SAUNA GUARD

LARAWAY AVENUE WEST OF WOLF ROAD

FRANKFORT, IL

FOR:

UNLIMITED MASONRY & CONSTRUCTION, INC.

9233 GULFSTREAM ROAD

FRANKFORT, IL 60606

SPECIFICATIONS

THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO ILLUSTRATE AND DESCRIBE A COMPLETE JOB IN EVERY RESPECT. CONTRACTORS ARE CAUTIONED TO FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS ON THE PREMISES AS, AFTER CONTRACTS ARE SIGNED, NO EXTRAS WILL BE ALLOWED FOR ANY LABOR AND/OR MATERIALS NECESSARY TO COMPLETE THE WORK.

CONDITIONS

1-1 THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENTS A-201, LATEST EDITION, ARE ADOPTED AS PART OF THE CONTRACT DOCUMENTS AND SHALL GOVERN ALL DIVISIONS AND SECTIONS OF THE SPECIFICATIONS AND THE WORK.

1-2 THE WORK, INCLUDING LABOR AND MATERIALS, SHALL COMPLY WITH THE FOLLOWING:
- THESE DRAWINGS & SPECIFICATIONS
- ALL APPLICABLE CODES, ORDINANCE AND REGULATIONS, STATE AND LOCAL,
- MANUFACTURER'S SPECS, AND TRADE ASSOCIATION RECOMMENDATIONS,
- INDUSTRY ACCEPTED ENGINEERING AND CONSTRUCTION PRACTICES.

1-3 DRAWINGS & SPECIFICATIONS ARE, AND SHALL BE, CONSIDERED AS COOPERATIVE AND CONSONANT. WORK MENTIONED OR INDICATED ON ONE AND NOT THE OTHER SHALL BE INCLUDED AND SUPPLIED AS THOUGH FULLY COVERED BY BOTH. IN CASE OF OVERLAPPING OR CONFLICTING REQUIREMENTS, THE MOST STRINGENT (GENERALLY MOST COSTLY) APPLIES AND WILL BE ENFORCED. ONLY ITEMS DEFINITELY NOTED "NOT IN CONTRACT," "N.I.C." "BY OTHERS," OR "BY OWNER", ARE NOT INCLUDED IN THE CONTRACT.

1-4 THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPERINTENDENCE OF THE JOB AT ALL TIMES DURING CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK ALL THE WORK OF ALL TRADES TO SEE THAT IT IS BEING PROVIDED IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IF ANY DISCREPANCIES OCCUR IN ANY OF THE WORK.

1-5 THE CONTRACTOR SHALL SUBMIT A SWORN CONTRACTOR'S AFFIDAVIT INCLUDING THE NAMES OF ALL PARTIES FURNISHING MATERIALS AND LABOR, AND SHALL ALSO SUBMIT PARTIAL AND FINAL WAIVERS. SUB-CONTRACTORS SHALL SUBMIT PARTIAL WAIVERS OF LIEN, OR FINAL WAIVERS, IN AMOUNT AT LEAST EQUAL TO THE NET PAYOUT REQUEST.

1-6 THE CONTRACTOR SHALL PURCHASE INSURANCE PRODUCTS IN THE FOLLOWING MANNER AND AMOUNTS:
- INCLUDING COMPREHENSIVE GENERAL, CONTRACTUAL & AUTO LIABILITY INSURANCE, BODILY INJURY, PROPERTY DAMAGE AND UMBRELLA LIABILITY COVERAGE PER PARAGRAPHS BELOW.
- SUBMIT THREE COPIES OF CERTIFICATION OF EACH INSURANCE.
- HOLD HARMLESS THE OWNER & ARCHITECT, FOR DAMAGE TO PROPERTY AND/OR PERSONNEL INJURIES ARISING FROM THE WORK, FROM ALL CLAIMS OR LOSS.
- IMMEDIATELY PROVIDE US WITH A CERTIFICATE OF INSURANCE INCLUDING WORKER'S COMPENSATION INSURANCE IN THE REQUIRED STATUTORY AMOUNT AND FURTHER EVIDENCING LIABILITY INSURANCE THAT NAMES UNLIMITD MASONRY AND CONSTRUCTION AND OWNER OF RECORD AS ADDITIONAL INSUREDS, ON A PRIMARY, NON-CONTRIBUTORY BASIS, UNDER AN OCCURRENCE BASED POLICY IN AN AMOUNT OF NOT LESS THAN $2,000,000 EACH OCCURRENCE WITH AN AGGREGATE LIMIT OF $4,000,000 AND AN EXCESS OCCURRENCE BASED POLICY PROVIDING NOT LESS THAN $3,000,000 OF UMBRELLA LIABILITY COVERAGE, AND WITH EACH OF SUCH LIABILITY INSURANCE POLICIES INCLUDING WAIVER OF SUBROGATION ENDORSEMENT IN FAVOR OF SUCH ADDITIONAL INSUREDS, ALONG WITH DESIGNATING THE LOCATION AND NAME OF THE PROJECT UNDER DESCRIPTION ON THIS CERTIFICATE. PAYMENT FOR YOUR FIRST BILLING WILL NOT BE RELEASED UNTIL A CORRECT AND COMPLETE CERTIFICATE IS RECEIVED. ALSO, YOU ARE REQUIRED TO DEFEND, INDEMNIFY AND HOLD HARMLESS G & H DEVELOPERS CORPORATION FROM ANY LOSS, DAMAGE, COST OR EXPENSE (INCLUDING REASONABLE ATTORNEYS' FEES) DUE TO ANY BREACH OF YOUR SUBCONTRACT, OR NEGLIGENCE, BY YOU OR YOUR AGENTS, EMPLOYEES OR SUB-SUBCONTRACTORS

1-7 ON SITE VERIFICATION OF ALL DIMENSION & CONDITIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE DRAWINGS ARE REASONABLY ACCURATE FOR FIGURING PURPOSES ONLY. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR QUESTIONS ARISING FROM JOB CONDITIONS OR THESE DRAWINGS

1-8 DO NOT SCALE DRAWINGS

1-9 COST OF WORK SHALL INCLUDE ALL SALES TAXES. CONTRACTOR SHALL PAY FOR PERMIT.

1-10 SUBSTITUTIONS AND EXTRAS ONLY FOR WORK APPROVED IN WRITING BY OWNER AND ARCHITECT.

1-11 THE OWNER WILL MAINTAIN A BUILDER'S RISK FIRE INSURANCE POLICY WITH EXTENDED COVERAGE PLUS VANDALISM AND MALICIOUS MISCHIEF COVERAGE.

1-12 CONTRACTOR SHALL REMOVE ALL DEBRIS AND LEAVE THE JOB BROOM CLEAN.

1-13 THE WORK SHALL BE GUARANTEED FOR ONE YEAR FROM COMPLETION AND APPROVAL DATE UNLESS NOTED OTHERWISE HEREIN.

GENERAL NOTES

1. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, "AIA DOCUMENT A-201, LATEST EDITION, ARE ADOPTED AS PART OF THE CONTRACT DOCUMENTS AND SHALL GOVERN ALL DIVISIONS AND SECTIONS OF THE SPECIFICATIONS AND THE WORK.
2. THE CONTRACTOR SHALL INSPECT AND VERIFY ALL DIMENSIONS AND CONDITIONS OF THE SITE AND REPORT ANY DISCREPANCIES FROM THESE DRAWINGS TO THE ARCHITECT.
3. THE MEASUREMENTS ON THESE DRAWINGS ARE REASONABLY ACCURATE FOR THE PURPOSE OF FIGURING. HOWEVER, IN THE EXECUTION OF WORK ON THE JOB, EACH CONTRACTOR IS TO VERIFY ALL DIMENSIONS WITH ACTUAL CONDITIONS.
4. DO NOT SCALE DRAWINGS.
5. INTERIOR PARTITIONS SHALL BE CONSTRUCTED OF METAL STUDS SIZE AND SPACING NOTED ON DRAWINGS WITH 5/8" FIRE CODE 'C' GYPSUM BOARD BOTH FACES OR CONCRETE BLOCK AS NOTED ON THE DRAWINGS.
6. ALL WALL DIMENSIONS SHOWN ON PLANS ARE NOMINAL DIMENSIONS UNLESS OTHERWISE NOTED.
7. PROVIDE HEADERS, BLOCKING AND/OR FRAMING AS REQUIRED FOR SUPPORT OF ALL ELECTRICAL FIXTURES, SHELVING, DUCT REGISTERS AND MILLWORK.
8. ALL INTERIOR FINISHES SHALL COMPLY WITH CLASS 2 FLAME SPREAD OF 26-75.
9. N/A
10. ALL EXIT DOOR HARDWARE TO BE KEYLESS IN THE DIRECTION OF EGRESS.
11. PROVIDE CONTROL JOINTS IN DRYWALL FURRING SYSTEMS WHERE CONTROL JOINTS OCCUR IN THE EXTERIOR WALL AND AT MAXIMUM 30 FEET ON CENTER IN BOTH DRYWALL PARTITIONS AND FURRING SYSTEMS.

FIRE DEPARTMENT NOTES:

1. MINIMUM 3A-40BC FIRE EXTINGUISHERS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 10, PROPERLY TAGGED AND MOUNTED. PER IFC 906. FINAL LOCATIONS TO BE VERIFIED WITH FIRE DEPT.
3. THE BUILDING OWNER SHALL PROVIDE A KNOX KEY LOCK BOX FOR FIRE DEPT. ACCESS. FINAL LOCATION AS DIRECTED BY FRANKFORT FIRE PROTECTION DISTRICT. THE OWNER SHALL ALSO PROVIDE A NEW KEY AND NOTIFY THE FIRE DEPT. WHEN A LOCK IS CHANGED OR RE-KEYED.

GENERAL SCOPE OF WORK:

1. SITEWORK, BUILDING SHELL AND INTERIOR TENANT BUILDOUT TO TURNKEY CONDITIONS U.N.O.

ENERGY CODE COMPLIANCE

THE PROJECT IS TO CONFORM WITH THE REQUIREMENTS OF THE ABOVE-LISTED ENERGY CODE. CONTRACTOR IS TO REVIEW THE STANDARDS AND SPECIFICATIONS WITHIN THE APPROVED COMCHECK AND COMPLY WITH ALL REQUIREMENTS

ACCESSIBILITY NOTES

THE PROJECT SITE, BUILDING, ELEMENTS (ACCESSIBLE PATH, ENTRANCE, DOOR SWINGS, TOILET ROOMS ETC.) SHALL BE ACCESSIBLE TO PERSONS WITH DISABILITIES IN ACCORDANCE WITH THE 2018 ILLINOIS ACCESSIBILITY CODE

ARCHITECT / PLUMBING DESIGN

KMA & ASSOCIATES, ARCHITECTS
2205 LAKESIDE DRIVE
BANNOCKBURN, ILLINOIS 60015
(847) 945-6869
PRINCIPAL DESIGN PROFESSIONAL - ERIC L. SMITH
IL. PROFESSIONAL DESIGN FIRM #184-008865-0001

STRUCTURAL ENGINEER

DMA GROUP
2205 LAKESIDE DRIVE
BANNOCKBURN, ILLINOIS 60015
(847) 945-6869
PRINCIPAL DESIGN PROFESSIONAL - DAVID I. MANGURTEN
ILLINOIS LICENSED STRUCTURAL ENGINEER #81-3675

CIVIL ENGINEER / LANDSCAPE ARCHITECT

JOSEPH A. SCHUDT & ASSOCIATES
9455 ENTERPRISE DRIVE
MOKENA, ILLINOIS 60448
(708) 720-1000
PRINCIPAL DESIGN PROFESSIONAL - KEVIN GOHACKI

MECHANICAL ENGINEER

UNITED ENGINEERING, INC.
1006 GENEVA STREET
SHOREWOOD, ILLINOIS 60431
(815) 744-1010
PRINCIPAL DESIGN PROFESSIONAL - GARY G. POWERS
ILLINOIS LICENSED PROFESSIONAL ENGINEER #062-049185
ILLINOIS PROFESSIONAL DESIGN FIRM #184.002255

ELECTRICAL DESIGN CONSULTANT

WOLF CONSULTING
505 ELM AVENUE
ELMHURST, ILLINOIS
(630) 833-6928
PRINCIPAL ELECTRICAL DESIGNER - MARK R. WIEGEL

LANDSCAPE ARCHITECT

PAMELA SELF LANDSCAPE ARCHITECTURE
202 SOUTH COOK STREET, SUITE 214
BARRINGTON, ILLINOIS 60010
(847) 438-4922
PROJECT MANAGER - KIM SEEBACH
KSEEBACH@PAMELASELF.COM

ILLINOIS (IAC) & ICC/ANSI A117.1 ACCESSIBILITY CODE NOTES

THIS PROJECT WILL COMPLY WITH ALL 2018 IAC REQUIREMENTS FOR NEW CONSTRUCTION

THIS PROJECT WILL ALSO COMPLY WITH ALL FEDERAL REQUIREMENTS UNDER ADAAG 4.1.6 - NEW CONSTRUCTION

ALL NEW DOORS LEADING TO REQUIRED ACCESSIBLE ROOMS AND SPACES SHALL BE A MIN. OF 3'-0" WIDE, HAVE LEVER OPERATED HARDWARE (OR EQUAL), HAVE A MIN. OPENING FORCE OF 5 LBF, AND FULLY COMPLY WITH IAC SECTION 404.

ALL NEW ENVIRONMENTAL CONTROLS AND OPERATING MECHANISMS WILL COMPLY WITH IAC SECTION 308 & ICC/ANSI A117.1, SECTIONS 308 & 309 (FRONT REACH BETWEEN 15" AND 48" A.F.F.).

ANY EMERGENCY WARNING ALARMS, WHERE PROVIDED, SHALL BE BOTH AUDIBLE AND VISUAL AND COMPLY WITH IAC SECTION 702. THE VISUAL ALARMS WILL BE FLASHING TYPE WHERE THE FLASHING IS SYNCHRONIZED AND IN COMPLIANCE FOR INTENSITY AND FREQUENCY.

ANY REQUIRED SIGNAGE IN CONTRACT SHALL BE INSTALLED AS REQUIRED PER IAC SECTION 703 & ICC/ANSI A117.1

ONE TOILET ROOM SHALL BE FULLY ACCESSIBLE AND COMPLY WITH IAC CHAPTER 6

THERE IS AN ACCESSIBLE ENTRANCE PER IAC SECTION 206,

PROJECT DATA

ZONING INFORMATION

ZONED: B-2

SITE INFORMATION

TOTAL SITE AREA: 35,764 S.F. (0.82 ACRES)
PARKING REQUIRED: 32 SPACES PARKING
ONE SPACE/200 S.F. + (8) EMPLOYEES
AVAILABLE: 24 SPACES

BUILDING CODE INFORMATION

2012 International Building Code*
2014 Illinois State Plumbing Codes
2012 International Mechanical Code
2018 International Energy Conservation Code
2012 International Fire Code
2012 International Property Maintenance Code
2011 National Electrical Code
2012 Fuel Gas Code
2018 Illinois Accessibility Code
***** WITH AMENDMENTS**

BUILDING INFORMATION

USE GROUP: B-BUSINESS

CONSTRUCTION TYPE: 5B

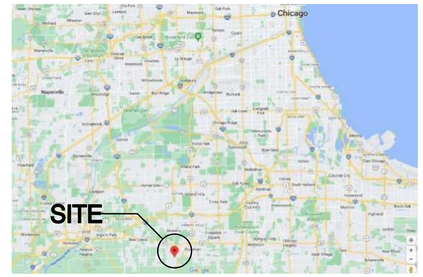
ALLOWABLE AREA: 15,750 S.F
PER SECTIONS 503 & 506 AND TABLE 503 = 1.75 x 9,000 S.F.
ACTUAL AREA: 4,790 S.F.

