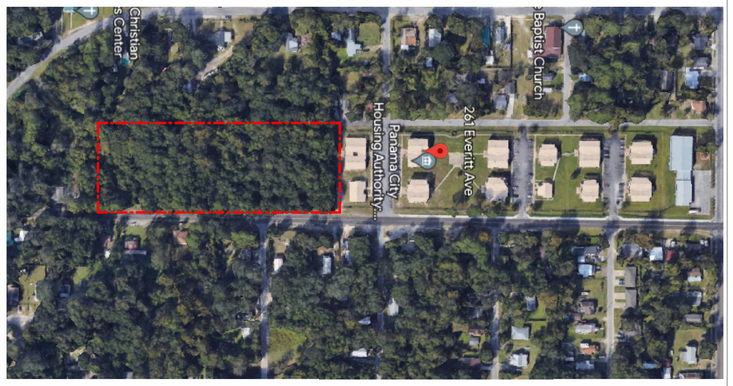
PROJECT LOCATION:



PCHA KIRKLAND MAINTENANCE COMPLEX

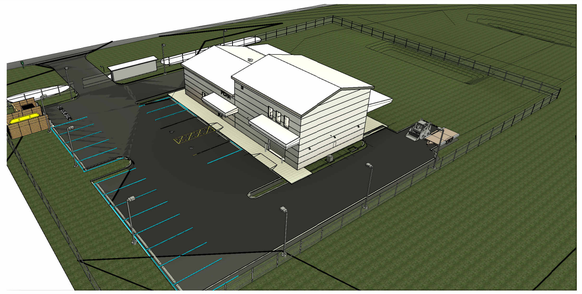
261 EVERITT AVENUE
PANAMA CITY, FLORIDA 32401

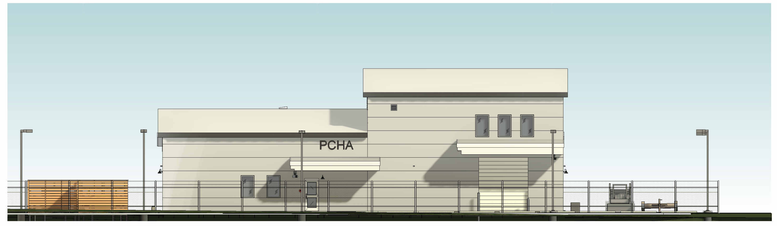
FLA PROJECT: 4274-22
RFP PROJECT: 2025-02

BID SET DOCUMENTS

JULY 24, 2025

ISSUED FOR RE-BID OCTOBER 08, 2025





PROJECT SUMMARY NOTES

A. THE WORK OF THIS CONTRACT INVOLVES CONSTRUCTION OF AN UNDEVELOPED PARCEL OF LAND. THE WORK OF THE PROJECT IS DEFINED BY THE CONTRACT DOCUMENTS AND IS GENERALLY DESCRIBED BY THE FOLLOWING:

1. CONSTRUCT A NEW ONE STORY WITH MEZZANINE PRE-ENGINEERED STEEL STRUCTURE WITH METAL PANELS WITH RELATED MEP WORK, AS WELL AS, FULL DEVELOPMENT OF THE SITE TO FACILITATE ADA INGRESS AND EGRESS FROM BUILDING.

2. -THE WORK ALSO INCLUDES ALL NEW SITE UTILITIES/EXTENSIONS AND OTHER INFRASTRUCTURE.

TO THE BEST OF OUR KNOWLEDGE, THESE CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND APPLICABLE FIRE SAFETY CODE ARE IN COMPLIANCE WITH THE CRITERIA SET FORTH IN THE LATEST ADDITION OF THE FLORIDA BUILDING CODE.

CODE REVIEW ANALYSIS

PROJECT SUMMARY:	DEVELOP A RAW PARCEL OF LAND FOR THE CONSTRUCTION OF A ONE STORY WITH MEZZANINE MAINTENANCE/OFFICE BUILDING
CLASSIFICATION OF WORK:	DEVELOPMENT OF A PARCEL OF LAND FOR A ONE STORY WITH MEZZANINE MAINTENANCE/OFFICE FACILITY.
MUNICIPALITY:	PANAMA CITY, CITY LIMITS
ZONING:	MU 3 PC
FLOOD ZONING:	X NOT IN FLOOD ZONE
TYPE OF CONSTRUCTION:	TYPE II-B - UNPROTECTED
TYPE OF OCCUPANCY:	GROUP B, BUSINESS
FIRE PROTECTION SYSTEM:	1. - NONSPRINKLERED - FULL COVERAGE CEILING SMOKE DETECTORS
NUMBER OF STORIES:	ONE STORY BUILDING WITH MEZZANINE
BUILDING AREA:	3,456 SF (WITH MEZZANINE) 3,165 SF (WITHOUT MEZZANINE)
BUILDING HEIGHT:	31'-2" MAX ROOF HEIGHT ZONING: MAXIMUM BUILDING HEIGHT 65'

PROJECT DETAILS:

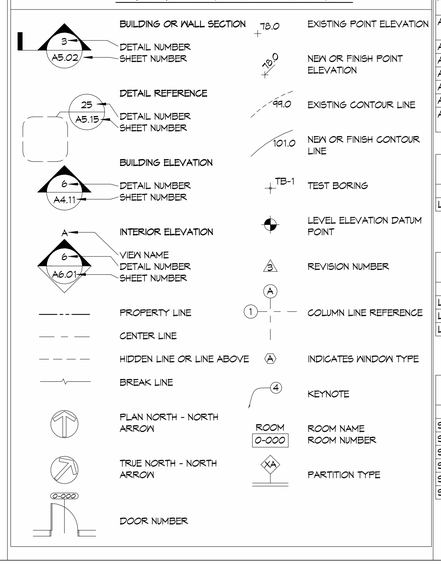
BUILDING CODES:

- FLORIDA BUILDING CODE, 8TH EDITION (2023) - BUILDING
- FLORIDA BUILDING CODE, 8TH EDITION (2023) - ACCESSIBILITY
- FLORIDA BUILDING CODE, 8TH EDITION (2023) - TEST PROTOCOLS
- FLORIDA BUILDING CODE, 8TH EDITION (2023) - MECHANICAL
- FLORIDA BUILDING CODE, 8TH EDITION (2023) - PLUMBING
- FLORIDA BUILDING CODE, 8TH EDITION (2023) - FUEL GAS
- FLORIDA BUILDING CODE, 8TH EDITION (2023) - ELECTRICAL
- FLORIDA FIRE PREVENTION CODE, 8TH EDITION (2023)
- NFPA 70 NATIONAL ELECTRIC CODE
- NFPA 101 - LIFE SAFETY CODE (2021 EDITION)

GENERAL NOTES:

1. DO NOT SCALE DRAWINGS. DIMENSIONS GOVERN.
2. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS INDICATED WITHIN THESE DOCUMENTS AND SHALL NOTIFY THE DESIGN TEAM OF ANY VARIATION, PRIOR TO THE PURCHASING OF MATERIALS, STARTING FABRICATION OR BEGINNING CONSTRUCTION.
3. "TYPICAL" MEANS THE REFERENCED DETAIL SHALL APPLY FOR ALL SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
4. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL ORDINANCES, FIRE DEPARTMENT REGULATIONS, UTILITY COMPANY REQUIREMENTS, AND THE BEST TRADE PRACTICES
5. THE CONTRACTOR IS TO SECURE AND PAY FOR ALL NECESSARY FEES AND PERMITS FOR CONSTRUCTION, ELECTRICAL AND PLUMBING INSPECTIONS, ETC.
6. ALL DIMENSIONS ARE GIVEN TO ROUGH FRAMING AND MASONRY UNLESS NOTED.
7. KEYING AT ALL NEW AND EXISTING INTERIOR DOORS TO BE COORDINATED BY CONTRACTOR WITH OWNER.
8. THE GENERAL CONTRACTOR SHALL AT ALL TIMES MAINTAIN ON THE JOB SITE - A COMPLETE SET OF CONSTRUCTION DOCUMENTS, ADDENDA, SUPPLEMENTAL INSTRUCTIONS, SUPPLEMENTAL DRAWINGS, MEETING NOTES, ETC.

GENERAL SYMBOLS



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C.7	STORMWATER DETS
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P6.001	FIXTURE SCHEDULE - PLUMBING

PROJECT DIRECTORY:

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FLORIDA ARCHITECTS
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(850) 257-5400

CLIENT:
PANAMA CITY HOUSING AUTHORITY

PROJECT:
PCHA KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVENUE
PANAMA CITY, FLORIDA 32405

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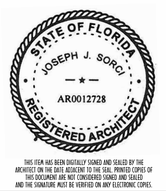
SEAL:



BID SET DOCUMENTS

SCALE:	DATE:
As indicated	10/08/2025
DRAWN BY: KJ	CHECKED BY: MG, MH, JS

NO	REVISION	DATE

SHEET TITLE:

COVER

PROJECT NO.	SHEET NO.
4274-22	A0.00

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CONSTRUCTION PLANS FOR:

KIRKLAND MAINTENANCE COMPLEX

PANAMA CITY HOUSING AUTHORITY
261 EVERITT AVENUE, PANAMA CITY, FLORIDA 32401
SECTION 11, T3S, R14W

RELEASED FOR CONSTRUCTION

3 WORKING DAYS
BEFORE YOU DIG
Sunshine 811

6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

NOTES

1) THE CONTRACTOR SHALL COMPLY WITH THE "FLORIDA TRENCH SAFETY ACT" (LAWS OF FLORIDA 90-96, OCTOBER 1, 1990) AND PROVIDE PROOF OF COMPLIANCE. THE CONTRACTOR MUST PROVIDE "NOTORIZED STATEMENT" TO THE OWNER, THAT THEY ARE IN COMPLIANCE WITH ALL APPLICABLE TRENCH SAFETY STANDARDS.

2) EVERY ATTEMPT TO LOCATE UNDERGROUND UTILITIES MUST BE MADE. THERE ARE THE POSSIBILITIES OF UNDERGROUND ELECTRICAL, TELEPHONE, ETC. THAT HAS NOT BEEN LOCATED. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS, DEPTH AND TYPE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

STATEMENT OF COMPATIBILITY:

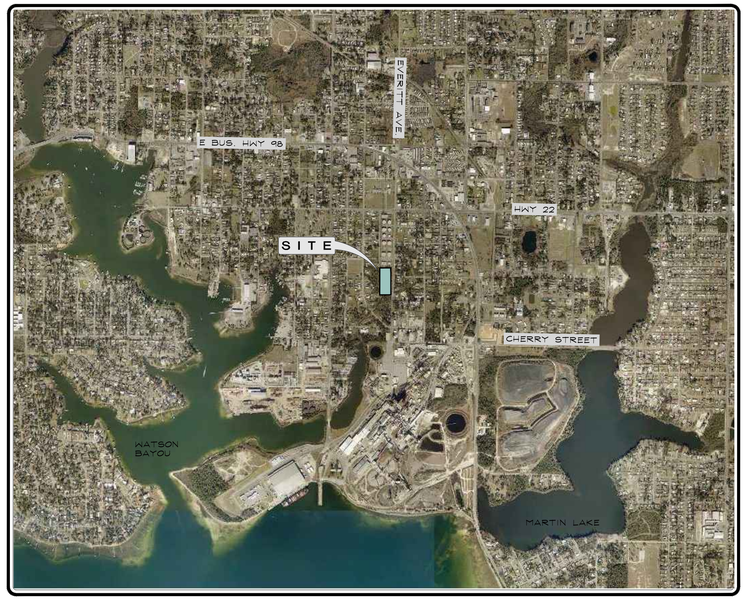
THE PROPOSED PROJECT IS COMMERCIAL DEVELOPMENT WITH HEIGHTS NOT EXCEEDING SURROUNDING DEVELOPMENT AND IS ADJACENT TO OTHER COMMERCIALLY DEVELOPED PROPERTIES, THEREFORE, THIS PROJECT IS COMPATIBLE WITH SURROUNDING DEVELOPMENTS.

SITE DATA

PARCEL ID NUMBER: 11823-012-010
FUTURE LAND USE: C-3A – GENERAL COMMERCIAL LOW
FLOOD ZONE: "X"

DESIGN CRITERIA

PANAMA CITY UNIFIED LAND DEVELOPMENT CODE
NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
FLORIDA STATUES



SITE MAP
NOT TO SCALE

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NPDES	C.10

VICINITY MAP
NOT TO SCALE

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PROPERTY OWNER :

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PREPARED BY :

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Phone 850-265-6979 Fax 850-265-9942 SCR@scr.us.com www.SCR.us.com

JOB No. 18570
FILE No. R20572

RELEASED FOR CONSTRUCTION

WATER, SEWER CONSTRUCTION NOTES:

1) IT SHALL BE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE THE ACTIVITIES OF THE UTILITY COMPANIES INCLUDING BUT NOT LIMITED TO TV, TELEPHONE, GAS, POWER, ETC., AND PROVIDE IN ACCORDANCE WITH THE UTILITY COMPANY ARE NECESSARY CONDUITS FOR CROSSINGS UNDER PAVEMENT. NO ADDITIONAL COMPENSATION SHALL BE PROVIDED FOR THIS SERVICE. ANY DAMAGE CAUSED BY THE UTILITY COMPANY TO THE IMPROVEMENTS OF THE CONTRACTOR SHALL BE REPAIRED IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT REPAIRS ARE PERFORMED, EITHER BY THE CONTRACTOR OR THE UTILITY COMPANY AT NO COST TO THE OWNER.
2) COPIES OF THE TEST REPORTS FOR ASPHALT, BASE, SUB GRADE, FILL AND BACK FILL UNDER ROADWAYS AND STRUCTURES, AND UTILITY TRENCHES SHALL BE PROVIDED DIRECTLY TO THE ENGINEER FOR REVIEW. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE TESTING AND INSURE THAT ALL APPLICABLE TESTS HAS BEEN PERFORMED. FAILURE TO OBTAIN TEST RESULTS AT ANY POINT OF CONSTRUCTION WILL REQUIRE THE REMOVAL OF THE IMPROVEMENT AND REPLACEMENT BY CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER. IT SHOULD BE NOTED THAT THE ENGINEER WILL REQUIRE COMPACTION TESTING IN ACCORDANCE WITH THE TESTING SCHEDULE FOR UTILITY TRENCH FILL AND BACKFILLED.
3) ALL SANITARY SEWER AND WATER MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARDS SET FORTH BY THE AMERICAN WATER WORKS ASSOCIATION (AWWA), AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
4) IT SHALL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITY COMPANIES (48 HOUR NOTICE) PRIOR TO BEGINNING CONSTRUCTION. IT SHALL FURTHER BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR TO HAVE ALL EXISTING UTILITIES PHYSICALLY LOCATED TO INSURE THAT THIS CONSTRUCTION DOES NOT DAMAGE ANY EXISTING UTILITIES WITHIN THE PROJECT AREA.
5) IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AT NO ADDITIONAL EXPENSE TO THE OWNER, TO REPAIR OR CAUSE TO BE REPAIRED, ANY EXISTING UTILITIES OR STRUCTURES DAMAGED AS A DIRECT RESULT OF THIS WORK.
6) ALL GRAVITY SEWER LINES SHALL BE OF THE SIZE NOTED ON THE PLANS AND PROFILES. PIPES SHALL BE SDR 35 PVC.
7) SOIL COVER OVER ANY GRAVITY SEWER LINE OR LATERAL SHALL NOT BE LESS THAN 36 INCHES, EXCEPT WHERE STUBBED OUT AT THE PROPERTY LINE. PLUGGED END OF LATERAL WHERE FUTURE CONNECTION IS TO BE MADE SHALL BE AT LEAST 36" BELOW EXISTING GRADE.
8) THE CONTRACTOR SHALL FIELD VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES WITHIN THE PROJECT AREA TO INSURE NO CONFLICTS EXIST. SHOULD SUCH CONFLICTS OCCUR, THE CONTRACTOR SHALL CEASE OPERATIONS IN THE AFFECTED AREA AND NOTIFY THE OWNER'S ENGINEER, AND THE APPROPRIATE UTILITY TO RESOLVE THE CONFLICT BEFORE PROCEEDING WITH CONSTRUCTION IN THE AFFECTED AREA.
9) UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL CALL FOR A "FLASH TEST" ON ALL SEWER MAINS. PIPE ALIGNMENT SHALL CONFORM TO THE REQUIREMENTS OF THE ENGINEER AND ANY LINES NOT MEETING THE CITY REQUIREMENTS SHALL BE UNCOVERED AND RESET TO THE PRESCRIBED LINE AND GRADE. INFILTRATION/EXFILTRATION LIMITS TESTING SHALL CONFORM WITH ENGINEER'S REQUIREMENTS. AIR TEST TO BE IN ACCORDANCE WITH ASTM F1417 AND CLEANED & TELEVISED. PROVIDE VIDEO INSPECTION REPORT AND DVD FOR REVIEW BY CITY UTILITIES STAFF.
10) ALL WATER MAINS LESS THAN 4" SHALL BE ASTM D2241 SDR-21, 4"-8" SHALL BE AWWA C900 DR18 (PRESSURE CLASS 235), 10"-12" SHALL BE AWWA C900 DR25 (PRESSURE CLASS 165). ALL PIPE SHALL BE RESTRAINED JOINT (MEGALUG OR APPROVED EQUAL).
11) ALL VALVES 12" AND SMALLER SHALL BE CAST-IRON BODY, FULLY BRONZE MOUNTED RESILIENT-SEATED GATE VALVES CONFORMING TO AWWA C509, WIDE FLANGE OR SPIGOT ENDS, DEPENDING ON INSTALLATION. FLANGED GATE VALVES SHALL BE PROVIDED WITH 250 LB. AMERICAN STANDARD FLANGES, AWWA STANDARD C-509 RESILIENT SEAT, ALL SHUTOFF VALVES 16" AND LARGER SHALL BE BUTTERFLY VALVES, BUTTERFLY VALVES AND OPERATORS SHALL CONFORM TO THE AWWA STANDARD SPECIFICATIONS FOR RUBBER SEATED BUTTERFLY VALVES, DESIGNATION C-504 CLASS 1150 A OR B.
12) ALL VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 250 PSI, UNLESS OTHERWISE NOTED.
13) ALL VALVES SET BELOW GRADE, SHALL BE FITTED WITH HUB-TYPE OPERATORS AND SHALL HAVE A CAST IRON VALVE BOX INSTALLED CONCENTRICALLY OVER THE VALVE, BUTTERFLY VALVE OPERATOR SHALL CONFORM TO THE REQUIREMENTS OF AWWA C-504.
14) ALL HARDWARE ACCESSORIES FOR VALVES, SADDLES, AND FITTINGS SHALL BE AS FOLLOWS:
    CLAMPS, STRAPS AND WASHERS: STEEL ANSI/ASTM A 506
    RODS: STEEL, ANSI/ASTM A 575
    ROD COUPLINGS: MALLEABLE IRON, ANSI/ASTM A 197
    BOLTS: STEEL ANSI/ASTM A 307
    CAST IRON WASHERS: ANSI/ASTM A 126, CLASS A
15) TAPPING SLEEVES SHALL BE MECHANICAL JOINT SLEEVES OR FABRICATED STEEL SLEEVES AS SPECIFIED BELOW.
    SLEEVES SHALL BE CAST OF GRAY-IRON OR DUCTILE IRON AND HAVE AN OUTLET FLANGE WITH THE DIMENSIONS OF THE CLASS 125 FLANGES SHOWN IN ANSI B16.1 PROPERLY RECESSED FOR TAPPING VALVE. GLANDS SHALL BE GRAY-IRON OR DUCTILE IRON. GASKETS SHALL BE VULCANIZED NATURAL OR SYNTHETIC RUBBER. BOLTS AND NUTS SHALL COMPLY WITH ANSI/AWWA C111/A21.11. SLEEVES SHALL BE CAPABLE OF WITHSTANDING A 200 PSI WORKING PRESSURE.
16) SLEEVES SHALL BE FABRICATED OF MINIMUM 3/8" CARBON STEEL MEETING ASTM A285 GRADE C. OUTLET FLANGE SHALL MEET AWWA C-270, CLASS "D" ANSI 150 LB. DRILLING AND BE PROPERLY RECESSED FOR THE TAPPING VALVE. BOLTS AND NUTS SHALL BE HIGH STRENGTH LOW ALLOY STEEL TO AWWA C111 (ANSI A21.11). GASKET SHALL BE VULCANIZED NATURAL OR SYNTHETIC RUBBER. SLEEVE SHALL HAVE MANUFACTURER APPLIED FUSION BONDED EPOXY COATING, MINIMUM 12 MIL THICKNESS.
17) MECHANICAL RESTRAINING DEVICES AS SPECIFIED HEREIN MAY BE SUBSTITUTED FOR THE RESTRAINED "LOCKED-TYPE" JOINTS MANUFACTURED BY THE DUCTILE IRON PIPE AND FITTING MANUFACTURER.
18) MECHANICAL JOINT RESTRAINT SHALL BE INCORPORATED IN THE DESIGN OF THE FOLLOWER GLAND AND SHALL INCLUDE A RESTRAINING MECHANISM WHICH, WHEN ACTUATED, IMPARTS MULTIPLE WEDGING ACTION AGAINST THE PIPE, INCREASING ITS RESISTANCE AS THE PRESSURE INCREASES. FLEXIBILITY OF THE JOINTS SHALL BE MAINTAINED AFTER BURIAL. GLANDS SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536. RESTRAINING DEVICES SHALL BE OF DUCTILE IRON HEAT TREATED TO A MINIMUM HARDNESS OF 370 BHN. DIMENSIONS OF THE GLAND SHALL BE SUCH THAT IT CAN BE USED WITH THE STANDARDIZED MECHANICAL JOINT BELL AND TEE-HEAD BOLTS CONFORMING TO ANSI A21.11 AND ANSI/AWWA C153/A21.53. TWIST-OFF NUTS SHALL BE USED TO INSURE PROPER ACTUATING OF THE RESTRAINING DEVICES. THE MECHANICAL JOINT RESTRAINT DEVICE SHALL HAVE A WORKING PRESSURE OF AT LEAST 250 PSI WITH A MINIMUM SAFETY FACTOR OF 2:1.
19) BACTERIOLOGICAL TESTING SHALL BE IN ACCORDANCE WITH AWWA STANDARDS, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES.
20) CONTRACTOR SHALL DELIVER TO ENGINEER A LEGIBLE COPY OF THE BACTERIOLOGICAL TEST WITHIN (2) WEEKS OF SAID TEST AND SHALL ALSO DELIVER TO UTILITIES DEPARTMENT ENGINEER TWO (2) LEGIBLE COPIES AS REQUIRED.
21) PRESSURE AND LEAKAGE TESTING SHALL BE IN ACCORDANCE WITH AWWA STANDARDS. BEFORE BEGINNING THE ACTUAL PRESSURE TESTING, THE CONTRACTOR SHALL NOTIFY THE ENGINEER, PRESSURE TESTING WILL BE DONE IN THE PRESENCE OF THE ENGINEER, AND WILL NOT BE CONSIDERED COMPLETE UNTIL APPROVED IN WRITING BY THE ENGINEER.
    PRESSURE TEST TO BE AT 150 PSI FOR 2 HOURS.
    TESTING, DISINFECTION AND FLUSHING SHALL BE DONE IN ACCORDANCE WITH AWWA C651 SPECIFICATIONS.
    FLUSHING TO BE AT 3 FPS MINIMUM, 6X PIPE VOLUME MINIMUM.
    ALL CORPORATION STOPS SHALL BE 1" FORD F1000.
    ALL CURB STOPS SHALL BE 3/4" FORD B43-444W.
    ALL FIRE HYDRANTS SHALL BE AMERICAN DARLING B-84B OR AVK 2780 NOSTALGIC.
    PIPE COLORS SHALL BE:
    SEWER PIPE: GREEN
    POTABLE WATER: BLUE
    RECLAIMED WATER: PURPLE
    14 GAUGE COPPER WIRE TO BE INSTALLED OVER FORCEMAIN AND WATER LINES. IN ADDITION, A 2" WIDE DETECT TAPE SHALL BE INSTALLED 1' BELOW FINISH GRADE ELEVATION DIRECTLY OVER LOCATION OF FORCEMAIN AND WATER LINES.

GENERAL NOTES:

1) ALL DISTURBED AREAS ARE TO BE GRASSED. HYDROSEED @ 4:1 & FLATTER SOD @ STEEPER THAN 4:1 ALL SOD TO BE STAGGERED & PINNED.
2) CONTRACTOR TO FIELD VERIFY ALL UTILITIES ABOVE OR BELOW GROUND AND NOTIFY ALL UTILITY COMPANIES 2 DAYS PRIOR TO CONSTRUCTION.
3) ALL DEMOLISHED MATERIALS (i.e. SIGNS, CONCRETE, ASPHALT, ETC.) TO BE REMOVED AND DISPOSED OF IN LEGAL MANNER.
4) TESTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH PANAMA CITY REQUIREMENTS. IT SHALL THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE ALL TESTS.
5) BAY COUNTY TRAFFIC ENGINEERING TECHNICAL SPECIAL PROVISIONS ("SP's), DATED AUGUST 2010 WILL BE FOLLOWED AND TAKE PRECEDENCE OVER THE STANDARD FDOT PEDESTRIAN DESIGN CRITERIA WHERE APPLICABLE.
6) ALL TRAFFIC STRIPING TO BE THERMOPLASTIC PER STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SEC: 711. (WAIT MINIMUM OF 30 DAYS AFTER ASPHALT CONCRETE PLACEMENT TO PLACE PERMANENT THERMOPLASTIC MARKING. TEMPORARY STRIPING TO BE PAINTED STOP BAR ONLY.)
7) PLACE DOUBLE 16" OR SINGLE ROLL 30" STRIP OF SOD ALONG THE EDGE OF ALL PAVEMENT, CURBING, SIDEWALKS, INLETS AND MITERED END SECTIONS.
8) NO LANE CLOSURES AT ANY TIME UNLESS APPROVED BY THE LOCAL FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) OFFICE. IF LANE CLOSURES ARE APPROVED BY FDOT, ALL LANES MUST BE REOPENED TO NORMAL TRAFFIC WITHIN 12 HOURS OF AN EVACUATION NOTICE FOR A HURRICANE OR ANY OTHER EMERGENCY EVENT AND SHALL REMAIN OPEN FOR THE DURATION OF THE EVENT AS DIRECTED BY FDOT.
9) CONTRACTOR TO FIELD VERIFY ALL UTILITIES ABOVE OR BELOW GROUND, REMOVE AND RELOCATE EXISTING UTILITIES AS REQUIRED. CONTRACTOR NOTIFY ALL UTILITY COMPANIES 48 HOURS PRIOR TO ANY CONSTRUCTION.
10) FOR MAINTENANCE OF TRAFFIC CONTROL THROUGH WORK ZONES REFER TO FDOT INDEX AS APPLICABLE.
11) THE CONTRACTOR IS REQUIRED TO REVIEW THE COMPLETE PERMIT PRIOR TO CONSTRUCTION COMMENCEMENT AND TO NOTIFY ALL NECESSARY PARTIES PRIOR TO CONSTRUCTION.
12) A COPY OF THE PERMIT WILL BE KEPT ON SITE.
13) AN 8 1/2"x11" WEATHER RESISTANT SIGN, INCLUDING THE PERMIT NUMBER SHALL BE PLACED ON THE PROPERTY FACING THE ROAD.
14) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MONITOR ALL CONSTRUCTION ACTIVITY DURING THE ENTIRE CONSTRUCTION PROCESS.
15) IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN AN AS-BUILT SURVEY OF GRADING, DRAINAGE AND ALL STORMWATER MANAGEMENT FACILITIES. AS-BUILT SURVEY SHOULD MEET THE REQUIREMENTS OF PANAMA CITY, BAY COUNTY AND THE NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT STANDARDS.
16) AS-BUILT DRAWINGS WILL BE SUBMITTED TO SCR & ASSOCIATES IN DIGITAL FORMAT (AUTOCAD R14 OR LATER), AS WELL AS PAPER COPY SIGNED AND SEALED BY THE PROFESSIONAL LAND SURVEYOR OF RECORD.
17) THE EXACT LOCATION AND ELEVATION OF EXISTING STRUCTURES, UTILITIES, AND PIPING SHALL BE PHYSICALLY VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE CONSTRUCTION BEGINS. THESE DRAWINGS DO NOT PURPORT TO SHOW IN COMPLETE DETAIL ALL EXISTING STRUCTURES, UTILITIES, OR PIPING. THE CONTRACTOR SHALL EXAMINE ALL AVAILABLE RECORDS AND MAKE ALL EXPLORATIONS AND EXCAVATIONS AS REQUIRED TO DETERMINE THE LOCATION OF EXISTING STRUCTURES, UTILITIES, AND PIPING, WHENEVER NECESSARY. THE OWNER RESERVES THE RIGHT TO CHANGE LOCATION OF LINES TO AVOID CONFLICT WITH EXISTING STRUCTURES, UTILITIES, OR PIPING.
18) THE CONTRACTOR SHALL CHECK PLANS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER OR OWNER'S ENGINEER OF ANY CONFLICT BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.
19) THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE VARIOUS UTILITY COMPANIES IN ORDER TO PERMIT MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION.
20) THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES ABOVE OR BELOW GROUND THAT MAY OCCUR AS A RESULT OF WORK CALLED FOR IN THESE CONTRACT DOCUMENTS.
21) IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LEARN, KNOW, AND COMPLY WITH THE REGULATIONS, ORDINANCES, PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW AND COMPLY WITH THE CONDITIONS OF THE VARIOUS PERMITS OF THE GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL SCHEDULE THE REQUIRED INSPECTIONS AND APPROVALS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE NECESSARY AGENCIES OF CONSTRUCTION COMMENCEMENT.
22) ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO SHALL BE OF LATEST ISSUE AND SHALL BE CONSIDERED A PART OF THESE DOCUMENTS AS THOUGH INCLUDED.
23) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SETTING OF CONSTRUCTION STAKES TO MARK THE LOCATION, ALIGNMENT, ELEVATION, AND GRADE OF THE WORK. THE STAKES PROVIDED SHALL BE ADEQUATE IN NUMBER, POSITION, AND ELEVATION SO THAT THE PHYSICAL ITEM CAN BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS. THE CONSTRUCTION LAYOUT SURVEY SHALL MEET THE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING IN THE STATE OF FLORIDA (CHAPTER 21HH-6, FLORIDA ADMINISTRATIVE CODE), AND SHALL BE PERFORMED BY A PERSON OF ADEQUATE EXPERTISE. FAILURE TO PERFORM CONSTRUCTION STAKEOUT IN ACCORDANCE WITH THE CONSTRUCTION PLANS MAY RESULT IN REMOVAL AND REPLACEMENT OF THE IMPROVEMENTS AT NO EXPENSE TO THE OWNER. IN NO CASE SHALL THE CONTRACTOR SCALE INFORMATION FROM THE PLANS OR ATTEMPT TO CONSTRUCT IMPROVEMENTS WITHOUT PERFORMING THE CONSTRUCTION LAYOUT IN ACCORDANCE WITH THE INFORMATION CONTAINED HEREIN. SYMBOLS MAY NOT BE TO SCALE. SEE STANDARD DETAILS FOR EXACT APPROPRIATE DIMENSIONS.
24) IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO MAINTAIN ADEQUATE TRAFFIC CONTROL AND TO PROVIDE DETOURS AROUND CONSTRUCTION ACTIVITIES.
25) PRIOR TO COMMENCING CONSTRUCTION, CONTRACTOR SHALL INSTALL ANY REQUIRED SILT FENCING OR BALED HAY BARRIERS (FDOT INDEX 102) FOR SILT CONTROL. THERE WILL BE NO DIRECT PAYMENT FOR THIS WORK. COST SHALL BE INCLUDED IN OTHER ITEMS OF WORK. LOCATION SHALL BE AS SHOWN ON THE PLANS AS A MINIMUM AND AS NEEDED DURING CONSTRUCTION.
26) WHERE IT BECOMES NECESSARY TO TEMPORARILY REMOVE, REPOSITION, OR SUPPORT EXISTING FACILITIES. THIS WORK SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE AND IN ACCORDANCE WITH REQUIREMENTS OF THE OWNER. THE CONTRACTOR SHALL PHYSICALLY EXAMINE THE ENTIRE PROJECT SITE AND INFORM HIMSELF FULLY IN REGARD TO ALL CONDITIONS PERTAINING TO THE PLACE WHERE THE WORK IS TO BE PERFORMED FOR PURPOSE OF DETERMINING HIS COST TO PERFORM THE WORK. THE CONTRACTOR SHOULD PAY SPECIAL ATTENTION TO AREAS INVOLVING CLEARING AND GRUBBING, EXISTING FACILITIES REMOVAL AND REPLACEMENT, OR RELOCATION.
27) WHEN WORK ALONG DRIVES REQUIRES THE REMOVAL AND REPLACEMENT OF EXISTING DRAINAGE STRUCTURES. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR RELATED ITEMS OF WORK
28) ALL SODDING AND GRASSING SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATION REGARDING MATERIALS, INSTALLATION AND INITIAL MAINTENANCE.
29) IF DURING CONSTRUCTION OR OPERATION OF THE STORMWATER MANAGEMENT SYSTEM, A STRUCTURAL FAILURE IS OBSERVED THAT HAS THE POTENTIAL TO CAUSE THE DIRECT DISCHARGE OF SURFACE WATER INTO THE FLORIDIAN AQUIFER SYSTEM, CORRECTIVE ACTIONS DESIGNED OR APPROVED BY A REGISTERED PROFESSIONAL SHALL BE TAKEN AS SOON AS PRACTICAL TO CORRECT THE FAILURE.
30) FOR WET POND CONSTRUCTION, IN AREAS CONTAINING FINE SANDS AND HIGH GROUND WATER TABLE, IT MAY BE NECESSARY TO STABILIZE POND SIDE SLOPES DURING CONSTRUCTION.
31) THE DEVELOPER OR DEVELOPER'S DESIGNATED AGENT MUST NOTIFY PANAMA CITY PUBLIC WORKS (JIM FAULKNER 850-248-8301 - jfaulkner@baycountyfl.gov) AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION, INCLUDING LAND CLEARING OPERATIONS. A COPY OF NOTICE OF INTENT TO USE NPDES GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES WILL NEED TO BE PROVIDED TO PUBLIC WORKS ENGINEERING DIVISION.
32) IT IS UNLAWFUL FOR ANY PERSON TO DUMP, LEAVE OR BURY ANY SOLID WASTE ON PUBLIC OR PRIVATE PROPERTY. FAILURE TO DISPOSE OF SOLID WASTE AS SPECIFIED IN SECTION 22-149 OF BAY COUNTY MUNICIPAL CODE OF ORDINANCES IS PUNISHABLE UNDER SECTION 1-6.

TIMING OF CONTROLS/MEASURES:

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND HAY BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE EROSION AND TURBIDITY CONTROL PLAN. SEE SWPPP.

ENVIRONMENTAL SEQUENCE:

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ANY ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS, DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

SEQUENCE OF MAJOR ACTIVITIES:

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1) INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2) INSTALL SILT FENCES AND HAY BALES, AS REQUIRED.
3) CONSTRUCT SEDIMENTATION BASIN.
4) CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENT BASIN AT PERMANENT POND LOCATION.
5) CONTINUE CLEARING AND GRUBBING.
6) STOCKPILE TOP SOIL IF REQUIRED.
7) PERFORM PRELIMINARY GRADING ONSITE, AS REQUIRED.
8) STABILIZE DENUDED AREA AND STOCKPILES AS SOON AS PRACTICABLE.
9) INSTALL UTILITIES, STORM SEWER, CURBS AND GUTTER.
10) APPLY BASE TO PROJECT.
11) COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING.
12) COMPLETE FINAL PAVING.
13) UPON SIGNIFICANT COMPLETION OF CONSTRUCTION, THE STORMWATER PIPING SYSTEM SHALL BE FLUSHED OUT TO REMOVE ACCUMULATED DEBRIS AND SEDIMENT.
14) UPON COMPLETION OF THE DEBRIS AND SEDIMENT REMOVAL FROM THE STORMWATER PIPING SYSTEM, THE PROPOSED STORMWATER MANAGEMENT FACILITY(S) SHALL BE FINE GRADED AND BE EXCAVATED A MINIMUM OF SIX INCHES BELOW THE DESIGN BOTTOM ELEVATION AND REPLACED WITH FILL HAVING A MINIMUM PERMEABILITY RATE OF 20 FEET/DAY WITH A MAXIMUM OF 5% SOIL FINES PASSING THE No. 200 SIEVE. THE BOTTOM SHALL BE SCARIFIED AND STABILIZED ACCORDING TO THESE PLANS. ONCE COMPLETED, NO HEAVY MACHINERY SHALL BE ALLOWED WITH THE STORMWATER MANAGEMENT FACILITY(S).
15) WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/ SOD, AS REQUIRED.

PAVING, GRADING, AND EARTH WORK NOTES:

1) ANY DEFICIENCY IN THE QUANTITY OF MATERIAL FOR BACK FILLING THE TRENCHES, OR FOR FILLING DEPRESSIONS CAUSED BY SETTLEMENT, SHALL BE SUPPLIED BY THE CONTRACTOR AT NO COST TO THE OWNER. THIS ALSO APPLIES TO BASE COURSE UNDER PAVED STREETS.
2) ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SEEDED, MULCHED, SODDED, STABILIZED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL, WITHIN FIVE (5) DAYS AFTER CONSTRUCTION.
3) PROPOSED SPOT ELEVATIONS REPRESENT PAVEMENT OR GROUND SURFACE GRADE UNLESS OTHERWISE NOTED ON DRAWINGS.
4) THE CONTRACTOR SHALL INSTALL ALL TRAFFIC CONTROL DEVICES REQUIRED FOR THE PROJECT IN ACCORDANCE WITH THE LATEST EDITION OF THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5) ALL EXISTING CONCRETE, ASPHALT, TREES, STUMPS, AND OTHER DELETERIOUS MATERIAL TO BE REMOVED SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH FLORIDA LAWS. NO DEMOLISHED MATERIAL SHALL BE BURIED ON-SITE.
6) ALL EXISTING PAVEMENT TO BE REMOVED SHALL BE SAW CUT.
7) ALL PAVEMENT MARKINGS WITHIN FDOT RIGHT-OF-WAY SHALL BE MADE WITH THERMOPLASTIC IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 711.

PAVEMENT TESTING AND INSPECTION REQUIREMENTS

1) TESTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE TESTING SCHEDULE CONTAINED WITHIN THESE PLANS. SELECTION AND CONTRACTING WITH THE TESTING FIRMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE AND SCHEDULE ALL TESTS.
2) ACCEPTANCE TESTING FOR NEW PAVEMENT SHALL CONSIST OF ONE PASS OF A STANDARD 15-FOOT ROLLING STRAIGHT EDGE OPERATED WHILE THE PAVEMENT IS STILL HOT. ALL DEFICIENCIES IN EXCESS OF 3/16 INCH SHALL BE CORRECTED IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION 330.

BENCHMARK & ELEVATION NOTES:

1) ELEVATIONS SHOWN HEREON ARE BASED ON THE PROJECT ELEVATION DATUM AS CONTAINED IN THE TITLE BLOCK AND THE SITE BENCHMARKS AS SHOWN. VERTICAL LAYOUT TO BE PERFORMED USING THE PROVIDED SITE BENCHMARKS AND NOTES.
2) BENCHMARKS SHOWN HEREON SHALL BE USED IN THE CONSTRUCTION OF THE PROJECT. IN NO CASE SHALL ANY OTHER BENCHMARK OR ELEVATION REFERENCE BE USED IN THE CONSTRUCTION OF THE PROJECT. CONTRACTOR SHALL NOT USE THE ELEVATION OF EXISTING IMPROVEMENTS SHOWN HEREON OR FROM OTHER SOURCES AS A BASIS FOR CONSTRUCTION. FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY RESULT IN THE REMOVAL AND REPLACEMENT OF CONSTRUCTED IMPROVEMENTS AT NO COST TO THE OWNER.
3) IN THE EVENT THAT BENCHMARKS ARE DISTURBED OR DESTROYED DURING CONSTRUCTION, CONTRACTOR SHALL NOTIFY SCR & ASSOCIATES FOR REPAIR OR REPLACEMENT. USE OF THE PROVIDED BENCHMARKS FOR VERTICAL CONTROL SHOULD BE PREFORMED IN ACCORDANCE WITH STANDARD SURVEYING TECHNIQUES AND THE MINIMUM TECHNICAL STANDS FOR SURVEYING IN THE STATE OF FLORIDA, FAC 61G17. PRIOR TO UTILIZING THE BENCHMARKS FOR VERTICAL LAYOUT, CONTRACTOR SHALL CHECK BETWEEN MINIMUM OF TWO PROVIDED BENCHMARKS TO INSURE THEIR INTEGRITY.

REVISIONS

No.	DESCRIPTION	DATE
1		
2		
3		
4		
5		

DESIGNED BY: SCR DRAWN BY: SCR CHECKED BY: SCR DATE: 6/4/2025

STATE OF FLORIDA KEVIN C. KITHERCOAT LICENSE NUMBER 67917 PROFESSIONAL ENGINEER

6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

SCR & Associates
ENGINEERING - SURVEYING
3445 HWY 390, BLDG. PANAMA CITY, FLORIDA, 32405
Phone (850) 265-6979 Fax (850) 265-9942
FLORIDA CERTIFICATE No. 28779 - FLORIDA EA No. 31715

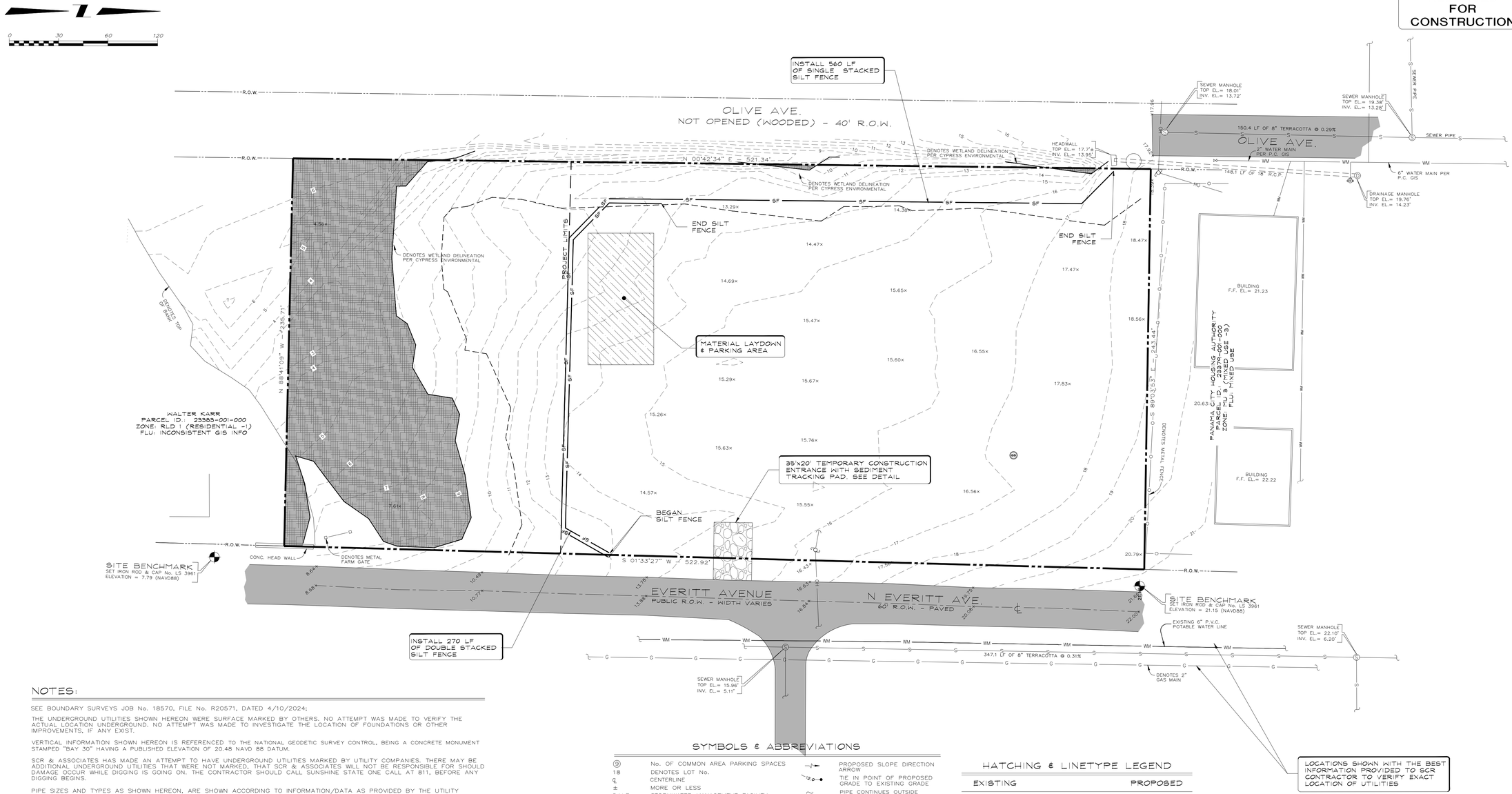
SHEET TITLE: NOTES

PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
261 U PORT AVE.
PANAMA CITY, FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

HRZ. SCALE: AS SHOWN
VRT. SCALE: N/A
PROJECT No.: 18570
FILE No.: R20572
ISSUE DATE: NOT ISSUED
SHEET: C.1

RELEASED FOR CONSTRUCTION



NOTES:

SEE BOUNDARY SURVEYS JOB No. 18570, FILE No. R20571, DATED 4/10/2024;

THE UNDERGROUND UTILITIES SHOWN HEREON WERE SURFACE MARKED BY OTHERS. NO ATTEMPT WAS MADE TO VERIFY THE ACTUAL LOCATION UNDERGROUND. NO ATTEMPT WAS MADE TO INVESTIGATE THE LOCATION OF FOUNDATIONS OR OTHER IMPROVEMENTS, IF ANY EXIST.

VERTICAL INFORMATION SHOWN HEREON IS REFERENCED TO THE NATIONAL GEODETIC SURVEY CONTROL, BEING A CONCRETE MONUMENT STAMPED "BAY 30" HAVING A PUBLISHED ELEVATION OF 20.48 NAVD 88 DATUM.

SCR & ASSOCIATES HAS MADE AN ATTEMPT TO HAVE UNDERGROUND UTILITIES MARKED BY UTILITY COMPANIES. THERE MAY BE ADDITIONAL UNDERGROUND UTILITIES THAT WERE NOT MARKED, THAT SCR & ASSOCIATES WILL NOT BE RESPONSIBLE FOR SHOULD DAMAGE OCCUR WHILE DIGGING IS GOING ON. THE CONTRACTOR SHOULD CALL SUNSHINE STATE ONE CALL AT 811, BEFORE ANY DIGGING BEGINS.

PIPE SIZES AND TYPES AS SHOWN HEREON, ARE SHOWN ACCORDING TO INFORMATION/DATA AS PROVIDED BY THE UTILITY CONTRACTOR AND WERE NOT FIELD EXCAVATED/UNCOVERED FOR VERIFICATION.

UNDERGROUND LOCATIONS OF SANITARY SEWER LATERALS/STUB-OUTS, WATER VALVES, WATER LINES AND WATER SERVICES ARE SHOWN AS SURFACE MARKED/INDICATED BY THE UTILITY CONTRACTOR AND WERE NOT FIELD EXCAVATED/UNCOVERED FOR VERIFICATION.

FEATURES SHOWN BY SYMBOL AS INDICATED IN THE LEGEND ARE NOT TO SCALE.

DESCRIPTION:

A PARCEL OF LAND BEING A PORTION OF THE EAST 1/2 OF THE EAST 1/2 OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER AND THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 11, TOWNSHIP 3 SOUTH, RANGE 14 WEST, BAY COUNTY, FLORIDA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF SECTION 11, TOWNSHIP 3 SOUTH, RANGE 14 WEST, BAY COUNTY, FLORIDA AND PROCEED NORTH 00 DEGREES 40 MINUTES 26 SECONDS EAST, ALONG THE WEST BOUNDARY LINE OF SAID SECTION 11, FOR A DISTANCE OF 1,650.55 FEET TO THE NORTHWEST CORNER OF THE SOUTH 1/2 OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 11; THENCE LEAVING SAID WEST BOUNDARY LINE PROCEED SOUTH 89 DEGREES 03 MINUTES 28 SECONDS EAST, ALONG THE NORTH BOUNDARY LINE OF THE SOUTH 1/2 OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER AND A PROJECTION THEREOF, FOR A DISTANCE OF 1,010.75 FEET; THENCE LEAVING SAID PROJECTION PROCEED SOUTH 00 DEGREES 45 MINUTES 36 SECONDS WEST, FOR A DISTANCE OF 20.00 FEET TO THE INTERSECTION OF THE SOUTH RIGHT OF WAY LINE OF EAST 2N' COURT AND THE EAST RIGHT OF WAY LINE OF JOHN AVENUE (NOT OPEN); THENCE CONTINUE SOUTH 00 DEGREES 45 MINUTES 36 SECONDS WEST, FOR A DISTANCE OF 125.21 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 89 DEGREES 03 MINUTES 28 SECONDS EAST, FOR A DISTANCE OF 243.64 FEET TO THE WEST RIGHT OF WAY LINE OF EVERITT AVENUE; THENCE SOUTH 01 DEGREE 19 MINUTES 26 SECONDS WEST, ALONG SAID WEST RIGHT OF WAY LINE, FOR A DISTANCE OF 522.94 FEET TO THE NORTH BOUNDARY OF PORPERTY RECORDED IN OFFICIAL RECORDS BOOK 1410, PAGE 779 OF THE PUBLIC RECORDS OF BAY COUNTY, FLORIDA; THENCE NORTH 88 DEGREES 40 MINUTES 34 SECONDS WEST ALONG THE NORTH BOUNDARY LINE OF SAID PROPERTY AND A PROJECTION THEREOF, FOR A DISTANCE OF 238.51 FEET TO THE EAST RIGHT OF WAY LINE OF JOHN AVENUE (NOT OPEN) IN KEITH'S BAY HARBOR ADDITION TO PANAMA CITY, FLORIDA; THENCE NORTH 00 DEGREES 45 MINUTES 36 SECONDS EAST, ALONG SAID EAST RIGHT OF WAY LINE, FOR A DISTANCE OF 521.34 FEET TO THE POINT OF BEGINNING.

CONTAINING 2.890 ACRES, MORE OR LESS.

SYMBOLS & ABBREVIATIONS

(9)	No. OF COMMON AREA PARKING SPACES		PROPOSED SLOPE DIRECTION ARROW
18	DENOTES LOT No.		TIE IN POINT OF PROPOSED GRADE TO EXISTING GRADE
℄	CENTERLINE		PIPE CONTINUES OUTSIDE THE SURVEY'S SCOPE
±	MORE OR LESS	12.0	PROPOSED SPOT ELEVATION
S.M.F.	STORMWATER MANAGEMENT FACILITY	X23.40	EXISTING SPOT ELEVATION
HRZ.	HORIZONTAL	HA1	GEOTECHNICAL BORING LOCATION
VRT.	VERTICAL	F.L.U.	FUTURE LAND USE
No.	NUMBER	BR.	BEDROOM(S)
LB	LICENSED BUSINESS	SP.	SPACE
P.E.	PROFESSIONAL ENGINEER	C	CLEANOUT/INSPECTION PORT
R	RADIUS		PROPOSED WATER VALVE
EL.	ELEVATION		PROPOSED CLEAN OUT
F.F.E.	FINISHED FLOOR ELEVATION		EXISTING GATE VALVE
CONC.	CONCRETE		EXISTING FIRE HYDRANT
SF	SQUARE FEET		EXISTING BACKFLOW PREVENTOR
N	NORTH		EXISTING WATER METER
E	EAST		PROPOSED WATER METER (WM)
S	SOUTH		PROPOSED BACKFLOW PREVENTER
W	WEST		UNDERGROUND FIBER MARKER
EX.	EXISTING		MAIL BOX
LF	LINEAR FEET		BALLARD
U.E.	UTILITY EASEMENT	C	AT&T PEDESTAL
P.O.A.	PROPERTY OWNER'S ASSOCIATION		PULL BOX
BNDY.	BOUNDARY		SIGN
RPZBFP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER		PROPOSED WHEELSTOP
R.U.	RESIDENTIAL UNIT		UTILITY POLE
L.A.	LANDSCAPE AREA		GUY ANCHOR
BTTM.	BOTTOM		
INV.	INVERT		
R.C.P.	REINFORCED CONCRETE PIPE		
SEC.	SECTION		
R.O.W.	RIGHT-OF-WAY		
TYP.	TYPICAL		
REQ.	REQUIREMENTS		
P.V.C.	POLYVINYL CHLORIDE		
UON	UNLESS OTHERWISE NOTED		
SHWT	SEASONAL HIGH WATER TABLE		
B.S.L.	BUILDING SETBACK LINE		
T.O.B.	TOP OF BANK		
L.B.	LANDSCAPE BUFFER		
L.A.	LANDSCAPE AREA		
W.S.	WATER SERVICE		
W.P.F.	WOOD PRIVACY FENCE		

HATCHING & LINETYPE LEGEND

EXISTING		PROPOSED
	ASPHALT PAVEMENT	
	ASPHALT PAVEMENT HEAVY	
	WETLAND AREA	
	BUILDINGS	
	CONCRETE	
	RIGHT OF WAY	
	BOUNDARY	
WM	POTABLE WATER MAIN	W
FM	SEWER FORCE MAIN	FM
S	GRAVITY SEWER LINE	S
OH	OVERHEAD UTILITIES	
25	ELEVATION CONTOUR	25
	DRAINAGE PIPE	
	GRADE BREAK	GB

BENCHMARKS TABLE

No.	NORTHING	EASTING	ELEVATION
BM-3	419946.87	1614151.27	21.15
BM-4	419384.46	1614133.66	7.79

WETLAND DATA SCHEDULE

IMPACTED	NO IMPACT
REMAINING	18,375.69 SF OR 0.42 AC.
TOTAL	18,375.69 SF OR 0.42 AC.

REVISIONS		
No.	DESCRIPTION	DATE

DESIGNED BY: SCR
DRAWN BY: SCR
CHECKED BY: SCR
DATE: 6/4/2025

STATE OF FLORIDA
JACK K. KITHERINGHAM
No. 6964
REGISTERED
PROFESSIONAL SURVEYOR

SCR & Associates
ENGINEERING - SURVEYING
3445 HWY 389, BLDG. PANAMA CITY, FLORIDA, 32405
Phone (850) 265-6979 Fax (850) 265-9942
FLORIDA LICENSE No. EB 7918 - FLORIDA SURVEY No. LB 3961

SHEET TITLE: EX. COND. & EROSION CONT.

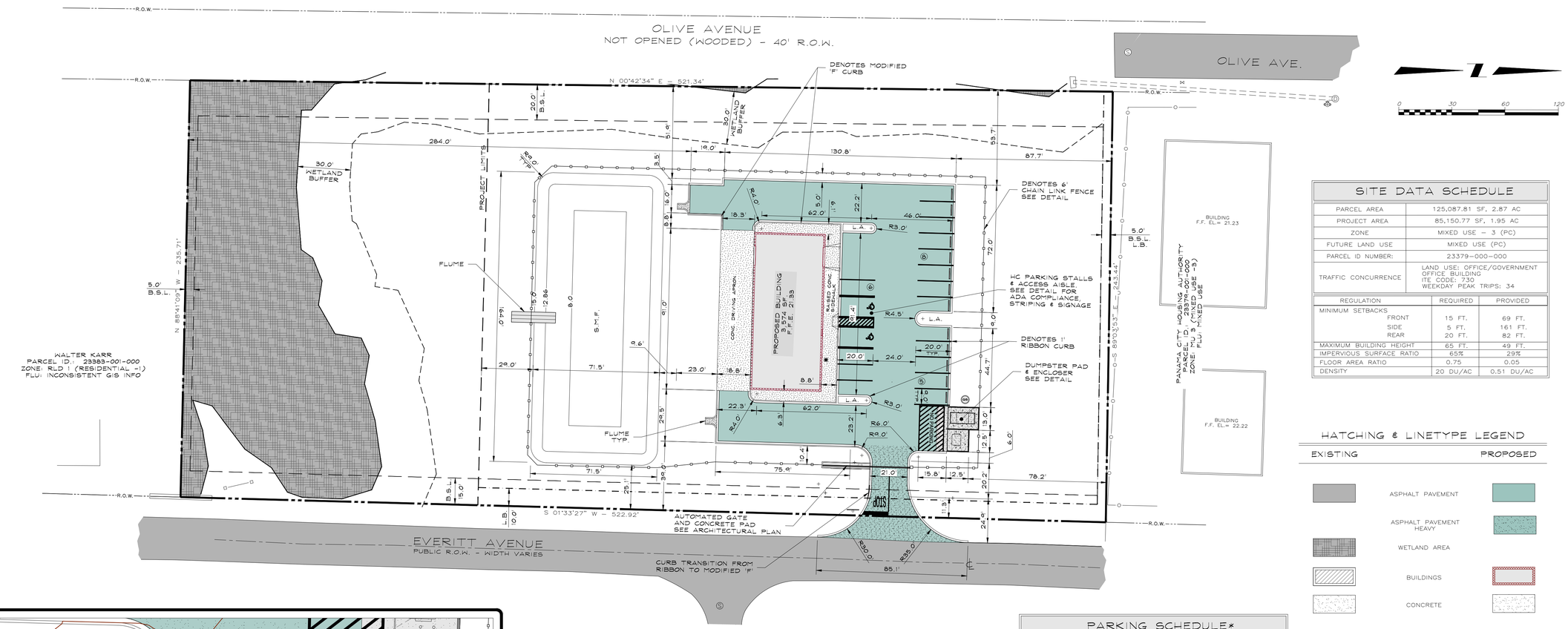
PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVE.
PANAMA CITY, FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

HRZ. SCALE: AS SHOWN
VRT. SCALE: N/A
PROJECT No.: 18570
FILE No.: R20572
ISSUE DATE: NOT ISSUED
SHEET: C.2

6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

RELEASED FOR CONSTRUCTION



SITE DATA SCHEDULE

PARCEL AREA	125,087.81 SF, 2.87 AC
PROJECT AREA	85,150.77 SF, 1.95 AC
ZONE	MIXED USE – 3 (PC)
FUTURE LAND USE	MIXED USE (PC)
PARCEL ID NUMBER:	23379-000-000
TRAFFIC CONCURRENCE	LAND USE: OFFICE/GOVERNMENT OFFICE BUILDING ITE CODE: 730 WEEKDAY PEAK TRIPS: 34

REGULATION	REQUIRED	PROVIDED
MINIMUM SETBACKS		
FRONT	15 FT.	69 FT.
SIDE	5 FT.	161 FT.
REAR	20 FT.	82 FT.
MAXIMUM BUILDING HEIGHT	65 FT.	49 FT.
IMPERVIOUS SURFACE RATIO	65%	29%
FLOOR AREA RATIO	0.75	0.05
DENSITY	20 DU/AC	0.51 DU/AC

HATCHING & LINETYPE LEGEND

EXISTING	PROPOSED
ASPHALT PAVEMENT	
	ASPHALT PAVEMENT HEAVY
WETLAND AREA	
BUILDINGS	
CONCRETE	
RIGHT OF WAY	
BOUNDARY	
WM POTABLE WATER MAIN	W
FM SEWER FORCE MAIN	FM
S GRAVITY SEWER LINE	S
OH OVERHEAD UTILITIES	
25 ELEVATION CONTOUR	25
DRAINAGE PIPE	
GRADE BREAK	GB

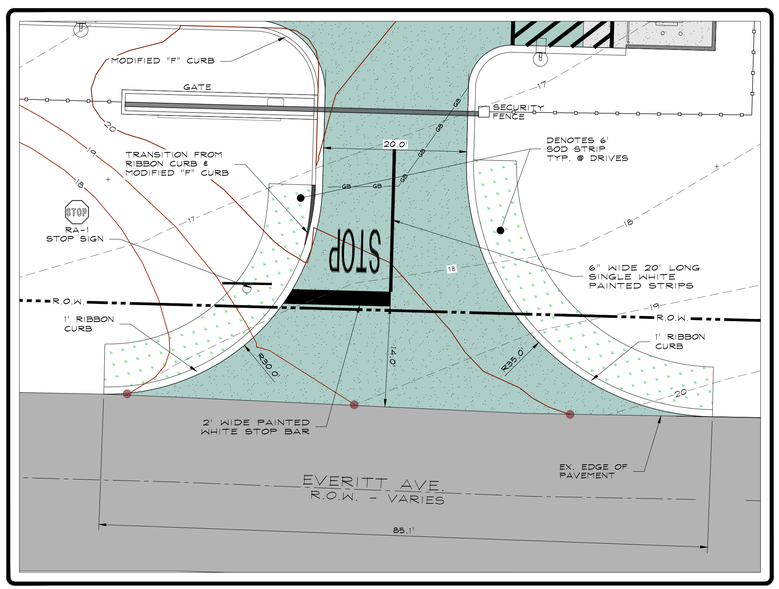
PARKING SCHEDULE*

	REQUIRED	PROVIDED
STANDARD PARKING SPACES	14	17
HANDICAP PARKING SPACES	1	2
TOTAL PARKING SPACES	15	19

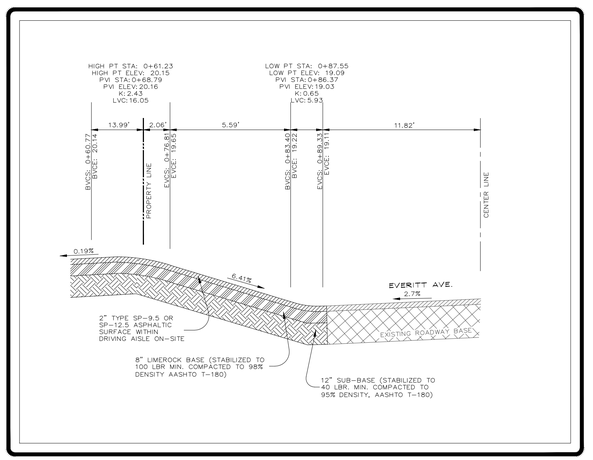
* BASE OFF OF CH. 28 PARKING AND LOADING OF THE UNIFIED LAND DEVELOPMENT CODE OF THE CITY OF PANAMA CITY

SYMBOLS & ABBREVIATIONS

⑨	No. OF COMMON AREA PARKING SPACES		PROPOSED SLOPE DIRECTION ARROW
18	DENOTES LOT No.		
℄	CENTERLINE		TIE IN POINT OF PROPOSED GRADE TO EXISTING GRADE
±	MORE OR LESS		
S.M.F.	STORMWATER MANAGEMENT FACILITY		PIPE CONTINUES OUTSIDE THE SURVEY'S SCOPE
HRZ.	HORIZONTAL		
VRT.	VERTICAL		PROPOSED SPOT ELEVATION
No.	NUMBER	X23.40	EXISTING SPOT ELEVATION
LB	LICENSED BUSINESS	HA1	GEOTECHNICAL BORING LOCATION
P.E.	PROFESSIONAL ENGINEER	F.L.U.	FUTURE LAND USE
R	RADIUS	BR.	BEDROOM(S)
EL.	ELEVATION	SP.	SPACE
F.F.E.	FINISHED FLOOR ELEVATION		
CONC.	CONCRETE		CLEANOUT/INSPECTION PORT
SF	SQUARE FEET		
N	NORTH		PROPOSED WATER VALVE
E	EAST		PROPOSED CLEAN OUT
S	SOUTH		
W	WEST		EXISTING GATE VALVE
EX.	EXISTING		
LF	LINEAR FEET		EXISTING FIRE HYDRANT
U.E.	UTILITY EASEMENT		
P.O.A.	PROPERTY OWNER'S ASSOCIATION		EXISTING BACKFLOW PREVENTOR
BNDY.	BOUNDARY		
RPZBFP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER		EXISTING WATER METER
R.U.	RESIDENTIAL UNIT		PROPOSED WATER METER (WM)
L.A.	LANDSCAPE AREA		
BTTM.	BOTTOM		PROPOSED BACKFLOW PREVENTER
INV.	INVERT		
R.C.P.	REINFORCED CONCRETE PIPE		UNDERGROUND FIBER MARKER
SEC.	SECTION		
R.O.W.	RIGHT-OF-WAY		MAIL BOX
TYP.	TYPICAL		
REQ.	REQUIREMENTS		BALLARD
P.V.C.	POLYVINYL CHLORIDE		
UON	UNLESS OTHERWISE NOTED	C	AT&T PEDESTAL
SHWT	SEASONAL HIGH WATER TABLE		PULL BOX
B.S.L.	BUILDING SETBACK LINE		
T.O.B.	TOP OF BANK		SIGN
L.B.	LANDSCAPE BUFFER		
L.A.	LANDSCAPE AREA		PROPOSED WHEELSTOP
W.S.	WATER SERVICE		
W.P.F.	WOOD PRIVACY FENCE		UTILITY POLE
			GUY ANCHOR



EVERITT AVE. CONNECTION PLAN
NOT TO SCALE



EVERITT AVE. DRIVEWAY CROSS-SECTION
NOT TO SCALE

REVISIONS

No.	DESCRIPTION	DATE
1		
2		
3		
4		
5		

DESIGN PROFESSIONAL IN RESPresponsible CHARGE: PAUL D. SMITH, P.E. No. 70047 STATE OF FLORIDA
DATE: 6/4/2025

Associates
ENGINEERING - SURVEYING
3445 HWY 388, BLDG. PANAMA CITY, FLORIDA 32405
PHONE: (850) 215-1990 FAX: (850) 215-1991
FLORIDA LICENSE No. LB 7759 - FLORIDA CA No. 28715

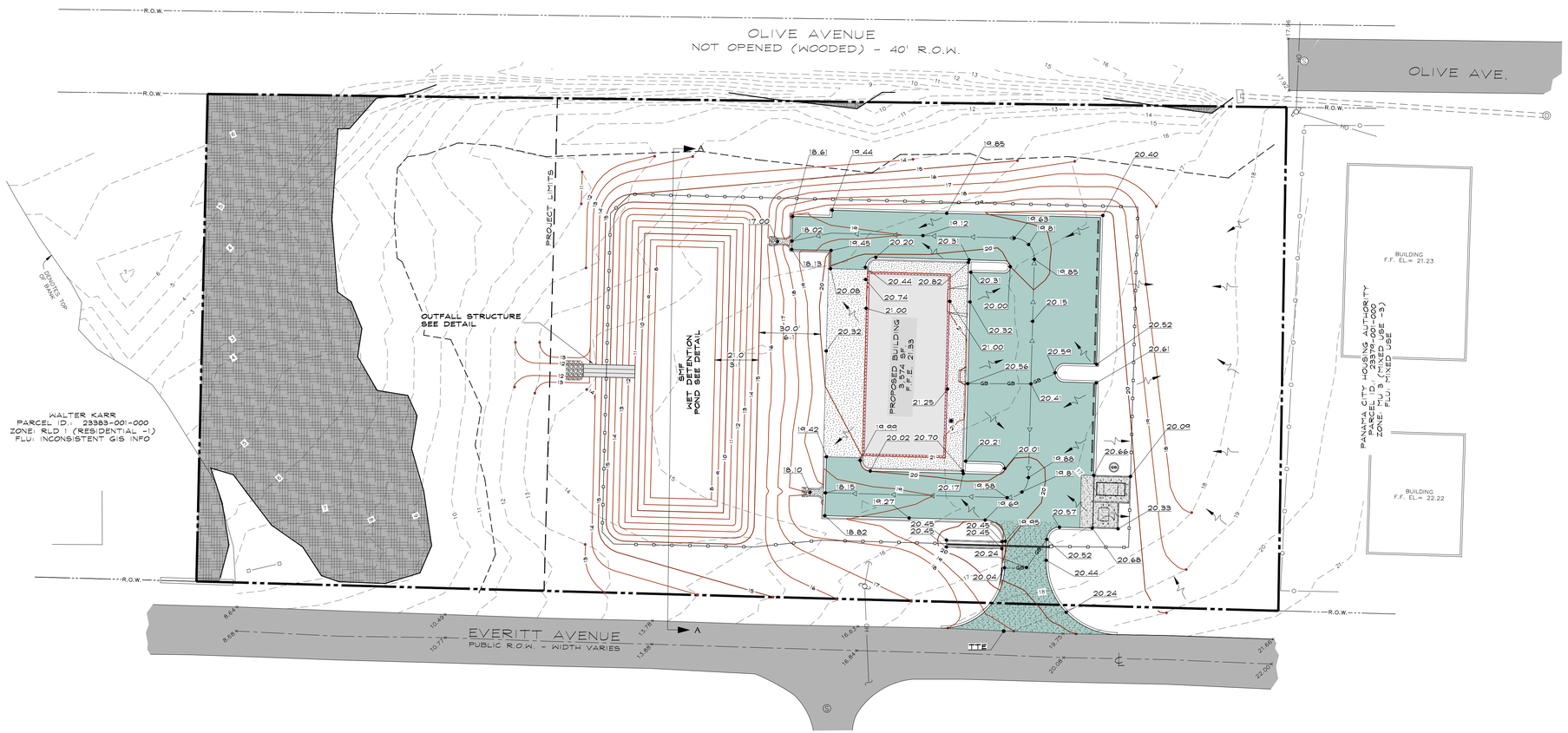
6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

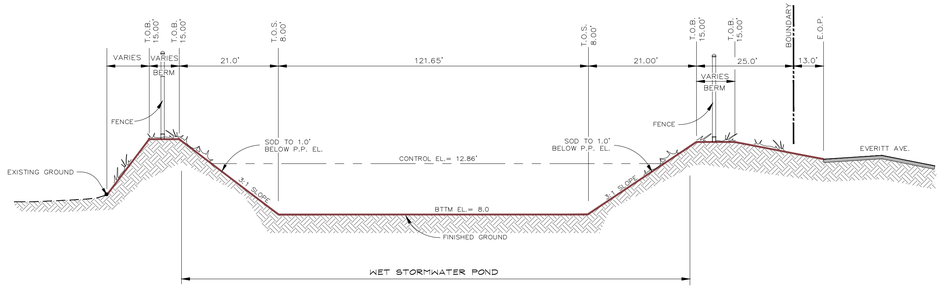
SHEET TITLE: SITE & DIMENSION

PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVE.
PANAMA CITY, FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

HRZ. SCALE: AS SHOWN
VRT. SCALE: N/A
PROJECT No.: 18570
FILE No.: R20572
ISSUE DATE: NOT ISSUED
SHEET: C.3





SMF SECTION - 'A-A'

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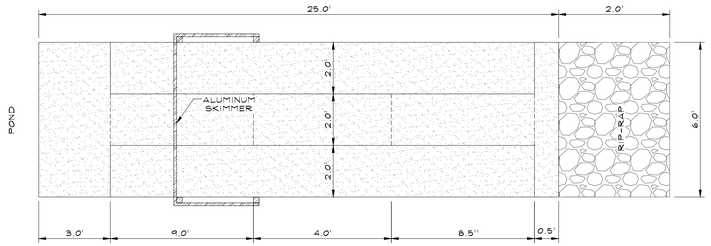
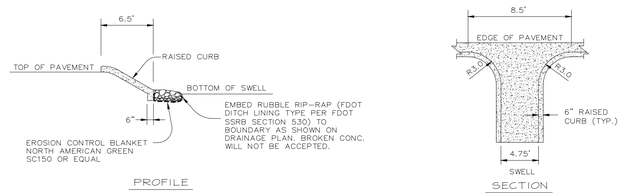
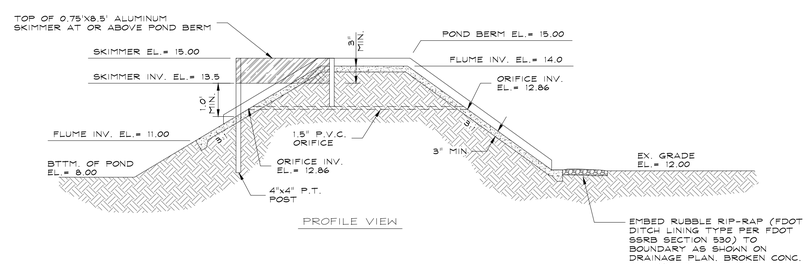


PLAN VIEW



TYPICAL CONCRETE FLUME DETAIL

NOT TO SCALE



SWF FLUME OUTFALL STRUCTURE

NOT TO SCALE

RELEASED FOR CONSTRUCTION

0 30 60 120

HATCHING & LINETYPE LEGEND

EXISTING		PROPOSED
	ASPHALT PAVEMENT	
	ASPHALT PAVEMENT HEAVY	
	WETLAND AREA	
	BUILDINGS	
	CONCRETE	
	RIGHT OF WAY	
	BOUNDARY	
WM	POTABLE WATER MAIN	W
FM	SEWER FORCE MAIN	FM
S	GRAVITY SEWER LINE	S
OH	OVERHEAD UTILITIES	
25	ELEVATION CONTOUR	25
	DRAINAGE PIPE	
GB	GRADE BREAK	GB

SYMBOLS & ABBREVIATIONS

(9)	No. OF COMMON AREA PARKING SPACES
18	DENOTES LOT No.
℄	CENTERLINE
±	MORE OR LESS
S.M.F.	STORMWATER MANAGEMENT FACILITY
HRZ.	HORIZONTAL
VRT.	VERTICAL
No.	NUMBER
LB	LICENSED BUSINESS
P.E.	PROFESSIONAL ENGINEER
R	RADIUS
EL.	ELEVATION
F.F.E.	FINISHED FLOOR ELEVATION
CONC.	CONCRETE
SF	SQUARE FEET
N	NORTH
E	EAST
S	SOUTH
W	WEST
EX.	EXISTING
LF	LINEAR FEET
U.E.	UTILITY EASEMENT
P.O.A.	PROPERTY OWNER'S ASSOCIATION
BNDY.	BOUNDARY
RPZ/BFP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
R.U.	RESIDENTIAL UNIT
L.A.	LANDSCAPE AREA
BTTM.	BOTTOM
INV.	INVERT
R.C.P.	REINFORCED CONCRETE PIPE
SEC.	SECTION
R.O.W.	RIGHT-OF-WAY
TYP.	TYPICAL
REQ.	REQUIREMENTS
P.V.C.	POLYVINYL CHLORIDE
U/ON	UNLESS OTHERWISE NOTED
SHWT	SEASONAL HIGH WATER TABLE
B.S.L.	BUILDING SETBACK LINE
T.O.B.	TOP OF BANK
L.B.	LANDSCAPE BUFFER
L.A.	LANDSCAPE AREA
W.S.	WATER SERVICE
W.P.F.	WOOD PRIVACY FENCE
	PROPOSED SLOPE DIRECTION ARROW
	TIE IN POINT OF PROPOSED GRADE TO EXISTING GRADE
	PIPE CONTINUES OUTSIDE THE SURVEY'S SCOPE
12.0	PROPOSED SPOT ELEVATION
X23.40	EXISTING SPOT ELEVATION
HA1	GEOTECHNICAL BORING LOCATION
F.L.U.	FUTURE LAND USE
BR.	BEDROOM(S)
SP.	SPACE
C	CLEANOUT/INSPECTION PORT
	PROPOSED WATER VALVE
	PROPOSED CLEAN OUT
	EXISTING GATE VALVE
	EXISTING FIRE HYDRANT
	EXISTING BACKFLOW PREVENTOR
	EXISTING WATER METER
	PROPOSED WATER METER (WM)
	PROPOSED BACKFLOW PREVENTER
	UNDERGROUND FIBER MARKER
	MAIL BOX
	BALLARD
C	AT&T PEDESTAL
	PULL BOX
	SIGN
	PROPOSED WHEELSTOP
	UTILITY POLE
	GUY ANCHOR

REVISIONS

No.	DESCRIPTION	DATE
1		
2		
3		
4		
5		

DESIGNED BY: [illegible] DATE: 6/4/2025
PROFESSIONAL ENGINEER
STATE OF FLORIDA
No. 74047
PROJECT ENGINEER
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY [illegible] 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.

6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

& Associates
ENGINEERING - SURVEYING
3445 HWY. 388, BLDG. PANAMA CITY, FLORIDA 32405
PHONE: (850) 215-1990 FAX: (850) 215-1991
FLORIDA LICENSE No. LB 7759 - FLORIDA CA No. 28715

SHEET TITLE: GRADING & DRAINAGE

PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVE.
PANAMA CITY - FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

HRZ. SCALE: AS SHOWN
VRT. SCALE: N/A
PROJECT No.: 18570
FILE No.: R20572
ISSUE DATE: NOT ISSUED
SHEET: C.4

RELEASED FOR CONSTRUCTION

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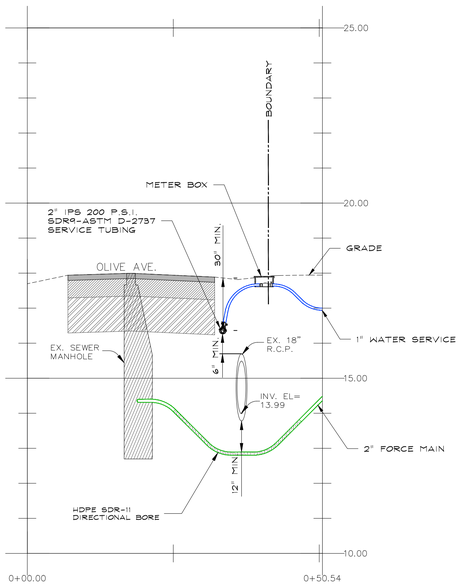
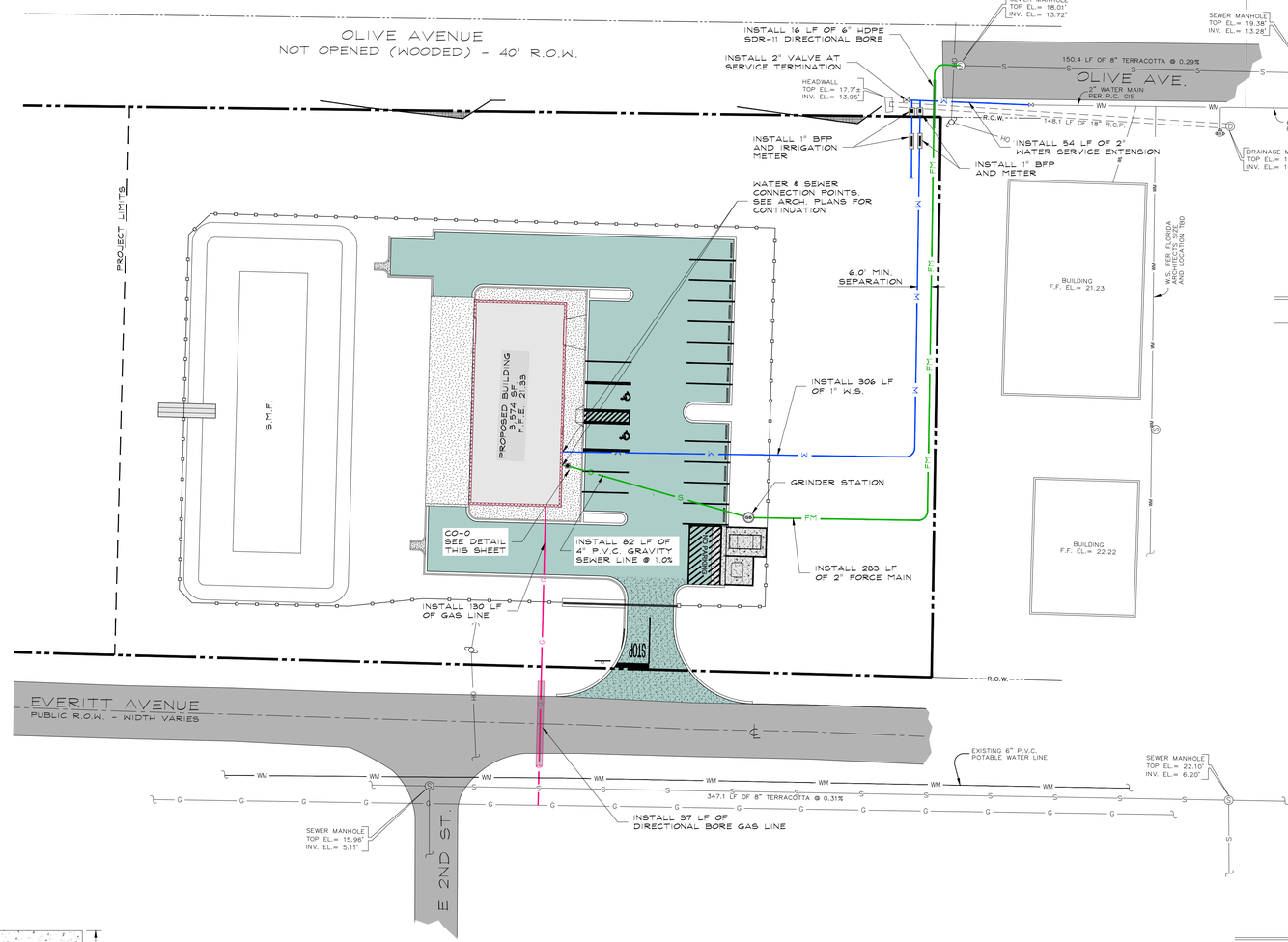


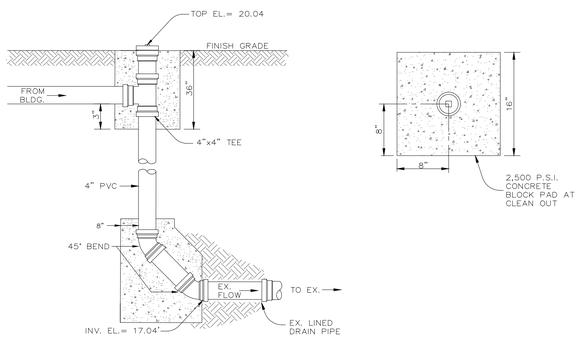
CROSSING PROFILE

NOT TO SCALE



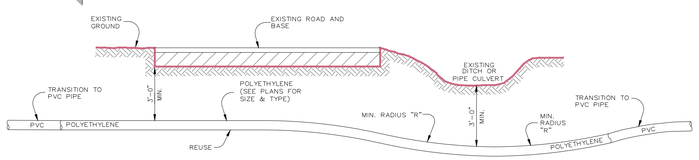
HATCHING & LINETYPE LEGEND

EXISTING		PROPOSED
	ASPHALT PAVEMENT	
	ASPHALT PAVEMENT HEAVY	
	WETLAND AREA	
	BUILDINGS	
	CONCRETE	
	RIGHT OF WAY	
	BOUNDARY	
WM	POTABLE WATER MAIN	W
FM	SEWER FORCE MAIN	FM
S	GRAVITY SEWER LINE	S
OH	OVERHEAD UTILITIES	
25	ELEVATION CONTOUR	25
	DRAINAGE PIPE	
	GRADE BREAK	GB



DROP STRUCTURE DETAIL

NOT TO SCALE



PIPE DIAMETER "D" IN INCHES	MIN. RADIUS FOR PE PIPE IN FEET: MIN. RADIUS "R" FOR SDR-11	MIN. RADIUS "R" FOR SDR-9
2	4	5.5
3	6	8.3
4	8	11.0
6	12	16.5
8	16	22.0
10	20	27.5
12	24	33.0
16	32	44.0
18	36	49.5
20	40	55.0

NOTES:

CROSS SECTION DETAIL SHOWN FOR ILLUSTRATIVE PURPOSES. SEE PLAN VIEW FOR SITE SPECIFIC CONDITIONS.

ALL POLYETHYLENE PIPING SHALL MEET CITY STANDARDS AND SPECIFICATIONS

SDR-9, CLASS 200 FOR POTABLE WATER & RECLAIMED WATER
SDR-11, CLASS 160 FOR SANITARY FORCE MAINS
COLOR CODED BLUE FOR POTABLE WATER
COLOR CODED PURPLE FOR RECLAIMED WATER
COLOR CODED GREEN FOR SANITARY FORCE MAIN

DIRECTIONAL BORE ROADWAY CROSSING

NOT TO SCALE

SYMBOLS & ABBREVIATIONS

(9)	No. OF COMMON AREA PARKING SPACES	~12~	PROPOSED SLOPE DIRECTION ARROW
18	DENOTES LOT No.	R=0	TIE IN POINT OF PROPOSED GRADE TO EXISTING GRADE
℄	CENTERLINE	~	PIPE CONTINUES OUTSIDE THE SURVEY'S SCOPE
±	MORE OR LESS	12.0	PROPOSED SPOT ELEVATION
S.M.F.	STORMWATER MANAGEMENT FACILITY	X23.40	EXISTING SPOT ELEVATION
HRZ.	HORIZONTAL	HA1	GEOTECHNICAL BORING LOCATION
VRT.	VERTICAL	F.L.U.	FUTURE LAND USE
No.	NUMBER	BR.	BEDROOM(S)
LB	LICENSED BUSINESS	SP.	SPACE
P.E.	PROFESSIONAL ENGINEER	C	CLEANOUT/INSPECTION PORT
R	RADIUS		
EL.	ELEVATION		
F.F.E.	FINISHED FLOOR ELEVATION		
CONC.	CONCRETE		
SF	SQUARE FEET		
N	NORTH		
E	EAST		
S	SOUTH		
W	WEST		
EX.	EXISTING		
LF	LINEAR FEET		
U.E.	UTILITY EASEMENT		
P.O.A.	PROPERTY OWNER'S ASSOCIATION		
BNDY.	BOUNDARY		
RPZBFP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER		
R.U.	RESIDENTIAL UNIT		
L.A.	LANDSCAPE AREA		
BTTM.	BOTTOM		
INV.	INVERT		
R.C.P.	REINFORCED CONCRETE PIPE		
SEC.	SECTION		
R.O.W.	RIGHT-OF-WAY		
TYP.	TYPICAL		
REQ.	REQUIREMENTS		
P.V.C.	POLYVINYL CHLORIDE		
UON	UNLESS OTHERWISE NOTED		
SHWT	SEASONAL HIGH WATER TABLE		
B.S.L.	BUILDING SETBACK LINE		
T.O.B.	TOP OF BANK		
L.B.	LANDSCAPE BUFFER		
L.A.	LANDSCAPE AREA		
W.S.	WATER SERVICE		
W.P.F.	WOOD PRIVACY FENCE		

	PROPOSED SLOPE DIRECTION ARROW		PROPOSED WATER METER
R=0	TIE IN POINT OF PROPOSED GRADE TO EXISTING GRADE		PROPOSED WATER METER (WM)
~	PIPE CONTINUES OUTSIDE THE SURVEY'S SCOPE		PROPOSED BACKFLOW PREVENTER
12.0	PROPOSED SPOT ELEVATION		UNDERGROUND FIBER MARKER
X23.40	EXISTING SPOT ELEVATION		MAIL BOX
HA1	GEOTECHNICAL BORING LOCATION		BALLARD
F.L.U.	FUTURE LAND USE		AT&T PEDESTAL
BR.	BEDROOM(S)		PULL BOX
SP.	SPACE		PROPOSED WHEELSTOP
C	CLEANOUT/INSPECTION PORT		UTILITY POLE
	PROPOSED WATER VALVE		GUY ANCHOR
	PROPOSED CLEAN OUT		
	EXISTING GATE VALVE		
	EXISTING FIRE HYDRANT		
	EXISTING BACKFLOW PREVENTOR		
	EXISTING WATER METER		

REVISIONS

No.	DESCRIPTION	DATE
1		
2		
3		
4		
5		

DESIGN PROFESSIONAL OF RECORD: JOSEPH P. SCHMITT, P.E. No. 70047 STATE OF FLORIDA PROFESSIONAL ENGINEER — DATE: 6/4/2025

PROFESSIONAL CERTIFICATE OF AUTHORIZATION No. 28715

& Associates
ENGINEERING - SURVEYING
3445 HWY. 388, BLDG., PANAMA CITY, FLORIDA 32405
PHONE: (850) 215-1990 FAX: (850) 215-1994
FLORIDA LICENSE No. LB 7759 - FLORIDA CA No. 28715

SHEET TITLE: UTILITY PLAN

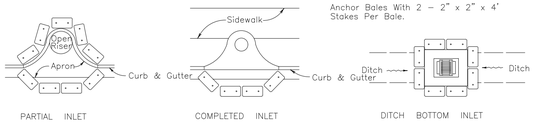
PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVE.
PANAMA CITY, FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

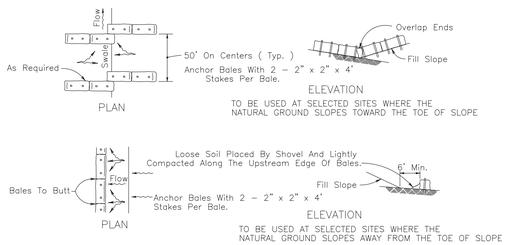
6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

HRZ. SCALE: AS SHOWN
VRT. SCALE: N/A
PROJECT No.: 18570
FILE No.: R20572
ISSUE DATE: NOT ISSUED
SHEET: C.5

RELEASED FOR CONSTRUCTION



PROTECTION AROUND INLETS OR SIMILAR STRUCTURES
NOT TO SCALE



BARRIERS FOR FILL SLOPES
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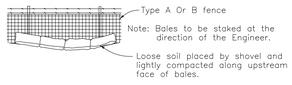


BALES BACKED BY FENCE
NOT TO SCALE

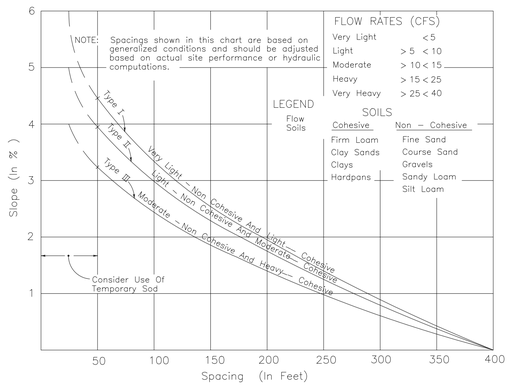
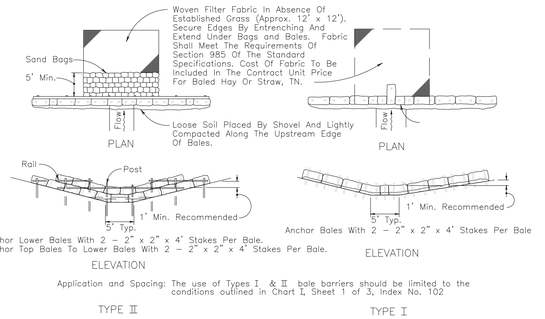
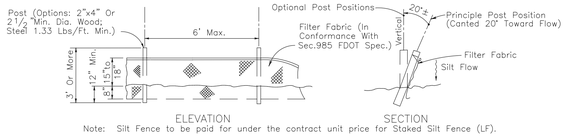


CHART I
RECOMMENDED SPACING FOR TYPE I AND TYPE II HAY BALE BARRIERS, AND TYPE III SILT FENCES



BARRIER FOR UNPAVED DITCHES
NOT TO SCALE



TYPE III SILT FENCE
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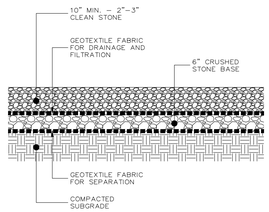
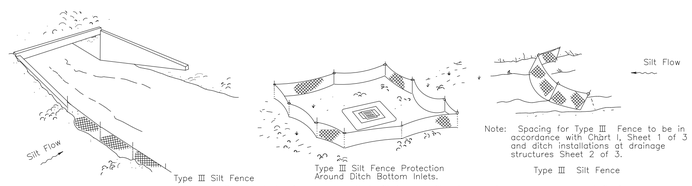
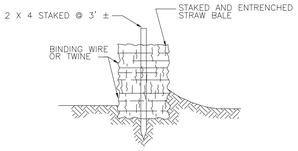


CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE

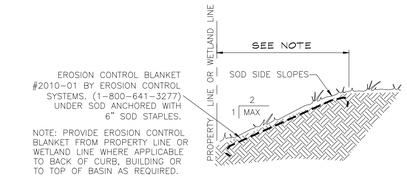


Do not deploy in a manner that silt fences will act as a dam across permanent flowing watercourses. Silt fences are to be used at upland locations and turbidity barriers used at permanent bodies of water.

SILT FENCE APPLICATIONS
NOT TO SCALE



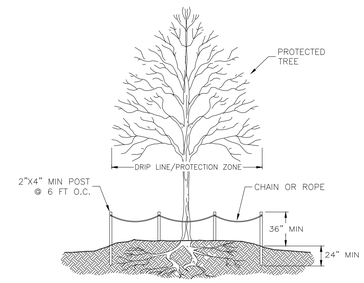
STRAW BALE BARRIER INSTALLATION DETAIL
NOT TO SCALE



SLOPE STABILIZATION NOTES

FLAT TO 1:3 – SEED AND MULCH, HYDRO-SEED OR SOD.
1:3 TO 1:2 – SOD LAPPED AND PINNED.
1:2 TO 1:1 – EROSION CONTROL BLANKET AND SOD.
1:1 OR GREATER – RETAINING WALL OR ARMOR FORM.

SLOPE STABILIZATION DETAIL
NOT TO SCALE



NOTE: 1. AN EFFORT IS TO BE MADE TO PROTECT ANY TREE LOCATED IN THE STORMWATER MANAGEMENT AREA WHICH IS PROTECTED BY CODE.
2. ALL DEVELOPMENT ACTIVITIES, PARKING AND MATERIAL STORAGE IS PROHIBITED IN TREE PROTECTION ZONES.

TREE PROTECTION ZONE DETAIL
NOT TO SCALE

REVISIONS

No.	DESCRIPTION	DATE

DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE: DATE 6/4/2025
MICHAEL K. KITHERINGHAM, P.E. No. 69004 STATE OF FLORIDA PROFESSIONAL ENGINEER

6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

& Associates
ENGINEERING - SURVEYING
3445 HWY 389, BLDG. PANAMA CITY, FLORIDA 32405
Phone (850) 265-6979 Fax (850) 265-9942
FLORIDA LICENSE No. EB 7918 | FLORIDA GA No. 31715

SHEET TITLE: EROSION DETAIL

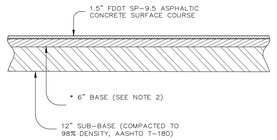
PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
201 U PERIT AVE.
PANAMA CITY, FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

HRZ. SCALE	AS SHOWN
VRT. SCALE	N/A
PROJECT No.	18570
FILE No.	R20572
ISSUE DATE	NOT ISSUED
SHEET:	C.6

NOTE:

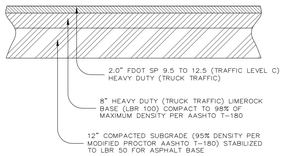
1. CONTRACTOR TO PROVIDE CORING SAMPLES TO ENGINEER OF RECORD FOR VERIFICATION THAT THE INSTALLED BASE AND SUB-BASE (IN-SITU WHENEVER POSSIBLE) MEET ACCEPTABLE DEPTH AND RANGE OF COMPACTION.
2. THE BASE COURSE SHOULD CONSIST OF CRUSHED LIMEROCK, GRADED AGGREGATE BASE (GAB), OR CRUSHED CONCRETE. THE BASE COURSE SHOULD HAVE A MINIMUM LIMEROCK BEARING RATIO (LBR) VALUE OF 100 FOR CRUSHED LIMEROCK AND GAB AND 120 FOR CRUSHED CONCRETE AND SHOULD BE COMPACTED TO 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557, AASHTO T-180) VALUE.



STANDARD DUTY

TYPICAL ASPHALT PAVEMENT SECTIONS

NOT TO SCALE



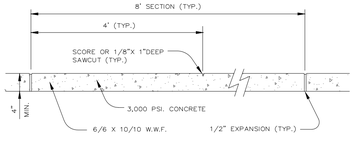
HEAVY DUTY

TYPICAL ASPHALT PAVEMENT SECTIONS

NOT TO SCALE

CONCRETE PAD DETAIL

NOT TO SCALE



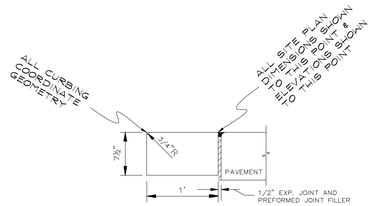
*CROSS SLOPE NOT TO EXCEED 2%

CONCRETE SIDEWALK DETAIL

NOT TO SCALE

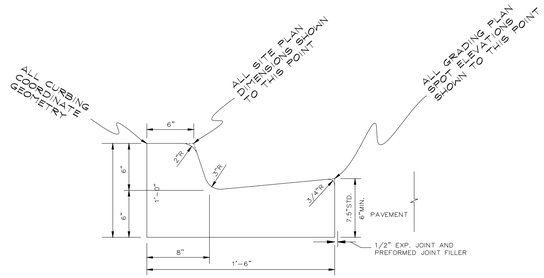
NOTE:

1. WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. THE THICKNESS OF THE LIP SHALL BE 6", UNLESS OTHERWISE SHOWN ON PLANS.
2. ALL CURBS TO BE CONSTRUCTED OF 28 DAY, 3,000 P.S.I. CONCRETE.
3. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED EVERY 500', CONSTRUCTION JOINT REQUIRED EVERY 10' MAXIMUM (4" MINIMUM).
4. 1/2" PRE-MOLDED EXPANSION JOINT REQUIRED AT EACH SIDE OF ALL STORM INLET STRUCTURES AND AT ALL RADIUS POINTS.
5. SUB-BASE TO BE COMPACTED AND TESTED TO 98% MINIMUM DENSITY WITH MINIMUM 40 BASED ON AASHTO T-180 MODIFIED PROCTOR TEST.
6. EXPANSION JOINT MATERIAL MUST COVER THE ENTIRE CROSS SECTION OF CURB



RIBBON CURBING DETAIL

NOT TO SCALE

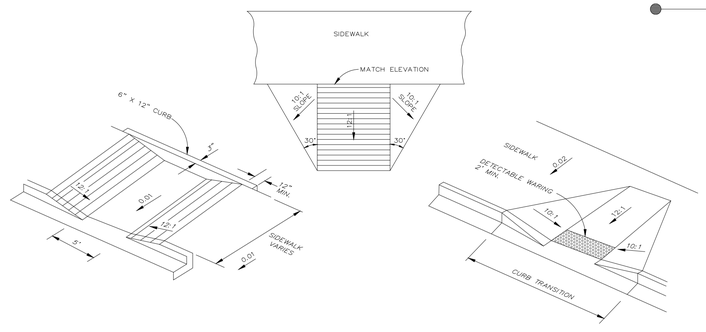


* DIMENSIONS TO EDGE OF PAVEMENT WHEN CURBING NOT PRESENT

WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. THE THICKNESS OF THE LIP SHALL BE 6", UNLESS OTHERWISE SHOWN ON PLANS.

