Full-length touchpad.
- b. Touchpads: "T" style metal touchpads and rail assemblies with matching chassis covers end caps.
- c. Latch Bolts: Stainless steel deadlocking with 3/4 inch (19 mm) projection using latch bolt.
- d. Lever Design: Match project standard lockset trims.
- e. Cylinder: Include where cylinder dogging or locking trim is indicated.
- f. Strike as recommended by manufacturer for application indicated.
- g. Sound dampening on touch bar.
- h. Dogging:
  - (1) Non-Fire-Resistance-Rated Devices: Hex key 1/4 inch (6 mm) hex key dogging.
  - (2) Fire-Resistance-Rated Devices: Manual dogging not permitted.





  - i. Touch bar assembly on wide style exit devices to have a 1/4 inch (6.3 mm) clearance to allow for vision frames.
  - j. All exposed exit device components to be of architectural metals and "true" architectural finishes.
  - k. Handing: Field-reversible.
  - l. Fasteners on Back Side of Device Channel: Concealed - exposed fasteners not allowed.
  - m. Vertical Latch Assemblies' Operation: Gravity, without use of springs.

2.5.3 Grades: Complying with BHMA A156.3, Grade 1.
- a. Provide exit devices tested and certified by UL or by a recognized independent laboratory for mechanical operational testing to 10 million cycles minimum with inspection confirming Grade 1 Loaded Forces have been maintained.

2.5.4 Performance Requirements:
- a. Exterior Door Exit Devices in Hurricane-Strength Wind Areas:
  - (1) Devices included in Miami (APD).
  - (2) Complying with FLA (FBC-B).

2.5.5 Code Compliance: As required by authorities having jurisdiction in the State in which the Project is located.
2.5.6 Options:
- a. Internally mounted switch used to signal other components.
- b. Provide units meeting requirements of MIL-STD-810F, Method 506.4, Driving Rain Test and Method 509.4, Salt Fog Test.
  - (1) Provide an internally mounted switch that is to be used to signal other components.

2.5.7 Products:
- a. BEST, Precision 2000 Series.

**2.6 Electric Strikes**

2.6.1 Manufacturers:
- a. dormakaba: www.dormakaba.com/#sle.
- b. HES.
- c. Von Duprin.

2.6.2 Properties:
- a. Provide UL (DIR) listed burglary-resistant devices.
- b. Provide UL 1034 compliant devices.
- c. Provide UL 10C compliant devices.
- d. Non-handed devices suitable for door frame material and scheduled lock configuration.
- e. Include transformer and rectifier as necessary for complete installation.
- f. Holding Force: 1,500 lbs (680.4 kg).
- g. Accommodating latch projections of 1/2 inch (12.7 mm) or 5/8 inch (16 mm).

2.6.3 Grades: Complying with BHMA A156.31, Grade 1.
2.6.4 Code Compliance: As required by authorities having jurisdiction in the State in which the Project is located.
2.6.5 Options: As applicable to each item specified.
- a. Voltage: 24 VDC.

2.6.6 Installation: Connect electric strikes into fire alarm where non-rated doors are scheduled to release with fire or sprinkler alarm condition.
2.6.7 Products:
- a. RCI 0 Series (0161, 0162, F0162, 0163).



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ADDITION & RENOVATIONS
PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|

ISSUE DATE: NOVEMBER 14, 2025

ARCHITECTURAL SPECIFICATIONS

AS1.3

PERMIT / BID SET

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**2.7 Lock Cylinders**

2.7.1 Manufacturers:
- a. Schlage.
- b. Substitutions: Not permitted.

2.7.2 Properties:
- a. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
  - (1) Provide cams and/or tailpieces as required for locking devices.
  - (2) Provide cylinders with appropriate format interchangeable cores where indicated.

2.7.3 Grades:
- a. Standard Security Cylinders: Comply with BHMA A156.5.

2.7.4 Material:
- a. Manufacturer's standard corrosion-resistant brass alloy.

2.7.5 Types: As applicable to each item specified.
- a. Standard security full size interchangeable core (FSIC) type cylinders, with seven-pin, 6C cores.

2.7.6 Applications: At locations indicated in hardware sets, and as follows
- a. As required for items with locking devices provided by other sections, including at elevator controls and cabinets.
  - (1) When provisions for lock cylinders are referenced elsewhere in the Project Manual to this Section, provide compatible type of lock cylinder, keyed to building keying system, unless otherwise indicated.

2.7.7 Products:
- a. Rim/mortise.

**2.8 Mortise Locks**

2.8.1 Manufacturers:
- a. BEST, dormakaba Group: www.bestaccess.com/#sle.
- b. Sargent.
- c. Schlage.

2.8.2 Properties:
- a. Mechanical Locks: Manufacturer's standard.
  - (1) Fitting modified ANSI A115.1 door preparation.
  - (2) Door Thickness Coordination Fitting 1-3/4 inch (44 mm) to 2-1/4 inch (57 mm) thick doors.
  - (3) Latch: Solid, one-piece, anti-friction, self-lubricating stainless steel.
    - (a) Latchbolt Throw: 3/4 inch (19 mm), minimum.
  - (4) Auxiliary Deadlatch: One piece stainless steel, permanently lubricated.
  - (5) Backset: 2-3/4 inch (70 mm).
  - (6) Lever Trim:
    - (a) Functionality: Allow the lever handle to move up to 45 degrees from horizontal position prior to engaging the latchbolt assembly.
    - (b) Strength: Locksets outside locked lever designed to withstand minimum 1,400 inch-lbs (158.2 Nm) of torque. In excess of that, a replaceable part will shear. Key from outside and/or inside lever will still operate lockset.
    - (c) Spindle: Designed to prevent forced entry from attacking of lever.
    - (d) Independent spring mechanism for each lever.
      - (1) Trim to be self-aligning and thru-bolted.

2.8.3 Finishes: See Door Hardware Schedule.
- a. Core Faces: Match finish of lockset.





2.8.4 Grades:
- a. Comply with BHMA A156.13, Grade 1, Security; Grade 2.

2.8.5 Options:
- a. Regulatory Compliance: As required by authorities having jurisdiction the State in which the Project is located.
  - (1) Meeting requirements of Florida Building Code and approved for use in Miami-Dade County:
    - (a) Latch Throw: 9/16 inch (14.3 mm) as listed by Florida Building Code and Miami-Dade County at positive or negative pressure of 75 psf (3.6 kPa) for single doors.
    - (b) Latch Throw: 9/16 inch (14.3 mm) as listed by Florida Building Code and approved by Miami Dade County at positive or negative pressure of 60 psf (2.87 kPa) for single doors and 35 psf (1.67 kPa) for pairs of doors.
    - (c) Latch Throw: 3/4 inch (19 mm) as listed by Florida Building Code and approved by Miami Dade County at positive or negative pressure of 80 psf (3.8 kPa) for single doors and 50 psf (2.4 kPa) for pairs of doors.

2.8.6 Products: Mortise locks, including standard and electrified types.
- a. BEST, 45H Series.

**2.9 Closers**

2.9.1 Manufacturers:
- a. dormakaba: www.dormakaba.com/#sle.
- b. LCN.
- c. Sargent.

2.9.2 Properties:
- a. Surface Mounted Closers: Manufacturer's standard.
  - (1) Construction: Cast iron.
  - (2) Maximum Projection from Face of Door: 2-7/16 inches (62 mm).
  - (3) Mechanism: Separate tamper-resistant adjusting valves for closing and latching speeds.
    - (a) Include delayed action feature.
  - (4) Hydraulic Fluid: All-weather type.
  - (5) Arm Assembly: Standard for product specified.
    - (a) Include hold-open, integral stop, or spring-loaded stop feature, as specified in Door Hardware Schedule.
    - (b) Parallel arm to be a heavy-duty rigid arm.
    - (c) Where "IS" or "S-IS" arms are specified in hardware sets, if manufacturer does not offer this arm provide a regular arm mount closer in conjunction with a heavy-duty overhead stop equal to a dormakaba 900 Series.
  - (6) Covers:
    - (a) Type: Standard for product selected.
      - (1) Full.
    - (b) Material: Plastic.
    - (c) Finish: Painted.
    - (d) Attachment: Two-point flange mounting, dual-clamp friction fit closer cover.

2.9.3 Grades:
- a. Closers: Comply with BHMA A156.4, Grade 1.
  - (1) Underwriters Laboratories Compliance:
    - (a) Product Listing: UL (DIR) and ULC for use on fire-resistance-rated doors.
      - (1) UL 228 - Door Closers-Holders, With or Without Integral Smoke Detectors.

2.9.4 Code Compliance: As required by authorities having jurisdiction in the State in which the Project is located.





2.9.5 Types:
- a. Rack-and-pinion, surface-mounted. 1-1/2 inches (38 mm) minimum bore.

2.9.6 Options:
- a. Delayed action, adjustable with an independent valve.
- b. Advanced backcheck.

2.9.7 Installation:
- a. Mounting: Includes surface mounted and concealed, overhead mounted installations.
- b. Mount closers on non-public side of door and stair side of stair doors unless otherwise noted in hardware sets.
- c. At outswinging exterior doors, mount closer on interior side of door.
- d. Provide adapter plates, shim spacers, and blade stop spacers as required by frame and door conditions.
- e. Where an overlapping astragal is included on pairs of swinging doors, provide coordinator to ensure door leaves close in proper order.

2.9.8 Products:
- a. Surface Mounted:
  - (1) dormakaba, Commercial Hardware QDC100 Series.

**2.10 Overhead Stops and Holders**

2.10.1 Manufacturers:
- a. dormakaba: www.dormakaba.com/#sle.
- b. Architectural Builders Hardware Mfg (ABH): www.abhmfg.com/#sle.
- c. Glynn Johnson.

2.10.2 Properties:
- a. Stop Settings: At 90 degrees opening.
  - (1) Adjustable friction tension.

2.10.3 Sizes: Manufacturer's standard for the application.

2.10.4 Finishes:
- a. Arms and Brackets: Zinc-plated.

2.10.5 Grades: As applicable to item specified.
- a. Comply with BHMA A156.8, Grade 1.

2.10.6 Material: Base metal as indicated for each item by BHMA material and finish designation.
- a. Track Channel: Extruded aluminum alloy.
- b. Slide Block: Machined from solid brass alloy.

2.10.7 Types:
- a. Concealed.

2.10.8 Products:
- a. Concealed Overhead Stops and Holders:
  - (1) dormakaba Architectural Hardware 910 Series (Heavy Duty)

**2.11 Protection Plates**

2.11.1 Manufacturers:
- a. Burns Manufacturing, Inc.: https://www.burnsmfg.com.
- b. Ives.
- c. Rockwood.

2.11.2 Properties:
- a. Plates:
  - (1) Kick Plates: Provide along bottom edge of push side of every door with closer, except aluminum storefront and glass entry doors, unless otherwise indicated.





  - (2) Mop Plates: Provide along bottom edge of push side and pull side of doors to provide protection from cleaning liquids and equipment damage to door surface.
  - (3) Edges: Beveled, on four (4) unless otherwise indicated.

2.11.3 Grades: Comply with BHMA A156.6.

2.11.4 Material: As indicated for each item by BHMA material and finish designation.
- a. Metal Properties: Stainless steel.
  - (1) Metal, Standard Duty: Thickness 0.050 inch (1.27 mm), minimum.

2.11.5 Installation:
- a. Fasteners: Countersunk screw fasteners

2.11.6 Products:
- a. Kick-Mop Plates.

**2.12 Stops and Holders**

2.12.1 Manufacturers:
- a. Burns Manufacturing, Inc.: https://www.burnsmfg.com.
- b. Ives.
- c. Rockwood.

2.12.2 General: Provide overhead stop/holder when wall or floor stop is not feasible.

2.12.3 Grades:
- a. Wall Bumpers: Comply with BHMA A156.16 and Resilient Material Retention Test as described in this standard.

2.12.4 Material: Base metal as indicated for each item by BHMA material and finish designation.

2.12.5 Types:
- a. Wall Bumpers: Bumper, concave, convex, wall stop.

2.12.6 Installation:
- a. Non-Masonry Walls: Confirm adequate wall reinforcement has been installed to allow lasting installation of wall bumpers.

2.12.7 Products:
- a. Wall Bumpers.

**2.13 Thresholds**

2.13.1 Manufacturers:
- a. National Guard Products, Inc (NGP): www.ngpinc.com/#sle.
- b. Pemko.
- c. Zero.

2.13.2 Properties:
- a. Threshold Surface: Fluted horizontal grooves across full width.

2.13.3 Threshold Grades: Comply with BHMA A156.21.

2.13.4 Types: As applicable to project conditions. Provide barrier-free type at every location where specified.
- a. Bumper Seal Thresholds with Gasket: Use silicone gaskets.

2.13.5 Products:

**2.14 Weatherstripping and Gasketing**

2.14.1 Manufacturers:
- a. National Guard Products, Inc (NGP): www.ngpinc.com/#sle.
- b. Pemko.
- c. Zero.





2.14.2 Properties:
- a. Rigid, Housed, Perimeter Gasketing: Silicone bulb gasket material held in place by aluminum housing; fastened to frame stop with screws.
- b. Door Sweeps: Silicone gasket material held in place by flat aluminum housing or flange; surface mounted to face of door with screws.

2.14.3 Grades: Comply with BHMA A156.22.

2.14.4 Products:
- a. Weatherstripping: See Door Hardware Schedule.
- b. Door Bottom Seals:
  - (1) Door Sweeps: See Door Hardware Schedule.

**2.15 Miscellaneous Items**

2.15.1 Manufacturers:
- a. Burns Manufacturing, Inc: www.burnsmfg.com/#sle.
- b. Ives.
- c. Rockwood.

2.15.2 Properties:
- a. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
  - (1) Single Door: Provide three on strike jamb of frame.
  - (2) Pair of Doors: Provide two on head of frame, one for each door at latch side.
  - (3) Material: Rubber, gray color.

2.15.3 Products:
- a. Silencers

**2.16 Electrified Hardware**

2.16.1 Manufacturers:
- a. BEST, dormakaba Group: www.bestaccess.com/#sle.
- b. dormakaba: www.dormakaba.com/#sle.
- c. Securitron.
- d. Von Duprin.

2.16.2 Properties:
- a. Door Position Switches: Recessed devices with magnetic contacts.
  - (1) Power Requirement: 50mA Max, 100 VDC.
  - (2) SPDT configuration.
- b. Power Supply Units: Manufacturer's standard.
  - (1) Enclosures: NEMA Type 1, with hinged cover and knockouts.
  - (2) Power: 24 VAC, 10 Amp; field-selectable.
  - (3) Emergency Release Terminals: Designed to release devices upon activation of fire alarm system.
  - (4) Auxiliary contacts for remote signaling.
  - (5) User-selectable time delay from 0 to 4 minutes.
  - (6) Fire Alarm System Interface: Standard.
  - (7) Output Distribution Board with indicator LEDs.
  - (8) On/Off LED power indicator.
- c. Power Transfers: Manufacturer's standard.
  - (1) Mortised Type with Wires & Connectors:
    - (a) Listed by UL and ULC.
    - (b) Stainless steel housing and spring conduit.
    - (c) Wire Harness: Pre-installed, twelve wire, equipped with ten (10) 24 gauge wires and two 18 gauge wires.





    - (d) Accommodate 180 degree door swing.
    - (e) Quick-Connect Plugs: Pre-installed.
- d. Wire Harnesses: Of sufficient length, with quick connectors.
  - (1) Wire Harness End Connection to Power Supply or Junction Box: One end with bare leads.

2.16.3 Products:
- a. Door Position Switches:
  - (1) RCI 9540 Recessed Magnetic Contact/Door Position Switch
- b. Power Supplies:
  - (1) RCI DKPS Series
- c. Power Transfers:
  - (1) BEST EPT-12C (Mortise Type with Wires and Connectors)
- d. Wire Harnesses:
  - (1) BEST Wire Harnesses

**2.17 Keys and Cores**

2.17.1 Manufacturers:
- a. Schlage.
- b. Substitutions: Not permitted.

2.17.2 Properties: Complying with guidelines of BHMA A156.28.
- a. Provide large format interchangeable core.
- b. Provide keying information in compliance with DHI (KSN) standards.
- c. Keying Schedule: Arrange for a keying meeting, with Architect, Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying complies with project requirements.
- d. Keying: Master keyed.
- e. Include construction keying and control keying with removable core cylinders.
- f. Do not make brass construction cores and construction control and operating keys a part of Owner's permanent keying system, nor furnish in the same keyway (or key section) as Owner, permanent keying system.
- g. Key to existing keying system.
- h. Supply keys in following quantities:
  - (1) Master Keys: 4 each.
  - (2) Construction Master Keys: 6 each.
  - (3) Construction Keys: 15 each.
  - (4) Construction Control Keys: 2 each.
  - (5) Control Keys if New System: 2 each.
- i. Provide key collection envelopes, receipt cards, and index cards in quantity suitable to manage number of keys.
- j. Deliver keys with identifying tags to Owner by security shipment direct from manufacturer.
- k. Permanent Keys and Cores: Stamped with applicable key marking for identification. Do not include actual key cuts within visual key control marks or codes. Stamp permanent keys "Do Not Duplicate."
- l. Include installation of permanent cores and return construction cores to hardware supplier. Construction cores and keys to remain property of hardware supplier.

2.17.3 Products:
- a. Cores-Keys.

**2.18 Finishes**

2.18.1 Finishes: Identified in Hardware Sets.





**PART 3 EXECUTION**

**3.1 Examination**

3.1.1 Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.

3.1.2 Correct all defects prior to proceeding with installation.

3.1.3 Verify that electric power is available to power operated devices and of correct characteristics.

**3.2 Installation**

3.2.1 Install hardware in accordance with manufacturer's instructions and applicable codes.

3.2.2 Install hardware using the manufacturer's fasteners provided. Drill and tap all screw holes located in metallic materials. Do not use "Riv-Nuts" or similar products.

3.2.3 Install hardware on fire-rated doors and frames in accordance with applicable codes and NFPA 80.

3.2.4 Install hardware for smoke and draft control doors in accordance with NFPA 105.

3.2.5 Use templates provided by hardware item manufacturer.

3.2.6 Do not install surface mounted items until application of finishes to substrate are fully completed.

3.2.7 Wash down masonry walls and complete painting or staining of doors and frames.

3.2.8 Complete finish flooring prior to installation of thresholds.

3.2.9 Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.
- a. Mounting heights in compliance with ADA Standards:
  - (1) Locksets: 40-5/16 inch (1024 mm).
  - (2) Push Plates/Pull Bars: 42 inch (1067 mm).
  - (3) Deadlocks (Deadbolts): 48 inch (1219 mm).
  - (4) Exit Devices: 40-5/16 inch (1024 mm).
  - (5) Door Viewer: 43 inch (1092 mm); standard height 60 inch (1524 mm).

3.2.10 Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.
- a. See Section 079200 for additional requirements.

3.2.11 Include in installation for existing doors and frames any necessary field modification and field preparation of doors and frames for new hardware. Provide necessary fillers, reinforcements, and fasteners for mounting new hardware and to cover existing door and frame preparations.

**3.3 Field Quality Control**

3.3.1 Perform field inspection and testing under provisions of Section 014000 - Quality Requirements.

**3.4 Adjusting**

3.4.1 Adjust work under provisions of Section 017000 - Execution and Closeout Requirements.

3.4.2 Adjust hardware for smooth operation.

3.4.3 Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

**3.5 Cleaning**

3.5.1 Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.

3.5.2 Clean adjacent surfaces soiled by hardware installation activities.





3.5.3 Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.5.4 See Section 017419 - Construction Waste Management and Disposal, for additional requirements.

**3.6 Protection**

3.6.1 Protect finished Work under provisions of Section 017000 - Execution and Closeout Requirements.

3.6.2 Do not permit adjacent work to damage hardware or finish.



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**SECTION 08810: GLASS AND GLAZING**

PART 1 - GENERAL
1.01 DESCRIPTION
A. SCOPE OF THE WORK: FURNISH AND INSTALL ALL EXTERIOR AND INTERIOR GLASS AND GLAZING AS SHOWN ON THE DRAWINGS, AND AS SPECIFIED HEREIN.
B. RELATED WORK SPECIFIED ELSEWHERE:
1. SECTION 08110: STEEL DOORS AND FRAMES
2. SECTION 08210: WOOD DOORS AND FRAMES
3. SECTION 08410: ALUMINUM ENTRANCES AND STOREFRONTS
1.02 JOB CONDITIONS
A. MEASUREMENTS: VERIFY ALL GLASS DIMENSIONS BY TAKING FIELD MEASUREMENTS BEFORE ANY GLASS IS SHIPPED TO THE JOB SITE.
1.03 DELIVERY AND STORAGE
A. DELIVER AND STORE MATERIALS IN PROTECTED AREAS.
B. STORE GLASS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
C. PROTECT GLASS, WHETHER INSTALLED OR NOT, AGAINST DAMAGE.
D. REPLACE BROKEN OR DEFECTIVE GLASS AT NO ADDITIONAL COST TO THE OWNER.

PART 2 - PRODUCTS
2.01 MATERIALS
**A. EXTERIOR STOREFRONT GLAZING:**
1. 1-5/16" OVERALL LAMINATED - INSULATED, 1/4" CLEAR ANNEALED OUTBOARD X 1/2" AIRSPACE X 1/4" INBOARD X 0.090 PVB INTERLAYER X 1/4" CLEAR ANNEALED INBOARD / LOW-E, TEMPERED WHERE REQUIRED BY CODE. SPACER TO BE CLEAR. GLAZING SYSTEM TO BE PER THE APPROVED FLORIDA PRODUCT APPROVAL # FOR THE INSTALLED STOREFRONT SYSTEM.
B. **EXTERIOR STOREFRONT DOOR GLASS:**
1. CLEAR LOW-E TEMPERED GLAZING; THICKNESS PER THE APPROVED FLORIDA PRODUCT APPROVAL # FOR THE INSTALLED STOREFRONT ENTRANCE SYSTEM.

PART 3 - EXECUTION
3.01 INSTALLATION
A. INSTALL GLASS TYPES AT LOCATIONS SHOWN ON THE DRAWINGS AND IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION PROCEDURES.
B. KEEP LABELS INDICATING MANUFACTURER, QUALITY AND THICKNESS ON GLASS UNTIL INSTALLATION HAS BEEN APPROVED BY THE OWNER; ABSENCE OF LABEL CONSTITUTES CAUSE FOR REJECTION.
C. WIRE GLASS SHALL BE GLAZED INTO THE APPROPRIATE FIRE-RATED FRAME WITH A SILICONE GLAZING COMPOUND.
D. GLAZE ALL OPENINGS IN ACCORDANCE WITH DETAILS SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN.
E. GLASS MATERIAL THAT IS SHOWN OR SPECIFIED TO BE SET USING VINYL OR NEOPRENE MATERIALS SHALL BE SO INSTALLED.
F. GLASS MATERIALS FOR WHICH NO SPECIFIC INSTALLATION IS SHOWN, SHALL BE SET IN GLAZING COMPOUNDS DESIGNED FOR THE PARTICULAR MATERIALS IN WHICH THE GLASS IS TO BE INSTALLED; BACK PUTTY PRIOR TO INSTALLATION OF STOPS.
G. FOR GLAZING ALUMINUM, PROVIDE ELASTIC COMPOUND FOR INTERIOR AND EXTERIOR GLAZING CONFORMING TO FEDERAL SPECIFICATION TT-G-00-410.
H. FOR GLAZING IN WOOD DOORS, USE ELASTIC COMPOUND DESIGNED FOR USE WITH WOOD PRODUCTS.
I. SETTING BLOCK SHALL BE NEOPRENE EXTRUSIONS CONFORMING TO ASTM C-509, GRADE 4.
J. ALL OPENINGS OR AREAS TO BE GLAZED SHALL BE MEASURED FOR ACTUAL FIELD CONDITIONS PRIOR TO MANUFACTURING.
3.02 PROTECTION AND CLEANING
A. ON COMPLETION OF THE WORK, AND JUST PRIOR TO JOB COMPLETION DATE, CLEAN AND WASH ALL GLASS THOROUGHLY.
B. USE NO ABRASIVES, IMPLEMENTS OR METHODS LIKELY TO RESULT IN SCRATCHED SURFACES.

## DIVISION 9 - FINISHES

**SECTION 09250: GYPSUM WALLBOARD SYSTEMS**

PART 1 - GENERAL
1.01 DESCRIPTION
A. WORK INCLUDES GYPSUM DRYWALL AND ACCESSORIES, COMPLETE AS SHOWN ON THE DRAWINGS.
B. RELATED WORK SPECIFIED ELSEWHERE:
1. SECTION 06100: ROUGH CARPENTRY
2. SECTION 07920: SEALANTS, CAULKING AND SEALS
1.02 QUALITY ASSURANCE
A. COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE "AMERICAN STANDARD SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM WALLBOARD", BY THE AMERICAN STANDARDS ASSOCIATION, EXCEPT WHERE MORE STRINGENT REQUIREMENTS ARE CALLED FOR HEREIN, IN LOCAL CODES, OR BY MANUFACTURER OF WALLBOARD.
B. MAINTAIN TEMPERATURE OF DRYWALL SPACE IN RANGE OF 55 TO 90 DEGREES F TO ELIMINATE EXCESSIVE MOISTURE.
1.03 JOB CONDITIONS
A. DO ALL CUTTING AND PATCHING REQUIRED TO ACCOMMODATE WORK OF OTHER TRADES.
B. COORDINATION: DRYWALL CONTRACTOR SHALL COORDINATE HIS PART OF THE WORK WITH THE FOLLOWING SUB-TRADES TO ENSURE PROPER PENETRATIONS OF PRIORITY WALLS, AS SPECIFIED IN PART 3 BELOW:
1. PLUMBING CONTRACTOR
2. ELECTRICAL CONTRACTOR
3. HVAC CONTRACTOR
4. METAL FRAMING CONTRACTOR
1.04 DELIVERY AND STORAGE: STORE MATERIALS OFF THE GROUND AND COVER AGAINST WEATHER. REMOVE ANY DAMAGED MATERIAL FROM THE SITE.

PART 2 - PRODUCTS
2.01 MATERIALS
A. METAL SUPPORTS:
1. CEILING SUPPORT SYSTEMS:
a. SIZE COMPONENTS IN COMPLIANCE WITH ASTM C-754.
b. MAIN RUNNERS: STEEL CHANNELS WITH RUST INHIBITIVE PAINT FINISH, HOT OR COLD ROLLED.
c. HANGER WIRE: SOFT, 12-GAGE GALVANIZED.
d. HANGAR ANCHOR DEVICES;
d.1. SCREWS, CLIPS, BOLTS OR OTHER DEVICES APPLICABLE TO THE INDICATED METHOD OF STRUCTURAL ANCHORAGE.
d.2. SIZE DEVICES FOR 3 X CALCULATED LOAD SUPPORT EXCEPT SIZE DIRECT PULL-OUT INSERTS FOR 5 X CALCULATED LOADS.
e. FURRING ANCHORAGES: 16-GAGE GALVANIZED WIRE TIES, MANUFACTURER'S STANDARD WIRE-TYPE CLIPS, BOLTS OR SCREWS AS RECOMMENDED BY FURRING MANUFACTURER.
B. GYPSUM WALLBOARD:
1. CONFORM TO ASTM C-36 AND ANY SPECIFIC U.L. ASSEMBLY REQUIREMENTS OVER AND ABOVE THIS SPECIFICATION.
2. TYPES:
a. 5/8-INCH THICK BY 4 FEET WIDE, TAPERED EDGE.
b. 5/8-INCH THICK BY 4 FEET WIDE, TAPERED EDGE FIRE RESISTIVE GYPSUM BOARD TYPE "X" FOR RATED WALLS ASSEMBLIES.
c. MOISTURE RESISTANT DRYWALL [MR BOARD (GREEN BOARD)]: 5/8-INCH THICK BY 4 FEET WIDE, TAPERED EDGE.
C. ACCESSORIES:
1. TRIM AND EDGING:
a. 26 GAGE, ELECTRO-GALVANIZED STEEL, WITH KNURLED SURFACES FOR BEDDING CEMENT.
b. PROVIDE ANGLE CORNER PIECES WITH 1-1/4 INCH LEGS AT ALL EXTERNAL CORNERS AND CHANNEL TYPE METAL TRIM PIECES AS DETAILED AT ALL GYPSUM BOARD EDGES MEETING DISSIMILAR MATERIALS.
2. EXPANSION JOINTS: INRYCO NO. 40 OR KEENE NO. 40, WITH ADJUSTABLE OPENING.
D. FASTENERS:
1. NON-FIRE RATED PARTITIONS:
a. PANELS TO STUDS:
a.1. MINIMUM 7/8-INCH LONG SELF-DRILLING SELF-TAPPING BULGE HEAD DRYWALL SCREWS WITH PHILLIPS HEAD, OR
a.2. 1 7/8 INCH LONG CEMENT-COATED NAILS WITH 1/4 INCH HEAD.
b. WOOD BLOCKING, ETC:
b.1. SELF-DRILLING, SELF-TAPPING OVAL HEAD SCREWS OF LENGTHS REQUIRED OR FRAMING NAILS OF SIZES APPROPRIATE.
c. ACOUSTICAL SEALANT: USG ACOUSTICAL CAULKING MATERIAL

PART 3 - EXECUTION
3.01 INSPECTION
A. IF FRAMING MEMBERS ARE OUT OF ALIGNMENT, BOWED OR WARPED, CORRECT TO MAKE TRUE SURFACES BEFORE APPLICATION OF GYPSUM BOARD.

3.02 INSTALLATION
A. GENERAL:
1. ERECTION TECHNIQUES SHALL RESULT IN PLUMB AND STRAIGHT SURFACES WITH NO WAVES OR BUCKLES, FREE OF UNEVENNESS AT JOINTS.
2. NEATLY FIT AND STAGGER ALL END JOINTS A MINIMUM OF 24-INCHES.
3. CUT AND FIT NEATLY AROUND ALL OUTLETS AND SWITCHES.
4. JOINTS WIDER THAN 1/8" WILL BE REJECTED.
5. MAKE FINISH WALLS AND CEILINGS PLUMB AND LEVEL, WITHOUT RIDGES, BOWS OR WARPS.
6. INSTALL MOISTURE RESISTANT DRYWALL (MR BOARD) IN ALL RESTROOMS, AND JANITOR'S CLOSETS (WALLS AND CEILINGS) EQUIPPED WITH SINKS, AND IN THE VICINITY OF ALL PLUMBING FIXTURES IN OTHER LOCATIONS (WALLS ONLY).
7. INSTALL CEMENTITIOUS BACKER BOARD IN ALL SHOWER ENCLOSURES SCHEDULED TO RECEIVE TILE OR SIMILAR SURFACE (WALLS AND CEILINGS).
8. WRAP AND PROTECT PRIOR TO INSTALLATION THE EXPOSED ENDS OF CUTS IN MOISTURE RESISTANT DRYWALL MADE FOR FITTING AS SPECIFIED BY THE MANUFACTURER.
B. GYPSUM BOARDS:
1. APPLY BOARDS VERTICALLY, IN PARALLEL APPLICATION, WITH ALL ABUTTING ENDS AND EDGES OVER SUPPORTS.
2. MAKE JOINTS OCCUR ON DIFFERENT STUDS AT OPPOSITE SIDES OF PARTITION.
3. EXPANSION JOINTS: LOCATE JOINTS IN LONG CORRIDOR WALLS (JOINTS NOT TO EXCEED 30'-0" INTERVALS) SO THEY OCCUR OVER THE CENTER OF A DOOR FRAME.
C. CEILINGS:
1. METAL SUPPORTS:
a. SECURE HANGERS TO STRUCTURAL SUPPORT BY CONNECTING DIRECTLY TO STRUCTURE WHERE POSSIBLE.
b. SPACE MAIN RUNNERS FOUR FEET ON CENTER AND SPACE HANGERS FOUR FEET ALONG RUNNERS, EXCEPT AS OTHERWISE SHOWN.
c. LEVEL MAIN RUNNERS TO A TOLERANCE OF 1/8" IN 12 FEET MEASURED BOTH LENGTHWISE ON EACH RUNNER AND TRANSVERSELY BETWEEN PARALLEL RUNNERS.
d. WIRE TIE OR CLIP FURRING MEMBERS TO MAIN RUNNERS AND TO OTHER STRUCTURAL SUPPORTS AS REQUIRED.
e. SPACE FURRING MEMBER 16" ON CENTER.
f. INSTALL AUXILIARY FRAMING AT TERMINATION OF GYPSUM WALLBOARD AND AT OPENINGS FOR LIGHT FIXTURES AND SIMILAR WORK, FOR SUPPORT OF BOTH THE WALLBOARD CONSTRUCTION AND OTHER WORK FOR SUPPORT.
2. GYPSUM BOARDS: INSTALL WITH THE LONG DIMENSION OF THE WALLBOARD PARALLEL TO THE SUPPORTING MEMBERS, WITH SEPARATE SUPPORTING MEMBERS PROVIDED AT END JOINTS.
D. SOFFITS: FRAME USING 25 GAGE STEEL STUDS.

3.03 TAPING AND FINISHING
A. GENERAL:
1. MIX JOINT AND FINISHING COMPOUNDS PER MANUFACTURER'S DIRECTIONS.
2. CENTER TAPE OVER JOINTS AND EMBED IN UNIFORM LAYER OF JOINT COMPOUND OF SUFFICIENT WIDTH AND DEPTH TO PROVIDE FIRM AND COMPLETE BOND.
3. APPLY SKIM COAT WHILE EMBEDDING TAPE.
4. TREAT ANGLES WITH REINFORCEMENT TAPE FOLDED TO CONFORM TO ADJACENT SURFACES AND STRAIGHT TRUE ANGLES.
5. ALLOW COMPOUND TO THOROUGHLY DRY FOR AT LEAST 24 HOURS.
6. OVER JOINT COMPOUND AND TAPE, APPLY COAT OF FINISHING COMPOUND.
7. SPREAD EVENLY AND FEATHER OUT BEYOND EDGE OF BOARD.
8. AFTER FIRST FINISHING COAT IS THOROUGHLY DRY (AT LEAST 24 HOURS) COVER WITH SECOND COAT WITH EDGES FEATHERED OUT SLIGHTLY BEYOND PRECEDING COAT.
9. GIVE ALL DIMPLES AND FASTENER HEADS AND ALL MARRED SPOTS ON SURFACE OF BOARD ONE (1) COAT JOINT COMPOUND AND TWO (2) COATS FINISHING COMPOUND, APPLIED AS EACH COAT IS APPLIED TO JOINTS.
10. INSTALL METAL CORNER REINFORCEMENT TO ALL EXTERNAL CORNERS.
11. CONCEAL FLANGES OF METAL REINFORCEMENT WITH AT LEAST TWO (2) COATS OF COMPOUND.
12. WHEN COMPLETED, COMPOUND SHOULD EXTEND APPROXIMATELY 8-INCHES TO 10-INCHES ON EACH SIDE OF METAL NOSING.
13. AFTER EACH APPLICATION OF JOINT COMPOUND OR FINISH COMPOUND HAS DRIED, LIGHTLY SAND ALL JOINTS.
14. LEAVE ALL BOARD AND TREATED AREAS SMOOTH AND READY FOR PAINTING.
15. CAULK ALONG BOTTOM OF DRYWALL AT FLOOR SLAB USING ACOUSTICAL CAULK.

**SECTION 09265: STEEL STUDS**

PART 1 - GENERAL
1.01 DESCRIPTION
A. WORK INCLUDES INTERIOR LIGHT GAGE STEEL STUD FRAMING AS SHOWN ON THE DRAWINGS AND AS REQUIRED TO FURNISH A COMPLETE FRAMING INSTALLATION.
B. RELATED WORK SPECIFIED ELSEWHERE:
1. SECTION 07920: SEALANTS, CAULKING AND SEALS
2. SECTION 09250: GYPSUM WALLBOARD SYSTEMS

PART 2 - PRODUCTS
2.01 METAL STUDS AND RUNNERS
A. INTERIOR WALLS FOR STRAIGHT RUNS OF WALLS WITHOUT WALL HUNG ITEMS OR OPENINGS; 25 GAUGE ROLL-FORMED, PUNCHED STEEL STUDS BY USG OR EQUAL.
B. WHERE WALLS DO NOT INCLUDE HEAVIER GAGE STUDS, RUNNERS MAY BE 25 GAGE, 1-1/4" DEEP.
C. WHERE WALLS INCLUDE HEAVIER GAGE STUDS, USE RUNNERS AT LEAST 1-1/4" DEEP AND OF GAGE MATCHING GAGE OF HEAVIEST GAGE STUDS AND TO EXTEND AT LEAST 2" BEYOND THE FIRST LIGHTER STUD. THEN, 25 GAGE RUNNERS MAY BE USED AT THE REMAINDER OF WALLS TO BE FRAMED WITH 25 GAGE STUDS.
D. INTERIOR WALLS WHERE CASEWORK WILL BE HUNG: 20 GAGE ROLL-FORMED PUNCHED STEEL "C" STUDS WITH PAINTED FINISH, OF SIZES INDICATED, MILCOR OR EQUAL. PROVIDE 20 GAGE RUNNERS, 1-3/8" DEEP.
E. AT DOOR AND WINDOW OPENINGS UP TO 6'-0" WIDE WITH SINGLE DOORS NOT EXCEEDING 3'-0" IN WIDTH OR PAIRS OF DOORS WHERE EACH LEAF DOES NOT EXCEED 3'-0": 20 GAGE "C" STUDS.
F. AT DOOR OPENINGS WITH DOORS OVER 3'-0" WIDE: 20 GAGE MILCOR "C" STUDS DOUBLED, INSTALLED BACK TO BACK. FASTEN STUDS TOGETHER WITH TWO ROWS OF SHEET METAL SCREWS SPACED 12" O.C. IN EACH ROW.
G. INTERIOR WALLS FOR CURVED RUNS OF WALLS WITHOUT WALL HUNG ITEMS OR OPENINGS; 25 GAGE ROLL-FORMED, PUNCHED STEEL STUDS BY USG OR EQUAL WITH FIELD FORMED CURVED TRACK RUNNERS OR PRE-MANUFACTURED RADIUS TRACK (RADIUS TRACK CORP., 888-872-3487) CURVED RUNNERS..

2.02 FURRING CHANNELS
A. STANDARD WEIGHT METAL "Z" FURRING BY USG OR EQUAL.

2.03 FASTENERS
A. RUNNERS TO CONCRETE: HILTI POWER DRIVE PINS, NK47512.
B. STUDS TO RUNNERS: USG TYPE S, PAN HEAD SCREWS, 3/8". FURRING CHANNELS TO BLOCK MASONRY: HARDENED CONCRETE NAILS WITH HEADS.

2.04 ACOUSTICAL SEALANT
A. USG ACOUSTICAL CAULKING MATERIAL.

PART 3 - EXECUTION
3.01 PREPARATION
A. BEFORE PLACING BOTTOM RUNNERS, APPLY TWO LONGITUDINAL 1/4" BEADS OF ACOUSTICAL SEALANT ON CONCRETE SIDE OF RUNNERS TO SEAL RUNNERS TO FLOOR.
B. FLOOR MUST BE CLEAN OF DEBRIS AND DUST PRIOR TO SETTING RUNNER.

3.02 INSTALLATION
A. ATTACH BOTTOM RUNNERS WITH SPECIFIED FASTENERS. PLACE STAGGERED DOUBLE ROWS OF FASTENERS 24" O.C. IN EACH ROW.
B. WHERE STUDS HEAVIER THAN 25 GAGE ARE TO BE INSTALLED, USE RUNNERS MATCHING GAGE OF STUDS.
C. AT CONTRACTOR'S OPTION, HEAVIER GAGE RUNNERS MAY BE CONTINUOUS FOR HEAVY GAGE AND LIGHT GAUGE RUNNERS ONLY AT HEAVY GAGE STUDS, THEN EXTEND THE HEAVY GAGE RUNNER AT LEAST 2" BEYOND THE FIRST LIGHTER GAGE STUD BEFORE CONTINUING THE RUN WITH LIGHT GAGE RUNNERS.
D. INTERIOR WALL STUDS MAY BE INSTALLED 24" O.C. EXCEPT WHERE SPECIFIED BELOW.
E. DOOR OPENINGS UP TO 6'-0" WIDE WHERE DOOR LEAVES ARE NOT OVER 3'-0" WIDE.
1. INSTALL 20 GAGE STUDS AT EACH JAMB.
2. INSTALL A 20 GAGE HORIZONTAL STUD MEMBER BETWEEN JAMB STUDS AT HEADS OF DOORS AND SECURELY ATTACH IT TO JAMB STUDS.
3. INSTALL 20 GAGE STUDS, NOT MORE THAN 24" O.C., RUNNING FROM HORIZONTAL MEMBER TO TOP RUNNER OR CAP.
4. ATTACH STUDS TO RUNNERS WITH SPECIFIED FASTENERS ON EACH SIDE OF EACH STUD.
5. SANDWICH FIBERGLASS INSULATION BETWEEN STUDS.
F. DOOR OPENINGS UP TO 6'-0" WIDE, AND WHERE DOOR LEAVES ARE OVER 3'-0" WIDE.
1. INSTALL DOUBLE 20 GAGE STUDS AT EACH JAMB MEMBER. INSTALL 20 GAGE BACK TO BACK AND ATTACH BOTH STUDS TO FRAME ANCHORS.
2. INSTALL 20 GAGE HORIZONTAL MEMBERS AND STUDS FROM HORIZONTAL MEMBERS TO TOP RUNNERS OR CAPS AS SPECIFIED ABOVE.
G. WINDOW OPENINGS UP TO 6'-0" WIDE.
1. INSTALL 20 GAGE STUDS AT EACH JAMB.
2. AT WINDOW SILLS AND HEADS, INSTALL 20 GAGE HORIZONTAL STUD MEMBERS BETWEEN JAMB STUDS AND SECURELY ATTACH THEM.
3. USE 20 GAGE SHORT STUDS BELOW AND ABOVE WINDOWS TO FILL OUT STUD SYSTEM.
4. ATTACH STUDS TO RUNNERS WITH SPECIFIED FASTENERS ON EACH SIDE OF EACH STUD.
H. MISCELLANEOUS SMALL OPENINGS, SUCH AS, BUT NOT LIMITED TO, PASSBOX OPENINGS, PAPER TOWEL DISPENSERS, ELECTRICAL PANELS AND OTHER MISCELLANEOUS ITEMS.
1. FRAME AROUND THE OPENINGS WITH STANDARD GAGE STUDS.
2. ATTACH FRAMING TO ADJACENT STUDS WITH SPECIFIED FASTENERS.
I. WHERE OUTLET BOXES OCCUR BETWEEN STUDS, PROVIDE STANDARD GAGE STUD FRAMING AS REQUIRED TO ATTACH BOX IN A PROPER SECURE INSTALLATION.
J. WHERE CABINETS WILL BE HUNG, SPACE 20 GAGE STUDS AT 16" O.C. FOR FULL WIDTH OF CABINETS PLUS 16" ON EACH SIDE OF CABINETS. THE REMAINDER OF WALLS MAY THEN BE FRAMED OUT WITH 25 GAUGE STUDS.
K. IN LONG RUNS OF WALLS, PROVIDE DOUBLE STUDS, SPACED " APART AT NOT OVER 30'-0" INTERVALS TO CREATE CONTROL JOINTS IN WALLS. SANDWICH FIBERGLASS INSULATION BETWEEN STUDS.
L. MAKE UP CORNERS AND INTERSECTIONS SO THAT GYPSUM BOARD WILL BE FULLY SUPPORTED AT EDGES.

3.03 INSTALLING STEEL STUDS AND BRACING ABOVE SUSPENDED CEILINGS AND SOFFITS
A. FOR NON-CONTINUOUS PARTITIONS WHICH DO NOT EXTEND TO THE UNDERSIDE OF THE DECK ABOVE, PROVIDE STUD DIAGONAL BRACING AT MAXIMUM OF 6-0 OC.
B. ATTACH TOP ENDS OF DIAGONAL STUD BRACES TO BOTTOM ELEMENT OF STRUCTURAL FRAMING WITH SPECIFIED FASTENERS, AND ATTACH BOTTOM ENDS TO VERTICAL STUDS WITH TWO TEKS SCREWS.

3.04 FIRE STOPPING
A. PROVIDE FIRE STOPPING FOR NON-RATED PARTITIONS WHICH DO NOT EXTEND TO THE DECK ABOVE.
B. TERMINATE DRYWALL AT FIRE STOP LOCATIONS, USUALLY 4" TO 6" ABOVE CEILING LINE.

**SECTION 09310** **TILE WORK**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

**A.** Work includes tile work as shown on the Drawings and as included in the ROOM FINISH SCHEDULE.

**B.** **Related Work Specified Elsewhere:**
**1.** Section 07620: Flashing and Sheet Metal
**2.** Section 09250: Gypsum Wallboard System

**1.02 QUALITY ASSURANCE**

**A.** **Standards:**

**1.** Perform all tile work in accordance with provisions of the **Handbook for Porcelain Tile Installation,** as published by the Tile Council of America, Inc.
**2.** Comply with ANSI A137.1.
**3.** Slip Resistance: Static Coefficient of Friction of 0.6 for level surfaces.

**PART 2 - PRODUCTS**

**2.01 MATERIALS**

**A.** **Floor Tile:** Nominal porcelain tile (sizes per drawings), conforming to ANSI A108.5, with a non-slip finish, thin-set, color and pattern as selected by Owner.

**B.** **Wall Tile:** Nominal porcelain tile (sizes per drawings), conforming to ANSI A108.5, with a non-slip finish, thin-set, color and pattern as selected by Owner.

**C.** **Mortar:** Dry-Set, 1/8-inch thick, complying with ANSI A108.5 and ANSI A118.

**D.** **Grout:** Urethane (per drawings), complying with ANSI A108.6 in color per drawings.

**E.** **Expansion Joint:**

**1.** Polyurethane sealant over compressible backer rod, complying with Federal Specification TT-S-00227e or TT-S-00230c.
**2.** Color of soft joint shall match grout.

**F.** **Transition Strip:**

**1.** **Entry Floor Tile to Carpet:** Schulter (see drawings for scheduled types), of same height as height of installed tile work.
**2.** Other porcelain floor tile to resilient flooring.



**a.** Under doors only: 2" x ½" beveled edge Georgia Marble domestic white.
**b.** Other locations: Resilient transition strip.

**PART 3 - EXECUTION**

**3.01 PREPARATION**

**A.** Before tiling, be sure variation of surface to be tiled follow within the maximum permissible variation of 1/8-inch, plus or minus, in ten feet when straight edge is laid on the surface in any direction.

**B.** Coordinate tile floor installation over concrete floor slab construction for expansion joints.

**C.** Make soft joint expansion joints in tile conform to normal tile spacings, and be the same width as grouted joints.

**D.** DO NOT cut Porcelain floor tiles to form expansion joints. Use slip sheet.

**E.** Consult with Architect prior to layout if coordination difficulties arise.

**3.02 INSTALLATION**

**A.** All porcelain floor tile shall be installed over a slip sheet (Cleavage Membrane).

**B.** Lay out all work so that where possible no tiles less than half size occur.

**C.** In any event, install no half tiles above the first course up from the bottom or away from the first vertical course at internal and external courses.

**D.** Align all joints vertically and horizontally.

**E.** Cut and drill neatly without marring tile.

**F.** Rub smooth any necessary cuts with a fine stone, and set no cut edge against any fixture, cabinet, or other tile without a joint at least 1/16-inch wide.

**G.** Cut, fit, adjust and establish tiles neatly and accurately to accommodate accessories, interruptions, chases, returns, mechanical and electrical outlets, and finish at their exact location (as determined by job site conditions).

**H.** Provide all required trim pieces as detailed for the various tiles specified.

**I.** Set porcelain floor tile in shower in tapered mortar bed.

**J.** Set porcelain wall tile in dry-set mortar over tile backer board.

**K.** Seal tile grout.



**3.03 CLEANING AND PROTECTION**

**A.** Wipe surfaces clean after grouting, remove all traces of mortar and grout.

**B.** Do not use acid solution for cleaning glazed tile.

**C.** Close spaces to traffic or other work until tile is firmly set.

**D.** Protect from damage until acceptance.

**E.** Repair all damaged work at no additional cost to the Owner.

**END OF SECTION**



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CONSULTANT:

OWNER / PROJECT:

# ADDITION & RENOVATIONS PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|

ISSUE DATE: NOVEMBER 14, 2025

ARCHITECTURAL SPECIFICATIONS

# AS1.5

PERMIT / BID SET

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**SECTION 09510: SUSPENDED ACOUSTICAL CEILINGS**

PART 1 - GENERAL

1.0 RELATED DOCUMENTS
- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.1 SUMMARY
- A. THIS SECTION INCLUDES CEILINGS CONSISTING OF ACOUSTICAL PANELS AND EXPOSED SUSPENSION SYSTEMS.

1.2 SUBMITTALS
- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT SPECIFIED.
- B. SAMPLES FOR VERIFICATION: UNITS OF EACH TYPE OF CEILING ASSEMBLY INDICATED; IN SETS FOR EACH COLOR, TEXTURE, AND PATTERN SPECIFIED, SHOWING THE FULL RANGE OF VARIATIONS EXPECTED IN THESE CHARACTERISTICS, IN SIZE INDICATED BELOW.
  1. ACOUSTICAL PANEL: SET OF FULL-SIZE SAMPLES OF EACH TYPE, COLOR, PATTERN, AND TEXTURE.
  2. EXPOSED SUSPENSION SYSTEM MEMBERS, MOLDINGS, AND TRIM: SET OF 12-INCH-(300-MM-) LONG SAMPLES OF EACH TYPE, FINISH, AND COLOR.
- C. PRODUCT TEST REPORTS: BASED ON EVALUATION OF COMPREHENSIVE TESTS PERFORMED BY A QUALIFIED TESTING AGENCY ON CURRENT PRODUCTS, FOR EACH ACOUSTICAL PANEL CEILING.
- D. MAINTENANCE DATA: FOR FINISHES TO INCLUDE IN MAINTENANCE MANUALS.

1.3 QUALITY ASSURANCE
- A. INSTALLER QUALIFICATIONS: ENGAGE AN EXPERIENCED INSTALLER WHO HAS COMPLETED ACOUSTICAL PANEL CEILINGS SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT AND WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE.
- B. SOURCE LIMITATIONS FOR CEILING UNITS: OBTAIN EACH ACOUSTICAL CEILING PANEL FROM ONE SOURCE WITH RESOURCES TO PROVIDE PRODUCTS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES WITHOUT DELAYING THE WORK.
- C. SOURCE LIMITATIONS FOR SUSPENSION SYSTEM: OBTAIN EACH SUSPENSION SYSTEM FROM ONE SOURCE WITH RESOURCES TO PROVIDE PRODUCTS OF CONSISTENT QUALITY IN APPEARANCE AND PHYSICAL PROPERTIES WITHOUT DELAYING THE WORK.
- D. FIRE-TEST-RESPONSE CHARACTERISTICS: PROVIDE ACOUSTICAL PANEL CEILINGS THAT COMPLY WITH THE FOLLOWING REQUIREMENTS:
  1. FIRE-RESISTANCE CHARACTERISTICS: WHERE INDICATED AND REQUIRED, PROVIDE ACOUSTICAL PANEL CEILINGS IDENTICAL TO THOSE OF ASSEMBLIES TESTED FOR FIRE RESISTANCE PER ASTM E 119 BY UL OR ANOTHER TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
     a. FIRE-RESISTANCE RATINGS: INDICATED BY DESIGN DESIGNATIONS FROM UL'S "FIRE RESISTANCE DIRECTORY" OR FROM THE LISTINGS OF ANOTHER TESTING AND INSPECTING AGENCY.
     b. IDENTIFY MATERIALS WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AND INSPECTING AGENCY.
  2. SURFACE-BURNING CHARACTERISTICS: PROVIDE ACOUSTICAL PANELS WITH THE FOLLOWING SURFACE-BURNING CHARACTERISTICS COMPLYING WITH ASTM E 1264 FOR CLASS A MATERIALS AS DETERMINED BY TESTING IDENTICAL PRODUCTS PER ASTM E 84:
     a. SMOKE-DEVELOPED INDEX: 450 OR LESS.

1.4 DELIVERY, STORAGE, AND HANDLING
- A. DELIVER ACOUSTICAL PANELS AND SUSPENSION SYSTEM COMPONENTS TO PROJECT SITE IN ORIGINAL, UNOPENED PACKAGES AND STORE THEM IN A FULLY ENCLOSED SPACE WHERE THEY WILL BE PROTECTED AGAINST DAMAGE FROM MOISTURE, DIRECT SUNLIGHT, SURFACE CONTAMINATION, AND OTHER CAUSES.
- B. BEFORE INSTALLING ACOUSTICAL PANELS, PERMIT THEM TO REACH ROOM TEMPERATURE AND A STABILIZED MOISTURE CONTENT.
- C. HANDLE ACOUSTICAL PANELS CAREFULLY TO AVOID CHIPPING EDGES OR DAMAGING UNITS IN ANY WAY.

1.5 PROJECT CONDITIONS
- A. ENVIRONMENTAL LIMITATIONS: DO NOT INSTALL ACOUSTICAL PANEL CEILINGS UNTIL SPACES ARE ENCLOSED AND WEATHERPROOF, WET-WORK IN SPACES IS COMPLETE AND DRY, WORK ABOVE CEILINGS IS COMPLETE, AND AMBIENT TEMPERATURE AND HUMIDITY CONDITIONS ARE MAINTAINED AT THE LEVELS INDICATED FOR PROJECT WHEN OCCUPIED FOR ITS INTENDED USE.

1.6 COORDINATION
- A. COORDINATE LAYOUT AND INSTALLATION OF ACOUSTICAL PANELS AND SUSPENSION SYSTEM WITH OTHER CONSTRUCTION THAT PENETRATES CEILINGS OR IS SUPPORTED BY THEM, INCLUDING LIGHT FIXTURES, HVAC EQUIPMENT, FIRE-SUPPRESSION SYSTEM, AND PARTITION ASSEMBLIES.

1.7 EXTRA MATERIALS
- A. FURNISH EXTRA MATERIALS DESCRIBED BELOW THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS. UNLESS INDICATED OR DIRECTED OTHERWISE PROVIDE EXTRA MATERIALS IN THE FOLLOWING QUANTITIES:
  1. ACOUSTICAL CEILING PANELS: FULL-SIZE PANELS EQUAL TO 2.0 PERCENT OF QUANTITY INSTALLED.
  2. SUSPENSION SYSTEM COMPONENTS: QUANTITY OF EACH EXPOSED COMPONENT EQUAL TO 2.0 PERCENT OF QUANTITY INSTALLED.
  3. HOLD-DOWN CLIPS: EQUAL TO 2.0 PERCENT OF AMOUNT INSTALLED.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
- A. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING MANUFACTURERS:
- B. MANUFACTURERS OF SUSPENSION GRID SYSTEM AND ACCEPTABLE PRODUCTS:
  1. ARMSTRONG WORLD INDUSTRIES INC.; PRELUDE XL SERIES. (TO BE VERIFIED FOR USE WITH PANEL SELECTION).
  2. CHICAGO METALLIC CORPORATION; 200 SNAP-GRID SYSTEM SERIES.
  3. USG INTERIORS INC.; DONN BRAND, DX SERIES.
  4. SUBSTITUTIONS SUBMITTED IN COMPLIANCE WITH SECTION 01 00 00.
- C. MANUFACTURERS OF ACOUSTICAL PANELS:
  1. ARMSTRONG WORLD INDUSTRIES INC. (DESIGN BASIS MANUFACTURER)
  2. BPB CELOTEX; (BPB AMERICA, INC.).
  3. USG INTERIORS INC.

2.2 ACOUSTICAL PANELS
- A. ACOUSTICAL PANEL STANDARD: PROVIDE MANUFACTURER'S STANDARD PANELS OF CONFIGURATION INDICATED THAT COMPLY WITH ASTM E 1264 CLASSIFICATIONS AS DESIGNATED BY TYPES, PATTERNS, ACOUSTICAL RATINGS, AND LIGHT REFLECTANCE, UNLESS OTHERWISE INDICATED.
- B. PANEL DESIGN BASIS PRODUCT:
  1. 24" X 24" TEGULAR EDGE ACOUSTICAL CEILING TILES
  a. **MATCH EXISTING (CONTRACTOR TO VERIFY IN FIELD) AND PROVIDE MATCHING TILE**, AS MANUFACTURED BY ARMSTRONG WORLD INDUSTRIES, INC.
     b. PANEL SIZE: 24 IN.BY 24 IN. BY 5/8 IN. THICK (FOR 15/16 LAY-IN GRID).
     c. EDGE: ANGLED TEGULAR.
     d. PROVIDE CLASS A (UL); SAG RESISTANT
     e. COLOR AND LIGHT REFLECTANCE: WHITE; 0.82.

2.3 METAL SUSPENSION SYSTEMS, GENERAL
- A. METAL SUSPENSION SYSTEM STANDARD: PROVIDE MANUFACTURER'S STANDARD DIRECT-HUNG METAL SUSPENSION SYSTEMS OF TYPES, STRUCTURAL CLASSIFICATIONS, AND FINISHES INDICATED THAT COMPLY WITH APPLICABLE ASTM C 635 REQUIREMENTS.
- B. FINISHES AND COLORS, GENERAL: COMPLY WITH NAAMM'S "METAL FINISHES MANUAL FOR ARCHITECTURAL AND METAL PRODUCTS" FOR RECOMMENDATIONS FOR APPLYING AND DESIGNATING FINISHES. PROVIDE MANUFACTURER'S STANDARD FACTORY-APPLIED FINISH FOR TYPE OF SYSTEM INDICATED.
- C. ATTACHMENT DEVICES: SIZE FOR FIVE TIMES DESIGN LOAD INDICATED IN ASTM C 635, TABLE 1, DIRECT HUNG, UNLESS OTHERWISE INDICATED.
- D. WIRE HANGERS, BRACES, AND TIES: PROVIDE WIRES COMPLYING WITH THE FOLLOWING REQUIREMENTS:
  1. ZINC-COATED CARBON-STEEL WIRE: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER.
  2. SIZE: SELECT WIRE DIAMETER SO ITS STRESS AT THREE TIMES HANGER DESIGN LOAD (ASTM C 635, TABLE 1, DIRECT HUNG) WILL BE LESS THAN YIELD STRESS OF WIRE BUT PROVIDE NOT LESS THAN 0.106-INCH- DIAMETER WIRE.
- E. HANGER RODS: MILD STEEL, ZINC COATED OR PROTECTED WITH RUST-INHIBITIVE PAINT.
- F. SHEET-METAL EDGE MOLDINGS AND TRIM: TYPE AND PROFILE INDICATED OR, IF NOT INDICATED, MANUFACTURER'S STANDARD MOLDINGS FOR EDGES AND PENETRATIONS THAT FIT ACOUSTICAL PANEL EDGE DETAILS AND SUSPENSION SYSTEMS INDICATED; FORMED FROM SHEET METAL OF SAME MATERIAL AND FINISH AS THAT USED FOR EXPOSED FLANGES OF SUSPENSION SYSTEM RUNNERS.
  1. FOR CIRCULAR PENETRATIONS OF CEILING, PROVIDE EDGE MOLDINGS FABRICATED TO DIAMETER REQUIRED TO FIT PENETRATION EXACTLY.
  2. FOR NARROW-FACE SUSPENSION SYSTEMS, PROVIDE SUSPENSION SYSTEM AND MANUFACTURER'S STANDARD EDGE MOLDINGS THAT MATCH WIDTH AND CONFIGURATION OF EXPOSED RUNNERS.
- G. HOLD-DOWN CLIPS: WHERE INDICATED, PROVIDE MANUFACTURER'S STANDARD HOLD-DOWN CLIPS SPACED 24 INCHES O.C. ON ALL CROSS TEES.

PART 3 - EXECUTION

3.1 EXAMINATION
- A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, INCLUDING STRUCTURAL FRAMING TO WHICH ACOUSTICAL PANEL CEILINGS ATTACH OR ABUT, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS SPECIFIED IN THIS AND OTHER SECTIONS THAT AFFECT CEILING INSTALLATION AND ANCHORAGE AND WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF ACOUSTICAL PANEL CEILINGS.
  1. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.2 PREPARATION
- A. MEASURE EACH CEILING AREA AND ESTABLISH LAYOUT OF ACOUSTICAL PANELS TO BALANCE BORDER WIDTHS AT OPPOSITE EDGES OF EACH CEILING. AVOID USING LESS-THAN-HALF-WIDTH PANELS AT BORDERS, AND COMPLY WITH LAYOUT SHOWN ON REFLECTED CEILING PLANS.

3.3 INSTALLATION
- A. INSTALL ACOUSTICAL PANEL CEILINGS TO COMPLY WITH PUBLICATIONS REFERENCED BELOW PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND CISCA'S "CEILING SYSTEMS HANDBOOK."
  1. STANDARD FOR CEILING SUSPENSION SYSTEM INSTALLATIONS: COMPLY WITH ASTM C 636.
  2. CISCA'S RECOMMENDATIONS FOR ACOUSTICAL CEILINGS: COMPLY WITH CISCA'S "RECOMMENDATIONS FOR DIRECT-HUNG ACOUSTICAL TILE AND LAY-IN PANEL CEILINGS--SEISMIC ZONES 0-2."
- B. SUSPEND CEILING HANGERS FROM BUILDING'S STRUCTURAL MEMBERS AND AS FOLLOWS:
  1. INSTALL HANGERS PLUMB AND FREE FROM CONTACT WITH INSULATION OR OTHER OBJECTS WITHIN CEILING PLENUM THAT ARE NOT PART OF SUPPORTING STRUCTURE OR OF CEILING SUSPENSION SYSTEM.
  2. SPLAY HANGERS ONLY WHERE REQUIRED TO MISS OBSTRUCTIONS; OFFSET RESULTING HORIZONTAL FORCES BY BRACING, COUNTERSPLAYING, OR OTHER EQUALLY EFFECTIVE MEANS.
  3. WHERE WIDTH OF DUCTS AND OTHER CONSTRUCTION WITHIN CEILING PLENUM PRODUCES HANGER SPACINGS THAT INTERFERE WITH LOCATION OF HANGERS AT SPACINGS REQUIRED TO SUPPORT STANDARD SUSPENSION SYSTEM MEMBERS, INSTALL SUPPLEMENTAL SUSPENSION MEMBERS AND HANGERS IN FORM OF TRAPEZES OR EQUIVALENT DEVICES. SIZE SUPPLEMENTAL SUSPENSION MEMBERS AND HANGERS TO SUPPORT CEILING LOADS WITHIN PERFORMANCE LIMITS ESTABLISHED BY REFERENCED STANDARDS AND PUBLICATIONS.
  4. DO NOT SUPPORT CEILINGS DIRECTLY FROM PERMANENT METAL FORMS OR FLOOR DECK. FASTEN HANGERS TO CAST-IN-PLACE HANGER INSERTS, POWDER-ACTUATED FASTENERS, OR DRILLED-IN ANCHORS THAT EXTEND THROUGH FORMS INTO CONCRETE.
  5. DO NOT ATTACH HANGERS TO STEEL DECK TABS.
  6. DO NOT ATTACH HANGERS TO STEEL ROOF DECK. ATTACH HANGERS TO STRUCTURAL MEMBERS.
  7. SPACE HANGERS NOT MORE THAN 48 INCHES O.C. ALONG EACH MEMBER SUPPORTED DIRECTLY FROM HANGERS, UNLESS OTHERWISE INDICATED; AND PROVIDE HANGERS NOT MORE THAN 8 INCHES FROM ENDS OF EACH MEMBER.
- C. SECURE BRACING WIRES TO CEILING SUSPENSION MEMBERS AND TO SUPPORTS WITH A MINIMUM OF FOUR TIGHT TURNS. SUSPEND BRACING FROM BUILDING'S STRUCTURAL MEMBERS AS REQUIRED FOR HANGERS, WITHOUT ATTACHING TO PERMANENT METAL FORMS, STEEL DECK, OR STEEL DECK TABS. FASTEN BRACING WIRES INTO CONCRETE WITH CAST-IN-PLACE OR POST-INSTALLED ANCHORS.
- D. INSTALL EDGE MOLDINGS AND TRIM OF TYPE INDICATED AT PERIMETER OF ACOUSTICAL CEILING AREA AND WHERE NECESSARY TO CONCEAL EDGES OF ACOUSTICAL PANELS.
  1. APPLY ACOUSTICAL SEALANT IN A CONTINUOUS RIBBON CONCEALED ON BACK OF VERTICAL LEGS OF MOLDINGS BEFORE THEY ARE INSTALLED.
  2. SCREW ATTACH MOLDINGS TO SUBSTRATE AT INTERVALS NOT MORE THAN 16 INCHES O.C. AND NOT MORE THAN 3 INCHES FROM ENDS, LEVELING WITH CEILING SUSPENSION SYSTEM TO A TOLERANCE OF 1/8 INCH IN 12 FEET. MITER CORNERS ACCURATELY AND CONNECT SECURELY.
  3. DO NOT USE EXPOSED FASTENERS, INCLUDING POP RIVETS, ON MOLDINGS AND TRIM.
- E. INSTALL SUSPENSION SYSTEM RUNNERS SO THEY ARE SQUARE AND SECURELY INTERLOCKED WITH ONE ANOTHER. REMOVE AND REPLACE DENTED, BENT, OR KINKED MEMBERS
- F. INSTALL ACOUSTICAL PANELS WITH UNDAMAGED EDGES AND FITTED ACCURATELY INTO SUSPENSION SYSTEM RUNNERS AND EDGE MOLDINGS. SCRIBE AND CUT PANELS AT BORDERS AND PENETRATIONS TO PROVIDE A NEAT, PRECISE FIT.
  1. FOR SQUARE-EDGED PANELS, INSTALL PANELS WITH EDGES FULLY HIDDEN FROM VIEW BY FLANGES OF SUSPENSION SYSTEM RUNNERS AND MOLDINGS.
  2. FOR REVEAL-EDGED PANELS ON SUSPENSION SYSTEM RUNNERS, INSTALL PANELS WITH BOTTOM OF REVEAL IN FIRM CONTACT WITH TOP SURFACE OF RUNNER FLANGES.
  3. PAINT CUT PANEL EDGES REMAINING EXPOSED AFTER INSTALLATION; MATCH COLOR OF EXPOSED PANEL SURFACES USING COATING RECOMMENDED IN WRITING FOR THIS PURPOSE BY ACOUSTICAL PANEL MANUFACTURER.
  4. INSTALL HOLD-DOWN CLIPS IN AREAS INDICATED, IN AREAS REQUIRED BY AUTHORITIES HAVING JURISDICTION, FOR FIRE-RESISTANCE RATINGS, AND TO RETAIN PANELS TIGHT TO GRID SYSTEM WITHIN 15 FEET OF AN EXTERIOR DOOR. SPACE AS RECOMMENDED BY PANEL MANUFACTURER'S WRITTEN INSTRUCTIONS, UNLESS OTHERWISE INDICATED OR REQUIRED.
  5. PROTECT LIGHTING FIXTURES AND AIR DUCTS TO COMPLY WITH REQUIREMENTS INDICATED FOR FIRE-RESISTANCE-RATED ASSEMBLY.