ALLOWABLE HEIGHT: 40'
PER SECTION 503 AND TABLE 503

ACTUAL HEIGHT: ±17'-8" (28'-10" @ PEAK)

BUILDING VOLUME: 84,700 C.F

OCCUPANCY LOAD: 48 PEOPLE
PER TABLE 1004.1.2 100 S.F. (GROSS) PER PERSON



LOCATION MAP
NO SCALE

NORTH

INDEX TO DRAWINGS

CURRENT REVISIONS

NO.	DATE	SHEET	DESCRIPTION
		T1	PROJECT DATA, DRAWING INDEX, NOTES & SPECIFICATIONS
CIVIL & LANDSCAPE SHEETS FOR REFERENCE ONLY. ADAMS CONFIRM LATEST DRAWINGS WITH CIVIL ENGINEER AND LANDSCAPE ARCHITECT.		C1	COVER SHEET
		C2	EXISTING TOPOGRAPHY
		C3	SITE LAYOUT PLAN
		C4	SITE GRADING PLAN
		C5	SITE UTILITY PLAN
		C6	SITE EROSION CONTROL PLAN
		C7	STORM WATER POLLUTION PREVENTION PLAN
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		A1	SITE PLAN, DETAILS & NOTES
		A1.1	SITE DETAILS & TRASH ENCLOSURE DETAILS
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		S2	ROOF FRAMING PLAN, DETAILS, NOTES
		S2.1	WALL SECTIONS, JOIST DIAGRAMS
		M1	HVAC PLAN
		M2	ROOF AND GAS PIPING PLAN
		M3	HVAC SCHEDULES AND NOTES
		M4	HVAC VENT SCHEDULES
		P1	PLUMBING PLAN, SCHEMATIC DIAGRAMS, DETAILS
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		E0.1	ELECTRICAL SITE PLAN, SITE PLAN DETAILS
		E0.2	PHOTOMETRIC PLAN, PHOTOMETRIC DETAILS
		E1	ELECTRICAL RISER DIAGRAM, NOTES, SCHEDULES
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		E3	ELECTRICAL LIGHTING PLAN, SHEET NOTES, ELEVATIONS
		E4	ELECTRICAL ROOF PLAN, DETAILS, SCHEDULES
		E5	ELECTRICAL CONTROL PLAN, DETAILS
		E6	ELECTRICAL SPECIFICATIONS

CERTIFICATION STATEMENT

THIS IS TO CERTIFY THAT I AM A LICENSED ARCHITECT IN THE STATE OF ILLINOIS AND THAT THESE DRAWINGS WERE PREPARED UNDER MY PERSONAL SUPERVISION AND TO THE BEST OF MY KNOWLEDGE CONFORM TO ALL FRANKFORT BUILDING AND ZONING REGULATIONS

Signed Eric L Smith Date: 5/18/2023

KMA & ASSOCIATES ARCHITECTS

Illinois Registration Number: 001-016154

Eric L Smith
LICENSED ARCHITECT
ERIC L. SMITH
001-016154
STATE OF ILLINOIS
EXPIRES 11-30-24

REVISIONS

THIS DRAWING		
	FOR REVIEW	5/10/2023
NOT	FOR BIDDING	
NOT	FOR PERMIT	5/10/2023
NOT	FOR CONTRACTING	
NOT	FOR CONSTRUCTION	

KMA & ASSOCIATES, ARCHITECTS
2205 LAKESIDE DRIVE
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SAUNA GUARD FOR
UNLIMITED MASONRY
LARAWAWAY AVENUE WEST OF WOLF ROAD
FRANKFORT, IL

SHEET TITLE
PROJECT DATA
DRAWING INDEX
NOTES & SPECIFICATIONS

2238

T1

RETAIL BUILDING

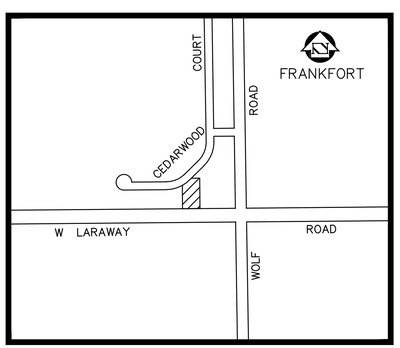
LOT 3 LARAWAY & WOLF ROAD
FRANKFORT, IL 60423

SITE IMPROVEMENT PLANS

GENERAL NOTES

1. The Village of Frankfort, Department of Public Works, and Department of Engineering, (Telephone 1-815-469-2177), and Joseph A. Schudt & Associates (Telephone 1-708-720-1000) must be notified 2 working days prior to commencement of work.
2. Elevation is U.S.G.S. Datum. (NAVD 88)
3. All floor drains shall discharge to the sanitary sewer.
4. All downspouts and footing drains shall discharge to the storm sewer.
5. All sanitary sewer construction requires stone bedding 1/4 inch to 1 inch in size, with a minimum thickness equal to 1/4 the outside diameter of the sewer pipe, but not less than 4 inches, nor greater than eight inches. Bedding material shall be CA-11 and shall be extended at least 12 inches above top of pipe when using non-rigid (PVC) pipe.
6. "Band Seal" or similar flexible-type couplings shall be used for the connection of sewer pipe of dissimilar materials.
7. When connecting to an existing sewer main by means other than an existing wye, tee, or an existing manhole, one of the following methods shall be used:
   a. Circular saw-cut of sewer main by proper tools ("Sewer Tap" machine or similar) and proper installation of hub-wye saddle or hub-tee saddle.
   b. Remove an entire section of pipe (breaking only the top of the bell) and replace with a wye or tee branch section.
   c. With pipe cutter, neatly and accurately cut out desired length of pipe for insertion of proper fitting, using "Band-Seal" or similar couplings to hold it firmly in place.
8. Wherever a sewer crosses under a watermain, the minimum vertical distance from the top of the sewer to the watermain shall be 18 inches. Furthermore, a minimum horizontal distance of 10 feet between storm and/or sanitary and watermains shall be maintained unless: the sewer is laid in a separate trench, keeping a minimum 18 inch vertical separation; or the sewer is laid in the same trench with the watermain located at the opposite side on a bench of undisturbed earth, keeping a minimum 18 inch vertical separation. If either the vertical or horizontal distances described above cannot be maintained, or the sewer crosses above the watermain, then, for a distance of 10 feet on either side of the watermain, the sewer pipe shall be PVC pressure pipe material or the watermain shall be constructed in a watertight casing.
9. Contractor shall bend watermain pipe uniformly under sewers without using fittings providing that joint deflection does not exceed 5 degrees per joint for pipe under 12 inches in size and 3 degrees per joint for pipe 14 inches and over in size. All crossing (including services) shall have a minimum of 18 inches of clearance and should extend 10 feet each side of the center of the crossing.
10. All sanitary manholes shall have a minimum inside diameter of 48 inches. Manhole steps shall be 16" min. wide plastic w/continuous 1/2 steel reinforcement, M.A. Industries or equal.
11. All sanitary sewer, storm sewer, and water system construction shall conform to the "Standard Specifications for Water and Sewer Main Construction in Illinois", current edition.
12. All paving and related improvements shall be constructed in accordance with the Illinois Department of Transportation, "Standard Specifications for Road and Bridge Construction in Illinois", current edition. As noted on plans.
13. All trenches caused by the construction of sewers, watermains, water service pipes, and in excavation around catch basins, manholes, inlets, and other appurtenances which occur within the limits of, or within 3 feet of existing or proposed pavements, sidewalks, and curb and gutters shall be backfilled with trench backfill. Trench backfill shall be CA-6 Grade 8 material to subgrade and shall be mechanically compacted in 12" lifts.
14. 12", 10" & 8" diameter sanitary sewer pipe and fittings shall be PVC pipe, SDR 26 (ASTM D-3034) with flexible elastometric (O-ring) gaskets (ASTM D-3212), unless otherwise noted. Where 6" diameter sanitary service crosses below watermain with less than 18 inches of separation, or where indicated elsewhere on plans, 6" service shall be DIP pipe (ANSI 2151) with gasket joints (ANSI 21.11). Sanitary sewers shall be air tested, mandrel tested, and televised. Sanitary sewer manholes shall be provided with internal chimney seals (Cretex or equal). All Sanitary Manholes shall be provided with mac wrap at barrel section joints. Sanitary sewer manholes shall be air tested in accordance with ASTM C-1244-93, Standard Test Method for Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test.
15. All new watermain shall be C900 PVC pipe. All watermain fittings, valves, and hydrants shall have stainless steel bolts and shall be secured using Meg-A-Lug restrained joints. Thrust blocking shall also be provided, with precast blocking permitted. Watermain shall be pressure tested at 150psi for two hours. A leakage test will be performed in accordance with "Standard Specifications for Water and Sewer Construction in Illinois", current edition. A disinfection test shall be completed using an initial chlorine concentration of 50 mg/l and a minimum residual concentration of 25 mg/l after 24 hours. All work shall comply with Village of Frankfort standards.
16. Watermains and lot services shall be a minimum of 5.0 feet below finished ground surface. A 5 foot patch on both sides of the trench. Full depth Class D patch within the trench area. The 5 foot areas on both sides of the trench are required to be patched with 2-1/2" binder and 1-1/2" of surface. Public Works inspections are required during the restoration process.
17. a. All storm sewer must be reinforced concrete pipe in paved areas.
    b. All reinforced concrete pipe shall be ASTM C76 CL IV.
    c. Sump pump discharge piping shall be PVC Schedule 40.
    d. Joints shall conform to ASTM C443.
18. Where storm sewers cross over the tops of watermains and are designated as "LHP" type, they shall be reinforced concrete low head pressure pipe (ASTM C-361-76). Alternately, proper watermain protection per note (8.) shall be provided.
19. All bends in the watermain of 10 degrees or greater shall be installed with restrained joints (Meg-A-Lug or equal). Restrained joints (Meg-A-Lug or equal) shall be used within three pipe lengths of a fitting. No thrust blocking is allowed.
20. All rims and inverts of existing sanitary and storm sewer shall be field verified prior to the start of construction, and any discrepancies between the plan and existing elevations shall be reported to the Engineer immediately.
21. All coordinates refer to back of curb, centerline of manhole, pipe, or structure, or as shown.
22. All curb radii refer to back of curb. Lane dimensions refer to face of curb or edge of pavement.
23. The Contractor shall subscribe to all governing regulations and shall obtain all necessary public agency permits.
24. Field check all dimensions, coordinates, and elevations before proceeding with new work. Notify the Engineer of any discrepancies immediately.
25. The Contractor shall provide for the safe and orderly passage of traffic and pedestrians where his operations abut public thoroughfares and adjacent property.
26. Construction access points to the site shall be protected in such a way as to prevent tracking of mud or soil onto public thoroughfares. At the end of each day, the Contractor shall clean up all mud or soil which has been tracked onto public streets or as required by the Village of Frankfort.
27. Street paving and curbs to remain shall be protected from damage and, if damaged, shall be replaced promptly to meet Village of Frankfort Standard Specifications in materials and workmanship.
28. Prior to new work, the Contractor shall verify the location and elevation of existing utility lines and structures to be connected to proposed work. Discrepancies shall be reported to the Engineer immediately.
29. All sediment will be prevented from entering any existing storm drainage systems by the use of hay bales, interceptor dikes or other approved functional methods. The Contractor shall be responsible for removing sediment resulting from this project from storm sewers and drainage structures.
30. All utility connections to existing lines shall be constructed in accordance with the regulations of the utility owner and to the satisfaction of the utility owner.
31. All work shall be in accordance with the specifications for the Village of Frankfort.
32. New watermain valves, including pressure tap valves, adjacent to an existing watermain, and existing watermain valves shall only be operated by the Village of Frankfort, Department of Public Works personnel with a 48-hour notice (Monday-Friday).
33. Any existing utility structures requiring adjustment are to be adjusted (up to 6" total adjustment allowed with a maximum of 2 precast concrete rings) or reconstructed by the contractor to the utility owner's satisfaction. Adjustments or reconstructions not called for on the plans shall be considered incidental to the contract. A total of no more than 6" and no less than 4 inches of adjusting rings shall be provided at all utility structures. Adjusting rings shall be set in a bed of preformed non-hardening mastic (RUB-R-NEK or approved equal). The upper adjusting ring shall be made of recycled rubber (Infra-Riser brand or equal).
34. All connections to existing manholes shall be made by coring the existing manhole using a diamond or carbide tip cutter and installing a press seal PSX or CORE-N-SEAL boot in the cored opening.
35. All storm sewer flared end sections for pipes greater than 12 inch diameter shall be provided with grates per I.D.O.T. standards.
36. Reproducible "Record" drawings shall be provided by the contractor to the Village of Frankfort and Owner following completion of improvements.
37. Structure lids shall be stamped "VILLAGE OF FRANKFORT" and "SANITARY", "STORM", or "WATER" for appropriate utilities.
38. Sanitary and Water stubs shall be marked with 4" x 4" wood posts.
39. One lane in each direction shall be open to traffic at all times except between the hours of 9 A.M. to 3 P.M. During this period all work must be performed in accordance with standards 701201, 701206, and 701401.
40. Traffic control standards which shall be included for use during construction are: 702001, 701201, 701206, 701301, 701401, 701501, 701606, and 701701.
41. The owner and/or contractor shall be responsible for verifying soil conditions and subgrade conditions.

Village of Frankfort Standard Specifications shall govern all utility matters and shall supercede general conditions and specifications when and where in conflict.



VICINITY MAP

(NOT TO SCALE)

INDICATES SITE LOCATION

INDEMNIFICATION LANGUAGE

INDEMNIFICATION AND INSURANCE REQUIREMENTS - The Applicant and the Contractor shall indemnify the Municipality and the Municipal Engineer, their officials, officers, employees, and agents acting in the scope and course of their employment and shall protect them from claims arising out of or in connection with any operation of the Applicant or Contractor including personal injury, death; or, for destruction of or damage to property.

The Applicant and Contractor shall also protect the Municipality and the Municipal Engineer by including them as additional insured on their Comprehensive General Liability Insurance Policy. The minimum level of insurance shall be as specified in Section 107.27 GENERAL REQUIREMENTS AND COVENANTS of the Standard Specifications for Road and Bridge Construction by the Illinois Department of Transportation. "Claims Made" type policies are unacceptable. Certificates of Insurance shall be filed and approved by the Municipality and Robinson Engineering, Ltd., the Municipal Engineer, a minimum of 5 days before starting construction.

PERSONAL LIABILITY - In carrying out any of their duties or in exercising any power or authority granted to the Municipal Engineer by the Municipality, there shall be no personal liability upon the Municipal Engineer or their authorized representative, it being understood that in such matters they act as agents and representatives of the Municipality. By beginning work, the Applicant and Contractor covenants and agrees that is shall neither commence nor prosecute any action or suit whatsoever against the Municipal Engineer or Municipality, their officials, officers, employees or agents in any action or omission done or not done in the course of their duties. Further, by beginning work, the Applicant and Contractor agrees to pay all attorney fees and all costs incurred by the Municipality or Municipal Engineer, its officials, officers, employees or agents because of any action or suit in violation of this Article.

HOLD HARMLESS - The Applicant and Contractor doing work, shall hereby defend, indemnify, keep, and save harmless the Municipality and the Municipal Engineer, and their respective legislative and board members, representatives, agents, and employees in both individual and official capabilities against all suits, claims, damages, losses, and expenses, including attorney's fees, caused by or growing out of, or incidental to, the performance of the work by the Applicant or the Contractor to the full extent allowed by the laws of the State of Illinois and not beyond any extent which would render these provisions void or unenforceable.

CONSTRUCTION OBSERVATION - All materials and each part of detail of the work portrayed on these Plans may be subject at any time to observation by the Municipal Engineer. Observation may be made at the site, or at the source of material supply, whether that is at a mill, plant, ship, etc. The Municipal Engineer shall be allowed access to all parts of the Work and shall be furnished with such information and assistance by the Applicant and Contractor as needed to perform these observations. The Contractor shall be held strictly to the true intent of the Plans in regard to quality of materials and workmanship.

The Municipal Engineer is not responsible for safety on the work site nor does the Municipal Engineer have any duty to review in any manner the adequacy of the Contractor's safety measures incident to the work portrayed on these Plans.

The Municipal Engineer is not responsible for any construction means, methods, techniques, sequences or procedures for the work portrayed on these Plans.

The Municipal Engineer has no charge of the construction and has no right, duty, or responsibility to stop work because of any Contractor's failure to follow proper safety precautions. The Municipal Engineer is not responsible for the acts, errors or omissions of any Applicant, Engineer or Contractor, or any of their agents or employees or any other person performing any of the Work portrayed on these Plans.

The Contractor shall, upon written notice from the Municipality, remove or uncover such portions of the finished Work, as it may direct, before the final acceptance of the same. After examination, the Contractor shall restore said portion of the Work to the standard required by these Plans. The expense of uncovering, removing and replacement shall be borne by the Applicant and/or the Contractor; and, not the Municipality nor the Municipal Engineer.

Any reference to "supervision" by the Engineer in the Illinois Department of Transportation, Standard Specifications for Road and Bridge Construction, or any other referenced documents shall be changed to "observation".

KMA & ASSOCIATES, ARCHITECTS

CONTACT:
ERIC SMITH
2205 LAKESIDE DRIVE
BANNOCKBURN, IL 60015
PHONE:847.945.6869
esmith@kmaarch.com

SURFACE WATER DRAINAGE CERTIFICATE

STATE OF ILLINOIS } SS
COUNTY OF WILL }

To the best of our knowledge and belief the drainage of surface waters will not be changed by the construction of such subdivision or any part thereof, or, that if such surface water drainage will be changed, reasonable provisions have been made for the collection and discharge of surface waters into public or private areas and/or drains which the subdivider has the right to use, and that such surface waters will be planned for in accordance with generally accepted engineering practices so as to reduce the likelihood of substantive damage to adjoining property because of the construction of the subdivision.