MODIFIED TYPE "F" CURB & GUTTER

NOT TO SCALE

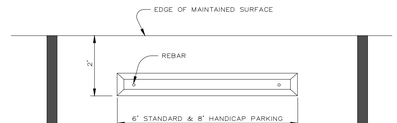


NOTE:

1. ALL THE RAMPS SHALL CONFORM W/ LATEST FDOT INDEX #304 DATED 1/1/11.
2. PEDESTRIAN PATHWAYS WITH RUNNING SLOPES STEEPER THAN 20:1 ARE CONSIDERED RAMPS. RAMP RUNNING SLOPES SHALL NOT EXCEED 12:1. RAMP CROSS SLOPES SHALL NOT EXCEED 0.02.
3. THE LOCATION AND ORIENTATION OF CURB CUT RAMPS SHALL BE AS SHOWN IN THE PLANS.
4. RAMPS RUNS SHALL HAVE A TACTILE SURFACE. SEE RAMP DETECTABLE WARNING DETAIL. TRANSITION SLOPES ARE NOT TO HAVE TACTILE SURFACES.
5. WHERE A CURB CUT RAMP IS CONSTRUCTED WITHIN EXISTING CURB, CURB AND GUTTER AND/OR SIDEWALK, THE EXISTING CURB OF CURB AND GUTTER SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE DROP GURB OR TO THE EXTENT THAT NO REMAINING SECTION OF CURB OR CURB AND GUTTER IS LESS THAN 5' LONG. THE EXISTING SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE TRANSITION SLOPE OR WALK AROUND OR TO THE EXTENT NO REMAINING SECTION OR SIDEWALK IS LESS THAN 5' LONG.

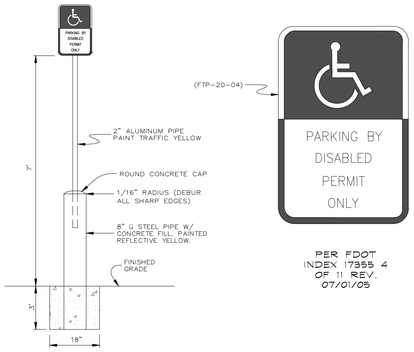
HANDICAP RAMP DETAILS

NOT TO SCALE



WHEEL STOP DETAIL

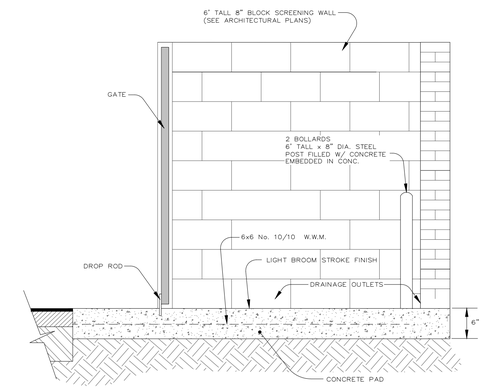
NOT TO SCALE



PER FDOT INDEX 17355 4 OF 11 REV. 07/01/05

HANDICAP SIGN DETAIL

NOT TO SCALE



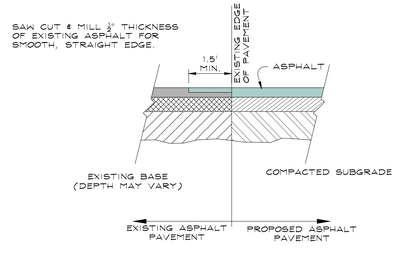
CONCRETE DUMPSTER PAD

NOT TO SCALE

(*) INTERNATIONAL SYMBOL OF ACCESSIBILITY DISPLAY CONDITIONS. THE SYMBOL CONTRAST SHALL BE LIGHT ON DARK, OR DARK ON LIGHT.

HANDICAP STRIPING DETAIL

NOT TO SCALE



ASPHALT TO ASPHALT JOINT DETAIL

NOT TO SCALE

RELEASED FOR CONSTRUCTION

DATE 6/4/2025

REVISIONS

No.	DESCRIPTION	DATE

DESIGNED UNDER THE SUPERVISION OF: BRIAN K. KITHERCOAT, P.E. No. 69884 STATE OF FLORIDA PROFESSIONAL ENGINEER

& Associates
ENGINEERING - SURVEYING
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Phone (850) 265-6979 Fax (850) 265-9942
FLORIDA LICENSE No. EB 7918 - FLORIDA GA No. 29715

SHEET TITLE: SITE DETAILS

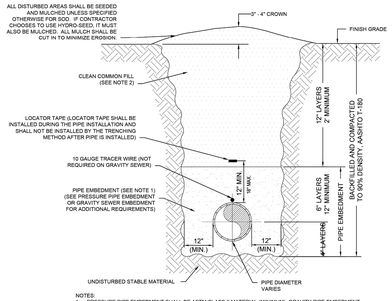
PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
2621 EVERITT AVE.
PANAMA CITY, FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

HRZ. SCALE	AS SHOWN
VRT. SCALE	N/A
PROJECT No.	18570
FILE No.	R20572
ISSUE DATE	NOT ISSUED
SHEET:	C.7

6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

RELEASED FOR CONSTRUCTION

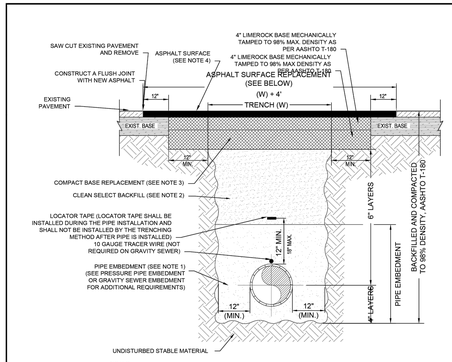


NOTES:
1. PRESSURE PIPE EMBEDMENT SHALL BE ASTM CLASS II MATERIAL (MINIMUM), GRAVITY PIPE EMBEDMENT SHALL BE ASTM CLASS I MATERIAL, OR PIPE EMBEDMENT MATERIAL AS SPECIFIED BY ENGINEER. PRESSURE PIPE SHALL BE BEDDED AND COMPACTED IN ACCORDANCE WITH AWWA C605-TYPE 2 BEDDING REQUIREMENTS FOR PVC PIPE AND AWWA C600-TYPE 2 BEDDING REQUIREMENTS FOR DUCTILE IRON PIPE. GRAVITY PIPES SHALL BE BEDDED AND COMPACTED IN ACCORDANCE WITH ASTM D2321.
2. CLEAN COMMON BACKFILL SHALL BE ASTM CLASS III MATERIAL OR BETTER. ASTM CLASS IV OR V MATERIALS SHALL BE USED FOR BACKFILL. CLEAN COMMON BACKFILL SHALL PLACED IN LAYERS NOT TO EXCEED 12 INCH THICKNESS AND EACH LAYER SHALL BE COMPACTED TO 90% STANDARD DENSITY.
3. NO TRASH, RUBBISH, ROCKS OR DEBRIS WILL BE ALLOWED IN TRENCHES.
4. TRENCH WIDTH SHALL BE AS SHOWN ON THE PLANS.
5. CONTRACTOR MAY BE REQUIRED BY THE ENGINEER TO DE-WATER PIPE TRENCH, IF NECESSARY.
6. BACK FILL FOR PIPE IN WET TRENCHES SHALL BE ASTM CLASS I MATERIAL (#67 CRUSHED OR GRATED LIMEROCK) AND COMPACTED IN THE TRENCH TO A LEVEL ABOVE THE GROUND WATER.
7. AT THE ENGINEERS DISCRETION, THE CONTRACTOR SHALL SUBSTITUTE SELECT BACKFILL IN LIEU OF NATIVE SOILS FOR A UNIT PRICE SPECIFIED IN THE CONTRACTOR'S BID FORM.
8. THE CONTRACTOR WILL BE COMPENSATED FOR SELECT BACKFILL ONLY IF DIRECTED BY THE ENGINEER IN WRITING. THE ENGINEER MAY ISSUE A FIELD ORDER WITH WRITTEN CONFIRMATION WITHIN 24 HOURS.

DETAIL TYPICAL PIPE INSTALLATION - UNIMPROVED SURFACE
SCALE: N.T.S.

TYPICAL PIPE INSTALLATION - UNIMPROVED SURFACE
N.T.S

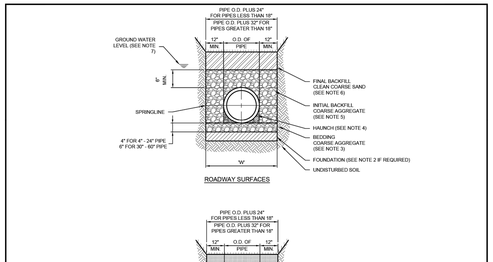
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	TYPICAL PIPE INSTALLATION	FIGURE : G-4



NOTES:
1. PRESSURE PIPE EMBEDMENT SHALL BE ASTM CLASS II MATERIAL (MINIMUM), GRAVITY PIPE EMBEDMENT SHALL BE ASTM CLASS I MATERIAL, OR PIPE EMBEDMENT MATERIAL AS SPECIFIED BY ENGINEER. PRESSURE PIPE SHALL BE BEDDED AND COMPACTED IN ACCORDANCE WITH AWWA C605-TYPE 2 BEDDING REQUIREMENTS FOR PVC PIPE AND AWWA C600-TYPE 2 BEDDING REQUIREMENTS FOR DUCTILE IRON PIPE. GRAVITY PIPES SHALL BE BEDDED AND COMPACTED IN ACCORDANCE WITH ASTM D2321.
2. CLEAN SELECT BACKFILL SHALL BE ASTM CLASS I MATERIAL OR BETTER. ASTM CLASS III, IV, OR V MATERIALS SHALL NOT BE USED. FOR BACKFILL. CLEAN SELECT BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCH THICKNESS AND EACH LAYER SHALL BE MECHANICALLY COMPACTED TO 98% STANDARD DENSITY.
3. COMPACT BASE MATERIAL SHALL BE ASTM CLASS I MATERIAL (#67 CRUSHED OR GRATED LIMEROCK). BASE SHALL BE 8" MINIMUM THICKNESS AND MECHANICAL TAMPED TO 98% MAX. MODIFIED PROCTOR DENSITY.
4. ASPHALT SURFACE TO BE AS SHOWN IN DETAIL BELOW.
5. NO TRASH, RUBBISH, ROCKS OR DEBRIS WILL BE ALLOWED IN TRENCHES.
6. ALL PIPE SHALL BE INSTALLED IN DRY TRENCHES.
7. CONTRACTOR MAY BE REQUIRED BY THE ENGINEER TO DE-WATER PIPE TRENCH, IF NECESSARY.
8. BACK FILL FOR PIPE IN WET TRENCHES SHALL BE CLASS I MATERIAL (#67 CRUSHED OR GRATED LIMEROCK) AND COMPACTED IN THE TRENCH TO A LEVEL ABOVE THE GROUND WATER.
9. AT THE ENGINEERS DISCRETION, THE CONTRACTOR SHALL SUBSTITUTE SELECT BACKFILL IN LIEU OF NATIVE SOILS FOR A UNIT PRICE SPECIFIED IN THE CONTRACTOR'S BID FORM.
10. THE CONTRACTOR WILL BE COMPENSATED FOR SELECT BACKFILL ONLY IF DIRECTED BY THE ENGINEER IN WRITING. THE ENGINEER MAY ISSUE A FIELD ORDER WITH WRITTEN CONFIRMATION WITHIN 24 HOURS.
11. TEMPORARY PATCHES SHALL BE INSTALLED AND MAINTAINED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.

REMOVAL AND REPLACEMENT OF ASPHALT
N.T.S

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	REMOVAL AND REPLACEMENT OF ASPHALT DRIVE	FIGURE : G-5

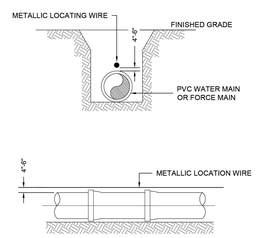


NOTES

1. INSTALLATION: ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM D2321 AND MANUFACTURING INSTALLATION GUIDE.
2. FOUNDATION: UNSTABLE TRENCH BOTTOM MATERIAL AND / OR ROCK SHALL BE EXCAVATED TO A DEPTH SPECIFIED BY THE ENGINEER AND REPLACED WITH A SUITABLE MATERIAL PER THE ENGINEERS REQUIREMENTS. IN LIEU OF OVEREXCAVATION, THE DESIGN ENGINEER MAY SPECIFY THE USE OF GEOTEXTILE TO STABILIZE THE TRENCH BOTTOM.
3. BEDDING: SUITABLE MATERIAL SHALL BE ASTM CLASS I (#67 CRUSHED OR GRATED LIMEROCK) MINIMUM BEDDING THICKNESS SHALL BE 4" FOR 4" - 24" DIAMETER PIPE, AND 6" FOR 30" - 60" DIAMETER PIPE, AND MECHANICALLY COMPACTED TO 95% STANDARD DENSITY.
4. HAUNCH: SUITABLE MATERIAL SHALL BE ASTM CLASS I (#67 CRUSHED OR GRATED LIMEROCK). HAND FILL VOIDS AND COMPACT TO 90% STANDARD DENSITY
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE ASTM CLASS I (#67 CRUSHED OR GRATED LIMEROCK ROADWAY SURFACES AND CLASS II OR BETTER FOR UNIMPROVED SURFACES). INITIAL BACKFILL SHALL BE INSTALLED IN 6" LIFTS AND MECHANICALLY COMPACTED TO 95% STANDARD DENSITY. INITIAL BACKFILL SHALL EXTEND TO NOT LESS THAN 6" ABOVE THE TOP OF THE PIPE.
6. FINAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS III OR BETTER FOR UNIMPROVED SURFACES AND INSTALLED PER TYPICAL PIPE INSTALLATION DETAIL. SUITABLE MATERIAL SHALL BE ASTM CLASS II OR BETTER FOR ROADWAY SURFACES AND INSTALLED PER DETAIL.
7. WET TRENCHES: SUITABLE MATERIAL SHALL BE ASTM CLASS I (#67 CRUSHED OR GRATED LIMEROCK). BACKFILL SHALL BE INSTALLED IN 6" LIFTS AND MECHANICALLY TAMPED TO 90% MAXIMUM DENSITY AND SHALL EXTEND TO NOT LESS THAN 6" ABOVE THE TO OF THE PIPE OR TO THE CURRENT GROUND WATER LEVEL.
8. MINIMUM COVER: FOR ALL H-25 TRAFFIC BEARING APPLICATIONS, A MINIMUM COVER OF 12" IS REQUIRED FOR 4" - 48" DIAMETER PIPE, AND 24" FOR 60" DIAMETER PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE RIGID PAVEMENT SECTION OR TO THE BOTTOM OF FLEXIBLE PAVEMENT SYSTEM.

PIPE EMBEDMENT - GRAVITY SEWER PIPE
N.T.S

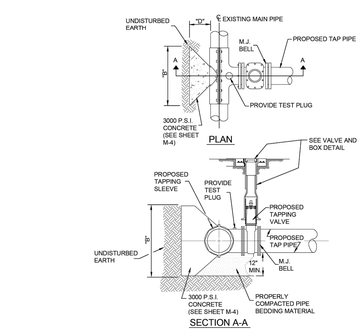
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	PIPE EMBEDMENT- GRAVITY SEWER PIPE	FIGURE : G-8



NOTES:
1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (10 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
2. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 24" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.
3. ALL SPLICES SHALL BE MADE USING A WATER-TIGHT SEALING METHOD APPROVED BY THE CITY.

LOCATING WIRE

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	LOCATING WIRE	FIGURE : G-10

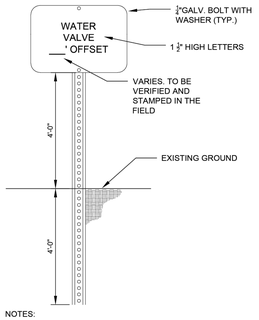


FOR DIMENSIONS "B" AND "D" SEE THRUST BLOCK REQUIREMENTS

NOTES:
1) NO BUTTS SHALL BE MADE BEFORE:
(A) A TEST ON THE SLEEVE AT 150 P.S.I. FOR 30 MINUTES IS MADE.
(B) ALL FITTINGS TO BE WRAPPED WITH 24 MIL POLYETHYLENE AT THE THRUST BLOCK
(C) ALL TAPS ARE TO BE MADE BY THE CITY OF PANAMA CITY UTILITIES DEPT. UNLESS OTHER ARRANGEMENTS ARE MADE. THE MATERIAL IS TO BE FURNISHED BY THE INFRASTRUCTURE CONTRACTOR.
2.) ALL TAPS MUST BE OF A SMALLER SIZE THAN THE MAIN BEING TAPPED & PLACED NO CLOSER THAN 30" FROM THE BELL OF THE PIPE. (MAIN PIPE DIAMETER PLUS TWO (2) TAP PIPE DIAMETERS (WHICHEVER IS LARGER) FROM A JOINT OR FITTING.
3.) CONTRACTOR TO SUPPLY A DRY HOLE FOR TAPPING CREW TO WORK AND A BACK-HOE TO LOWER MACHINE INTO HOLE.

TAPPING SLEEVE AND VALVE BLOCKING
N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	TAPPING SLEEVE AND VALVE BLOCKING	FIGURE : G-23



NOTES:

1. SIGN SHALL BE 14"x20" - 0.032" ALUMINUM WITH SMOOTH ROUNDED CORNERS, 1/4" PREPUNCHED MOUNTING HOLES. LETTERS SHALL BE WHITE ACRYLIC WITH UV-RESISTANT INK, SIZED AS SHOWN, ON BLUE BAKED ENAMEL BACKGROUND, AS MANUFACTURED BY LAB SAFETY SUPPLY INC. 401 S. WRIGHT RD. JANESVILLE, WI 53546, (608) 754-2345 OR EQUAL. POST SHALL BE HEAVY DUTY STAINLESS STEEL POSTS WITH GREEN BAKED ENAMEL FINISH, MINIMUM 9' LENGTH.

2. EXACT LOCATION OF SIGNS SHALL BE DETERMINED IN THE FIELD.

TYPICAL VALVE MARKER
N.T.S

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	TYPICAL VALVE MARKING	FIGURE : G-24

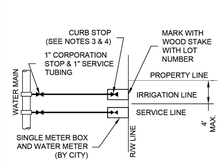
SPECIAL NOTES:

1. CONTRACTOR SHALL EXCAVATE AND VERIFY THE EXISTING WATER MAIN LOCATIONS AND SIZE PRIOR TO SCHEDULING WATER OUTAGE FOR CONNECTION.
2. CONTRACTOR SHALL CUT AND REMOVE ASPHALT ROADWAYS AS NECESSARY TO INSTALL NEW WATER MAINS, WATER SERVICE LINES AND OTHER REQUIRED UTILITY IMPROVEMENTS.
3. ALL ROADWAYS AND DRIVEWAYS SHALL BE COMPACTED AND MAINTAINED DURING CONSTRUCTION SO RESIDENCE CAN HAVE ACCESS AT ALL TIMES. ALL TEMPORARY STABILIZATION SHALL BE SMOOTH AND LEVEL.
4. PIPE TESTING SHALL BE PERFORMED WITHIN IN ONE WEEK OF COMPLETING UTILITY IMPROVEMENTS IN ANY SECTION. SEE TEST SCHEDULE FOR MORE REQUIREMENTS.
5. ALL ROADWAY, DRIVEWAY AND SIDEWALK RESTORATION SHALL BE COMPLETED WITHIN ONE WEEK OF SUCCESSFUL PIPE TESTING IN ANY SECTION.
6. ALL DISTURBED YARD AND GRASSED AREAS SHALL BE SODDED WITH ZOYSIA.
7. CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING DAMAGED SECTIONS OF CONCRETE CURB.
8. COST FOR ALL NECESSARY REMOVAL AND REPLACEMENT OF DRIVEWAYS, SIDEWALKS, AND CURBS SPECIFIED ON CONSTRUCTION DRAWINGS SHALL BE INCLUDED IN LUMP SUM BID PRICE FOR EACH SECTION.
9. CONTRACTOR SHALL REMOVE AND REPLACE ALL TREES, SHRUBS AND IRRIGATION DAMAGED DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT A WORK CHANGE DIRECTIVE PRIOR TO CONSTRUCTION FOR ANY ADDITIONAL COST FOR WORK REQUIRED IN LANDSCAPED AREAS.
10. CONTRACTOR SHALL PROVIDE FITTINGS AS NECESSARY TO MAINTAIN WATER MAIN SEPARATION REQUIREMENTS. CONTRACTOR SHALL RESTRAIN ALL WATER MAINS JOINTS WHERE 0' HORIZONTAL SEPARATIONS CANNOT BE MAINTAINED BETWEEN EXITING SEWER AND STORMWATER UTILITIES.
11. CONTRACTOR SHALL COMPLETE WATER SERVICE CONNECTIONS TO EXISTING METERS AFTER NEW WATER MAINS HAVE BEEN CERTIFIED AND PLACED INTO SERVICE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITY OWNER TO STABILIZE POWER POLES AS THEY ARE ENCOUNTERED THROUGHOUT THE ENTIRE PROJECT.
13. REMOVAL AND REPLACEMENT OF EXISTING DRIVEWAYS AND DRIVEWAY CULVERTS SHALL BE INCLUDED IN THE BID PRICE. NEW DRIVEWAYS SHALL MATCH EXISTING MATERIALS.
14. REMOVAL AND REPLACEMENT OF EXISTING SIGNS, MAILBOXES, SODDING, IRRIGATION, LANDSCAPING, STRUCTURES, ETC. SHALL BE INCLUDED IN THE BID PRICE.
15. COMPACTION TESTING SHALL BE PERFORMED AT EACH ROADWAY CUT FOR SERVICE LATERALS AND PER FDOT SPECIFICATIONS FOR ROAD RECONSTRUCTION AND SHALL BE INCLUDED IN THE BID PRICE.
16. BASE AND BACKFILL MATERIALS SHALL BE EITHER OF THE SAME TYPE AND COMPOSITION AS THE MATERIALS REMOVED, OR OF EQUAL OR GREATER STRUCTURAL ADEQUACY. MATERIALS CONTAMINATED WITH DELETERIOUS SUBSTANCES DURING EXCAVATION SHALL NOT BE USED FOR FILL.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING UTILITIES INCLUDING RECONNECTING ALL WATER AND SEWER SERVICES DAMAGED/BROKEN DURING THE INSTALLATION ON ALL PROPOSED UTILITIES AND OTHER IMPROVEMENTS, WITH NO ADDITIONAL COST TO THE OWNER.
18. THE CONTRACTOR SHALL AVOID OR MINIMIZE THE DISTURBANCE OF EXISTING TREES DURING THE INSTALLATION OF ALL WATER MAINS AND OTHER PROPOSED IMPROVEMENTS WITHIN THE RIGHT OF WAYS AND EASEMENTS. IF TREES ARE DAMAGED OR REQUIRED TO BE MOVED, THEY SHALL BE REPLACED WITH TREES OF SIMILAR SIZE AND SPECIES WITH NO ADDITIONAL COST TO THE OWNER. IF APPLICABLE, THE CONTRACTOR MAY USE THE DIRECTIONAL BORE (FOR PRESSURE PIPE) OR JACK AND BORE (FOR GRAVITY PIPE) METHODS IN LIEU OF OPEN CUTTING TO AVOID IMPACTS AT CONTRACTORS EXPENSE.
19. THE CONTRACTOR SHALL DIRECTIONAL BORE AND INSTALL HDPE PIPE UNDER ROADWAYS, DRIVEWAYS, DITCH CROSSINGS, ETC. AS SHOWN ON THE PLANS. CONTRACTOR SHALL DETERMINE NECESSARY HDPE PIPE LENGTHS, BORE ENTRY/ EXIT POINTS AND BORE PITS TO COMPLETE DIRECTIONAL BORE INSTALLATIONS.
20. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING WATER MAINS AND SERVICE LINES EXCAVATED DURING THE INSTALLATION OF THE PROPOSED WATER SYSTEM IMPROVEMENTS. ALL ABANDONED SECTIONS OF NON-EXCAVATED EXISTING WATER MAIN SHALL BE FLOWABLE FILLED. ALL DEMOLITION AND FLOWABLE FILL WORK SHALL BE INCLUDED IN THE BID PRICE.
21. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A MAINTENANCE OF TRAFFIC PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION. SIGNAGE SHALL BE MAINTAINED AT ALL TIMES AND SHALL BE INCLUDED IN THE BID PRICE.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BY-PASS PUMPING AND SHALL BE INCLUDED IN THE BID PRICE.
23. CONTRACTOR SHALL PROVIDE DE-WATERING AS NECESSARY FOR THE INSTALLATION OF ALL PROPOSED IMPROVEMENTS. ALL DE-WATERING SHALL BE INCLUDED IN THE BID PRICE.
24. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NPDES PERMIT AND MAINTAINING THE SILT FENCE, INLET PROTECTION, AND ANY OTHER EROSION CONTROL NECESSARY IN THE NPDES PERMIT GUIDELINES.
25. THE CONTRACTOR SHALL VIDEO THE ENTIRE ROUTE PRIOR TO CONSTRUCTION AND PROVIDE A COPY TO THE ENGINEER PRIOR TO CONSTRUCTION.
26. DEMOLITION NOTE: ALL EXISTING WATER/SEWER UTILITIES TO BE ABANDONED MUST BE CAPPED IN THE PRESENCE OF PANAMA CITY STAFF. THE GRAVITY MAIN IN THE PUBLIC RIGHT-OF-WAY ADJACENT TO THE PROPERTY MUST BE VIDEO TAPED AND A COPY SUBMITTED TO THE CITY OF PANAMA CITY FOR VERIFICATION OF EXISTING SERVICE LOCATIONS PRIOR TO DEMOLITION.

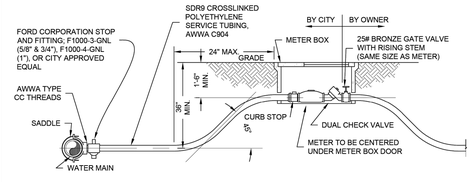
	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS
	PUBLIC ROW UTILITY CONSTRUCTION NOTES	FIGURE :G-27

NOTES:

1. ALL FITTINGS SHALL BE BRASS WITH COMPRESSION/PACK JOINT TYPE CONNECTIONS.
2. NO SERVICE LINE SHALL BE CONSTRUCTED BENEATH OR TERMINATE UNDER A DRIVEWAY
3. AT THE CITY'S DISCRETION EACH SERVICE SHALL TERMINATE AT A CURB STOP WHICH SHALL BE FASTENED TO A 1"x4"x30" STAKE PAINTED WHITE AND MARKED WITH THE NUMBER OF THE LOT TO BE SERVED, OR IN A STANDARD CITY METER BOX.
4. CURB STOP SHALL BE A FORD BALL METER VALVE B11-233WNL OR CITY APPROVED EQUAL.
5. ALL SERVICE TAPS TO BE LOCATED IN THE FIELD. TAPS WILL NOT BE SET IN DRAINAGE SWALES, EASEMENTS OR SIDEWALKS.
6. METER AND METER BOX SHALL BE PROVIDED BY THE CITY.
7. SERVICES THAT SPAN UNDER THE ROADWAY FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT SHALL BE PLACED IN A SLEEVE. THE SLEEVE SHALL BE 2X THE DIAMETER OF THE SERVICE TUBING. THE SLEEVE SHALL BE CLASS 200 SDR9 MANUFACTURED IN ACCORDANCE WITH AWWA C904.
8. SERVICES THE BEGIN AT A WATER MAIN UNDER THE ROADWAY AND SPAN TO THE EDGE OF PAVEMENT SHALL NOT BE PLACED IN A SLEEVE



TYPICAL CITY SERVICE (PER. LOT)



WATER SERVICE (3/4" AND 1")
N.T.S.

	PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : APRIL 2023 SCALE : NTS
	WATER SERVICE (3/4" AND 1")	FIGURE : PW-5A

REVISIONS

No.	DESCRIPTION	DATE

DESIGN ENGINEER: SCOTT C. RUTHERFORD, PE

& Associates
ENGINEERING - SURVEYING
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Phone (850) 265-6979 Fax (850) 265-9942
FLORIDA LICENSE No. EB 7918 - FLORIDA LA No. 0001715

6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

SHEET TITLE: CITY UTILITY DETAILS

PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
20 EVERITT AVE.
PANAMA CITY, FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

HRZ. SCALE AS SHOWN
VRT. SCALE N/A
PROJECT No. 18570
FILE No. R20572
ISSUE DATE NOT ISSUED
SHEET: C.8

RELEASED FOR CONSTRUCTION

LOCATION OF PUBLIC WATER SYSYEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main — 3 ft. minimum	Water Main — 12 inches is the minimum, 18 inches preferred when 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum: Water Main
Vacuum Sanitary Sewer	Water Main — 10 ft. preferred, 3 ft. minimum	Water Main — 12 inches preferred 6 inches minimum	Alternate 3 ft. minimum: Water Main
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)	Water Main — 10 ft. preferred, 6 ft. minimum (3)	Water Main — 12 inches is the minimum, 18 inches preferred when 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum: Water Main
On-Site Sewage Treatment & Disposal System	10 ft. minimum	---	---

When water main must be below other pipe, the minimum separation is 12 inches.

(1) Pipelines should cross above other pipe.
(2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
(3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
(4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

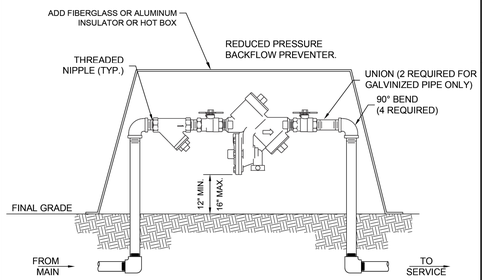
Disclaimer – The document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional construction requirements.

PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS	
FDEP WATER SYSTEM SEPARATION REQUIREMENT TABLE		FIGURE : PW-2A

WATER MAIN AND NON-WATER MAIN SEPARATION REQUIREMENTS - NOTES

1. IT IS REQUIRED THAT WATER MAINS' BE INSTALLED, CLEANED, DISINFECTED AND HAVE A SATISFACTORY BACTERIOLOGICAL SURVEY PERFORMED IN ACCORDANCE WITH THE LATEST APPLICABLE AWWA STANDARDS, CHAPTER 62–555, F.A.C. AND OWNER WATER AND SEWER STANDARDS. FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT HAVE AN INSIDE DIAMETER OF THREE (3) INCHES OR GREATER.
2. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE (3) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62–610, F.A.C.
3. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE–TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING NON–REGULATED RECLAIMED WATER.
4. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM–TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX (6) INCHES, AND PREFERABLE TWELVE (12) INCHES, ABOVE OR AT LEAST TWELVE (12) INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
5. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE–TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS A LEAST TWELVE (12) INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
6. AT THE UTILITY CROSSINGS DESCRIBED IN NOTES 4 AND 5 ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE (3) FEET FROM ALL JOINTS IN VACUUM–TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER, AND AT LEAST SIX (6) FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE–TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINE CONVEYING RECLAIMED WATER.
7. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SO THAT THE HYDRANTS ARE AT LEAST THREE (3) FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER; AT LEAST THREE (3) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED VACUUM–TYPE SANITARY SEWER; AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE–TYPE SANITARY SEWER OR WASTEWATER FORCE MAIN.
8. WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE, THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER TO OBTAIN APPROVAL OF ANY ALTERNATIVE CONSTRUCTION METHODS, PRIOR TO CONSTRUCTION. THE FOLLOW SPECIAL CASE
9. WHERE IT IS NOT TECHNICALLY FEASIBLE OR ECONOMICALLY SENSIBLE TO COMPLY WITH THE HORIZONTAL REQUIREMENTS IN NOTES 3 AND 4 THE FOLLOWING ALTERNATIVE CONSTRUCTION FEATURES ARE ACCEPTABLE:
   A. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY–TYPE SANITARY SEWERS MAY BE REDUCED TO THREE (3) FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX (6) INCHES ABOVE THE TOP OF THE SEWER
   B. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND PRESSURE–TYPE SANITARY SEWERS MAY BE REDUCED TO THREE (3) FEET WHERE THE BOTH PIPELINES ARE PRESSURE RATED PIPE CONFORMING TO AWWA STANDARDS AND WHERE WELDED, FUSED, OR OTHERWISE RESTRAINED JOINTS ARE USED FOR EITHER THE WATER MAIN OR THE OTHER PIPELINE.

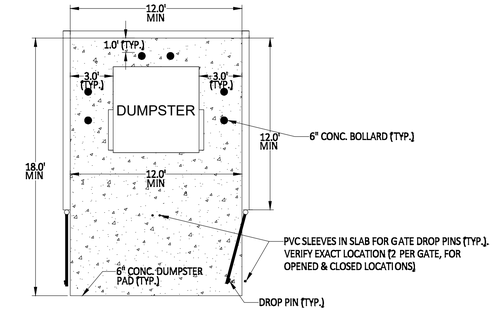
PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS	
WATER MAIN AND NON-WATER MAIN SEPARATION REQUIREMENTS		FIGURE : PW-2B



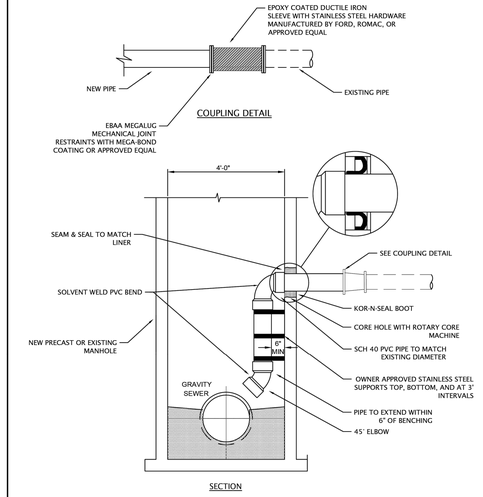
NOTES:
1. ALL ABOVEGROUND PIPE SHALL BE INSULATED WITH 6 LBS FIBERGLASS THAT HAS A MINIMUM "K" OF 0.23 @ 75°F AND A NOMINAL THICKNESS OF 1". THE FIBERGLASS SHALL BE 25 ASJ/SSL-11 FIBERGLASS WITH DOUBLE SEALING LAP SEAL, AS MANUFACTURED BY OWENS-CORNING, OR EQUAL. COVER THE FIBERGLASS WITH 0.016" - 0.040" THICK (DEPENDING ON PIPE DIAMETER) CORRUGATED ALUMINUM JACKET WITH POLY-WELD LININGS, AS MANUFACTURED BY PABCO / CHILDERS, OR EQUAL. IN LIEU OF INSULATION WRAP, AN APPROVED, INSULATED ENCLOSURE MAY BE PROVIDED.
2. THE BACKFLOW PREVENTER SHALL BE TESTED AND CERTIFIED BY A LICENSED PROFESSIONAL ANNUALLY. THE REPORT SHALL BE DELIVERED TO THE CITY
3. FOR CITY PROJECTS THE RESIDENTIAL BACKFLOW PREVENTER SHALL BE PROVIDED BY THE CONTRACTOR

BACKFLOW PREVENTER - 2 1/2" AND SMALLER
N.T.S.

PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS	
BACKFLOW PREVENTER - 2 1/2" AND SMALLER		FIGURE : PW-9



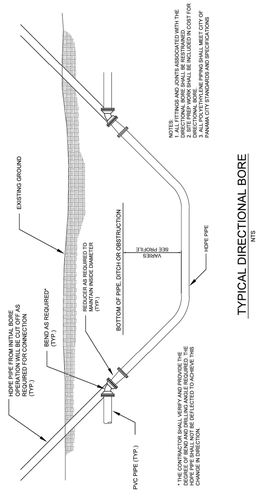
SINGLE ENCLOSURE DUMPSTER
SCALE NTS



PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS	
ALTERNATE FORCE MAIN CONNECTION TO MANHOLE		FIGURE : WW-5

GRAVITY SEWER INSTALLATION RELATED ITEMS:
1. ALL GRAVITY SEWER PIPE, MANHOLES, SERVICE LATERALS AND PIPE BEDDING SHALL BE INSTALLED ACCORDING TO ENGINEERING DRAWINGS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING SEWER MAINS AND SEWER LATERALS TO BE CONNECTED TO PRIOR TO CONSTRUCTION.
3. ALL GRAVITY SEWER PIPE SHALL BE PVC UNLESS SPECIFIED OTHERWISE. ALL PVC PIPE SIZES 4" DEPTHS UP TO 10 FEET SHALL BE ASTM D3034 SDR-35, DEPTHS GREATER 10 FEET SHALL BE ASTM D3034 SDR-26. ALL PVC PIPE SIZES 18 " TO 27 " AND DEPTHS UP TO 10 FEET SHALL BE F679 SDR-35, DEPTHS GREATER 10 FEET SHALL BE F679 SDR-26.
4. ALL SEWER SERVICE LATERAL CONNECTIONS SHALL BE INSTALLED A MINIMUM OF 5 FEET FROM THE NEAREST MANHOLE . ALL SEWER SERVICE LATERAL CONNECTIONS TO NEW PVC SEWER PIPE SHALL BE MADE WITH GASKETED PVC TEE OR WYE FITTINGS. SADDLE CONNECTIONS SHALL NOT BE ALLOWED.
5. ALL SEWER SERVICE LATERALS SHALL BE 4 INCHES UNLESS NOTED OTHER WISE. THE MINIMUM SEWER SERVICE LATERAL PIPE SLOPE SHALL BE; 4 INCHES=2%; 6 INCHES= 1%; 8 INCHES=0.5%.
6. LOCATOR TAPE SHALL BE INSTALLED 12 " TO 18 " ABOVE ALL GRAVITY SEWER MAINS AND SERVICE LATERALS AND LOCATER TAPE SHALL BE MARKED " SANITARY SEWER BELOW
7. ALL CONNECTIONS TO EXISTING SEWER MAINS AND LATERALS OF DISSIMILAR MATERIALS SHALL BE MADE WITH STRONG BACK FLEXIBLE REPAIR COUPLINGS.
8. MANHOLES SHALL BE A MINIMUM FOUR (4) FOOT DIAMETER AND CONSTRUCTED PER THE STANDARDS AND SPECIFICATIONS.
9. MANHOLE RING AND COVERS SHOULD BE 3 INCHES ABOVE GRADE IN UNPAVED AREAS. FIBERGLASS OR STAINLESS STEEL MANHOLE COVER INSERTS ARE REQUIRED AT ALL MANHOLES WITH RIM ELEVATIONS BELOW 7 FEET NGVD.
10. ALL MANHOLE BENCHES SHALL BE REPAIRED OR REPLACED AS NECESSARY TO HAVE SMOOTH TRANSITIONS THROUGH MANHOLE.
11. ALL GRAVITY SEWER PIPING SHALL BE TESTED IN ACCORDANCE WITH UNI-B-6-98, UNIBELL PVC PIPE CORPORATION. CONSTANT PRESSURE OF 4.0 PSIG (GREATER THAN THE GROUNDWATER BACK PRESSURE).
12. ALL GRAVITY SEWER PIPE (MAINS AND LATERALS) SHALL HAVE AIR TEST AND COLOR CCTV INSPECTION COMPLETED AND APPROVED BY THE ENGINEER PRIOR TO ROADWAY RESURFACING.
13. CCTV INSPECTIONS SHALL BE COMPLETED IMMEDIATELY AFTER FLUSHING WITH CLEAN WATER. ANY DEBRIS ENCOUNTERED WILL RESULT IN A FAILED INSPECTION AND PRESSURE TEST.
14. GRAVITY SEWER PIPE SAGS SHALL NOT EXCEED MORE THAN 10% OF THE PIPE DIAMETER.
15. ALL GRAVITY SEWER LINES MUST BE VIDEOED AFTER SYSTEM IS COMPLETE AND REVIEWED AND APPROVED BY THE CITY. VIDEOS MUST BE DIGITAL FORMAT WITH SYSTEM LOCATION MAP AND INCLUDE IDENTIFICATION FOR EACH MANHOLE AND SEGMENT OF PIPE. EACH JOINT SHOULD BE ABLE TO BE VISIBLY INSPECTED THE ENTIRE 360 DEGREES PERIMETER AND ALL LATERAL CONNECTIONS SHOULD BE DRAWN.

PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : NOVEMBER 2022 SCALE : NTS	
GRAVITY SEWER INSTALLATIONS GENERAL REQUIREMENTS		FIGURE : WW-10



TYPICAL DIRECTIONAL BORE
NTS

PANAMA CITY, FLORIDA STANDARD DETAILS	DATE : MARCH 2022 SCALE : NTS	
TYPICAL DIRECTIONAL BORE		FIGURE : G-17

REVISIONS

No.	DESCRIPTION	DATE
1		
2		
3		
4		

DESIGN ENGINEER: SCOTT C. RUTHERFORD, PE

& Associates
ENGINEERING - SURVEYING
3445 HWY 389, BLDG. PANAMA CITY, FLORIDA 32405
Phone (850) 265-6979 Fax (850) 265-9942
FLORIDA LICENSE No. EB 7758 | FLORIDA SA No. LB7915

6/4/2025 KIRKLAND MAINTENANCE COMPLEX JOB No. 18570

SHEET TITLE: CITY UTILITY DETAILS

PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
2611 DUPONT AVE.
PANAMA CITY, FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

HRZ. SCALE: AS SHOWN
VRT. SCALE: N/A
PROJECT No.: 18570
FILE No.: R20572
ISSUE DATE: NOT ISSUED
SHEET: C.9

SITE DESCRIPTION

PROJECT NAME AND LOCATION: KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVE.
PANAMA CITY 32401

AGENT NAME AND ADDRESS: FLORIDA ARCHITECTS
648 FLORIDA AVE.
PANAMA CITY, FL. 32401

DESCRIPTION: BUILDING, PARKING & PONDS

SOIL DISTURBING ACTIVITIES WILL INCLUDE:
CLEARING AND GRUBBING, EARTHWORK, GRADING, STORM SEWER AND UTILITIES.

RUNOFF CURVE NUMBERS:

1. PRE-CONSTRUCTION	C=0.30
2. DURING CONSTRUCTION	C=0.45
3. POST-CONSTRUCTION	C=0.59

SOILS:
SEE SOIL BORING REPORT FOR SOILS DATA

SITE MAPS:
* SEE ATTACHED GRADING FOR PRE & POST DEVELOPMENT GRADES, AREAS OF SOILS DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORMWATER DISCHARGE POINTS.
* SEE ATTACHED EROSION AND TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES AND TURBIDITY BARRIERS.
* SEE GRADING NOTES FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.

SITE AREA:
1. TOTAL AREA OF CONTIGUOUS PROPERTY = 2.872 Ac±
2. TOTAL AREA TO BE DISTURBED = 1.823 Ac±

NAME OF RECEIVING WATERS: NONE

CONTROLS

THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORMWATER RUNOFF. AN EROSION AND TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS PER PLAN AS WELL AS ENSURING THAT PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTORS RESPONSIBILITY" FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED.

STORM WATER MANAGEMENT
STORMWATER DRAINAGE WILL BE PROVIDED BY: ONSITE COLLECTION & ATTENUATION

ONSITE IMPROVEMENTS
SEE SITE, GRADING & DRAINAGE AND UTILITY PLANS.

TIMING OF CONTROLS/MEASURES

REFER TO "CONTRACTORS RESPONSIBILITY" FOR THE TIMING OF CONTROL/MEASURES.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

CONTROL/MEASURES.
IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS RELATED TO STORM WATER MANAGEMENT AND EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED.

NWFWMD ENVIRONMENTAL RECOURSE PERMIT

POLLUTION PREVENTION PLAN CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNED: ______________________
SCOT C. RUTHERFORD, PE

DATED: ______________________

GENERAL

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS, DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

SEQUENCE OF MAJOR ACTIVITIES:

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. INSTALL SILT FENCES AND HAY BALES, AS REQUIRED.
3. CONSTRUCT SEDIMENTATION BASIN.
4. CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENT BASIN AT PERMANENT POND LOCATION.
5. CONTINUE CLEARING AND GRUBBING.
6. STOCKPILE TOP SOIL IF REQUIRED.
7. PERFORM PRELIMINARY GRADING ONSITE, AS REQUIRED.
8. STABILIZE DENUDED AREA AND STOCKPILES AS SOON AS PRACTICABLE.
9. INSTALL UTILITIES, STORM SEWER, CURBS AND GUTTER.
10. APPLY BASE TO PROJECT.
11. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING.
12. COMPLETE FINAL PAVING.
13. UPON SIGNIFICANT COMPLETION OF CONSTRUCTION, THE STORMWATER PIPING SYSTEM SHALL BE FLUSHED OUT TO REMOVE ACCUMULATED DEBRIS AND SEDIMENT.
14. UPON COMPLETION OF THE DEBRIS AND SEDIMENT REMOVAL FROM THE STORMWATER PIPING SYSTEM, THE PROPOSED STORMWATER MANAGEMENT FACILITY(S) SHALL BE FINE GRADED AND BE EXCAVATED A MINIMUM OF SIX INCHES BELOW THE DESIGN BOTTOM ELEVATION AND REPLACED WITH FILL HAVING A MINIMUM PERMEABILITY RATE OF 20 FEET/DAY WITH A MAXIMUM OF 5% SOIL FINES PASSING THE No. 200 SIEVE. THE BOTTOM SHALL BE SCARIFIED AND STABILIZED ACCORDING TO THESE PLANS. ONCE COMPLETED, NO HEAVY MACHINERY SHALL BE ALLOWED WITH THE STORMWATER MANAGEMENT FACILITY(S).
15. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/ SOD, AS REQUIRED.

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND HAY BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS AND THE EARTH DIKE/SWALES WILL BE REGRADED/REMOVED AND STABILIZED IN ACCORDANCE WITH THE EROSION AND TURBIDITY CONTROL PLAN.

ENDANGERED SPECIES AND CRITICAL HABITAT

1. ARE THERE ENDANGERED SPECIES ON SITE?
2. ARE THERE CRITICAL HABITAT ON SITE?

IF YES TO EITHER QUESTION, PLEASE EXPLAIN:

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CONTROLS

IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES, AS REQUIRED, TO ENSURE THE SITE MEETS ALL FEDERAL, STATE AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE EROSION AND TURBIDITY CONTROL PLAN AND AS REQUIRED TO MEET THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.

EROSION AND SEDIMENT CONTROLS
STABILIZATION PRACTICES

1. HAY BALE BARRIER: HAY BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:

A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 Ac.
C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS.
D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF STRAW BALE BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO ENSURE AGAINST WASHOUT.

REFER TO EROSION CONTROL DETAILS FOR CONSTRUCTING THE HAY BALE BARRIER. ALSO REFER TO THE EROSION CONTROL PLAN FOR PROPER LOCATION.

2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:

A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
B. IN MINOR SWALES OF DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 Ac.

REFER TO THE EROSION CONTROL DETAILS FOR PROPER CONSTRUCTION OF THE FILTER FABRIC BARRIER.

3. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.

4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE.

5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHOULD BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.

6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE MINIMIZED.

7. INLET PROTECTION: INLETS AND CATCH-BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FORM SEDIMENT-LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.

8. DUST CONTROL: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL TREATMENT WITHIN 30 DAYS SHALL BE STABILIZED.

9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.

10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX AND AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.

11. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.

12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.

13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.

14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

STRUCTURAL PRACTICES

1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY.

2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP SHALL BE INSTALLED IN A DRAINAGEWAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA.

THE FOLLOWING SEDIMENT TRAPS MAY BE CONSTRUCTED EITHER INDEPENDENTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE:

A. BLOCK AND GRAVEL SEDIMENT FILTER – THIS PROTECTION IS APPLICABLE WHERE HEAVY FLOWS AND/OR WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

B. GRAVEL SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

C. DROP INLET SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (S<0.50%) AND WHERE SHEET OR OVERLAND FLOWS (Q<0.50CFS) ARE TYPICAL. THIS METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREET OR HIGHWAY MEDIANS.

3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE FLOW COULD CAUSE EROSION AND SEDIMENT PROBLEMS TO THE RECEIVING WATER BODY. SILT FENCES AND HAY BALES ARE TO BE INSTALLED IMMEDIATELY DOWNSTREAM OF THE DISCHARGING STRUCTURE AS SHOWN ON THE OUTLET PROTECTION DETAIL.

4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 67 CUBIC YARDS OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE. THE VOLUME OF THE BASIN AT CLEAN OUT SHALL BE 22 CUBIC YARDS PER ACRE.

THE 67 CUBIC YARDS OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

OTHER CONTROLS

WASTE DISPOSAL
WASTE MATERIALS

ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT. THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTE

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER, SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.

SANITARY WASTE

ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DEPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

OFFSITE VEHICLE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT AS NEEDED TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH THE TARPAULIN.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:

☒ Concrete	☒ Fertilizers	☒ Wood
☒ Asphalt	☒ Petroleum Based Products	☒ Masonry Blocks
☐	☒ Cleaning Solvents	☒ Roofing Materials
☒ Detergents	☒ Paints	☒ Metal Studs
☐	☐	☐

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

* AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
* ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
* PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
* SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
* WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
* MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
* THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ONSITE RECEIVE PROPER USE AND DISPOSAL.

HAZARDOUS PRODUCTS

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

* PRODUCTS WILL BE KEPT IS ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
* ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
* IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

FERTILIZERS

FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS

CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (i.e.:KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WILL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL REVIEW SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

MAINTENANCE/INSPECTION PROCEDURES

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.

* NO MORE THAN 10 Ac OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
* ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATION OF SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.5 INCHES OR GREATER.
* ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
* BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
* SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
* THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB, WHICHEVER COMES FIRST.
* DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
* TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
* A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. A COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED. THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE OR LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.
* THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
* PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

NON-STORM WATER DISCHARGES

IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:

* WATER FROM WATER LINE FLUSHING.
* PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
* UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

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DATED: ______________________

BUSINESS NAME AND ADDRESS OF CONTRACTOR & ALL SUBS	SIGNATURE	RESPONSIBLE FOR/DUTIES
		GENERAL CONTRACTOR
		SUB-CONTRACTOR
		SUB-CONTRACTOR
		SUB-CONTRACTOR

BUSINESS NAME AND ADDRESS OF CONTRACTOR & ALL SUBS	SIGNATURE	RESPONSIBLE FOR/DUTIES
		SUB-CONTRACTOR
		SUB-CONTRACTOR
		SUB-CONTRACTOR
		SUB-CONTRACTOR

NOTE TO CONTRACTOR:

THIS IS THE CONTRACTORS CERTIFICATION REQUIRED BY THE EPA'S NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), STORMWATER POLLUTION PREVENTION PLAN FOR CONSTRUCTION SITES OVER 1 Ac. THIS CERTIFICATION MUST BE COMPLETED WEEKLY AND AFTER EVERY RAINFALL EVENT OVER 0.5 INCHES. IT IS SUGGESTED THAT THIS SHEET BE REMOVED FROM THE PLAN SET AND DUPLICATED AS NEEDED BY THE CONTRACTOR.

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
TO BE COMPLETED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR MORE

INSPECTOR: ______________________ DATE: ______________________

INSPECTOR'S QUALIFICATIONS:
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____
____

DAYS SINCE LAST RAINFALL: __________ AMOUNT OF LAST RAINFALL __________ INCHES

STABILIZATION MEASURES

INSPECTION AREA (DESCRIPTION OF LOCATION)	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABILIZED ? (YES/NO)	STABILIZED WITH	CONDITION

STABILIZATION REQUIRED:
____
____
____

TO BE PERFORMED BY: ______________________ ON OR BEFORE: __________

PAGE 1 OF 4

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
STRUCTURAL CONTROLS

DATE: ______________________

EARTH DIKES/SWALES

DIKE OR SWALE	FROM	TO	IS DIKE/SWALE STABILIZED ?

MAINTENANCE REQUIRED FOR EARTH DIKE/SWALE:
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TO BE PERFORMED BY: ______________________ ON OR BEFORE:

CATCH BASIN/CURB INLET/OUTFALL TURBIDITY CONTROLS

STRUCTURE/ OUTFALL	ARE TURBIDITY CONTROLS IN PLACE	ANY EVIDENCE OF CLOGING/WASHOUT OR BYPASSING ?	ARE TURBIDITY CONTROLS IN NEED OF REPLACING

MAINTENANCE REQUIRED FOR CATCH BASIN/CURB INLETS/OUTFALLS TURBIDITY CONTROLS:
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____
____

TO BE PERFORMED BY: ______________________ ON OR BEFORE:

PAGE 2 OF 4

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM
SEDIMENT BASIN

DEPTH OF SEDIMENT IN BASIN	DEPTH OF SEDIMENT SIDE BASIN	ANY EVIDENCE OF OVERTOPPING OF THE EMBANKMENT ?	CONDITION OF OUTFALL FROM SEDIMENT BASIN

MAINTENANCE REQUIRED FOR SEDIMENT BASIN:
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____
____

TO BE PERFORMED BY: ______________________ ON OR BEFORE: __________

OTHER CONTROLS STABILIZED
CONSTRUCTION ENTRANCE

DOES MUCH SEDIMENT GET TRACKED ON TO ROAD ?	IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE TO LEAVE THE SITE ?	IS THE CULVERT BENEATH THE ENTRANCE WORKING? (IF APPLICABLE)

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:
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____
____
____
____

TO BE PERFORMED BY: ______________________ ON OR BEFORE: __________

PAGE 3 OF 4

PROJECT:

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT FORM

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:
____
____
____
____
____
____

REASONS FOR CHANGES:
____
____
____
____
____
____

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE: ______________________

DATE: ______________________

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REVISIONS

No.	DESCRIPTION	DATE
1		
2		
3		
4		

DESIGN ENGINEER:

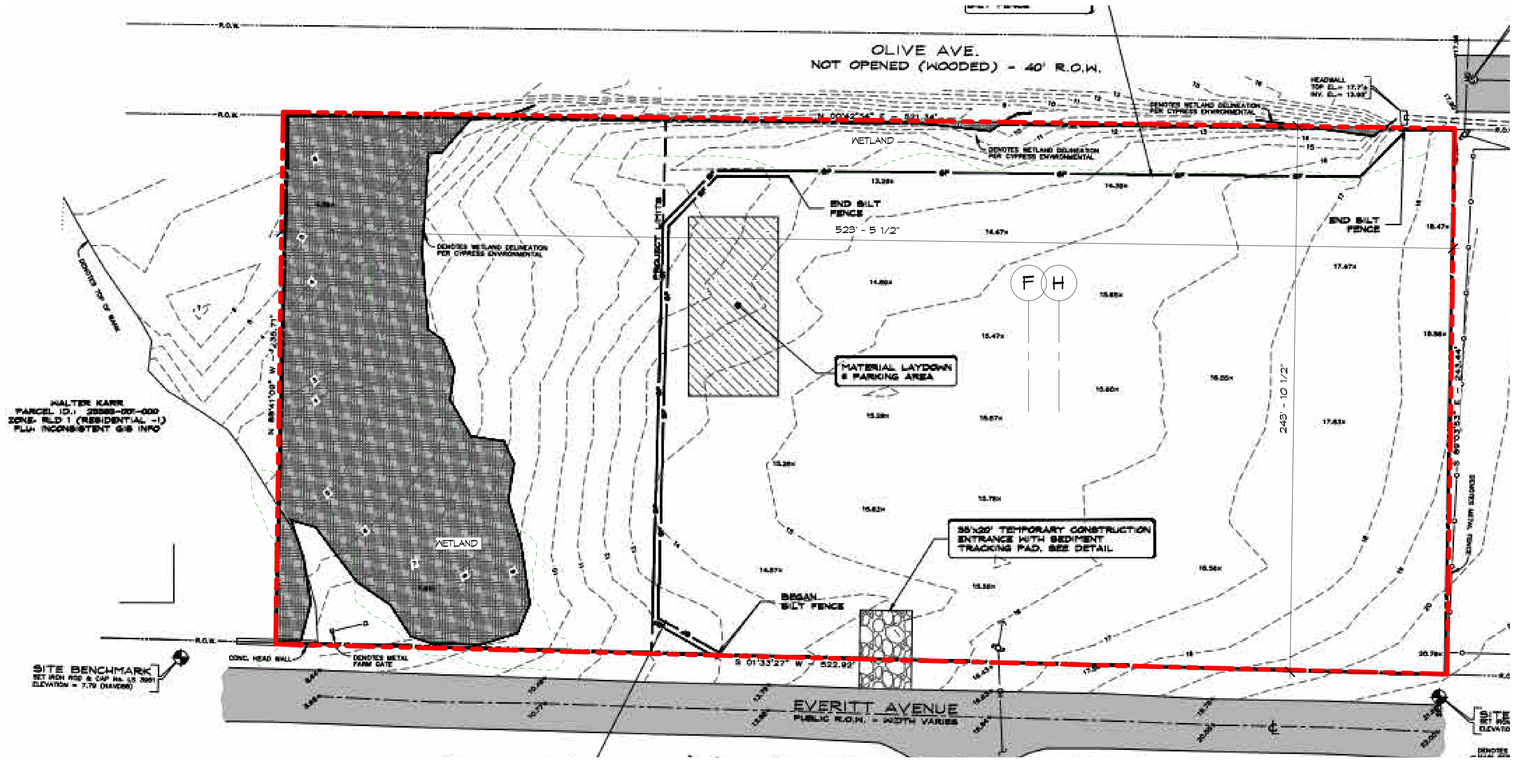
& Associates
ENGINEERING - SURVEYING
3445 HWY 389, BLDG, PANAMA CITY, FLORIDA 32405
Phone (850) 265-6979 Fax (850) 265-9942
FLORIDA LICENSE No. LB 7759 : FLORIDA CA No. 28715

SHEET TITLE: NPDES

PROJECT NAME: KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVE.
PANAMA CITY, FLORIDA

CLIENT NAME: FLORIDA ARCHITECTS

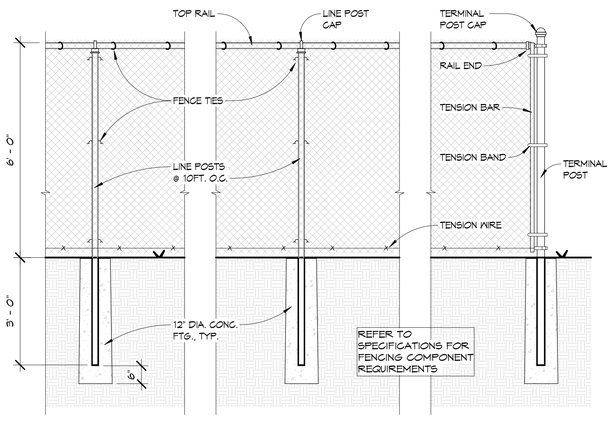
HRZ. SCALE AS SHOWN
VRT. SCALE N/A
PROJECT No. 18570
FILE No. R20572
ISSUE DATE NOT ISSUED
SHEET: C.10



1 A0.01 SITE

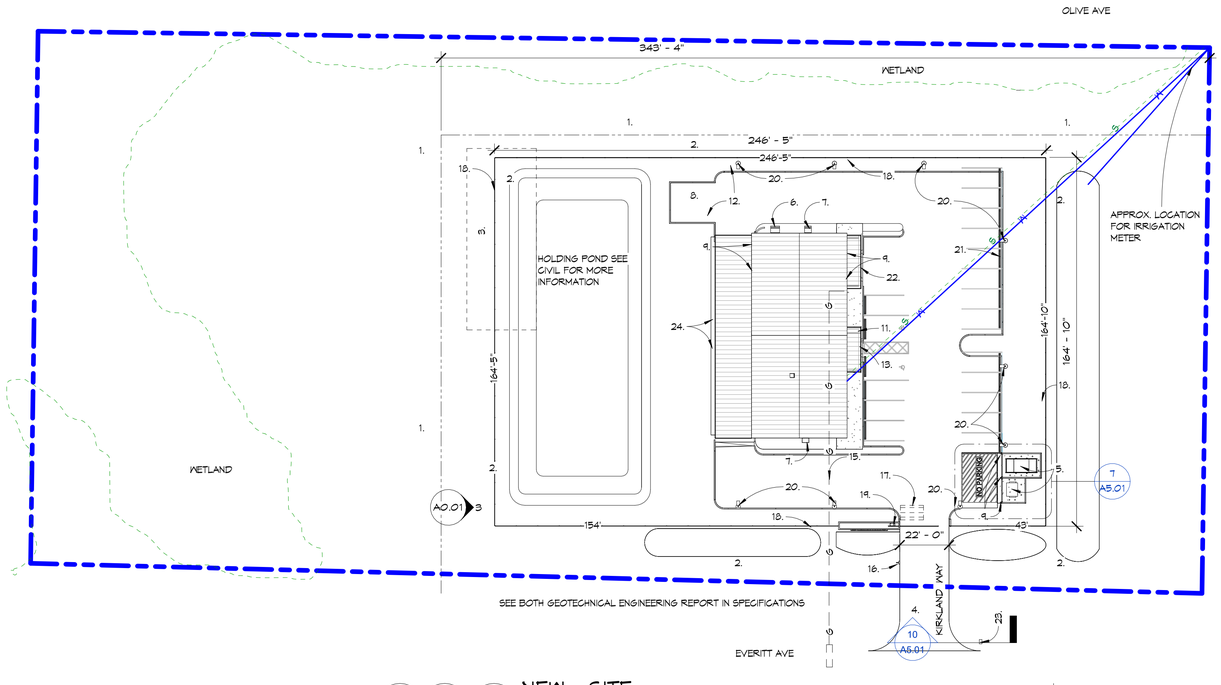
1/32" = 1'-0"

TRUE NORTH PROJECT NORTH



3 A0.01 DETAIL - SECURITY FENCE, TYP. AT SITE PERIMETER

1/2" = 1'-0"



2 A0.01 NEW - SITE

1/32" = 1'-0"

TRUE NORTH PROJECT NORTH

EXISTING SITE CONDITIONS:

1. CONTRACTOR VERIFY THAT THE FILL SOIL IS FREE OF MUCK, CLAY, SILT, ORGANIC DEBRIS AND OTHER DELETERIOUS MATERIALS.
2. CONTRACTOR VERIFY WETLAND AREA PRIOR TO START OF CONSTRUCTION AND ASSURE 30 FOOT NON-CONSTRUCTION BUFFER IS IN PLACE.
3. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS FOR THE PROJECT. WHERE JOB CONDITIONS PREVENT OBTAINING DIMENSIONS OR RESULTS AS SHOWN OR SPECIFIED, THE CONTRACTOR (OWNER/BUILDER) SHALL CONSULT THE ARCHITECT/ ENGINEER FOR RESOLUTION.
4. THE CONTRACTOR IS RESPONSIBLE THAT WETLANDS, EASEMENTS AND SETBACKS ARE NOT ENCROACHED UPON.

GENERAL NOTES:

1. ELECTRICAL INSTALLATION TO BE BY FLORIDA LICENSED ELECTRICAL CONTRACTOR PER N.E.C. REQUIREMENTS / LOCAL CODES
2. HVAC INSTALLATION TO BE BY FLORIDA LICENSED MECHANICAL CONTRACTOR AND BE IN ACCORDANCE WITH D.C.A. ENERGY CODE REQUIREMENTS
3. PLUMBING INSTALLATION TO BE BY FLORIDA LICENSED PLUMBING CONTRACTOR PER APPLICABLE CODE
4. ABOVE PER FLORIDA STATUTES CHAPTER 471.003, CHAPTER 489 AND PART 1 CHAPTER 553 PER APPLICABLE CODES
5. REFER TO CIVIL PLANS FOR MORE DETAILS

SITE PLAN NOTES:

INFORMATION PROVIDED FROM WWW.MAPS.BAYCOUNTYFL.GOV (VERIFY PRIOR TO CONSTRUCTION)

PARCEL ID NUMBER- 23819-000-000

BRIEF TAX DESCRIPTION*
11-4S-14W-361-1183-E1/2 OF E1/2 OF NW1/4 OF SW1/4 & NE 1/4 OF SW 1/4 OR N OF EVERITT AV & LESS N 182'
*THE DESCRIPTION ABOVE IS NOT TO BE USED ON LEGAL DOCUMENTS.

ADDRESS (216 EVERITT AVE. PANAMA CITY, FLORIDA 32401)

ZONING DESIGNATION (MUNICIPAL)

30' WETLAND SETBACK PER BAY COUNTY ZONING AND DEVELOPMENT CODE CHAPTER 19 ENVIRONMENTAL STANDARDS

FLOOD ZONE (A)

BASE FLOOD ELEVATION (08')

FIRST FLOOR ELEVATION (20.00')

LOT AREA (163,771 S.F.)

IMPERVIOUS SURFACE COVERAGE (140,9815.F.)

LOT COVERAGE (80.00 %)

SITE KEYNOTE LEGEND

1.	AREA NOT TO BE DEVELOPED
2.	AREA TO BE DEVELOPED
3.	CONSTRUCTION STAGING AREA
4.	NEW ACCESS ROAD (KIRKLAND WAY)
5.	DUMPSTER LOCATION WITH FENCE
6.	UTILITY CONCRETE PAD
7.	HVAC CONCRETE PAD
8.	TRAILER/ TRACTOR PACKING
9.	BOLLARD LOCATION
10.	PACKING LOT DRAINAGE NOT USED SEE CIVIL
11.	CONCRETE SIDEWALK
12.	6" CONCRETE CURB
13.	ADA SIDEWALK RAMP
14.	NATURAL GAS TANK (NOT USED)
15.	NATURAL GAS LINE WITH CONDUIT CHASE
16.	KEY CARD/KEYPAD GATE OPENER; COORDINATE W/ ELECTRICAL.
17.	PRESSURE PLATE GATE OPENER; COORDINATE W/ ELECTRICAL
18.	SECURITY FENCE; 6FT HIGH CHAINLINK W/ MOTORIZED GATE & CONTROLS REFER TO SPECIFICATION SECTION 32 31 13
19.	MOTOR/MOTORIZED GATE; COORD. W/ ELECTRICAL
20.	PACKING LOT LIGHT POLE
21.	9' PACKING SPACE CURB FOR EVERY PACKING SPACE
22.	WAREHOUSE ROLL-UP DOOR RAMP
23.	MAIL BOX LOCATION
24.	SLOPED CONCRETE FOR WATER RUN OFF

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FLA FLORIDA ARCHITECTS LICENSE #AR12728
103 W 5TH STREET
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(850) 257-5400

CLIENT:
PCHA PANAMA CITY HOUSING AUTHORITY
PANAMA CITY HOUSING AUTHORITY

PROJECT:
PCHA KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVENUE
PANAMA CITY, FLORIDA 32405

CONSULTANT:
Associates
4116 N. HIGHWAY 231
PANAMA CITY, FL 32404

CONSULTANT:
ENGINEERS
621 N. TYNDALL PARKWAY, UNIT C
PANAMA CITY, FL 32404
FL AUTHORIZATION No.00006680
CHRISTOPHER A. GARICK, FL PE No.53924
THOMAS A. ALEXANDER, FL PE No.73172
JOB No. 23075

CONSULTANT:
A2H ENGINEERS ARCHITECTS PLANNERS
4815 CAINS WREN TRAIL
SANFORD, FL 32771

CONSULTANT:
JH&A CONSTRUCTION & ENGINEERING
206 FL-79
PANAMA CITY BEACH, FL 32413

SEAL:

STATE OF FLORIDA · JOSEPH J. SORCI · AR0012728 · REGISTERED ARCHITECT

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BID SET DOCUMENTS

SCALE:	DATE:
As indicated	10/08/2025
DRAWN BY: KJ	CHECKED BY: MG,MH,JS

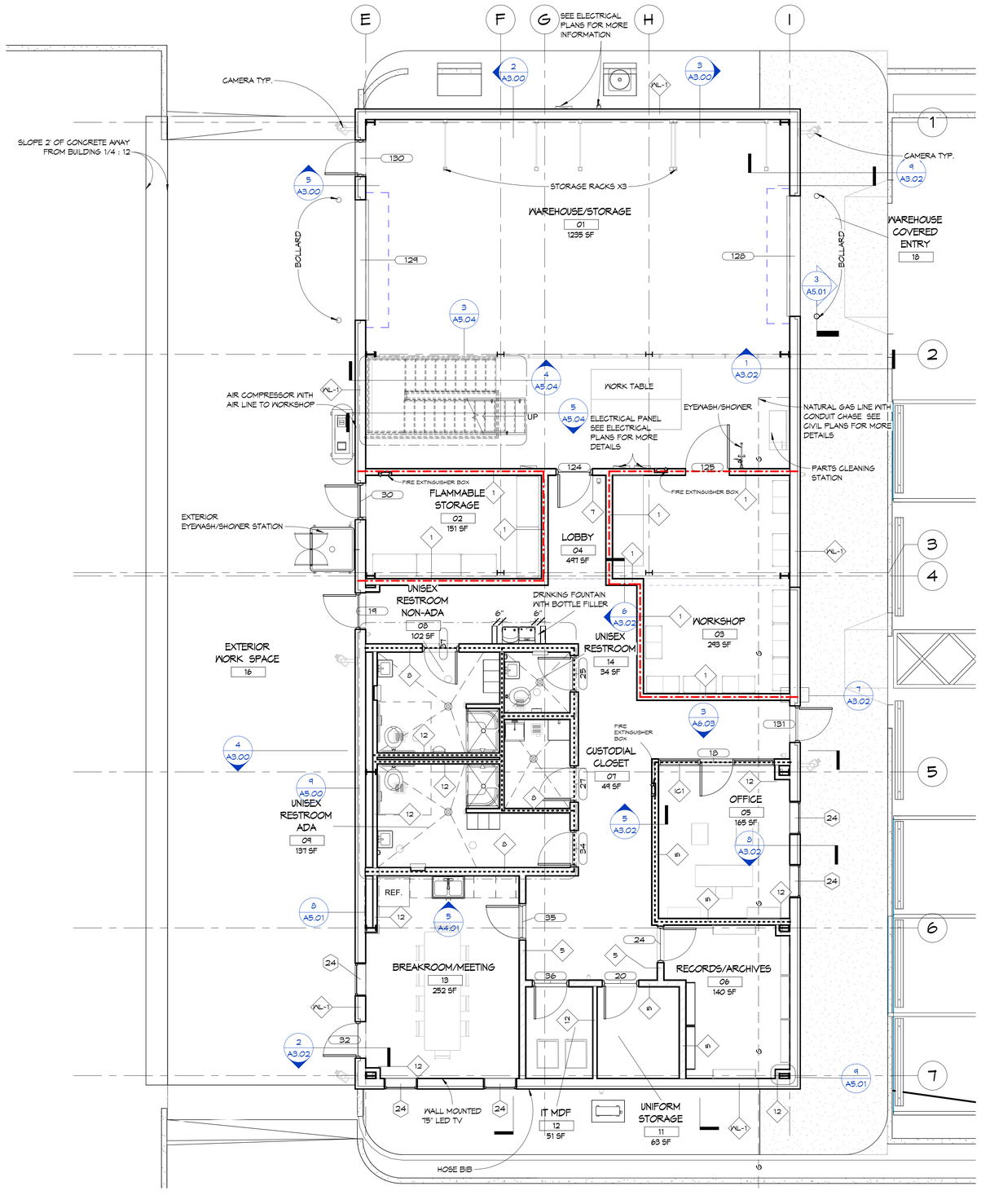
NO	REVISION	DATE

SHEET TITLE:

SITE PLAN

PROJECT NO. 4274-22

SHEET NO. A0.01



FIRST FLOOR PLAN

3/16" = 1'-0"

TRUE NORTH PROJECT NORTH

NEW CONSTRUCTION - TOTAL		
NUMBER	NAME	AREA
01	WAREHOUSE/STORAGE	1235 SF
02	FLAMMABLE STORAGE	151 SF
03	WORKSHOP	293 SF
04	LOBBY	491 SF
05	OFFICE	165 SF
06	RECORDS/ARCHIVES	140 SF
07	CUSTODIAL CLOSET	49 SF
08	UNISEX RESTROOM NON-ADA	102 SF
09	UNISEX RESTROOM ADA	137 SF
10	MEZZANINE STORAGE	2549 SF
11	UNIFORM STORAGE	63 SF
12	IT MDF	51 SF
13	BREAKROOM/MEETING	252 SF
14	UNISEX RESTROOM	34 SF
GRAND TOTAL: 14		5718 SF

FLOOR PLAN LEGEND

- 1 HR FIRE RATED WALL
- SOUND BARRIER WALL
- 1-100 - ROOM NUMBER DESIGNATION
- 2-100 - DOOR NUMBER DESIGNATION
- A - WINDOW NUMBER DESIGNATION
- 11 - WALL TYPE NUMBER DESIGNATION

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CONSULTANT:
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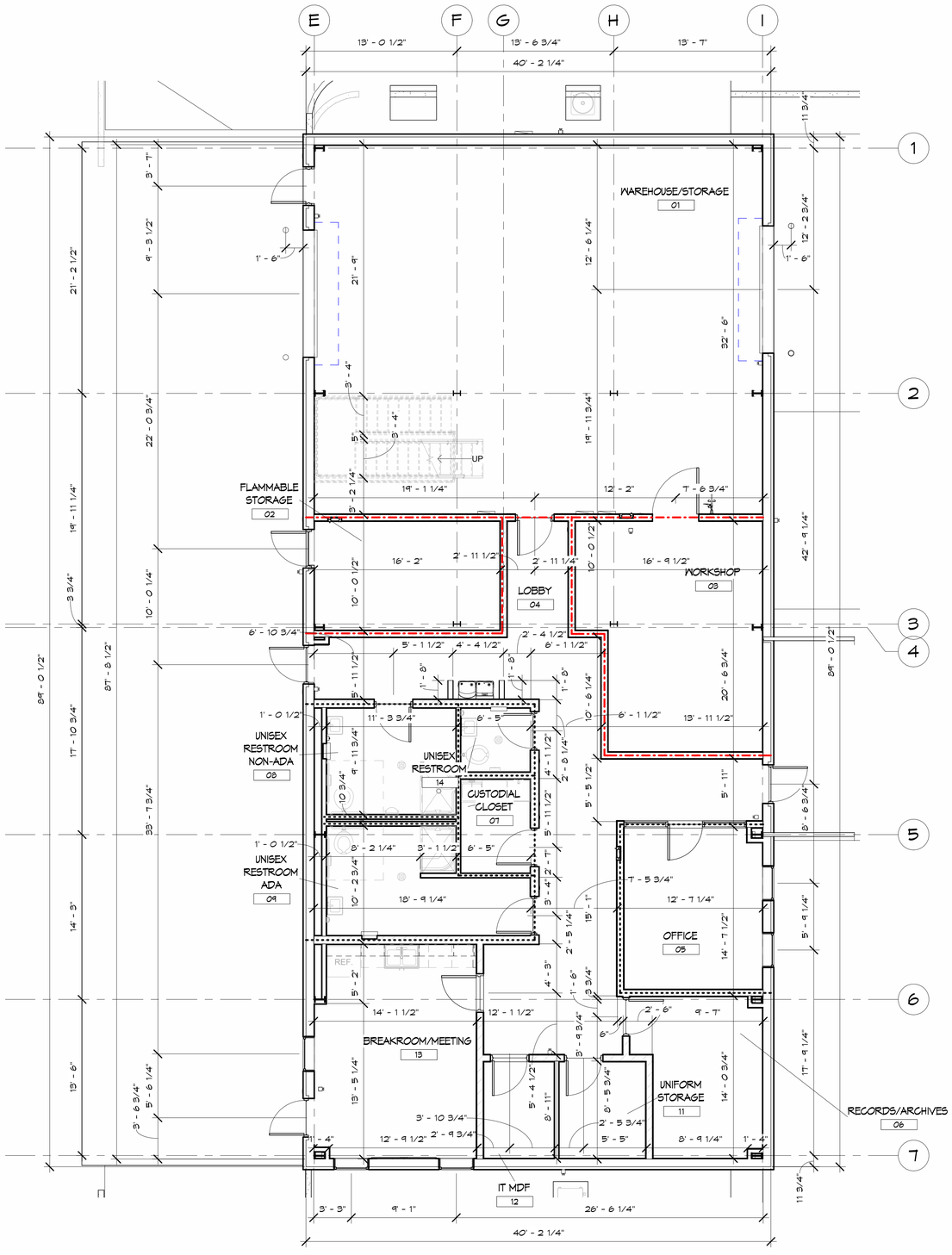
NO	REVISION	DATE

SHEET TITLE:
1ST FLOOR PLAN

PROJECT NO. 4274-22
SHEET NO. A1.01



FLOOR PLAN LEGEND

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- - SOUND BARRIER WALL
- 1-100 - ROOM NUMBER DESIGNATION
- 2-100 - DOOR NUMBER DESIGNATION
- A - WINDOW NUMBER DESIGNATION
- 11 - WALL TYPE NUMBER DESIGNATION

NEW CONSTRUCTION - TOTAL

NUMBER	NAME	AREA
01	WAREHOUSE/STORAGE	1235 SF
02	FLAMMABLE STORAGE	151 SF
03	WORKSHOP	293 SF
04	LOBBY	497 SF
05	OFFICE	165 SF
06	RECORDS/ARCHIVES	140 SF
07	CUSTODIAL CLOSET	49 SF
08	UNISEX RESTROOM NON-ADA	102 SF
09	UNISEX RESTROOM ADA	137 SF
10	MEZZANINE STORAGE	2549 SF
11	UNIFORM STORAGE	93 SF
12	IT MDF	51 SF
13	BREAKROOM/MEETING	252 SF
14	UNISEX RESTROOM	34 SF
GRAND TOTAL: 14		5718 SF

GENERAL DIMENSION NOTES:

1. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO START OF CONSTRUCTION.

2. VERIFY ALL FIELD CONDITIONS AND DIMENSIONS FOR COORDINATION OF ALL TRADES AND EQUIPMENT FROM VENDORS BEFORE CONSTRUCTION AND INSTALLATION.

3. DIMENSIONS TAKE PRECEDENCE OVER DRAWINGS. DO NOT SCALE DRAWINGS.

4. DIMENSIONS ARE FROM FACE OF METAL STUDS, CENTERLINE OF COLUMNS OR NOMINAL FACE OF PRE-ENGINEERED STEEL STRUCTURE.

5. INTERIOR STUD WALL DIMENSIONS ARE TAKEN FROM FACE OF METAL STUDS.

6. GENERALLY, DOOR OPENINGS ARE LOCATED BY DIMENSION FROM FACE OF STUDS TO OUTER EDGE OF DOOR JAMB. IF NO DIMENSIONS ARE PROVIDED, DOOR OPENING AT HINGE SIDE STARTS 4" FROM ADJACENT STUD PARTITION AND 8" FROM ADJACENT CONSTRUCTION.

7. WINDOW HORIZONTAL DIMENSIONS ARE TAKEN FROM JAMB TO JAMB UNLESS NOTED OTHERWISE (UNO). REFER TO WINDOW ELEVATION/ SCHEDULE FOR WINDOW ROUGH OPENING DIMENSIONS

8. ALL THRESHOLDS TO BE 1/2" (MAX.) IN HEIGHT.

1 A1.02 FIRST FLOOR DIMENSION PLAN

3/16" = 1'-0"

TRUE NORTH PROJECT NORTH

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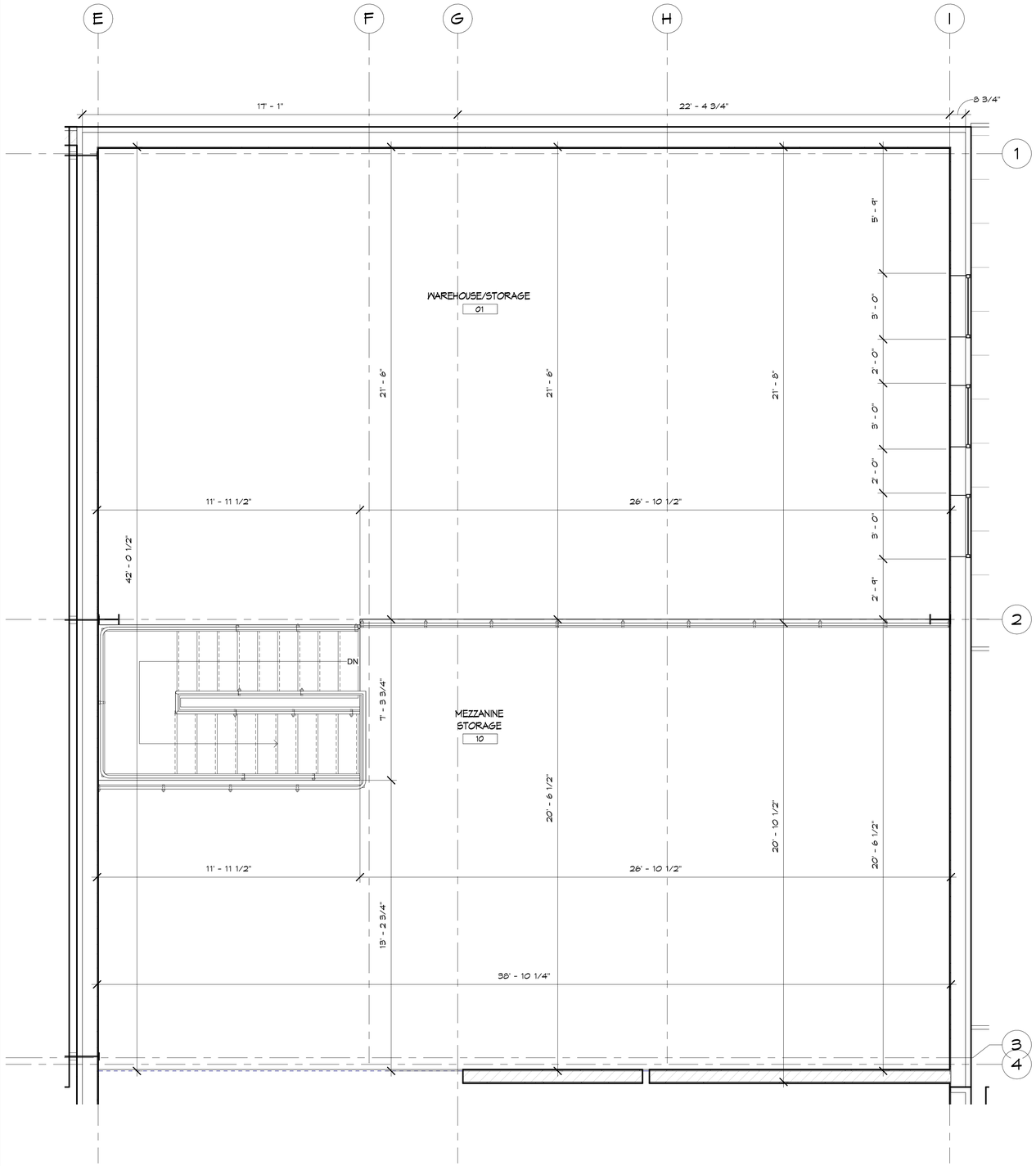
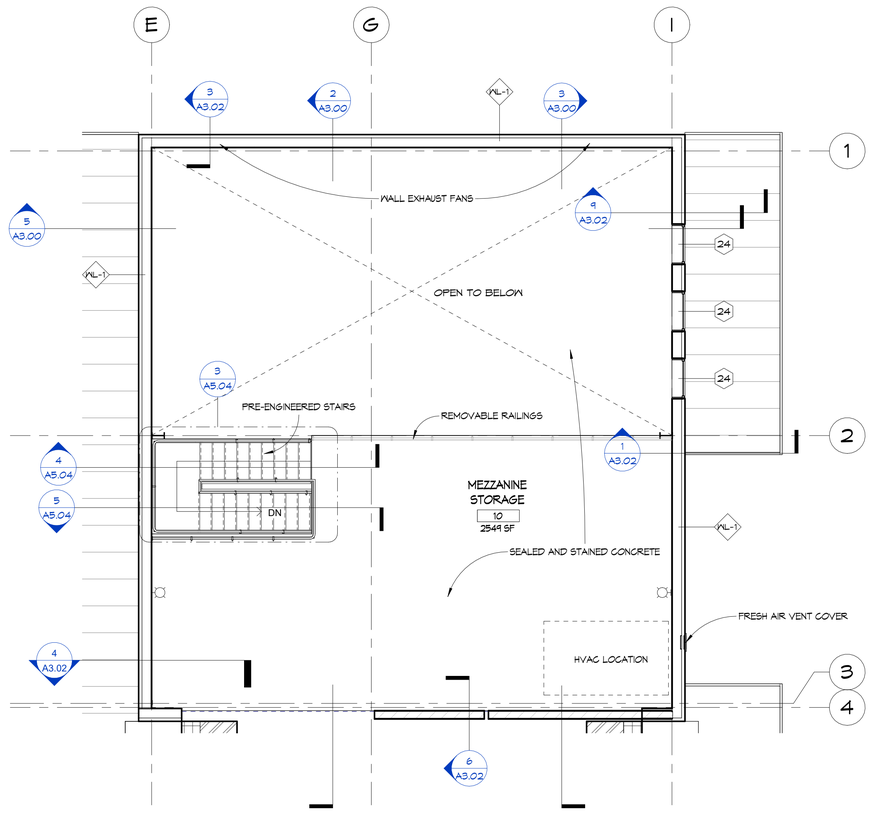
SHEET TITLE:
FIRST FLOOR DIMENSION PLAN

PROJECT NO. 4274-22
SHEET NO. A1.02



MEZZANINE DIMENSION PLAN

2 / A1.03 — 3/8" = 1'-0"



MEZZANINE FLOOR PLAN.

1 / A1.03 — 3/16" = 1'-0"

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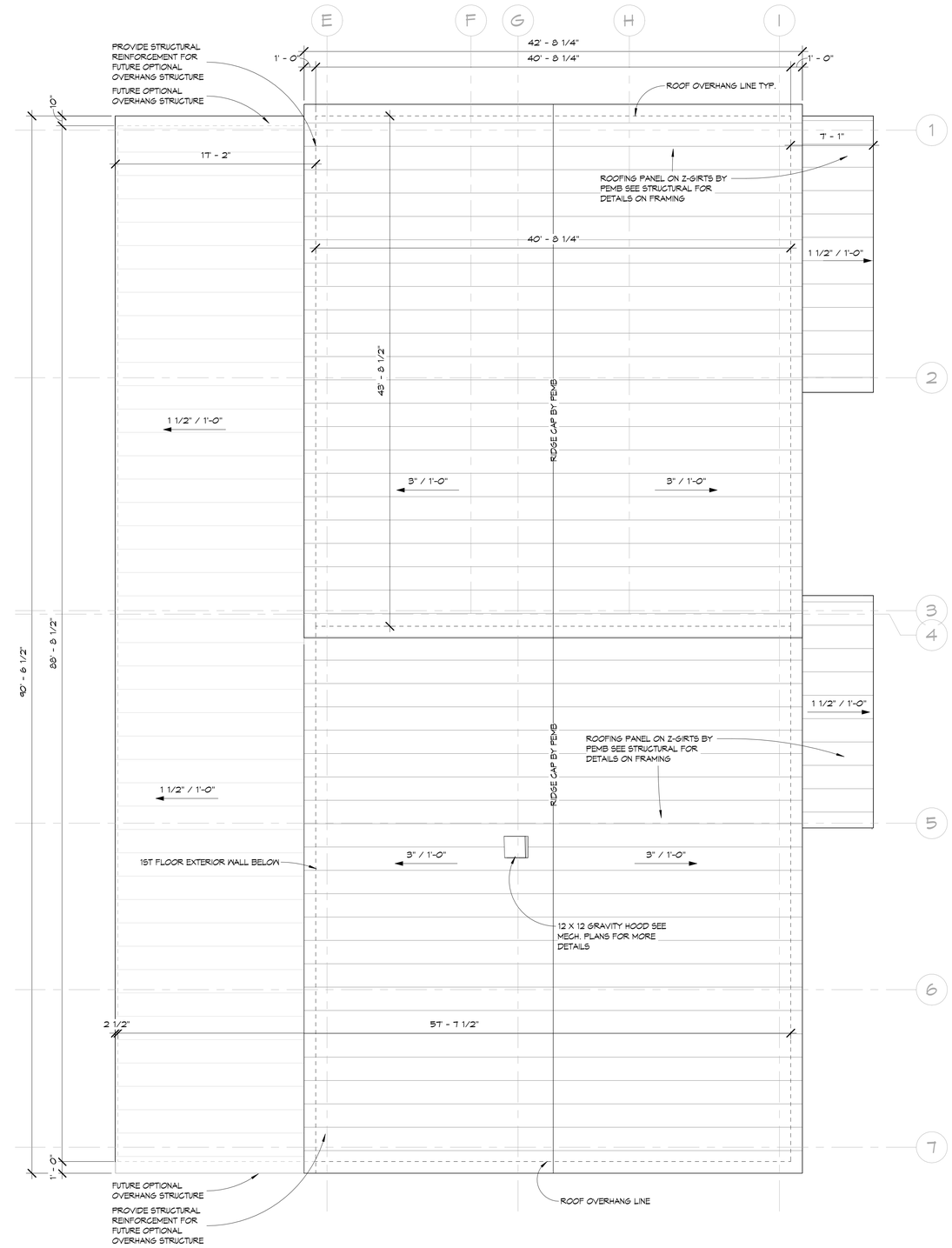
NO	REVISION	DATE

SHEET TITLE:

MEZZANINE FLOOR PLAN / DIMENSION PLAN

PROJECT NO.	SHEET NO.
4274-22	A1.03



1 A1.04

ROOF PLAN

3/16" = 1'-0"

TRUE NORTH PROJECT NORTH

ROOF DRAINAGE CALC.:

RAINFALL INTENSITY (10YR) = 8.3 IN./HR.

RAINFALL INTENSITY (100YR) = 10.8 IN./HR.

PLAN AREA = 5,829 SQ. FT.