3.4 FIELD QUALITY CONTROL
- A. ABOVE-CEILING OBSERVATION: CONDUCT AN ABOVE-CEILING OBSERVATION PRIOR TO INSTALLATION OF ACOUSTICAL PANEL CEILINGS AND REPORT ANY DEFICIENCIES IN THE WORK OBSERVED. DO NOT PROCEED WITH INSTALLATION OF ACOUSTICAL PANELS TO CEILING SUSPENSION SYSTEM UNTIL DEFICIENCIES HAVE BEEN CORRECTED.
  1. PRIOR TO NOTIFYING ARCHITECT, COMPLETE THE FOLLOWING IN AREAS TO RECEIVE ACOUSTICAL PANEL CEILINGS:
     a. INSTALLATION OF 80 PERCENT OF LIGHTING FIXTURES, POWERED FOR OPERATION.
     b. INSTALLATION, INSULATION, AND LEAK AND PRESSURE TESTING OF WATER PIPING SYSTEMS.
     c. INSTALLATION OF AIR DUCT SYSTEMS.
     d. INSTALLATION OF AIR DEVICES.
     e. INSTALLATION OF MECHANICAL SYSTEM CONTROL AIR TUBING.
     f. INSTALLATION OF CEILING SUSPENSION SYSTEM.
     g. FIRESTOPPING OF PENETRATIONS AND JOINTS IN FIRE RATED ASSEMBLIES.
     h. SMOKE SEALING OF PENETRATIONS AND JOINTS IN SMOKE RESISTANT ASSEMBLIES.

3.5 CLEANING
- A. CLEAN EXPOSED SURFACES OF ACOUSTICAL PANEL CEILINGS, INCLUDING TRIM, EDGE MOLDINGS, AND SUSPENSION SYSTEM MEMBERS. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING AND TOUCHUP OF MINOR FINISH DAMAGE. REMOVE AND REPLACE CEILING COMPONENTS THAT CANNOT BE SUCCESSFULLY CLEANED AND REPAIRED TO PERMANENTLY ELIMINATE EVIDENCE OF DAMAGE.

**SECTION 09900: PAINTING AND FINISHING**

PART 1 - GENERAL

1.01 DESCRIPTION
- A. SCOPE OF WORK:
  1. WORK INCLUDES PRIMING AND/OR PAINTING ALL SURFACES NOT FACTORY FINISHED, INCLUDING FACTORY PRIMED ITEMS, GALVANIZED ITEMS UNLESS SCHEDULE OTHERWISE ON THE DRAWINGS.
  2. SURFACE PREPARATION, PRIMING AND COATS OF PAINT SPECIFIED ARE IN ADDITION TO SHOP-PRIMING, EXCEPT AS OTHERWISE SPECIFIED.
  3. ITEMS TO BE PAINTED INCLUDE BUT ARE NOT LIMITED TO ALL EXPOSED PIPES AND DUCTS, HANGARS, EXPOSED STEEL AND IRON WORK, AND PRIMED METAL SURFACES OF EQUIPMENT INSTALLED UNDER THE MECHANICAL AND ELECTRICAL WORK, WHICH ARE LEFT EXPOSED.
  4. CONCEALED SURFACES:
     a. UNLESS OTHERWISE INDICATED, PAINTING IS NOT REQUIRED ON SURFACES SUCH AS WALLS OR CEILING IN CONCEALED AREAS AND INACCESSIBLE AREAS, FURRED AREAS, AND PIPE SPACES.
     b. ALL PIPING, EQUIPMENT, AND OTHER SUCH ITEMS IN CONCEALED SPACES ARE NOT REQUIRED TO BE PAINTED.
  5. COPPER, BRONZE, CHROMIUM PLATE, NICKEL, STAINLESS STEEL, ALUMINUM, MONEL METAL, LEAD AND LEAD COATED COPPER ARE NOT TO BE PAINTED OR FINISHED UNLESS SPECIFICALLY SCHEDULED.

1.02 JOB CONDITIONS
- A. PROTECTION:
  1. DO NOT PAINT ANY MOVING PARTS OF OPERATING UNITS, MECHANICAL AND ELECTRICAL PARTS, SUCH AS VALVE AND DAMPER OPERATORS, LINKAGES, SENSING DEVICES, MOTOR AND FAN SHAFTS, UNLESS OTHERWISE INDICATED.
  2. DO NOT PAINT OVER ANY CODE-REQUIRE LABELS, SUCH AS UNDERWRITERS LABORATORIES AND FACTORY MUTUAL OR ANY EQUIPMENT IDENTIFICATION, PERFORMANCE RATING, NAME OR NOMENCLATURE PLATES.

PART 2 - PRODUCTS

2.01 MATERIALS AND SYSTEMS
- A. SHERWIN WILLIAMS, OR APPROVED EQUAL, SHALL BE USED, WITH THINNING NOT TO EXCEED MANUFACTURER'S RECOMMENDATIONS.
- B. PAINT COLOR SHALL BE AS DEFINED IN THE FINISH SCHEDULE.
- C. PAINT MATERIAL USED ON THIS PROJECT SHALL CONTAIN MINIMUM CERTIFIED FLAME AND SMOKE RATINGS, DEPENDING ON THE LOCATION OF THE APPLICATION. CERTIFICATION OF MANUFACTURER'S FLAME AND SMOKE RATINGS SHALL BE AVAILABLE AT THE FINAL INSPECTION.
  1. IN CORRIDORS AND ACCESSES TO EXITS SHALL BE MINIMUM CLASS B, HAVING A FLAME SPREAD RATING OF BETWEEN 26 AND 75, AND SMOKE DEVELOPED 0-450, AS DETERMINED BY ASTM-255.
  2. IN ALL OTHER AREAS, MINIMUM CLASS C, HAVING A FLAME SPREAD RATING OF BETWEEN 76 AND 200, AND SMOKE DEVELOPED 0-450, AS DETERMINED BY ASTM-255.

PART 3 - EXECUTION

3.01 INSPECTION
- A. EXAMINE ALL SUBSURFACES TO RECEIVE PAINTING AND REPORT IN WRITING TO THE CONTRACTOR, WITH A COPY TO THE ARCHITECT, ANY CONDITIONS DETRIMENTAL TO THE WORK.
- B. FAILURE TO OBSERVE REQUIREMENT CONSTITUTES A WAIVER TO ANY SUBSEQUENT CLAIMS TO THE CONTRARY, AND HOLDS PAINTING CONTRACTOR RESPONSIBLE FOR ANY CORRECTIONS WHICH MAY BE REQUIRED BY THE ARCHITECT.
- C. COMMENCEMENT OF THE WORK WILL BE CONSTRUED A ACCEPTANCE OF ALL SUBSURFACES.

3.02 SURFACE PREPARATION
- A. PROTECT ITEMS NOT TO BE PAINTED OR REMOVE PRIOR TO PAINTING.
- B. IF REQUIRED TO BE REMOVED, REPOSITION AFTER PAINTING.
- C. MAKE ANY EXPOSED MISCELLANEOUS METAL ITEMS, SUCH AS STEEL SUPPORTS, ANCHORS, BUCKS, HOLLOW METAL FRAMES AND THE LIKE, CLEAN, FREE OF RUST, DUST, GREASE OR DIRT.
- D. CLEAN ANY VISIBLE PORTIONS OF THROATS OF GALVANIZED STEEL DUCTWORK WITH SOLVENTS, WIPE DRY WITH CLEAN RAGS, AND PAINT FLAT BLACK.
- E. MAKE ANY WOOD SURFACES TO BE PAINTED OR STAINED CLEAN, SMOOTH, DRY AND FULLY SANDED. KNOTS AND PITCH POCKETS UNDER PAINT FINISH SHALL BE SEALED WITH SHELLAC.
- F. FILL JOINTS, CRACKS, NAIL HOLES, DISFIGURATIONS, ETC., WITH PUTTY AFTER PRIMING, THEN SAND SMOOTH.
- G. SEAL ANY CONCRETE, MASONRY, PLASTER AND SIMILAR SURFACES TO BE PAINTED AND FILL TO SMOOTH, EVEN SURFACES AFTER NEUTRALIZING WITH A WASH OF FOUR POUNDS SULFATE OR ZINC AND ONE GALLON OF WATER.
- H. REMOVE GREASE AND OIL WITH BENZINE.
- I. CLEAN THOROUGHLY ANY WALLBOARD SURFACES TO BE PAINTED.
- J. SPACKLE ANY NAIL HOLES AFTER PRIMING HAS DRIED.
- K. SAND SMOOTH ALL ROUGH SURFACES.

3.03 WORKMANSHIP
- A. THOROUGHLY COVER WITH UNIFORM COLOR AND FINISH; THE NUMBER OF COSTS SPECIFIED BEING THE MINIMUM,

3.04 APPLICATION
- A. DURING INTERIOR APPLICATION, MAINTAIN MINIMUM TEMPERATURE OF 65 DEGREES F UNLESS OTHERWISE DIRECTED BY MANUFACTURER'S PRINTED INSTRUCTIONS.
- B. HOLD TEMPERATURE AS CONSTANT AS POSSIBLE.
- C. PROVIDE ADEQUATE VENTILATION AT ALL TIMES SO THE HUMIDITY CANNOT RISE ABOVE THE DEW POINT OF THE COLDEST SURFACE TO BE PAINTED.
- D. PAINT ALL EXPOSED SURFACES OF EVERY MEMBER; PAINT ANYTHING INACCESSIBLE AFTER INSTALLATION, BEFORE INSTALLATION, IF REQUIRED TO BE PAINTED.
- E. COLOR CODE AND STENCIL IDENTIFY MECHANICAL EQUIPMENT WHERE REQUIRED IN DIVISION 15 OF THESE SPECIFICATIONS.
- F. PAINT NO ITEMS FITTED WITH FINISH HARDWARE UNTIL HARDWARE HAS BEEN TEMPORARILY REMOVED. FINISH HARDWARE SHALL NOT BE PAINTED.
- G. SAND CAREFULLY BETWEEN COATS ALL FINISHES ON SMOOTH SURFACES FOR GOOD ADHESION OF SUBSEQUENT COATS.
- H. WHERE COVERAGE IS INCOMPLETE OR NOT UNIFORM, PROVIDE AN ADDITIONAL COAT AT NO ADDITIONAL COST TO THE OWNER.
- I. EACH SUCCEEDING PIGMENTED COAT SHALL BE DISTINGUISHABLY LIGHTER THAN THE PREVIOUS COAT.
- J. TINT ALL PRIME AND UNDERCOATS TO A COLOR SIMILAR TO FINISH COAT.
- K. APPLY PUTTY, CAULK OR SPACKLE AFTER SURFACE IS PRIMED AND PRIMER IS DRY.
- L. APPLY ALL COATINGS WITHOUT REDUCTION EXCEPT AS SPECIFIED BY LABEL INSTRUCTIONS, OR REQUIRED BY THIS SPECIFICATION.
- M. IN SUCH CASES, REDUCTION SHALL BE THE MINIMUM, PERMITTED.

3.05 COMPLETION AND CLEANING
- A. ON COMPLETION OF THE WORK, CAREFULLY CLEAN ALL GLASS, HARDWARE, ETC., AND REMOVE ALL MISPLACED PAINT AND STAIN SPOTS OR SPILLS AND LEAVE WORK IN AN ACCEPTABLE CONDITION.

3.06 SCHEDULE OF PAINTING
- A. INTERIOR:
  1. WOOD BASE TRIM AND DOOR CASINGS:
     a. ONE (1) COAT OF PIGMENTED SHELLAC, TWO (2) COATS OF ALKYD SATIN ENAMEL.
     b. ALL SURFACES SHALL BE LIGHTLY SANDED BETWEEN COATS TO ASSURE A SMOOTH AND BLEMISH FREE SURFACE.
  2. STAINED WOOD DOORS:
     a. SEMI-GLOSS ALKYD VARNISH FINISH: ONE (1) COAT OF A MIXTURE OF 1 PART SHELLAC AND 5 PARTS DENATURED ALCOHOL, ONE (1) COAT WOOD STAIN TO OWNER'S CHOICE, ONE (1) COAT QUICK-DRY WONDERWOOD SANDING SEALER, AND TWO (2) COATS OF WONDERWOOD STAIN FINISH VARNISH.
     b. ALL SURFACES SHALL BE LIGHTLY SANDED BETWEEN COATS TO ASSURE A SMOOTH AND BLEMISH FREE SURFACE.
  3. STEEL DOORS AND FRAMES: ONE (1) COAT LATEX METAL PRIMER AND TWO (2) COATS ACRYLIC LATEX (METALATEX) SATIN ENAMEL.
  4. PAINTED GYPSUM WALLS:
     a. DRYWALL SHALL RECEIVE ONE (1) COAT OF LATEX PRIMER SEALER AND TWO (2) COATS OF ALKYD SATIN ENAMEL.
     b. WALLS WHICH ARE TO RECEIVE VINYL WALL-COVERING SHALL BE PRIMED AND SEALED WITH ONE (1) COAT PRIMER UNDERCOAT OR SEALER WARRANTED BY THE MANUFACTURER, PRIMZ FAST DRY SEALER 220-01 OR EQUAL.
     c. WALLS AND CEILINGS IN ALL JANITOR'S CLOSETS AND CEILINGS OF ALL REST ROOMS SHALL RECEIVE ONE (1) COAT OF VINYL ACRYLIC WALL PRIMER AND ONE (1) COAT OF WATER BORNE EPOXY.
     d. CONCRETE MASONRY UNITS: ONE (1) COAT ACRI-FILL AND TWO (2) COATS ALKYD SATIN ENAMEL.
     e. GALVANIZED METAL: ONE (1) COAT ALKYD ZINC DUST COATING AND TWO (2) COATS ALKYD SATIN ENAMEL.

**DIVISION 10 - SPECIALTIES**

**SECTION 10426 INTERIOR SIGNAGE**

PART 1 - GENERAL

1.01 DESCRIPTION
- A. SCOPE OF THE WORK: WORK INCLUDES THE FURNISHING OF LABOR, MATERIALS AND INCIDENTALS NECESSARY TO INSTALL ALL INTERIOR SIGNAGE, AND RESTROOM IDENTIFICATION SIGNAGE, AS SHOWN ON THE DRAWINGS.

PART 2 - PRODUCTS

2.01 INTERIOR SIGNS
- A. GENERAL:
  1. FRAMELESS, RECTANGULAR OR SQUARE SHAPES WITH " RADIUSED CORNERS.
  2. PHOTO POLYMER PLATE LAMINATED ON 1/8" SOLID PLEXIGLASS.
  3. FIELD COLOR: AS SELECTED BY OWNER FROM MANUFACTURER'S STANDARD COLORS.
  4. COPY COLOR: BLACK OR WHITE HIGH CONTRAST TO FIELD COLOR.
- B. ROOM IDENTIFICATION SIGNAGE:
  1. SIZE: 1 " HIGH MINIMUM X 8" LONG MAXIMUM.
- C. IDENTIFICATION
  a. 5/8" HIGH, UPPER CASE HELVETICA MEDIUM, 1/32" RAISED LETTERS
  b. GRADE 2 BRAILLE
- D. RESTROOM IDENTIFICATION SIGNAGE:
  1. SIZE: 8" X 8" MINIMUM
  2. GRAPHICS: 6" PICTOGRAMS IN 1/32" RAISED IMAGE
     a. 5/8" HIGH UPPER CASE HELVETICA MEDIUM, 1/32" RAISED TEXT
     b. GRADE 2 BRAILLE

2.02 MANUFACTURER / MODEL
- A. KROY, INC., (800) 733-5769 SIGN SYSTEMS, ADA SERIES, OR EQUAL.

PART 3 - EXECUTION

3.01 INSTALLATION
- A. INSTALL ALL INTERIOR SIGNAGE BY USE OF ADHESIVE FOAM TAPE; A SEMI-PERMANENT INSTALLATION.
- B. MOUNT ALL INTERIOR SIGNAGE ON THE WALL NEXT TO THE DOOR TO THE ROOM OR AREA BEING IDENTIFIED.
- C. MOUNT SIGN AT 60-INCHES FROM FINISHED FLOOR TO CENTERLINE OF SIGN, AND 2-INCHES FROM THE DOOR FRAME.

**SECTION 10520: FIRE EXTINGUISHERS:**

PART 1 - GENERAL

1.01 DESCRIPTION
- A. WORK INCLUDES FIRE EXTINGUISHERS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED.

PART 2 - PRODUCTS

2.01 WALL MOUNT BRACKET: LARSEN, B-2 OR EQUAL.

2.02 FIRE EXTINGUISHERS: EQUIP EACH CABINET AND WALL BRACKET WITH 10 LB. ABC TYPE, LARSEN OR EQUAL.

PART 3 - EXECUTION

3.01 INSTALLATION
- A. MOUNT EXTINGUISHERS AND BRACKETS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, SO THAT THE FIRE EXTINGUISHER DOES NOT EXCEED A HEIGHT OF 5'-0" AFF.

**SECTION 10260** **WALL AND CORNER GUARDS**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

**A.** Work includes all labor, materials and incidentals necessary to install all interior wall and corner guards.

**1.02 SUBMITTALS:** Manufacturer's cut sheets shall be submitted to the Architect for approval showing manufacturer's data, construction details, fittings and accessories as applicable.

**PART 2 - PRODUCTS**

**2.01 MATERIALS**

**A. Corner Guards:**

**1.** Provide clear, polycarbonate corner guards, 90-degree, 10'-0" X 2-1/2";
- **a.** Construction Specialties: Acrovyn; Model No. VA-250
- **b.** Color: As selected by the Owner (match existing, verify in field)
- **c.** Or approved equal.

**2.** Provide corner guards with pre-drilled mounting holes and chrome plated screws..

**B. Wall Guards:**

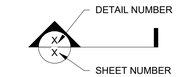
**1.** Pawling Corporation, Pro-Tek

# STRUCTURAL ABBREVIATIONS

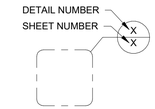
| ABBREV | ABBREVIATION |
|---|---|
| ACI | AMERICAN CONCRETE INSTITUTE |
| ADD | ADDITIVE |
| ADDL | ADDITIONAL |
| AFF | ABOVE FINISHED FLOOR |
| AISC | AMERICAN INSTITUTE OF STEEL CONSTRUCTION |
| AISI | AMERICAN IRON AND STEEL INSTITUTE |
| ALT | ALTERNATE/ALTERNATIVE |
| ALUM | ALUMINUM |
| ARCH | 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 | CONTROL 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 |
| (E) | EXISTING |
| 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 |

| ABBREV | ABBREVIATION |
|---|---|
| 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 |
| PC | PRECAST CONCRETE/PILE CAP |
| PAF | POWDER ACTUATED FASTENER |
| 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/POST TENSIONED |
| 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 |
| SYP | SOUTHERN YELLOW PINE |
| 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 |
| VIF | VERIFY IN FIELD |
| 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 |

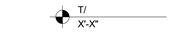
# STRUCTURAL SYMBOLS AND LEGEND



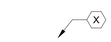

SECTION / DETAIL MARK




PLAN / DETAIL MARK




ELEVATION MARK




PLAN NOTE

WALL TYPES



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

| STRUCTURAL SHEET INDEX | |
|---|---|
| SHEET # | SHEET TITLE |
| S0.1 | STRUCTURAL ABBREVIATIONS, SYMBOLS, AND LEGEND |
| S0.2 | GENERAL NOTES |
| S0.3 | GENERAL NOTES |
| S1.1 | FRAMING PLAN |
| S5.1 | STRUCTURAL DETAILS |
| S5.2 | STRUCTURAL DETAILS |

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OWNER / PROJECT:

ADDITION & RENOVATIONS
PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|

ISSUE DATE: NOVEMBER 14, 2025

STRUCTURAL ABBREVIATIONS, SYMBOLS, AND LEGEND

S0.1

PERMIT / BID SET

## 010000 GENERAL NOTES

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH 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 TIE DOWNS.

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 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 SOLUTIONS, INC 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 SOLUTIONS, 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 (FBC) 8th EDITION (2023).

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" 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.

## 010002 DESIGN LOADS

1. THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, 8th EDITION (2023), AND AS SUPPLEMENTED BY LOCAL AMENDMENTS.

2. THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED:

   A. DEAD LOADS:

      MEZZANINE STRUCTURE 15 PSF

   B. LIVE LOADS

      MEZZANINE 60 PSF

## 013100 REQUEST FOR INTERPRETATION

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.

## 013301 SHOP DRAWING REVIEW

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. THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER OF RECORD.

4. 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.

## 013303 SUBMITTALS

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:

   - ITEMS MARKED (D) SHALL HAVE SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
   - ITEMS MARKED (#) SHALL BE SUBMITTED FOR ENGINEERS RECORD ONLY.

   A. STRUCTURAL STEEL

   B. COLD FORM METAL STUD

   C. METAL ROOF OR FORM DECK

3. MANUFACTURER'S LITERATURE. SUBMIT TWO COPIES OF MANUFACTURER'S LITERATURE FOR ALL MATERIALS AND PRODUCTS USED IN CONSTRUCTION ON THE PROJECT.

## 024116 DEMOLITION NOTES

1. THE CONTRACTOR IS REQUIRED TO PROVIDE ALL TEMPORARY SCAFFOLDING, PLATFORMS, BARRICADES, RAILINGS, SCREENING, ETC. NECESSARY TO PROTECT EXISTING FACILITIES, STRUCTURES AND THE PUBLIC DURING DEMOLITION AND ERECTION OF THE NEW CONSTRUCTION, AS WELL AS FOR JOB SAFETY. JOB SAFETY, CONSTRUCTION AND DEMOLITION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONS TO MINIMIZE VIBRATION, NOISE, DUST AND DEBRIS IN ALL AREAS ADJACENT TO AREAS OF DEMOLITION.

2. THE CONTRACTOR IS REQUIRED TO COORDINATE WITH THE OWNER FOR THE TEMPORARY SUSPENSION OF USE OF ANY FACILITY OR PORTION THEREOF, AND THE ASSOCIATED BARRICADING REQUIREMENTS WITHIN A MINIMUM OF 7 DAYS PRIOR TO COMMENCING WORK.

3. THE CONTRACTOR IS REQUIRED TO PERFORM HIS WORK IN A MANNER, WHICH WILL NOT CONFLICT WITH ANY OPERATION, WHICH IS TO REMAIN FUNCTIONAL DURING THE COURSE OF THE PROJECT, UNTIL SUCH OPERATION IS SCHEDULED TO BE SHUT DOWN.

4. THE CONTRACTOR IS REQUIRED TO COORDINATE WITH OWNER FOR THE TEMPORARY SUSPENSION OF USE OF ANY UTILITY SYSTEM, A MINIMUM OF 3 DAYS PRIOR TO COMMENCING WORK.

5. AT ALL LOCATIONS WHERE NEW CONSTRUCTION WILL INTERFACE WITH EXISTING ELEMENTS, CUT THROUGH EXISTING STRUCTURE IN STRAIGHT AND TRUE LINES TO INSURE A NEAT INTERFACE.

6. AT ALL LOCATIONS WHERE THE DEMOLITION OF A CONCRETE MEMBER LEAVES THE ENDS OF REINFORCING STEEL EXPOSED, PROVIDE THE FOLLOWING:

   A. CHIP CONCRETE FROM AROUND THE STEEL TO A DEPTH OF 1".

   B. CUT OFF REINFORCING STEEL NOT LESS THAN 3/4" BELOW THE CONCRETE SURFACE.

   C. FILL THE CAVITY FLUSH WITH A HIGH MODULUS GEL EPOXY. SEE SPECIFICATION FOR ACCEPTED MANUFACTURERS.

7. BEFORE DEMOLISHING ANY STRUCTURAL ELEMENT, INSTALL ALL REQUIRED TEMPORARY AND/OR PERMANENT BRACING AND SUPPORTS.

8. PROVIDE TEMPORARY CLOSURE OF ALL ROOF FASCIA, WALL AND OTHER OPENINGS TO PROTECT BUILDING FROM EXPOSURE TO UNDESIRABLE ELEMENTS UNTIL NEW CONSTRUCTION IS WEATHERPROOFED, AT WHICH TIME SUCH TEMPORARY CONSTRUCTION SHALL BE REMOVED. ALL TEMPORARY EXTERIOR WALLS THAT ARE SUBJECT TO WIND LOADS ARE TO BE DESIGNED BY A DELEGATED ENGINEER.

9. UPON COMPLETION OF NEW CONSTRUCTION UNDER EACH PHASE, ALL DEMOLISHED AREAS SHALL BE RESTORED TO ACCEPTABLE USAGE ACCORDING TO THE CONTRACT DOCUMENTS AS DETERMINED BY THE A/E.

10. REMOVE COMPLETELY FROM THE SITE AND LEGALLY DISPOSE ALL DEBRIS GENERATED BY THE DEMOLITION WORK AS THE WORK PROGRESSES. STOCKPILING OF DEBRIS AND BURNING OF DEBRIS ON THE PREMISES IS STRICTLY PROHIBITED.

## 024117 EXISTING STRUCTURE

1. INFORMATION SHOWN FOR THE EXISTING STRUCTURE ON THESE DRAWINGS WAS TAKEN FROM THE DRAWINGS THAT WERE PREPARED FOR:

   PREPARED BY: TLC ENGINEERING FOR ARCHITECTURE
   ENTITLED: LAKE COUNTY WATER AUTHORITY
   HICKORY POINT RECREATIONAL FACILITY
   DATED: 10/24/2013

2. WORK SHOWN ON THESE DRAWINGS ASSUMES THAT THE ORIGINAL CONSTRUCTION WAS PERFORMED IN ACCORDANCE WITH THE ABOVE INDICATED ORIGINAL DRAWINGS INCLUDING (BUT NOT LIMITED TO) DIMENSIONS, ELEVATIONS, MEMBER SIZES, MATERIALS, DETAILS, ETC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE CONDITIONS RELATING TO THE EXISTING STRUCTURE AND TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES OR CONFLICTS.

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THINK. LISTEN. CREATE.

OWNER / PROJECT:

# ADDITION & RENOVATIONS PHASE 1

ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

GENERAL NOTES

S0.2

PERMIT / BID SET

## 042200 MASONRY WALLS

1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO TMS 402-2016 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" AND TMS 602-2016 "SPECIFICATION FOR MASONRY STRUCTURES".
2. MASONRY UNITS SHALL MEET ASTM C-90 FOR HOLLOW LOAD BEARING TYPE MASONRY WITH UNIT STRENGTH OF 2000 PSI ON THE NET AREA (f'm = 2000 PSI). MORTAR SHALL BE TYPE "M" OR "S" AND MEET ASTM C-270.
3. GROUT SHALL BE 3000 PSI MINIMUM COMPRESSIVE STRENGTH AND MEET ASTM C-476 AND HAVE A SLUMP BETWEEN 8" AND 11" WITH WATER CM RATIO OF 0.55 MAXIMUM AND WITH 3/8" MAXIMUM AGGREGATE.
4. PROVIDE HOOKED DOWELS IN FOUNDATIONS FOR VERTICAL REINFORCING ABOVE. LAP SPLICES SHALL BE PER LAP SPLICE SCHEDULE SHOWN IN TYPICAL DETAIL.
5. BLOCK CELLS SHALL BE GROUT FILLED WITH VERTICAL REINFORCING BARS AT CORNERS, INTERSECTIONS, EACH SIDE OF OPENINGS AND AS SHOWN ON THE DRAWINGS.
6. DOWELS SHALL BE USED TO PROVIDE CONTINUITY INTO THE STRUCTURE ABOVE AND/OR BELOW, UNLESS NOTED OTHERWISE.
7. USE METAL LATH, MORTAR OR SPECIAL UNITS TO CONFINE CONCRETE AND GROUT TO AREA AS REQUIRED.
8. MASONRY SHALL BE LAID IN RUNNING BOND PATTERN UNLESS NOTED OTHERWISE. AT FILLED CELLS LAY UNITS WITH FULL BED JOINTS AROUND CELLS.
9. PROVIDE 9 GAGE GALVANIZED HORIZONTAL JOINT REINFORCING (DUR-O-WALL OR ENGINEER APPROVED SUBSTITUTION) AT ALTERNATE BLOCK COURSES. LADDER TYPE IS RECOMMENDED WITH REINFORCED FILLED CELLS. PROVIDE PREFABRICATED "TEE" OR CORNER SECTIONS AT WALL INTERSECTIONS.
10. CONTROL JOINTS SHALL BE CONSTRUCTED IN CONCRETE MASONRY CONSTRUCTION AT A MAXIMUM HORIZONTAL SPACING BETWEEN JOINTS OF 25'-0" AND NOT MORE THAN 12'-8" FROM CORNERS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS. CONSTRUCT INTERIOR CONTROL JOINTS AT A MAXIMUM HORIZONTAL SPACING OF 32'-0" OR 16'-0" FROM CORNERS. NO JOINTS SHALL BE LOCATED WITHIN 2'-0" OF STEEL BEAM BEARINGS. HORIZONTAL WALL REINFORCING SHALL BE STOPPED EACH SIDE OF CONTROL JOINTS. SEE ARCHITECTURAL DRAWINGS FOR SEALANT REQUIREMENTS AT CONTROL JOINTS.
11. SUBMIT PROPOSED GROUT MIX DESIGNS FOR REVIEW PRIOR TO USE. MIX NUMBER OR OTHER POSITIVE IDENTIFICATION SHALL UNIQUELY IDENTIFY MIX.
12. USE OF SUPERPLASTICIZER IS PROHIBITED.
13. CELLS TO BE GROUT FILLED SHALL HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR, UNOBSTRUCTED, CONTINUOUS VERTICAL GROUT SPACE.
14. CLEANOUT OPENINGS SHALL BE PROVIDED AT THE BOTTOM OF CELLS TO BE GROUT FILLED IN EACH POUR IN EXCESS OF 5 FEET IN HEIGHT. AFTER INSPECTION AND BEFORE GROUTING, THE REBAR SHALL BE TIED AT THE CLEANOUTS AND THE CLEANOUTS SHALL BE SEALED.
15. ANY OVERHANGING MORTAR OR OTHER OBSTRUCTION OR DEBRIS SHALL BE REMOVED FROM THE INSIDES OF SUCH CELL WALLS.
16. VERTICAL REINFORCEMENT SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 192 BAR DIAMETERS.
17. CELLS CONTAINING REINFORCEMENT SHALL BE FILLED SOLIDLY WITH GROUT. SAMPLE AND TEST GROUT PER ASTM C1019.
18. GROUT SHALL BE POURED IN LIFTS OF 4 FEET MAXIMUM HEIGHT. GROUT SHALL BE CONSOLIDATED AT TIME OF PLACING BY VIBRATING AND RECONSOLIDATED LATER BY VIBRATING BEFORE PLASTICITY IS LOST.
19. WHEN TOTAL GROUT POUR EXCEEDS 5'-4" FEET IN HEIGHT, (HIGH LIFT GROUTING), THE GROUT SHALL BE PLACED IN 4-FOOT LIFTS WITH A MINIMUM OF A 30 MINUTE DELAY BETWEEN LIFTS. MINIMUM CELL DIMENSION SHALL BE IN ACCORDANCE WITH TABLE 5 OF TMS 402 (3" X 3" FOR COARSE GROUT, 12 FT. MAXIMUM POUR HEIGHT).
20. WHEN THE GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE MADE BY STOPPING THE POUR OF GROUT NOT LESS THAN 1-1/2 INCH BELOW THE TOP OF THE UPPERMOST UNIT GROUTED.
21. WHERE CONCRETE BEAMS ARE INSTALLED IN CONCRETE MASONRY WALL, SUPPORT CONCRETE WITH 6" SIDE CONTINUOUS STRIPS OF 1/8 SQUARE MESH SOFFIT SCREENING OR PUR-O-STOP OF EQUAL CENTERED OVER BLOCK WORK. USE OF ROOFING FELT STRIPS WILL NOT BE PERMITTED.
22. MASONRY WALLS MARKED AS "LOAD BEARING" ARE DESIGNED TO CARRY FLOOR GRAVITY LOADS AND MUST BE CONSTRUCTED TO SUPPORT THE CONCRETE FLOOR SLAB CONCURRENTLY WITH CONCRETE COLUMN CONSTRUCTION.
23. MASONRY WALLS INDICATED AS "INFILL" ARE DESIGNED TO RESIST LATERAL LOADS AND MUST BE CONSTRUCTED AFTER THE CONCRETE SLAB IS CAST AND POST TENSIONING OPERATION IS COMPLETED. INFILL WALLS SHALL BE CONSTRUCTED STARTING AT THE FOUNDATION LEVEL AND WORKING UPWARD ONE LEVEL AT A TIME. DO NOT START NEXT HIGHER LEVEL OF WALL PRIOR TO COMPLETION OF WALL BELOW. ALLOW A MINIMUM OF 3 DAYS CURING FOR GROUT OF WALL BELOW PRIOR TO STARTING WALL ABOVE.
24. SINGLE STORY MASONRY WALLS INDICATED AS "PARTITION WALLS" SHALL BE CAST ON THICKENED SLAB FOUNDATIONS AND ARE NOT DESIGNED TO CARRY ANY LOADS FROM THE MAIN BUILDING STRUCTURES. ISOLATE TOP OF PARTITION WALLS FROM UNDERSIDE OF CONCRETE SLAB WITH A MINIMUM 1/2" THICK COMPRESSIBLE MATERIAL.
25. PROVIDE DOVETAIL ANCHORS AT 16" C/C, UNLESS NOTED OTHERWISE, WHERE MASONRY WALLS ABUT CONCRETE SURFACES.
26. SUBMIT WRITTEN CONSTRUCTION SEQUENCES AND PROCEDURES PRIOR TO THE START OF MASONRY CONSTRUCTION.
27. REINFORCING 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.
28. SECURE APPROVAL OF REINFORCING SHOP DRAWINGS PRIOR TO COMMENCING FABRICATION.
29. PROVIDE STANDARD HOOKS AT ENDS OF ALL BARS WHICH TERMINATE IN TIE BEAMS OR BOND BEAMS.
30. WHERE REINFORCING IS SHOWN CONTINUOUS, LAP SPLICE BARS IN ACCORDANCE WITH SPLICE TABLE IN TYPICAL DETAIL.
31. PROVIDE DOWELS INTO FOOTINGS, PILE CAPS, SUPPORT BEAMS, ETC. TO MATCH VERTICAL BARS WITH LAP SPLICES PER SPLICE TABLE IN TYPICAL DETAIL, UNO.
32. MECHANICAL BAR COUPLERS MAY BE USED TO SPLICE CONTINUOUS BARS, IN LIEU OF LAP SPLICES. BAR COUPLERS MUST ACHIEVE 125% OF BAR STRENGTH MINIMUM. COUPLERS MAY BE BOLTED TYPE (DAYTON D-250 BAR-LOCK S-SERIES COUPLER OR EQUAL) OR THREADED TYPE (DAYTON D310 TAPER-LOCK COUPLER OR EQUAL). COUPLERS SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTALLATION RECOMMENDATIONS.
33. AT CHANGES IN DIRECTION OF BOND BEAMS, PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL STEEL.

## 051200 STRUCTURAL STEEL (CONN'S BY TLC)

1. STEEL WORK SHALL BE NEW AND CONFORM TO THE ANSI/AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
2. MATERIAL SHALL CONFORM TO THE FOLLOWING, EXCEPT AS NOTED:
   ANGLES, CHANNELS AND PLATES ASTM A36 (Fy=36 KSI)
3. CONNECTIONS:
   A. BOLTS SHALL BE HIGH-STRENGTH, BEARING TYPE IN SNUG TIGHT CONDITION, U.N.O. TIGHTEN BY AN AISC APPROVED METHOD.
   B. WELDING ELECTRODES SHALL BE PER AWS D1.1. RETURN FILLET WELDS FOR FRAMED CONNECTIONS 1/2" AT EACH END.
   C. FIELD CONNECTIONS SHALL BE BOLTED, EXCEPT AS NOTED OTHERWISE.
   D. DETAIL FLOOR AND ROOF FRAMING CONNECTIONS FOLLOWING THE REQUIREMENTS SHOWN IN THE TYPICAL CONNECTION SCHEDULES SHOWN IN THESE DRAWINGS, BASED ON THE BEAM OR GIRDER SIZE.
   E. FOR THE PURPOSE OF CORRECTLY INTERPRETING THE CONNECTION SCHEDULES, GIRDERS SHALL BE CONSIDERED AS ANY FLOOR OR ROOF BEAM WHICH CARRIES OTHER FLOOR OR ROOF BEAMS, OR ANY FLOOR OR ROOF BEAM WHICH CARRIES STEEL COLUMNS.
   F. DETAIL DIAGONAL BRACING CONNECTIONS AS SHOWN IN THE DETAILS. IF NO DETAIL IS PROVIDED, DETAIL CONNECTION TO DEVELOP THE FULL TENSION CAPACITY OF THE DIAGONAL BRACING MEMBER.
   G. DETAIL MOMENT CONNECTIONS AS SHOWN IN THE DETAILS. IF NO DETAIL IS PROVIDED, DETAIL MOMENT CONNECTION USING FULL PENETRATION WELDS AT BEAM FLANGES.
4. HIGH STRENGTH BOLTS IN BEARING CONDITION SUPPORTING SIMPLE SPAN BEAMS NOT SUBJECT TO AXIAL LOADS MAY BE INSTALLED TO "SNUG TIGHT" CONDITION IF NORMAL, OR SHORT SLOTTED HOLES ARE USED. THE ENGINEER OF RECORD WILL BE THE ULTIMATE AUTHORITY IN THE USE OF "SNUG TIGHT" BOLTS. IF LONG SLOTTED OR OVERSIZED HOLES ARE USED, BOLTS MUST BE FULLY PRETENSIONED AND SLIP CRITICAL. PROPER SURFACE PREPARATION IS REQUIRED FOR SLIP CRITICAL BOLTS, INCLUDING OMISSION OF PRIMER OR FIRE PROOFING, AS APPROPRIATE.
5. BOLTS SHARING LOAD WITH WELDS IN A CONNECTION SHALL BE FULLY PRETENSIONED AND SLIP CRITICAL.
6. WHERE FULLY PRETENSIONED OR SLIP CRITICAL BOLTS ARE REQUIRED, TIGHTENING SHALL BE ACHIEVED USING EITHER TWIST-OFF TENSION CONTROL BOLTS OR DIRECT TENSION INDICATING WASHERS.
7. 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.
8. GROUT UNDER BEARING PLATES SHALL BE NON-METALLIC, NON-SHRINK TYPE WITH A COMPRESSIVE STRENGTH OF AT LEAST 5,000 PSI IN 28 DAYS.
9. COMPOSITE FLOOR MEMBERS ARE DESIGNED TO BE UNSHORED UNLESS OTHERWISE NOTED. THE WEIGHT OF THE WET CONCRETE WILL RESULT IN DEFLECTIONS OF THE SUPPORTING STEEL DECK, BEAMS, AND GIRDERS. ALL OVERRUNS OF CONCRETE QUANTITIES ARE TO BE ANTICIPATED AND INCLUDED IN THE CONTRACTOR'S BID. THE CONTRACTOR SHALL COORDINATE EMBEDDED ITEMS REQUIRED FOR ARCHITECTURAL, STRUCTURAL, AND MECHANICAL ELEMENTS. CONCRETE FLOORS UTILIZING UNSHORED CONSTRUCTION SHALL BE SCREEDED LEVEL.
10. SIZE AND SPACING OF CONDUITS IN COMPOSITE SLABS SHALL COMPLY WITH THE REQUIREMENTS OF ASCE 73-91 UNLESS NOTED OTHERWISE ON DRAWINGS.
11. THE CAMBER OF STEEL MEMBERS SHALL BE VERIFIED IN THE SHOP AND THE FIELD. WHEN NO CAMBER IS INDICATED, TURN THE MEMBER NATURAL CAMBER UP.
12. WHERE TRUSSES ARE INDICATED WITH CONTINUOUS MEMBERS, THEY SHALL BE FULL LENGTH WITHOUT SPICES OR WELDED WITH FULL PENETRATION SHOP WELDS GROUND FLUSH WITH GRINDING IN THE DIRECTION OF APPLIED STRESS AND WITH WELD SOUNDNESS ESTABLISHED BY RADIOGRAPHIC OR ULTRASONIC INSPECTION IN ACCORDANCE WITH THE REQUIREMENTS OF 4.2.5.2 OR 4.2.5.3 OF AWS D1.1. SPLICES WILL NOT BE PERMITTED AT POINTS OF MAXIMUM STRESS. FIELD SPLICES OF TENSION MEMBERS SHALL BE DESIGNED TO DEVELOP 110 PERCENT OF THE SPLICED SECTIONS.
13. APPLY FIREPROOFING TO STEEL STRUCTURE CALCULATING THE THICKNESS OF FIREPROOFING BY COMPARING THE ACTUAL MEMBER SIZE TO THE MEMBER SIZE USED IN THE DESIGNATED UL RATING AND ADJUSTING APPROPRIATELY.
14. USE INTUMESCENT PAINT ON STRUCTURAL STEEL EXPOSED TO VIEW WHICH REQUIRES FIRE RATING. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATING AND INTUMESCENT PAINT REQUIREMENTS.

## 054000 STRUCTURAL COLD-FORMED STEEL (CFS) FRAMING

1. ALL COLD FORMED STEEL FRAMING SHALL CONFORM TO THE AISI/COFS/NASPEC 2016 EDITION (REAFFIRMED 2020) NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS WITH SUPPLEMENT NO. 2, THE AISI MANUAL COLD-FORMED STEEL DESIGN (2017 EDITION), AISI CODE OF STANDARD PRACTICE FOR COLD-FORMED STEEL STRUCTURAL FRAMING (2020 EDITION), AISI/COFS/GP-2015 STANDARD FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS (2020 EDITION) AND COLD-FORMED STEEL ENGINEERS INSTITUTE (CFSEI) PUBLICATIONS, AS MODIFIED OR CLARIFIED HEREIN.
2. STEEL STUDS, JOISTS, LINTELS, AND RUNNER TRACK MEMBERS SHALL BE OF TYPE SHOWN ON THE DRAWINGS AND SPECIFICATIONS CONFORMING TO ASTM A-446 GRADE C WITH HOT DIPPED GALVANIZED COATING CONFORMING TO ASTM A525 (CLASS G90).
3. MINIMUM STEEL GRADES (FY): 12 GA (97 MILS), 14 GA (68 MILS); 16 GA (54 MILS) STUDS AND TRACK: 50 KSI; 18 GA (43 MILS), 20 GA (33 MILS) STUDS AND TRACK: 33 KSI.
4. STRUCTURAL LIGHT GAGE CFS FRAMING AND THEIR CONNECTIONS SHALL BE AS DEPICTED ON THE STRUCTURAL PLANS AND DETAILS.
5. ATTACHMENTS, CLOSURES, HARDWARE, ETC., SHALL BE AS SHOWN AND/OR IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
6. SUBMIT PROPOSED LIGHT GAGE CFS MANUFACTURERS DATA AND LOAD TABLES FOR REVIEW.
7. TOLERANCES TO COMPLY WITH ASTM C955.
8. WELDING TO COMPLY WITH COLD-FORMED STEEL ENGINEERS INSTITUTE TECH NOTE 5606-1 - WELDING COLD-FORMED STEEL.
9. REPAIR DAMAGED OR UNCOATED GALVANIZED COATINGS PER ASTM A780.
10. FRAMING MEMBERS SHALL BE CUT SQUARELY OR AT AN ANGLE AS REQUIRED TO FIT SQUARELY AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD FIRMLY IN PLACE UNTIL PROPERLY JOINED.
11. JOINING OF STRUCTURAL MEMBERS SHALL BE MADE WITH SELF-DRILLING SCREWS OR WELDING.
12. WIRE TYING OF FRAMING MEMBERS IN STRUCTURAL APPLICATIONS SHALL NOT BE PERMITTED.
13. ATTACHMENT OF COLLATERAL MATERIALS TO STEEL MEMBERS SHALL BE MADE WITH SELF-DRILLING SCREWS OR HARDENED SCREW SHANK NAILS.
14. STUDS SHALL SIT SQUARELY IN THE TOP AND BOTTOM RUNNER TRACK WITH FIRM ABUTMENT AGAINST TRACK WEBS. STUDS SHALL BE ALIGNED OR PLUMBED AND SECURELY FASTENED TO THE FLANGES OF BOTH TOP AND BOTTOM RUNNER TRACK.
15. BRIDGING TO BE SUPPLIED AND INSTALLED PER CFS STUD MANUFACTURER RECOMMENDATIONS (5'-0" O.C. MAX AND WITHIN 1'-0" OF DEFLECTION TRACKS).
16. LATERAL BRACING SHALL BE PROVIDED BY USE OF PLYWOOD SHEATHING, GYPSUM SHEATHING, OR BY HORIZONTAL STRAPS OR COLD-ROLLED CHANNELS. BRACING SHALL CONFORM TO SECTION D3 OF THE AISI SPECIFICATIONS.
17. LIGHT GAGE FRAMING CONNECTORS SPECIFIED BY PART NUMBER OR MODEL NAME ARE STANDARD CONNECTORS FABRICATED BY THE STEEL NETWORK (TSN), RALEIGH, N.C., 888-474-4876. CONNECTORS SHALL BE INSTALLED PER THE REQUIREMENTS OF THE LIGHT STEEL FRAMING CONNECTIONS CATALOG (LATEST EDITION) BY THE STEEL NETWORK, USING THE NUMBER/SIZE OF FASTENERS SHOWN IN THESE DRAWINGS. WHERE NUMBER/SIZE IS NOT SHOWN IN THESE DRAWINGS, USE THE FASTENERS SPECIFIED IN THE CATALOG TO OBTAIN THE MAXIMUM CAPACITY OF THE SPECIFIED CONNECTOR. SUBSTITUTION OF GENERIC BENT PLATE LIGHT GAGE CONNECTORS IS NOT ALLOWED WITHOUT DESIGN CALCULATIONS SHOWING EQUAL OR BETTER CAPACITY TO THE SPECIFIED TSN CONNECTOR, PREPARED AND SIGNED AND SEALED BY A FLORIDA REGISTERED ENGINEER EXPERIENCED IN LIGHT GAGE STEEL CONNECTION DESIGN.

## 055213 RAILINGS

1. ENGINEERED RAILING SYSTEM AND CONNECTION OF SAME TO THIS STRUCTURE SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.
2. THE CONFIGURATION OF THE RAILING SYSTEM SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS.
3. RAILING SYSTEM AND CONNECTIONS SHALL BE DESIGNED FOR APPLICABLE LOADS AS INDICATED ON THE DRAWINGS AND IN THE BUILDING CODE.
4. THE LOADS SHALL BE CLEARLY INDICATED ON SHOP DRAWINGS AND SHALL COMPLY WITH ALL APPLICABLE CODES.
5. SHOP DRAWINGS SHALL SHOW AND SPECIFY CONNECTIONS UTILIZED WITHIN THE RAILING SYSTEM AS WELL AS CONNECTIONS TO AND LOADS IMPOSED UPON THE STRUCTURAL SYSTEM SHOWN ON THESE DRAWINGS.
6. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.

## 055313 BAR GRATING

1. PROVIDE PLAIN STEEL BAR GRATING AND ACCESSORIES FABRICATED FROM THE FOLLOWING MATERIALS, UNLESS NOTED OTHERWISE.
   GALVANIZED: PROVIDE BAR MATERIAL CONFORMING TO ASTM A1011, WITH AN ALLOWABLE BENDING STRESS OF 18,000 PSI MINIMUM. GALVANIZED GRATING AND ATTACHMENTS PER ASTM 123. DETAIL AND FABRICATE GRATING IN A MANNER CONSISTENT WITH THE HOT DIP GALVANIZING PROCESS. NOTIFY THE ENGINEER OF ANY DESIGN REQUIREMENT THAT MAY RESULT IN DISTORTION, WARPING OR EMBRITTLEMENT.
   A. STAINLESS STEEL: PROVIDE BAR MATERIAL CONFORMING TO ASTM A666 TYPE 304 WITH AN ALLOWABLE BENDING STRESS OF 20,000 PSI MINIMUM.
   B. ALUMINUM: PROVIDE BAR MATERIAL CONFORMING TO ASTM B2221 WITH AN ALLOWABLE BENDING STRESS OF 12,000 PSI MINIMUM.
   C. TOE PLATE: WHERE TOE PLATE IS ATTACHED TO GRATING PROVIDE SAME MATERIAL AS GRATING.
   D. FASTENERS: PROVIDE SADDLE CLIPS WITH SAME MATERIAL AS SPECIFIED GRATING AND 3/16" MINIMUM DIAMETER SELF TAPPING STAINLESS STEEL SCREWS.
2. SUBMIT SHOP DRAWINGS WHICH ADEQUATELY DEPICT THE GRATING ELEMENTS, FASTENERS AND LAYOUT AS SHOWN IN THE CONTRACT DOCUMENTS.
3. UNLESS SPECIFICALLY NOTED AS TEMPORARY OR REMOVABLE ALL GRATING IS PERMANENT.
4. SECURELY FASTEN GRATING TO SUPPORTING STRUCTURE USING A MINIMUM OF 4 ANCHORS PER SHEET. PROVIDE ADDITIONAL ANCHORS AT INTERMEDIATE SUPPORTS. INSTALL GRATING SO BEARING BARS ARE IN COMPLETE CONTACT WITH SUPPORTING STRUCTURE. PROVIDE ADDITIONAL ANCHORS TO ELIMINATE BOWING OR CURLING.
5. PROVIDE PERMANENT TOE PLATE AT FLOOR OPENINGS, EQUIPMENT OPENINGS, AND ANNULAR SPACES AROUND PIPE PENETRATIONS GREATER THAN 1" AND LESS THAN 12" WIDE. HANDRAIL AT ALL OPENINGS GREATER THAN 12" IN WIDTH.
   A. WHERE HANDRAIL IS PRESENT, ATTACH TOE PLATE TO HANDRAIL.
   B. WHERE HANDRAIL IS NOT PRESENT, ATTACH TOE PLATE TO GRATING.
6. LOCATE GRATING TO PROVIDE A 1/2" TYPICAL, 1" MAX GAP BETWEEN THE EDGE OF GRATING AND ADJACENT WALL, SLAB OR OTHER STRUCTURE.
7. FIELD CUT ALL OPENINGS LESS THAN 6" IN ALL DIMENSIONS. PROVIDE TOE PLATE USING ONE OF THE FOLLOWING METHODS:
   A. CUT ROUND OPENING IN GRATING AND INSTALL PIPE SLEEVE.
   B. CUT SQUARE OPENING IN GRATING AND INSTALL TOE PLATE AS REQUIRED.
8. OBTAIN PRIOR APPROVAL FROM THE ENGINEER FOR ANY FIELD CUT OPENINGS GREATER THAN 6" IN ANY DIMENSION.
9. REPAIR ABANDONED OPENINGS BY ONE OF THE FOLLOWING METHODS AS APPROVED BY THE ENGINEER.
   A. REPLACE WITH A NEW GRATING.
   B. REMOVE TOE PLATE AND COVER OPENING WITH PLATE.
   C. REMOVE TOE PLATE AND FIT NEW PIECE OF GRATING INTO OPENING. THE OPENING SHALL BE CUT SQUARE BEFORE NEW PIECE IS PLACED. LAP BEARING BARS 2" MINIMUM AND FIELD VERIFY.

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OWNER / PROJECT:

# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

GENERAL NOTES

S0.3
PERMIT / BID SET

## GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
2. VERIFY ROUGH OPENING DIMENSIONS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO DEMO AND NEW CONSTRUCTION.

## STRUCTURAL ELEVATIONS

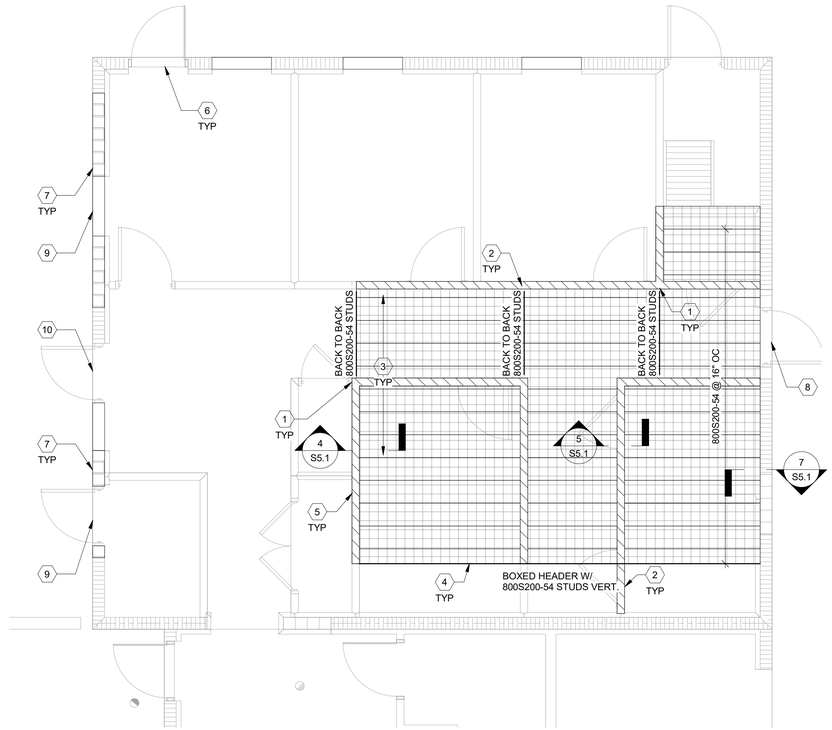
- T/ MEZZANINE EL. 12'-0"

## KEYNOTE LEGEND (#)

1. DENOTES LOCATION OF BACK TO BACK 362S200-54 STUDS. ALL HEADERS AND BEAMS TO BE SUPPORTED BY BACK TO BACK STUD JAMBS TYP.
2. DENOTES WALL FRAMED W/ 362S200-54 @ 16" OC MAX. SEE DETAIL 6/S5.1 FOR WALL TYP WALL BRIDGING.
3. DENOTES LOCATION OF BAR GRATING. BAR GRATING TO BE MCNICHOLS GW-75-A MIN.
4. SEE DETAIL 3/S5.1 FOR TRACK INFORMATION AND FASTENING PATTERN.
5. SEE ARCH FOR REMOVABLE RAILING EXTENTS. SEE DETAIL 10/S5.1 FOR REMOVABLE RAIL ATTACHMENT TO CFS FLOOR FRAMING.
6. NEW OPENING TO EXISTING CMU WALL, SEE 8/S5.1 FOR STEEL LINTEL INFORMATION. COORDINATE WIDTH AND HEIGHT OF OPENINGS WITH ARCH.
7. NEW INFILL CMU WALL, SEE DETAIL 9/S5.1 .
8. NEW OVER-SIZED LINTEL WITH BREAKAWAY CMU, SEE DETAIL 8/S5.1 FOR STEEL LINTEL INFORMATION. COORDINATE WIDTH AND HEIGHT OF OPENINGS WITH ARCH.
9. NEW CMU WALL OPENING IN INFILL CMU WALL. SEE DETAIL 1/S5.2 FOR LINTEL INFORMATION. COORDINATE NEW WALL OPENING WIDTH AND HEIGHTS WITH ARCH.
10. NEW CMU WALL OPENING IN INFILL CMU WALL. SEE DETAIL 8/S5.1 FOR STEEL LINTEL INFORMATION. COORDINATE NEW WALL OPENING WIDTH AND HEIGHTS WITH ARCH.




1 OVERALL FLOOR PLAN
1/8" = 1'-0"




2 ENLARGED MEZZANINE FRAMING PLAN
1/4" = 1'-0"

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# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

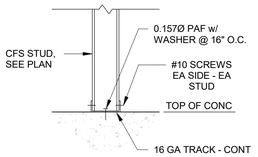
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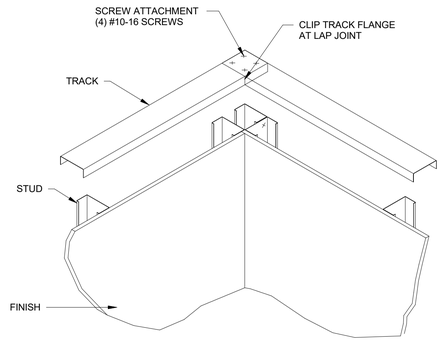
ISSUE DATE: NOVEMBER 14, 2025

FRAMING PLAN

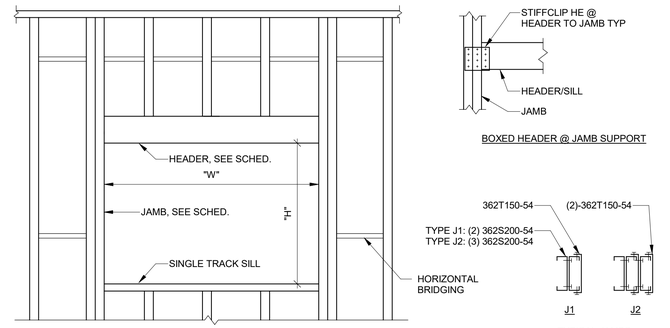
S1.1
PERMIT / BID SET




1 TYPICAL METAL STUD BOTTOM TRACK CONNECTION
3/4" = 1'-0"




2 WALL FRAMING AT CORNER TRACK LAP CONNECTION
3/4" = 1'-0"




3 TYPICAL CFS STUD WALL OPENING DETAIL AT LOAD BEARING STUDS
3/4" = 1'-0"

| LOAD BEARING WALL FRAMED OPENING SCHEDULE | | | |
|---|---|---|---|
| MAX. OPNG. WIDTH "W" | HEADER SIZE | STIFFCLIP HE TYPE AND SCREW PATTERN | JAMB TYPE |
| 4'-0" | (2)-600S200-68 | HE(L)-68 W/ 16/2 #10 SCREW PATTERN | TYPE J1 |
| 6'-0" | (2)-800S200-68 | HE(L)-43 W/ 20/4 #10 SCREW PATTERN | TYPE J1 |
| 9'-0" | (2)-800S200-97 | HE(H)-68 W/ 20/4 #10 SCREW PATTERN | TYPE J2 |
| | | | |

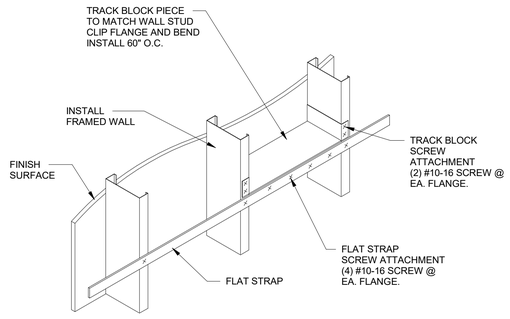
NOTES:
1. HEADER MEMBERS SHALL HAVE UNPUNCHED WEBS.
2. INSTALL STIFFCLIP HE PER MANUFACTURER'S RECOMMENDATIONS
3. ATTACH WALL BRIDGING TO JAMBS.
4. ASSEMBLE BOXED HEADER AND JAMBS USING #10 TEKS @ 12" O.C. AS SHOWN
5. HEADERS AND JAMB TYPES SHOWN VALID FOR INTERIOR CONDITIONS ONLY



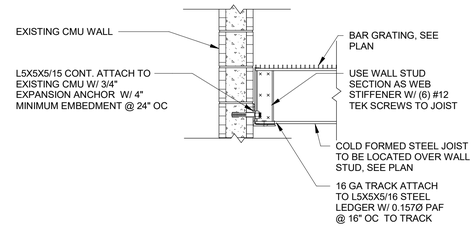

4 SECTION AT CFS JOIST TO CFS WALL STUD AT END CONDITION
3/4" = 1'-0"



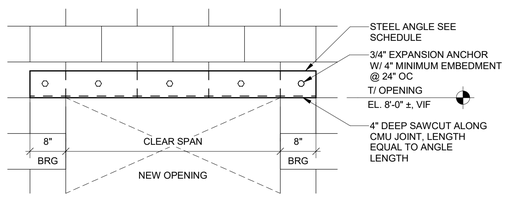

5 SECTION AT CFS JOIST TO CFS WALL STUD AT MID-SPAN CONDITION
3/4" = 1'-0"




6 BRIDGING SINGLE FLAT STRAP WITH BLOCKING
3/4" = 1'-0"




7 SECTION AT CFS JOIST TO EXISTING CMU WALL
3/4" = 1'-0"

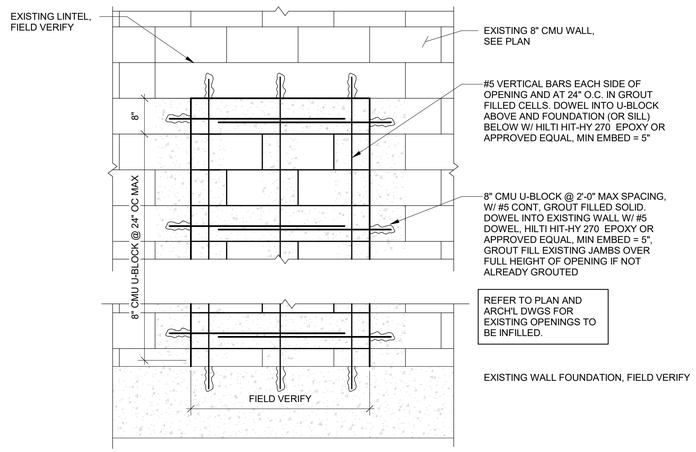



INTERIOR WALL OPENING LINTEL EXTERIOR WALL OPENING LINTEL

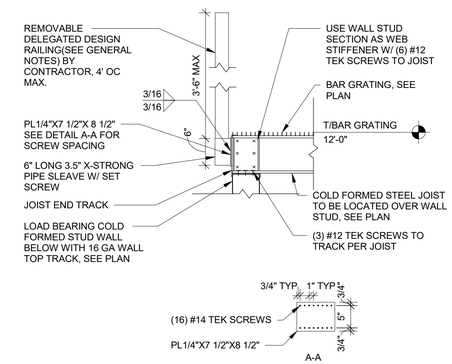
| STEEL ANGLE LINTEL SCHEDULE | | |
|---|---|---|
| CLEAR SPAN | INTERIOR WALLS STEEL ANGLE SIZE (LLV) | EXTERIOR WALLS STEEL ANGLE SIZE (LLV) |
| SPAN ≤ 4'-0" | (2)L4x4x1/4 | L5x3½x3/8 |
| 4'-0" ≤ SPAN ≤ 6'-8" | (2)L5x3½x1/4 | L6x6x1/2 |
| 6'-8" ≤ SPAN ≤ 8'-0" | (2)L6x4x3/8 | L8x6x1/2 |

NOTE:
SHORING OF ROOF STRUCTURE MAY BE REQUIRED DURING LINTEL INSTALLATION. CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHORING CAPABLE OF SUPPORTING LOADS.