Dated this 15 day of APRIL 2021

Engineer

D. WARREN OPPERMAN 43406 REGISTERED PROFESSIONAL ENGINEER ILLINOIS

Joseph A. Schudt & Associates
9455 ENTERPRISE DRIVE MOKENA, IL 60448
PHONE: 708-720-1000 FAX: 708-720-1065
e-mail: jas@jaseng.com http://www.jaseng.com
CIVIL ENGINEERING LAND SURVEYING ENVIRONMENTAL LAND PLANNING GPS SERVICES

ILLINOIS PROFESSIONAL DESIGN FIRM NO. 184-001172

Prepared at or under the direction of:

Illinois Professional Engineer No. 062-043406

D. WARREN OPPERMAN 43406 REGISTERED PROFESSIONAL ENGINEER ILLINOIS

SIGNED:_____

LIC. EXP: 11-30-23

CONTACT JULIE AT 811 OR 800-892-0123

WITH THE FOLLOWING INFORMATION

COUNTY-NAME WILL

CITY / TOWNSHIP FRANKFORT

SEC & 1/4 SEC No. SW 1/4 SEC 30, TWN 35 N, R 12 E.

811 Know what's below. Call before you dig.

48 HOURS (2 working days) BEFORE YOU DIG

LEGEND

Ⓢ	EXISTING SANITARY MANHOLE
●	PROPOSED SANITARY MANHOLE
—SAN—	EXISTING SANITARY SEWER
—(—	PROPOSED SANITARY SEWER
⊗	EXISTING VALVE IN VAULT
⊗	PROPOSED VALVE IN VAULT
⊗	EXISTING VALVE
⊗	PROPOSED VALVE
△	EXISTING REDUCER
▲	PROPOSED REDUCER
	EXISTING HYDRANT
	PROPOSED HYDRANT
—W—	EXISTING WATERMAIN
—PW—	PROPOSED WATERMAIN
	EXISTING STORM MANHOLE
	PROPOSED STORM MANHOLE
	EXISTING CATCH BASIN
	PROPOSED CATCH BASIN
	EXISTING INLET
	PROPOSED CIRCULAR INLET
	PROPOSED INLET
—ST—	EXISTING STORM SEWER
—<—	PROPOSED STORM SEWER
—ST—<	EXISTING CULVERT
—<—	PROPOSED CULVERT
☼	EXISTING LIGHT

✸	PROPOSED LIGHT
— — —	EXISTING CONTOUR LINE
	PROPOSED CONTOUR LINE
= = =	EXISTING CURB
	PROPOSED CURB
//////	EXISTING CURB TO BE REMOVED
	PROPOSED HUNG CURB
PP	EXISTING POWER POLE
	EXISTING TRANSFORMER
E	EXISTING ELECTRIC MANHOLE
—E—	EXISTING ELECTRIC CABLE
	EXISTING TELEPHONE PEDESTAL
T	EXISTING TELEPHONE MANHOLE
—T—	EXISTING TELEPHONE CABLE
	EXISTING TRAFFIC SIGNAL
hh	EXISTING HAND HOLE
GV	EXISTING GAS VALVE
—G—	EXISTING GAS MAIN
—C—	EXISTING CABLE T.V.
	EXISTING BORING LOCATION
	EXISTING SIGN
—x—x—	EXISTING FENCE LINE
	EXISTING DECIDUOUS TREE
	EXISTING EVERGREEN
	EXISTING BUSH/HEDGE
	EXISTING WETLAND

INDEX

LEGAL DESCRIPTION

LOT 3 IN THE WOLF AND LARAWAY LLC SUBDIVISION, BEING A SUBDIVISION OF PART OF THE SOUTHWEST QUARTER OF SECTION 30, TOWNSHIP 35 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN WILL COUNTY, ILLINOIS.

P.I.N. 19-09-30-401-063-0000

PROPERTY CONTAINS: 35,764 SQ. FT. (0.821 ACRES), MORE OR LESS.

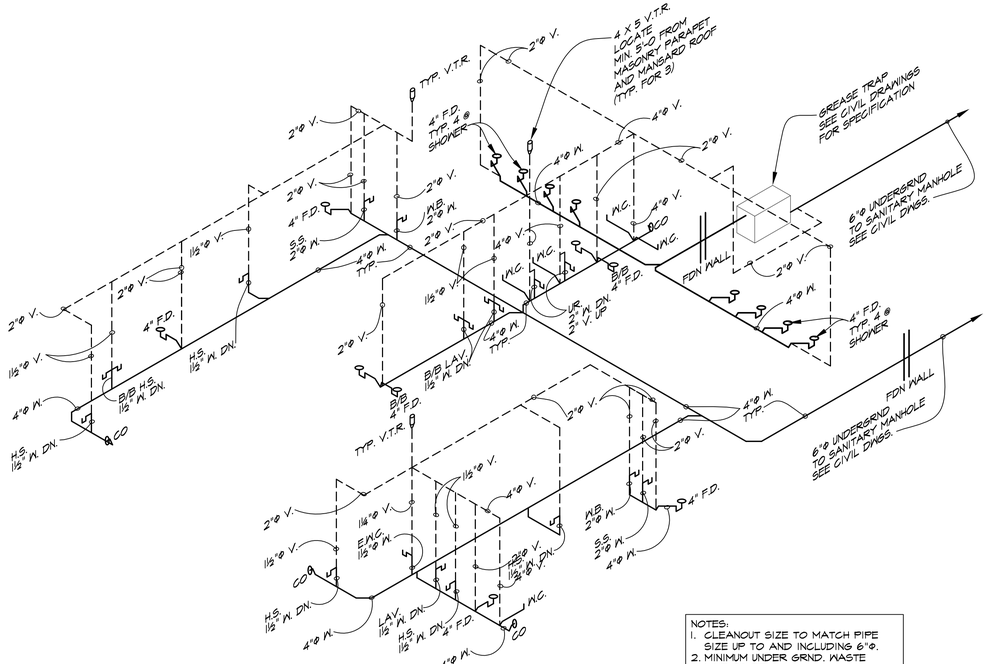
BENCH MARK:

TOP OF THE NORTHWEST FLANGE BOLT OF HYDRANT. LOCATED WEST OF WOLF ROAD, THE FIRST HYDRANT ON THE NORTH SIDE OF LARAWAY ROAD . ELEVATION: 739.38

FOR PERMIT

No.	Date	By	Description
			REVISIONS

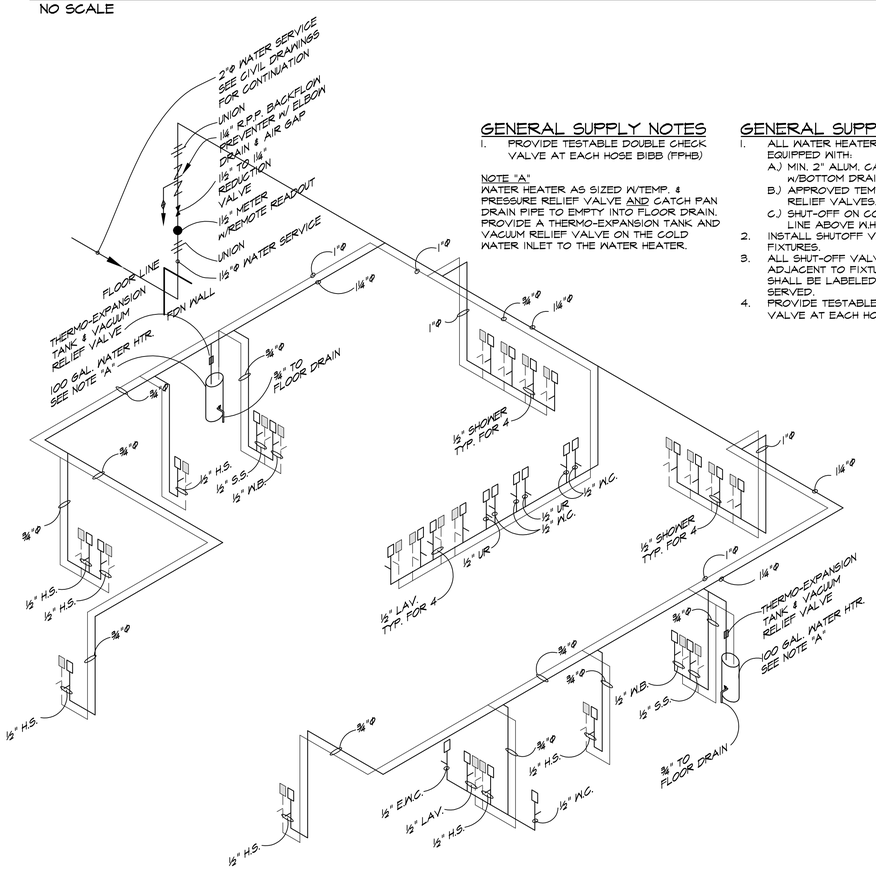
Date: 5-15-23 | Drawn: TMF | SHEET 1 OF 10 | Project No. 23-020
Design: KG | Approved: DWO



NOTES:
1. CLEANOUT SIZE TO MATCH PIPE SIZE UP TO AND INCLUDING 6"ø.
2. MINIMUM UNDER GRND. WASTE LINE TO BE 4"ø

SCHEMATIC WASTE / VENT DIAGRAM

NO SCALE



GENERAL SUPPLY NOTES

1. PROVIDE TESTABLE DOUBLE CHECK VALVE AT EACH HOSE BIBB (FPHB)

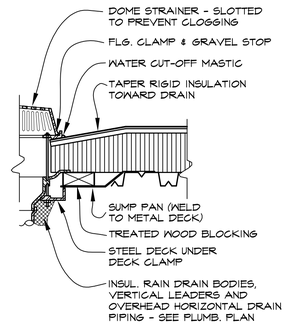
NOTE "A"
WATER HEATER AS SIZED W/TEMP. & PRESSURE RELIEF VALVE AND CATCH PAN DRAIN PIPE TO EMPTY INTO FLOOR DRAIN. PROVIDE A THERMO-EXPANSION TANK AND VACUUM RELIEF VALVE ON THE COLD WATER INLET TO THE WATER HEATER.

GENERAL SUPPLY NOTES

1. ALL WATER HEATERS SHALL BE EQUIPPED WITH:
   A.) MIN. 2" ALUM. CATCH PAN W/BOTTOM DRAIN.
   B.) APPROVED TEMP. & PRESSURE RELIEF VALVES.
   C.) SHUT-OFF ON COLD WATER SUPPLY LINE ABOVE W.H.
2. INSTALL SHUTOFF VALVES AT ALL FIXTURES.
3. ALL SHUT-OFF VALVES NOT ADJACENT TO FIXTURES SERVED, SHALL BE LABELED AS TO FIXTURES SERVED.
4. PROVIDE TESTABLE DOUBLE CHECK VALVE AT EACH HOSE BIBB (FPHB)

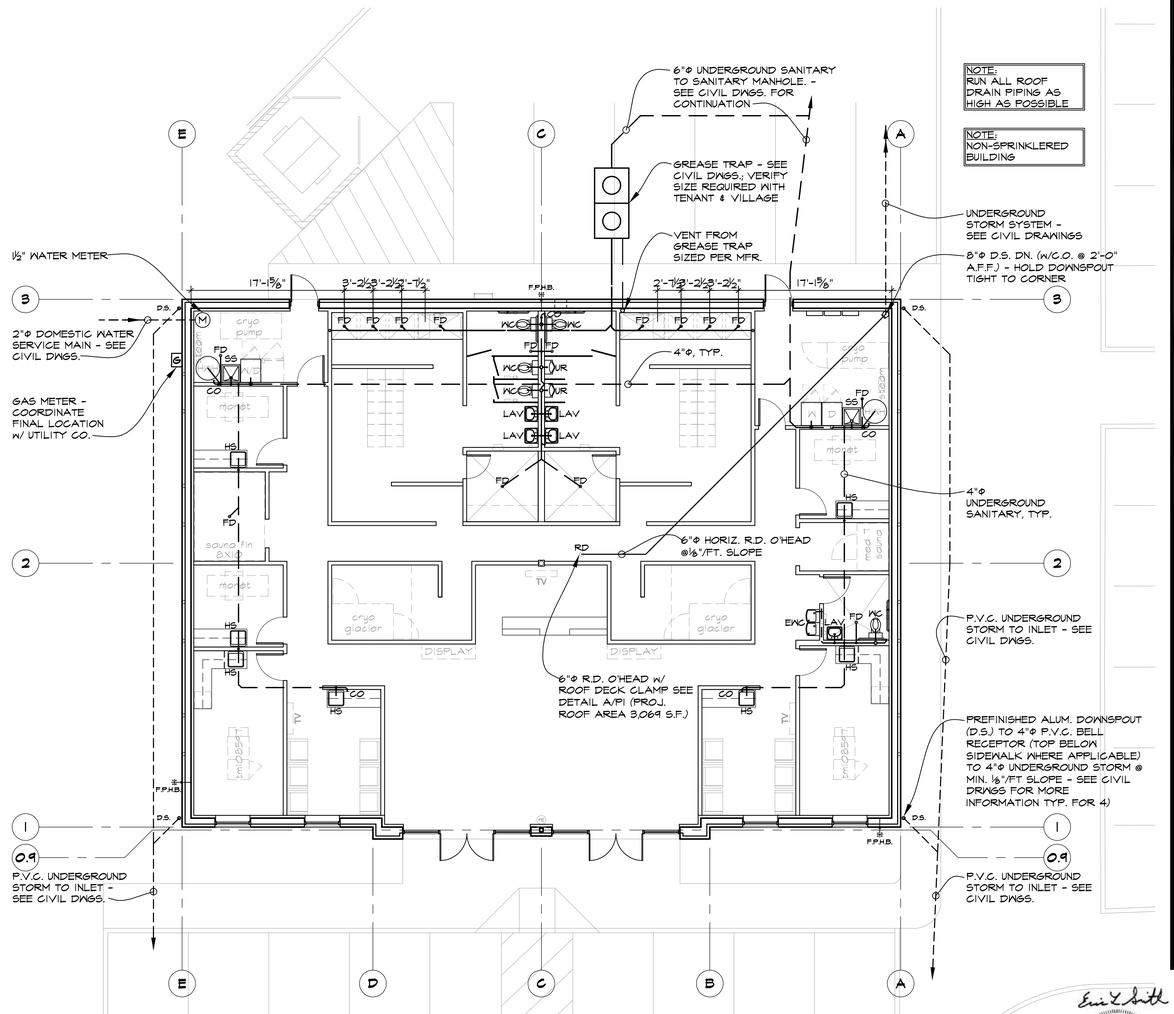
SCHEMATIC SUPPLY DIAGRAM

NO SCALE



ROOF DRAIN A

SCALE: 1½" = 1'-0



NOTE:
RUN ALL ROOF DRAIN PIPING AS HIGH AS POSSIBLE

NOTE:
NON-SPRINKLERED BUILDING

PLUMBING PLAN

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

NOTE: SEE SHEET A2.2 FOR INTERIOR ELEVATIONS @ SHOWERS, TOILETS, STEAM ROOMS

NORTH

ERIC L. SMITH
001-016154
STATE OF ILLINOIS
LICENSED ARCHITECT
EXPIRES 11-30-24

REVISIONS

THIS DRAWING		
FOR REVIEW		5/10/2023
NOT FOR BIDDING		5/10/2023
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SAUNA GUARD FOR
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LARAWAWAY AVENUE WEST OF WOLF ROAD
FRANKFORT, IL

SHEET TITLE
PLUMBING PLAN
SCHEMATIC DIAGRAMS
DETAILS

2238

P 1

ACCESSIBILITY NOTES

SINGLE USER TOILET ROOM DESIGN MUST FULLY COMPLY W/ ICC/ANSI SECTION 604.3 FOR CLEAR FLOOR SPACE

CONTROLS AND OPERABLE COMPONENTS TO COMPLY W/ ICC/ANSI SECTION 309 AND BE BETWEEN 15" AND 48" A.F.F.

LAVATORIES TO COMPLY W/ ICC/ANSI SECTION 606

FLUSH HANDLES ON HDCP TOILET TANKS TO BE ON THE WIDE SIDE OF THE STALL OR ROOM.

MIRROR INSTALLATION TO COMPLY W/ ICC/ANSI SECTION 603.3

GRAB BARS TO COMPLY W/ ICC/ANSI FIGURES 604.5.1 & 604.5.2

ELECTRIC WATER COOLER TO COMPLY W/ ICC/ANSI SECTION 602

PROVIDE AN ADA COMPLIANT "UNISEX" RESTROOM SIGN TO COMPLY W/ ICC/ANSI SECTION 703 MOUNTED OUTSIDE RESTROOMS WITHIN 6" OF LATCH SIDE OF DOOR FRAME AND 60" FROM THE FLOOR TO THE CENTERLINE OF THE SIGN. SEE ADA SIGN NOTES..