NOTE:

REFER TO MECH. /PLUMBING DRAWINGS FOR VTR & FAN PENETRATIONS

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(850) 257-5400

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PANAMA CITY HOUSING AUTHORITY

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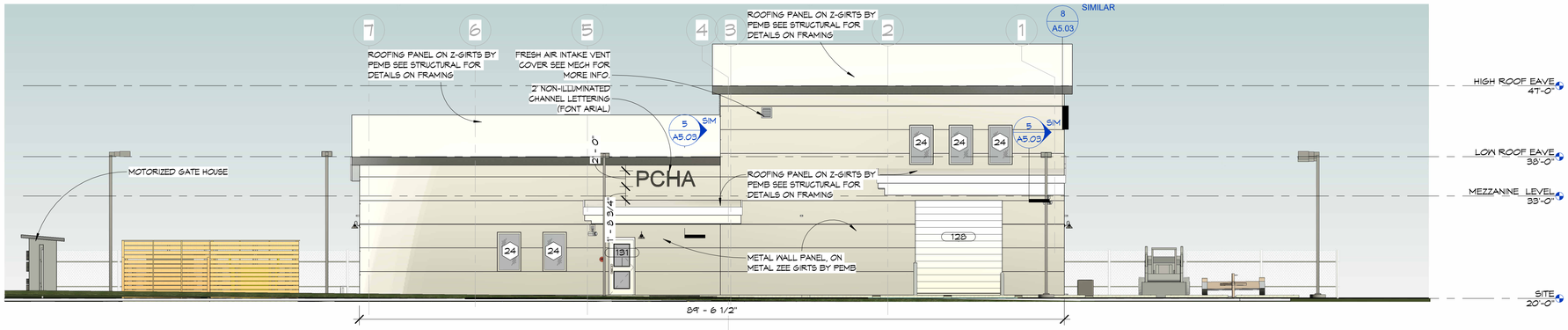
NO	REVISION	DATE

SHEET TITLE:

ROOF PLAN

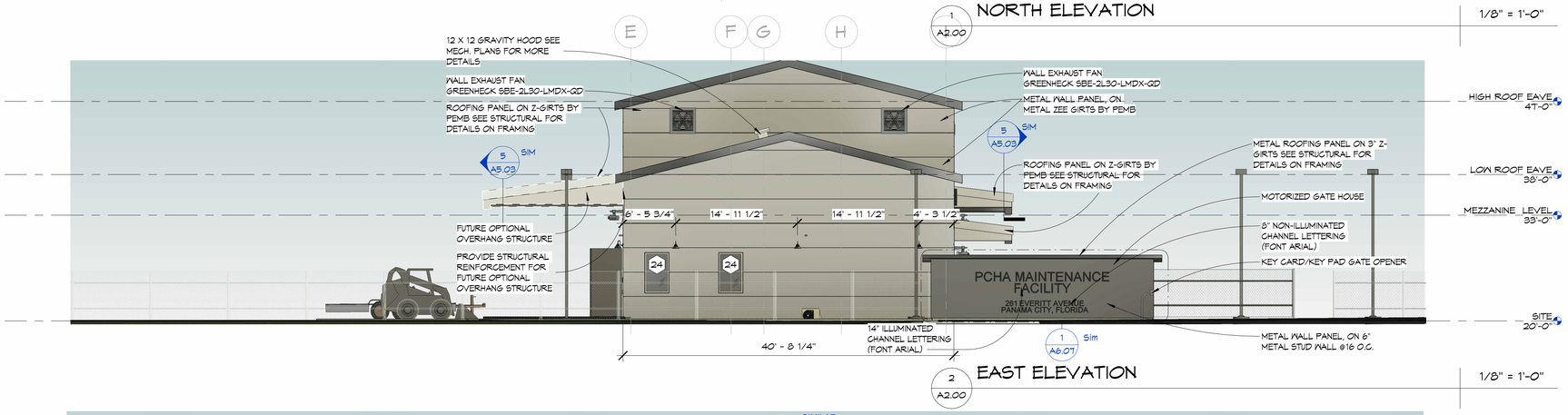
PROJECT NO.	SHEET NO.
4274-22	A1.04



NORTH ELEVATION

1 A2.00

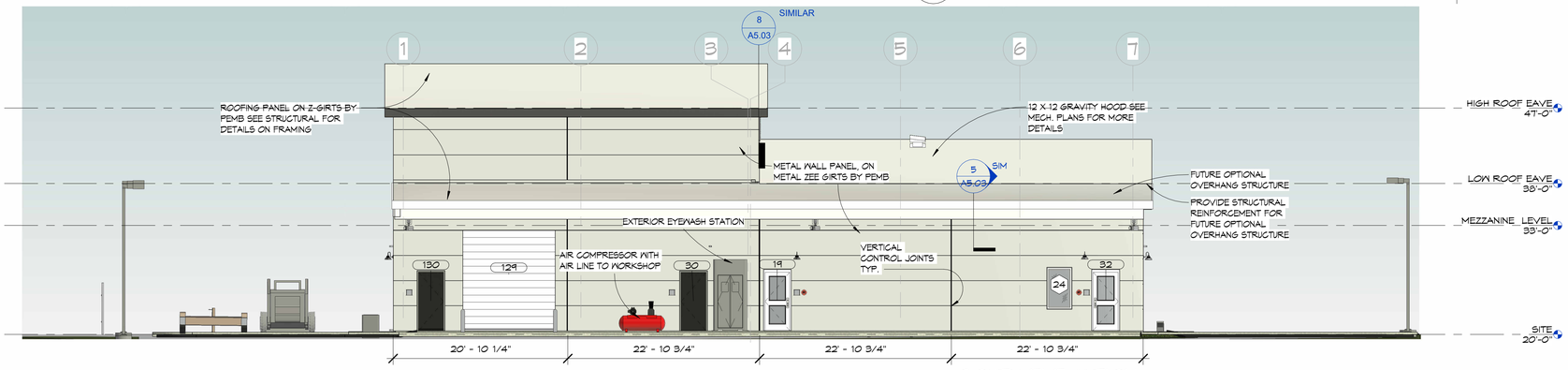
1/8" = 1'-0"



EAST ELEVATION

2 A2.00

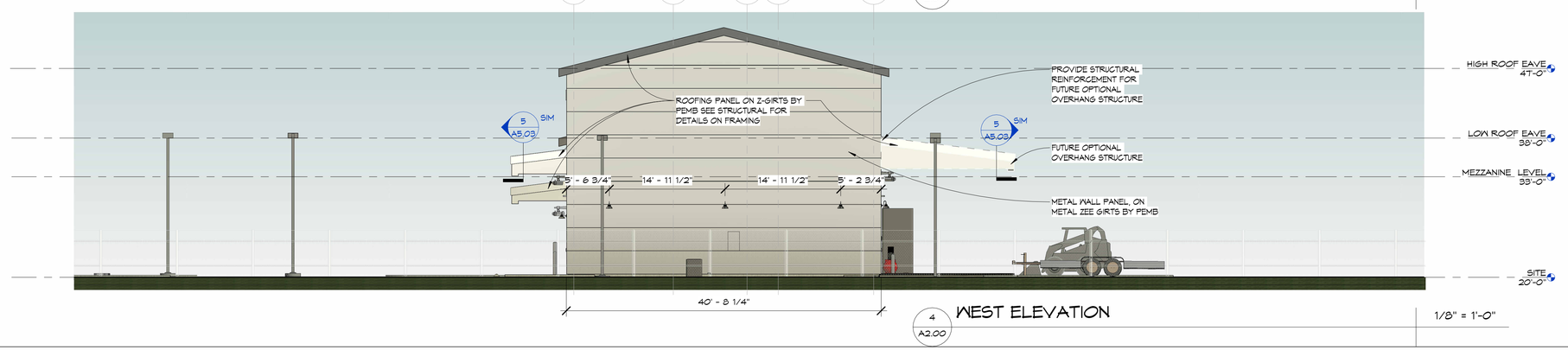
1/8" = 1'-0"



SOUTH ELEVATION

3 A2.00

1/8" = 1'-0"



WEST ELEVATION

4 A2.00

1/8" = 1'-0"

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BID SET DOCUMENTS

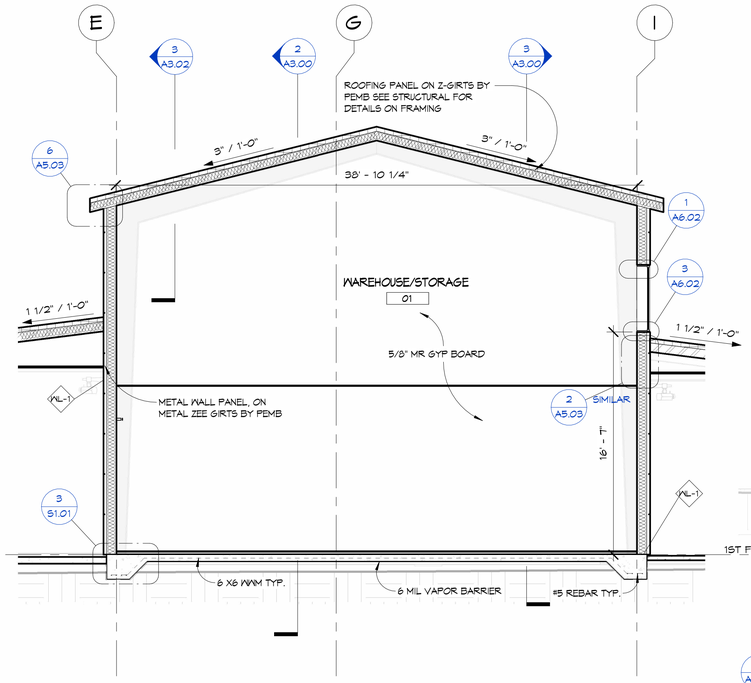
SCALE:	DATE:
1/8" = 1'-0"	10/08/2025
DRAWN BY: KJ	CHECKED BY: MG,MH

NO	REVISION	DATE

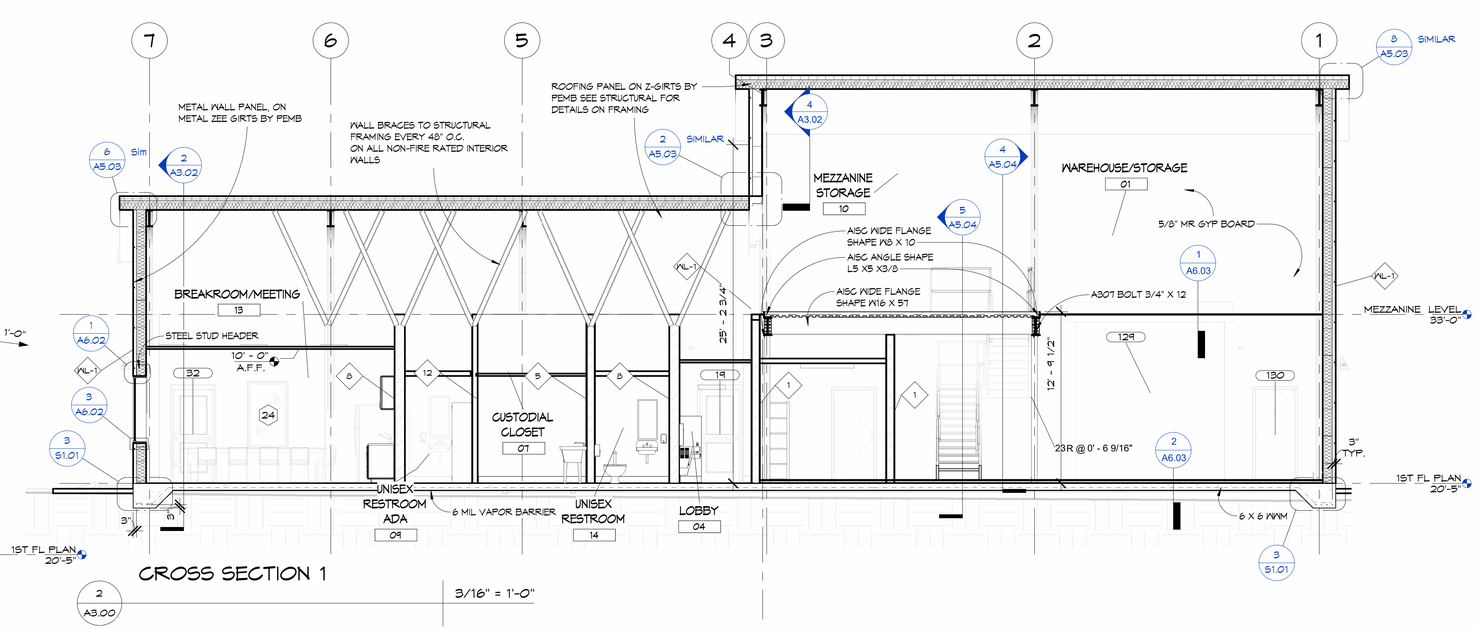
SHEET TITLE:

BUILDING ELEVATION

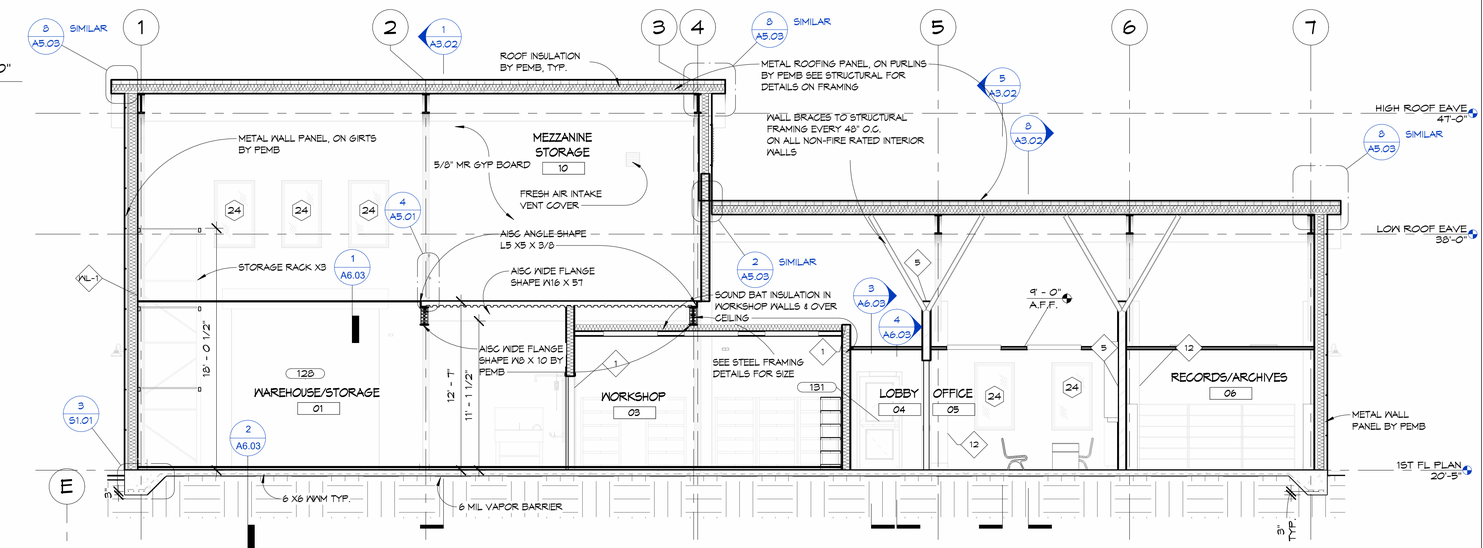
PROJECT NO.	SHEET NO.
4274-22	A2.00



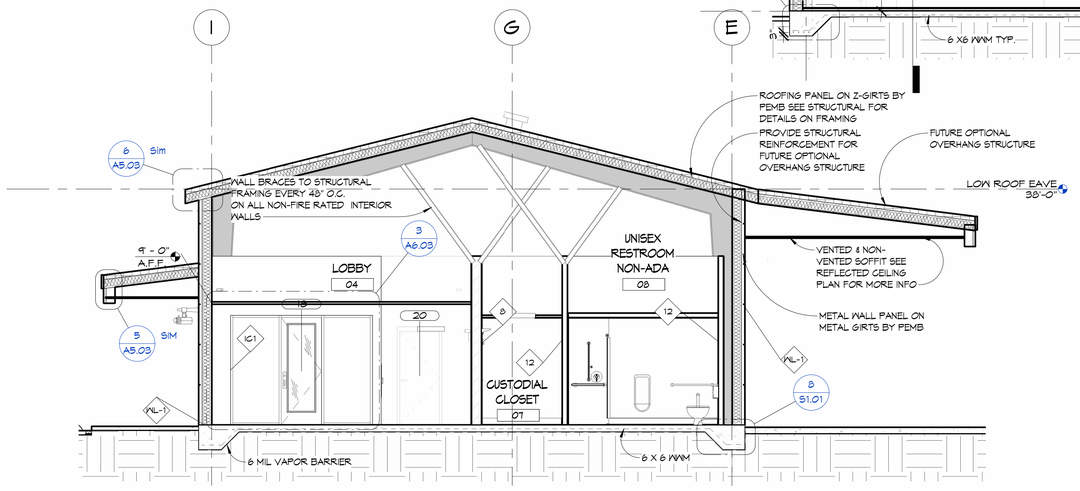
5 A3.00 CROSS SECTION 4 — 3/16" = 1'-0"



2 A3.00 CROSS SECTION 1 — 3/16" = 1'-0"



3 A3.00 CROSS SECTION 2 — 3/16" = 1'-0"



4 A3.00 CROSS SECTION 3 — 3/16" = 1'-0"

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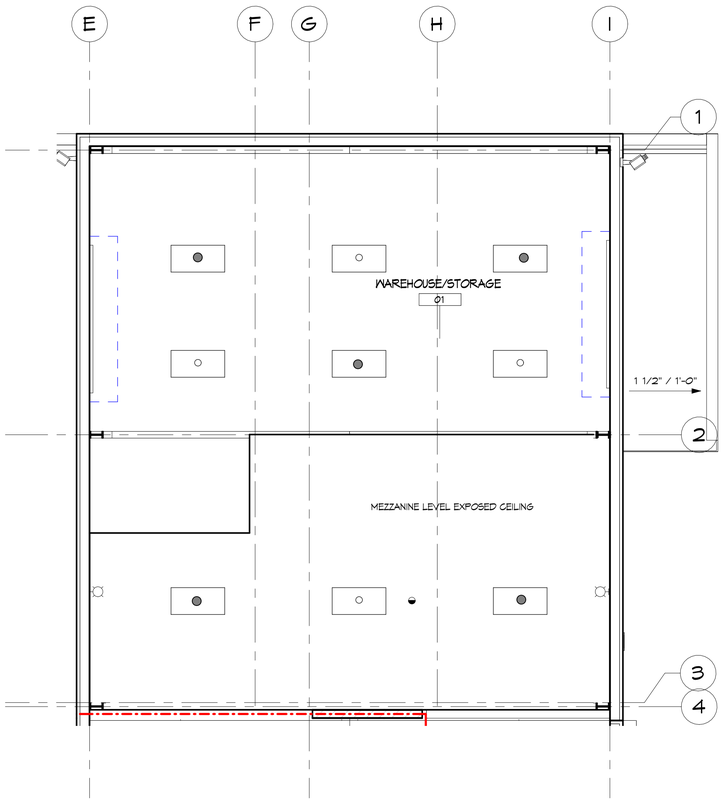
BID SET DOCUMENTS

SCALE:	DATE:
3/16" = 1'-0"	10/08/2025
DRAWN BY: KJ	CHECKED BY: MG,MH

NO	REVISION	DATE

SHEET TITLE:
BUILDING SECTIONS

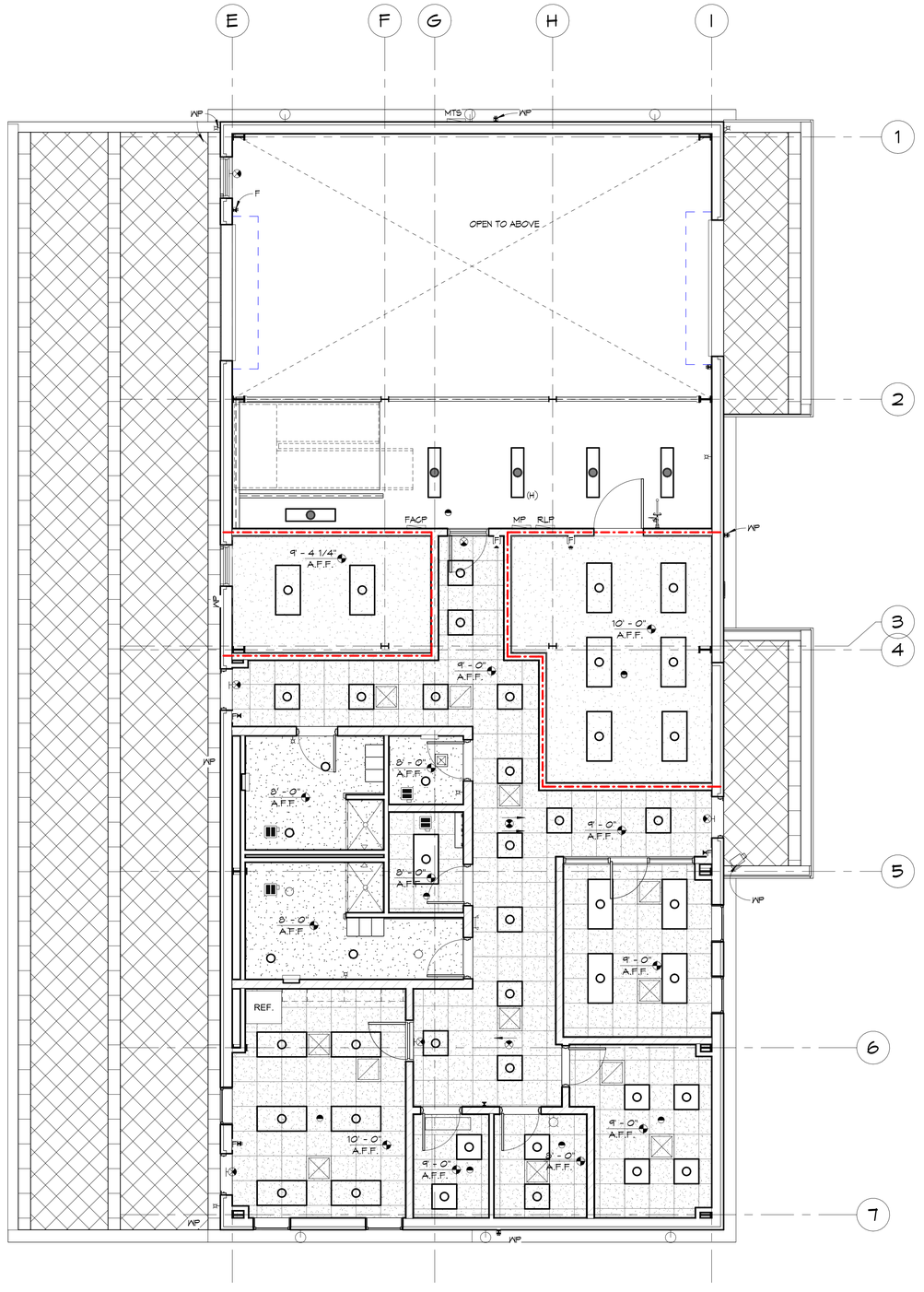
PROJECT NO. 4274-22
SHEET NO. A3.00



MEZZANINE REFLECTED CEILING PLAN

2 / A3.01

3/16" = 1'-0"



REFLECTED CEILING PLAN

1 / A3.01

3/16" = 1'-0"

RCP LEGEND:

CEILING TYPES:

- NON-VENTED ALU. SOFFIT
- VENTED ALU. SOFFIT
- 2X2 ACOUSTICAL TILE
- GYP. BOARD CEILING ON METAL STUD
- EXPOSED CEILING

NOTE:

1. ALL CEILING ELEVATIONS ARE FROM ABOVE FINISH FLOOR (REFER TO SCHEDULE)
2. REFER TO LIFE SAFETY PLANS AND ELECTRICAL LIGHTING PLANS FOR LOCATIONS OF EMERGENCY AND EXIT LIGHTS
3. ADD INSULATION ABOVE ALL TOILET ROOM CEILINGS

WALL LEGEND:

- 1-HOUR FIRE BARRIER
- INTERIOR WALL TO UNDERSIDE OF FLOOR / ROOF DECK
- INTERIOR WALL TO 4" ABOVE CEILING

FIRE PROTECTION:

- SYSTEM SMOKE DETECTOR - CEILING MOUNTED
- (H) SYSTEM HEAT DETECTOR - CEILING MOUNTED
- (F) FIRE ALARM VISUAL NOTIFICATION DEVICE - CEILING MOUNTED
- EXIT LIGHT WITH DIRECTIONAL LIGHT INDICATOR, CEILING MOUNTED

LIGHTING CONTROLS:

- (M) DIGITAL OCCUPANCY SENSOR - CEILING MOUNTED, DUAL TECHNOLOGY
- (M) DIGITAL OCCUPANCY SENSOR - WALL MOUNTED, DUAL TECHNOLOGY

LIGHT FIXTURES:

- 2'X2' LED FIXTURE ON EMERGENCY GENERATOR CIRCUIT - REFER TO ELECTRICAL PLANS
- 6" ROUND RECESSED HORIZONTAL DOWNLIGHT - REFER TO ELECTRICAL PLANS
- SUSPENDED LIGHT FIXTURE - REFER TO ELECTRICAL PLANS
- SURFACE MOUNTED OR RECESSED 2' X 2', 1' X 4', 2' X 4', LED LIGHTING FIXTURE

HVAC LEGEND:

- MITSUBISHI ELECTRIC MODEL# PKA-A24KA7 DUCTLESS SPLIT SYSTEM SEE MECHANICAL PLANS
- SQUARE CEILING SA DIFFUSER & AIR FLOW - REFER TO MECHANICAL PLANS
- GREENHECK MODEL# SP-B110 EXHAUST FAN

AUDIO / VISUAL / SECURITY LEGEND:

- CEILING MOUNT IP DOME CAMERA
- WIRELESS ACCESS POINT - REFER TO TELECOM. PLANS

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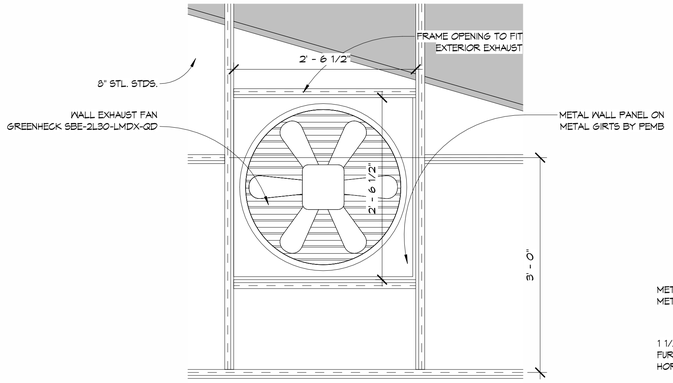
NO	REVISION	DATE

SHEET TITLE:

1ST FLOOR REFLECTIVE CEILING PLAN

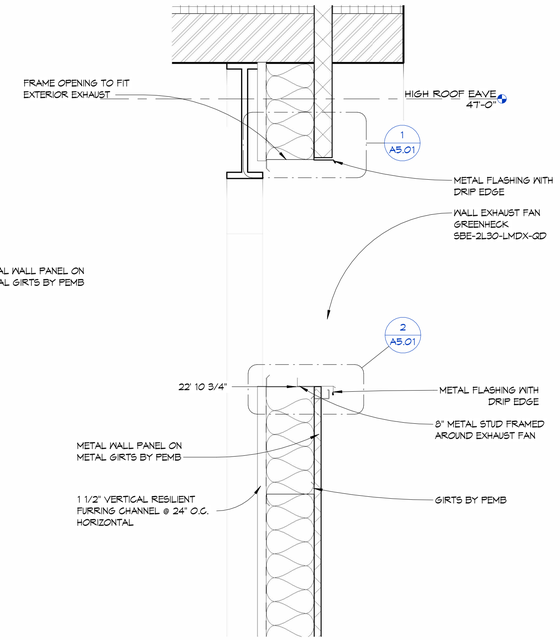
PROJECT NO. 4274-22

SHEET NO. A3.01



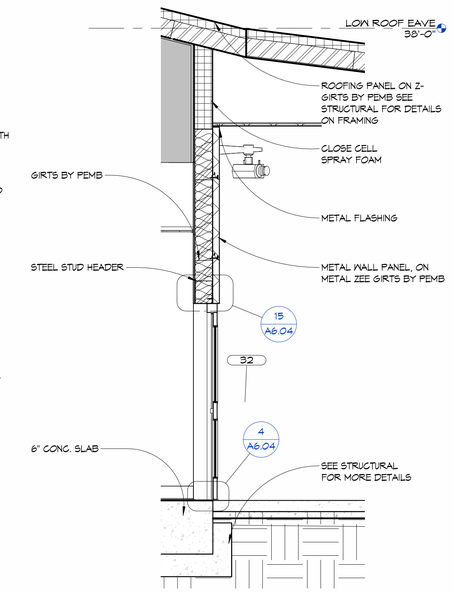
EXHAUST FAN FRAMING DETAIL

4 / A3.02 — 1" = 1'-0"



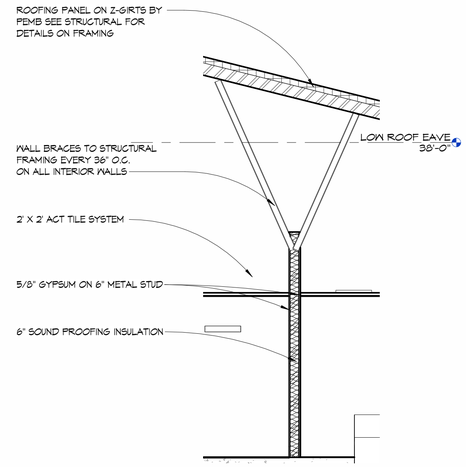
EXHAUST FAN FRAMING

3 / A3.02 — 1" = 1'-0"



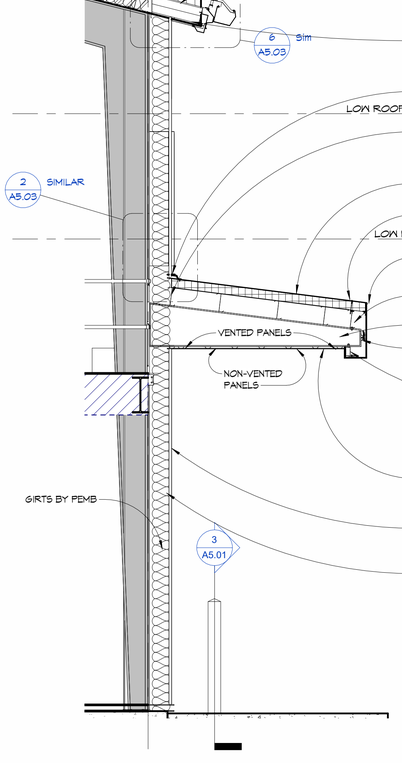
BREAKROOM WALL SECTION

2 / A3.02 — 3/8" = 1'-0"



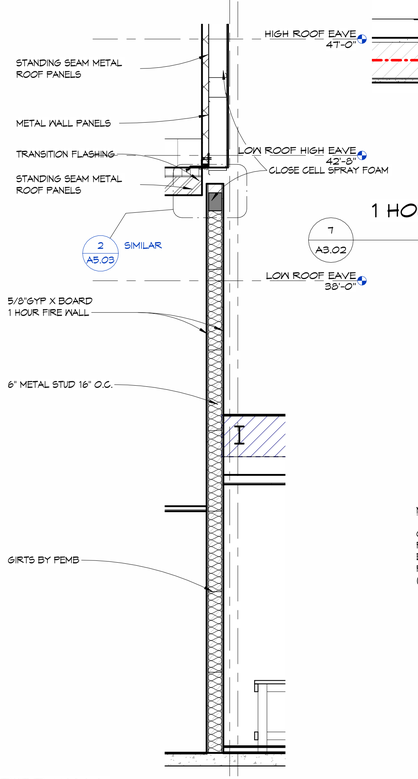
INTERIOR WALL DETAIL

5 / A3.02 — 1/4" = 1'-0"



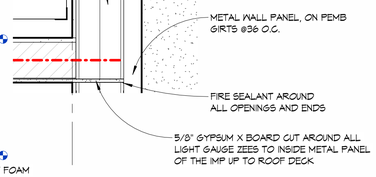
WAREHOUSE WALL SECTION

1 / A3.02 — 3/8" = 1'-0"



1 HOUR FIRE WALL

6 / A3.02 — 3/8" = 1'-0"

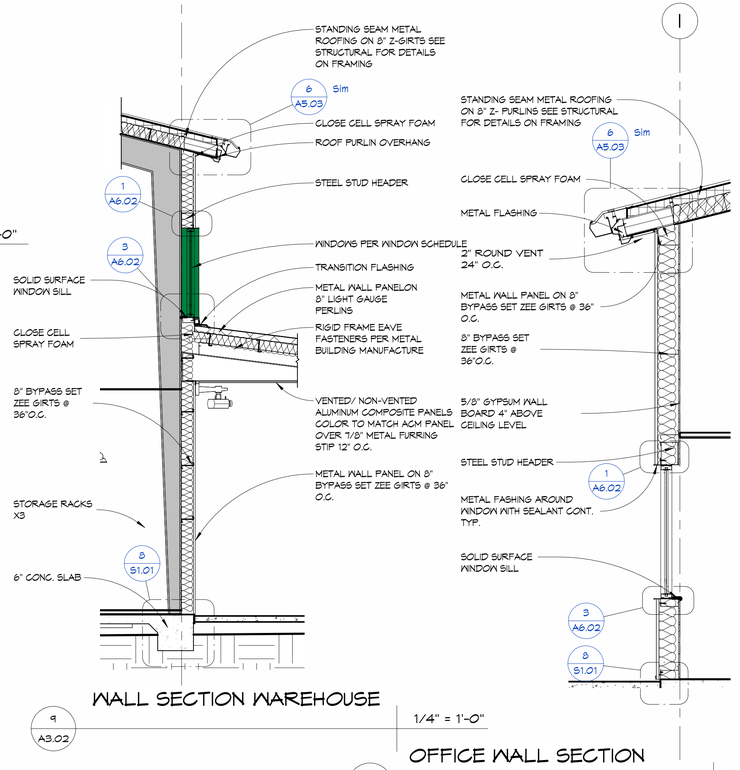


1 HOUR WALL DETAIL

7 / A3.02 — 1" = 1'-0"

NOTE:

COORDINATE HORIZONTAL PEMB GIRT SPACING WITH EXTERIOR INSULATED WALL PANEL(IWP) SPACING (36" O.C.)



WALL SECTION WAREHOUSE

9 / A3.02 — 1/4" = 1'-0"

OFFICE WALL SECTION

8 / A3.02 — 3/8" = 1'-0"

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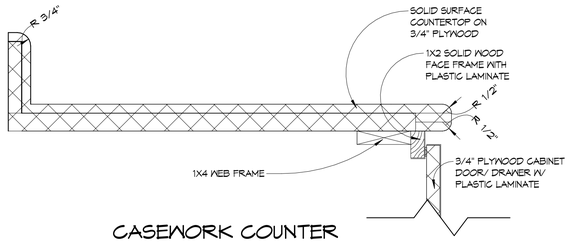
NO	REVISION	DATE

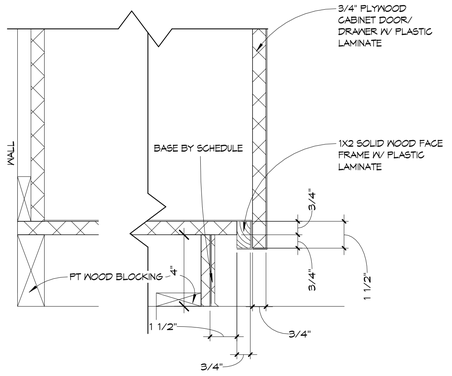
SHEET TITLE:
WALL SECTION

PROJECT NO. 4274-22
SHEET NO. A3.02



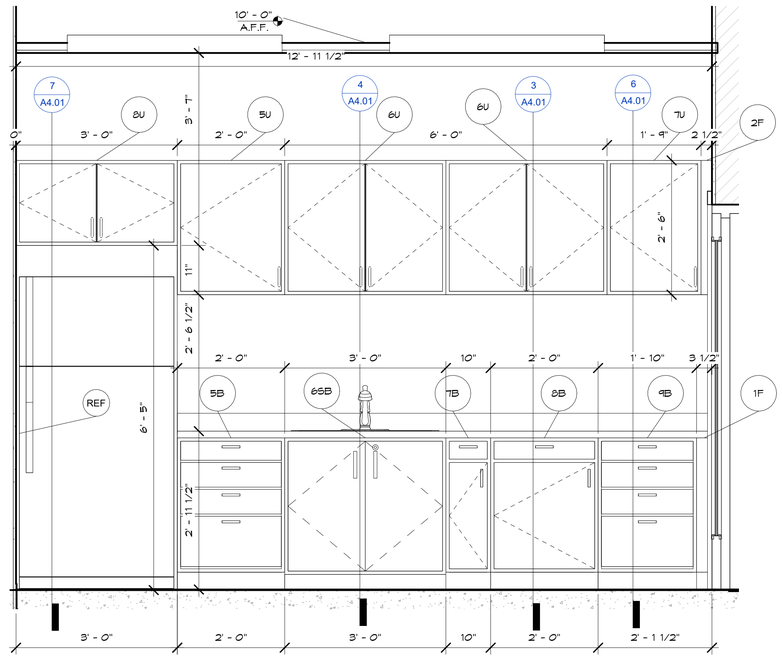
CASEWORK COUNTER EGDE DETAIL

1 / A4.01 — 3" = 1'-0"



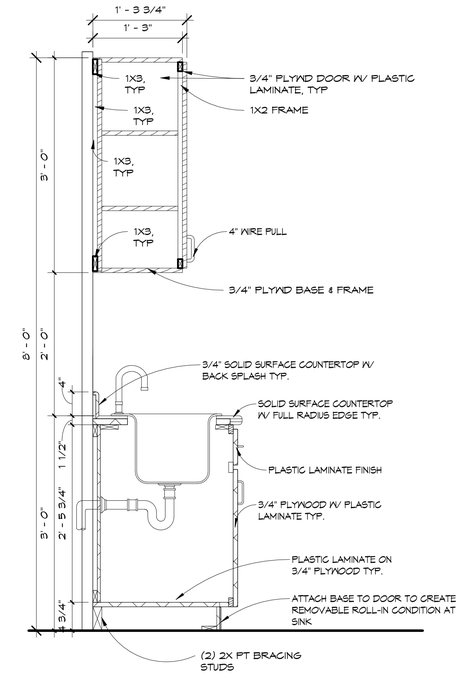
CASEWORK SECTION BASE

4 / A4.01 — 3" = 1'-0"



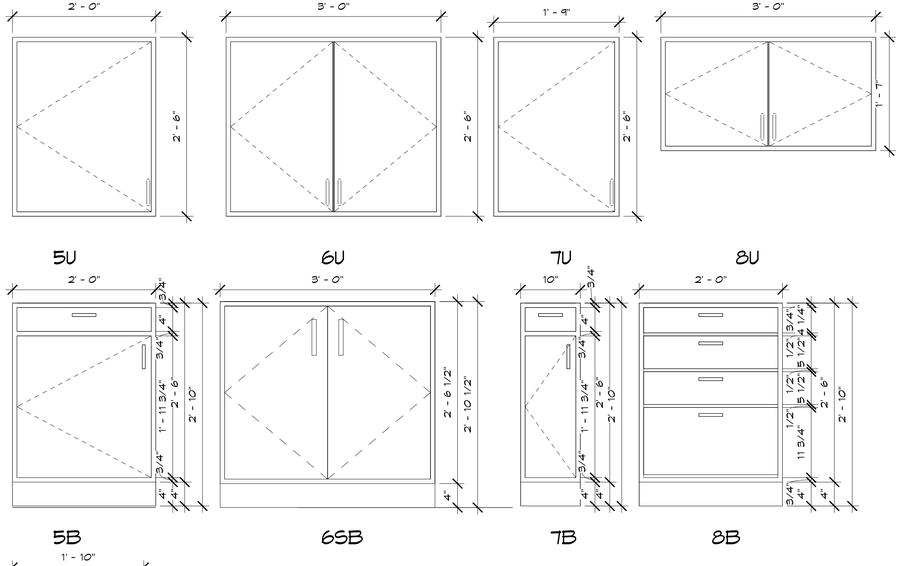
BREAKROOM SECTION

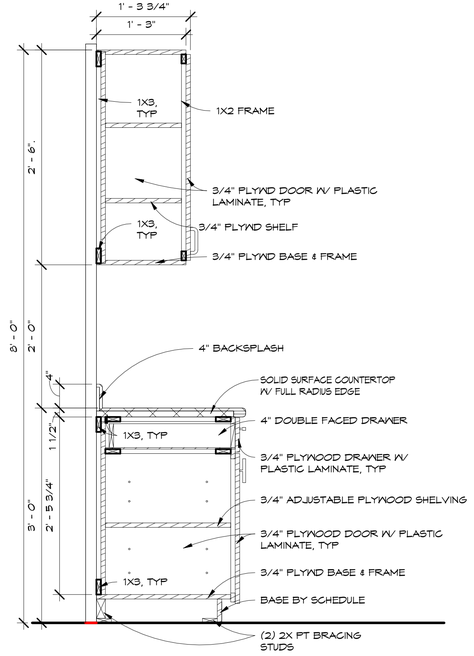
5 / A4.01 — 3/4" = 1'-0"



CASEWORK SECTION 1

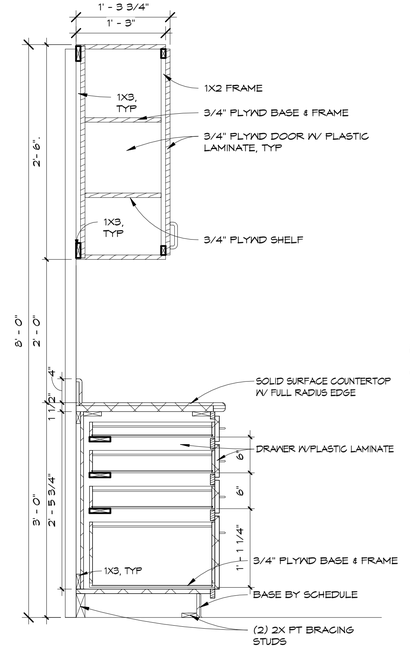
2 / A4.01 — 1" = 1'-0"





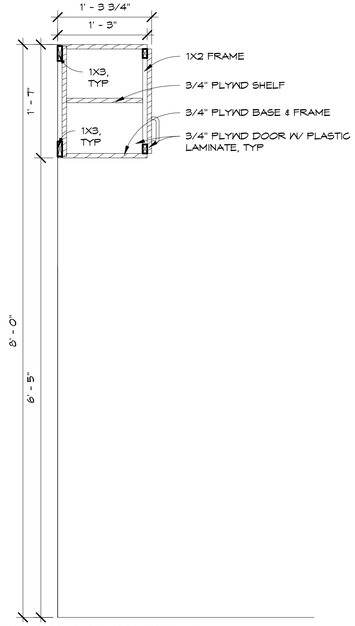
CASEWORK SECTION 2

3 / A4.01 — 1" = 1'-0"



CASEWORK SECTION 3

6 / A4.01 — 1" = 1'-0"



CASEWORK SECTION 4

7 / A4.01 — 1" = 1'-0"

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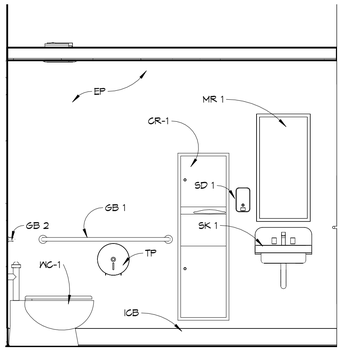
CASEWORK SECTION AND DETAILS

PROJECT NO.	SHEET NO.
4274-22	A4.01



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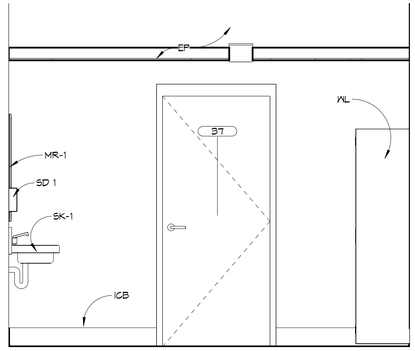

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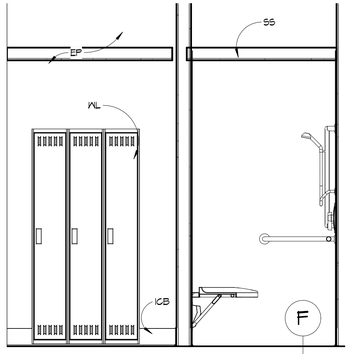

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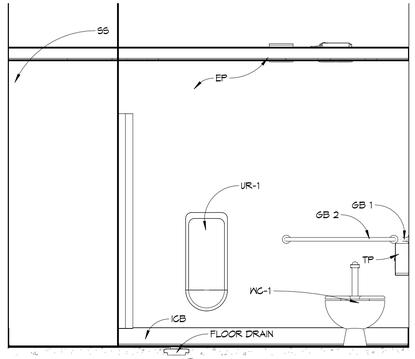

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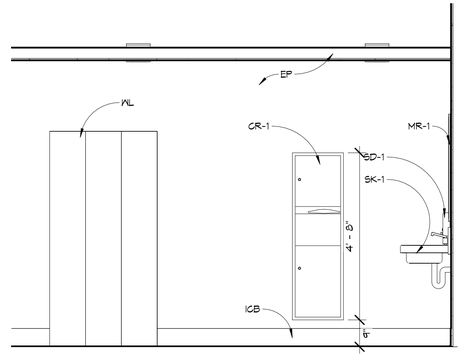


5

RESTROOM LEGEND

GENERAL:

1-101 - ROOM NUMBER DESIGNATION

1-101 - DOOR NUMBER DESIGNATION

FD - FLOOR DRAIN

GRAB BARS:
GB-1 - GRAB BAR, 44" ADA COMPLIANT
GB-2 - GRAB BAR, 36" ADA COMPLIANT

SOAP DISPENSERS:
SD-1 - BOBRICK B-2111
SURFACE-MOUNTED SOAP DISPENSER

PAPER DISPENSERS:
TP - TOILET PAPER DISPENSER

CR-1 -BRADLEY 238-10
COMBO TOWEL DISPENSER/12 GAL WASTE, RECESSED ADA TYPE

MIRRORS:
MR-1 - BOBRICK B-293 1836
STAINLESS STEEL ANGLE FRAMED MIRROR, ADA COMPLIANT

SINKS:
SK-1 - NEO METRO 9121 SINK, WALL-MOUNT
SK-2 - FREE STANDING STAINLESS STEEL UTILITY SINK

WATER CLOSET
WC-1 -AMERICAN STANDARD MADERA 1.6 GPF ELE FLUSH ONE-PIECE MODEL # 3043.001.020-B

URINAL
UR-1 -AMERICAN STANDARD PINTBROOK 0.5 GPF TOP SPUD WITH FLUSHMETER MODEL# 6002.001.B2.020

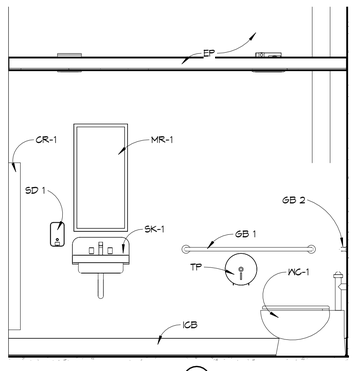
FAUCETS:
DAT - ADA COMPLIANT (KD06 WALL TAP UNIT) DYSON AIRBLADE TAP
F2 - ADA COMPLIANT WITH HAND SPRAYER

MISCELLANEOUS:
WL - SALSBURY 18" 3 WIDE MODEL# 18-51361BL-A

MS - MOP SINK
MSH-1 - MOP SHELF: S.S. SHELF MOUNTED ABOVE
TB - TRASH BIN
SS - 36" X 48" ADA SHOWER INSERT INCLUDES ALL ADA FIXTURES

WALL:
6" ICB - 6" INTEGRAL COVE BASE

EP - IMPERVIOUS EPOXY PAINT



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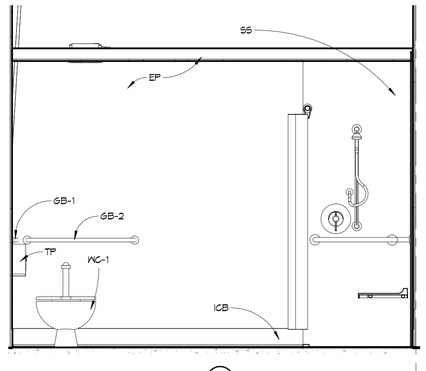

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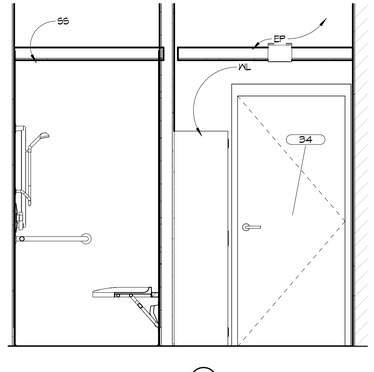

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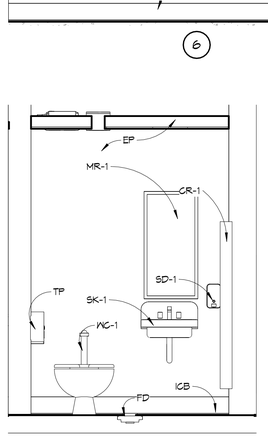

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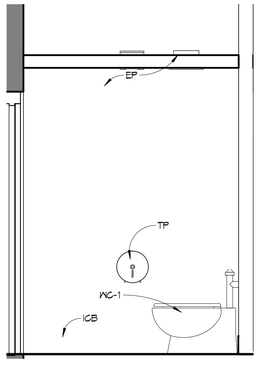

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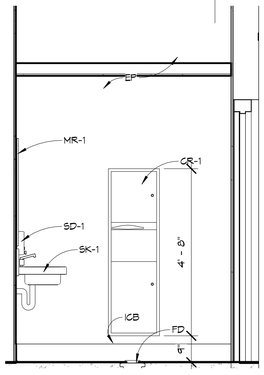

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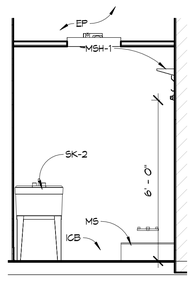

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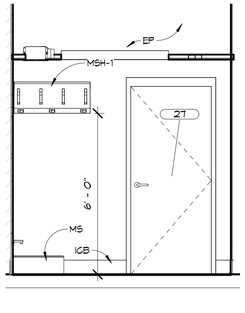

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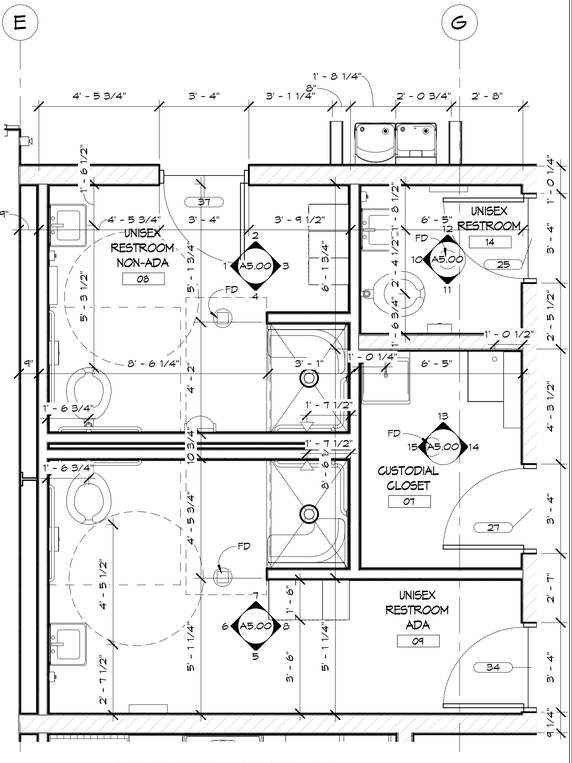
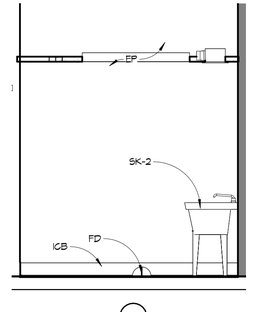


ENLARGED RESTROOM PLAN

9 / A5.00

3/8" = 1'-0"



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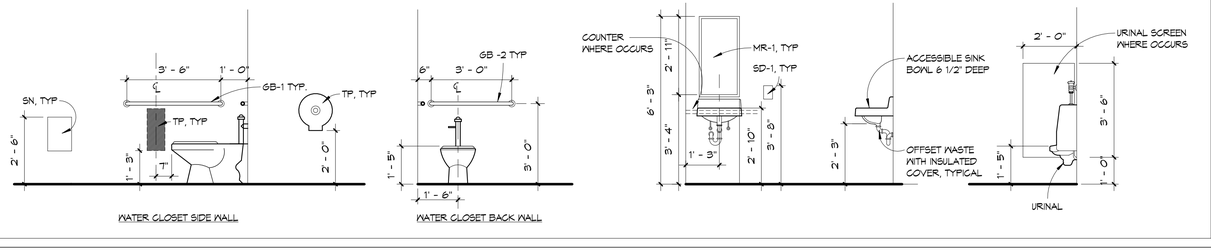
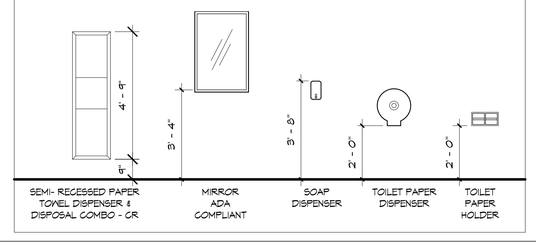
TYPICAL PLUMBING FIXTURES AND ACCESSORIES MOUNTING HEIGHTS



TYPICAL TOILET ACCESSORIES MOUNTING HEIGHTS



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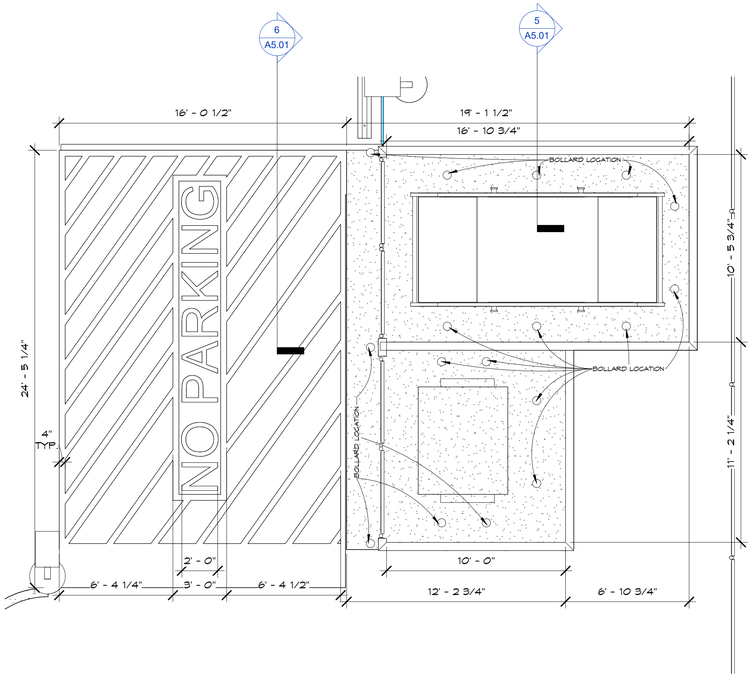
KJ	MG,MH

NO	REVISION	DATE

SHEET TITLE:

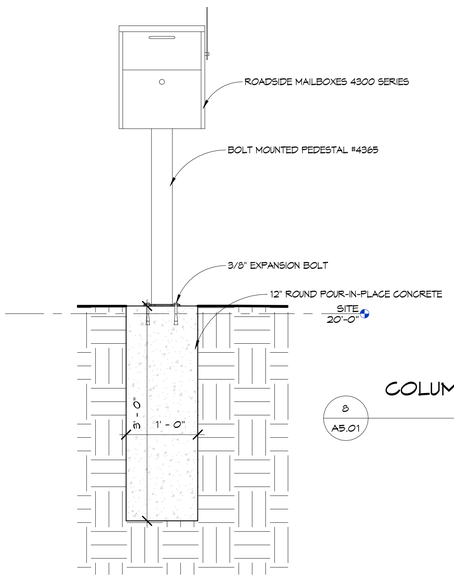
ENLARGED RESTROOM PLANS

PROJECT NO.	SHEET NO.
4274-22	A5.00



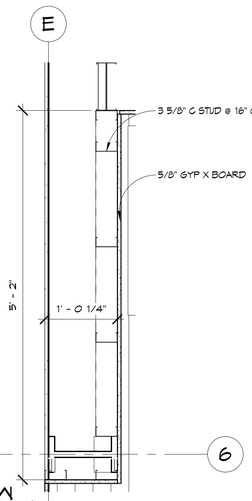
DUMPSTER ENCLOSURE

7 / A5.01 — 1/4" = 1'-0"



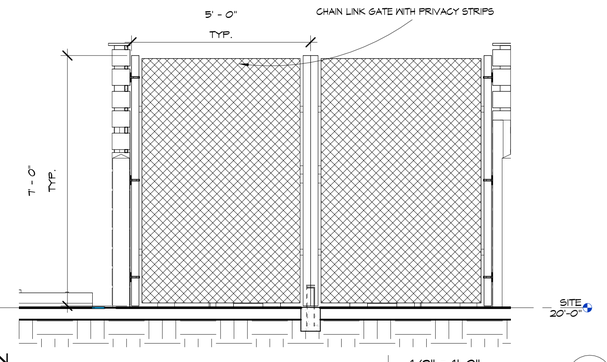
MAILBOX DETAIL

10 / A5.01 — 1" = 1'-0"



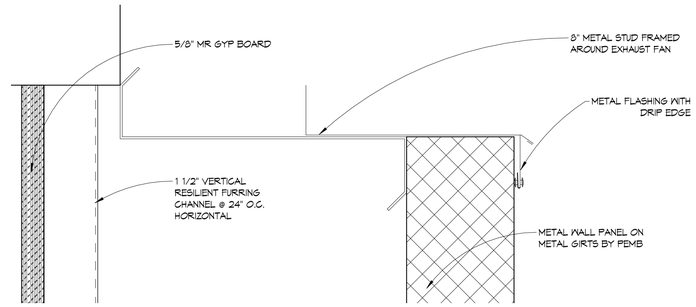
COLUMN E6 ENLARGE VIEW

8 / A5.01 — 1" = 1'-0"



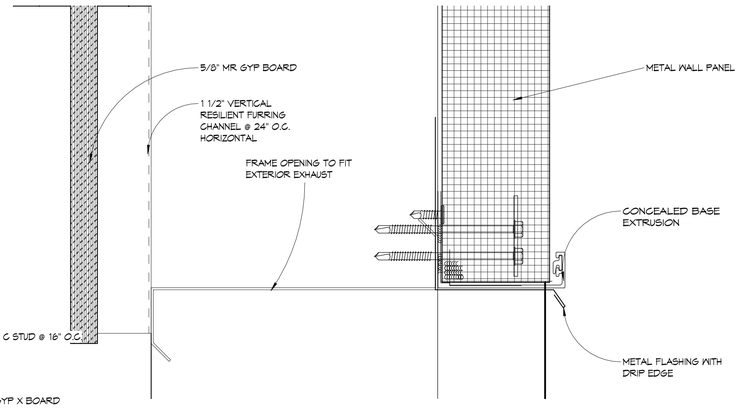
GATE SECTION

6 / A5.01 — 1/2" = 1'-0"



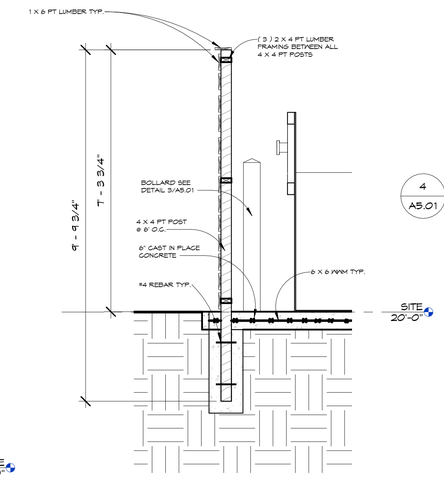
EXHAUST FAN FRAMING SILL DETAIL

2 / A5.01 — 6" = 1'-0"



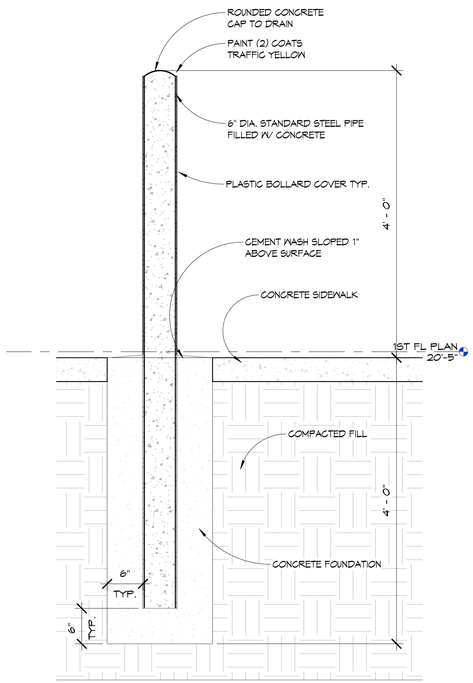
EXHAUST FAN FRAMING HEADER DETAIL

1 / A5.01 — 6" = 1'-0"



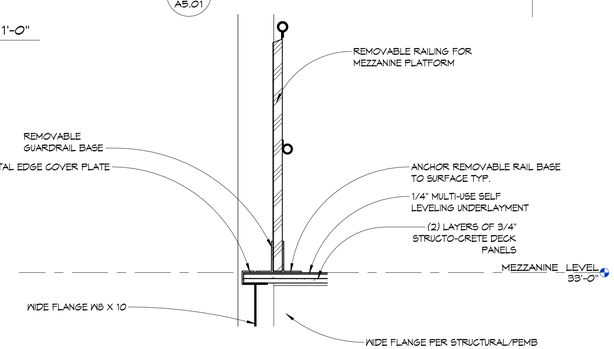
DUMPSTER ENCLOSER SECTION

5 / A5.01 — 1/2" = 1'-0"



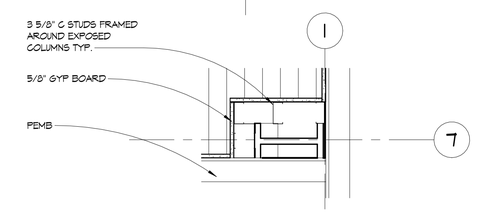
BOLLARD DETAIL

3 / A5.01 — 1" = 1'-0"



REMOVABLE GAURDRAIL DETAIL

4 / A5.01 — 1" = 1'-0"



EXPOSED COLUMN FURRING

9 / A5.01 — 1" = 1'-0"

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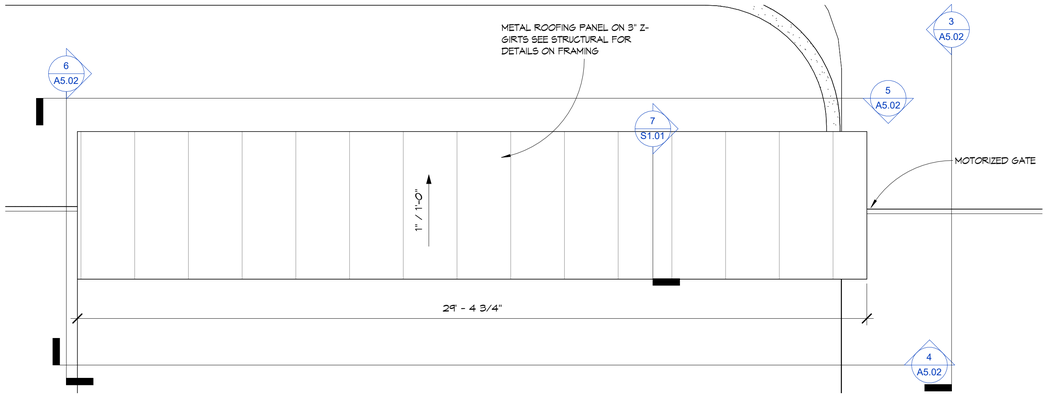
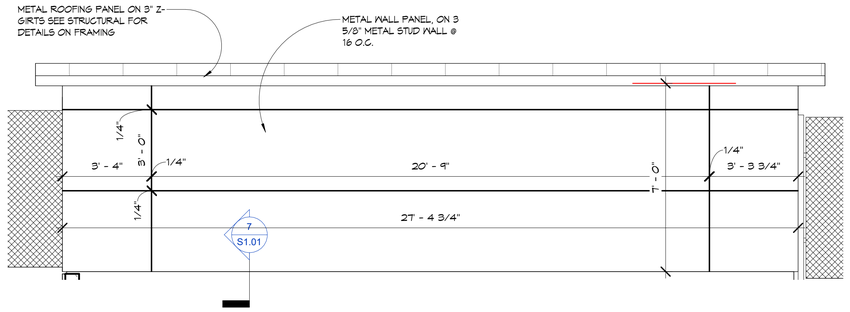
SHEET TITLE:
DETAILS

PROJECT NO. 4274-22
SHEET NO. A5.01



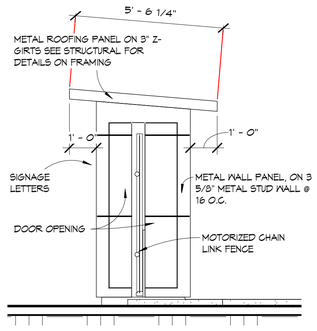
ENLARGED GATE HOUSE

1 A5.02 — 3/8" = 1'-0"



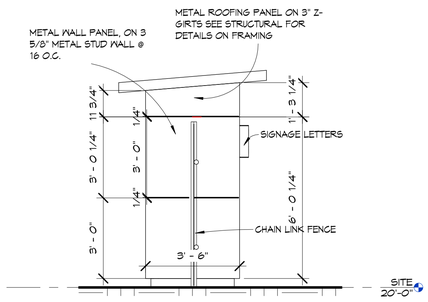
SOUTH GATE HOUSE ELEVATION

5 A5.02 — 3/8" = 1'-0"



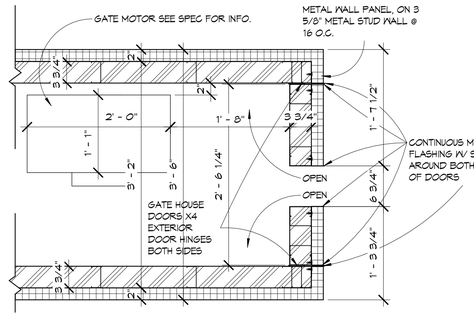
WEST GATE HOUES ELEVATION

3 A5.02 — 3/8" = 1'-0"



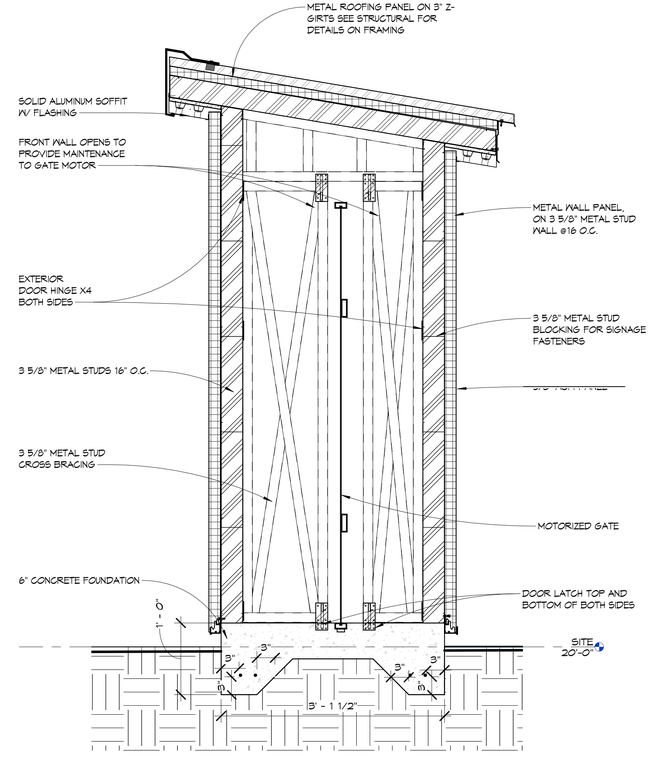
EAST GATE HOUSE ELEVATION

6 A5.02 — 3/8" = 1'-0"



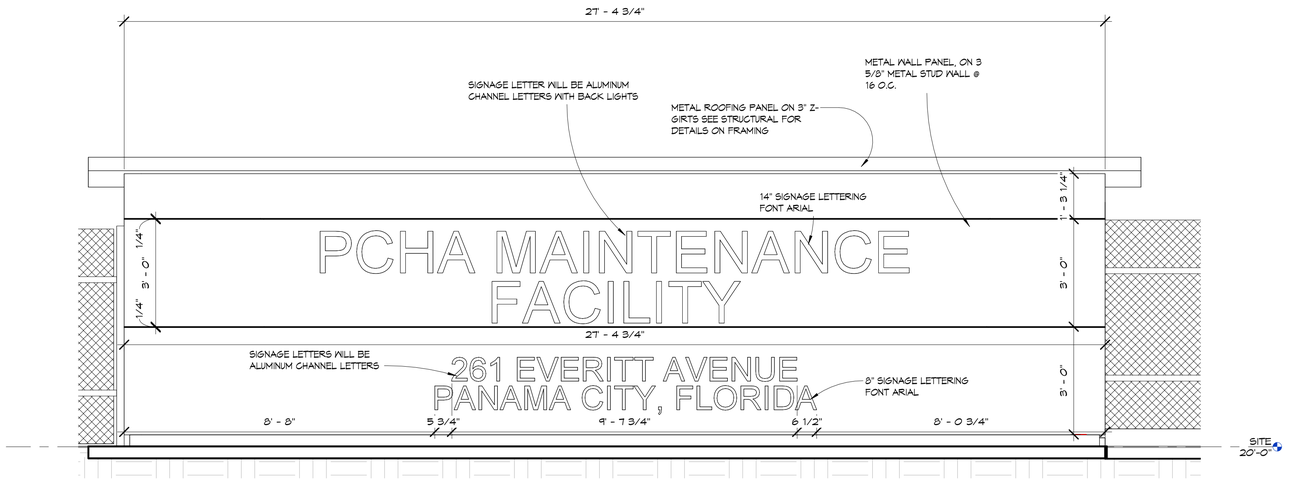
GATE HOUSE DOOR FRAMING

7 A5.02 — 1" = 1'-0"



GATE HOUSE SECTION

2 A5.02 — 1" = 1'-0"



NORTH GATE HOUSE ELEVATION

4 A5.02 — 1/2" = 1'-0"

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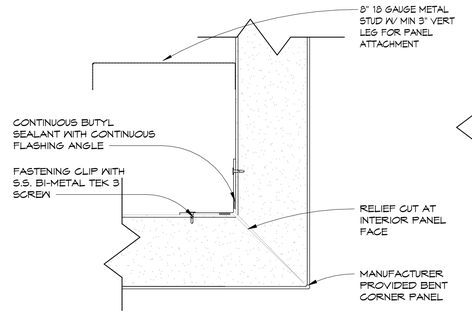
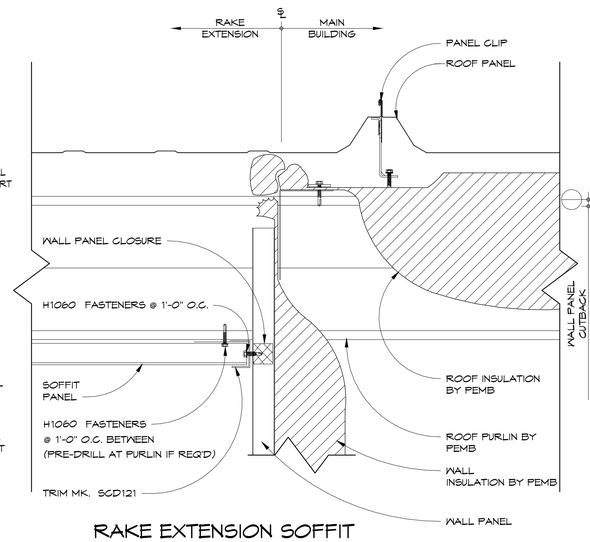
SHEET TITLE:

GATE HOUSE PLAN

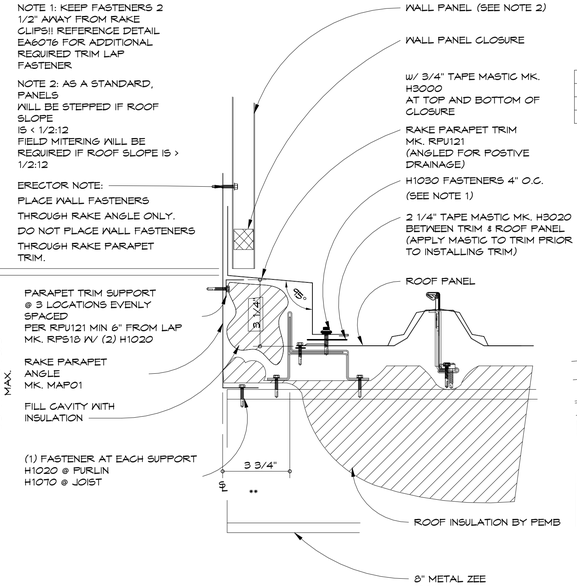
PROJECT NO. 4274-22 | SHEET NO. A5.02



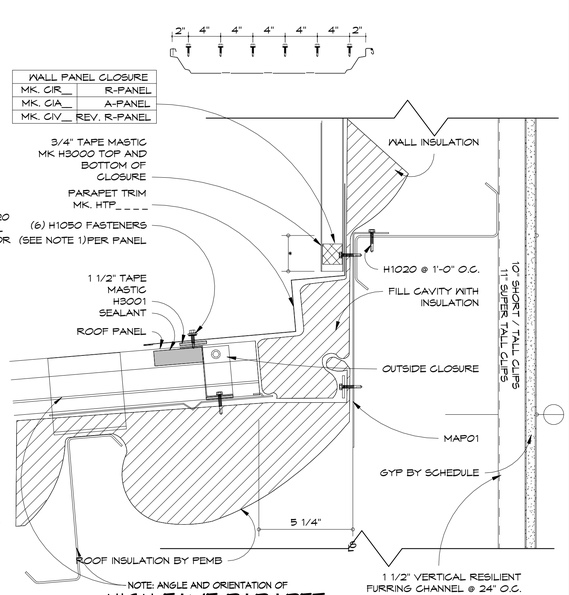
1 A5.03 **BENT CORNER1** 3" = 1'-0"



7 A5.03 **RAKE EXTENSION SOFFIT DETAIL** 3" = 1'-0"



3 A5.03 **RAKE TO ADJOINING WALL DETAIL** 3" = 1'-0"

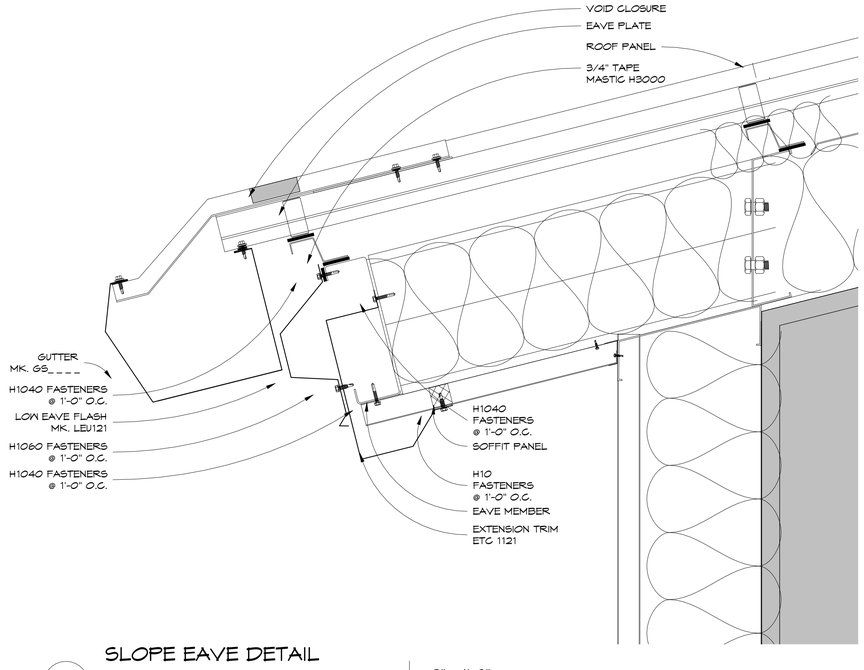


2 A5.03 **HIGH EAVE PARAPET DETAIL** 3" = 1'-0"

8 A5.03 **RAKE EXTENSION END DETAIL** 3" = 1'-0"

5 A5.03 **LOWER COVERED EAVE DETAIL** 1 1/2" = 1'-0"

4 A5.03 **RIGID FRAME EAVE DETAIL1** 3/4" = 1'-0"



6 A5.03 **SLOPE EAVE DETAIL** 3" = 1'-0"

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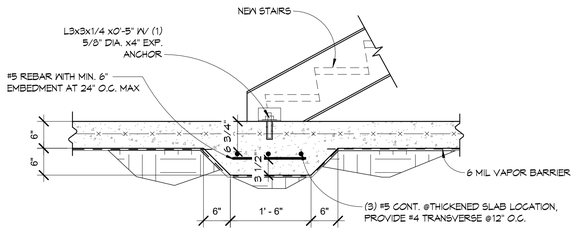
KDJ	MG MH

NO	REVISION	DATE

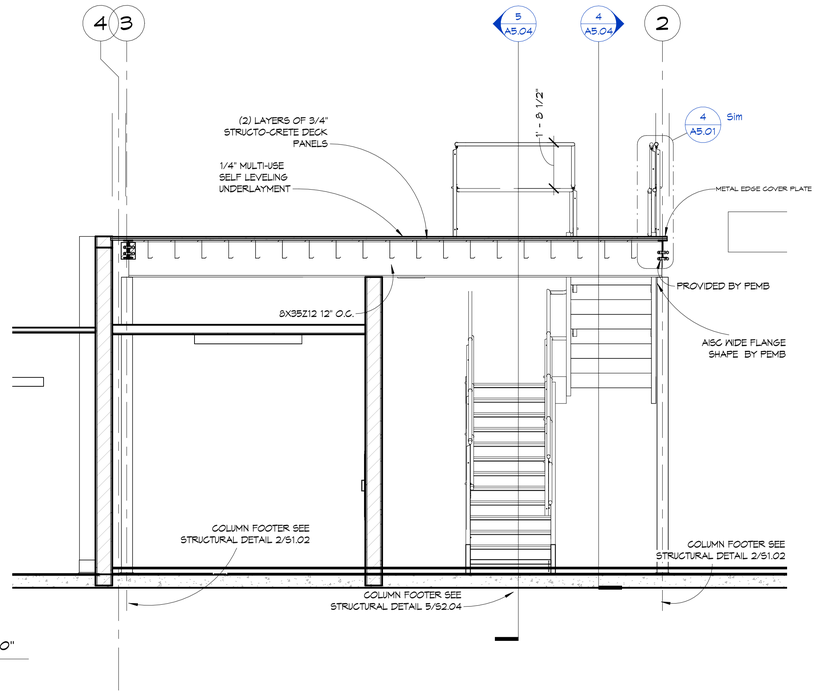
SHEET TITLE:
ROOF EAVE DETAILS

PROJECT NO.	SHEET NO.
4274-22	A5.03

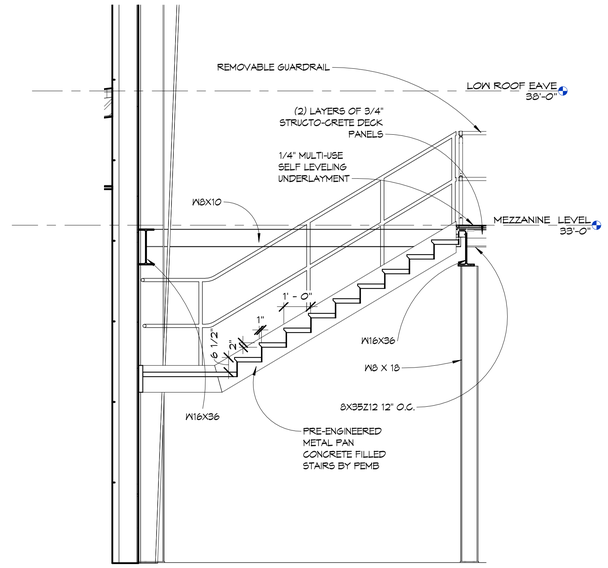
NOTE: THE MOUNTING OF HANDRAILS SHALL BE SUCH THAT THE COMPLETED HANDRAIL AND SUPPORTING STRUCTURE ARE CAPABLE OF WITHSTANDING A LOAD OF AT LEAST 200 POUNDS APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP OF THE RAIL



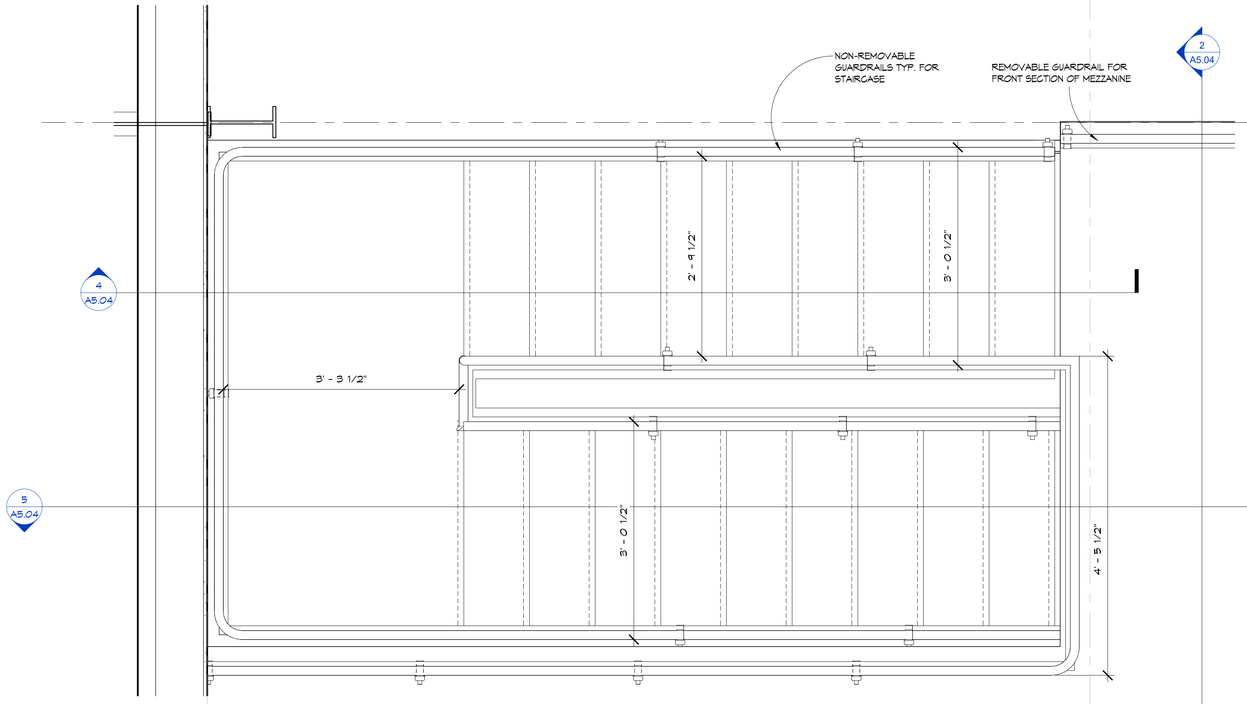
1 A5.04 THICKENED SLAB @ STAIR — 3/4" = 1'-0"



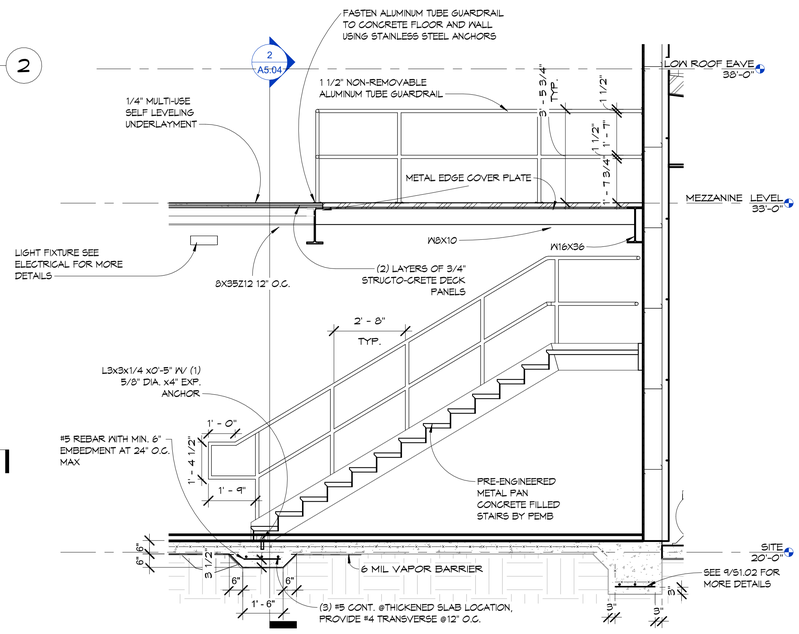
2 A5.04 STAIR VIEW 1 — 3/8" = 1'-0"



4 A5.04 STAIR VIEW 2 — 3/8" = 1'-0"



3 A5.04 ENLARGED STAIR — 1" = 1'-0"



5 A5.04 STAIR SECTION 4A — 3/8" = 1'-0"

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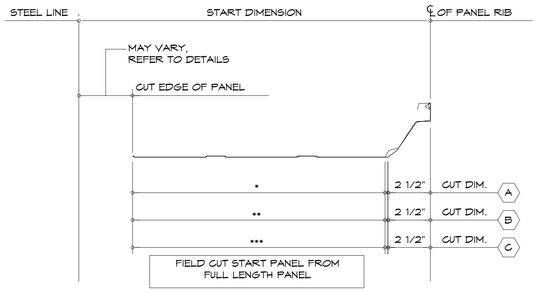
As indicated	10/08/2025
DRAWN BY: KJ	CHECKED BY: MG,MH

NO	REVISION	DATE

SHEET TITLE:
STAIRS ENLARGED PLAN, SECTIONS, & DETAILS

PROJECT NO.	SHEET NO.
4274-22	A5.04

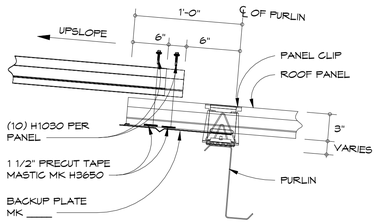


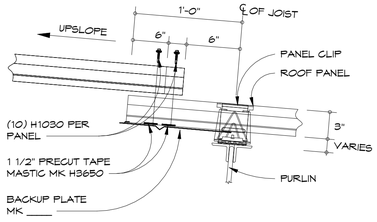
START PANEL CUT DIMENSION DETAIL

- WHEN FIELD CUTTING OR MITERING ROOF PANELS, NON-ABRASIVE CUTTING TOOLS SUCH AS NIBBLERS OR TIN-SNIPS SHALL BE USED.
- ABRASIVE CUTTING TOOLS SUCH AS MECHANICAL GRINDERS, SAWS, SHEARS OR SCISSORS CAN DAMAGE THE PANEL FINISH AND CREATE EXCESS METAL SHAVINGS THAT CAN CORRODE THE PANELS.
- THE USE OF NON-APPROVED CUTTING DEVICES MAY VOID YOUR FACTORY WARRANTY.

CFR FIELD CUT DETAIL

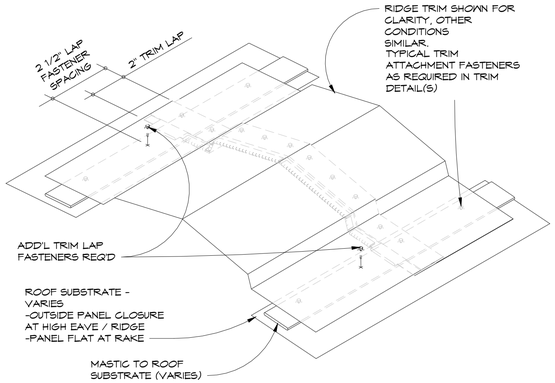
9 / A5.05 — 3" = 1'-0"





CFR ENDLAP PROFILE DETAIL

8 / A5.05 — 3" = 1'-0"



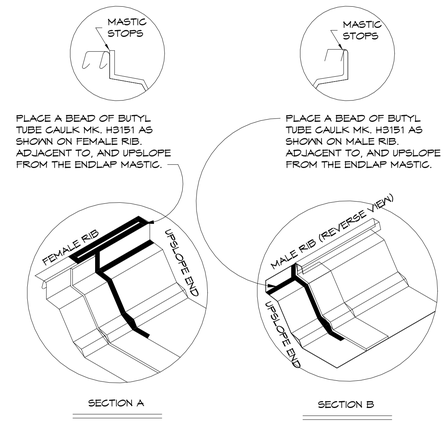
TRIM LAP COMPRESSION FASTENER

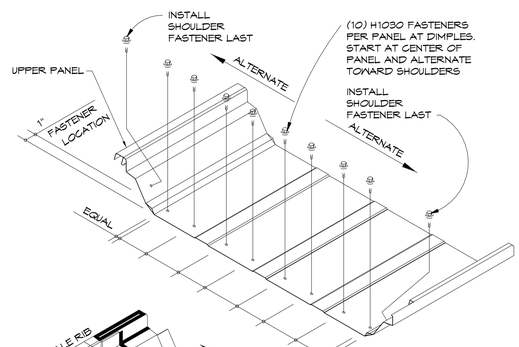
THE ADDITIONAL FASTENER IS REQUIRED AT TRIM LAPS TO AID IN ELIMINATING GAPS AND COMPRESSING SEALANTS WHERE THE MULTIPLE LAYERS OF FLASHING COME TOGETHER.

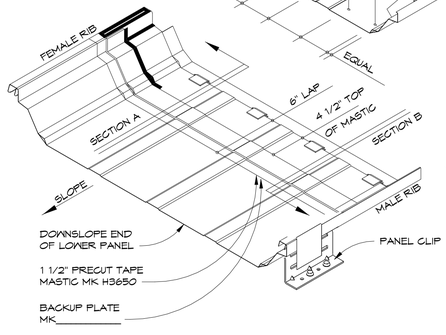
NOTE:
REFERENCE TRIM CONDITION DETAIL FOR REQUIRED SEALANT AND FASTENERS

CFR RIDGE DETAIL

10 / A5.05 — 3" = 1'-0"



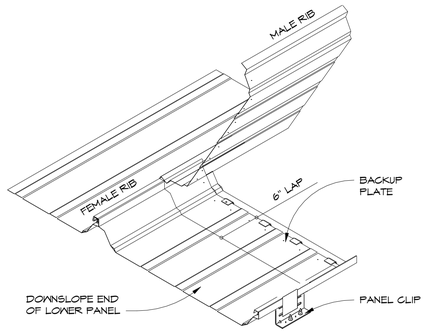




NOTE: INSULATION AND THERMAL BLOCKS NOT SHOWN FOR CLARITY

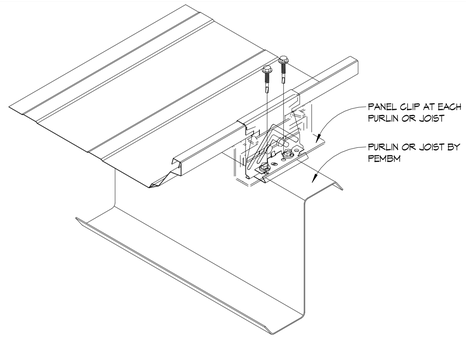
CFR ENDLAP DETAILS

7 / A5.05 — 3" = 1'-0"



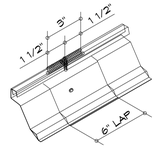
CFR ENDLAP ASSEMBLY

3 / A5.05 — 3" = 1'-0"



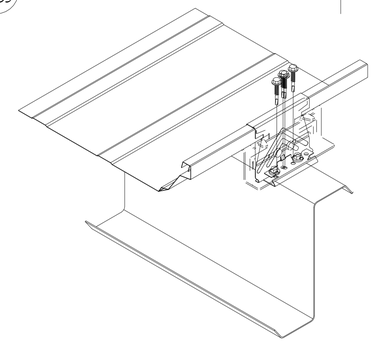
(2) FASTENERS PER CLIP AT PURLIN/JOIST

1 / A5.05 — 3" = 1'-0"



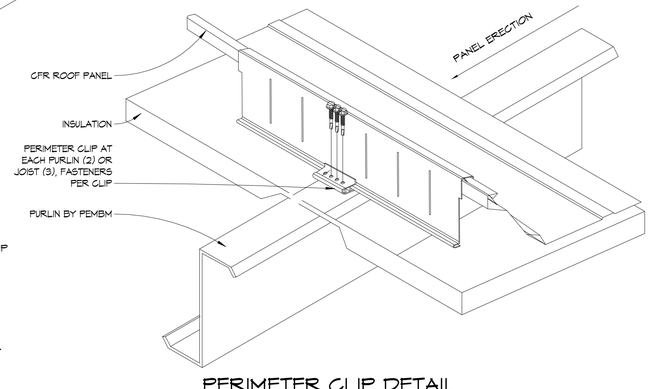
CFR MALE RIB CAULK DETAIL

4 / A5.05 — 3" = 1'-0"



(3) FASTENERS PER CLIP AT PURLIN

2 / A5.05 — 3" = 1'-0"



PERIMETER CLIP DETAIL

5 / A5.05 — 3" = 1'-0"

CFR ERECTION NOTES:

1. PROPER PLACEMENT OF ENDLAP MASTIC IS CRITICAL TO WEATHER-TIGHTNESS OF ROOF AND ENDLAPS. WIPE DRY AND CLEAN THE PANEL SURFACES.
2. MARK LOWER PANEL AT 2 1/2" FOR TOP OF MASTIC AND 4" FOR LAP LOCATION ONTO LOWER PANEL.
3. APPLY PRECUT TAPE MASTIC, START AT CORNER OF MALE RIB AND FINISH AT TOP OF FEMALE RIB. LEAVE PAPER BACKING ON MASTIC UNTIL UPPER PANEL HAS BEEN PLACED. MASTIC WILL NOT COVER DIMPLES OF LOWER PANEL.
4. APPLY BUTYL CAULK UPSLOPE OF TAPE MASTIC IN RIB LOCATIONS AS SHOWN. (BOTH MALE AND FEMALE RIBS)
5. AFTER ALL SEALANTS ARE IN PLACE, HOOK THE UPPER PANELONTO PREVIOUS PANEL, ALIGNING PANEL ALONG THE 6" LAP MARK ON LOWER PANEL. BOW THE PAN OF THE UPPER PANEL UP AND TUCK THE MALE RIB UNDER THE HOOK OF THE LOWER PANEL. NOTE: THE NOTCHES MUST BUTT TIGHT TO AVOID A POTENTIAL LEAK. NO GAPS. PEEL PAPER BACKING OFF MASTIC AND FASTEN ENDLAP AS SHOWN. FASTENERS MUST PASS THROUGH MASTIC.

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SEAL:

BID SET DOCUMENTS

SCALE:	DATE:
3" = 1'-0"	10/08/2025
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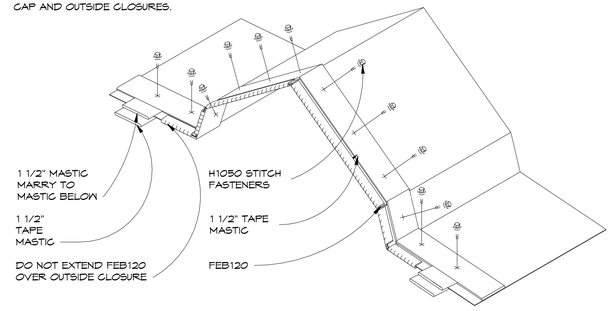
NO	REVISION	DATE

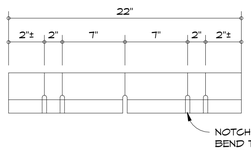
SHEET TITLE:
CFR METAL ROOF / WALL PANELS DETAILS

PROJECT NO.	SHEET NO.
4274-22	A5.05

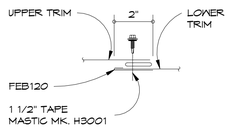
RIDGE CAP LAP & FLASHING BACKER

SLIDE FIELD CUT SECTION FLASHING ENDLAP BACKER ONTO THE LOWER TRIM PIECE. PLACE TAPE MASTIC
NEXT TO HEM OF THE BACKER (NOT ON TOP OF HEM). MARRY LAP MASTIC WITH MASTIC BETWEEN RIDGE
CAP AND OUTSIDE CLOSURES.

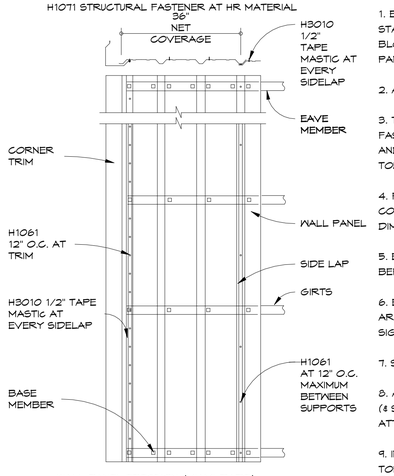




FLASHING ENDLAP BACKER
FIELD CUT FROM STANDARD FEB120



H1061 STITCH FASTENER
H1041 STRUCTURAL FASTENER
H1071 STRUCTURAL FASTENER AT HR MATERIAL



WALL PANEL ERECTION (MIAMI-DADE)

1. BLOCK GIRTS TO "LEVEL" POSITION BEFORE STARTING PANEL ERECTION. MAINTAIN WOOD BLOCKING (NOT BY METAL BUILDING SUPPLIER) UNTIL PANEL TO STRUCTURAL FASTENERS ARE INSTALLED.

2. ALIGN AND PLUMB FIRST WALL PANEL.

3. TO PREVENT "OIL-CANNING", ALL PANEL FASTENERS SHOULD START FROM BASE MEMBER AND THEN BE SECURED TO EACH STRUCTURAL GIRT TOWARD THE EAVE.

4. FOUNDATION MUST BE SQUARE, LEVEL, AND CORRECT TO THE OUT-TO-OUT STEEL LINE DIMENSIONS.

5. ERECTION CREW IS TO CLEAN ALL WALL PANELS BEFORE LEAVING JOB SITE.

6. ERECTOR IS TO ERECT PANELS SO THAT SIDELAPS ARE AWAY FROM THE MAIN TRAFFIC AREA'S LINE OF SIGHT.

7. STORE PANELS PROPERLY TO PREVENT MOISTURE.

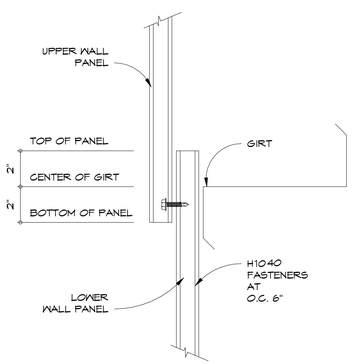
8. AT FLUSH GIRT CONDITIONS, PRE-DRILL COLUMNS (& STUBS IF REQ'D) FOR EASE OF PANEL ATTACHMENT AT THESE AREAS.

9. INSTALL PANEL CLOSURES W/ 1/2" TAPE MASTIC TOP/BOTTOM OF CLOSURE AT ENDS OF PANELS

ERECTOR NOTE: 1/2" SIDELAP MASTIC (H3010) IS REQUIRED IN EVERY PANEL
SIDELAP AS WELL AS PAENEL CLOSURES WITH MASTIC TO MEET MIAMI-DADE APPROVAL.