8 STEEL LINTEL FOR OPENING IN EXISTING CMU WALL
3/4" = 1'-0"




9 TYPICAL CMU WALL INFILL @ EXISTING OPENING
3/4" = 1'-0"




10 REMOVEABLE RAIL DETAIL
3/4" = 1'-0"

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# ADDITION & RENOVATIONS PHASE 1

ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY

LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

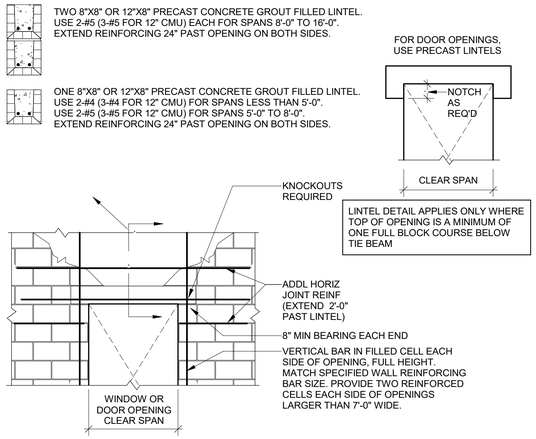
| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

STRUCTURAL DETAILS

S5.1

PERMIT / BID SET




1 TYPICAL MASONRY WALL OPENING LINTEL DETAIL
3/4" = 1'-0"

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OWNER / PROJECT:

# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|

ISSUE DATE: NOVEMBER 14, 2025

STRUCTURAL DETAILS

S5.2
PERMIT / BID SET

# HVAC SYMBOL LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | -CEILING DIFFUSER, ROUND NECK (CEILING DIFFUSERS ARE 4-WAY THROW UNO) |
| | -ROUND DIFFUSER |
| | -CEILING RETURN |
| | -CEILING EXHAUST |
| | -CEILING DIFFUSER, RECTANGULAR OR SQUARE NECK (CEILING DIFFUSERS ARE 4-WAY THROW UNO) |
| | -SUPPLY REGISTER OR GRILLE (VERTICAL MOUNT, SIDEWALL) |
| | -RETURN/EXHAUST REGISTER OR GRILLE (VERTICAL MOUNT, SIDEWALL) |
| 1 | -REVISION REFERENCE |
| 1 / M-1 | -DETAIL REFERENCE: TOP-DETAIL#, BOTTOM-DRAWING# SHOWN ON |
| T | -THERMOSTAT/TEMPERATURE SENSOR |
| H | -HUMIDISTAT/HUMIDITY SENSOR |
| S | -DUCT SMOKE DETECTOR |
| | -CONNECT TO EXISTING |
| | -DEMOLISH TO POINT INDICATED |
| M | -MOTORIZED CONTROL DAMPER |
| TS | -TEMPERATURE SENSOR |
| P | -PRESSURE SENSOR |
| BD | -BACKDRAFT DAMPER |
| | -NEUTRAL RELATIVE PRESSURE |
| | -POSITIVE RELATIVE PRESSURE |
| | -NEGATIVE RELATIVE PRESSURE |
| 1 | -SHEET NOTE CALLOUT |
| 1 | -SHEET NOTE CALLOUT |
| 1 | -SHEET NOTE CALLOUT |
| | -CEILING MOUNTED ACCESS DOOR |
| | -SQUARE THROAT ELBOW W/TURNING VANES |
| | -RADIUS ELBOW |
| | -RECTANGULAR/ROUND BRANCH TAKE-OFF OR ROUND/ROUND BRANCH TAKE-OFF |
| | -EXHAUST DUCT UP THROUGH SLAB W/ FAN ON ROOF ABOVE |
| | -EXHAUST FAN ON ROOF W/ DUCT DOWN THROUGH ROOF |

| SYMBOL | DESCRIPTION |
|---|---|
| | -FIRE DAMPER (WITH ACCESS PANEL) |
| | -COMBINATION FIRE & SMOKE DAMPER (WITH ACCESS PANEL) |
| | -SMOKE DAMPER (WITH ACCESS PANEL) |
| M | -MOTOR OPERATED CONTROL DAMPER (MOD) |
| | -MANUAL BALANCING DAMPER |
| SA-1 | -SOUND ATTENUATOR |
| FM | -AIR FLOW MEASURING STATION |
| | -DOOR GRILLE |
| 1/2" | -UNDERCUT DOOR |
| | -ACCESS DOORS, VERTICAL OR HORIZONTAL |
| | -STAINLESS STEEL DUCTWORK |
| | -FLEXIBLE CONNECTION |
| 12 / 8 | -NEW FLAT OVAL DUCT |
| 24x12 | -NEW DUCTWORK, FIRST DIMENSION IS SIDE SHOWN |
| | -EXISTING DUCTWORK TO REMAIN |
| | -EXISTING DUCTWORK TO BE REMOVED |
| 24x12 DOWN UP W/IN FLOOR | -DUCT ELBOW, POSITIVE PRESSURE (SUPPLY), FIRST DIMENSION INDICATES SIDE TO WHICH ARROW IS POINTING |
| | -DUCT ELBOW, EXHAUST |
| | -DUCT ELBOW, NEGATIVE PRESSURE, RETURN |
| | -DUCT ELBOW UP THROUGH ROOF OR SLAB ABOVE |
| | -RECTANGULAR DUCT SECTION UP, POSITIVE PRESSURE, SUPPLY OR OUTSIDE AIR |
| | -RECTANGULAR DUCT SECTION UP, NEGATIVE PRESSURE, RETURN |
| | -RECTANGULAR DUCT SECTION UP, EXHAUST |
| | -ROUND DUCT SECTION UP |
| | -FLAT OVAL DUCT SECTION UP |

| SYMBOL | DESCRIPTION |
|---|---|
| | -TERMINAL UNIT, VARIABLE/CONSTANT AIR VOLUME WITH ELECTRIC HEAT |
| | -TERMINAL UNIT, VARIABLE/CONSTANT AIR VOLUME WITH ELECTRIC HEAT |
| | -TERMINAL UNIT, VARIABLE/CONSTANT AIR VOLUME, FAN POWERED |
| | -TERMINAL UNIT, VARIABLE/CONSTANT AIR VOLUME, FAN POWERED, WITH ELECTRIC HEAT |
| | -ELECTRIC DUCT HEATER (W/ PANEL CLEARANCE) |
| | -HYDRONIC REHEAT COIL |
| | -INLINE CENTRIFUGAL FAN |
| | -PACKAGED TERMINAL AIR CONDITIONER (PTAC) |
| UP DN | -CHANGE OF ELEVATION |
| | -FLEXIBLE DUCT |
| | -TRANSITION, CONCENTRIC |
| | -TRANSITION, ECCENTRIC |
| 10x8 8" | -TRANSITION, SQUARE TO ROUND |
| | -SQUARE THROAT TEE |
| 12x8 | -RADIUS TEE |
| | -RECTANGLE-TO-ROUND TAKE-OFF |
| | -STANDARD BRANCH TAKE-OFF |
| | -SPIN-IN TAKE-OFF |

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

# HVAC ABBREVIATIONS

| SYMBOL | DESCRIPTION |
|---|---|
| AFD | -ADJUSTABLE FREQUENCY DRIVE |
| AFF | -ABOVE FINISHED FLOOR |
| AFR | -ABOVE FINISHED ROOF |
| AHU | -AIR HANDLING UNIT |
| AP | -ACCESS PANEL |
| BOP | -BOTTOM OF PIPE |
| BHP | -BRAKE HORSEPOWER |
| BTU | -BRITISH THERMAL UNIT |
| CL | -CENTER LINE |
| CFM | -CFM (CUBIC FEET PER MINUTE) |
| CD | -CEILING DIFFUSER |
| CT | -COOLING TOWER |
| CV | -CONSTANT AIR VOLUME |
| ΔP | -CHANGE IN PRESSURE |
| ΔT | -CHANGE IN TEMPERATURE |
| CFM | -CUBIC FEET PER MINUTE |
| CU | -CONDENSING UNIT |
| DDC | -DIRECT DIGITAL CONTROLS |
| DN | -DOWN |
| EAT | -ENTERING AIR TEMPERATURE |
| ESP | -EXTERNAL STATIC PRESSURE |
| EWT | -ENTERING WATER TEMPERATURE |
| FCU | -FAN COIL UNIT |
| FD | -FIRE DAMPER |
| FF | -FINAL FILTERS |
| FLA | -FULL LOAD AMPS |
| FPM | -FEET PER MINUTE |
| GPM | -GALLONS PER MINUTE |
| KW | -KILOWATT |
| LAT | -LEAVING AIR TEMPERATURE |
| LWT | -LEAVING WATER TEMPERATURE |

| SYMBOL | DESCRIPTION |
|---|---|
| LD | -LINEAR DIFFUSER |
| MBH | -THOUSAND BTUs PER HOUR |
| MCA | -MINIMUM CIRCUIT AMPS |
| MOCP | -MAXIMUM OVER CURRENT PROTECTION |
| MOD | -MOTOR OPERATED CONTROL DAMPER (MOD) |
| NC | -NORMALLY CLOSED |
| NO | -NORMALLY OPEN |
| NTS | -NOT TO SCALE |
| OA | -OUTSIDE AIR |
| OAL | -OUTSIDE AIR LOUVER |
| PRV | -PRESSURE REDUCING VALVE |
| PRS | -PRESSURE REDUCING STATION |
| PSI | -POUNDS PER SQUARE INCH |
| PSIG | -PSI GAUGE |
| PTAC | -PACKAGED TERMINAL AIR CONDITIONER |
| PVC | -POLYVINYL CHLORIDE PIPE |
| RA | -RETURN AIR |
| RHC | -REHEAT COIL |
| RHP | -ROOFTOP HEAT PUMP |
| RPM | -REVOLUTIONS PER MINUTE |
| RS/L | -REFRIGERANT SUCTION & LIQUID LINES |
| RTU | -ROOFTOP AIR HANDLING UNIT |
| SA | -SUPPLY AIR |
| SP | -STATIC PRESSURE |
| TSP | -TOTAL STATIC PRESSURE |
| UNO | -UNLESS NOTED OTHERWISE |
| V/PH | -VOLTS/PHASE |
| VAV | -VARIABLE AIR VOLUME |
| VFD | -VARIABLE FREQUENCY DRIVE |

# APPLICABLE CODES AND STANDARDS

STATE AND NATIONAL CODE REQUIREMENTS: CONFIRM IN STRICT COMPLIANCE TO THE LATEST ENFORCED EDITION OF THE STATE OF FLORIDA DEPARTMENT OF PROFESSIONAL REGULATION, AND THE FOLLOWING CODES:

FLORIDA FIRE PREVENTION CODE, 8TH EDITION (2023)
FLORIDA BUILDING CODE, 8TH EDITION (2023)
FLORIDA PLUMBING CODE, 8TH EDITION (2023)
FLORIDA MECHANICAL CODE, 8TH EDITION (2023)
FLORIDA FUEL GAS CODE, 8TH EDITION (2023)
FLORIDA ENERGY CODE, 8TH EDITION (2023)

NFPA 70, 2020 EDITION, NATIONAL ELECTRICAL CODE.
NFPA 72, 2019 EDITION, NATIONAL FIRE ALARM AND SIGNALING CODE.
NFPA 90A, 2021 EDITION, STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS.
NFPA 90B, 2021 EDITION, STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR-CONDITIONING SYSTEMS.
NFPA 101, 2021 EDITION, LIFE SAFETY CODE.

ASHRAE STANDARD 15, 2019 EDITION
ASHRAE STANDARD 34, 2019 EDITION
ASHRAE STANDARD 62.1, 2019 EDITION
SMACNA HVAC DUCT CONSTRUCTION STANDARDS, 2020 EDITION.

ASME/ANSI A17.1-2019, SAFETY CODE FOR ELEVATORS AND ESCALATORS.
ASME BOILER & PRESSURE VESSEL CODE, 2019 EDITION
ASME CSD-1, 2021 EDITION

PRODUCTS SHALL BE LISTED BY UNDERWRITERS LABORATORY, OR OTHER INDUSTRY-APPROVED TESTING AGENCY.

# HVAC GENERAL NOTES

1. CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.
2. DIMENSIONS SHALL BE FIELD-VERIFIED AND COORDINATED PRIOR TO PROCUREMENT OR FABRICATION. COORDINATE THE WORK WITH OTHER TRADES INVOLVED. FIELD MODIFICATIONS SUCH AS OFFSETS IN PIPING OR DUCTWORK (INCLUDING DIVIDED DUCTWORK) NEEDED DUE TO OBSTRUCTIONS OR INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST. FOR PROJECTS INVOLVING RENOVATION, COORDINATE NEW WORK WITH EXISTING ELEMENTS SUCH AS THE BUILDING STRUCTURE AND ARCHITECTURAL FEATURES, SPRINKLER PIPING, LIGHTS, PLUMBING, AND ELECTRICAL CONDUIT.
3. DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARD.
4. SEE SPECIFICATIONS FOR GAUGES, THICKNESS, BRACING, REQUIREMENTS, ETC., OF DUCTWORK.
5. PROVIDE AIR TURNING VANES IN ALL 90 DEGREE RECTANGULAR DUCT ELBOWS.
6. DUCT SIZES AND ALL OPENINGS THROUGH BUILDING CONSTRUCTION SHALL SUIT EQUIPMENT FURNISHED.
7. COORDINATE DIFFUSER, GRILLE AND REGISTER LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND EQUIPMENT OF ALL TRADES.
8. LOCATE THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS, AND HUMIDITY SENSORS AT 48" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE LOCATIONS WITH OTHER EQUIPMENT, FURNITURE, AND DOOR SWINGS.
9. ALL EQUIPMENT, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED AND/OR SPECIFIED. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO PROVIDE A VIBRATION-FREE, RIGID INSTALLATION.
10. ALL DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
11. DAMPERS AND INSIDES OF DUCTS VISIBLE THROUGH GRILLES, REGISTERS AND DIFFUSERS SHALL BE PAINTED FLAT BLACK.
12. REFER TO TYPICAL DETAILS FOR PIPING AND INSTALLATION OF EQUIPMENT.
13. TRAPPED CONDENSATE DRAINS FROM ALL MECHANICAL EQUIPMENT SHALL BE PROVIDED FOR PROPER DRAINAGE TO SUIT EQUIPMENT FURNISHED.
14. ACCESS PANELS IN DUCTWORK AND CEILINGS SHALL BE PROVIDED WHERE REQUIRED FOR OPERATION, BALANCING OR MAINTENANCE OF ALL MECHANICAL EQUIPMENT.
15. ALL DUCTWORK AND PIPING IS SHOWN SCHEMATICALLY. PROVIDE ALL TRANSITIONS, TURNING VANES, ELBOWS, FITTINGS, ETC., TO ALLOW SMOOTH FLOWS. ALL SPLIT DUCT FITTINGS SHALL TRANSITION TO FULL SIZE OF THE SUM OF BOTH BRANCHES, UPSTREAM OF SPLIT.
16. PROVIDE CONCRETE HOUSEKEEPING PAD UNDER ALL FLOOR-MOUNTED EQUIPMENT. REFER TO SPECIFICATIONS FOR DETAILED REQUIREMENTS.
17. VERIFY FINISH WITH ARCHITECT PRIOR TO PURCHASING GRILLES, REGISTERS, DIFFUSERS, LOUVERS AND OTHER AIR DISTRIBUTION DEVICES.
18. PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL DUCTWORK CONNECTING TO EACH FAN, AIR HANDLING UNITS, AND FAN COIL UNITS.
19. PROVIDE TRANSITIONS AT DIFFUSER NECKS AS REQUIRED TO MATCH SIZES OF FLEX DUCTS TO BE CONNECTED.
20. INTERRUPTIONS TO EXISTING SERVICES SHALL BE SCHEDULED FOR TIMES OTHER THAN NORMAL OPERATING HOURS (SUCH AS NIGHTS AND WEEKENDS). SUCH INTERRUPTIONS TO SERVICES SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER'S REPRESENTATIVE AND PROPER COORDINATION WITH OTHER TRADES. PRE-WORK SHALL BE PERFORMED TO MAKE THE SHUTDOWN PERIOD AS BRIEF AS POSSIBLE.
21. ALL EQUIPMENT, DUCTWORK, ETC., TO BE REMOVED SHALL REMAIN PROPERTY OF THE OWNER OR DISPOSED OF LEGALLY, AS DIRECTED BY OWNER.
22. MAINTAIN CLEARANCE OF A MINIMUM OF 6" BETWEEN DUCTWORK, PIPING, EQUIPMENT, ETC., AND ALL FIRE RATED AND FIRE/SMOKE RATED PARTITIONS, TO ALLOW FOR INSPECTIONS OF RATED WALLS.
23. LOCATE ALL OUTSIDE AIR INTAKES A MINIMUM OF 10' CLEAR FROM ALL PLUMBING VENTS AND EXHAUST AIR DISCHARGE LOCATIONS.
24. DUCT RUNOUTS TO DIFFUSERS SHALL MATCH THE SIZE OF THE DIFFUSER NECK.
25. UNLESS OTHERWISE NOTED, ALL EQUIPMENT AND VALVE DRAINS SHALL BE INDEPENDENTLY PIPED FULL SIZE TO THE NEAREST PLUMBING DRAIN.
26. SLEEVE AND SEAL ALL PIPING PENETRATIONS THROUGH BUILDING PARTITIONS. PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS IN CHILLED WATER AND HOT WATER PIPING.
27. PIPING, DUCTWORK, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO ELECTRICAL SWITCHBOARDS, PANELBOARDS, DISTRIBUTION BOARDS, OR MOTOR CONTROL CENTERS SHALL NOT BE INSTALLED WITHIN THE REQUIRED SPACE FOR WORKING CLEARANCES OR DEDICATED SPACES OF THE ELECTRICAL EQUIPMENT, EXTENDING IN FRONT OF AND FROM FLOOR TO STRUCTURAL CEILING WITH A WIDTH AND DEPTH OF THE ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC-110.26.

## AIR DEVICE SCHEDULE

| MARK | SYMBOL | CFM | NECK SIZE | FACE SIZE LENGTH | DESCRIPTION |
|---|---|---|---|---|---|
| A | | 000-110<br>111-200<br>201-330<br>331-470<br>471-640<br>641-740 | 6Ø<br>8Ø<br>10Ø<br>12Ø<br>14Ø<br>16Ø | 24x24<br>24x24<br>24x24<br>24x24<br>24x24<br>24x24 | BASIS OF DESIGN: METALAIRE 5800<br>SQUARE CONE DIFFUSER (3 CONES)<br>COLOR: WHITE<br>MATERIAL: ALUMINUM - SILICON COATED STEEL<br>OPPOSED BLADE DAMPERS: NO |
| | | 000-110<br>111-200<br>201-330 | 6 Ø<br>8Ø<br>10Ø | 12x12<br>12x12<br>12x12 | |
| B | | 000-900<br>901-2200 | 14x14<br>22x22 | 24x24<br>24x24 | BASIS OF DESIGN: METALAIRE CC5F<br>EGGCRATE FOR RETURN OR EXHAUST<br>COLOR: WHITE<br>MATERIAL: ALUMINUM<br>OPPOSED BLADE DAMPERS: NO |
| | | 000-600 | 12x12 | 12x12 | |
| C | | 000-130<br>131-170<br>171-260<br>261-360 | | 8x6<br>10x6<br>12X6<br>12X8 | BASIS OF DESIGN: METALAIRE V4002-D1<br>SIDEWALL SUPPLY GRILLE<br>COLOR: WHITE<br>MATERIAL: ALUMINUM<br>OPPOSED BLADE DAMPERS: YES<br>SURFACE MOUNT<br>SINGLE DEFLECTION<br>3/4" BLADE SPACING |
| D | | 000-160<br>161-300<br>301-460<br>461-600<br>601-800<br>801-1200<br>1201-2400 | | 8x8<br>10x10<br>12x12<br>14x14<br>28x12<br>24x16<br>36x24 | BASIS OF DESIGN: METALAIRE - RH-1<br>SIDEWALL RETURN OR EXHAUST<br>COLOR: WHITE<br>MATERIAL: ALUMINUM<br>OPPOSED BLADE DAMPERS: NO<br>CONCEALED SURFACE MOUNT<br>SINGLE 45° DEFLECTION<br>3/4" SPACING |

NOTES:
1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DETERMINATION OF APPROPRIATE BORDER TYPES FOR EACH AIR DEVICE.
2. AIR DEVICES LOCATED IN SMALL ROOMS WHERE FULL 24"x24" GRID ARE NOT AVAILABLE SHALL BE PROVIDED WITH SURFACE MOUNTING BORDERS IN LIEU OF LAY-IN. SECURE EACH DEVICE TO CEILING GRID WITH FIELD-FABRICATED SUPPORTS.
3. MAXIMUM NC RATING OF 25.

## AIR HANDLING UNIT SCHEDULE

| PLAN MARK | MANUFACTURER | MODEL | FAN DATA TOTAL / OA CFM | FAN DATA HP | FAN DATA EXT. SP (IN. WG) | COOLING COIL DATA NOMINAL TONS | COOLING COIL DATA CAPACITY TOTAL MBH | COOLING COIL DATA CAPACITY SEN. MBH | COOLING COIL DATA EAT DB | COOLING COIL DATA EAT WB | COOLING COIL DATA LAT DB | COOLING COIL DATA LAT WB | SEER | kW | ELECTRICAL DATA MCA | ELECTRICAL DATA MOP | ELECTRICAL DATA VOLTS | ELECTRICAL DATA PHASE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHU-3 | TRANE | 5TWA6036 | 1200 / 140 | 3/4 | 0.7 | 3 | 36 | 26 | 75 | 62 | 54 | 54 | 16 | 5.8 | 39 | 40 | 208 | 1 |

NOTES:
1. PROVIDE 2" MERV 8 FILTER
2. PROVIDE A DIGITAL, PROGRAMMABLE THERMOSTAT/HUMIDISTAT WITH AUTOMATIC CHANGEOVER.
3. PROVIDE INTEGRAL DISCONNECT.
4. PROVIDE AIR HANDLER WITH REFRIGERANT SENSOR AND ALARM.
5. INSTALL PER MANUFACTURERS INSTRUCTIONS FOR REFRIGERANT AND CONDENSATE DRAIN PIPING.

## CONDENSING UNIT SCHEDULE

| PLAN MARK | MANUFACTURER | MODEL | NOMINAL TONS | AMBIENT AIR TEMP °F) | REFRIG. | MCA | MOCP | VOLTS | PHASE |
|---|---|---|---|---|---|---|---|---|---|
| CU-3 | TRANE | 5TWA6036 | 3 | 95 | R-454B | 39 | 40 A | 208 | 1 |

NOTES:
1. PROVIDE ANTI-RECYCLE COMPRESSOR TIMER.
2. PROVIDE CONDENSER COIL GUARDS.
3. PROVIDE 5-YEAR COMPRESSOR WARRANTY.
4. SIZE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS.
5. PROVIDE DISCONNECT SWITCH.

## FAN SCHEDULE

| MARK | MANUFACTURER | MODEL | FAN TYPE | CFM | EX. SP. | DRIVE | POWER (W) | VOLT - PHASE |
|---|---|---|---|---|---|---|---|---|
| EF-50 | GREENHECK | SP-A90 | CEILING | 50 | 0.3 | DIRECT | 14 | 120 / 1 |

NOTES:
1. PROVIDE BACKDRAFT DAMPER.
2. PROVIDE VIBRATION ISOLATOR.
3. PROVIDE DISCONNECT SWITCH.
4. PROVIDE SPEED CONTROLLER.
5. PROVIDE INTERLOCK WITH LIGHT-SWITCH FOR RESTROOM.


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PROJECT NO: PSA2025-22.00

REVISIONS:

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MECHANICAL SYMBOLS, LEGEND, NOTES & INDEX

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# MECHANICAL SPECIFICATIONS

**SECTION 230010 - BASIC MECHANICAL REQUIREMENTS**
**PART 1 - GENERAL**
**1.1 RELATED DOCUMENTS**
A. BASIC REQUIREMENTS: REQUIREMENTS OF THE CONTRACT FORMS, CONDITIONS OF THE CONTRACT, SPECIFICATIONS, DRAWINGS, AND ADDENDA AND CONTRACT MODIFICATIONS (THE CONTRACT DOCUMENTS), APPLY TO THE REQUIREMENTS OF EACH SECTION OF DIVISION 23.
B. CONFLICTS: NOTHING CONTAINED IN THIS SECTION SHALL BE CONSTRUED TO CONFLICT IN ANY WAY WITH OTHER PROVISIONS OR REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE INTENT IS THAT THIS SECTION WILL TAKE PRECEDENCE. WHERE DIFFERENCES ARISE, THE ARCHITECT SHALL DECIDE WHICH DIRECTIONS OR INSTRUCTIONS TAKE PRECEDENCE.
1.2 SUMMARY
A. GENERAL: UNLESS AN ITEM IS SPECIFICALLY MENTIONED AS BEING PROVIDED BY OTHERS, THE REQUIREMENTS OF DIVISION 23 CONTRACT DOCUMENTS SHALL BE COMPLETED. THE SYSTEMS, EQUIPMENT, DEVICES AND ACCESSORIES SHALL BE INSTALLED, FINISHED, TESTED AND ADJUSTED FOR CONTINUOUS AND PROPER OPERATION. ANY APPARATUS, MATERIAL OR DEVICE NOT SHOWN ON THE DRAWINGS BUT MENTIONED IN THESE SPECIFICATIONS, OR VICE VERSA, OR ANY INCIDENTAL ACCESSORIES NECESSARY TO MAKE THE PROJECT COMPLETE AND OPERATIONAL IN ALL RESPECTS, SHALL BE FURNISHED, DELIVERED AND INSTALLED WITHOUT ADDITIONAL EXPENSE TO THE OWNER. INCLUDE ALL MATERIALS, EQUIPMENT, SUPERVISION, OPERATION, METHODS AND LABOR FOR THE FABRICATION, INSTALLATION, START-UP AND TESTS NECESSARY FOR COMPLETE AND PROPERLY FUNCTIONING SYSTEMS.
1.3 APPLICABLE STANDARDS
A. CODE COMPLIANCE: REFER TO DIVISION 1. AS A MINIMUM, UNLESS OTHERWISE INDICATED, COMPLY WITH ALL RULES, REGULATIONS, STANDARDS, CODES, ORDINANCES AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS AND THE AMENDMENTS AND INTERPRETATION OF SUCH RULES, REGULATIONS, STANDARDS, CODES, ORDINANCES AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS BY THE AUTHORITIES HAVING LAWFUL JURISDICTION.
B. ADA: COMPLY WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).
C. COMPLY: WITH THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AND OTHER CODES AND STANDARDS AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
D. COMPLY: WITH THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AND OTHER CODES AND STANDARDS INDICATED.
E. FLORIDA FIRE PREVENTION CODE, SIXTH EDITION (2020).
F.FLORIDA BUILDING CODE, SIXTH EDITION (2023): CONFORM IN STRICT COMPLIANCE TO THE FLORIDA BUILDING CODE (FBC) AND THE AMENDMENTS WHICH ARE ENFORCED BY THE LOCAL AUTHORITY HAVING JURISDICTION.
1.FLORIDA BUILDING CODE – MECHANICAL
2.FLORIDA BUILDING CODE – PLUMBING
3.FLORIDA BUILDING CODE – FUEL GAS
4.FLORIDA BUILDING CODE – ENERGY CONSERVATION

1.7 RECORD DRAWINGS
A. PRODUCTION: MAINTAIN ONE SET OF BLACK OR BLUE LINE ON WHITE PROJECT RECORD "AS-BUILT" DRAWINGS AT THE SITE. AT ALL TIMES THE SET SHALL BE ACCURATE, CLEAR, AND COMPLETE, INDICATING THE ACTUAL INSTALLATION. RECORD DRAWINGS SHALL BE UPDATED WEEKLY TO RECORD THE PRESENT STAGE OF PROGRESS. THESE DRAWINGS SHALL BE AVAILABLE TO THE ARCHITECT AT ALL TIMES. EQUIPMENT SCHEDULES, CONTROL DIAGRAMS, SEQUENCES OF OPERATION SHALL ALSO BE UPDATED.
B. COMPLETION: TO SUBSTANTIAL COMPLETION, TRANSFER ONTO AN UNMARKED SECOND SET OF DRAWINGS ALL CHANGES, MARKED IN COLORED PENCIL, AND SUBMIT THEM TO THE ARCHITECT. UPON COMPLETION OF ALL PUNCH LISTS, TRANSFER ALL "AS-BUILT" CONDITIONS TO THE AUTOCAD DRAWING FILES, PACKAGE THREE (3) PRINT SETS OF FULL SIZE DRAWINGS AND TWO (2) CDS OF THE AUTOCAD DRAWING FILES WITH ASSOCIATED REFERENCE FILES AND SUBMIT THEM TO THE ARCHITECT FOR REVIEW AND APPROVAL.
1.8 SUBMITTAL
A. GENERAL: THE PROVISIONS OF THIS SECTION ARE SUPPLEMENTAL TO THE REQUIREMENTS IN DIVISION 1, AND ONLY APPLY TO THE MATERIAL AND EQUIPMENT COVERED IN DIVISION 23.
B. TIME: SUBMIT MANUFACTURER'S LITERATURE, PERFORMANCE DATA AND INSTALLATION INSTRUCTIONS COVERED IN EACH SECTION OF DIVISION 23 UNDER AN INDIVIDUAL LETTER OF TRANSMITTAL WITHIN 30 DAYS AFTER NOTICE TO PROCEED UNLESS OTHERWISE INDICATED.

A. GENERAL NOTES

THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUALIFIED IN THE CONTRACTORS BID. SUBMITTAL OF A BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS SHALL BE INCLUDED. FAILURE TO VISIT THE SITE DOES NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY IN PERFORMANCE OF WORK.

CONSTRUCTION WORK SHALL BE PROVIDED DURING A PRE-SCHEDULED WEEKEND WITH WORK HOURS STARTING AT 4 PM ON A GIVEN FRIDAY AND CONCLUDED BY 7 AM ON THE FOLLOWING MONDAY. EXTENDED HOLIDAY WORK IS ACCEPTABLE IS CALENDAR ALLOWS. CHILLER SHALL BE UP AND RUNNING DURING THE FOLLOWING BUSINESS DAY OF THE CONCLUDED WEEKEND. CONTRACTOR SHALL INCLUDE OFF-TIME AND EXTENDED HOURS AS REQUIRED FOR THE COMPLETE INSTALLATION.

B. GENERAL REQUIREMENTS

THIS CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, AND FACILITIES NECESSARY TO PROVIDE A COMPLETE HVAC SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS AND AS REQUIRED BY JOB CONDITIONS. ALL WORK SHALL BE PERFORMED IN A NEAT, PROFESSIONAL MANNER USING GOOD CONSTRUCTION PRACTICES.

FIELD MEASURE AND VERIFY REQUIREMENTS FOR EXACT DIMENSION'S. OFFSETS AND ELBOWS REQUIRED TO SUIT SITE CONDITIONS ARE CONSIDERED PART OF THE SCOPE.

D. LICENSES, PERMITS, INSPECTIONS & FEES

THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS AND FEES REQUIRED OR RELATED TO THE SPECIFIED WORK. FURNISH TO THE (OWNER) ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

E. GUARANTEE

THIS CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORK PROVIDED UNDER HIS/HER CONTRACT AND SHALL MAKE GOOD, REPAIR OR REPLACE AT HIS/HER OWN EXPENSE, ANY DEFECTIVE WORK, MATERIAL OR EQUIPMENT DISCOVERED WITHIN A PERIOD OF 12 MONTHS FROM THE DATE OF ACCEPTANCE (IN WRITING) OF THE INSTALLATION. EXTENDED WARRANTIES ARE AS SPECIFIED WITH INDIVIDUAL EQUIPMENT.

F. DEMOLITION

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DEMOLITION OF EXISTING

WORK AND THE RENOVATION WORK.
THIS CONTRACTOR SHALL INCLUDE AND WILL BE HELD RESPONSIBLE FOR, THE REMOVAL OF ALL EXISTING DUCTS AND ASSOCIATED EQUIPMENT NOT TO BE REUSED ON THIS PROJECT. ALL EXTRANEOUS ITEMS IN THE SPACE, OR ASSOCIATED WITH THE SPACE, MUST BE REMOVED AND THE CEILING SYSTEM SHALL BE PATCHED/REPAIRED TO MATCH EXISTING SURROUNDINGS.

DIRT AND DUST CONTROL:

SCREEN OFF ALL AREAS WHERE CONSTRUCTION IS TO TAKE PLACE FROM THE AREAS TO REMAIN INHABITED. INHABITED AREAS SHALL REMAIN DUST AND DEBRIS FREE DURING CONSTRUCTION. CLEAN ANY AREAS OUTSIDE DESIGNATED CONSTRUCTION AREA WHICH MAY HAVE BECOME SOILED DUE TO CONSTRUCTION.

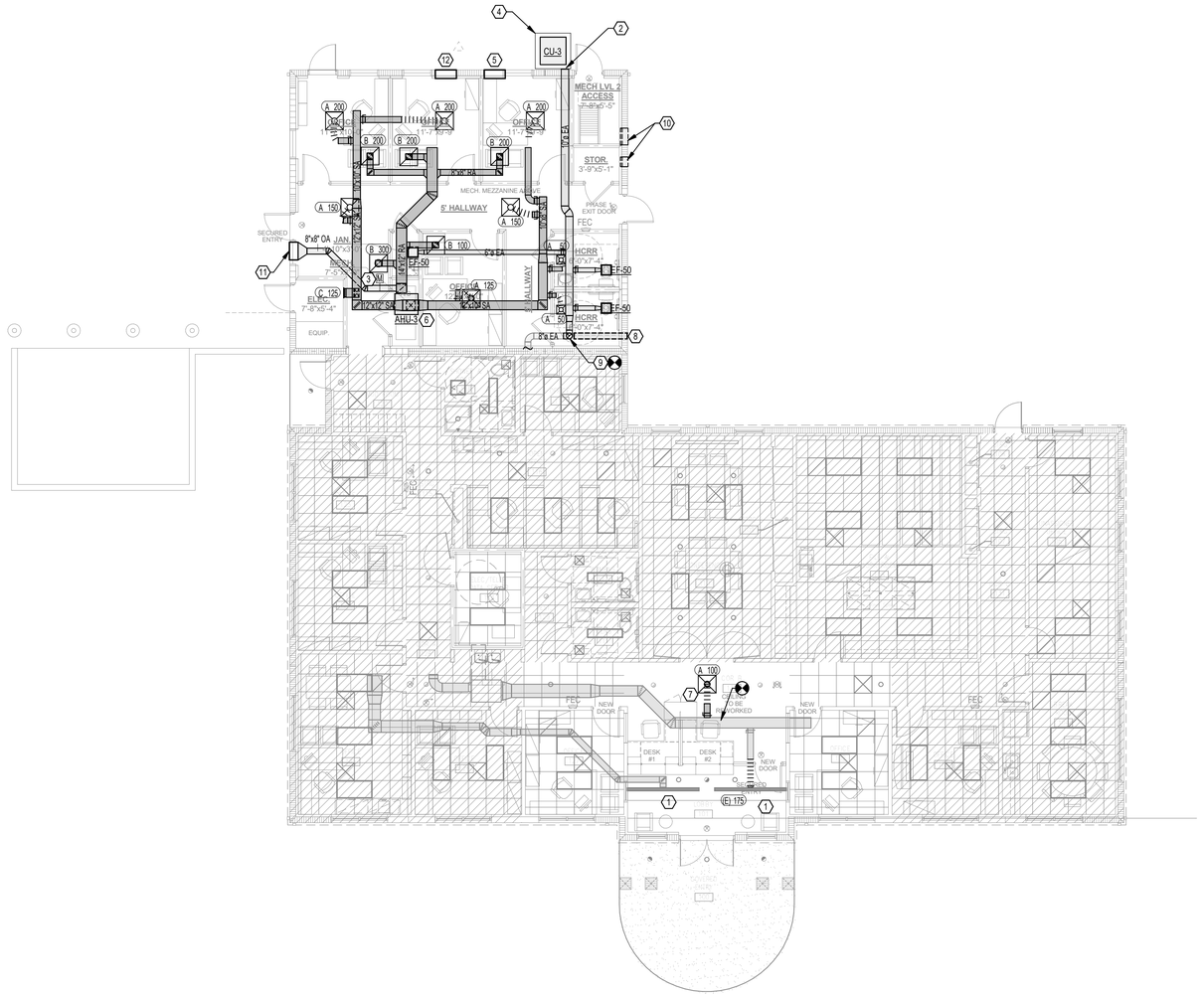
C. SUBMITTER'S REVIEW: ALL ITEMS REQUIRED FOR EACH SECTION SHALL BE REVIEWED BEFORE SUBMITTAL. SUBMITTAL INFORMATION FOR EACH ITEM SHALL BEAR A REVIEW STAMP OF APPROVAL, INDICATING THE NAME OF THE CONTRACTOR AND SUBCONTRACTOR (WHERE APPLICABLE), THE MATERIAL SUPPLIERS, THE INITIALS OF SUBMITTER AND DATE CHECKED. RESPONSIBILITY FOR ERRORS OR OMISSIONS IN SUBMITTALS SHALL NOT BE RELIEVED BY THE ARCHITECT'S REVIEW OF SUBMITTALS. RESPONSIBILITY FOR SUBMITTALS CANNOT BE SUBROGATED TO MATERIAL SUPPLIERS BY CONTRACTORS OR SUBCONTRACTORS.
1.REVIEW OF THE SUBMITTAL DATA, WHETHER INDICATED WITH "APPROVED" OR WITH REVIEW COMMENTS, DOES NOT CONSTITUTE AUTHORIZATION FOR OR ACCEPTANCE OF A CHANGE IN THE CONTRACT PRICE.
D. ARCHITECT'S REVIEW: THE SUBMITTAL DATA SHALL BE REVIEWED ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. ANY ACTION INDICATED IS SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. REVIEWS OF SUBMITTAL DATA REVIEW SHALL NOT INCLUDE QUANTITIES; DIMENSIONS (WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE); FABRICATION PROCESSES; TECHNIQUES OF CONSTRUCTION; AND CO-ORDINATION OF THE SUBMITTAL DATA WITH ALL OTHER TRADES. COPIES OF THE SUBMITTAL DATA WILL BE RETURNED MARKED "ACCEPTED AS SUBMITTED", "ACCEPTED AS NOTED", "REVISED AS NOTED AND RESUBMIT", "REJECTED, REVISED AS NOTED AND RESUBMIT".
E. SUBMITTAL ITEMS: SUBMITTAL ITEMS SHALL BE INSERTED IN A TECHNICAL INFORMATION BROCHURE. MARK THE APPROPRIATE SPECIFICATION SECTION OR DRAWING REFERENCE NUMBER IN THE RIGHT HAND CORNER OF EACH ITEM. ALL TYPEWRITTEN PAGES SHALL BE ON THE PRODUCT OR EQUIPMENT MANUFACTURER'S PRINTED LETTERHEAD.
1.MANUFACTURER'S LITERATURE: WHERE INDICATED, INCLUDE THE MANUFACTURER'S PRINTED LITERATURE. LITERATURE SHALL BE CLEARLY MARKED TO INDICATE THE ITEM INTENDED FOR USE.
2.PERFORMANCE DATA: PROVIDE PERFORMANCE DATA, WIRING AND CONTROL DIAGRAMS AND SCALE DRAWINGS WHICH SHOW THAT PROPOSED EQUIPMENT WILL FIT INTO ALLOTTED SPACE (INDICATE AREAS REQUIRED FOR SERVICE ACCESS, CONNECTIONS, ETC.), AND OTHER DATA REQUIRED FOR THE ARCHITECT TO DETERMINE THAT THE EQUIPMENT COMPLIES WITH THE CONTRACT DOCUMENTS. WHERE NOTED, PERFORMANCE DATA SHALL BE CERTIFIED BY THE MANUFACTURER AT THE DESIGN RATING POINTS.
3.INSTALLATION INSTRUCTIONS: WHERE REQUESTED, EACH PRODUCT SUBMITTAL SHALL INCLUDE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. GENERIC INSTALLATION INSTRUCTIONS ARE NOT ACCEPTABLE. INSTRUCTIONS SHALL BE THE SAME AS THOSE INCLUDED WITH THE PRODUCT WHEN IT IS SHIPPED FROM THE FACTORY.
4.WRITTEN OPERATING INSTRUCTIONS: INSTRUCTIONS SHALL BE THE MANUFACTURER'S WRITTEN OPERATING INSTRUCTIONS FOR THE SPECIFIED PRODUCT. IF THE INSTRUCTIONS COVER MORE THAN ONE MODEL OR TYPE OF PRODUCT THEY SHALL BE CLEARLY MARKED TO IDENTIFY THE INSTRUCTIONS THAT COVER THE PRODUCT DELIVERED TO THE PROJECT. OPERATING INSTRUCTIONS SHALL BE SUBMITTED IMMEDIATELY AFTER THE PRODUCT OR EQUIPMENT SUBMITTAL HAS BEEN RETURNED FROM THE ARCHITECT MARKED "APPROVED" OR "APPROVED AS NOTED".
5.MAINTENANCE INSTRUCTIONS: INFORMATION SHALL BE THE MANUFACTURER'S PRINTED INSTRUCTIONS AND PARTS LISTS FOR THE EQUIPMENT FURNISHED. IF THE INSTRUCTIONS COVER MORE THAN ONE MODEL OR TYPE OF EQUIPMENT THEY SHALL BE MARKED TO IDENTIFY THE INSTRUCTIONS FOR THE FURNISHED PRODUCT. SUBMIT MAINTENANCE INSTRUCTIONS IMMEDIATELY AFTER THE PRODUCT OR EQUIPMENT SUBMITTAL HAS BEEN RETURNED FROM THE ARCHITECT MARKED "APPROVED" OR "APPROVED AS NOTED".

1.12 INSTRUCTION TO OWNER
A. GENERAL: INSTRUCTIONS TO THE OWNER SHALL BE BY COMPETENT REPRESENTATIVES OF THE MANUFACTURERS INVOLVED, WITH TIME ALLOWED FOR COMPLETE COVERAGE OF ALL OPERATING PROCEDURES. PROVIDE CLASSROOM INSTRUCTION AND FIELD TRAINING IN THE DESIGN, OPERATION AND MAINTENANCE OF THE EQUIPMENT AND TROUBLESHOOTING PROCEDURES. EXPLAIN THE IDENTIFICATION SYSTEM, OPERATIONAL DIAGRAMS, EMERGENCY AND ALARM PROVISIONS, SEQUENCING REQUIREMENTS, SEASONAL PROVISIONS, SECURITY, SAFETY, EFFICIENCY AND SIMILAR PROVISIONS OF THE SYSTEMS. ON THE DATE OF SUBSTANTIAL COMPLETION, TURN OVER THE PRIME RESPONSIBILITY FOR OPERATION OF THE MECHANICAL EQUIPMENT AND SYSTEMS TO THE OWNER'S OPERATING PERSONNEL.
C. SCHEDULING: SUBMIT ANY REMAINING REQUIRED ITEMS FOR CHECKING AT LEAST ONE WEEK BEFORE FINAL INSPECTION OF BUILDING. WHEN SUBMITTAL ITEMS ARE FOUND ACCEPTABLE, NOTIFY OWNER, IN WRITING, THAT AN "INSTRUCTION IN OPERATION CONFERENCE" MAY PROCEED. CONFERENCE WILL BE SCHEDULED BY THE OWNER. AFTER THE CONFERENCE, COPIES OF A MEMO CERTIFYING THAT THE "INSTRUCTION IN OPERATION CONFERENCE" AND "COMPLETED DEMONSTRATION" HAVE BEEN MADE WILL BY SIGNED BY OWNER AND THE INSTRUCTORS, AND ONE COPY WILL BE INSERTED IN EACH TECHNICAL INFORMATION BROCHURE.

**PART 2 - PRODUCTS**
**2.1 MANUFACTURERS**
A. SPECIFIED PRODUCTS: MANUFACTURER'S NAMES AND PRODUCT MODEL NUMBERS INDICATED ON THE DRAWINGS AND IN THESE SPECIFICATIONS ESTABLISH THE TYPE, STYLE, QUALITY, PERFORMANCE, AND SOUND RATING OF THE DESIRED PRODUCT. LISTING OF OTHER MANUFACTURERS INDICATES THAT THEIR EQUIVALENT PRODUCTS WOULD BE ACCEPTABLE IF THEY MEET THE SPECIFICATION REQUIREMENTS, THE SPECIFIC USE AND INSTALLATION SHOWN ON THE DRAWINGS, INCLUDING SPACE AND CLEARANCE REQUIREMENTS, AND THE ENERGY CONSUMPTION AND EFFICIENCY OF THE SPECIFIED PRODUCT. THE LISTING OF ADDITIONAL MANUFACTURERS IN NO WAY INDICATES THAT THE MANUFACTURER CAN PROVIDE AN ACCEPTABLE PRODUCT.
B. SPACE REQUIREMENTS: ALL MANUFACTURED PRODUCTS FURNISHED ON THIS PROJECT MUST HAVE THE REQUIRED SPACE AND SERVICE AREAS INDICATED IN THE MANUFACTURER'S PRINTED LITERATURE OR SHOWN ON THEIR SHOP DRAWING. WHEN THE MANUFACTURER DOES NOT INDICATE THE SPACE REQUIRED FOR SERVICING THE EQUIPMENT, THE SPACE SHOWN ON THE DRAWINGS OR AS REQUIRED BY THE ARCHITECT MUST BE PROVIDED.
2.2 MATERIAL AND EQUIPMENT
A. GENERAL: MATERIAL AND EQUIPMENT USED SHALL BE PRODUCED BY MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SIMILAR ITEMS, AND WITH A HISTORY OF SATISFACTORY USE AS JUDGED BY THE ARCHITECT.
B. SPECIFIED EQUIPMENT: EQUIPMENT SHALL BE THE CAPACITY AND TYPES INDICATED OR SHALL BE EQUIVALENT IN THE OPINION OF THE ARCHITECT. MATERIAL AND EQUIPMENT FURNISHED AND INSTALLED SHALL BE NEW, RECENTLY MANUFACTURED, OF STANDARD FIRST GRADE QUALITY AND DESIGNED FOR THE SPECIFIC PURPOSE. EQUIPMENT AND MATERIAL FURNISHED SHALL BE THE MANUFACTURER'S STANDARD ITEM OF PRODUCTION UNLESS SPECIFIED OR REQUIRED TO BE MODIFIED TO SUIT JOB CONDITIONS. SIZES, MATERIAL, FINISH, DIMENSIONS AND THE CAPACITIES FOR THE SPECIFIED APPLICATION SHALL BE PUBLISHED IN CATALOGS FOR NATIONAL DISTRIBUTION. RATINGS AND CAPACITIES SHALL BE CERTIFIED BY A RECOGNIZED RATING BUREAU. PRODUCTS SHALL BE COMPLETE WITH ACCESSORIES, TRIM, FINISH, SAFETY GUARDS AND OTHER DEVICES AND DETAILS NEEDED FOR A COMPLETE INSTALLATION AND FOR THE INTENDED USE AND EFFECT.
C. COMPATIBILITY: MATERIAL AND EQUIPMENT OF ONE AND THE SAME KIND, TYPE OR CLASSIFICATION AND USED FOR IDENTICAL OR SIMILAR PURPOSES SHALL BE MADE BY THE SAME MANUFACTURER. WHERE MORE THAN ONE CHOICE IS AVAILABLE, SELECT THE OPTIONS WHICH ARE COMPATIBLE WITH OTHER PRODUCTS ALREADY SELECTED. COMPATIBILITY IS A BASIC GENERAL REQUIREMENT OF PRODUCT SELECTION.
**PART 3 - EXECUTION**
**3.1 WORKMANSHIP**
A. GENERAL: THE INSTALLATION OF MATERIALS AND EQUIPMENT SHALL BE DONE IN A NEAT, WORKMANLIKE AND TIMELY MANNER BY AN ADEQUATE NUMBER OF CRAFTSMEN KNOWLEDGEABLE OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THEY SHALL BE SKILLED IN THE METHODS AND CRAFTSMANSHIP NEEDED TO PRODUCE A FIRST-QUALITY INSTALLATION. PERSONNEL WHO INSTALL MATERIALS AND EQUIPMENT SHALL BE QUALIFIED BY TRAINING AND EXPERIENCE TO PERFORM THEIR ASSIGNED TASKS. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S WRITTEN REQUIREMENTS.
B. ACCEPTABLE WORKMANSHIP: ACCEPTABLE WORKMANSHIP IS CHARACTERIZED BY FIRST-QUALITY APPEARANCE AND FUNCTION WHICH CONFORMS TO APPLICABLE STANDARDS OF BUILDING SYSTEM CONSTRUCTION AND EXHIBITS A DEGREE OF QUALITY AND PROFICIENCY WHICH IS JUDGED BY THE ARCHITECT AS EQUIVALENT OR BETTER THAN THAT ORDINARILY PRODUCED BY QUALIFIED INDUSTRY TRADESMEN.
C. PERFORMANCE: PERSONNEL SHALL NOT BE USED IN THE PERFORMANCE OF THE INSTALLATION OF MATERIAL AND EQUIPMENT WHO, IN THE OPINION OF THE ARCHITECT, ARE DEEMED TO BE CARELESS OR UNQUALIFIED TO PERFORM THE ASSIGNED TASKS. MATERIAL AND EQUIPMENT INSTALLATIONS NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, OR INSTALLED WITH SUBSTANDARD WORKMANSHIP IN THE OPINION OF THE ARCHITECT, SHALL BE REMOVED AND REINSTALLED BY QUALIFIED CRAFTSMEN AT NO CHANGE IN THE CONTRACT PRICE.
3.2 AIR CONVEYANCE SYSTEM MECHANICAL CLEANING (NEW DUCT INSTALLATION)
A. GENERAL: THE FOLLOWING CRITERIA SHALL BE USED FOR THE INSTALLATION OF ALL NEW HVAC AIR CONVEYANCE SYSTEMS (ACS).
B. QUALIFICATIONS: THE ENHANCED AIR CONVEYANCE SYSTEM CLEANING PROCEDURES SHALL BE PERFORMED BY THE CONTRACTOR. MICROBIOLOGICAL ANALYSIS SHALL BE PERFORMED BY A FIRM WHICH IS ACCEPTABLE TO THE ARCHITECT AND WHICH CAN DEMONSTRATE THEIR ABILITY TO CONDUCT THE REQUIRED ANALYSIS AND REPORTING ACCORDING TO THE NADCA AND NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH) METHODS. SUBMIT FOR REVIEW AND ACCEPTANCE BY THE ARCHITECT THE PROPOSED PROCEDURE METHODOLOGIES TO BE UTILIZED, A LISTING OF THE PROPOSED EQUIPMENT TO BE USED, AND THE PROPOSED CHEMICAL AGENTS TO BE USED. A MOCK-UP CLEANING STATION AND PROCEDURAL PRESENTATION OF CLEANING PROCESS SHALL BE PERFORMED AT LEAST THREE MONTHS PRIOR TO ANY DUCTWORK INSTALLATION FOR REVIEW BY THE ARCHITECT
A. C. CLEANING PROCEDURE: ALL DUCTWORK TRANSPORTED TO THE PROJECT SHALL BE PROTECTED FROM WEATHER AND DEBRIS. EACH HVAC DUCT SECTION SHALL PRIOR TO INSTALLATION, BE CLEANED AND DISINFECTED AT AN APPROVED CLEANING STATION ESTABLISHED ON-SITE.

10. AI HANDLING UNIT
A. APPLICABLE STANDARDS
a. NFPA: ALL MATERIALS AND ADHESIVES USED SHALL CONFORM TO THE REQUIREMENTS OF NFPA 90A AND NFPA 255 WITH FLAME SPREAD NOT EXCEEDING 25 AND SMOKE DEVELOPED RATINGS NOT EXCEEDING 50. THE INSTALLATION OF GAS FIRED EQUIPMENT SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 54.
b. ASHRAE: PACKAGED UNITS SHALL BE DESIGNED TO CONFORM TO ASHRAE 15-92.
c. UL AND CSA: UNITS SHALL BE UL LISTED AND CSA CERTIFIED AS A TOTAL PACKAGE.
d. NRCA: ROOF CURBS WHERE INDICATED SHALL BE DESIGNED TO CONFORM TO NRCA STANDARDS.
e. ARI: CAPACITIES SHALL BE RATED IN ACCORDANCE WITH ARI STANDARD 210/240 OR ARI STANDARD 360.
B. GENERAL REQUIREMENTS
a. EACH UNIT SHALL BE FACTORY ASSEMBLED AND FACTORY TESTED.
b. CABINET: DESIGNED AND BUILT FOR CLASSROOM INSTALLATION.
c. CONDENSATE DRAIN PAN: THE CONDENSATE DRAIN PAN SHALL BE GALVANIZED STEEL COATED WITH CORROSION-RESISTANT ELASTOMERIC-BASED MATERIAL. THREADED PIPE CONNECTIONS SHALL BE PROVIDED ON ONE SIDE ONLY AND THE PAN SHALL SLOPE TOWARD THE CONNECTION TO PREVENT STANDING WATER.
d. ACCESS PANELS: REMOVABLE OR HINGED INSULATED ACCESS PANELS SHALL PROVIDE ACCESS TO THE COMPRESSOR SECTION, COOLING COIL, DRAIN PAN, INTERNAL FAN DRIVE AND FILTER SECTION.
C. FANS
a. EVAPORATOR FAN AND MOTOR: EVAPORATOR FANS SHALL BE FORWARD CURVED, CENTRIFUGAL-TYPE WITH ADJUSTABLE BELT DRIVE. FAN AND MOTOR BEARINGS SHALL BE PERMANENTLY LUBRICATED. FAN MOTOR SHALL HAVE THERMAL OVERLOAD PROTECTION.
b. CONDENSER FAN AND MOTORS: CONDENSER FANS SHALL BE DIRECT-DRIVE, STATICALLY AND DYNAMICALLY BALANCED PROPELLER TYPE WITH ALUMINUM BLADES AND ELECTRO-COATED STEEL HUBS. FANS SHALL BE USED IN DRAW-THROUGH VERTICAL DISCHARGE POSITION. FAN MOTORS SHALL BE EITHER PERMANENTLY LUBRICATED TOTALLY ENCLOSED OR OPEN CONSTRUCTION WITH BALL OR SLEEVE BEARINGS AND SHALL HAVE BUILT-IN CURRENT AND THERMAL OVERLOAD PROTECTION.
D. COILS
a. THE COILS SHALL BE CONTINUOUS SEAMLESS COPPER TUBE WITH ALUMINUM PLATE FINS BONDED BY MECHANICAL EXPANSION OF THE TUBES. COILS SHALL BE PROOF TESTED TO 450 PSIG AND LEAK TESTED TO 300 PSIG AIR PRESSURE UNDER WATER. SUCTION AND DISTRIBUTOR HEADERS SHALL BE MADE OF COPPER TUBING. TUBE SHEETS SHALL BE OF 16 GAUGE GALVANIZED STEEL. RETURN BENDS SHALL BE DIE-FORMED, BRAZED TO TUBES AND HEADER AND SHALL BE SEAMLESS HARD-DRAWN COPPER TUBING.
b. ELECTRIC HEATING COILS: COILS SHALL BE UL, ETL, OR ARL LISTING FOR INSTALLATION DIRECTLY ON THE FAN DISCHARGE. COILS LESS THAN 5 KW SHALL BE SINGLE STAGE, ABOVE 5 KW SHALL BE TWO STAGE, UNLESS INDICATED OTHERWISE.
c. ELECTRIC HEATER ELEMENT SHALL BE CONSTRUCTED OF HEAVY-DUTY NICKEL CHROMIUM. 480 VOLT, THREE PHASE ELEMENTS SHALL BE INTERNALLY WYE CONNECTED WITH AUTOMATIC LINE BREAK HIGH LIMIT CONTROL. 208/240 VOLT, THREE PHASE ELEMENTS SHALL BE DELTA CONNECTED WITH PILOT DUTY AND SECONDARY BACKUP FUSE LINKS FOR AUTOMATIC RESET OF HIGH LIMIT CONTROLS. EACH HEATER SHALL BE PROVIDED WITH SINGLE POINT ELECTRIC POWER CONNECTION AND TERMINAL STRIP CONNECTIONS.
E. FILTERS
a. GENERAL: PROVIDE UNIT WITH 2 INCH THICK, 30% EFFICIENT FILTERS. UNLESS OTHERWISE INDICATED ALL FILTERS SHALL HAVE A FACE SIZE OF 24 INCHES BY 24 INCHES OR 24 INCHES BY 12 INCHES.
b. 30 PERCENT EFFICIENT FILTERS: FILTER MEDIA SHALL BE REINFORCED NON-WOVEN COTTON WITH POLYESTER TRACE FIBERS, TREATED WITH ADHESIVE AND CONTINUOUSLY LAMINATED TO A SUPPORTED STEEL WELDED WIRE GRID. THE DISPOSABLE FILTER MEDIA ENCLOSING FRAME SHALL BE RIGID WET-STRENGTH BEVERAGE BOARD WITH DIAGONAL SUPPORT MEMBERS. THE CLEAN RESISTANCE SHALL NOT EXCEED 0.30 INCHES OF WATER AT 500 FPM FACE VELOCITY.
c. ALTERNATE FILTERS: WHERE UNITS ARE NOT COMPATIBLE WITH 2" THICK FILTERS, PROVIDE UNIT WITH 1-INCH THICK DISPOSABLE FILTERS INSTALLED IN FILTER RACK. THE FILTERS SHALL BE ACCESSIBLE THROUGH AN INSULATED AND GASKETED ACCESS DOOR IN THE SIDE OF THE UNIT.
d. ORIGINAL AND SPARE FILTER SETS: PROVIDE CONSTRUCTION FILTER SET AND 2 SPARE FILTER SETS FOR EACH UNIT. PRIOR TO FINAL TESTING AND BALANCING, REPLACE EACH FILTER WITH A NEW FILTER SET.
F. INSTALLATION
a. DAMPERS: PROVIDE A DAMPER IN THE OUTSIDE AIR INTAKE THAT CLOSES WHENEVER THE UNIT FAN IS NOT ENERGIZED.
b. DUCT CONNECTIONS. AIR HANDLING & ROOFTOP UNITS SHALL BE PROVIDED WITH FLEXIBLE DUCT CONNECTIONS.
c. CONDENSATE PIPING FOR INDOOR AIR HANDLING UNITS: PROVIDE SCHEDULE 40 PVC CONDENSATE DRAIN PIPING WITH SOLVENT JOINTS FROM ALL EQUIPMENT WITH AIR COILS TO NEAREST ROOF OR FLOOR DRAIN OR AS INDICATED ON P SERIES DRAWINGS. SLOPE PIPING TO DRAIN AND TERMINATE WITH AIR GAP. PROVIDE UNISTRUT DRAIN SUPPORTS. INSULATE CONDENSTATE DRAIN WITH 3/4" ELASTROMETRIC INSULATION. PITCH 1/4" PER FOOT; IN NO CASE SHALL PITCH BE ANY LESS THAN 1/8" PER FOOT. PROVIDE A P-TRAP IN THE CONDENSATE PAN DRAIN CONNECTION AT THE AIR HANDLING UNIT.
G. CHILLED WATER PIPING
a.CHILLED-WATER PIPING, ABOVEGROUND, NPS 2 AND SMALLER, SHALL BE THE FOLLOWING:
1.TYPE L, DRAWN-TEMPER COPPER TUBING, WROUGHT-COPPER FITTINGS, AND SOLDERED OR PRESSURE-SEAL JOINTS.
B. CHILLED-WATER PIPING, ABOVEGROUND, NPS 2-1/2 AND LARGER, SHALL BE ANY OF THE FOLLOWING:
1.SCHEDULE 40 STEEL PIPE; GROOVED, MECHANICAL JOINT COUPLING AND FITTINGS; AND GROOVED, MECHANICAL JOINTS.

1. BASIC MATERIAL AND METHODS
A. SCOPE OF WORK
a. PROVIDE LABOR AND MATERIALS AS REQUIRED TO PROVIDE A FULLY FUNCTIONING AND COMPLETE HVAC SYSTEM AS INDICATED ON DRAWINGS. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT. FINAL LOCATIONS OF EQUIPMENT SHALL BE FIELD DETERMINED. ALL DISCREPANCIES ON DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING PRIOR TO SUBMISSION OF BIDS.
B. GENERAL AND SPECIAL CONDITIONS
a. ALL ARCHITECTURAL GENERAL AND SPECIAL CONDITIONS OUTLINED IN THE CONTRACT DOCUMENTS APPLY TO MECHANICAL SYSTEMS. ADDITIONALLY, WORK SHALL COMPLY WITH FLORIDA BUILDING CODE, 2017 EDITION, FLORIDA FIRE PREVENTION CODE 2007 EDITION, AND REGULATIONS OF THE LOCAL AUTHORITY HAVING JURISDICTION, NATIONAL FIRE PROTECTION ASSOCIATION, AND NATIONAL ELECTRICAL CODE. ALL EQUIPMENT SHALL CARRY THE UNDERWRITER'S LABORATORIES (UL) SEAL WHERE APPLICABLE.
C. QUALITY CONTROL
a. UNLESS OTHERWISE NOTED, PROVIDE NEW MATERIALS FREE OF DEFECTS. WHERE NO SPECIFIC WEIGHTS OR GRADES ARE SPECIFIED PROVIDE MATERIALS OF AN ACCEPTED STANDARD WEIGHT AND GRADE ACCORDING TO CODE AND GOVERNING STANDARDS BY ASHRAE, SMACNA, NFPA, AND UL. INSTALL ALL EQUIPMENT, PIPING, DUCTWORK, AND CONTROLS IN ACCORDANCE WITH CODES, GOVERNING STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS. FIRE PERFORMANCE CHARACTERISTICS OF INSTALLED MATERIALS SHALL BE RATED IN ACCORDANCE WITH ASTM E84. MAXIMUM FLAME SPREAD RATING SHALL BE 25 AND MAXIMUM SMOKE DEVELOPED RATING SHALL BE 50. SUPPLIED EQUIPMENT SHALL BE AS SCHEDULED OR OWNER APPROVED EQUAL IN QUALITY AND PERFORMANCE.
D. COORDINATION
a. COORDINATE ALL WORK FOR PROPER LOCATION, POWER, AND UTILITY REQUIREMENTS. SCHEDULE INSTALLATIONS TO AVOID CONFLICT AMONG TRADES. ADDITIONS TO THE CONTRACT FOR COORDINATION AMONG TRADES WILL NOT BE ALLOWED.
E. PENETRATIONS, CUTTING, AND PATCHING
a. SEAL ALL PIPING AND DUCT PENETRATIONS OF WALLS IN ACCORDANCE WITH ARCHITECTURAL DRA




1 MECHANICAL NEW WORK PLAN
1/8" = 1'-0"

KEYED NOTES:

1. PROVIDE NEW DUCTWORK CONNECTION REQUIRED TO RELOCATE EXISTING DIFFUSER TO NEW LOCATION.
2. PROVIDE NEW 24 x 16 HURRICANE RATED EXHAUST AIR LOUVER, BASIS OF DESIGN: GREENHECK - EVH-302-24x16. COORDINATE FINAL LOCATION WITH ARCHITECT.
3. PROVIDE MOTORIZED OUTDOOR AIR DAMPER
4. PROVIDE HOUSEKEEPING PAD FOR NEW CONDENSING UNIT, INSTALL TO PROVIDE ADEQUATE CLEARANCE FOR MECHANICAL EQUIPMENT.
5. EXISTING OUTDOOR AIR LOUVER IN AREA FOR DEMOLISHED GARAGE AREA. BLANK OFF, INSULATE, AND SEAL LOUVER, LOUVER TO REMAIN ON EXTERIOR.
6. PROVIDE NEW FLOOR MOUNTED AIR HANDLER, PROVIDE TRAPPED INSULATED CONDENSATE DRAIN PIPING AND ROUTE TO EXTERIOR, COORDINATE TERMINATION LOCATION WITH ARCHITECT/OWNER. SEE PLUMBING DRAWINGS FOR CONTINUATION.
7. PROVIDE NEW DIFFUSER OFF EXISTING DUCT, BALANCE NEW AND RELOCATED DIFFUSERS FOR CFM INDICATED.
8. DEMOLISH EXISTING EXHAUST DUCTWORK TO EXTERIOR LOUVER. BLANK OFF, INSULATE, AND SEAL LOUVER, LOUVER TO REMAIN ON EXTERIOR.
9. CONNECT NEW EXHAUST DUCTWORK TO EXISTING EXHAUST DUCT, PROVIDE OFFSET IN CEILING TO RUN UNDER MECHANICAL MEZZANINE SLAB, VERIFY FINAL CONNECTION AND ROUTING IN FIELD.
10. REMOVE EXISTING WALL MOUNTED EXHAUST FANS, BLANK OFF, INSULATE, AND SEAL LOUVER TO EXTERIOR, LOUVER TO REMAIN ON EXTERIOR.
11. PROVIDE NEW 24 x 16 HURRICANE RATED OUTDOOR AIR LOUVER, BASIS OF DESIGN: GREENHECK - EHV-550D-24x16. COORDINATE FINAL LOCATION WITH ARCHITECT.
12. EXISTING OUTDOOR AIR LOUVER FOR AHU-1 IN AREA, RETAIN AND PROTECT DURING CONSTRUCTION.

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OWNER / PROJECT:

# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

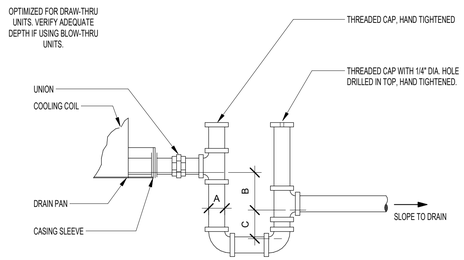
REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
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ISSUE DATE: NOVEMBER 14, 2025

MECHANICAL NEW WORK PLAN

M1.1
PERMIT / BID SET



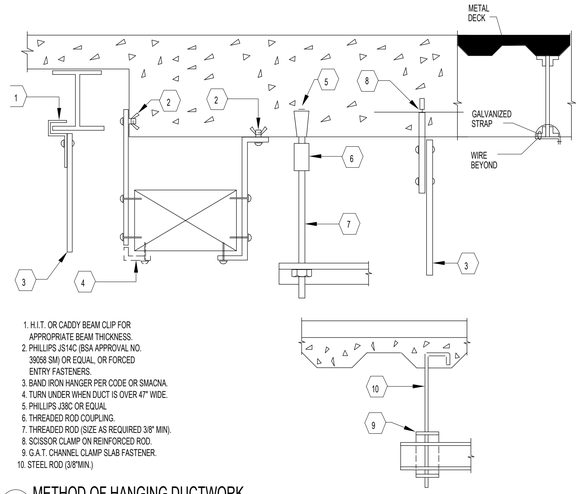

FOR ALL EQUIPMENT!!

CONDENSATE DRAIN PIPING DIMENSIONS:

A = FULL SIZE OF UNIT DRAIN CONNECTION
B > 1-1/2" TIMES FAN SUCTION STATIC PRESSURE
C > FAN DISCHARGE STATIC PRESSURE PLUS 1/2" INCH

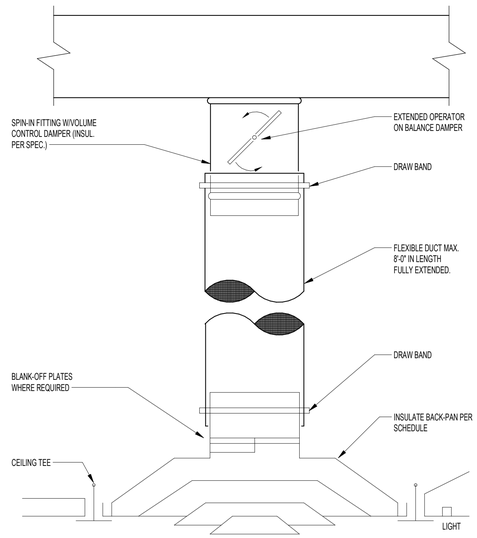
COORDINATE MOUNTING/CURB HEIGHT AS REQUIRED TO PROVIDE PROPER CONDENSATE DRAINAGE.

## 1 AHU CONDENSATE DRAIN TRAP
NOT TO SCALE

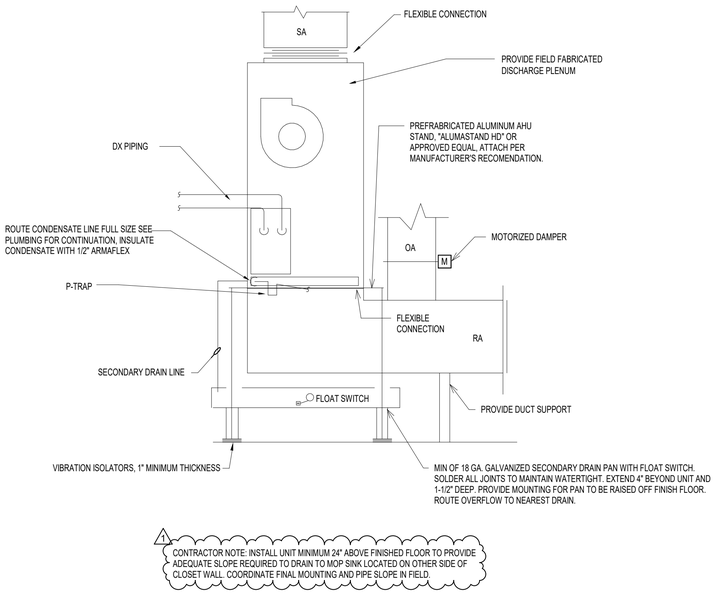



1. H.I.T. OR CADDY BEAM CLIP FOR APPROPRIATE BEAM THICKNESS.
2. PHILLIPS JS14C (BSA APPROVAL NO. 39058 SM) OR EQUAL, OR FORCED ENTRY FASTENERS.
3. BAND IRON HANGER PER CODE OR SMACNA.
4. TURN UNDER WHEN DUCT IS OVER 47" WIDE.
5. PHILLIPS JS8C OR EQUAL
6. THREADED ROD COUPLING.
7. THREADED ROD (SIZE AS REQUIRED 3/8" MIN).
8. SCISSOR CLAMP ON REINFORCED ROD.
9. G.A.T. CHANNEL CLAMP SLAB FASTENER.
10. STEEL ROD (3/8"MIN.)