ADA SIGN NOTES

1. CHARACTERS & SYMBOLS SHALL CONTRAST WITH THEIR BACKGROUND
2. IDENTIFICATION SYMBOLS ARE TO BE MOUNTED ON WALL @ 60" A.F.F.
3. SYMBOLS ARE TO BE DISTINCTLY DIFFERENT FROM THE DOOR IN COLOR AND CONTRAST
4. PROVIDE ROOM IDENTIFICATION SIGN ON LATCH SIDE OF DOOR. LETTERS AND NUMBERS ON SIGNS SHALL BE RAISED 1/32" MIN. & SHALL BE MIN. OF 5/8" TALL. LETTERS SHALL BE SANS-SERIF UPPERCASE CHARACTERS ACCOMPANIED BY GRADE 2 BRAILLE
5. LOCATE RAISED & BRAILLE CHARACTERS, SIGNS ON THE WALL NEAREST TO THE LATCH SIDE OF THE DOOR

PLUMBING GENERAL NOTES

1. DESCRIPTION OF THE WORK:
   A. THE DRAWINGS ARE PARTLY DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW IN DETAIL ALL FEATURES OF THE WORK. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE SPECIFICATIONS, THE DRAWINGS & LOCAL GOVERNING CODES.
   B. CONTRACTORS SHALL REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
   C. THE WORK UNDER THIS SECTION OF THE SPECIFICATIONS INCLUDES ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO COMPLETE THE PLUMBING SYSTEM AS SHOWN ON THE DRAWINGS & HEREIN SPECIFIED. ALL WORK SHALL BE DONE IN A WORKMANLIKE MANNER IN ACCORDANCE WITH GOOD PRACTICE, MANUFACTURER'S RECOMMENDATIONS, AND THE DEPARTMENT OF PUBLIC HEALTH.
2. PIPING - NOTE ALL PIPING MATERIALS TO COMPLY WITH CURRENT STATE OF ILLINOIS PLUMBING CODE
   A. THE INSTALLATION OF SANITARY PIPING SHALL BE CAREFULLY PLANNED. PIPING SHALL BE INSTALLED IN SUCH A MANNER AS TO PREVENT THE FORMING OF SAGS OR POCKETS.
   B. INSTALL DRAINS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND IN LOCATIONS INDICATED.
   C. STOPS SHALL BE PROVIDED FOR ALL FIXTURES.
   D. PROVIDE 12" AIR CHAMBERS ON ALL FIXTURES & 24" AIR CHAMBERS ON ALL SUPPLY RISERS.
   E. PROVIDE BALL COCK, VACUUM BREAKER AIR GAP FOR MOP & SERVICE SINKS @ 7'-6" A.F.F.
3. GAS PIPING: REFER TO DRAWING MECHANICAL DRAWINGS FOR GAS PIPING PER ZONE "A" & "B"
   A. PLUMBING CONTRACTOR SHALL CONTACT GAS CO. FOR NEW SERVICE METER & REGULATOR AS MAY BE REQUIRED. NEW GAS PIPING 2" & SMALLER SHALL BE SCHED. 40 A120 T & G BLACK STEEL
   B. PIPE W/150 MALLEABLE IRON SCREWED FITTINGS.
   C. NEW GAS PIPING 2-1/2" OR LARGER SHALL BE SCHED. 40 A120 BW BLACK STEEL PIPE WITH BUTT WELD FITTINGS.
   D. PIPING SIZING TABLE FOR PRESSURE UNDER 1 POUND WITH PRESSURE DROP OF 0.3 INCH WATER COLUMN AND 0.6 SPECIFIC GRAVITY

PIPING INSULATION

A. ALL PIPING (ABOVE FINISHED FLOOR) SHALL BE COVERED WITH ARMACELL AP/ARMAFLEX PIPE INSULATION ½" THICK IN ACCORDANCE WITH ASTM C-534, GRADE 1, TYPE 1 FOR TUBULAR MATERIALS AND GRADE 1, TYPE 11 FOR SHEET MATERIAL.

B. ALL JOINTS SHALL BE SEALED WITH APPROVED MANUFACTURER'S ADHESIVE.

C. ACCEPTABLE ALTERNATE MANUFACTURER: KOOLPHEN K CFC FREE PHENOLIC FOAM, OR AEROCEL (BY AEROFLEX INTERNATIONAL CO.) CLOSED CELL ELASTOMERIC THERMAL INSULATION.

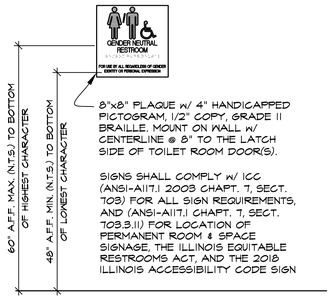
D. FIBERGLASS PIPE INSULATION, RIGID (NOT WRAP TYPE), ONE INCH THICK WITH BUILT-IN VAPOR BARRIER MAY BE USED IN LIEU OF ARMACELL PRODUCT SPECIFIED ON INTERIOR STORM LINES, INTERIOR DOMESTIC WATER LINES, INTERIOR CONDENSATE DRAIN PIPING FROM HVAC UNITS AND INTERIOR WATER WASTE PUMP DISCHARGE LINES. ACCEPTABLE MANUFACTURERS ARE ARMSTRONG, CERTAINTEED, JOHNS-MANSVILLE, KNAUF, AND OWENS-CORNING.

E. FLAME SPREAD SHALL BE 25 OR LESS. SMOKE DEVELOPED SHALL BE 50 OR LESS.

F. INSTALL MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

PLUMBING NOTES

1. SEE PLAN, ELEVATIONS & SCHEMATIC DIAGRAMS FOR FIXTURES/ACCESSORIES USED.
2. TOILET ROOM LAVATORIES SHALL BE EQUIPPED W/ A TEMPERING VALVE W/ MAX. SETTING OF 110 DEGREES
3. LAVATORY FIXTURES SHALL BE SELF-METERING W/ 0.5 GPM FLOW RESTRICTOR
4. ALL WATER PIPES & DRAIN PIPES TO BE INSULATED UNDER THE LAVATORIES PER ADA REQUIREMENTS
5. ALL SHARP OR ABRASIVE SURFACES UNDER LAVATORIES TO BE PROTECTED FROM CONTACT
6. ALL FIXTURES AND ACCESSORIES TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.
7. PROVIDE HEAT TAPE FOR ALL DOMESTIC WATER LINES LOCATED IN EXTERIOR WALLS WHERE PIPES ARE SUBJECT TO FREEZING TEMPERATURES.



ADA SIGNAGE

SCALE: 1½"=1'-0"

A

COMMERCIAL STEAMBATH SYSTEM (N.I.C.):

MANUF.: STEAMIST

STEAMBATH SYSTEM SHALL BE INSTALLED BY STEAMIST AUTHORIZED INSTALLER (N.I.C.); NOT INSTALLED BY CONTRACTOR.

- COMMERCIAL GENERATOR: HC-18, (TOTAL QUANTITY: 2, ONE GENERATOR PER STEAM ROOM) SEE FLOOR PLAN FOR LOCATIONS; COORDINATE FINAL GENERATOR SELECTION W/ ARCHITECT/ENGINEER; POWER REQUIREMENTS FOR GENERATORS VARY AND SHOULD BE COORDINATED W/ ARCHITECT/ENGINEER.
- IN-SHONER DIGITAL CONTROL: ONE PER ROOM;
- STEAMHEAD: ONE PER ROOM;

STEAM ROOM NOTES:
1) COORDINATE ALL FINAL EQUIPMENT SELECTIONS WITH ARCHITECT.
2) STEAM PIPING FROM GENERATOR TO STEAMROOM SHALL BE INSTALLED BY STEAMIST AUTHORIZED INSTALLER.
3) ADDITIONAL COMPONENTS AS SELECTED BY OWNER.

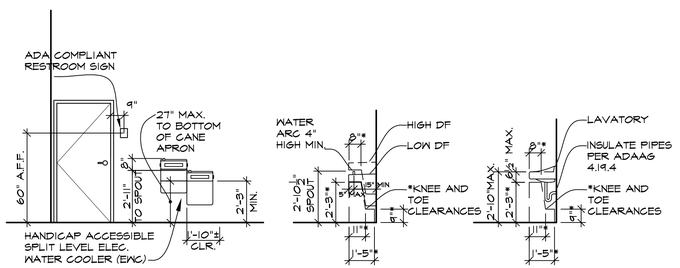
PLUMBING FIXTURE LIST

ALL FIXTURES TO MEET TO COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES. SEE PLAN FOR FIXTURES USED.

* WATER CLOSET (W.C.):	AMERICAN STANDARD "CADET 3" RIGHT HEIGHT ELONGATED TOILET No. 2886.012 w/ RIGHT OR LEFT SIDE TANK TRIP LEVER. ADA COMPLIANT. MEETS EPA WATERSENSE CRITERIA.
* LAVATORY (LAV.):	AMERICAN STANDARD "LUCERNE" No. 0355.012 w/ADA TEMPERED FAUCET. SEE PLUMB. NOTES. ADA COMPLIANT. MEETS EPA WATERSENSE CRITERIA.
* URINAL (UR):	AMERICAN STANDARD "WASHBROOK"; HIGH EFFICIENCY URINAL (HEU) OPERATES IN THE RANGE OF 0.125 GPF - 1.0 GPF; MEETS EPA WATERSENSE CRITERIA.
* ADA SHOWER UNIT W/ ROUGH-IN	DELTA: T13H52 w/ R10700-UNWS ROUGH-IN & 0607BBA VACUUM BREAKER - ADA COMPLIANT, SINGLE SHOWER UNIT w/ STANDARD 24" S.S. BAR w/ ADA SLIDE HAND SHOWER (70" LONG) AND SHOWER DIVERTER VALVE w/ 0607BBA VACUUM BREAKER; 1.5 GPF. MEETS EPA WATERSENSE CRITERIA.
* SHOWER HEAD:	DELTA: MODEL #T13291, 'MONITOR' 13 SERIES; SHOWER TRIM, CHROME. MEETS EPA WATERSENSE CRITERIA.
HAND SINK (H.S.):	TOCCATA, 15" TOP-MOUNT SINGLE-BOWL BAR SINK, K-R33441-2-NA; FAUCET: TRITON BOWE, 0.5 GPM CENTERSET BATHROOM SINK FAUCET WITH LAMINAR FLOW AND RISTBLADE HANDLES, K-400T20-5ANLL
SERVICE SINK (S.S.):	MUSTEE #14CP, 23" UTILITUB LAUNDRY TUB - COMBO KIT: SIZE: 23"W. x 25"L. x 33"H. w/ 13"DEEP TUB (I.D.); 20 GALLON CAPACITY; COLOR: WHITE; DUAL-HANDLE FAUCET W/ 4" CENTERS, POLYPROPYLENE BASIN w/ STEEL LEGS.
DRINKING FOUNTAIN (D.F.):	ELKAY MODEL No. EZSTLDDLC OR EQUAL. PROVIDE CANE APRON
GAS WATER HEATER (H.W.H.):	A.O. SMITH BTH-150 MXI, 100 GALLON; CONCENTRIC VENT KIT #100113124. T & P RELIEF VALVE, 8' OF 1/2" PIPE INSUL. (.27BTU MAX. PER INCH/H-FT2-°F) ON BOTH INLET & OUTLET LINES.
FROST PROOF HOSE BIBB (F.P.H.B.)	WADE 8600 SERIES OR EQUAL
FLOOR DRAIN	WADE - MODEL 1103,TY,66,1 - CAST IRON FLOOR DRAIN WITH FLANGE, INTEGRAL CLAMPING COLLAR, SEEPAGE OPENINGS, 1/2" PLUGGED PRIMER TAP AND ADJUSTABLE 6" x 6" NICKEL BRONZE STRAINER WITH VANDAL PROOF SCREWS.
WASHER BOX	SIOUX CHIEF #696-2413MF (OR EQUAL)
SCHLUTER-KERDI SHOWER SYSTEM w/DRAIN:	INCLUDES SCHLUTER-KERDI STAINLESS DRAIN KIT (DRAIN BODY w/ INTEGRATED PVC BONDING FLANGE w/ 2" OUTLET; 4" GRATE ASSEMBLY, STYLE AND FINISH TO BE SELECTED BY OWNER). SCHLUTER-KERDI WATERPROOFING MEMBRANE AND THIN-SET MORTAR. SCHLUTER-KERDI PRE-FABRICATED OFFSET TRAYS (36X36 OR 38X60). KERDI BACKER BOARD (NOTE: SEE SHEET A1 FOR ADD'L INFO. AND ALTERNATE BACK BOARD MATERIALS). CONTACT LOCAL REPRESENTATIVE FOR COMPLETE LIST OF MATERIALS. CONTACT: JOHN NOVOTNY, COMMERCIAL MANAGER IL/WI, SCHLUTER SYSTEMS L.P; CELL: 630-352-9111, EMAIL: jnovotny@schluter.com
SCHLUTER-KERDI STEAMROOM SYSTEM w/DRAIN:	(SEE SCHLUTER-KERDI SHOWER SYSTEM ABOVE FOR MATERIALS). ADD BENCHES AS REQUIRED BY OWNER.

* PLUMBING FIXTURE MUST BEAR THE WATERSENSE LABEL. DO NOT REMOVE THE WATERSENSE LABEL PRIOR TO PASSING FINAL INSPECTION AND HAVE FIXTURE CUTS ONSITE FOR FINAL INSPECTION.

PLUMBING FIXTURES NOTES:
1. ALL FIXTURES MAY BE SUBSTITUTED WITH APPROVED EQUAL U.N.O. CONTACT ARCHITECT FOR APPROVAL.
2. PLUMBING FIXTURES SHALL BE LABELED WATERSENSE PRODUCT, AS SPECIFIED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY. DO NOT REMOVE THE WATERSENSE LABEL PRIOR TO PASSING FINAL INSPECTION AND HAVE FIXTURE CUTS ON SITE FOR FINAL INSPECTION.
3. ALL ACCESSIBLE SHOWER AND SHOWER-BATH COMBINATION VALVES SHALL COMPLY WITH ASSE 1016, ASSE 1017 OR ASSE 1070, ADJUSTED TO A MAXIMUM SETTING OF ONE HUNDRED AND TEN DEGREES (110°) FAHRENHEIT AT THE TIME OF INSTALLATION.
4. ALL ACCESSIBLE SHOWER SPRAYER UNIT HOSES SHALL BE A MINIMUM SIXTY INCHES (60") LONG AND SHALL HAVE AN ATMOSPHERIC VACUUM BREAKER INSTALLED IN-LINE CONFORMING TO ASSE 1014.
5. URINAL RIM SHALL BE MOUNTED AT A MAXIMUM HEIGHT OF SEVENTEEN (17") OF THE FINISH FLOOR. SEE INTERIOR ELEVATIONS 4/A6.0.