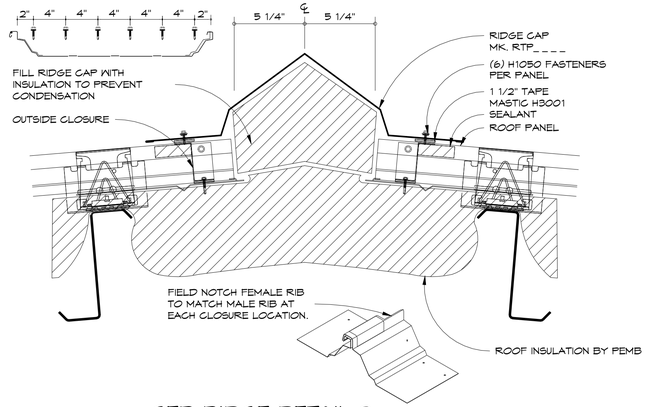
CFR R-PANEL ERECTION DETAIL

3 / A5.06 — 3" = 1'-0"



CFR R-WALL PANEL ENDLAP

4 / A5.06 — 3" = 1'-0"



CFR RIDGE DETAIL 2

2 / A5.06 — 3" = 1'-0"

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3" = 1'-0"	10/08/2025
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KJ	MG MH

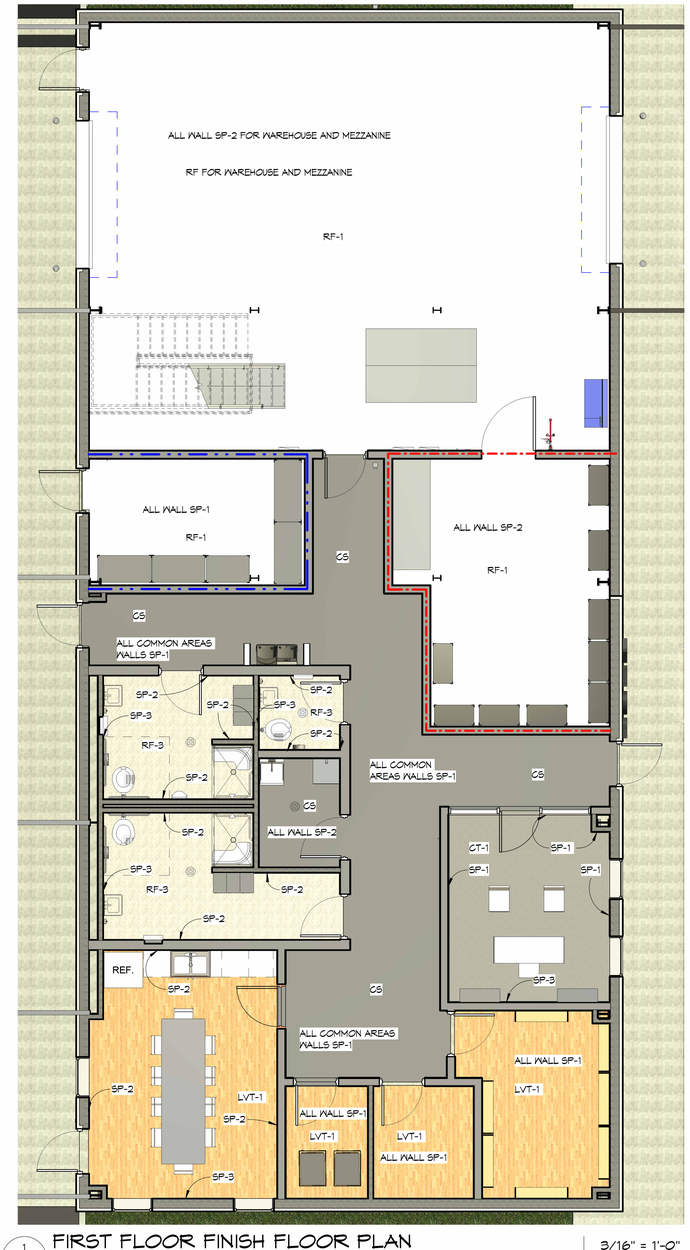
NO	REVISION	DATE

SHEET TITLE:
CFR METAL ROOF / WALL PANELS DETAILS

PROJECT NO.	SHEET NO.
4274-22	A5.06

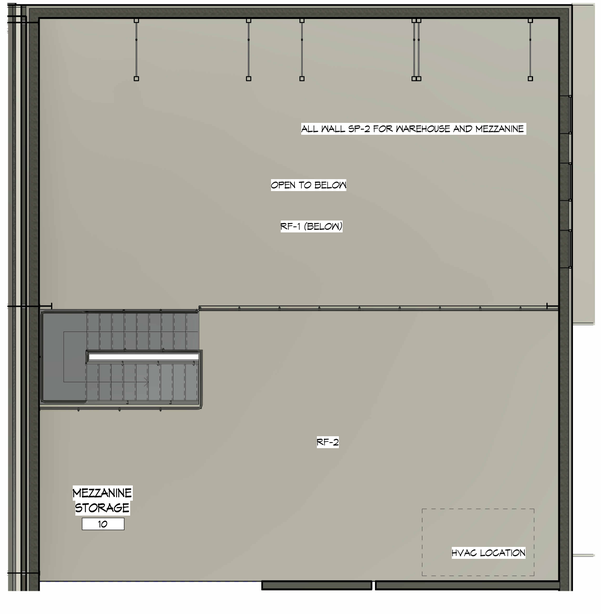
ROOM FINISH SCHEDULE 1ST FLOOR

HR	NAME	FLOOR FINISH	BASE FINISH	NORTH WALL MATERIAL	NORTH WALL FINISH	SOUTH WALL MATERIAL	SOUTH WALL FINISH	WEST WALL MATERIAL	WEST WALL FINISH	EAST WALL MATERIAL	EAST WALL FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT	COMMENTS
01	WAREHOUSE/STORAGE	SC	VB-1	GYP	SP 2	GYP	SP 2	GYP	SP 2	GYP X	SP 2	N/A	N/A	-	EXPOSED STRUCTURE
02	FLAMMABLE STORAGE	SC	VB-1	GYP X	SP 1	GYP X	SP 1	GYP X	SP 1	GYP X	SP 1	GYP X	FP	9'	
03	WORKSHOP	SC	VB-1	GYP X	SP 2	GYP X	SP 2	GYP X	SP 2	GYP X	SP 2	GYP X	FP	10'	
04	LOBBY	SC	VB-1	GYP	SP 1	GYP	SP 1	GYP	SP 1	GYP	SP 1	ACT	FF	9'	
05	OFFICE	CT	VB-1	GYP	SP 1	GYP	SP 1	ISA	FF	GYP	SP 3	ACT	FF	9'	
06	RECORDS/ARCHIVES	LVT	VB-1	GYP	SP 1	GYP	SP 1	GYP	SP 1	GYP	SP 1	ACT	FF	9'	
07	CUSTODIAL CLOSET	RF-3	ICB	GYP	SP 2	GYP	SP 2	GYP	SP 2	GYP	SP 2	ACT	FF	8'	
08	UNISEX RESTROOM NON-ADA	RF-3	ICB	GYP	EP	GYP	SP 3	GYP	SP 2	GYP	SP 2	GYP	FP	8'	
09	UNISEX RESTROOM ADA	RF-3	ICB	GYP	EP	GYP	SP 3	GYP	SP 2	GYP	SP 2	GYP	FP	8'	
10	MEZZANINE STORAGE	SC	NONE	GYP	SP 2	IR	SP 2	N/A	N/A	GYP X	SP 2	N/A	N/A	-	EXPOSED STRUCTURE
11	UNIFORM STORAGE	LVT	VB-1	GYP	SP 1	GYP	SP 1	GYP	SP 1	GYP	SP 1	ACT	FF	8'	
12	IT MDF	LVT	VB-1	GYP	SP 1	GYP	SP 1	GYP	SP 1	GYP	SP 1	ACT	FF	9'	
13	BREAKROOM/MEETING	LVT	VB-1	GYP	SP 2	GYP	SP 2	GYP	SP 2	GYP	SP 3	ACT	FF	10'	
14	UNISEX RESTROOM	RF-3	ICB	GYP	EP	GYP	SP 3	GYP	SP 2	GYP	SP 2	GYP	FP	8'	



1 A6.01 — FIRST FLOOR FINISH FLOOR PLAN — 3/16" = 1'-0"

TRUE NORTH PROJECT NORTH



2 A6.01 — MEZZANINE FINISH FLOOR PLAN. — 3/16" = 1'-0"

ROOM FINISH SCHEDULE (CODE LEGEND)

FLOOR FINISH MATERIAL CODES:

LVT -1 - LUXURY VINYL TILE
CT - CARPET TILE
CS - CONCRETE STAIN (REFER TO 09 91 23 INTERIOR PAINTING)
RF-3 - SEAMLESS POLYMER EPOXY: COOL BLENDS(BROADCAST)

BASE MATERIAL CODES:

VB-1 - 6" VINYL BASE
ICB - 6" INTEGRAL COVE BASE

WALL MATERIAL CODES:

GYP - GYPSUM WALL BOARD
GYP X - FIRE RESISTANT GYPSUM WALL BOARD
ISA - INTERIOR STOREFRONT ASSEMBLY
IR - 5/8" IMPACT RESISTANT GYPSUM BOARD
PRE-ENGINEERED STEEL STRUCTURE -INSULATED CONCRETE FORM
TL 1 - PORCELAIN/CERAMIC TILE
TL 2 - PORCELAIN/CERAMIC TILE
F - FACTORY MATERIAL

WALL FINISH CODES:

SP 1 - SATIN PAINT BASE COLOR: DELICATE WHITE PPG1001-1
SP 2 - SATIN PAINT ACCENT COLOR: PIGEON FEATHER PPG0995-4
SP 3 - SATIN PAINT ACCENT COLOR: BRIGADE PPG1152-6
CP 4 - FLAT PAINT ACCENT COLOR: GYPSUM PPG1006-1
EP - IMPERVIOUS EPOXY PAINT
GL - GLAZING
FF - FACTORY FINISH

CEILING MATERIAL CODES:

ACT - 2X2 ACOUSTICAL CEILING TILE
EXP - EXPOSED STRUCTURE
GYP - GYPSUM BOARD ON METAL STUD

CEILING FINISH CODES:

FP - FLAT PAINT
FF - FACTORY FINISH

NOTES:
ALTERNATE FINISH SELECTIONS SHOWN THAT MAY BE SELECTED BY OWNER

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FLORIDA ARCHITECTS
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(850) 257-5400

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PANAMA CITY HOUSING AUTHORITY

PROJECT:
PCHA KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVENUE
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CONSULTANT:
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SEAL:

STATE OF FLORIDA
JOSEPH J. SORGI
AR0012728
REGISTERED ARCHITECT

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BID SET DOCUMENTS

SCALE:	DATE:
As indicated	10/08/2025
DRAWN BY: KJ	CHECKED BY: MG,MH

NO	REVISION	DATE

SHEET TITLE:
FINISH SCHEDULE

PROJECT NO. 4274-22
SHEET NO. A6.01

WINDOW LEGEND

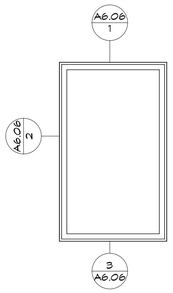
WINDOW OPERATION TYPE	
FX	-FIXED
DH	-DOUBLE HUNG
SH	-SINGLE HUNG
CS	-CASEMENT
SL	-SLIDER
TR	-TRANSOM
AW	-AWNING
HP	-HOPPER
PV	-PIVOT
GD	-GARDEN
SK	-SKYLIGHT
BW	-BOW
BY	-BAY

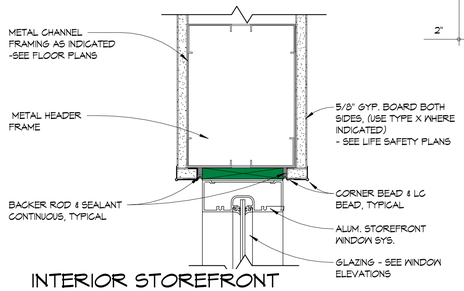
WINDOW GLAZING TYPE	
IR	-IMPACT-RATED
TE	-TEMPERED GLAZING
FR	-FIRE-RESISTANT GLAZING
FP	-FIRE PROTECTIVE GLAZING
SP	-SPANDREL
LM	-LAMINATED
BR	-BALLISTIC

STOREFRONT AND CURTAIN WALL FRAME TYPE	
AL	-ALUMINUM
HM	-HOLLOW METAL
FG	-FIBERGLASS
WD	-WOOD
DH	-DETENTION HOLLOW METAL

WINDOW SCHEDULE

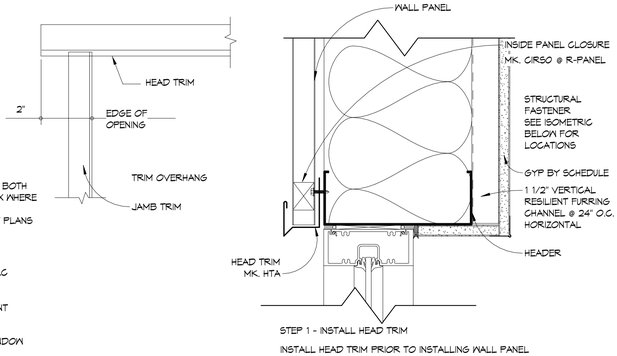
TYPE MARK	WIDTH	HEIGHT	FRAME MATERIAL	OPERATION TYPE	GLAZING	HEAD DETAIL	JAMB DETAIL	SILL DETAIL	SILL HEIGHT	COMMENTS
24	3' - 0"	5' - 0"	AL	FX	IR	A6.06/2	A6.06/4	A6.06/5	3' - 0"	
24	3' - 0"	5' - 0"	AL	FX	IR	A6.06/2	A6.06/4	A6.06/5	3' - 0"	
24	3' - 0"	5' - 0"	AL	FX	IR	A6.06/2	A6.06/4	A6.06/5	3' - 0"	
24	3' - 0"	5' - 0"	AL	FX	IR	A6.06/2	A6.06/4	A6.06/5	3' - 0"	
24	3' - 0"	5' - 0"	AL	FX	IR	A6.06/2	A6.06/4	A6.06/5	3' - 0"	
24	3' - 0"	5' - 0"	AL	FX	IR	A6.06/2	A6.06/4	A6.06/5	4' - 0"	2ND FLOOR WAREHOUSE
24	3' - 0"	5' - 0"	AL	FX	IR	A6.06/2	A6.06/4	A6.06/5	4' - 0"	2ND FLOOR WAREHOUSE
24	3' - 0"	5' - 0"	AL	FX	IR	A6.06/2	A6.06/4	A6.06/5	4' - 0"	2ND FLOOR WAREHOUSE





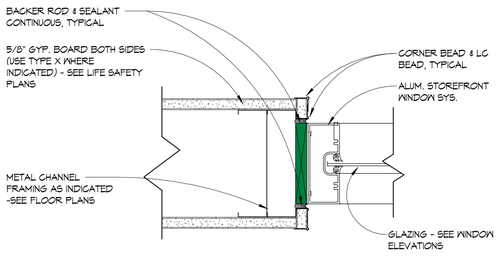
INTERIOR STOREFRONT HEADER

4 A6.02 — 3" = 1'-0"



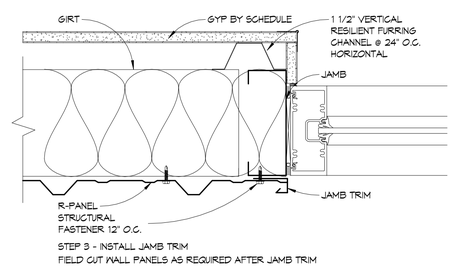
WINDOW DETAILS HEADER

1 A6.02 — 3" = 1'-0"



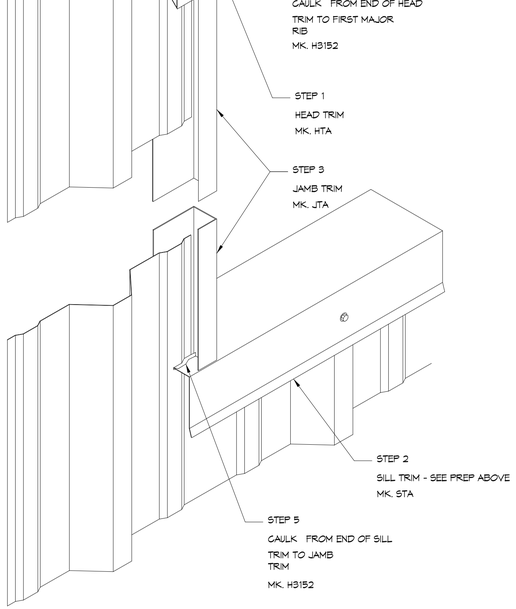
INTERIOR STOREFRONT JAMB #1

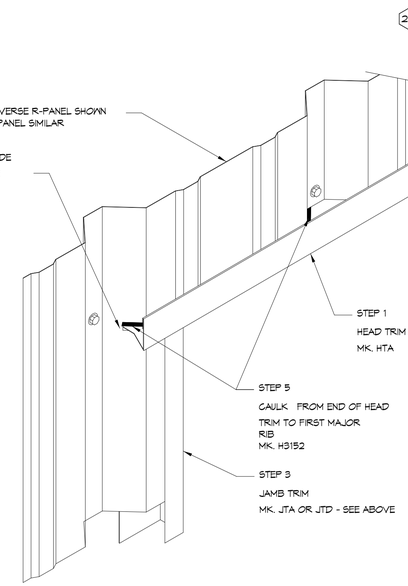
5 A6.02 — 3" = 1'-0"

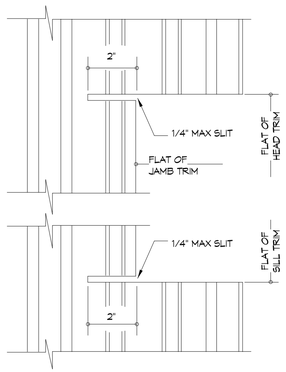


WINDOW DETAILS JAMB

2 A6.02 — 3" = 1'-0"





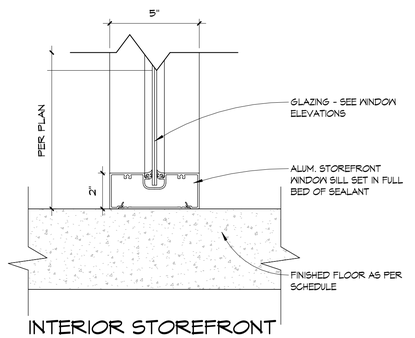


STEP 4 - SLIT WALL PANEL

SLIT WALL PANEL AS SHOWN PRIOR TO INSTALLING TO ALLOW PANEL TO SLIDE AROUND HEAD TRIM.

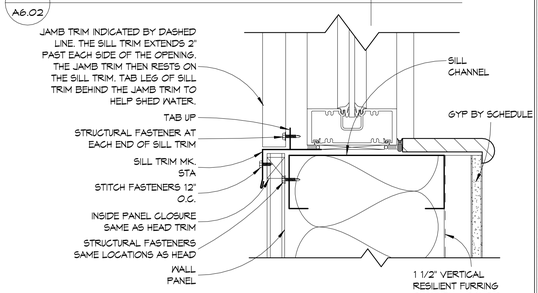
WINDOW DETAILS 3D

7 A6.02 — 3" = 1'-0"



INTERIOR STOREFRONT SILL

6 A6.02 — 3" = 1'-0"



STEP 2 - SILL TRIM PREP & INSTALL

PREPARE AND INSTALL SILL TRIM PRIOR TO INSTALLING WALL PANEL

WINDOW DETAILS SILL

3 A6.02 — 3" = 1'-0"

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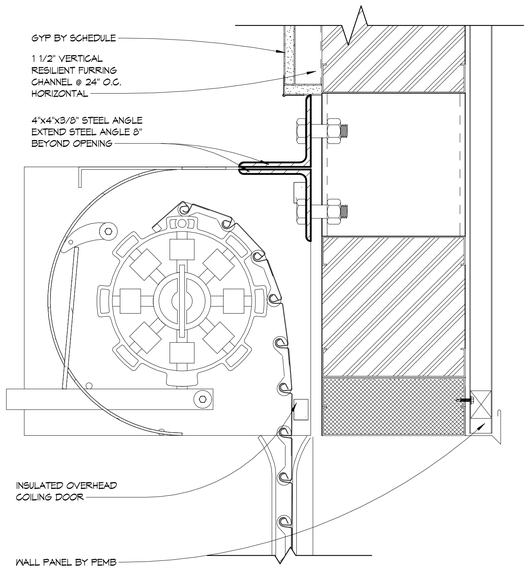
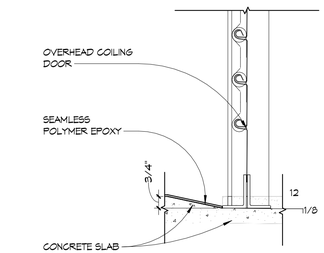
WINDOW SCHEDULE AND DETAILS

PROJECT NO.	SHEET NO.
4274-22	A6.02



IMP OVERHEAD COILING DOOR

1 / A6.03 — 3" = 1'-0"



DOOR THRESHOLD EXTERIOR OVERHEAD

2 / A6.03 — 3" = 1'-0"

DOOR SCHEDULE LEGEND

DOOR MATERIAL
- WD - SOLID CORE WOOD DOOR
- AL - ALUMINUM STOREFRONT
- HM - HOLLOW METAL DOOR
- GH - GALVANIZED HOLLOW METAL
- ~~DH - DETENTION HOLLOW METAL~~ NOT USED

DOOR OPERATION
- SW - SWING
- OH - OVERHEAD
- CL - COILING

DOOR FINISH
- FF - FACTORY FINISH
- PT - FIELD PAINT
- SF - STAINED & SEALED FACTORY FINISH

FRAME MATERIAL
- GH - GALVANIZED HOLLOW METAL
- AL - ALUMINUM STOREFRONT
- HM - HOLLOW METAL

FRAME FINISHES
- PT - PAINT, COLORS TO BE CHOSEN BY ARCHITECT
- FF - FACTORY FINISH

GLAZING TYPE
- IR - IMPACT-RATED
- TE - TEMPERED GLAZING

HARDWARE GROUPS
REFER TO SPECS FOR DETAILS

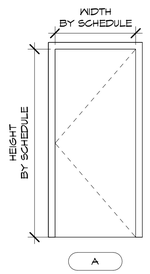
THRESHOLD
REFER TO DETAILS

DOOR SCHEDULE NOTES

1. FRAME AND DOOR TYPES ARE SHOWN IN ELEVATIONS
2. ALL ALUMINUM STOREFRONT SHALL BE CLEAR ANODIZED ALUMINUM FINISH
3. ALL INTERIOR GLASS SHALL BE 1/4" CLEAR TEMPERED SAFETY GLAZING
4. ALL EXTERIOR GLASS SHALL BE BLUE LAMINATED IMPACT RESISTANT TINTED INSULATED GLAZING - SEE SPECS

DOOR LEGEND

EXTERIOR DOORS



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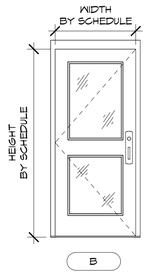

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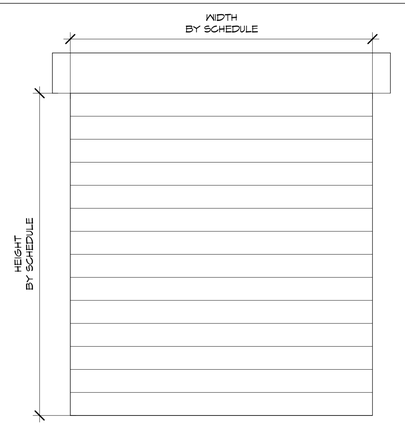
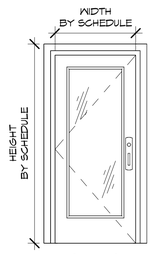


C

INTERIOR DOORS



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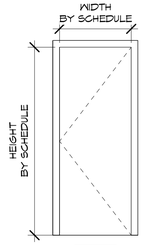

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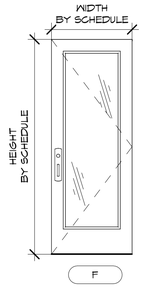

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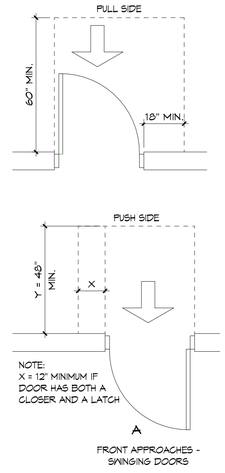
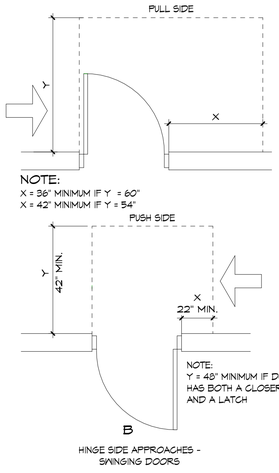
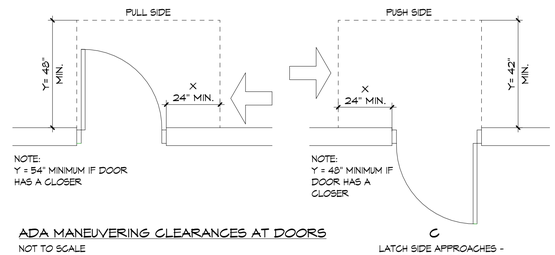


A
FRONT APPROACHES - SWINGING DOORS



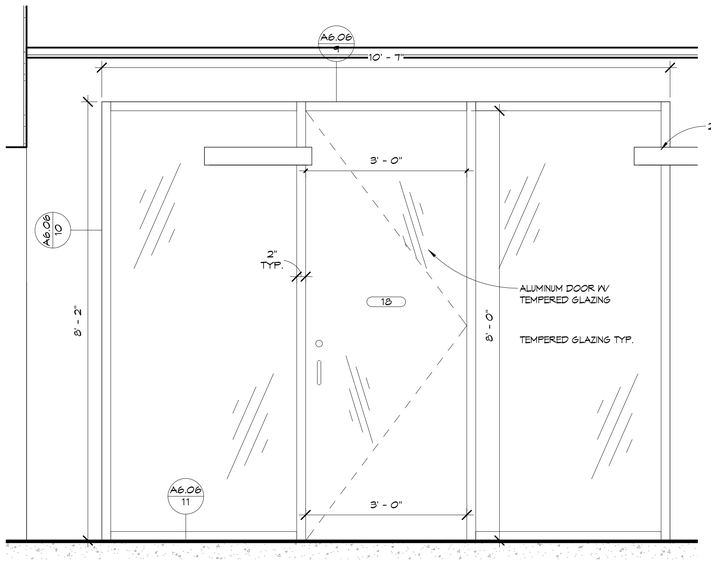
B
HINGE SIDE APPROACHES - SWINGING DOORS



C
LATCH SIDE APPROACHES - SWINGING DOORS

ADA MANEUVERING CLEARANCES AT DOORS

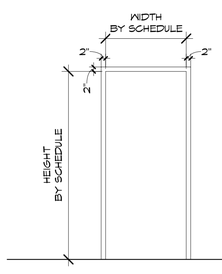
NOT TO SCALE



INTERIOR STOREFRONT

3 / A6.03 — 3/4" = 1'-0"

DOOR FRAME LEGEND



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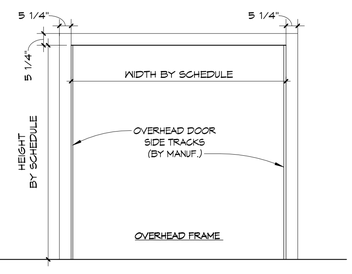

2

NEW CONSTRUCTION - DOOR SCHEDULE

MARK	WIDTH	HEIGHT	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	DOOR OPERATION	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	FIRE RESIST.	SMOKE RATING	GLAZING TYPE	HEAD DETAIL	JAMB DETAIL	THRESHOLD DETAIL	HARDWARE GROUP	COMMENTS
18	3' - 0"	8' - 0"	F	AL	FF	SW	1	AL	FF	N	N	TE	1/A6.14	8/A6.14	2/A6.14	04	
19	3' - 0"	7' - 0"	B	AL	FF	SW	1	AL	FF	N	N	IR	15/A6.14	16/A6.14	7/A6.14	01	
20	3' - 0"	7' - 0"	E	WD	SF	SW	1	HM	PT	N	N	NONE	13/A6.14	14/A6.14	2/A6.14	08	
24	3' - 0"	7' - 0"	E	WD	SF	SW	1	HM	PT	N	N	NONE	13/A6.14	14/A6.14	2/A6.14	08	
25	3' - 0"	7' - 0"	E	WD	SF	SW	1	HM	PT	N	N	NONE	13/A6.14	14/A6.14	3/A6.14	10	
27	3' - 0"	7' - 0"	E	WD	SF	SW	1	HM	PT	N	N	NONE	13/A6.14	14/A6.14	3/A6.14	09	
30	3' - 0"	7' - 0"	A	HM	PT	SW	1	HM	PT	Y	N	NONE	13/A6.14	14/A6.14	12/A6.14	02	
32	3' - 0"	7' - 0"	B	AL	FF	SW	1	AL	FF	N	N	IR	15/A6.14	16/A6.14	7/A6.14	01	
34	3' - 0"	7' - 0"	E	WD	SF	SW	1	HM	PT	N	N	NONE	5/A6.14	6/A6.14	3/A6.14	10	
35	3' - 0"	7' - 0"	D	WD	SF	SW	1	HM	PT	N	N	TE	13/A6.14	14/A6.14	12/A6.14	07	
36	3' - 0"	7' - 0"	E	WD	SF	SW	1	HM	PT	N	N	NONE	13/A6.14	14/A6.14	2/A6.14	08	
37	3' - 0"	7' - 0"	E	WD	SF	SW	1	HM	PT	N	N	NONE	5/A6.14	6/A6.14	3/A6.14	11	
124	3' - 0"	7' - 0"	E	HM	SF	SW	1	HM	PT	N	N	NONE	13/A6.14	14/A6.14	3/A6.14	06	
125	4' - 0"	7' - 0"	E	HM	SF	SW	1	HM	PT	Y	N	NONE	13/A6.14	14/A6.14	10/A6.14	05	
128	11' - 0"	12' - 0"	G	GH	FF	OH/CL	2	GH	FF	N	N	NONE	1/A6.11	11/A6.14	2/A6.11	12	
129	11' - 0"	12' - 0"	G	GH	FF	OH/CL	2	GH	FF	N	N	NONE	1/A6.11	11/A6.14	2/A6.11	12	
130	3' - 0"	7' - 0"	A	HM	PT	SW	1	HM	PT	N	N	NONE	13/A6.14	14/A6.14	4/A6.14	03	
131	3' - 0"	7' - 0"	B	AL	FF	SW	1	AL	FF	N	N	IR	15/A6.14	16/A6.14	7/A6.14	01	

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DOOR SCHEDULE

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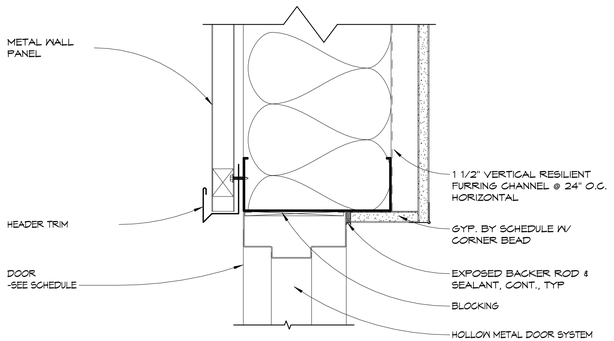
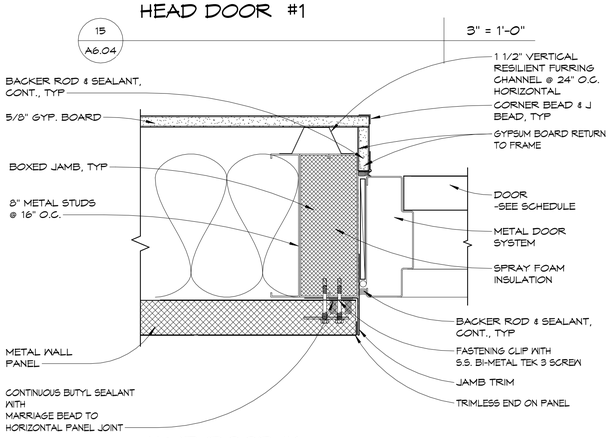
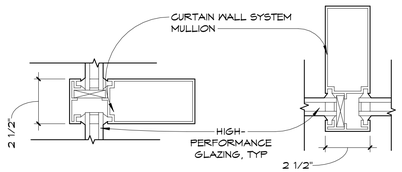
SHEET NO. A6.03



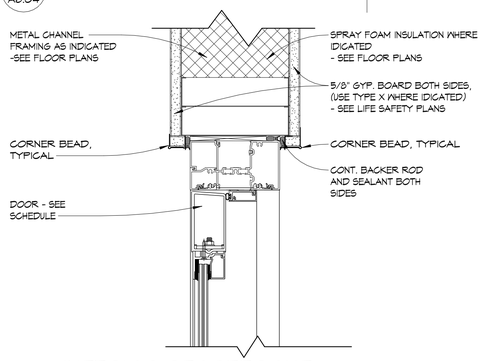
HEAD DOOR #1



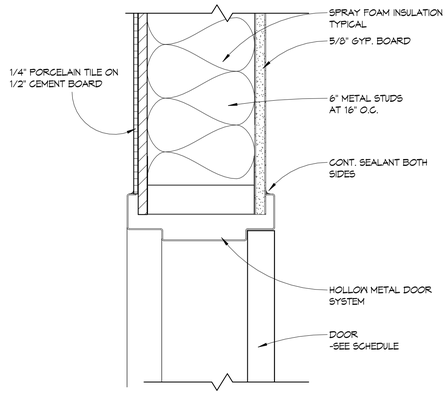
JAMB DOOR #1



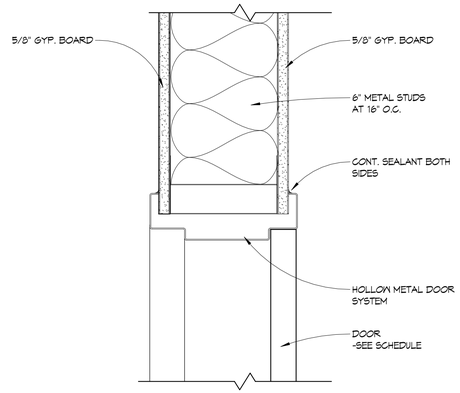
VERTICAL & HORIZONTAL MULLIONS.1



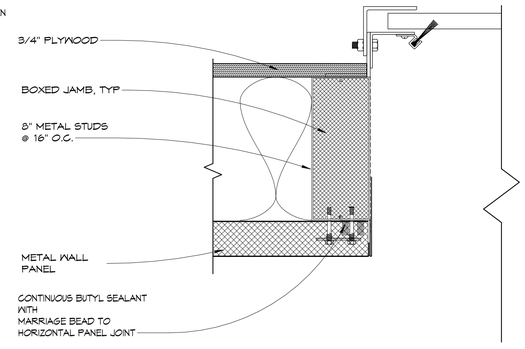
INTERIOR STOREFRONT HEAD1



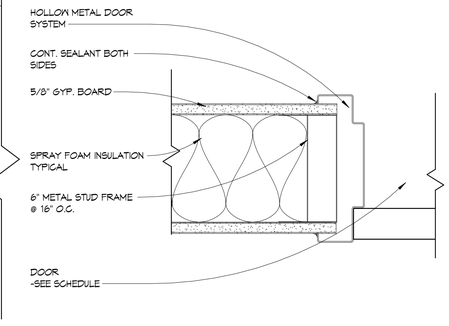
INTERIOR DOOR HEAD



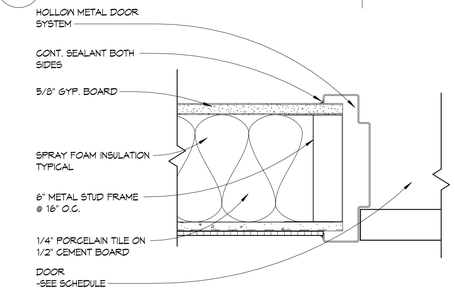
INTERIOR DOOR HEAD



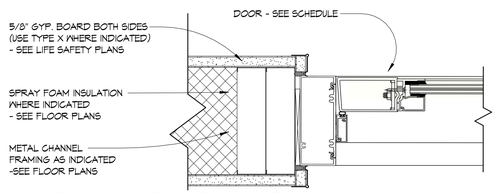
OVERHEAD DOOR JAMB1



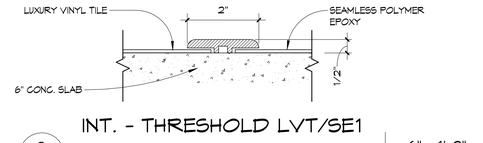
INTERIOR DOOR JAMB



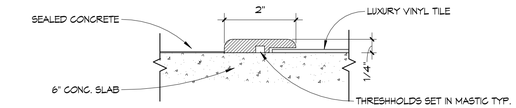
INTERIOR DOOR JAMB



INTERIOR STOREFRONT JAMB1



INT. - THRESHOLD LVT/SE1



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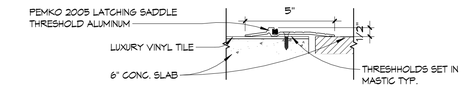
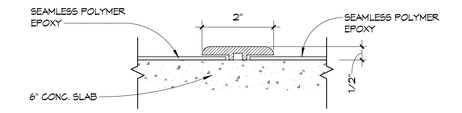
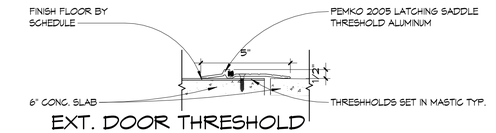


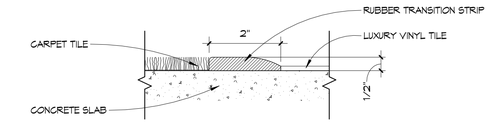
EXT. DOOR THRESHOLD LVT/CONC



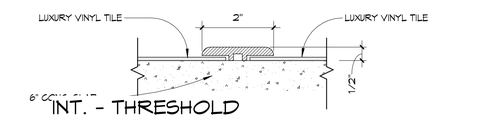
INT. - THRESHOLD SE/SE1



EXT. DOOR THRESHOLD SE/CONC



INT. - THRESHOLD CT/LVT1



INT. - THRESHOLD LVT/LVT1

15 A6.04 — 3" = 1'-0"
16 A6.04 — 3" = 1'-0"
18 A6.04 — 3" = 1'-0"
1 A6.04 — 3" = 1'-0"
5 A6.04 — 3" = 1'-0"
13 A6.04 — 3" = 1'-0"
11 A6.04 — 3" = 1'-0"
14 A6.04 — 3" = 1'-0"
6 A6.04 — 3" = 1'-0"
8 A6.04 — 3" = 1'-0"
3 A6.04 — 6" = 1'-0"
9 A6.04 — 6" = 1'-0"
7 A6.04 — 3" = 1'-0"
10 A6.04 — 6" = 1'-0"
4 A6.04 — 3" = 1'-0"
2 A6.04 — 6" = 1'-0"
12 A6.04 — 6" = 1'-0"

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206 FL-79
PANAMA CITY BEACH, FL 32413

SEAL:

BID SET DOCUMENTS

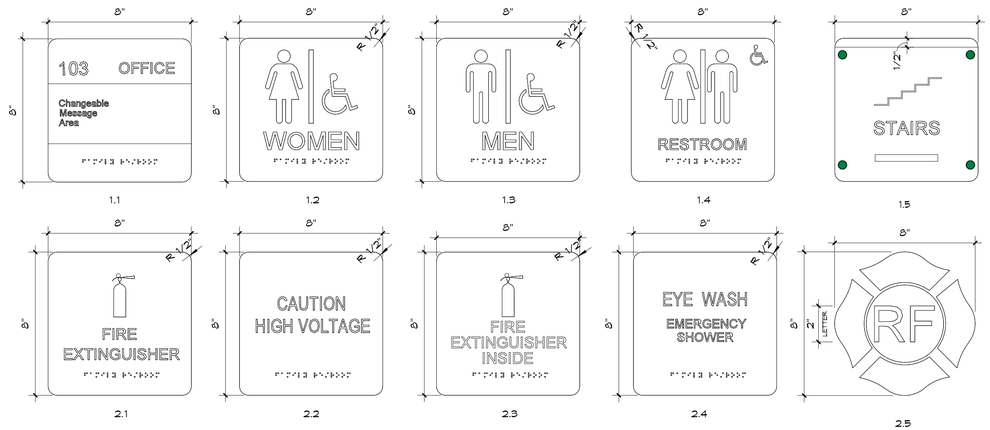
SCALE:	DATE:
As Indicated	10/08/2025
DRAWN BY: KJ	CHECKED BY: MG,MH

NO	REVISION	DATE

SHEET TITLE:
DOOR DETAILS

PROJECT NO. 4274-22
SHEET NO. A6.04

DOOR SIGN TYPE 3" = 1'-0"



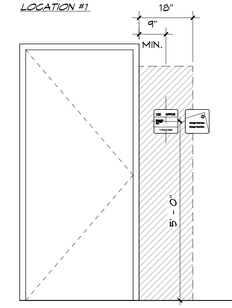
NOTE: 1. PROVIDE TYPE 2.1 & 2.2 SIGNS @ EACH FIRE EXTINGUISHER AND FIRE EXTINGUISHER CABINET AS INDICATED ON LIFE SAFETY PLANS A1.01 & A1.02 AND LOCATED ABOVE FIRE EXTINGUISHER AS DIRECTED BY FIRE MARSHALL
2. FOR ANY SIGNAGE ADHERED TO GLASS, PROVIDE A BLANK BACK-UP PANEL ON THE OPPOSITE SIDE SO THAT ADHESIVES CANNOT BE SEEN.

ADA SIGN SUMMARY:

NOTE: THE FOLLOWING RULES APPLY TO SIGNS THAT IDENTIFY A ROOM, SPACE OR AREA. INFORMATIONAL AND DIRECTIONAL SIGNS DO NOT REQUIRE BRAILLE OR RAISED CHARACTERS, HOWEVER MAY FOLLOW MANY OF OTHER REQUIREMENTS.

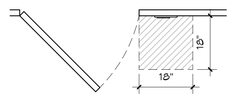
1. SIGNS THAT IDENTIFY A ROOM, SPACE OR AREA SHALL HAVE RAISED CHARACTERS AND BRAILLE.
2. SIGNS SHALL HAVE NON-GLARE FINISH WITH CONTRASTING COLORS.
3. PICTOGRAMS SHALL BE IN THEIR 6" HEIGHT FIELD. ADD AN ISA SYMBOL IF ACCESSIBLE.
4. CHARACTERS MUST BE SANS SERIF AND ALL UPPERCASE.
5. CHARACTERS MUST BE BETWEEN 5/8" AND 2" WITH A MINIMUM OF 1/8" SPACING.
6. FONT SHALL BE ADA COMPLAINT. NOT OVERLAY BOLD, CONDENSED, ITALIC, ETC.
7. A 3/8" MINIMUM MARGIN IS REQUIRED AROUND ALL RAISED ELEMENTS, INCLUDING BRAILLE.
8. A 1" HIGH SPACE IS NEEDED FOR ONE LINE BRAILLE.
9. BRAILLE SHALL BE ALL TOGETHER AND 3/8" TO 1/2" BELOW LAST LINE OF TEXT.
10. LINE SPACING SHALL BE 35-70% OF CHARACTER HEIGHT.
11. ADA SIGNS ARE REQUIRED FOR BOTH PUBLIC ACCESS AND ALL EMPLOYEE AREAS.
12. IF SIGN IS INSTALLED ON GLAZING A BLANK SIGN SOME BE INSTALLED ON THE OTHER SIDE OF GLAZING.

DOOR SIGN LOCATION 1/2" = 1'-0"



GENERAL SIGN LOCATION NOTES:

- CENTER SIGN BETWEEN AN 18" MINIMUM AREA AND THE "CENTER OF THE TACTILE CHARACTERS".
- MAXIMUM MOUNTING HEIGHT OF TACTILE CHARACTERS IS 60" ABOVE FLOOR BASELINE OF CHARACTERS.
- MINIMUM MOUNTING HEIGHT OF BRAILLE IS 48" ABOVE FLOOR TO BASELINE OF BRAILLE CELLS.
- ROOM SIGN TO BE MOUNTED ON THE LATCH SIDE OF THE DOOR.
- ON DOUBLE DOORS WITH BOTH LEAFS ACTIVE, THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE.
- WHERE THERE IS NOT ENOUGH WALL SPACE FOR MOUNTING THE SIGN USE NEAREST ADJACENT WALL.
- CEILING OR WALL PROJECTION SIGNS MUST HAVE MINIMUM CLEARANCE OF 80" FROM BOTTOM OF SIGN TO THE FLOOR.

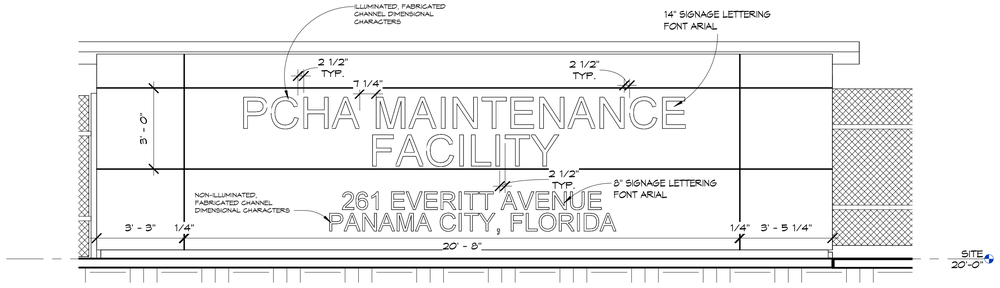


GENERAL SIGN LOCATION NOTES:

- SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" BY 18" MINIMUM, CENTERED TO THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN POSITION.

ROOM SIGNAGE SCHEDULE

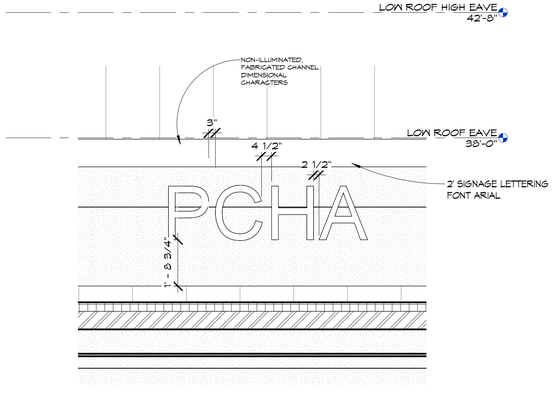
DOOR NUMBER	FROM ROOM:NUMBER	FROM ROOM: NAME	TO ROOM: NUMBER	TO ROOM: NAME	SIGN TYPE	SIGNAGE TEXT	SIGN LOCATION
18	04	LOBBY	05	OFFICE	1.1	OFFICE	
19	16	EXTERIOR WORK SPACE	04	LOBBY	1.1 2.5	LOBBY	EXTERIOR SIDE DOOR
20	04	LOBBY	11	UNIFORM STORAGE	1.1	UNIFORM STORAGE	
24	04	LOBBY	06	RECORDS/ARCHIVES	1.1	RECORDS/ARCHIVES	
25	04	LOBBY	14	UNISEX RESTROOM	1.4	UNISEX RESTROOM	
27	04	LOBBY	07	CUSTODIAL CLOSET	1.1	CUSTODIAL CLOSET	
30	16	EXTERIOR WORK SPACE	02	FLAMMABLE STORAGE	1.1 2.3	FLAMMABLE STORAGE	EXTERIOR SIDE DOOR
32	16	EXTERIOR WORK SPACE	13	BREAKROOM/MEETING	2.5	BREAKROOM/MEETING	EXTERIOR SIDE DOOR
34	04	LOBBY	09	UNISEX RESTROOM ADA	1.2	UNISEX RESTROOM ADA	
35	04	LOBBY	13	BREAKROOM/MEETING	1.1	BREAKROOM/MEETING	
36	04	LOBBY	12	IT MDF	1.1	IT MDF	
37	04	LOBBY	08	UNISEX RESTROOM NON-ADA	1.3	UNISEX RESTROOM NON-ADA	
124	04	LOBBY	01	WAREHOUSE/STORAGE	1.1	WAREHOUSE/STORAGE	
125	01	WAREHOUSE/STORAGE	03	WORKSHOP	1.1 2.4	WORKSHOP	
130	16	EXTERIOR WORK SPACE	01	WAREHOUSE/STORAGE	1.1 2.5	WAREHOUSE/STORAGE	EXTERIOR SIDE DOOR
131	17	MAIN ENTRY COVER	04	LOBBY	1.1 2.5	LOBBY	EXTERIOR SIDE DOOR



FRONT GATE SIGNAGE

1 / A6.07

3/8" = 1'-0"



FRONT ENTRY SIGNAGE

2 / A6.07

3/8" = 1'-0"

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SEAL:

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BID SET DOCUMENTS

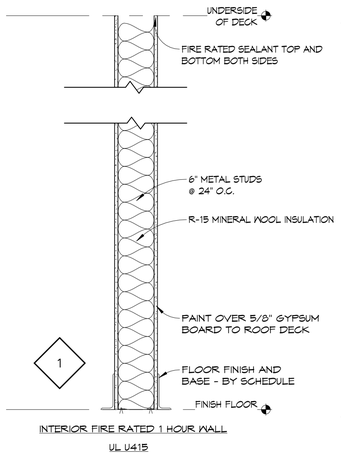
SCALE:	DATE:
As indicated	10/08/2025
DRAWN BY: KJ	CHECKED BY: MG,MH

NO	REVISION	DATE

SHEET TITLE:

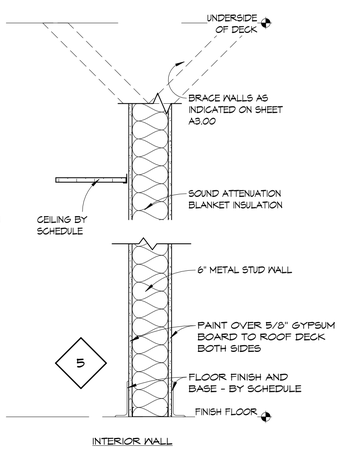
SIGNAGE

PROJECT NO.	SHEET NO.
4274-22	A6.07

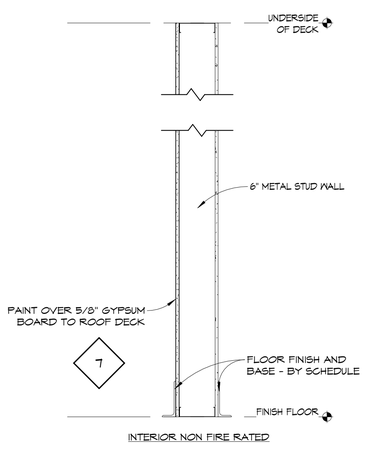


INTERIOR FIRE RATED 1 HOUR WALL

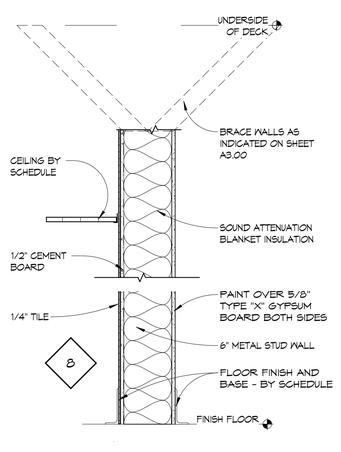
UL U415

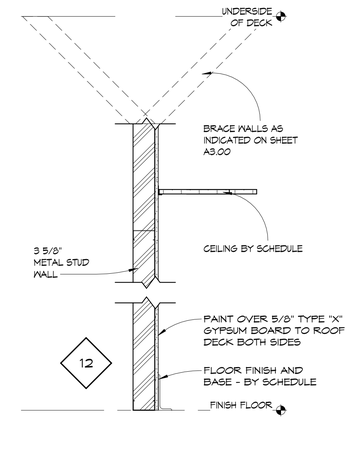


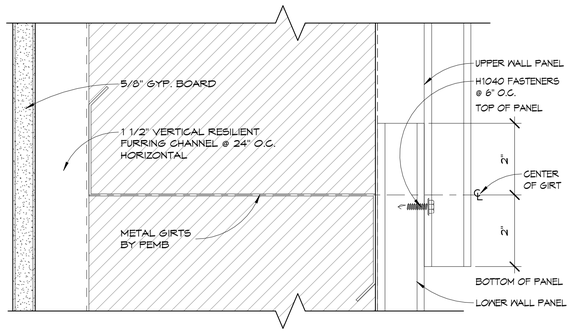
INTERIOR WALL



INTERIOR NON FIRE RATED



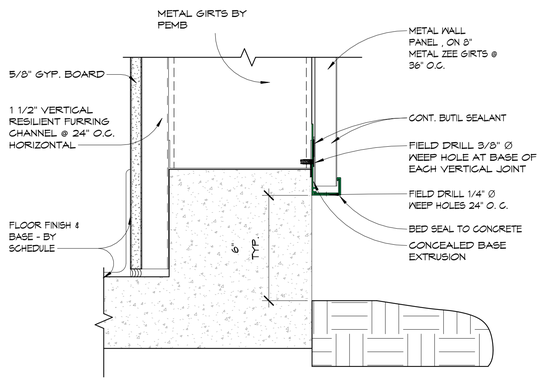




WALL PANEL ENDLAP

4 A8.01

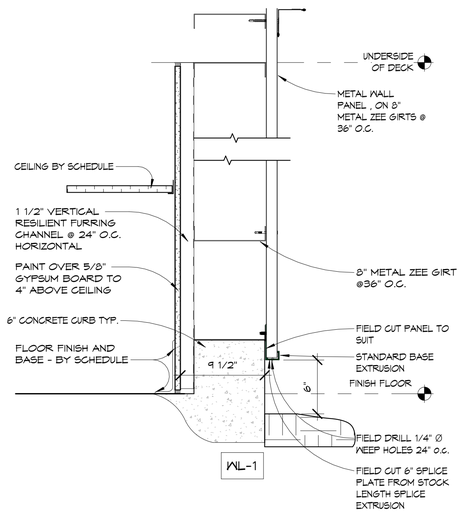
6" = 1'-0"



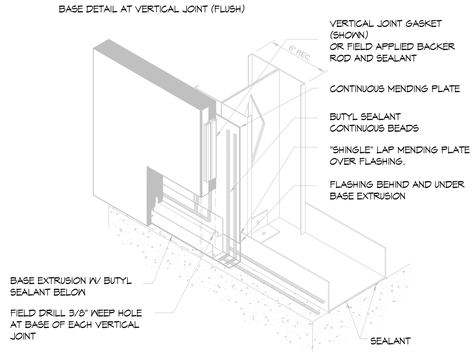
IMP BASE DETAIL-CONCRETE

11 A8.01

3" = 1'-0"

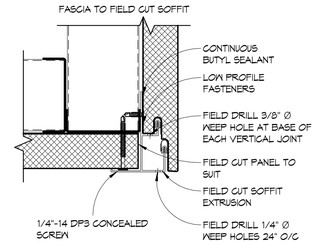


BASE DETAIL AT VERTICAL JOINT (FLUSH)



9 A8.01

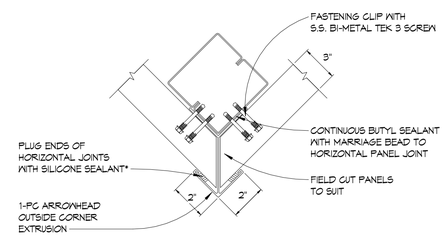
3" = 1'-0"



FASCIA TO FIELD CUT SOFFIT

10 A8.01

3" = 1'-0"



OUTSIDE CORNER 1 PC EXTRUSION

14 A8.01

3" = 1'-0"

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206 FL-79
PANAMA CITY BEACH, FL 32413

SEAL:

STATE OF FLORIDA · JOSEPH J. SORCI · AR0012728 · REGISTERED ARCHITECT

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BID SET DOCUMENTS

SCALE:	DATE:
As indicated	10/08/2025
DRAWN BY: KJ	CHECKED BY: MG,MH

NO	REVISION	DATE

SHEET TITLE:

INTERIOR/EXTERIOR WALL TYPES/DETAILS

PROJECT NO.	SHEET NO.
4274-22	A8.01

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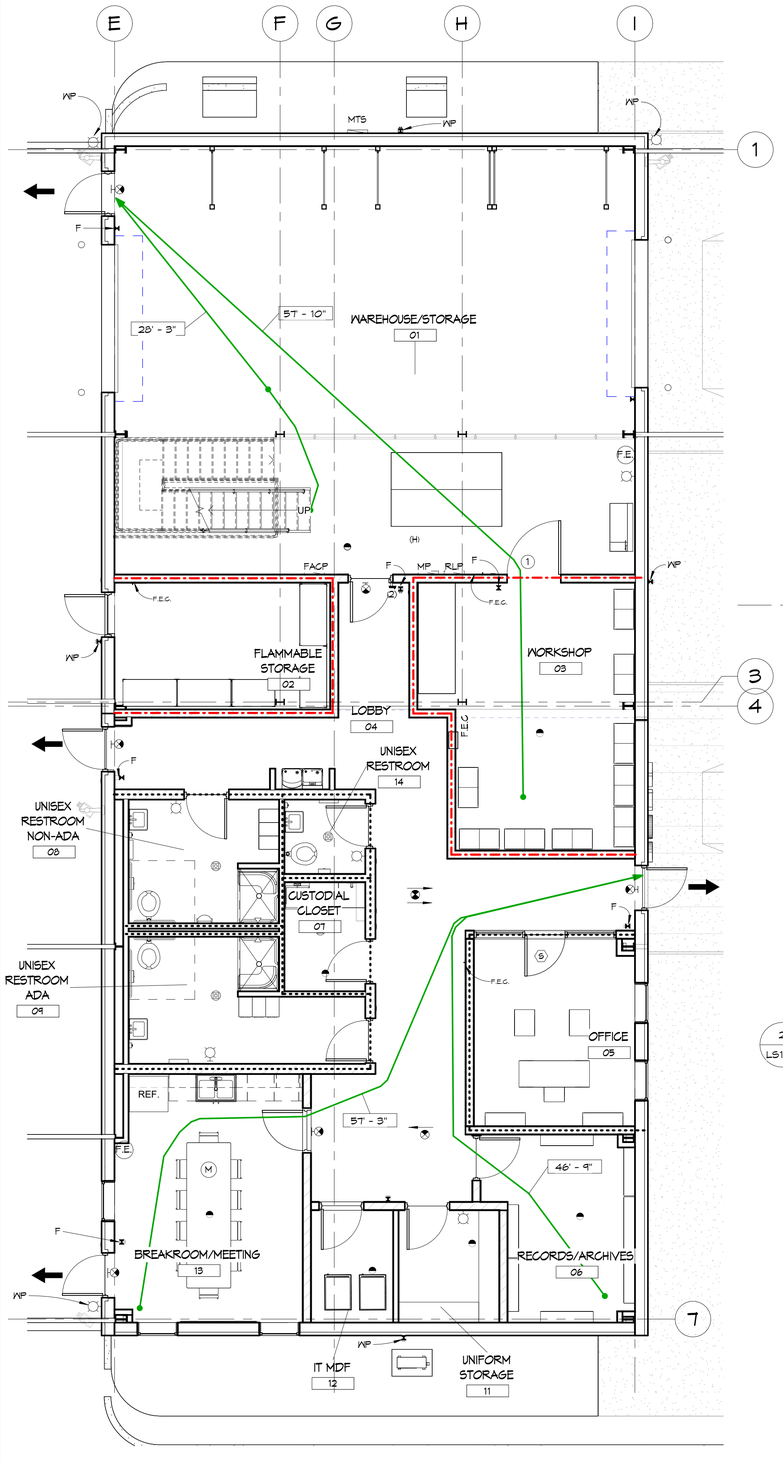
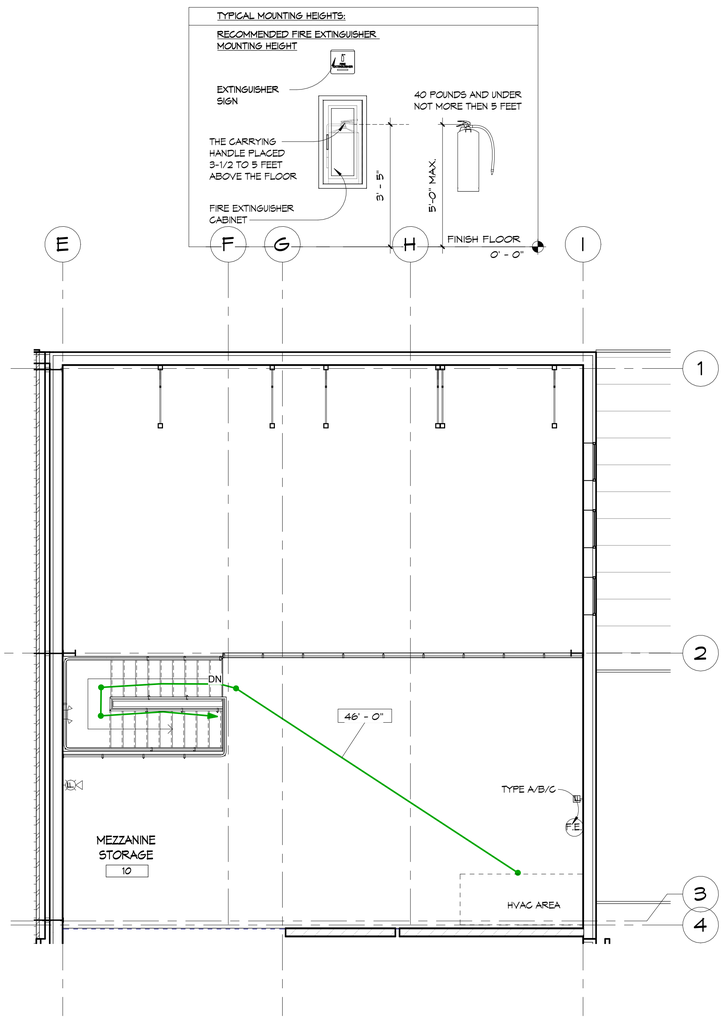


FIRST FLOOR LIFE SAFETY PLAN

1 / LS1.01 — 3/16" = 1'-0"

TRUE NORTH / PROJECT NORTH



MEZZANINE LIFE SAFETY PLAN

2 / LS1.01 — 3/16" = 1'-0"

EXIT CALCULATIONS:

PERSON CAPACITY

FIRST FLOOR	3,168.80 NSF	15 OCCUPANTS
MEZZANINE	758.93 NSF	3 OCCUPANTS
PERSON CAPACITY TOTAL BUILDING		18 OCCUPANTS
TOTAL GROSS SF	3,927.73 NSF	

FIRST FLOOR EXIT UNITS REQUIRED FOR DOORS
OCCUPANT LOAD TOTAL FLOOR = 15 OCCUPANTS
EXIT UNITS = 0.20 IN / PER OCCUPANT
15 OCCUPANTS X 0.20 IN = 3 INCHES REQUIRED
4 DOORS @ 36 IN = 144 INCHES PROVIDED
4 DOORS TOTAL = 144 TOTAL INCHES PROVIDED

MEZZANINE EXIT UNITS REQUIRED FOR DOORS
OCCUPANT LOAD TOTAL FLOOR = 3 OCCUPANTS
EXIT UNITS = 0.20 IN / PER OCCUPANT
3 OCCUPANTS X 0.20 IN = .6 INCHES REQUIRED
1 DOOR @ 36 IN = 36 INCHES
1 DOORS TOTAL = 36 TOTAL INCHES PROVIDED

MEZZANINE EXIT UNITS REQUIRED FOR STAIRS
OCCUPANT LOAD TOTAL FLOOR = 3 OCCUPANTS
EXIT UNITS = 0.30 IN / PER OCCUPANT
3 OCCUPANTS X 0.30 IN = 0.9 INCHES REQUIRED
36 INCHES PROVIDED

TRAVEL DISTANCE REQUIREMENTS
A. COMMON PATH OF TRAVEL = 100 FT.
B. DEAD END CORRIDOR LIMIT = 20 FT.
C. TRAVEL DISTANCE LIMIT = 200 FT.

MEZZANINE TRAVEL DISTANCE:

PER FBC 2023 TABLE 1006.3.2(2) STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES TABLE, EXEMPTION EXIST FOR SINGLE STAIR EGRESS FROM SECOND FLOOR

OCCUPANCY: B

MAXIMUM OCCUPANT LOAD OF SPACE : 29 PROPOSED: 3

MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE: 75 FT.

PROPOSED COMMON PATH OF EGRESS 74 FT.

BUILDING CLASSIFICATIONS:

1. TYPE OF CONSTRUCTION :	TYPE II-B - UNPROTECTED
2. TYPE OF OCCUPANCY :	BUSINESS GROUP B
3. FIRE PROTECTION SYSTEM :	NON-SPRINKLERED - FULL COVERAGE CEILING SMOKE DETECTOR SYSTEM
4. NUMBER OF STORIES:	ONE STORY BUILDING WITH MEZZANINE
5. BUILDING HEIGHT:	31' 2"

CHAPTER 9 FIRE PROTECTIVE SYSTEMS:	BUILDING WILL BE NON-SPRINKLERED
CORRIDORS:	PER FBC TABLE 1020.1 FIRE RATING IS ZERO HOURS (UNLESS PART OF A SMOKE COMPARTMENT)
DEAD END CORRIDORS:	ALLOWABLE: PER FBC 1020.4 NO MORE THAN 20 FEET. DESIGNED: NONE
MINIMUM CORRIDOR WIDTH:	MINIMUM: PER FBC TABLE 1020.2 = 44 INCHES or 36" IN AREAS SERVING LESS THAN 50 PEOPLE. PROVIDED: 66 INCHES
EXIT ACCESS TRAVEL DISTANCES:	MAXIMUM: PER FBC TABLE 1017.2: BUSINESS: 200 FEET (SEE LIFE SAFETY SHEETS FOR DESIGNED TRAVEL DISTANCES)

NOTE: SEE COVER SHEET FOR ADDITIONAL CODE ANALYSIS

PLUMBING FIXTURE SCHEDULE - 1ST FLOOR

	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS		LAVATORIES		DRINKING FOUNTAIN	OTHER
				MALE	FEMALE	MALE	FEMALE		
FIXTURES REQUIRED BY CODE	BUSINESS "B"	B	OCCUP.	1 PER 150 REQUIRED = 1	1 PER 75 REQUIRED = 1	1 PER 200 REQUIRED = 1		1 PER 500 REQUIRED = 1	1 SERVICE SINK
FIXTURES REQUIRED BY CODE				REQUIRED = 1	REQUIRED = 1	REQUIRED = 1		REQUIRED = 1	REQUIRED = 1
NUMBER OF FIXTURES PROVIDED			TOTAL = 18 OCCUP.	TOTAL REQUIRED = 1 MEN / 1 WOMEN		TOTAL REQUIRED = 1		TOTAL REQUIRED = 1	1 SERVICE SINKS PROVIDED
				TOTAL PROVIDED = 1 MEN / 1 WOMEN / 1 UNISEX		TOTAL PROVIDED = 3		TOTAL PROVIDED = 1	

OCCUPANCY LOAD SCHEDULE

#	NAME	AREA NET	SQF/OCC	# OF OCCUPANTS
01	WAREHOUSE/STORAGE	1,235.24 SF	500	3
02	FLAMMABLE STORAGE	151.19 SF	0	0
03	WORKSHOP	242.83 SF	300	1
04	LOBBY	491.06 SF	150	4
05	OFFICE	165.23 SF	150	2
06	RECORDS/ARCHIVES	140.22 SF	300	1
07	CUSTODIAL CLOSET	48.77 SF	0	0
08	UNISEX RESTROOM NON-ADA	101.82 SF	0	0
09	UNISEX RESTROOM ADA	136.68 SF	0	0
10	MEZZANINE STORAGE	2,549.01 SF	265	10
11	UNIFORM STORAGE	62.55 SF	300	1
12	IT MDF	51.02 SF	150	1
13	BREAKROOM/MEETING	252.35 SF	150	2
14	UNISEX RESTROOM	33.76 SF	0	0
16	EXTERIOR WORK SPACE	1,516.99 SF	0	0
17	MAIN ENTRY COVER	169.11 SF	0	0
18	WAREHOUSE COVERED ENTRY	192.00 SF	0	0
GRAND TOTAL: 17		7,546.54 SF		25

LIFE SAFETY LEGEND

- 2-HOUR FIRE BARRIER
- 1-HOUR FIRE BARRIER
- SOUND BARRIER WALL
- ROOM NAME / NUMBER DESIGNATION (e.g. 1-101)
- 000.00 SF — ROOM SQUARE FOOTAGE
- SYSTEM SMOKE DETECTOR - CEILING MOUNTED
- (H) SYSTEM HEAT DETECTOR - CEILING MOUNTED
- FA FIRE ALARM AUDIBLE / VISUAL NOTIFICATION DEVICE - CEILING MOUNTED
- FA FIRE ALARM AUDIBLE / VISUAL NOTIFICATION DEVICE - WALL MOUNTED
- FA FIRE ALARM VISUAL NOTIFICATION DEVICE - CEILING MOUNTED
- FA FIRE ALARM VISUAL NOTIFICATION DEVICE - WALL MOUNTED
- EXIT LIGHT WITH DIRECTIONAL LIGHT INDICATOR, CEILING MOUNTED
- EXIT LIGHT WITH DIRECTIONAL LIGHT INDICATOR, WALL MOUNTED
- EXIT LIGHT, WALL MOUNTED
- RED MUSHROOM PUSH-BOTTON WITH KEY RELEASE, LABEL " EMERGENCY STOP"
- MFAPS MANUAL FIRE ALARM PULL STATION
- FACP FIRE ALARM CONTROL PANEL
- F.E. FIRE EXTINGUISHER
- F.E.C. FIRE EXTINGUISHER CABINET

NOTE: FIRE EXTINGUISHERS SHALL BE INDICATED AS ON LIFE SAFETY PLAN AND SHALL BE TYPE 2A-10B:C RATED EXTINGUISHER

DOOR LABELS AS INDICATED ON LIFE SAFETY PLAN AND DOOR FINISH SCHEDULE

(5) - 45 MIN FIRE RESISTANCE

LIFE SAFETY PLAN - FBC, 8TH EDITION (2023),
NFPA 101 - LIFE SAFETY CODE (2021),
NFPA 1 - FIRE CODE (8TH EDITION 2023),
FLORIDA FIRE PREVENTION CODE 8TH EDITION (2023)

1. PATH OF TRAVEL TO EXTERIOR EXIT INDICATED ON LIFE SAFETY PLAN — 100'-0"
2. PRIMARY MEANS OF EGRESS FROM ROOMS

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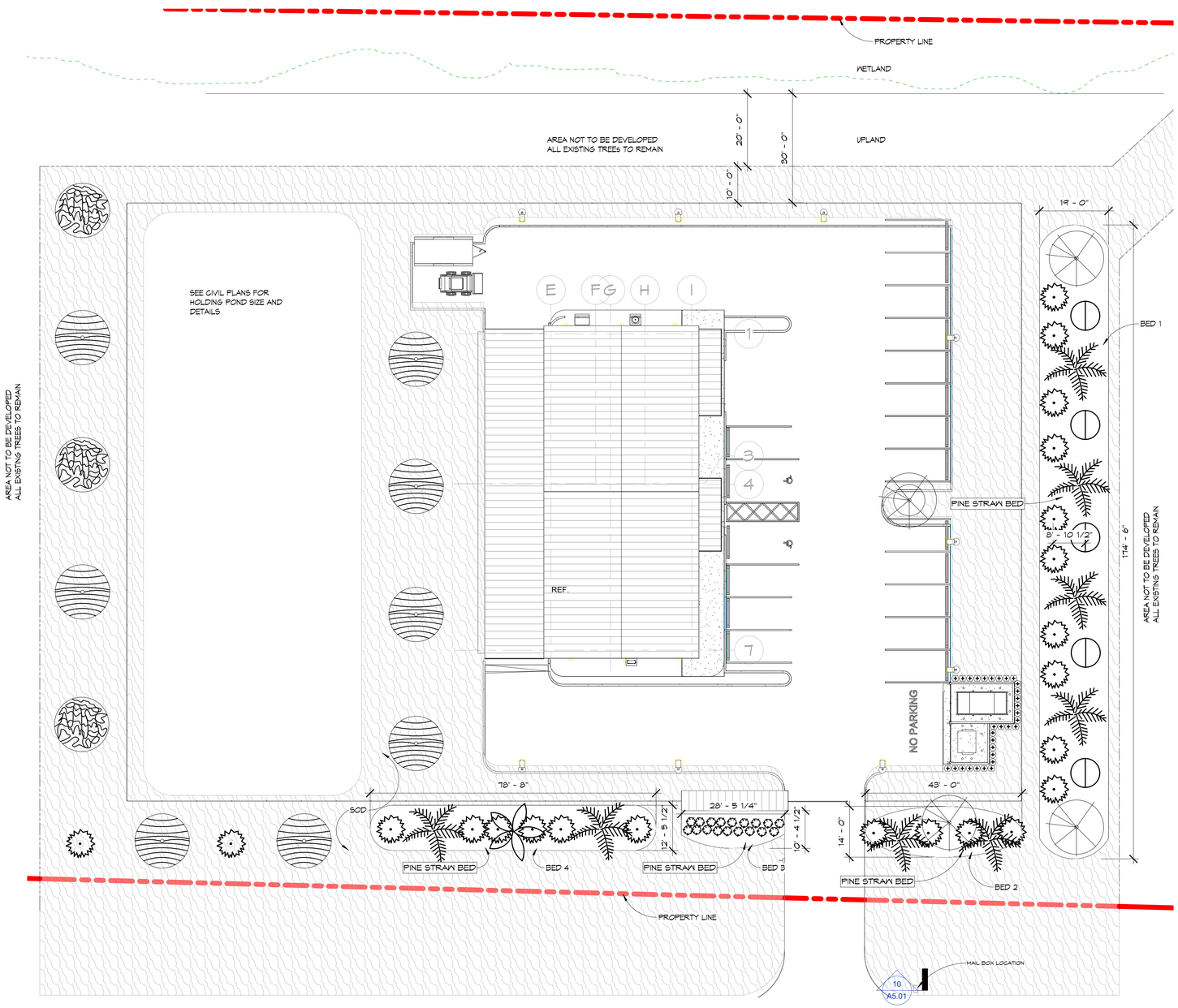
LIFE SAFETY PLAN

PROJECT NO. 4274-22
SHEET NO. LS1.01



1 L1.0 LANDSCAPING PLAN 1/16" = 1'-0"

PLANT LIST:

ULMUS AMERICAN
FLORIDA
(FLORIDA ELM) 10'

WEEPING WILLOW 9'

FLORIDA MAPLE 9'

PHOENIX DACTYLIFERA 9'

CABBAGE PALM 9'

ITALIAN CYPRESS 9'

YAUPON HOLLY 3 GT.

ROCKTRUMPET 3 GAL.

AFRICAN IRIS 1 GAL.

BAHIA SOD OR EQUAL TO

1. 4930 SQUARE FEET OF PINE STRAW PLANT BEDS

2. BED 1 SPACING 8' TO 10' BETWEEN PLANTS
   BED 2 SPACING 2' TO 3' BETWEEN PLANTS
   BED 3 SPACING 8' TO 10 ' BETWEEN PLANTS
   BED 4 SPACING 8' TO 10' BETWEEN PLANTS

3. SEE IRRIGATION PLAN L2.0 FOR IRRIGATION HEAD LOCATIONS

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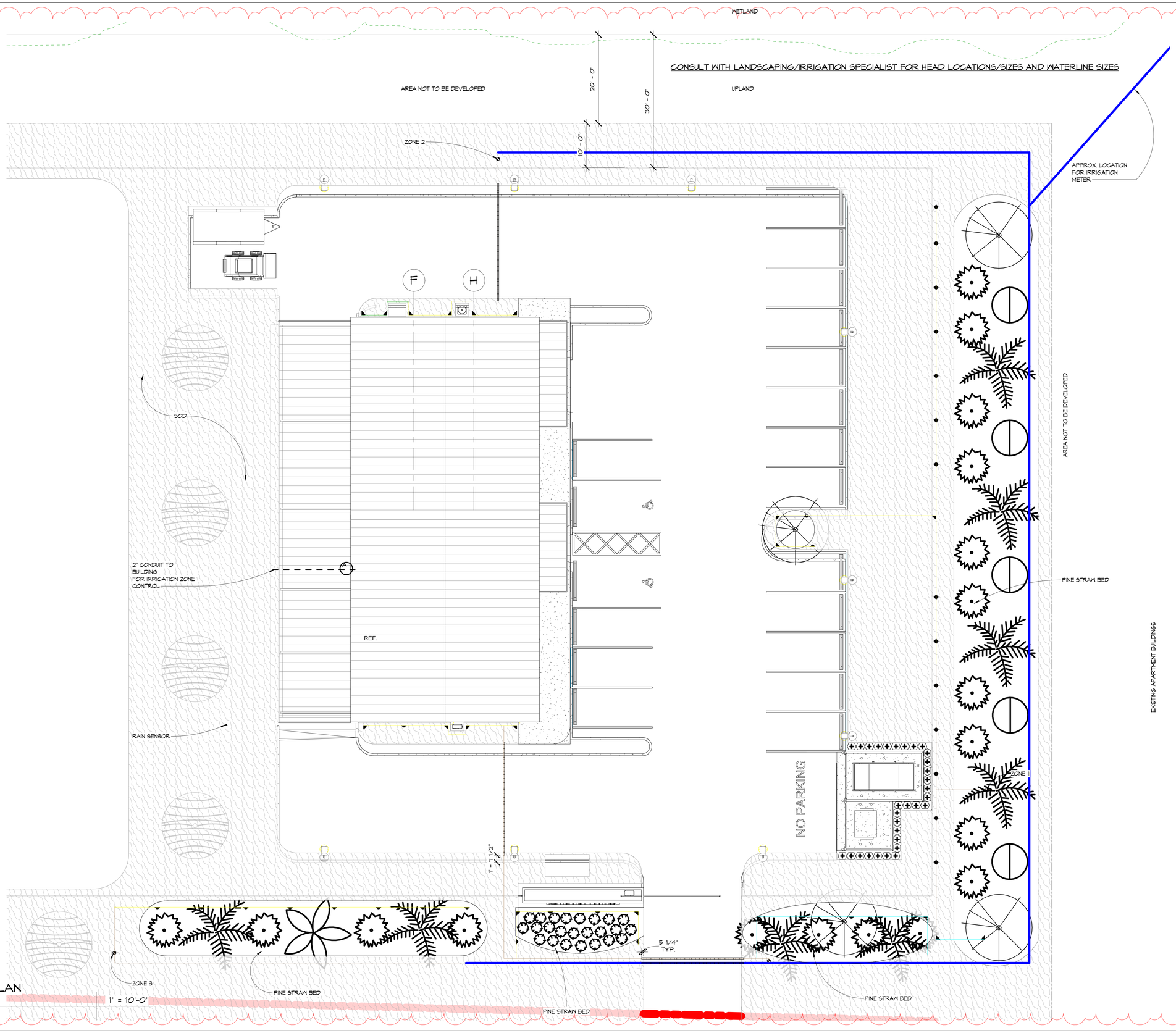
SHEET TITLE:
LANDSCAPING PLAN

PROJECT NO.	SHEET NO.
4274-22	L1.0



IRRIGATION PLAN

1" = 10'-0"

4
L2.0

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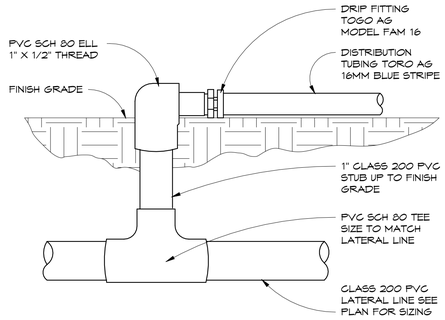
SCALE:	DATE:
1" = 10'-0"	10/10/2025
DRAWN BY: KJ	CHECKED BY: Checker

NO	REVISION	DATE
1	ADDENDUM #1	07/31/2025

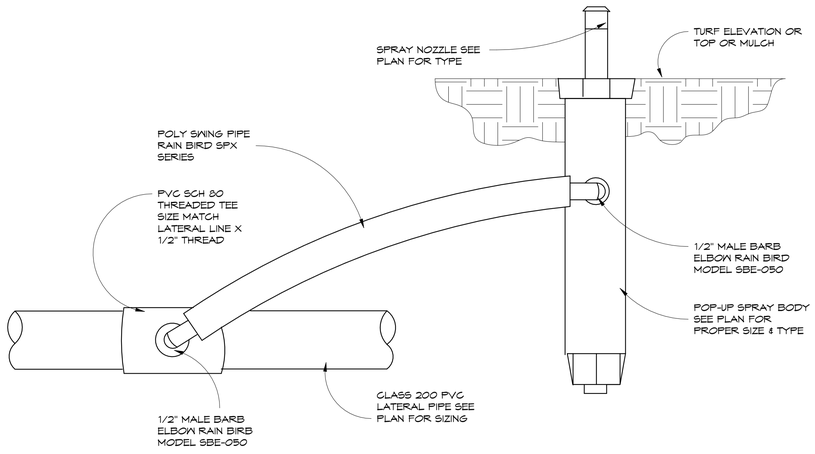
SHEET TITLE:
IRRIGATION PLAN

PROJECT NO.	SHEET NO.
4274-22	L2.0



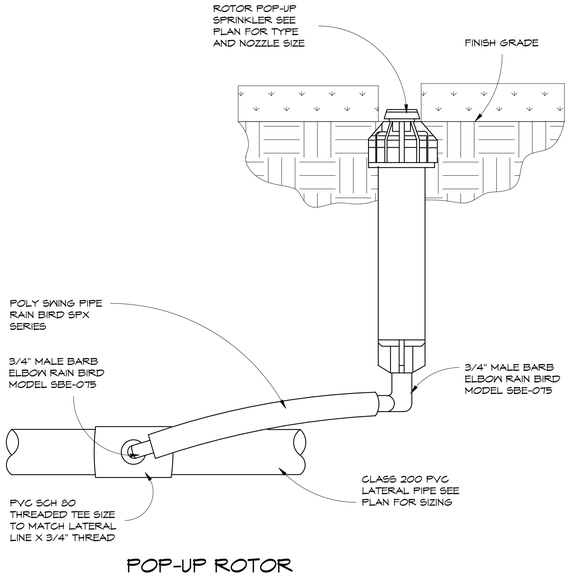
DRIP DISTRIBUTION LINE CONNECTION

1 / L3.0 — 1/2" = 1'-0"



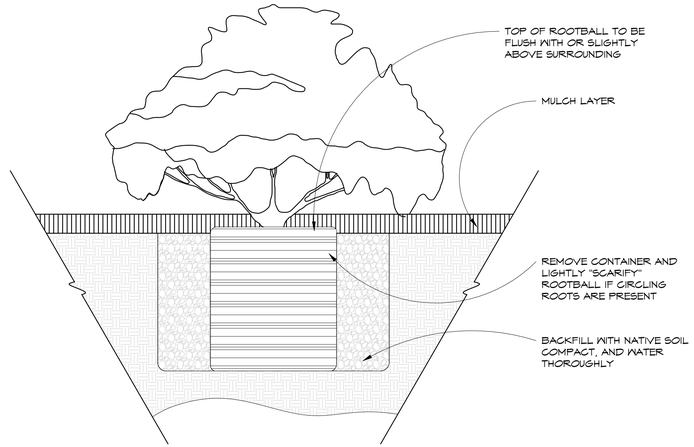
SPRAY HEAD INSTALLATION

3 / L3.0 — 3/8" = 1'-0"



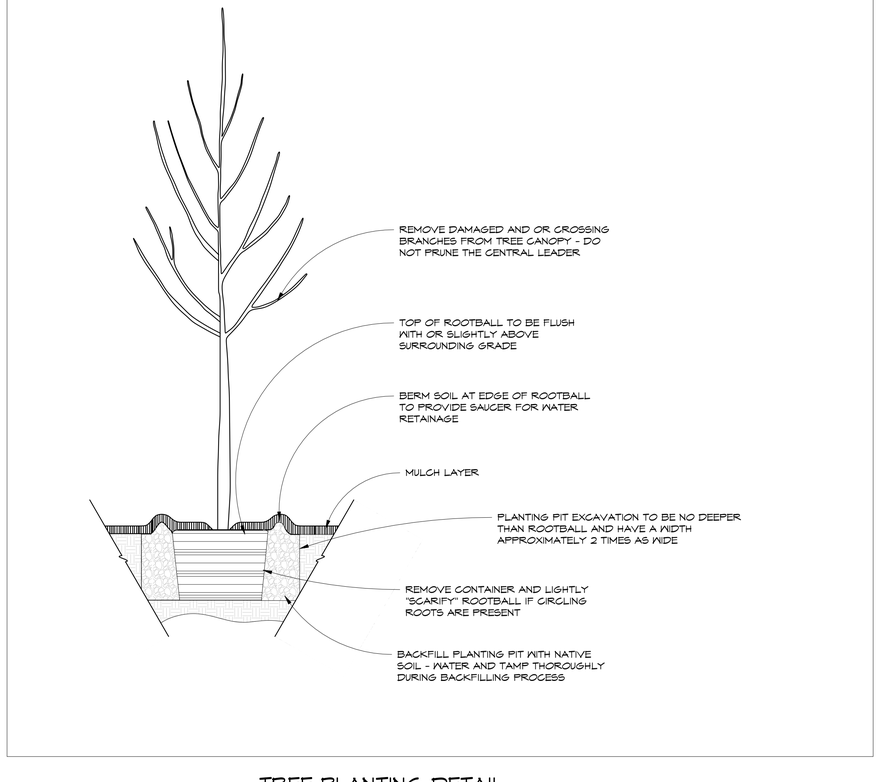
POP-UP ROTOR INSTALLATION

2 / L3.0 — 3/8" = 1'-0"



CONTAINER SHRUB PLANTING

5 / L3.0 — 3/4" = 1'-0"



TREE PLANTING DETAIL

4 / L3.0 — 3/8" = 1'-0"

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SHEET TITLE:
IRRIGATION DETAILS

PROJECT NO. 4274-22
SHEET NO. L3.0

STRUCTURAL - GENERAL NOTES

1. TO THE BEST OF OUR KNOWLEDGE, THE STRUCTURAL PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE FOLLOWING GOVERNING DESIGN CODES:
   - A. FLORIDA BUILDING CODE 2020 EDITION
   - B. AISC STEEL CONSTRUCTION MANUAL (14TH EDITION)
   - C. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, (ACI 318-14)
   - D. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-16)
   - E. STRUCTURAL WELDING CODE AWS D1.1, 2020
   - F. STEEL JOIST INSTITUTE CODE OF STANDARD PRACTICE FOR STEEL JOISTS, (SJI 2015)
   - G. SDI ROOF DECK DESIGN MANUAL (CURRENT EDITION)
   - H. ACI 530 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
2. THE STRUCTURAL DOCUMENTS ARE TO BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL. USE THESE NOTES IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS. IF A CONFLICT EXISTS, THE MORE STRINGENT GOVERNS.
3. SEE PROJECT SPECIFICATIONS FOR TESTING.
4. THE CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS; INCLUDING DIMENSIONS, AND SITE CONDITIONS AND COORDINATE WITH FIELD DIMENSIONS AND PROJECT SHOP DRAWINGS PRIOR TO CONSTRUCTION. ANY AND ALL DISCREPANCIES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND ENGINEER. DO NOT MODIFY OR CHANGE THE SIZE OR DIMENSIONS OF STRUCTURAL MEMBERS WITHOUT WRITTEN INSTRUCTIONS FROM THE ARCHITECT/ ENGINEER OFFICER.
5. IT SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR TO LOCATE ANY AND ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT, AND TO PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITY LINES FROM ALL DAMAGE. EACH CONTRACTOR SHALL PROTECT HIS WORK, ADJACENT PROPERTY AND THE PUBLIC. EACH CONTRACTOR IS SOLELY RESPONSIBLE FOR DAMAGE OR INJURY DUE TO HIS ACT OR NEGLECT.
6. WHERE A CONSTRUCTION DETAIL IS NOT SHOWN OR NOTED, THE DETAIL SHALL BE THE SAME AS FOR OTHER SIMILAR WORK. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS APPLY TO ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. ANY QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE RESOLVED BY THE ARCHITECT / ENGINEER.
7. DESIGN LOAD CRITERIA:
   - A. BUILDING OCCUPANCY CATEGORY. IV
   - B. GRAVITY LOADS:
     - a. SLAB ON GRADE (U.N.O.). . . . . 160 PSF
     - b. FIRST FLOOR MECH. AND ELECTRICAL ROOM . . . . . 400 PSF
     - c. ROOF LIVE LOAD . . . . . 20 PSF
     - d. ROOF DEAD LOAD . . . . . 20 PSF
     - e. MEZZANINE LIVE LOAD . . . . . 80 PSF
     - f. LOBBIES. . . . . 100 PSF
     - g. STAIRS AND EXITS . . . . . 150 PSF
     - h. GROUND SNOW LOAD . . . . . 0 PSF
8. WIND LOADS:
   - A. ULTIMATE DESIGN WIND SPEED . . . . . 160 MPH
   - B. NOMINAL DESIGN WIND SPEED . . . . . 128 MPH
   - C. WIND EXPOSURE CATEGORY. C
   - D. INTERNAL PRESSURE COEFFICIENT . . . . . ±0.18 (ENCLOSED)
9. THE SPECIALTY ENGINEER, DEFINED AS - A PROFESSIONAL ENGINEER, LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, WHO PERFORMS SPECIALTY STRUCTURAL ENGINEERING SERVICES FOR SELECTED SPECIALTY-ENGINEERED ELEMENTS IDENTIFIED IN THE CONTRACT DOCUMENTS, AND WHO HAS EXPERIENCE AND TRAINING IN THE SPECIALTY. DOCUMENTS SIGNED AND SEALED BY THE SPECIALTY ENGINEER SHALL BE COMPLETED BY OR UNDER THE DIRECT SUPERVISION OF THE SPECIALTY ENGINEER. AT MINIMUM ECOSPAN JOIST SYSTEM, ROOF JOISTS, LIGHT GAUGE FRAMING (INCLUDING ALL EXTERIOR WALLS, SOFFITS) ETC AND THEIR ATTACHMENTS TO THE STRUCTURE SHALL BE DESIGNED BY A SPECIALTY ENGINEER TO CONFORM TO ALL LOADING REQUIREMENTS INCLUDING WIND AND IMPACT RESISTANCE.
10. DO NOT SCALE THE DRAWINGS, USE DIMENSIONS SHOWN ON PLAN IN CONJUNCTION WITH CONTRACTOR FIELD VERIFIED INFORMATION. IF A CONFLICT EXISTS, NOTIFY THE CONTRACTING OFFICER IN WRITING FOR RESOLUTION OF ANY AND ALL CONFLICTS.

STRUCTURAL SUBMITTALS

- A. IN ADDITION TO SUBMITTALS REQUIRED BY THE PROJECT SPECIFICATIONS AND CONSTRUCTION DOCUMENTS, THE FOLLOWING "STRUCTURAL SUBMITTALS" ARE REQUIRED FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD.
  METAL ROOF TRUSSES. DESIGN CALCULATIONS AND FABRICATION AND ERECTION DRAWINGS.
- B. CONCRETE WORK: CONCRETE MIX DESIGNS AND REBAR SHOP DRAWINGS.
- C. METAL DECK: DECK SHOP DRAWINGS AND ATTACHMENT DRAWINGS.
- D. STRUCTURAL STEEL: STEEL SHOP DRAWINGS DETAILING MEMBERS AND CONNECTIONS.
- E. JOISTS: JOIST SHOP DRAWINGS DETAILING JOIST SIZE AND CONNECTIONS
- F. LIGHT GAUGE FRAMING: STRUCTURAL CALCULATIONS, ERECTION DRAWINGS, ETC. INCLUDING ALL ATTACHMENTS TO RESIST LOADING SHOWN IN THE STRUCTURAL DOCUMENTS. WIND LOADS MAY BE FACTORED BY 0.6 AS REQUIRED FOR ALLOWABLE STRESS DESIGN.

2. ALL STRUCTURAL SUBMITTALS SHALL BE PREPARED BY THE SPECIALTY ENGINEER.
3. DRAWINGS PREPARED SOLELY AS A GUIDE FOR ERECTION AND INSTALLATION AND CATALOG INFORMATION WILL NOT REQUIRE AN ENGINEERS SEAL; HOWEVER, THEY SHALL BEAR THE ENGINEERS SIGNATURE AND AN INDICATION THAT THE WORK WAS CHECKED.

SHOP DRAWING SUBMITTALS

1. THE REVIEW OF SUBMITTALS AND/ OR SHOP DRAWINGS DONE BY THE STRUCTURAL ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO THE STRUCTURAL ENGINEER. THE REVIEW BY THE STRUCTURAL ENGINEER IS FOR GENERAL CONFORMANCE ONLY. IF SHOP DRAWINGS HAVE NOT BEEN REVIEWED AND APPROVED BEFORE SUBMITTAL TO THE STRUCTURAL ENGINEER, THEY SHALL BE RETURNED WITHOUT APPROVAL.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY AND ALL ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF ALL SHOP DRAWINGS IN RELATIONSHIP TO THE CONSTRUCTION DOCUMENTS.
3. ALL MODIFICATIONS MADE FOR SUBMITTALS THAT ARE RE-SUBMITTED SHALL CLEARLY NOTE ALL CHANGES.
4. REPRODUCING THE CONTRACT DOCUMENTS FOR USE AS SHOP DRAWINGS IS NOT ALLOWED, AND SHOP DRAWINGS WILL BE RETURNED WITHOUT APPROVAL.
5. GENERAL SHOP DRAWING REQUIREMENTS:
   - A. SUBMIT SHOP DRAWINGS AND ANY OTHER SPECIAL INFORMATION NECESSARY FOR PROPER FABRICATION, ERECTION, AND PLACEMENT OF STRUCTURAL FABRICATIONS. INCLUDE PLANS, ELEVATIONS, AND SECTIONS. CLEARLY SHOW ANCHORAGES, CONNECTIONS, AND ACCESSORY ITEMS. THE DETAILER MUST INTERPRET THE CONTRACT DOCUMENTS AND CLEARLY CONVEY THIS INTERPRETATION TO THE FIELD IN THE FORM OF PLACING OR ERECTION DRAWINGS.
   - B. CONCRETE REINFORCING DETAILER- PROVIDE PLACING DRAWINGS FOR FABRICATION AND PLACING OF REINFORCING STEEL. THESE DRAWINGS SHALL INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING: BAR LISTS, SCHEDULES, BENDING DETAILS, PLACING DETAILS, PLACING PLANS, AND PLACING ELEVATIONS.
     - CLEARLY SHOW ELEVATIONS OF ALL BEARING AND SHEAR WALLS. INDICATE OPENINGS, DETAILS OF ALL REINFORCING WITH LOCATIONS OF SPLICES AND HOOKS, CONTROL JOINTS, EXPANSION JOINTS, LINTELS, BOND BEAMS, AND PILASTERS.
     - CLEARLY SHOW BEAM ELEVATIONS AND SECTIONS. INDICATE BAR LENGTHS, HOOKS, STIRRUP SPACING, LAP SPLICES, OFFSETS, AND LOCATION OF BARS WITH RESPECT TO ALL SUPPORTS.
     - CLEARLY SHOW COLUMN ELEVATIONS, ALL COLUMNS MUST CLEARLY BE SHOWN.
     - CLEARLY SHOW ELEVATION, SECTIONS, AND DETAILS OF ALL BEAM TO COLUMN CONNECTIONS.
     - CLEARLY SHOW FOUNDATION REINFORCING. INDICATE BAR LENGTHS, LOCATION AND SPLICES OF CONTINUOUS BARS, AND BAR SUPPORTS. CLEARLY SHOW LOCATIONS OF ALL DOWELS ON PLAN. INDICATE FOOTING STEP LOCATIONS AND PROVIDE DETAILS.

REINFORCEMENT

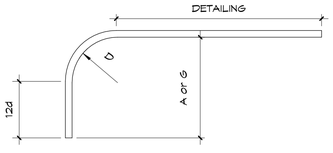
1. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND HAVE MINIMUM SIDE AND END LAPS OF 8".
3. REINFORCING STEEL SHALL ONLY BE WELDED OR TACK-WELDED IF IT CONFORMS TO ASTM A706, AND AWS D1.4. REINFORCING SHALL NOT BE WELDED NOR TACK-WELDED UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
4. SUBMIT SHOP DRAWINGS WHICH ADEQUATELY DEPICT THE REINFORCING BAR SIZES AND PLACEMENT. WRITTEN DESCRIPTION OF REINFORCEMENT WITHOUT ADEQUATE SECTIONS, ELEVATIONS, AND DETAILS IS NOT ACCEPTABLE.
5. PROVIDE DOWELS FROM FOUNDATIONS THE SAME SIZE AND NUMBER AS THE VERTICAL WALL OR COLUMN REINFORCING, UNLESS NOTED OTHERWISE. REINFORCING DOWELS MUST BE TIED IN PLACE PRIOR TO POURING FOOTING. "WET-STICKING" IS NOT ALLOWED.
6. PLACE REINFORCEMENT AS FOLLOWS, UNLESS NOTED OTHERWISE:

   5.1 CAST-IN-PLACE (NON POST-TENSIONED) CONCRETE REINFORCEMENT COVER PERMANENTLY EXPOSED TO EARTH: CAST AGAINST THE EARTH 3" CLEAR EXPOSED TO EARTH OR WEATHER: FOR BARS LARGER THAN A NO. 5 BAR 2" CLEAR ; NO.5 BARS OR SMALLER " CLEAR 2 MASONRY REINFORCING STEEL SHALL BE PLACED IN THE CENTER OF CMU CELLS, UNLESS NOTED OTHERWISE.
7. REINFORCEMENT SHALL BE SPLICED ONLY AT LOCATIONS SHOWN OR NOTED IN THE STRUCTURAL DOCUMENTS, EXCEPT REINFORCEMENT MARKED "CONTINUOUS" CAN BE SPLICED AT LOCATIONS DETERMINED BY CONTRACTOR. SPLICES AT OTHER LOCATIONS SHALL BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER. REINFORCING STEEL SPLICES SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

MINIMUM LAP SPLICE LENGTH (IN.) - 3000 PSI CONCRETE						
	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
	22	29	36	43	63	72
MINIMUM LAP SPLICE LENGTH (IN.) - 1500 PSI NORMAL WEIGHT CMU						
6-in CMU WALL	19	25	34	81	NA	NA
8-in CMU WALL	19	25	31	57	79	113
2-in CMU WALL	19	25	31	53	61	75

RECOMMENED END HOOKS ANCHORAGE LENGTH (IN.) - 3000 PSI CONCRETE						
	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
D	2.25	3.00	3.75	4.50	5.25	6.00
A OR G	6	8	10	12	14	16

DETAILING



8. ADHESIVE FOR REINFORCING DOWELS IN EXISTING CONCRETE SHALL BE EITHER THE SIMPSON SET XP STRUCTURAL EPOXY CONC.- HIGH STRENGTH ANCHORING ADHESIVE, THE HIT HY150 INJECTION ADHESIVE, THE EPCON SYSTEM CERAMIC 6 EPOXY ADHESIVE SUPPLIED BY ITW RAMSET/RED HEAD, POWER-FAST EPOXY INJECTION GEL SUPPLIED BY POWERS FASTENING, OR APPROVED EQUAL. MINIMUM EMBEDMENT LENGTH SHALL BE 12 BAR DIAMETERS, UNLESS NOTED OTHERWISE.E.

CAST-IN-PLACE CONCRETE

1. CONCRETE WORK SHALL CONFORM TO ACI 318-05 AND CRSI STANDARDS.
2. CONCRETE SHALL HAVE A MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
3. REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROVES, ORNAMENTS, CLIPS OR GROUNDS REQUIRED TO BE ENCASED IN CONCRETE AND FOR LOCATION OF FLOOR FINISHES AND SLAB DEPRESSIONS.
4. CONSTRUCTION JOINT LOCATIONS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. NO HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED EXCEPT THOSE SHOWN ON THE STRUCTURAL DRAWINGS.
5. DEFECTIVE AREAS IN CONCRETE INCLUDING, BUT NOT LIMITED TO, HONEY-COMBING, SPALLS, AND CRACKS WITH WIDTHS EXCEEDING 0.01 INCH SHALL BE REPAIRED. EXTENT OF DEFECTIVE AREA TO BE DETERMINED BY THE STRUCTURAL ENGINEER.

SLAB ON GRADE NOTES

1. ENSURE THAT REINFORCEMENT IS LOCATED IN SLAB CORRECTLY BY CHAIRING REINFORCING ADEQUATELY DURING CONCRETE PLACEMENT.
2. USE 10 MIL. POLYETHYLENE (VAPOR BARRIER) SHEETING BETWEEN COMPACTED SOIL AND CONCRETE SLAB MIN., U.N.O. PLEASE NOTE THAT ARCHITECT WILL PROVIDE FINAL VAPOR BARRIER SPECIFICATIONS AND THIS MAY INCLUDE THICKER VAPOR BARRIERS AS REQUIRED. 10 MIL SHALL BE THE MINIMUM SPECIFIED IF NOT SPECIFIED BY THE ARCHITECT.
3. PROVIDE POROUS DRAINAGE LAYER UNDER INTERIOR PORTIONS OF 4" SLAB ON GRADE. DRAINAGE LAYER SHALL CONSIST OF CLEAN, FREE-DRAINAGE PEA GRAVEL, CRUSHED STONE, OR COARSE SAND. THIS DRAINAGE LAYER SHALL CONSIST OF NATURAL SAND WITH A MAXIMUM 50% PASSING THE NO. 50 SIEVE AND 5% PASSING A NO. 200 SIEVE AS MINIMUM. SEE PROJECT GEOTECHNICAL REPORT FOR GUIDELINES. THE CONTRACTOR SHALL COORDINATE THESE REQUIREMENTS WITH THE GEOTECHNICAL ENGINEER OF RECORD PRIOR TO FOUNDATION PREPARATION. NOTE THAT INSITU MATERIAL MAY SATISFY THIS REQUIREMENT, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE GEOTECHNICAL ENGINEER TO FULFIL THIS REQUIREMENT.
4. PLACE CRACK CONTROL JOINTS USING A MAXIMUM 2:1 LENGTH TO WIDTH RATIO WITH 20'-0" MAXIMUM SPACING, UNLESS LOCATED ON PLANS. PLACE MANDATORY CONSTRUCTION JOINTS AS SHOWN.

FOUNDATION

1. FOUNDATION DESIGN IS BASED ON AN ASSUMED ALLOWABLE BEARING PRESSURE OF 2000 PSF. STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR SUBSURFACE CONDITIONS ENCOUNTERED IN THE FIELD DIFFERENT FROM THOSE ASSUMED FOR DESIGN.
2. STRUCTURAL TESTING/INSPECTION AGENCY SHALL CERTIFY THE BEARING MEDIUM BEFORE STARTING CONSTRUCTION.
3. NO FOOTINGS SHALL BE PLACED IN WATER.
4. ANY SOIL CONDITION ENCOUNTERED DURING EXCAVATION THAT IS CONTRARY TO THE CONDITIONS USED FOR DESIGN OF FOOTINGS AS OUTLINED IN THESE NOTES OR ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER OF RECORD BEFORE PROCEEDING.
5. BACK FILL BOTH SIDES OF FOUNDATION WALLS AT SAME TIME TO PREVENT OVERTURNING.