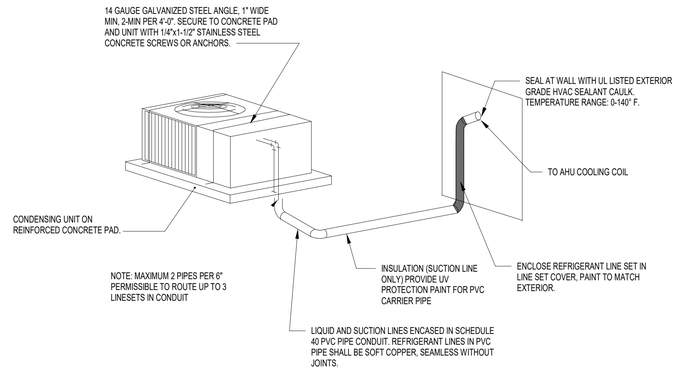
## 2 METHOD OF HANGING DUCTWORK
NOT TO SCALE



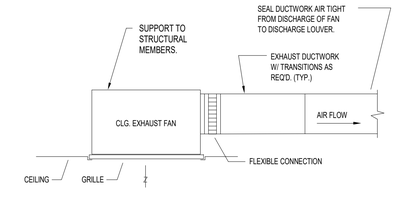

## 3 DIFFUSER MOUNTING
NOT TO SCALE



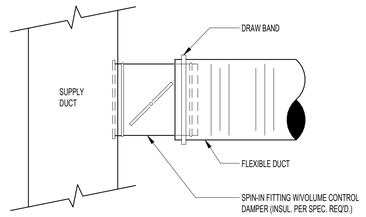

## 4 FLOOR MOUNTED AHU
NOT TO SCALE




## 5 REFRIGERANT PIPING
NOT TO SCALE




## 6 CEILING EXHAUST FAN
NOT TO SCALE




## 7 TYPICAL FLEX DUCT CONNECTION
NOT TO SCALE

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OWNER / PROJECT:

# ADDITION & RENOVATION PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| 1 | 12/05/25 | BD Response |

ISSUE DATE: NOVEMBER 14, 2025

MECHANICAL DETAILS

M3.0
PERMIT / BID SET

# ELECTRICAL SYMBOL LEGEND

## BASIC MATERIALS

| SYMBOL | DESCRIPTION |
|---|---|
| | DEVICE ABBREVIATION TAGS: |
| 6C | POKE-THRU WITH 6" CORE DRILL |
| 8C | POKE-THRU WITH 8" CORE DRILL |
| 4G | FOUR-GANG FLOOR BOX |
| 6G | SIX-GANG FLOOR BOX |
| 8G | EIGHT-GANG FLOOR BOX |
| AV | DOUBLE DUPLEX RECEPTACLE WITH DEDICATED CIRCUIT FOR AV RACK OR CART |
| C | RECEPTACLE CONTROLLED PER ASHRAE 90.1 (2010); PROVIDE POWER PACK FOR RECEPTACLE CIRCUIT, TO BE CONTROLLED THROUGH LOCAL ROOM OCCUPANCY SENSOR(S); PROVIDE DEVICE WITH BLUE DOT OR UNIVERSAL POWER SYMBOL |
| ETR | EXISTING TO REMAIN |
| H | HOSPITAL GRADE |
| IG | ISOLATED GROUND (ORANGE DEVICE) |
| RL | RELOCATED |
| TR | TAMPER RESISTANT |
| TV | RECEPTACLE MOUNTED ADJACENT TO TV OUTLET, COORDINATE HEIGHT W/ ARCHITECT |
| U | DUPLEX RECEPTACLE WITH (2) USB PORTS |
| WP | WEATHERPROOF |
| $S_a$ | SINGLE POLE SWITCH (SUBSCRIPT INDICATES ITEM CONTROLLED) |
| $S_3$ | THREE-WAY SWITCH |
| $S_4$ | FOUR-WAY SWITCH |
| $S_K$ | SINGLE POLE KEY SWITCH |
| $S_T$ | DIGITAL TIMER SWITCH W/ 5 MIN. WARNING FLASH |
| $S_{OSab}$ | WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH, DUAL RELAY |
| $S_{OS}$ | WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH |
| $S_{VS}$ | WALL MOUNTED DUAL TECHNOLOGY VACANCY SENSOR SWITCH |
| $S_{D,OS}$ | WALL MOUNTED DUAL TECHNOLOGY DIMMING/OCCUPANCY SENSOR SWITCH |
| $S_{LV}$ | LOW VOLTAGE SWITCH |
| $S_{LVO}$ | LOW VOLTAGE OVERRIDE SWITCH |
| $S_{LVD}$ | LOW VOLTAGE OVERRIDE SWITCH WITH DIMMING |
| $S_F$ | FAN SWITCH |
| $S_M$ | MOTOR RATED SWITCH |
| $S_D$ | DIMMER SWITCH, LINE VOLTAGE |
| OS | WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR |
| OS | CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR |
| DL | DAYLIGHT SENSOR CEILING MOUNTED |
| DL | DAYLIGHT SENSOR WALL MOUNTED |
| | NOTE: DIAGONAL MARKS INDICATED ON ANY DEVICE REPRESENTS DEVICE CONNECTED TO EMERGENCY CIRCUIT (RED DEVICE FOR RECEPTACLE); TYPICAL FOR ANY DEVICE IN LEGEND |
| | SINGLE RECEPTACLE |
| | DUPLEX RECEPTACLE |
| | TWO DUPLEX RECEPTACLES (QUAD) WITH COMMON COVERPLATE |
| | DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER |
| | TWO DUPLEX RECEPTACLES (QUAD) WITH COMMON COVER MOUNTED ABOVE COUNTER |
| | DUPLEX RECEPTACLE; EACH RECEPTACLE ON SEPARATE CIRCUIT (PROVIDE BREAKER WITH 2-POLE COMMON TRIP HANDLE) |
| | SPLIT-WIRED CONTROLLED DUPLEX RECEPTACLE |
| | GFCI RECEPTACLE; "WP" INDICATES CAST METAL "IN-USE" WEATHERPROOF COVER, WEATHER-RESISTANT LISTED |
| | TWO GFCI DUPLEX RECEPTACLES (QUAD) WITH COMMON COVERPLATE |
| | GFCI RECEPTACLE MOUNTED ABOVE COUNTER |
| | DUPLEX RECEPTACLE, CEILING MOUNTED |
| | TWO DUPLEX RECEPTACLES (QUAD) WITH COMMON COVERPLATE, CEILING MOUNTED |
| | FLOOR BOX WITH DUPLEX RECEPTACLE WITH APPROPRIATE FLANGE |
| | FLOOR BOX, TWO DUPLEX RECEPTACLES (QUAD) WITH APPROPRIATE FLANGE |
| | MULTI-SERVICE FLOOR BOX WITH DUPLEX RECEPTACLE, VOICE/DATA/AV DEVICES (REFER TO OWNER'S VENDOR DRAWINGS FOR LOW VOLTAGE REQUIREMENTS) |
| | MULTI-SERVICE FLOOR BOX WITH TWO DUPLEX RECEPTACLES (QUAD) , VOICE/DATA/AV DEVICES (REFER TO OWNER'S VENDOR DRAWINGS FOR LOW VOLTAGE REQUIREMENTS) |
| | MULTI-SERVICE POWER & DATA FLOOR BOX WITH FURNITURE FEED CONNECTION (REFER TO OWNER'S VENDOR DRAWINGS FOR LOW VOLTAGE REQUIREMENTS) |
| | SPECIAL PURPOSE RECEPTACLE, NEMA CONFIGURATION AS NOTED |
| | JUNCTION BOX WALL MOUNTED |
| | JUNCTION BOX MOUNTED IN OR ABOVE CEILING OR IN STRUCTURE |
| PP | WALL MOUNTED FURNITURE FEED POWER CONNECTION |
| PP | POWER POLE WITH POWER & DATA FURNITURE FEED POWER CONNECTIONS |
| PP | POWER POLE WITH POWER & DATA OUTLETS |
| | MULTI-SERVICE RACEWAY WITH 5-20R RECEPTACLES, 18" O.C. UNLESS OTHERWISE NOTED |
| GND | GROUND BUS BAR, COPPER |
| SPD | SURGE PROTECTIVE DEVICE |
| ST | SHUNT-TRIP PUSHBUTTON; SEMI-FLUSH WALL MOUNTED UNLESS OTHERWISE NOTED; NEMA 3R FOR EXTERIOR LOCATIONS |
| EPO | EMERGENCY POWER OFF SHUNT-TRIP PUSHBUTTON, RED MUSHROOM HEAD, CLEAR LEXAN PROTECTIVE COVER |
| | OVERHEAD DOOR PUSHBUTTON CONTROL STATION |
| | PUSHBUTTON STATION |
| | MOTOR CONNECTION |
| MD | MOTORIZED DAMPER CONNECTION |
| VFD | VARIABLE FREQUENCY DRIVE |
| DDC | DIRECT DIGITAL CONTROL PANEL |
| BAS | BUILDING AUTOMATION SYSTEM CONTROL PANEL |
| LCP | LIGHTING CONTROL PANEL |

| SYMBOL | DESCRIPTION |
|---|---|
| MH | MANHOLE |
| PB | PULLBOX |
| HH | HANDHOLE |
| T | TRANSFORMER |
| ATS | AUTOMATIC TRANSFER SWITCH |
| 30AR NF 3R | NEMA RATING; NEMA 1 UNLESS OTHERWISE NOTED<br>NON-FUSED DISCONNECT SWITCH, RATING AS NOTED<br>NF = NON-FUSED<br>AR = AMPERE RATING OF SWITCH<br>4X SS = NEMA 4X STAINLESS STEEL ENCLOSURE |
| 30AR 20AF 3R | NEMA RATING; NEMA 1 UNLESS OTHERWISE NOTED<br>FUSED DISCONNECT<br>AF = AMPERE RATING OF FUSE<br>AR = AMPERE RATING OF SWITCH<br>4X SS = NEMA 4X STAINLESS STEEL ENCLOSURE |
| MCP AMPERE RATING 30S 3R | # OF POLES<br>NEMA RATING; NEMA 1 UNLESS OTHERWISE NOTED<br>COMBINATION MAGNETIC MOTOR STARTER, SIZE AS NOTED, 3-POLE UNLESS OTHERWISE NOTED<br>4X SS = NEMA 4X STAINLESS STEEL ENCLOSURE<br>NEMA STARTER SIZE |
| | SWITCHBOARD/ SWITCHGEAR/ DISTRIBUTION PANEL |
| | BRANCH CIRCUIT PANELBOARD, OVER 240 VOLTS, SURFACE MOUNTED |
| | BRANCH CIRCUIT PANELBOARD, OVER 240 VOLTS, FLUSH MOUNTED |
| | BRANCH CIRCUIT PANELBOARD, UNDER 240 VOLTS, SURFACE MOUNTED |
| | BRANCH CIRCUIT PANELBOARD, UNDER 240 VOLTS, FLUSH MOUNTED |
| | CONDUIT CONCEALED ABOVE CEILING OR IN WALL |
| | CONDUIT EXPOSED |
| | CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDER FLOOR |
| | CONDUIT HOMERUN TO ELECTRICAL PANEL |
| UP | CONDUIT TURNING UP |
| DN | CONDUIT TURNING DOWN |
| | CONDUIT STUBBED OUT OR UP |
| | CONDUIT CONTINUED |
| | FLEXIBLE CONDUIT |
| | CONDUIT SEAL-OFF FITTING |
| | GROUND OR GROUND ROD AS NOTED |
| | EXISTING TO BE REMOVED (HEAVY, DASHED LINE) |
| | EXISTING TO REMAIN (LIGHT, SOLID LINE) |
| | NEW (HEAVY, SOLID LINE) |

## LIGHTING

| | |
|---|---|
| | STRIP FIXTURE |
| A | FIXTURE TYPE |
| A 2 B ZX-X | FIXTURE, RECESSED, PENDANT OR SURFACE CEILING<br>LOWER CASE LETTER INDICATES CONTROLLING SWITCH<br>CIRCUIT NUMBER<br>LIGHTING CONTROL ZONE NUMBER |
| | FIXTURE RECESSED, PENDANT OR SURFACE CEILING |
| | DIAGONAL HALF SHADING INDICATE FIXTURE CONNECTED TO CRITICAL CIRCUIT OR PROVIDED WITH INTEGRAL EMERGENCY BATTERY PACK; "E" AFTER FIXTURE TYPE TAG INDICATES INTEGRAL BATTERY PACK UNLESS OTHERWISE NOTED ON LIGHT FIXTURE SCHEDULE (TYPICAL FOR ALL LIGHT FIXTURE SYMBOLS)<br>FULL SHADING INDICATE FIXTURE CONNECTED TO LIFE SAFETY CIRCUIT. |
| | FIXTURE, WALL MOUNTED |
| | RECESSED, PENDANT OR SURFACE CEILING |
| | WALL MOUNTED |
| | CEILING WALLWASHER, ACCENT LIGHT, LANDSCAPING TREE ACCENT LIGHT, FACADE LIGHT |
| | TRACK WITH TRACK LIGHT FIXTURE (TRIANGLES INDICATE QUANTITY OF TRACK HEADS) |
| | EMERGENCY TWIN-HEAD LIGHT WITH INTEGRAL BATTERY PACK, WALL MOUNTED |
| | LINEAR RECESSED, PENDANT OR SURFACE CEILING |
| | EXTERIOR POLE-MOUNTED AREA LIGHT FIXTURE, ARMS AS INDICATED ON DRAWINGS |
| | EXTERIOR PEDESTRIAN SIDEWALK BOLLARD OR POST-TOP LIGHT FIXTURE |
| | EXIT LIGHT, CEILING OR PENDANT MOUNTED; DIRECTIONAL ARROWS AS INDICATED; SHADED QUADRANT INDICATES FACE(S) OF FIXTURE |
| | EXIT LIGHT, WALL MOUNTED |

## FIRE ALARM / DETECTION SYSTEM

| SYMBOL | DESCRIPTION |
|---|---|
| | NFPA / LEGACY |
| F F | MANUAL PULL STATION |
| S | CEILING SMOKE DETECTOR, PHOTOELECTRIC TYPE UNLESS OTHERWISE NOTED<br>E = ELEVATOR WITH RECALL CONTACTS<br>I = IONIZATION |
| S | DUCT SMOKE DETECTOR<br>R = RETURN<br>S = SUPPLY |
| $S_{BR}$ $B_R$ | BEAM SMOKE DETECTOR<br>BR OR R = BEAM DETECTOR RECEIVER<br>BT OR T = BEAM DETECTOR TRANSMITTER |
| H H | HEAT DETECTOR 135°F FIXED TEMPERATURE, UNLESS OTHERWISE NOTED, CEILING MOUNTED |
| R R | SUPERVISED ADDRESSABLE FIRE ALARM CONTROL RELAY |
| RT | DUCT SMOKE DETECTOR REMOTE TEST SWITCH WITH INDICATING LAMP, WALL MOUNTED AT 48" AFF, UNLESS OTHERWISE NOTED |
| F XXCD XXCD | COMBINATION HORN/STROBE, WALL MOUNTED, 75CD UNLESS OTHERWISE NOTED<br>CD = CANDELA RATING |
| H | HORN ONLY, WALL MOUNTED |
| F XXCD XXCD | STROBE, CEILING MOUNTED, 75 CD UNLESS OTHERWISE NOTED<br>CD = CANDELA RATING |
| FS XXCD | COMBINATION HORN/STROBE, CEILING MOUNTED, 75CD UNLESS OTHERWISE NOTED<br>CD = CANDELA RATING |
| S SS | SPEAKER ONLY, CEILING MOUNTED |
| S SS | SPEAKER ONLY, WALL MOUNTED |
| F | STROBE, WALL MOUNTED, 75CD UNLESS OTHERWISE NOTED |
| P | FIREMAN'S PHONE JACK |
| VS TS | SPRINKLER TAMPER SWITCH CONNECTION |
| WS FS | SPRINKLER WATERFLOW SWITCH CONNECTION |
| PS PS | PRESSURE SWITCH CONNECTION |
| DH | ELECTROMAGNETIC DOOR HOLD OPEN DEVICE |
| FACP FACP | FIRE ALARM CONTROL PANEL |
| FATC FATC | FIRE ALARM TERMINAL CABINET |
| FAA FAA | FIRE ALARM ANNUNCIATOR PANEL - FLUSH MOUNTED |
| EVAC EVAC | VOICE EVACUATION PANEL |
| MNS MNS | MASS NOTIFICATION SYSTEM PANEL |
| DACT DACT | MASS NOTIFICATION SYSTEM PANEL |

## AUDIO/VIDEO RACEWAY SYSTEM

| | |
|---|---|
| TV | TELEVISION SIGNAL WALL OUTLET, MOUNTED ADJACENT TO DUPLEX RECEPTACLE IDENTIFIED WITH "TV" ADJACENT TO DEVICE; REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT |
| $S_X$ | CEILING MOUNTED SPEAKER<br>X = ZONE TO BE CONTROLLED |
| S | WALL MOUNTED SPEAKER |
| VC | WALL-MOUNTED VOLUME CONTROL; PROVIDE 3/4" C. STUBBED UP ABOVE CEILING AND SINGLE STANDARD ELECTRICAL BOX AT 48" AFF |
| $MC_X$ | WALL-MOUNTED MASTER VOLUME CONTROL; PROVIDE 3/4" C. STUBBED UP ABOVE CEILING AND SINGLE STANDARD ELECTRICAL BOX AT 48" AFF<br>X = ZONE TO BE CONTROLLED |
| RCA | WALL-MOUNTED DUAL RCA JACKS FOR MP3 CONNECTION |
| AV | AUDIO/VISUAL CABINET OR RACK |

## INTERCOM SYSTEM

| | |
|---|---|
| ICEC | INTERCOM EQUIPMENT CABINET |
| $IC_M$ | INTERCOM MASTER STATION |
| $IC_{AP}$ | ADMINISTRATIVE PHONE |
| $IC_{HS}$ | HANDSET |
| $IC_{CS}$ | CALL STATION |
| $SX_Y$ | CEILING MOUNTED SPEAKER<br>"X" INDICATES TYPE<br>"Y" INDICATES ZONE |
| $SX_Y$ | WALL MOUNTED SPEAKER<br>"X" INDICATES TYPE<br>"Y" INDICATES ZONE<br>NO ZONE INDICATES LOCAL AUDIO/VIDEO SYSTEM |

## LIGHTNING PROTECTION SYSTEM

| | |
|---|---|
| CI | CLASS I MAIN CONDUCTOR CABLE |
| CII | CLASS II MAIN CONDUCTOR CABLE |
| | TEE SPLICE |
| | FOUR-WAY SPLICE |
| | BONDING PLATE |
| | PIPE CLAMP FOR PLUMBING VENT THRU ROOF. |
| | AIR TERMINAL; PROVIDE PARAPET TYPE BASE WHERE MOUNTED ON PARAPET; PROVIDE FLAT BASE FOR MECHANICAL EQUIPMENT OR ROOF PERIMETER WITH NO PARAPET; PROVIDE BLUNT TIP WHERE MOUNTED ON INTERIOR OF ROOF, UNLESS OTHERWISE NOTED ON LIGHTNING PROTECTION PLANS |
| P | PARAPET MOUNTED AIR TERMINAL |
| F | FLAT ROOF MOUNTED OR MECHANICAL |
| G | COUNTERPOISE CONDUCTOR |
| DN DN | THRU-ROOF CONDUCTOR |
| | GROUND TERMINAL |
| | BONDING CONDUCTOR |
| DN | DOWN CONDUCTOR |

## VOICE AND DATA RACEWAY SYSTEM

| SYMBOL | DESCRIPTION |
|---|---|
| | SINGLE-GANG 2-1/8"D ELECTRICAL BOX WITH BLANK COVER FOR VOICE/DATA OUTLET WITH 1" CONDUIT WITH PULL ROPE STUBBED UP AND INTO NEAREST ACCESSIBLE CEILING UNLESS OTHERWISE NOTED; PROVIDE WITH NYLON PULL STRING & SMOOTH BUSHING<br>C = ABOVE COUNTER |
| W | SINGLE-GANG 2-1/8"D ELECTRICAL BOX WITH BLANK COVER FOR TELEPHONE WALL OUTLET WITH 1" CONDUIT STUBBED UP AND INTO NEAREST ACCESSIBLE CEILING UNLESS OTHERWISE NOTED; PROVIDE WITH NYLON PULL STRING & SMOOTH BUSHING<br>W = WALL MOUNTED AT 52" AFF FOR HOUSE PHONE<br>W, ADA = WALL MOUNTED AT 44" AFF FOR ADA ACCESSIBLE PAY PHONE<br>ELV = WALL MOUNTED @ 52" AFF FOR TELEPHONE IN ELEVATOR MACHINE ROOM |
| WAP | WIRELESS ACCESS POINT OUTLET, CEILING MOUNTED; ACTUAL QUANTITY AND LOCATIONS SHALL BE BASED ON SIGNAL SURVEY BY OWNER'S WLAN VENDOR |
| | MULTI-SERVICE FLOOR BOX WITH RECEPTACLE AND TECHNOLOGY DEVICES (REFER TO OWNER'S VENDOR DRAWINGS FOR DEVICES); PROVIDE RACEWAY(S) AS INDICATED ON FLOOR PLANS |
| | MULTI-SERVICE FLOOR BOX WITH FURNITURE FEED CONNECTION; PROVIDE RACEWAY(S) AS INDICATED ON FLOOR PLANS |
| | 2-GANG 2-1/8"D ELECTRICAL BOX WITH BLANK COVER FOR WALL MOUNTED FURNITURE FEED DATA CONNECTION; PROVIDE RACEWAY(S) AS INDICATED ON FLOOR PLANS |
| P | MULTI-SERVICE POKE-THRU WITH RECEPTACLES AND TECHNOLOGY DEVICES (REFER TO OWNER'S VENDOR DRAWINGS FOR LOW VOLTAGE REQUIREMENTS), OR FURNITURE FEED CONNECTION; REFER TO POKE-THRU DETAILS AND FLOOR PLANS FOR RACEWAY INFORMATION |
| PP | POWER POLE WITH POWER & DATA FURNITURE FEED POWER CONNECTIONS (REFER TO OWNER'S VENDOR DRAWINGS FOR LOW VOLTAGE REQUIREMENTS); REFER TO FLOOR PLANS FOR RACEWAY INFORMATION |
| | 3/4"THICK X 8' HIGH A/C PLYWOOD BACKBOARD MOUNTED 6" AFF FROM BOTTOM, PAINTED WITH GRAY FIRE-RETARDANT PAINT, WIDTH AS INDICATED ON FLOOR PLAN |
| | CABLE TRAY FOR HORIZONTAL LOW VOLTAGE CABLE, 12"W X 4" HIGH UNLESS OTHERWISE NOTED; LADDER TYPE IN IDF/MDF/IT ROOMS, BASKET/MESH TYPE IN OTHER AREAS, UNLESS OTHERWISE NOTED |
| | 2-POST DATA RACK |
| | 4-POST DATA RACK |
| | WALL MOUNTED DATA RACK |

## ABBREVIATIONS

| | |
|---|---|
| A/C | AIR CONDITIONING |
| AC | ALTERNATING CURRENT |
| ADA | AMERICANS WITH DISABILITIES ACT |
| AF | AMPERE FRAME |
| AFF | ABOVE FINISHED FLOOR |
| AFG | ABOVE FINISHED GRADE |
| AHU | AIR HANDLING UNIT |
| AIC | AMPERE INTERRUPTING CAPACITY |
| AL | ALUMINUM |
| AMP | AMPERE |
| ANSI | AMERICAN NATIONAL STANDARDS INSTITUTE |
| ASA | AMERICAN STANDARDS ASSOCIATION |
| AT | AMPERE TRIP |
| ATS | AUTOMATIC TRANSFER SWITCH |
| AUX | AUXILIARY |
| AWG | AMERICAN WIRE GAUGE |
| BC | BARE COPPER |
| BAS | BUILDING AUTOMATION SYSTEM |
| BMS | BUILDING MANAGEMENT SYSTEM |
| CLG | CEILING |
| COAX | COAXIAL CABLE |
| COND | CONDUCTOR |
| CONN | CONNECTION |
| CT | CURRENT TRANSFORMER |
| CU | COPPER |
| CW | COLD WATER |
| DC | DIRECT CURRENT |
| DDC | DIRECT DIGITAL CONTROL |
| DEG | DEGREE |
| DF | DEMAND FACTOR |
| DISC | DISCONNECT |
| DISC SW | DISCONNECT SWITCH |
| DO | DRAW OUT |
| DN | DOWN |
| DPST | DOUBLE POLE SINGLE THROW |
| EDH | ELECTRIC DUCT HEATER |
| EMT | ELECTRIC METALLIC TUBING |
| EO | ELECTRICALLY OPERATED |
| EOL | END OF LINE |
| EOR | ENGINEER OF RECORD |
| ETR | EXISTING TO REMAIN |
| EWC | ELECTRIC WATER COOLER |
| FA | FIRE ALARM |
| FAAP | FIRE ALARM ANNUNCIATOR PANEL |
| FATC | FIRE ALARM TERMINAL CABINET |
| FBC | FLORIDA BUILDING CODE |
| FCU | FAN COIL UNIT |
| FLA | FULL LOAD AMPERES |
| FM | FACTORY MUTUAL |
| FPU | FAN POWERED UNIT |
| FT | FEET |
| GF | GROUND FAULT |
| GFA | GROUND FAULT ALARM |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| GFR | GROUND FAULT RELAY |
| GND, G | GROUND |
| HP | HORSEPOWER |
| HOA | HAND-OFF-AUTOMATIC |
| HORIZ | HORIZONTAL |
| IBC | INTERNATIONAL BUILDING CODE |
| IC | INTERCOM |
| ICU | INTENSIVE CARE UNIT |
| IECC | INTERNATIONAL ENERGY CONSERVATION CODE |

## ABBREVIATIONS (CONT.)

| | |
|---|---|
| IEEE | INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS |
| IES | ILLUMINATING ENGINEERING SOCIETY |
| IMC | INTERMEDIATE METAL CONDUIT |
| IN | INCHES |
| IPCEA | INSULATED POWER CABLE ENGINEERS ASSOCIATION |
| IT | INSTANTANEOUS TRIP |
| JB OR J-BOX | JUNCTION BOX |
| KCMIL | ONE THOUSAND CIRCULAR MILS |
| KI | KILOVOLT |
| KVA | KILOVOLT AMPERES |
| KW | KILOWATT |
| KWH | KILOWATT HOURS |
| LBS | POUNDS |
| LED | LIGHT EMITTING DIODE |
| LP | LIGHTNING PROTECTION |
| LT | LIGHT |
| LTG | LIGHTING |
| LSIG | LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND |
| LSIA | LONG TIME, SHORT TIME, INSTANTANEOUS, ALARM |
| LSI | LONG TIME, SHORT TIME, INSTANTANEOUS |
| MAX | MAXIMUM |
| MCA | MINIMUM CIRCUIT AMPS |
| MCB | MAIN CIRCUIT BREAKER |
| MCC | MOTOR CONTROL CENTER |
| MDP | MAIN SERVICE DISTRIBUTION PANEL |
| MIC | MICROPHONE |
| MIN | MINIMUM |
| MLO | MAIN LUGS ONLY |
| MOCP | MAXIMUM OVERCURRENT PROTECTION |
| MSB | MAIN SERVICE SWITCHBOARD |
| MTD | MOUNTED |
| MTG | MOUNTING |
| MTR | MOTOR |
| MTS | MANUAL TRANSFER SWITCH |
| MUX | MULTIPLEX (TRANSPONDER) PANEL |
| MVA | MEGA VOLT AMPS |
| N | NEUTRAL |
| NC | NORMALLY CLOSED |
| NEC | NATIONAL ELECTRICAL CODE |
| NEMA | NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION |
| NFPA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NIC | NOT IN CONTRACT |
| NF | NON-FUSED |
| NL | NON-LINEAR |
| NO | NORMALLY OPEN OR NUMBER |
| OL | OVERLOAD |
| OSHA | OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION |
| P | POLE |
| PB | PULLBOX |
| PF | POWER FACTOR |
| PIV | POST INDICATOR VALVE |
| PNL | PANEL |
| PR | PAIR |
| PRI | PRIMARY |
| PT | POTENTIAL TRANSFORMER |
| PVC | POLYVINYLCHLORIDE |
| PWR | POWER |
| REC, RECEPT | RECEPTACLE |
| REF | REFRIGERATOR |
| RGS, GRC | RIGID GALVANIZED STEEL CONDUIT |
| RLA | RUNNING LOAD AMPERES |
| RMS | ROOT-MEAN-SQUARE |
| RPM | REVOLUTIONS PER MINUTE |
| RTU | ROOF TOP UNIT |
| SCA | SHORT CIRCUIT AMPERES |
| SD | SMOKE DETECTOR |
| SEC | SECONDARY |
| S/N | SOLID NEUTRAL |
| SPD | SURGE PROTECTIVE DEVICE |
| SPKR | SPEAKER |
| SPST | SINGLE POLE SINGLE THROW |
| SS | STAINLESS STEEL |
| SST | SOLID STATE TRIP |
| STD | SHORT TIME TRIP |
| SW | SWITCH |
| SWBD | SWITCHBOARD |
| SWGR | SWITCHGEAR |
| TEL | TELEPHONE |
| TYP | TYPICAL |
| UG | UNDERGROUND |
| UON | UNLESS OTHERWISE NOTED |
| UL | UNDERWRITERS LABORATORIES |
| UTIL | UTILITY |
| V | VOLT |
| VA | VOLTAMPERE |
| VAR | VOLT AMPERE REACTIVE |
| VAV | VARIABLE AIR VOLUME |
| VFD | VARIABLE FREQUENCY DRIVE |
| W | WIRE |
| WP | WEATHER PROOF |
| XFMR | TRANSFORMER |

## ELECTRICAL DRAWING INDEX

| SHEET | DESCRIPTION |
|---|---|
| E0.1 | ELECTRICAL SYMBOLS, LEGEND, NOTES & INDEX |
| E0.2 | ELECTRICAL GENERAL NOTES |
| E0.3 | ELECTRICAL GENERAL NOTES |
| E0.5 | ELECTRICAL SPECIFICATIONS |
| E1.0 | ELECTRICAL LEVEL 1 - DEMOLITION PLAN |
| E1.1 | ELECTRICAL LEVEL 1 - POWER NEW WORK PLAN |
| E1.2 | ELECTRICAL LEVEL 1 - LIGHTING NEW WORK PLAN |
| E1.3 | ELECTRICAL LEVEL 2 - LIGHTING & POWER NEW WORK PLAN |
| E6.0 | ELECTRICAL ONE-LINE DIAGRAM |
| E6.1 | ELECTRICAL SCHEDULES |
| E6.2 | ELECTRICAL SCHEDULES |

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


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TLC No.: 525263
THINK. LISTEN. CREATE.


OWNER / PROJECT:

# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

ELECTRICAL SYMBOLS, LEGEND, NOTES & INDEX

E0.1

PERMIT / BID SET

# APPLICABLE CODES

**APPLICABLE CODES:**

WORK UNDER THIS DIVISION SHALL BE IN STRICT COMPLIANCE AND IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS INCLUDING THE REGULATIONS OF GOVERNING LOCAL, STATE, COUNTY AND OTHER APPLICABLE CODES. REFER TO SPECIFICATIONS FOR ADDITIONAL CODE REQUIREMENTS:

BUILDING CODES:
- FLORIDA BUILDING CODE, 8TH EDITION (2023)
- FLORIDA ENERGY CONSERVATION CODE, 8TH EDITION (2023)
- FLORIDA FIRE PREVENTION CODE, 8TH EDITION (2023)

ADDITIONAL CODES, STANDARDS, AND REQUIREMENTS
1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
2. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE).
3. NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA).
4. REQUIREMENTS OF LOCAL POWER COMPANY.
5. THE AMERICANS WITH DISABILITIES ACT (ADA).
6. OWNER'S PUBLISHED DESIGN STANDARDS.

ALL MATERIALS SHALL BE NEW AND FREE OF DEFECTS, AND SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LAB, AS DEFINED BY OSHA. WHERE NO LABELING OR LISTING SERVICE IS AVAILABLE FOR CERTAIN TYPES OF EQUIPMENT, TEST DATA SHALL BE SUBMITTED TO VALIDATE THAT EQUIPMENT MEETS OF EXCEEDS AVAILABLE STANDARDS.

NATIONAL FIRE PROTECTION (NFPA) STANDARDS:
- NFPA 10, 2018 EDITION, STANDARD FOR PORTABLE FIRE EXTINGUISHERS.
- NFPA 13, 2019 EDITION, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS.
- NFPA 70, 2020 EDITION, NATIONAL ELECTRICAL CODE®.
- NFPA 72, 2019 EDITION, NATIONAL FIRE ALARM AND SIGNALING CODE.
- NFPA 80, 2019 EDITION, STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES.
- NFPA 90A, 2021 EDITION, STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS.
- NFPA 90B, 2021 EDITION, STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR-CONDITIONING SYSTEMS.
- NFPA 101, 2021 EDITION, LIFE SAFETY CODE®.
- NFPA 110, 2019 EDITION, STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS.
- NFPA 111, 2019 EDITION, STANDARD ON STORED ELECTRICAL ENERGY EMERGENCY AND STANDBY POWER SYSTEMS.
- NFPA 780, 2020 EDITION, INSTALLATION OF LIGHTNING PROTECTION SYSTEMS

# ELECTRICAL DEMOLITION NOTES

1. DEVICES, LIGHT FIXTURES AND EQUIPMENT SHOWN IN BOLD LINE TYPE ARE EXISTING TO BE DEMOLISHED; DEVICES, LIGHT FIXTURES AND EQUIPMENT SHOWN IN LIGHT (SCREENED) SOLID LINE TYPE ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.
2. EXISTING EQUIPMENT, LIGHT FIXTURES AND DEVICES SHOWN ARE BASED ON FIELD SURVEYS AND DRAWINGS PROVIDED BY THE OWNER, AND ARE NOT NECESSARILY INCLUSIVE OF ALL EXISTING ELECTRICAL EQUIPMENT, LIGHT FIXTURES AND DEVICES WITHIN PROJECT AREAS. IT IS THE INTENT THAT THE DEMOLITION PLANS PROVIDE A GENERAL KNOWLEDGE OF THE EXISTING CONDITIONS WITHIN THE PROJECT AREA. ANY DISCREPANCIES OR CONDITIONS NOT SHOWN ON THE PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR REQUIRED ELECTRICAL DEMOLITION WHETHER INDICATED ON THE PLANS OR NOT.
3. EXISTING CIRCUITING SHOWN IS BASED ON RECORD DRAWINGS AND THE SURVEYED PANEL DIRECTORIES, WHERE THEY WERE AVAILABLE. THE ACTUAL CONDITIONS MAY VARY. ALL EXISTING CONDITIONS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO BID. THE CONDITIONS SHOWN ARE INTENDED TO SHOW THE GENERAL LOCATIONS OF EXISTING DEVICES, LIGHT FIXTURES AND EQUIPMENT, WHERE SHOWN ON THE PLAN DRAWINGS, AND IN NO WAY RELIEVES THE CONTRACTOR FROM PROVIDING ANY AND COORDINATION NECESSARY TO COMPLETE THE NEW WORK. FIELD CONDITIONS SHALL GOVERN.
4. WHERE EXISTING DEVICES ARE INDICATED TO REMAIN OR BE RELOCATED, ARE WITHIN THE SCOPE OF THIS PROJECT AND EXISTING CIRCUITING INFORMATION IS UNAVAILABLE, CONTRACTOR SHALL PROVIDE CIRCUIT TRACING TO IDENTIFY PANEL AND CIRCUIT SERVING THE DEVICE. THEY SHALL PROVIDE THAT INFORMATION TO THE ARCHITECT/ENGINEER PRIOR TO ROUTING CONDUITS AND WIRING FOR THESE DEVICES AND EQUIPMENT.
5. WHERE EXISTING DEVICES ARE TO REMAIN, CONTRACTOR SHALL EXTEND EXISTING CIRCUITING WHERE NECESSARY TO MAINTAIN CONTINUITY OF CIRCUIT.
6. COORDINATE WITH THE OWNER FOR DISPOSAL OF ELECTRICAL ITEMS TO BE DEMOLISHED. OWNER SHALL HAVE THE OPTION TO RETAIN REUSABLE ITEMS SUCH AS COVERPLATES, RECEPTACLES, LIGHT FIXTURES, PANELBOARDS, TRANSFORMERS, ETC. NOT BEING USED IN THE FINISHED WORK. COORDINATE WITH THE OWNER PRIOR TO START OF DEMOLITION. PROPERLY AND LEGALLY DISPOSE OF EQUIPMENT AND MATERIALS BEING REMOVED.
7. COORDINATE EXACT AREAS, WALLS, CEILINGS, ETC. TO BE DEMOLISHED WITH ARCHITECTURAL, STRUCTURAL, PLUMBING AND MECHANICAL DEMOLITION PLANS.
8. WHERE EXISTING DEVICES, LIGHT FIXTURES AND EQUIPMENT ARE INDICATED TO BE DEMOLISHED, REMOVE ASSOCIATED BOXES, CONDUIT AND WIRING BACK TO SOURCE PANEL OR TO NEAREST JUNCTION BOX TO MAINTAIN CIRCUIT CONTINUITY OF DEVICES AND EQUIPMENT TO REMAIN. WHERE PANELS ARE TO REMAIN, TURN BREAKER TO "OFF" POSITION AND LABEL THE CIRCUIT AS "SPARE" ON THE PANEL DIRECTORY.
9. AREAS OUTSIDE THE SCOPE OF CONSTRUCTION ARE TO REMAIN ENERGIZED. COORDINATE PHASING WITH CONSTRUCTION MANAGER AND OWNER PRIOR TO DEMOLITION OF ANY ITEM WHICH MAY RESULT IN THE INTERRUPTION OF POWER.
10. REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR EXTENT OF AREA REQUIRING DEMOLITION AND ADDITIONAL INFORMATION ON ELECTRICAL DEMOLITION WITHIN THAT AREA. DISCONNECT ELECTRICAL SERVICE TO EQUIPMENT BEING REMOVED. DEMOLITION SHALL BE PHASED AS REQUIRED BY DIVISION 1, OR AS DIRECTED BY THE OWNER.
11. REMOVE CONDUIT LEFT EXPOSED BY REMOVAL OF WALLS AND CEILINGS IN REMODELED OR RENOVATED AREA. CAP BOTH ENDS OF REMAINING CONDUIT IN WALL OR FLOOR WHERE CUT.
12. ELECTRICAL DEVICES CONCEALED BY STORAGE SHELVING, CASEWORK, FURNITURE, ETC., AND NOT NOTED ON THE DEMOLITION DRAWINGS ARE TO BE REMOVED AS REQUIRED, UNLESS SHOWN AS EXISTING TO REMAIN.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT, LIGHT FIXTURES, AND DEVICES UNLESS OTHERWISE NOTED ON ARCHITECTURAL PLANS. REPAIRS ARE TO BE DONE TO LOGICAL EDGES OF SURFACES AFFECTED AND SHALL MATCH THE IMMEDIATE ADJACENT AREAS IN CONSTRUCTION, MATERIAL, FIRE RATING, FINISH AND COLOR.
14. PROVIDE BLANK COVER PLATES WHERE DEVICES ARE BEING REMOVED FROM EXISTING BOXES IN WALLS TO REMAIN. MATCH COLOR OF NEW ADJACENT DEVICE COVER PLATES.
15. FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF WORK AND OBTAIN CLARIFICATIONS FROM ARCHITECT / ENGINEER IF NECESSARY.
16. COORDINATE POWER INTERRUPTION WITH CONSTRUCTION MANAGER, OWNER, LANDLORD, AND UTILITY COMPANY (WHERE APPLICABLE) AND DO NOT INTERRUPT POWER WITHOUT WRITTEN PERMISSION. PROVIDE A MINIMUM OF ONE WEEKS WRITTEN NOTIFICATION PRIOR TO WHEN POWER IS DESIRED TO BE INTERRUPTED. CONTRACTOR SHALL INVESTIGATE AND IDENTIFY LOADS TO BE AFFECTED BY THE REQUESTED INTERRUPTION. CONTRACTOR SHALL SUBMIT WRITTEN SEQUENCE OF STEPS FOR EACH SHUTDOWN ALONG WITH THE ESTIMATED INTERRUPTION DURATIONS. MAKE ARRANGEMENTS TO MAINTAIN POWER TO EXISTING NECESSARY LIGHTING, DEVICES AND EQUIPMENT AS NEEDED AND REQUESTED BY THE OWNER PRIOR TO COMMENCEMENT OF WORK.
17. EXERCISE EXTREME CAUTION WHEN REMOVING / RELOCATING WIRING AND EQUIPMENT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT OTHER WIRING DEVICES, EQUIPMENT AND LIGHT FIXTURES THAT MAY BE CONNECTED TO THE SAME CIRCUIT REMAIN OPERATIONAL AND ACTIVE.
18. INFORMATION INDICATED IN THE DEMOLITION PORTION OF THE CONTRACT DRAWINGS IS DIAGRAMMATIC IN NATURE. FIELD VERIFY ELECTRICAL CIRCUIT HOMERUNS TO ITEMS SCHEDULED OR NOTED TO BE DEMOLISHED AND PERFORM THE WORK AS INTENDED AND DEPICTED ON THE DRAWINGS OR DIRECTED IN THE FIELD.
19. UPDATE EXISTING ELECTRICAL EQUIPMENT NAMEPLATES AND DIRECTORIES AS NECESSARY TO REFLECT FINAL AS-BUILT CONDITIONS AT THE END OF CONSTRUCTION.
20. STORE ITEMS INDICATED TO BE RETURNED TO THE OWNER IN A DRY, CLEAN AND PROTECTED AREA. NOTIFY OWNER WHEN ITEMS ARE READY TO BE REMOVED.
21. COORDINATE ANY ALTERATION AND CHANGES TO THE EXISTING ELECTRICAL SERVICE WITH THE LOCAL UTILITY COMPANY AND THE OWNER PRIOR TO COMMENCEMENT OF WORK.
22. PROVIDE ANY NECESSARY REPROGRAMMING OF EXISTING BUILDING FIRE ALARM SYSTEMS TO DISABLE FIRE ALARM DEVICES THAT ARE BEING DISCONNECTED AND REMOVED, AND FOR ANY NEW DEVICES THAT ARE ADDED, AS PART OF BID PRICE.
23. CONDUITS SERVING OTHER SPACES THAT RUN THROUGH THE PROJECT AREA SHALL REMAIN ACTIVE DURING CONSTRUCTION SO AS NOT TO CAUSE DISRUPTION TO THESE OTHER SPACES. ENSURE THAT CONDUITS, NEW OR EXISTING WITHIN THE PROJECT AREA ARE PROPERLY SUPPORTED IN ACCORDANCE WITH THE NEC.
24. REMOVE ABANDONED OR UNUSED RACEWAYS INCLUDING CONDUCTORS, JUNCTION BOXES, SUPPORTS, AND FASTENERS THAT ARE WITHIN THE PROJECT AREA PRIOR TO THE END OF CONSTRUCTION.

# ELECTRICAL GENERAL NOTES

**GENERAL REQUIREMENTS**

1. THE DRAWINGS AND APPLICABLE SPECIFICATIONS SHALL BE CONSIDERED SUPPLEMENTARY, ONE TO THE OTHER AND ARE CONSIDERED THE "CONTRACT DOCUMENTS". WORKMANSHIP, METHODS AND/OR MATERIALS DESCRIBED OR IMPLIED BY ONE AND NOT DESCRIBED OR IMPLIED BY THE OTHER SHALL BE PROVIDED, FURNISHED OR PERFORMED AS IF IT HAD APPEARED IN BOTH SECTIONS. THE TERM "CONTRACT DOCUMENTS" DESCRIBED HEREIN IS NOT LIMITED SOLELY TO THE ELECTRICAL PORTION OF THE DRAWINGS AND SPECIFICATIONS, BUT ENCOMPASSES THE DRAWINGS AND SPECIFICATIONS OF ALL DIVISIONS AS A WHOLE.
2. THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EVERY DETAIL OF CONSTRUCTION, METHODS, MATERIALS AND EQUIPMENT, OR EXACT LOCATIONS. ROUTING, ETC. THEY INDICATE THE RESULT TO BE ACHIEVED BY THE ASSEMBLAGE OF SEVERAL SYSTEMS FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM. DO NOT SCALE THE CONTRACT DOCUMENTS. COORDINATE EXACT EQUIPMENT LOCATIONS WITH THE ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, AND FIRE PROTECTION CONTRACT DOCUMENTS, AS WELL AS FIELD CONDITIONS, APPROVED SHOP DRAWINGS AND WORK OF OTHER DIVISIONS/TRADES.
3. THE TERM "PROVIDE" USED IN THE CONTRACT DOCUMENTS INDICATES TO FURNISH AND INSTALL MATERIALS REQUIRED FOR CORRECT INSTALLATION OF A COMPLETE SYSTEM, UNLESS SPECIFICALLY NOTED OTHERWISE.
4. UNLESS NOTED AS EXISTING, ELECTRICAL SYSTEMS AND DEVICES INDICATED ON THE CONTRACT DOCUMENTS SHALL BE NEW, SHALL BE U.L. LISTED, AND SHALL BEAR A U.L. LABEL. WHERE NO U.L. LABEL OR LISTING IS AVAILABLE, THE MATERIAL SHALL BE LISTED WITH AN APPROVED, NATIONALLY RECOGNIZED ELECTRICAL TESTING AGENCY AS DEFINED BY OSHA.
5. PROVIDE EXPERIENCED, QUALIFIED AND RESPONSIBLE SUPERVISION FOR WORK REQUIRED BY THE CONTRACT DOCUMENTS. ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, TO THE SATISFACTION OF THE ARCHITECT/ENGINEER AND OWNER.
6. CARRY INSURANCE REQUIRED TO PROTECT AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THIS PROJECT.
7. GUARANTEE MATERIALS AND WORKMANSHIP ARE FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE ARCHITECT/ENGINEER AND OWNER, UNLESS NOTED OTHERWISE IN DIVISION 1. AT NO ADDITIONAL COSTS, PROVIDE THE CORRECTION OF ANY DEFECTS INCLUDING REPAIR OR REPLACEMENT.
8. INCLUDE COSTS ASSOCIATED WITH PERMITS, LICENSES, FEES, INSPECTIONS, TESTING AND TEMPORARY POWER IN THE BID PRICE, UNLESS NOTED OTHERWISE.
9. IF HAZARDOUS MATERIALS ARE ENCOUNTERED, COMPLY WITH APPLICABLE RULES, REGULATIONS AND GUIDELINES CONCERNING REMOVAL, HANDLING, DISPOSAL AND PROTECTION AGAINST ENVIRONMENTAL EXPOSURE OR POLLUTION. PROVIDE DOCUMENTATION OF SAID COMPLIANCE.
10. PROVIDE ELECTRONIC SUBMITTALS (PRODUCT DATA & SHOP DRAWINGS) FOR EACH MAJOR COMPONENT OF THE ELECTRICAL SYSTEM FOR REVIEW BY THE ARCHITECT/ENGINEER AND OWNER. MAJOR COMPONENTS INCLUDE, BUT ARE NOT LIMITED TO, RACEWAYS, BOXES, WIRE AND CABLE, EQUIPMENT, DEVICES, LIGHT FIXTURES, SWITCHGEAR, PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES, FIRE ALARM SYSTEM, ETC. SUBMITTALS ARE TO BE REVIEWED AND APPROVED BY THE CONTRACTOR FOR CONFORMANCE WITH THE PROJECT REQUIREMENTS PRIOR TO SUBMITTING TO THE ARCHITECT/ENGINEER. ALLOW A MINIMUM OF TEN (10) BUSINESS DAYS FOR REVIEW BY ARCHITECT/ENGINEER, UNLESS NOTED OTHERWISE IN DIVISION 1.
11. THE ELECTRICAL PORTION OF THE CONTRACT DOCUMENTS ARE COORDINATED WITH THE DESIGN BASIS EQUIPMENT SPECIFIED BY DIVISION 26 AND OTHER DIVISIONS. WHERE THE CONTRACTOR ELECTS TO SUBSTITUTE A PRODUCT IN LIEU OF PROVIDING THE DESIGN BASIS, AND SAID SUBSTITUTION IS ACCEPTED BY THE ARCHITECT/ENGINEER AND OWNER, THE CONTRACTOR SHALL MAKE CORRECTIONS TO THE ELECTRICAL SYSTEM NECESSARY IN ORDER TO ENSURE A COMPLETE AND OPERATIONAL INSTALLATION OF THE EQUIPMENT AT NO ADDITIONAL COSTS. WHERE THE CONTRACTOR'S DESIGN SUBSTITUTION RESULTS IN THE NEED FOR THE ENGINEER TO REVISE THE CONTRACT DOCUMENTS, THE ENGINEER RESERVES THE RIGHT TO REQUEST COMPENSATION FROM THE CONTRACTOR FOR SAID SERVICES.
12. MAINTAIN A CURRENT AND ACCURATE SET OF PROJECT RECORD DOCUMENTS (AS-BUILTS) AT THE SITE THROUGHOUT THE DURATION OF THE PROJECT. RECORD DRAWINGS SHALL BE UPDATED EACH DAY TO REFLECT THE ACTUAL LOCATIONS, SIZES, ROUTING, ETC. OF EACH PORTION OF THE ELECTRICAL SYSTEM AFFECTED BY THIS WORK. A FINAL SET OF RECORD DOCUMENTS SHALL BE ISSUED TO THE ARCHITECT/ ENGINEER FOR REVIEW AND THEN SUBMITTED TO THE OWNER WITHIN 30 DAYS AFTER THE DATE OF FINAL ACCEPTANCE. PROVIDE RECORD DRAWINGS OF THE ACTUAL INSTALLATION INCLUDING SINGLE LINE DIAGRAM, POWER RISER DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM, SITE PLANS AND ELECTRICAL FLOOR PLANS, DETAILS, PANEL SCHEDULES, ETC.
13. PROVIDE AN OPERATING AND MAINTENANCE MANUAL TO OWNER PRIOR TO THE FINAL ACCEPTANCE. THE MANUAL SHALL INCLUDE, AS A MINIMUM, (1) SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. (2) PROVIDE TWO OPERATIONS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS AND METHOD OF OPERATION FOR EQUIPMENT SHALL BE CLEARLY IDENTIFIED, AND THE NAME, PHONE NUMBER AND ADDRESS OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
14. INCLUDE IN BID COSTS FOR EXCAVATION, SAW CUTTING, DIRECTIONAL BORING, CORE DRILLING, BACKFILLING, SURFACE RESTORATION, REPAIR OF FINISHES, ETC. THAT IS REQUIRED IN ORDER TO MEET THE PROJECT REQUIREMENTS.
15. INCLUDE IN BID COSTS ASSOCIATED WITH TEMPORARY ELECTRICAL SERVICE AS REQUIRED FOR USE BY TRADES DURING CONSTRUCTION. REMOVE TEMPORARY POWER AT THE COMPLETION OF THE PROJECT. OBTAIN AND PAY FOR REQUIRED PERMITS FOR TEMPORARY POWER. ENGINEER OF RECORD SHALL BE PROVIDED WITH ADDITIONAL COMPENSATION FROM THE CONTRACTOR WHERE SIGNED & SEALED DRAWINGS ARE REQUESTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD IF REQUIRED BY THE AHJ FOR THE TEMPORARY POWER.
16. PRIOR TO TRENCHING IN ANY AREA LOCATE, IDENTIFY, PROTECT AND DOCUMENT UTILITY LINES LOCATED WITHIN THE PROJECT BOUNDARY. FOR LOCATING SITE UTILITIES, CONTACT LOCAL MUNICIPALITIES AND UTILITIES AT LEAST 48 HOURS PRIOR TO DIGGING.
17. INCLUDE IN BID THE TRANSPORT AND DISPOSAL OR RECYCLING OF WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL RULES, REGULATIONS AND GUIDELINES APPLICABLE. COMPLY FULLY WITH APPLICABLE STATUTES REGARDING MERCURY-CONTAINING DEVICES, AND WITH LOCAL, STATE AND FEDERAL APPLICABLE GUIDELINES AT THE TIME OF DISPOSAL. PROVIDE OWNER WITH WRITTEN CERTIFICATION OF ACCEPTED DISPOSAL.

**COORDINATION**

1. VERIFY AND COORDINATE LOCATIONS OF ANY MISCELLANEOUS EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS (I.E., COPIERS, FAX MACHINES, PRINTERS, KITCHEN APPLIANCES, LAUNDRY APPLIANCES, PROJECTION SCREENS, SHOP TOOLS, MACHINE, ELEVATORS, ETC.) WITH APPROVED SHOP DRAWINGS, OWNER-PROVIDED CUT SHEETS, MANUFACTURER'S INSTRUCTIONS, AND EQUIPMENT NAMEPLATE INFORMATION, PRIOR TO ROUGH IN, AND PROVIDE NECESSARY ELECTRICAL REQUIRED.
2. VERIFY AND COORDINATE LOCATIONS AND EXACT ELECTRICAL REQUIREMENTS FOR MECHANICAL, PLUMBING AND FIRE PROTECTION EQUIPMENT PRIOR TO SUBMITTAL OF SHOP DRAWINGS OF ELECTRICAL EQUIPMENT. PROVIDE NECESSARY RACEWAYS, CONDUCTORS, BOXES, EQUIPMENT, ACCESSORIES, ASSOCIATED DISCONNECT SWITCHES, CIRCUIT BREAKERS, CONTROL TRANSFORMERS, FIRE ALARM SHUTDOWN, ETC. REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. COORDINATE WITH APPROPRIATE TRADE'S APPROVED SHOP DRAWINGS, MANUFACTURER'S INSTRUCTIONS, AND EQUIPMENT NAMEPLATE INFORMATION, PRIOR TO ROUGH IN, AND PROVIDE NECESSARY ELECTRICAL REQUIRED, UNLESS NOTED OTHERWISE.
3. WORK ON THE ELECTRICAL SYSTEM REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE COORDINATED WITH THE WORK OF OTHER DIVISIONS/TRADES PRIOR TO COMMENCEMENT OF WORK. AVOID INTERFERENCES WITH THE PROGRESS OF OTHER DIVISIONS/TRADES.
4. LOCATIONS OF VFD'S, DISCONNECTS, MOTOR STARTERS, ETC. FOR HVAC EQUIPMENT ARE DIAGRAMMATIC ON THE PLAN DRAWINGS. EXACT LOCATIONS ARE TO BE COORDINATED WITH CONTRACTOR'S COORDINATION DRAWINGS PRIOR TO ROUGH-IN TO ENSURE PROPER NEC CLEARANCES AND APPROPRIATE MOUNTING SURFACES.
5. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, CIVIL, LANDSCAPE, INTERIOR DESIGN, TECHNOLOGY, STRUCTURAL, AND VENDOR EQUIPMENT DRAWINGS FOR RELATED INFORMATION AND ADDITIONAL INSTALLATION REQUIREMENTS TO BE PERFORMED AS PART OF THE WORK.
6. WHERE A DISCREPANCY OR CONFLICT IS FOUND BETWEEN ONE DRAWING AND ANOTHER, OR BETWEEN A DRAWING AND APPLICABLE SPECIFICATIONS, NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY IN WRITTEN FORM. IN GENERAL, THE MOST STRINGENT REQUIREMENT SHALL GOVERN UNLESS THE DISCREPANCY CONFLICTS WITH APPLICABLE CODES OR OWNER'S DESIGN STANDARDS, WHEREIN THE CODE OR OWNER'S DESIGN STANDARDS SHALL GOVERN.
7. CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND/OR SITE AFFECTED BY THIS WORK PRIOR TO SUBMITTING BID PRICE, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT MAY AFFECT EXECUTION OF THE WORK. SUBMISSION OF A BID PRICE SHALL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT AND/OR MATERIALS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED THAT COULD HAVE BEEN REASONABLY OBSERVED WILL NOT BE RECOGNIZED.
8. COORDINATE PROJECT SCHEDULING AND PHASING REQUIREMENTS WITH ARCHITECT/ENGINEER AND OWNER PRIOR TO SUBMITTING BID PRICE. THIS PROJECT MAY REQUIRE PHASING SEQUENCES AND POTENTIAL PREMIUM TIME WORK AND ALL COSTS FOR SUCH SHALL BE INCLUDED IN THE BID PRICE. PROVIDE ADEQUATE WORK FORCE AND EQUIPMENT, AND INCLUDE PREMIUM TIME AS MAY BE REQUIRED IN ORDER TO ADHERE TO THE PROJECT SCHEDULE. ADDITIONALLY, ENSURE THAT LONG LEAD ITEMS DO NOT IMPACT THE PROJECT'S SCHEDULE OR PHASING.
9. ANY TEMPORARY INTERRUPTION OF POWER REQUIRED FOR THE SYSTEM TIE-IN OR SWITCHOVER FOR ANY PORTION OF THE ELECTRICAL SYSTEM SHALL BE PRE-APPROVED IN WRITING BY THE OWNER AND SCHEDULED IN ADVANCE.
10. COORDINATE EXACT REQUIREMENTS WITH THE LOCAL UTILITY COMPANIES AND PROVIDERS (ELECTRIC, TELEPHONE, CABLE TV, ETC.) AND INCLUDE COSTS FOR PROVIDING TEMPORARY AND PERMANENT SERVICES REQUIRED FOR THIS PROJECT IN THE BID PRICE. BID PRICE SHALL INCLUDE, BUT NOT BE LIMITED TO, EXCAVATION, RACEWAYS, BACKFILL, EQUIPMENT, EQUIPMENT PADS, BACKBOARDS, METERS, GROUNDING, UTILITY ENGINEERING AND IMPACT FEES.
11. CONDUCT WORK OPERATIONS AND DEBRIS REMOVAL IN A MANNER THAT ENSURES MINIMUM INTERFERENCE WITH NORMAL BUSINESS OPERATIONS, TRAFFIC, PARKING, ETC. ONGOING IN ADJACENT OCCUPIED SPACES OR FACILITIES. PROVIDE ALL THAT IS REQUIRED TO EFFECTIVELY PROTECT SURROUNDING OCCUPANTS, EQUIPMENT, FINISHES, FURNITURE, ETC. FROM DAMAGE OR EXCESSIVE NOISE THROUGHOUT THE DURATION OF THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR ANY LOSSES OR ANY DAMAGE RESULTING FROM THE FAILURE TO ADHERE TO THIS REQUIREMENT. RESTORE DAMAGED ELEMENTS TO ORIGINAL CONDITION TO THE SATISFACTION OF THE ARCHITECT/ENGINEER AND OWNER, AT NO ADDITIONAL COSTS. REPORT OF ANY SUCH OCCURRENCE TO THE ARCHITECT/ENGINEER AND OWNER IMMEDIATELY AND AWAIT WRITTEN DIRECTION PRIOR TO PROCEEDING WITH REPAIRS.
12. COORDINATE THE LOCATION OF LIGHT FIXTURES, DEVICES AND BOXES WITH WINDOWS, MIRRORS, MILLWORK, CABINETS, GLASS CURTAIN WALLS, AND GLASS WALLS PRIOR TO INSTALLATION OF CONDUITS OR BOXES. REVIEW CONTRACT DRAWINGS TO ASCERTAIN ANY CONFLICTS PRIOR TO BIDDING. OBTAIN CLARIFICATION FROM THE ARCHITECT/ENGINEER PRIOR TO BID. CONTRACTOR SHALL NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR WORK REQUIRED TO RELOCATE OUTLET BOXES OR RACEWAYS FOR COORDINATION WITH OTHER TRADE'S WORK.

**GROUNDING**

1. FIRE PROTECTION PIPING SHALL NOT BE USED FOR GROUNDING. FEEDERS AND BRANCH CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUND CONDUCTOR. METAL RACEWAYS SHALL NOT BE USED AS THE SOLE EQUIPMENT GROUND.
2. WHERE A PHASE CONDUCTOR IS INCREASED IN SIZE DUE TO VOLTAGE DROP, THE EQUIPMENT GROUND CONDUCTOR SHALL BE INCREASED IN SIZE PROPORTIONATELY.
3. PROVIDE A GROUND BUS BAR IN EACH ELECTRICAL ROOM AND TELECOMMUNICATIONS / IDF/ MDF ROOM FOR NEW CONSTRUCTION AND NEW ROOMS IN EXISTING CONSTRUCTION, AND IN EXISTING CONSTRUCTION WHERE THERE IS NONE INSTALLED WITHIN AN EXISTING ROOM.

**ELECTRICAL EQUIPMENT**

1. EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED. COMPONENTS OF THE ELECTRICAL SYSTEM LOCATED OUTDOORS OR INDOORS WHERE EXPOSED TO SIGNIFICANT MOISTURE SHALL BE WEATHERPROOF, NEMA 3R, AS A MINIMUM, WHETHER INDICATED ON THE CONTRACT DRAWINGS OR NOT.
2. TERMINATION PROVISIONS FOR ELECTRICAL EQUIPMENT (PANELBOARDS, SWITCHBOARD, TRANSFORMERS, DISCONNECT SWITCHES, MOTOR CONTROLLERS, AUTOMATIC TRANSFER SWITCHES, ENCLOSED CIRCUIT BREAKERS, BUSWAYS, ETC.) SHALL BE LISTED AND IDENTIFIED FOR USE WITH MINIMUM 75 DEGREES FAHRENHEIT CONDUCTORS IN ACCORDANCE WITH NEC.
3. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC.
4. THE ELECTRICAL DEDICATED EQUIPMENT SPACE EXTENDING FROM FLOOR TO 6' ABOVE ELECTRICAL EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER DISTANCE IS LOWER, WITH A WIDTH AND DEPTH OF THE PANELBOARD OR SWITCHBOARD MUST BE CLEAR OF PIPING, DUCTS, ARCHITECTURAL APPURTENANCES AND OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION IN ACCORDANCE WITH NEC. IF SPACE IS AVAILABLE, FOREIGN SYSTEMS MAY BE PRESENT ABOVE THE DEDICATED EQUIPMENT SPACE PROVIDED PROTECTION IS INSTALLED TO PREVENT DAMAGE TO ELECTRICAL EQUIPMENT BELOW FROM CONDENSATION, LEAKS, OR BREAKS IN THESE SYSTEMS.
5. PROVIDE A REINFORCED CONCRETE PAD, SIZED 4" LARGER IN ALL DIRECTIONS THAN THE FOOTPRINT OF THE EQUIPMENT AND FOR FREESTANDING, FLOOR-MOUNTED ELECTRICAL EQUIPMENT. PROVIDE VIBRATION ISOLATORS AND/OR ANCHORS PER MANUFACTURER'S INSTRUCTIONS.
6. PROVIDE HACR RATED CIRCUIT BREAKER FOR HVAC EQUIPMENT.
7. PANELBOARDS OR DISCONNECT SWITCHES LOCATED IN KITCHEN AREAS SHALL BE STAINLESS STEEL (COVER AND DOOR WHERE PANEL IS FLUSH MOUNTED; PANEL BOX, COVER & DOOR WHERE SURFACE MOUNTED).
8. PROVIDE SURGE PROTECTION DEVICE FOR MAIN SERVICE EQUIPMENT, PANELBOARDS SERVING SENSITIVE ELECTRONIC EQUIPMENT (DATA RACKS) OR COMPUTERS, EMERGENCY SWITCHBOARDS AND PANELBOARDS, LIGHTING PANELS SERVING EXTERIOR LIGHTING, POWER CIRCUITS OR LOW VOLTAGE (FIRE ALARM, TELECOMMUNICATIONS) EXITING THE BUILDING. PROVIDE MINIMUM 30A/3P BREAKER IN BRANCH CIRCUIT PANELBOARDS AND 60A/3P IN DISTRIBUTION PANELBOARDS OR SWITCHBOARDS, UNLESS NOTED OTHERWISE, OR PER THE SPD MANUFACTURER'S RECOMMENDATIONS FOR SURGE PROTECTION DEVICE.
9. PROVIDE ARC ENERGY REDUCING MAINTENANCE SWITCH FOR ANY BREAKER RATED (OR ABLE TO BE ADJUSTED TO) 1200A OR HIGHER UNLESS OTHER ARC ENERGY REDUCTION MEANS MEETING NEC 240.87 IS INDICATED ON DRAWINGS/SPECIFICATIONS OR OTHERWISE PROVIDED.

**ELECTRICAL DEVICES OUTLET BOXES, JUNCTION BOXES**

1. LIGHT SWITCHES SHALL BE MOUNTED 48 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS NOTED OTHERWISE.
2. RECEPTACLES, VOICE/DATA OUTLETS AND WALL FURNITURE FEEDS SHALL BE MOUNTED 18 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS NOTED OTHERWISE. ABOVE COUNTER RECEPTACLES SHALL BE MOUNTED 6" ABOVE BACK SPLASH TO CENTERLINE OF DEVICE, UNLESS NOTED OTHERWISE

# ELECTRICAL GENERAL NOTES (CONT'D)

**IDENTIFICATION (CONT'D)**

11. PROVIDE ARC FLASH HAZARD ANALYSIS PER NFPA 70E FOR ANY EQUIPMENT INCLUDED WITHIN THE SCOPE OF WORK. INCIDENT ENERGY VALUES SHALL BE INCLUDED ON THE ARC FLASH WARNING LABELS FOR EACH EQUIPMENT .

**LIGHTING**

1. LIGHT FIXTURES SUPPORTED BY CEILING GRID SHALL BE SUPPORTED AS FOLLOWS: LIGHT FIXTURES WEIGHING LESS THAN 10 POUNDS SHALL HAVE 12-GAUGE HANGER WIRE CONNECTED FROM THE LIGHT FIXTURE TO THE STRUCTURE ABOVE. LIGHT FIXTURES WEIGHING 10 POUNDS OR MORE SHALL HAVE (2) 12-GAUGE HANGER WIRES ATTACHED AT OPPOSITE CORNERS OF THE LIGHT FIXTURE TO THE STRUCTURE ABOVE.

2. COORDINATE EXACT LOCATIONS OF LIGHT FIXTURES IN LAY-IN AND GYPBOARD CEILINGS WITH ARCHITECTURAL REFLECTED CEILING PLANS, AND WALL MOUNTED EXTERIOR AND INTERIOR LIGHT FIXTURES WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION. WHERE THE QUANTITY OF LIGHTS DIFFERS BETWEEN THE ARCHITECTURAL RCP AND THE ELECTRICAL LIGHTING PLANS, PROVIDE THE HIGHEST QUANTITY OF FIXTURES IN THE BID PRICE. THE DISCREPANCY IN QUANTITY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER. THE HIGHEST QUANTITY SHALL BE CIRCUITED TO THE LOCAL ROOM OR AREA LIGHTING CIRCUITS AND LIGHTING CONTROL DEVICES, UNLESS OTHERWISE DIRECTED IN WRITING BY THE ARCHITECT/ENGINEER.

3. VERIFY ACTUAL CEILING CONSTRUCTION TYPE AS DEFINED ON THE ARCHITECTURAL DRAWINGS AND FURNISH LIGHT FIXTURES WITH THE CORRECT MOUNTING DEVICES WHETHER OR NOT SUCH VARIATIONS ARE INDICATED BY THE LIGHT FIXTURE CATALOG NUMBER. VERIFY THE DEPTH OF RECESSED LIGHT FIXTURES WITH THE ARCHITECTURAL DRAWINGS PRIOR TO ORDERING LIGHT FIXTURES. ANY DISCREPANCIES THAT WOULD CAUSE THE RECESSED LIGHT FIXTURES NOT TO FIT INTO CEILING SHALL BE REPORTED TO ARCHITECT/ENGINEER PRIOR TO ORDERING.

4. LIGHT FIXTURES RECESSED IN FIRE-RATED CEILINGS SHALL BE PROVIDED WITH APPROVED FIRE-RATED ENCLOSURE WITH A FIRE RATING EQUAL TO THAT OF THE CEILING. PROVIDE A MINIMUM OF 3" CLEARANCE FROM SIDES AND TOP OF RECESSED LIGHT FIXTURES.

5. MODIFY LIGHT FIXTURE CATALOG NUMBERS AS REQUIRED TO COORDINATE WITH THE LIGHTING BRANCH CIRCUIT VOLTAGES INDICATED. COORDINATE THE CATALOG NUMBERS WITH THE EXACT FIXTURE MOUNTING AND TRIM REQUIRED BY THE CEILING IN WHICH EACH FIXTURE IS BEING INSTALLED.

6. LIGHT FIXTURES SHALL BE PROVIDED COMPLETE WITH LAMPS, UNLESS OTHERWISE NOTED.

7. EXIT LIGHTS, LIGHT FIXTURES INDICATED WITH UNSWITCHED CIRCUIT (NIGHTLIGHT N/L), EMERGENCY TWIN-HEAD FIXTURES WITH INTEGRAL BATTERY PACKS, AND BATTERY PACKS INTEGRAL TO LIGHT FIXTURES, SHALL BE WIRED AHEAD OF ANY LOCAL SWITCHING OR LIGHTING CONTROLS UNLESS OTHERWISE NOTED.