SEE SHEET A2.2 FOR INTERIOR ELEVATIONS @ SHOWERS, TOILETS, STEAM ROOMS

TOILET ROOM ELEVATIONS

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

REVISIONS

THIS DRAWING		
FOR REVIEW	5/8/2023	
NOT FOR BIDDING	5/8/2023	
NOT FOR PERMIT		
NOT FOR CONTRACTING		
NOT FOR CONSTRUCTION		

KMA & ASSOCIATES, ARCHITECTS
2205 LAKESIDE DRIVE
BANNOCKBURN, ILLINOIS 60015
(847)945-6869

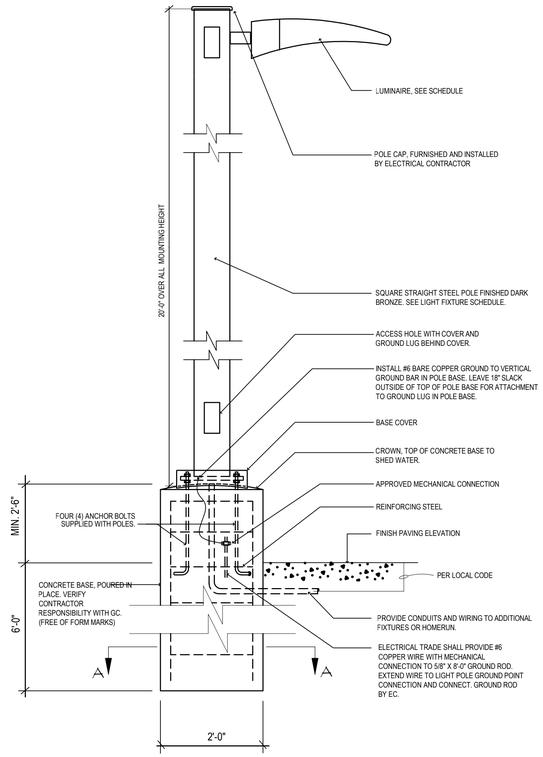
SAUNA GUARD FOR
UNLIMITED MASONRY
LARAWAWAY AVENUE WEST OF WOLF ROAD
FRANKFORT, IL

SHEET TITLE
DETAILS

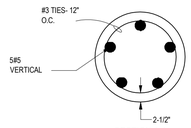
2238

Eric L. Smith
LICENSED ARCHITECT
ERIC L. SMITH
005.016354
STATE OF ILLINOIS
EXPIRES 11-30-24

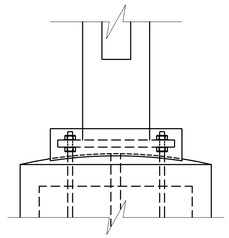
P 2



LIGHTING STANDARD ELEVATION
SCALE: NONE



SECTION A-A



ENLARGED CROWN DETAIL

GENERAL NOTES:

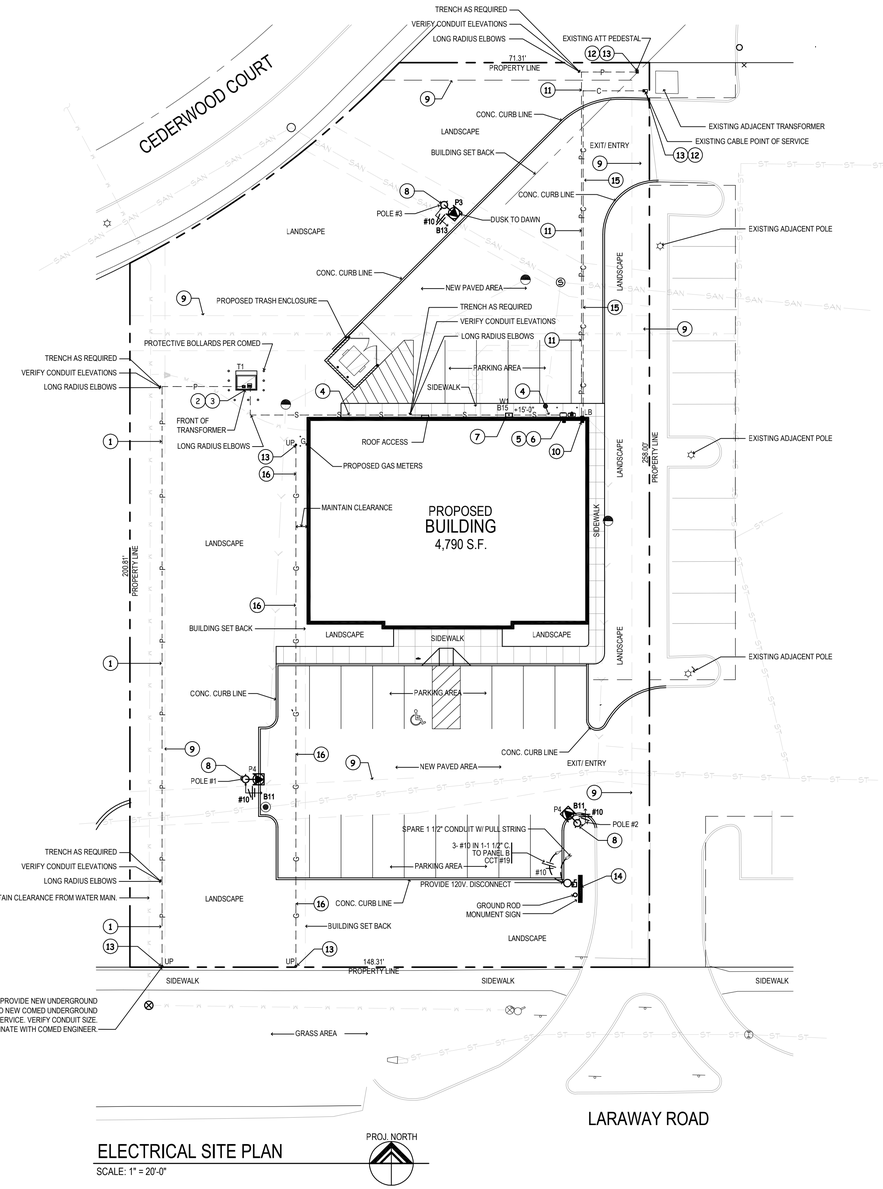
A. FOR UTILITY TRANSFORMER, TELEPHONE SERVICE, GAS, WATER, AND SANITARY SEWER LOCATIONS: REFER TO CIVIL PLANS.

B. ALL ELECTRICAL WIRING SHOWN ON THIS SHEET TO BE FED WITH #10 CU. MINIMUM U.N.O. VERIFY ACTUAL LENGTH WITH LOCAL CODE

C. ALL PVC CONDUIT MUST HAVE A MINIMUM OF #12 CU. GROUND CONDUCTOR.

D. ALL UNDERGROUND CONDUIT ROUTING, SIZES AND QUANTITIES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO COORDINATE EXACT REQUIREMENTS WITH THE SERVING UTILITY COMPANIES.

E. ALL CONDUIT EXTENDED UNDER DRIVEWAYS OR AREAS OF VEHICULAR USAGE SHALL BE GALVANIZED HEAVY WALL STEEL CONDUIT OR SCHEDULE 80 PVC NONMETALLIC CONDUIT, MINIMUM OF 36" BELOW GRADE OR PER UTILITY STANDARDS.



ELECTRICAL SITE PLAN
SCALE: 1" = 20'-0"

PROJ. NORTH

KEYED NOTES:

1. 1-4" PRIMARY GRAY SCH. 40 PVC CONDUIT TO POWER COMPANY POINT OF PRESENCE PER UTILITY STANDARDS WITH NYLON PULL-STRING. REFER TO ONE-LINE DIAGRAMS. POWER COMPANY PRIMARY SERVICE. EXTEND CONDUIT TO NEW PAD MOUNTED TRANSFORMER AND TERMINATE AS PER STANDARDS. REFER TO POWER ENTRANCE DIAGRAM FOR ADDITIONAL REQUIREMENTS. COORDINATE WITH POWER COMPANY ENGINEER FOR TRANSFORMER ACCESS AND FINAL CONNECTIONS. CONDUIT TO BE INSTALLED 36" BELOW FINISHED GRADE. CONDUITS TO BE ROUTED IN EASEMENT.

2. PROPOSED LOCATION FOR PAD MOUNTED POWER COMPANY FEED-THRU TRANSFORMER. PROVIDE APPROVED CONCRETE PAD AND GROUNDING VERIFY EXACT LOCATION PER POWER COMPANY REQUIREMENTS. MAINTAIN 10'-0" FRONT CLEARANCE, 3'-0" CLEARANCE ON SIDES. INSTALLATION TO BE LOCALLY APPROVED. PROVIDE SECONDARY SIDE TERMINATION TO TRANSFORMER PER COMED. PROVIDE PROPER GROUNDING PER POWER COMPANY REQUIREMENTS. SEE APPROVED TRANSFORMER PAD SPECIFICATIONS PROVIDED BY POWER COMPANY. PROVIDE PROTECTIVE BOLLARDS PER COMED STANDARDS.

3. ALL ASSOCIATED CONDUIT BENDS AT TRANSFORMER PAD FOR POWER COMPANY PRIMARY CABLES SHALL BE 4" DIA., 90 DEGREES, 36" MINIMUM RADIUS HOT GALVANIZED STEEL BENDS WITH GROUNDING BUSHINGS. TERMINATE PRIMARY AND SECONDARY CONDUITS FLUSH WITH TOP OF FOUNDATION. TOP OF FOUNDATION SHALL BE LEVEL.

4. SECONDARY CONDUIT AND FEEDER, REFER TO ONE-LINE DIAGRAM.

5. SERVICE ENTRANCE SECTION IN NEMA 3R ENCLOSURE. COORDINATE EXACT LOCATION WITH ARCHITECT, OWNER AND POWER COMPANY ENGINEER. MAINTAIN 3'-0" CLEARANCE IN FRONT OF SERVICE. REFER TO ONE-LINE DIAGRAM.

6. EXTERIOR RATED FOR SERVICE ENTRY A 120/208V. 3PH. 4W. 600A MAIN METER ASSEMBLY WITH ASSOCIATED C/T METER ASSEMBLY AND 800A MAIN DISCONNECT. REFER TO ONE-LINE DIAGRAM.

7. FURNISH AND INSTALL WALL MOUNTED LIGHTING FIXTURES AS NOTED. REFER TO ARCHITECTURAL PLANS FOR ELEVATIONS. PROVIDE 2-#12 W/ F/ULL SIZE GROUND TO PANEL B15. REFER TO BUILD-OUT PLANS FOR ADDITIONAL INFORMATION.

8. PROVIDE WP J-BOX FOR SITE LIGHTING FIXTURE, COORDINATE EXACT REQUIREMENTS WITH APPROVED VENDOR. EC SHALL FIELD COORDINATE THE INSTALLATION OF THE BASE WITH ALL UNDERGROUND CONDUITS AND ADJUST AS REQUIRED.

9. EXISTING LOCATION FOR GRANTED EASEMENT. PROVIDE REQUIRED JULIE BEFORE ANY DIGGING. COORDINATE FINAL INSTALLATION WITH CIVIL UNDERGROUND UTILITIES AND MAINTAIN PROPER CLEARANCE.

10. PROPOSED LOCATION FOR INTERIOR ATT AND COMCAST MAIN TERMINAL D-MARK BOX LOCATIONS. COORDINATE LOCATION INSTALLATION REQUIREMENTS WITH ENGINEERS FOR ADDITIONAL WORK REQUIRED BY ELECTRICAL CONTRACTOR. PROVIDE REQUIRED GROUND WIRES FOR EACH LOCATION.

11. 1- 4" UNDERGROUND GRAY SCH. 40 PVC CONDUIT WITH NYLON PULL-STRING TO TELEPHONE COMPANY EXISTING POINT OF PRESENCE. PROVIDE 1- 4" CONDUIT FROM POP AND TERMINATE AT INTERIOR D-MARK. VERIFY CONDUIT ELEVATION IN FIELD.

12. EXISTING ATT TELEPHONE AND COMCAST PEDESTAL LOCATION WITH EXISTING UNDERGROUND PRIMARY SERVICE. EXTEND 4" CONDUITS TO THIS LOCATION AND TURN UP. TRENCH AS REQUIRED. COORDINATE WITH ATT AND COMCAST ENGINEER.

13. CONDUITS TO BE ROUTED AND CAPPED WITH NYLON PULL-STRING. THE ENDS OF THE CONDUITS ARE TO BE CLEARLY MARKED ABOVE GRADE WITH A STAKE. ALL ELBOWS SHALL BE HW CONDUIT.

14. NEW GROUND MOUNTED SIGN FURNISHED AND INSTALLED BY OTHER. PROVIDE NEW UNDERGROUND FEEDERS TO PANEL "B19". EXTEND CONDUIT AS REQUIRED FROM SIGN ACCESS LOCATION. EC SHALL PROVIDE TRENCHING AS REQUIRED FOR INSTALLATION. PROVIDE REQUIRED CIRCUIT WITH FULL SIZE GROUND. PROVIDE GROUND ROD AT SIGN AND REQUIRED 120V. DISCONNECT TO OF PRESENCE.

15. PROVIDE 1-2" GRAY SCH. 40 PVC CONDUIT FROM POP AND TERMINATE AT INTERIOR D-MARK. EC SHALL EXTEND 1-2" CONDUIT FROM COMCAST SERVICE TO EXISTING PEDESTAL LOCATION. VERIFY CONDUIT ELEVATIONS IN FIELD.

16. PROVIDE 1-2" UNDERGROUND WHITE SCH. 40 PVC CONDUIT FOR GAS SERVICE. INSTALL PER NICOR STANDARDS. EXTEND CONDUIT TO WITH 5' OF GAS METER LOCATION AS SHOWN AND TURN UP ABOVE GRADE AND MAKE WATER TIGHT. PROVIDE NYLON PULL-STRING . LEAVE 4"X4' OPENING AT END OF CONDUIT FOR GAS COMPANY WORK. FIELD VERIFY EXISTING GAS SERVICE LOCATION AND COORDINATE WITH NICOR ENGINEER. TRENCH AS REQUIRED.

INSTALLATION NOTES:

1. ELECTRICAL FACILITIES SHALL BE INSTALLED PURSUANT TO SECTION OF THE CITY MUNICIPAL CODE. CONSTRUCTION FEE TO BE PAID BY THE LANDLORD.

2. A MINIMUM 5'-0" OF SEPARATION BETWEEN ELECTRICAL FACILITIES AND ANY FIRE HYDRANT, STORM DRAINS, STORM SEWERS, WATER MAINS, GAS MAINS, ETC.

3. ELECTRICAL CONTRACTOR SHALL PROVIDE PVC CONDUITS FOR LOT LIGHTING AND UTILITIES. APPROVAL OF PVC USAGE SHALL BE CONFIRMED WITH THE LOCAL OFFICIAL AND INSPECTORS BEFORE SUBMITTING BID. BIDDING. HW CONDUITS TO BE STUBBED UP TO EXIT OR ENTER J-BOXES. PROVIDE MINIMUM #12 CU GROUND IN ALL PVC PIPING.

4. ELECTRICAL CONTRACTOR SHALL PROVIDE AS PART OF THE BASE BID, VERIFICATION OF ALL SITE UTILITY'S. ELECTRICAL CONTRACTOR SHALL VISIT THE SITE AND LOCATE THE EXISTING UTILITY COMPANY POWER SOURCE AND TELEPHONE. EXTEND UTILITY'S TO NEW EXTERIOR BUILDING METER SYSTEM.

5. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH LOCAL CITY OFFICIALS, THE BUILDING OWNER, COMED, TELEPHONE AND CABLE SERVICES FOR ANY EXISTING SERVICE RENOVATIONS REQUIRED HEREIN. BEFORE RENOVATION, NOTIFICATION SHALL BE GIVEN.

SITE NOTE:
ELECTRICAL TRADE SHALL COORDINATE THE INSTALLATION OF ALL NEW SITE & EXISTING WORK WITH CIVIL DRAWINGS AND PER APPROVAL OF POWER ENTRY DIAGRAM

ALL CONDUITS IN CONCRETE OR DIRECT BURIAL THAT ARE RIGID, PVC TYPE, MUST HAVE COMPRESSION CONNECTORS AND COUPLING FOR ALL OUTDOOR CONDUITS .

CONSTRUCTION NOTE:
A METAL IDENTIFICATION TAG SHALL BE INSTALLED WHERE THE GROUNDING CONDUCTOR IS CONNECTED TO THE GROUNDING ELECTRODE WITH A APPROVED GROUND STRAP. ALL GROUNDING ELECTRIC CONDUCTORS SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING, RIGID HEAVY WALL CONDUIT. TYPICAL

EXTERIOR LUMINAIRE SCHEDULE

MARK	SYMBOL	MANUFACTURER	MODEL NUMBER	LAMPS PER FIXTURE					COLOR	MOUNTING	REMARKS
				TOTAL	HEADS	TYPE	WATTS	VOLTAGE			
P4		BEACON PRODUCTS	RAR1-160L-115-4K7-4F-UNV-ASQ-DBS	2	1	LED	112	120	DARK BRONZE	POLE MOUNT	NOTES 1,2,3,4,5
P3		BEACON PRODUCTS	RAR1-160L-115-4K7-3-UNV-ASQ-DBS	1	1	LED	110	120	DARK BRONZE	POLE MOUNT	NOTES 1,2,3,4,5
W1		BEACON PRODUCTS	RWL2-160L-45-4K7-4F-UNV-ASQ-DBS	1	1	LED	46	120	DARK BRONZE	SURFACE	NOTES 1,3,5

LUMINAIRE SCHEDULE NOTES:

1. ELEC. SHALL FURNISH AND INSTALL ALL POLES, LUMINARIES AND LAMPS AS SPECIFIED.
2. ELEC. SHALL FURNISH AND INSTALL ALL CONCRETE POLE BASES AS NOTED.
3. ALL POLES AND LIGHTING HEADS SHALL HAVE A SMOOTH FINISH.
4. ELEC. SHALL PROVIDE ALL REQUIRED LIGHTING POLES AS MANUFACTURED BY HUBBELL. POLE SHALL BE 5" SQUARE STRAIGHT STEEL. 20'-0" IN HEIGHT, #SSS-B-20-50-B-1-B3-DBS-UL W/ARM MOUNT AS PER MFGR.
5. FINAL SITE LIGHTING FIXTURE/POLE LAYOUTS AND CONFIGURATIONS SHALL BE COORDINATED WITH LOCAL EXTERIOR LIGHTING AND WIND LOADING REQUIREMENTS AND RESTRICTIONS.