SPECIALTY ENGINEER SHOP DRAWING SUBMITTALS

1. SPECIALTY ENGINEER:
   - A. SHALL BE AN EMPLOYEE OR OFFICER OF A FABRICATOR, AN EMPLOYEE OR OFFICER OF AN ENTITY SUPPLYING COMPONENTS TO A FABRICATOR, OR AN INDEPENDENT CONSULTANT RETAINED BY THE FABRICATOR OR HIS SUPPLIER.
2. THE FOLLOWING SYSTEMS AND COMPONENTS AS A MINIMUM REQUIRE FABRICATION AND ERECTION DRAWINGS WITH INPUT BY A SPECIALTY ENGINEER, BUT ARE NOT LIMITED TO: WINDOW SYSTEMS, STOREFRONT SYSTEM, ROOF SYSTEMS (JOIST SYSTEMS AND ATTACHMENTS, PRE-ENGINEERED STAIRS, AND LOUVERS, ECOSPAN BAR JOIST SYSTEM) AND ALL LIGHT GAUGE FRAMING.
3. THE SPECIALTY ENGINEER OR MANUFACTURER SHALL DESIGN, PROVIDE, AND INSTALL THEIR COMPONENTS AND THE COMPONENT CONNECTIONS TO THE PRIMARY STRUCTURE PER THE CRITERIA STATED IN THESE NOTES OR THE CURRENT GOVERNING BUILDING CODES, WHICHEVER IS MORE STRINGENT.
4. SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC PROJECT AND APPLICABLE CODES, LIST THE DESIGN CRITERIA, AND SHOW ALL DETAILS AND PLANS NECESSARY FOR PROPER FABRICATION AND INSTALLATION. CALCULATIONS AND SHOP DRAWINGS SHALL IDENTIFY SPECIFIC PRODUCT UTILIZED. GENERIC PRODUCTS WILL NOT BE ACCEPTED.
5. SHOP DRAWINGS AND CALCULATIONS REQUIRE THE SEAL, DATE AND SIGNATURE OF THE SPECIALTY ENGINEER. COMPUTER PRINTOUTS ARE AN ACCEPTABLE SUBSTITUTE FOR MANUAL COMPUTATIONS PROVIDED THEY ARE ACCOMPANIED BY SUFFICIENT DESCRIPTIVE INFORMATION TO PERMIT THEIR PROPER EVALUATION. SUCH DESCRIPTIVE INFORMATION SHALL BEAR THE SEAL AND SIGNATURE OF THE SPECIALTY ENGINEER AS AN INDICATION THAT HE HAS ACCEPTED RESPONSIBILITY FOR THE RESULTS.
6. REVIEW BY THE STRUCTURAL ENGINEER OF RECORD OF SUBMITTALS IS LIMITED TO VERIFYING THE FOLLOWING
   - A. THAT THE SPECIFIED STRUCTURAL SUBMITTALS HAVE BEEN FURNISHED.
   - B. THAT THE STRUCTURAL SUBMITTALS HAVE BEEN SIGNED AND SEALED BY THE SPECIALTY ENGINEER.
   - C. THAT THE SPECIALTY ENGINEER HAS UNDERSTOOD THE DESIGN INTENT AND HAS USED THE SPECIFIED STRUCTURAL CRITERIA. (NO DETAILED CHECK OF CALCULATIONS WILL BE MADE.)
   - D. THAT THE CONFIGURATION SET FORTH IN THE STRUCTURAL SUBMITTALS IS CONSISTENT WITH THE CONTRACT DOCUMENTS. (NO DETAILED CHECK OF DIMENSIONS OR QUANTITIES WILL BE MADE.)
7. SUBMITTALS NOT MEETING THE ABOVE REQUIREMENTS WILL NOT BE REVIEWED AND WILL BE RETURNED TO CONTRACTOR MARKED REVISE AND RESUBMIT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DELAYS WHICH MAY RESULT.
8. THE CONTRACTOR SHALL ENGAGE AN PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA TO PROVIDE SHORING DRAWINGS AND CALCULATIONS FOR SUPPORT ELEVATED SLABS AT ELEVATOR SHAFTS AND STAIRS.
9. IN ADDITION TO SUBMITTALS REQUIRED BY THE PROJECT SPECIFICATIONS AND CONSTRUCTION DOCUMENTS, THE FOLLOWING "STRUCTURAL SUBMITTALS" ARE REQUIRED FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD.
   - A. LIGHT GAUGE FRAMING: DESIGN CALCULATIONS AND FABRICATION AND ERECTION DRAWINGS.
   - B. CONCRETE WORK: CONCRETE MIX DESIGNS AND REBAR SHOP DRAWINGS.
   - C. METAL DECK: DECK SHOP DRAWINGS AND ATTACHMENT DRAWINGS.
   - D. STRUCTURAL STEEL: STEEL SHOP DRAWINGS DETAILING MEMBERS AND CONNECTIONS.
   - E. JOISTS: JOIST SHOP DRAWINGS DETAILING JOIST SIZE AND CONNECTIONS
   - F. TEMPORARY SHORING DRAWINGS FOR CMU AND CONCRETE WALLS: PROVIDE CALCULATIONS AND SHORING DRAWINGS FOR REVIEW BY OUR OFFICE.
10. ALL STRUCTURAL SUBMITTALS SHALL BE PREPARED BY THE SPECIALTY ENGINEER.
11. DRAWINGS PREPARED SOLELY AS A GUIDE FOR ERECTION AND INSTALLATION AND CATALOG INFORMATION WILL NOT REQUIRE AN ENGINEERS SEAL; HOWEVER, THEY SHALL BEAR THE ENGINEERS SIGNATURE AND AN INDICATION THAT THE WORK WAS CHECKED.

STRUCTURAL STEEL NOTES

1. REFERENCE STANDARDS: STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL AND THE AISC CODE OF STANDARD PRACTICE (REFERENCED EDITION) WITH EXCEPTION NOTED IN THE PROJECT SPECIFICATIONS.
2. OSHA REQUIREMENTS:
   - A. THE CONTRACTOR SHALL PROVIDE ADDITIONAL ANCHORS, BOLTS, STABILIZERS, STIFFENERS, BRIDGING, BRACING, ETC. AS NECESSARY TO COMPLY WITH CURRENT OSHA REGULATIONS.
   - B. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING TO INSURE A STABLE STRUCTURE DURING THE INSTALLATION OF STRUCTURAL STEEL MEMBERS.
3. MATERIAL REQUIREMENTS OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING DESIGNATIONS U.N.O.
   - A. WIDE FLANGE SHAPES . . . . . ASTM 992, GRADE 50
   - B. ANGLES, CHANNELS, AND PLATES . . . . ASTM A36 OR ASTM A572, GRADE 50
   - C. HSS SECTIONS . . . . . ASTM A500, GRADE "B" (Fy = 46KSI)
   - D. HIGH STRENGTH BOLTS . . . . . ASTM A325 OR ASTM A490
   - E. ANCHOR BOLTS . . . . . ASTM F1554, GRADE 36 (WELDABLE)
   - F. WELDING ELECTRODES . . . . . AWS D1.1 E70
4. USE STRUCTURAL STEEL THAT IS FULLY WELDABLE INCLUDING WHEN WELDING BETWEEN DIFFERENT GRADES OF STEEL. SHOP WELDING SHALL BE UTILIZED IN LIEU OF FIELD WELDING WHEN OBTAINABLE.
5. ALL SHOP AND FIELD WELDING SHALL CONFORM TO THE STRUCTURAL WELDING CODE AWS D1.1, LATEST EDITION, PUBLISHED BY THE AMERICAN WELDING SOCIETY (AWS). USE ELECTRODES CONFORMING TO AWS D1.1, E70 SERIES, U.N.O. SHOW ALL SHOP WELDS ON THE FABRICATION DRAWINGS AND ALL FIELD WELDS ON THE ERECTION DRAWINGS. WELD SIZES AND LENGTHS ARE SHOWN ON THE DRAWINGS. WELD SIZES ARE THE NET EFFECTIVE SIZE REQUIRED. INCREASE THE WIDTH OF THE WELD IF A GAP EXISTS AT FAYING SURFACES. MINIMUM FILLET WELD SIZE IS 3/16".
6. ALL SHOP AND FIELD WELDERS, WELDING OPERATORS, AND TACKERS SHALL BE CERTIFIED ACCORDING TO AWS PROCEDURES AND HAVE EVIDENCE OF PASSING THE AWS STANDARD QUALIFICATION TESTS. CERTIFICATION MUST BE CURRENT.
7. ALL JOINT WELDING PROCEDURES TO BE USED SHALL BE PREPARED BY THE FABRICATOR OR CONTRACTOR AS WRITTEN PROCEDURE SPECIFICATIONS AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR THEIR RECORD. ALL JOINT WELDING PROCEDURES SHALL BE QUALIFIED PRIOR TO USE ACCORDING TO AWS PROCEDURES.
8. A325 BOLTS:
   - A. A325 BOLTS SHALL CONFORM TO ASTM A 325 TYPE 1, HIGH STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS. DO NOT USE TYPE 2 BOLTS.
   - B. PROVIDE HARDENED WASHERS CONFORMING TO ASTM F 436. PLACE HARDENED WASHERS UNDER PART BEING TURNED.
   - C. LOAD INDICATOR WASHERS OR TENSION CONTROLLED BOLTS SHALL BE USED ON ALL A325 BOLTS.
   - D. ALL BOLTS SHALL BE NEW AND DOMESTICALLY MANUFACTURED. DO NOT REUSE BOLTS. USE ONLY NON-GALVANIZED NUTS AND BOLTS THAT ARE CLEAN, RUST-FREE, AND WELL LUBRICATED. BOLTS AND NUTS SHALL BE MAX DIPPED BY THE BOLT SUPPLIER OR LUBRICATED WITH JOHNSON'S STICK WAX 140.
9. FIELD MODIFICATION OF STRUCTURAL STEEL SHALL NOT BE CUT IN FIELD OR MODIFIED WITHOUT PRIOR APPROVAL OF THE ENGINEER. SPLICING STEEL MEMBERS IS NOT PERMITTED EXCEPT WHERE EXPLICITLY SHOWN ON THE STRUCTURAL DRAWINGS OR WHERE APPROVED BY THE ENGINEER OF RECORD. SPLICES SHALL NOT OCCUR AT LOCATIONS OF MAXIMUM STRESS AND SHALL DEVELOP THE FULL CAPACITY OF THE MEMBER. SPLICE DETAILS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO BEGINNING WORK.
10. WHEN HOLES ARE REQUIRED IN METAL SURFACE, THEY SHALL BE CUT, DRILLED, OR PUNCHED HOLES PERPENDICULAR TO METAL SURFACE. IN NO INSTANCE IS IT ADEQUATE TO USE A FLAME TO CUT OR ENLARGE HOLES IN STRUCTURAL STEEL MEMBERS.
11. THE STEEL SUPPLIER SHALL PROVIDE ALL MISCELLANEOUS STRUCTURAL STEEL ITEMS NECESSARY TO FULFILL THE INTENT OF THE STRUCTURAL DRAWINGS WHETHER OR NOT THE ITEMS ARE SHOWN ON THE STRUCTURAL DRAWINGS. SUCH ITEMS MAY INCLUDE BUT ARE NOT LIMITED TO EDGE ANGLES, CLOSURE PLATES, AND DECK SUPPORT FRAMING.
12. ALL EXTERIOR EXPOSED STEEL SHALL BE HOT DIP GALVANIZED. WHEN WELDING GALVANIZED MATERIAL, REMOVE GALVANIZATION BY GRINDING, WELD, THEN APPLY A MINIMUM OF TWO COATS OF COLD GALVANIZATION TO WELDED ASSEMBLY.
13. ALL STRUCTURAL STEEL SHALL BE PRIME PAINTED WITH A MINIMUM DRY FILM THICKNESS OF 2.0 MILS.
14. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL MISCELLANEOUS STEEL THAT WILL BE REQUIRED.

MISC. STEEL NOTES

1. OTHER MISCELLANEOUS STEEL NOT SHOWN ON THE STRUCTURAL DOCUMENTS MAY BE IDENTIFIED IN THE ARCHITECTURAL AND/ OR MECHANICAL DRAWINGS. ALL OTHER MISCELLANEOUS SHAPES SHALL BE AT MINIMUM A36 STRUCTURAL STEEL, U.N.O.
2. EDGE ANGLES, CLIP ANGLES, PLATES, BARS AND OTHER MISCELLANEOUS ROLLED SHAPES SHALL BE ASTM A36 STRUCTURAL STEEL, U.N.O. EDGE OF SLAB CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO SHOP DRAWING SUBMITTAL TO OUR OFFICE.

BAY COUNTY CERTIFICATION:
I CERTIFY THAT THE DESIGN PLANS AND SPECIFICATIONS FOR THIS CONSTRUCTION ARE IN COMPLIANCE WITH THE CRITERIA ESTABLISHED BY THE 2020 FLORIDA BUILDING CODE. THIS BUILDING AND/OR STRUCTURE IS DESIGN TO WITHSTAND A WIND VELOCITY OF 130 MPH WIND AND CHAPTER 16 OF THE 2020 FLORIDA BUILDING CODE. ALSO, UPON COMPLETION OF THIS BUILDING AND/OR STRUCTURE, I WILL CERTIFY AT THAT TIME THE BUILDING AND/OR STRUCTURE HAS COMPLIED WITH THIS SPECIFIC BUILDING DESIGN. THIS MUST BE ON FILE AT THE BAY COUNTY BUILDING DEPARTMENT BEFORE RECEIVING AN INSPECTION FOR POWER. I UNDERSTAND THAT ANY CHANGE IN DESIGN OR SPECIFICATION MUST BE SUBMITTED IN WRITING BY ME TO THE BUILDING DEPARTMENT. ALL DRAWINGS AND/OR CORRESPONDENCE SHALL BE SIGNED AND SEALED.

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SEAL:

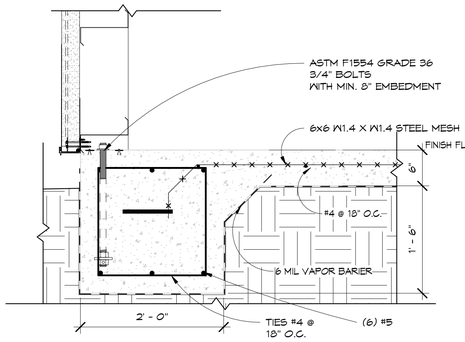
BID SET DOCUMENTS

SCALE:	DATE:
3/16" = 1'-0"	10/10/2025
DRAWN BY: KJ	CHECKED BY: RD

NO	REVISION	DATE

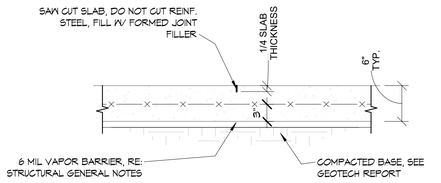
SHEET TITLE:
STRUCTURAL GENERAL NOTES

PROJECT NO.	SHEET NO.
4274-22	S0.00



TYPICAL NEW SLAB EDGE

3 / S1.01 — 1" = 1'-0"



CONSTRUCTION JOINT (C.J.)

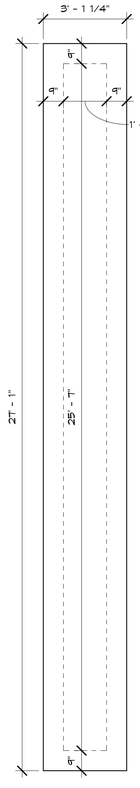
5 / S1.01 — 1" = 1'-0"

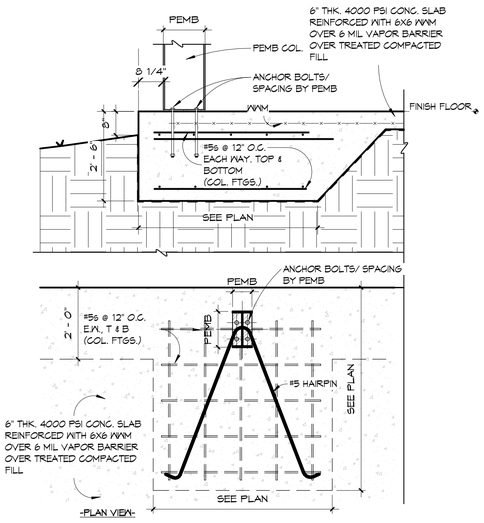
SLAB CONTRACTION JOINT NOTES

1. STORE REINFORCEMENT OF DIFFERENT SIZES AND SHAPES IN SEPARATE PILES OR RACKS RAISED ABOVE THE GROUND TO AVOID EXCESSIVE RUSTING. PROTECT FROM CONTAMINANTS SUCH AS GREASE, OIL, AND DIRT. ENSURE BAR SIZES CAN BE ACCURATELY IDENTIFIED AFTER BUNDLES ARE BROKEN AND TAGS REMOVED.
2. SUBMIT PROPOSED MATERIALS, METHODS AND DURATION FOR CURING CONCRETE ELEMENTS IN ACCORDANCE WITH ACI 308.1.
3. SUBMIT PROPOSED MATERIAL AND PROCEDURES TO BE USED IN OBTAINING THE FINISH FOR THE SLAB ON GRADE FLOORS. INCLUDE QUALIFICATION OF PERSON TO BE USED FOR OBTAINING FLOOR TOLERANCE MEASUREMENT, DESCRIPTION OF MEASURING EQUIPMENT TO BE USED, AND A SKETCH SHOWING LINES AND LOCATIONS THE MEASURING EQUIPMENT WILL FOLLOW.
4. AIR CONTENT: DO NOT ALLOW AIR CONTENT OF TROWEL-FINISHED FLOORS TO EXCEED 3 PERGENT.
5. REINFORCING BAR SUPPORTS: SUPPORTS INCLUDE BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES NECESSARY FOR PROPER SPACING, SUPPORTING, AND FASTENING REINFORCING BARS AND WELDED WIRE REINFORCEMENT IN PLACE. PROVIDE WIRE BAR TYPE SUPPORTS OF COATED OR NON-CORRODIBLE MATERIAL CONFORMING TO ACI SP-66 AND CRSI 10MSP.
6. PROPERLY CONSTRUCTED; VERIFY THAT SUBSTRATES ARE LEVEL. CHECK FIELD DIMENSIONS BEFORE BEGINNNG INSTALLATION. IF DIMENSIONS VARY FROM DESIGN DIMENSIONS FOR PROPER INSTALLATION, NOTIFY ARCHITECT/ ENGINEER AND WAIT FOR INSTRUCTIONS BEFORE BEGINNING INSTALLATION.
7. PREPARATION NOTE: SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED MUST BE FREE OF DEBRIS, LOOSE MATERIAL, STANDING WATER, ICE, AND OTHER DELETERIOUS SUBSTANCES BEFORE START OF CONCRETE PLACING. REMOVE STANDING WATER WITHOUT WASHING OVER FRESHLY DEPOSITED CONCRETE. DIVERT FLOW OF WATER THROUGH SIDE DRAINS PROVIDED FOR SUCH PURPOSE. WHEN SUBGRADE MATERIAL IS SEMIPOROUS AND DRY, SPRINKLE SUBGRADE SURFACE WITH WATER AS REQUIRED TO ELIMINATE SUCTION AT THE TIME CONCRETE IS DEPOSITED. OR SEAL SUBGRADE SURFACE BY COVERING SURFACE WITH SPECIFIED VAPOR RETARDER. WHEN SUBGRADE MATERIAL IS POROUS, SEAL SUBGRADE SURFACE BY COVERING SURFACE WITH SPECIFIED VAPOR RETARDER. SUBGRADE UNDER SLABS ON GROUND.
8. BEFORE CONSTRUCTION OF SLABS ON GROUND, HAVE UNDERGROUND WORK ON PIPES AND CONDUITS COMPLETED AND APPROVED. PREVIOUSLY CONSTRUCTED SUBGRADE OR FILL MUST BE CLEANED OF FOREIGN MATERIALS. FINISH SURFACE OF CAPILLARY WATER BARRIER UNDER INTERIOR SLABS ON GROUND MUST NOT SHOW DEVIATION IN EXCESS OF 1/4 INCH WHEN TESTED WITH A 10-FOOT STRAIGHTEDGE PARALLEL WITH AND AT RIGHT ANGLES TO BUILDING LINES. FINISHED SURFACE OF SUBGRADE OR FILL UNDER EXTERIOR SLABS ON GROUND MUST NOT BE MORE THAN 0.02-FOOT ABOVE OR 0.10-FOOT BELOW ELEVATION INDICATED BY CIVIL.
9. SECURE REINFORCEMENT, JOINT MATERIALS, AND OTHER EMBEDDED MATERIALS IN POSITION, INSPECTED, AND APPROVED BEFORE START OF CONCRETE PLACING.
10. PROVIDE BARS, WELDED WIRE REINFORCEMENT, WIRE TIES, SUPPORTS, AND OTHER DEVICES NECESSARY TO INSTALL AND SECURE REINFORCEMENT. REINFORCEMENT MUST NOT HAVE RUST, SCALE, OIL, GREASE, CLAY, OR FOREIGN SUBSTANCES THAT WOULD REDUCE THE BOND. RUSTING OF REINFORCEMENT IS A BASIS OF REJECTION IF THE EFFECTIVE CROSS-SECTIONAL AREA OR THE NOMINAL WEIGHT PER UNIT LENGTH HAS BEEN REDUCED. REMOVE LOOSE RUST PRIOR TO PLACING STEEL. TACK WELDING IS PROHIBITED.
11. INSTALL IN ACCORDANCE WITH ASTM E1643. PROVIDE BENEATH THE ON-GRADE CONCRETE FLOOR SLAB. USE THE GREATEST WIDTHS AND LENGTHS PRACTICABLE TO ELIMINATE JOINTS WHEREVER POSSIBLE. LAP JOINTS A MINIMUM OF 12 INCHES AND TAPE. REMOVE TORN, PUNCTURED, OR DAMAGED VAPOR RETARDER. MATERIAL AND PROVIDE WITH NEW VAPOR RETARDER. PRIOR TO PLACING CONCRETE. CONCRETE PLACEMENT MUST NOT DAMAGE VAPOR RETARDER.
12. REPAIR SURFACE DEFECTS IN ACCORDANCE WITH ACI 301 SECTION 5.
13. CONSTRUCTION JOINTS: MAKE AND LOCATE JOINTS NOT INDICATED SO AS NOT TO IMPAIR STRENGTH AND APPEARANCE OF THE STRUCTURE, AS APPROVED. JOINTS MUST BE PERPENDICULAR TO MAIN REINFORCEMENT. REINFORCEMENT MUST BE CONTINUED AND DEVELOPED ACROSS CONSTRUCTION JOINTS.
14. SAWCUTTING WILL BE LIMITED TO WITHIN 12 HOURS AFTER SET AND AT 1/4 SLAB DEPTH.
15. CONTRACTION AND CONTROL JOINTS WHICH ARE TO RECEIVE FINISH FLOORING MATERIAL MUST BE SEALED WITH JOINT SEALING COMPOUND AFTER CONCRETE CURING PERIOD. SLIGHTLY UNDERFILL GROOVE WITH JOINT SEALING COMPOUND TO PREVENT EXTRUSION OF COMPOUND. REMOVE EXCESS MATERIAL AS SOON AFTER SEALING AS POSSIBLE.

TENSION DEVELOPMENT AND LAP SPLICE LENGTHS FOR BARS IN WALLS, SLABS AND FOOTINGS (ACI 25.4.2.3)

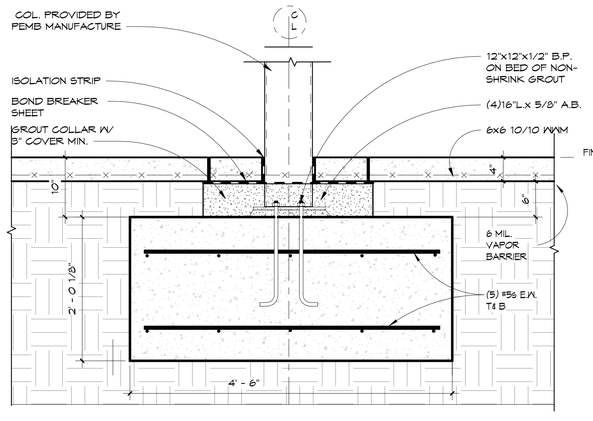
BAR SIZE	CONCRETE COVER = 0.75 IN.		CONCRETE COVER = 1.5 IN.		CONCRETE COVER = 2.0 IN.		CONCRETE COVER = 3.0 IN.	
	TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
#4	28	22	23	17	23	17	23	17
#5	41	32	28	22	28	22	28	22
#6	56	43	34	26	34	26	34	26
#7	90	69	55	43	49	38	49	38
#8	86	66	54	41	43	33	43	33
#9	135	104	86	66	69	53	63	48
#10	162	125	105	81	85	66	71	55





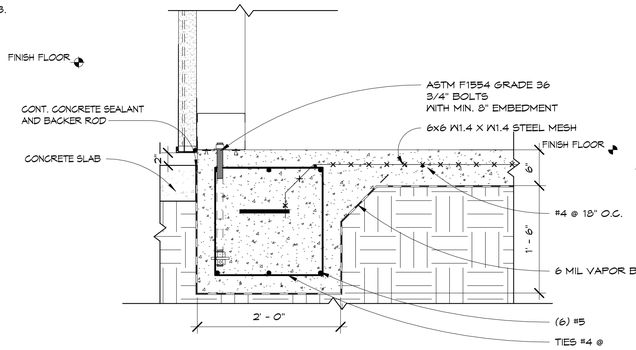
TYPICAL SLAB EDGE AT COLUMN

9 / S1.01 — 1/2" = 1'-0"



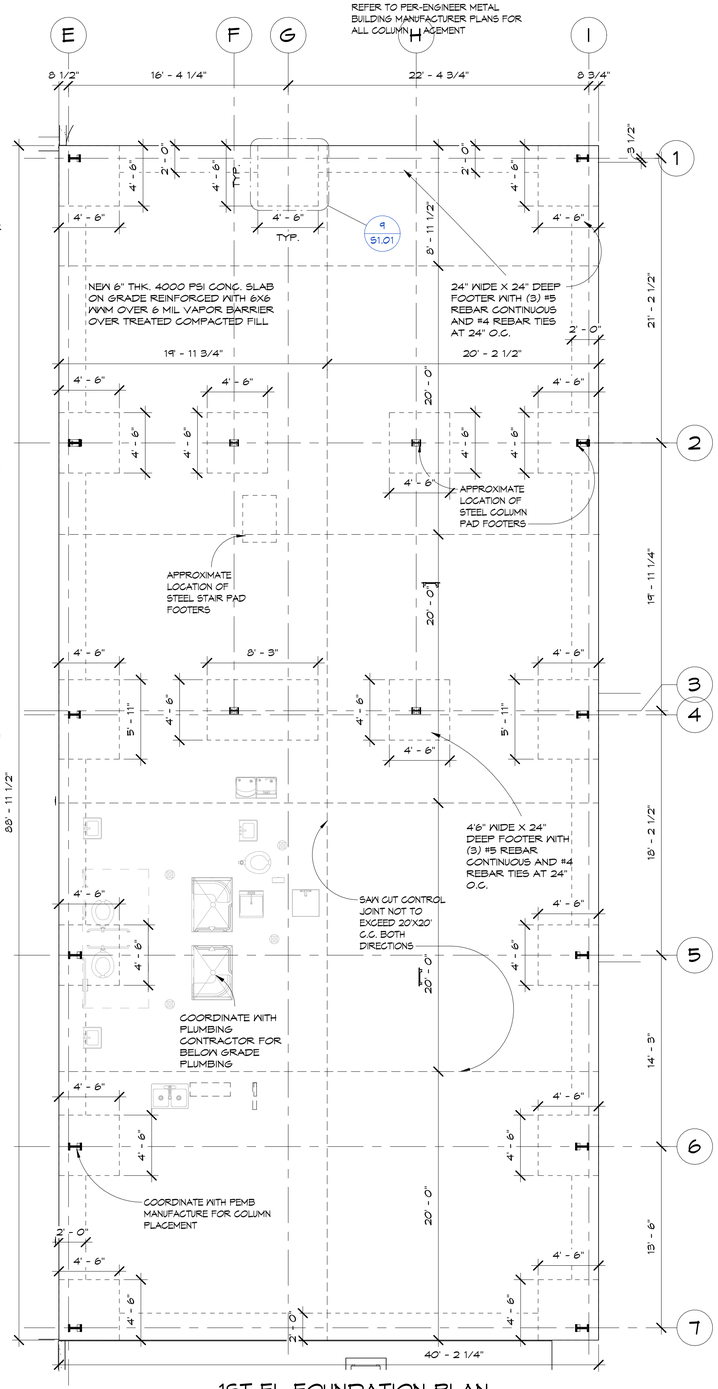
TYP. COLUMN DETAIL

6 / S1.01 — 1" = 1'-0"



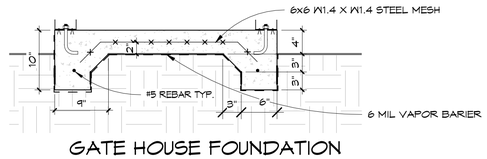
SLAB EDGE W/ EXTERIOR CONCRETE SURFACE

8 / S1.01 — 1" = 1'-0"



1ST FL FOUNDATION PLAN

1 / S1.01 — 3/16" = 1'-0"



GATE HOUSE FOUNDATION DETAIL

7 / S1.01 — 1" = 1'-0"

GATE HOUSE FOUNDATION PLAN

2 / S1.01 — 3/8" = 1'-0"

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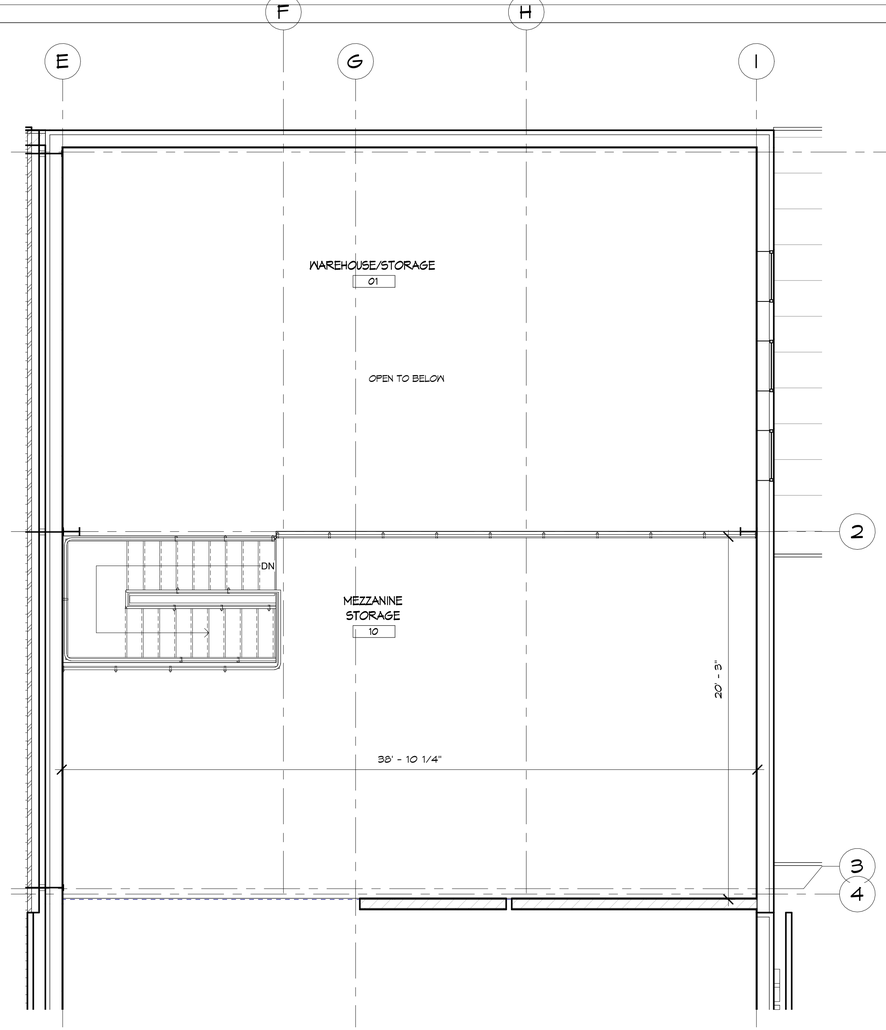
As indicated	10/10/2025
DRAWN BY: KJ	CHECKED BY: RD

NO	REVISION	DATE

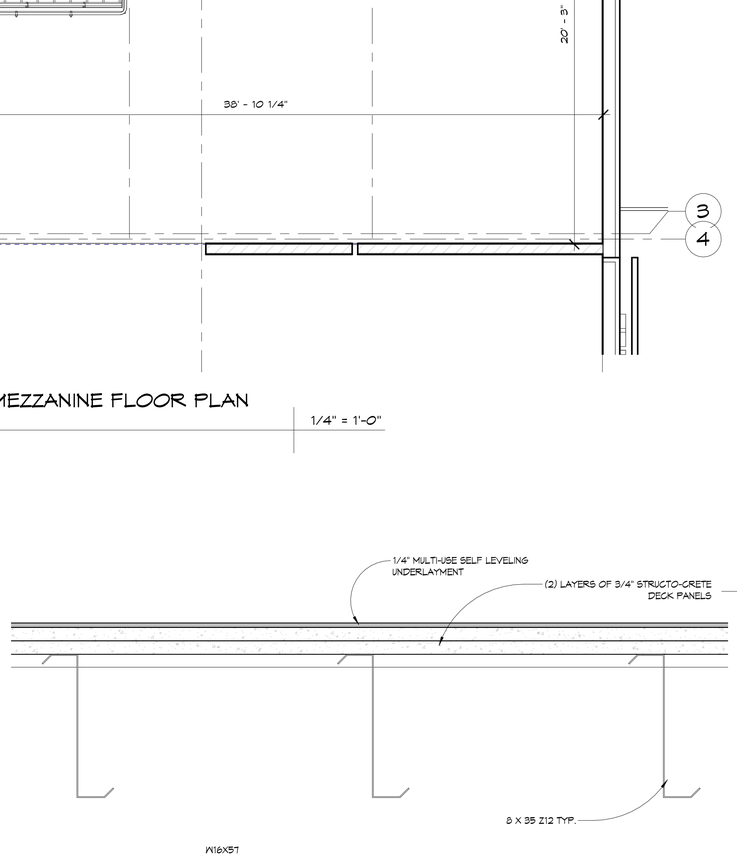
SHEET TITLE:
FOUNDATION PLAN/ DETAILS

PROJECT NO. 4274-22
SHEET NO. S1.01



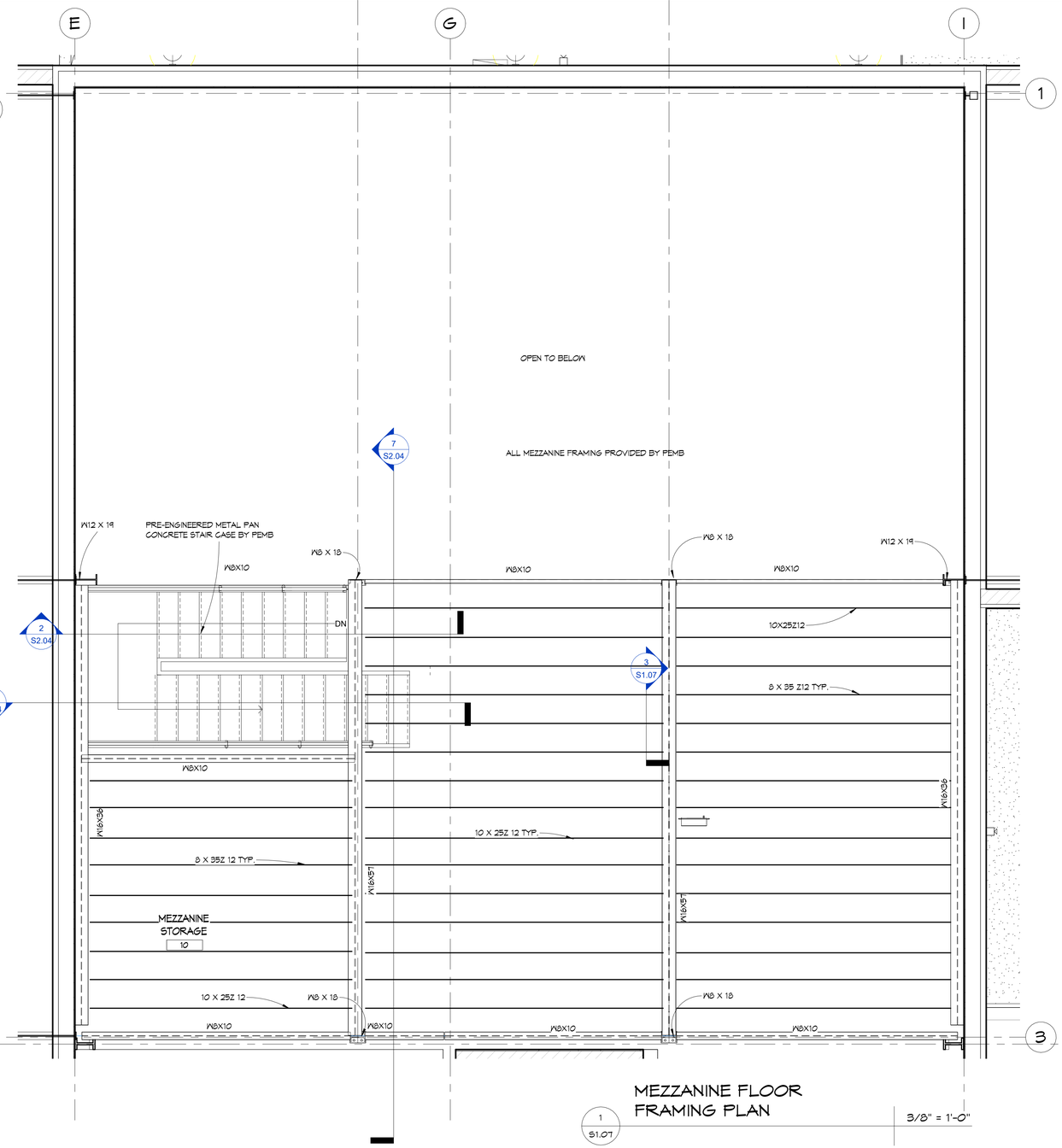
MEZZANINE FLOOR PLAN

4 / S1.07 — 1/4" = 1'-0"



MEZZANINE FRAMING DETAIL1

3 / S1.07 — 3" = 1'-0"



MEZZANINE FLOOR FRAMING PLAN

1 / S1.07 — 3/8" = 1'-0"

PLAN NOTES

1. TYPICAL FLOOR CONSTRUCTION SHALL BE DESIGNED BY NUCOR ECOSPAN COMPOSITE FLOOR SYSTEM ENGINEER. THE FOLLOWING SHALL BE THE MINIMUM CROSS SECTION REQUIREMENTS FOR DECK AND SLAB, FINAL SPECIFICATIONS SHALL BE PROVIDED BY LICENSED SPECIALTY ENGINEER FOR APPROVAL BY THE EOR
   - A. MINIMUM DECK SHALL CONSIST OF 3/4" STRUCTURAL CRETE DECK PANELS W/ 4 1/4" NORMAL WEIGHT CONCRETE TOPPING, TOTAL=5" SLAB THICKNESS. REINFORCE W/ 6x6 W2.9xW2.9 W.W.F., TYP. U.N.O., FINAL DESIGN FOR VIBRATION ANALYSIS BY SPECIALTY ENGINEER.
   - B. WHEN CONTRACTOR IS PLACING CONCRETE, THEY SHALL ENSURE THAT THE CONCRETE IS PLACED AT A CONSTANT THICKNESS.
   - C. FASTENER PATTERN SHALL BE MINIMUM 36/4 W/ #10 SIDE LAP SCREWS AT MAX. 9" O.C. AND CAPABLE OF TRANSFERRING DIAPHRAGM LOADS. MINIMUM SHEARFLEX SCREW DIAMETER SHALL BE 3/8
2. COORDINATE ALL MECHANICAL PENETRATIONS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS, PROVIDE ANGLE FRAME AROUND ALL SIDES OF OPENINGS, ANGLE SHALL BE MINIMUM L5x5x5/16, WITH FULL WELD AT SUPPORT.
3. CONTRACTOR TO COORDINATE EDGE OF DECK WITH ANGLE. THIS SHALL BE VERIFIED BY THE CONTRACTOR ON ALL SHOP DRAWINGS PRIOR TO SUBMISSION TO THE ARCHITECT/ ENGINEER.

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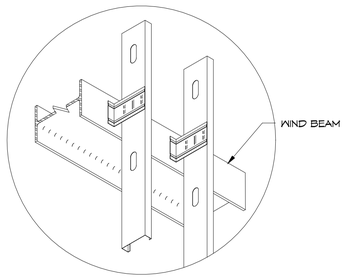
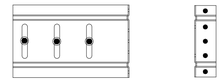
SHEET TITLE:
MEZZANINE FRAMING PLAN

PROJECT NO.	SHEET NO.
4274-22	S1.07

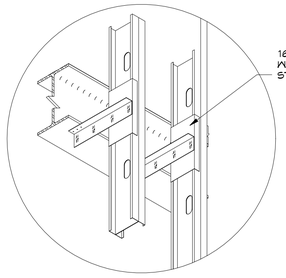
NOTE: THE MOUNTING OF HANDRAILS SHALL BE SUCH THAT THE COMPLETED HANDRAIL AND SUPPORTING STRUCTURE ARE CAPABLE OF WITHSTANDING A LOAD OF AT LEAST 200 POUNDS APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP OF THE RAIL



2 X VERTICLIP SLB800 OR MASTERCLIP VLB800
SCREWS: (3) #12
SCREW PATTERN: FASTENER PATTERN:

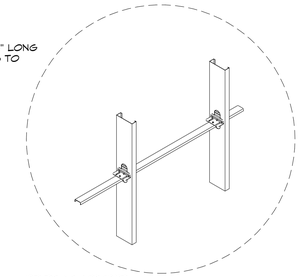


FASTENERS:
DESIGNATION: X-U, 0.15T"
QUANTITY: 5
EMBEDMENT: 0.375"
MIN. EDGE DISTANCE FOR SHEAR: 0.500"
& FOR TENSION: 0.500"
MIN. FASTENER SPACING FOR SHEAR: 1.000"
& FOR TENSION: 1.000"



VERTICLIP SLS 800-12
SCREWS: 3 (#12)
SCREW PATTERN: FASTENER PATTERN:

FASTENERS:
DESIGNATION: X-CR, 0.145"
QUANTITY: 4
MIN. PENETRATION: 0.188"
MIN. EDGE DISTANCE FOR SHEAR: 0.5"
& FOR TENSION: 0.5"
MIN. FASTENER SPACING FOR SHEAR: 1"
& FOR TENSION: 1"

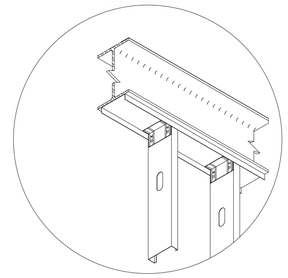


BRIDGING MEMBER:
COLD-ROLLED CHANNEL
BRIDGING CLIP:
BRIDGECLIP (1 SCREW)
CONNECTION OF CLIP TO WALL STUD:
N/A
CONNECTION OF CLIP TO BRIDGING MEMBER:
1 (#10)

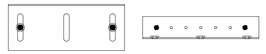
LTGA FRAMING DETAIL 2

1 / S2.04 — 3/4" = 1'-0"

TOP TRACK

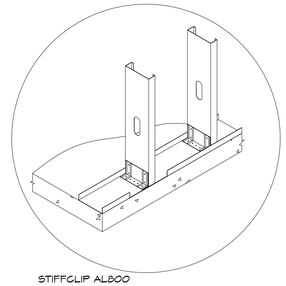


VERTICLIP SL800
SCREWS: 2 (#12)
SCREW PATTERN: FASTENER PATTERN:

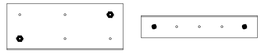


FASTENERS:
DESIGNATION: X-U, 0.15T"
QUANTITY: 2
MIN. PENETRATION: 0.188"
MIN. EDGE DISTANCE FOR SHEAR: 0.5"
& FOR TENSION: 0.5"
MIN. FASTENER SPACING FOR SHEAR: 1"

BOTTOM TRACK



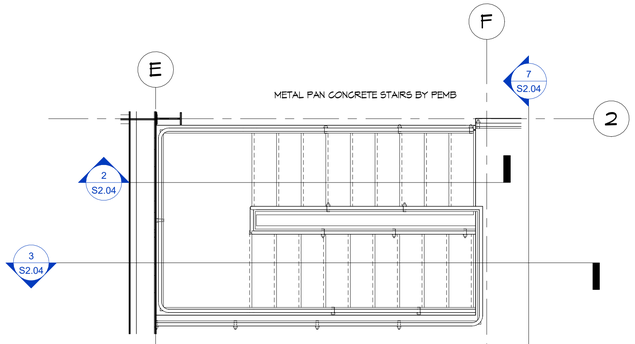
STIFFCLIP AL800
SCREWS: 2 (#12)
SCREW PATTERN: FASTENER PATTERN



FASTENERS:
DESIGNATION: X-U, 0.15T"
QUANTITY: 2
MIN. PENETRATION: 1.25"
MIN. EDGE DISTANCE FOR SHEAR: 2.75"
& FOR TENSION: 2.75"
MIN. FASTENER SPACING FOR SHEAR: 2.75"
& FOR TENSION: 2.75"

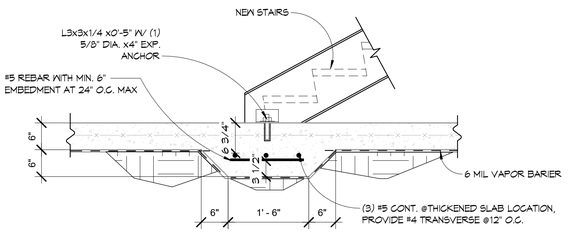
LTGA FRAMING DETAIL 1

4 / S2.04 — 3/4" = 1'-0"



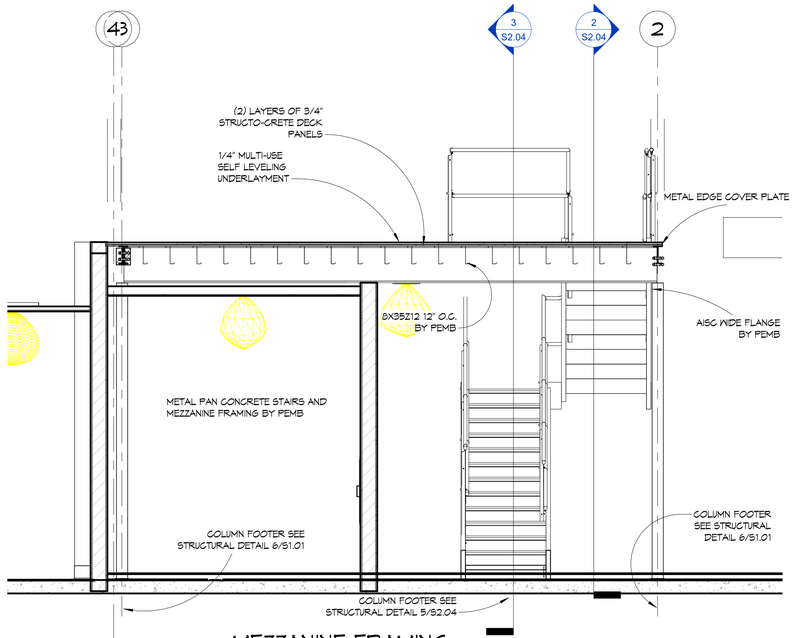
ENLARGED STAIR VIEW

6 / S2.04 — 3/8" = 1'-0"



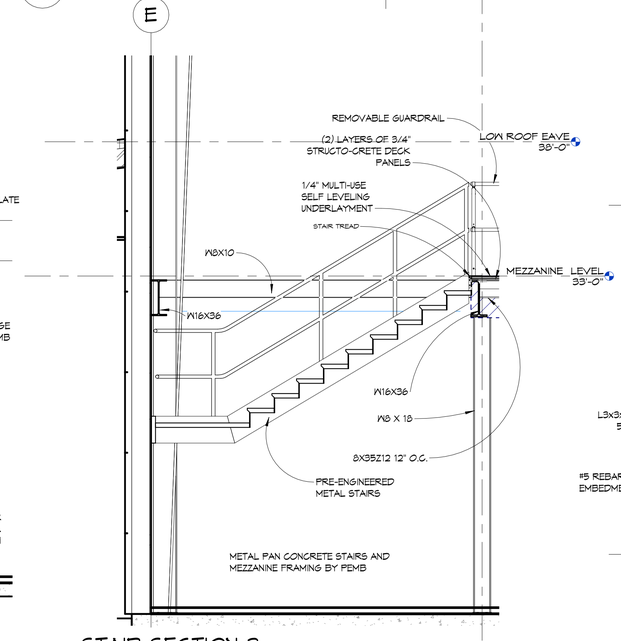
THICKENED SLAB @ STAIR

5 / S2.04 — 3/4" = 1'-0"



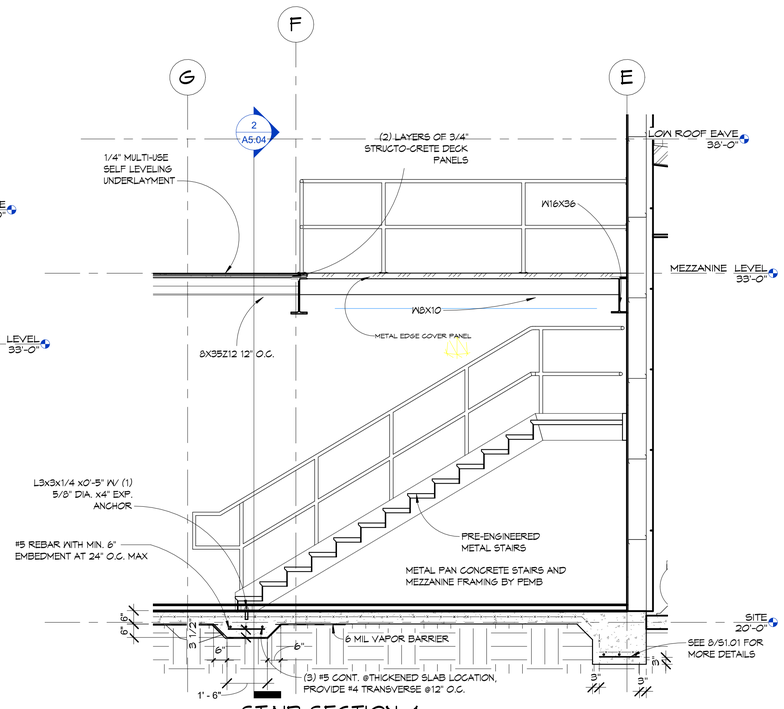
MEZZANINE FRAMING

7 / S2.04 — 3/8" = 1'-0"



STAIR SECTION 3

2 / S2.04 — 3/8" = 1'-0"



STAIR SECTION 4

3 / S2.04 — 3/8" = 1'-0"

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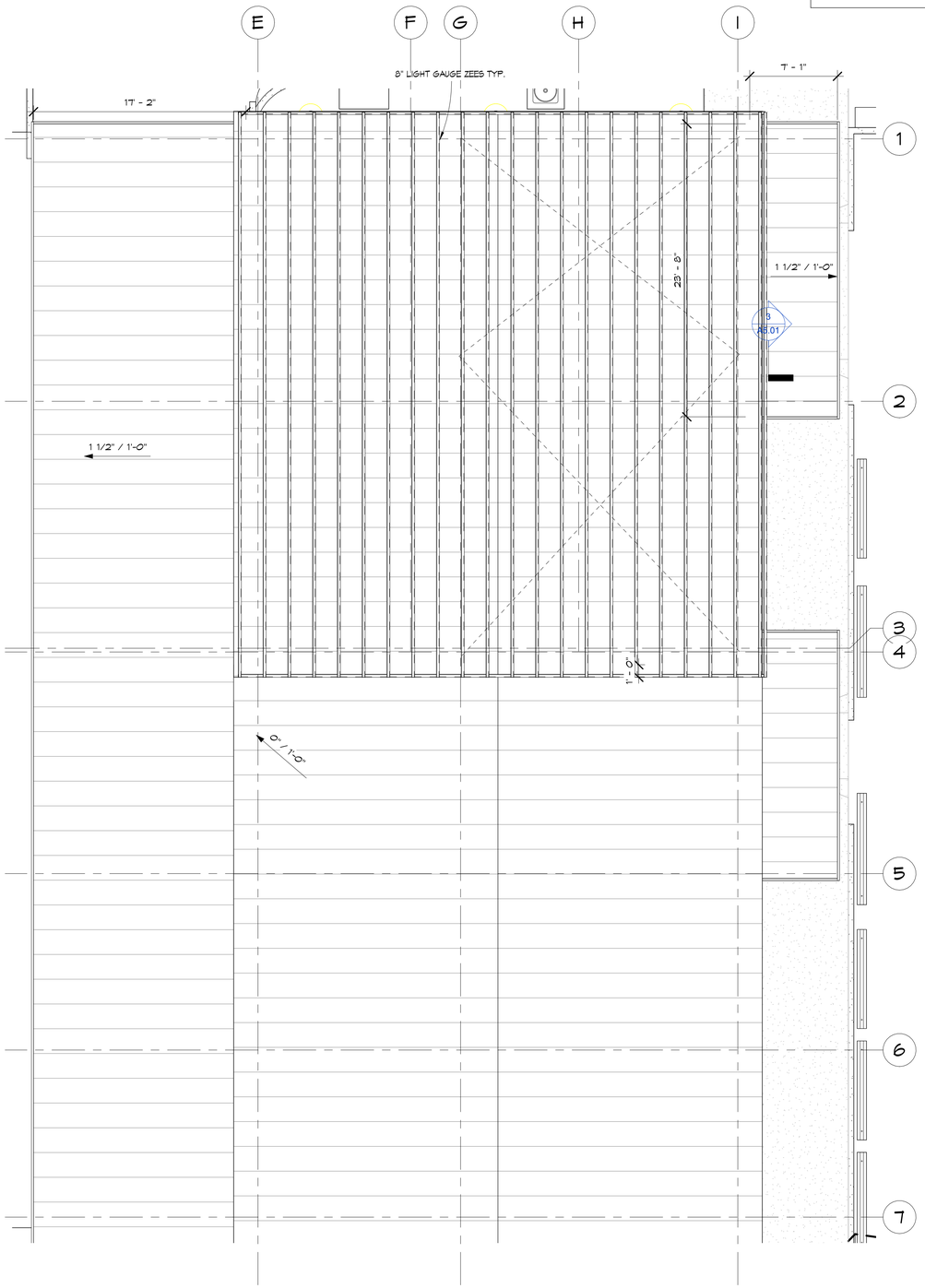
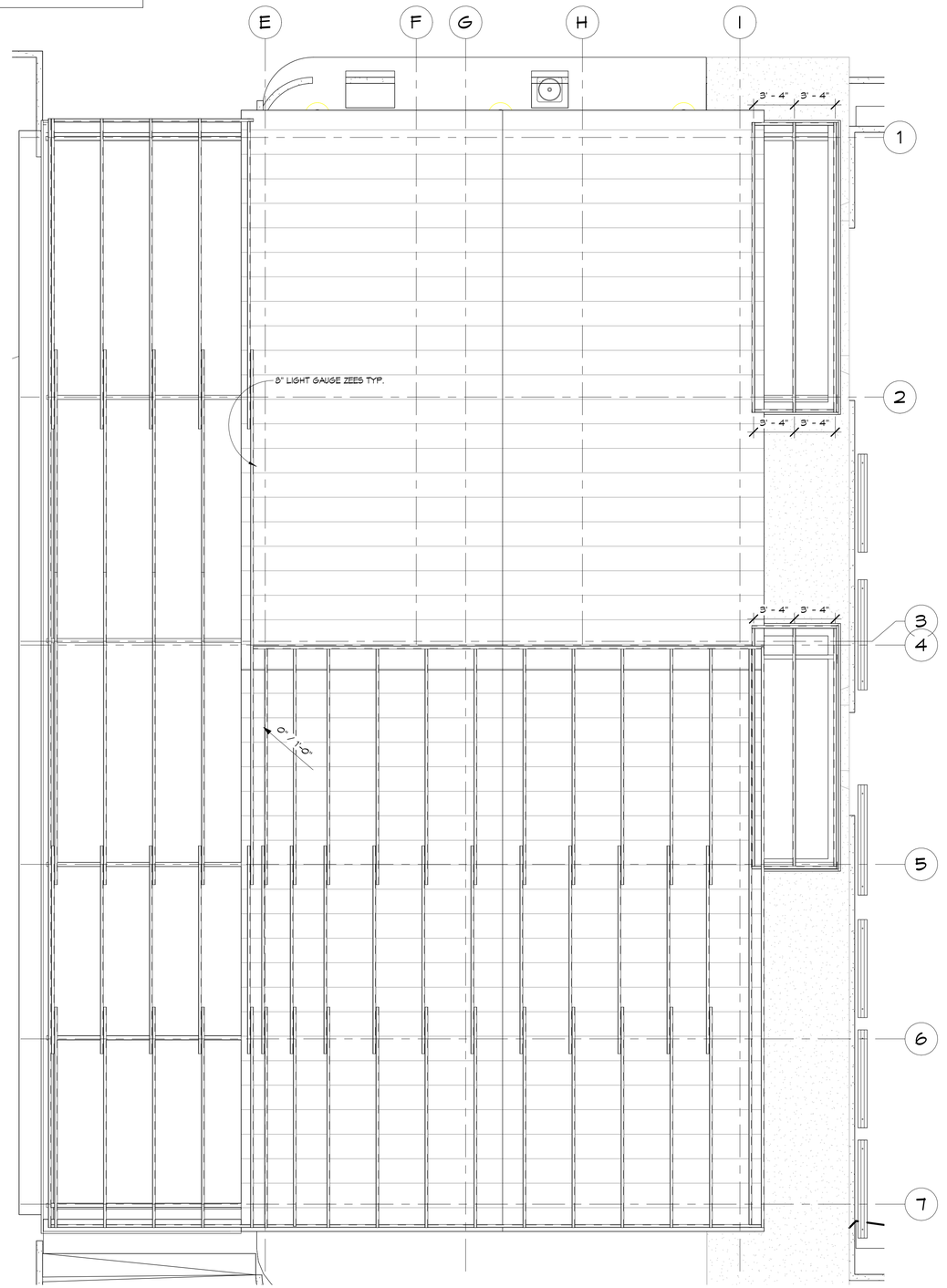
SHEET TITLE:
STAIRS AND STRUCTURAL DETAILS

PROJECT NO.	SHEET NO.
4274-22	S2.04

ROOF FRAMING NOTES
1. AWNING AND ROOF FRAMING PER PEMB MANUFACTUER
2. 8" ZEE PURLINS AT 4' O.C. TYP. PER PEMB MANUFACTURNER



2 S4.03 2ND FLOOR ROOF FRAMING 3/16" = 1'-0"



1 S4.03 1ST FLOOR ROOF FRAMING 3/16" = 1'-0"

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PANAMA CITY, FLORIDA 32405

CONSULTANT:
4116 N. HIGHWAY 231
PANAMA CITY, FL 32404

CONSULTANT:
621 N. TYNDALL PARKWAY, UNIT C
PANAMA CITY, FL 32404
FL AUTHORIZATION No:0000680
CHRISTOPHER A. GARICK; FL. PE No.53924
THOMAS A. ALEXANDER; FL. PE No.73172
JOB No. 23075

CONSULTANT:
4815 CAINS WREN TRAIL
SANFORD, FL 32771

CONSULTANT:
206 FL-79
PANAMA CITY BEACH, FL 32413

SEAL:

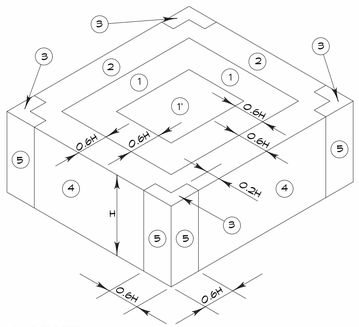
BID SET DOCUMENTS

SCALE:	DATE:
3/16" = 1'-0"	10/10/2025
DRAWN BY: KJ	CHECKED BY: RD

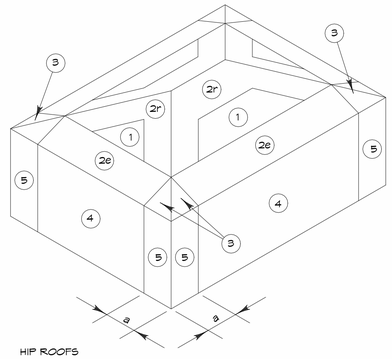
NO	REVISION	DATE

SHEET TITLE:
ROOF FRAMING PLAN

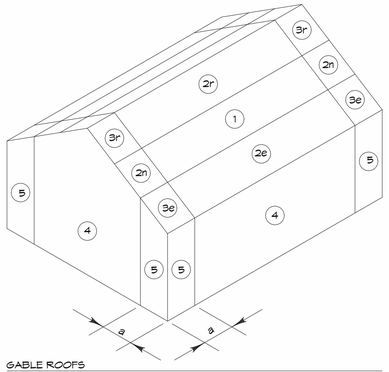
PROJECT NO.	SHEET NO.
4274-22	S4.03



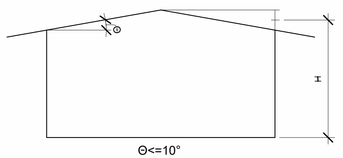
FLAT ROOFS



HIP ROOFS



GABLE ROOFS



FLORIDA COMPONENT & CLADDING PRODUCT APPROVAL LIST. (FCCPA). NOTE:

1. ALL COMPONENTS AND FASTENERS USED SHOULD BE LISTED ON FLORIDA COMPONENT/CLADDING PRODUCT APPROVAL LISTING

2. UPON REVIEW OF THE FLOOR AND ROOF TRUSS DATA SUBMITTED BY THE TRUSS MANUFACTURER THIS ENGINEER SHALL PROVIDE THE FCCPA NUMBER FOR ANY FLOOR AND ROOF TRUSS HOLDOWN ANCHORS ADDED AND/OR MODIFIED TO THE CONTRACTOR BEFORE TRUSS FABRICATION AND BUILDING DEPARTMENT SUBMITTAL.

3. FOR ANY CONTRACTOR HOLDOWN ANCHOR SUBSTITUTION AND/OR APPROVED EQUAL REQUEST, THAT CONTRACTOR AT TIME OF REQUEST SHALL PROVIDE THE FCCPA NUMBER TO THIS ENGINEER AND TO THE BUILDING DEPARTMENT UPON APPROVAL.

4. THE ARCHITECT OR CONTRACTOR SHALL PROVIDE THE FCCPA NUMBER TO THE BUILDING DEPARTMENT ALL NON-STRUCTURAL BUILDING COMPONETS: ROOF FINISH, EXTERIOR WALL FINISH, TRIM MATERIAL, DOORS AND WINDOWS

SkyCiv

SKYCIV LOAD CALCULATION REPORT

PROJECT DETAILS

Project Name:	PCHA Kirkland Maint. Complex
Project Units:	Imperial
Project ID:	4274-21
Company:	FLA
Designer:	KDJ
Client:	PCHA
Project Notes:	

SITE DETAILS

Parameter	Value
Code Selected	ASCE 7-22
Unit System	Imperial
Site Address	261 Everitt Avenue, Panama City, FL, USA
Site Elevation	16.56 ft

SITE WIND DATA

Parameter	Value
Risk Category	Risk Category II
Basic Wind Speed	140.00 mph

Triangular interpolation Network (TIN) was used to interpolate the wind speed values between ASCE 7 wind contour with known values. The discrepancy from the code is subject to the discretion of the user.

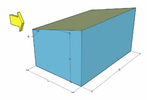
SITE SEISMIC DATA

Parameter	Value
Site Class	D - Medium dense sand or stiff clay
S_s	12 s
S_{DS}	0.09
S_{D1}	0.082
S_s	0.007
S_1	0.00

Imagery ©2025 Airbus, CNES / Airbus, Landsat / Copernicus, Maxar Technologies, NOAA, U.S. Geological Survey, USDA/FPAC/GEO Report a map error

STRUCTURE DATA

Parameter	Value
Structure:	Building
Roof Profile:	MonosloperRectangle/GPRM/MUM
Building Length:	69.50ft
Building Width:	50.75ft
Roof Pitch Angle:	7.00°
Mean Roof Height:	49.00ft

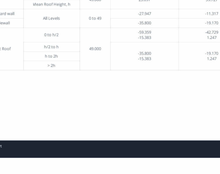


Monoslope Roof

TOPOGRAPHY

Parameter	Value
Exposure Category	C
Wind Source Direction	E
Type of Terrain	Flat

Ground Elevation - Wind from E - (in ft)



The following topography factors have been calculated based on the wind direction coming from E. Terrain has been detected and classified as Flat.

Parameter	Value
K_{zt}	1.000
Slope	0.004
Loc. of crest/peak	-7575.0 ft ft
Elev. of crest/peak	32.00 ft
Loc. of Root	-9320.88 ft
Elev. of Root	24.16 ft
H	8.50 ft
x	1575.09 ft
Loc. of H/2	-8142.53 ft
L_h	1067.44 ft
Terrain Detected	Flat

WIND INPUT PARAMETERS

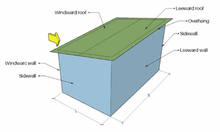
Parameter	Value
Structure Type	ASCE 7-22 - Buildings - Main Wind Force Resisting System
Enclosure Classification	Enclosed Buildings
Gust-effect Factor, G	0.850
Calculate Gust-effect Factor?	Assumed rigid (G = 0.85)
Is building elevated?	No
Height to Top of Parapet h_p	52.000ft

FLOOR ELEVATION DATA

Level	Elevation ft
2	15
3	20
4	25
5	30
6	40
Mean Roof Height	49

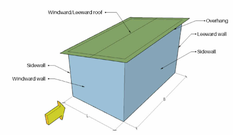
WIND PRESSURE ALONG L

Surface	Level/Location	Elevation ft	$p_{net30} = q[GC_{pi}] - q_h[GC_{pi}]$ psf	$p_{min} = q[(G)C_p] - q_h[-GC_{pi}]$ psf
Windward wall	2	15.000	16.355	32.985
	3	20.000	17.847	34.477
	4	25.000	19.066	35.696
	5	30.000	20.104	36.734
	6	40.000	21.822	38.452
	Mean Roof Height			
	Mean Roof Height, h	49.000	23.097	39.727
Leeward wall	All Levels	0 to 49	-17.947	-11.317
Sidewall			-35.800	-19.170
Flat Roof	0 to h/2	49.000	-59.359 -15.383	-42.729 1.247
	h/2 to h		-35.800 -15.383	-19.170 1.247
	h to 2h			
	> 2h			

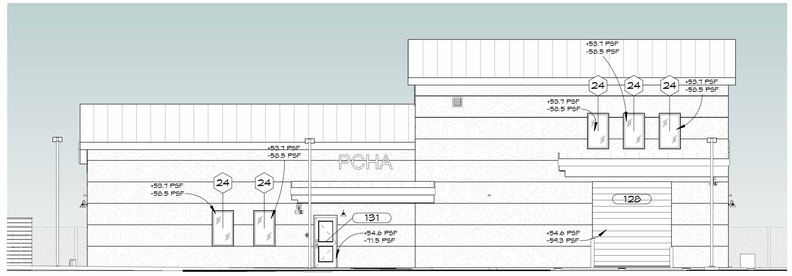


WIND PRESSURE ALONG B

Surface	Level/Location	Elevation ft	$p_{net30} = q[GC_{pi}] - q_h[-GC_{pi}]$ psf	$p_{min} = q[(G)C_p] - q_h[-GC_{pi}]$ psf
Windward wall	2	15.000	16.355	32.985
	3	20.000	17.847	34.477
	4	25.000	19.066	35.696
	5	30.000	20.104	36.734
	6	40.000	21.822	38.452
	Mean Roof Height			
	Mean Roof Height, h	49.000	23.097	39.727
Leeward wall	All Levels	0 to 49	-27.947	-11.317
Sidewall			-35.800	-19.170
Flat Roof	0 to h/2	49.000	-59.359 -15.383	-42.729 1.247
	h/2 to h		-35.800 -15.383	-19.170 1.247
	h to 2h			
	> 2h			

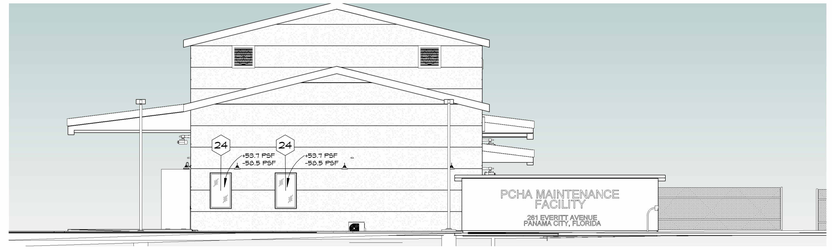


Minimum design wind pressure for walls = 16.000 psf
Minimum design wind pressure for roof = 8.000 psf



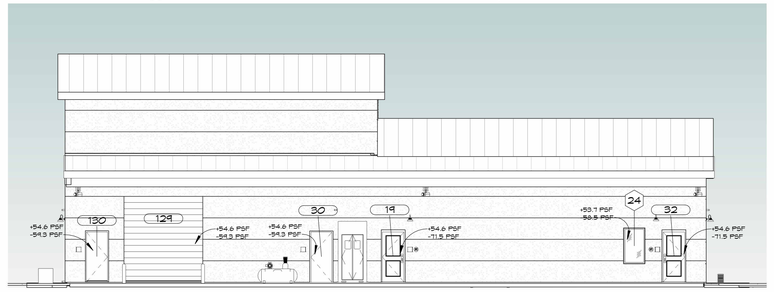
NORTH ELEVATION DESIGN PRESSURE

2 / 55.01 — 1" = 10'-0"



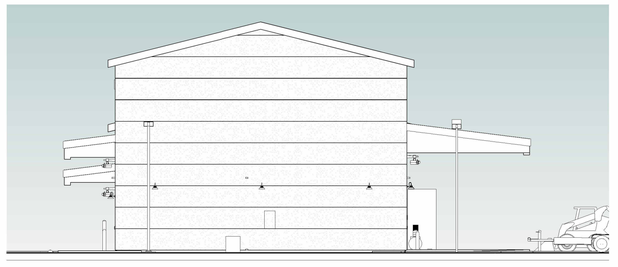
EAST ELEVATION DESIGN PRESSURE

3 / 55.01 — 1" = 10'-0"



SOUTH ELEVATION DESIGN PRESSURE

4 / 55.01 — 1" = 10'-0"



WEST ELEVATION DESIGN PRESSURE

5 / 55.01 — 1" = 10'-0"

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FLORIDA ARCHITECTS
LICENSE #AR12728
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PANAMA CITY, FL. 32401
(850) 257-5400

CLIENT:

PANAMA CITY HOUSING AUTHORITY

PROJECT:

PCHA KIRKLAND MAINTENANCE COMPLEX

261 EVERITT AVENUE
PANAMA CITY, FLORIDA 32405

CONSULTANT:

4116 N. HIGHWAY 231
PANAMA CITY, FL 32404

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CONSULTANT:

206 FL-79
PANAMA CITY BEACH, FL 32413

SEAL:

BID SET DOCUMENTS

SCALE:	DATE:
As indicated	10/10/2025
DRAWN BY: KJ	CHECKED BY: RD

NO	REVISION	DATE

SHEET TITLE:

DESIGN PRESSURE NOTES

PROJECT NO.	SHEET NO.
4274-22	S5.01

POWER DISTRIBUTION

		SURFACE MOUNTED PANELBOARD; 120/208V; MT 72" AFF TO TOP
		FLUSH MOUNTED PANELBOARD; 120/208V; MT 72" AFF TO TOP
T		DRY TYPE TRANSFORMER; SIZE AND RATING AS NOTED
		DISCONNECT SWITCH; AMP SIZE AS NOTED;
		FUSED DISCONNECT SWITCH; AMP SIZE AS NOTED; FUSE SIZE PER EQUIPMENT NAMEPLATE DATA
J		JUNCTION BOX; MOUNTED IN FLOOR
J		JUNCTION BOX; MOUNTED ABOVE CEILING
J		JUNCTION BOX; MOUNTED FLUSH IN WALL WITH BLANK COVER
HD		JUNCTION BOX FOR HAND DRYER; MOUNTED FLUSH IN WALL
		DISCONNECT SWITCH NOMENCLATURE NUMBER OF POLES XXXXX AMPERE RATING — NEMA RATING

RACEWAYS

		CONDUIT CAP
UP		CONDUIT TURNED UP
DN		CONDUIT TURNED DOWN
		RACEWAY INSTALLED CONCEALED IN WALLS AND/OR ABOVE CEILING
		RACEWAY INSTALLED CONCEALED IN FLOOR SLAB AND/OR BELOW GRADE
		RACEWAY INSTALLED EXPOSED
		FLEXIBLE CONDUIT CONNECTION
		CONDUIT STUB UP WITH FLEXIBLE CONDUIT CONNECTION TO EQUIPMENT

WIRE DESIGNATIONS

A-1 'B'		A-1 ADJACENT TO ARROW INDICATES HOMERUN OF CIRCUIT NO. 1 TO PANEL A; "B" INDICATES FIXTURE TYPE; MARKS ACCROSS RACEWAY RUN INDICATES THE NUMBER OF NO. 12 CONDUCTORS; UNLESS NOTED OTHERWISE NO MARKS INDICATES TWO NO.12 CONDUCTORS AND ONE NO. 12 GREEN GROUND CONDUCTOR IN 1/2" CONDUIT (2#12 & 1#12 GND-1/2"C)
		TICK MARKS REPRESENT WIRE COUNT AS INDICATED. EACH TICK MARK REPRESENTS 1 PHASE CONDUCTOR AND/OR GROUNDED (NEUTRAL) CONDUCTOR. DOTTED TICK MARK REPRESENTS EQUIPMENT GROUNDING CONDUCTOR. UNLESS NOTED OTHERWISE, NO MARKS INDICATES TWO NO. 12 CONDUCTORS AND ONE NO. 12 GREEN GROUND CONDUCTOR IN 1/2" CONDUIT (2#12 & 1#12 GND-1/2"C)

RECEPTACLES

CLG	FLOOR	WALL	
			DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES HBL5352
			SINGLE RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES HBL53611
			QUAD - 2 DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES HBL5352
			QUAD - 2 DUPLEX GFCI RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES HBL5352
			DUPLEX GFCI RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES GF5362
			TAMPER-RESISTANT DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES BR20'xx'TR
			TAMPER-RESISTANT DUPLEX GFCI RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES GFTR20
			SPD DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES HBL5362SA
			FLOOR BOX WITH POWER AND DATA.
		X	SPECIAL TYPE RECEPTACLE 'X' DENOTES NEMA TYPE A = 208V, 30A, 3P, 3W, VERIFY NEMA TYPE WITH OWNER/ARCHITECT; HUBBELL SERIES HBL9430A B = 120V, 30A, 2P, 3W, NEMA L5-30R; ISOLATED GROUND; #10 THWN WIRE; HUBBELL SERIES HBL2610

DESIGNATIONS

WP		LETTERS "WP" ADJACENT TO SYMBOL INDICATES RECEPTACLE WITH WEATHERPROOF COVER; PASS AND SEYMOUR WIUFC10S COVER/BOX.
+XX		LETTERS +XX" ADJACENT TO SYMBOL INDICATES RECEPTACLE MOUNTING HEIGHT. WHEN NO HEIGHT IS INDICATED, MOUNT 18" AFF. +AC" = ABOVE COUNTER. +DF" = VERIFY HEIGHT FOR DRINKING FOUNTAIN WITH CONTRACTOR +TV" = VERIFY HEIGHT OF TV WITH OWNER.

CONTROLS

S		WALL SWITCH; 120/277V; 20A; 1 POLE; A.C. ONLY; MT 48" AFF TO C/L
S_3		WALL SWITCH; 120/277V; 20A; 3 WAY; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1223
S_4		WALL SWITCH; 120/277V; 20A; 4 WAY; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1224
S_M		WALL SWITCH; 120/277V; 20A; OCCUPANCY SENSOR DUAL TECHNOLOGY MULTI-WAY TYPE; MT 48" AFF TO C/L; REFER TO SPECS
S_{LV}		LOW VOLTAGE WALL SWITCH; MT 48" AFF TO C/L; REFER TO SPECS; SEE LIGHTING CONTROL DETAILS
MS		MOTOR CONTROL SWITCH; 120V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL SERIES HBL7832D.
WP MS		NEMA 3R MOTOR CONTROL SWITCH; 120V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL SERIES HBL13R22D.
		RED MUSHROOM PUSH-BUTTON WITH KEY RELEASE; MT. 60" AFF TO C/L. LABEL 'EMERGENCY STOP', EQUAL TO SQUARE D MODEL XB6AS9345B
P		OCCUPANCY SENSOR POWER PACK; MOUNT ABOVE CEILING; REFER TO LIGHTING CONTROL DETAILS.
EM		EMERGENCY RELAY; MOUNT ABOVE CEILING; REFER TO LIGHTING CONTROL DETAILS.
BR		LIGHTING CONTROL NETWORK BRIDGE; MOUNT ABOVE CEILING; REFER TO LIGHTING CONTROL DETAILS.
		LOW VOLTAGE DAYLIGHT SENSOR; CEILING MOUNTED
		LOW VOLTAGE VACANCY SENSOR; 360° DUAL-TECHNOLOGY TYPE; CEILING MOUNTED
		LOW VOLTAGE OCCUPANCY SENSOR; 360° DUAL-TECHNOLOGY TYPE; CEILING MOUNTED
		LOW VOLTAGE VACANCY SENSOR; WALL MOUNTED
		LOW VOLTAGE OCCUPANCY SENSOR; WALL MOUNTED

LIGHTING

		CEILING FIXTURE
		WALL BRACKET FIXTURE
		PENDANT LIGHT FIXTURE
		POLE MOUNTED FIXTURE
		2' X 2 TROFFER FIXTURE; ARROW INDICATES LAMP DIRECTION; SEE SCHEDULE FOR MOUNT TYPE
		2' X 2' TROFFER FIXTURE WITH INTEGRAL EMERGENCY BATTERY OR CONNECTED TO AN EMERGENCY CIRCUIT AS INDICATED; ARROW INDICATES LAMP DIRECTION; SEE SCHEDULE FOR MOUNT TYPE
		2' X 4' TROFFER FIXTURE; SEE SCHEDULE FOR MOUNT TYPE
		2' X 4' TROFFER FIXTURE WITH INTEGRAL EMERGENCY BATTERY OR CONNECTED TO AN EMERGENCY CIRCUIT AS INDICATED; SEE SCHEDULE FOR MOUNT TYPE
		STRIP FIXTURE; SHADING INDICATES INTEGRAL EMERGENCY BATTERY OR CONNECTED TO AN EMERGENCY CIRCUIT AS INDICATED
		TWIN HEAD EMERGENCY BATTERY UNIT
		EXIT SIGN; CEILING MOUNTED; ARROWS AS NOTED; SHADED SECTION INDICATES LIGHTED FACE OF EXIT SIGN
		EXIT SIGN; BACK OR SIDE MOUNTED; ARROWS AS NOTED; SHADED SECTION INDICATES LIGHTED FACE OF EXIT SIGN
		DECORATIVE CEILING FAN/LIGHT COMBINATION

MISCELLANEOUS SYSTEMS

F		FIRE ALARM SYSTEM MANUAL PULL STATION; MT 48" AFF TO C/L
		FIRE ALARM SYSTEM SIGNAL SPEAKER/STROBE; MT 80" AFF TO BOTTOM, '110' INDICATES CANDELA RATING, NO NUMBER INDICATES 75 CANDELA MINIMUM
WP		FIRE ALARM SYSTEM EXTERIOR, WEATHERPROOF SPEAKER/STROBE; MT 90" AFF TO BOTTOM
		FIRE ALARM SYSTEM STROBE; MT 80" AFF TO BOTTOM, '110' INDICATES CANDELA RATING, NO NUMBER INDICATES 75 CANDELA MINIMUM
H		FIRE ALARM SYSTEM AUTOMATIC HEAT DETECTOR; 135 DEGREE/RATE OF RISE TYPE; CEILING MOUNTED
R		NORMALLY CLOSED RELAY IN H.V.A.C CONTROL CIRCUIT TO OPEN UPON ACTUATION OF BUILDING FIRE ALARM SYSTEM TO SHUT DOWN A/C UNIT. CONTACTS RATED 5 AMPS, 120 VOLTS
		FIRE ALARM SYSTEM AUTOMATIC SMOKE DETECTOR; CEILING MOUNTED
		FIRE ALARM SYSTEM AUTOMATIC AIR DUCT SMOKE DETECTOR
H		FIRE ALARM SYSTEM MAGNETIC DOOR HOLDER; MT 66" AFF TO C/L
P		PHOTOCELL; TORK MODEL 2101 (120V) OR 2104 (277V)
TS		DIGITAL TIMESWITCH WITH RESERVE POWER; REFER TO LIGHTING CONTROL DIAGRAM FOR TYPE
SD		SMOKE DAMPER WITH FIRE ALARM CONNECTION.
FSD		FIRE/SMOKE DAMPER WITH FIRE ALARM CONNECTION.
		TAMPER FLOW
		DATA OUTLET WITH 3/4"C WITH PULLSTRING TO ACCESSIBLE CEILING.
		SECURITY CAMERA WITH 1"C SLEEVE FOR OWNER PROVIDED CCTV

GENERAL NOTES

A. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT SIZE AND LOCATION OF EQUIPMENT WHICH IS FURNISHED BY OTHERS AND CONNECTED BY ELECTRICAL.
B. RECEPTACLES, SWITCHES AND COVERPLATES COLOR SHALL BE SELECTED BY THE ARCHITECT FROM STANDARD COLORS.
C. VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGHING-IN WALL FOR SWITCHES.
D. LOCATION OF LIGHTING FIXTURES, DISCONNECT SWITCHES, ETC. FOR MECHANICAL EQUIPMENTROOM SHALL BE COORDINATED WITH FINAL MECHANICAL EQUIPMENT LOCATION TO PROVIDE NATIONAL ELECTRIC CODE REQUIRED ACCESS SPACE.
E. FINAL CONNECTION TO ALL MOTORS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION.
F. ALL EXIT AND EMERGENCY FIXTURES SHALL BE CONNECTED TO LIGHT CIRCUIT AHEAD OF LOCAL SWITCH.
G. ALL PANELBOARDS, BACKBOARDS, TERMINAL CABINETS, ETC SHALL HAVE CUSTOM ENGRAVED MICARTA NAMEPLATE MECHANICALLY AFFIXED IDENTIFYING SYSTEM. PROVIDE GREEN GROUND CONDUCTOR IN ALL CIRCUITS - SIZE PER N.E.C.
H. ALL EXPOSED CONDUITS, BOXES, STRAPS AND HANGERS IN THE CONTRACT AREA WHETHER NEW OR EXISTING THAT ARE PART OF THE ELECTRICAL SYSTEM SHALL BE PAINTED TO MATCH ADJACENT FINISH.
I. PROVIDE CONCRETE MARKER AT END OF ALL CONDUITS STUBBED OUT OF BUILDING FOR FUTURE USE. MARKER SHALL BE 6" DIA X 18" HIGH WITH 2" ABOVE FINISHED GRADE. INSCRIBE IN TOP OF MARKER "E" FOR ELECTRICAL,"T" FOR TELEPHONE,"V" FOR TV CABLE,"F" FOR FIRE ALARM, AND "IC" FOR INTERCOM.
J. GENERAL CONTRACTOR SHALL FIELD-VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. FAILURE TO DO SO INDICATES THAT THE CONTRACTOR ACCEPTS THE CONDITIONS AS THEY EXIST, AND SHALL PERFORM THE WORK REQUIRED AS SHOWN AND SPECIFIED.
K. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND REVIEW THE MECHANICAL AND SPECIAL EQUIPMENT SUBMITTALS PRIOR TO SUBMITTING THE ELECTRICAL SUBMITTALS. ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRE SIZE CHANGES RESULTING FROM THIS REVIEW SHALL ALSO BE SUBMITTED FOR APPROVAL.
L. FIRE ALARM LOW VOLTAGE SOURCE AND BATTERY STANDBY SHALL ENERGIZE ALL ITEMS IN FIRE ALARM SYSTEM THAT REQUIRE POWER.
M. VERIFY EXACT LOCATION OF ALL FLOOR OUTLETS WITH THE ARCHITECT AND GENERAL CONTRACTOR PRIOR TO ROUGHING-IN.
N. FINAL CONNECTION TO ALL DRY TYPE TRANSFORMERS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION
O. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FAULT CURRENT CALCULATIONS FOR THE SERVICE EQUIPMENT AND SHALL MARK THE EQUIPMENT WITH THE AVAILABLE FAULT CURRENT AND DATE OF THE CALCULATION PER NEC 110.24. REFER TO TYPICAL SERVICE EQUIPMENT FAULT CURRENT LABEL DETAIL.
P. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FAULT LABELS PER NFPA 70E ARTICLE 110.16 FOR NEW EQUIPMENT. THE OWNER SHALL PROVIDE AVAILABLE CALCULATION DATA FOR THE EXISTING EQUIPMENT IN THE ELECTRICAL SYSTEM. REFER TO TYPICAL ARC FLASH HAZARD LABEL DETAIL.
Q. PROVIDE NEUTRAL AT ALL LINE VOLTAGE SWITCH LOCATIONS PER N.E.C. 404.2(C)
R. PROVIDE BUSHINGS ON ALL CONDUITS
S. COMPLY WITH ALL LOCAL CODE, LAWS, AND ORDINANCES APPLICABLE TO ELECTRICAL WORK, THE STATE BUILDING CODE AND THE NATIONAL ELECTRIC CODE. OBTAIN ALL PERMITS REQUIRED BY LOCAL ORDINANCES.
T. OBTAIN ARCHITECTS APPROVAL OF ALL LIGHT FIXTURES, SWITCHES, RECEPTACLES, PANELBOARDS, ETC. PRIOR TO PURCHASING.
U. THE ELECTRICAL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. ALL NOT SO INSTALLED SHALL BE REMOVED AND REPLACED AT NO COST TO THE OWNER.
V. ALL WORK SHALL BE INSTALLED IN CONCEALED TYPE CONSTRUCTION. UNDERGROUND CONDUITS UP TO FIRST BOX IN CONCEALED CONSTRUCTION MAY BE SCH.40 PVC. EXTERIOR EXPOSED WORK SHALL BE I.M.C. BRANCH CIRCUIT CONDUIT RUN IN OPEN SPACES ABOVE CEILING OR IN WALLS MAY BE THINWALL (E.M.T.) CONDUIT 1/2" MIN. SIZE.
W. ALL CONDUCTORS LESS THAN 100A. SHALL BE COPPER #12 & #10 SOLID, #8 AND LARGER STRANDED, #6 AND SMALLER TO BE TYPE THWN, 600 VOLT INSULATION AND TYPE THWN OR THHN FOR #4 AND LARGER. ALUM. CONDUCTORS MAY BE USED FOR 100A. AND LARGER ONLY WHERE USED WITH COMPRESSION TERMINATIONS.
X. PROVIDE GROUNDING PER NATIONAL ELECTRIC CODE.
Y. THE CONTRACTOR SHALL LEAVE THE ENTIRE ELECTRICAL SYSTEM INSTALLED IN PROPER WORKING ORDER, AND SHALL REPLACE WITHOUT ADDITIONAL COST, ALL WORK OR MATERIAL WHICH MAY DEVELOP DEFECTS, (ORDINARY WEAR AND TEAR OR DAMAGE RESULTING FROM IMPROPER HANDLING EXCEPTED) WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.
Z.

ABBREVIATIONS

1P	-	ONE POLE
2P	-	TWO POLE
3P	-	THREE POLE
4P	-	FOUR POLE
A, AMP	-	AMPERE
AC	-	ALTERNATING CURRENT, AIR CONDITIONER
AFF	-	ABOVE FINISHED FLOOR
AFG	-	ABOVE FINISHED GRADE
AHU	-	AIR HANDLING UNIT
AIC	-	AMPERE INTERRUPTING CAPACITY
AL	-	ALUMINUM
ARCH	-	ARCHITECT
AWG	-	AMERICAN WIRE GAUGE
BLDG	-	BUILDING
C	-	CONDUIT
CB	-	CIRCUIT BREAKER
CKT.	-	CIRCUIT
C.T.	-	CURRENT TRANSFORMER
CU	-	COPPER
DC	-	DIRECT CURRENT
DISC	-	DISCONNECT
DN	-	DOWN
DWG	-	DRAWING
EC	-	ELECTRICAL CONTRACTOR
EF	-	EXHAUST FAN
ELEC	-	ELECTRICAL
EWC	-	ELECTRIC WATER COOLER
FA	-	FIRE ALARM
FLA	-	FULL LOAD AMPS
FLEX	-	FLEXIBLE
FURN	-	FURNITURE
GC	-	GENERAL CONTRACTOR
GFCI	-	GROUND FAULT CIRCUIT INTERRUPTER
GND	-	GROUNDED
HP	-	HORSEPOWER
HVAC	-	HEATING, VENTILATION AND AIR CONDITIONING
HZ	-	HERTZ (CYCLE) PER SECOND
JB	-	JUNCTION BOX
KCMIL	-	THOUSAND CIRCULAR MILS
KVA	-	KILOVOLT AMPERE
KW	-	KILOWATT
LTG	-	LIGHTING
LV	-	LOW VOLTAGE
MCB	-	MAIN CIRCUIT BREAKER
MLO	-	MAIN LUGS ONLY
MTD	-	MOUNTED
MTG	-	MOUNTING
NEC	-	NATIONAL ELECTRICAL CODE
ϕ	-	PHASE
PNL	-	PANELBOARD
PRI	-	PRIMARY
RTU	-	ROOFTOP UNIT
SEC	-	SECONDARY
SW	-	SWITCH
UG	-	UNDERGROUND
V	-	VOLT
W	-	WATT
XFMR	-	TRANSFORMER
+TZ	-	MOUNTING HEIGHT IN INCHES TO CENTERLINE ABOVE FINISHED FLOOR OR GRADE

SHEET INDEX

SHEET NUMBER	SHEET NAME
E0.01	ELECTRICAL LEGENDS AND NOTES
E0.02	SITE PLAN - NEW
E1.01	POWER PLAN
E2.01	MECH POWER PLAN
E3.01	MISC SYSTEMS PLAN
E4.01	LIGHTING PLAN
E5.01	ELECTRICAL DETAILS
E5.02	ELECTRICAL DETAILS
E5.04	LIGHTING CONTROL DETAILS
E6.01	FIRE ALARM RISER
E7.01	MECHANICAL, LIGHTING, & MATRIX SCHEDULES
E7.02	PANEL SCHEDULES & POWER RISER

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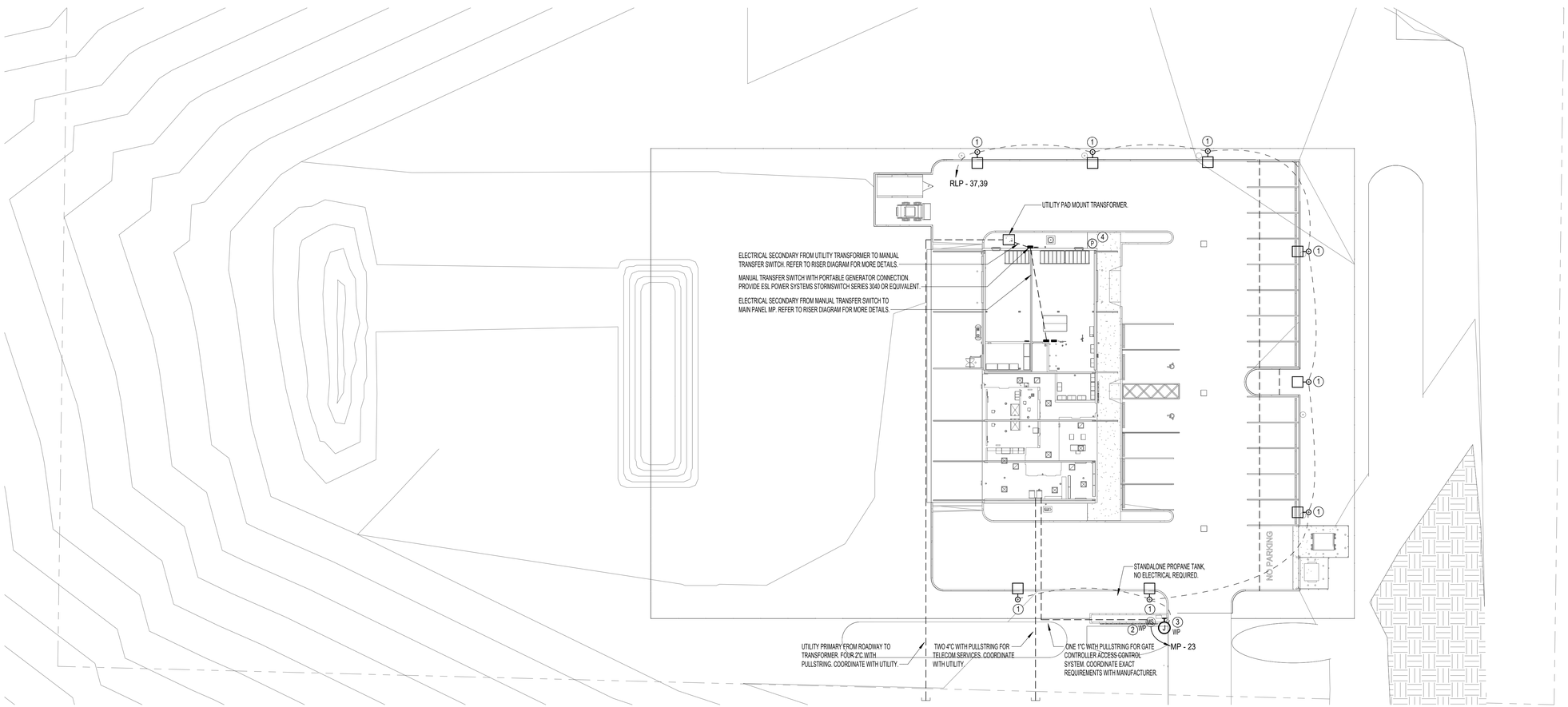
SHEET TITLE:

ELECTRICAL LEGENDS AND NOTES

PROJECT NO.	SHEET NO.
4274-22	E0.01

KEYNOTES	
1	PROVIDE AN ADDITIONAL 1"C TO ALL PARKING LOT FIXTURES AS A PROVISION FOR FUTURE POLE-MOUNTED SECURITY CAMERAS.
2	PROVIDE 1"C WITH PULLSTRING BETWEEN GATE CONTROLLER AND KEYCARD/NUMBER KEYPAD. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER AND SYSTEM INSTALLER.
3	MONUMENT SIGN LIGHTING. POWER AND CONTROL WITH PARKING LOT LIGHTING CIRCUIT.
4	APPROXIMATE PHOTOCELL LOCATION. MOUNT UNDER EAVE OF ROOF AS HIGH AS POSSIBLE. PHOTOCELL TO CONTROL ALL EXTERIOR BUILDING AND PARKING LOT LIGHTING IN CONJUNCTION WITH TIMECLOCK.



SITE PLAN

1" = 20'-0"

0 4' 12'

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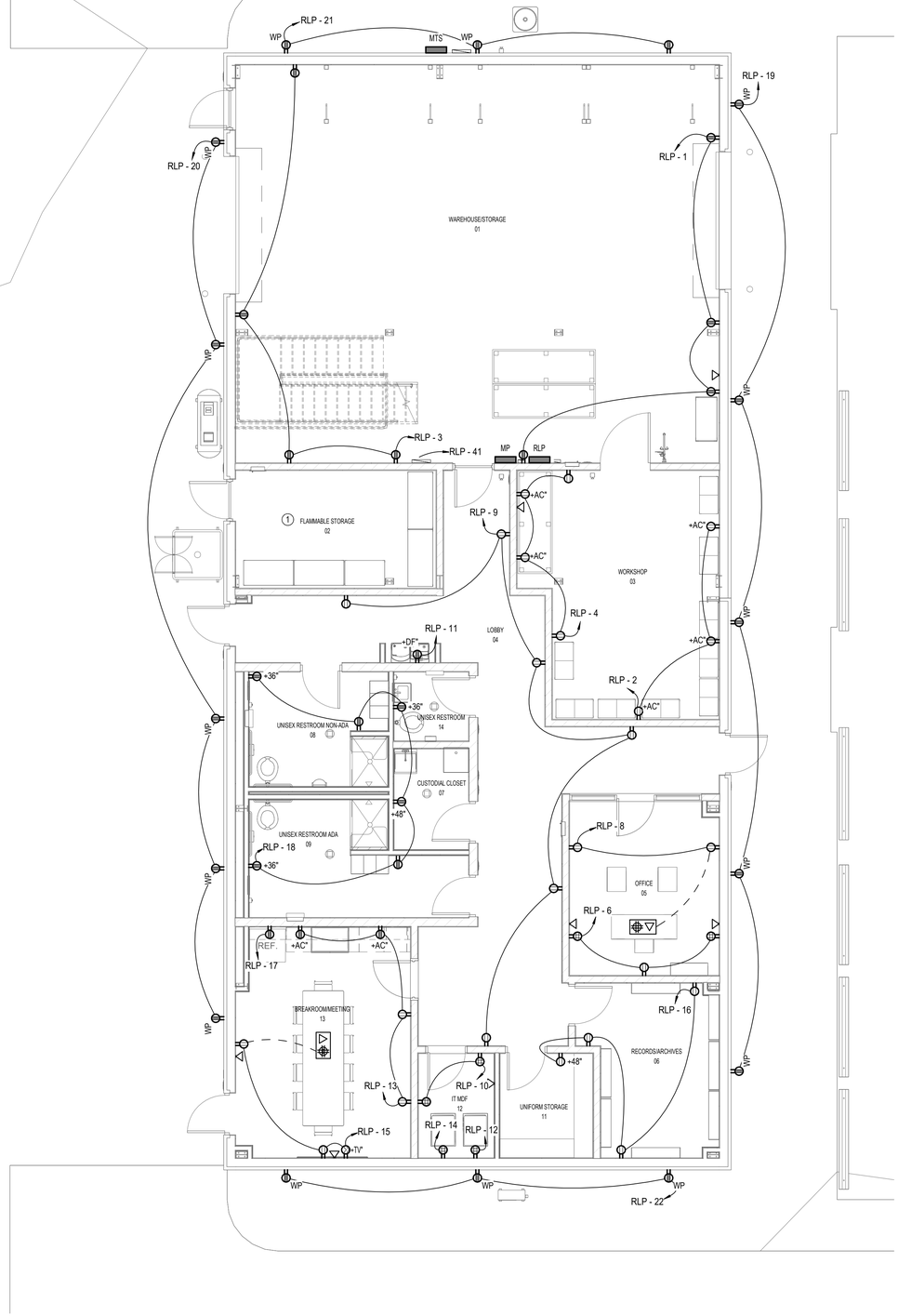
SITE PLAN - NEW

PROJECT NO.	SHEET NO.
4274-22	E0.02

KEYNOTES

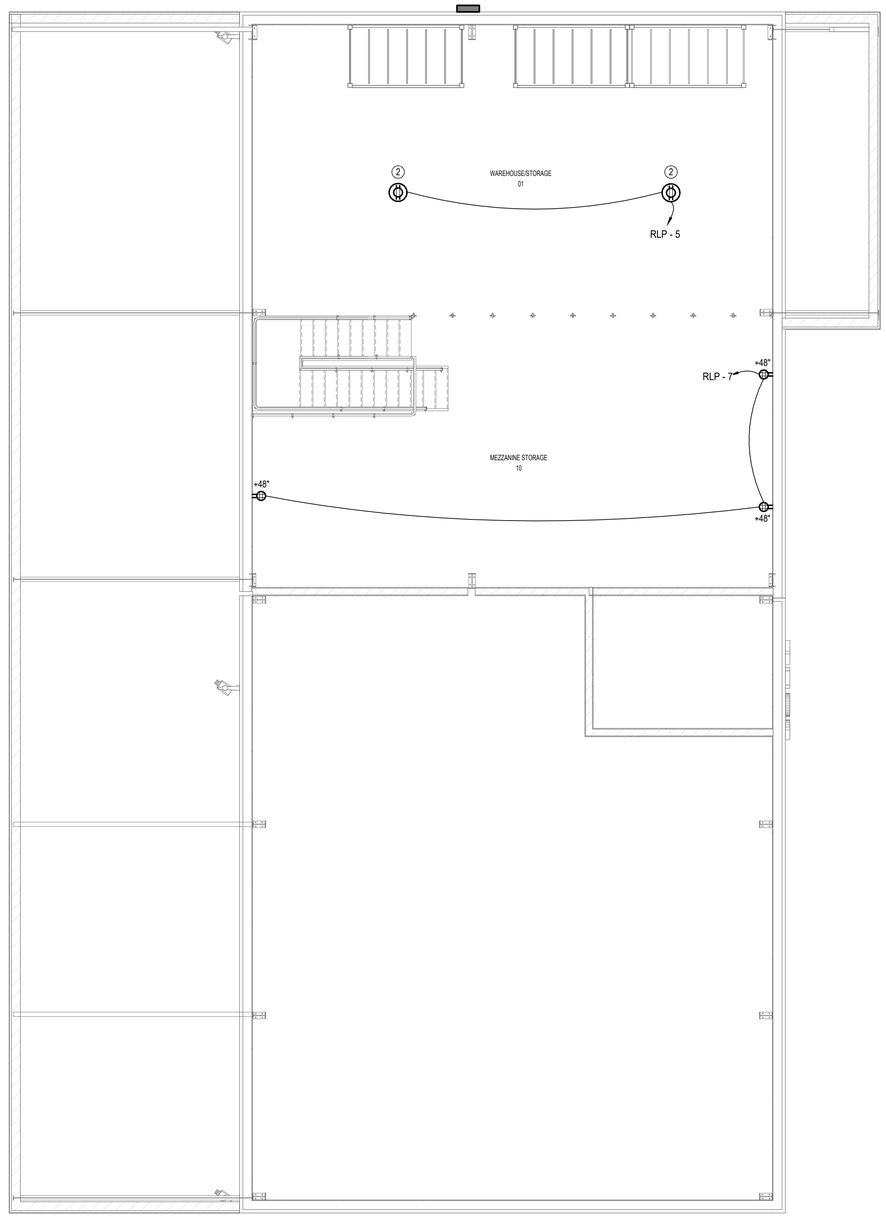
1	PROVIDE CLASS 1, DIVISION 2 INSTALLATION IN THIS SPACE, INCLUDING ALL NECESSARY EXPLOSION-RESISTANT ENCLOSURE(S), DEVICE(S), SEAL-OFF(S), AND ANY OTHER REQUIREMENTS OF NEC CHAPTER 5.
2	PROVIDE CEILING-MOUNTED CORD REEL WITH A MINIMUM LENGTH OF 40' AND NO SMALLER THAN #12 AWG COPPER.