8. PROVIDE UL WET LABEL OR IP67 RATED LIGHT FIXTURES FOR FIXTURES LOCATED OUTSIDE OR IN PARKING GARAGES, IN SHOWERS, OR OPEN STRUCTURES.

9. EXTERIOR LIGHTING BALLASTS/DRIVERS SHALL HAVE A MINIMUM STARTING TEMPERATURE OF -40 DEGREE C, AND A NORMAL AMBIENT OPERATING TEMPERATURE OF 40 DEGREE C.

10. PROVIDE FUSING FOR EXTERIOR LIGHT FIXTURES, OR FIXTURES IN PARKING GARAGES OR OPEN STRUCTURES.

11. PROVIDE TEMPORARY NORMAL LIGHTING, EMERGENCY LIGHTING AND EXIT SIGNS REQUIRED DURING THE PROJECT CONSTRUCTION PHASE.

12. COORDINATE EXACT FOUNDATION AND/OR COMPACTING REQUIREMENTS FOR POLE MOUNTED LIGHT FIXTURES WITH MANUFACTURER'S AND/OR INSTALLERS STRUCTURAL ENGINEER. POLE BASES SHALL MEET OR EXCEED WIND LOAD RATINGS, GUST FACTORS, IMPORTANCE FACTORS, ETC. REQUIRED BY NATIONAL AND/OR LOCAL CODES. SHOP DRAWINGS SHALL INCLUDE STRUCTURAL DRAWINGS FOR POLE BASES, POLE; ASSEMBLY AND OVERTURN CALCULATIONS REQUIRED IN THIS PROJECT, SIGNED AND SEALED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE PROJECT STATE.

13. REFER TO LIGHT FIXTURE SCHEDULE FOR LIGHT FIXTURE TYPES, DESCRIPTIONS, CATALOG NUMBERS AND ADDITIONAL INFORMATION PERTINENT TO THE LIGHT FIXTURE OR INSTALLATION THEREOF.

14. COORDINATE LIGHT FIXTURE TRIM TYPE AND FINISH COLOR WITH ARCHITECT PRIOR TO ORDERING.

15. EACH LIGHTING CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.

16. PROVIDE LIGHTING CONTROLS TO AUTOMATICALLY SHUTOFF BUILDING FACADE AND LANDSCAPE LIGHTING AS A FUNCTION OF DAWN/DUSK AND OPENING/CLOSING TIME.

17. PROVIDE LIGHTING CONTROLS TO AUTOMATICALLY REDUCE THE CONNECTED LIGHTING POWER OF EXTERIOR SITE/AREA LIGHTING BY NOT LESS THAN 30 PERCENT FROM NOT LATER THAN MIDNIGHT TO 6AM, FROM ONE HOUR AFTER BUSINESS CLOSING TO ONE HOUR BEFORE BUSINESS OPENING OR DURING ANY PERIOD WHEN ACTIVITY HAS BEEN DETECTED FOR A TIME OF LONGER THAN 15 MINUTES.

18. WHERE THERE IS NO EMERGENCY GENERATOR / LIFE SAFETY DISTRIBUTION BRANCH AVAILABLE, PROVIDE INTEGRAL BATTERY PACKS, RATED FOR A MINIMUM OF 90 MINUTES, FOR FIXTURES SHOWN WITH SOLID SHADING AND/OR WITH "E" AFTER FIXTURE TAG, AND FOR EXIT LIGHTS, OR UNLESS NOTED OTHERWISE.

19. LIGHTING HAS BEEN DESIGNED IN COMPLIANCE WITH SECTION 405 OF THE FLORIDA ENERGY CONSERVATION CODE FOR LIGHTING POWER DENSITY, AUTOMATIC LIGHTING CONTROLS AND ADDITIONAL REQUIREMENTS.

20. FUNCTIONAL TESTING OF LIGHTING CONTROLS WILL BE PROVIDED IN ACCORDANCE C408 OF THE ENERGY CONSERVATION CODE. CONTRACTOR SHALL PROVIDE AS PART OF BID PRICE REQUIRED TESTING AND SUPPORT OF THE COMMISSIONING ROVIDER FOR THE LIGHTING SYSTEM FUNCTIONAL TESTING, INCLUDING SETUP, PROGRAMMING, CALIBRATION AND REQUIRED REPORTS. WHERE OCCUPANCY SENSORS, TIME SWITCHES, PROGRAMMABLE SCHEDULED LIGHTING CONTROLS, PHOTOSENSORS AND DAYLIGHTING CONTROLS ARE INSTALLED, THE SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION TO ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, MANUFACTURER'S INSTRUCTIONS, AND COMMISSIONING PROVIDER'S TESTING REQUIREMENTS. FUNCTIONAL TESTING SHALL BE IN ACCORDANCE WITH THE ENERGY CONSERVATION CODE REQUIREMENTS. PROVIDE COMMISSIONING REPORT CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET REQUIRED PERFORMANCE CRITERIA TO OWNER AND ENGINEERING NOT LATER THAN 90 DAYS FROM THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

COMMISSIONING PROVIDER FOR LIGHTING CONTROLS FOR THIS PROJECT WILL BE AS ASSIGNED BY GENERAL CONTRACTOR.

**MISCELLANEOUS CIRCUIT INSTALLATION REQUIREMENTS:**

1. PROVIDE 120V 20A 5-20R RECEPTACLE AT FAN COIL UNITS FOR CONDENSATE PUMP POWER AND HOT WATER RECIRCULATING PUMPS, WHETHER SHOWN ON PLANS OR NOT. RECEPTACLE IS TO BE CONNECTED TO NEAREST 120V RECEPTACLE CIRCUIT.

2. PROVIDE 120V CONNECTION TO MOTORIZED DAMPERS INDICATED ON MECHANICAL PLANS, WHETHER SHOWN ON DIVISION 26 DRAWINGS OR NOT. FIRE/SMOKE DAMPER CIRCUITS ARE TO BE PROVIDED AS SHOWN ON FIRE SMOKE DAMPER DETAIL ON THE DETAILS SHEET.

3. COORDINATE RECEPTACLE LOCATIONS WITH TECHNOLOGY DRAWINGS OR OWNER'S VENDOR DRAWINGS SO THAT A 120V 20A 5-20R RECEPTACLE IS LOCATED ADJACENT TO EACH VOICE/DATA OUTLET AND TV OUTLET INDICATED ON PLANS. RECEPTACLE IS TO BE CONNECTED TO NEAREST 120V RECEPTACLE CIRCUIT, UNLESS OTHERWISE NOTED ON PLANS.

**TECHNOLOGY REQUIREMENTS:**

1. THE INFRASTRUCTURE FOR THE ACCESS CONTROL/ CCTV OR SECURITY ELECTRONICS SYSTEM (CONDUITS, ELECTRICAL BOXES) SHALL BE INSTALLED BY DIVISION 26. THE ACCESS CONTROL/ CCTV OR SECURITY ELECTRONICS SYSTEM CONTRACTOR SHALL PROVIDE AND INSTALL THE WIRE AND CABLE FOR THE SYSTEM AND REQUIRED EQUIPMENT. INSTALLATION OF THE CONDUITS AND ELECTRICAL BOXES SHALL BE UNDER THE DIRECT SUPERVISION OF THE ACCESS CONTROL / CCTV SYSTEM CONTRACTOR. COORDINATE EXACT LOCATIONS OF DEVICES, RACEWAY LOCATIONS, SIZES AND QUANTITY, AND CONDUIT STUB-UPS PRIOR TO ROUGH IN. PROVIDE 120V TO ALL ACCESS CONTROL PANELS.

2. THE INFRASTRUCTURE FOR THE VOICE/DATA TELECOMMUNICATIONS SYSTEM (CONDUITS, ELECTRICAL BOXES) SHALL BE INSTALLED BY DIVISION 26. THE TELECOMMUNICATIONS CONTRACTOR SHALL PROVIDE AND INSTALL THE WIRE AND CABLE FOR THE SYSTEM AND REQUIRED EQUIPMENT AND COMPONENTS. INSTALLATION OF THE CONDUITS AND ELECTRICAL BOXES SHALL BE UNDER THE DIRECT SUPERVISION OF THE TELECOMMUNICATIONS CONTRACTOR. COORDINATE EXACT LOCATIONS OF DEVICES, RACEWAY LOCATIONS, SIZES AND QUANTITY, AND CONDUIT STUB-UPS PRIOR TO ROUGH IN.

# FIRE ALARM SYSTEM NOTES (CONT'D)

1. ALL FIRE ALARM EQUIPMENT IS TO BE NEW, UL LISTED FOR FIRE SERVICE, AND SHALL BE COMPATIBLE WITH THE SYSTEM BEING USED.

2. ALL WIRING AND CONDUIT IS TO CONFORM TO NEC ARTICLE 760. WIRING SHALL BE UL LISTED, MINIMUM 300V TYPE FPLP PLENUM RATED SOLID COPPER OR STRANDED COPPER WITH MAXIMUM 19 STRANDS.

3. LOW VOLTAGE CONDUCTORS: PROVIDE CONDUCTORS IN ACCORDANCE WITH NFPA 70 AND NFPA 72, AND AS RECOMMENDED BY THE FIRE ALARM SYSTEM MANUFACTURER. CONDUCTORS SHALL BE COPPER, MINIMUM NO. 14 AWG, TWISTED SHIELDED PAIR.

4. SURVIVABILITY: A 2-HOUR RATED CABLE ASSEMBLY SHALL BE PROVIDED FOR NOTIFICATION APPLIANCE CIRCUITS AND ANY OTHER CIRCUITS NECESSARY FOR THE OPERATION OF THE NOTIFICATION APPLIANCE CIRCUITS FROM THE POINT AT WHICH THEY EXIT THE CONTROL UNIT UNTIL THE POINT THAT THEY ENTER THE NOTIFICATION ZONE THAT THEY SERVE.

5. MANUAL PULL STATIONS ARE TO BE INSTALLED AT 42" TO BOTTOM OF DEVICE AND NO HIGHER THAN 48" TO HANDLE ABOVE FINISHED FLOOR.

6. PROVIDE MINIMUM 3/4" CONDUIT AND WIRING BETWEEN EACH FIRE ALARM DEVICE AND FROM LAST DEVICE TO FACP UNLESS OTHERWISE NOTED.

7. PROVIDE DUCT DETECTOR (AND FIRE ALARM RELAY WHERE APPLICABLE) CONNECTED TO FIRE ALARM SYSTEM, WITHIN 5' OF ALL DUCT PENETRATIONS THROUGH FIRE/SMOKE WALLS, WHETHER INDICATED ON ELECTRICAL OR MECHANICAL PLANS OR NOT.

8. ALL FIRE ALARM POWER CIRCUITS SHALL HAVE A DEDICATED 120V 20A BREAKER THAT SHALL BE RED IN COLOR AND MECHANICALLY PROTECTED (LOCKABLE IN THE "ON" POSITION), MARKED AS "FIRE ALARM CIRCUIT".

9. A CERTIFICATION OF COMPLETION AND UL LISTING SHALL BE ISSUED AND INSTALLED ON THE FIRE ALARM CONTROL PANEL. SUBMIT NFPA RECORD OF COMPLETION FORM ALONG WITH SMOKE DETECTOR SENSITIVITY REPORT FOR ALL DETECTORS WITHIN THE PROJECT AREA TO ENGINEER AND MAKE AVAILABLE AT FINAL INSPECTION.

10. MINIMUM CANDELA RATING OF STROBES IS 75; "110" ADJACENT TO DEVICE INDICATES 110 CANDELA RATING. PROVIDE SYNCHRONIZATION OF STROBES IN ALL ADJACENT AREAS WHERE STROBES ARE VISIBLE TO EACH OTHER.

11. ALL STROBES SHALL ACTIVATE UPON INITIATION OF THE GENERAL ALARM.

12. ALL STROBES SHALL BE INSTALLED PER ADA MOUNTING HEIGHT REQUIREMENTS. WALL MOUNTED STROBES SHALL BE INSTALLED SO THAT THE BOTTOM OF THE STROBE LENS IS 80" AFF.

13. STROBES SHALL BE INSTALLED WITHIN 15' OF THE ENDS OF ALL CORRIDORS.

14. FIRE ALARM DEVICES INSTALLED OUTSIDE OR IN AREAS OPEN TO THE EXTERIOR SHALL BE WEATHERPROOF DEVICES IN APPROVED BACKBOXES.

15. SMOKE DETECTORS SHALL BE PHOTO-ELECTRIC ADDRESSABLE TYPE, UNLESS SPECIFICALLY NOTED OTHERWISE.

16. SMOKE DETECTORS ARE TO BE INSTALLED PER NFPA 72. WALL MOUNTED SMOKE DETECTORS SHALL BE MOUNTED 4"-12" BELOW THE CEILING AND AWAY FROM CORNERS.

17. SMOKE DETECTORS LOCATED IN ELEVATOR LOBBIES, ELEVATOR HOISTWAYS AND ELEVATOR MACHINE ROOMS SHALL INITIATE ELEVATOR RECALL, ACTIVATE ELEVATOR WARNING LIGHTS AND CAUSE SEPARATE AND DISTINCT VISIBLE ANNUNCIATION AT THE FIRE ALARM CONTROL PANEL AND FIRE ALARM ANNUNCIATORS.

18. DUCT DETECTORS SHALL BE PHOTO-ELECTRIC ADDRESSABLE TYPE, AND RATED FOR VELOCITIES UP TO 5000 FT/MIN.

19. HEAT DETECTORS SHALL BE ADDRESSABLE, FIXED TYPE @ 135 DEG F, UNLESS OTHERWISE NOTED.

20. HEAT DETECTORS SHALL BE LOCATED WITHIN 24" OF SPRINKLER HEADS LOCATED IN THE ELEVATOR MACHINE ROOM AND ALL HOISTWAY SPRINKLER HEADS LOCATED 24" ABOVE THE ELEVATOR PIT FLOOR. THESE HEAT DETECTORS SHALL HAVE BOTH A LOWER TEMPERATURE RATING AND HIGHER SENSITIVITY THAN THE SPRINKLER HEADS. HEAT DETECTORS SHALL OPEN THE MAIN DISCONNECT/POWER SUPPLY TO THE ELEVATOR CONTROLLER. CONTROL CIRCUITS TO SHUT OFF ELEVATOR POWER SHALL BE MONITORED BY THE FIRE ALARM CONTROL PANEL. CONTROL MODULE SHALL BE WITHIN 3 FEET OF THE ELEVATOR CONTROLLER.

21. WHERE THERE IS A GENERATOR ON THE PROJECT, PROVIDE RELAYS AS REQUIRED FOR THE FIRE ALARM SYSTEM TO MONITOR THE FOLLOWING THREE CONDITIONS: GENERATOR RUNNING; GENERATOR FAULT; GENERATOR SWITCH NOT IN AUTO.

22. WHERE THERE IS A FIRE PUMP ON THE PROJECT, PROVIDE RELAYS AS REQUIRED FOR THE FIRE ALARM SYSTEM TO MONITOR THE FOLLOWING THREE CONDITIONS: FIRE PUMP RUNNING; FIRE PUMP LOSS OF POWER; FIRE PUMP POWER PHASE REVERSAL.

23. PROVIDE AN ADDRESSABLE FIRE ALARM SYSTEM PER NFPA AND ALL STATE AND LOCAL CODE REQUIREMENTS. COMPLY WITH NFPA 72 AND ADA REQUIREMENTS.

24. FIELD VERIFY LOCATION OF AREA SMOKE DETECTORS AND HEAT DETECTORS. DO NOT LOCATE WITHIN 36" OF AN HVAC DIFFUSER (SUPPLY OR RETURN), IN DIRECT AIR FLOW PATH, OR WITHIN 24" OF A SPRINKLER HEAD UNLESS NOTED OTHERWISE. SMOKE DETECTORS FOR DOOR RELEASE SHALL BE LOCATED ON THE CENTERLINE OF THE DOOR AND A MAXIMUM OF FIVE FEET FROM THE DOOR. THE MINIMUM DISTANCE FROM THE DOOR SHALL BE THE DEPTH OF THE WALL SECTION ABOVE THE DOOR, BUT NOT LESS THAN 12".

25. PROVIDE LABELS FOR REMOTE ALARM INDICATORS FOR DUCT MOUNTED SMOKE DETECTORS (I.E., AHU-1 SUPPLY, AHU-2 RETURN, FIRE/SMOKE DAMPER, ETC.). DUCT DETECTORS SHOULD BE LOCATED WITHIN 6 TO 10 EQUIVALENT DIAMETERS OF STRAIGHT, UNINTERRUPTED DUCTWORK. DUCT DETECTORS FOR FIRE/SMOKE DAMPERS SHOULD BE LOCATED BETWEEN THE LAST INLET OR OUTLET UPSTREAM OF THE DAMPER AND THE FIRE INLET OR OUTLET DOWNSTREAM OF THE DAMPER, AND WITHIN FIVE FEET OF THE FIRE/SMOKE WALL.

26. EQUIPMENT SHUT DOWN FIRE ALARM RELAYS SHALL BE LOCATED WITHIN THREE (3) FEET OF THE EQUIPMENT CONTROLS AND THE WIRING TO THE RELAY SHALL BE MONITORED BY THE FIRE ALARM SYSTEM.

27. ALL FIRE ALARM CABLE SHALL BE INSTALLED IN CONDUIT; NO FIRE ALARM CONDUIT SHALL BE INSTALLED UNDER SLAB. PROVIDE MANUFACTURED RED CONDUIT UNLESS OTHERWISE NOTED.

28. MINIMIZE EXPOSURE OF DETECTORS TO DIRT AND DUST FROM CONSTRUCTION. PROVIDE PLASTIC COVERS DURING CONSTRUCTION.

29. STATE CERTIFIED AND LICENSED FIRE ALARM CONTRACTOR SHALL PREPARE AND SUBMIT SIGNED AND SEALED DRAWINGS FOR THE LOCAL AUTHORITY HAVING JURISDICTION/ FIRE MARSHALL.

30. FOR RENOVATION PROJECTS, CONTRACTOR SHALL PROVIDE MEANS OF AUTOMATIC SMOKE DETECTION VIA INSTALLED SMOKE DETECTORS CONNECTED TO THE FACILITY FIRE ALARM SYSTEM FOR COVERAGE DURING NON-OCCUPIED PERIODS WITHIN THE CONSTRUCTION AREA, ALTERNATIVELY, A DOCUMENTED FIRE WATCH OF THE ENTIRE AREA PERFORMED IN INCREMENTS NO GREATER THAN ONE HOUR MAY BE PERFORMED PROVIDED THAT IT IS DOCUMENTED IN FULL ACCORDANCE WITH NFPA 72. COORDINATE ACTIVITY IN FIELD WITH GENERAL CONTRACTOR.

31. ALL NOTIFICATION DEVICES SHALL MATCH EXISTING NOTIFICATION DEVICES IN COLOR.

32. FIRE ALARM CIRCUITS SHALL MATCH EXISTING CLASS IN EXISTING BUILDINGS.

33. NOTIFICATION DEVICES SHALL BE ADDRESSABLE ELECTRIC-VIBRATING-POLARIZED HORNS, SELECTABLE FOR HIGH OR LOW dBA OUTPUT. THEY SHALL HAVE A SOUND PRESSURE LEVEL OF 90dBA MEASURED 10 FEET FROM HORN, USING CODED SIGNAL PER NFPA 72.

34. FIRE ALARM CONTRACTOR/VENDOR SHALL PREPARE FLORIDA LICENSE P.E. WORKING DRAWINGS INCORPORATING THE FIRE ALARM CRITERIA DESIGN AND CONFIRMING TO AHJ REQUIREMENTS. CONTRACTOR SHALL PROVIDE ALL MATERIAL REQUIRED PER AHJ AND DESIGN CRITERIA FOR A FULLY FUNCTIONING AND PERMITTABLE FIRE ALARM SYSTEM. SUBMIT TO DESIGN PROFESSIONAL AS A SHOP DRAWING FOR REVIEW. SUBMIT COMPLETE SIGNED & SEALED DRAWINGS TO PERMITTING AGENCY AND FOR CERTIFICATE OF OCCUPANCY. COMPLETED FIRE ALARM CERTIFICATION SHALL BE PROVIDED TO OWNER AT COMPLETION OF CONSTRUCTION.

35. FIRE ALARM DESIGN IS IN ACCORDANCE WITH FLORIDA STATUTES CHAPTER 61G15-32. WHERE A FIRE ALARM RISER IS INDICATED, IT IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO REPRESENT A COMPLETE WIRING AND DEVICE DISPLAY. ALL WIRING AND DEVICES SHALL BE IN ACCORDANCE WITH SELECTED VENDOR'S POINT-BY-POINT WIRING DIAGRAM. REFER TO FLOOR PLAN FOR DESIGN INTENT AND PROPOSED QUANTITY OF FIRE ALARM SYSTEM COMPONENTS.

**WHERE THERE IS A DISCREPANCY BETWEEN ABOVE GENERAL NOTES AND SPECIFICATIONS, WHERE APPLICABLE, SPECIFICATIONS SHALL BE FOLLOWED**

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OWNER / PROJECT:

# ADDITION & RENOVATIONS PHASE 1

ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY

LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
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ISSUE DATE: NOVEMBER 14, 2025

ELECTRICAL GENERAL NOTES

E0.3

PERMIT / BID SET

# ELECTRICAL SPECIFICATIONS

**260010 - BASIC ELECTRICAL REQUIREMENTS**

1. BOND AND GROUND THE ELECTRICAL SYSTEM PER NEC ARTICLE 250.
2. PUT INTO OPERATION AND TEST ELECTRICAL EQUIPMENT. CIRCUITS SHALL BE TESTED BY THE CONTRACTOR FOR PROPER VOLTAGE; CONTINUITY; PROPER POLARITY; PROPERLY FUNCTIONING GROUND FAULT INTERRUPTERS AND OTHER OUTLETS AND EQUIPMENT; AND FOR ELECTRICAL ISOLATION OF UNGROUNDED CONDUCTORS FROM GROUND AND FROM THE CONDUIT SYSTEM.
3. CONTRACTOR SHALL PROVIDE NECESSARY TESTING EQUIPMENT AND PERSONNEL. TESTS SHALL BE MADE IN THE PRESENCE OF THE OWNER OR A REPRESENTATIVE THEREOF. WHEN TEST RESULTS ARE NOT SATISFACTORY, THE CONTRACTOR SHALL MAKE NECESSARY ADJUSTMENTS AND / OR CORRECTIONS AND SHALL NOTIFY THE OWNER.
4. PROVIDE COMPLETE INSTALLATION OF ELECTRICAL DEVICES AND EQUIPMENT, PHONE, CABLE, DATA, FIBER AS WELL AS ANY OTHER SYSTEMS SHOWN IN THESE DRAWINGS.
5. ELECTRICAL EQUIPMENT LOCATIONS ARE APPROXIMATE ONLY. FOR ALL MEASUREMENTS, USE ARCHITECTURAL PLANS AND FIELD SURVEYS. COORDINATE WITH AIR CONDITIONING WORK, CABINET WORK, PARTITION WORK, ETC., WHERE REQUIRED. LAYOUT OF EQUIPMENT, ACCESSORIES, SPECIALTIES, WIRING AND CONDUIT SYSTEMS ARE STRICTLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. DRAWINGS DO NOT INDICATE EVERY REQUIRED FITTING, ELBOW, TRANSITION, JUNCTION BOX OR SIMILAR ITEMS THAT ARE REQUIRED FOR A COMPLETE INSTALLATION.
6. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS WHICH SHALL INCLUDE REVISIONS, SKETCHES SSCT, REQUIRED DURING CONSTRUCTION. CONTRACTOR SHALL ENSURE CIRCUITRY IS SHOWN AS WIRED IN THE FIELD AND HAS ACCURATE HOMERUN DESIGNATIONS. THE CONTRACTOR SHALL MARK THESE DRAWINGS TO MATCH INSTALLED CONDITIONS.
7. UPON APPROVAL OF THE ARCHITECT, MOUNTING HEIGHTS MAY BE ADJUSTED. RECEPTACLES SHALL BE MOUNTED VERTICALLY WITH THE GROUND PIN UP.
8. ELECTRICAL PENETRATIONS AND BOXES IN FIRE OR SMOKE RATED PARTITIONS SHALL COMPLY WITH IBC SECTION 714.
9. CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED WORK TO UNDERSTAND THE COMPLEXITY, RESTRICTIONS, AND OTHER REQUIREMENTS TO PERFORM WORK OF THESE DOCUMENTS.
10. UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR SWITCH OFF ANY ELECTRICAL SERVICE AT ANY POINT IN THE ELECTRICAL DISTRIBUTION SYSTEM OR PERFORM ANY WORK THAT WOULD INTERRUPT OR AFFECT THE NORMAL OPERATIONS OF THE FACILITY, OR TENANT OFFICE, UNLESS OTHERWISE NOTED. ANY WORK INCLUDED OF THE ABOVE SHALL BE PERFORMED DURING "OTHER THAN NORMAL HOURS" AT A TIME AND DATE CONVENIENT WITH THE OWNER. THE CONTRACTOR, IN ADVANCE, SHALL PRESENT A METHOD OF PROCEDURE DETAILING THE SCOPE OF WORK AND LENGTH OF TIME TO COMPLETE THE WORK AND A PROPOSED TIME AND DATE. OWNER RETAINS THE RIGHT TO ADJUST THE TIME AND DATE OR CANCEL AN APPROVED SCHEDULE AT NO ADDITIONAL COST.
11. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO CONSTRUCTION FOR PANELBOARDS, CIRCUIT BREAKERS, LIGHTING FIXTURES, TRANSFORMERS, DISCONNECT SWITCHES, CONTROL DEVICES, CABLING, AND WIRING DEVICES. OPERATION AND MAINTENANCE MANUALS SHALL BE SUBMITTED FOR PANELBOARDS, TRANSFORMERS, LIGHTING FIXTURES WITH EMERGENCY BATTERY PACKS AND ANY OTHER EQUIPMENT UNDER THIS CONTRACT REQUIRING REGULAR OPERATION OR MAINTENANCE.
12. CONTRACTOR SHALL CAREFULLY INVESTIGATE STRUCTURAL CONDITIONS, WALL AND CHASE LOCATIONS AND ROOM FINISHES. MAKE ACTUAL MEASUREMENTS ON THE JOB SO THAT ELECTRICAL EQUIPMENT SUCH AS PANELBOARDS, SWITCHES, RECEPTACLES, LIGHTING FIXTURES, FIRE ALARM DEVICES, ANNUNCIATORS, CONDUITS AND ACCESSORIES SHALL HAVE REQUIRED CLEARANCES AS REQUIRED BY THE NEC AND IN ACCORDANCE WITH THE MANUFACTURER'S REQUIRED INSTALLATION PROCEDURES. EQUIPMENT SHALL BE CONNECTED IN A WAY THAT ALLOWS AMPLE MAINTENANCE SPACE.
13. A WARRANTY PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF FINAL COMPLETION OF THE PROJECT SHALL APPLY TO ELECTRICAL EQUIPMENT AND DEVICES FURNISHED UNDER THESE SPECIFICATIONS. CONTRACTOR SHALL REPAIR OR REPLACE ANY DEFECTS IN WORKMANSHIP, DESIGN, OR MATERIALS AT HIS OWN EXPENSE. WARRANTY WORK SHALL BE PERFORMED WITHIN A REASONABLE TIMEFRAME AS SOON AS POSSIBLE AFTER A DISCREPANCY IS NOTICED.
14. CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ADEQUATE PROTECTION OF STORED MATERIALS. LIGHTING FIXTURES AND EQUIPMENT SHALL BE TIGHTLY COVERED AND PROTECTED AGAINST DIRT, RUST, MOISTURE, CHEMICAL, AND MECHANICAL INJURY. MATERIALS SHALL NOT BE STORED DIRECTLY ON EARTH OR IN AREAS WHERE THEY ARE SUBJECT TO DAMAGE FROM VEHICLE TRAFFIC OR CONSTRUCTION EQUIPMENT.
15. AT THE END OF EACH WORK DAY, THE CONTRACTOR SHALL REMOVE DEBRIS, SURPLUS MATERIAL, OR FOREIGN MATTER CAUSED BY THE ELECTRICAL WORK ON THE PREMISES. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LEAVING THE PREMISES IN A CLEAN CONDITION.
16. NO INSTALLATION SHALL BE CONSIDERED COMPLETE UNTIL THE PROPER OPERATION OF ELECTRICAL EQUIPMENT HAS BEEN DEMONSTRATED TO BE SATISFACTORY TO THE OWNER OR ITS AUTHORIZED REPRESENTATIVE. ANY RECORD DRAWINGS OR BOOKS NECESSARY TO MAINTAIN OR REPLACE ANY CONTRACTOR SUPPLIED MATERIAL SHALL BE COMPILED AND PRESENTED TO THE OWNER IN A FORM SUITABLE FOR REPRODUCTION.

**260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS**

1. MAIN ELECTRIC SERVICE EQUIPMENT, RACEWAYS, PANELBOARDS, AND OTHER ELECTRICAL EQUIPMENT SHALL BE EFFECTIVELY AND PERMANENTLY GROUNDED TO A GROUNDING ELECTRODE. THIS ELECTRODE SHALL BE THE NEAREST AVAILABLE EFFECTIVELY GROUNDED METAL STRUCTURAL MEMBER, THE NEAREST EFFECTIVELY GROUNDED METAL WATER PIPE, AS WELL AS A MINIMUM OF (2) 5/8"x10' COPPERCLAD GROUND RODS SPACED 6'-0" APART. GROUNDING CONNECTIONS AND CONDUCTOR SIZES SHALL BE IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND LOCAL ORDINANCES.
2. A SEPARATE GROUNDING CONDUCTOR, SIZED IN ACCORDANCE WITH NEC 250.122 SHALL BE PROVIDED IN ANY CONDUIT WITH CIRCUIT CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS.
3. ELECTRICAL EQUIPMENT ENCLOSURES AND CONDUCTOR ENCLOSURES SHALL BE GROUNDED. THIS INCLUDES, BUT IS NOT LIMITED TO, METAL RACEWAYS, CABINETS, SWITCH BOXES, AND ANY OTHER METALLIC ENCLOSURES FOR ELECTRICAL EQUIPMENT.
4. UNDER NO CIRCUMSTANCE SHALL THE NEUTRAL CONDUCTOR BE GROUNDED AT ANY POINT IN THE ELECTRICAL SYSTEM OTHER THAN THE SERVICE EQUIPMENT, SERVICE DISCONNECT, AND THE PRIMARY DISCONNECT OF A SEPARATELY DERIVED SYSTEM.
5. PANELBOARDS SHALL BE EQUIPPED WITH A NEUTRAL BAR THAT IS ISOLATED FROM THE ENCLOSURE AND A GROUNDING BAR WHICH IS BONDED TO THE ENCLOSURE.
6. FOR NEW CONSTRUCTION PROJECTS, A #4 AWG COPPER GROUNDING ELECTRODE CONDUCTOR SHALL BE CONNECTED TO THE FOUNDATION REBAR PRIOR TO POURING CONCRETE. AT A MINIMUM, THE GROUNDING SYSTEM SHALL CONSIST OF A #6 AWG COPPER GROUNDING ELECTRODE CONDUCTOR CONNECTED TO THE (2) GROUND RODS, AND ALL OTHER APPROVED GROUNDING ELECTRODES AVAILABLE SHALL BE CONNECTED WITH CONDUCTORS SIZED PER NEC TABLE 250.66.

**260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS**

1. INDOOR BRANCH CIRCUITS IN DRY LOCATIONS SHALL BE METAL CLAD (MC) CABLE, UNLESS OTHERWISE NOTED. CIRCUIT HOMERUNS FROM THE FIRST TERMINATION BACK TO THE PANELBOARD SHALL BE ELECTRICAL METALLIC TUBING. USE FLEXIBLE AC CABLE WHIPS FOR FINAL CONNECTIONS TO LIGHTING FIXTURES AND ANY VIBRATING EQUIPMENT.
2. CONDUITS OUTDOORS IN WET AND DAMP LOCATIONS SHALL BE ELECTRICAL METALLIC TUBING, UNLESS SUBJECT TO PHYSICAL DAMAGE, WHERE RIGID GALVANIZED STEEL CONDUIT SHALL BE USED. CONDUIT BELOW GRADE SHALL BE PVC SCHEDULE 40 WITH GALVANIZED RIGID ELBOWS WHERE CONDUIT TURNS UP.
3. FITTING FOR ELECTRICAL METALLIC TUBING SHALL BE SET SCREW OR COMPRESSION TYPE. DIE CAST FITTINGS OR CONNECTORS ARE NOT APPROVED. EMT AND MC CABLE CONNECTORS SHALL HAVE INSULATED THROATS.
4. FLEXIBLE CONDUIT IN AREAS OTHER THAN CEILING PLENUM THAT ARE SUBJECT TO MOISTURE SHALL BE LIQUID-TIGHT FLEXIBLE CONDUIT. ELECTRICAL CONNECTIONS TO VIBRATION ISOLATED EQUIPMENT SHALL BE MADE WITH FLEXIBLE CONDUIT. CONDUITS ENTERING THE BUILDING SHALL BE SUITABLY SEALED TO PREVENT THE ENTRANCE OF MOISTURE.
5. CONDUIT TERMINATIONS IN EXTERIOR ENCLOSURES SHALL UTILIZE WEATHERPROOF LOCKNUTS AND FITTINGS.
6. DEVICE JUNCTION BOXES SHALL BE METAL MINIMUM 4 IN. x 4 IN. WITH PLASTER RINGS AND SHALL BE MOUNTED USING UTILITY BRACKETS.
7. LABEL CONDUITS FOR POWER, LIGHTING, FIRE ALARM, AND LOW VOLTAGE / TELE-DATA. LABEL JUNCTION BOXES WITH PANEL AND CIRCUIT DESIGNATIONS.
8. SUPPORT CONDUIT FROM STRUCTURAL MEMBERS. REPAIR DAMAGE TO FIREPROOFING WITH APPROVED MATERIAL THAT MATCHES EXISTING FIREPROOFING. CONDUIT OR WIRE SUPPORTED FROM CEILING GRID SUPPORTS IS NOT APPROVED.
9. CONDUITS MOUNTED IN CEILING SPACES SHALL BE AS CLOSE AS POSSIBLE TO BEAMS AND / OR SLAB ABOVE. JUNCTION BOXES IN CEILING CAVITY SHALL BE MOUNTED TO STRUCTURE.
10. SUBMITTALS: PROVIDE PRODUCT DATA SUBMITTALS FOR RACEWAYS, WIREWAYS, FITTINGS, FLOOR BOXES AND CABINETS.

**260519 - LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES**

1. CONDUCTORS SHALL BE COPPER OF NOT LESS THAN 98% CONDUCTIVITY. BRANCH CIRCUIT WIRING SHALL BE #12 AWG AT A MINIMUM, UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE COPPER SIZES #10 AND SMALLER SHALL BE SOLID COPPER THWN/THHN. LARGER SIZES SHALL BE STRANDED COPPER THW, THWN/THHN. FINAL CONNECTIONS TO WIRING DEVICES WITH SCREW TERMINALS SHALL BE MADE WITH SOLID WIRE.
2. ALUMINUM FEEDERS ARE NOT PERMITTED ON THIS PROJECT UNLESS APPROVED BY THE ENGINEER.
3. FIXTURE WIRE IS PERMITTED TO BE INSTALLED IN LENGTHS TO NOT EXCEED 6 FEET AND TO BE 14 OR 16 GAUGE, STRANDED, RATED 600 VOLTS, IF INSTALLED PER THE REQUIREMENTS OF THE NEC.
4. CONDUCTOR SPLICES SHALL BE KEPT TO A MINIMUM. FEEDER CONDUCTOR SPLICES ARE NOT ALLOWED UNLESS APPROVED BY THE ENGINEER.
5. DO NOT PULL CONDUCTORS INTO THE RACEWAY SYSTEM (INCLUDING OUTLETS, CABINETS, BUSHINGS AND FITTINGS) UNTIL THE ENTIRE RUN IS COMPLETED. THE USE OF APPROVED CABLE LUBRICANTS IS PERMITTED.
6. SUBMITTALS: PROVIDE PRODUCT SUBMITTAL ON BRANCH CIRCUIT AND FEEDER WIRING.

**262726 - WIRING DEVICES**

1. WALL SWITCHES: SWITCHES SHALL BE COMMERCIAL GRADE, 20 AMPERE RATED, 120/277 VOLTS, ALTERNATING CURRENT ONLY, AND QUIET OPERATION.
2. RECEPTACLES: RECEPTACLES SHALL BE GROUNDING TYPE, DUPLEX UNLESS OTHERWISE NOTED, 20 AMPERE RATED, 125 VOLTS, 2-WIRE, 3-POLE WITH GROUNDED YOKE.
3. GROUND-FAULT CIRCUIT INTERRUPTER: GFCI TYPE RECEPTACLES SHALL BE COMMERCIAL GRADE, 20 AMPERE RATED, 125 VOLTS, NEMA 5-20R WITH LOCAL TEST / RESET BUTTONS, SOLID-STATE GROUND-FAULT SENSING AND SIGNALING, AND WITH 5 MILLIAMPERES GROUND-FAULT TRIP LEVEL.
4. RECEPTACLES LOCATED IN DWELLING UNITS, GUEST ROOMS OR GUEST SUITES, CHILD CARE FACILITIES, PRESCHOOLS AND EDUCATION FACILITIES, BUSINESSES OFFICES, WAITING ROOMS FOR CLINICS, OUTPATIENT FACILITIES, DORMITORY UNITS, AND ASSISTED LIVING FACILITIES SHALL BE TAMPER-RESISTANT UNLESS EXEMPT PER NEC.
5. COVER PLATES FOR SWITCHES, RECEPTACLES, TELE/DATA OUTLETS, AND OTHER DEVICES LOCATED IN FINISHED WALLS SHALL BE SMOOTH THERMOPLASTIC. COLOR TO MATCH THE WIRING DEVICE. PLATES FOR WIRING DEVICES LOCATED IN UNFINISHED WALLS SHALL BE STAINLESS STEEL WITH ROUNDED EDGES.
6. RECEPTACLES LOCATED IN BATHROOMS, COMMERCIAL KITCHENS, MECHANICAL ROOMS, JANITOR CLOSETS, ELEVATOR SHAFTS, ELEVATOR EQUIPMENT ROOMS, OR INSTALLED WITHIN 6 FEET OF THE EDGE OF A SINK SHALL BE GFCI.
7. DEVICES INSTALLED IN DAMP OR WET LOCATIONS SHALL BE UL LISTED WEATHER-RESISTANT AND SHALL BE PROVIDED WITH A WEATHERPROOF WHILE IN-USE COVER RATED FOR EXTRA DUTY.
8. APPROVED MANUFACTURERS:
   HUBBELL
   LEVITON
   PASS & SEYMOUR / LEGRAND
   COOPER
   OR APPROVED EQUAL

**262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS**

1. DISCONNECTS RATED 100 AMPERES OR LESS SHALL BE SURFACE-MOUNTED, GENERAL-DUTY, OF TYPES, SIZES, AND ELECTRICAL CHARACTERISTICS INDICATED ON THE DRAWINGS.
2. DISCONNECTS RATED 200 AMPERES OR GREATER SHALL BE SURFACE-MOUNTED, HEAVY-DUTY, OF TYPES, SIZES, AND ELECTRICAL CHARACTERISTICS INDICATED ON THE DRAWINGS.
3. DISCONNECTS SHALL BE RATED FOR THE VOLTAGE OF THE SUPPLYING CIRCUIT CONDUCTORS. DISCONNECTS SHALL BE SOLID NEUTRAL UNLESS OTHERWISE NOTED.
4. FUSIBLE SWITCHES SHALL ACCEPT CLASS R FUSES AND BE UL LISTED FOR USE WITH COPPER OR ALUMINUM WIRES (75 DEG)
5. ENCLOSURES:
   INDOOR, DRY AND CLEAN LOCATIONS: NEMA TYPE 1
   OUTDOOR LOCATIONS: NEMA TYPE 3R
   KITCHEN / WASH DOWN AREAS: NEMA TYPE 4X

**265119 - LED INTERIOR LIGHTING & 265619 LED EXTERIOR LIGHTING**

1. GENERAL: LIGHTING FIXTURES SHALL BE AS INDICATED AND SCHEDULED ON THE DRAWINGS. THE OMISSION OF A TYPE OR QUANTITY IN THE FIXTURE SCHEDULE WILL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF FURNISHING FIXTURES INDICATED ON THE DRAWINGS.
2. FURNISH, ASSEMBLE, AND INSTALL LIGHTING FIXTURES, INCLUDING THOSE FOR GENERAL ILLUMINATION AND EXTERIOR LIGHTING. FIXTURES SHALL BE COMPLETE WITH LAMPS, LAMP HOLDERS, AND NECESSARY ACCESSORIES FOR A COMPLETE FUNCTIONAL SYSTEM. FIXTURES SHALL BEAR A UL LABEL OF APPROVAL AND BE PURCHASED, WIRED, AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER INSTRUCTIONS AND APPLICABLE CODES.
3. PRIOR TO ORDERING, DETERMINE THE EXACT TYPE OF SURFACE TO BE FURNISHED IN EACH AREA AND OBTAIN LIGHT FIXTURES TO SUIT. DEVIATE FROM THE SPECIFIED DESCRIPTIONS ONLY WHERE NECESSARY AND TO THE EXTENT NECESSARY TO ENSURE COMPATIBILITY OF THE FIXTURE AND THE MOUNTING SURFACE.
4. PROVIDE ADEQUATE AND SAFE PROTECTION FOR FIXTURES AND AT COMPLETION OF THE WORK THEY SHALL BE MADE CLEAN AND FREE OF FOREIGN MATERIAL, DUST, SECT.
5. FURNISH AND INSTALL INSERTS, ANCHORS, STUDS, AND HANGERS FOR THE SUPPORT OF LIGHTING FIXTURES AND RESPECTIVE EQUIPMENT, AND MAKE NECESSARY ADJUSTMENTS REQUIRED THEREIN.
6. VERIFY LOCATION AND SPACING OF LIGHTING FIXTURES WITH LIGHTING PLANS AND THE ARCHITECT'S REFLECTED CEILING PLANS PRIOR TO INSTALLATION. COORDINATE SPACE CONDITIONS; INCLUDING HEAD ROOM CLEARANCES AND INTERFERENCES WITH OTHER CEILING COMPONENTS, SUCH AS OPENINGS, BEAMS, OR PIPING PRIOR TO INSTALLATION.
7. THE ELECTRICAL CONTRACTOR SHALL SUPPORT EACH FIXTURE DIRECTLY FROM THE BUILDING STRUCTURAL MEMBERS INDEPENDENT OF ANY CEILINGS OR CEILING GRIDS. PROVIDE SUPPLEMENTAL MATERIALS AS REQUIRED TO SPAN ACROSS PIPING OR OTHER OBJECTS WHERE DIRECT ABOVE THE FIXTURE IS NOT POSSIBLE. SUPPORT AND WEIGHT OF THE FIXTURE MUST BE DIRECTLY FROM THE STRUCTURE.
8. SUBMITTALS: PROVIDE PRODUCT SUBMITTAL ON LIGHTING FIXTURES PRIOR TO ORDERING.

**260923 - LIGHTING CONTROL DEVICES**

1. LIGHTING CONTROLS SHALL COMPLY WITH THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE, CHAPTER C405.
2. LIGHTING CONTROL DEVICES SHALL BE AS INDICATED ON THE DRAWINGS FOR SWITCHES, PANELS, PHOTOCELLS, AND MOTION SENSORS. CONTRACTOR SHALL PROVIDE ASSOCIATED WIRING BETWEEN INTERCONNECTION OF DEVICES AS PER THE SELECTED LIGHTING CONTROL VENDOR'S INSTALLATION INSTRUCTIONS.
3. THE ELECTRICAL CONTRACTOR SHALL PROVIDE TRAINING TO THE OWNER ON THE OPERATION AND MAINTENANCE OF THE LIGHTING CONTROL SYSTEM. MANUFACTURER PROVIDED WIRING DIAGRAMS AND SHOP DRAWINGS SHALL BE PROVIDED TO THE OWNER, AS WELL AS ANY OPERATION AND MAINTENANCE MANUALS PERTAINING TO THE CONTROL SYSTEM.
4. WHERE A DIMMING CONTROL IS SPECIFIED ON PLAN, THE CONTRACTOR SHALL COORDINATE THE RESPECTIVE LIGHTING FIXTURE DIMMING PROTOCOL TO ENSURE THAT THE CORRECT AND COMPATIBLE DIMMER IS PROVIDED, WHETHER SPECIFIED ON THE DRAWINGS OR NOT.
5. SUBMITTALS: PROVIDE PRODUCT SUBMITTALS ON LIGHTING CONTROL COMPONENTS, WIRING DIAGRAMS, AND CONTROL SEQUENCES FOR APPROVAL PRIOR TO ORDERING.
6. APPROVED MANUFACTURERS:
   WATTSTOPPER
   LEVITON
   LUTRON
   ACUITY
   TORK
   OR APPROVED EQUAL

**260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS**

1. ELECTRICAL SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, TRANSFER SWITCHES, CONTROLS BOXES, MECHANICAL HVAC UNIT DISCONNECTS, ETC. SHALL BE IDENTIFIED WITH ENGRAVED PLASTIC LAMINATE NAME TAGS.
2. PROVIDE A PERMANENT RED LABEL IDENTIFYING THE SERVICE DISCONNECTING MEANS, OR MULTIPLE SERVICE DISCONNECTING MEANS AND THEIR LOCATIONS.
3. PROVIDE A TYPE WRITTEN PANELBOARD DIRECTORY FOR NEW PANELBOARDS AND EXISTING PANELBOARDS AFFECTED BY THIS PROJECT. DIRECTORIES SHALL REFLECT AS-BUILT PROJECT CONDITIONS FOR BRANCH CIRCUITS. THE PANEL DIRECTORY SHALL INCLUDE THE VOLTAGE, WIRE, PHASE, AND AMPERE RATING OF THE PANELBOARD AS WELL AS WHERE THE PANEL IS FED FROM.
4. PROVIDE LABELS ON THE INSIDE OF EACH WIRING DEVICE COVERPLATE IDENTIFYING THE PANEL AND CIRCUIT NUMBER THE DEVICE IS CONNECTED TO.
5. PROVIDE NEAT, HAND-WRITTEN IDENTIFICATION ON THE COVER OF JUNCTION BOXES, PULLBOXES, AND WIREWAYS, IDENTIFYING THE PANELS AND CIRCUITS CONTAINED WITHIN.
6. PROVIDE A PERMANENT LABEL ON NEW SERVICE EQUIPMENT TO INDICATE THE MAXIMUM AVAILABLE FAULT CURRENT AND THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED.
7. THREE-PHASE SYSTEMS SHALL HAVE COLOR CODED WIRING FOR EACH FEEDER AND BRANCH CIRCUIT CONDUCTORS AS SUCH:

| 120, 208, OR 240 VOLTS | 277 OR 480 VOLTS |
|---|---|
| PHASE A: BLACK | PHASE A: BROWN |
| PHASE B: RED | PHASE B: ORANGE |
| PHASE C: BLUE | PHASE C: YELLOW |
| NEUTRAL: WHITE | NEUTRAL: WHITE |
| GROUND: GREEN | GROUND: GREEN |

**262200 - LOW-VOLTAGE TRANSFORMERS**

1. GENERAL: DRY TYPE TRANSFORMERS SHALL BE FACTORY ASSEMBLED, METAL ENCLOSED, AND PROVIDED WITH COMPLETE MOUNTING BRACKETS AS REQUIRED.
2. THREE PHASE UNITS SHALL BE WOUND DELTA-WYE UNLESS OTHERWISE NOTED. EACH THREE-PHASE TRANSFORMER SHALL HAVE THREE SEPARATE SETS OF COILS.
3. TAPS FOR TRANSFORMERS 7.5 TO 24 kVA: ONE 5% TAP ABOVE AND ONE 5% TAP BELOW NORMAL FULL CAPACITY.
4. TAPS FOR TRANSFORMERS 25 kVA AND LARGER: TWO 2.5% TAPS ABOVE AND TWO 2.5% TAPS BELOW NORMAL FULL CAPACITY.
5. INSULATION CLASS: 220 DEG C, UL-COMPONENT-RECOGNIZED INSULATION SYSTEM WITH A MAXIMUM OF 155 DEG C RISE ABOVE 40 DEG C AMBIENT TEMPERATURE.
6. TRANSFORMER SECONDARY SHALL BE GROUNDED TO THE NEAREST AVAILABLE EFFECTIVELY GROUNDED ELECTRODE. GROUNDING AND BONDING COMPONENTS ON THE TRANSFORMER SECONDARY SHALL BE APPROVED PER NEC ARTICLE 250.
7. SUBMITTALS: PROVIDE PRODUCT DATA AND SHOP DRAWINGS FOR APPROVAL FOR TRANSFORMERS PRIOR TO ORDERING.
8. APPROVED MANUFACTURERS:
   SQUARE D, SCHNEIDER ELECTRIC
   GENERAL ELECTRIC
   CUTLER HAMMER
   SIEMENS
   OR OTHER APPROVED EQUAL.

**262416 - PANELBOARDS**

1. GENERAL: PROVIDE PANELBOARDS, ENCLOSURES, AND ANCILLARY COMPONENTS OF TYPES, SIZES, AND RATINGS AS INDICATED ON THE DRAWINGS. WHERE TYPES, SIZES, OR RATINGS ARE NOT INDICATED, COMPLY WITH NEC, UL, AND ESTABLISHED INDUSTRY STANDARDS FOR THE APPLICATIONS INDICATED.
2. LIGHTING, RECEPTACLE, AND APPLIANCE PANELBOARDS SHALL BE DEAD FRONT SAFETY-TYPE EQUIPPED WITH BOLT-ON CIRCUIT BREAKERS AS SHOWN AND SCHEDULED.
3. MAIN LUG OR MAIN OVERCURRENT UNITS SHALL BE FURNISHED FOR PANELBOARDS AS INDICATED ON THE DRAWINGS.
4. THE NUMBER OF BRANCH CIRCUIT SPACES SHALL BE FURNISHED AS SHOWN ON THE DRAWINGS.
5. PANELBOARDS SHALL BE FLUSH-MOUNTED OR SURFACE-MOUNTED AS INDICATED ON THE DRAWINGS. TRIM FOR EACH PANEL SHALL BE SUITABLE FOR THE TYPE OF MOUNTING. EACH TRIM SHALL BE COMPLETE WITH A HINGED DOOR HAVING A FLUSH TYPE COMBINATION LOCK AND LATCH. FREE-STANDING CABINETS SHALL BE SECURED TO FLOORS, WALLS, AND COLUMNS WITH APPROVED ANGLE IRON OR UNISTRUT FRAMEWORK.
6. A DIRECTORY HOLDER SHALL BE FURNISHED AND INSTALLED UPON THE DOOR OF EACH CABINET, WITH A COMPLETE TYPEWRITTEN CIRCUIT SCHEDULE INSERTED.
7. FOR MULTIPLE SECTION PANELBOARDS, ROUTE THE GROUNDING CONDUCTOR FULL SIZE FROM GROUND BUS TO GROUND BUS. METAL-TO-METAL CABINET GROUNDING CONNECTION IS NOT SUFFICIENT. THE BUS RATING SHALL BE CONTINUOUS THROUGH EACH SECTION, NOT TAPERED OR DIMINISHED IN SIZE OR RATING. CABLE FROM ONE SECTION TO ANOTHER SHALL BE FULL CAPACITY AND NOT REDUCED.
8. CONNECTORS AND TERMINALS, INCLUDING SCREW TERMINALS AND LUG CONNECTIONS, SHALL BE TIGHTENED IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR EQUIPMENT CONNECTORS.
9. SUBMITTALS: PROVIDE PRODUCT SUBMITTAL ON PANELBOARDS AND CONTAINING OVERCURRENT DEVICES PRIOR TO ORDERING.
10. APPROVED MANUFACTURERS:
    EATON
    GENERAL ELECTRIC
    SIEMENS
    SQUARE D, SCHNEIDER ELECTRIC
    OR APPROVED EQUAL

**283111 - DIGITAL ADDRESSABLE FIRE ALARM SYSTEM**

1. MODIFY THE EXISTING FIRE ALARM SYSTEM AS INDICATED ON THE DRAWINGS. THE FIRE ALARM SYSTEM MANUFACTURER, DEVICE COLOR, AND CIRCUIT CLASS SHALL MATCH THE EXISTING BUILDING SYSTEM.
   CONTRACTOR SHALL CONFIRM EXISTING FIRE ALARM SYSTEM MANUFACTURER.
2. FIRE ALARM SYSTEM COMPONENTS SHALL BE UL LISTED, BE ADA COMPLIANT, BE CONSTRUCTED AND INSTALLED IN STRICT ACCORDANCE WITH NFPA 70 AND 72, AND COMPLY WITH APPLICABLE REQUIREMENTS OF THE STATE AND LOCAL CODES.
3. ADDITIONAL POWER SUPPLIES SHALL BE PROVIDED AS NECESSARY FOR COMPLETE INSTALLATION OF THE FIRE ALARM SYSTEM MODIFICATIONS.
4. ALARM SIGNALS SHALL BE HORNS AND STROBES AS SHOWN ON THE DRAWINGS. STROBES SHALL MEET THE MINIMUM CANDELA RATING AS REQUIRED BY THE ADA. HORNS SHALL BE ELECTRONIC TYPE, RECESSED, AND HAVE A MINIMUM OUTPUT OF 84 dB AT 10 FEET.
5. WIRING SHALL BE STRANDED #14 AWG COPPER, COLOR CODED, AND NUMBERED. INSULATION SHALL BE THHN OR XHHW.
6. FIRE ALARM SYSTEM WIRING IS PERMITTED TO BE INSTALLED ON J-HOOKS ABOVE CEILINGS AND IN OTHER CONCEALED SPACES. ALL WIRING TRANSITIONING INTO WALLS SHALL BE INSTALLED IN EMT CONDUIT WITH A MINIMUM TRADE SIZE OF 3/4" WITH A SMOOTH END BUSHING.
7. JUNCTION BOXES SHALL BE SIZED IN ACCORDANCE WITH THE NUMBER OF WIRES AND TERMINATIONS INSTALLED. JUNCTION BOXES HAVING MORE THAN TWELVE TERMINATIONS SHALL BE EQUIPPED WITH TERMINAL STRIPS. CONNECTIONS SHALL BE MADE BY, OR UNDER THE SUPERVISION OF, A QUALIFIED SYSTEM TRAINED TECHNICIAN.
8. UPON COMPLETION OF THE INSTALLATION, THE ENTIRE SYSTEM SHALL BE TESTED BY THE MANUFACTURE'S TECHNICIAN IN THE PRESENCE OF AN OWNERS REPRESENTATIVE, AND THE LOCAL AUTHORITY HAVING JURISDICTION. PRIOR TO FINAL CLOSE OUT TEST, A CERTIFICATION SHALL BE FORWARDED TO THE ENGINEER AND THE LOCAL AUTHORITY HAVING JURISDICTION.
9. SUBMITTALS: PROVIDE SHOP DRAWINGS FOR APPROVAL ON THE FIRE ALARM SYSTEM PRIOR TO INSTALLATION. THE SHOP DRAWINGS SHALL BE COMPLETE WITH DETAILED INFORMATION ON SYSTEM COMPONENTS AS WELL AS SYSTEM WIRING DIAGRAMS. PROVIDE BATTERY SIZE AND VOLTAGE DROP CALCULATIONS, PREPARED BY A QUALIFIED INSTALLER.


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# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

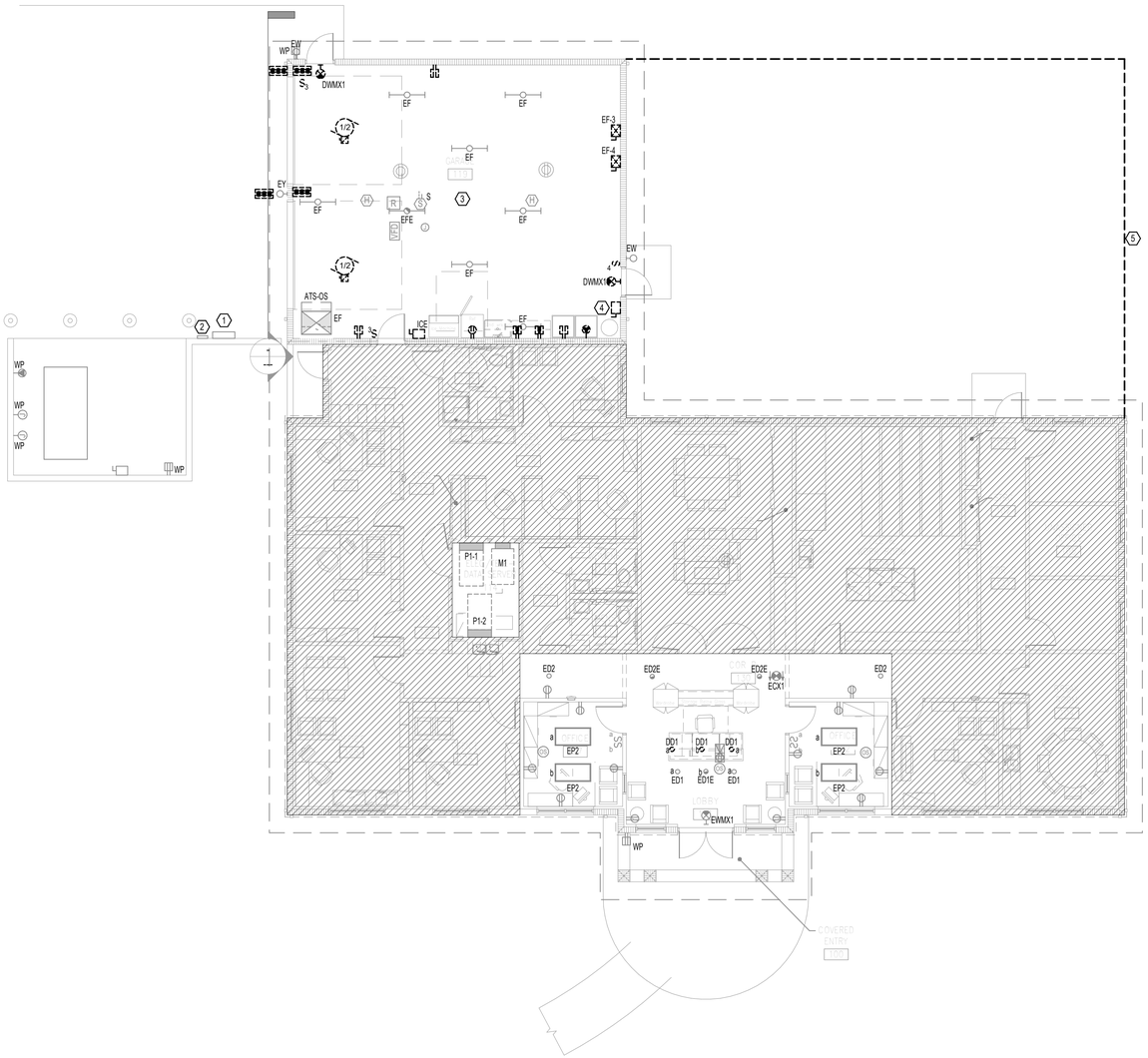
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ISSUE DATE: NOVEMBER 14, 2025

ELECTRICAL SPECIFICATIONS

E0.5

PERMIT / BID SET




D2 / E1.0 ELECTRICAL LEVEL 1 - DEMOLITION PLAN

1/8" = 1'-0"

0 4' 8' 16'

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

## DEMOLITION NOTES

A. DEMOLITION PLANS SHOW THE GENERAL EXTENT OF THE ELECTRICAL DEMOLITION WORK. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT ELECTRICAL SERVICES TO ALL EQUIPMENT BEING REMOVED, SEE MECHANICAL PLANS. OWNER SHALL HAVE THE OPTION TO RETAIN REUSABLE ITEMS, SUCH AS COVER-PLATES, RECEPTACLES, LIGHTS, ELECTRICAL PANELS, ETC. NOT BEING USED IN THE FINISHED WORK. COORDINATE WITH OWNER PRIOR TO STARTING DEMOLITION. PROPERLY AND LEGALLY DISPOSE OF ALL EQUIPMENT AND MATERIALS BEING REMOVED.

B. REMOVE ALL CONDUIT LEFT EXPOSED BY REMOVAL OF WALLS AND CEILINGS IN REMOLDED AREAS. PLUG BOTH ENDS OF REMAINING CONDUIT IN WALL OR FLOOR WHERE CUT.

C. ELECTRICAL RECEPTACLES, ETC. POSSIBLY CONCEALED BY STORAGE SHELVING, CASEWORK, FURNITURE, ETC. ARE NOT SHOWN AND MAY REQUIRE REMOVAL.

D. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ALL OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT AND ELECTRICAL DEVICES, ETC.

E. WHERE EQUIPMENT AND OTHER DEVICES ARE BEING REMOVED, THE CIRCUITING SHALL BE REMOVED, IF POSSIBLE, BACK TO POINT OF SUPPLY. WHERE REQUIRED, CIRCUITING SHALL BE EXTENDED TO MAINTAIN CONTINUITY OF THE CIRCUIT OR OPERATION OF THE SYSTEM.

F. ALL DEVICES SHOWN DASHED ON THE DEMOLITION PLAN(S) SHALL BE REMOVED, UNLESS OTHERWISE NOTED.

G. PROVIDE MATCHING BLANK COVER-PLATES WHERE DEVICES ARE BEING REMOVED FROM EXISTING TO REMAIN WALLS.

H. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK.

## (#) KEYED NOTES:

1. EXISTING TO REMAIN CT CABINET.
2. EXISTING TO REMAIN UTILITY METER.
3. DEMOLISH AND REMOVE ALL ELECTRICAL DEVICES IN THE CONSTRUCTION AREA BACK TO POINT OF SUPPLY. UNLESS OTHERWISE NOTED ON THIS PLAN OR ANOTHER DEMOLITION PLAN IN THIS SET.
4. RELOCATE EXISTING DISCONNECT SWITCH TO MEZZANINE TO SERVE NEW WATER HEATER "EWH-1". EXTEND EXISTING CONDUIT AND FEEDERS TO NEW DISCONNECT LOCATION AS REQUIRED TO MAINTAIN WATER HEATER CIRCUIT CONTINUITY.
5. FUTURE PHASE 2, SHOWN FOR INFORMATION ONLY.

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# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

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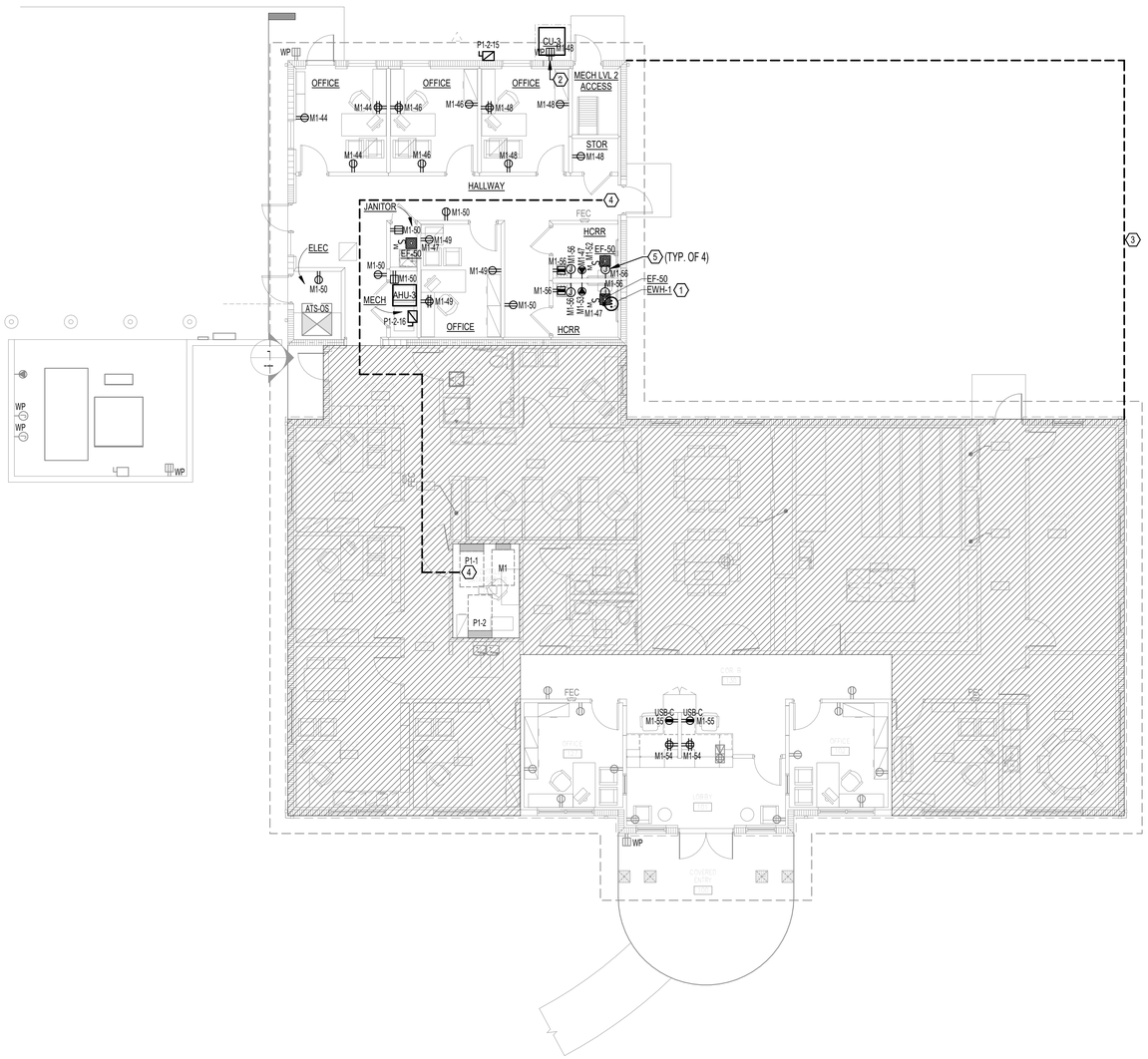
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ELECTRICAL LEVEL 1 - DEMOLITION PLAN

E1.0

PERMIT / BID SET




D2 ELECTRICAL LEVEL 1 - POWER NEW WORK
E1.1 1/8" = 1'-0"

0 4' 8' 16'
SCALE : 1/8" = 1'-0"

GENERAL POWER PLAN NOTES:

1. VERIFY AND COORDINATE EXACT ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO INSTALLATION OF EQUIPMENT. MODIFY LAYOUT AS REQUIRED PER CODE AND MANUFACTURER'S SPACE REQUIREMENTS.
2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF ALL DEVICES WITH ARCHITECTURAL ELEVATIONS AND CASEWORK.
3. PROVIDE LOCAL DISCONNECTING MEANS (I.E. TOGGLE SWITCH, KEY SWITCH) FOR ALL HARDWIRED CONNECTIONS, INCLUDING JUNCTION BOX CONNECTIONS, REGARDLESS OF IF ITS SHOWN ON THE PLANS.
4. ALL EQUIPMENT SHALL BE COORDINATED WITH THE SUPPLYING CONTRACTOR. ELECTRICAL TERMINATIONS SHALL BE ADJUSTED TO MATCH FINAL LAYOUT.
5. PROVIDE 120V,1Ø ELECTRICAL CONNECTIONS TO ALL HVAC TERMINAL UNITS, SUCH AS VAV'S.
6. ALL BRANCH CIRCUITS SHALL HAVE DEDICATED NEUTRAL CONDUCTORS.