REVISIONS

THIS DRAWING

FOR REVIEW		
NOT FOR BIDDING	5/10/2023	
NOT FOR PERMIT	5/10/2023	
NOT FOR CONTRACTING		
NOT FOR CONSTRUCTION		

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SAUNA GUARD FOR UNLIMITED MASONRY
LARAWAWAY AVENUE WEST OF WOLF ROAD
FRANKFORT, IL

SHEET TITLE
ELECTRICAL SITE PLAN
ELECTRICAL SITE PLAN DETAILS

2238

Eric L. Smith
LICENSED ARCHITECT
ERIC L. SMITH
001-016154
STATE OF ILLINOIS
EXPIRES 11-30-24

E0 1

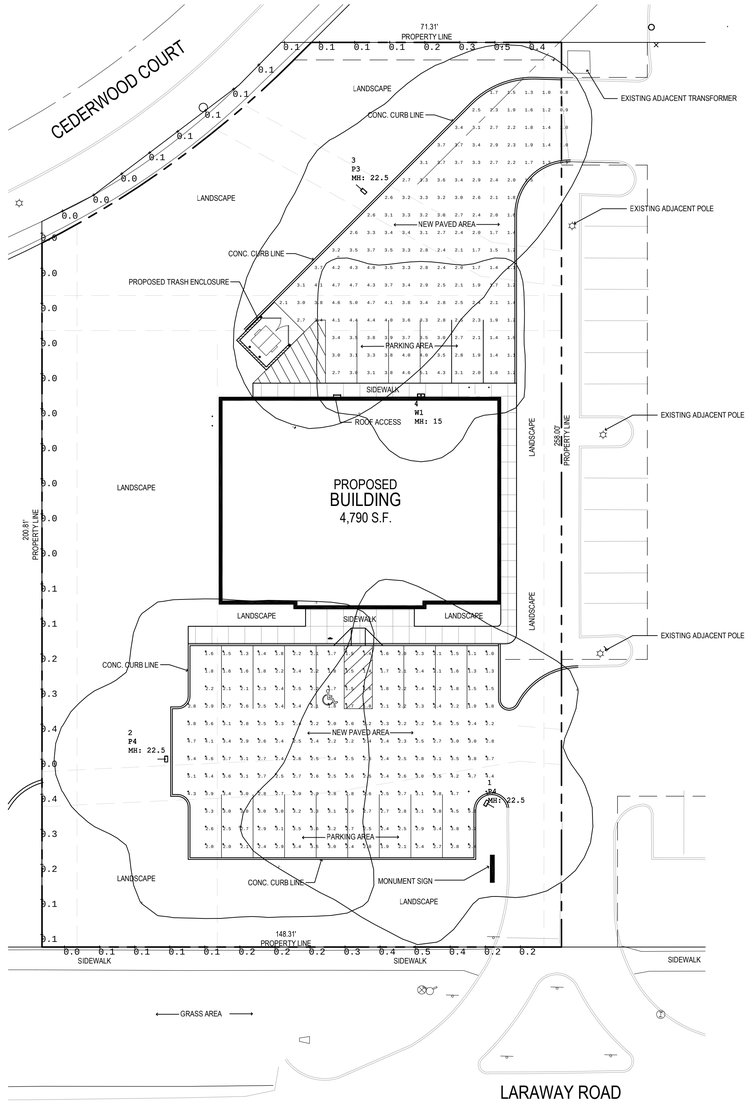
NOTES:
See schedule for luminaire specifications.
Luminaire Symbols are not to scale.
Varying the position, mounting height,
or orientation from what is specified in this
drawing will invalidate the calculation performed.

Calculation Summary									
Scene: L1									
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Description	
FRONT PARKING AREA	Illuminance	Fc	2.64	5.4	1.0	2.64	5.40	Reading @ grade	
BACK PARKING AREA	Illuminance	Fc	2.75	5.1	0.8	3.44	6.38	Reading @ grade	
PROPERTY LINE	Illuminance	Fc	0.15	0.5	0.0	N.A.	N.A.	Reading @ grade	

Luminaire Schedule								
Scene: L1								
Symbol	Qty	Label	Arrangement	Manufacturer	Description	Luminaire Watts	Arr. Lum. Lumens	LLF
	2	P4	SINGLE	BEACON PRODUCTS	RAR1-160L-115-4K7-4F-UNV-ASQ-DBS	112	14636	0.90
	1	P3	SINGLE	BEACON PRODUCTS	RAR1-160L-115-4K7-3-UNV-ASQ-DBS	110	15413	0.90
	1	W1	SINGLE	BEACON PRODUCTS	RWL2-160L-45-4K7-4F-UNV-DBS	46	5778	0.90

PARKING LOT DESIGN GUIDE	BASIC	BASIC ENHANCED SECURITY	SECURITY PUBLIC SPACES	HIGH SECURITY PUBLIC SPACES
		LUX/FC'S	LUX/FC'S	LUX/FC'S
MAXIMUM HORIZONTAL ILLUMINATION MEASURED ON PARKING SURFACE W/ NO SHADOW	2.0/ 0.2	5.0/ 0.5	10.0/ 1.0	30.0-60.0/ 3.0-6.0
UNIFORMITY RATIO MAXIMUM - TO - MINIMUM	20:1	15:1	15:1	4:1 - AVG/ MIN
MINIMUM VERTICAL ILLUMINATION MEASURED AT 5' ABOVE PARKING SURFACE FOR FACIAL RECOGNITION	1.0/ 0.1	2.5/ 0.25	5.0-8.0/ 0.5-0.8	12-60/ 1.2-6.0

RECOMMENDED BASED ON RP-33-99, RP20-98 IESHA LIGHTING HANDBOOK



ELECTRICAL PHOTOMETRIC PLAN

SCALE: 1" = 20'-0"

PROJ. NORTH

REVISIONS

THIS DRAWING					
	FOR REVIEW				
NOT	FOR BIDDING	5/8/2023			
NOT	FOR PERMIT	5/8/2023			
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SHEET TITLE
PHOTOMETRIC PLAN
PHOTOMETRIC DETAILS

2238

Eric L. Smith
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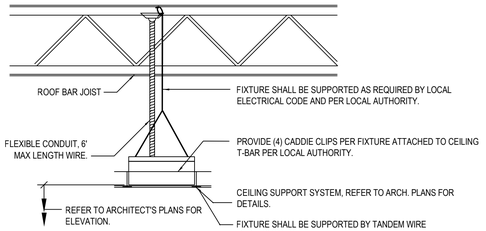
STATE OF ILLINOIS
EXPIRES 11-30-24

E0.2

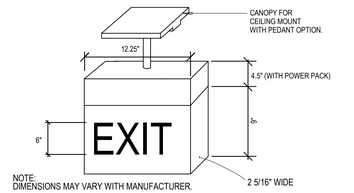


DETAIL NOTES:

1. PROVIDE STEEL SUPPORT CHANNEL WHERE BAR JOIST DOES NOT LINE UP IN CENTER AISLE OR OBSTRUCTIONS PREVENT HANGING DIRECTLY FROM JOIST.

LIGHTING SUPPORT DETAIL

SCALE: NONE



NOTE:
DIMENSIONS MAY VARY WITH MANUFACTURER.

NOTES:
1. EXIT SIGNS SHALL BE CONNECTED TO A UNSWITCHED FUSED CIRCUIT
2. EMERGENCY LIGHTS TO BE UL LISTED.
3. EMERGENCY AND EXIT LIGHTS TO CARRY LOAD MINIMUM 1.5 HOURS. AS PER ARTICLE 700 AND AS REQUIRED BY THE VILLAGE.
4. EXIT LIGHTING HEIGHT NOT TO EXCEED 12" ABOVE THE EGRESS DOOR OR EXIT.
5. CIRCUIT FEEDING EXIT SIGN SHALL HAVE A LOCK-OUT DEVICE.
6. E.C. SHALL VERIFY MOUNTING HEIGHTS OF EMERGENCY AND EXIT FIXTURES WITH THE LOCAL INSPECTOR (S) PRIOR TO INSTALLATION.

EXIT SIGN DETAIL

SCALE: NONE

ELECTRICAL BIDDERS NOTES:

A. AS PART OF THE SHOP DRAWING SUBMITTAL, CONTRACTOR SHALL INCLUDE DATE OF DELIVERY.
B. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL TRADES WORK PRIOR TO BIDDING AND START OF WORK. CONTRACTOR IS RESPONSIBLE TO COORDINATE AS REQUIRED FOR INSTALLATION OF NEW WORK AND IN COMPLIANCE WITH NEC CODES.
C. MAINTAIN CONTINUITY OF ALL NEW CIRCUITS AS NEEDED TO PROVIDE POWER/LIGHTING TO DEVICES BEING USED AS TEMPORARY
D. ELECTRICAL CONTRACTOR SHALL ATTEND ALL SITE MEETING AND INSPECTIONS.
E. PROVIDE CADDY ADJUSTABLE FAR SIDE SUPPORTS OR EQUIVALENT ON ALL ELECTRICAL BOXES IN THE WALLS TO ASSURE TIGHT FITTING, SECURE BOXES. SECTION 21.107(A)(8).
F. ALL ELECTRICAL WORK SHALL COMPLY WITH ADOPTED AMENDMENTS OF THE LOCAL AUTHORITY AND THE NATIONAL ELECTRICAL CODE.
G. THE USE OF ALUMINUM WIRING SHALL NOT BE ACCEPTED IN ANY FORM.
H. CONDUIT RUN UNDER THE ROOF SHALL COMPLY WITH NEC 300.14 (E).
I. GARVIN COVER OUTLETS SHALL HAVE A BONDING JUMPER INSTALLED TO BOX.
J. MOGUL L.B. SHALL BE USED FOR ALL CONDUCTORS LARGER THAN #8.
K. NO TANDEM, BUDDY, DUPLEX, PIGGYBACK CIRCUIT BREAKERS.
L. ALL CONDUIT SYSTEMS AND RACEWAYS AND ETC. SHALL HAVE A GREEN GROUNDING CONDUCTOR PER NEC 250.122.
M. FLEXIBLE METAL CONDUIT, TYPE FMC, IS PERMITTED ONLY FOR INDOOR USE AND LIMITED TO INSTALLATION ABOVE CEILING ONLY, A MAXIMUM OF 6'-0" IN LENGTH.
N. WIRE TERMINATED ON RECEPTACLES OR SWITCHES SHALL BE UNDER THE SCREW OF DEVICE. BACKSTABBING NOT ALLOWED.
O. ALL VOLTAGE CABLE SHALL BE IN CONDUIT WHERE NOT ACCESSIBLE.
P. CONDUCTORS ARE TO BE "LISTED" AND "IDENTIFIED" AS RATED FOR A MINIMUM OF 75C CONDUCTOR TERMINATION.
Q. WHERE CIRCUIT CONDUCTORS ARE SPLICED IN A JUNCTION BOX, ANY ASSOCIATED EQUIPMENT GROUNDING CONDUCTORS (EGC) BONDED (PIGTAILED) TO THE BOX PER NEC 250.148
R. THE USE OF PVC CONDUIT UNDERGROUND SHALL BE ACCEPTABLE. ALL STUB UPS SHALL BE IMC OR RMC. SEE ONE LINE.

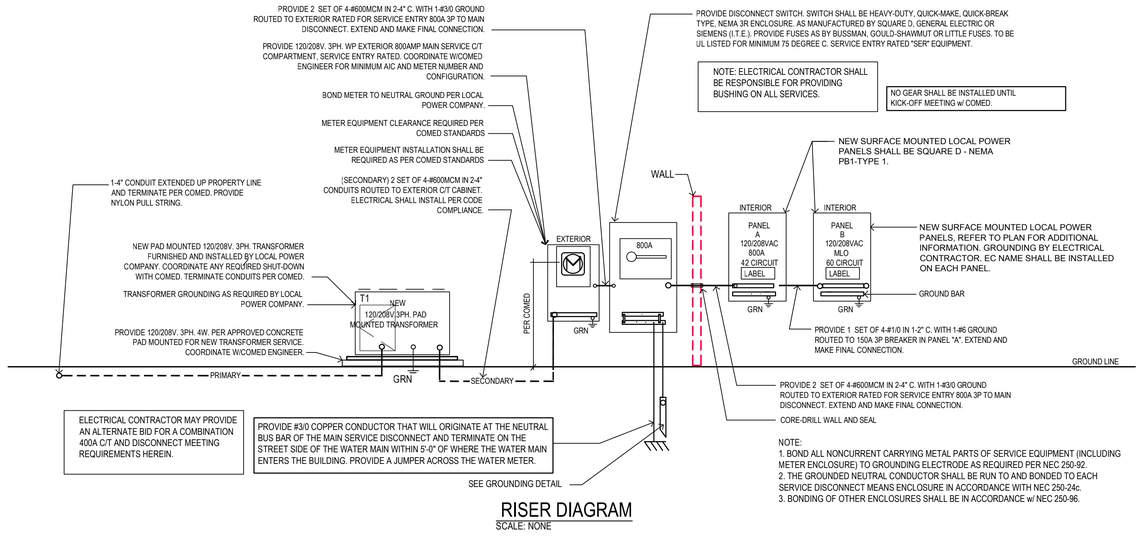
IT SHALL BE THE RESPONSIBILITY OF ELECTRICAL TRADE TO INSTALL COMPLETE ADDRESS AND/OR SUITE NUMBERS OF A MINIMUM 1" PERMANENT NUMBERS AND LETTER LABELS AT METER. BROWN.

CODE NO.	DESCRIPTION DOUBLE FACE
14 / 14-3G	SHOW THE FACES WITH THE PROPER ANGLE OF THE FACE AND FACE NUMBER
16	FIRE ESCAPE
17	STAIR (S)
18	EXIT
19	FIRE ESCAPE
11-20	STAIR (S)
21	EXIT
22	FIRE ESCAPE
23	STAIR (S)
24	EXIT

CODE NO.	DESCRIPTION SINGLE FACE
1	FIRE ESCAPE
2	STAIR(S) / STAIRWAY
3	EXIT
4	FIRE ESCAPE
5	STAIR (S)
6	EXIT
7	FIRE ESCAPE
8	STAIR (S)
9	EXIT
10	FIRE ESCAPE
11	STAIR (S)
12	EXIT

EXIT SIGN SYMBOLS

N	NEW FIXTURES
E	EXISTING FIXTURES
CG	CHANGE GLASS IN EXISTING FIXTURES
CF	CHANGE EXISTING FIXTURES
	VIEWING SIDE OF FIXTURES (WITH DIRECTIONAL ARROW)
3	SIGN NUMBER (FOR ALL SIGNS IN ADDITION TO ABOVE)



NOTE:
1. BOND ALL NONCURRENT CARRYING METAL PARTS OF SERVICE EQUIPMENT (INCLUDING METER ENCLOSURE) TO GROUNDING ELECTRODE AS REQUIRED PER NEC 250-92.
2. THE GROUNDED NEUTRAL CONDUCTOR SHALL BE RUN TO AND BONDED TO EACH SERVICE DISCONNECT MEANS ENCLOSURE IN ACCORDANCE WITH NEC 250-24c.
3. BONDING OF OTHER ENCLOSURES SHALL BE IN ACCORDANCE w/ NEC 250-96.