POWER - FIRST FLOOR

3/16" = 1'-0"

0 4' 12'



POWER - MEZZANINE

3/16" = 1'-0"

0 4' 12'

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POWER PLAN

PROJECT NO.	SHEET NO.
4274-22	E1.01

KEYNOTES

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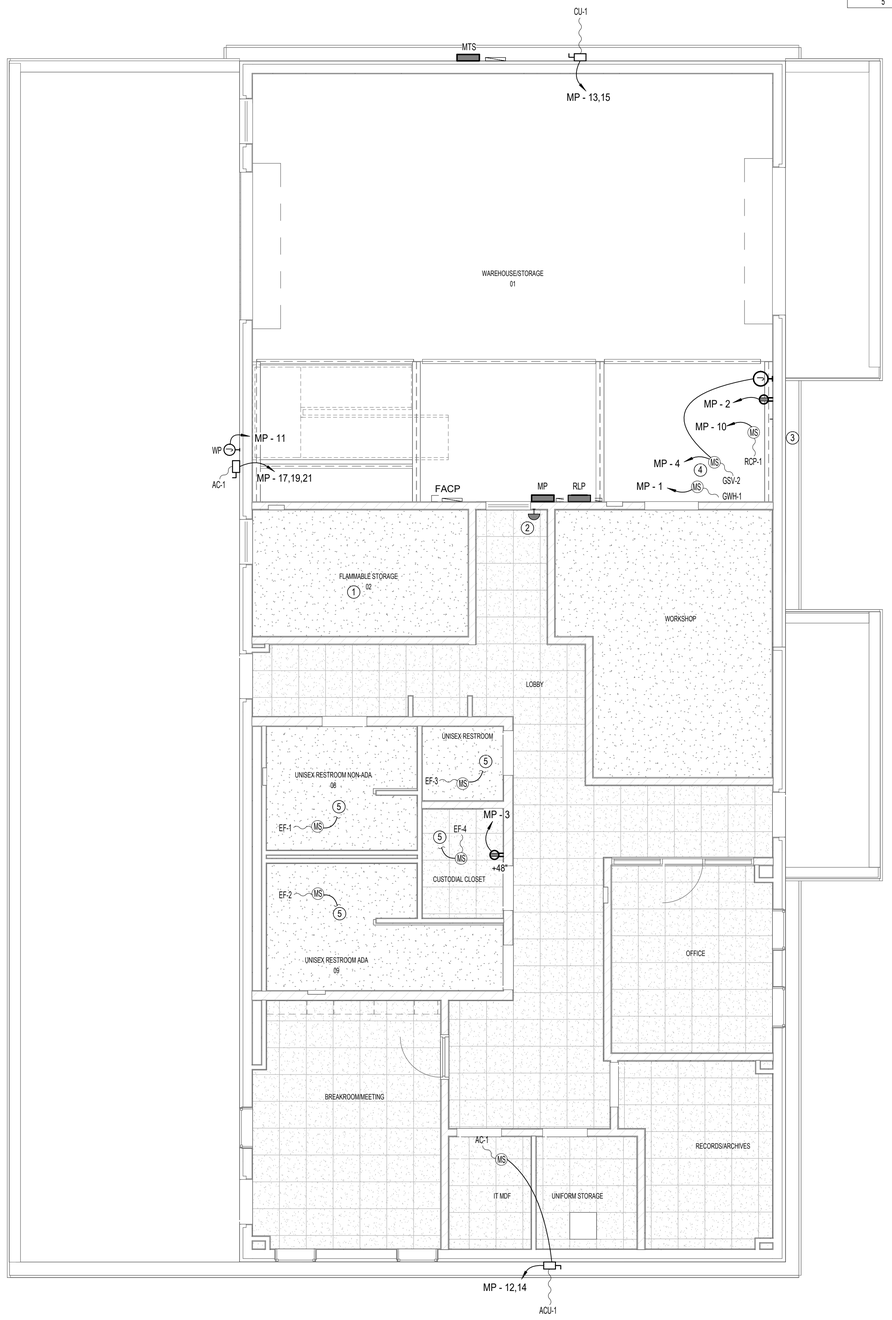
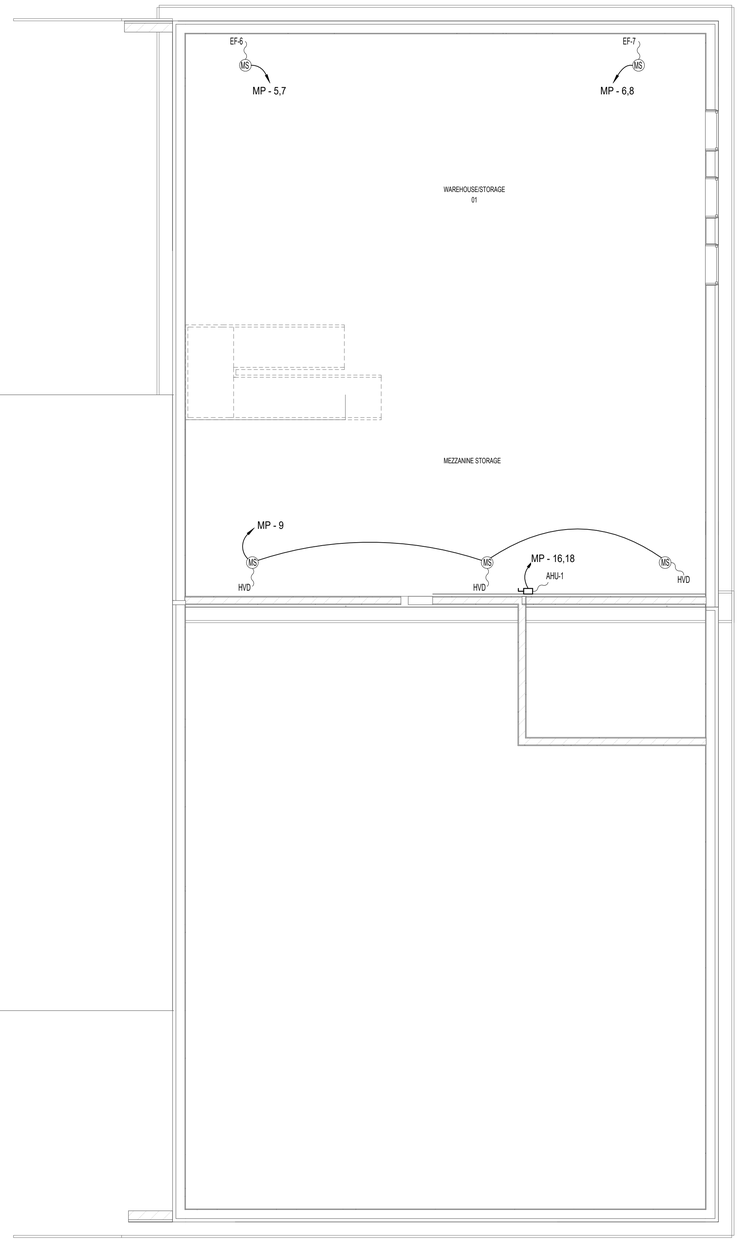
2	PUSH BUTTON LOCATION. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL DETAILS REGARDING INTERCONNECTION WITH AMM-1.
3	GAS VALVE LOCATION. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL DETAILS REGARDING INTERCONNECTION WITH FIRE ALARM SYSTEM.
4	GAS VALVE LOCATION. REFER TO PLUMBING DRAWINGS FOR ADDITIONAL DETAILS REGARDING INTERCONNECTION WITH AMM-1.
5	TIE EXHUAST FAN INTO LOCAL LIGHTING CIRCUIT FOR BOTH POWER AND CONTROL.





MECH POWER - FIRST FLOOR

3/16" = 1'-0"

0 4' 12'

MECH POWER - MEZZANINE

3/16" = 1'-0"

0 4' 12'

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MECH POWER PLAN

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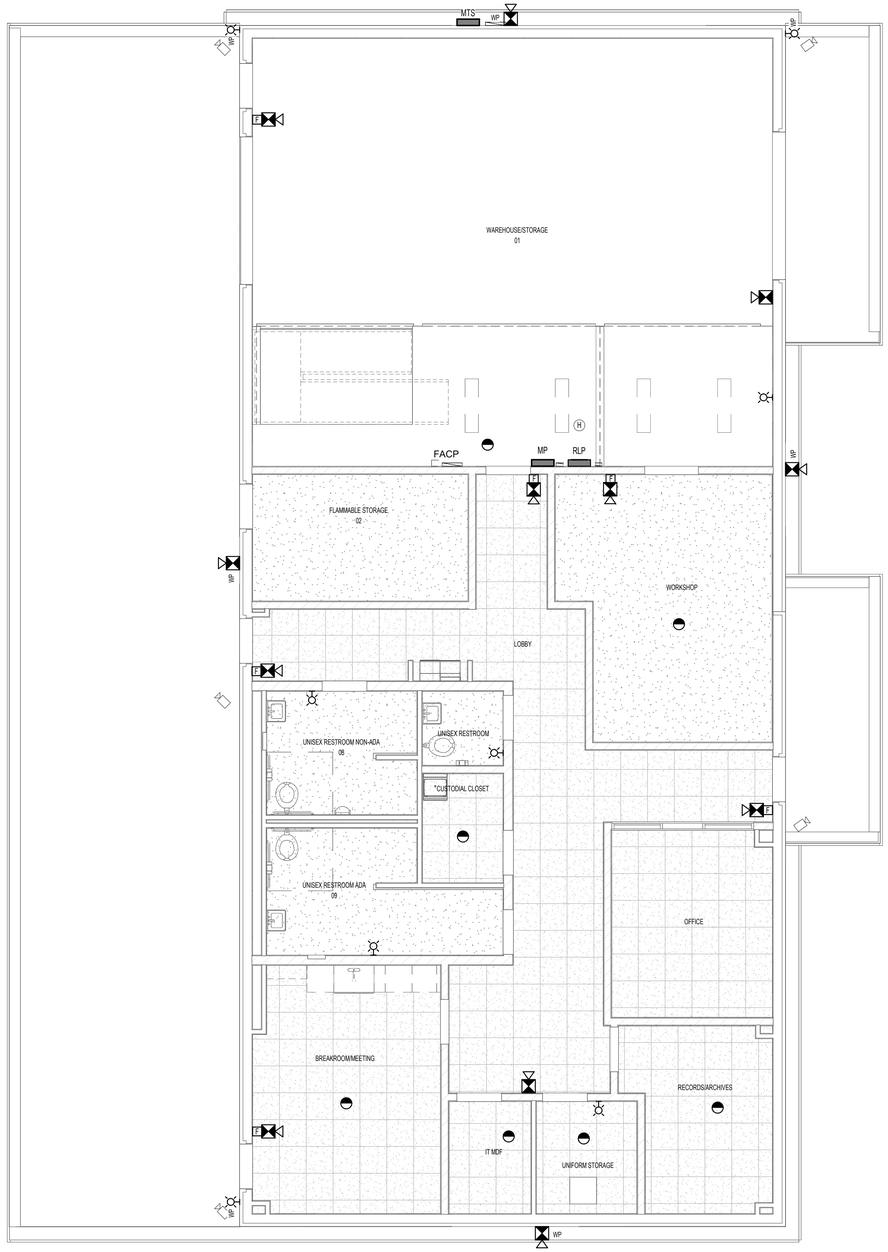
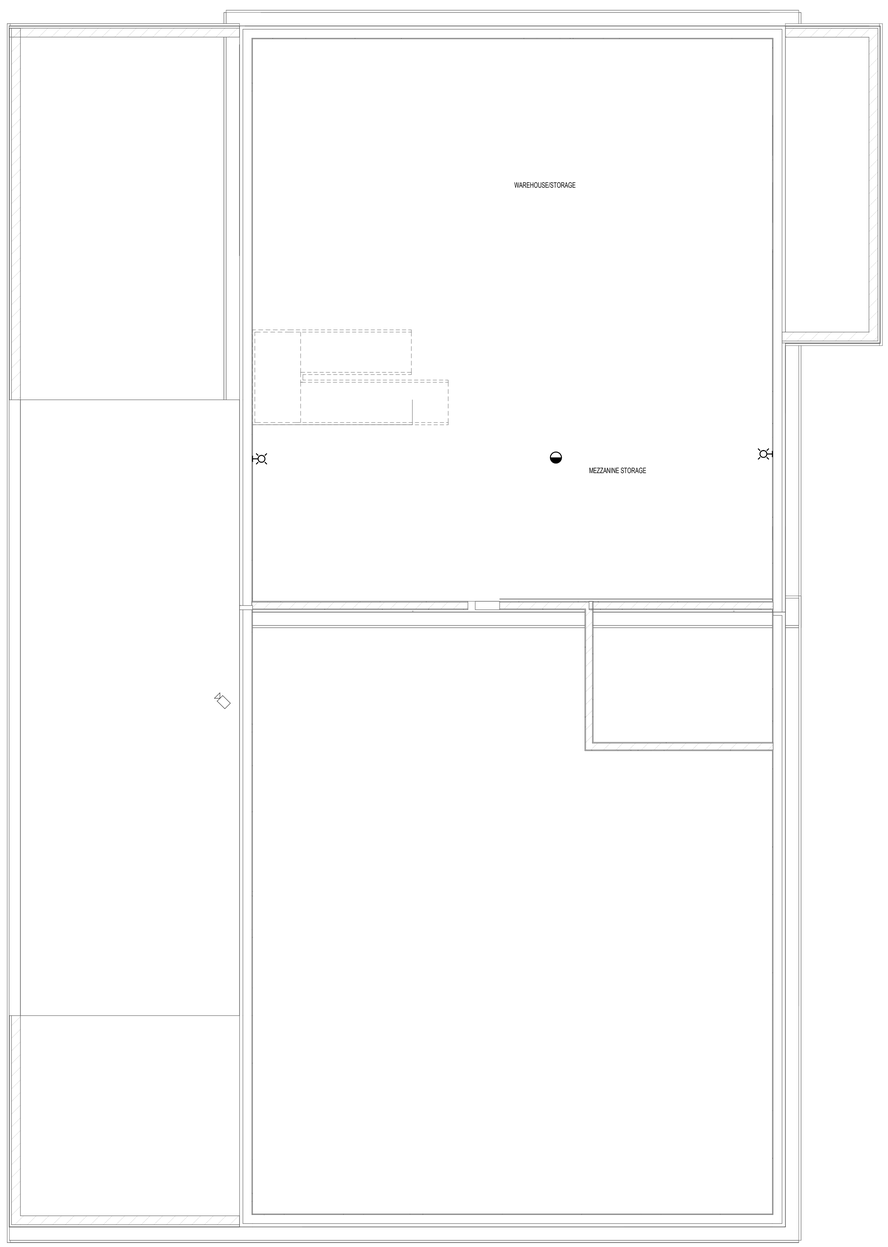
4274-22	E2.01



MISC SYSTEMS - FIRST FLOOR

3/16" = 1'-0"

0 4' 12'



MISC SYSTEMS - MEZZANINE

3/16" = 1'-0"

0 4' 12'

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MISC SYSTEMS PLAN

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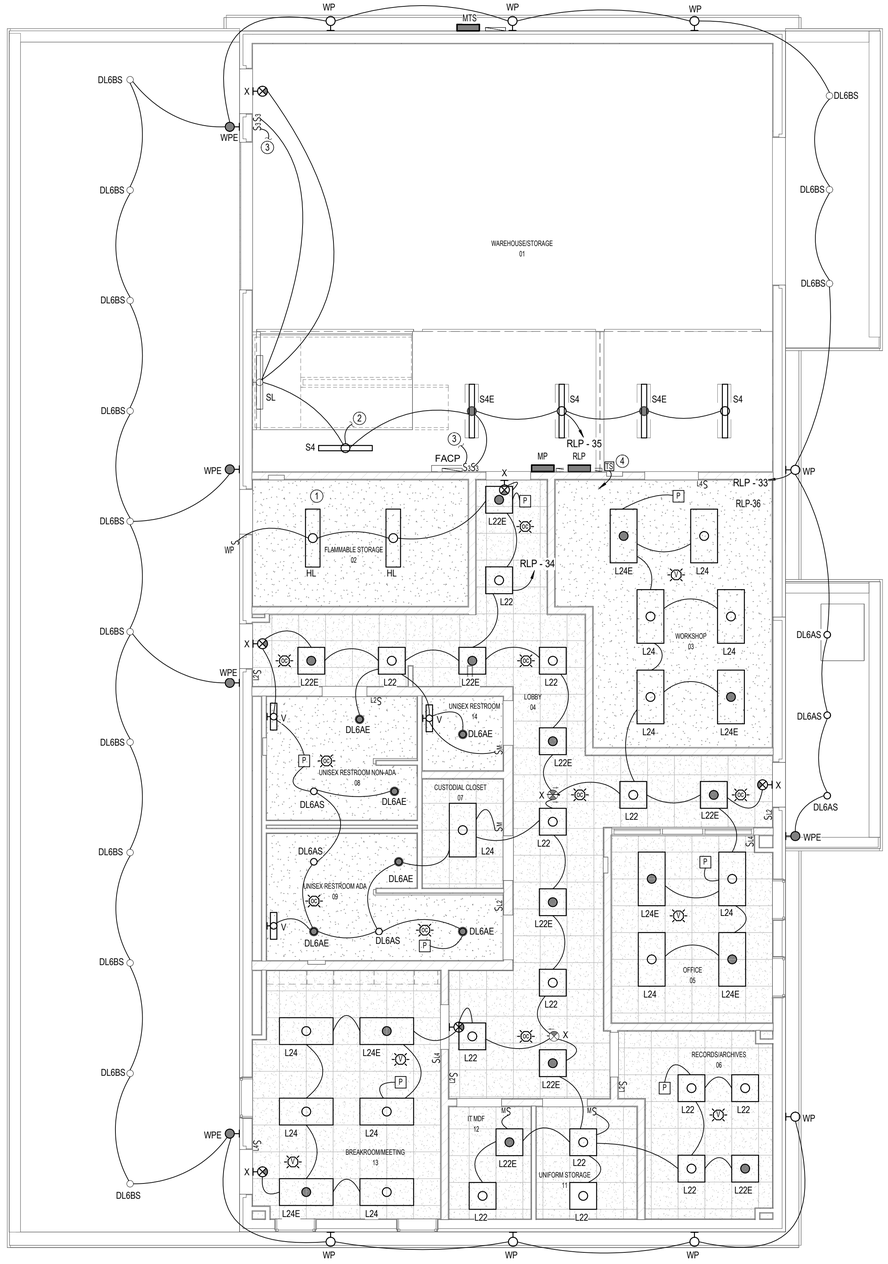
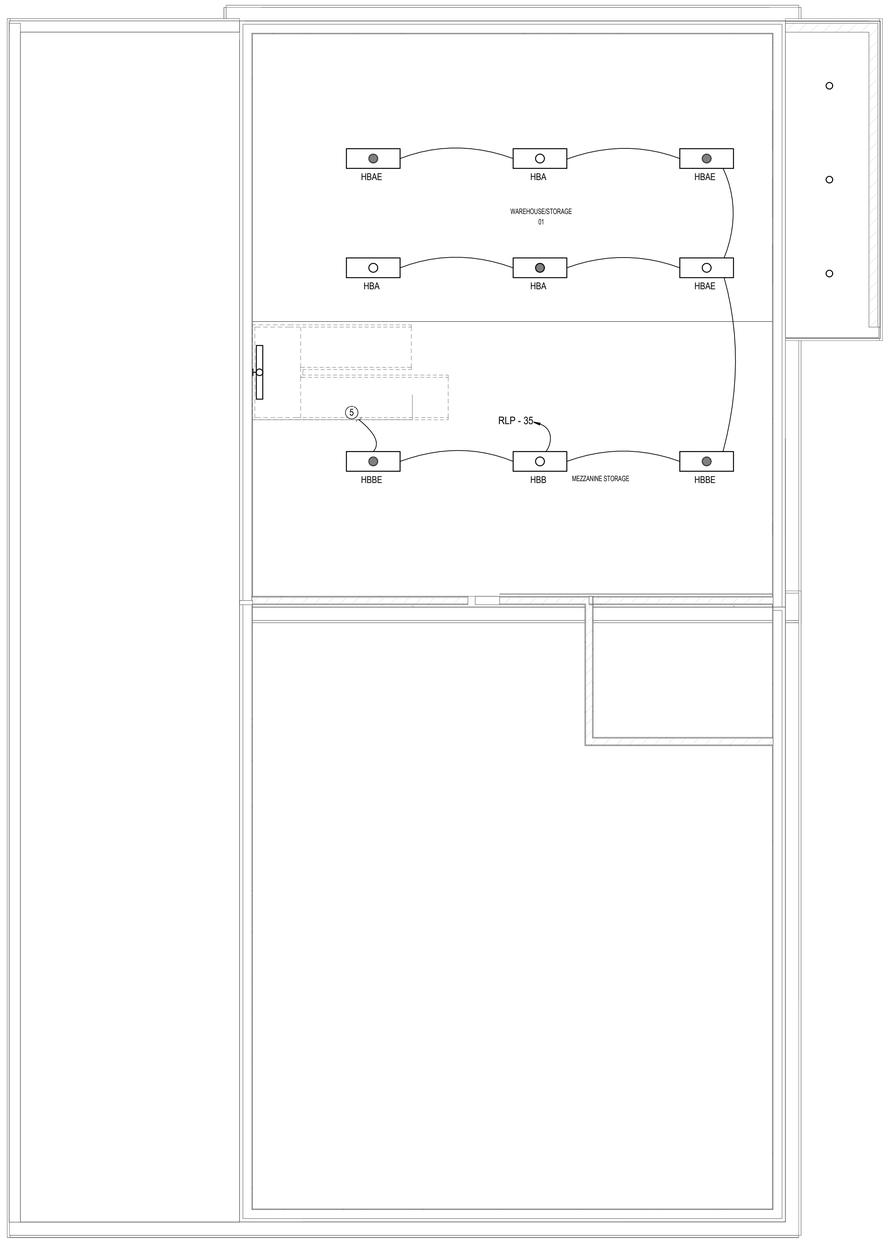
2	CONTINUE CIRCUIT TO MEZZANINE LIGHTING FIXTURES.
3	SWITCH TO CONTROL BOTH WAREHOUSE AND MEZZANINE HIGH BAY FIXTURES.
4	ASTRONOMICAL TIMECLOCK TO CONTROL ALL EXTERIOR BUILDING AND PARKING LOT LIGHTING IN CONJUNCTION WITH PHOTOCELL. COORDINATE WITH OWNER TO PROGRAM ACTIVATION SCHEDULE.
5	CONTINUE CIRCUIT TO FIRST FLOOR LIGHTING FIXTURES.

GENERAL NOTE:
MOUNT POWER PACK IN ADJACENT ACCESSIBLE CEILING SPACE IF SHOWN IN HARD CEILING AREA





LIGHTING - FIRST FLOOR

3/16" = 1'-0"

0 4' 12'

LIGHTING - MEZZANINE

3/16" = 1'-0"

0 4' 12'

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LIGHTING PLAN

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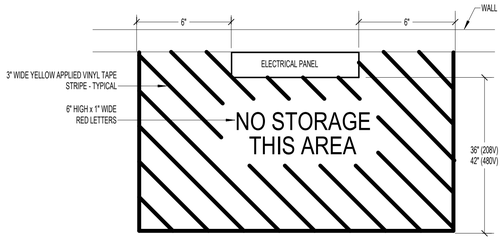
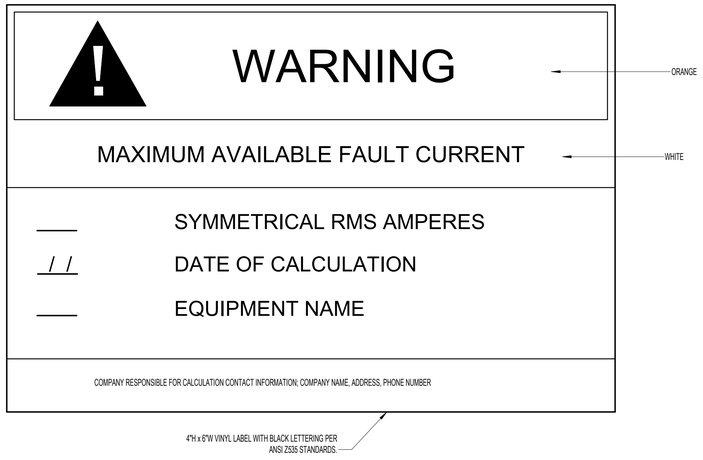
4274-22	E4.01



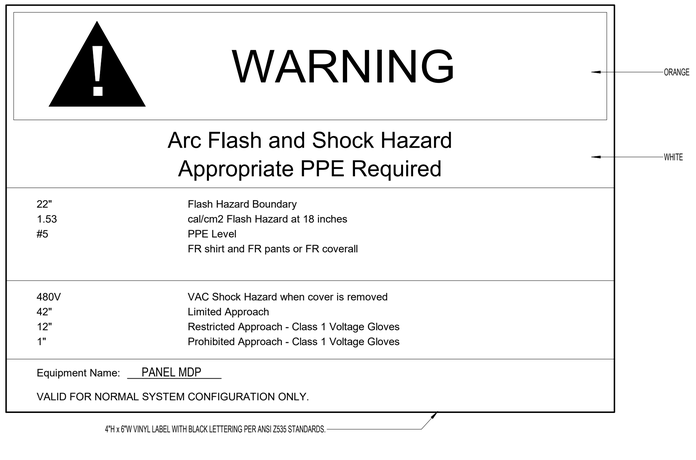
Panel Clearance

NTS



Service Equipment Fault Current Label

NTS



Arc Flash Hazard Label

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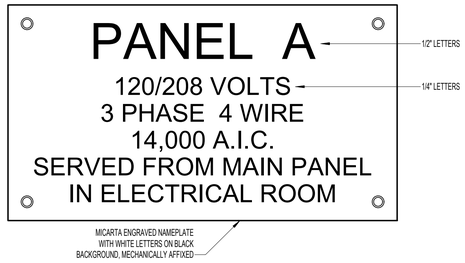
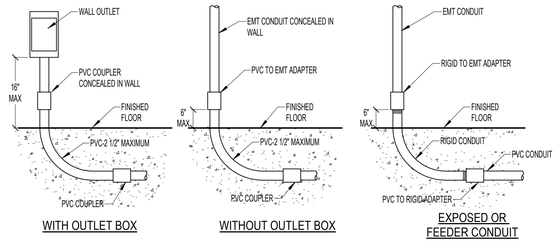


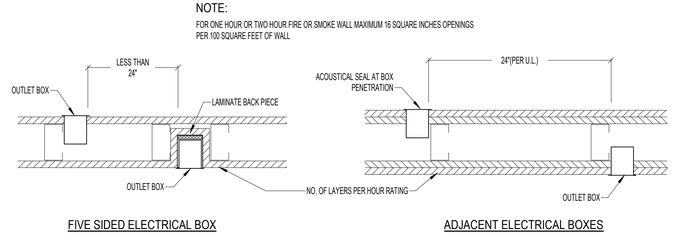
Electrical Equipment Nameplate

NTS



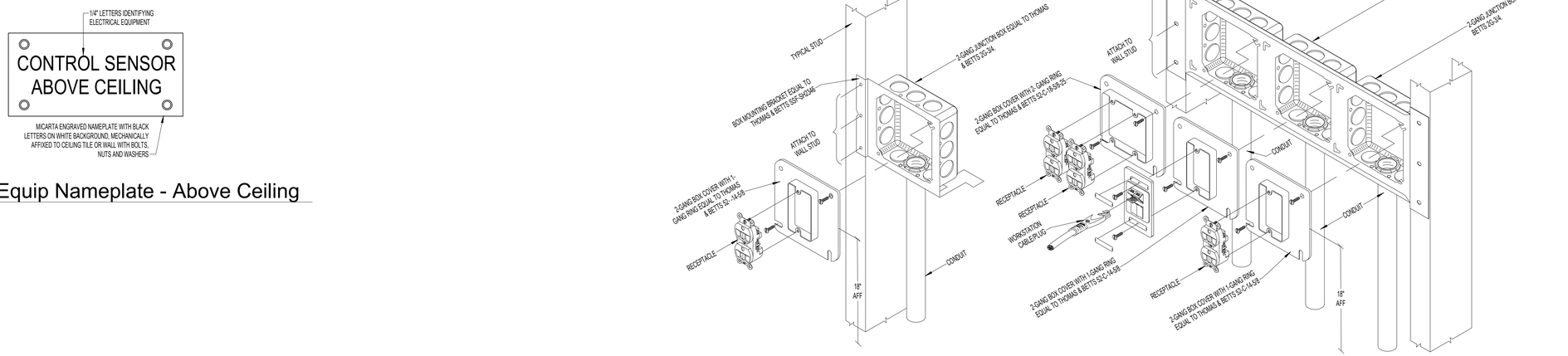
PVC Stub-Up Details

NTS



Wall Details - Electrical Box Installations

NTS



Outlet Installation

NTS

Elect Equip Nameplate - Above Ceiling

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ELECTRICAL DETAILS

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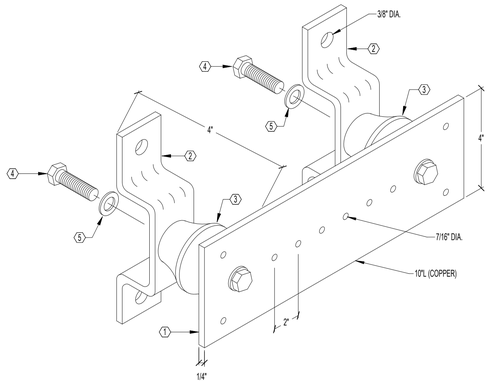
4274-22	E5.01

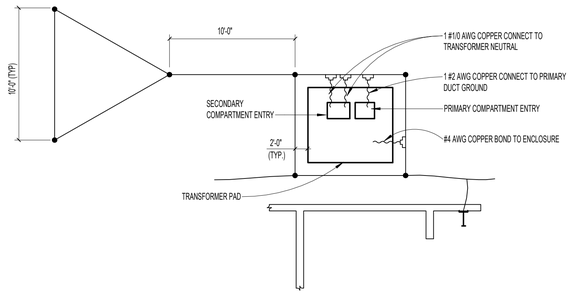


GROUND BAR NOTES:	
1	INSTALL ONE BAR AT EACH COMMUNICATIONS ROOM.
2	ROUTE 1#4 BARE CU IN 1"CONDUIT FROM GROUND BAR TO BUILDING ELECTRICAL SERVICE ENTRANCE GROUND.
3	CONNECT BARS WITH 1#6 BARE CU IN 1" CONDUIT.

NO.	DESCRIPTION
1	GROUND BAR
2	WALL MTG. BRACKET
3	INSULATORS
4	5/8"x1" H.H.C.S. BOLT
5	5/8" LOCKWASHER

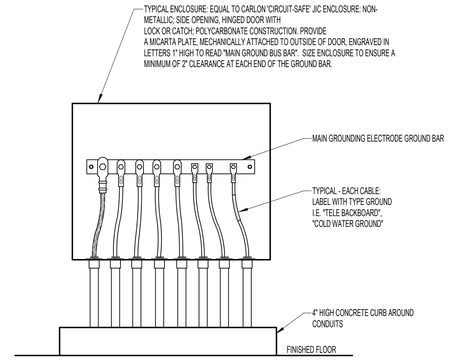
Insulated Grounding Bar

NTS



Pad Mounted Transformer Grounding

NTS



Grounding System Enclosure

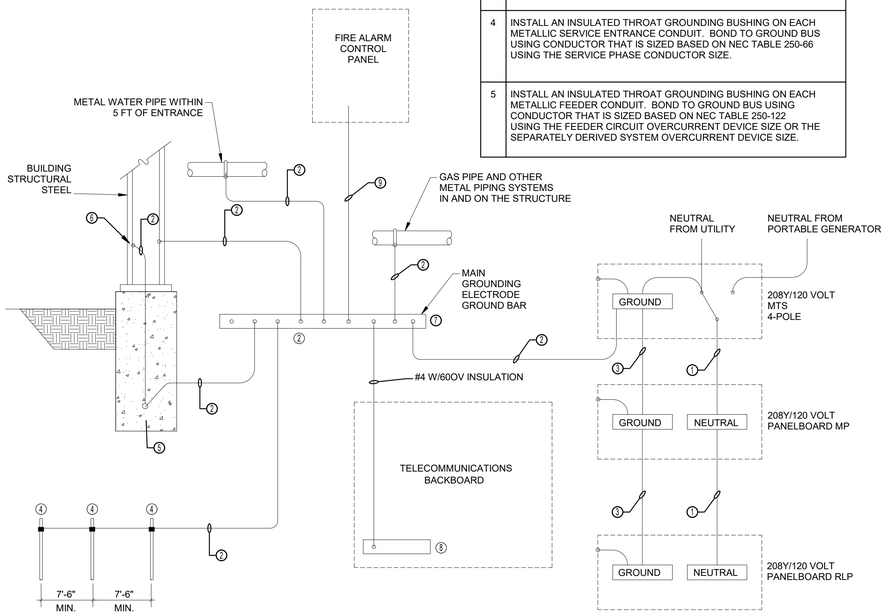
NTS

GENERAL NOTES

1	BOND HOT AND COLD WATER PIPING SYSTEMS.
2	CONDUCTOR SIZES SHOWN ARE MINIMUM AND MAY BE LARGER THAN THE MINIMUM SIZES REQUIRED BY NEC.
3	INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.
4	INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE.
5	INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER CIRCUIT OVERCURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE.

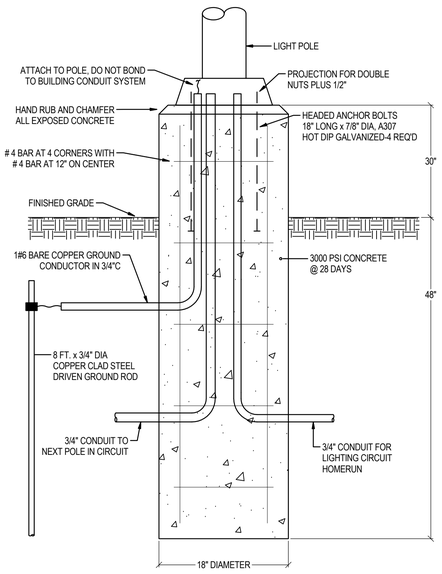
KEYNOTES

①	INSTALL GROUNDED (NEUTRAL) CONDUCTOR SAME SIZE AS THE LARGEST PHASE CONDUCTOR IF THE LINE-TO-NEUTRAL LOAD EXCEEDS 5% OF THE CONNECTED LOAD. IF NEUTRAL LOAD IS SMALLER, INSTALL THE NEC MINIMUM GROUNDED CONDUCTOR.
②	INSTALL GROUNDING ELECTRODE CONDUCTOR, SIZED BASED ON NEC TABLE 250-66 USING THE SERVICE PHASE CONDUCTOR SIZE, BUT NOT SMALLER THAN NO 4.
③	INSTALL EQUIPMENT GROUNDING CONDUCTOR SIZED BASED ON NEC TABLE 250-122 USING THE FEEDER OVERCURRENT DEVICE SIZE.
④	16 FOOT MINIMUM X 3/4" DIAMETER COPPER CLAD STEEL SECTIONAL DRIVEN GROUND ROD.
⑤	INSTALL A CONCRETE-ENCASED MAIN GROUNDING ELECTRODE IN THE BUILDING FOUNDATION PER NEC ARTICLE 250.52 (A) (3).
⑥	BOND EACH PERIMETER STRUCTURAL STEEL COLUMN TO THE CONCRETE-ENCASED MAIN GROUNDING ELECTRODE. USE COMPRESSION CONNECTORS THAT MEET IEEE 837 REQUIREMENTS OR USE EXOTHERMIC WELDS.
⑦	INSTALL A "MAIN GROUND ELECTRODE GROUND BAR" FOR SINGLE POINT GROUNDING. LOCATE AT AN ACCESSIBLE POINT NEAR THE SERVICE ENTRANCE EQUIPMENT. MAKE CONNECTIONS TO THE GROUND ELECTRODE CONDUCTOR USING IRREVERSIBLE CONNECTORS OR EXOTHERMIC WELDS. MAKE OTHER CONNECTIONS TO THE GROUND BAR USING TWO-HOLE COMPRESSION SPADE LUGS THAT MEET IEEE 837 REQUIREMENTS. LABEL EACH CONNECTION TO THE GROUND BAR
⑧	INSTALL A COPPER GROUNDING BAR IN EACH TELECOMMUNICATIONS ROOM. CONNECT TO THE "MAIN GROUNDING ELECTRODE GROUND BAR" USING 600V INSULATED #4 COPPER CABLE AND COMPRESSION SPADE LUGS.
⑨	FIRE ALARM CONTROL PANEL GROUND - #6 COPPER CONDUCTOR.



Grounding System Diagram 208Y-120V

NTS



Pole Base Detail

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PROJECT:

PCHA KIRKLAND MAINTENANCE COMPLEX
261 EVERITT AVENUE
PANAMA CITY, FLORIDA 32405

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& Associates
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BID SET DOCUMENTS

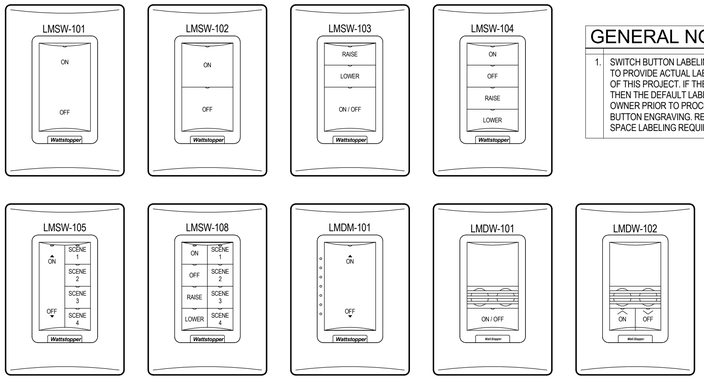
SCALE:	DATE:
As indicated	07/28/2025
DRAWN BY:	CHECKED BY:
CC	DW

NO	REVISION	DATE

SHEET TITLE:

ELECTRICAL DETAILS

PROJECT NO.	SHEET NO.
4274-22	E5.02

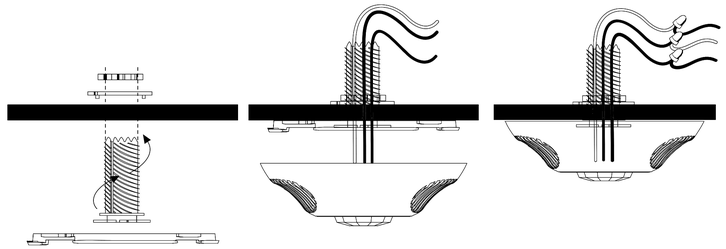


TYPICAL SWITCH BUTTON LABELING DEFAULT OPTIONS

NTS

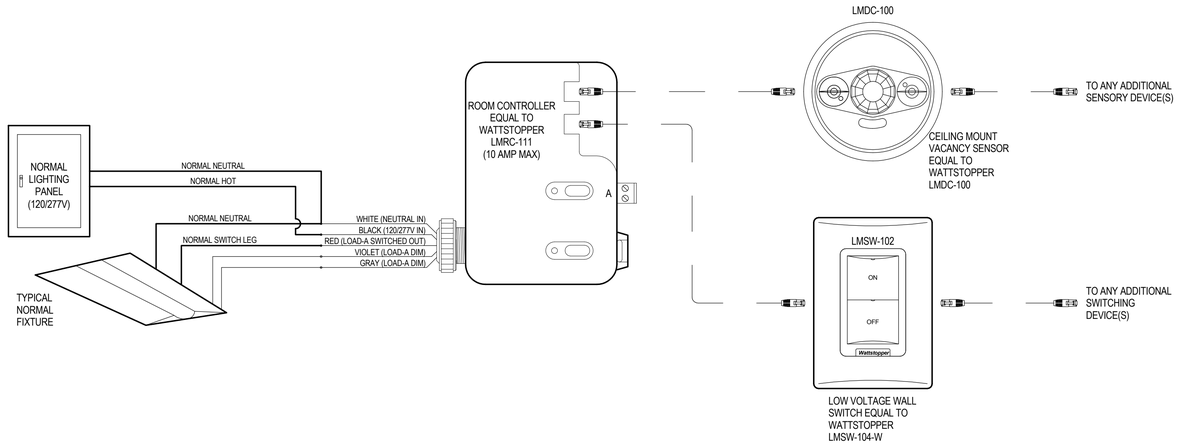
GENERAL NOTES

1. SWITCH BUTTON LABELING INDICATES A DEFAULT SCHEME. OWNER TO PROVIDE ACTUAL LABELING DURING THE CONSTRUCTION PHASE OF THIS PROJECT. IF THE OWNER DOES NOT MAKE ANY DECISION, THEN THE DEFAULT LABELING MAY BE UTILIZED. VERIFY WITH OWNER PRIOR TO PROCEEDING WITH ORDERING OF ANY AND ALL BUTTON ENGRAVING. REFER TO SPECIFIC DETAILS FOR ROOM SPACE LABELING REQUIREMENTS.



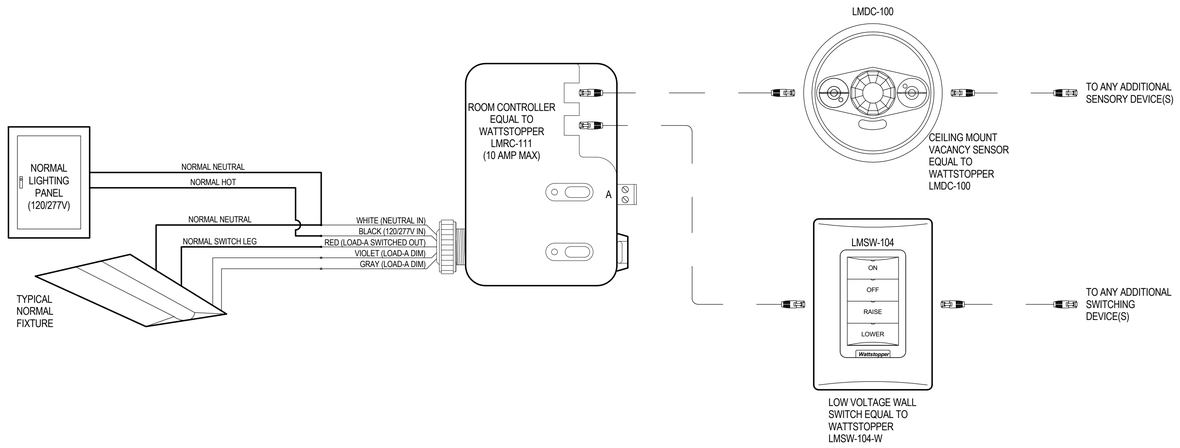
OCCUPANCY SENSOR MOUNTING DETAIL

NTS



TYPICAL LIGHTING CONTROL DETAIL #1

NTS



TYPICAL LIGHTING CONTROL DETAIL #2

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NO	REVISION	DATE

SHEET TITLE:

LIGHTING CONTROL DETAILS

PROJECT NO.	SHEET NO.
4274-22	E5.04

FIRE ALARM RISER GENERAL NOTES

A. THIS DIAGRAM IS NOT INTENDED TO SHOW EXACT QUANTITIES OF DEVICES. REFER TO PLAN FOR DEVICE QUANTITIES AND LOCATIONS.

B. THE RISER REPRESENTS A TYPICAL SYSTEM AND IS NOT INTENDED FOR INSTALLATION, SYSTEM SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS AND WIRING DIAGRAMS.

C. PROVIDE ADDITIONAL MONITOR AND CONTROL MODULES AS RECOMMENDED BY THE SYSTEM SUPPLIER.

D. FIRE ALARM SYSTEM SHALL HAVE U.L. APPROVED DIGITAL ALARM DIALER/COMMUNICATOR TO SEND ALARM SIGNAL TO MONITORING SERVICE. PROVIDE EITHER TWO ANALOG PHONE LINES OR CELLULAR GSM + INTERNET CONNECTION. VERIFY WITH OWNER.

E. FIRE ALARM SYSTEM LOW VOLTAGE SOURCE AND BATTERY STAND-BY SHALL ENERGIZE ALL ITEMS IN FIRE ALARM SYSTEM THAT REQUIRE POWER.

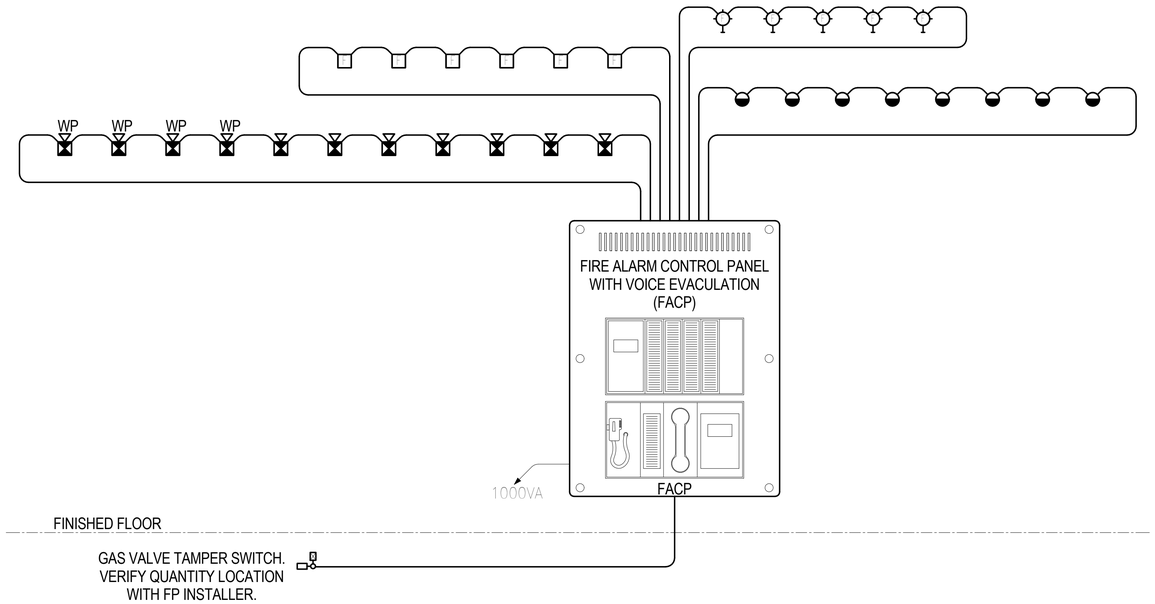
F. REFER TO MECHANICAL DRAWINGS FOR SMOKE AND/OR SMOKE/FIRE DAMPER LOCATIONS. CONNECT TO FIRE ALARM SYSTEM AND TO 120V POWER.

G. VERIFY LOCATION AND QUANTITIES OF FLOW AND TAMPER SWITCHES WITH SPRINKLER CONTRACTOR.

LEGEND

FIRE ALARM WIRING

POWER WIRING



FIRE ALARM SYSTEM RISER

NOT TO SCALE

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SHEET TITLE:
FIRE ALARM RISER

PROJECT NO.	SHEET NO.
4274-22	E6.01

MECHANICAL EQUIPMENT COORDINATION SCHEDULE

(VERIFY ALL EQUIPMENT CIRCUIT REQUIREMENTS WITH MANUFACTURERS SHOP DRAWINGS PRIOR TO ROUGH-IN)

					ELECTRICAL LOAD						PROTECTION				CONDUCTOR / CONDUIT SIZE						
					MOTOR(S) FLA			HEAT					SPECIFIED			CONDUCTORS						
EQUIPMENT DESIGNATION	DESCRIPTION	CFM	VOLT	Φ	QTY	LARGEST	SUM OF REMAINING	ELECTRIC KW	OTHER VA	TOTAL CONNECTED VA	MCA	MOCP	TRIP	POLE	SETS	QTY.	SIZE	GND	CONDUIT	DISC.	REMARKS
AHU-1	SPLIT SYSTEM FAN COIL UNIT	1950	208	1	1	7.5		10.8		12360	47	50	50	2	1	3	#8	#10	3/4"	60/2/1	
CU-1	SPLIT SYSTEM CONDENSING UNIT		208	1	2	26.9	1.3			5866	35	60	60	2	1	3	#6	#10	3/4"	60/2/3R	
AC-1	DUCTLESS SPLIT SYSTEM INDOOR UNIT	635	208	1	1	0.4				83	0.5	15			1	3	#12	#12	#12	MOTOR SWITCH	INDOOR UNIT TO BE POWERED VIA OUTDOOR UNIT
ACU-1	DUCTLESS SPLIT SYSTEM OUTDOOR UNIT		208	1	2	7	0.4			1539	19	26	25	2	1	3	#10	#10	3/4"	30/2/3R	
EF-1	EXHAUST FAN	75	120	1					80	80	0.7	15			1	2	#12	#12	#12	MOTOR SWITCH	POWER AND CONTROL VIA LOCAL LIGHTING CIRCUIT
EF-2	EXHAUST FAN	75	120	1					80	80	0.7	15			1	2	#12	#12	#12	MOTOR SWITCH	POWER AND CONTROL VIA LOCAL LIGHTING CIRCUIT
EF-3	EXHAUST FAN	50	120	1					80	80	0.7	15			1	2	#12	#12	#12	MOTOR SWITCH	POWER AND CONTROL VIA LOCAL LIGHTING CIRCUIT
EF-4	EXHAUST FAN	50	120	1					80	80	0.7	15			1	2	#12	#12	#12	MOTOR SWITCH	POWER AND CONTROL VIA LOCAL LIGHTING CIRCUIT
EF-5	EXHAUST FAN (1/3 HP)	500	120	1	1	3.6				432	4.5	15	15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	TO OPERATE CONTINUOUSLY
EF-6	EXHAUST FAN (1/2 HP)	2500	208	1	1	4.9				1019	6.1	15	15	1	1	3	#12	#12	3/4"	MOTOR SWITCH	CONTROLLED VIA LINE VOLTAGE THERMOSTAT
EF-7	EXHAUST FAN (1/2 HP)	2500	208	1	1	4.9				1019	6.1	15	15	1	1	3	#12	#12	3/4"	MOTOR SWITCH	CONTROLLED VIA LINE VOLTAGE THERMOSTAT
MVD	MOTORIZED DAMPER		120	1	1	1				120	1.3	15	15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	INTERCONNECT WITH EF-6 & EF-7

PLUMBING EQUIPMENT COORDINATION SCHEDULE

(VERIFY ALL EQUIPMENT CIRCUIT REQUIREMENTS WITH MANUFACTURERS SHOP DRAWINGS PRIOR TO ROUGH-IN)

					ELECTRICAL LOAD						PROTECTION				CONDUCTOR / CONDUIT SIZE						
					MOTOR(S) FLA			HEAT					SPECIFIED			CONDUCTORS						
EQUIPMENT DESIGNATION	DESCRIPTION	CFM	VOLT	Φ	QTY	LARGEST	SUM OF REMAINING	ELECTRIC KW	OTHER VA	TOTAL CONNECTED VA	MCA	MOCP	TRIP	POLE	SETS	QTY.	SIZE	GND	CONDUIT	DISC.	REMARKS
AC-1	AIR COMPRESSOR (15 HP)	82.3	208	3	1	48.3				17401	60.4	110	90	3	1	4	#3	#8	1-1/4"	100/3/3R	ADDITIONAL 120V CIRCUIT FOR DRYER UNIT
RCP-1	RECIRCULATION PUMP		120	1	1	1.48				178	1.9	15	15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	
GWH-1	GAS WATER HEATER		120	1	1	9				1080	11.3	25	25	1	1	2	#10	#10	3/4"	MOTOR SWITCH	
EWC-1	ELECTRIC WATER COOLER		120	1	1	5				600	6.3	20	20	1	1	2	#12	#12	3/4"	5-20R GFCI	
PWC-1	WATER CONDITIONER		120	1	1	0.2				24			20	1	1	2	#12	#12	3/4"	5-20R GFCI	
TMV-1	THERMOSTATIC MIXING VALVE		120	1									20	1	1	2	#12	#12	3/4"	5-20R GFCI	
AMM-1	CO MONITOR AND GAS DETECTOR		120	1						3			15	1	1	2	#12	#12	3/4"	N/A	
GSV-1	GAS SOLENOID VALVE		24V DC							16											INTERCONNECT WITH FIRE ALARM SYSTEM
GSV-2	GAS SOLENOID VALVE		120	1	1	0.16				19			15	1	1	2	#12	#12	3/4"	MOTOR SWITCH	INTERCONNECT WITH AMM-1

LIGHTING FIXTURE SCHEDULE

Project: 23075 - PCHA KIRKLAND MAINTENANCE COMPLEX

Note: Per electrical specifications, required alternate fixtures shall be submitted to the engineer for prior approval a minimum of (10) ten business days prior to bid date. Any required alternate fixtures not submitted for prior approval will not be reviewed.

Luminaire Designation	Manufacturer	Catalog Number	Connected Voltage	Luminaire Load (va)	Lamping Source	Color Rendering Index (CRI)	Kelvin Temperature	Mounting	Comments	Prior Approved Equal Required
DL6AE	H.E. WILLIAMS	6DR-TL-L10/840-EM/7W-DIM-UNV-LW-OF-WH-N-F1	120 V	8.7	LED	80	4000K	RECESSED - CEILING		YES
DL6AS	H.E. WILLIAMS	6DR-TL-L10/840-DIM-UNV-SW-OF-WH-N-F1	120 V	8.7	LED	80	4000K	RECESSED - CEILING		YES
DL6BS	H.E. WILLIAMS	6DR-TL-L15/840-DIM-UNV-SW-OF-WH-N-F1	120 V	13.8	LED	80	4000K	RECESSED - CEILING		YES
HBA	H.E. WILLIAMS	GH-4-L180/840-FA-WG11-GC2/Y18/5-DIM/UNV	120 V	125.9	LED	80	4000K	CHAIN HUNG - CEILING		YES
HBAE	H.E. WILLIAMS	GH-4-L180/840-FA-EM/10W-WG11-GC2/Y18/5-DIM-UNV	120 V	125.9	LED	80	4000K	CHAIN HUNG - CEILING		YES
HBB	H.E. WILLIAMS	GH-4-L120/840-FA-WG11-GC2/Y18/5-DIM/UNV	120 V	79.4	LED	80	4000K	CHAIN HUNG - CEILING		YES
HBBE	H.E. WILLIAMS	GH-4-L120/840-FA-EM/10W-WG11-GC2/Y18/5-DIM-UNV	120 V	79.4	LED	80	4000K	CHAIN HUNG - CEILING		YES
HL	LDPI	LE485-43-V1-A-D1-4-WH-CH	120 V	43.0	LED		4000K	RECESSED - CEILING		YES
HLE	LDPI	LE485-43-V1-A-D1-4-WH-EM-CH	120 V	43.0	LED		4000K	RECESSED - CEILING		YES
L22	H.E. WILLIAMS	LT-22-L27/840-AF-DIM-UNV	120 V	21.3	LED	80	4000K	RECESSED - CEILING		YES
L22E	H.E. WILLIAMS	LT-22-L27/840-AF-EM/10W-DIM-UNV	120 V	21.3	LED	80	4000K	RECESSED - CEILING		YES
L24	H.E. WILLIAMS	LT-24-L40/840-AF-DIM-UNV	120 V	32.0	LED	80	4000K	RECESSED - CEILING		YES
L24E	H.E. WILLIAMS	LT-24-L40/840-AF-EM/10W-DIM-UNV	120 V	32.0	LED	80	4000K	RECESSED - CEILING		YES
PL4	H.E. WILLIAMS	VA1-L160/740-T4-F-S-SLV-DF-DIM-208 VATM-R-TM238-SLV	120 V	161.0	LED	70	4000K	POLE MOUNT		YES
PL4 POLE	H.E. WILLIAMS	RTA-200-0400-0600-188-TM238-SLV-AB	---	---	---	---	---	CONCRETE BASE		YES
S4	H.E. WILLIAMS	76R-4-L52/840-DIM-UNV	120 V	35.8	LED	80	4000K	SURFACE - CEILING		YES
S4E	H.E. WILLIAMS	76R-4-L52/840-EM/10W-DIM-UNV	120 V	35.8	LED	80	4000K	SURFACE - CEILING		YES
SL	H.E. WILLIAMS	WMA-4-L40/840-AF-DIM-UNV	120 V	30.0	LED	80	4000K	SURFACE - WALL		YES
V	H.E. WILLIAMS	WMA-2-L20/840-AF-CT-DIM-UNV	120 V	15.9	LED	80	4000K	SURFACE - WALL		YES
WP	H.E. WILLIAMS	VWPH-L30/840-T2-DBZ-CGL-DIM-UNV	120 V	27.0	LED	80	4000K	SURFACE - WALL		YES
WPE	H.E. WILLIAMS	VWPH-L30/840-T2-DBZ-CGL-EM/10WC-DIM-UNV	120 V	27.0	LED	80	4000K	SURFACE - WALL		YES
X	H.E. WILLIAMS	EXIT-R-EM-WHT-SDT-D	120 V	3.8	LED	80	4000K	SURFACE		YES

Lighting Space and Zones		Sequence of Operations							Low Voltage Switch Matrix (Button Labels to be designated by owner during installation)				
		CONTROL SCENARIOS							CONNECT TO NETWORKED ROOM CONTROLLER		CONNECT TO NON-NETWORKED LOCAL ROOM CONTROL		
Space Type	Room Number	Manual On	Manual Off	Dimming	Photocell On/Off	Timeclock On	Timeclock Off	Occupancy Sensor On	Vacancy Sensor Off	S.1.2 (5-Button)	S.4.1 (5-Button)	S3 (3-Way Switch, Line Voltage)	Sm (Integral Sensor, Line Voltage)	Remarks
WAREHOUSE/STORAGE	1	X	X									X		FOR SAFETY, NO AUTOMATION
FLAMMABLE STORAGE	2	X							X				X	
WORKSHOP	3	X		X					X		X			LIGHTING CONTROL DETAIL #2
LOBBY	4	X						X	X	X				LIGHTING CONTROL DETAIL #1
OFFICE	5	X		X					X		X			LIGHTING CONTROL DETAIL #2
RECORDS/ARCHIVE	6	X							X	X				LIGHTING CONTROL DETAIL #1
CUSTODIAL CLOSET	7	X							X				X	
MEN'S RESTROOM	8	X						X	X	X				LIGHTING CONTROL DETAIL #1
WOMEN'S RESTROOM	9	X						X	X	X				LIGHTING CONTROL DETAIL #1
MEZZANINE STORAGE	10	X	X									X		FOR SAFETY, NO AUTOMATION
UNIFORM STORAGE	11	X							X				X	
IT MDF	12	X							X				X	
BREAKROOM/MEETING	13	X		X					X		X			LIGHTING CONTROL DETAIL #2
UNISEX RESTROOM	14	X							X				X	
PARKING AREA LIGHTING	N/A				X	X	X							
BUILDING EXTERIOR SECURITY LIGHTING	N/A				X	X	X							

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SEAL:

BID SET DOCUMENTS

SCALE:	DATE: 07/28/2025
DRAWN BY: CC	CHECKED BY: DW

NO	REVISION	DATE

SHEET TITLE:

MECHANICAL, LIGHTING, & MATRIX SCHEDULES

PROJECT NO.	SHEET NO.
4274-22	E7.01

MP

MAIN 400 A MLO
SYSTEM 208Y/120V 3P 4W
OPTIONS BOLT ON BREAKERS

A.I.C. RATING 22 kA
NEMA 1

LOCATION WAREHOUSE/STORAGE 01
MOUNTING Surface

LOAD PER PHASE

CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	GWH-1	20 A	1	1080 VA	600 VA					1	20 A	TMV-1	2
3	PWC-1	20 A	1			180 VA	19 VA			1	15 A	AMM-1 & GSV-2	4
5	EF-6	15 A	2					510 VA	510 VA	2	15 A	EF-7	6
7				510 VA	510 VA								8
9	HVD	15 A	1			0 VA	178 VA			1	20 A	RCP-1	10
11	AC-1 DRYER UNIT	20 A	1					1000 VA	811 VA	2	25 A	ACU-1 & AC-1	12
13	CU-1	60 A	2	2933 VA	811 VA								14
15						2933 VA	6180 VA			2	50 A	AHU-1	16
17								5800 VA	6180 VA				18
19	AC-1	20 A	3	5800 VA	0 VA					1	20 A	SPARE	20
21						5800 VA	0 VA			1	20 A	SPARE	22
23	MOTORIZED GATE OPENER	15 A	1					1000 VA	0 VA	1	20 A	SPARE	24
25	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	26
27	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	28
29	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	30
31	SPACE ONLY	--	1	--	--					1	--	SPACE ONLY	32
33	SPACE ONLY	--	1			--	--			1	--	SPACE ONLY	34
35	SPACE ONLY	--	1					--	--	1	--	SPACE ONLY	36
37				6346 VA	0 VA								38
39	PANEL LP	125 A	3			8135 VA	0 VA			3	60 A	SURGE PROTECTIVE DEVICE (SPD)	40
41								6006 VA	0 VA				42
		POWER/PHASE		18585 VA		23422 VA		21817 VA					
		AMPS/PHASE		155 A		199 A		186 A					

LOAD CLASS	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	TOTALS
Lighting - General	1844 VA	100.00%	1844 VA	**CONNECTED POWER** 63823 VA
Other	1077 VA	100.00%	1077 VA	**DEMAND POWER** 61113 VA
Spare	500 VA	100.00%	500 VA	**CONNECTED AMPS** 177 A
Lighting	2402 VA	100.00%	2402 VA	**DEMAND AMPS** 170 A
Receptacle	15420 VA	82.43%	12710 VA	
Equipment	42644 VA	100.00%	42644 VA	

NOTES:

RLP

MAIN 125 A MLO
SYSTEM 208Y/120V 3P 4W
OPTIONS BOLT ON BREAKERS

A.I.C. RATING 14 kA
NEMA 1

LOCATION WAREHOUSE/STORAGE 01
MOUNTING Surface

LOAD PER PHASE

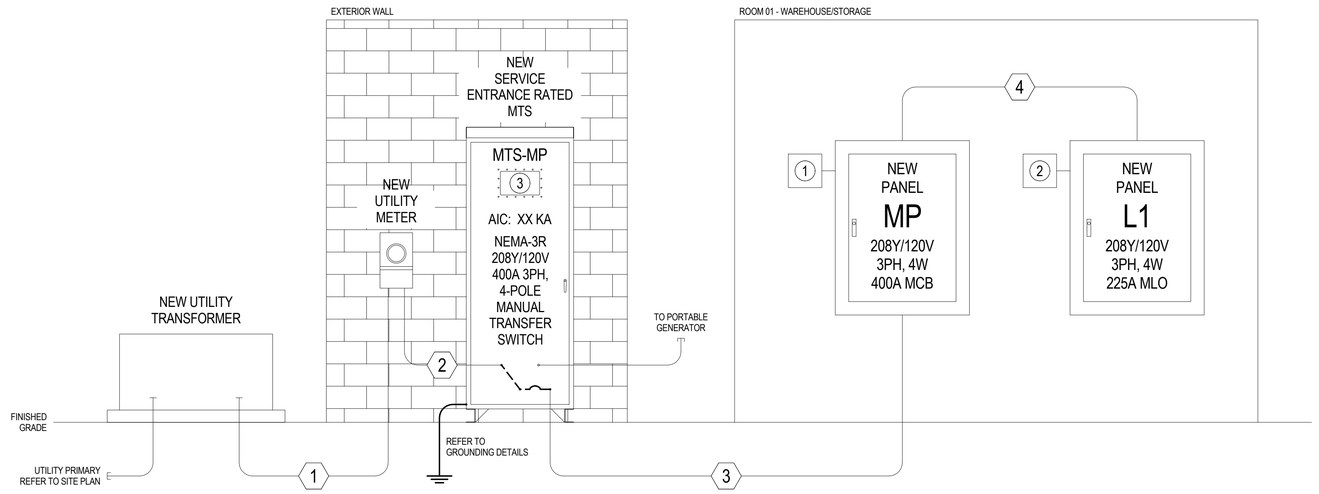
CKT	CIRCUIT DESCRIPTION	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT DESCRIPTION	CKT
1	REC - ROOM 01 - WAREHOUSE - NORTH	20 A	1	720 VA	540 VA					1	20 A	REC - ROOM 05 - WORKSHOP - NORTH	2
3	REC - ROOM 01 - WAREHOUSE - SOUTH	20 A	1			720 VA	720 VA			1	20 A	REC - ROOM 05 - WORKSHOP - SOUTH	4
5	REC - ROOM 01 - WAREHOUSE - CORD REELS	20 A	1					360 VA	900 VA	1	20 A	REC - ROOM 05 - OFFICE - EAST	6
7	REC - ROOM 13 - MEZZANINE STORAGE	20 A	1	1080 VA	720 VA					1	20 A	REC - ROOM 05 - OFFICE - WEST	8
9	REC - ROOM 06 - CORRIDOR	20 A	1			1080 VA	360 VA			1	20 A	REC - ROOM 14 - IT MDF	10
11	REC - ROOM 06 - CORRIDOR - WATER FOUNTAIN	20 A	1					600 VA	180 VA	1	20 A	REC - ROOM 14 - IT MDF - NORTH RACK	12
13	REC - ROOM 15 - BREAKROOM - NORTH, WEST	20 A	1	720 VA	180 VA					1	20 A	REC - ROOM 14 - IT MDF - SOUTH RACK	14
15	REC - ROOM 15 - BREAKROOM - SOUTH, EAST	20 A	1			900 VA	720 VA			1	20 A	REC - ROOM 08,13 - ARCHIVES, UNIFORM STORAGE	16
17	REC - ROOM 15 - BREAKROOM - REFRIGERATOR	20 A	1					180 VA	1080 VA	1	20 A	REC - ROOM 09,10,11,16 - RESTROOMS, CUSTODIAL	18
19	REC - EXTERIOR - NORTH	20 A	1	900 VA	900 VA					1	20 A	REC - EXTERIOR - SOUTH	20
21	REC - EXTERIOR - WEST	20 A	1			540 VA	540 VA			1	20 A	REC - EXTERIOR - EAST	22
23	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	24
25	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	26
27	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	28
29	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	30
31	SPARE	20 A	1	0 VA	0 VA					1	20 A	SPARE	32
33	LTG - EXTERIOR - CANOPIES, EGRESSES	20 A	1			570 VA	1400 VA			1	20 A	LTG - ROOM 02, 05-11, 13-16	34
35	LTG - ROOM 01, 13 - WAREHOUSE, MEZZANINE	20 A	1					1206 VA	500 VA	1	20 A	LIGHTING TIMECLOCK	36
37	LTG - PARKING LOT	20 A	2	644 VA	0 VA								38
39						644 VA	0 VA			3	30 A	SURGE PROTECTIVE DEVICE (SPD)	40
41	FACP *	20 A	1					1000 VA	0 VA				42
		POWER/PHASE		6346 VA		8135 VA		6006 VA					
		AMPS/PHASE		53 A		68 A		50 A					

LOAD CLASS	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD	TOTALS
Lighting - General	1844 VA	100.00%	1844 VA	**CONNECTED POWER** 20484 VA
Other	1077 VA	100.00%	1077 VA	**DEMAND POWER** 18165 VA
Spare	500 VA	100.00%	500 VA	**CONNECTED AMPS** 57 A
Lighting	2402 VA	100.00%	2402 VA	**DEMAND AMPS** 50 A
Receptacle	14640 VA	84.15%	12320 VA	
Equipment	80 VA	100.00%	80 VA	

NOTES:
* Provide red breaker capable of being locked in the closed (On) position.

KEYNOTES

1	PROVIDE AND INSTALL A SURGE PROTECTIVE DEVICE IN BREAKER POSITION NEAREST TO NEUTRAL BAR WITH 4#6, 1#10 GND IN 1"C; LEAD LENGTH CANNOT EXCEED UL 1449 4TH EDITION TEST OF 14" - REFER TO SPECS.
2	PROVIDE AND INSTALL A SURGE PROTECTIVE DEVICE IN BREAKER POSITION NEAREST TO NEUTRAL BAR WITH 4#10, 1#10 GND IN 3/4"C; LEAD LENGTH CANNOT EXCEED UL 1449 4TH EDITION TEST OF 14" - REFER TO SPECS.
3	PROVIDE AND INSTALL AN ESL STORMSWITCH SERIES 3040 MANUAL TRANSFER SWITCH, OR EQUAL.



FEEDER SCHEDULE

	EQUIPMENT NAME	FED FROM	BREAKER RATING	BREAKER POLES	PARALLEL RUNS	CONDUIT	PH + N CONDUCTOR QTY.	PHASE & GROUNDED(N) CONDUCTOR	EQUIPMENT GROUND CONDUCTOR	SUPPLY SIDE BONDING CONDUCTOR	MATERIAL
1	UTILITY METER	UTILITY XFMR	400	3	2	2"	4	3/0 AWG	N/A	N/A	CU
2	MTS-MP	UTILITY METER	400	3	2	2"	4	3/0 AWG	N/A	N/A	CU
4	MP	MTS-MP	400	3	2	2"	4	3/0 AWG	3 AWG	N/A	CU
5	LP	MP	125	3	1	1-1/2"	4	1 AWG	6 AWG	N/A	CU

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SEAL:

BID SET DOCUMENTS

SCALE:	DATE:
3/16" = 1'-0"	07/28/2025
DRAWN BY: CC	CHECKED BY: DW

NO	REVISION	DATE

SHEET TITLE:
PANEL SCHEDULES & POWER RISER

PROJECT NO.	SHEET NO.
4274-22	E7.02

GENERAL LEGEND AND SYMBOLS

- PIPE UP THROUGH PLAN
- PIPE DOWN THROUGH PLAN
- DIRECTION OF FLOW IN PIPE
- PIPE UP
- PIPE DOWN
- PIPE GUIDE (G)
- FLEXIBLE PIPE CONNECTOR (FLEX)
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE, HORIZONTAL SWING
- GATE VALVE
- THREE WAY MODULATING CONTROL VALVE
- THREE WAY CONTROL VALVE MODULATING ACTUATOR (M)
- TWO WAY CONTROL VALVE MODULATING ACTUATOR (M)
- GLOBE VALVE
- BALANCING VALVE
- PLUG VALVE
- GAS COCK, GAS STOP
- GAS COCK, GAS STOP
- PRESSURE RELIEF VALVE (WATER)
- PRESSURE REDUCING VALVE
- THERMOSTAT PORTS
- PRESSURE GAUGE
- HYDRONIC TEMPERATURE SENSOR
- UNION
- VALVE IN SERVICE BOX WITH CAST IRON COVER
- SOLENOID VALVE
- CAPPED LINE
- DIFFERENTIAL PRESSURE SWITCH (DPS)
- B.A.S. FLOW METER/MONITOR (B.A.S.)
- PUMP (ARROW INDICATES FLOW)
- THERMOMETER IN PIPE

- SUPPLY DIFFUSER
- SUPPLY PLAQUE DIFFUSER
- RETURN AIR GRILLE
- EXHAUST AIR GRILLE
- RIGID DUCTWORK (WIDTH/DEPTH) (X/X)
- ELBOW WITH TURNING VANES
- MANUAL SPLITTER DAMPER
- FLEXIBLE DUCT WITH SPIN-IN FITTING AND MANUAL VOLUME DAMPER
- MANUAL VOLUME DAMPER
- AREA TO DEMOLISH
- DUCTWORK/EQUIPMENT TO DEMOLISH
- POINT OF DEMOLITION OF EXISTING
- POINT OF CONNECTION OF NEW TO EXISTING
- DEMO KEYNOTE DESIGNATION (1)
- KEYNOTE DESIGNATION (X)
- ΔT — DELTA T (TEMPERATURE DIFFERENCE)
- CD — CONDENSATE DRAIN LINE
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- R — REFRIGERANT LINES
- GS — PRIMARY / GLYCOL SUPPLY
- GR — PRIMARY / GLYCOL RETURN
- FD — FIRE DAMPER
- BDD — BACKDRAFT DAMPER
- MVD — MOTORIZED VOLUME DAMPER
- SD — SMOKE DAMPER
- THERMOSTAT (T)
- HUMIDISTAT (H)
- DUCT MOUNTED SMOKE DETECTOR (SD)
- CARBON MONOXIDE SENSOR (MOUNT @36" A.F.F.) (S)CO
- CARBON DIOXIDE SENSOR (MOUNT @60" A.F.F.) (S)CO_2
- BIPOLAR IONIZATION UNIT (BP)
- DETAIL OR RISER DESIGNATION (1 / M-0)
- SHEET WHERE DETAIL OR RISER APPEAR

NOTE:
ALL STANDARD SYMBOLS AND ABBREVIATIONS MAY NOT APPEAR ON THE PROJECT DRAWINGS.

ABBREVIATIONS

SYMBOL	DESCRIPTION
AC	AIR CONDITIONING
ACS	AUTOMATIC CONTROL SYSTEM
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMP	AMPERES
AP	ACCESS PANEL
APPROX	APPROXIMATELY
ARCH	ARCHITECTURAL
AUTO	AUTOMATIC
AUX	AUXILIARY
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BP	BIPOLAR IONIZATION UNIT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWV	BACK WATER VALVE
CAM	COMMON AREA MAINTENANCE
CC	COOLING COIL
CCP	CENTRAL CONTROL PANEL
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CHWP	CHILLED WATER PUMP
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COMB	COMBINATION
COMPR	COMPRESSOR
COND	CONDENSATE OR CONDENSER
CONT	CONTINUATION
CU FT	CUBIC FEET
CUH	CABINET UNIT HEATER
CU IN	CUBIC INCHES
CW	DOMESTIC COLD WATER
D	DRAIN LINE
DB	DRY BULB
DEG	DEGREES
DG	DOOR GRILLE
DHC	DUCT HEATING COIL
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
DX	DIRECT EXPANSION
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRIC CONNECTOR
ECO	EXTERIOR CLEANOUT
EDB	ENTERING DRY BULB TEMPERATURE
EEW	EMERGENCY EYE WAS/SHOWER
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRIC
EQ	EQUAL
EVAP	EVAPORATOR
EWB	ENTERING WET BULB TEMPERATURE
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST AIR
EXIST	EXISTING
EXP	EXPANSION
°F	DEGREES FAHRENHEIT
F	FIRE SPRINKLER PIPING
FA	FREE AREA
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDPR	FIRE DAMPER
FG	FINISHED GRADE
FHC	FIRE HOSE CABINET
FIN FL	FINISHED FLOOR
FLA	FULL LOAD AMPERES
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FTB	FAN POWERED TERMINAL BOX
FV	FACE VELOCITY
GA	GAUGE
GAL	GALLONS
GCHS	GLYCOL CHILLED WATER SUPPLY
GCHR	GLYCOL CHILLED WATER RETURN
GO	GAS OUTLET
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H_2O	WATER

SYMBOL	DESCRIPTION
HB	HOSE BIBB
HC	HEATING COIL
HD	HEAD
HGT	HEIGHT
HORIZ	HORIZONTAL
HP	HORSEPOWER
HR	HOUR
HRR	HEAT RECOVERY RETURN
HRS	HEAT RECOVERY SUPPLY
HW	DOMESTIC HOT WATER
HZ	HERTZ (FREQUENCY)
IN	INCH OR INCHES
INSUL	INSULATION
IPS	IRON PIPE SIZE
IST	ICE STORAGE TANK
KW	KILOWATT
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LBS/HR	POUNDS PER HOUR
LCP	LOCAL CONTROL PANEL
LDB	LEAVING DRY BULB TEMPERATURE
LIN FT	LINEAR FEET
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MB	MIXING BOX
MBH	THOUSANDS OF BTUH
MC	MECHANICAL CONTRACTOR
MIN	MINIMUM
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO.	NUMBER
NO	NORMALLY OPEN
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OV	OUTLET VELOCITY
P	PRESSURE
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
PRESS	PRESSURE
PVC	POLYVINYL CHLORIDE
R	RISE
RA	RETURN AIR
RAF	RETURN AIR FAN
RD	ROOF DRAIN
REQ'D	REQUIRED
RHC	REHEAT COIL
R_{HG}	REFRIGERANT HOT GAS DISCHARGE
R_L	REFRIGERANT LIQUID
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
R_S	REFRIGERANT SUCTION
RV	RELIEF VALVE
SFD/PR	COMBINATION SMOKE AND FIRE DAMPER
SAN	SANITARY
SAU	SOUND ATTENUATION UNIT
SCW	SOFT COLD WATER
SGCHR	SECONDARY GLYCOL CHILLED WATER RETURN
SGCHS	SECONDARY GLYCOL CHILLED WATER SUPPLY
SMH	STORM MANHOLE
SP	STATIC PRESSURE
SDPR	SMOKE DAMPER
SPEC	SPECIFICATION
ST	STORM
TB	TERMINAL BOX
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
TES	THERMAL ENERGY STORAGE
TS	TIP SPEED
TYP	TYPICAL
TX	TOILET EXHAUST
UH	UNIT HEATER
V	VENT LINE
VAV	VARIABLE AIR VOLUME UNIT
VLV	VALVE
VTR	VENT THRU ROOF
W/	WITH
W/O	WITHOUT
W	WIDTH
WB	WET BULB
WC	WATER COLUMN
WCO	WALL CLEANOUT
WG	WATER GAUGE
WMS	WIRE MESH SCREEN
WP	WORKING PRESSURE

MECHANICAL GENERAL NOTES

1. ALL MECHANICAL WORK SHALL BE GOVERNED AND INSTALLED IN COMPLIANCE WITH THE LATEST EDITION AND APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS:
   A. STATE REQUIREMENTS FOR EDUCATIONAL FACILITIES -SEC 453 OF FBC 2014.
   B. FLORIDA BUILDING CODE -2023.
   C. FLORIDA MECHANICAL CODE - 2023.
   D. FLORIDA PLUMBING CODE - 2023.
   E. FLORIDA ENERGY EFFICIENCY CODE - 2023.
   F. FLORIDA FIRE PREVENTION CODE - 2017.
   G. FLORIDA EXISTING BUILDING CODE - 2023.
   H. NATIONAL ELECTRICAL CODE (NEC) - 2014.
   I. NFPA 90A - INSTALLATION OF AIR CONDITIONING & VENTILATING SYSTEMS
   J. NFPA 101 - LIFE SAFETY CODE
   K. ASHRAE STANDARDS (INCLUDING 15, 55, 62.1, 90.1 & 129)
   L. ANSI
   M. SMACNA DUCTWORK STANDARDS
   N. AMERICANS WITH DISABILITIES ACT (ADA)
   O. ALL OTHER APPLICABLE FEDERAL, COUNTY AND CITY CODES REQUIRED BY LOCAL JURISDICTIONS
2. THE CONTRACTOR SHALL READ THE SPECIFICATIONS. THE SPECIFICATIONS AND DRAWINGS TOGETHER DEFINE THE FULL CONTRACT REQUIREMENTS. IN THE EVENT OF A DISCREPANCY BETWEEN THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT APPLIES UNLESS DIRECTION HAS BEEN PROVIDED THROUGH A FORMAL REQUEST FOR INFORMATION OR CLARIFICATION PRIOR TO THE CLOSE OF THE BIDDING.
3. ANY PROPOSED EQUIPMENT OR MATERIAL SUBSTITUTIONS SHALL BE APPROVED BY THE OWNER AND ENGINEER OF RECORD PRIOR TO THE CLOSE OF BIDDING. NO EQUIPMENT OR MATERIAL SUBSTITUTIONS WILL BE CONSIDERED ONCE THE BIDDING HAS ENDED AND THE GMP HAS BEEN ESTABLISHED.
4. AIR HANDLING SYSTEMS SHALL NOT BE ENERGIZED UNTIL ALL OF THE DRYWALL FINISHING AND PAINTING SCOPES HAVE BEEN COMPLETED. CONFIRMATION THAT THOSE SCOPES ARE REQUIRED WITH WRITTEN APPROVAL FROM THE OWNER AND ENGINEER BEFORE AIR HANDLING UNIT AND FANS CAN BE ENERGIZED. FAILURE TO OBTAIN WRITTEN APPROVAL TO ENERGIZE THE FANS WILL RESULT IN THE CLEANING OF THE ENTIRE INTERIOR OF ANY AFFECTED AIR DISTRIBUTION SYSTEM BY A LICENSED THIRD-PARTY CONTRACTOR AT NO ADDITIONAL COST.
5. ALL TEMPORARY FILTRATION AT AIR HANDLING EQUIPMENT AND ANY RETURN AIR INTAKE GRILLE SHALL BE REPLACED A MINIMUM OF ONCE A MONTH DURING PERIODS OF OPERATION DURING CONSTRUCTION. A LOG MUST BE MAINTAINED AT EACH AIR HANDLING UNIT INDICATING DATES OF FILTER REPLACEMENTS FOR INSPECTION. FAILURE TO MAINTAIN THE REQUIRED LOGS WILL RESULT IN THE CLEANING OF THE ENTIRE INTERIOR OF ANY AFFECTED AIR DISTRIBUTION SYSTEM BY A LICENSED THIRD PARTY CONTRACTOR AT NO ADDITIONAL COST.
6. ALL EQUIPMENT, DUCTWORK AND MATERIALS STORED ON THE JOBSITE SHALL BE PROPERLY PROTECTED FROM THE ELEMENTS AND CONSTRUCTION DIRT AND DEBRIS. ANY MATERIAL EXPOSED TO THE ELEMENTS WITH EXPOSED INSULATION WILL BE REQUIRED TO BE REPLACED AT NO ADDITIONAL COST. ANY EQUIPMENT OR MATERIAL THAT IS EXPOSED TO THE ELEMENTS, DIRT AND DEBRIS THAT ARE DEEMED ACCEPTABLE TO REMAIN SHALL BE THOROUGHLY CLEANED AND DISINFECTED AND SIGNED OFF ON BY THE OWNER'S REPRESENTATIVE AND THE ENGINEER OF RECORD PRIOR TO INSTALLATION.
7. ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ALL REQUIREMENTS WITH EQUIPMENT SUPPLIED.
8. ALL EQUIPMENT HOUSINGS AND COMPONENTS INSTALLED OUTDOORS OR WITHIN UNCONDITIONED VENTILATED SPACES THAT ARE EXPOSED TO THE ELEMENTS SHALL BE SUITABLE FOR SEACOAST APPLICATION. ANY APPLIED CORROSION RESISTANT MATERIALS SHALL BE FACTORY APPLIED.
9. EVERY PIECE OF MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH AN ENGRAVED NAMEPLATE WITH MINIMUM 1" HIGH LETTERS INDICATING EQUIPMENT DESIGNATION. ANY EQUIPMENT INSTALLED WHERE CONCEALED ABOVE CEILINGS SHALL BE NOTED WITH CLEAR ADHESIVE LABEL AT NEAREST T-GRID OR ON ACCESS PANEL IN ADDITION TO THE ENGRAVED NAMEPLATE.
10. ALL VARIABLE FREQUENCY DRIVES AND MOTOR STARTERS SHALL BE PROVIDED WITH ENGRAVED LABELS INDICATING ASSOCIATED EQUIPMENT THEY SERVE AS WELL AS THE ELECTRICAL PANEL AND CIRCUIT THAT FEEDS THE DEVICE.
11. ALL EXTERIOR MECHANICAL EQUIPMENT AND THEIR FRAMES, APPURTENANCES, COMPONENTS, SUPPORTS AND ANCHORING DEVICES SHALL BE ANCHORED TO RESIST THE FORCES DUE TO WIND PRESSURE AS REQUIRED BY THE FLORIDA BUILDING CODE.
12. ALL EQUIPMENT AND MATERIALS INSTALLED THAT INTERFACE WITH THE ROOFING SYSTEM SHALL BE COORDINATED WITH THE ROOFING SYSTEM BEING PROVIDED. ALL MECHANICAL EQUIPMENT INSTALLATIONS SHALL COMPLY WITH THE REQUIREMENTS OF THE ROOFING MANUFACTURER TO MAINTAIN CONTINUITY AND WARRANTIES.
13. COORDINATE LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLANS AND WORK OF ALL OTHER TRADES.
14. ALL LOW-PRESSURE SUPPLY, RETURN AND EXHAUST DUCTWORK ARE DESIGNED FROM A MINIMUM OF 0.05" TO A MAXIMUM OF 0.1" OF FRICTION PER 100 FT. OF DUCT.
15. UNLESS NOTED OTHERWISE, FLEXIBLE DUCT CONNECTORS AND RIGID DUCT RUNOUTS SERVING SINGLE DIFFUSER SHALL BE THE SAME SIZE AS DIFFUSER NECK.
16. UNLESS NOTED OTHERWISE, FLEXIBLE DUCT CONNECTORS FOR VAV BOXES AND FAN TERMINAL UNIT SHALL BE THE SAME SIZE AS UNIT INLET. VERIFY ACTUAL DIMENSIONS WITH EQUIPMENT SUPPLIED.
17. PAINT INTERNAL DUCTWORK VISIBLE THROUGH DIFFUSERS, GRILLE OR LOUVER FACE FLAT BLACK.
18. DUCTWORK LAYOUTS INDICATED ON PLANS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO BE USED AS DUCT FABRICATION DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION EFFORTS BETWEEN TRADES AS OUTLINED IN THE SPECIFICATIONS.
19. ALL LOW-PRESSURE BRANCH DUCTS SHALL BE PROVIDED WITH A MANUAL VOLUME DAMPER FOR BALANCING. ALL MANUAL VOLUME DAMPERS SHALL BE PROVIDED WITH A MINIMUM 12" LENGTH OF FLUORESCENT ORANGE RIBBON TO AIDE IN VISIBILITY WHERE ABOVE CEILINGS.
20. ALL INSULATION / DUCT SEAMS SHALL BE SEALED WITH GLASS FAB, STAPLES AND MASTIC. PRESSURE SENSITIVE TAPE IS NOT AN APPROVED DUCT / INSULATION CLOSURE SYSTEM. ANY PRESSURE SENSITIVE TAPE USED WILL BE REQUIRED TO BE REMOVED AND REPLACED WITH A PROPER CLOSURE SYSTEM.
21. DUCT ACCESS DOORS SHALL BE PROVIDED WHERE ANY EQUIPMENT REQUIRING ACCESS IS INSTALLED ABOVE AN INACCESSIBLE CEILING. MINIMUM SIZE SHALL BE 12X12 OR AS LARGE AS NECESSARY TO ACCOMMODATE EQUIPMENT REPLACEMENT AND SERVICE.
22. ALL DUCT AND PIPING PENETRATIONS THROUGH TILT WALL PANELS SHALL BE COORDINATED BETWEEN THE TILT WALL AND MECHANICAL SUBCONTRACTORS PRIOR TO WALL PANEL FORMING OR DUCT FABRICATION.
23. THE FINISH OF ANY INTERIOR OR EXTERIOR EXPOSED MECHANICAL EQUIPMENT, DUCTWORK, FABRIC DUCT SYSTEMS, LOUVERS, ETC. SHALL BE CONFIRMED WITH THE ARCHITECT.
24. ALL DOORS TO INDIVIDUAL TOILETS, JANITORS CLOSETS AND OTHER SMALL SPACES WITHOUT RETURN GRILLS ARE TO BE UNDERCUT MINIMUM 1/2".
25. MOUNT SPACE MOUNTED SENSORS AT 48" TO THE CENTER UNLESS NOTED OTHERWISE.
26. ALL WALL SENSORS INSTALLED IN PUBLIC SPACES SUCH AS CORRIDORS, DINING AND GYMNASIUM SHALL BE PROVIDED WITH LOCKABLE VANDAL RESISTANT COVERS.
27. ALL WALL SENSORS SHALL BE PROVIDED WITH ENGRAVED NAMEPLATE WITH 1/4" HIGH LETTERS INDICATING THE ASSOCIATED MECHANICAL EQUIPMENT IT SERVES.
28. ALL THREE PHASE MOTORS SHALL HAVE PHASE LOSS / ROTATION MONITORS.
29. PROVIDE MOTOR STARTERS FOR ALL MOTORS THAT ARE REQUIRED TO BE CONTROLLED THAT ARE NOT BEING PROVIDED WITH A VARIABLE FREQUENCY DRIVE.
30. ALL REFRIGERANT LINE RUNS SHALL BE SIZED AND INSULATED PER THE MANUFACTURER'S RECOMMENDATIONS. UNLESS NOTED OTHERWISE, PROVIDE PVC CHASES UNDERGROUND WITH DIRECT PATH TO CONDENSING UNIT TO MINIMIZE LINE SET LENGTHS AS MUCH AS POSSIBLE. ALL REFRIGERANT LINES INSTALLED EXPOSED OUTDOORS SHALL BE NEATLY RACK MOUNTED AND PROVIDED WITH ALUMINUM JACKETING.
31. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL OF THE ROOF MOUNTED PLUMBING VENTS WITH THE PLUMBING CONTRACTOR PRIOR TO ROUGH-IN. THE CODE MINIMUM SEPARATION BETWEEN OUTDOOR AIR.
32. ALL PIECES OF MECHANICAL EQUIPMENT REQUIRING ACCESS LOCATED ABOVE HARD CEILINGS SHALL BE PROVIDED WITH ACCESS PANELS SIZED PER DRAWINGS AND/OR MANUFACTURER'S RECOMMENDATION, WHICHEVER IS LARGER. COORDINATE STYLE/COLOR/LOCATIONS OF PANEL WITH A/E/O.
33. CEILING CAVITY SHALL BE USED AS A RETURN PLENUM. ALL COMPONENTS (I.E., PIPING, WIRING, ETC.) INSTALLED WITHIN THE CEILING CAVITY SHALL BE PLENUM RATED. AS REQUIRED BY THE FLORIDA BUILDING CODE. MECHANICAL CONTRACTOR TO COORDINATE WITH OTHER TRADES TO ENSURE ALL COMPONENTS ARE PLENUM RATED.

MECHANICAL RENOVATION NOTES

1. THE CONTRACTOR SHALL VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE SUBMITTING PROPOSAL SO AS TO BECOME FAMILIAR WITH EXISTING WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE BY DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED. THE CONTRACTOR IS TO FIELD VERIFY DIMENSIONS OF ALL EXISTING CONDITIONS, PRIOR TO BID AND INCLUDE ANY DEVIATIONS IN THE CONTRACT.
2. THE CONTRACTOR SHALL FIELD VERIFY AND CONFIRM THE CONDITION AND FUNCTIONALITY OF ALL EXISTING FINISHES, EQUIPMENT AND SYSTEMS TO REMAIN PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL EXISTING CONDITIONS SHALL BE DOCUMENTED WITH PHOTOGRAPHIC OR VIDEO RECORDS. ANY FINISHES, SYSTEMS OR EQUIPMENT DEFICIENCIES SHALL BE DOCUMENTED AND CONFIRMED WITH THE OWNER / ENGINEER UPON COMPLETION OF THE VERIFICATION EFFORT. UPON COMPLETION OF THE PROJECT, ALL EXISTING EQUIPMENT AND SYSTEMS SHALL BE FULLY FUNCTIONAL AND FREE OF ANY DEFECTS NOT DOCUMENTED IN PRE-CONSTRUCTION VERIFICATION EFFORTS. IT WILL BE ASSUMED THAT ALL EXISTING FINISHES, SYSTEMS OR EQUIPMENT WERE IN PROPER CONDITION PRIOR TO THE CONSTRUCTION AND WILL BE REQUIRED TO BE CORRECTED BY THE CONTRACTOR UNLESS DOCUMENTATION IS PROVIDED INDICATING OTHERWISE.
3. ALL DEVICES AND EQUIPMENT NOT SHOWN AND IN AREAS OUTSIDE OF REMODELING SHALL REMAIN ACTIVE UNLESS OTHERWISE NOTED. THE PROJECT CONSTRUCTION SHALL PROCEED AS REQUIRED TO MAINTAIN CONTINUITY TO EXISTING DEVICES AND EQUIPMENT THAT REMAIN.
4. ALL EQUIPMENT AND MATERIAL REMOVED AND NOT REUSED SHALL BE TURNED OVER TO THE OWNER OR AT THE OWNER'S REQUEST DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST.
5. ALL EXISTING HVAC EQUIPMENT IS NOT SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS PRIOR TO BID, AND INCLUDE IN HIS BID THE REMOVAL OF ALL EQUIPMENT, PIPING AND DUCTWORK, ETC. THAT IS NOT BEING REUSED BACK TO ITS SOURCE.
6. ALL PATCHING AND REPAIR OF EXISTING WALLS, CEILINGS, ROOFS, EARTH, WALKWAYS, PAVEMENT, ETC. SHALL BE PROVIDED BY THE CONTRACTOR. ALL ELEMENTS OF THE PROJECT DISTURBED BY THE CONSTRUCTION SHALL BE RETURNED TO "LIKE NEW" CONDITION TO MATCH THE ADJACENT SURROUNDINGS.
7. AN ATTEMPT HAS BEEN MADE TO FULLY VERIFY ALL EXISTING CONDITIONS IMPACTED BY THIS PROJECT. HOWEVER, THE DESIGN IS DIAGRAMMATIC AND THERE MAY BE EXISTING CONDITIONS THAT WILL REQUIRE ADJUSTMENTS TO THE LAYOUTS DEPICTED IN THE DOCUMENTS. IN ADDITION, THERE MAY BE ADJUSTMENTS REQUIRED TO EXISTING CONDITIONS TO ACCOMMODATE THE NEW SYSTEMS SUCH AS EXISTING PLUMBING PIPING, WIRING AND CONDUITS, ETC. ANY ADJUSTMENT TO THE SYSTEMS AND / OR ADJUSTMENTS TO EXISTING CONDITIONS SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE THE PROJECT SCOPE.
8. PORTIONS OF THE EXISTING CEILINGS AND LIGHT FIXTURES ARE GOING TO HAVE TO BE REMOVED TO ACCOMPLISH THE HVAC RENOVATION. THE EXTENT OF THE CEILING AND LIGHT FIXTURE REMOVALS TO BE FIELD VERIFIED BY THE CONTRACTOR AND BE AS MINIMAL AS POSSIBLE TO ACHIEVE THE PROJECT SCOPE. ANY DAMAGED CEILING TILES, CEILING GRID OR LIGHT FIXTURES SHALL BE REPLACED WITH NEW TO MATCH THE EXISTING.

COMMISSIONING SCOPE

1. INDEPENDENT COMMISSIONING SERVICES WILL BE PROVIDED BY THE OWNER. THE CONTRACTOR AND ASSOCIATED SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COORDINATION AND SUPPORT REQUIRED FOR ALL COMMISSIONING PROCEDURES AND ACTIVITIES.
2. ALL DEFICIENCIES OR ADJUSTMENTS NOTED AS REQUIRING CORRECTION BY THE OWNER'S COMMISSIONING AUTHORITY (CXA) SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST WITHIN FIVE CALENDAR DAYS OF NOTIFICATION.
3. PRIOR TO PASSING THE FINAL MECHANICAL INSPECTION, EVIDENCE OF THE MECHANICAL SYSTEM'S COMMISSIONING AND COMPLETION SHALL BE PROVIDED.
4. OWNER'S COMMISSIONING SERVICES REQUIREMENTS: COMMISSIONING SERVICES SHALL BE PROVIDED THROUGH A REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY IN ACCORDANCE WITH THE PROVISIONS OF THE FLORIDA BUILDING CODE, ENERGY CONSERVATION CODE SECTION C408. PRIOR TO PASSING THE FINAL MECHANICAL INSPECTION, EVIDENCE OF THE MECHANICAL SYSTEM'S COMMISSIONING AND COMPLETION SHALL BE PROVIDED. COPIES OF THE REQUIRED COMMISSIONING DOCUMENTATION SHALL BE PROVIDED TO THE OWNER AND MADE AVAILABLE TO THE CODE OFFICIAL UPON REQUEST.