(#) KEYED NOTES:

1. NEW WATER HEATER LOCATED ON MEZZANINE. RELOCATE EXISTING DISCONNECT SWITCH ON MEZZANINE AND RECONNECT TO EXISTING CIRCUITING.
2. PROVIDE RECESSED OUTLET BOX IN EXISTING EXTERIOR WALL.
3. FUTURE PHASE 2, SHOWN FOR INFORMATION ONLY.
4. PROVIDE (8) 3/4" EMT EMPTY CONDUITS AND (2) 1-1/4" EMT EMPTY CONDUITS ROUTED FROM MAIN ELECTRICAL ROOM TO HALLWAY FOR FUTURE USE IN PHASE 2. PROVIDE PULL ROPE IN EACH CONDUIT AND CAP EACH END OF ALL CONDUITS.
5. CONNECTION FOR LOW-VOLTAGE SENSORS FOR PLUMBING FIXTURES IN ROOM. PROVIDE TRANSFORMER FOR LINE VOLTAGE TO LOW-VOLTAGE SINGNALS.

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ELECTRICAL LEVEL 1 - POWER NEW WORK PLAN

E1.1
PERMIT / BID SET




D2 ELECTRICAL LEVEL 1 - LIGHTING NEW WORK
E1.2 1/8" = 1'-0"

0 4' 8' 16'
SCALE : 1/8" = 1'-0"

GENERAL LIGHTING PLAN NOTES:

A. REFER TO ARCHITECTURAL CEILING PLAN FOR FINAL PLACEMENT AND LOCATION OF ALL CEILING MOUNTED LIGHT FIXTURES.

B. REFER TO ARCHITECTURAL ELEVATIONS FOR FINAL MOUNTING HEIGHTS OF ALL WALL MOUNTED LIGHT FIXTURES.

C. SURFACE-MOUNTED RACEWAY IS NOT PERMITTED FOR INTERCONNECTION BETWEEN MULTIPLE UNDERCABINET LIGHT FIXTURES. BACKFEED ALL FIXTURES.

D. ALL DIMMING WIRING, E.G. 0-10V, SHALL BE 600V THHN TYPE INSULATION AND INSTALLED IN CONDUIT.

E. TYPICAL FOR ALL FIXTURES WITH BATTERIES: BATTERY SHALL BE WIRED UNSWITCHED SUCH THAT LIGHT FIXTURE IS CONTROLLED VIA THE LOCAL SWITCH AND THE BATTERY CAN CHARGE REGARDLESS OF SWITCH POSITION. UPON LOSS OF POWER, BATTERY SHALL TURN THE FIXTURE ON, REGARDLESS OF SWITCH POSITION FOR A MINIMUM OF 90 MINUTES.

F. ALL BRANCH CIRCUITS SHALL HAVE DEDICATED NEUTRAL CONDUCTORS.

G. CONTRACTOR SHALL PROVIDE SUPPLEMENTAL EXIT SIGNS AS REQUIRED FOR VISIBILITY.

## (#) KEYED NOTES

1. CONNECT TO EXISTING LIGHTING CIRCUITING AND CONTROLS FOR SPACE.
2. CONNECT TO EXISTING LIGHTING CIRCUITING.
3. 3-WAY LIGHT SWITCH SHALL CONTROL NEW WALL MOUNTED LIGHT ON LEVEL 1 & MEZZANNE AS WELL AS EXISTING TO REMAIN "EF" AND "EFE" LIGHT FIXTURES ON MEZZANINE (LEVEL 2). MOUNT (1) LIGHT SWITCH AT DOOR AND (1) LIGHT SWITCH TO THE GUARD RAIL AT THE TOP OF THE MEZZANINE LANDING.
4. FUTURE PHASE 2, SHOWN FOR INFORMATION ONLY.

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LAKE COUNTY, FL.

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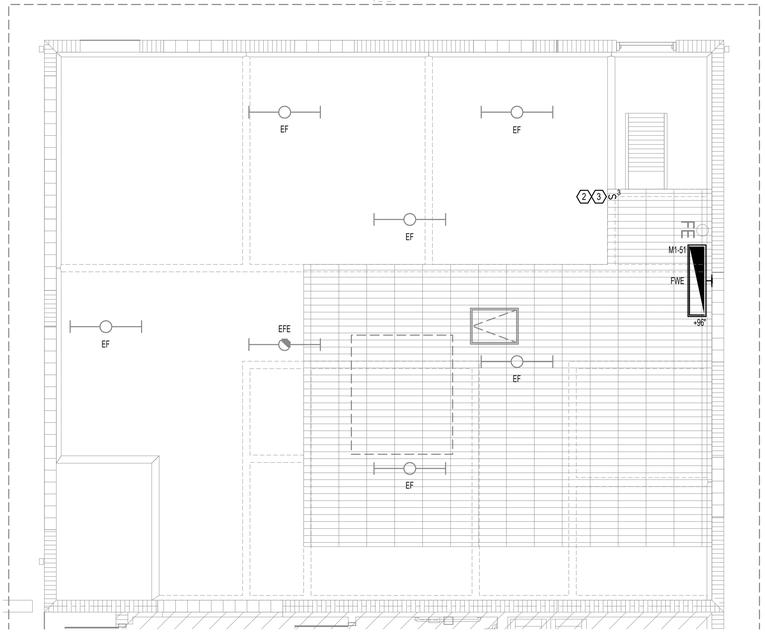
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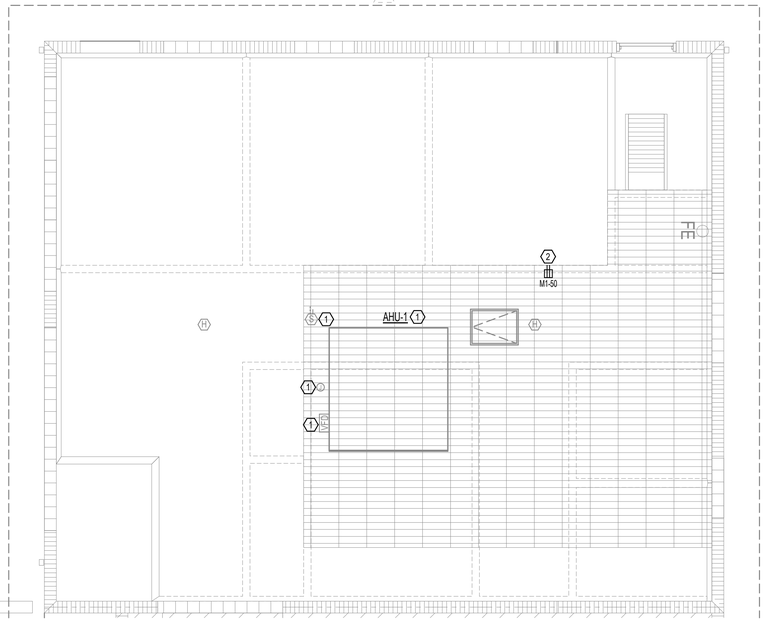
ELECTRICAL LEVEL 1 - LIGHTING NEW WORK PLAN

E1.2
PERMIT / BID SET




1 E1.3 ELECTRICAL LEVEL 2 - LIGHTING NEW WORK
1/4" = 1'-0"

0 2' 4' 8'
SCALE : 1/4" = 1'-0"




2 E1.3 ELECTRICAL LEVEL 2 - POWER NEW WORK
1/4" = 1'-0"

0 2' 4' 8'
SCALE : 1/4" = 1'-0"

GENERAL LIGHTING PLAN NOTES:

A. REFER TO ARCHITECTURAL CEILING PLAN FOR FINAL PLACEMENT AND LOCATION OF ALL CEILING MOUNTED LIGHT FIXTURES.

B. REFER TO ARCHITECTURAL ELEVATIONS FOR FINAL MOUNTING HEIGHTS OF ALL WALL MOUNTED LIGHT FIXTURES.

C. SURFACE-MOUNTED RACEWAY IS NOT PERMITTED FOR INTERCONNECTION BETWEEN MULTIPLE UNDERCABINET LIGHT FIXTURES. BACKFEED ALL FIXTURES.

D. ALL DIMMING WIRING, E.G. 0-10V, SHALL BE 600V THHN TYPE INSULATION AND INSTALLED IN CONDUIT.

E. TYPICAL FOR ALL FIXTURES WITH BATTERIES: BATTERY SHALL BE WIRED UNSWITCHED SUCH THAT LIGHT FIXTURE IS CONTROLLED VIA THE LOCAL SWITCH AND THE BATTERY CAN CHARGE REGARDLESS OF SWITCH POSITION. UPON LOSS OF POWER, BATTERY SHALL TURN THE FIXTURE ON, REGARDLESS OF SWITCH POSITION FOR A MINIMUM OF 90 MINUTES.

F. ALL BRANCH CIRCUITS SHALL HAVE DEDICATED NEUTRAL CONDUCTORS.

G. CONTRACTOR SHALL PROVIDE SUPPLEMENTAL EXIT SIGNS AS REQUIRED FOR VISIBILITY.

GENERAL POWER PLAN NOTES:

1. VERIFY AND COORDINATE EXACT ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO INSTALLATION OF EQUIPMENT. MODIFY LAYOUT AS REQUIRED PER CODE AND MANUFACTURER'S SPACE REQUIREMENTS.

2. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF ALL DEVICES WITH ARCHITECTURAL ELEVATIONS AND CASEWORK.

3. PROVIDE LOCAL DISCONNECTING MEANS (I.E. TOGGLE SWITCH, KEY SWITCH) FOR ALL HARDWIRED CONNECTIONS, INCLUDING JUNCTION BOX CONNECTIONS, REGARDLESS OF IF ITS SHOWN ON THE PLANS.

4. ALL EQUIPMENT SHALL BE COORDINATED WITH THE SUPPLYING CONTRACTOR. ELECTRICAL TERMINATIONS SHALL BE ADJUSTED TO MATCH FINAL LAYOUT.

5. PROVIDE 120V,1Ø ELECTRICAL CONNECTIONS TO ALL HVAC TERMINAL UNITS, SUCH AS VAV'S.

6. ALL BRANCH CIRCUITS SHALL HAVE DEDICATED NEUTRAL CONDUCTORS.

(#) KEYED NOTES

1. EXISTING MECHANICAL EQUIPMENT AND ALL ASSOCIATED ELECTRICAL CONNECTIONS TO REMAIN. PROTECT ELECTRICAL EQUIPMENT DURING CONSTRUCTION ACTIVITIES.
2. MOUNT DEVICE TO VERTICAL PORTION OF HAND-RAIL SYSTEM.
3. 3-WAY LIGHT SWITCH SHALL CONTROL NEW WALL MOUNTED LIGHT ON LEVEL 1 & MEZZANINE AS WELL AS EXISTING TO REMAIN "EF" AND "EFE" LIGHT FIXTURES ON MEZZANINE (LEVEL 2). MOUNT (1) LIGHT SWITCH AT DOOR AND (1) LIGHT SWITCH TO THE GUARD RAIL AT THE TOP OF THE MEZZANINE LANDING.

ENTIRE SHEET ADDED TO SET
1

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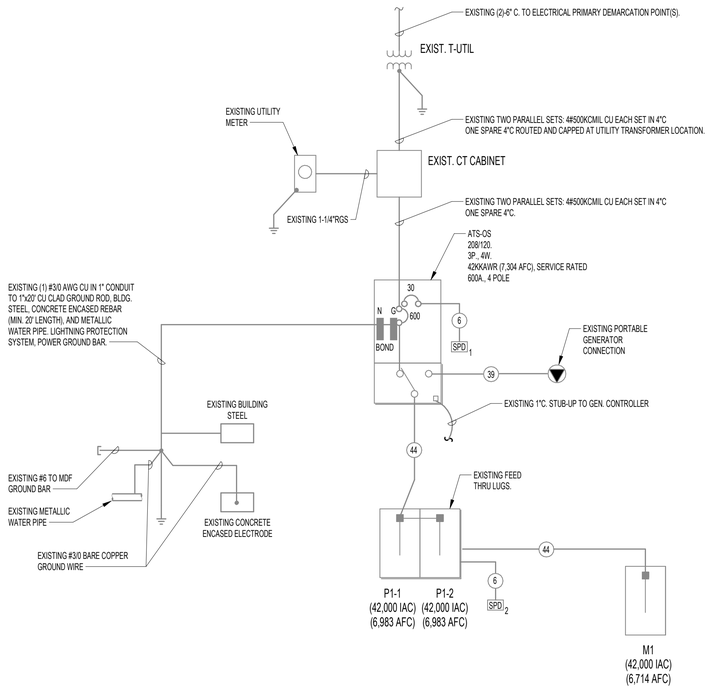
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ELECTRICAL LEVEL 2 - LIGHTING & POWER NEW WORK PLAN

E1.3
PERMIT / BID SET




C2 / E6.0 ELECTRICAL EXISTING ONE-LINE DIAGRAM

12" = 1'-0"

## FEEDER SCHEDULE (CU)

| DESIG. | FUSE OR CIRCUIT BREAKER AMP RATING/# POLES | NUMBER OF SETS | NUMBER OF CONDUCTORS | FEEDER SIZE | | |
|---|---|---|---|---|---|---|
| | | | | CONDUCTORS | EQUIP. GRD. | CONDUIT |
| 1 | 15/3 | 1 | 3 | 12 AWG | 12 AWG | 3/4" |
| 2 | | | 4 | | | 3/4" |
| 3 | 20/3 | 1 | 3 | 12 AWG | 12 AWG | 3/4" |
| 4 | | | 4 | | | 3/4" |
| 5 | 30/3 | 1 | 3 | 10 AWG | 10 AWG | 3/4" |
| 6 | | | 4 | | | 3/4" |
| 7 | 40/3 | 1 | 3 | 8 AWG | 10 AWG | 3/4" |
| 8 | | | 4 | | | 1" |
| 9 | 50/3 | 1 | 3 | 6 AWG | 10 AWG | 1" |
| 10 | | | 4 | | | 1-1/4" |
| 11 | 60/3 | 1 | 3 | 4 AWG | 10 AWG | 1-1/4" |
| 12 | | | 4 | | | 1-1/4" |
| 13 | 70/3 | 1 | 3 | 4 AWG | 8 AWG | 1-1/4" |
| 14 | | | 4 | | | 1-1/4" |
| 15 | 80/3 | 1 | 3 | 3 AWG | 8 AWG | 1-1/4" |
| 16 | | | 4 | | | 1-1/4" |
| 17 | 90/3 | 1 | 3 | 2 AWG | 8 AWG | 1-1/4" |
| 18 | | | 4 | | | 1-1/2" |
| 19 | 100/3 | 1 | 3 | 1 AWG | 8 AWG | 1-1/2" |
| 20 | | | 4 | | | 2" |
| 21 | 125/3 | 1 | 3 | 1 AWG | 6 AWG | 1-1/2" |
| 22 | | | 4 | | | 2" |
| 23 | 150/3 | 1 | 3 | 1/0 AWG | 6 AWG | 1-1/2" |
| 24 | | | 4 | | | 2" |
| 25 | 175/3 | 1 | 3 | 2/0 AWG | 6 AWG | 2" |
| 26 | | | 4 | | | 2" |
| 27 | 200/3 | 1 | 3 | 3/0 AWG | 6 AWG | 2" |
| 28 | | | 4 | | | 2-1/2" |
| 29 | 225/3 | 1 | 3 | 4/0 AWG | 4 AWG | 2-1/2" |
| 30 | | | 4 | | | 2-1/2" |
| 31 | 250/3 | 1 | 3 | 250 kcmil | 4 AWG | 2-1/2" |
| 52 | | | 4 | | | 3" |
| 33 | 300/3 | 1 | 3 | 350 kcmil | 4 AWG | 3" |
| 34 | | | 4 | | | 3" |
| 35 | 350/3 | 1 | 3 | 500 kcmil | 3 AWG | 3" |
| 35a | 350/3 | 1 | 4 | 500 kcmil | 3 AWG<br>3 AWG IG | 3-1/2" |
| 37 | 400/3 | 2 | 3 | 250 kcmil | 3 AWG | 3-1/2" |
| 38 | | | 4 | | | 3-1/2" |
| 39 | 450/3 | 2 | 3 | 250 | 3 AWG | 3-1/2" |
| 40 | | | 4 | | | 3-1/2" |
| 41 | 500/3 | 2 | 3 | 250 kcmil | 2 AWG | 2-1/2" |
| 42 | | | 4 | | | 3" |
| 43 | 600/3 | 2 | 3 | 350 kcmil | 1 AWG | 3" |
| 44 | | | 4 | | | 3" |

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OWNER / PROJECT:

# ADDITION & RENOVATIONS PHASE 1

ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY

LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

ELECTRICAL ONE-LINE DIAGRAM

E6.0

PERMIT / BID SET

## NAME: P1-1

**LOCATION:** EXISTING ELECTRICAL / SERVER ROOM | **MOUNTING:** SURFACE | **DIST. / PHASE / WIRES:** 208Y/120V / 3 / 4 | **K.A.I.C. RATING:** 42 | **FEED THRU:** NO
**SUPPLY FROM:** UTILITY | **ENCLOSURE:** NEMA 1 | **MAX. HEIGHT BUSING:** YES | **MAINS TYPE:** MCB | **RATING:** 600 A

| CKT | CIRCUIT DESCRIPTION | # OF POLES | TRIP RATING (A) | LOAD (KVA) | REMARKS |
|---|---|---|---|---|---|
| 1 | EXIST. PANEL P1-2 (BREAKERS 1-3-5-7-11) | 3 | 600 A | 12.08 | |
| 2 | EXIST. EXTERIOR SIGN & WP RECEPTACLE | 1 | 20 A | 0.20 | |
| 3 | EXIST. PANEL P1-2 (BREAKERS 1-3-5-7-11) | 1 | 600 A | 0.00 | |
| 4 | EXIST. EXTERIOR SIGN & WP RECEPTACLE | 1 | 20 A | 0.40 | |
| 5 | EXIST. PANEL P1-2 (BREAKERS 1-3-5-7-11) | 1 | 600 A | 0.00 | |
| 6 | EXIST. RECEPTACLE OFFICE 124 SOUTH | 1 | 20 A | 0.50 | |
| 7 | EXIST. PANEL P1-2 (BREAKERS 1-3-5-7-11) | 1 | 600 A | 0.00 | |
| 8 | EXIST. EXTERIOR SIGN & WP RECEPTACLE | 1 | 20 A | 0.20 | |
| 9 | EXIST. PANEL P1-2 (BREAKERS 1-3-5-7-11) | 1 | 600 A | 0.00 | |
| 10 | EXIST. RECEPTACLE OFFICE 124 SOUTH | 1 | 20 A | 0.50 | |
| 11 | EXIST. PANEL P1-2 (BREAKERS 1-3-5-7-11) | 1 | 600 A | 0.00 | |
| 12 | EXIST. RECEPTACLE EWC | 1 | 20 A | 0.40 | |
| 13 | EXIST. WEST ROLL UP DOOR | 1 | 20 A | 0.00 | |
| 2 14 | EXIST. LIGHTS EXTERIOR | 1 | 20 A | 0.50 | |
| 15 | EXIST. LOBBY LIGHTS | 1 | 20 A | 0.60 | |
| 16 | EXIST. BREAK ROOM TV | 1 | 20 A | 0.25 | |
| 17 | EXIST. CORRIDOR LIGHTS / GARAGE LIGHTS | 1 | 20 A | 0.80 | |
| 18 | EXIST. RECEPTACLES OFFICE 117/SHOWER & TOILET | 1 | 20 A | 0.50 | |
| 19 | EXIST. LIGHTS SOUTH OFFICES 123/124/126 | 1 | 20 A | 0.40 | |
| 20 | EXIST. RECETPACLES LOBBY | 1 | 20 A | 0.20 | |
| 21 | EXIST. LIGHTS ELEC ROOM / TOILET / OPEN OFFICE | 1 | 20 A | 0.80 | |
| 22 | EXIST. TIMER / CONTACTOR | 1 | 20 A | 0.20 | |
| 23 | EXIST. LIGHTS CONFERENCE ROOM | 1 | 20 A | 0.40 | |
| 24 | EXIST. RECEPTACLES LOBBY | 1 | 20 A | 0.20 | |
| 25 | EXIST. LIGHTS GARAGE | 1 | 20 A | 0.60 | |
| 26 | EXIST. RECEPTACLES FILE & WORKROOM | 1 | 20 A | 0.40 | |
| 27 | EXIST. RECEPTACLES BREAK ROOM | 1 | 20 A | 0.25 | |
| 28 | EXIST. RECEPTACLES OPEN OFFICE | 1 | 20 A | 0.40 | |
| 29 | EXIST. RECEPTACLES BREAK ROOM | 1 | 20 A | 0.25 | |
| 30 | EXIST. RECEPTACLES BREAK ROOM | 1 | 20 A | 0.25 | |
| 31 | EXIST. EXTERIOR GFCI RECEPTACLE GARAGE | 1 | 20 A | 0.20 | |
| 32 | EXIST. RECEPTACLE MENS RESTROOM | 1 | 20 A | 0.20 | |
| 33 | EXIST. RECEPTACLES ELECTRICAL ROOM | 1 | 20 A | 0.40 | |
| 34 | EXIST. RECEPTACLE WOMENS RESTROOM | 1 | 20 A | 0.20 | |
| 35 | EXIST. RECEPTACLES ELECTRICAL ROOM | 1 | 20 A | 0.40 | |
| 36 | EXIST. RECEPTACLE REFIGERATOR | 1 | 20 A | 0.75 | |
| 37 | EXIST. RECEPTACLES NORTH OFFICE UNASSIGNED | 1 | 20 A | 0.20 | |
| 38 | Spare | 1 | 20 A | 0.00 | |
| 39 | EXIST. RECEPTACLES NORTH OFFICE UNASSIGNED | 1 | 20 A | 0.20 | |
| 40 | EXIST. CORRIDOR RECEPTACLES | 1 | 20 A | 0.25 | |
| 41 | EXIST. MAINTENANCE YARD RECEPTACLES | 1 | 20 A | 0.20 | |
| 42 | EXIST. SPD (BREKAERS 42-44-46) | 1 | 30 A | 0.20 | |
| 43 | EXIST. RECEPTACLES OFFICE 103 | 1 | 20 A | 0.40 | |
| 44 | EXIST. SPD (BREKAERS 42-44-46) | 1 | 30 A | 0.00 | |
| 45 | EXIST. RECEPTACLES OFFICE 102 | 1 | 20 A | 0.00 | |
| 46 | EXIST. SPD (BREKAERS 42-44-46) | 1 | 30 A | 0.00 | |
| 47 | EXIST. RECEPTACLES OFFICE 127 | 1 | 20 A | 0.40 | |
| 2 48 | EXIST. SITE LIGHT POLES (BREAKERS 48-50) | 1 | 20 A | 0.60 | |
| 49 | EXIST. RECEPTACLES OFFICE 123 | 1 | 20 A | 0.40 | |
| 2 50 | EXIST. SITE LIGHT POLES (BREAKERS 48-50) | 1 | 20 A | 0.60 | |
| 51 | EXIST. GENERATOR BLOCK HEATER (BREAKERS 51-53) | 1 | 20 A | 0.60 | |
| 52 | EXIST. GENERATOR BATTERY CHARGER (BREAKERS 52-54) | 1 | 20 A | 0.60 | |
| 53 | EXIST. GENERATOR BLOCK HEATER (BREAKERS 51-53) | 1 | 20 A | 0.60 | |
| 54 | EXIST. GENERATOR BATTERY CHARGER (BREAKERS 52-54) | 1 | 20 A | 0.60 | |
| 55 | EXIST. PANEL M1 (BREAKERS 55-57-69-61-63-65) | 3 | 600 A | 24.60 | |
| 56 | Space | 1 | -- | -- | |
| 57 | EXIST. PANEL M1 (BREAKERS 55-57-69-61-63-65) | 1 | 600 A | 0.00 | |
| 58 | Space | 1 | -- | -- | |
| 59 | EXIST. PANEL M1 (BREAKERS 55-57-69-61-63-65) | 1 | 600 A | 0.00 | |
| 60 | Space | 1 | -- | -- | |
| 61 | EXIST. PANEL M1 (BREAKERS 55-57-69-61-63-65) | 1 | 600 A | 0.00 | |
| 62 | Space | 1 | -- | -- | |
| 63 | EXIST. PANEL M1 (BREAKERS 55-57-69-61-63-65) | 1 | 600 A | 0.00 | |
| 64 | Space | 1 | -- | -- | |
| 65 | EXIST. PANEL M1 (BREAKERS 55-57-69-61-63-65) | 1 | 600 A | 0.00 | |
| 66 | Space | 1 | -- | -- | |

| LOAD CLASSIFICATION | CONNECTED LOAD | DEMAND FACTOR | DEMAND LOAD | PANEL TOTALS |
|---|---|---|---|---|
| EQUIPMENT | 200 VA | 100.00% | 200 VA | |
| LIGHTING | 752 VA | 100.00% | 752 VA | **TOTAL CONNECTED LOAD: 53.88 kVA** |
| EXISTINGCLE | 9140 VA | 100.00% | 9140 VA | **TOTAL CONNECTED DEMAND (KVA): 53.98 kVA** |
| Spare | 32605 VA | 100.00% | 32605 VA | **TOTAL DEMAND CURENT (A): 150 A** |
| HEATING | 9984 VA | 100.00% | 9984 VA | |
| MOTORS | 1200 VA | 108.33% | 1300 VA | |

**NOTES:**
1. EXISTING PANEL-BOARD (SQUARE D I-LINE) TO REMAIN. ALL CIRCUIT BREAKERS LISTED AS "EXIST." ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
2. EXISTING SITE LIGHTING CIRCUIT FED THROUGH EXISTING LIGHTING CONTROL PANEL / CONTACTOR.

### LOAD CALCULATION (M):

| | |
|---|---|
| *CURRENT MAX. DEMAND LOAD: | 32.605 kVA |
| CURRENT EST. MAX. DEMAND x 1.25: | 21.318 kVA |
| NEW DEMAND LOAD: | + 53.923 kVA |
| TOTAL: | 75.241 kVA @ 120/208V = 261.060 AMPS |

*MAX. DEMAND LOAD IS ESTIMATED FROM EXISTING CONDITIONS

## NAME: P1-2

**LOCATION:** EXISTING ELECTRICAL / SERVER ROOM | **MOUNTING:** SURFACE | **DIST. / PHASE / WIRES:** 208Y/120V / 3 / 4 | **K.A.I.C. RATING:** 42 | **FEED THRU:** NO
**SUPPLY FROM:** P1-1 | **ENCLOSURE:** NEMA 1 | **MAX. HEIGHT BUSING:** YES | **MAINS TYPE:** MCB | **RATING:** 600 A

| CKT | CIRCUIT DESCRIPTION | # OF POLES | TRIP RATING (A) | LOAD (KVA) | REMARKS |
|---|---|---|---|---|---|
| 1 | Space | 1 | -- | -- | |
| 2 | Spare | 1 | 20 A | 0.00 | |
| 3 | Space | 1 | -- | -- | |
| 4 | Spare | 1 | 20 A | 0.00 | |
| 5 | Space | 1 | -- | -- | |
| 6 | EXIST. RECEPTACLE OFFICE SOUTH | 1 | 20 A | 0.20 | |
| 7 | Spare | 1 | 20 A | 0.00 | |
| 8 | Spare | 1 | 20 A | 0.00 | |
| 2 9 | EXIST. FUTURE HAND DRYER | 1 | 20 A | 0.40 | |
| 10 | EXIST. EXTERIOR RECEPTACLE SOUTH | 1 | 20 A | 0.20 | |
| 11 | EXIST. PROJECTION SCREEN | 1 | 20 A | 0.40 | |
| 12 | EXIST. EAST ROLL UP DOOR | 1 | 20 A | 0.00 | |
| 2 13 | EXIST. FUTURE HAND DRYER | 1 | 20 A | 0.40 | |
| 14 | EXIST. OFFICE LIGHTING 103/104/115 | 1 | 20 A | 0.50 | |
| 15 | CU-3 | 2 | 40 A | 4.99 | |
| 16 | AHU-3 | 2 | 40 A | 4.99 | |
| 17 | Spare | 1 | 20 A | 0.00 | |
| 18 | Spare | 1 | 20 A | 0.00 | |
| 19 | Spare | 1 | 20 A | 0.00 | |
| 20 | Spare | 1 | 20 A | 0.00 | |
| 21 | Spare | 1 | 20 A | 0.00 | |
| 22 | Spare | 1 | 20 A | 0.00 | |
| 23 | Spare | 1 | 20 A | 0.00 | |
| 24 | Spare | 1 | 20 A | 0.00 | |
| 25 | Spare | 1 | 20 A | 0.00 | |
| 26 | Spare | 1 | 20 A | 0.00 | |
| 27 | Spare | 1 | 20 A | 0.00 | |
| 28 | Spare | 1 | 20 A | 0.00 | |
| 29 | Spare | 1 | 20 A | 0.00 | |
| 30 | Spare | 1 | 20 A | 0.00 | |
| 31 | EXIST. FUTURE PLUG | 1 | 1200 A | 0.00 | |
| 32 | Spare | 1 | 20 A | 0.00 | |
| 33 | EXIST. FUTURE PLUG | 1 | 1200 A | 0.00 | |
| 34 | Spare | 1 | 20 A | 0.00 | |
| 35 | EXIST. FUTURE PLUG | 1 | 1200 A | 0.00 | |
| 36 | Spare | 1 | 20 A | 0.00 | |
| 37 | EXIST. FUTURE PLUG | 1 | 1200 A | 0.00 | |
| 38 | Spare | 1 | 20 A | 0.00 | |
| 39 | EXIST. FUTURE PLUG | 1 | 1200 A | 0.00 | |
| 40 | Spare | 1 | 20 A | 0.00 | |
| 41 | EXIST. FUTURE PLUG | 1 | 1200 A | 0.00 | |
| 42 | Spare | 1 | 20 A | 0.00 | |

| LOAD CLASSIFICATION | CONNECTED LOAD | DEMAND FACTOR | DEMAND LOAD | PANEL TOTALS |
|---|---|---|---|---|
| EXISTING | 2100 VA | 100.00% | 2100 VA | |
| HEATING | 9984 VA | 100.00% | 9984 VA | **TOTAL CONNECTED LOAD: 12.08 kVA** |
| | | | | **TOTAL CONNECTED DEMAND (KVA): 12.08 kVA** |
| | | | | **TOTAL DEMAND CURENT (A): 34 A** |

**NOTES:**
1. EXISTING PANEL-BOARD (SQUARE D I-LINE) TO REMAIN. ALL CIRCUIT BREAKERS LISTED AS "EXIST." ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
2. EXISTING GFCI CIRCUIT BREAKER TO REMAIN.

### LOAD CALCULATION (M):

| | |
|---|---|
| *CURRENT MAX. DEMAND LOAD: | 2.100 kVA |
| CURRENT EST. MAX. DEMAND x 1.25: | 2.625 kVA |
| NEW DEMAND LOAD: | + 9.984 kVA |
| TOTAL: | 12.609 kVA @ 120/208V = 43.748 AMPS |

*MAX. DEMAND LOAD IS ESTIMATED FROM EXISTING CONDITIONS


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# ADDITION & RENOVATIONS PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

ELECTRICAL SCHEDULES

E6.1
PERMIT / BID SET

## LIGHTING FIXTURE SCHEDULE

| TYPE | DESCRIPTION | MANUFACTURER / MODEL | LAMP SOURCE | FIXTURE WATTAGE W / LF | COMMENTS |
|---|---|---|---|---|---|
| CX1 | LED WHITE ACRYLIC PANEL CEILING MOUNTED RED SIGNLE FACE EXIT SIGN | BEGHELLI / CRV-SA-FR-1-CLR-WHT | LED | | EXISTING TO REMAIN |
| CX1 | EXISTING DOWNLIGHT TO BE REMOVED | N/A | N/A | | DEMO AND REMOVE |
| DL1 | LED RECESSED DOWNLIGHT, 8" DIAMETER, 4000 LMNS | WILLIAMS / 80R-L40/835-DIM-120-OW-CS-MWT-N-F1 | LED | 33.00 W | PRVOIDE LAY-IN CEILING MOUNTING |
| DL1E | LED RECESSED DOWNLIGHT, 8" DIAMETER, 4000 LMNS, EMERGENCY BATTERY DRIVER | WILLIAMS / 80R-L40/835-DIM-120-OW-CS-MWT-N-F1-EM/10W | LED | 33.00 W | PROVIDE LAY-IN CEILING MOUNTING & TEST BUTTON & INDICATOR LIGHT |
| DT2 | LED RECESSED DOWNLIGHT, 8" DIAMETER, 2000 LMNS | WILLIAMS / 80R-L20/835-DIM-120-OW-CS-MWT-N-F1 | LED | 24.00 W | PROVIDE LAY-IN CEILING MOUNTING |
| DWMX1 | EXISTING WALL MOUNTED EXIT SIGN TO BE REMOVED | N/A | N/A | | DEMO AND REMOVE |
| ECX1 | EXISTING CEILING MOUNTED EXIT SIGN TO REMAIN | N/A | N/A | | EXISTING TO REMAIN |
| ED1 | EXISTING DOWNLIGHT TO REMAIN | N/A | N/A | | EXISTING TO REMAIN |
| ED1E | EXISTING EMERGENCY DOWNLIGHT TO REMAIN | N/A | N/A | | EXISTING TO REMAIN |
| ED2 | EXISTING DOWNLIGHT TO REMAIN | N/A | N/A | | EXISTING TO REMAIN |
| ED2E | EXISTING EMERGENCY DOWNLIGHT TO REMAIN | N/A | N/A | | EXISTING TO REMAIN |
| EF | EXISTING STRIP LIGHT TO REMAIN | N/A | (2) F32T8 | 30.00 W | ETR, CLEAN AND RELAMP |
| EFE | EXISTING EMERGENCY STRIP LIGHT TO REMAIN | N/A | (2) F32T8 | 30.00 W | ETR, CLEAN AND RELAMP |
| EP2 | EXISTING 2X4 TROFFER TO REMAIN | N/A | N/A | 60.00 W | EXISTING TO REMAIN |
| EW | EXISTING EXTERIOR WALL SCONCE TO REMAIN | N/A | N/A | | EXISTING TO REMAIN |
| EWMX1 | EXISTING WALL MOUNTED EXIT SIGN TO REMAIN | N/A | N/A | | EXISTING TO REMAIN |
| EY | EXISTING EXTERIOR FLOOD LIGHT TO REMAIN | N/A | N/A | | EXISTING TO REMAIN |
| FW | LED WALL MOUNTED ROUND LENS STRIP LIGHT, 4-FEET, 5000LMNS | WILLIAMS / 75R-4-L50/835-DIM-120 | LED | 33.00 W | PROVIDE WALL MOUNTING |
| FWE | LED WALL MOUNTED ROUND LENS STRIP LIGHT, 4-FEET, 5000LMNS, WITH EMERGENCY BATTERY DRIVER | WILLIAMS / 75R-4-L50/835-DIM-120-EM/10WLP | LED | 33.00 W | PROVIDE WALL MOUNTING & TEST BUTON & INDICATOR LIGHT |
| P1 | LED TROFFER 2X4 FLAT PANEL LIGHTING | WILLIAMS / 50F-S24-L33/835-S-AF12125-DIM-120 | LED | 33.00 W | PROVIDE LAY-IN CEILING MOUNTING |
| P2 | LED TROFFER 2X4 FLAT PANEL WITH DIMMING DRIVER, 3300LMNS | WILLIAMS / 50F-S24-L33/835-S-AF12125-DIM-120 | LED | 25.00 W | PROVIDE LAY-IN CEILING MOUNTING |

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

1. ALL LED FIXTURES SHALL BE MINIMUM 50,000 HOURS L70, CRI 80+.
2. PROVIDE APPROVED FIRE-RATED ENCLOSURES FOR ALL LIGHTS FIXTURES LOCATED IN FIRE-RATED CEILINGS.
3. IF THERE IS A DISCREPANCY BETWEEN THE FIXTURE DESCRIPTION, THE LIGHTING GENERAL NOTES, THE LIGHTING SPECIFICATIONS, AND THE CATALOG NUMBER LISTED, THE FIXTURE DESCRIPTION SHALL TAKE PRECEDENCE.
4. WHERE A SINGLE MANUFACTURER IS LISTED WITH A CORRESPONDING CATALOG NUMBER, THIS MANUFACTURER SHALL BE CONSIDERED THE BASIS OF DESIGN SELECTION. OTHER MANUFACTURERS WILL BE CONSIDERED AS "APPROVED EQUAL" ONLY IF THEIR LIGHTING FIXTURE MEETS OR EXCEEDS THE BASIS OF DESIGN SELECTION IN TYPE AND QUALITY OF CONSTRUCTION, LOUVER FINISHES, LENSES, HOUSING FINISHES, PHOTOMETRICS, SELECTED OPTIONS AND ACCESSORIES. APPROVED EQUAL MANUFACTURERS MUST ALSO MATCH OVERALL APPEARANCE AND DIMENSIONS OF BASIS OF DESIGN SELECTION. WHERE ONLY A MANUFACTURER'S NAME IS LISTED, THE FIXTURE SHALL COMPLY WITH THE DESCRIPTION, VOLTAGE, LAMP TYPE AND WATTAGE, AND ANY NOTED REMARKS, THE LIGHTING FIXTURE SCHEDULE NOTES, AND THE LIGHTING SPECIFICATIONS.
5. LIGHT FIXTURES IN LAY-IN CEILING GRIDS SHALL BE SUPPORTED AS FOLLOWS: LIGHT FIXTURES WEIGHING LESS THAN 10 POUNDS SHALL HAVE (1) 12 GAUGE WIRE CONNECTED FROM THE LIGHT FIXTURE TO THE STRUCTURE ABOVE. LIGHT FIXTURES WEIGHING 10 POUNDS OR MORE SHALL HAVE (2) 12 GAUGE WIRES ATTACHED AT OPPOSITE CORNERS OF THE LIGHT FIXTURE TO THE STRUCTURE ABOVE.
6. WHERE A MANUFACTURER IS SELECTED BY THE CONTRACTOR, OTHER THAN THAT LISTED AS THE BASIS OF DESIGN, PHOTOMETRIC CALCULATIONS SHALL BE SUBMITTED FOR THE FOLLOWING AREAS PRIOR TO APPROVAL: OPERATING ROOM, CONTROL ROOM, SURGICAL CORRIDORS, AND SCRUB AREAS.

## MECHANICAL EQUIPMENT CONNECTION SCHEDULE

| EQUIPMENT SERVED | FLA | LOAD | VOLTAGE | No. OF POLES | PANEL | CIRCUIT NUMBER | CB RATING | DISCONNECT | | | WIRE SIZE | CONDUIT SIZE | VOLTAGE DROP % | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | FRAME RATING | FUSE RATING | NEMA RATING | | | | |
| EF-50 (3) | 10 A | 1,200 VA | 120 V | 1 | M1 | 47 | 20 A | 20 A | -- | 1 | 1-#12, 1-#12, 1-#12 | 0.75" | 2.00% | |
| | | | | | | | | | | | | | | |
| CU-3 | 24 A | 4,992 VA | 208 V | 2 | P1-2 | 15 | 40 A | 60 A | 40 A | 3R | 2-#8, 1-#8, 1-#10 | 1.25" | 1.42% | |
| AHU-3 | 24 A | 4,992 VA | 208 V | 2 | P1-2 | 16 | 40 A | 60 A | 40 A | 1 | 2-#8, 1-#8, 1-#10 | 1.25" | 0.99% | |

MECHANICAL EQUIPMENT SCHEDULE GENERAL NOTES:

1. ALL LISTED ITEMS SHALL BE NEW UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL PROVIDE A LOCAL DISCONNECTING MEANS WITHIN SIGHT OF EACH EQUIPMENT REGARDLESS IF A DISCONNECT IS SHOWN ON THE PLANS. WHERE INSTALLED DOWNSTREAM OF A VFD, DISCONNECT SHALL INCLUDE PRESIGNAL WIRING, RACEWAY, AND CONTACTS FROM DISCONNECT TO VFD.
3. EQUIPMENT PENETRATIONS SHALL ONLY BE PERMITTED PER MANUFACTURER'S INSTRUCTIONS.
4. CONTRACTOR SHALL REVIEW PRIOR TO BID THE EQUIPMENT ELECTRICAL CONNECTION SCHEDULE, MECHANICAL/PLUMBING SCHEDULES, AND THE PANEL SCHEDULES AND INCLUDE THE HIGHEST COSTS IN THE BID.
5. VERIFY CONNECTION & EQUIPMENT REQUIREMENTS--WIRING, OVERCURRENT PROTECTION, CONDUIT SIZE, VOLTAGE, AND PHASE--WITH SHOP DRAWINGS PRIOR TO ROUGH-IN. COORDINATE LUG REQUIREMENTS WITH OTHER TRADES.
6. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH CONTROLS AND WIRING OF INTERLOCKING FOR MECHANICAL EQUIPMENT.
7. CONTRACTOR SHALL COORDINATE PENETRATION SEALS, ACCESSORIES, AND INTERCONNECTION WIRING THAT REQUIRE ROUGH-IN.
8. ROVIDE NAMEPLATE FOR ALL EQUIPMENT IDENTIFYING AT MINIMUM EQUIPMENT NAME, VOLTAGE/PHASE, AND CIRCUIT SOURCE. REFER TO EQUIPMENT NAMEPLATE DETAIL AND IDENTIFICATION SPECIFICATIONS FOR ADDITIONAL INFORMATION.
9. ALL ENCLOSURES SHALL BE SUITABLE AND RATED FOR THE ENVIRONMENT THEY ARE INSTALLED.

## NAME: M1

LOCATION: EXISTING ELECTRICAL / SERVER ROOM | MOUNTING: SURFACE | DIST. / PHASE / WIRES: 208Y/120V / 3 / 4 | K.A.I.C. RATING: 42 | FEED THRU: NO
SUPPLY FROM: P1-1 | ENCLOSURE: NEMA 1 | MAX. HEIGHT BUSING: YES | MAINS TYPE: MLO | RATING: 600 A

| KN | CKT | CIRCUIT DESCRIPTION | TRIP(A) | P | A (KVA) | | B (KVA) | | C (KVA) | | P | TRIP(A) | CIRCUIT DESCRIPTION | CKT | KN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | | | | 1.000 | 0.850 | | | | | | | | 2 | |
| | 3 | EXIST.CU-1 | 30 | 3 | | | 1.000 | 0.850 | | | 3 | 40 | EXIST. WATER HEATER EWH-1 | 4 | |
| | 5 | | | | | | | | 1.000 | 0.850 | | | | 6 | |
| | 7 | | | | 0.285 | 0.000 | | | | | | | | 8 | |
| | 9 | EXIST. ICE MACHINE | 30 | 3 | | | 0.285 | 0.000 | | | 3 | 20 | EXIST. VAV-1 | 10 | |
| | 11 | | | | | | | | 0.285 | 0.000 | | | | 12 | |
| | 13 | | | | 0.650 | 0.000 | | | | | | | | 14 | |
| | 15 | EXIST. AHU-1 | 20 | 3 | | | 0.650 | 0.000 | | | 2 | 20 | EXIST. CU-2 | 16 | |
| | 17 | | | | | | | | 0.000 | 0.000 | | | | 18 | |
| | 19 | Spare | 20 | 1 | 0.000 | 0.000 | | | | | 3 | 20 | EXIST. SERVER RACKS | 20 | |
| | 21 | Spare | 20 | 1 | | | 0.000 | 0.000 | | | | | | 22 | |
| | 23 | | | | | | | | 0.000 | 0.600 | | | | 24 | |
| | 25 | EXIST. VAV-3 | 30 | 2 | 0.000 | 0.600 | | | | | 2 | 50 | EXIST. DRYER GARAGE | 26 | |
| | 27 | | | | | | 0.850 | 0.750 | | | | | | 28 | |
| | 29 | EXIST. VAV-4 | 20 | 2 | | | | | 0.000 | 0.750 | 2 | 30 | EXIST. ELEC WATER HEATER EWH-2 GARAGE | 30 | |
| | 31 | Spare | 20 | 1 | 0.000 | 0.450 | | | | | 1 | 20 | Spare | 32 | |
| | 33 | Spare | 20 | 1 | | | 0.000 | 0.000 | | | 1 | 20 | Spare | 34 | |
| | 35 | Spare | 20 | 1 | | | | | 0.000 | 0.000 | 1 | 20 | Spare | 36 | |
| | 37 | EXIST. GARAGE RECEPTACLE | 20 | 1 | 0.000 | 0.000 | | | | | 1 | 20 | Spare | 38 | |
| | 39 | EXIST. GARAGE RECEPTACLE | 20 | 1 | | | 0.000 | 0.600 | | | 1 | 20 | EXIST. WASHER GARAGE | 40 | |
| | 41 | EXIST. GARAGE RECEPTACLE | 20 | 1 | | | | | 0.600 | 0.000 | 1 | 20 | Spare | 42 | |
| | 43 | EXIST. GARAGE RECEPTACLE | 20 | 1 | 0.200 | 0.720 | | | | | 1 | 20 | RECEPTACLES-OFFICE 140 | 44 | |
| | 45 | EXIST. GARAGE RECEPTACLE | 20 | 1 | | | 0.200 | 0.720 | | | 1 | 20 | RECEPTACLES-OFFICE 141 | 46 | |
| | 47 | EF-50 (3) | 20 | 1 | | | | | 1.200 | 1.080 | 1 | 20 | RECEPTACLES-OFFICE 142 | 48 | |
| | 49 | RECEPTACLES-OFFICE 137 | 20 | 1 | 0.720 | 1.260 | | | | | 1 | 20 | RECEPTACLES-RESTROOMS/CORRIDOR/MECH/ELE | 50 | |
| | 51 | REMODEL AREA LIGHTING | 20 | 1 | | | 0.752 | 1.600 | | | 1 | 20 | HAND DRYER RECEPTACLE-RESTROOM | 52 | 2 |
| 2 | 53 | HAND DRYER RECEPTACLE-RESTROOM | 20 | 1 | | | | | 1.600 | 0.720 | 1 | 20 | COMPUTER RECEPTACLES-LOBBY | 54 | |
| | 55 | USB RECEPTACLES-LOBBY | 20 | 1 | 0.360 | 0.560 | | | | | 1 | 20 | RECEPTACLES RESTROOMS | 56 | |
| | 57 | Spare | 20 | 1 | | | 0.000 | 0.000 | | | 1 | 20 | Spare | 58 | |
| | 59 | Spare | 20 | 1 | | | | | 0.000 | 0.000 | 1 | 20 | Spare | 60 | |
| | 61 | Spare | 20 | 1 | 0.000 | 0.000 | | | | | 1 | 20 | Spare | 62 | |
| | 63 | Spare | 20 | 1 | | | 0.000 | 0.000 | | | 1 | 20 | Spare | 64 | |
| | 65 | Spare | 20 | 1 | | | | | 0.000 | 0.000 | 1 | 20 | Spare | 66 | |
| | 67 | Spare | 20 | 1 | 0.000 | 0.000 | | | | | 1 | 20 | Spare | 68 | |
| | 69 | Spare | 20 | 1 | | | 0.000 | 0.000 | | | 1 | 20 | Spare | 70 | |
| | 71 | Spare | 20 | 1 | | | | | 0.000 | 0.000 | 1 | 20 | Spare | 72 | |
| | 73 | Spare | 20 | 1 | 0.000 | 0.000 | | | | | 1 | 20 | Spare | 74 | |
| | 75 | Spare | 20 | 1 | | | 0.000 | 0.000 | | | 1 | 20 | Spare | 76 | |
| | 77 | Spare | 20 | 1 | | | | | 0.000 | 0.000 | 1 | 20 | Spare | 78 | |
| | 79 | Spare | 20 | 1 | 0.000 | 0.000 | | | | | | | | 80 | |
| | 81 | Spare | 20 | 1 | | | 0.000 | 0.000 | | | 3 | 30 | SPD | 82 | 3 |
| | 83 | Spare | 20 | 1 | | | | | 0.000 | 0.000 | | | | 84 | |
| | | CONNECTED PHASE LOAD (KVA) | | | 7.655 | | 8.257 | | 8.685 | | | | | | |
| | | CONNECTED PHASE AMPS (A) | | | 63.792 | | 69.580 | | 73.147 | | | | | | |

| LOAD CLASSIFICATION | CONNECTED LOAD | DEMAND FACTOR | DEMAND LOAD |
|---|---|---|---|
| EQUIPMENT | 200 VA | 100.00% | 200 VA |
| LIGHTING | 752 VA | 100.00% | 752 VA |
| MOTORS | 1200 VA | 108.33% | 1300 VA |
| EXISTINGCLE | 9140 VA | 100.00% | 9140 VA |
| Spare | 13305 VA | 100.00% | 13305 VA |

**PANEL TOTALS**

**TOTAL CONNECTED LOAD (KVA): 24.597**
**TOTAL DEMAND LOAD (KVA): 24.697**
**TOTAL DEMAND CURRENT (A): 69**

**KEYNOTES (KN):**

1. EXISTING PANEL-BOARD TO REMAIN. ALL CIRCUIT BREAKERS LISTED AS "EXIST." ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED.
2. REMOVE EXISTING 20A. 1P. CIRCUIT BREAKER AND INSTALL 20A. 1P. GFCI TYPE CIRCUIT BREAKER. NEW CIRCUIT BREAKER SHALL MATCH EXISTING PANEL MANUFACTURER, TYPE, AND AIC RATING.
3. REMOVE (3) EXISTING 20A. 1P. CIRCUIT BREAKERS AND INSTALL (1) 30A. 3P. CIRCUIT BREAKER. NEW CIRCUIT BREAKER SHALL MATCH EXISTING PANEL MANUFACTURER, TYPE, AND AIC RATING.

## LOAD CALCULATION (M):

| | |
|---|---|
| *CURRENT MAX. DEMAND LOAD: | 13.305 kVA |
| CURRENT EST. MAX. DEMAND x 1.25: | 16.631 kVA |
| NEW DEMAND LOAD: | + 11.334 kVA |
| TOTAL: | 27.965 kVA @ 120/208V = 97.029 AMPS |

*MAX. DEMAND LOAD IS ESTIMATED FROM EXISTING CONDITIONS


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OWNER / PROJECT:

# ADDITION & RENOVATIONS PHASE 1

ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| 1 | 12/05/25 | BD Response |

ISSUE DATE: NOVEMBER 14, 2025

ELECTRICAL SCHEDULES

E6.2
PERMIT / BID SET

# TECHNOLOGY SYSTEMS GENERAL NOTES

1. MANY SYMBOLS USED IN THIS PROJECT HAVE A TYPE ASSOCIATED WITH THEM. SEE SHEETS WITH DETAILS AND PROJECT SPECIFICATIONS FOR MORE INFORMATION ON THE DESCRIPTION OF EACH TYPE.
2. ALL CONDUIT FOR TECHNOLOGY SYSTEMS INDOOR ABOVE GRADE SHALL BE EMT AND ALL CONDUIT FOR BELOW GRADE SHALL BE PVC.
3. SEE LIFE SAFETY PLANS FOR LOCATIONS OF FIRE RATED PARTITIONS IN THIS PROJECT. PROVIDE AN APPROVED FIRE STOP SYSTEMS FOR EACH RACEWAY OR CABLE GOING THROUGH A RATED WALL. SEE SPECIFICATION "RACEWAYS FOR TECHNOLOGY" FOR MORE INFORMATION.
4. WORKING CLEARANCES AROUND ELECTRICAL EQUIPMENT SHALL BE MAINTAINED IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 110. COORDINATE EQUIPMENT INSTALLATION TO MAINTAIN REQUIRED CLEARANCES.
5. SYMBOLS USED ON THE TECHNOLOGY DRAWINGS ARE NOT THE SAME SIZE AS THE ACTUAL OBJECT BEING REPRESENTED. THEREFORE LOCATIONS OF THE SYMBOLS ON THE FLOOR PLANS ARE AN APPROXIMATION TO THE ACTUAL LOCATION OF THE DEVICE AND NEED TO BE CAREFULLY COORDINATED WITH OTHER ELEMENTS IN THE VICINITY, AS A GENERAL GUIDELINE:
   A. VOICE/DATA OUTLET FOR WORK-AREAS SHALL BE INSTALLED WITHIN 6 INCHES OF A POWER OUTLET INDICATED IN ELECTRICAL DRAWINGS.
   B. TV OUTLETS SHALL BE INSTALLED WITHIN 6 INCHES OF A POWER OUTLET SHOWN ON THE ELECTRICAL DRAWINGS.
   C. WHEN MULTIPLE TECHNOLOGY SYSTEMS OUTLETS ARE INDICATED NEXT TO EACH OTHER WITH SYMBOLS, THE SPACING BETWEEN OUTLETS SHALL BE CONSISTENT IF NO ELEVATION IS SHOWN ON THE DRAWINGS.
   D. WHEN INSTALLER IS NOT CERTAIN ABOUT SPECIFIC ADJACENCIES OF A DEVICE, THE QUESTION SHALL BE ASKED TO THE ENGINEER PRIOR TO INSTALLATION.
6. FOR EXACT LOCATION OF CEILING MOUNTED EQUIPMENT REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN. LOCATIONS OF EQUIPMENT NOT INCLUDED ON THE REFLECTED CEILING PLAN SHALL BE COORDINATED WITH THOSE ITEMS SHOWN. COORDINATION OF CEILING MOUNTED EQUIPMENT SHALL BE PRIOR TO ANY ROUGH-IN. NOTIFY ENGINEER OF ANY DISCREPANCY.
7. LOCATIONS OF FLOOR BOXES AND FLOOR PENETRATIONS SHALL NOT BE MEASURED FROM THIS SET OF DRAWINGS. INSTALLER SHALL REQUEST PRECISE LOCATIONS FROM ARCHITECT.
8. EACH VOICE/DATA RJ45 JACK SHALL BE CONNECTED TO A DEDICATED 4 PAIR CABLE.
9. THE RESPONSIBILITY OF RACEWAY INSTALLATION SHALL BE AS DIRECTED BY THE CONSTRUCTION MANAGER OR GENERAL CONTRACTOR, BUT ALL RACEWAYS FOR TECHNOLOGY ARE TO BE INCLUDED IN THIS CONTRACT.
10. WHEN CONDUIT RUNS ARE INDICATED ABOVE GRADE OR BELOW GRADE ON THESE DRAWINGS, NOT EVERY SINGLE JUNCTION BOX (OR COMMUNICATIONS VAULT) REQUIRED IS INDICATED ON THE DRAWINGS. TYPICALLY ONLY END POINT LOCATIONS OR SPECIFIC PASS-THROUGH LOCATIONS WHERE THE ENGINEER DESIRES A BOX ARE SHOWN ON THE DRAWINGS. SEE SPECIFICATION "RACEWAYS FOR TECHNOLOGY" FOR REQUIREMENTS THAT INDICATE ADDITIONAL JUNCTION BOXES OR COMMUNICATION VAULTS THAT SHALL BE PROVIDED UNDER THIS CONTRACT. SUCH REQUIREMENTS INCLUDE ADDITIONAL BOXES REQUIRED BECAUSE OF NUMBER OF CONDUIT BENDS OR CHANGES IN ELEVATION.
11. SOME SYMBOLS INCLUDED IN THE SYMBOL LEGEND MAY NOT BE USED IN THESE PROJECT DRAWINGS.
12. UNDER NO CONDITIONS, CONDUITS FOR LOW VOLTAGE FOR FLOOR BOXES SHALL BE DAISY CHAINED TOGETHER BETWEEN ADJACENT FLOOR BOXES. ALL CONDUITS FOR FLOOR BOXES SHALL BE HOME RUNS TO NEAREST ACCESSIBLE CEILING SPACE.
13. THIS SET OF DRAWINGS DOES NOT INDICATE ALL GROUNDING AND BONDING REQUIREMENTS FOR TECHNOLOGY SYSTEMS. REFER TO ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
14. ALL CABLES FOR TECHNOLOGY SYSTEMS RUN UNDER SLAB OR BELOW GRADE IN CONDUITS STUBBING UP INSIDE THE TELECOM ROOM SHALL BE INDOOR/OUTDOOR RATED.
15. GRAPHICS USED FOR EQUIPMENT IN ELEVATIONS AND CHANNELS (LINE DRAWINGS) DO NOT NECESSARILY REPRESENT THE PART NUMBER OF THE EQUIPMENT SPECIFIED. THE PART NUMBERS LISTED IN THE DRAWINGS AND SPECIFICATIONS ARE TO BE FOLLOWED FOR BASIS OF DESIGN, NOT THE GRAPHICS.
16. THE TECHNOLOGY DRAWINGS DO NOT SHOW ALL REQUIRED CONDUITS/RACEWAYS TO BE PROVIDED UNDER THIS CONTRACT. TYPICALLY CONDUIT SLEEVES SMALLER THAN 2" ARE NOT SHOWN ON THE DRAWINGS. SEE SPECIFICATIONS "RACEWAYS FOR TECHNOLOGY" AND DRAWING DETAILS FOR ADDITIONAL RACEWAY REQUIREMENTS.
17. DEFINITION OF ACRONYMS USED IN THESE DRAWINGS:
   A. NIC (N.I.C.) - NOT IN CONTRACT
   B. OFE (O.F.E.) = OWNER FURNISHED EQUIPMENT. SEE RESPONSIBILITY MATRIX FOR MORE INFORMATION.
   C. DHI (D.H.I.) = DOOR HARDWARE INSTALLER
   D. USC (U.S.C.) = UNDER SEPARATE CONTRACT.
   E. AFO = ABOVE FINISHED DECK. THIS HEIGHT SHALL MATCH THE FINISHED CONCRETE DECK. THIS HEIGHT IS BEFORE ANY RAISED FLOORS, TILE, CARPET, RAISED PLATFORMS, STAIR LANDINGS IN BETWEEN FLOORS.
18. ALL REQUIRED WALL PENETRATIONS, EXISTING AND NEW, SHALL MAINTAIN THE NEW WALL RATING AFTER CABLING HAS BEEN INSTALLED OR REMOVED.
19. ALL SPEAKERS MOUNTED IN A CEILING TILE SHALL BE CENTERED IN THE CEILING TILE.
20. ANY DEVICE THAT REQUIRES INTERACTIONS MUST NOT BE INSTALLED WHERE TOP OF DEVICE IS ABOVE 48" ALF.

# SECURITY SYSTEM GENERAL NOTES

1. SYMBOLS USED TO REPRESENT DEVICES SUCH AS CCTV CAMERAS, INTERCOM STATIONS, SECURITY WORKSTATIONS, CALL STATIONS, AND EMERGENCY PHONE STATIONS REQUIRE ONE (1) DATA DROP FOR SUCH DEVICE. THIS DATA DROP IS NOT SHOWN ON THE VOICE/DATA FLOOR PLANS, BUT SHALL BE PROVIDED FOLLOWING ALL REQUIREMENTS FOR VOICE/DATA DROPS INDICATED IN THE DRAWING DETAILS AND IN THE SPECIFICATION "STRUCTURED CABLING SYSTEM".
2. ANY DATA DROPS FOR SECURITY DEVICES EXCEEDING 295 FT. OF PERMANENT LINK DISTANCE TO THE TELECOM ROOM WHERE CAMERA WILL BE WIRED TO, SHALL BE WIRED WITH FIBER OPTICS FOR HORIZONTAL CABLING AND A 2 CONDUCTOR AWG-16 CL2(P) CABLE. THE FIBER CABLE SHALL BE AS DESCRIBED IN SPECIFICATION "STRUCTURED CABLING SYSTEM". IF NO INDICATION IN SUCH SPECIFICATION, FIBER OPTIC CABLE SHALL BE A 2-STRAND OM1 CABLE WITH A SUITABLE JACKET FOR THE APPLICATION.
3. ALL DOUBLE DOORS THAT ARE SHOWN WITH TWO DOOR POSITIONS SWITCHES ARE TO RECEIVE (1) DOOR POSITION SWITCH ON EACH DOOR LEAF AND SHALL REPORT AS ONE ALARM POINT.
4. ALL CAMERAS, CARD READERS AND/OR KEYPADS DEDICATED FOR ELEVATOR FLOOR SELECTION CONTROL ARE SHOWN INSIDE THE ELEVATOR CAB ON THE LOWEST LEVEL FLOOR PLAN TO WHICH THE ELEVATOR TRAVELS.
5. LOCATION OF SURVEILLANCE CAMERAS SHALL BE CLOSELY COORDINATED WITH OTHER TRADES TO AVOID OBSTRUCTIONS IN THE FIELD OF VIEW. IT IS NOT REQUIRED FOR CAMERAS TO BE MOUNTED IN CENTER OF A CEILING TILE (OR CENTER OF A HALLWAY) IF THAT LOCATION CAUSES AN OBSTRUCTION IN THE FIELD OF VIEW OF THE CAMERA. ALL CAMERAS ARE TO BE INSTALLED AS TO MINIMIZE THE OBSTRUCTIONS IN THE FIELD OF VIEW WITHIN A 4' RADIUS OF THE SPECIFIED LOCATION.
6. SURVEILLANCE CAMERAS INDICATED IN THE CORNER OF A ROOM SHALL BE INSTALLED AS CLOSE AS PHYSICALLY POSSIBLE TO THE CORNER OF THE ROOM TO GAIN THE BEST FIELD OF VIEW FOR THAT CAMERA.
7. EACH ACCESS CONTROLLED DOOR IN THE PROJECT HAS A DOOR IDENTIFIER SYMBOL THAT ASSOCIATES THE DOOR TO A CORRESPONDING ROUGH-IN DETAIL IN THE DRAWINGS AND A SPECIFIC FUNCTIONALITY OF THE DOOR IN THE SECURITY SPECIFICATIONS.