RISER DIAGRAM

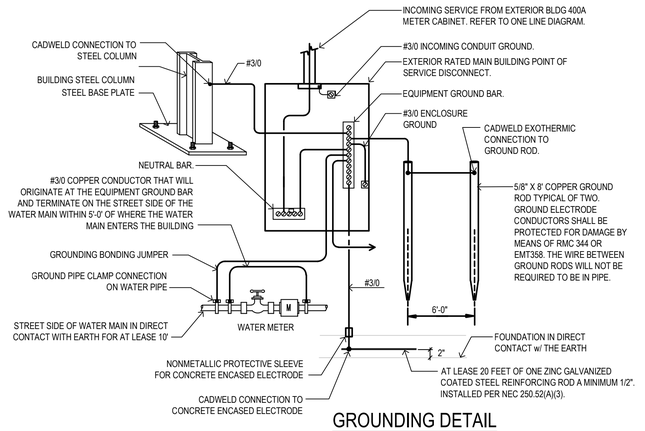
SCALE: NONE

GENERAL RETAIL LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	MANUFACTURE/CATALOG NUMBER	LAMPS	WATT	LAMP LUMENS PER SECTION ICC 505.6.1 REQUIRED	LAMP LUMENS PER SECTION ICC 505.6.1 ACTUAL	VOLTAGE	MOUNTING	DESCRIPTION
	F1	Columbia Lighting LCAT24-35VWG-ED1U	LED	24	N.A.	3180	120	RECESSED CEILING	LED 2'x4' Troffer with Curve Shield - 3500K low profile. Acrylic lens - Add FK24 flange kit for Dry Wall Ceilings.
	F2	Columbia Lighting LCAT22-35LWG-ED1U	LED	21	N.A.	2747	120	RECESSED CEILING	LED 2'x2' Troffer with Curve Shield - 3500K low profile. Acrylic lens - Add FK24 flange kit for Dry Wall Ceilings.
	F3	Prescolite Lighting LTR-6RD-H-ML20L-DM1-LTR-6RD-T-ML35K8MD-S-LWWT	LED	23	N.A.	2265	120	RECESSED CEILING	LED 6" Round Down Light - 3500K Medium Distribution - Specular Finish - Light Wheat Reflector Color w/ White Flange.
	F4	Prescolite Lighting LTR-6RD-H-SL15L-DM1-LTR-6RD-T-ML35K8MD-S-LWWT	LED	19	N.A.	1712	120	RECESSED CEILING	LED 6" Round Down Light - 3500K Medium Distribution - Specular Finish - Light Wheat Reflector Color w/ White Flange.
	F5	Prescolite Lighting LTR-6RD-H-ML25L-DM1-LTR-6RD-T-SHML35K8-WTAML	LED	28	N.A.	1480	120	RECESSED CEILING	LED 6" Round Shower Down Light - 3500K Medium Distribution - Non Conductive Shower Trim w/ White Flange - Acylic Micro-Prism Lens.
	F6	Sure-lites LPXC Series - SD Dual Voltage (IFC 1003.2.10.5)	LED	2.2	N.A.	N.A.	120	PENDENT/ SURFACE	White - Exit sign-single w/ double heads with directional arrows as noted All as req'd. by Local code. Remote Capable w/ exterior light
	F7	Sure-lites XR6C-LED Dual Voltage (IFC 1003.2.10.5)	LED	12	N.A.	N.A.	120	PENDENT/ SURFACE	Emergency battery light wall mounted 1'-0" below ceiling. All as req'd. by local authority.
	F8	Sure-lites AEL2-31 Series Dual Voltage Remote capability	LED	2	N.A.	N.A.	120	EXTERIOR SURFACE	Remote (10 LED Head) Emergency battery light installed at exterior door. All as req'd. by local code. Provided w/Battery
	F9	Light Track: Juno 45DN WH Accent Light: Juno 45DL99 WIRS21 WHB WH 7 Watt LED Lamp #46I2F19	LED	7	N.A.	N.A.	120	SURFACE CEILING	Surface mounted track lighting, length as per plan. Aim LED head as per plan.
	F10	Warelight Lighting: WL-NLS4-C4S-DMV-G2	LED	22	N.A.	2700	120	SOFFIT LIGHTING	4 Foot strip light mounted in soffit. Set fixtures to 22watts, 2700 lumens at 4000k
	F10a	Warelight Lighting: WL-NLS8-C70-DMV-G2	LED	33	N.A.	4150	120	SOFFIT LIGHTING	8 Foot strip light mounted in soffit. Set fixtures to 33watts, 4150 lumens at 4000k
	F11	LSI Lighting XDLS-8-4-LED-SS-NW-UE-BRZ-SAW NO SUBSTITUTIONS	LED	71	N.A.	5846	120	EXTERIOR SURFACE	Full Cut - Off, Bronze in color. Mounted above exterior columns, dusk to dawn See Architectural Elevations.
	F12	McGrew-Edison IST-SA1F-740-U-T3-BZ	LED	35	N.A.	4534	120	WALL MOUNTED, EXTERIOR OVER DOOR.	Exterior wall mounted fixture over exterior door dusk to dawn security fixture.

LIGHTING FIXTURE SCHEDULE/ INSTALLATION GENERAL NOTING:

1 Furnish and install complete systems, including lighting fixtures lamps, switches, mounting facilities, wiring control equipment and other required accessories.
2 The fixture catalog numbers listed on the schedule indicate the manufacturer, fixture design, appearance and performance desired. Verify the ceiling system and coordinate the lighting fixture trim and support requirements. These fixtures shall be modified as necessary to comply with the drawing and specification requirements.
3 Fixtures shall bear the UL label and shall be wired and installed in full compliance with all applicable codes.
4 All fluorescent fixtures shall have energy saving ballasts and lamps.
5 All exit signs and battery operated emergency lighting units shall be modified as required for local code requirements.
6 Verify all fixture locations before roughing-in.
7 Where air handling fixtures are shown, they shall be furnished and installed in coordination with the mechanical trades.
8 Fixtures intended to be install in air plenums are to be approves for such installation. Coordinate with the mechanical drawings and specifications.
9 Lighting fixtures and raceways shall be installed per local code, Means of Support.
10 All cable routed in ceiling to be neatly attached to cable hangers attached to building, not the ceiling.
11 Emergency lighting and exit signs shall be battery back-up type. Said equipment shall be spaced and located throughout all occupied spaces to meet applicable codes and are subject to the approval of the Fire Protection District of authority. In the event of a power supply supply failure, the exit signs and emergency means of egress lighting shall provide power for a duration of not less than 90 minutes.



GROUNDING DETAIL

SCALE: NONE

ELECTRICAL ABBREVIATIONS

A	AMP, AMPERE
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CURRENT
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CCT	CIRCUIT
CUH	CEILING UNIT HEATER
DC	DIRECT CURRENT
EF	EXHAUST FAN
EWH	ELECTRIC WATER HEATER
GFI	GROUND FAULT CIRCUIT INTERRUPTER
G,GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
kcmil	1000 CIRCULAR MILS
kV	KILOVOLT
kVA	KILOVOLT-AMPS
kW	KILOWATT
kWH	KILOWATT-HOUR
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MH	METAL HALIDE
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
OC	ON CENTER
PH	PHASE
RLA	RUNNING LOAD AMPS
RTU	ROOFTOP UNIT
TYP	TYPICAL
V	VOLT
VA	VOLT-AMPERE
W	WATT
WP	WEATHERPROOF
XFMR	TRANSFORMER

ELECTRICAL LEGEND

A	RECESSED MOUNTED FLUORESCENT LIGHTING FIXTURE, LETTER DENOTES TYPE, NUMBER DENOTES CIRCUIT
	CEILING MOUNTED INCANDESCENT OR HID LIGHTING FIXTURE
	EXIT LIGHT
S S3 / S P S / S OS / S D	20A, 120/277V, SINGLE POLE TOGGLE SWITCH, "3" INDICATES 3 WAY, "P" INDICATES PILOT LIGHT,"M" INDICATES MOTOR RATED, "OS" INDICATES OCCUPANCY SENSOR (HUBBELL #AT1277W1), "D" INDICATED DIMMER. MOUNTED AT 48" AFF UNLESS OTHERWISE NOTED. DEVICE AND COVERPLATE TO BE WHITE.
	SWITCHBOARD OR PANELBOARD
T	LOW VOLTAGE CONTROL TRANSFORMER
J	4" SQ. x 2-1/8" DEEP BOX WITH PLASTER RING TO MATCH DEVICE FOR LOW VOLTAGE OUTLET - STUB 1" CONDUIT INTO ACCESSIBLE CEILING SPACE. PROVIDE PLASTIC BUSHING ON EACH END OF CONDUIT. PROVIDE NYLON PULL STRING.
J	STANDARD JUNCTION BOX SIZED PER N.E.C. AND SUPPORTED INDEPENDENT OF CONDUIT SYSTEM.
GFI WP IG	20 A, 125V, 2P, 3W GROUNDING DUPLEX WALL RECEPTACLE "GFI" INDICATES GROUND FAULT INTERRUPTING, "WP INDICATES WEATHER PROOF, "IG" INDICATES ISOLATED GROUND. DEVICES AND COVERPLATE SHALL BE WHITE.
	20A, 125V DOUBLE DUPLEX RECEPTACLE, DEVICES AND COVERPLATE (WHITE), 15A NOT ACCEPTABLE
	20A, 125V QUAD RECEPTACLE, DEVICES AND COVERPLATE (WHITE), 15A NOT ACCEPTABLE
	DEDICATED RECEPTACLE DIRECT TO CIRCUIT BREAKER 20AMP-125V. (NEMA 15-5) GROUNDING TYPE DUPLEX RECEPTACLE, FLUSH MOUNTED 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
	MOTOR - HORSEPOWER, VOLTAGE AND PHASE AS NOTED ON DRAWINGS
	DISCONNECT SWITCH - SIZE AS NOTED ON DRAWINGS. (RATING/POLES/FUSE SIZE, "NF" INDICATES NON FUSED DISCONNECT)
	MAGNETIC MOTOR STARTER - SIZE AS NOTED ON DRAWINGS
	DOOR BUZZER/TRANSFORMER - EDWARDS CATALOG NUMBER 725/598 ON SINGLE GANG SURFACE BOX
	WEATHERPROOF PUSH-BUTTON STATION - EDWARDS CATALOG NUMBER 1786-B
	CONDUIT - CONCEALED ABOVE CEILINGS, IN WALLS IN FINISHED AREAS, OR EXPOSED IN UNFINISHED AREAS.
	CONDUIT - IN OR BELOW FLOOR SLAB OR BELOW FINISHED GRADE
	CONDUIT HOMERUN TO PANEL - #12 OR SIZE AS INDICATED. (GROUND NOT SHOWN BUT REQUIRED). UNLESS OTHERWISE NOTED, 2-#12,1-#12 G in 3/4" CONDUIT MINIMUM. 1/2" CONDUIT NOT ACCEPTED.
	TELEPHONE OUTLET. PROVIDE 4"X4" BOX, PLASTER RING AND 1" CONDUIT TO ROOF JOIST SPACE.
	DATA,TIME/ATTENDANCE OUTLET. PROVIDE 4"X4" BOX, PLASTER RING AND 1" CONDUIT TO ROOF JOIST SPACE
T	TEMPERATURE SENSOR, REMOTE SENSOR, THERMOSTATS SHALL BE MOUNTED AT 60" AFF. BY ELECTRICAL
SD	DUCT SMOKE DETECTOR
GROUND / NEUTRAL / SWITCH LEG / HOT	HOMERUN CIRCUIT

INSTALLATION NOTES

1. PROVIDE A METAL IDENTIFICATION IS INSTALLED WHERE THE GROUNDING CONDUCTOR IS CONNECTED TO THE GROUND ELECTRODE WITH A APPROVED GROUND STRAP. PROVIDE TAG AND OR STRAP AS REQUIRED. ALL GROUNDING ELECTRICAL CONDUCTORS SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING OR RIGID HEAVY WALL CONDUIT.

2. PROVIDE A JUMPER ACROSS THE WATER MAIN PER LOCAL REQUIREMENTS. PROVIDE AS REQUIRED.

3. BONDING BUSHINGS SHALL BE INSTALLED ON ALL SERVICES.

4. FURNISH AND INSTALL NEW POWER PANEL BRANCH SERVICE FEEDERS AS NOTED ON PLANS. FEEDERS SHALL BE INSTALLED IN COMPLIANCE WITH THE LOCAL AUTHORITY. EXTEND TO BREAKERS AS REQUIRED.

5. VERIFY AND MAINTAIN A MINIMUM OF 36" CLEAR IN FRONT AND AND EXTENDING THE WITH OF THE PANEL OR 30" HORIZONTALLY. ALL PER THE LOCAL AUTHORITY.

6. ALL POWER CIRCUITS SHALL BE IN EMT CONDUIT, UNLESS OTHERWISE NOTED. CIRCUITS SHALL NOT SHARE A NEUTRAL. EC SHALL ADJUST FEEDER AS REQUIRED FOR MAXIMUM 3 % VOLTAGE DROP.

7. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO PROVIDE PROPER GROUNDING THROUGH SEALTIGHT OR FLEX TO POWER PANEL GROUNDING CONDUCTOR (E.G.C.)

8. PANEL CIRCUIT NUMBER AND OR HOMERUNS SHOWN ARE INTENDED TO BE A COMPLETED OPERATIONAL CIRCUIT. EXTEND CIRCUIT TO ASSOCIATED PANEL AND MAKE FINAL CONNECTION AS REQUIRED. ELECTRICAL SHALL VERIFY FIELD CONDITIONS AND INCLUDE IN THERE BID.

11. EMERGENCY LIGHTING SHALL BE BATTERY BACK-UP TYPE. SAID EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY EC. PROVIDE ALL REQUIRED WIRE CIRCUIT/ CONTROL FEEDERS. BATTERY BACKUP SHALL BE CAPABLE OF CARRYING THE LOAD FOR 90 MINUTES. EXIT AND EMERGENCY LIGHTING SHALL BE VERIFIED IN FIELD TO COMPLY WITH LOCAL AUTHORITY.

11. ANY AND ALL RESPONSIBILITY CONFLICTS NOTED WITHIN THE ELECTRICAL PLANS AND SPECIFICATION SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL THE GREATER OF THE CONFLICTS AND SHALL BE INCLUDED IN THE BASE BID PRICE.

REVISIONS

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SAUNA GUARD FOR
UNLIMITED MASONRY
LARAWAWAY AVENUE WEST OF WOLF ROAD
FRANKFORT, IL

SHEET TITLE
ELECTRICAL RISER DIAGRAM
ELECTRICAL NOTES
ELECTRICAL SCHEDULES

2238

ERIC L. SMITH
LICENSED ARCHITECT
001-016154
STATE OF ILLINOIS
EXPIRES 11-30-24

E 1

PANELBOARD: A

BUS AMPS: 800A
MAIN SIZE/TYPE: 800A - CU
VOLTS/PHASE: 120/208V, 3PH, 4W
TYPE 1: SQ.D, I-LINE, NQ

AIC RATING: 22AIC
SERVES: GENERAL POWER
MOUNTING: SURFACE
LOCATION: TENANT SUITE

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	RTU-1	3600			8	45	3	1	20	12	720			CRYO RECEPTACLES	2
3			3600					1	20	12		800		WASHER	4
5				3600				1	20	12			1140	DRYER	6
7	RTU-2	5400			8	50	3	1	20	12	800			WASHER	8
9			5400					1	20	12		1140		DRYER	10
11				5400				1	20	12			500	IT RACK/ PHONE	12
13	RTU-3	5400			8	50	3	1	20	12	800			REFRIGERATOR	14
15			5400					1	20	12		200		HWH CONTROL CIRCUIT	16
17				5400				1	20	12			500	RTU RECEPTACLES	18
19	SAUNAFIN	5000			6	60	3	1	30	10	100			SMOKE DETECTION	20
21			5000					1	30	10		2850		MED7 PLUS	22
23				5000				1	20					SPARE	24
25	HC-18 STEAM GENERATOR	6000			4	70	3	1	20					SPARE	26
27			6000					1	20					SPARE	28
29				6000				1	20					SPARE	30
31	HC-18 STEAM GENERATOR	6000			4	70	3	3	125	1	14333			CRYO MACHINE	32
33			6000									14333			34
35				6000									14333		36
37	CRYO MACHINE	14333			1	125	3	3	150	1/0	12934			PANEL B	38
39			14333									12467			40
41				14333									11053		42
	SUBTOTAL	45733	45733	45733							29667	31800	27526	SUBTOTAL	

TOTAL PHASE A - VA	75420	LOAD	CONN. VA	DF
AMPS	628.5	COOLING	43200	1.00
TOTAL PHASE B - VA	77533	HEATING	10000	1.00
AMPS	646.1	LIGHTING	5843	1.25
TOTAL PHASE C - VA	73259	GEN. RECEPTS	21150	1.0/.5
AMPS	610.5	MOTORS	89580	1.00
TOTAL PANEL - VA	226212	APPLIANCE'S	53850	1.00
AMPS	628.4	MISC EQUIP	N.A.	2.50

ACCESSORIES:
1. EQUIPMENT GROUND BAR
2. SQ D #QO1PA - LOCKABLE CLIPS
3. MUST BE TYPE "HACR" BREAKER
4. ROUTED THROUGH TIME CLOCK/ PHOTOCELL
5. PROVIDE GFIC RATED BREAKER