TEST AND BALANCE SCOPE

1. THE GENERAL CONTRACTOR / CONSTRUCTION MANAGER SHALL PROVIDE INDEPENDENT THIRD PARTY TEST AND BALANCE SERVICES.
2. THE ASSOCIATED SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COORDINATION AND SUPPORT REQUIRED FOR ALL TEST AND BALANCE PROCEDURES AND ACTIVITIES.
3. ALL DEFICIENCIES OR ADJUSTMENTS NOTED AS REQUIRING CORRECTION BY THE THIRD PARTY TEST AND BALANCE CONTRACTOR SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST WITHIN FIVE CALENDAR DAYS OF NOTIFICATION.
4. REFER TO SPECIFICATIONS FOR PRELIMINARY AND FINAL PERFORMANCE VERIFICATION REQUIREMENTS.
5. A TEST AND BALANCE SHALL BE PERFORMED ON ANY SYSTEMS TO REMAIN THAT ARE UNDERGOING RENOVATION. THE EXISTING SYSTEM PERFORMANCE SHALL BE CONFIRMED PRIOR TO THE START OF THE RENOVATION. ANY SYSTEM OR PERFORMANCE DEFICIENCIES NOTED SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER FOR DIRECTION ON HOW TO PROCEED.

HVAC SHEET INDEX

SHEET #	SHEET NAME
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M1.01	FIRST FLOOR PLAN - HVAC
M1.02	MEZZANINE FLOOR PLAN - HVAC
M1.19	ROOF PLAN - HVAC
M4.00	OVERALL 3D DUCTWORK - HVAC
M5.00	DETAILS - HVAC
M6.00	SCHEDULES - HVAC
M7.00	SPECIFICATIONS - HVAC
M7.01	SPECIFCATIONS - HVAC

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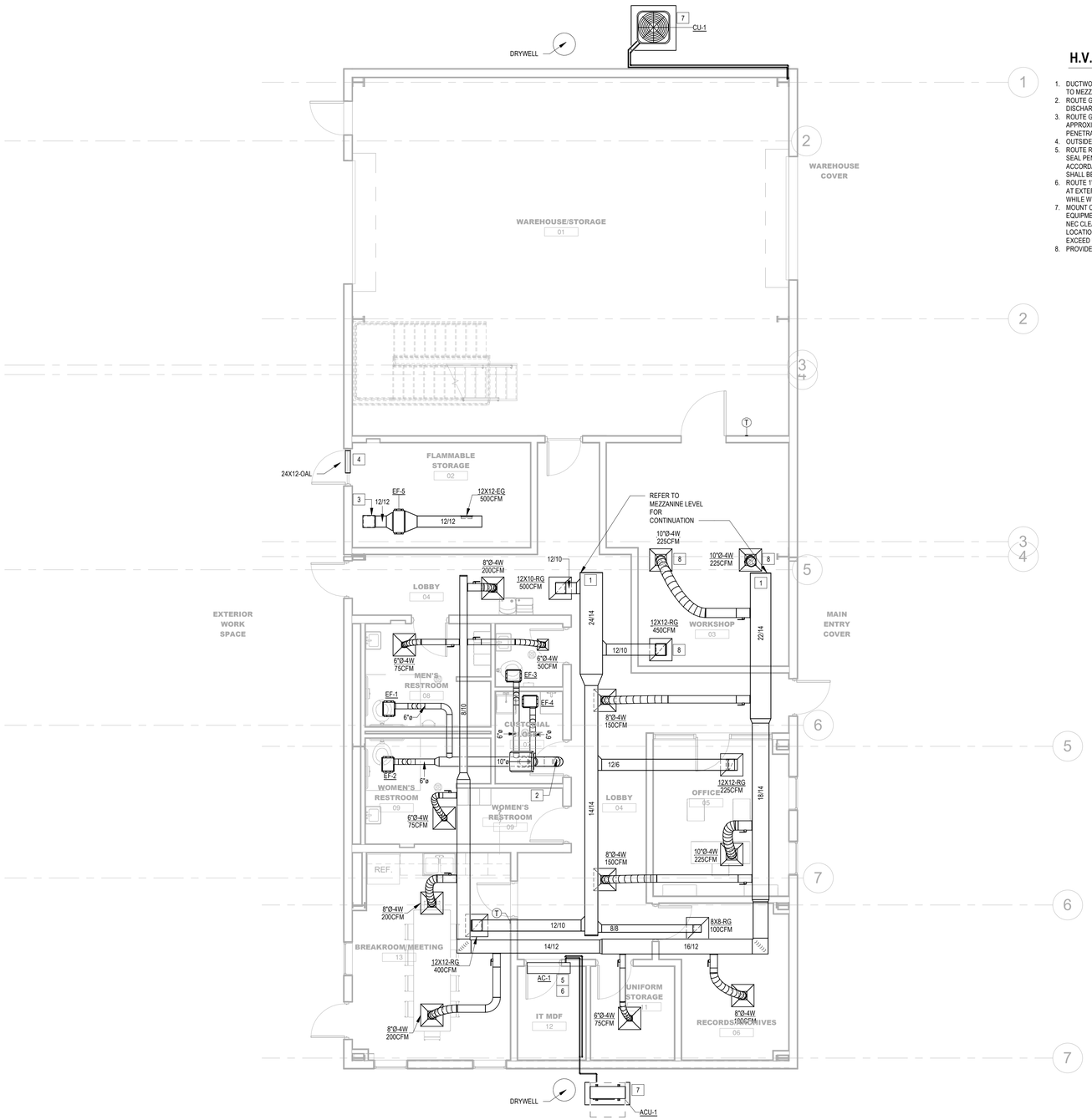
SHEET TITLE

LEGEND, NOTES & ABBREV. - HVAC

PROJECT NO.	SHEET NO.
4274-21	M0.01



H.V.A.C. KEYNOTES [X]:

1. DUCTWORK FROM UNIT LOCATED ON MEZZANINE LEVEL TO SERVE SPACES BELOW. REFER TO MEZZANINE PLAN FOR CONTINUATION.
2. ROUTE GALVANIZED EXHAUST DUCTWORK FROM CEILING MOUNTED EXHAUST FAN(S) TO DISCHARGE HOOD ON ROOF.
3. ROUTE GALVANIZED EXHAUST DUCTWORK UP TO LOUVER ON HIGHER WALL PORTION APPROXIMATELY 23' ABOVE GROUND LEVEL. PROVIDE FIRE DAMPER WHERE DUCTWORK PENETRATES RATED LID.
4. OUTSIDE AIR LOUVER LOCATED ABOVE DOOR.
5. ROUTE REFRIGERANT LINES FROM WALL MOUNTED UNIT TO CONDENSING UNIT ON GRADE. SEAL PENETRATIONS WATER AIR/WATER-TIGHT. SIZE AND INSULATE REFRIGERANT LINES IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES. ALL EXTERIOR LINESET SECTIONS SHALL BE WRAPPED IN ALUMINUM JACKETING.
6. ROUTE 1" CONDENSATE DRAIN LINE FROM WALL MOUNTED UNIT TO EXTERIOR WALL. DROP AT EXTERIOR WALL AND TERMINATE AT EXTERIOR DRYWELL. INSULATE CONDENSATE LINE WHILE WITHIN BUILDING ENVELOPE.
7. MOUNT CONDENSING UNIT ON 4" HOUSEKEEPING PAD. PAD SHALL EXTEND 6" BEYOND EQUIPMENT FOOTPRINT ON ALL SIDES. PROVIDE MANUFACTURER'S RECOMMENDED AND NEC CLEARANCES. ANCHOR EQUIPMENT SECURELY TO PAD. COORDINATE EXACT PAD LOCATION WITH ARCHITACTURAL SITE PLAN. REFRIGERANT LINE LENGTHS SHALL NOT EXCEED 75 FEET OR THE MANUFACTURER'S RECOMMENDATIONS.
8. PROVIDE RADIATION DAMPER AT RATED CEILING.

TRUE NORTH / PROJECT NORTH

1 / M1.01 FIRST FLOOR PLAN - HVAC

3/16" = 1'-0"

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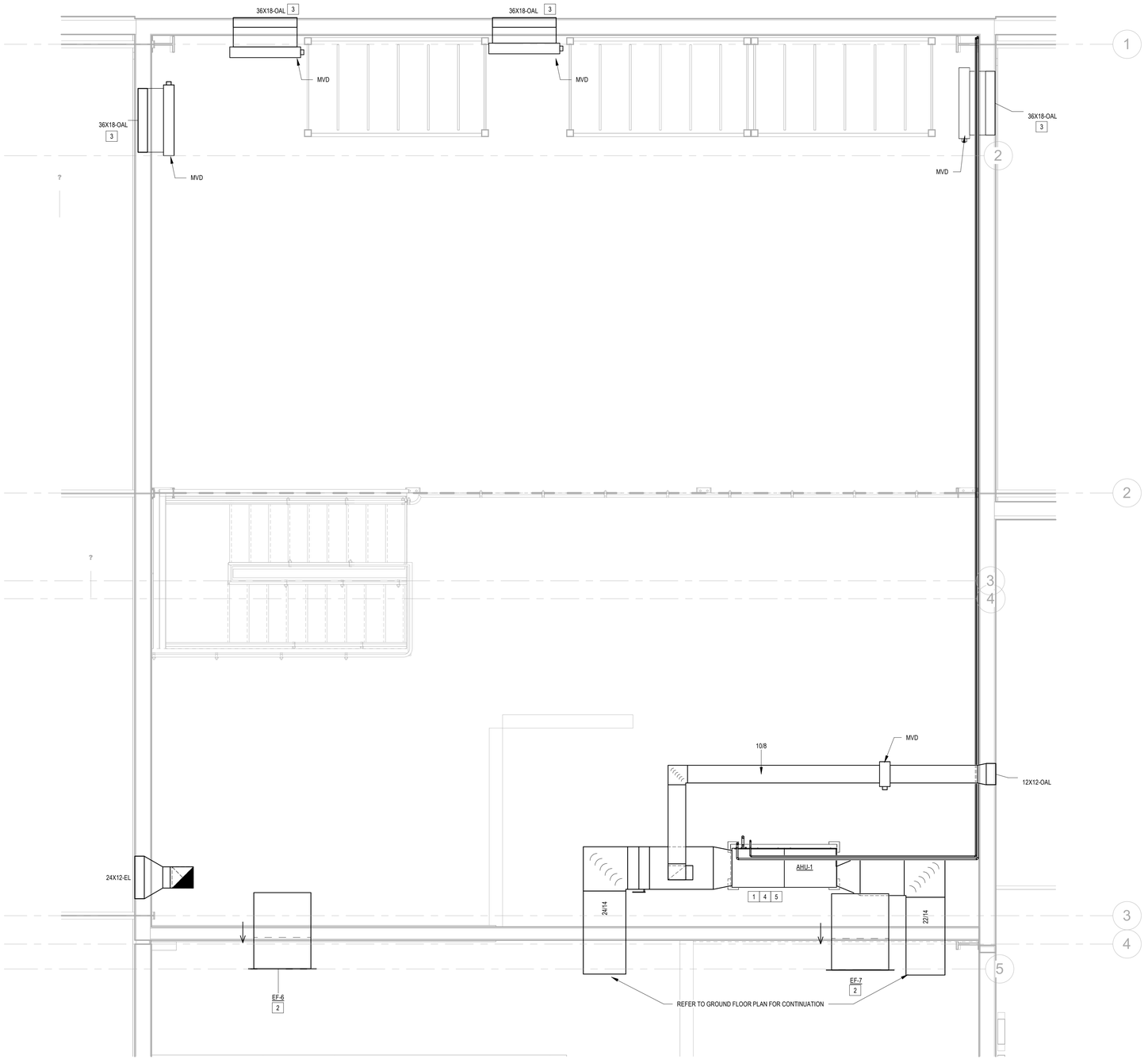

H.V.A.C. KEYNOTES [X]:

1. MOUNT AIR HANDLING UNIT HORIZONTALLY ON EQUIPMENT STAND. PROVIDE AUXILLARY DRAIN PAN BENEATH UNIT WITH FLOAT SWITCH TO SHUT DOWN UNIT IN THE EVENT OF LEAKS OR OVERFLOW. MAINTAIN ALL MANUFACTURER'S AND NEC CLEARANCES. ROUTE DUCTWORK TO SERVE LEVEL BELOW. REFER TO FIRST FLOOR PLAN FOR CONTINUATION.
2. WALL MOUNTED PROPELLER EXHAUST FAN. PROVIDE INLET GUARD, WALL SLEEVE AND BACKDRAFT DAMPER ASSEMBLY. PROVIDE WITH LINE VLOTAGE THERMOSTAT TO CONTROL FAN OPERATION. FAN SHALL BE ENERGIZED WHEN TEMPERATURE EXCEEDS 80 DEGF (ADJ.).
3. OUTSIDE AIR LOUVERS MOUNTED ON WALL. PROVIDE WITH MOTORIZED DAMPERS TO OPEN /CLOSE WITH EITHER EF-6 OR EF-7 FAN OPERATION.
4. ROUTE REFRIGERANT LINES FROM UNIT TO CONDENSING UNIT ON GRADE. SEAL PENETRATIONS WATER AIRWATER-TIGHT. SIZE AND INSULATE REFRIGERANT LINES IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES. ALL EXTERIOR LINESET SECTIONS SHALL BE WRAPPED IN ALUMINUM JACKETING.
5. ROUTE 1" CONDENSATE DRAIN LINE FROM AIR HANDLING UNIT TO EXTERIOR WALL. DROP AT EXTERIOR WALL AND TERMINATE AT EXTERIOR DRYWELL. INSULATE CONDENSATE LINE WHILE WITHIN BUILDING ENVELOPE.

TRUE NORTH / PROJECT NORTH

1 / M1.02 MEZZANINE FLOOR PLAN - HVAC

3/8" = 1'-0"

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MEZZANINE FLOOR PLAN - HVAC

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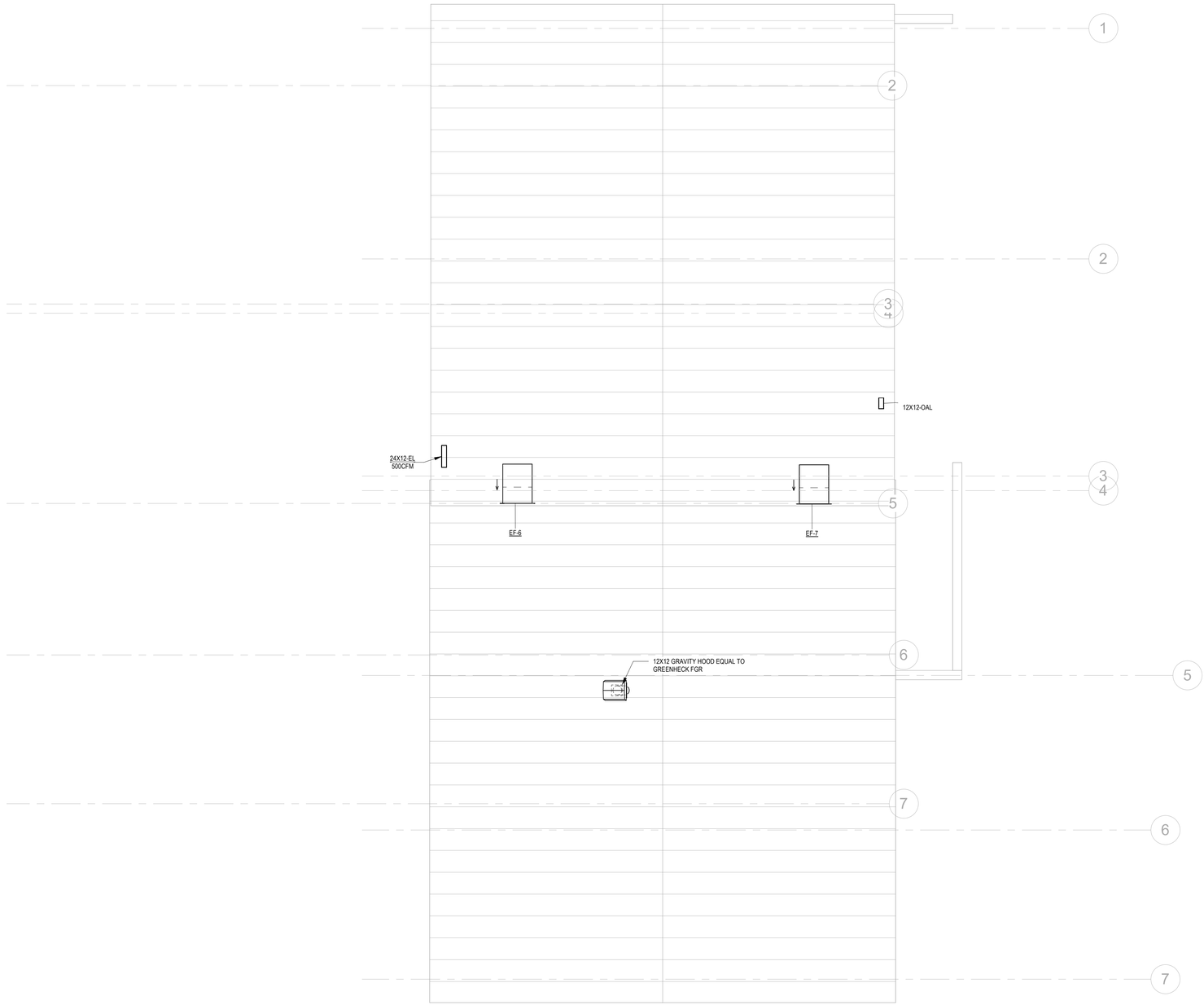

1 / M1.19 ROOF PLAN - HVAC

3/16" = 1'-0"

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ROOF PLAN - HVAC

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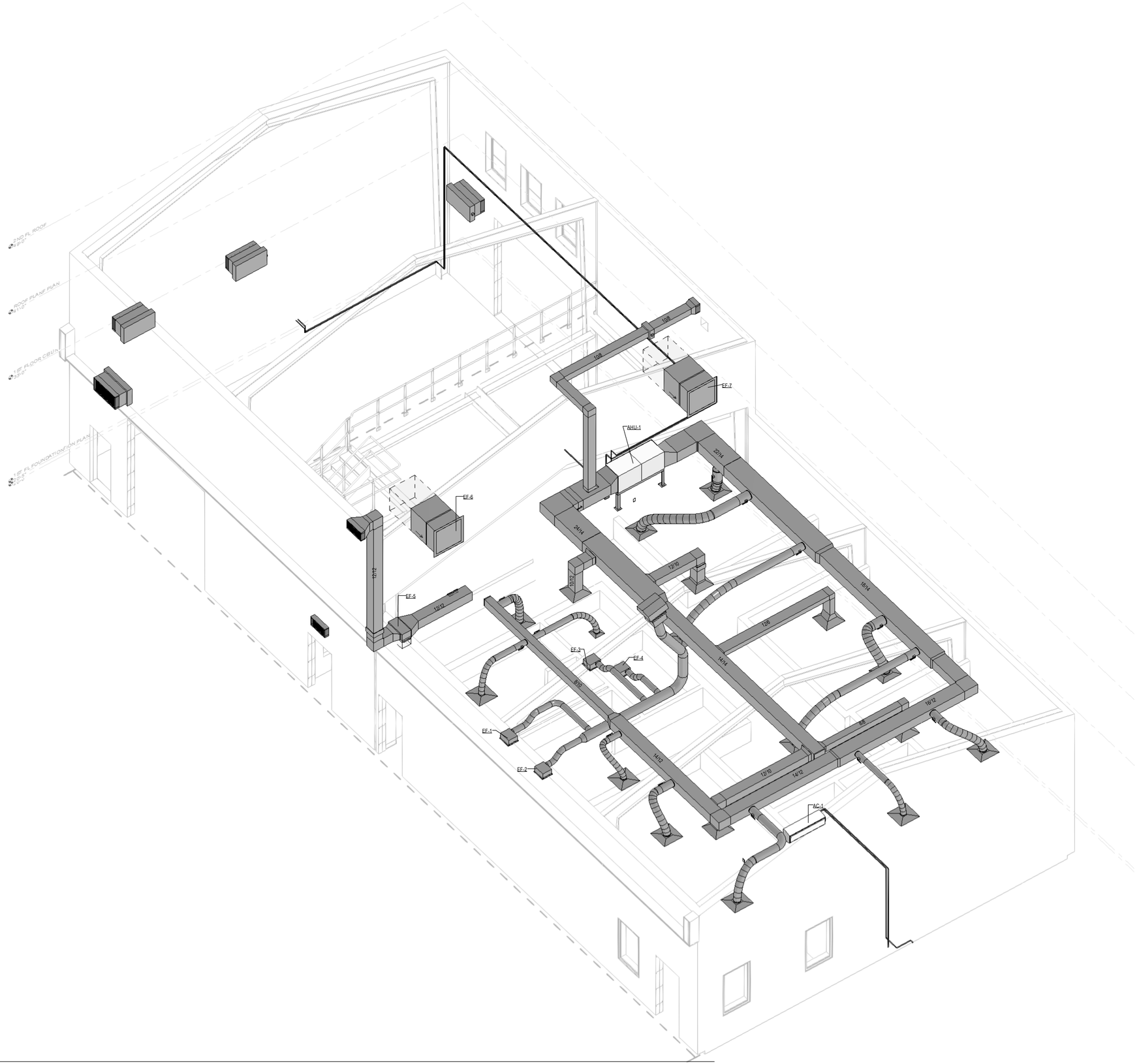
4274-21	M1.19



1 OVERALL 3D DUCTWORK

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OVERALL 3D DUCTWORK - HVAC

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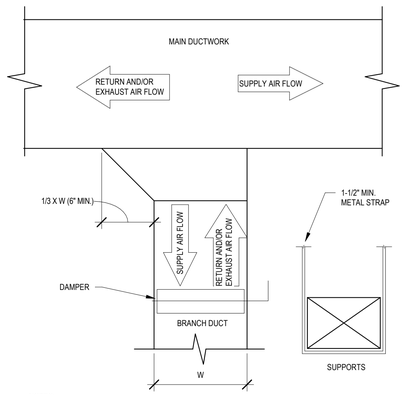
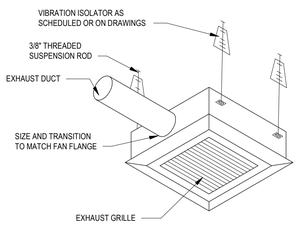


NOTES:

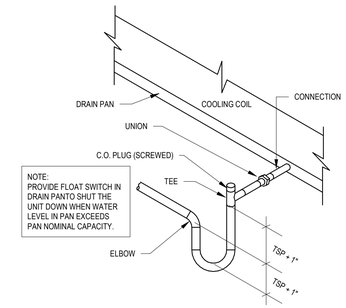
1. ALL SUPPLY, EXHAUST AND RETURN AIR BRANCH DUCTS SHALL BE SUPPLIED WITH A MANUAL VOLUME DAMPER FOR BALANCING. DAMPERS NOT SHOWN ON PLAN FOR CLARITY.
2. AIR FLOW ARROWS ABOVE INDICATE NEGATIVE (RETURN OR EXHAUST) OR POSITIVE AIR FLOW (SUPPLY) TO DELINEATE THE DUCT CONNECTION BOOT ORIENTATION FOR EACH DUCT SYSTEM.

1 RECTANGULAR DUCT BRANCH
NTS



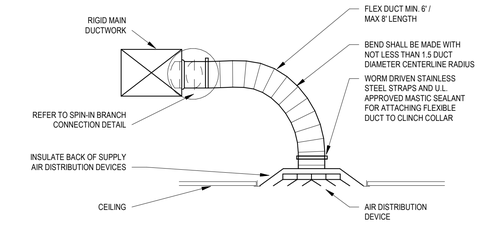
NOTE:
CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ANY CEILING ACCESS OPENINGS, WITH MANUFACTURER.

2 CEILING EXHAUST FAN DETAIL
NTS



NOTE:
PROVIDE FLOAT SWITCH IN DRAIN PANTO SHUT THE UNIT DOWN WHEN WATER LEVEL IN PAN EXCEEDS PAN NOMINAL CAPACITY.

3 CONDENSATE DRAIN - ISO
NTS



4 DIFFUSER AND FLEX DUCT DETAIL
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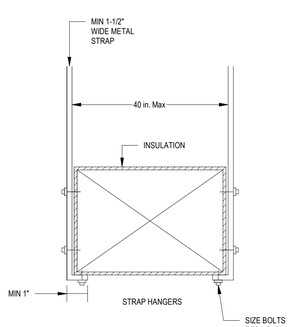
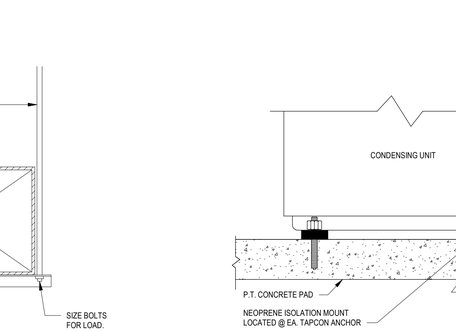


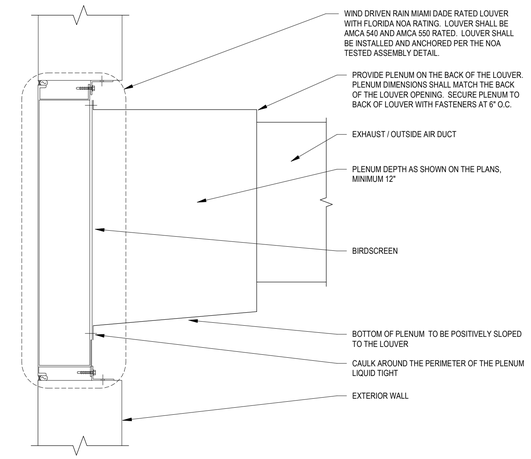
NOTE:
DUCT DEPTH OF MAIN AND BRANCHES ARE EQUAL.

5 DUCT WITH SPLITTER DAMPER
NTS

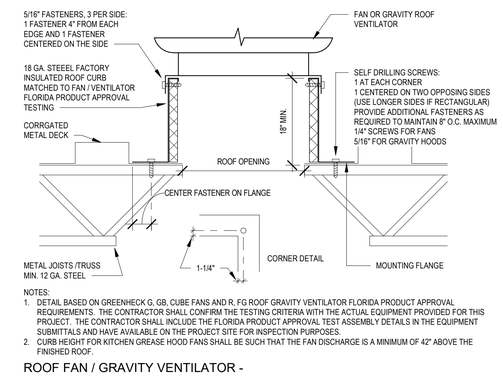


SIDEWALL PROPELLER EXHAUST FAN DETAIL
1/8" = 1'-0"

6



7 TYPICAL LOUVER DETAIL
NTS



NOTES:

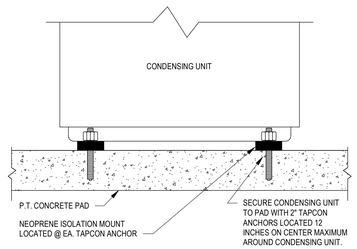
1. DETAIL BASED ON GREENHECK G, GB, CUBE FANS AND R, FG ROOF GRAVITY VENTILATOR FLORIDA PRODUCT APPROVAL REQUIREMENTS. THE CONTRACTOR SHALL CONFIRM THE TESTING CRITERIA WITH THE ACTUAL EQUIPMENT PROVIDED FOR THIS PROJECT. THE CONTRACTOR SHALL INCLUDE THE FLORIDA PRODUCT APPROVAL TEST ASSEMBLY DETAILS IN THE EQUIPMENT SUBMITTALS AND HAVE AVAILABLE ON THE PROJECT SITE FOR INSPECTION PURPOSES.
2. CURB HEIGHT FOR KITCHEN GREASE HOOD FANS SHALL BE SUCH THAT THE FAN DISCHARGE IS A MINIMUM OF 42" ABOVE THE FINISHED ROOF.

8 ROOF FAN / GRAVITY VENTILATOR - METAL DECK
NTS

NOTE:

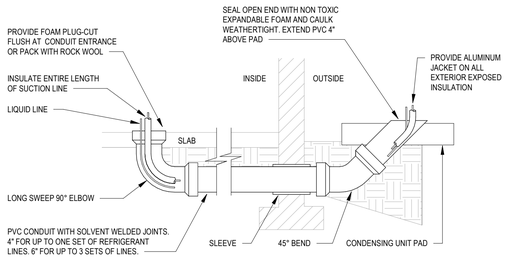
1. DUCTWORK TRAPEZE HANGERS SUPPORT SHALL NOT BE COVERED BY DUCTWORK INSULATION.

9 DUCTWORK SUPPORT
NTS



NOTE:
MEANS OF ATTACHING CONDENSING UNIT SHALL COMPLY WITH THE LOCAL WIND LOAD RATING REQUIRED BY FBC.

10 CONDENSING UNIT AT PAD DETAIL
NTS



11 REFRIGERANT PIPING
NTS

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BID SET DOCUMENTS

SCALE:	DATE:
As indicated	07/28/2025
DRAWN BY:	CHECKED BY:
LAH	LAH

NO	REVISION	DATE

SHEET TITLE:

DETAILS - HVAC

PROJECT NO.	SHEET NO.
4274-21	M5.00

DUCT CONSTRUCTION SCHEDULE

SERVICE	SMACNA PRESSURE CLASS	MATERIAL	INSULATION	NOTES
SUPPLY AIR DUCTS				
FROM AHU CONNECTION TO 20 FEET DOWNSTREAM ON SUPPLY SIDE FOR CONSTANT VOLUME SYSTEMS	+2"	DOUBLEWALL ROUND / FLAT OVAL OR RECTANGULAR COMPLETE WITH PERFORATED INNER LINER AND MYLAR FILM SEPARATING INSULATION FROM AIR STREAM	1" THICK INTERNALLY LINED	1, 2
FROM 20 FEET DOWNSTREAM OF AHU TO AIR DISTRIBUTION DEVICES FOR CONSTANT VOLUME SYSTEMS	+2"	SINGLE WALL SHEET METAL	CONCEALED - 2" THICK EXTERNAL WRAP EXPOSED - 1-1/2" RIGID BOARD	1
ALL LOW PRESSURE EXPOSED DUCTWORK IN PUBLIC AREAS	+2"	DOUBLEWALL ROUND COMPLETE WITH PERFORATED INNER LINER AND MYLAR FILM SEPARATING INSULATION FROM AIR STREAM	1" THICK INTERNALLY LINED	1, 2
ALL OTHER SUPPLY AIR DUCTWORK	+2"	RIGID DUCT BOARD	CONCEALED - 1-1/2" RIGID BOARD MIN. R-6. EXPOSED - 1-1/2" RIGID BOARD MIN. R-6.	1
RETURN AIR DUCTS				
FROM AHU CONNECTION TO 20 FEET UPSTREAM ON RETURN SIDE FOR ALL AHU'S AND ALL EXPOSED RETURN AIR DUCTWORK	-2"	DOUBLEWALL RECTANGULAR COMPLETE WITH PERFORATED INNER LINER AND MYLAR FILM SEPARATING INSULATION FROM AIR STREAM. PROVIDE ROUND OR FLAT OVAL AS SHOWN ON THE DRAWINGS WHERE DUCTWORK IS EXPOSED.	1" THICK INTERNALLY LINED	1, 2
ALL OTHER RETURN AIR DUCTWORK	-2"	SINGLE WALL SHEET METAL	CONCEALED - 2" THICK EXTERNAL WRAP EXPOSED - 1-1/2" RIGID BOARD	1
ALL OTHER RETURN AIR DUCTWORK	-2"	RIGID DUCT BOARD	CONCEALED - 1-1/2" RIGID BOARD MIN. R-6. EXPOSED - 1-1/2" RIGID BOARD MIN. R-6.	1
OUTSIDE AIR DUCTS				
ALL OUTSIDE AIR DUCTWORK	-2"	SINGLE WALL SHEET METAL	CONCEALED - 2" THICK EXTERNAL WRAP EXPOSED - 1-1/2" RIGID BOARD	1
TRANSFER AIR DUCTS				
ALL TRANSFER AIR DUCTWORK	+1"	SINGLE WALL SHEET METAL	CONCEALED - 2" THICK EXTERNAL WRAP EXPOSED - 1-1/2" RIGID BOARD	1
ALL TRANSFER AIR DUCTWORK	+1"	RIGID DUCT BOARD	CONCEALED - 1-1/2" RIGID BOARD MIN. R-6. EXPOSED - 1-1/2" RIGID BOARD MIN. R-6.	1
EXHAUST AIR DUCTS				
GENERAL BATHROOM EXHAUST DUCTS	-2"	SINGLE WALL SHEET METAL. SPIRAL ROUND DUCT WHERE EXPOSED.	NONE	1

NOTES:

1. ALL DUCTWORK IS TO BE FABRICATED, SUPPORTED AND INSTALLED PER SMACNA STANDARDS.
2. REFER TO SPECIFICATIONS FOR MATERIAL TO BE USED FOR INTERNAL LINING.
3. NO SNAPLOCK ROUND DUCTWORK PERMITTED.

GENERAL NOTE:

WHERE SUPPLY, RETURN OR OUTSIDE AIR DUCTWORK IS CALLED TO BE EXTERNALLY INSULATED AND IS EXPOSED IN MECHANICAL ROOMS, BLANKET DUCT WRAP MAY BE USED IN LIEU OF RIGID BOARD INSULATION.

AIR DISTRIBUTION DEVICE SCHEDULE

MARK / LEGEND	TYPE	MANUFACTURER	MODEL	NOTES
NECK SIZE 8"Ø-4W THROW PATTERN, AIR FLOW 200CFM	CEILING MOUNTED SQUARE SUPPLY DIFFUSER	METAL AIRE	5700	1, 3, 4, 5, 6
NECK SIZE 12X8-SW, AIR FLOW 200CFM	SIDEWALL MOUNTED RECTANGULAR SUPPLY DIFFUSER	METAL AIRE	V4004	4, 5
NECK SIZE 8"Ø-RD, AIR FLOW 200CFM	CEILING/DUCT MOUNTED ROUND SUPPLY DIFFUSER	METAL AIRE	3000	5
LINEAR LENGTH 2-2SLOT # OF SLOTS, AIR FLOW 200CFM	CEILING MOUNTED LINEAR SLOT SUPPLY DIFFUSER	METAL AIRE	6610	4, 5, 10
NECK SIZE 12X12-RG, AIR FLOW 200CFM	CEILING OR SIDEWALL MOUNTED RETURN AIR GRILLE	METAL AIRE	RH	1, 2, 3, 4, 5
NECK SIZE 12X12-TG, AIR FLOW 200CFM	CEILING OR SIDEWALL MOUNTED TRANSFER AIR GRILLE	METAL AIRE	RH	1, 2, 3, 4, 5
NECK SIZE 12X8-EG, AIR FLOW 200CFM	CEILING OR SIDEWALL EXHAUST AIR GRILLE	METAL AIRE	RH	1, 4, 5
NECK SIZE 24X24-OAL, AIR FLOW 500CFM	WALL MOUNTED OUTSIDE AIR INTAKE LOUVER	GREENHECK	EHH-601	5, 7, 9
NECK SIZE 24X24-EL, AIR FLOW 500CFM	WALL MOUNTED EXHAUST DISCHARGE LOUVER	GREENHECK	EHH-601	5, 7, 9

NOTES:

1. PROVIDE 24X24 OR 24X12 LAY-IN MODULE WHERE LOCATED IN LAY-IN CEILING.
2. NECK SIZE IS 22X22 UNLESS NOTED OTHERWISE ON FLOOR PLANS.
3. PROVIDE SQUARE TO ROUND NECK TRANSITION WHERE APPLICABLE.
4. COORDINATE BORDER TYPES WITH ARCHITECTURAL FLOOR PLAN AND REFLECTED CEILING PLAN.
5. COORDINATE FINISH WITH ARCHITECT.
6. COORDINATE THROW PATTERN WITH FLOOR PLANS.
7. LOUVER SHALL HAVE FLORIDA PRODUCT APPROVAL / NOA AND BE INSTALLED PER THE MANUFACTURER'S CRITERIA.
8. PRIME AND PAINT TO MATCH ADJACENT SURFACES.
9. PROVIDE WITH MOTORIZED DAMPER TO BE INTERLOCKED WITH THE CONTROLS.
10. LAYIN LINEAR SLOT DIFFUSER. PROVIDE WITH FACTORY INSULATED SUPPLY PLENUM BEHIND SLOT DIFFUSER FOR BRANCH DUCT TO TAP INTO.
11. PROVIDE WITH OPPOSED BLADE VOLUME DAMPER.

AIR BALANCE SCHEDULE

SYSTEM	CFM
AHU-1/CU-1	+275
EF-1	-75
EF-2	-75
EF-3	-50
EF-4	-50
BUILDING POSITIVE PRESSURE	+25

SPLIT SYSTEM FAN COIL UNIT SCHEDULE

MARK	AREA SERVED	FAN DATA: SUPPLY AIR (CFM)	OUTDOOR AIR (CFM)	E.S.P. (IN. WG)	FAN RPM	HP [WATTS]	FLA	COOLING COIL DATA: EAT °F (DB/WB)	LAT °F (DB/WB)	CAPACITY - MBTU (SENS./TOTAL)	HEATER DATA: TYPE	kW @ LISTED VOLTAGE	STEPS	ELECTRICAL DATA: VOLTAGE/ PHASE	MCA	MOCP	SEER [EER]	BASIS OF DESIGN: MANUFACTURER	MODEL #	NOTES
AHU-1	OFFICES	1950	275	0.8	ECM	1	7.0	77.9/66.9	53.6/53.6	59.9	ELECTRIC	10.8	1	208/1	45.0	45	15	TRANE	5TAM5D07	ALL

NOTES:
1. PROVIDE WITH WALL MOUNTED 7-DAY DIGITAL PROGRAMMABLE THERMOSTAT. COORDINATE WITH OWNER PRIOR TO ORDERING.
2. COORDINATE REFRIGERANT PIPING LENGTH WITH MANUFACTURER.
3. PROVIDE WITH ALL REQUIRED ACCESSORIES FOR SPECIFIC INSTALLATION.
4. PROVIDE WITH A SINGLE POINT OF CONNECTION FOR ELECTRIC HEATER AND FAN FOR INDOOR UNIT. ELECTRIC HEATER IS 3-PHASE.
5. PROVIDE WITH FACTORY INSTALLED CONDENSATE FLOAT SWITCHES.
6. EACH AIR HANDLER AND ASSOCIATED CONDENSING UNIT SHALL BE PROVIDED WITH AN ENGRAVED NAMEPLATE SHOWING SPECIFIC UNIT DESIGNATION.

SPLIT SYSTEM CONDENSING UNIT SCHEDULE

MARK	UNIT SERVED	COOLING: TOTAL CAPACITY (MBTUH)	SENSIBLE CAPACITY (MBTUH)	CONDENSER FANS: QTY	FLA	COMPRESSOR(S): QTY	RLA (EACH)	LRA (EACH)	REFRIGERANT	ELECTRICAL: VOLTS/PH.	MCA	MOCP	WEIGHT (LBS.)	SEER [EER] (MINIMUM)	BASIS OF DESIGN: MANUFACTURER	MODEL	NOTES
CU-1	AHU-1	59.9	39.2	1	2.8	1	21.8	143.1	R-454B	208/1	28.0	50	350	15	TRANE	5TTR5060A	ALL

NOTES:
1. COORDINATE REFRIGERANT PIPING LENGTH WITH MANUFACTURER. PROVIDE MANUFACTURER'S ACCESSORIES RECOMMENDED FOR LONG LINE APPLICATIONS WHEN THE EQUIVALENT LENGTH EXCEEDS 75 FT. UPSIZE THE VAPOR LINE TO MINIMIZE THE COOLING CAPACITY LOSS TO LESS THAN 3%.
2. PROVIDE WITH ALL REQUIRED ACCESSORIES FOR SPECIFIC INSTALLATION.

DUCTLESS SPLIT SYSTEM INDOOR UNIT SCHEDULE

MARK	AREA SERVED	AIR FLOW (CFM)	VOLTS/PH.	FLA FLA	WEIGHT (LBS)	MANUFACTURER	MODEL #	NOTES
AC-1	IT/MDF	635	208/1	0.7	46	Mitsubishi Electric	NTYWST24A	ALL

NOTES:
1. PROVIDE WITH WALL MOUNTED, HARDWIRED THERMOSTAT CONTROLLER.
2. PROVIDE WITH INTEGRAL CONDENSATE PUMP.
3. PROVIDE WITH ALL REQUIRED ACCESSORIES FOR SPECIFIC INSTALLATION.
4. INDOOR UNIT IS POWERED FROM OUTDOOR UNIT. SEE DUCTLESS SPLIT SYSTEM OUTDOOR UNIT SCHEDULE THIS SHEET.

DUCTLESS SPLIT SYSTEM OUTDOOR UNIT SCHEDULE

MARK	INDOOR UNIT SERVED	TOTAL CAP. (MBH)	CONDENSER FAN(S): QTY	VOLTS/PH.	FLA (EACH)	COMPRESSOR(S): QTY	VOLTS/PH.	RLA (EACH)	LRA (EACH)	MCA	MOCP	WEIGHT (LBS)	EER/SEER	MANUFACTURER	MODEL #	NOTES
ACU-1	AC-1	24	1	208/1	0.9	1	208/1	13	16	17	20	151	20.5	Mitsubishi Electric	NTYSST24A	ALL

NOTES:
1. PROVIDE WITH ALL REQUIRED ACCESSORIES FOR SPECIFIC INSTALLATION.

EXHAUST FAN SCHEDULE

MARK	AREA SERVED	FAN TYPE	FAN: CFM	ESP (in-wg)	RPM	SONES	HP [WATTS]	MOTOR VOLTS/PH.	BASIS OF DESIGN: MANUFACTURER	MODEL	NOTES
EF-1	MEN'S RR	CEILING	75	0.50	711	1.5	[80.0]	120/1	GREENHECK	SP-B110	1-4
EF-2	WOMEN'S RR	CEILING	75	0.50	711	1.5	[80.0]	120/1	GREENHECK	SP-B110	1-4
EF-3	UNISEX RR	CEILING	50	0.50	582	1.5	[80.0]	120/1	GREENHECK	SP-B110	1-4
EF-4	CUSTODIAL	CEILING	50	0.50	582	1.5	[80.0]	120/1	GREENHECK	SP-B110	1-4
EF-5	FLAMMABLE STORAGE	INLINE	500	0.50	1161	1.6	0.3	115/1	GREENHECK	CSP-A700-VG	1,2,3,6,7
EF-6	STORAGE BAY	WALL	2500	0.30	880	15.2	0.5	208/1	GREENHECK	SBE-1H24	1,2,3,5,8
EF-7	STORAGE BAY	WALL	2500	0.30	880	15.2	0.5	208/1	GREENHECK	SBE-1H24	1,2,3,5,8

NOTES:
1. PROVIDE WITH BACKDRAFT DAMPER.
2. PROVIDE DISCONNECT SWITCH MOUNTED AT THE UNIT.
3. DIRECT DRIVE HIGH EFFICIENCY MOTOR WITH SOLID STATE SPEED CONTROL.
4. PROVIDE OCCUPANCY SENSOR WITH OFF DELAY TIMING ADJUSTABLE 1-60 MINUTES.
5. FAN SHALL BE CONTROLLED BY LINE VOLTAGE THERMOSTAT TO OPERATE WHEN SPACE TEMPERATURE EXCEEDS 80 DEGF SETPOINT (ADJ.). PROVIDE WITH THERMOSTATIC CONTROL, RIB RELAYS, ETC. TO TURN ON FAN WHEN TEMPERATURE EXCEEDS SET POINT 80°F (FIELD ADJUSTABLE).
6. PROVIDE WITH 24 HOUR PROGRAMMABLE TIMER.
7. FAN SHALL OPERATE CONTINUOUSLY.
8. PROVIDE WITH INLET GUARD.

Single zone

Single Zone

▫ Show simple view

System Name and Number	Condition Analyzed (impacts Ez)	Occupancy Category	Zone Floor Area Az (sq ft)	Are you using default value for zone population?	Zone Population Pz people	People Outdoor Air Rate Rp (cfm per person)	Area Outdoor Air Rate Ra (cfm per sq ft)	Breathing Zone Outdoor Airflow Vbz (cfm)	Zone Air Distribution Effectiveness Ez	Zone Outdoor Airflow Voz (cfm)	Outdoor air intake flow provided (measured or design) (cfm)
								(Rp Pz + Ra Az)		Vbz / Ez	
AHU-1/CU-1	Cooling	Office space	2,135	Yes	10.68	5.00	0.06	181.47	0.80	227	275

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BID SET DOCUMENTS

SCALE:	DATE:
As indicated	07/28/2025
DRAWN BY:	CHECKED BY:
LAH	LAH

NO	REVISION	DATE

SHEET TITLE:

SCHEDULES - HVAC

PROJECT NO.	SHEET NO.
4274-21	M6.00

MECHANICAL SPECIFICATIONS:

PERFORMANCE VERIFICATION, PRELIMINARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawing and general provisions of Contract, including General and Supplementary Conditions, apply to work of this section.

1.2 SCOPE

A. Put all work in a state of readiness for final performance verification.

B. Final performance verification shall not begin until the systems are complete and operable in all respects and all related building systems are complete.

1.3 RELATION TO OTHER WORK

A. Refer to the section, "General Mechanical Provisions", for related requirements.

B. Refer to the section which describes "Performance Verification, Final".

PART 2 - EXECUTION

2.1 AIR SYSTEMS

A. Prepare the air side for balancing in the following manner:

1. All fans, blowers, and air handling equipment shall be mechanically checked and available to operate under design conditions.

2. All controls, whether they are electronic, electric or pneumatic or a combination thereof, shall be mechanically checked and ready to operate under design code in an operable and non-overloading condition.

2.2 ADDITIONAL REQUIREMENTS

A. Complete Installation: The Contractor shall complete the equipment and system installation to the satisfaction of the Architect/Engineer (who will be the sole judge of its state of readiness) prior to advising, the writing, that final performance verification is ready to begin. The Contractor is hereby advised that the Certificate of Substantial Completion will not be issued prior to the completion of final performance verification work and that he should therefore, schedule all other work accordingly allowing no less than 60 days for completion of final performance verification.

B. Correction of Defects: The Contractor shall promptly and properly correct all defects in workmanship, material, installation and equipment of which he is aware prior to requesting that final performance verification work begin. Once the final performance verification work has begun, the Contractor shall promptly correct all defects in workmanship, materials, installation, and equipment as they are called to his attention by Architect/Engineer.

C. Drive Changes: Changes in pulleys or belts required for correct final balance during testing shall be made at no additional cost.

D. Scheduling and Coordination: The Contractor shall be responsible for proper scheduling and coordination of work involved in preliminary performance verification. This shall include, but is not necessarily limited to the timely provision of: mechanics, tools, equipment, correction of defects, equipment manufacturer's representatives, test modules, and all other items which may be required.

E. Report: Submit a written report describing and certifying in detail all preliminary performance verification items and tasks that have been performed. Approval of this report by the Architect/Engineer will precede final performance verification.

END OF SECTION

PERFORMANCE VERIFICATION, FINAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions, apply to work of this section.

1.2 SCOPE

A. Provide the services of an independent test and balance agency to verify the performance of the complete heating, ventilating and air conditioning systems as described by Division 23. Performance verification shall be accomplished by established testing and balancing procedures as described in this section.

1.3 RELATION TO OTHER WORK

A. Refer to the section, "General Mechanical Provisions", for related requirements. Refer to other sections of Division 23 and to all other applicable portions of the Drawings and Specifications.

1.4 TEST AND BALANCE AGENCY

A. All performance verification shall be performed by an independent test and balance agency (herein referred to as the "T & B Agency") which is fully certified by and a current member of the Associated Air Balance Council (AABC).

1.5 CONTRACTUAL RELATIONSHIP

A. Performance verification shall be performed as a service of the T & B Agency directly to the Contractor with no other subcontractors as part of the agreement.

B. Performance verification is specified in this Division 23 only because it relates predominantly to Division 23 work. However, the inclusion in this Division 23 of this section covering performance verification shall not predude the contractual agreement of the T & B Agency from contracting directly to the Contractor with no other subcontractors as part of such agreement.

1.6 AGENCY APPROVAL

A. Submit the name and qualifications of the proposed T & B Agency to the Architect/Engineer for approval within thirty (30) days of Notice to Proceed.

B. Include AABC National Project Certification Performance Guaranty.

1.7 WORK INCLUDED

A. The T & B Agency shall provide all labor, supervision, professional services, tools, test equipment and instruments (except as otherwise specified) to perform the following work and all other work of this section:

1. Review the automatic temperature control and air terminal unit specifications for their respective and combined effects on the testing and balancing procedures for the air and hydronic systems.

2. Where in the opinion of the T & B Agency conditions may exist in the system design or construction that may have the potential of adversely affecting system performance, then the T & B Agency shall identify the condition and submit in writing recommended corrective for consideration by the Architect/Engineer.

3. During construction, review those shop drawings which have relevance to performance verification to confirm that the required piping, ductwork and equipment, and their respective specialties and accessories such as gauges, valves, dampers, access doors, etc., are properly selected, sized and located to permit proper and complete testing and balancing to be accomplished.

4. Perform site inspections to verify compliance with documents, and observe pressure tests on ductwork.

5. Perform a complete air and hydronic test and balance of all heating, ventilating, air conditioning and exhaust air systems and all water and steam systems shown and described on the Construction Documents and as further described herein.

6. Submit Equipment Test and Systems Balance Report.

7. Furnish specifications to Contractor for properly sized fixed sheaves on fan systems after proper RPM has been established.

1.8 GUARANTY

A. The T & B Agency shall include a warranty period of ninety (90) days after completion and acceptance of test and balance work. During the warranty period, the Architect/Engineer may request a re-check or re-setting of any system component requiring testing and balancing. The T & B Agency shall provide technicians, instruments, and tools to assist the Architect/Engineer in conducting any test that he may require during this time. The foregoing shall be in addition to the A.A.B.C. National Project Certification Performance Guaranty which shall also be provided.

PART 2 - PRODUCTS

2.1 GENERAL

A. The tangible product of this section shall include the reports and documentation necessary to verify the systems' performance.

2.2 REPORT

A. The T & B Agency shall in the course of his work record the information herein specified. Recorded test data shall be at the final balanced condition for each system. Recorded data shall be arranged by system using the appropriate designation as established on the Construction Documents. Four (4) copies of the final report signed, bound and indexed shall be submitted to the Architect/Engineer for his approval or comments.

B. Where actual measurements recorded for the final balance show deviations of more than 10% from the design, the T & B Agency shall note same in the report and submit recommendations for corrective action to the Architect/Engineer for his consideration.

C. In those cases where recorded data can be reasonably interpreted to be inaccurate, inconsistent and/or erroneous, the Architect/Engineer may request additional testing and balancing. The T & B Agency shall at no additional cost perform such retesting and rebalancing as directed by and in the presence of the Architect/Engineer.

D. Where, in the opinion of the T & B Agency, there is excessive vibration, movement or noise from any piece of equipment, ductwork, pipes, etc., the T & B Agency shall note same in the report and submit recommendations for action to the Architect/Engineer.

E. The T & B Agency shall verify that each thermostat and the devices it is controlling, such as control valves, motorized dampers, VAV boxes, etc., operate in the exact sequence required.

F. Test Data: Include the following data in the Systems Test and Balance Report:

1. Motors:

Manufacturer
Model and serial number
Rated amperage and voltage
Rated horsepower
Rated RPM
Corrected full load amperage
Measured amperage and voltage
Calculated BHP
Measured RPM
Sheave size, type and manufacturer

2. Fans:

Manufacturer.
Model or Serial number, Bl or Air Foil - number of blades
Rated CFM, measured CFM
Rated RPM, measured RPM
Measured pressures - Inlet and Outlet Static Pressure
Pulley size, type and manufacturer
Belt size and quantity
Rated TSP
Operating TSP & operating ESP (at discharge side of
Supply Fan or suction side of Exhaust/Return Fan)

3. Air Systems (including inlets and outlets):

Provide single line diagrammatic plan locating each air inlet and outlet and its reference number.
Grille or diffuser reference number and manufacturer.
Grille or diffuser location.
Design velocity.
Design CFM.
Effective area factor and size.
Measured velocity.
Measured CFM
Terminal Unit CFM

G. Other Report Requirements: Where any systems have equipment or components which are not covered by the above, then the Final Test and Balance Report shall include the following data as applicable to such equipment or systems to confirm actual operation:

1. All inlet and outlet areas.

2. All applicable duct, pipe and coil sizes.

3. Outside, inside, mixed and supply air conditions.

4. All fluid velocities, flow rates, temperatures and pressures at appropriate locations.

5. All speeds.

6. All voltage and ampere ranges.

7. Descriptions of each test method used.

2.3 INSTRUMENTATION

A. All test and balance equipment and instruments to be furnished by the T & B Agency shall have been calibrated within six (6) months of use on this work. A list of equipment and instruments to be used shall be submitted to the Architect/Engineer prior to commencing test and balancing operations and shall include equipment and/or instruments, name, manufacturer, serial number and certification of last calibration date. Instruments without calibration adjustment capability shall be accompanied with manufacturer's certification of accuracy. Test and balance equipment and instruments furnished by the Contractor to the T & B Agency shall be accompanied with certification as required above. The T & B Agency shall be responsible for the protection from damage due to accident, abuse or misuse, all equipment and instruments provided by the Contractor, and shall return same in good working condition at the completion of the test and balance work to the Contractor. The T & B Agency shall repair at his expense to original condition and accuracy or replace with like equipment and instruments damaged in the work.

2.4 DIAGRAMS

A. Provide a schematic diagram (i.e., one-line) of duct system(s) tested. Indicate on the diagram the relative location of all air distribution devices, VAV boxes, heating/cooling coils, points of data measurements (i.e., pitot traverse, temperature, static pressure) fans, air handling units, and similar equipment included in the system. Diagram shall identify each component tested. Said identification shall utilize the conventions shown on the drawings (i.e., AHU-1 or SF-6) and correlate with the data sheets provided in the Test and Balance Report.

2.5 LOGS AND FORMS

A. Logs and forms shall clearly indicate following::

1. All inlet and outlet areas.

2. All applicable duct, pipe and coil sizes.

3. Outside, inside, mixed and supply air conditions.

4. All fluid velocities, flow rates, temperatures and pressures at significant locations (e.g., fluid pressures before and after each pump and fan, temperatures and pressures at supply and return headers and at chiller and boiler inlets and outlets, etc.).

5. All fan speeds.

6. All motor ampere ranges.

7. Descriptions of each test method used.

B. Associated Air Balance Council log and data forms.

PART 3 - EXECUTION

3.1 GENERAL

A. Sheaves: The Contractor shall provide applicable fans with V-belt drives and fixed pitch sheaves. In order to provide the properly sized fixed pitch sheave, the Contractor shall initially provide fans with V-belt drives, variable pitch sheaves. The Contractor, upon completion of system balancing by the T & B Agency, will replace these adjustable pitch sheaves with fixed sheaves of the size and type specified by the T & B Agency. The Contractor shall tag the adjustable sheaves, transmit same to Owner, and receive written receipt by Owner of acceptance of these sheaves.

B. Load Conditions: All testing and balancing of systems shall be undertaken with maximum attainable load. Testing and balancing of all air handling systems shall be accomplished with ceiling tile in place and enclosing partitions and doors erected.

C. Observe all equipment and exposed piping for noise, movement or vibrations under normal operating conditions and report excesses to the Architect and Owner.

D. Where patented measuring stations are installed, each of these is to be read and recorded. In the hydronic systems, the permanent devices, such as flow tubes with mercury manometers, annular ring systems, venturi tubes with portable meters, etc. must be used for final measurements after they are completed, calibrated and in satisfactory condition.

3.2 PERFORMANCE VERIFICATION, PRELIMINARY

A. The Contractor, prior to commencement of the balancing by the T & B Agency, shall

A. The Contractor shall protect all mechanical devices during the testing and balancing period. The activities of the T & B Agency will include but not be limited to the adjustments of designated balancing devices including; adjustment of balancing dampers, adjustment of inlet vane dampers, adjustment of air extractors, air splitters, or manual dampers, the adjustment of adjustable sheaves for fan speed, the adjustment of balancing valves, or similar devices. The existence of the T & B Agency shall not relieve the Contractor of his responsibility for the complete operation of the mechanical systems in conformance with the contract documents.

3.4 CORRECTION OF WORK

A. The Contractor shall at no additional cost to the Owner rectify discrepancies between the actual installation and contract documents when in the opinion of the T & B Agency the discrepancy will significantly affect system balance and performance.

3.5 COORDINATION AND ASSISTANCE

A. The Contractor shall assist the T & B Agency by providing all labor, equipment, tools and material required to operate all of the equipment and systems necessary for the testing and balancing of the systems and for the adjustment, calibration or repair of all electric or pneumatic or automated control devices and components. These services shall be available on each working day during the period of final testing and balancing. The Contractor shall assist the T & B Agency by arranging to have all ceilings, partitions, windows, and doors installed prior to the scheduled commencement of balancing within each specified area.

B. The Contractor shall provide to the approved T & B Agency a complete set of plans and specifications and an approved copy of all heating, ventilating and air conditioning equipment shop drawings. The Contractor shall include the cost of all pulley, belt, and drive changes, as well as balancing dampers required to achieve proper system balance recommended by the T & B Agency.

3.6 AIR SYSTEMS

A. The testing and balancing shall include, but is not limited to, the following requirements:

1. Adjust fan speeds to deliver the required cfm and static pressure, and record rpm and full load amperes.

2. Make pitot tube traverse of main supply ducts to verify design cfm. Seal duct access holes with rubber or metal snap-in plugs.

3. For each supply air system, verify the quantity of outside air and return air when the system is operating in the maximum cooling and full heating modes.

4. Test and adjust each diffuser, grille and register to within 10% of design requirements, and also adjust so as to minimize drafts in all areas.

5. Observe all equipment and exposed ductwork for noise, movement or vibration under normal operating conditions and report exxesses to the Architect/Engineer.

B. After all air distribution devices have been balanced to distribute calculated design indicated air quantities and if temperature in any area (where such area does not have the particular zone temperature control thermostat located therein) of any zone is not maintained within 2 decrees plus or minus of the zone areas which does have the zone temperature control thermostat, then notify Architect/Engineer of such conditions and obtain approval to rebalance devices to obtain air quantities other than those indicated so that air temperature in entire zone will be as even as possible regardless of calculated design air quantities. After obtaining approval to rebalance, perform such necessary rebalancing.

END OF SECTION

INSULATION, HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-01 Specification sections, apply to work of this section.

1.2 SCOPE

A. Provide all work necessary to insulate all equipment, piping, ducts and other items related to the piping and duct systems.

1.3 STORAGE OF MATERIALS

A. Do not store fiberglass insulation within the building until it has been "dried in". If no other dry space is available and this insulation must be installed or stored before the building is "dried in" and completely enclosed, provide polyethylene film cover for protection.

1.4 COMPLIANCE WITH CODES AND STANDARDS

A. Applicable Codes: The total insulation system including insulation, sealant, finishes, etc., shall comply with or exceed all code requirements.

B. NFPA: All materials and adhesives used shall conform to the requirements of NFPA 90A as to flame spread and smoke developed ratings.

PART 2 - PRODUCTS

2.1 GENERAL

A. Materials: Materials listed are those used as basis of design; equivalent products of acceptable manufacturers will be accepted. Materials must be approved and recommended by the insulation product manufacturer for the particular application(s).

B. Flame and Smoke Ratings: Application of insulation materials may require, in many cases, that the final insulation system comply with NFPA 90A with record to maintaining a flame spread rating of 25 or less and a smoke developed/fuel contributed valve of 50 or less. In such cases, verify that the materials comply with the indicated flame spread and smoke developed ratings.

C. Applicability: Products and manufacturers listed may not all be applicable. Use only those products and manufacturers which are indicated as being applicable to a specific insulation condition.

D. Acceptable Manufacturers: Manufacturers which are listed are those manufacturers who may make one or more of the insulation products required. Listing of a manufacturer does not necessarily mean the manufacturer is approved for all applicable insulation conditions. Each listed manufacturer must still comply with the specific requirements of each insulation condition to be acceptable for the particular application. Acceptable manufacturers of insulation-related products include (but are not necessarily limited to) the following: Armstrong; CertainTeed; Childers Products Co.; Knauf; Manville; Owens-Corning; Pittsburg Corning; Rubatex; Upjohn Co.; Duracote Corporation; Ferro Corporation; Dow Corning Corporation; Duro Dyne Corporation; Goodloe E. Moore, Inc.; 3M Co.; United McGill Corporation, Vimasco Corporation; Foster; Gustin-Bacon; Nomaco Inc.; Insulcoustic; Molded Acoustical Products; Lion Nokorode and other manufacturers as may be listed for a specific application.

2.2 BASIC MATERIALS

A. Cellular Glass Insulation: Preformed or block type as indicated or as applicable. Fire, water and vermin retardant; closed cell glass composition; density of 8.5-pcf. Comply with the following: ASTM C 552, "Specification for Cellular Glass Thermal Insulation"; Military Specification MIL-I-24244B. Flame spread rating of "5" and a smoke developed rating of "0" as per ASTM E 84. Recommended temperature applications from -450oF to 1200oF when installed in accord with manufacturer's recommendations. Pittsburg-Corning Foamglas.

B. Elastomeric Insulation: Preformed (tube), roll or sheet as indicated or as applicable. Nitrile, rubber based, closed cell structure. K factor of 0.28 at 75oF. In tube, roll or sheet form of 3/4-inch thickness or less, ASTM E 84 flame spread rating of "25" or less and smoke developed rating of "50" or less. Recommended temperature applications from -40oF to 220oF when installed in accord with manufacturer's recommendations. Do not install in return air plenums unless flame spread rating and smoke developed rating are within constraints of applicable codes. Manufacturers and/or series: Armstrong "Armaflex"; Manville "Aerotube"; "Rubatex"; Gustin-Bacon "Ultra-Foam".

C. Fiberglass Insulation: Inorganic fibrous glass. Flame spread of "25" or less and smoke developed rating of "50" or less per ASTM E 84.

1. Board: Rigid or semi-rigid form, faced or unfaced as indicated. Stiffness of 475 EI, 800 EI or 1400 EI as indicated.

2. Blanket: Flexible form; faced, unfaced or coated as indicated.

3. Preformed: Jacketed or unjacketed as indicated.

D. Calcium Silicate Insulation: Preformed or block type as indicated or as applicable. Asbestos free. Rigid hydrous calcium silicate. K factor of 0.42 at 200oF. Density: 14-pcf. Flame spread rating of "0" and smoke developed rating of "0" as per ASTM E 84. Recommended temperature applications up to 1200 oF. Use where indicated only on equipment and surfaces which generate heat; do not use as a cold-surface insulation.

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BID SET DOCUMENTS

SCALE:	DATE:
NTS	07/28/2025
DRAWN BY:	CHECKED BY:
LAH	LAH

NO	REVISION	DATE

SHEET TITLE

SPECIFICATIONS - HVAC

PROJECT NO.	SHEET NO.
4274-21	M7.00

2.3 INSULATION PRODUCTS, BASIC

A. Type I-1: Cellular glass block insulation. Field formed, fitted and finished as required for the application. Pittsburg-Corning Foamglas or equivalent.

B. Type I-2: Calcium silicate block insulation. Field formed, fitted and finished as required for the application. Owens-Corning Kaylo; Manville Thermo-12; or equivalent.

C. Type I-3: Elastomeric insulation. Field formed, fitted and finished as required for the application. Armaflex; Rubatex or equivalent.

D. Type DI-1: Duct insulation, fiberglass flexible blanket wrap. Composed of flexible blanket of glass fiber factory laminated to a reinforced foil kraft (FRK) vapor barrier with a minimum 2-inch taping and stapling flange on one edge. Suitable for operation at temperatures from 40oF to 250oF. Thermal conductivity of 0.31 at 75oF. Minimum density of three-quarter (3/4) pound per cubic foot. Provide in thickness of (2.2) inches unless otherwise specified as 2-1/2 or 3-inch thickness. Owens-Corning All Service Faced Duct Wrap; Manville R-Series Microlite; CertainTeed Standard Duct Wrap; or equivalent.

E. Type DI-2: Duct insulation, fiberglass semi-rigid board. Composed of resin bonded glass fibers faced with a foil scrim-kraft (FSK) reinforced laminate of aluminum foil and kraft bonded to provide a metallic surface finish vapor barrier; alternate vapor barrier facing (if specifically indicated) is an all service jacket (ASJ) of high intensity white bleached, chemically treated kraft paper reinforced with fiberglass yarn mesh and laminated to aluminum foil with fire-retardant adhesive to impart a clean, white appearance. Conductivity (K) of not greater than 0.23 at 75oF. Provide in thickness of one (1) inch unless otherwise indicated. Provide with minimum density of 3-pcf unless 6-pcf is specifically indicated. CertainTeed Industrial Insulation Board Type IB-300 (or IB-600); Manville 800 Series Spin-Glas Type 814 (or 817); Owens-Corning 700 Series Industrial Insulation Board Type 703 (or Type 705); or equivalent.

2.4 INSULATION ADHESIVES, MASTICS, SEALANTS

A. Adhesive (Type A-E1): For joints and seams in elastomeric insulation (Type I-3) not requiring weather protection. Rubatex R-373 Insulation Adhesive; Armstrong 520 Adhesive or equivalent.

B. Joint Sealant (Type JS-CG1): Non-hardening vapor barrier sealant specifically designed for use with cellular glass insulation (Types PI-1, I-1): Foster's 35-40 Foamseal Sealant, Pittsburg-Corning Pittseal 111 Sealant or equivalent.

C. Adhesive (Type A-F1): For adhering fiberglass blanket and board insulations (Types DI-1, DI-2) to metal substrate such as ductwork. Insulcoustic I-C 201, Foster 85-20 or equivalent.

D. Mastic, General Purpose (Type M-GP1): Non hardening vapor barrier general purpose mastic. For use where indicated or otherwise applicable. Foster GPM 35-00 or equivalent.

2.5 INSULATION FINISHES, JACKETS AND COVERS

A. Finishing Coating (Type FC-E1): For weather protection of elastomeric insulations (Types I-3, PI-5). Rubatex 374 coating; Armstrong Armaflex Finish or equivalent.

B. Finish Mastic (Type FM-CG1): For cellular glass insulations (Types PI-1, I-1). Waterproof, weather, acid and alkali resistant asphalt mastic coating for use in the range of -40oF to 200oF (installation must be done when in the 50oF to 120oF range). Pittsburg-Corning Pittcote 300 Vapor and Weather Barrier Finish or equivalent.

C. Finish Fabric (Type FF-CG1): For cellular glass insulations (Types PI-1, I-1). 6 x 6 meshes per inch polyester fabric for reinforcing the finish mastic. Pittsburg-Corning PC Fabric 79 or equivalent.

D. Finish Fabric, General Purpose (Type FF-GP1): Nylon membrane. For use generally with fiberglass duct insulations (Types DI-1, DI-2) at joints or seams or as may be indicated. Apply using Foster GPM 35-00 or equivalent.

E. Jacket, Underground Pipe (Type JP-CG-1): For cellular glass pipe insulations (Type PI-1, I-1) where indicated. Prefabricated laminate containing a 20 x 10 mesh asphalt impregnated glass fabric and a 1-mil thick aluminum foil sandwiched between three layers of a bituminous mastic. External jacket surface coated with a protective plastic film and internal surface with a special release paper. Apply around cellular glass pipe insulation in a cigarette type wrap with the overlap heat sealed. Seal butt joints in the same manner using a 4-inch wide seal strip of the jacketing. Irregular surfaces of the pipe system shall have the jacket's plastic film burned away prior to application of a 20 x 10 asphalt impregnated mesh which shall be sandwiched between two glove coats of finish mastic (Type FM-CG1).

F. Jacket, Pipe, PVC (Type JP-PVC): All purpose, UL-rated, white vinyl jacket, with or without self-sealing feature. Pittsburg-Corning "UNI-JAC" or equivalent.

2.6 RELATED PRODUCTS

A. Wire (Type W-1): Dead soft, 16-gauge, stainless steel.

B. Straps (Type ST-1): Stainless steel T-304 (18-8) soft annealed with deburred edge with stainless steel wing seals. Childers Products "Febstraps" or equivalent.

C. Tape (Type T-1): High tensile strength rope stock flat back paper pressure sensitive tape. Pittsburg-Corning "PC Tape No. 25" or equivalent.

D. Screws (Type S-1): Aluminum pan head type "A" slotted #8 by 1/2-inch.

PART 3 - EXECUTION

3.1 GENERAL

A. Field Forming, Fitting and Finishing: Where preformed insulation products are indicated as being acceptable for a particular application, provide field formed, fitted and finished insulation systems if such application is more practical (such as due to size, configuration or dimensions which may be outside of the availability ranges for size, dimension and/or thickness of preformed products).

B. Pre-installation:

1. Do not apply insulation adhesives, materials or finishes until the item to be insulated has been completely installed and tested and proved tight and suitable for insulation.

2. Prepare surfaces to be clean and dry before attempting to apply insulation.

C. Insulation Shields: Provide hanger or pipe support shields of 16 gage (minimum) galvanized steel over or embedded in the insulation. Shield shall extend halfway up the pipe insulation cover and at least 6" on each side of the hanger. Securely fasten shield with pipe straps at each end.

D. Valves, Cocks and Specialties: Insulate as for the related piping system in which they are located unless otherwise indicated.

E. Factory Pre-insulated Components: Where equipment and other system components are specified in other sections to have factory installed insulation, then no additional insulation is required as work of this section unless additional non-factory-installed insulation is specifically described. Examples of such equipment and components which may not require additional insulation include, but are not necessarily limited to, boiler vessels, chiller evaporators, air handling units, airside terminal units, and similar items.

3.2 DUCT SYSTEMS

A. General:

1. Locations and extent of both internal and external insulation for duct systems are described in section entitled "Ductwork" and/or by the "Duct Type and Location Schedule" on the Drawings.

2. Internal Insulation: Ductwork which is required to be insulated internally (acoustically/thermally lined) shall be insulated as work of the section entitled "Ductwork".

3. External Insulation: Ductwork which is required to be insulated externally shall be insulated as work of this section.

4. Factory Insulation: Ductwork which is factory manufactured with internal or external insulation is not to be additionally insulated as work of this section unless specifically stated. Such factory insulated ductwork generally consists of flexible externally insulated ductwork and double walled acoustically thermally lined ductwork.

B. Interior, Concealed (e.g., ceiling plenums): Where external insulation is required, insulate externally with 2.2 inch thick fiberglass blanket wrap (Type DI-1). Adhere duct insulation using adhesive (Type A-F1) applied in accordance with the manufacturer's recommendations. Where duct width exceeds twenty-four inches (24"), the insulation shall be additionally secured to the bottom of the duct using mechanical fasteners spaced one foot (1') on center. Insulation shall be applied with edges tightly butted, and all joints and breaks in the vapor barrier sealed using glass fabric and mastic applied in conformance with manufacturer's recommendations.

C. Interior, Exposed, (e.g., air handling unit rooms): Where external insulation is required, insulate with 1-inch thick semi-rigid fiberglass board (Type DI-2). Adhere to ductwork with adhesive (Type A-F1). Finish joints and seams with finish fabric (Type FF-GP1).

3.3 DUCT SYSTEMS EQUIPMENT

A. General: Insulate as follows unless detailed to a greater extent on the Drawings.

B. Fire damper and Fire/Smoke Damper External Surfaces:

1. Externally Insulated Duct Locations: Extend duct insulation up face of fire damper to damper sleeve. Seal insulation edges with 4-inch minimum width duct tape.

2. Internally Insulated Duct Locations: Provide additional external insulation from a point on the duct 12 inches from the fire damper to the fire damper and on the face of the fire damper to the fire damper sleeve. Seal insulation edges with 4-inch minimum width duct tape.

C. Air Distribution Devices: Insulate the backs of all ceiling diffusers and other air outlet devices installed in other than return air plenums as specified for interior concealed ducts.

3.4 COLD EQUIPMENT AND RELATED COMPONENTS

A. Condensate Drain Piping From Cooling Equipment:

1. Interior, and Exterior, Protected: Insulate with preformed elastomeric pipe insulation (Type PI-5) secured with adhesive (Type A-E1) and finished with white finish coating (FCC-E1). Thickness 3/4-inch. Provide 25/50 flame/smoke rating.

2. Exterior, Unprotected: None applicable.

B. Flexible Pipe Connectors for Vibration Isolation: Insulate with elastomeric insulation (Type I-3). Secure the insulation with adhesive (Type A-E1) applied to a clean surface and finish with white finish coating (FC-E1). Insulation thickness shall be one and one-half inches (1-1/2").

END OF SECTION

DUCTWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions, apply to work of this section.

1.2 SCOPE

A. Provide complete duct systems as indicated. Systems shall include, but not be limited to, the following: outside air, exhaust air, and air conditioning supply and return air duct systems as shown on drawings. Drawing scales prohibit the indication of all offsets, fittings, and like items; however, these items shall be installed as required for the actual project conditions at no change in contract price.

B. Items Included: This section generally includes, but is not limited to, the following major items:

1. Low pressure sheet metal ductwork.
2. Acoustical thermal duct liner.
3. Low pressure flexible ducts.

1.3 RELATION TO OTHER WORK

A. Refer to the section, "General Mechanical Provisions" for related requirements. Refer to other sections of Division 23 and to other applicable portions of the Drawings and Specifications.

B. This section is directly related in particular to sections (which may or may not be included in this division) which describe the following:

1. Sections describing air handling equipment and fans.
2. Air distribution devices.
3. Terminal units.
4. Duct system accessories.
5. Insulation.

C. Coordinate shop drawings, ordering, delivery, and placement of all items affecting the duct systems including, but not limited to, the following items: air handling units, exhaust fans, supply fans, sound attenuators, duct mounted coils, access panels, air distribution devices, fire dampers, outside air louvers, hoods, filters, roof curbs, structural framing, roof construction, roofing, and the work of all trades to insure an orderly and timely progression of the work. Refer to the requirements of Section entitled "General Mechanical Provisions".
D. Refer to other sections which may describe additional sound attenuation measures which may relate to this section.

1.4 SHOP DRAWINGS

A. Refer to Section entitled "General Mechanical Provisions". Include complete data as applicable to this project on: all prefabricated duct and fittings; duct liner including mechanical fasteners and adhesives; duct sealing materials; duct joining and seaming methods; and all other items. If required by Architect, prepare and submit for approval completely detailed shop drawings of supply and return ductwork from any or each air handling unit through its transitions, bends and elbows until such ducts are extended beyond the air handling unit equipment area and/or concealed areas; these shop drawings will not be required unless specifically called for elsewhere or unless significant deviation from the Drawings is necessitated by the equipment provided.

1.5 OTHER REQUIREMENTS

A. Provide all ductwork and components thereof in accord with manufacturer's recommendations. All ductwork dimensions indicated are nominal free clearance internal dimensions which do not include insulation thickness.

1.6 DEFINITIONS

A. "SMACNA" means "Sheet Metal and Air Conditioning Contractors National Association, Inc."

B. Low Pressure Ductwork: Any and all ductwork conveying air or other gases at velocities less than 2500 fpm and static pressure less than 2.0 inches wg. This ductwork may also be referred to in these specifications as "Low Velocity Ductwork". SMACNA "HVAC Duct Construction Standards, Metal and Flexible", Second Edition, 1995, shall govern construction of this ductwork unless otherwise specified.

1. Where and if fiberglass ductwork is specified, it shall be considered only for low pressure classification use and shall be constructed in accord with SMACNA "Fiberous Glass Duct Construction Standards", Fifth Edition, 1977.

C. High Pressure Ductwork: Any and all ductwork conveying air or other gases at velocities equal to or greater than 2500 fpm or static pressure equal to or greater than 2.0 inches wg. This ductwork may also be referred to in these specifications as "High Velocity Ductwork" or "Medium Pressure Ductwork", but shall be considered, in either terminology, to fall within pressure/velocity class (PVC designation) 3 to 10. SMACNA "HVAC Duct Construction Standards, Metal and Flexible", Second Edition, 1995, shall govern construction of this ductwork unless otherwise specified.

1.7 PRESSURE/VELOCITY CLASSIFICATIONS

A. Pressure and velocity classifications (hereinafter called "PIVC") for ducts are defined as follows:

PIVC Desig.	SMACNA Pressure Class	Static Pressure Rating	Positive or Negative Pressure	SMACNA Seal Class	Maximum Velocity (fpm)
10	High	10"	+	A	2000 up
6	Medium	6"	+	A	2000 up
4	Medium	4"	+	A	4000 dn
3	Medium	3"	+ or -	B	4000 dn
2	Low	2"	+ or -	C	2500 dn
1	Low	1"	+ or -	C	2500 dn
½	Low	1/2"	+ or -	C	2000 dn

B. See Part 3, EXECUTION, of this section for duct sealing requirements.
PART 2 - PRODUCTS

2.1 GENERAL

A. Materials shall comply with current SMACNA standards.

B. ASTM: Unless otherwise specified, ASTM material specifications applicable are:

Material	Type	ASTM Number
Galvanized steel	G90	A525
Stainless steel	304,316	A240
Cold rolled steel	20-28 ga.	A366
Cold rolled steel	18 ga.	A619
Aluminum	3003 H-14	B609

C. Special Materials, Gauges and Construction:

1. Special Materials: Where special duct material other than galvanized steel is required, such duct material (e.g., fiberglass, stainless steel, plastic such as polyvinylchloride, etc.) shall be specifically indicated.

2. Gauges: Gauges indicated in this section are for galvanized steel. Where greater or lesser gauges are specifically indicated for a sheet metal material other than galvanized steel, provide the indicated gauge. Comply with the SMACNA construction standard covering the required material if no gauge is given.

3. Construction: Comply with indicated special requirements (i.e., such as welding, soldering, etc.) where application requires.

2.2 LOW PRESSURE SHEET METAL DUCTWORK

A. Material: Prime quality forty-eight inch wide resquare tight coat galvanized steel conforming to the requirements of ASTM A-525 and/or A-527 as applicable to the intended use.

B. Construction:

1. Construct to comply with the pressure/velocity classification(s) indicated.

2. Use rectangular or round as indicated on drawings.

3. Reinforcing, Cross Breaking, Seams, Joints: Be in accord with latest SMACNA construction standard for low pressure sheet metal duct.

4. Gauge: As required by SMACNA for the dimensions and pressure/velocity classification involved.

C. Insulation:

1. Rectangular rigid sheet metal ductwork: shall be internally lined with acoustical thermal duct liner if so designated.

2. Round rigid sheet metal ductwork: Where low pressure round ductwork is designated to have internal acoustical/thermal liner, provide factory fabricated double wall ductwork as specified for high pressure round acoustically lined sound attenuating duct (i.e., factory fabricated double wall duct with perforated inner wall).

2.3 ACOUSTICAL THERMAL DUCT LINER

A. Line ductwork where indicated. Dimensions indicated are net inside dimensions. Liner shall be one inch thick, three pound density fiberglass duct liner with the surface in contact with moving air stream stabilized with black pigmented neoprene. Duct liner shall comply with requirements of NFPA 90A as to flame spread and smoke developed ratings. Duct liner shall be factory treated with antimicrobial/antibacterial treatment to prevent formation & growth of bacteria.

B. Acceptable Manufacturers: Johns-Manville, Microtex; PPG Industries, Testrafine; or Certain-Teed/Saint Gobain, Coated Ultralite.

C. Attachment: Attach to the interior of sheet metal ducts using a full coverage coat of Foster's 85-20 adhesive and mechanical fasteners applied as follows:

1. Horizontal Ducts: Install mechanical fasteners on underside of the tops of ducts over twelve inches in width and on the insides of ducts over sixteen inches in height.

2. Vertical Ducts: Install mechanical fasteners on all duct surfaces exceeding twelve inches.

3. Fastener Spacing: Install fasteners within two inches of the leading edge of each duct section and within three inches of the leading edge of cross joints in insulation within any given duct section. Pins shall thereafter be spaced at not more than fifteen inches on centers. Pins shall be installed in strict accordance with manufacturer's instructions.

D. Edge Stabilization: All exposed edges and the leading edge of all cross joints of liner shall be coated with Foster's 30-36.

2.4 LOW PRESSURE FLEXIBLE DUCTS

A. General:

1. The inclusion of flexible ducts in this specification shall not be construed as approval of use on the project unless specifically shown on the Drawings.

2. Where used, provide in factory finished lengths not in excess of lengths required to make kink-free connections with minimum air pressure drop.

B. Insulated flexible ducts: Flexible duct shall be factory-fabricated preinsulated type with seamless vapor barrier. Duct shall bear UL 181 Class 1 Air Duct label and shall comply with NFPA 90A and 90B. Fiberglass insulation nominal 1" thickness with thermal conductance of 0.23 BTU/hr-ft2-oF maximum at 75oF mean temperature. Flexible duct shall have an operating range of minus 0.5" w.g. to plus 2" w.g. Core shall be continuous and consist of aluminized mylar laminated to corrosion resistant steel wire helix. Vapor barrier perm rating shall be 0.17 maximum per ASTM E96-A. Maximum working velocity shall be 4000 FPM. Flexible duct shall be Genflex SLR-25, Clevaflex Type KQ, Wire Mold type WG, Flexmaster Type 5B, or approved equal.

C. Un-insulated flexible ducts, steel: Flexible ductwork shall be constructed of all metal one ply hot-dipped galvanized steel, closely corrugated for strength and flexibility, with seams interlocked, folded flat, and knurled to insure tightness. Duct shall be listed as #UL181 "Flexible Air Duct", Class 1, and NFPA 90A. Products shall be Flexmaster Type NI-TL, Clevaform Type GS or approved equal.

D. Round branch take-off fittings for flexible duct

1. Round duct branch take-off fitting shall be made of galvanized sheet metal designed for twist-in installation and to assure minimum air loss at the take-off. The fittings shall be of the conical converging type to reduce the pressure drop through the fittings. Provide a raised bead on the throat of the fitting to assure a tight positive connection. Products shall be Flexmaster Model CB-DE-BO3 or approved equal.

2. Provide each fitting with the following:

a. Lockable quadrant damper.
b. 45-degree extractor scoop.
c. Insulation guard where used with internally lined duckwork.

3. Provide these "spin-in" type fittings at all connections between rigid sheet metal duct and flexible duct at the upstream end of the flexible duct.

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NTS	07/28/2025
DRAWN BY:	CHECKED BY:
LAH	LAH

NO	REVISION	DATE

SHEET TITLE:

SPECIFCATIONS - HVAC

PROJECT NO.	SHEET NO.
4274-21	M7.01

CODE REFERENCE

- FLORIDA BUILDING CODE - PLUMBING - 8TH EDITION (2023)
- FLORIDA BUILDING CODE - FUEL GAS - 8TH EDITION (2023)
- FLORIDA BUILDING CODE - ACCESSIBILITY - 8TH EDITION (2023)
- FLORIDA BUILDING CODE - ENERGY CONSERVATION - 8TH EDITION (2023)

PLUMBING SHEET INDEX

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P1.02	MEZZANINE FLOOR PLAN - PLUMBING
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P6.01	FIXTURE SCHEDULE - PLUMBING

GENERAL NOTES

1. EACH CONTRACTOR, PROPOSER, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO INSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICTS WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS.
2. INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING AND THE COLLECTION OF CONDENSATION THEREON. IF IN DOUBT, CONTACT THE ARCHITECT.
3. ADVISE ARCHITECT OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC.. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATIONS BY WRITTEN ADDENDUM.
4. DEVIATIONS FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.
5. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY,COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC..)
6. INSTALL EQUIPMENT, MATERIALS, ETC.. IN STRICT ACCORD WITH MANUFACTURERS' RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INTENT IN CONTRACT DOCUMENTS, ADVISE THE ARCHITECT PRIOR TO INSTALLATION FOR CLARIFICATIONS.
7. ALL SYSTEMS, EQUIPMENT, AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. FINAL DETERMINATION OF THE ACCEPTABILITY OF THE QUALITY OF WORK RESIDES WITH THE ARCHITECT.
8. ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS DOCUMENTED BY THE ARCHITECT, UNLESS LONGER WARRANTY PERIODS FOR EQUIPMENT ARE SPECIFIED.
9. UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL EQUIPMENT AND/OR MATERIALS WITHIN OCCUPIED SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL BE PRIMED AND FINISHED SO AS TO COMPLEMENT ADJACENT SURFACE, UNLESS OTHERWISE NOTED. COORDINATE WORK WITH ARCHITECT.
10. ALL ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LABELED BY UNDERWRITER'S LABORATORIES OR OTHER APPROVED LISTING AGENCY. APPROVED AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ARCHITECT IN WRITING.
11. ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO INSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE OR SUB-SERVICE FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRIC LINES. VERIFY THE LOCATION, SIZE TYPE, ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARDS AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.
12. ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, SUPPORT FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES, EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT AND CONSENT OF THE OTHER TRADE, IN WRITING.
13. WHERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME PROVIDING PREMIUM TIME AS NEEDED.
14. WHERE PENETRATING NEW ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATION IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING INSTALLER/ARCHITECT.
15. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES, CASH CONTRIBUTIONS OR OTHER COSTS THAT THE UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (ELECTRIC, TELEPHONE, TELEVISION, ETC..)
16. DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ARCHITECT OR NOT SHALL BE THE RESPONSIBILITY OF THE PURCHASER.
17. INTERRUPTION OF ANY EXISTING SERVICES SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR, UTILITY COMPANY, ARCHITECT, AND OWNER AS NECESSARY, WITH AT LEAST ONE WEEK IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN PARTIES MENTIONED, TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED TWO WEEKS IN ADVANCE, IN WRITING. IF UTILITY COMPANY REQUIRES A LONGER NOTIFICATION PERIOD, SO PROVIDE.
18. ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ARCHITECT FOR CLARIFICATION PRIOR TO INSTALLING ANY SUCH WORK.
19. DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE, WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONED SUPPLIED TO THE CONTRACTOR.
20. IT IS NOT INTENDED THAT THE PLANS SHOW ALL OFFSETS IN PIPES, CONDUITS, AND DUCTS REQUIRED FOR INSTALLATION OF THE WORK DETAILS AND SECTIONS ARE INCLUDED FOR SOME AREAS TO SHOW INTENDED RELATIONSHIP OF THE WORK OF VARIOUS TRADES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTORS TO COORDINATE INSTALLATION OF THE WORK AND TO PROVIDE THE NECESSARY OFFSETS, TRANSFORMATIONS, AND FITTINGS REQUIRED. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CORRECTING CONFLICTS BETWEEN THE WORK OF VARIOUS TRADES. DETAILS AND SECTIONS ARE SHOWN FOR THE CONTRACTORS' CONVENIENCE AND SHALL NOT BE CONSIDERED COMPLETE IN EVERY DETAIL.
21. ALL WORK SHOWN ON DRAWINGS (EQUIPMENT, DUCTWORK, PIPING FIXTURES, RACEWAYS, WIRING, ETC.) ARE NEW, TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
22. ALL PIPING SHALL BE INSTALLED AS HIGH AS POSSIBLE. COORDINATION WITH ALL TRADES WILL BE REQUIRED.
23. REFER TO DOMESTIC WATER RISER DIAGRAM FOR LOCATIONS OF ALL VALVES AND ACCESSORIES TO BE INSTALLED.
24. WATER HAMMER ARRESTORS, TRAP PRIMERS, VALVES, ETC. SHALL BE ACCESSIBLE. PROVIDE ACCESS PANELS WHERE ANY ITEM IS INSTALLED IN AN INACCESSIBLE SPACE.
25. INSULATE HOT WATER PIPING IN ACCORDANCE WITH FLORIDA ENERGY EFFICIENCY CODE.
26. METALLIC PIPING SHALL BE INSTALLED IN FIRE RATED WALL. (TYPICAL)
27. SEAL ALL PIPING PENETRATIONS WITH NON-SHRINK MASTIC.
28. DOMESTIC WATER PIPING WITHIN 5 FEET OF THE BUILDING SEWER/DRAIN PIPING IS TO BE A MINIMUM OF 12 INCHES ABOVE THE HIGHEST POINT OF THE BUILDING SEWER/DRAIN PIPING AND THE PIPE MATERIALS MUST CONFORM TO THE FLORIDA BUILDING CODE 2023 - PLUMBING.
29. PLUMBING CONTRACTOR SHALL COORDINATE UNDERGROUND PIPING WITH BUILDING FOUNDATION.
30. WHERE PIPING PENETRATES FOOTING, REFER TO STRUCTURAL DRAWINGS FOR SLEEVING METHODS.
31. WHERE INVERT ELEVATIONS ARE HIGHER ON PLUMBING DRAWINGS, PLUMBING CONTRACTOR SHALL INSTALL PIPING AS PER THE PLUMBING CONTRACT DRAWINGS AND PROVIDE A 45° DROP TO MEET THE CIVIL ENGINEERS POINT OF CONNECTION. IF ANY CONFLICTS ARISE WHERE CIVIL ENGINEERS' POINT OF CONNECTIONS ARE SHALLOWER THAN ON THE PLUMBING CONTRACT DOCUMENTS, PLUMBING CONTRACTOR SHALL CONTACT THE ARCHITECT/ENGINEER.
32. SUPPLY AND TRAP WRAPS SHALL BE PROVIDED AT ADA LAVATORIES AND SINKS WHERE PIPING IS EXPOSED.
33. WHERE PIPING IS NEAR ROOF ACCESS HATCH CONTRACTOR SHALL ROUTE ALL PIPING TO CLEAR ALL LADDERS AND OPENINGS.
34. COORDINATE VENT THRU ROOF WITH ALL EQUIPMENT . WHERE PIPING IS WITHIN 10'-0" OF EQUIPMENT, LOUVERS ETC. VENT THRU ROOF SHALL BE MOVED TO MAINTAIN A 10'-0" CLEARANCE OF OUTSIDE AIR OPENING.
35. P-TRAPS INSTALLED ON ALL FLOOR DRAINS SHALL BE DEEP SEAL TRAPS.
36. PROVIDE ROUGH-IN AND FINAL CONNECTIONS FOR ALL PLUMBING UTILITIES AND SERVICES FOR EQUIPMENT PROVIDED BY OTHERS.
37. WATER HAMMER TO BE INSTALLED IN ALL QUICK CLOSING FIXTURES.
38. WHEN NONMETALLIC PIPE IS USED IN COMBINATION SYSTEMS UTILIZING STEEL PIPING INTERNALLY COATED WITH CORROSION INHIBITORS AND NONMETALLIC PIPING, THE STEEL PIPE COATING SHALL BE INVESTIGATED FOR COMPATIBILITY WITH THE NONMETALLIC PIPING BY A TESTING LABORATORY.
39. WHEN FABRICATING STEEL PIPE FOR A COMBINATION (CPVC-STEEL) SYSTEM, THE CUTTING OIL AND LUBRICANTS CAN CAUSE PERFORMANCE DEGRADATION OF THE CPVC PIPING. CUTTING OILS AND LUBRICANTS FOUND TO BE COMPATIBLE ARE AVAILABLE AND SHALL BE USED.
40. WHEN NONMETALLIC PIPE IS USED IN COMBINATION SYSTEMS UTILIZING STEEL PIPE THAT IS NOT INTERNALLY COATED WITH CHEMICAL CORROSION INHIBITORS, NO ADDITIONAL EVALUATIONS SHALL BE REQUIRED.
41. WHEN NONMETALLIC PIPE IS USED IN COMBINATION SYSTEMS UTILIZING STEEL PIPE, CUTTING OILS AND LUBRICANTS USED FOR FABRICATION OF THE STEEL PIPING SHALL BE COMPATIBLE WITH THE NONMETALLIC PIPE MATERIALS.
42. FIRE-STOPPING MATERIALS INTENDED FOR USE ON NONMETALLIC PIPING PENETRATIONS SHALL BE INVESTIGATED FOR COMPATIBILITY WITH THE NONMETALLIC PIPE MATERIALS.
43. ALL CPVC PIPING, FITTINGS AND SOLVENTS SHALL BE FROM A SINGLE MANUFACTURERS. MIXING OF MANUFACTURERS IS NOT ALLOWED OR PERMITTED.
44. CPVC PIPING INSTALLATION SHALL BE IN CONFORMANCE WITH MANUFACTURER'S SPECIFICATIONS AND GUIDELINES.
45. PROVIDE IDENTIFICATION (LABELING) FOR DOMESTIC ACCESSORIES HIDDEN ABOVE / BEHIND CEILING TILES AND ACCESS PANELS.

ABBREVIATIONS

AMP	AMPERES
AC	AIR CONDITIONING
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
APPROX	APPROXIMATELY
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
AUTO	AUTOMATIC
AUX	AUXILIARY
BFF	BELOW FINISHED FLOOR
BLDG	BUILDING
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
BWV	BACK WATER VALVE
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEAN-OUT
COMB	COMBINATION
COMPR	COMPRESSOR
COND	CONDENSATE OR CONDENSER
CONT	CONTINUATION
CMU	CONCRETE MASONRY UNIT
CU FT	CUBIC FEET
CW	DOMESTIC COLD WATER
D	DRAIN LINE
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
DX	DIRECT EXPANSION
ECO	EXTERIOR CLEANOUT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EL	ELEVATION
ELEC	ELECTRIC
EQ	EQUAL
EXP	EXPANSION
EEW	EYE WASH/SHOWER
°F	DEGREES FAHRENHEIT
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FG	FINISHED GRADE
FPS	FEET PER SECOND
FS	FLOOR SINK
LP	LIQUID PROPANE
GA	GAUGE
GAL	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GO	GAS OUTLET
GR	GREASE WASTE LINE
GWH	GAS WATER HEATER
H20	WATER
HB	HOSE BIBB
HP	HORSEPOWER
HR	HOUR
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
HZ	FREQUENCY
IN	INCH OR INCHES
INSUL	INSULATION
IPS	IRON PIPE SIZE
IWH	INSTANTANEOUS WATER HEATER
KW	KILOWATT
L	LAVATORY
LBS	POUNDS
LP	LIQUID PROPANE FUEL
LT	LENGTH
MAX	MAXIMUM
MB	MIXING BOX
MBH	THOUSANDS, BTUH
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MIN	MINIMUM
MS	MOP SINK
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NG	NATURAL GAS
NO	NORMALLY OPEN
OD	OUTSIDE DIAMETER
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
R	RISE
RCP	RECIRCULATING PUMP (HWR)
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RV	RELIEF VALVE
S	KITCHEN SINK (DOMESTIC)
SAN	SANITARY
SAU	SOUND ATTENUATION UNIT
SCW	SOFT COLD WATER
SH	SHOWER
SMH	STORM MANHOLE
SPEC	SPECIFICATION
ST	STORM
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TYP	TYPICAL
V	VENT LINE
VLV	VALVE
VTR	VENT THRU ROOF
W/	WITH
WC	WATER CLOSET
WC.	WATER COLUMN
WCO	WALL CLEANOUT
WG	WATER GAUGE
WH	WALL HYDRANT
WMS	WIRE MESH SCREEN
W/O	WITHOUT
WB	SUPPLY BOX (CLOTHES WASHER)
RD	ROOF DRAIN

SYMBOL LEGEND

- PIPE SECTION - SUPPLY
- PIPE SECTION - RETURN
- DIRECTION OF FLOW IN PIPE
- PIPE UP
- PIPE DOWN
- BALL VALVE
- CHECK VALVE
- GATE VALVE
- GLOBE VALVE
- BALANCING VALVE
- PLUG VALVE
- STRAINER, Y-TYPE AND BLOWOFF VALVE
- PRESSURE RELIEF VALVE (WATER)
- PRESSURE REDUCING VALVE
- VALVE IN SERVICE BOX WITH CAST IRON COVER
- SOLENOID VALVE
- FCO — FLOOR CLEANOUT
- ECO — EXTERIOR CLEANOUT
- 2-WAY ECO — EXTERIOR 2-WAY CLEANOUT
- WCO — WALL CLEANOUT
- CO — HORIZONTAL CLEANOUT
- CAPPED PIPE
- POINT OF CONNECTION OF NEW TO EXISTING
- POINT OF DISCONNECT FROM EXISTING
- T — DELTA T (TEMPERATURE DIFFERENCE
- HOT WATER RECIRCULATOR PUMP
- HOSE BIBB
- FLOOR DRAIN
- HUB DRAIN
- FLOOR SINK
- TRENCH DRAIN
- DOMESTIC COLD WATER PIPING
- DOMESTIC HOT WATER PIPING (120°F)
- 140 — DOMESTIC HOT WATER PIPING (140°F)
- DOMESTIC HOT WATER RETURN PIPING
- VENT PIPING
- SAN — SANITARY/SEWER PIPING
- ST — STORM PIPING
- TP — TRAP PRIMER PIPING

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SEAL:

This item has been electronically signed and sealed by Louna Hall, PE on the date adjacent to the seal.

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SHEET TITLE:

GENERAL NOTES - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P0.01

SECTION 220100 - GENERAL PROVISIONS FOR PLUMBING WORK:

DO ALL WORK IN COMPLIANCE WITH ALL APPLICABLE CODES, LAWS AND ORDINANCES, THE FLORIDA BUILDING CODE AND THE REGULATIONS OF THE LOCAL UTILITY COMPANIES. OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS.

COOPERATE WITH OTHER TRADES AND CONTRACTORS AT JOB. PERFORM WORK IN SUCH MANNER AND AT SUCH TIMES AS NOT TO DELAY WORK OF OTHER TRADES.

OBTAIN MANUFACTURER'S DATA ON ALL EQUIPMENT, THE DIMENSIONS OF WHICH MAY AFFECT INSTALLATION. USE THIS DATA TO COORDINATE PROPER SERVICE CHARACTERISTICS, ENTRY LOCATIONS, ETC., AND TO INSURE MINIMUM CLEARANCES ARE MAINTAINED.

WORKMAN SHALL BE EXPERIENCED IN THEIR RESPECTIVE TRADE. WORKMANSHIP OF INSTALLED WORK SHALL BE FIRST CLASS AND WILL BE SO JUDGED. SUB-STANDARD WORK SHALL BE REMOVED AND REPLACED AT CONTRACTOR'S EXPENSE.

CONTRACTOR SHALL AND DOES HEREBY WARRANT ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS SECTION TO BE FREE FROM DEFECTS AND TO FUNCTION OR OPERATE SATISFACTORILY FOR ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK, AND THAT ANY ITEMS NOT MEETING THIS REQUIREMENT WILL BE MADE GOOD BY HIM WITHOUT ANY COST TO THE OWNER.

PROVIDE ONLY NEW, STANDARD FIRST-GRADE MATERIALS THROUGHOUT, CONFORMING TO STANDARDS ESTABLISHED BY UNDERWRITER LABORATORIES INC., ANS SO MARKED AND LABELED, TOGETHER WITH MANUFACTURER'S BRAND OR TRADEMARK. ALL LIKE ITEMS SHALL BE OF ONE MANUFACTURER.