# BASIC MATERIALS

- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- CAPPED CONDUIT
- CONDUIT STUBBED AND BUSHED INTO ACCESSIBLE CEILING CAVITY
- CONDUIT CONTINUED
- (WALL) [X, Z, Y] / (FLOOR) [X/Z]: CONDUIT SLEEVES, THROUGH WALL/FLOOR FITTING FIRE STOP/ SMOKE SYSTEM, REFER TO SPECIFICATION 270528 FOR REQUIREMENTS
  X= QTY OF SLEEVES
  Y= SIZE OF CONDUITS SLEEVES PENETRATING WALL ABOVE CEILING SPACE.
  Z= FS OR SS: IF FS = FIRE STOP SYSTEM, SS = SMOKE SYSTEM
  IF NO QUANTITY INDICATED USE AS MANY SLEEVES AS REQUIRED TO MATCH CROSS SECTIONAL AREA OF CABLE TRAY NEXT TO SLEEVE.
- TUBULAR RUNWAY, HUNG ABOVE CEILING OR AS NOTED
- CABLE TRAY (TYPE), HUNG ABOVE CEILING OR AS NOTED
- SURFACE MOUNTED ENCLOSED TECHNOLOGY SYSTEMS. SEE SHEETS WITH DETAILS FOR ADDITIONAL INFORMATION
- [J] JUNCTION BOX WALL MOUNTED. SIZE PER NEC IF NOT INDICATED ON DRAWING. NEMA 1 FOR INTERIOR, NEMA 4X FOR EXTERIOR USE WITH HINGED COVER AND LOCKING COVER
- (J) JUNCTION BOX CEILING MOUNTED. SIZE PER NEC IF NOT INDICATED ON DRAWING. NEMA 1 FOR INTERIOR, NEMA 4X FOR EXTERIOR USE WITH HINGED COVER AND LOCKING COVER

# GENERAL

- SOLID DARK LINE - SYMBOLS WITH THIS LINE ARE NEW DEVICES. THIS LINE IS ALSO USED FOR ABOVE GRADE CONDUITS
- HAIFTONE LINE - SYMBOLS WITH THIS LINE ARE EXISTING DEVICES TO REMAIN, AND EQUIPMENT REFERENCE FROM OTHER DISCIPLINES USED FOR COORDINATION PURPOSES, THIS LINE IS ALSO USED FOR EXISTING CONDUITS ABOVE GRADE
- DASHED LINE - SYMBOLS WITH THIS LINE ARE DEVICES TO BE REMOVED (DEMO PLANS). THIS LINE IS ALSO USED FOR UNDERGROUND CONDUITS (NEW PLANS).
- MATCH LINE REFERENCING CONTINUATION ON OTHER DRAWINGS
- CABLE ROUTING BOUNDARY

# DRAWING NOTES AND DESIGNATIONS

- (X) DRAWING KEYED NOTES
- (X) CABLE ROUTING NOTES
- (X/Y) DETAIL OR SECTION REFERENCE TAG
- [X] PHOTO REFERENCE

# VOICE AND DATA SYSTEM

- W,WP / XNYZ / U / +H: TELECOMMUNICATION OUTLET
  X= MOUNTING: (E= EXISTING, F= RECESSED OUTLET BOX, FLUSH FACEPLATE, SF= SURFACE MOUNTED OUTLET BOX, S= SURFACE MOUNTED BOX, FLUSH FACEPLATE, M= MODULAR FURNITURE ADAPTER, P= POLE, L= FLOOR, R= RACEWAY)
  N= NUMBER OF DATA CABLES IN THE FACEPLATE
  Y= NOT USED
  Z= NUMBER OF FIBER OPTIC STRANDS IN THE FACEPLATE
  U= USER(IF APPLICABLE)
  +H= INSTALLATION HEIGHT IN INCHES AT CENTER OF OUTLET, COORDINATE WITH ELECTRICAL. IF NOT SHOWN INSTALL AT 18" ACL. IF INSTALLED NEXT TO POWER OUTLETS, INSTALL DATA OUTLET AT SAME HEIGHT AS RECEPTACLES.
  W= WALL TELEPHONE FACEPLATE WITH SUPPORT STUDS, INSTALLED AT 42" ACL AT CENTER OF OUTLET AND 12" FROM EDGE OF WALL AND 9" AROUND ALL SIDES MEASURED FROM CENTER OF OUTLET.
  WP=WEATHERPROOF
  EXAMPLE: F2 = TWO DATA JACKS IN A SINGLE FACEPLATE, FLUSH MOUNTED
- MECH / SN / U / +H: OUTLET FOR MECHANICAL/ ELECTRICAL/ FIRE ALARM/ ELEVATOR/ STAR CONNECTION
  N: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
  U: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
  +H= IF NOT SHOWN, COORDINATE EXACT LOCATION WITH DEVICE
- XN / U: CEILING MOUNTED INFORMATION OUTLET, MOUNTED ON FINISHED CEILING
  XN: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
  U: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
- WAP / XN / U / +H: OUTLET FOR WIRELESS ACCESS POINT, WALL MOUNTED
  XN: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
  U: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
  +H= MOUNTING HEIGHT IN INCHES AT CENTER OF OUTLET, IF NOT SHOWN, INSTALL AT 8'-0" ACL
- WAP / XN / U: OUTLET FOR WIRELESS ACCESS POINT, MOUNTED ON FINISHED CEILING
  XN: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
  U: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
- FYZ / LN / U: FLOOR BOX FOR TECHNOLOGY SYSTEMS AND POWER OUTLETS. REFER TO POKE-THRU/ FLOORBOX SCHEDULE FOR MORE INFORMATION
  F= FLOOR CONDITION: (C= CONCRETE TYPE, G= GRADE, R= RAISED FLOOR, W= WOOD)
  Y= DENOTES # OF GANGS (1,2,3…)
  Z= DENOTES PLATE TYPE (A,B,C…)., A= NO AUDIO/VISUAL
  LN= AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
  U: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
- [FF] WALL MOUNTED FURNITURE FEED USED TO FEED CABLES TO MODULAR FURNITURE OR CABLES
- (FP)X FLOOR BOX USED TO FEED CABLES TO MODULAR FURNITURE, REFER TO DETAIL SHEET
  X= TYPE, IF NOT SHOWN, ONLY ONE TYPE IN PROJECT
- BB-1 / XNYZ / U / +H: AV BACKBOX, INSTALLED BEHIND DISPLAY/ CREDENZA RACK, COORDINATE BACKBOX PRIOR TO ROUGH-IN. REFER TO DETAIL & SCHEDULE FOR MORE INFORMATION
  T= IF NUMBER, DENOTES NUMBER OF GANGS. IF LETTER, DENOTES TYPE, REFER TO DETAIL
  XNYZ= AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
  U: AS DESCRIBED FOR TELECOMMUNICATIONS OUTLET SYMBOL ABOVE
  +H= MOUNTING HEIGHT IN INCHES AT CENTER OF DEVICE
- TV / X / U / +H: TELEVISION OUTLET, COORDINATE ROUGH-IN WITH TV MOUNT INSTALLER, WALL MOUNTED
  X= DENOTES TYPE OF OUTLET, SEE DETAIL FOR MORE INFORMATION
  U=USER(IF APPLICABLE). THIS ONLY APPLIES TO DATA AND FIBER NOT COAX
  +H= MOUNTING HEIGHT IN INCHES AT CENTER OF OUTLET, IF NOT SHOWN, INSTALL AT 7'-0" ACL
- FP / X: POWER POLE FOR COMBINED USE - TECHNOLOGY SYSTEMS AND POWER.
  X= TYPE, IF NOT SHOWN, ONLY ONE TYPE IN PROJECT

# AUDIO VISUAL EQUIPMENT

- SX / Y-Z / W: CEILING MOUNTED SPEAKER
  X= SPEAKER TYPE
  Y= SPEAKER ZONE
  Z= DENOTES SPEAKER # IN ZONE
  W= DENOTES SPEAKER WATTAGE TAP
  NO ZONE INDICATES LOCAL ZONE FOR A/V SYSTEM IN ROOM
- SX / Y-Z / W / +H: WALL MOUNTED SPEAKER
  X= SPEAKER TYPE
  Y= SPEAKER ZONE
  Z= DENOTES SPEAKER # IN ZONE
  W= DENOTES SPEAKER WATTAGE TAP
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
  NO ZONE INDICATES LOCAL ZONE FOR A/V SYSTEM IN ROOM
- VC / +H: VOLUME CONTROL, WALL MOUNTED
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- AV / X / +H: AV PLATE OUTLET, REFER TO DETAIL SHEETS
  X= DENOTES TYPE OF OUTLET, SEE DETAIL FOR MORE INFO, IF NOT SHOWN, ONLY ONE TYPE
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- D / TT / XX, YY: AUDIO VISUAL DISPLAY
  D= DISPLAY ID NUMBER
  T= DISPLAY TYPE WITH MOUNT. REFER TO SPECIFICATIONS 274100
  XX, YY= SCREEN SIZE
  +H= INSTALLATION HEIGHT IN INCHES AT CENTER OF DISPLAY, IF NOT SHOWN INSTALL AT DATA OUTLET LOCATION AT THE DISPLAY. COORDINATE BOTH POWER AND DATA OUTLET WITH WALL MOUNT BRACKET PRIOR TO ROUGH-IN. REFER TO ELECTRICAL SERIES DRAWINGS FOR POWER REQUIREMENTS.
  EXAMPLE: DT - 01 = DISPLAY WITH TUNER BUILT-IN AND DISPLAY 01 OF THE PROJECT

# VIDEO SURVEILLANCE SYSTEMS

- CCTV CAMERA PROPOSED LOCATION AT SCHEMATIC LEVEL. DASHED LINES REPRESENT FIELD OF VIEW. THIS SYMBOL DOES NOT REPRESENTS THE FINAL CAMERA LOCATION AND TYPE.
- C / XS / U / +H: CCTV CAMERA TAG INFORMATION APPLIES TO ALL CAMERA CEILING MOUNTED SYMBOLS (IF NOT SHOWN DOME), REFER TO DETAILS & SPECIFICATION FOR TYPE
  C = CAMERA NUMBER, X= CAMERA MOUNTING (1,2,3), S= SPECIFIC CAMERA HOUSING
  U= USER(IF APPLICABLE)
  +H= REFER TO CAMERA DETAIL FOR REQUIREMENTS, HEIGHT CALLED OUT IN INCHES, IF NOT SHOWN, INSTALLED AT CEILING
- C / XS / U / +H: CCTV CAMERA TAG INFORMATION APPLIES TO ALL CAMERA WALL MOUNTED SYMBOLS (IF NOT SHOWN DOME), REFER TO DETAILS & SPECIFICATION FOR TYPE
  C = CAMERA NUMBER, X= CAMERA MOUNTING (1,2,3), S= SPECIFIC CAMERA HOUSING
  U= USER(IF APPLICABLE)
  +H= REFER TO CAMERA DETAIL FOR REQUIREMENTS, HEIGHT CALLED OUT IN INCHES, IF NOT SHOWN, INSTALLED AT 8'-0" ACL
- FIXED CCTV CAMERA
- PAN/TILT/ZOOM CCTV CAMERA
- PANORAMIC DUAL-IMAGER FIXED CCTV CAMERA
- 180° SINGLE-IMAGER CCTV CAMERA
- 180° MULTI-IMAGER CCTV CAMERA
- 360° SINGLE-IMAGER CCTV CAMERA
- 360° MULTI-IMAGER CCTV CAMERA

# CONDUIT FILL SCHEDULE

CONDUIT FILL CAPACITY 40% MAX

| CABLE O.D. SIZE | 3/4" CONDUIT | 1" CONDUIT | 1-1/4" CONDUIT | 1-1/2" CONDUIT | 2" CONDUIT | 2-1/2" CONDUIT | 3" CONDUIT | 4" CONDUIT | CABLE COMMENT |
|---|---|---|---|---|---|---|---|---|---|
| 0.23 | 4 | 7 | 11 | 17 | 30 | 47 | 68 | 120 | |
| 0.25 | 3 | 6 | 10 | 14 | 25 | 40 | 57 | 102 | |
| 0.275 | 2 | 5 | 7 | 11 | 20 | 31 | 45 | 81 | |
| 0.30 | 2 | 4 | 6 | 10 | 17 | 27 | 40 | 71 | |
| 0.365 | 1 | 2 | 4 | 6 | 11 | 18 | 26 | 46 | ACCESS CONTROL CABLE (BANANA CABLE) |

# ELECTRONIC SECURITY SYSTEM

- CR: CARD READER, WALL MOUNTED
- KP: KEYPAD, WALL MOUNTED
- EL: ELECTRIC LATCH RETRACTION LOCK
- ES: ELECTRIC DOOR STRIKE
- ML: ELECTROMAGNETIC LOCK
- EO: ELECTRIC DOOR OPERATOR (ACTUATOR ARM)
- DPS: DOOR POSITION SWITCH
- REX: REQUEST TO EXIT DEVICE (IR SENSOR), MOUNT CENTERED ABOVE DOOR FRAME
- A / +H: DOOR RELEASE BUTTON, WALL MOUNTED
  X= A: ADA ACCESSIBLE - (PALM ACTUATOR), W: HAND WAVE, NO TYPE: REGULAR PUSH BUTTON
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- DOOR RELEASE BUTTON, DESK MOUNTED
- D / +H: DURESS PANIC BUTTON, WALL MOUNTED
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- D: DURESS PANIC BUTTON, MOUNTED UNDER DESK
- IS / X / +H: INTERCOM SUBSTATION (DOOR STATION), WALL MOUNTED
  X= TYPE, IF NOT SHOWN, ONLY ONE TYPE IN PROJECT, REFER TO RISER FOR TYPE
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- IM / X: INTERCOM MASTER STATION, DESK MOUNTED
  X= TYPE, IF NOT SHOWN, ONLY ONE TYPE IN PROJECT, REFER TO RISER FOR TYPE
- IM / X / +H: INTERCOM MASTER STATION, WAll MOUNTED
  X= TYPE, IF NOT SHOWN, ONLY ONE TYPE IN PROJECT, REFER TO RISER FOR TYPE
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- IK / +H: INTRUSION ALARM KEYPAD
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- MD / +H: MOTION DETECTOR, WALL MOUNTED
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- MD: MOTION DETECTOR, 360 DEGREE SENSOR, CEILING MOUNTED
- GBS / +H: GLASS BREAK SENSOR, WALL MOUNTED
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- GB: GLASS BREAK SENSOR, CEILING MOUNTED
- SA / +H: SIREN ALARM FOR INTRUSION DETECTION, WALL MOUNTED
  +H= REFER TO ROUGH-IN REQUIREMENTS FOR DEVICES DETAIL FOR ADDITIONAL REQUIREMENTS
- SA: SIREN ALARM FOR INTRUSION DETECTION, CEILING MOUNTED


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ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|

ISSUE DATE: NOVEMBER 14, 2025

TECHNOLOGY SYMBOLS, LEGEND, NOTES & INDEX

T0.1

PERMIT / BID SET

# Lake County Board of County Commissioners
# Cabling System Technical Specification
# (Updated 7/16/2015)
### No Unauthorized Substitutions

## 1.0 INTRODUCTION

**1.1 PURPOSE**
The intent of this document is to provide a standard specification that will be used for all Lake County facilities requiring cabling installation. This document provides the minimum performance criteria for the components and sub-systems comprising a complete cabling system that shall accommodate Lake County's requirements.
Product specifications, general design considerations, and installation guidelines are provided in this written document. The successful contractor shall meet or exceed all requirements for the cabling system described in this document. The Category 6 portion of the cabling system shall comply with the proposed link and channel performance requirements of TIA/EIA 568-C.2 "Performance Specifications for 4-pair 100 Ohm Category 6 Cabling".

The successful contractor must have a BICSI® certified RCDD review the drawings and meet with representatives from Facilities and the Office of Information Technology to discuss the project and to ensure that a structured cabling system is installed that provides a comprehensive telecommunications infrastructure.

**1.2 SCOPE**
This document defines the cabling system and subsystem components to include cable, termination hardware, supporting hardware, and miscellany to install a complete telecommunications system supporting voice and data. The intent of this document is to provide all pertinent information to allow the contractor to bid the materials, labor, supervision, tooling, and miscellaneous mounting hardware and consumables to install a complete system. However, it is the responsibility of the contractor to identify any and all items required for a complete system not identified in this specification.

**1.3 APPLICABLE DOCUMENTS**
The cabling system described in this specification is derived in part from the recommendations made in industry standard documents. The list of documents below are incorporated by reference:

1. This Technical Specification and Associated Drawings
2. © 2000 BICSI® *Telecommunications Distributions Methods Manual, latest edition.*
3. ANSI/TIA/EIA-568-C.1 *Commercial Building Telecommunications Cabling Standard 2012.*
4. ANSI/TIA/EIA-568-C.2 *Balanced Twisted-Pair Telecommunication Cabling and Components Standard 2014.*
5. ANSI/TIA/EIA-568-C.3 *Optical Fiber Cabling Components Standard 2011.*
6. ANSI/TIA/EIA-568-C.4 *Broadband Coaxial Cabling and Components Standard 2011.*
7. ANSI/TIA/EIA-569-B *Commercial Building Standard for Telecommunications Pathways and Spaces 2003.*
8. ANSI/TIA/EIA-606-A *Administration Standard for the Telecommunications Infrastructure of*
9. *Commercial Buildings 2002.*
10. ANSI/TIA/EIA-607-A *Commercial Building Grounding and Bonding Requirements for Telecommunications 2002.*
11. ISO/IEC 11801 *Generic Cabling for Customer Premises.*

Other standards that contain requirements pertaining to the safety of and access to private and public telecommunications networks include:

1. ANSI/NFPA 70 *The National Electrical Code®, current edition.*
2. IEEE C2-2002 *National Electrical Safety Code (NESC®) current edition.*
3. FCC Part 68 Code of Federal Regulations, Title 47, *Telecommunications.*
4. UL 1459 Underwriters Laboratories *Standard for Safety—Telephone Equipment.*
5. UL 1863 Underwriters Laboratories *Standard for Safety—Communication Circuit Accessories.*

Specifications as provided by The Division of Information Systems, Telecommunications and Facilities groups and other special codes that may apply:
If this document and any of the documents listed above are in conflict, then the more stringent requirement shall apply. All documents listed are believed to be the most current releases of the documents; the contractor is responsible to determine and adhere to the most recent release when developing the proposal for installation.

**1.4 CONTRACTOR REQUIREMENTS**

The contractor installing the telecommunications facilities and equipment herein specified shall be an experienced TELECOMUNICATIONS CONTRACTOR. Experienced meaning that the contractor has been in this type of business for a minimum of two (2) years and have personnel that have been trained and certified in the installation of telecommunications facilities equipment. Additionally, the contractor will have successfully completed installation of similar equipment and size to that specified herein within the last year of the project.

Contractors must have a BICSI Registered/Certified Communications Distribution Designer (RCDD) on staff. A copy of the contractor's current registration must be furnished with the submittal of the proposal. The supervisor or lead technician on every project must have a current Registered BICSI RCDD and/or Registered BICSI Technician Certification.

**1.5 EQUIPMENT COMPONENT REQUIREMENTS**

The contractor bidding the telecommunications facilities and equipment herein specified shall submit a bill of materials including any manufacturer specifications for proposed components to County IT for approval before submitting a final bid on all telecommunications systems projects. County IT will evaluate the manufacturer specifications and may respond with requests to substitute a preferred name brand manufacturers for specific components. Preference will be given to all bids that conform to county recommended components and standards.

## 2.0 TELECOMMUNICATIONS SYSTEM REQUIREMENTS

**2.1 FACILITIES DESCRIPTION**
Lake County's facilities vary in function and size. Most buildings have individual offices for faculty and staff; in certain areas, personnel may be situated in modular office furniture with hard wall offices around the exterior of the floor. Generally, a ceiling distribution cabling system using cable trays and conduits is used. These specifications apply primarily to new buildings and major renovations, but should be followed as closely as possible for all telecommunications cabling installations.

**2.2 TELECOMMUNICATIONS SYSTEM DESCRIPTION**
Lake County's data distribution network is based on a star topology with a collapsed-backbone. The data cabling should be designed end to end to meet or exceed 1000BASE-T/1000BASE-TX standards. As a standard configuration each work area will consist of a communications outlet containing two Category 6 jack inserts and one Category 3 jack insert (1 Voice and 2 Data) or three Category 6 cables. All data jacks are terminated using Category 6 horizontal cables pulled and terminated on Category 6 insulation displacement connector patch panels in the telecommunications room. Patch cords/equipment cords are used to connect each jack to the appropriate service connector. All voice cables and all voice pairs are terminated on 66-M150 blocks on a backboard in the telecommunications room. Generally, high pair count Category 3 CMR or CMP backbone/riser cables are employed between the Entrance facilities or Main telecommunications room and each telecommunications room for voice connectivity. Category 6 cables and 50 micron multi-mode fiber optic cables are used as backbone/riser cables for data. All CATV cable runs under 300 meters shall be accompanied by a single Category 6 data cable run that will terminate on the same wall outlet. All jack inserts need to be "Keystone" type.

## 3.0 HORIZONTAL DISTRIBUTION SYSTEM

**3.2 TELECOMMUNICATIONS CABLING SYSTEM**
The telecommunications contractor will be responsible for pulling and terminating the cables following all federal, state and local codes, accepted industry standards and the manufacturer's instructions. The telecommunications contractor must work closely with the electrical contractor to ensure that the pathways are installed correctly and that they will allow for proper installation of the cabling system. Visual inspections and upon completion of the project test results will be used to verify proper installation practices were followed.
The cabling system will consist of Lake County IT approved Category 6 components and cable. Each Category 6 data cable shall be terminated on an 8-position, 8-conductor Category 6 jack "Keystone" insert wired to the T568B color code in the work area and in the telecommunications room. Each Category 6 voice cable shall be terminated on a 6-position, 6-conductor jack insert at the work station and on 66-M150 blocks on a backboard in the telecommunications room. Voice and Data racks should be separate and located appropriately for their specific function. A single pull string should be left in the conduit at each outlet location.

**3.2.1 WORK AREA TELECOMMUNICATIONS OUTLETS**
Work area communications outlets should be placed one per 100 sq ft of useable floor space and sized to accommodate four Category 6 cables and connectors. Outlets should be within 3' of an electrical outlet and installed at the same height, unless otherwise specified. Outlets should be placed so that the work area or workstation cable does not exceed 5 meters (16 ft) in length. This length is figured into the total horizontal cabling length and must not be exceeded.

**Office Outlets**
One 3-port flush 110 Connect faceplate. Faceplates shall be constructed of ABS molding compound and be 4.53" X 2.77" X .60" in size. Each outlet shall contain three cables terminated on two Category 6, 8-position, 8-conductor jack BLUE "Keystone" inserts and one Category 6 or Category 3, jack ALMOND insert for voice following manufacturer's instructions. Faceplates shall accommodate two labels and provide a clear polycarbonate cover for each. The upper jack will be designated as the voice jack and shall be colored light almond while the data jacks shall be colored blue and shall occupy the bottom two position(s) on the faceplate unless otherwise noted on the drawings. Faceplates shall be light almond in color unless otherwise noted. Faceplates shall be an approved brand and shall be mounted to in-wall single gang boxes.

**CATV/VIDEO Outlets**
One 2-port flush 110 Connect faceplate. Faceplates shall be constructed of ABS molding compound and be 4.53" X 2.77" X .60" in size. Each outlet shall contain one cable terminated on a Category 6, 8-position, 8-conductor jack for VIDEO and one on a 75 ohm coaxial cable insert for CATV following manufacturer's instructions. Faceplates shall accommodate two labels and provide a clear polycarbonate cover for each. The upper jack will be designated as the CATV jack and while the VIDEO jack shall be colored green and shall occupy the bottom position on the faceplate

**Modular Furniture Outlets**
Use appropriate FLEX-MODE faceplate determined by modular furniture brand. FLEX-MODE faceplates shall be made of polycarbonate molding compound, black in color. The faceplate(s) shall be mounted in the appropriate knockout(s) in the furniture channel. Consult with a representative for specific instructions.

**3.2.2 PRODUCT SPECIFICATIONS**

**Category 3 Cabling – Non-plenum**
Horizontal data cabling shall be 24 AWG, solid copper, 4-pair UTP, UL/NEC CMR rated, with a white/gray/beige PVC jacket. Cable jacketing shall be lead-free. Cable shall meet standard Category 3 performance requirements. Cable shall be supplied on wooden reels or in reel-in-box. Cable shall be UL listed under file number E138034.

**Category 3 Cabling – Plenum**
Horizontal data cabling shall be 24 AWG, solid copper, 4-pair UTP, UL/NEC CMP rated, with a white/gray/beige plenum-rated PVC jacket. Individual conductors shall be FEP insulated. Cable jacketing shall be lead-free. Cable shall meet standard Category 3 performance requirements. Cable shall be supplied on wooden reels or in reel-in-box. Cable shall be UL listed under file number E138034.

**Category 6 Cabling – Non-plenum**
Horizontal data cabling shall be 23 AWG, solid copper, 4-pair UTP, UL/NEC CMR rated with a (blue PVC jacket for data) and a (green PVC jacket for voice). Cable jacketing shall be lead-free. Cable shall meet standard EIA/TIA-568-C.2 Category 6 performance requirements and shall be rated up to 550 MHz. Cable shall be supplied on wooden reels or in reel-in-box. Cable shall be UL listed under file number E138034.

**Category 6 Cabling – Plenum**
Horizontal data cabling shall be 23 AWG, solid copper, 4-pair UTP, UL/NEC CMP rated with a (blue plenum-rated PVC jacket for data) and a (green plenum-rated PVC jacket for voice). Individual conductors shall be FEP insulated. Cable jacketing shall be lead-free. Cable shall meet standard EIA/TIA-568-C.2 Category 6 performance requirements and shall be rated up to 550 MHz. Cable shall be supplied on wooden reels or in reel-in-box. Cable shall be UL listed under file number E138034.

**Fiber Optic Cable and Termination Hardware**
All multimode optical fiber must be 50/125um. All optical fiber must be manufactured by CORNING Cable Systems. CORNING Cable Systems LanScape® products will be used for all optical fiber splice and termination points. The types of cable, number of fiber strands and types of termination will vary for each project and must be stated in the project specifications.

**Modular Jacks**
All modular jacks shall be wired to the T568B wiring pattern. Modular jacks shall be of the "Keystone" type. Modular jacks shall be constructed with a housing of polyphenylene oxide, 94V-0 rated. Modular jacks shall be terminated using a 110-style pc board connector (made of 94V-0 rated polycarbonate), color-coded for both T568A and T568B wiring. The 110 connector shall terminate 22-24 AWG solid conductors with a maximum insulation diameter of .050 inches. The modular jack contacts shall be plated with a minimum of 50 micro-inches of gold in the contact area over a 50 micro-inch minimum nickel under plate. Modular jacks shall be compatible with panel thicknesses of .058" - .063". Modular jacks shall snap into a .790" X .582" opening and only approved inserts and face plates shall be used. Modular jacks shall be UL Listed under file number E81956.

**3.2.3 WORK AREA COMMUNICATIONS OUTLET INSTALLATION**
All outlets shall be installed in the following manner:

Cables shall be coiled in the in-wall or surface-mount boxes if adequate space is present to house the cable coil without exceeding the manufacturers bend radius. In hollow wall installations where box-eliminators are used, excess wire can be stored in the wall. No more than 12" of slack shall be stored in an in-wall box, modular furniture raceway, or insulated walls. Excess slack may be neatly coiled and stored in the ceiling above each drop location when there is not enough space present in the outlet box to store slack cable.

In addition, each cable type shall be terminated as indicated below:

Cables shall be dressed and terminated in accordance with the recommendations made in the BICSI® Telecommunications Distributions Methods Manual, manufacturer's recommendations and/or best industry practices.

Pair untwist at the termination shall not exceed .25 inch for Category 6 connecting hardware.

Bend radius of the cable in the termination area shall not be less than 4 times the outside diameter of the cable.

The cable jacket shall be maintained as close as possible to the termination point.

**3.3 HORIZONTAL DISTRIBUTION CABLE INSTALLATION**
If the building is renovated or rewired, abandoned cable shall be removed from the building in accordance with National Electric Code, once it is no longer in service. Unused, un-terminated cable is only allowed if there is a planned purpose for the cable and it must be documented on the as-build drawings.

The following guidelines should be used when installing Horizontal distribution cable:

All horizontal data distribution cable should be Category 6, 100 ohm, UTP of an approved vendor and shall not exceed a maximum distance of 295 feet.

All horizontal voice distribution cable should be Category 3, 100 ohm, UTP of an approved vendor.

Cable shall be installed in accordance with manufacturer's recommendations and best industry practices.

Cable raceways shall not be filled greater than the NEC maximum fill for the particular raceway type.

Cables shall be installed in continuous lengths from origin to destination (no splices).

Unshielded twisted pair cable shall be installed so that there are no bends less than four times the cables outside diameter (4 X cable O.D.) at any point in the run.

Pulling tension on 4-pair UTP cables shall not exceed 25-pounds for a single cable or cable bundle.

If a J-hook or trapeze system is used to support cable bundles all horizontal cables shall be supported at a maximum of four-foot intervals. At no point shall cable(s) rest on acoustic ceiling grids or panels.

Horizontal distribution cables shall be bundled in groups of not greater than 40 cables. Cable bundle quantities in excess of 40 cables may cause deformation of the bottom cables within the bundle.

Cable shall be installed above fire-sprinkler and systems and shall not be attached to the system or any ancillary equipment or hardware. The cabling system and support hardware shall be installed so that it does not obscure any valves, fire alarm conduit, boxes, or other control devices.

Cables shall not be attached to ceiling grid or lighting support wires. Where light support for drop cable legs are required, the contractor shall install clips to support the cabling.

Any cable damaged or exceeding recommended installation parameters during installation shall be replaced by the contractor prior to final acceptance at no cost to Lake County BCC.

Cables shall be identified by a self-adhesive label in accordance with the System Documentation Section of this specification. The cable label shall be applied to the cable behind the faceplate on a section of cable that can be accessed by removing the cover plate.

**3.4 HORIZONTAL CABLE TERMINATION**
All horizontal distribution runs shall work together to produce optimum efficiency and throughput. All cable and jack combinations must be tested by an independent laboratory to determine their performance when paired together. Two such independent tests are Anixter's "levels" program and Graybar's "VIP" program. It is the responsibility of the contractor to make sure that both jack and wire are of the same "category" rating.

**3.4.1 HORIZONTAL DATA/VIDEO CABLE TERMINATION PATCH PANELS**
All horizontal data cables will be terminated on Category 6 patch panels in the telecommunications room. The horizontal cables termination patch panels shall be colored black and contained in standard 19" x 7' rack(s), wall-mount racks or equipment cabinets as specified by the project drawings. All equipment racks shall be properly secured to the floor or wall and augmented with horizontal and vertical management hardware, both front and rear, to properly dress horizontal cables. Patch panels shall provide 24 or 48 modular jack ports, wired to T568B. The front of each module shall be capable of accepting 9mm to 12mm labels. Patch panels shall terminate the building cabling on 110-style insulation displacement connectors. Patch panels must be UL Listed under file number E81956. Patch panels shall be of an approved brand. Modular inserts for use in the patch panel should be of the same manufacturer as the jacks used at the work area station outlets. All video cables shall be terminated on a single independent patch panel.

**3.4.2 HORIZONTAL VOICE CABLE TERMINATION BLOCKS**
All horizontal voice cables will be terminated on 66-M150 blocks in the telecommunications room. The horizontal cables termination 66-M150 blocks shall be contained on a backboard as specified by the project drawings. All 4 pairs of each cable will be terminated on the 66-M150 blocks and labeled 1 – XX, 2 – XX, 3 – XX, etc

**3.4.3 HORIZONTAL CABLE SUPPORT**

a 12" ladder rack system shall be installed in the telecommunications room to support the cables. The ladder should encompass the room allowing the cables to be properly dressed and supported.

secure the top of all freestanding equipment racks using 12" ladder racks to the wall or intersect with the ladder system encompassing the room.

## 4.0 BACKBONE CABLE
If the building is renovated or rewired, abandoned cable shall be removed from the building in accordance with National Electric Code, once it is no longer in service. Unused, un-terminated cable is only allowed if there is a planned purpose for the cable and it must be documented on the as-build drawings.

Data backbone cabling installed between the entrance facilities or main telecommunications room and each telecommunications room will consist of one or more of the following types of cable:

Category 6 , 100 ohm, UTP as described in the horizontal distribution section for data distances up to 295'.

High pair count TIA Category 3 CMR or CMP is adequate for voice backbone/riser cable.

50/125um multimode optical fiber (inside building) terminated with LC connectors.

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PROJECT NO: PSA2025-22.00

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ISSUE DATE: NOVEMBER 14, 2025

TECHNOLOGY SPECIFICATIONS

T0.2
PERMIT / BID SET

- Single mode optical fiber (building to building) terminated with LC connectors.

the minimum strand count for the single-mode fiber optic backbone entering the building is 96 strands of SM which should be terminated on a wall mounted fiber box or a rack mounted fiber patch panel in the Main Distribution Room. Connection into Lake County's existing fiber backbone should be included in all design drawings and bids. This should include splicing, termination, testing, conduit, vaults and boring necessary to provide full connectivity into Lake County's existing fiber backbone.

the minimum strand count of fiber between telecommunications closets that exist on the same floor of a building shall be 12 strand of MM and 6 strand SM, preferably combined in a hybrid fiber cable. All fiber should be terminated on a wall mounted fiber box or in a rack mounted termination panel.

the minimum strand count of fiber between a server room and the Main Distribution Room shall be 12 strand of MM and 6 strand SM, preferably combined in a hybrid fiber cable. All fiber should be terminated on a wall mounted fiber box or in a rack mounted termination panel.

the minimum strand count of fiber from each telecommunications closet to the Main Distribution Room shall be 12 strand of MM and 6 strand SM, preferably combined in a hybrid fiber cable. All fiber should be terminated on a wall mounted fiber box or in a rack mounted termination panel.

a minimum of 25' of excess fiber shall be provided at each fiber termination point. Such service loops should conform to specifications to include total length and bend radii.

The types and number of cables used for backbone systems will vary for each project and must be documented in the project specifications and documented on the drawings. Any termination or splice enclosures used for optical fiber will be listed in the specifications and documented on the drawings.
Voice backbone cabling will be 24 AWG, 100-pair UTP, UL/NEC CMR rated or CMP if required, with a white/gray/beige PVC jacket. Cable shall be third party verified to comply with TIA Category 3 requirements. Cable shall be supplied on 1000 ft. reels. A coupled bonding conductor will be installed within the riser bundle and bonded and grounded at each end.

**4.1 BACKBONE CABLE INSTALLATION**
All copper backbone cables shall be installed in the following manner:

Backbone cables shall be installed separately from horizontal distribution cables.

where cables are housed in conduits, the backbone and horizontal cables shall be installed in separate conduits or in separate inner duct within conduits.

where cables are installed in an air return plenum, the cable shall be installed in conduit, or plenum cable shall be installed in a plenum inner duct to provide protection to the cable

where backbone cables and distribution cables are installed in a cable tray or wire way, backbone cables shall be installed first and bundled separately from the horizontal distribution cables.

For optical fiber backbone cables:

do not exceed the cable's minimum bend radius. Bending cable tighter than the minimum bend Radius may result in increased optical fiber attenuation or fiber breakage.

the minimum bend radius for indoor backbone optical fiber cable is 10 times the cables outside diameter under no load conditions and 15 times the cables outside diameter when being pulled.

do not exceed the cables maximum vertical rise and tensile rating.

where cables are installed in an air return plenum, the cable shall be installed in conduit, or plenum cable shall be installed in a plenum inner duct to provide protection to the cable

where backbone cables and distribution cables are installed in a cable tray or wire way, backbone cables shall be installed first and bundled separately from the horizontal distribution cables use inner duct whenever possible.

all fiber should be from the same manufacture and preferably the same lot if possible. All lot numbers of fiber should be documented on drawings.

NOTE: Do not locate backbone cable pathways in elevator shafts. Do not over fill conduits, ducts or sleeves. Refer to the BICSI® *Telecommunications Distributions Methods Manual*, latest edition for more information.

**4.2 FIBER LIGHTGUIDE INTERCONNECT UNIT (LIU)**
Fiber LIUs shall be manufactured to fit in both 19 inch relay rack and 23 inch relay rack. The LIU shall be sized to accommodate the appropriate number of fiber connections and utilize the least amount of rack space. Even if the LIU is not fully populated with fiber connection, the LIU shall be completely populated with bulkhead panels to accommodate future use. On 72 and 144 port LIU's the termination and splice shelf must be used together due to fusion splicing on single mode and multimode fiber. The LIUs used by the contractor must be approved by Lake County IT.

**4.3 FIBER CONNECTORS:**
All single mode fiber shall be terminated using factory manufactured pigtails with LC type connectors. All multimode fiber shall be terminated using factory manufactured pigtails with LC type connectors. The pigtails used by the contractor must be approved by Lake County IT.

**4.4 FIBER COUPLERS:**
All single mode fiber LIU panels shall be equipped with LC to LC couplers. All multimode fiber LIU panels shall be equipped with LC to LC couplers. The couplers used by the contractor must be approved by Lake County IT and must be of the same manufacturer as the fiber connectors.

## 5.0 WORK AREA AND PATCH CORD CABLE ASSEMBLIES
The Division of Information Systems will provide the patch cords for the workstations unless they are specifically included as part of the project. Cables must not exceed 5 meters (16 ft) in length and should be approved by Lake County BCC IT.

## 6.0 CABLING SYSTEM TESTING
All cables and termination hardware shall be 100% tested for defects in installation and to verify cable performance under installed conditions. The contractor prior to system acceptance shall verify all conductors of each installed cable useable. Any defect in the cabling system installation including but not limited to cable, connectors, feed through couplers, patch panels, and connector blocks shall be repaired or replaced in order to ensure 100% useable conductors in all cables installed. All cables shall be tested in accordance with this document, and best industry practices. If any of these are in conflict, the Contractor shall be responsible to bring any discrepancies to the attention of the project manager for clarification and/or resolution.

**6.1 PERFORMANCE VERIFICATION**
**6.1.1 COPPER**
Category 6 data cable shall be performance verified using an automated test set. Test results shall be automatically evaluated by the equipment, using the most up-to-date criteria from the TIA/EIA Standard currently ANSI/TIA/EIA-568-C.2, and the result shown as pass/fail. Test results shall be printed directly from the test unit or from a download file using an application from the test equipment manufacturer. The printed test results shall include all tests performed, the expected test result and the actual test result achieved.

**6.1.2 FIBER**
All 50/125um multimode optical fiber and/or Single mode optical fiber must be manufactured by CORNING Cable Systems and it would be preferable that all fiber cable is from the same manufacturer lot number. After installation, it must be performance verified using an automated test set. Test results shall be automatically evaluated by the equipment, using the most up-to-date criteria from the TIA/EIA Standard currently ANSI/TIA/EIA-568-C.3, and the results shown as pass/fail. Test results shall be printed directly from the test unit or from a download file using an application from the test equipment manufacturer. The printed test results shall include all tests performed, the expected test result and the actual test result achieved.

## 7.0 SAFETY / ENVIRONMENTAL

**7.1 FIRESTOP SYSTEMS**
A fire stop system is comprised of: the item or items penetrating the fire rated structure; the opening in the structure and the materials and assembly of the materials used to seal the penetrated structure. Fire stop systems comprise an effective block for fire, heat, vapor and pressurized water stream.
All penetrations through fire rated building structures (walls and floors) shall be sealed with an appropriate fire stop system. This requirement applies to through penetrations (complete penetration) and membrane penetrations (through one side of a hollow fire rated structure). Any penetrating items i.e., riser slots and sleeves, cables, conduit, cable tray, and raceways, etc. shall be properly fire stopped.

**7.1.1 PRODUCT SPECIFICATIONS**
Fire stop systems shall be UL Classified to ASTM E814 (UL 1479) and shall be approved by the Lake County Fire Marshal. A drawing showing the proposed fire stopped system, shall be provided to Lake County's Technical Representative and Fire Marshall prior to installing the fire stop system(s).

**7.1.2 FIRESTOP SYSTEM INSTALLATION**
All fire stop systems shall be installed in accordance with the manufacturer's recommendations and shall be completely installed and available for inspection by the local inspection authorities prior to cabling system acceptance.

**7.2 GROUNDING AND BONDING**
The facility shall be equipped with a Telecommunications Bonding Backbone (TBB). This backbone shall be used to ground all telecommunications cable shields, equipment, racks, cabinets, raceways, and other associated hardware that has the potential for acting as a current carrying conductor. The TBB shall be installed independent of the buildings electrical and building ground and shall be designed in accordance with the recommendations contained in the TIA/EIA-607 Telecommunications Bonding and Grounding Standard.
The main entrance facility/equipment room in each building shall be equipped with a telecommunications main grounding bus bar (TMGB). Each telecommunications closet shall be provided with a telecommunications ground bus bar (TGB). The TMGB shall be connected to the building electrical entrance grounding facility. The intent of this system is to provide a grounding system that is equal in potential to the building electrical ground system. Therefore, ground loop current potential is minimized between telecommunications equipment and the electrical system to which it is attached.

**7.2.1 PRODUCT SPECIFICATIONS**
All racks, metallic backboards, cable sheaths, metallic strength members, splice cases, cable trays, etc. entering or residing in the TC or ER shall be grounded to the respective TGB or TMGB using a minimum #6 AWG stranded copper bonding conductor and compression connectors. Where metallic panels attached to the rack to not have sufficient metal to metal contact to provide an adequate path to ground, they shall be bonded to the rack using a minimum #14 AWG copper conductor. The copper conductor size shall be upgraded based on the largest power conductor feeding any rack mount equipment. The conductor shall be continuous; attaching all isolated components in a daisy chain fashion from top to bottom and bonded to the rack using an appropriate compression connector.
All wires used for telecommunications grounding purposes shall be identified with a green insulation. Non-insulated wires shall be identified at each termination point with a wrap of green tape. All cables, and bus bars shall be identified and labeled.

**7.2.2 GROUND SYSTEM INSTALLATION**
The TBB shall adhere to the recommendations of the TIA/EIA-607 standard, and shall be installed in accordance with best industry practices. Installation and termination of the main bonding conductor to the building service entrance ground, at a minimum, shall be performed by a licensed electrical contractor.

**7.3 ENVIRONMENTAL CONSIDERATIONS**
Environmental considerations need to be made for the telecommunications room where networking equipment will be in use. If possible air conditioning shall be installed on a separate zone so that the air can be run during the winter. If air conditioning cannot be afforded, heavy-duty airflow and exhaust fans should be used to keep the room below 90 degrees.

**7.4 FIRE EXTINGUISHER**
A fire extinguisher (CO2 or type dependent on local fire codes) shall be hung inside all equipment rooms and telecommunications rooms.

**7.5 SPRINKLER SYSTEM**
Sprinkler systems heads should be rated for higher temperature to prevent them from going off inadvertently as the water can harm networking equipment. If needed, special hoods may be fabricated to prevent water from directly assessing computer equipment.

## 8.0 SYSTEM DOCUMENTATION
The following section describes the installation, administration, testing, and as-built documentation required to be produced and maintained by the contractor during the course of the installation.

**8.1 CABLING SYSTEM LABELING**
The contractor shall develop and submit for approval a labeling system for the cable installation. Lake County BCC will negotiate an appropriate labeling scheme with the successful contractor. At a minimum, the labeling system shall clearly identify all components of the system: racks, cables, panels and outlets. The labeling system shall designate the cables origin and destination and a unique identifier for the cable within the system. Racks and patch panels shall be labeled to identify the location within the cabling system infrastructure. All labeling information shall be recorded on the as-built drawings and all test documents shall reflect the appropriate labeling scheme. All label printing will be machine generated using indelible ink ribbons or cartridges. Self-laminating labels will be used on cable jackets, appropriately sized to the OD of the cable, and placed within view at the termination point on each end. Outlet labels will be the manufacturer's labels provided with the outlet assembly.

**8.1.1 DEFAULT LABELING SCHEME**
All cable outlets and termination panels/bays or blocks will be appropriately labeled to match the cable using the following default labeling scheme is an approved scheme has not been negotiated:

Room number

– (dash)

Device Code (O-outlet, P-Patch Panel, B-Block)

Device number (devices numbered 1-9 going around the room in a clockwise direction from the entrance)

D or V (for data or voice)

Outlet number on the plate, port number on the panel

**8.2 AS-BUILT DRAWINGS**
The installation contractor will be provided with 2 sets of D or E-size drawings at the start of the project. One set will be designated for as the central location to document all as-built information as it occurs throughout the project. The central set will be maintained by the Contractor's Foreman on a daily basis, and will be available to the Technical representative upon request during the course of the project. Anticipated variations from the build-to drawings may be for such things as cable routing and actual outlet placement. No variations will be allowed to the planned termination positions of horizontal and backbone cables, and grounding conductors unless approved in writing by Lake County BCC.
The Contractor shall provide the central drawing set to the Lake County BCC at the conclusion of the project. The marked up drawing set will accurately depict the as-built status of the system including termination locations, cable routing, and all administration labeling for the cabling system. In addition, a narrative will be provided that describes any areas of difficulty encountered during the installation that could potentially cause problems to the telecommunications system.

**Requirements for As-built drawings**

Backbone diagrams shall include:

one line diagrams for UTP copper cabling with cable counts.

one line diagrams for optical fiber cabling with cable counts (including lot number).

Floor Diagrams shall include:

TR locations and room numbers.

Work area outlets (WAO) and faceplate labels.

TR wiring zones, which identify WAOs served.

Horizontal cabling pathways including penetrations and fire stopping.

TR Diagrams shall include:

TR room number.

Rack locations.

Power outlet locations.

Conduit entrance locations.

**8.3 TEST DOCUMENTATION**

Test documentation shall be provided in a three ring binder(s) within three weeks after the completion of the project. The binder(s) shall be clearly marked on the outside front cover and spine with the words "Test Results", the project name, and the date of completion (month and year). The binder shall be divided by major heading tabs, Horizontal and Backbone. Each major heading shall be further sectioned by test type. Within the horizontal and backbone sections, and scanner test results (Category 6)(10GBase-T), shall be segregated by tab. Test data within each section shall be presented in the sequence listed in the administration records. The test equipment by name, manufacturer, model number and last calibration date will also be provided at the end of the document. Unless a more frequent calibration cycle is specified by the manufacturer, an annual calibration cycle is anticipated on all test equipment used for this installation. The test document shall detail the test method used and the specific settings of the equipment during the test. Scanner tests shall be printed on 8-1/2" x 11" paper.
When repairs and re-tests are performed, the problem found and corrective action taken shall be noted, and both the failed and passed test data shall be collocated in the binder.

## 9.0 WARRANTY AND SERVICES

**9.1 CABLING SYSTEM WARRANTY**
The telecommunications contractor shall facilitate a 5-Year extended System Performance Warranty between the manufacturer and Lake County BCC. The extended component warranty shall be provided which warrants functionality of all components used in the system for 5 years from the date of acceptance. The performance warranty shall warrant the installed 550 MHz horizontal copper, and if installed by the contractor both the horizontal and backbone optical fiber portions of the cabling system. Copper links shall be warranted against the link performance minimum expected results defined in TIA/EIA-568-C.2 (latest draft).

**9.2 POST INSTALLATION MAINTENANCE**
The contractor shall furnish an hourly rate with the proposal submittal, which shall be valid for a period of one year from the date of acceptance. This rate will be used when cabling support is required to affect moves, adds, and changes to the system (MACs). MACs shall not void the Contractor's nor manufacturer's warranty.

**9.3 PROJECT MANAGEMENT / GENERAL**
The contractor shall establish a point of contact with Lake County BCC who will be responsible for reporting progress and updating Lake County's Technical Representatives, (FMO Project Manager, LCIT Information Systems, LCIT Telecommunications) with issues that Lake County BCC must address to facilitate the cabling system installation. The contractor's POC shall provide daily written reports to Lake County's Technical Representatives detailing progress. Requests for access to limited access or restricted areas shall be made the day prior to the required access. Information critical to the completion of the task or project shall be communicated to the county's Technical Representatives, as the requirement becomes known. Casual information shall be passed during the scheduled progress report.
The contractor shall maintain Lake County's facility in a neat and orderly manner during the installation of the communications cabling system. Lake County's facilities shall be maintained in broom clean condition at the completion of work each day. At the completion of work in each area, the contractor will perform a final cleaning of debris prior to moving the installation crew to the next work area.

## 10.0 CABLING SYSTEM ACCEPTANCE
Lake County's Technical Representatives will make periodic inspection of the project in progress. One inspection will be performed at the conclusion of cable pulling, prior to closing of the false ceiling, to inspect the method of cable routing and support, and the fire stopping of penetrations. A second inspection will be performed at completion of cable termination to validate that cables were dressed and terminated in accordance with TIA/EIA specifications for jacket removal and pair untwist, compliance with manufacturer's minimum bend radius, and that cable ends are dressed neatly and orderly.

**10.1 FINAL INSPECTION**
Upon completion of the project, Lake County's Technical Representatives will perform a final inspection of the installed cabling system with the Contractor's Project Foreman. The final inspection will be performed to validate that all

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# ADDITION & RENOVATIONS PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

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TECHNOLOGY SPECIFICATIONS

T0.3
PERMIT / BID SET

horizontal and backbone cables were installed as defined in the drawing package, and that the installation meets the aesthetic expectations of Lake County BCC.

**10.2 TEST VERIFICATION**
Upon receipt of the test documentation, Lake County reserves the right to perform spot testing of a representative sample of the cabling system to validate test results provided in the test document. Lake County BCC testing will use the same method employed by the contractor, and minor variations will be allowed to account for differences in test equipment. If significant discrepancies are found the contractor will be notified for resolution.

**10.3 SYSTEM PERFORMANCE**
During the three-week period between final inspection and delivery of the test and as-built documentation, Lake County BCC will activate the cabling system. Lake County BCC will validate operation of the cabling system during this period.

**10.4 FINAL ACCEPTANCE**
Completion of: the installation; in-progress and final inspections; receipt of the test and as-built documentation; and successful performance of the system for a two week period will constitute acceptance of the system.

## 11.0 CATV or CCTV Cabling

When CATV or CCTV requirements are identified, either a 75-ohm broadband coaxial cable or single-mode fiber optic cable system should be installed. Refer to the paragraphs related to fiber optic cable in this standard for more information.
When a coaxial system is installed, care must be taken to ensure the correct cable is used. The designer must coordinate with the cable service provider where franchised agreements are in place. Plenum cables must be provided in accordance with NFPA 70, or when directed by the BCC project team. The table below lists cable types with corresponding distance limitation. This table is derived from vendor specifications (Anixter) for coaxial cable. RG-59 will not be acceptable for CATV or CCTV projects. RG-6 quad shield cabling should be used to outlet locations and RG-11 for feeder and trunk cables for distances up to 400 feet and 625 series for lengths over 400'.

| Cable | Distance (Feet) | Distance (Meters) |
|---|---|---|
| RG-6 Quad Shield | <=200 | <=61 |
| RG-11 | <=400 | <=122 |
| 625 Series | >400 | >122 |

**Community Antenna Television (CATV) Systems**
Community Antenna Television Systems are generally referred to as Cable TV. CATV systems must be designed in accordance with the following: Where required, provide a complete system to be owned and maintained by the government including backbone consisting of backboards/cabinets and wire and conduit with outlets and jacks in all offices, and other locations as required by the user. System must be designed in accordance with applicable TIA/EIA, BICSI, and NFPA 70 standards, and must be coordinated with the local CATV service provider. System must include headend amplifier when required by the local provider, amplifiers, splitters, combiners, line taps, cables, outlets, tilt compensators and all other parts, components, and equipment necessary to provide a complete and usable system. System must provide a high quality signal to all outlets with a return path for interactive television and cable modem access. The system must be designed to operate within the 5 to 1000 MHz bandwidth using 1000 MHz passive devices and a minimum of 750 MHz active devices. Each outlet must have a minimum signal level of 0 decibel millivolts (dBmV) (1000 microvolts) and a maximum of 15 dBmV at 55 and 750 MHz.
Distribution system must be star topology with each outlet connected via home run to a communications closet with a feeder cable or a drop cable and each communications closet connected to the head end equipment with a trunk cable.
Provide cable installed in conduit as follows:

- Trunk Cable, RG-11 or 625 series
- Feeder cable, RG-11
- Drop Cable, RG-6

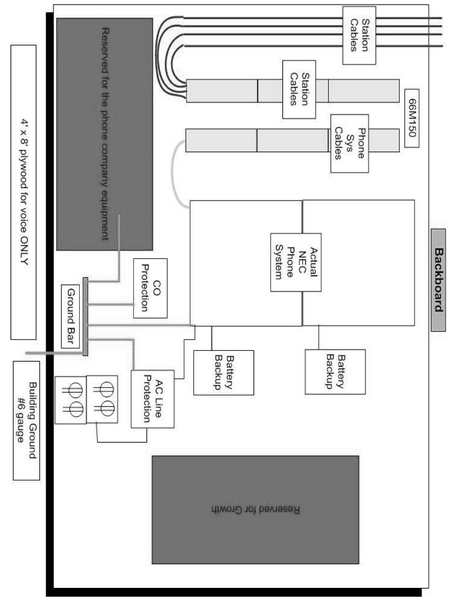
**APPENDIX A – Lake County Network Cabling Check List For Contractors**

### Lake County Network Cabling Check List For Contractors

*Complete details can be found in the Lake County Telecommunications Specs and the Design Standards for Communication Wiring Systems Documents*

| | |
|---|---|
| ✓ | Cable contractor must have a BICSI Registered/Certified Communications Distribution Designer (RCDD) on staff |
| ✓ | Cable installer must be an experienced telecommunications contractor with a minimum of two years experience and must be certified in the system(s) being installing |
| ✓ | Lake County IT shall receive a set of As-Built drawings (section 8.2 County telecommunications specs) |
| ✓ | Contractor shall develop and submit to Lake County IT for approval a labeling system for cable installation (section 8.1 County telecommunications specs) |
| ✓ | Lake County IT shall receive all cable tests documented and presented in a three ring binder(s) within three weeks after completion of the project. |
| ✓ | All backbone fiber installation shall be done by a Corning certified vendor and all test results must be submitted to Corning as to comply with the Corning 25 year manufacturer warranty program |
| ✓ | Contractor shall provide cabling warranty and services as specified in section 9.0 of County telecommunications specs |
| ✓ | Proper grounding of all telecommunications equipment must meet best practices and County telecommunication specs section 7.0 |
| ✓ | All backbone fiber shall be manufactured by Corning cable systems, other fiber shall be manufactured by Corning cable systems unless approved by Lake County IT |
| ✓ | All multimode fiber shall be 50/125um and shall be terminated with LC connectors |
| ✓ | All single mode fiber shall be terminated with LC connectors |
| ✓ | All fiber shall be terminated by the contractor on a wall mounted LIU panel or rack mounted LIU whichever is most appropriate and the LIU shall be equipped with LC to LC couplers |
| ✓ | The minimum strand count for single mode backbone fiber running from building to building shall be 96 strand |
| ✓ | The minimum strand count from each telecommunications closet to the Main Distribution Room shall be 12 strand of multimode and 6 strand of single mode, preferably provided with a single hybrid fiber cable |
| ✓ | If a floor contains multiple telecommunications closets then a minimum strand count of 12 strand multimode and 6 strand single mode shall be run between each closet, preferably provided with a single a hybrid fiber cable |
| ✓ | The minimum strand count from each server room to the Main Distribution Room shall be 12 strand of multimode and 6 strand of single mode, preferably provided with a single hybrid fiber cable |
| ✓ | All data cables shall be blue colored Category 6, 100 ohm UTP and manufactured by an approved vendor |
| ✓ | All data and voice cables shall be terminated on approved category 6 patch panels in the telecommunications closet. Voice cables should be terminated on an independent patch panel and labeled as such. |
| ✓ | All data and voice cables shall be terminated at the work area using category 6 modular data jacks. Data cables and inserts are colored blue while voice cables and inserts are green. |
| ✓ | Work area telecommunications outlets shall be placed one per 100 sq ft and should be within 3' of an electrical outlet and at the same height |
| ✓ | Each work area outlet shall consist of two blue colored data jacks and two ivory colored voice jacks with a ivory colored four port flush faceplate |
| ✓ | Each work area outlet will consist of two blue jacks terminated with data cables, one ivory jack terminated with a voice cable and one un-terminated ivory jack |
| ✓ | Each CATV outlet shall consist of a 75 ohm coaxial connector as well as a single CAT6 green connector. In the case where the video run is greater than 100m then a single mode fiber LC connection should be substituted. |
| ✓ | A single pull string should be left in the conduit at each outlet position. |
| • | ¾" Plywood covering as much wall, floor to ceiling, as possible not to be any smaller than 4' x 8' for the PBX equipment |

Picture below is provided as an example of the backboard just for the telephone termination equipment




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# ADDITION & RENOVATIONS PHASE 1

ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY

LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

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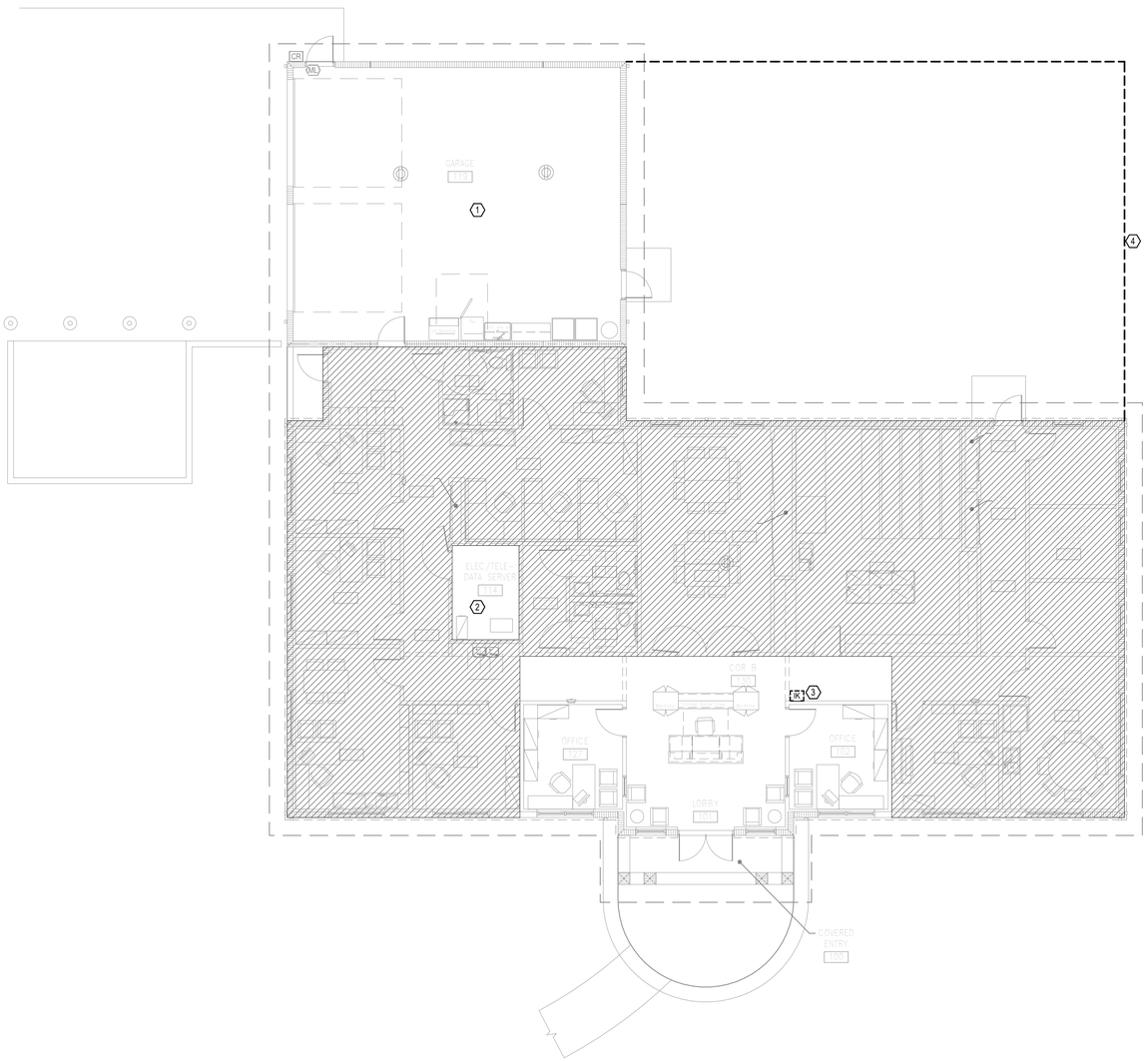
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## DEMOLITION NOTES

A. DEMOLITION PLANS SHOW THE GENERAL EXTENT OF THE TECHNOLOGY DEMOLITION WORK. THE TECHNOLOGY CONTRACTOR SHALL DISCONNECT TECHNOLOGY DEVICES AND CABLING TO ALL EQUIPMENT BEING REMOVED, SEE ELECTRICAL AND ARCHITECTURAL PLANS. OWNER SHALL HAVE THE OPTION TO RETAIN REUSABLE ITEMS, SUCH AS COVER-PLATES, CABLING, DEVICES, EQUIPMENT, ETC. NOT BEING USED IN THE FINISHED WORK. COORDINATE WITH OWNER PRIOR TO STARTING DEMOLITION. PROPERLY AND LEGALLY DISPOSE OF ALL EQUIPMENT AND MATERIALS BEING REMOVED.

B. REMOVE ALL CONDUIT LEFT EXPOSED BY REMOVAL OF WALLS AND CEILINGS IN REMOLDED AREAS. PLUG BOTH ENDS OF REMAINING CONDUIT IN WALL OR FLOOR WHERE CUT.

C. TECHNOLOGY OUTLETS, ETC. POSSIBLY CONCEALED BY STORAGE SHELVING, CASEWORK, FURNITURE, ETC. ARE NOT SHOWN AND MAY REQUIRE REMOVAL.

D. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ALL OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT AND TECHNOLOGY DEVICES, ETC.

E. ALL DEVICES SHOWN DASHED ON THE DEMOLITION PLAN(S) SHALL BE REMOVED, UNLESS OTHERWISE NOTED.

F. PROVIDE MATCHING BLANK COVER-PLATES WHERE DEVICES ARE BEING REMOVED FROM EXISTING TO REMAIN WALLS.

G. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK.

## (#) KEYED NOTES:

1. DEMOLISH AND REMOVE ALL TECHNOLOGY DEVICES IN THE CONSTRUCTION AREA BACK TO POINT OF SUPPLY, UNLESS OTHERWISE NOTED ON THIS PLAN OR ANOTHER DEMOLITION PLAN IN THIS SET.

2. EXISTING TECHNOLOGY MAIN DISTRIBUTION FRAME (MDF) SPACE. SEE TECHNOLOGY NEW WORK PLAN FOR ADDITIONAL INFORMATION.

3. EXISTING INTRUSION DETECTION SYSTEM (IDS) ALARM KEYPAD TO BE REMOVED.

4. FUTURE PHASE 2, SHOWN FOR INFORMATION ONLY.

D2 / T1.0 TECHNOLOGY LEVEL 1 - DEMOLITION PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE : 1/8" = 1'-0"

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## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

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TECHNOLOGY LEVEL 1 - DEMOLITION PLAN

T1.0
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D2 T1.1 TECHNOLOGY LEVEL 1 - NEW WORK PLAN
1/8" = 1'-0"

0 4' 8' 16'
SCALE : 1/8" = 1'-0"

## PLAN NOTES

A. CONDUIT AND OUTLET BOXES LOCATED IN RATED WALLS OR CEILINGS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS.

B. A GROUND CONDUCTOR, SIZED PER ANSI 607 (CURRENT EDITION), IS REQUIRED TO BE INSTALLED IN EACH CABLE TRAY TO ENSURE THAT THEY ARE ELECTRICALLY CONTINUOUS THROUGHOUT THE BUILDING.

C. ALL CATEGORY (CAT.) CABLING SHALL BE CONTINUOUS FROM OUTLET IN BUILDING TO OUTLET AT PATCH PANEL AND SHALL BE NO LONGER THAN 90-METERS (295-FEET). CABLING SHALL MOUNTED IN TECHNOLOGY RACEWAY SYSTEM (CONDUIT/J-HOOKS/CABLE TRY) FROM OUTLET TO OUTLET. CABLING SHALL NOT BE ROUTED IN AIR OR ON ANY OTHER BUILDING SYSTEM.

D. ALL 90-DEGREE BENDS IN CABLE PATHWAYS SHALL BE PER INDUSTRY STANDARDS TO ENSURE CABLES ARE NOT CRUSHED DURING INSTALLATION.

## (#) KEYED NOTES

1. EXISTING TECHNOLOGY MAIN DISTRIBUTION FRAME (MDF) SPACE. ALL NEW CAT. 6 CABLING SHALL BE TERMINATED ON EXISTING RACK MOUNTED PATCH PANELS. CONTRACTOR SHALL COORDINATE PATCH PANEL TO TERMINATE ON WITH OWNER PRIOR TO ROUGH IN WORK.
2. PROVIDE (3) CAT. 6 CABLES FROM DEVICE TO EXISTING PATCH PANEL IN EXISTING MDF VIA NEW J-HOOK PATHWAY AND EXISTING PATHWAYS IN EXISTING PORTION OF BUILDING.
3. COORDINATE DEVICE INSTALLATION WITH MILLWORK CABINETRY, SEE ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
4. NEW WORKSTATION TO BE SERVED BY EXISTING LOW-VOLTAGE CONNECTIONS LOCATED IN EXISTING TO REMAIN FLOOR BOX.
5. MOUNT ON BOTTOM SIDE OF DESK.
6. PROVIDE GREEN ILLUMINATED "PUSH TO EXIT" BUTTON ON WALL.
7. FUTURE PHASE 2, SHOWN FOR INFORMATION ONLY.
8. PROVIDE PHYSICAL ACCESS CONTROL CABLING FOR MAG-LOCK AND ALL DEVICES TO LOCK AND UN-LOCK DOOR PER TECHNOLOGY AND ARCHITECTURAL PLANS.
9. PROVIDE MULLION MOUNTED CARD READER.

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OWNER / PROJECT:

# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

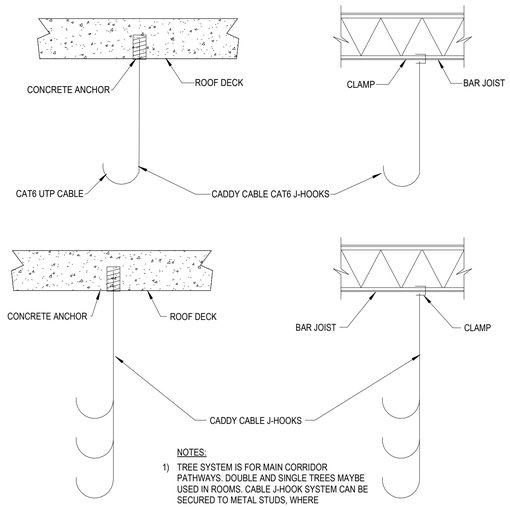
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ISSUE DATE: NOVEMBER 14, 2025

TECHNOLOGY LEVEL 1 - NEW WORK PLAN

T1.1
PERMIT / BID SET



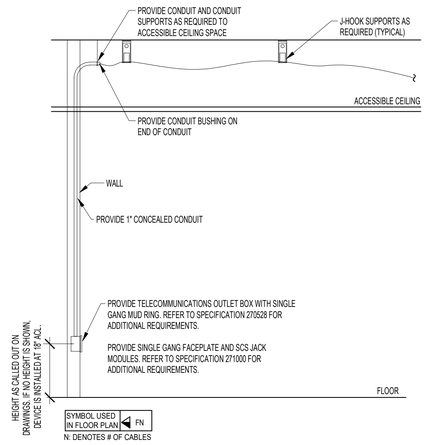

NOTES:

1) TREE SYSTEM IS FOR MAIN CORRIDOR PATHWAYS. DOUBLE AND SINGLE TREES MAYBE USED IN ROOMS. CABLE J-HOOK SYSTEM CAN BE SECURED TO METAL STUDS, WHERE PERMISSIBLE.
2) J-HOOKS SHALL BE USED WHERE EXISTING CABLE TRAY IS NOT AVAILABLE.

## TECHNOLOGY CABLE HANGER SYSTEM

No Scale

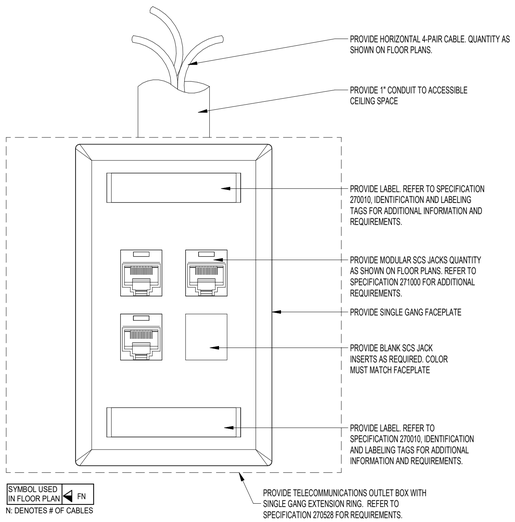
B4




## TECHNOLOGY OUTLET ELEVATION

No Scale

B6




## TECHNOLOGY FLUSH MOUNTED OUTLET

No Scale

D6

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OWNER / PROJECT:

# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

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ISSUE DATE: NOVEMBER 14, 2025

TECHNOLOGY DETAILS

T5.1

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## LAKE COUNTY WATER AUTHORITY ADMIN BUILDING RENOVATION - PHASE 1

### DESIGN AND CONSTRUCTION RESPONSIBILITIES

| ITEM | SYSTEM | SCOPE | DESIGN RESPONSIBILITY | PROCUREMENT RESPONSIBILITY | CONSTRUCTION RESPONSIBILITY |
|---|---|---|---|---|---|
| **1.00** | **VOICE SYSTEM (TELEPHONE COMMUNICATIONS SYSTEM ALL AREAS)** | | | | |
| 1.01 | RACEWAYS | Conduit, boxes, cable tray, etc. | A&E | CM | CM |
| 1.02 | INSIDE PREMISE WIRING | Structured cabling system | A&E | CM | CM |
| 1.03 | OUTSIDE PREMISE WIRING IN PRIVATE CAMPUS | Structured cabling system | N/A | N/A | N/A |
| 1.04 | OUTSIDE PREMISE WIRING FROM SERVICE PROVIDERS | Fiber and copper for services | N/A | N/A | N/A |
| 1.05 | PATCHING OF VOICE LINES | Patching at patch panel and work areas | OWNER | N/A | OWNER |
| 1.06 | PHONE SWITCH | Equipment selection, sizing, equipment layout, RFP | N/A | N/A | N/A |
| **2.00** | **DATA SYSTEM (COMPUTER NETWORKS ALL AREAS)** | | | | |
| 2.01 | RACEWAYS | Conduit, boxes, cable tray, etc. | A&E | CM | CM |
| 2.02 | INSIDE PREMISE WIRING | Structured cabling system | A&E | CM | CM |
| 2.03 | PATCHING OF DATA LINES | Patching at patch panel and work areas | OWNER | N/A | OWNER |
| 2.04 | ACTIVE ELECTRONICS (NETWORKING EQUIPMENT, SWITCHES, ROUTERS, SERVERS AND COMPUTERS) | Equipment selection, sizing, equipment layout, RFP | N/A | N/A | N/A |
| 2.05 | WIRELESS SURVEY | Modeling to predict location of WAPs, including measured survey after building shell is completed | OWNER | N/A | OWNER |
| 2.06 | WAPs | Wireless access points, including installation labor, support materials, | OWNER | OWNER | CM |
| **3.00** | **TELECOM ROOM OUTFIT** | | | | |
| 3.01 | PLYWOOD AND WALL SLEEVES | Plywood and sleeves for cables | A&E | CM | CM |
| 3.02 | GROUNDING SYSTEM | Ground bar and ground bus | N/A | N/A | N/A |
| 3.02 | RACKS, WIRE MANAGERS AND LADDER TRAY | Racks and all passive elements | N/A | N/A | N/A |
| **4.00** | **CATV DISTRIBUTION (CABLE TV FOR ALL AREAS)** | | | | |
| 4.01 | RACEWAYS | Conduit, boxes, cable tray, etc. | N/A | N/A | N/A |
| 4.02 | INSIDE PREMISE WIRING | Coaxial cable | N/A | N/A | N/A |
| 4.03 | DISTRIBUTION DEVICES | TAPS, amplifiers, splitter, DC | N/A | N/A | N/A |
| 4.04 | MOUNTS FOR TVS | Mounts for the TVS | N/A | N/A | N/A |
| **5.00** | **AV SYSTEMS/ PAGING** | | | | |
| 5.01 | RACEWAYS | Conduit, boxes, cable tray, etc. | N/A | N/A | N/A |
| 5.02 | INSIDE PREMISE WIRING | AV wiring for systems | N/A | N/A | N/A |
| 5.03 | ACTIVE ELECTRONICS | Projectors, presentation control system, paging system, etc. | N/A | N/A | N/A |
| **6.00** | **SECURITY SYSTEMS, BUILDING CCTV AND ACCESS CONTROL** | | | | |
| 6.01 | RACEWAYS | Conduit, boxes, cable tray, etc. | N/A | N/A | N/A |
| 6.02 | INSIDE PREMISE WIRING | Cables for cameras and card access | N/A | N/A | N/A |
| 6.03 | ACTIVE ELECTRONICS | Cameras, DVRs, Access control panels, readers, etc | N/A | N/A | N/A |
| 6.04 | LOCKING DEVICES | Magnets, electric mortise locks | N/A | N/A | N/A |
| **7.00** | **EMERGENCY POWER BACKUP (UPS) FOR ACTIVE EQUIPMENT** | | | | |
| 7.01 | POWER WIRING | Conduit, cables and circuits | N/A | N/A | N/A |
| 7.02 | POWER DISTRIBUTION UNITS | ePDUs to be installed in racks and cabinets | N/A | N/A | N/A |
| 7.03 | ACTIVE EQUIPMENT - WORK AREAS | UPS units in work areas | N/A | N/A | N/A |
| 7.04 | ACTIVE EQUIPMENT - SMALL UNITS < 10KVA | UPS units in racks or cabinets | N/A | N/A | N/A |
| 7.05 | ACTIVE EQUIPMENT - LARGE UNITS >10KVA | Central UPS system | N/A | N/A | N/A |
| **8.00** | **FIRE ALARM AND BUILDING MANAGEMENT SYSTEM** | | | | |
| 8.01 | RACEWAYS | Conduit, boxes, cable tray, etc. | A&E | CM | CM |
| 8.02 | INSIDE PREMISE WIRING | Cabling, grounding | A&E | CM | CM |
| 8.03 | ACTIVE ELECTRONICS | Data gathering panels, sensors, etc | A&E | CM | CM |
| **9.00** | **DISTRIBUTED ANTENNA SYSTEM (LIFESAFETY)** | | | | |
| 9.01 | RACEWAYS | Conduit, boxes, cable tray, etc. | N/A | N/A | N/A |
| 9.02 | INSIDE PREMISE WIRING | Cabling, grounding | N/A | N/A | N/A |
| 9.03 | ACTIVE ELECTRONICS | Head end system, BDA, TX/RX and antennas | N/A | N/A | N/A |
| **10.00** | **DISTRIBUTED ANTENNA SYSTEM (CELL PHONES)** | | | | |
| 10.01 | RACEWAYS | Conduit, boxes, cable tray, etc. | N/A | N/A | N/A |
| 10.02 | INSIDE PREMISE WIRING | Cabling, grounding | N/A | N/A | N/A |
| 10.03 | ACTIVE ELECTRONICS | Head end system, BDA, TX/RX and antennas | N/A | N/A | N/A |

NOTES: A&E: ARCHITECT AND ALL CONSULTANTS WORKING UNDER ARCHITECT, LIKE TLC ENGINEERING SOLUTIONS

CM: CONSTRUCTION MANAGER

N/A: NOT APPLICABLE

SP: SERVICE PROVIDER

VENDOR: A SYSTEM INSTALLER HIRED DIRECTLY BY THE OWNER FOR A SPECIFIC SYSTEM

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| | | |

ISSUE DATE: NOVEMBER 14, 2025

TECHNOLOGY SCHEDULES

T6.1

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# PLUMBING SPECIFICATIONS

1.00 - GENERAL PROVISIONS

1.01 PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT FOR A COMPLETE AND PROPERLY OPERATING PLUMBING SYSTEM.

1.02 CODES AND STANDARDS: ALL PLUMBING WORK SHALL BE IN STRICT COMPLIANCE WITH THE 2017 FLORIDA PLUMBING CODE AND ALL LOCAL CODES HAVING JURISDICTION.

1.03 ALL PLUMBING WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND FEES, ETC., REQUIRED FOR THE EXECUTION OF THIS WORK.

1.04 CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES BEFORE FABRICATION OR INSTALLATION. OFFSETS AND/OR TRANSITIONS REQUIRED SHALL BE PROVIDED WITHOUT ADDITIONAL COST. CONTRACTOR SHALL COORDINATE AND INSTALL HIS WORK IN A TIMELY MANNER TO PREVENT DELAYS IN THE CONSTRUCTION.

1.05 CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE DAMAGED EQUIPMENT AND/OR MATERIAL.

1.06 PROVIDE ALL MATERIALS REQUIRED TO PROPERLY SUPPORT ALL PIPING ANDEQUIPMENT. PIPE HANGERS SHALL BE ADJUSTABLE TYPE AND BE SPACED IN ACCORDANCE WITH THE FLORIDA PLUMBING CODE. PROVIDED PLASTIC COATED RING ON HANGERS FOR COPPER PIPING TO PROVIDE DIELECTRIC ISOLATION.

1.07 PROVIDE DIELECTRIC UNIONS OR FLANGES BETWEEN COPPER AND STEEL PIPING AND BETWEEN BRASSWARE AND STEEL. DO NOT USE STEEL AND COPPER PIPING IN THE SAME SYSTEM WITHOUT SUCH ISOLATION.

1.08 PROVIDE REDUCING FITTINGS (REDUCING BUSHINGS SHALL NOT BE USED) WHERE CHANGES IN PIPE SIZES OCCUR.

1.09 THIS CONTRACTOR SHALL SUPPLY AND INSTALL ALL SERVICES THROUGHOUT THE BUILDING AND MAKE CONNECTION TO SITE UTILITIES APPROXIMATELY 5'-0" OUTSIDE THE BUILDING. CONTRACTOR SHALL SUPPLY AND INSTALL FIXTURES, FITTINGS, VALVING AND TRIM AND MAKE READY FOR USE ALL FIXTURES, EQUIPMENT, ETC.

1.10 SEE ARCHITECTURAL DRAWINGS FOR FIXTURE LOCATIONS AND MOUNTING HEIGHTS.

2.00 - BASIC MATERIALS AND METHODS

2.01 DOMESTIC WATER - ABOVEGROUND WATER PIPE AND FITTINGS - TYPE "L" COPPER.

2.02 PROVIDE UNIONS OR FLANGES IN ALL DOMESTIC WATER SERVICE LINES AT EACH PIECE OF EQUIPMENT, SPECIALTY VALVES OR AT OTHER LOCATIONS REQUIRED FOR READY DISCONNECT.

2.03 WATER HAMMER ARRESTORS SHALL BE INSTALLED AT THE LOCATIONS ON THE PLANS AND IN ACCORDANCE WITH PDI STANDARD WH-201. PRODUCTS SHALL BE EQUAL TO THOSE MANUFACTURED BY PRECISION PLUMBING PRODUCTS OR SIOUX CHIEF.

2.04 VALVES: PROVIDE VALVES TO ISOLATE EACH RISER, BRANCH LINE AND PIECE OF EQUIPMENT.

2.05 PROVIDE PRESSURE REDUCING VALVE AND AIR GAP CONNECTION AT DISHWASHER AS REQUIRED BY CODE AND ACCORDING TO MANUFACTURER.

2.06 PROVIDE INLINE WATER FILTER AT COFFEE MAKER AND ICE MAKER TO REMOVE MATERIALS, TASTE AND ODOR - "EVERPURE OR "SYSTEMS IV".

2.07 SANITARY WASTE (NON-PRESSURE), SANITARY VENT AND STORM PIPING - ABOVE GROUND - NO-HUB CAST IRON SOIL PIPE AND FITTINGS PER CISPI 301 WITH HEAVY DUTY SHIELDED STAINLESS STEEL COUPLINGS.

2.08 CONDENSATE PIPING - DWV COPPER OR NO-HUB CAST IRON SOIL PIPE AND FITTINGS PER CISPI 301 WITH HEAVY DUTY SHIELDED STAINLESS STEEL COUPLINGS.

2.09 INSTALL GRAVITY LINES SLOPED AT 1/8" PER FOOT FOR PIPE 3" AND LARGER AND 1/4" PER FOOT FOR PIPE SMALLER THAT 3". VERIFY INVERT ELEVATION WITH EXISTING PIPING PRIOR TO ANY PIPE BEING INSTALLED.

2.10 PROVIDE AND PROPERLY LOCATE HANGERS TO ADEQUATELY SUPPORT PIPING. ARRANGE HANGERS TO PERMIT EXPANSION AND CONTRACTION. DO NOT HANG PIPING FROM FIRE OR SMOKE WALLS. PROVIDE PIPE HANGERS AT EACH VALVE, STRAINER, AND OTHER PIPING ACCESSORY, AND AT EACH CHANGE OR DIRECTION.

2.11 THE SIZE OF HANGERS FOR NON-INSULATED PIPES SHALL BE SUITABLE FOR THE PIPE SIZE TO BE SUPPORTED. FOR INSULATED PIPING, THE SIZE OF THE HANGER SHALL BE SUITABLE FOR THE PIPE SIZE, PLUS THE INSULATION AND INSULATION SHIELD.

2.12 SPACING: LOCATE PIPE SUPPORTS AS INDICATED IN THE FOLLOWING TABLE:

| HORIZONTAL PIPE HANGER SCHEDULE | | |
|---|---|---|
| MATERIAL | PIPE SIZE | HANGER SPACING |
| COPPER TUBING | UP TO 1 1/4 INCH<br>1 1/2 INCH AND ABOVE | 6 FOOT CENTERS<br>10 FOOT CENTERS |
| CAST IRON PIPE | ALL | 5 FOOT CENTERS |

3.00 - PLUMBING FIXTURES AND TRIM

3.01 ALL PLUMBING FIXTURES SHALL BE "FIRST QUALITY" AS DEFINED AND SET FORTH IN COMMERCIAL STANDARD CS77-28 AS PROMULGATED BY THE U.S. DEPARTMENT OF COMMERCE.

3.02 ALL FIXTURES ARE TO BE WHITE VITREOUS CHINA UNLESS OTHERWISE SPECIFICALLY NOTED. FIXTURES AND FITTINGS PROPOSED SHALL BE FROM ONE MANUFACTURER AND OF SIMILAR CHARACTER IN ANY ROOM OR LOCATION. ESCUTCHEONS, HANDLES, ETC., ON THE DIFFERENT FIXTURES SHALL BE OF THE SAME DESIGN.

3.03 PROVIDE FIXTURE CARRIERS AS RECOMMENDED BY FIXTURE MANUFACTURER AND/OR CONSTRUCTION METHOD.

3.04 PROVIDE ACCESS PANELS TO ALL VALVES WITHIN CHASES OR ABOVE NON-ACCESSIBLE CEILINGS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.

3.05 FLOOR DRAIN TRAP SEALS SHALL HAVE AN APPROVED PRIMING DEVICE DESIGNED FOR THAT PURPOSE.

3.06 ALL CONCEALED TRAPS, PRIMERS, VALVES, CLEANOUTS, ETC. LOCATED IN TILED AREAS SHALL BE PROVIDED WITH AN ACCESS PANEL.

4.00 - INSULATION

4.01 ABOVE GROUND COLD AND HOT WATER PIPING - FIBERGLASS, 1" THICKNESS, ASJ JACKET, DOUBLE SEALING LAP JOINT, 0.24 K AT 75°F. INSULATION AND ADHESIVES INSTALLED IN RETURN AIR PLENUMS SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50.

4.02 ABOVE GROUND STORM PIPING - FIBERGLASS, 1/2" THICKNESS, ASJ JACKET, DOUBLE SEALING LAP JOINT, 0.24 K AT 75° F. INSULATION AND ADHESIVES INSTALLED IN RETURN AIR PLENUMS SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50.

4.03 ABOVEGROUND CONDENSATE PIPING SHALL BE 1/2" FLEXIBLE UNICELLULAR POLYOLEFIN FOAM AND SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50-IMCOA "IMCOLOCK".

5.00 - VALVES AND COCKS

5.01 VALVES 2" AND SMALLER SHALL BE BALL VALVES, 150 PSI SWP, 400 PSI WOG. STANDARD PORT BALL, BRONZE TRIM, CAST BRONZE BODY, CHROMIUM-PLATED BRASS BALL, BRONZE NON-BLOWOUT STEM, TEFLON SEAT, DOUBLE O-RING STEM SEALS, ZINC-COATED STEEL HANDLE WITH PLASTIC COATED HAND GRIP. 90 DEGREE OPERATION FROM FULL OPEN TO TIGHT SHUT-OFF - STOCKHAM S214-BR-T-T, STOCKHAM S216-BR-T-S OR EQUAL.

5.02 CHECK VALVES, ROUGH BRASS, REGRINDING BRONZE DISC - STOCKHAM B-345; B-309 OR EQUAL.

6.00 - STERILIZATION

6.01 DOMESTIC WATER PIPING SHALL BE THOROUGHLY FLUSHED OUT AND STERILIZED IN ACCORDANCE WITH THE FLORIDA PLUMBING CODE.

# GENERAL GRAVITY DEMOLITION NOTES

1. EXISTING CONDITIONS SHOWN ON THIS DRAWING ARE TAKEN FROM ORIGINAL DRAWINGS. ALL EXISTING CONDITIONS MUST BE VERIFIED PRIOR TO DEMOLITION. FIELD CONDITIONS SHALL GOVERN. FIELD VERIFY LOCATIONS OF EXISTING PIPING BEFORE DEMOLITION. PROVIDE ALL REQUIRED DEMOLITION WHETHER SHOWN ON THE PLANS OR NOT. COORDINATE WITH THE ARCHITECTURAL DRAWING FOR ITEMS NOT INDICATED. COORDINATE DEMOLITION OF EXISTING PIPING WITH NEW WORK. PIPING CONNECTING TO AREAS OUTSIDE OF RENOVATED SPACE SHALL NOT TO BE DISCONNECTED UNTIL AFTER NEW PIPING IS INSTALLED. COORDINATE SYSTEM SHUT DOWNS WITH THE FACILITY PRIOR TO DEMOLITION.
2. ALL ITEMS REMOVED UNDER THIS PROJECT SHALL BE TURNED OVER TO THE OWNER, OR DISPOSED OF AT THE OWNER'S DISCRETION.
3. ALL VENT PIPING INDICATED ON THIS DRAWING IS LOCATED IN THE CEILING SPACE OR WALL SPACES UNLESS NOTED OTHERWISE, FIELD VERIFY BEFORE CONSTRUCTION.
4. ALL SANITARY PIPING INDICATED ON THIS DRAWING IS LOCATED BELOW THE FLOOR SLAB OR WALL CHASE UNLESS NOTED OTHERWISE. OFFSET ALL EXISTING SANITARY AND VENT RISERS FROM FLOOR ABOVE TO WALLS ON NEW FLOOR PLAN. FIELD VERIFY EXACT LOCATION AND PROVIDE REQUIRED OFFSET TO FACILITATE OPERATION OF PLUMBING SYSTEMS TO THE FLOORS ABOVE AND BELOW.
5. CARE MUST BE TAKEN WHEN REMOVING PIPE AROUND LOAD BEARING WALLS. THE WALL OR FOOTING BELOW IS NOT TO BE DESTROYED.
6. EXISTING ROOF DRAINS AND RAIN WATER LEADER PIPING TO REMAIN UNLESS OTHERWISE NOTED. FIELD VERIFY ROUTING OF EXISTING PIPING BEFORE CONSTRUCTION BEGINS. EXISTING RAIN WATER PIPING LOCATED IN WALLS TO BE REMOVED SHALL BE REROUTED OVER HEAD TO A NEW WALL LOCATION AND RECONNECTED TO THE UNDERGROUND STORM.
7. CUT AND PATCH CEILINGS, WALLS AND FLOOR SLAB AS REQUIRED TO FACILITATE PLUMBING RENOVATION. SEE ARCHITECTURAL DRAWINGS FOR PATCHING DETAILS.
8. EXISTING BUILDING DRAINS UNDER CONCRETE SLABS AND EXISTING BUILDING SEWERS THAT SERVES THE SYSTEM SHALL BE INTERNALLY EXAMINED TO VERIFY THAT THE PIPING IS SLOPING IN THE CORRECT DIRECTION, IS NOT BROKEN, IS NOT OBSTRUCTED AND IS SIZED FOR THE DRAINAGE LOAD OF THE NEW PLUMBING DRAINAGE SYSTEM TO BE INSTALLED.

# GENERAL PRESSURE DEMOLITION NOTES

1. EXISTING CONDITIONS SHOWN ON THIS DRAWING ARE TAKEN FROM ORIGINAL DRAWINGS. ALL EXISTING CONDITIONS MUST BE VERIFIED PRIOR TO DEMOLITION. FIELD CONDITIONS SHALL GOVERN. FIELD VERIFY LOCATIONS OF EXISTING PIPING BEFORE DEMOLITION. PROVIDE ALL REQUIRED DEMOLITION WHETHER SHOWN ON THE PLANS OR NOT. COORDINATE WITH THE ARCHITECTURAL DRAWING FOR ITEMS NOT INDICATED. COORDINATE DEMOLITION OF EXISTING PIPING WITH NEW WORK. PIPING CONNECTING TO AREAS OUTSIDE OF RENOVATED SPACE SHALL NOT TO BE DISCONNECTED UNTIL AFTER NEW PIPING IS INSTALLED. COORDINATE SYSTEM SHUT DOWNS WITH THE FACILITY PRIOR TO DEMOLITION.
2. ALL ITEMS REMOVED UNDER THIS PROJECT SHALL BE DISPOSED OF OR TURNED OVER TO THE OWNER AT THE OWNER'S DISCRETION.
3. ALL WATER PIPING INDICATED ON THIS DRAWING IS LOCATED IN THE CEILING SPACE OR WALL SPACES UNLESS NOTED OTHERWISE, FIELD VERIFY BEFORE CONSTRUCTION.
4. CARE MUST BE TAKEN WHEN REMOVING PIPE AROUND LOAD BEARING WALLS. THE WALL OR FOOTING BELOW IS NOT TO BE DESTROYED.
5. CUT AND PATCH CEILINGS, WALLS AND FLOOR SLAB AS REQUIRED TO FACILITATE PLUMBING RENOVATION. SEE ARCHITECTURAL DRAWINGS FOR PATCHING DETAILS.

# PLUMBING SYMBOLS

| SYMBOL | DESCRIPTION |
|---|---|
| CD | - CONDENSATE DRAIN PIPING |
| CW | - DOMESTIC COLD WATER PIPING |
| HW | - DOMESTIC HOT WATER PIPING |
| HWR | - DOMESTIC HOT WATER RETURN PIPING |
| S | - SANITARY WASTE PIPING |
| V | - VENT PIPING |
| ST | - STORM DRAIN PIPING |
| STO | - OVERFLOW STORM DRAIN PIPING |
| G | - FUEL GAS PIPING |
| | - HOSE BIBB OR WALL HYDRANT |
| CO | - CLEANOUT PLUG |
| CO | - WALL CLEANOUT |
| CO | - FLOOR CLEANOUT / EXTERIOR CLEANOUT |
| FD | - FLOOR DRAIN |
| FS | - FLOOR SINK |
| DD | - DECK DRAIN |
| | - SHUT-OFF VALVE |
| | - BALL VALVE |
| | - CALIBRATED BALANCING VALVE |
| | - CHECK VALVE (SWING) |
| | - PRESSURE REDUCING VALVE |
| S | - SOLENOID OPERATING VALVE |
| | - GAS COCK |
| | - GAS PRESSURE REGULATOR |
| DETAIL No. 4 / P4.101 SHEET No. SHOWN ON | - DETAIL REFERENCE |
| 4" S / PIPE SIZE / PLUMBING SYSTEM | - PIPE TAG |
| 1 | - REVISION REFERENCE |

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

# PLUMBING ABBREVIATIONS

| ABBREVIATION | | DESCRIPTION |
|---|---|---|
| CA | - | COMPRESSED AIR |
| AFF | - | ABOVE FINISH FLOOR |
| AW | - | ACID WASTE |
| AV | - | ACID VENT |
| CB | - | CATCH BASIN |
| CD | - | CONDENSATE DRAIN |
| CFH | - | CUBIC FEET PER HOUR |
| CO | - | CLEANOUT |
| CONT | - | CONTINUATION |
| CW | - | DOMESTIC COLD WATER |
| DI | - | DEIONIZED WATER |
| DN | - | DOWN |
| DS | - | DOWNSPOUT |
| DWG | - | DRAWING |
| EXIST | - | EXISTING |
| °F | - | DEGREE FAHRENHEIT |
| FCO | - | FLOOR CLEANOUT |
| FD | - | FLOOR DRAIN |
| FOF | - | FUEL OIL FILL |
| FOG | - | FUEL OIL GAGE |
| FOR | - | FUEL OIL RETURN |
| FOS | - | FUEL OIL SUPPLY |
| FOV | - | FUEL OIL VENT |
| FS | - | FLOOR SINK |
| FSE# | - | FOODSERVICE EQUIPMENT NUMBER |
| G | - | GAS |
| GPH | - | GALLONS PER HOUR |
| GPM | - | GALLONS PER MINUTE |
| GR | - | KITCHEN WASTE (GREASE) |
| HB | - | HOSE BIBB |
| HD | - | HUB DRAIN |
| HW | - | DOMESTIC HOT WATER |
| HWR | - | DOMESTIC HOT WATER RECIRCULATING |
| IE | - | INVERT ELEVATION |
| IW | - | INDIRECT WASTE |
| KW | - | KILOWATT |
| LBS | - | POUNDS |
| MH | - | MANHOLE |
| NC | - | NORMALLY CLOSED |
| NIC | - | NOT IN CONTRACT |
| NO | - | NORMALLY OPEN |
| NP | - | NON-POTABLE WATER |
| NTS | - | NOT TO SCALE |
| OD | - | OUTSIDE DIAMETER |
| PRV | - | PRESSURE REDUCING VALVE |
| PSI | - | POUNDS PER SQUARE INCH |
| PVC | - | POLYVINYL CHLORIDE PIPE |
| RD | - | ROOF DRAIN |
| RPBP | - | REDUCED PRESSURE BACKFLOW PREVENTOR |
| SAN | - | SANITARY |
| SD | - | STORM DRAIN |
| SF | - | SQUARE FEET |
| SH | - | SHEET |
| ST | - | STORM |
| STO | - | OVERFLOW STORM DRAIN |
| SW | - | SOFT COLD WATER |
| V | - | VENT |
| VAC | - | VACUUM |
| VC | - | VACUUM CLEANING |
| VTR | - | VENT THRU ROOF |
| WCO | - | WALL CLEANOUT |
| WTR | - | WATER |

# PLUMBING GENERAL NOTES

1. REFERENCE THE SPECIFICATIONS FOR MATERIAL AND EQUIPMENT INSTALLATION STANDARDS.
2. THE PLUMBING INSTALLATION SHALL COMPLY WITH ALL STATE AND LOCAL CODES.
3. UTILITIES AND SERVICES INDICATED ARE TAKEN FROM VARIOUS OLD AND NEW SURVEYS, AS-BUILT RECORDS AND FIELD INVESTIGATIONS. UNFORSEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON DRAWINGS. COOPERATION WITH OTHER TRADES IN ROUTING AND BURIAL DEPTHS, AS DETERMINED DURING CONSTRUCTION, WILL BE NECESSARY.
4. FIELD VERIFY EXISTING INSTALLATIONS. MODIFY EXISTING PLUMBING SYSTEMS, WHICH ARE TO REMAIN ACTIVE, TO FACILITATE RECONNECTION AND EXTENSION OF THE NEW WORK.
5. NOTIFY OWNER AT LEAST 24 HOURS PRIOR TO INTERRUPTING EXISTING SERVICE. SCHEDULE DISCONNECTION AND TIE-INS TO MINIMIZE DISRUPTION OF SERVICES. SERVICES ARE NOT TO BE LEFT DISRUPTED DURING NON-NORMAL CONTRACTOR WORKING HOURS.
6. PLANS ARE NOT COMPLETELY TO SCALE. PIPE ROUTING SHOWN IS SCHEMATIC AND IS NOT INTENDED TO INDICATE EXACT ROUTING. CONTRACTOR SHALL PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES. VERIFY STRUCTURAL, MECHANICAL AND ELECTRICAL INSTALLATIONS AND OTHER POTENTIAL OBSTRUCTIONS AND ROUTE PIPING TO AVOID INTERFERENCES.
7. PROVIDE ALL OFFSETS AND FITTINGS AND MAKE CONNECTION TO SITE UTILITIES.
8. CONCEAL PIPING ABOVE CEILINGS, WITHIN WALLS OR CHASES EXCEPT IN MECHANICAL ROOMS OR AS SPECIFICALLY NOTED.
9. PROVIDE ACCESS PANELS FOR ALL VALVES CONCEALED IN WALLS OR ABOVE NON-ACCESSIBLE CEILINGS.
10. SLEEVE AND/OR FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS, AND FLOORS WITH UL LISTED ASSEMBLIES. FIRESTOP ASSEMBLIES SHALL BE EQUAL TO OR EXCEED THE RATING OF THE WALL, CEILING OR FLOOR. SEE ARCHITECTURAL DRAWINGS FOR FINAL FINISHES.
11. FLASH AND COUNTER-FLASH ROOF PENETRATIONS.
12. WHEN BEAM SLEEVE PENETRATIONS ARE NECESSARY, COORDINATE PENETRATIONS WITH ALL TRADES, THE ARCHITECT AND THE STRUCTURAL ENGINEER.
13. PROVIDE FOUNDATION PAD PENETRATION SLEEVES. ALLOW 1" MINIMUM CLEARANCE BETWEEN SLEEVE INSIDE SURFACE AND PIPE EXTERIOR.
14. SEE ARCHITECTURAL DRAWINGS FOR FIXTURE LOCATIONS AND MOUNTING HEIGHTS.
15. PROVIDE AUTOMATIC TRAP PRIMERS FOR FLOOR DRAIN TRAP SEALS.
16. PROVIDE AN AIR GAP, WHEN REQUIRED BY CODE, SERVING INDIVIDUAL FIXTURES, DEVICES, APPLIANCES AND APPARATUS.
17. ALL EXPOSED PIPE AND FITTINGS IN FINISHED AREAS SHALL BE CHROME PLATED.
18. MOUNT HOSE BIBBS 24" ABOVE FINISHED GRADE.
19. PROVIDE CLEANOUTS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES. INSTALL CLEANOUT WITH COVER FLUSH TO FINISH SURFACE.
20. COORDINATE EXACT FLOOR DRAIN LOCATIONS WITH ARCHITECTURAL DRAWINGS. SET FLOOR DRAINS BELOW FINISHED FLOOR TO ALLOW FOR FLOOR SLOPING TO THE DRAIN.
21. COORDINATE PIPING WITH ALL ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY PIPING OVER ANY ELECTRICAL PANELS UNDER ANY CIRCUMSTANCES. ANY PIPING RUN OVER PANELS SHALL BE RE-ROUTED AT NO ADDITIONAL COST.
22. ALL WALL MOUNTED LAVATORIES SHALL BE ATTACHED TO FLOOR MOUNTED CARRIER DESIGNED TO WITHSTAND A VERTICAL LOAD OF 250 POUNDS ON THE FRONT OF THE FIXTURE.
23. PROVIDE SANITARY WASTE, VENT, DOMESTIC WATER, ETC. ROUGH-IN AND MAKE FINAL CONNECTIONS (TO INCLUDE PROVIDING ALL NECESSARY RELATED STOPS, VALVES, TRAPS, ETC. AND MAKE READY FOR USE) TO ALL EQUIPMENT, WHETHER FURNISHED BY THIS CONTRACTOR OR FURNISHED BY OTHERS.
24. ALL MATERIALS AND EQUIPMENT INSTALLED IN RETURN AIR PLENUMS SHALL BE NON-COMBUSTIBLE AND UL APPROVED FOR USE IN A RETURN AIR PLENUM SPACE. IF MATERIALS ARE NOT NON-COMBUSTIBLE IN RETURN AIR PLENUMS, THEY SHALL BE REPLACED OR WRAPPED WITH A UL LISTED FIRE RATED FIRE WRAP (I.E. FYREWRAP 0.5 PLENUM INSULATION OR APPROVED EQUAL) AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURES UL LISTED DETAILS AND RECOMMENDATIONS AT NO ADDITIONAL COST. (NOTE: REFER TO MECHAICAL DRAWINGS FOR RETURN AIR PLENUM LOCATIONS.)
25. PIPING, INSULATION, FITTINGS, MATERIALS, COVERS AND FINISHES IN RETURN AIR PLENUM SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50.

## PLUMBING FIXTURE SCHEDULE

(EWH-1) ELECTRIC WATER HEATER

50 GALLON STORAGE LOW BOY ELECTRIC WATER HEATER. 208 V-1PH. TWO 4.5 KW HEATING ELEMENTS, 9 KW TOTAL. SET STORAGE TEMP @ 140°F, REFER TO DETAIL FOR PIPING WITH TMV-1. PROVIDE HEATER STAND AND DRAIN PAN PER DETAIL 7/P3.1

BASIS OF DESIGN:
A.O. SMITH - DEL-50

(WC-1) FLOOR MOUNTED WATER CLOSET

FLOOR MOUNTED, BOTTOM DISCHARGE, VITREOUS CHINA WATER CLOSET, HARDWIRED SENSOR FLUSH VALVE W/ OPEN FRONT SEAT, 1.28GPF

BASIS OF DESIGN
FIXTURE - AMERICAN STANDARD - 3451.001 - MADERA
TRIM - AMERICAN STANDARD - 6068.121 - SELECTRONIC 1.28GPF
SEAT - BEMIS - 1655SSC

(L-1) LAVATORY SENSOR FAUCET

VITREOUS CHINA 20 x 18 RECTANGULAR LAVATORY, WALL HUNG ADA LAVATORY WITH CONCEALED ARMS. CHROME PLATED BRASS FAUCET WITH VANDAL RESISTANT 0.5 G.P.M. LAMINAR FLOW LIMIT DEVICE. CHROME PLATED CAST GRID STRAINER WITH 1-1/4" TAILPIECE AND 17 GAUGE 1-1/4"x1-1/2" BRASS P-TRAP WITH CLEANOUT. CHROME PLATED 1/2" COMPRESSION x 3/8" COMPRESSION ANGLE SUPPLY STOPS WITH CHROME PLATED FLEXIBLE RISERS AND ESCUTCHEONS.

BASIS OF DESIGN
FIXTURE - AMERICAN STANDARD - 0321.075 - DECLYN
FAUCET - SLOAN - ETF-80 (PROVIDE 4" TRIM PLATE, BDT MIXING VALVE, ETF TRANSFORMER)
SUPPLIES - MCGUIRE - 2165CC
STRAINER-TRAP - 155A/8902

(MS-1) JANITOR MOP SINK

FLOOR MOUNTED PRECAST TERRAZO WITH STAINLESS STEEL CAP, 24"x24"x12", DRAIN BODY SHALL BE STAINLESS STEEL CAST INTEGRAL AND SHALL PROVIDE FOR A CAULKED CONNECTION OF NOT LESS THAN 1" DEEP TO A 3" PIPE. PROVIDE WITH STAINLESS STEEL WALL GUARD. CHROME PLATED CAST BRASS SERVICE SINK FAUCET WITH RENEWABLE SEATS, INTEGRAL VACUUM BREAKER, INTEGRAL SUPPLY STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK,AND 3/4" HOSE THREAD OUTLET SPOUT.

BASIS OF DESIGN
SINK - FIAT - TSB100/MSG2424
FAUCET - T&S BRASS - B0665 BSTR
HOSE - FIAT - 832AA

(FD-1) FLOOR DRAIN

COATED CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE TYPE "S" NICKEL BRONZE STRAINER, 6" SQUARE TOP, PROVIDE P-TRAP WITH PRIMER CONNECTION , VANDAL PROOF STRAINER.
BASIS OF DESIGN
ZURN - ZN415S-P

(TMV-1) THERMOSTATIC MIXING VALVE

MIXING VALVE

BASIS OF DESIGN:
WATTS - LM491-1

(EXP-1) EXPANSION TANK
DOMESTIC WATER BLADDER TYPE EXPANSION TANK.
AMTROL # ST-12

(RP-1) RECIRCULATION PUMP
GRUNDFOSS MAGNA , VARIABLE SPEED CIRCULATOR

(TP-1) TRAP PRIMER VALVE
PPP INC. MODEL PRIME-PRO UNDER LAV PRIMER

NOTES:

1. WATER CLOSET HARDWARE:

   TOILET SEAT - BEMIS No. 1955SS, EXTRA HEAVY SOLID PLASTIC WITH STAINLESS STEEL SELF SUSTAINING CHECK HINGE, OPEN FRONT WITHOUT COVER.
   FIXTURE CARRIER - WATTS ISCA-102-LR, EXTRA-HEAVY DUTY (1,000 lbs) BARIATRIC CARRIER COMPLIANT WITH ASME A112.6.1M, SINGLE VERTICAL THIN WALL WATER CLOSET CARRIER WITH EPOXY COATED CAST IRON FITTING, NO HUB WASTE (3"), AND VENT (2") CONNECTIONS, EPOXY COATED CAST IRON PATENTED COMPRESSION SEAL FACE PLATE ASSEMBLY, EPOXY COATED CAST IRON FOOT SUPPORTS ADJUSTABLE FOR STANDARD AND WHEELCHAIR HEIGHT, ADJUSTABLE ABS NIPPLE WITH INTEGRAL TEST CAP AND NEOPRANE BOWL GASKET, PLATED HARDWARE AND CHROME CAP NUTS.
2. LAVATORY HARDWARE:

   STRAINER/TRAP - McGUIRE No. 155A/8902, CHROME PLATED STRAINER, CAST GRID STRAINER WITH 1-1/4" TAILPIECE, PLATED 17 GAUGE 1-1/4" X 1-1/2" BRASS P-TRAP WITH CLEANOUT. (ADA DEPTH SINKS SHALL HAVE OFFSET TAILPIECES McGUIRE No. 155WC/8902).
   SUPPLIES - McGUIRE No. 2165CC, 1/2" COMPRESSION X 3/8" COMPRESSION CHROME PLATED ANGLE SUPPLY STOPS WITH CHROME PLATED 12" FLEXIBLE RISERS AND ESCUTCHEONS.
   INSULATION KIT - EXPOSED SUPPLIES AND TRAPS ARE TO BE PROTECTED WITH INSULATION KITS EQUAL TO PLUMBEREX No. 4333.
   FIXTURE CARRIER - WATTS No. WCA-411, CONCEALED ARMS FLOOR MOUNTED CARRIER COATED STEEL UPRIGHTS WITH WELDED FEET, CAST IRON ADJUSTABLE HEADERS, STEEL SLEEVES, ALIGNMENT TRUSS AND FASTENERS.
3. MOP SINK HARDWARE:

   HOSE AND WALL HOOK - STERN WILLIAMS No. T-35, 36" LONG HOSE AND STAINLESS STEEL WALL BRACKET.
4. SHOCK ARRESTER

   PISTON OPERATED, TYPE "K" COPPER BARREL WITH BRASS THREADED ADAPTOR, ALL JOINTS SHALL BE MADE WITH 95-5 LEAD FREE SOLDER. THE PISTON SHALL BE EQUIPPED WITH TWO (2) "O" RINGS TO PROVIDE A PERMANENT MECHANICAL BARRIER BETWEEN FLUID AND PRE-LOAD AIR CHARGE. ARRESTORS MAY BE INSTALLED IN VERTICAL AND HORIZONTAL POSITION.

   THE ARRESTOR SHALL BE FULLY GUARANTEED FOR ENTIRE SYSTEM LIFE.

   NOTE: SHOCK ARRESTORS SHALL BE PROVIDED AT ALL QUICK CLOSING FIXTURES AND BATTERIES OF FIXTURES, IN ACCORDANCE WITH THE PLUMBING DRAINAGE INSTITUTE RECOMMENDATIONS, WHETHER OR NOT THEY ARE SHOWN ON THE DRAWINGS.

   BASIS OF DESIGN
   PRECISION PLUMBING PRODUCTS - SC SERIES


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LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

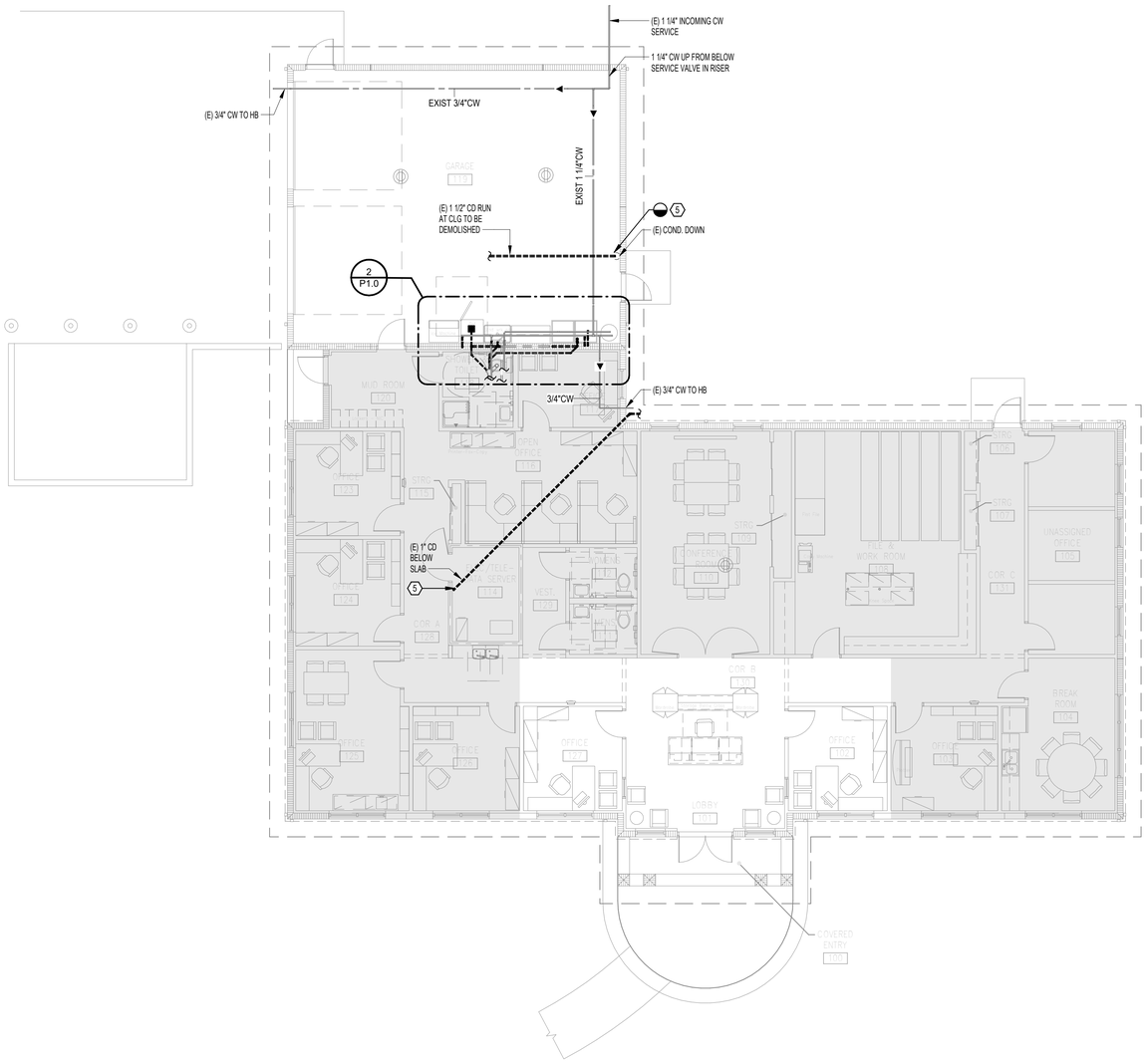
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ISSUE DATE: NOVEMBER 14, 2025

PLUMBING SYMBOLS, LEGEND, NOTES AND INDEX

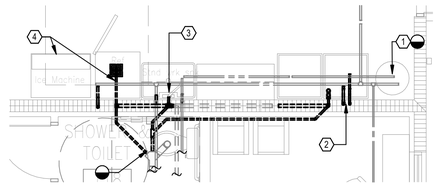
P0.1
PERMIT / BID SET




1 OVERALL PLUMBING DEMOLITION PLAN
1/8" = 1'-0"

DEMOLITION KEYED NOTES:

1. DEMOLISH AND REMOVE EXISTING ELECTRIC WATER HEATER, PREPARE FOR INSTALLATION OF NEW WATER HEATER IN NEW LOCATION.
2. DEMOLISH AND REMOVE EXISTING LAUNDRY WALL BOX. REMOVE PIPING BACK TO POINT INDICATED ON PLANS AND CAP PIPING.
3. DEMOLISH AND REMOVE EXISTING MOP SINK AND ... REMOVE PIPING UNTIL POINT SHOWN AT EXISTING WATER CLOSET.
4. DEMOLISH AND REMOVE EXISTING ICE MAKER AND ASSOCIATED FLOOR SINK, REMOVE PIPING BACK TO POINT INDICATED AND PREPARE FOR NEW PIPING INTO NEW FIXTURES.
5. DEMOLISH AND REMOVE EXISTING CONDENSATE PIPING AND PREPARE FOR NEW CONDENSATE ROUTING TO NEW HUB DRAIN. CONTRACTOR TO CAP EXISTING PIPING AT GRADE AND ABANDON IN PLACE.




2 ENLARGED PLUMBING DEMOLITION PLAN
1/4" = 1'-0"

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# ADDITION & RENOVATIONS
## PHASE 1
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LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

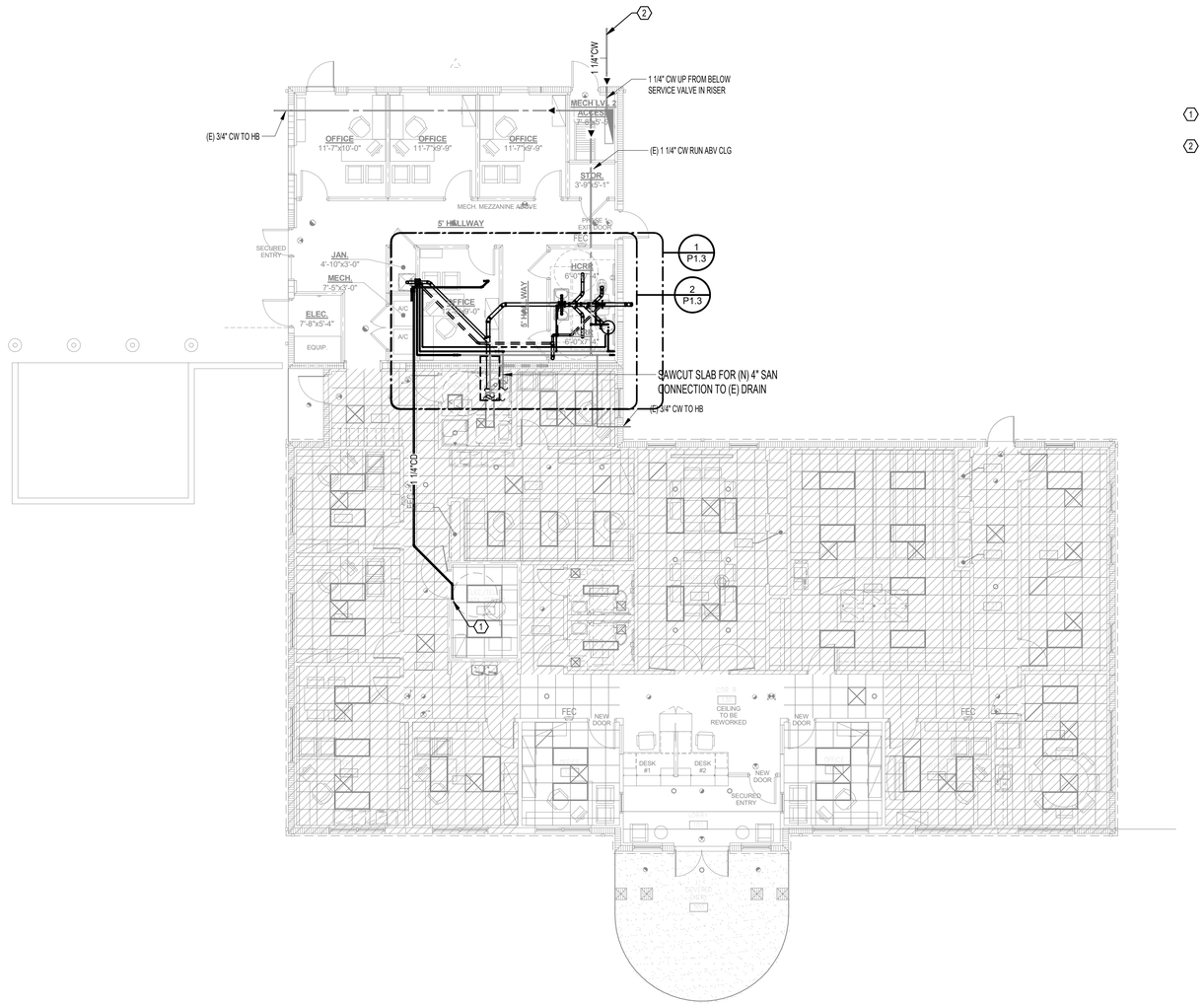
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PLUMBING DEMOLITION PLAN

P1.0
PERMIT / BID SET




1 PLUMBING LEVEL 1 - OVERALL PLAN
1/8" = 1'-0"

DEMOLITION KEYED NOTES:

1. CONDENSATE FROM EXISTING AHU-2 IN DATA/SERVER ROOM. PROVIDE NEW CONDENSATE DRAIN PIPING FROM UNIT TO NEW MOP SINK IN JANITOR CLOSET.
2. EXISTING INCOMING COLD WATER SERVICE TO BUILDING. CONTRACTOR TO CONFIRM EXACT LOCATION IN FIELD. INFORM ARCHITECT AND ENGINEER OF ANY DISCREPANCIES SHOWN ON PLAN.

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PLUMBING NEW WORK PLAN

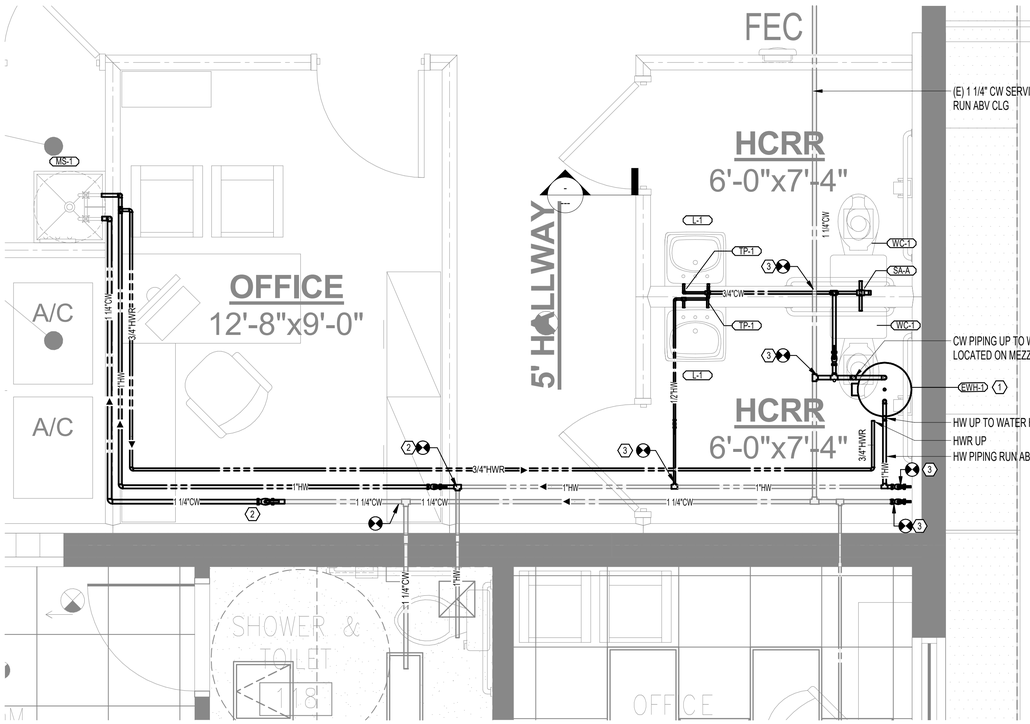
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PRESSURE NEW WORK KEYED NOTES:

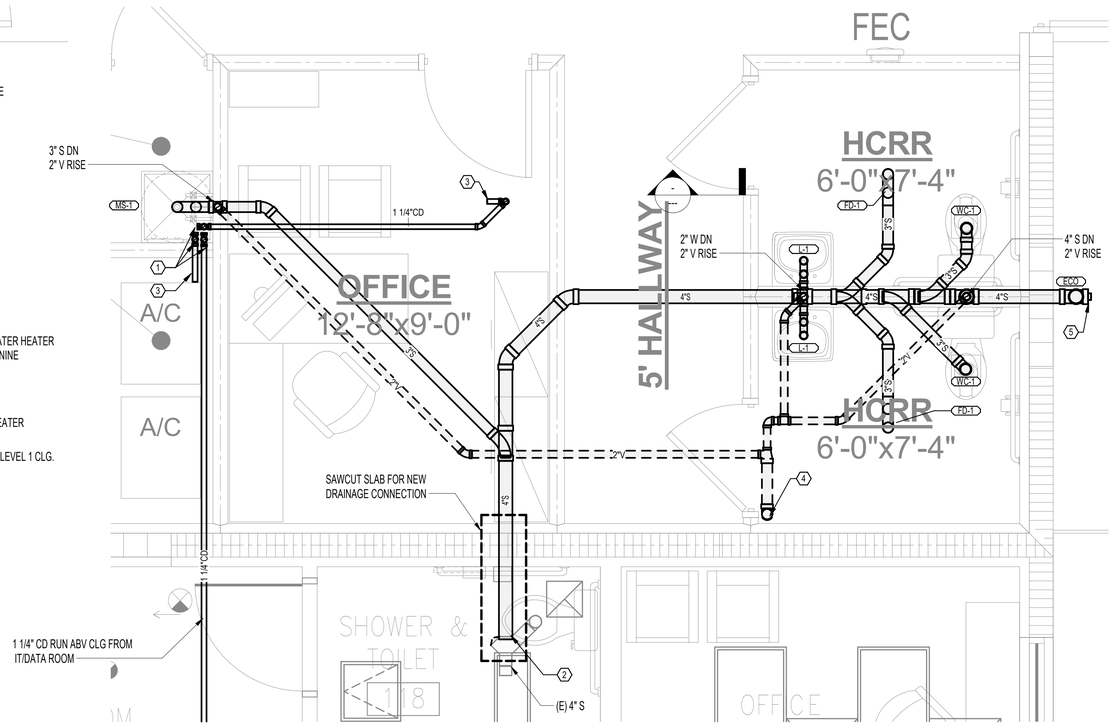
1. PROVIDE NEW ELECTRIC WATER HEATER ON MECHANICAL MEZZANINE ABOVE, CONTRACTOR TO ROUTE PIPING UP AROUND MEZZANINE PROFILE AND TO AVOID PENETRATIONS WHERE APPLICABLE. SEE DETAIL 7/P3.1 FOR ADDITIONAL INFORMATION ON EQUIPMENT AND DRAINAGE.
2. PROVIDE SHUTOFF ACCESSIBLE SHUT OFF VALVES ABOVE CEILING FOR NEW FIXTURES, COORDINATE FINAL LOCATION IN FIELD AND WITH ARCH CEILING PLANS.
3. PROVIDE TIE-IN LOCATIONS INTO EXISTING PIPING AT POINTS INDICATED, COORDINATE FINAL LOCATIONS IN FIELD. PROVIDE SHUTOFF VALVES FOR FUTURE USE IN PHASE 2.

GRAVITY NEW WORK KEYED NOTES:

1. NEW CONDENSATE PIPING AND DRAIN PAN OVERFLOW FROM HVAC UNITS TO DISCHARGE INTO MOP SINK. PIPING TO TERMINATE ABOVE FIXTURE WITH CODE COMPLIANT AIR GAP OR BREAK.
2. PROVIDE NEW TIE IN LOCATION TO EXISTING SANITARY PIPING IN AREA, COORDINATE FINAL TIE IN LOCATION IN FIELD. SAWCUT SLAB AS NEEDED TO MAKE CONNECTION
3. PROVIDE TRAPPED INSULATED CONDENSATE DRAIN PIPING FROM MECHANICAL UNIT, SEE MECHANICAL DETAILS FOR INSTALLATION DETAIL.
4. PROVIDE NEW 3" V.T.R COORDINATE FINAL LOCATION IN FIELD.
5. PROVIDE NEW EXTERIOR CLEAN-OUT, CAP DRAINAGE PIPING AS SHOWN FOR FUTURE CONNECTION IN PHASE 2.




1 PLUMBING LEVEL 1 - PRESSURE PLAN ENLARGED
1/2" = 1'-0"




2 PLUMBING LEVEL 1 - GRAVITY PLAN ENLARGED
1/2" = 1'-0"

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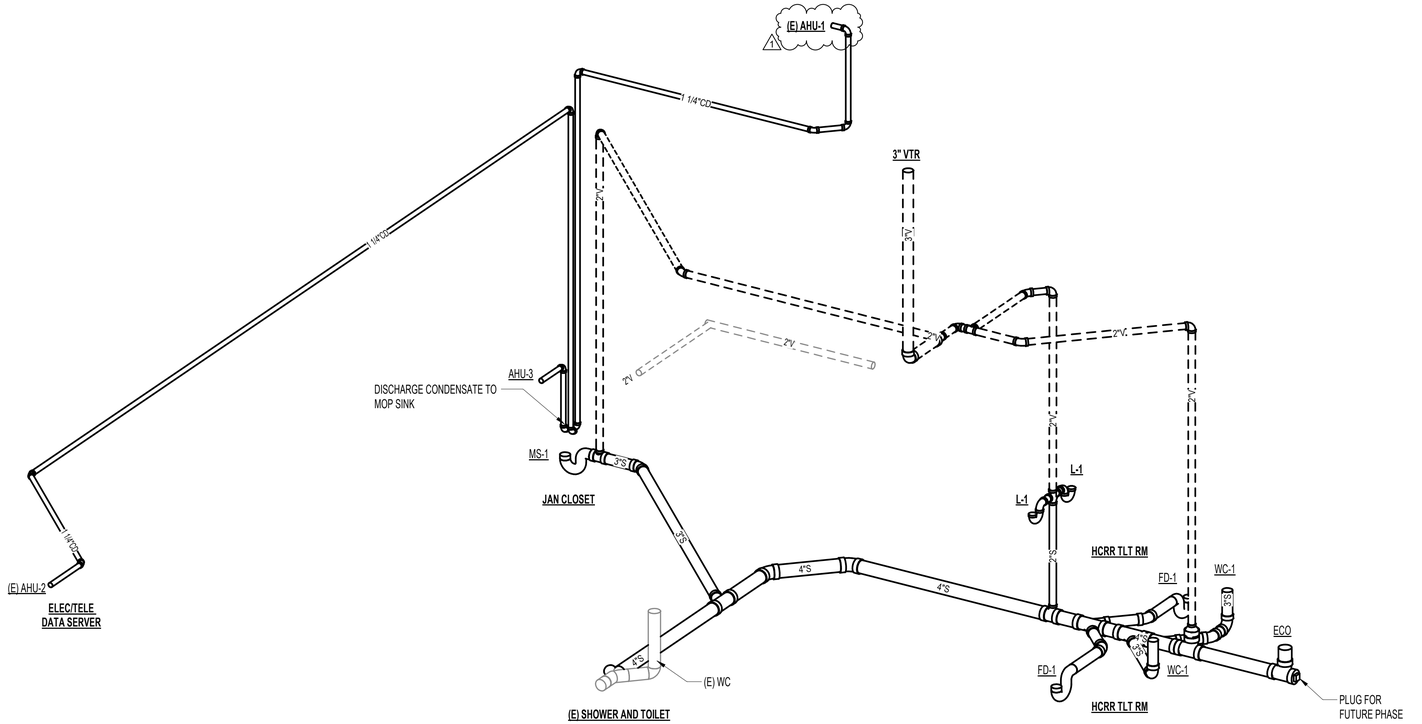
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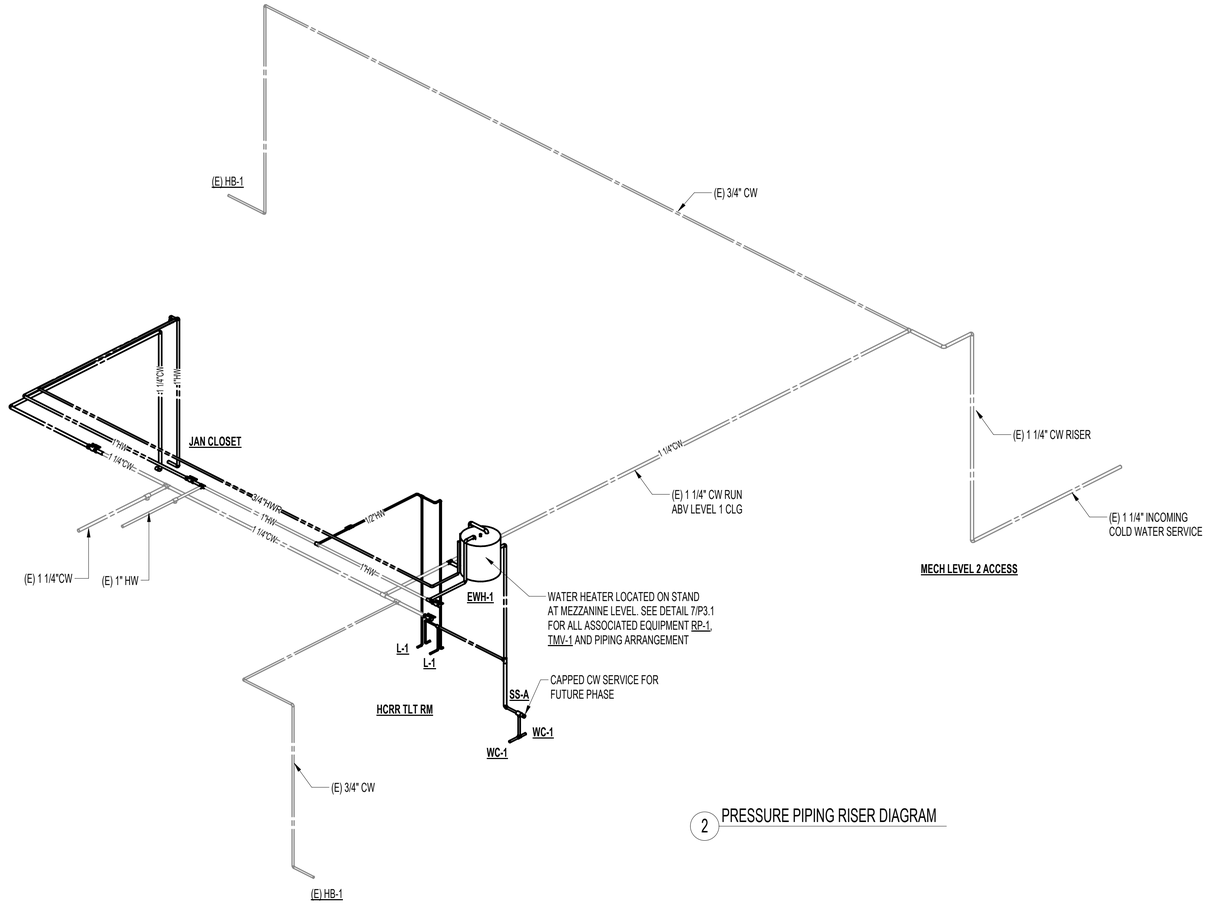
ISSUE DATE: NOVEMBER 14, 2025

PLUMBING ENLARGED PLAN

P1.3
PERMIT / BID SET




1 GRAVITY PIPING RISER DIAGRAM




2 PRESSURE PIPING RISER DIAGRAM

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# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

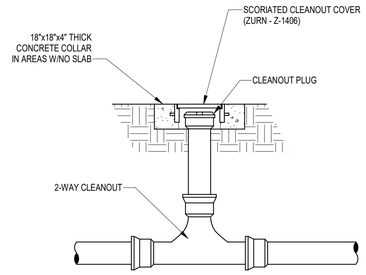
| | | |
|---|---|---|
| 1 | 12/05/25 | BD Response |

| MARK | DATE | DESCRIPTION |
|---|---|---|

ISSUE DATE: NOVEMBER 14, 2025

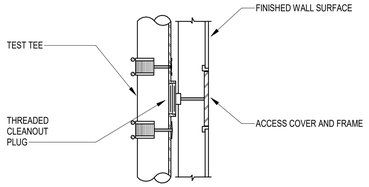
PLUMBING RISER DIAGRAMS

P2.1
PERMIT / BID SET



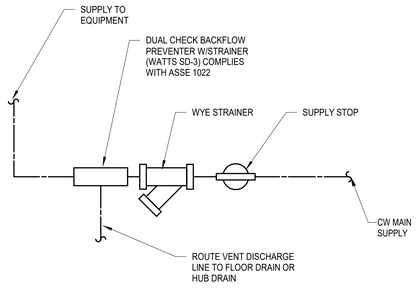

## EXTERIOR CLEANOUT
No Scale

1




## WALL CLEANOUT
No Scale

2



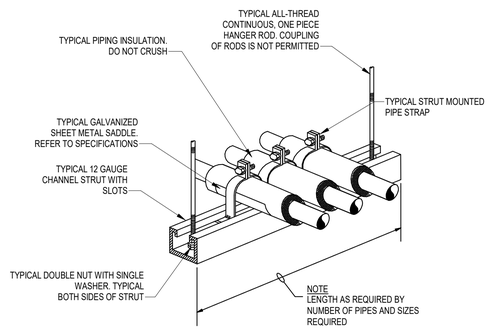

NOTE:

PROVIDE INDIVIDUAL BACKFLOW PREVERTER AT EACH PIECE OF EQUIPMENT.

THIS CONNECTION DETAIL APPLIES TO ALL APPLIANCES SUCH AS COFFEE MAKERS, TEA MAKERS, ICE MAKERS, BEVERAGE DISPENSERS ETC.

## APPLIANCE WATER CONNECTION
No Scale

3




NOTE:

1. REFER TO SPECIFICATIONS AND FLOOR PLANS FOR

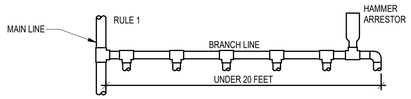
2. SPECIFIED HANGER ROD, STRUT, NUTS, WASHER, AND PIPE STRAPS SHALL BE OF GALVANIZED PLATED MATERIALS

## TRAPEZE HANGER
No Scale

4

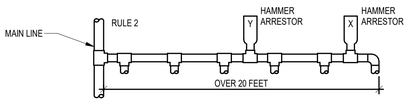
RULE 1: BRANCH LINES OF 20 FEET OR LESS.

THE HAMMER ARRESTOR TO BE PLACED AT THE END OF THE BRANCH LINE BETWEEN THE LAST TWO FIXTURES.




RULE 2: BRANCH LINES OVER 20 FEET

AN ADDITIONAL HAMMER ARRESTOR (Y) TO BE PLACED AS SHOWN (BELOW). THE ADDITIONAL UNIT PLACED AT THE MIDPOINT OF THE RUN LONGER THAN 20 FEET. THE SUM OF THE FIXTURE UNIT RATINGS OF (X) AND (Y) COMBINED, SHOULD BE EQUAL TO OR GREATER THAN THE DEMAND OF ALL BRANCHES. INSTALL IN A ACCESSIBLE AREA




### SHOCK ARRESTOR SCHEDULE

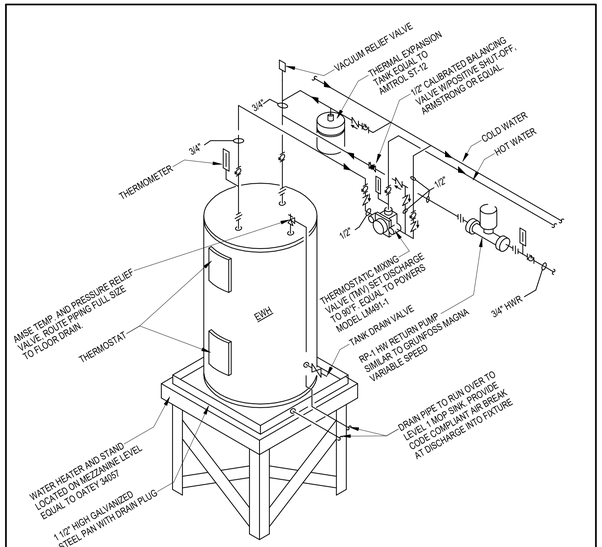
| MARK | FIXTURE UNITS | MANUFACTURER | MODEL | N.P.T. |
|---|---|---|---|---|
| SA-A | 1-11 | PRECISION PLUMBING PRODUCTS | SC-500A | 1/2" |
| SA-B | 12-32 | PRECISION PLUMBING PRODUCTS | SC-750B | 3/4" |
| SA-C | 33-60 | PRECISION PLUMBING PRODUCTS | SC-1000C | 1" |
| SA-D | 61-113 | PRECISION PLUMBING PRODUCTS | SC-1250D | 1" |
| SA-E | 114-154 | PRECISION PLUMBING PRODUCTS | SC-1500E | 1" |
| SA-F | 155-330 | PRECISION PLUMBING PRODUCTS | SC-2000F | 1" |

NOTES:

1. PISTON OPERATED, TYPE "K" COPPER BARREL WITH BRASS THREADED ADAPTOR, ALL JOINTS SHALL BE MADE WITH 95-5 LEAD FREE SOLDER. THE PISTON SHALL BE EQUIPPED WITH TWO (2) "O" RINGS TO PROVIDE A PERMANENT MECHANICAL BARRIER BETWEEN FLUID AND PRE-LOAD AIR CHARGE. ARRESTORS MAY BE INSTALLED IN VERTICAL AND HORIZONTAL POSITION. THE ARRESTOR SHALL BE FULLY GUARANTEED FOR ENTIRE SYSTEM LIFE.

## SHOCK ARRESTOR
No Scale

5




## ELECTRIC WATER HEATER
No Scale

7

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# ADDITION & RENOVATIONS
## PHASE 1
ADMINISTRATION BLDG LAKE COUNTY WATER AUTHORITY
LAKE COUNTY, FL.

PROFESSIONAL SEAL:

PROJECT NO: PSA2025-22.00

REVISIONS:

| MARK | DATE | DESCRIPTION |
|---|---|---|
| | | |

ISSUE DATE: NOVEMBER 14, 2025

PLUMBING DETAILS

P3.1

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