ALL WORK SHALL BE EXECUTED IN A MANNER THAT SHALL PRESENT A NEAT APPEARANCE UPON COMPLETION. CARE SHALL BE EXERCISED THAT ALL ITEMS ARE PLUMB, STRAIGHT AND LEVEL.

UPON COMPLETION OF WORK, ALL SYSTEMS SHALL BE TESTED, AND SHALL BE SHOWN TO BE IN PERFECT WORKING CONDITION IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS.

ANY WALLS, CEILINGS, EQUIPMENT, ETC., DAMAGED BY THE CONTRACTOR IN CONSTRUCTION OF THIS PROJECT SHALL BE REPAIRED, RESTORED AND/OR REPLACED BY THE CONTRACTOR TO ITS ORIGINAL CONDITION, OR TO PERFORM ITS INTENDED FUNCTION, AT NO ADDITIONAL COST TO OWNER.

ALL PIPING SHALL BE CONCEALED ABOVE CEILINGS WHERE APPLICABLE. ALL PIPING SHALL BE INSTALLED PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS.

ALL EQUIPMENT SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE, AS EVIDENCED BY DATE OF CERTIFICATE FOR FINAL PAYMENT, AGAINST DEFECTIVE MATERIALS, DESIGN AND WORKMANSHIP. IN ADDITION TO THE GUARANTEE, THE CONTRACTOR SHALL PROVIDE ALL REPAIR AND ADJUSTMENT SERVICE NECESSARY FOR THE PROPER OPERATION OF THE ENTIRE SYSTEM FOR A PERIOD OF ONE (1) YEAR AFTER THE SYSTEM IS PUT INTO OPERATION (CONCURRENT WITH THE GUARANTEE). UPON RECEIPT OF NOTICE FROM THE OWNER'S REPRESENTATIVE OF FAILURE OF ANY PART OF THE GUARANTEED EQUIPMENT DURING THE GUARANTEE PERIOD, THAT AFFECTED PART SHALL BE REPLACED PROMPTLY WITH A NEW PART WITHOUT COST TO THE OWNER. UPON FAILURE TO TAKE ACTION WITHIN 24 HOURS AFTER BEING NOTIFIED, THE WORK WILL BE ACCOMPLISHED BY THE ARCHITECT AT THE EXPENSE OF THE CONTRACTOR.

SECTION 220529 - HANGERS, SUPPORTS AND ANCHORS:

HANGERS - GRINNELL BY ANVIL, B-LINE, FEE AND MASON, PHD, VIKING AND RELIABLE.
GRINNELL FIGURE #260 MSS TYPE 1, CLEVIS HANGER FOR: NON-INSULATED STEEL AND GALVANIZED PIPING 2" THROUGH 24", NON-INSULATED CAST IRON PIPE - 3" AND LARGER.
GRINNBLE FIGNURE #CT-69, MSS TYPE 10 WITH ADJUSTABLE WROUGHT TUBING RING HANGER, COPPER PLATED FOR: NON-INSULATED COPPER TUBING WITH NO LONGITUDINAL MOVEMENT; NON-INSULATED CAST IRON PIPING 2" AND LESS.
EXPANSION ANCHORS: HILTI KWIK-BOLT, ZINC PLATED, METAL EXPANSION ANCHOR TO BE USED ON EXISTING CONSTRUCTION. ANCHOR TO MEET U.L., ICBO-4627 AND FM LISTINGS.

STEEL HANGER RODS: THREADED BOTH ENDS, THREADED ONE END, OR CONTINUOUS THREADED. INSERTS: MALLEABLE IRON CASE OF GALVANIZES STEEL SHELL AND EXPANDER PLUG FOR THREADED CONNECTION WITH LATERAL ADJUSTMENT, TOP SLOT FOR REINFORCING RODS, LUGS FOR ATTACHING TO FORMS; SIZE INSERTS TO SUIT THREADED HANGER RODS.

BEAM CLAMPS MAY BE USED WHEN SUPPORTING PIPING FROM STEEL STRUCTURES. BEAM CLAMPS SHALL HAVE MALLEABLE IRON JAWS, STEEL BOLT OR TIE ROD AND NUT.

HORIZONTAL HANGER SPACING SHALL BE PER PIPE MFGR'S RECOMMENDATIONS OR CODE; WHICHEVER IS MOST STRINGENT.

EXTERIOR HANGERS SHALL BE STAINLESS STEEL INCLUDING CLAMPS, THREADED ROD, NUTS. BOLTS, ETC.
INTERIOR HANGERS SHALL BE GALVANIZED INCLUDING CLAMPS, THREADED ROD, NUTS. BOLTS, ETC.
HANGERS SUPPORTING UNINSULATED COPPER PIPING SHALL BE COPPER PLATED.

PIPE HANGERS FOR COPPER PIPE SHALL BE COPPER AND FOR STEEL PIPE SHALL BE ZINC-PLATED, CLEVIS TYPE HANGERS.

HANGERS FOR PRESSURE PIPING SHALL BE CLEVIS TYPE OR ACCEPTED AS EQUIVALENT. PIPE HANGERS SHALL BE CAPABLE OF VERTICAL ADJUSTMENT AFTER ERECTION OF THE PIPING. PIPING SHALL NOT BE HUNG FROM FIRE AND/OR SMOKE WALLS.

VERTICAL PIPING SUPPORTS SHALL BE CONSTRUCTED OF CARBON STEEL WITH ROUNDED EARS AND TWO OR FOUR HOLES FOR CLAMPING BOLTS. STEEL, GALVANIZED AND CAST IRON PIPING RISER CLAMPS SHALL HAVE GALVANIZED FINISH. COPPER AND BRASS PIPING RISER CLAMPS SHALL BE COPPER.

CONCRETE INSERTS SHALL BE PLACED IN FORMS AS WORK OF DIVISION 22 PRIOR TO THE TIME THAT CONCRETE IS POURED.

LEAD TAMP-INS MAY BE USED WHEN INSTALLED IN A CONCRETE OR MASONRY WALL OR OTHER LIKE VERTICAL SURFACE TO SUPPORT A VERTICAL HANGER. LEAD TAMP-INS WILL NOT BE PERMITTED TO SUPPORT HANGERS TO THE UNDERSIDE OF A CONCRETE SLAB.

FOR PARALLEL RUNS OF ABOVE GROUND SUSPENDED PIPING, AN ACCEPTABLE TRAPEZE-TYPE HANGER MAY BE USED. PROVIDE PERMANENT, NON-CONDUCTIVE TYPE WRAPPING BETWEEN COPPER PIPE AND STEEL TRAPEZE HANGERS.

POWDER SET TYPE FASTENERS OR INSERTS SHALL NOT BE USED.

COPPER PLATED SUPPORTS BE CONSIDERED AS DISSIMILAR MATERIALS AND ISOLATING TAPE OR NEOPRENE ISOLATORS SHALL BE PROVIDED WHERE COPPER PIPING IS IN CONTACT WITH COPPER PLATED SUPPORT.

PROVIDE AND PROPERLY LOCATE HANGERS TO ADEQUATELY SUPPORT PIPING AND EQUIPMENT. ARRANGE HANGERS TO PERMIT EXPANSION AND CONTRACTION.

THE SIZE OF HANGER FOR NON-INSULATED PIPES SHALL BE SUITABLE FOR PIPE SIZE TO BE SUPPORTED. FOR INSULATED PIPING, THE SIZE OF THE HANGER SHALL BE SUITABLE FOR THE PIPE SIZE, PLUS THE INSULATION AND A 16-GAUGE HALF-CIRCLE GALVANIZED SHEET METAL INSULATION SADDLE. PROVIDE THERMAL HANGER SHIELD INSERT THAT EXTENDS 2" BEYOND SADDLE ON EACH SIDE.

ISOLATION OF COPPER PIPE FROM STEEL AND / OR COPPER PLATED HANGERS TO CONSIST OF WRAPPING PIPE AT, AND 1" EACH SIDE OF CONTACT SURFACE WITH NOT LESS THAN TWO LAYERS OF ADHESIVE TYPE PLASTIC ELECTRICAL INSULATING TAPE.

PIPE SUPPORTS FOR PIPING 2" DIAMETER AND BELOW MAY BE SUPPORTED DIRECTLY FROM EPICURE STEEL DECKING USING EPICURE STANDARD HANGERS (200 LB. MAX. LOAD). PIPING ABOVE 2" SHALL BE SUPPORTED FROM STEEL BEAMS.

HORIZONTAL HANGER SPACING SHALL BE PER PIPE MFGR'S RECOMMENDATIONS OR CODE; WHICHEVER IS MOST STRINGENT.

SUPPORT VERTICAL CAST IRON, STEEL AND COPPER PIPING AT EACH FLOOR PENETRATION NOT TO EXCEED 20 FOOT INTERVALS.

SECTION 220719 - PIPING INSULATION

FIBERGLASS: OWENS CORNING, KNAUF, CERTAINTEED, OR MANVILLE.

ABOVE GROUND DOMESTIC HOT WATER AND DOMESTIC HOT WATER RECIRCULATION PIPING, HORIZONTAL STORM PIPING AND AIR CONDITIONING CONDENSATE SHALL BE INSULATED WITH ASJ FIBERGLASS PIPE INSULATION. PRIOR TO INSTALLING THE INSULATION, THE PRESSURE RELEASE PAPER SHALL BE REMOVED FROM THE JACKET LAPS. THE INSULATION SHALL BE SECURED IN PLACE BY APPLYING PRESSURE TO THE PRESSURE SENSITIVE CLOSURE SYSTEM. ALL FITTINGS SHALL BE INSULATED WITH MOLDED FIBERGLASS PIPE INSULATION SEGMENTS AND FINISHED WITH FOSTER'S 30-35 VAPOR BARRIER COATING OR EQUAL, REINFORCED WITH A LAYER OF WHITE OPEN WEAVE GLASS FABRIC.

DOMESTIC HOT WATER AND HOT WATER RECIRCULATION PIPE SIZES 1-1/4 INCHES AND SMALLER SHALL HAVE 1 INCH THICKNESS INSULATION UNLESS NOTED ON THE DRAWINGS.

DOMESTIC HOT WATER PIPE SIZES 1-1/2 INCHES AND LARGER SHALL HAVE 1-1/2 INCH THICKNESS INSULATION.

HORIZONTAL STORM PIPING SHALL BE INSULATED WITH 1/2" THICKNESS INSULATION. INSULATION SHALL START AT BASE OF DRAIN BODY AND SHALL INCLUDE CHANGE OF DIRECTION ELBOWS FROM VERTICAL TO HORIZONTAL.

AIR CONDITIONING CONDENSATE PIPING SHALL BE INSULATED WITH 1" THICKNESS INSULATION.

FOAMED PLASTIC INSULATION: ARMSTRONG "ARMAFLEX", U.S. RUBBER "ENSOLEX", GUSTIN BACON "ULTRA-FOAM", OWENS CORNING "O-C" HALSTEAD INDUSTRIAL PRODUCTS, OR APPROVED EQUAL.

EXTRUDED POLYETHYLENE INSULATION: NOMACO INC. "THERMACELL, SENTINEL ENERGY SAVINGS PRODUCTS DIVISION OF PACKAGING ENERGY GROUPS, INC., "SENFLEX" OR APPROVED EQUAL.

INSULATE CONDENSATE PIPING AND WASTE LINES FROM ICE MACHINES WITH FOAMED PLASTIC INSULATION OR EXTRUDED POLYETHYLENE, ONE-HALF INCH THICKNESS.

MITRE CUT INSULATION TO FIT THE PIPE FITTINGS. USE MANUFACTURER APPROVED CEMENT TO SEAL ALL JOINTS, SEAMS, AND ENDS IN THE INSULATION.

SECTION 221116 - PLUMBING PIPING

SANITARY SEWER AND STORM PIPING:
PVC PIPE: SOLID WALL ASTM D2665 SCH 40. FITTINGS: PVC. JOINTS: ASTM D2855, SOLVENT WELD.
CAST IRON PIPE: ASTM A74, SERVICE WEIGHT. FITTINGS, CAST IRON. JOINTS, BELL-AND-SPIGOT PUSH-ON TYPE NEOPRENE GASKET BELOW GRADE; NO-HUB TYPE CONFORMING TO CISPI STANDARD 301 WITH HEAVY DUTY COUPLINGS ABOVE GRADE.
PVC PIPE SHALL NOT BE USED IN FIRE WALL PENETRATIONS AND CEILING RETURN PLENUMS WHERE NOT PERMITTED BY BUILDING CODE.

DOMESTIC WATER PIPING ABOVE GRADE WITHIN BUILDING: ASTM B88, TYPE L, HARD TEMPER, COPPER TUBE; ANSI B16.22 STREAMLINED PATTERN WROUGHT-COPPER FITTINGS, WITH SOLDERED JOINTS USING 95-5 TIN-ANTIMONY SOLDER.

DOMESTIC WATER PIPING ABOVE GRADE WITHIN BUILDING: CPVC ASTM F/F441M, SCHEDULE 80, CPVC SOCKET FITTING: ASTM F 439 FOR SCHEDULE 80, CPVC THREADED FITTING: ASTM F 437, SCHEDULE 80, CPVC PIPING SYSTEM: ASTM D 2846/D 2846M, SDR 11 PIPE AND SOCKET FITTING, CPVC TUBING SYSTEM: ASTM D 2846/D 2846M, SDR 11, TUBE AND SOCKET FITTINGS.

DOMESTIC WATER PIPING BELOW GRADE OR BELOW BUILDING FLOOR SLAB: COPPER TUBING CONFORMING TO ASTM B88, TYPE K WITH SOLDERED FITTINGS AND JOINTS AS NOTED ABOVE.

DIELECTRIC CONNECTIONS: UNION WITH GALVANIZED OR PLATED STEEL THREADED END, COPPER SOLDER END, WATER IMPERVIOUS ISOLATION BARRIER.

BALL VALVES UP TO 2 INCHES: FULL PORT BRONZE/STAINLESS STEEL BODY, STAINLESS STEEL BALL, TEFLON SEATS AND STUFFING BOX RING, LEVER HANDLE AND BALANCING STOPS/SOLDER/THREADED ENDS WITH UNION. INCLUDE 2" STEM EXTENSIONS FOR VALVES INSTALLED IN INSULATED PIPING.

SWING CHECK VALVES UP TO 2 INCHES: BRONZE 45/22 DEGREE SWING DISC, SOLDER/SCREWED ENDS.

GAS PIPING: STEEL PIPE: ASTM A 53/A 53M, BLACK STEEL, SCHEDULE 40, TYPE E OR S, GRADE B.
1. MALLEABLE-IRON THREADED FITTINGS: ASME B16.3, CLASS 150, STANDARD PATTERN.
2. WROUGHT-STEEL WELDING FITTINGS: ASTM A 234/A 234M FOR BUTT WELDING AND SOCKET WELDING.
3. UNIONS: ASME B16.39, CLASS 150, MALLEABLE IRON WITH BRASS-TO-IRON SEAT, GROUND JOINT, AND THREADED ENDS.
4. PROTECTIVE COATING FOR UNDERGROUND PIPING: FACTORY-APPLIED, THREE-LAYER COATING OF EPOXY, ADHESIVE, AND PE.
a. JOINT COVER KITS: EPOXY PAINT, ADHESIVE, AND HEAT-SHRINK PE SLEEVES.

GAS APPLIANCE FLEXIBLE CONNECTORS:
1. INDOOR, FIXED-APPLIANCE FLEXIBLE CONNECTORS: COMPLY WITH ANSI Z21.24.
2. INDOOR, MOVABLE-APPLIANCE FLEXIBLE CONNECTORS: COMPLY WITH ANSI Z21.69.
3. OUTDOOR, APPLIANCE FLEXIBLE CONNECTORS: COMPLY WITH ANSI Z21.75.
4. CORRUGATED STAINLESS-STEEL TUBING WITH POLYMER COATING.
5. OPERATING-PRESSURE RATING: 0.5 PSIG.
6. END FITTINGS: ZINC-COATED STEEL.
7. THREADED ENDS: COMPLY WITH ASME B1.20.1.
8. MAXIMUM LENGTH: 72 INCHES.

GAS Y-PATTERN STRAINERS:
1. BODY: ASTM A 126, CLASS B, CAST IRON WITH BOLTED COVER AND BOTTOM DRAIN CONNECTION.
2. END CONNECTIONS: THREADED ENDS FOR NPS 2 AND SMALLER; FLANGED ENDS FOR NPS 2-1/2 AND LARGER.
3. STRAINER SCREEN: STARTUP STRAINER, AND PERFORATED STAINLESS-STEEL BASKET WITH 50 PERCENT FREE AREA.
4. CWP RATING: 125 PSIG.

EXTEND RELIEF VENT CONNECTIONS FOR GAS SERVICE REGULATORS, LINE REGULATORS, AND OVERPRESSURE PROTECTION DEVICES TO OUTDOORS AND TERMINATE WITH WEATHERPROOF VENT CAP.

INSTALL STRAINER ON INLET OF EACH LINE-PRESSURE REGULATOR AND AUTOMATIC OR ELECTRICALLY OPERATED VALVE.

PAINT EXPOSED, EXTERIOR GAS METAL PIPING, VALVES, SERVICE REGULATORS, SERVICE METERS AND METER BARS, EARTHQUAKE VALVES, AND PIPING SPECIALTIES, EXCEPT COMPONENTS, WITH FACTORY-APPLIED PAINT OR PROTECTIVE COATING.

PAINT EXPOSED, INTERIOR GAS METAL PIPING, VALVES, SERVICE REGULATORS, SERVICE METERS AND METER BARS, EARTHQUAKE VALVES, AND PIPING SPECIALTIES, EXCEPT COMPONENTS, WITH FACTORY-APPLIED PAINT OR PROTECTIVE COATING.

DAMAGE AND TOUCHUP: REPAIR MARRED AND DAMAGED FACTORY-APPLIED FINISHES WITH MATERIALS AND BY PROCEDURES TO MATCH ORIGINAL FACTORY FINISH.

EXECUTION:

REAM PIPE AND TUBE ENDS. REMOVE BURRS. BEVEL PLAIN END FERROUS REMOVE SCALE AND DIRT, ON INSIDE AND OUTSIDE, BEFORE ASSEMBLY.

PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES OR UNIONS. PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINTING DISSIMILAR METALS.

ROUTE PIPING IN ORDERLY MANNER AND MAINTAIN GRADIENT. INSTALL BALL VALVES FOR SHUT-OFF AND TO ISOLATE EQUIPMENT, PART OF SYSTEMS, OR VERTICAL RISERS.

DISINFECTION OF DOMESTIC WATER PIPING SYSTEM: PRIOR TO STARTING WORK, VERIFY SYSTEM IS COMPLETE, FLUSHED AND CLEAN. ENSURE PH OF WATER TO BE TREATED IS BETWEEN 7.4 AND 7.6 BY ADDING ALKALI (CAUSTIC SODA OR SODA ASH) OR ACID (HYDROCHLORIC). INJECT DISINFECTANT, FREE CHLORINE IN LIQUID, POWDER, TABLET OR GAS FORM, THROUGHOUT SYSTEM TO OBTAIN 50 TO 80L MG/L RESIDUAL. BLEED WATER FROM OUTLETS TO ENSURE DISTRIBUTION AND TEST FOR DISINFECTANT RESIDUAL AT MINIMUM 15 PERCENT OF OUTLETS. MAINTAIN DISINFECTANT IN SYSTEM FOR 24 HOURS. IF FINAL DISINFECTANT RESIDUAL TEST LESS THAN 25 MG/L, REPEAT TREATMENT. FLUSH DISINFECTANT FROM SYSTEM UNTIL RESIDUAL EQUAL TO THAT OF INCOMING WATER OR 1.0 MG/L.

SECTION 223300 - ELECTRIC DOMESTIC WATER HEATERS

THERMOSTAT-CONTROL, ELECTRIC, TANKLESS, DOMESTIC-WATER HEATERS:

MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING: EEMAX, INC, CHRONOMITE LABORATORIES, INC.

STANDARD: UL 499 FOR ELECTRIC, TANKLESS, (DOMESTIC-WATER HEATER) HEATING APPLIANCE.

CONSTRUCTION: COPPER PIPING OR TUBING COMPLYING WITH NSF 61 ANNEX G BARRIER MATERIALS FOR POTABLE WATER, WITHOUT STORAGE CAPACITY.
1. CONNECTIONS: ASME B1.20.1 PIPE THREAD.
2. PRESSURE RATING: [150 PSIG].
3. HEATING ELEMENT: RESISTANCE HEATING SYSTEM.
4. TEMPERATURE CONTROL: THERMOSTAT.
5. SAFETY CONTROL: HIGH-TEMPERATURE-LIMIT CUTOFF DEVICE OR SYSTEM.
6. JACKET: ALUMINUM OR STEEL WITH ENAMELED FINISH OR PLASTIC.

SUPPORT: BRACKET FOR WALL MOUNTING.

SECTION 224100 - PLUMBING FIXTURES AND EQUIPMENT

PROVIDE FIXTURES, EQUIPMENT, ACCESSORIES, TRIM, ETC WHERE SPECIFIED ON DRAWINGS OR APPROVED EQUAL.

FIXTURE SUPPLY STOPS SHALL BE HEAVY PATTERN.

PROVIDE CHROME PLATED ESCUTCHEONS AT EXPOSED PIPE PENETRATIONS OF WALLS AND CEILINGS.

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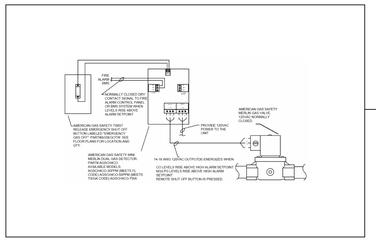
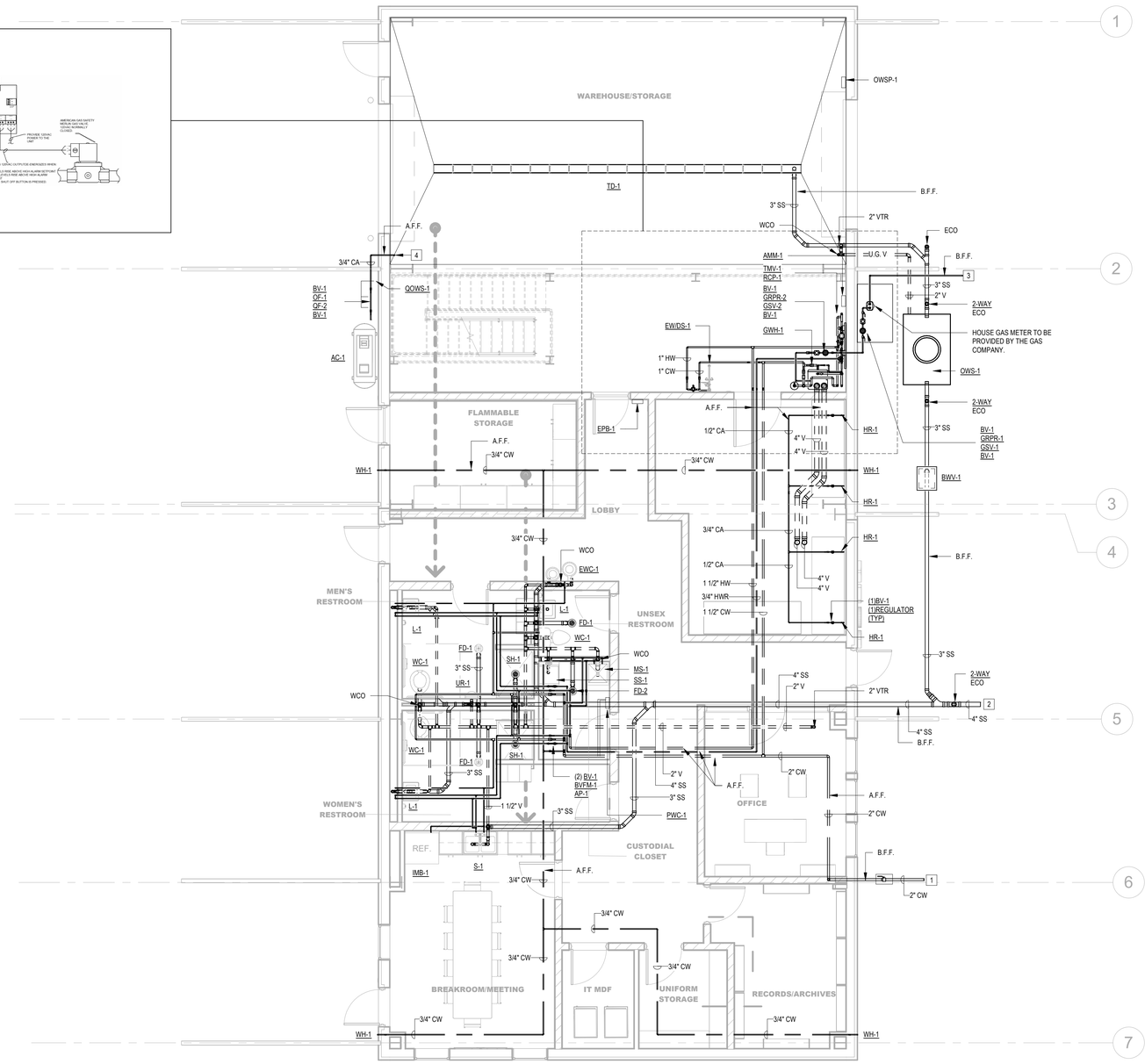
SPECIFICATIONS - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P0.02





PLUMBING KEYNOTES [XX] :

1. 2" DOMESTIC WATER PIPING BELOW GRADE WITH SHUT-OFF VALVE IN SERVICE BOX WITH CAST IRON COVER. REFER TO CIVIL UTILITY SITE PLAN FOR CONTINUATION. (42.3 WATER FIXTURES UNITS @ 62 GPM)
2. 4" SANITARY/SEWER PIPING BELOW GRADE WITH 2-WAY EXTERNAL CLEANOUT. REFER TO CIVIL UTILITY SITE PLAN FOR CONTINUATION. (37 DRAINAGE FIXTURES UNITS AND INVERT ELEVATION @ -2' 9" BELOW FINISHED FLOOR).
3. REFER TO GAS COMPANY / CIVIL DRAWINGS FOR CONTINUATION. GAS COMPANY TO PROVIDE A MINIMUM OF 2 PSI TO GRPR-1, 200 CFH IS REQURIED FOR THE BUILDING.
4. 3/4" COMPRESSED AIR PIPING UP.

THE PLUMBING CONTRACTOR MUST COORDINATE WITH PLUMBING AND STRUCTURAL DOCUMENTS WHEN ROUTING THE UNDERGROUND PLUMBING SYSTEM. THE STRUCTURAL ENGINEER TO PROVIDE A STEP-DOWN OR SLEEVE AS REQUIRED TO AVOID AFFECTING THE CIVIL POINT OF CONNECTION AND UNDERGROUND ROUTING.

1 / P1.01 FIRST FLOOR PLAN - PLUMBING — 3/16" = 1'-0"

TRUE NORTH PROJECT NORTH

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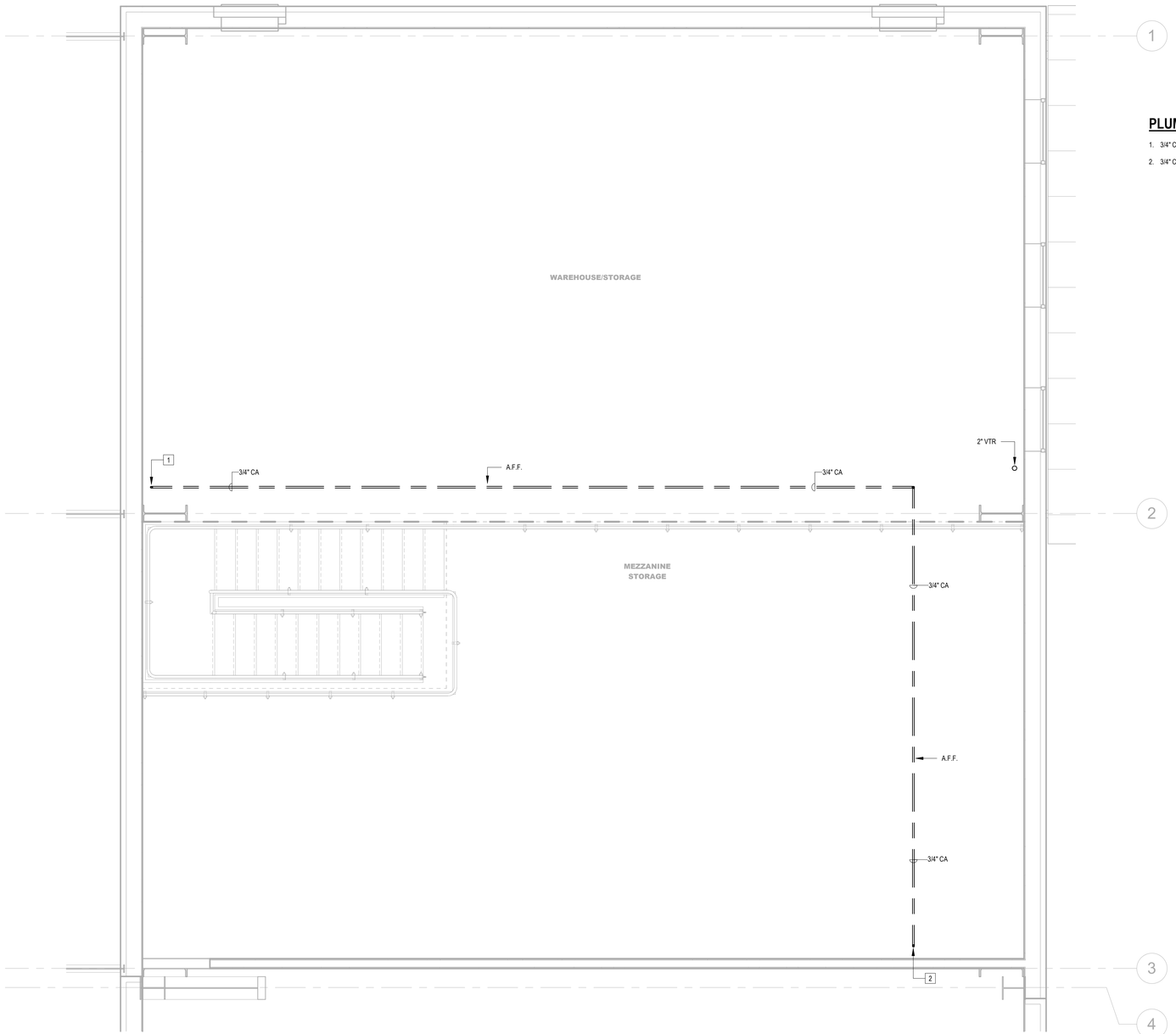
FIRST FLOOR PLAN - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P1.01



PLUMBING KEYNOTES [XX]:

1. 3/4" COMPRESSED AIR PIPING FROM BELOW.
2. 3/4" COMPRESSED AIR PIPING DOWN.

TRUE NORTH / PROJECT NORTH

1 / P1.02 MEZZANINE FLOOR PLAN - PLUMBING — 3/8" = 1'-0"

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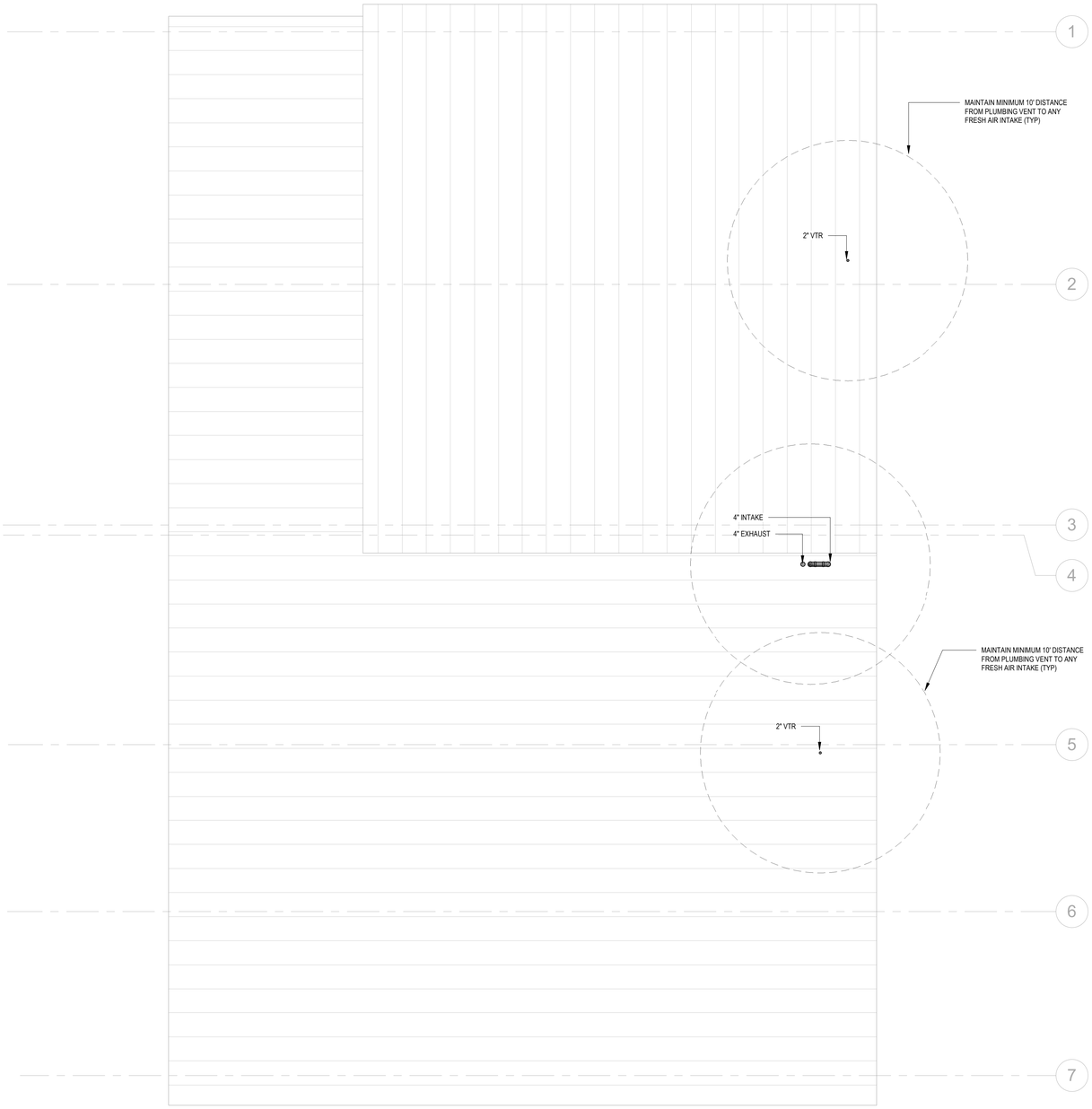
4274-21	P1.02



1 P1.19 ROOF PLAN - PLUMBING

3/16" = 1'-0"

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ROOF PLAN - PLUMBING

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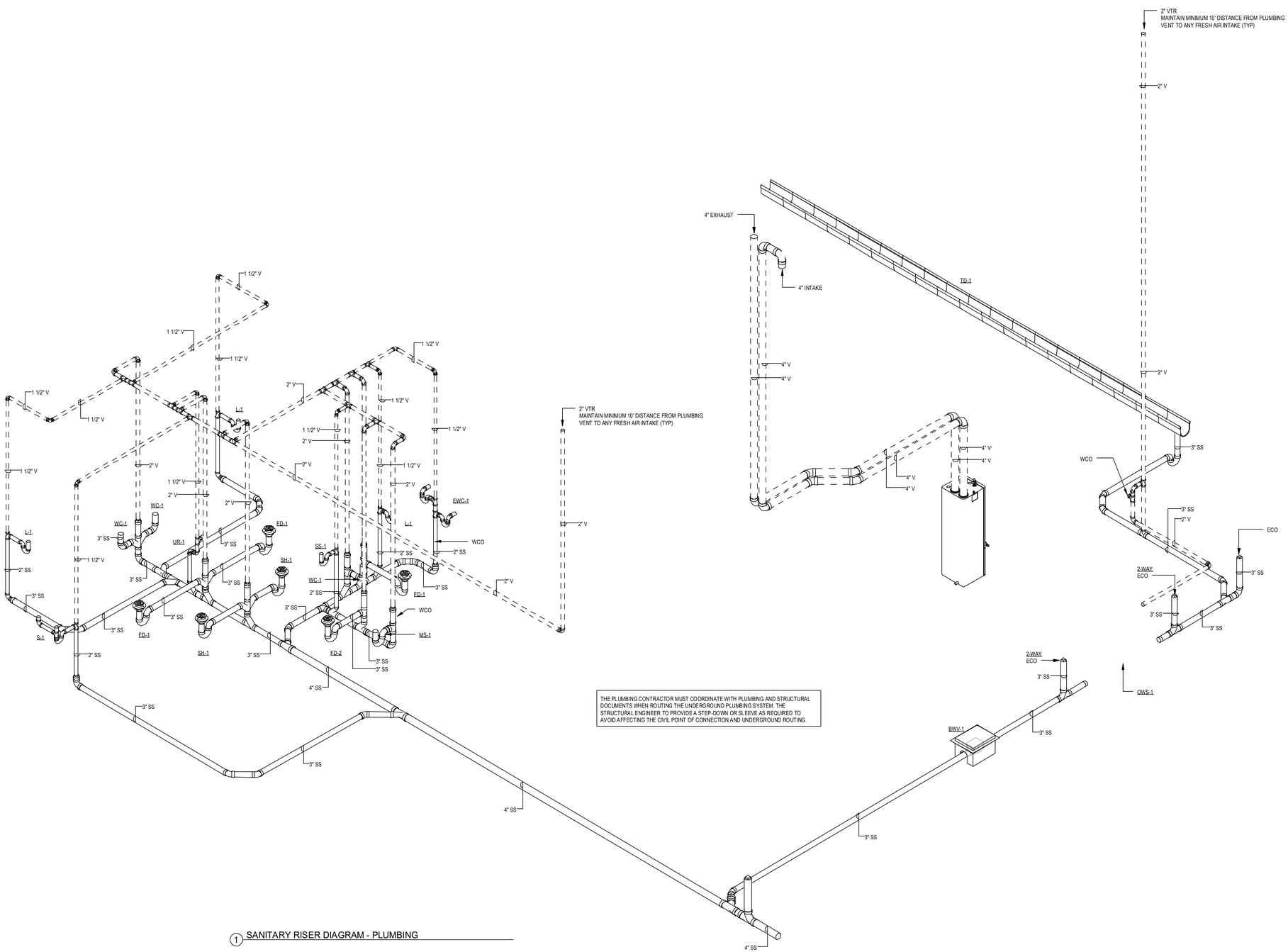

THE PLUMBING CONTRACTOR MUST COORDINATE WITH PLUMBING AND STRUCTURAL DOCUMENTS WHEN ROUTING THE UNDERGROUND PLUMBING SYSTEM. THE STRUCTURAL ENGINEER TO PROVIDE A STEP-DOWN OR SLEEVE AS REQUIRED TO AVOID AFFECTING THE CIVIL POINT OF CONNECTION AND UNDERGROUND ROUTING.

1 SANITARY RISER DIAGRAM - PLUMBING

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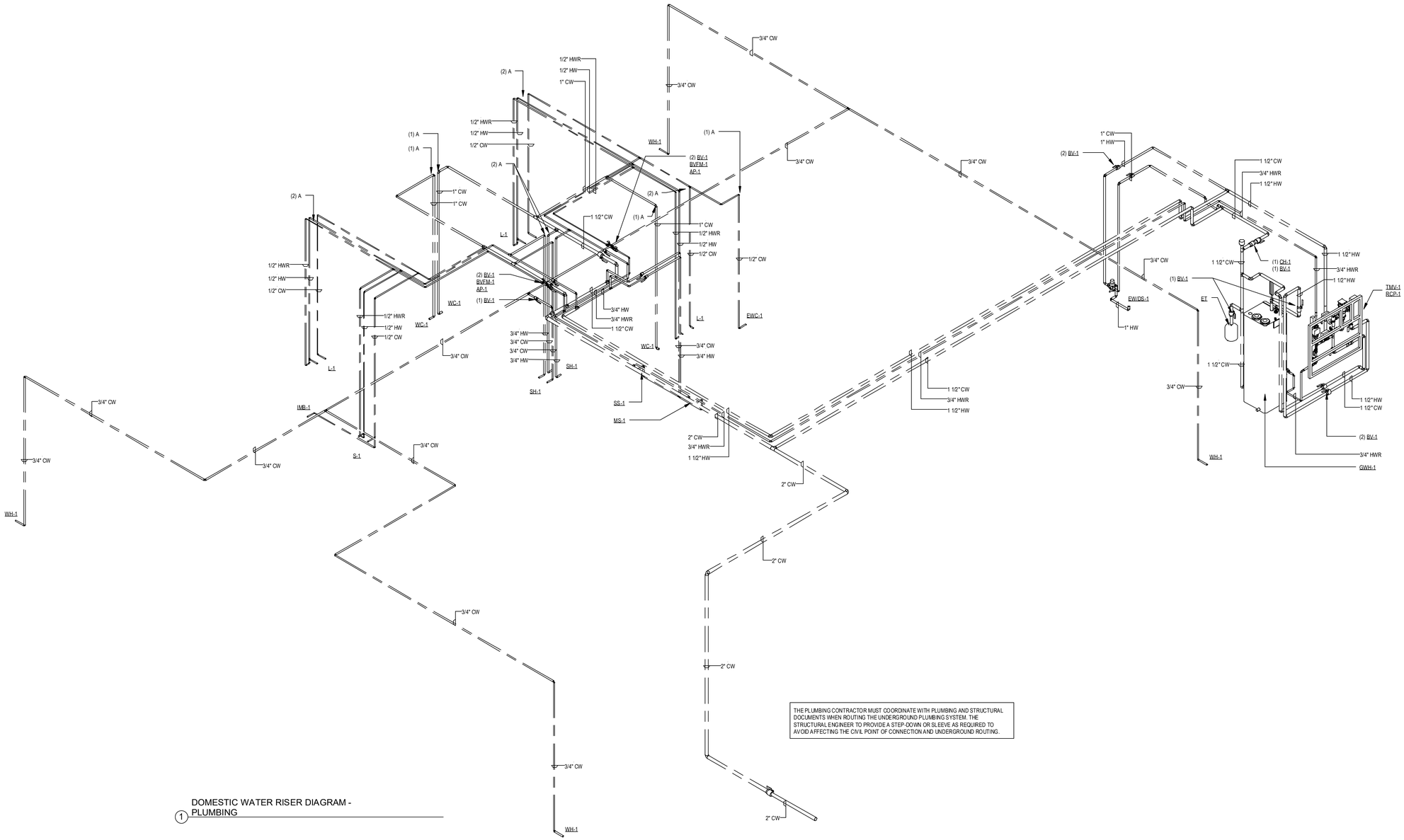

1 DOMESTIC WATER RISER DIAGRAM - PLUMBING

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LOUNA HALL, P.E.
SANFORD, FL. 32771
FL. REG. NO.: PE80464

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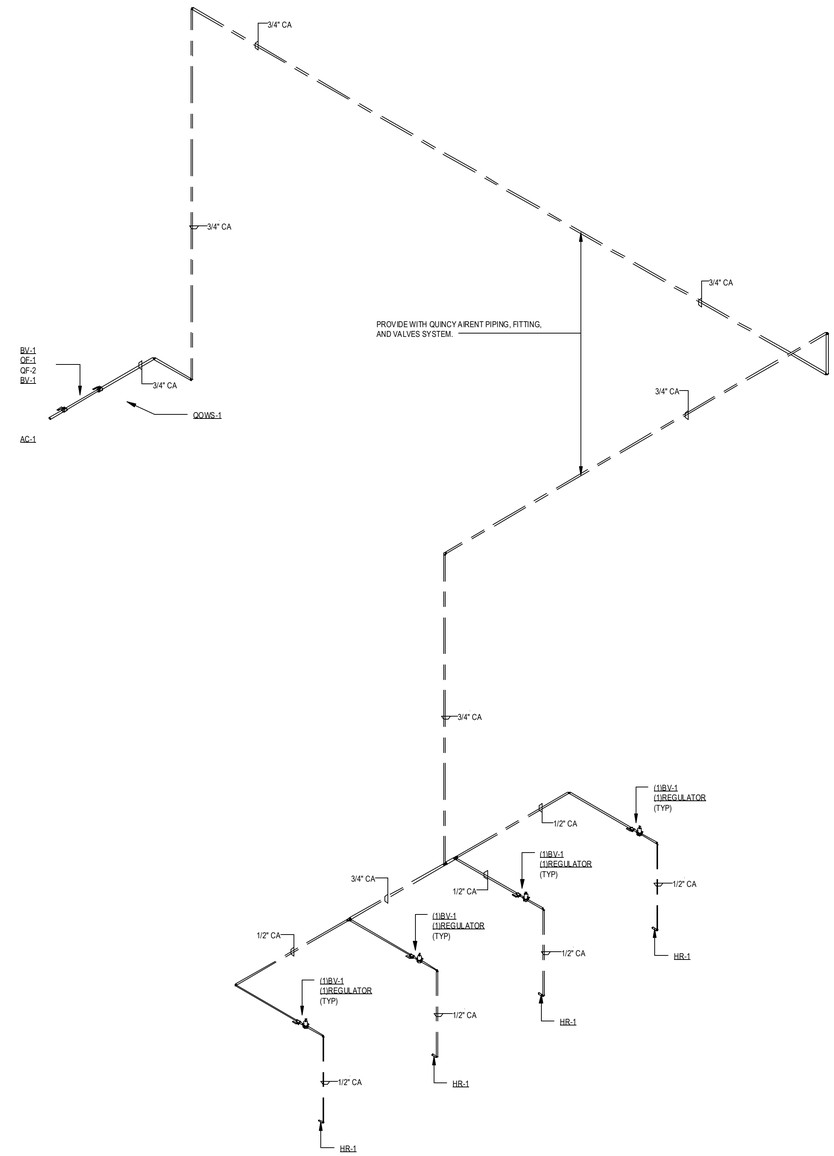
SCALE:	DATE:
	07/28/2025
DRAWN BY:	CHECKED BY:
LAH	LAH

NO	REVISION	DATE

SHEET TITLE:

RISER DIAGRAM - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P2.02



1 COMPRESS AIR RISER DIAGRAM - PLUMBING

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(850) 257-5400

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PANAMA CITY HOUSING AUTHORITY

PROJECT:

PCHA KIRKLAND MAINTEANCE COMPLEX
261 EVERITT AVENUE
PANAMA CITY, FLORIDA 32405

CONSULTANTS:
& Associates
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PANAMA CITY, FL 32404

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ENGINEERS
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UNIT C
PANAMA CITY, FL 32404

CONSULTANTS:
A2H ENGINEERS ARCHITECTS PLANNERS
4815 CAINS WREN TRAIL
SANFORD, FL 32771

JH&A CONSTRUCTION & ENGINEERING
206 FL-79
PANAMA CITY BEACH, FL 32413

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DRAWN BY: LAH	CHECKED BY: LAH

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SHEET TITLE:

RISER DIAGRAM - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P2.03

101613533

TABLE 402.4(5)
SCHEDULE 40 METALLIC PIPE

Gas	Natural
Inlet Pressure	2.0 psi
Pressure Drop	1.0 psi
Specific Gravity	0.60

PIPE SIZE (inch)									
Nominal	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Actual ID	**0.622**	**0.824**	**1.049**	**1.380**	**1.610**	**2.067**	**2.469**	**3.068**	**4.026**
Length (ft)	**Capacity in Cubic Feet of Gas Per Hour**								
10	1,510	3,040	5,560	11,400	17,100	32,900	52,500	92,300	189,000
20	1,070	2,150	3,930	8,070	12,100	23,300	37,100	65,600	134,000
30	869	1,760	3,210	6,590	9,880	19,000	30,300	53,600	109,000
40	753	1,520	2,780	5,710	8,550	16,500	26,300	46,400	94,700
50	673	1,360	2,490	5,110	7,650	14,700	23,500	41,500	84,700
60	615	1,240	2,270	4,660	6,980	13,500	21,400	37,900	77,300
70	569	1,150	2,100	4,320	6,470	12,500	19,900	35,100	71,600
80	532	1,080	1,970	4,040	6,050	11,700	18,600	32,800	67,000
90	502	1,010	1,850	3,810	5,700	11,000	17,500	30,900	63,100
100	462	934	1,710	3,510	5,260	10,100	16,100	28,500	58,200
125	414	836	1,530	3,140	4,700	9,060	14,400	25,500	52,100
150	372	751	1,370	2,820	4,220	8,130	13,000	22,900	46,700
175	344	695	1,270	2,601	3,910	7,530	12,000	21,200	43,300
200	318	642	1,170	2,410	3,610	6,960	11,100	19,600	40,000
250	279	583	1,040	2,140	3,210	6,180	9,850	17,400	35,500
300	253	528	945	1,940	2,910	5,600	8,920	15,800	32,200
350	232	486	869	1,790	2,670	5,150	8,210	14,500	29,600
400	216	452	809	1,660	2,490	4,790	7,640	13,500	27,500
450	203	424	759	1,560	2,330	4,500	7,170	12,700	25,800
500	192	401	717	1,470	2,210	4,250	6,770	12,000	24,400
550	182	381	681	1,400	2,090	4,030	6,430	11,400	23,200
600	174	363	650	1,330	2,000	3,850	6,130	10,800	22,100
650	166	348	622	1,280	1,910	3,680	5,870	10,400	21,200
700	160	334	598	1,230	1,840	3,540	5,640	9,970	20,300
750	154	322	576	1,180	1,770	3,410	5,440	9,610	19,600
800	149	311	556	1,140	1,710	3,290	5,250	9,280	18,900
850	144	301	538	1,100	1,650	3,190	5,080	8,980	18,300
900	139	292	522	1,070	1,600	3,090	4,930	8,710	17,800
950	135	283	507	1,040	1,560	3,000	4,780	8,460	17,200
1,000	132	275	493	1,010	1,520	2,920	4,650	8,220	16,800
1,100	125	262	468	960	1,440	2,770	4,420	7,810	15,900
1,200	119	250	446	917	1,370	2,640	4,220	7,450	15,200
1,300	114	239	427	878	1,320	2,530	4,040	7,140	14,600
1,400	110	230	411	843	1,260	2,430	3,880	6,860	14,000
1,500	106	221	396	812	1,220	2,340	3,740	6,600	13,500
1,600	102	214	382	784	1,180	2,260	3,610	6,380	13,000
1,700	99	207	370	759	1,140	2,190	3,490	6,170	12,600
1,800	96	200	358	736	1,100	2,120	3,390	5,980	12,200
1,900	93	195	348	715	1,070	2,060	3,290	5,810	11,900
2,000	91	189	339	695	1,040	2,010	3,200	5,650	11,500

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square inch = 6.895 kPa, 1-inch water column = 0.2488 kPa,
1 British thermal unit per hour = 0.2931 W, 1 cubic foot per hour = 0.0283 m^3/h, 1 degree = 0.01745 rad.
Note: All table entries have been rounded to three significant digits.

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101613533

TABLE 402.4(4)
SCHEDULE 40 METALLIC PIPE

Gas	Natural
Inlet Pressure	Less than 2 psi
Pressure Drop	6.0 in. w.c.
Specific Gravity	0.60

INTENDED USE: Initial supply pressure of 11.0 inches w.c. or greater									
PIPE SIZE (inch)									
Nominal	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Actual ID	**0.622**	**0.824**	**1.049**	**1.380**	**1.610**	**2.067**	**2.469**	**3.068**	**4.026**
Length (ft)	**Capacity in Cubic Feet of Gas Per Hour**								
10	660	1,380	2,600	5,340	8,000	15,400	24,600	43,400	88,500
20	454	949	1,790	3,670	5,500	10,600	16,900	29,900	60,800
30	364	762	1,440	2,950	4,420	8,500	13,600	24,000	48,900
40	312	652	1,230	2,520	3,780	7,280	11,600	20,500	41,800
50	276	578	1,090	2,240	3,350	6,450	10,300	18,200	37,100
60	250	524	986	2,030	3,030	5,840	9,310	16,500	33,600
70	230	482	907	1,860	2,790	5,380	8,570	15,100	30,900
80	214	448	844	1,730	2,600	5,000	7,970	14,100	28,700
90	201	420	792	1,630	2,440	4,690	7,480	13,200	27,000
100	190	397	748	1,540	2,300	4,430	7,070	12,500	25,500
125	168	352	663	1,360	2,040	3,930	6,260	11,100	22,600
150	153	319	601	1,230	1,850	3,560	5,670	10,000	20,500
175	140	293	553	1,140	1,700	3,280	5,220	9,230	18,800
200	131	273	514	1,060	1,580	3,050	4,860	8,580	17,500
250	116	242	456	936	1,400	2,700	4,300	7,610	15,500
300	105	219	413	848	1,270	2,450	3,900	6,890	14,100
350	96	202	380	780	1,170	2,250	3,590	6,340	12,900
400	90	188	353	726	1,090	2,090	3,340	5,900	12,000
450	84	176	332	681	1,020	1,970	3,130	5,540	11,300
500	80	166	313	643	964	1,860	2,960	5,230	10,700
550	76	158	297	611	915	1,760	2,810	4,970	10,100
600	72	151	284	583	873	1,680	2,680	4,740	9,660
650	69	144	272	558	836	1,610	2,570	4,540	9,250
700	66	139	261	536	803	1,550	2,470	4,360	8,890
750	64	134	252	516	774	1,490	2,380	4,200	8,560
800	62	129	243	499	747	1,440	2,290	4,060	8,270
850	60	125	235	483	723	1,390	2,220	3,920	8,000
900	58	121	228	468	701	1,350	2,150	3,800	7,760
950	56	118	221	454	681	1,310	2,090	3,700	7,540
1,000	55	114	215	442	662	1,280	2,030	3,590	7,330
1,100	52	109	204	420	629	1,210	1,930	3,410	6,960
1,200	50	104	195	400	600	1,160	1,840	3,260	6,640
1,300	47	99	187	384	575	1,100	1,760	3,120	6,360
1,400	46	95	179	368	552	1,060	1,700	3,000	6,110
1,500	44	92	173	355	532	1,020	1,630	2,890	5,890
1,600	42	89	167	343	514	989	1,580	2,790	5,680
1,700	41	86	162	332	497	957	1,530	2,700	5,500
1,800	40	83	157	322	482	928	1,480	2,620	5,330
1,900	39	81	152	312	468	901	1,440	2,540	5,180
2,000	38	79	148	304	455	877	1,400	2,470	5,040

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square inch = 6.895 kPa, 1-inch water column = 0.2488 kPa,
1 British thermal unit per hour = 0.2931 W, 1 cubic foot per hour = 0.0283 m^3/h, 1 degree = 0.01745 rad.
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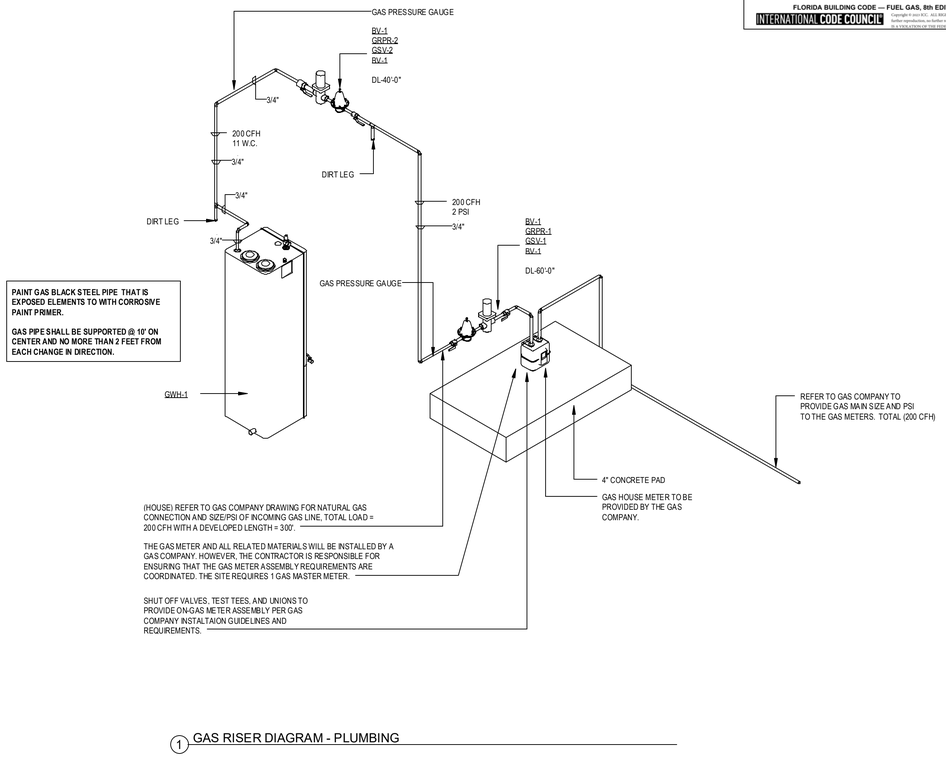

1 GAS RISER DIAGRAM - PLUMBING

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SANFORD, FL. 32771
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	07/28/2025
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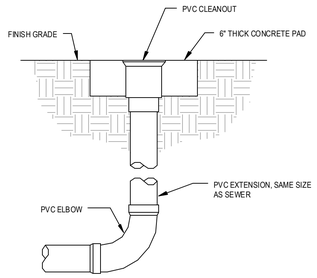
LAH	**LAH**

NO	REVISION	DATE

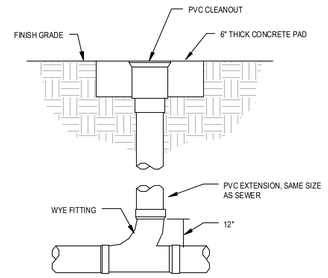
SHEET TITLE

RISER DIAGRAM - PLUMBING

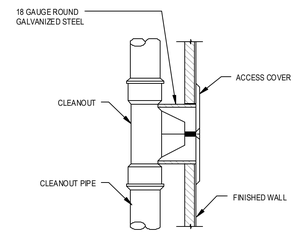
PROJECT NO.	SHEET NO.
4274-21	P2.04



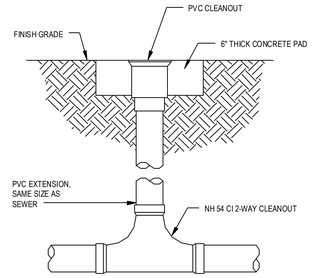
(ELBOW) EXTERIOR 1-WAY CLEANOUT DETAIL
1 NTS



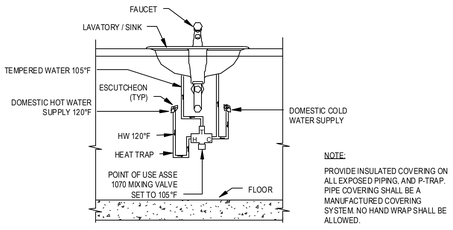
(WYE) EXTERIOR 1-WAY CLEANOUT DETAIL
2 NTS



2-WAY WALL CLEANOUT DETAIL
3 NTS



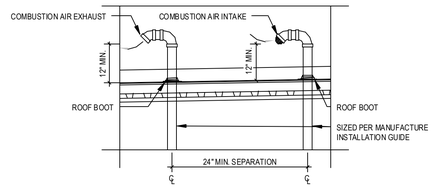
LISTED TWO WAY CLEANOUT FITTING DETAIL
4 NTS



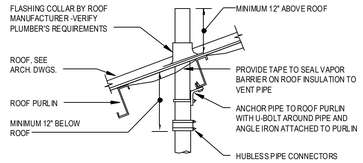
NOTE:

PROVIDE INSULATED COVERING ON ALL EXPOSED PIPING, AND P-TRAP. PIPE COVERING SHALL BE A MANUFACTURED COVERING SYSTEM. NO HAND WRAP SHALL BE ALLOWED.

ASSE 1070 POINT OF USE MIXING VALVE DETAIL - PLUMBING
5 NTS



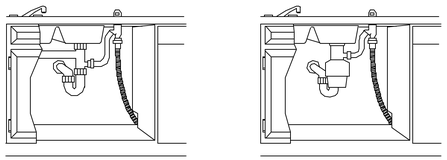
DIRECT VENT THRU ROOF FOR GAS FIRED WATER HEATER
6 NTS



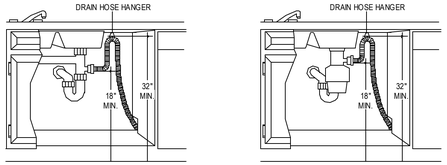
REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. VTR SHALL BE LOCATED A MINIMUM OF TEN FEET HORIZONTAL FROM OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE. LOCATE WHERE ROOF SYSTEM DIFFERS COORDINATE ANCHORING AND FLASHING WITH ROOFING CONTRACTOR AND ARCH DRAWINGS.

VENT THRU ROOF DETAIL (SLOPED ROOF)
7 NTS

METHOD 1 – AIR GAP WITH WASTE TEE OR DISPOSER
AN AIR GAP MUST BE USED WHEN REQUIRED BY LOCAL CODES AND ORDINANCES. THE AIR GAP MUST BE INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS.



METHOD 2 – "HIGH DRAIN LOOP" WITH WASTE TEE OR DISPOSER



DRAIN REQUIREMENTS

- REFER TO MANUFACTURER'S INSTALLATION MANUAL.
- FOLLOW LOCAL CODES AND ORDINANCES.
- DO NOT EXCEED 12' DISTANCE TO DRAIN.
- DRAIN CONNECTION HEIGHT IS NOT TO EXCEED 72" ABOVE BOTTOM OF DISHWASHER

NOTE : AIR GAP MUST BE USED IF WASTE TEE OR DISPOSER CONNECTION IS LESS THAN 18" ABOVE FLOOR TO PREVENT SIPHONING.

DETERMINE DRAIN METHOD

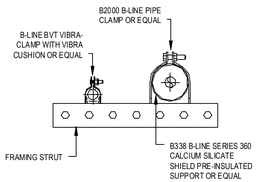
THE TYPE OF DRAIN INSTALLATION DEPENDS ON THE FOLLOWING QUESTIONS.

- DO LOCAL CODES OR ORDINANCES REQUIRE AN AIR GAP?
- IS WASTE TEE LESS THAN 18" ABOVE FLOOR?

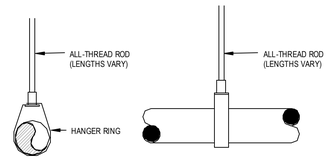
IF THE ANSWER TO EITHER QUESTION IS YES, METHOD 1 **MUST** BE USED.

- IF THE ANSWERS ARE NO, EITHER METHOD MAY BE USED.

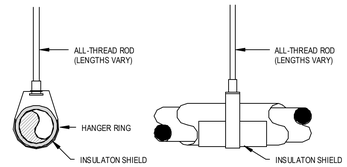
DISHWASHER DISCHARGE DETAIL
8 NTS



INSULATED & NON-INSULATED STRUT MOUNT DETAIL
9 NTS



NON-INSULATED HANGER DETAIL
11 NTS



INSULATED HANGER DETAIL
10 NTS

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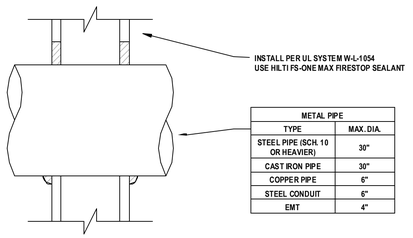
As indicated	07/28/2025
DRAWN BY:	CHECKED BY:
LAH	LAH

NO	REVISION	DATE

SHEET TITLE

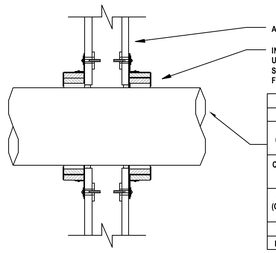
DETAILS - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P3.01



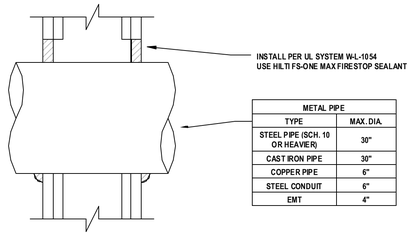
METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH. 10 OR HEAVIER)	30"
CAST IRON PIPE	30"
COPPER PIPE	6"
STEEL CONDUIT	6"
EMT	4"

METAL PIPE THROUGH GYPSUM WALL ASSEMBLY (1-HR.)
NTS



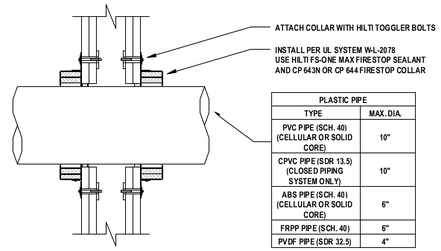
PLASTIC PIPE	
TYPE	MAX. DIA.
PVC PIPE (SCH. 40) (CELLULAR OR SOLID CORE)	10"
CPVC PIPE (SDR 13.5) (CLOSED PIPING SYSTEM ONLY)	10"
ABS PIPE (SCH. 40) (CELLULAR OR SOLID CORE)	6"
FRPP PIPE (SCH. 40)	6"
PVDF PIPE (SDR 32.5)	4"

PLASTIC PIPE THROUGH GYPSUM WALL ASSEMBLY (1-HR.)
NTS



METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH. 10 OR HEAVIER)	30"
CAST IRON PIPE	30"
COPPER PIPE	6"
STEEL CONDUIT	6"
EMT	4"

METAL PIPE THROUGH GYPSUM WALL ASSEMBLY (2-HR.)
NTS



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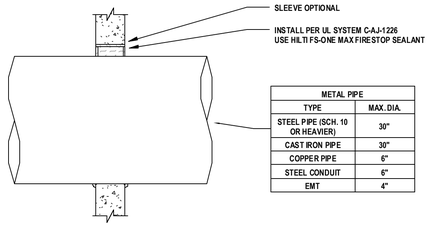
NTS



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TYPE	MAX. DIA.
STEEL PIPE (SCH. 10 OR HEAVIER)	30"
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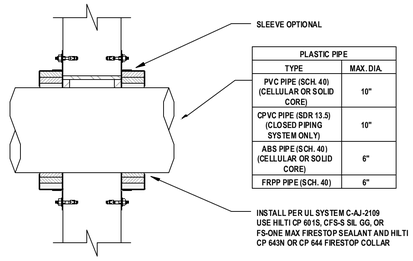
EMT	4"

METAL PIPE THROUGH CONCRETE WALL (2-HR.)
NTS



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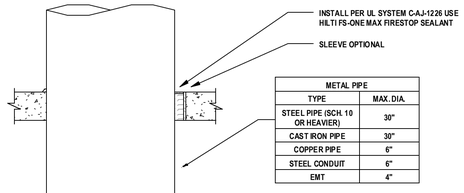
PLASTIC PIPE THROUGH CONCRETE WALL (2-HR.)
NTS



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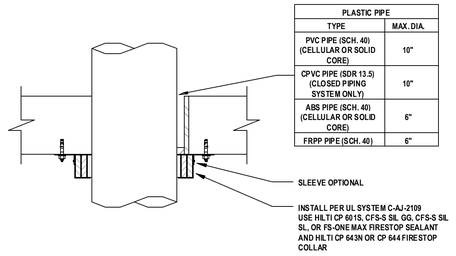
EMT	4"

METAL PIPE THROUGH CONCRETE FLOOR (2-HR.)
NTS



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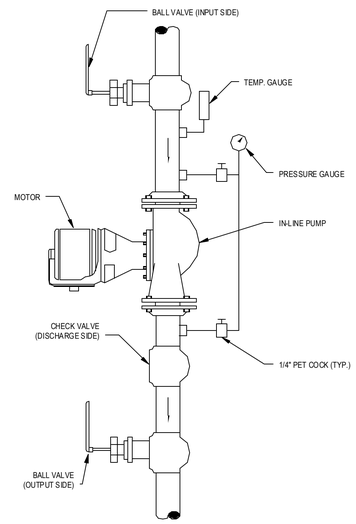
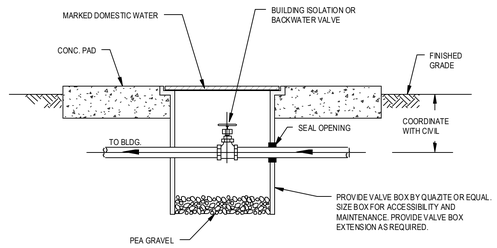
FRPP PIPE (SCH. 40)	6"

PLASTIC PIPE THROUGH CONCRETE FLOOR (2-HR.)
NTS

1 UL FIRE PENETRATIONS
NTS



2 TYPICAL IN-LINE PUMP DETAIL
NTS



3 VALVEBOX DETAIL
NTS

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LICENSE #AR12728
103 W 5TH STREET,
PANAMA CITY, FL 32401
(850) 257-5400

CLIENT:

PANAMA CITY HOUSING AUTHORITY

PROJECT:

PCHA KIRKLAND MAINTEANCE COMPLEX
261 EVERITT AVENUE
PANAMA CITY, FLORIDA 32405

CONSULTANTS:
& Associates
4116 N. HIGHWAY 231
PANAMA CITY, FL 32404

CONSULTANTS:
HG ENGINEERS
621 N. TYNDALL PARKWAY,
UNIT C
PANAMA CITY, FL 32404

CONSULTANTS:
A2H ENGINEERS ARCHITECTS PLANNERS
4815 CAINS WREN TRAIL
SANFORD, FL 32771

JH&A CONSTRUCTION & ENGINEERING
206 FL-79
PANAMA CITY BEACH, FL 32413

SEAL:

This item has been electronically signed and sealed by Louna Hall, PE 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.

LOUNA HALL, P.E.
SANFORD, FL. 32771
FL. REG. NO.: PE80464

BID SET DOCUMENTS

SCALE:	DATE:
NTS	07/28/2025
DRAWN BY:	CHECKED BY:
LAH	LAH

NO	REVISION	DATE

SHEET TITLE

DETAILS - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P3.02

GENERAL SPECIFICATIONS

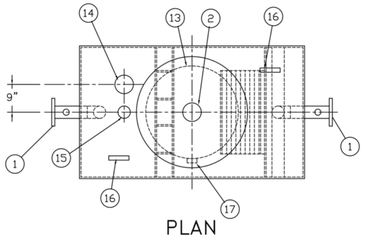
NO. REQ'D: (1)
CAPACITY: 350 GALLONS
TYPE: HTC, HIGHGUARD, SINGLE WALL
MATERIAL: MILD CARBON STEEL
FLOW RATE: 35 GPM
GAUGE: BASED ON 60" MAX BURIAL

SHELL– 7 GA.
HEADS– 7 GA.

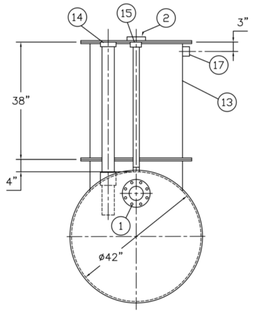
SURFACE PREP:
SSPC NO.6 BLAST ALL EXTERIOR SURFACES
SSPC NO.10 BLAST ALL INTERIOR SURFACES

COATING:	MATERIAL	THICKNESS
EXTERIOR–	HIGHGUARD	(75 MILS)
INTERIOR–	CHEMLINE 4200 PW	(15 MILS)

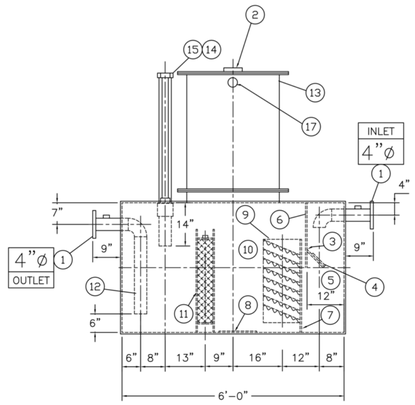
CONSTRUCTION :
LAP FIT & WELD ALL EXTERIOR SEAMS
OPERATING PRESSURE : ATMOSPHERIC



PLAN



END VIEW



ELEVATION

NOTE :
ALL RIGHTS RESERVED. THIS DRAWING OR ANY PART THEREOF MUST NOT BE REPRODUCED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HIGHLAND TANK.
HIGHLAND TANK SHALL BE RESPONSIBLE ONLY FOR ITEMS INDICATED ON THIS FABRICATION DRAWING UNLESS OTHERWISE NOTED. CUSTOMER IS RESPONSIBLE FOR VERIFYING CORRECTNESS OF SIZE / LOCATION OF FITTINGS , ACCESSORIES & COATINGS SHOWN ON THIS DRAWING

PROVIDED EQUIPMENT

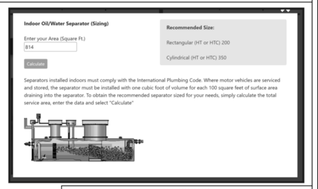
1. 150# R.F.S.O. FLANGE W/ 2" FNPT FOR VENT
2. 4"ø FNPT FOR GAUGE WITH PLUG
3. VELOCITY HEAD DIFFUSION BAFFLE
4. WEAR PLATE
5. SEDIMENT CHAMBER
6. UNDERFLOW BAFFLE (REMOVABLE)
7. SLUDGE BAFFLE
8. STRIKER PLATES
9. PARALLEL CORRUGATED PLATE COALESCER. CORELLA PVC PLATES (3" PLATE SPACING)
10. OIL/WATER SEPARATOR CHAMBER
11. 6" THICK PETROSCREEN COALESCER MATERIAL INSTALLED W/ PULL ROD SHIPPED LOOSE
12. STEEL OUTLET DOWNCOMER
13. 30"ø MANWAY WITH BOLT–ON EXTENSION SHIPPED LOOSE
14. 4"ø FNPT FOR OIL PUMP–OUT WITH INTERNAL PVC PIPE INSTALLED & RISER PIPE SHIPPED LOOSE
15. 2"ø FNPT FOR LEVEL SENSOR WITH RISER PIPE SHIPPED LOOSE
16. LIFTING LUG
17. 2"ø FNPT FOR VENT

ANCILLARY PROVIDED EQUIPMENT

(2) 30" FIBREFLEX MANWAY GASKETS
(2) SETS OF NUTS/BOLTS/WASHERS FOR 30" MANWAY

NOTES

1. POLYURETHANE HIGHGUARD TANK IS NOT APPROVED FOR THE STORAGE OF HEATED PRODUCTS
2. ALL VENT PIPING BY INSTALLER
3. 15000 VOLT SPARK TEST PROVIDED AT FACTORY



REVISIONS

Highland Tank
U.S. Patent #4,722,800 Canadian Patent # 1,296,263

350 GALLON OIL WATER SEPARATOR
HTC, HIGHGUARD, SINGLE WALL

CUSTOMER:
PROJECT:
QUOTE NO:
CHK'D BY:

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE ± DR – 1"

SCALE:	DATE:	DWG. BY:	DWG. NO.:
1/2"=1'-0"			00350HGSWHTCHDS

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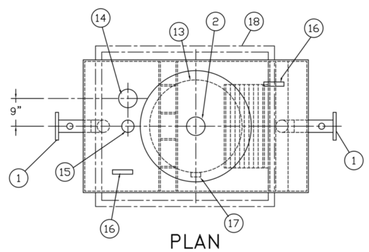
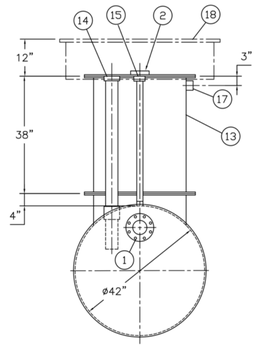
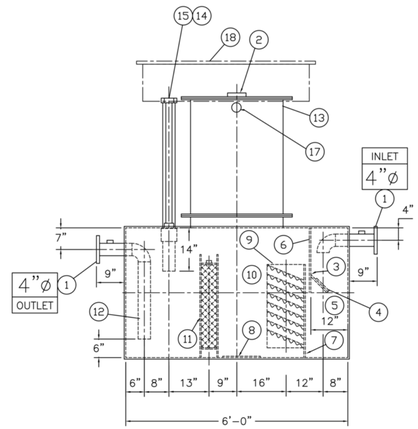


PLAN



END VIEW



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15. 2"ø FNPT FOR LEVEL SENSOR WITH RISER PIPE SHIPPED LOOSE
16. LIFTING LUG
17. 2"ø FNPT FOR VENT
18. R–GLM–5448/2 RECTANGULAR GRADE LEVEL MANWAY

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(2) SETS OF NUTS/BOLTS/WASHERS FOR 30" MANWAY

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REVISIONS

Highland Tank
U.S. Patent #4,722,800 Canadian Patent # 1,296,263

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LICENSE #AR12728
103 W 5TH STREET,
PANAMA CITY, FL 32401
(850) 257-5400

CLIENT:
PANAMA CITY HOUSING AUTHORITY

PROJECT:
PCHA KIRKLAND MAINTEANCE COMPLEX
261 EVERITT AVENUE
PANAMA CITY, FLORIDA 32405

CONSULTANTS:
& Associates
4116 N. HIGHWAY 231
PANAMA CITY, FL 32404

CONSULTANTS:
ENGINEERS
621 N. TYNDALL PARKWAY, UNIT C
PANAMA CITY, FL 32404

CONSULTANTS:
A2H ENGINEERS ARCHITECTS PLANNERS
4815 CAINS WREN TRAIL
SANFORD, FL 32771

JH&A CONSTRUCTION & ENGINEERING
206 FL-79
PANAMA CITY BEACH, FL 32413

SEAL:
This item has been electronically signed and sealed by Louna Hall, PE 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.

LOUNA HALL, P.E.
SANFORD, FL 32771
FL. REG. NO.: PE80464

BID SET DOCUMENTS

SCALE:	DATE: 07/28/2025
DRAWN BY: LAH	CHECKED BY: LAH

NO	REVISION	DATE

SHEET TITLE:
DETAILS - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P3.03

Commercial Tankless **iN**199 | **iN**199**A** Submittal Data

Date: Bid Date:

Project Name: Fuel Type: Natural Gas Propane

Project #: Factory Option: Propane Setup

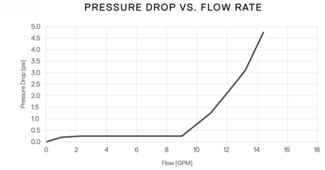
City | State | Zip:

Engineer:

Contractor:

Operational Modes	Temperature Rise (ΔT) °F											
	30	40	50	60	70	80	90	100	110	120	130	140
Flow (GPM)	13.1	9.8	8.7	7.9	6.6	5.6	4.9	4.4	3.9	3.3	3.0	2.8
Flow (GPH)	787	590	525	472	393	337	295	262	236	197	182	169

PRESSURE DROP VS. FLOW RATE



KEY FEATURES

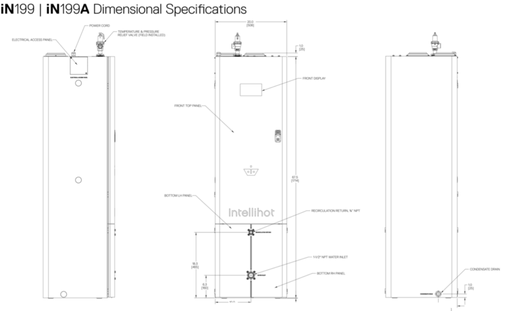
- 1 Weldless 316L Stainless Steel Heat Exchanger with Individual Controls for Masterless Cascading
- ASME-HLW Compliant (iN199A) | Designed & Built in the U.S.
- Wi-Fi Connectivity with Access to Usage Data, Troubleshooting & Parts Wear
- Turn Down Ratio 7:1 per Unit, Cascade Up to 4 Units for 27:1 Turndown

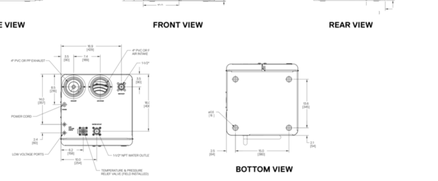
Intellihot

iN199 | **iN**199**A** Specifications

PARAMETER	MODELS
	iN199 | **iN**199A
Type	Indoor, Floor Mounted, On-Demand Water Heater
Fuel	Preset for NG / LP convertible without additional parts
Minimum Input (BTU/hr)	30,000
Maximum Input (BTU/hr)	199,950
Maximum Output (BTU/hr)	195,951
Thermal Efficiency	98%
Turn Down Ratio (TDR)	7:1
Water Inlet / Outlet Connections	1-1/2" NPT
Gas Inlet Connection	3/4" NPT
Condensate Drain Connection	3/4" NPT panel mount
Maximum Condensate Flow Rate (GPH)	3.6
Unit Dimensions H X W X D (Inches)	67.5 X 20 X 20 (15 CU. FT)
Service Clearances	4" on the back, 6" on the top, 21" on the front, and 6" on the sides
Unit Weight (LBS)	266 LBS
Shipping Crate Dimensions H X W X D / Weight	85 X 29.5 X 27 (inches) / 366 (LBS)
Venting Type	Direct Vent (2 pipe - intake & exhaust), Power Vent (1 pipe - exhaust only, room air)
Venting Materials (USA)	Sch. 40 PVC, Sch. 80 CPVC, Polypropylene, Stainless Steel
Venting Materials (Canada)	Type BH Gas Vent Classes: II A (PVC), II B (CPVC), II C (Polypropylene), I (AL 29-4C SS)
Vent Size (Diameter)	3" Ø
Max 3" Vent Length - Single Pipe / Power Vent	195 FT*
Max 3" Vent Length - Two Pipe / Direct Vent	95 FT*
* Venting Note: From the maximum lengths above, deduct 5 ft. per 90º elbow and 2 ft. per 45º elbow	
Ignition	Electronic Spark Ignition
Temperature Range	100ºF – 190ºF
Temperature Stability	+/- 4ºF (During Demand)
Installation Location Ambient Temperature	40ºF – 130ºF
Safety	Flame Rod, Thermal Fuse, Overheat Prevention Device, Fan Speed Monitor, Flue Temperature Monitor, Blocked Vent Detector, Dual Flame Sensing
Water Pressure Min / Max (PSIG)	30 / 150 | 30 / 160
NG/LP - Min. Dynamic Gas Pressure (Full Fire)	NG = 2.5" WC LP= 8" WC (set Gas regulator to 8" WC for NG 11" WC for LP)
NG/LP - Maximum Static Gas Pressure	14" WC (set Gas regulator to 8" WC for NG 11" WC for LP)
Gas Regulator Pressure Set To	8" WC for Natural Gas, 11" WC for Propane
Electrical	120V AC, 60 Hz
Power Consumption	Max 9 Amps, 10W (Standby)
Internal Water Volume (gallons)	1
Features	**iN**199 | **iN**199A
Cascading	Masterless, 4 units, Automatic Rotation, Cascadable with iN199 ONLY
Common Venting	Yes - up to 4 units
Heat Exchanger	Expandable, Stainless 316L
Listing	ETL (Z21.10.3 / CSA 4.3) | ETL (Z21.10.3 / CSA 4.3), ASME HLW
Performance GPM / GPH	**iN**199 | **iN**199A
Hot Water Capacity (30F Rise)	13.1 / 787
Hot Water Capacity (40F Rise)	9.8 / 590
Hot Water Capacity (45F Rise)	8.7 / 525
Hot Water Capacity (50F Rise)	7.9 / 472
Hot Water Capacity (60F Rise)	6.6 / 393
Hot Water Capacity (70F Rise)	5.6 / 337
Hot Water Capacity (80F Rise)	4.9 / 295
Hot Water Capacity (90F Rise)	4.4 / 262
Hot Water Capacity (100F Rise)	3.9 / 236
Hot Water Capacity (120F Rise)	3.3 / 197
Hot Water Capacity (130F Rise)	3.0 / 182
Hot Water Capacity (140F Rise)	2.8 / 169
Warranty	Heat Exchanger Coil – 6 years, All Other Parts – 1 year

iN199 | **iN**199**A** Dimensional Specifications



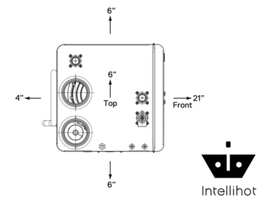


Note: All dimensions are in Inches, and equivalent metric values are specified within [ ]

iN199 | **iN**199**A** Service Clearances

Location	Required		Recommended
	From Combustibles	From Non-Combustibles	Service Clearance[1]
Top	6" (152 mm)	2" (50.8 mm)	6" (152 mm)
Back	5/8" (15.8 mm)	5/8" (15.8 mm)	4" (10 cm)
Sides	1" (25.4 mm)	1/2" (12.7 mm)	6" (152 mm)
Front	2" (51 mm)	2" (50.8 mm)	21" (53 cm)
Bottom	0" (0 mm)	0" (0 mm)	0" (0 mm)

[1] Service clearances are recommended dimensions to allow for normal service of the unit.



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SEAL:

This item has been electronically signed and sealed by Louna Hall, PE on the date adjacent to the seal.

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LOUNA HALL, P.E.
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BID SET DOCUMENTS

SCALE:	DATE: 07/28/2025
DRAWN BY: LAH	CHECKED BY: LAH

NO	REVISION	DATE

SHEET TITLE

DETAILS - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P3.04

SHOCK ARRESTOR SCHEDULE

DESIGNATION	MANUFACTURER	SERIES	FIXTURE UNITS
A	WATTS	LF15M2-A	1-11
B	WATTS	LF15M2-B	12-32
C	WATTS	LF15M2-C	33-60
D	WATTS	LF15M2-D	61-113
E	WATTS	LF15M2-E	114-154
F	WATTS	LF15M2-F	155-330

CLEANOUT SCHEDULE

DESIGNATION	MANUFACTURER	SERIES
FCO	WATTS	CO-200-R
WCO	WATTS	CO-590-RD
ECO	WATTS	CO-200-RX-4

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE DESCRIPTION	MANUFACTURES MODEL	FAUCET/ FLUSH VALVE MODEL	FIXTURE CONNECTION SIZES					ACCESSORIES
				C.W.	H.W.	MIXED	WASTE	VENT	
WC-1	WATER CLOSET FLOOR SET ADA FLUSH VALVE	AMERICAN STANDARD 3043.001	SLOAN ROYAL 111	1"	-	-	3"	2"	1.28 GALLON FLUSH VALVE. PROVIDE WITH BEMIS MODEL #1655SSCT EXTRA HEAVY DUTY SEAT WITH SELF-SUSTAINING HINGES. PROVIDE CHROME PLATED WALL A NIPPLE AND ESCUTCHEON. MCGUIRE 2166 CHROME PLATED ANGLE STOP. CONTRACTOR SHALL COORDINATE LOCATION OF WATER CLOSET HANDLE TO BE ADA COMPLIANT.
L-1	LAVATORY WALL HUNG ADA	AMERICAN STANDARD 0958.008EC 0059.020EC	AMERICAN STANDARD 6500.175 0.5 GPM	1/2"	-	1/2"	2"	2"	PROVIDE WITH WALL CARRIER. PROVIDE WITH STRAINER, PROVIDE CHROME PLATED WALL NIPPLES AND ESCUTHEONS, MCGUIRE 2 165 CHROME PLATED ANGLE STOP, MCGUIRE 8872 P-TRAP AND CLEAN OUT PLUB. PROVIDE WITH WATTS HYDRGUARD SERIES LFLM495 SET TO 105°
SH-2	SHOWER ADA	SEE ARCH PLANS	AMERICAN STANDARD TU662SG213	1/2"	-	1/2"	2"	2"	PROVIDE WITH FREEDOM SHOWERS ADA SHOWER PAN MODEL # APF3636BFPANRRF. PROVIDE WITH AMERICAN STANDARD # TU662SG.213 1.5 COMMERICAL SHOWER SYSTEM KIT. PROVIDE WITH AMERICAN STANDARD #R422 2-WAY DIVERTER. SET THERMOSTATIC MIXING VALVE TO 110°
S-1	KITCHEN SINK 2 COMPARTMENT DROP IN	ELKAY LRAD331965PD	ELKAY LKAV2061	1/2"	1/2"	-	2"	2"	STAINLESS STEEL DROP IN SINK WITH BADGER 5 FOOD WASTE DISPOSER. DISHWASHER WATER AND DRAIN CONNECTIONS, STRAINER, AND MCGUIRE 2165K LOOSE KEY SUPPLIES. MCGUIRE 8902 P-TRAP, PROVIDE WITH WATTS HYDROGUARD LFLM495 SERIES SET TO 105°.
MS-1	MOP SINK 24" X 24"	FIAT SB2424	ENCORE K-77-8106-BR 2.2 GPM	3/4"	3/4"	-	3"	2"	PROVIDE WITH 832AA HOSE AND BRACKET 1239BB, ALUMINUM BUMPERGUARD WITH VINYL INSERT, 833AA SILICONE SEALANT AND MSG WALL GUARD-STAINLESS STEEL
UR-1	URINAL ADA FLUSH VALVE	AMERICAN STANDARD 6561.017	SLOAN ROYAL 186	3/4"	-	-	2"	2"	1.0 GALLON FLUSH VALVE. PROVIDE CHROME PLATED WALL A NIPPLE AND ESCUTCHEON.
SS-1	SERVICE SINK	FIAT P1,PA11	FIAT A1	3/4"	3/4"	-	3"	2"	DRAIN CONNECTIONS, STRAINER, AND MCGUIRE 2165K LOOSE KEY SUPPLIES., MCGUIRE 8902 P-TRAP, PROVIDE WITH WATTS HYDROGUARD LFLM495 SERIES SET TO 105°.
EWC-1	ELECTRIC WATER COOLER DUAL HEIGHT ADA	ELKAY LZSTL8WSLP	-	1/2"	-	-	3"	2"	STAINLESS STEEL FINISH. PROVIDE WITH WALL CARRIERM SUPPLY AND P-TRAP. MOUNT ADA LOWER UNIT SPOUT 36" A.F.F.

NOTES:

- FIXTURE TO BE WHITE IN COLOR UNLESS OTHERWISE NOTED
- ADA WATER CLOSETS SHALL HAVE FLUSH HANDLE ON WIDE SIDE OF TOILET STALL. COORDINATE FLUSH VALVE WITH GRAB BARS.
- ADA LAVATORIES AND SINKS SHALL HAVE TRAP INSULATION KIT TO COVER P-TRAP AND SUPPLIES.
- ADA FIXTURES MOUNTING HEIGHT PER LOCAL, STATE HANDICAP CODES.
- CONTRACTOR TO PROVIDE TRAP, CARRIER, SUPPLIES LINES AND DRAINS REQUIRED BY FIXTURES.

RECIRCULATION PUMP SCHEDULE

MARK	FIXTURE DESCRIPTION	MANUFACTURES MODEL	RPM	GPM/ TDH	ELECTRICAL DATA			ACCESSORIES
					VOLT	PHASE	HZ	
RCP-1	RECIRCULATION PUMP	TACO 0034eP-SF2	830-4300	1/2	115	1	50/60	INSTALL PER MANUFACTURER REQUIREMENT, PROVIDE TMV TO TRUN ON RCP WHEN TEMP OF HOT WATER RETURN LINE DROPS BLOW 120.

NOTES:

- PROVIDE ALL GAUGES, UNIONS, THERMOSTATS, VALVE AND SHUT-OFF VALVES AS REQUIRED BY LOCAL CODES AND MANUFACTURERS RECOMMENDATIONS.
- COORDINATE WITH DIVISION 16 CONTRACTOR.
- PUMP SHALL BE ALL BRONZE WITH FLANGE CONNECTION.

GAS WATER HEATER SCHEDULE

MARK	FIXTURE DESCRIPTION	MANUFACTURES MODEL	GALLON CAPACITY	TYPE OF GAS/ BTU/HR	SET TEMPERATURE	ELECTRICAL DATA			ACCESSORIES
						VOLT	PHASE	HZ	
GWH-1	GAS TANK-LESS WATER HEATER	INTELLIHOT IN199A	-	NATURAL GAS 200,000	140°	120	1	60	REFER TO MANUFACTURER FOR ALL INSTALLATION RECOMMENDATIONS.

NOTES:

- PROVIDE ALL GAUGES, HEAT TRAPS, THERMOSTATS, TEMPERATURE AND PRESSURE RELIEF VALVE AND SHUT-OFF VALVES AS REQUIRED BY LOCAL CODES AND MANUFACTURER'S RECOMMENDATIONS.
- FLOOR MOUNTED HEATERS SHALL BE INSTALLED ON 4" CONCRETE HOUSE KEEPING PAD

PLUMBING EQUIPMENT SCHEDULE

MARK	FIXTURE DESCRIPTION	MANUFACTURES MODEL	ACCESSORIES / NOTES
HB-1	HOSE BIB	WATTS HY-430	REFER TO MANUFACTURER FOR INSTALLATION GUIDELINES.
WH-1	WALL HYDRANT	WATTS HY-420	REFER TO MANUFACTURER FOR INSTALLATION GUIDELINES.
IMB-1	ICE MAKER BOX	OATEY 39140	REFER TO MANUFACTURER FOR INSTALLATION GUIDELINES.
FD-1	FLOOR DRAIN	WATTS FD-100-7	PROVIDE WITH MIFAB MI-GARD WITHIN DRAIN. COORDINATE SIZE WITH PLANS WITH MODEL NUMBER TO BE USED.
FD-2	FLOOR DRAIN HEAVY DUTY	WATTS FD-1100-B-7	PROVIDE WITH MIFAB MI-GARD WITHIN DRAIN. COORDINATE SIZE WITH PLANS WITH MODEL NUMBER TO BE USED.
TD-1	TRENCH DRAIN	MIFAB T200N-PB-3	PROVIDE WITH T200-PGE-4-ADA-13 GRATES. PROVIDE WITH MIFAB MI-GARD WITHIN DRAIN. COORDINATE SIZE WITH PLANS WITH MODEL NUMBER TO BE USED.
AC-1	AIR COMPRESSOR	QUINCY OUTDOOR RATED (NEMA 4 RATED) QGD-15 (15HP-82.3ACFM@ 100PSIG	INSTALL PER MANUFACTURER INSTALLATION REQUIREMENTS. INSTALLED ON 4" CONCERETE HOUSE KEEPING PAD.
QF-1	AIR FILTER	QUINCY FILTER QPF AEROSOL & SOLID PARTCLES	REFER TO MANUFACTURER FOR INSTALLATION GUIDELINES.
QF-2	AIR FILTER	QUINCY FILTER QAF OIL AEROSOL	REFER TO MANUFACTURER FOR INSTALLATION GUIDELINES.
QOWS-1	OIL WATER SEPARATOR	QUINCY COMPRESSOR QOCS-106 OIL WATER SEPARATOR	REFER TO MANUFACTURER FOR INSTALLATION GUIDELINES.
TMV-1	THERMOSTATIC MIXING VALVE	LEONARD MEGATRON PROTON ELECTRONIC MIXING VALVES - PNV-150-LF-M	SET MASTER THERMOSTATIC MIXING VALVE TO 126°. RECIRCULATION PUMP (RCP-1) SHALL BE SET TO TURN ON AT 120° RETURN. COORDINATE WITH DIVISION 16 CONTRACTOR.
BVFM-1	THERMOSTATIC MIXING VALVE	CALEFFI 132 QUICKSETTER + (PLUS)	PROVIDE QUICKSETTER + WITH FLOW SCALE OF 0.5-1.75 GPM
PWC-1	WATER CONDITIONER	AQUA REX WK-3	REFER TO MANUFACTURER FOR INSTALLATION GUIDELINES.
EPB-1	EMERGENCY PANIC BUTTON	AGS AGSEGOTWWM PUSH BUTTON WITH TWIS RESET & WEATHERPROOF COVER	REFER TO MANUFACTURER FOR INSTALLATION GUIDELINES. EPB-1 TO TIE INTO AMM-1.
GRPR-1	GOVERNOR REDUCED PRESSURE REGULATOR	PIETRO FIORENTINI	GOVERNOR REDUCED PRESSURE REGULATOR WITH OVER PRESSURE DEVICE SET AT 2 PSI.
GRPR-2	GOVERNOR REDUCED PRESSURE REGULATOR	PIETRO FIORENTINI	GOVERNOR REDUCED PRESSURE REGULATOR WITH OVER PRESSURE DEVICE SET AT 11-14" W.C. (VENTLESS)
GSV-1	GAS SOLENDOID VALVE	ASCO (REDHAT TYPE 4) WATERTIGHT 82.14G236 (3/4")	PROVIDE AND INSTALL 2 4 VOLT DC TO SOLENOID VALVE EQUAL TO ASCO, CONNECT TO FIRE ALARM SYSTEM BY THE FIRE ALARM CONTRACTOR
GSV-2	GAS SOLENOID VALVE	AMERICAN GAS MERLIN1023 (3/4")	REFER TO MANUFACTURER FOR ALL INSTALLATION RECOMMENDATIONS. GSV-2 TO TIE INTO AMM-1.
AMM-1	CARBON MONOXIDE MONITOR AND GAS DETECTOR	AMERICAN GAS MINI MERLIN AGSCH4CO	REFER TO MANUFACTURER FOR ALL INSTALLATION RECOMMENDATIONS.
HR-1	HOSE REEL	REEL CRAFT 25' HOSE RATED FOR 100PSI	REFER TO MANUFACTURER FOR ALL INSTALLATION RECOMMENDATIONS.
BWV-1	BACKWATER VALVE	ZURN Z1095	PROVIDE WITH WATERTIGHT HEAVY TRAFFIC RATED ACCESS COVER. REFER TO MANUFACTURER FOR ALL INSTALLATION RECOMMENDATIONS.
BV-1	BALL VALVE	-	REFER TO PLUMBING SPECIFICATION
CV-1	CHECK VALVE	-	REFER TO PLUMBING SPECIFICATION
AP-1	ACCESS PANEL	-	REFER TO PLUMBING SPECIFICATION
OWS-1	OIL WATER SEPARATOR	HIGHLAND TANK HTC-350	REFER TO MANUFACTURER FOR ALL INSTALLATION RECOMMENDATIONS.
OWSP-1	OIL WATER SEPARATOR PANEL	HIGHLAND TANK HT-AP-2	REFER TO MANUFACTURER FOR ALL INSTALLATION RECOMMENDATIONS.
EWDW-1	DRENCH SHOWER AND EYE/FACE	S19-312B	REFER TO MANUFACTURER FOR ALL INSTALLATION RECOMMENDATIONS. PROVIDE S19-2200 EFX60 OUTGOING TEMP 80.

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SANFORD, FL. 32771
FL. REG. NO.: PE80464

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SCALE:	DATE:
NTS	07/28/2025
DRAWN BY:	CHECKED BY:
LAH	LAH

NO	REVISION	DATE

SHEET TITLE

FIXTURE SCHEDULE - PLUMBING

PROJECT NO.	SHEET NO.
4274-21	P6.01