TOTAL DEMAND - VA	223023
AMPS	621.2
PANEL AMPS AT 80%	640

PANEL BOARD: B

BUS AMPS: 225A
MAIN SIZE/TYPE: MLO - CU
VOLTS/PHASE: 120/208V, 3PH, 4W
TYPE 1: SQ.D, I-LINE, NQ

AIC RATING: 22AIC
SERVES: GENERAL POWER
MOUNTING: SURFACE
LOCATION: TENANT SUITE

CKT NO.	DESCRIPTION	VOLTAMPS/PHASE A	B	C	WIRE NO.	BKR AMP	P	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE A	B	C	DESCRIPTION	CKT NO.
1	ENTRY LIGHTING	932			12	20	1	1	20	12	1080			RECEPTION RECEPTACLES	2
3	GENERAL LIGHTING		491		12	20	1	1	20	12		860		BACK WALL RECEPTION RECEPTACLES	4
5	LOCKER ROOM LIGHTING			481	12	20	1	1	20	12			1000	RECEPTION DESK RECEPTACLES	6
7	GENERAL LIGHTING	524			12	20	1	1	20	12	720			WINDOW DISPLAY	8
9	24HR/ NIGHT LIGHTING - EXIT		204		12	20	1	1	20	12		860		V. ROOM RECEPTACLES	10
11	SITE LIGHTING			224	10	20	1	1	20	12			800	IV ROOM TV RECEPTACLES	12
13	SECURITY LIGHTING	110			10	20	1	1	20	12	500			V. ROOM RECEPTACLES	14
15	BUILDING LIGHTING		46		12	20	1	1	20	12		1220		NURSE RECEPTACLES	16
17	ACCENT/ EXTERIOR DOOR LIGHTING			250	12	20	1	1	20	12			1220	NURSE RECEPTACLES	18
19	PYLON SIGN	800			10	20	1	1	20	12	900			MESSAGE ROOM RECEPTACLES	20
21	BUILDING SIGN		500		12	20	1	1	20	12		816		BIOMAX - 900 RECEPTACLE	22
23	TIME/CLOCK/ PHOTOCELL			110	12	20	1	1	20	12			900	MESSAGE ROOM RECEPTACLES	24
25	SPARE					20	1	1	20	12	816			BIOMAX - 900 RECEPTACLE	26
27	EXHAUST FANS		238		12	20	1	1	20	12		900		MESSAGE ROOM RECEPTACLES	28
29	REF1 EXHAUST FAN			700	12	20	1	1	20	12			816	BIOMAX - 900 RECEPTACLE	30
31	AROMA	720			12	15	1	1	20	12	1080			LOCKER ROOM RECEPTACLES	32
33	AROMA		720		12	15	1	1	20	12		1080		LOCKER ROOM RECEPTACLES	34
35	CRYO PUMP			720	12	20	1	1	20	12			500	EXTERIOR GFI	36
37	CRYO PUMP	720			12	20	1	1	20	12	100			DOOR BUZZER	38
39	SPARE					20	1	1	20	12		1200		NURSE REFRIGERATORS	40
41	SPARE					20	1	1						SPARE	42
43	SPARE					20	1	1						SPARE	44
45	SPARE					20	1	1						SPARE	46
47	SPARE					20	1	1						SPARE	48
49	EWH	1666			12	20	3	1						SPARE	50
51			1666					1						SPARE	52
53				1666				1						SPARE	54
55	EWH	1666			12	20	3	1						SPARE	56
57			1666					1						SPARE	58
59				1666				1						SPARE	60
	SUBTOTAL	7138	5531	5817							5796	6936	5236	SUBTOTAL	

TOTAL PHASE A - VA	12934	LOAD	CONN. VA	DF
AMPS	107.8	COOLING	N.A.	1.00
TOTAL PHASE B - VA	12467	HEATING	10000	1.00
AMPS	103.9	LIGHTING	5843	1.25
TOTAL PHASE C - VA	11053	GEN. RECEPTS	14450	1.0/.5
AMPS	92.1	MOTORS	3580	1.00
TOTAL PANEL - VA	36454	APPLIANCE'S	N.A.	1.00
AMPS	101.2	MISC EQUIP	N.A.	2.50

ACCESSORIES:
1. EQUIPMENT GROUND BAR
2. SQ D #QO1PA - LOCKABLE CLIPS
3. MUST BE TYPE "HACR" BREAKER
4. ROUTED THROUGH TIME CLOCK/ PHOTOCELL
5. ROUTED THROUGH TIME CLOCK

TOTAL DEMAND - VA	33873
AMPS	94.1
PANEL AMPS AT 80%	120

POWER PLAN KEYED NOTES:

1. PROVIDE TWO SET OF 4-#600MCM WITH GROUND ROUTED IN 2- 4" CONDUITS. ROUTE FEEDERS THROUGH EXTERIOR WALL FROM PANEL AND EXTEND TO COMED APPROVED 800A C/T METER ASSEMBLY. ALL AS REQUIRED TO COMPLY WITH LOCAL CODE. ELECTRICAL TRADE SHALL EXTEND FEEDER AND CONDUIT AS REQUIRED AND MAKE FINAL CONNECTION TO NEW 800A 3PH. 4W. METER/ DISCONNECT ASSEMBLY. REFER TO ONE-LINE DIAGRAM, SHEET E1.

2. PROVIDE TIME CLOCKS AND ENCLOSURES AS PER PLANS, LOCATED NEXT TO LOCAL POWER PANEL WITH REMOTE CONTACTOR AND PHOTOCELL AS NOTED. REFER TO CONTROL SEQUENCE FOR ADDITIONAL INFORMATION.

3. DISPLAY WINDOW RECEPTACLES MOUNTED ABOVE WINDOW LINE. RECEPTACLE TO BE RECESSED MOUNTED IN SOFFIT. TYPICAL OF 4. THIS TRADE SHALL EXTEND FEEDER TO ADDITIONAL RECEPTACLES AND MAKE FINAL CONNECTION.

4. W/P SOFFIT MOUNTED EXTERIOR J-BOX FOR TENANT SIGNAGE INSTALL AT JOIST HEIGHT. ELECTRICAL TRADE SHALL ROUTE GROUNDED FEEDER IN 1" CONDUIT THRU TIMECLOCK/ PHOTOCELL ASSEMBLY. CIRCUITS AS NOTED ON PLANS. THIS TRADE SHALL EXTEND FEEDER AS REQUIRED AND MAKE FINAL CONNECTION.

5. PROVIDE 2-#12 IN 3/4" CONDUIT WITH GROUND TO 20A 1P BREAKER IN LOCAL TENANT POWER PANEL FOR TOILET ROOM RECEPTACLE, INSTALLED AT LIGHT SWITCH AND WATER COOLER, CIRCUIT AS NOTED ON PLANS. RECEPTACLES SHALL BE GFIC TYPE.

6. DEDICATED GROUNDED RECEPTACLE FOR TELEPHONE SYSTEM MOUNTED AT 54" AFF. PROVIDE 3/4" PLYWOOD BACKBOARD AND "D-MARK" INTERFACE POINT OF SERVICE. EC SHALL PROVIDE REQUIRED #6 GROUND WIRE FOR ATT USE.

7. PROVIDE RECESSED MOUNTED J-BOX FOR WATER HEATER CONTROL CIRCUIT MOUNTED AT 48"AFF. THIS TRADE SHALL PROVIDE 2-#12 IN 3/4" CONDUIT TO 20A BREAKER IN LOCAL POWER PANEL WITH FULL SIZE GROUND.

8. EXTERIOR RATED FOR SERVICE ENTRY 800A 120/208V.3PH.4W. C/T METER ASSEMBLY WITH 800A MAIN DISCONNECT. COORDINATE WITH THE COMED ENGINEER FOR 800A METER INSTALLATION. ASSEMBLY TO BE INSTALLED PER COMED STANDARDS. PROVIDE BUILDING SUPPORTS.

9. ELECTRICAL CONTRACTOR SHALL CONTACT OWNERS PROJECT ENGINEER BY PHONE AND COMPLETE A PHYSICAL WALK THRU TO INSPECT ALL OUTLET LOCATIONS AND HEIGHTS PLACEMENT TO ENSURE ACCURACY BEFORE INSTALLATION AND OR ROUGHT-IN.

10. PROVIDE SURFACE MOUNTED DEEP J-BOX FOR TELEPHONE/ DATA SERVICE. PROVIDE 3/4" CONDUIT FROM J-BOX UP IN WALL TO STRUCTURE AND EXTEND OUT OF WALL. PROVIDE NYLON PULL STRING. PROVIDE SURFACE MOUNTED QUAD RECEPTACLES MOUNTED AS NOTED. PROVIDE DEDICATED CIRCUIT TO LOCAL POWER PANEL. QUAD MOUNTED RECEPTACLES AND TELEPHONE/ DATA SHALL BE MOUNTED UNDER COUNTER. EC SHALL RETURN ON DESIGNATED DAY AS BY TENANT TO INSTALL AND MAKE ALL FINAL CONNECTIONS TO UNDER COUNTER DEVICES.

11. PROVIDE 3/4" CONDUITS WITH DEDICATED CIRCUIT UP IN WALL AND EXTEND TO ASSOCIATED POWER PANEL.

12. PROVIDE DEEP RECESSED MOUNTED J-BOX AS NOTED FOR LOW VOLTAGE. PROVIDE 3/4" CONDUIT WITH PULL STRING UP IN WALLY TO ABOVE CEILING AND OUT WALL.

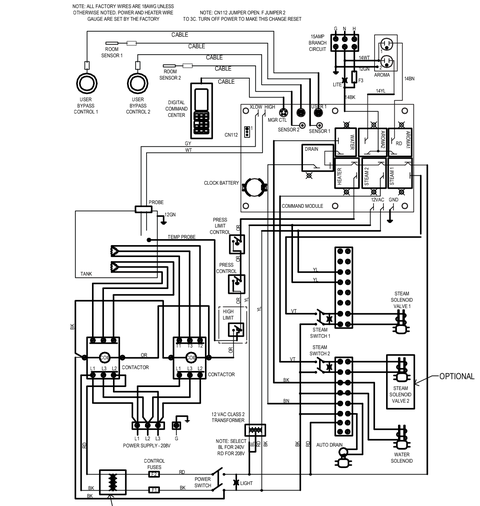
13. PROVIDE 3 - DEEP J-BOXES WITH FEEDERS FOR SAUNA DEVISED. REFER TO SAUNA DIAGRAM AND PROVIDE AS REQUIRED PER DIAGRAM. EC SHALL RETURN ON A DESIGNATED DAY FOR FINAL CONNECTIONS TO DEVICES. COORDINATE WITH SAUNA WALL INSTALLATION. SEE ARCHITECTURAL PLAN FOR WALL TYPE. DEVICES TO BE FURNISHED BY MANUFACTURE AND INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE DEVICE LOCATIONS WITH APPROVED SHOP DRAWING LAYOUT.

14. MED7 PLUS UNIT TO BE PROVIDE AND INSTALL BY MANUFACTURE. PROVIDE 3-#10 IN 3/4" CONDUIT WITH FULL SIZE GROUND TO LOCAL 30A/ 1P BREAKER IN POWER PANEL. PROVIDE 3 WIRE WHIP FROM RECESSED MOUNTED J-BOX IN CEILING TO MED7 PLUS ACCESS PANEL IN TOP OF CABINET. COORDINATE FINAL CONNECTION WITH MANUFACTURE INSTALLATION TEAM.

15. PROVIDE RECESSED MOUNTED DEEP J-BOX FOR ROOM SENSOR AND USER BYPASS. UNIT DEVISES TO BE PROVIDED BY MANUFACTURE AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO APPROVED SHOP DRAWINGS FOR EXACT LOCATION OF DEVICES BEFORE ANY ROUGH-IN. SEE ARCHITECTURAL PLANS FOR WALL TYPE. PROVIDE ASSOCIATED CABLES PROVIDED BY MANUFACTURE FOR CONNECTION FROM ROOM DEVICES TO STEAM GENERATOR CONTROL PANEL. PROVIDE 3/4" CONDUIT FROM J-BOXES TO ABOVE CEILING FOR CABLE INSTALLATION. SEE DIAGRAM FOR ADDITIONAL INFORMATION.

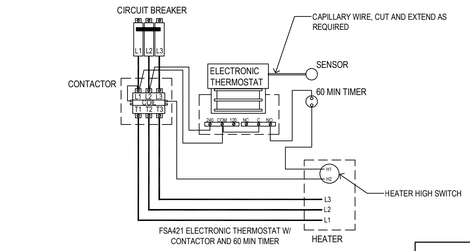
16. PROVIDE RECESSED MOUNTED J-BOX FOR INTERIOR ROOM CRYO UNIT. CRYO UNIT TO BE FURNISHED AND INSTALLED BY MANUFACTURE. REFER TO MANUFACTURES SHOP DRAWINGS FOR EXACT DEVICE LOCATION. MANUFACTURE TO MAKE ALL FINAL CONNECTIONS TO UNIT. PROVIDE 3 -#12 IN 3/4" CONDUIT. FROM J-BOX AND EXTEND TO J-BOX IN UTILITY ROOM. COIL FEEDERS IN J-BOX FOR FINAL CONNECTION BY OTHER.

17. PROVIDE RECESSED MOUNTED DEEP J-BOX WITH NYLON PULL STRING FOR LOW VOLTAGE CONTROL CIRCUIT TO CRYO INTERIOR UNIT MODULE. PROVIDE 3/4" CONDUIT FROM INTERIOR ROOM J-BOX AT CRYO UNIT AND EXTEND TO RECESSED MOUNTED J-BOX IN UTILITY ROOM AT CRYO MACHINE UNIT. LOW VOLTAGE CONTROL WIRING BY OTHER. COORDINATE WITH APPROVED SHOP DRAWINGS FOR DEVICE LOCATIONS.



STEAM ROOM DIAGRAM

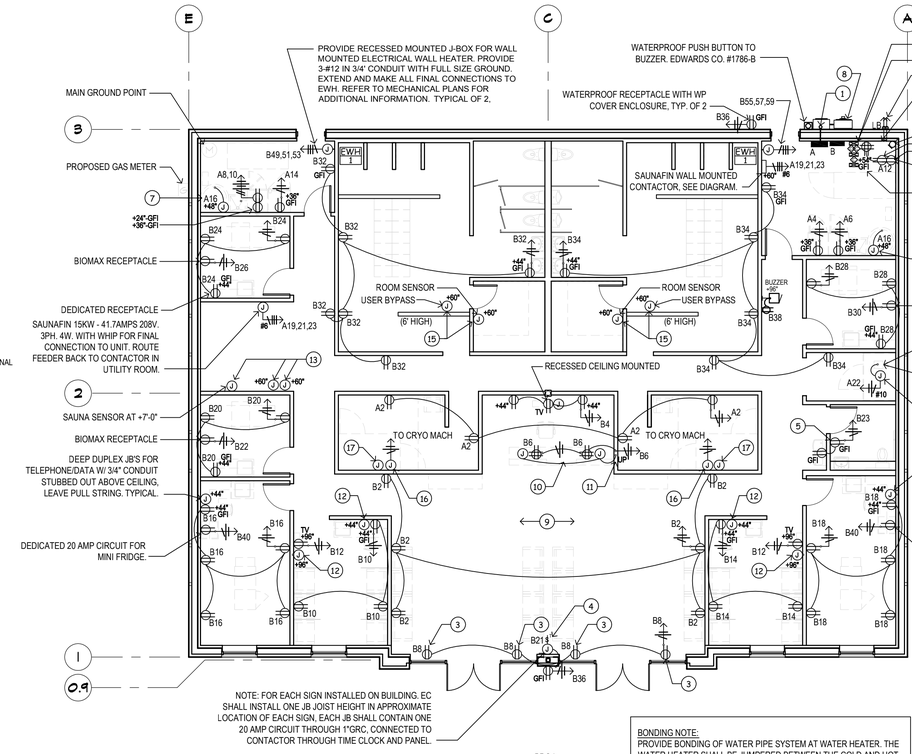
SCALE: NONE



SAUNA DIAGRAM

SCALE: NONE

LOAD CIRCUIT
CONTROL CIRCUIT



ELECTRICAL POWER PLAN

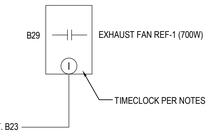
SCALE: 1/8" = 1'-0"

BONDING NOTE:
PROVIDE BONDING OF WATER PIPE SYSTEM AT WATER HEATER. THE WATER HEATER SHALL BE JUMPERED BETWEEN THE COLD AND HOT WATER PIPE WITH A JUMPER SIZED PER NEC 250.166, PER NEC 250.104(A)(1) AND ANY METAL GAS PIPING SHALL BE BONDED PER NEC.

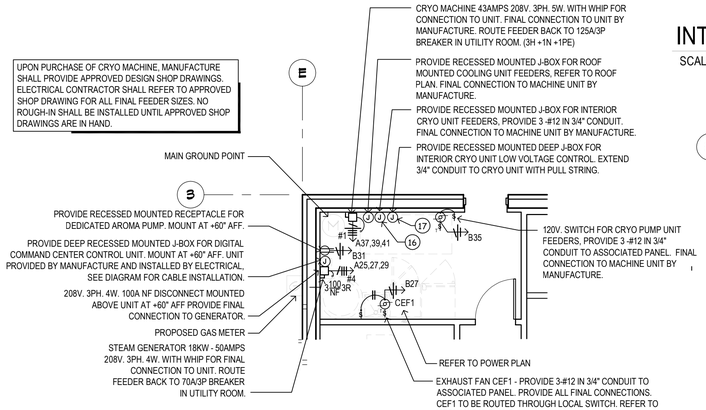
ALL BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR ROUTED WITH THE CIRCUIT CONDUCTOR, SIZE IN ACCORDANCE WITH TABLE 250.122 OF THE N.E.C. ELECTRICAL SHALL PROVIDE SEPARATE ISOLATED AND GFI GROUNDING CONDUCTOR AS NOTED ON PLANS. ISOLATED AND GFI ARE NOT TO BE USED AS EQUIPMENT GROUND.

EXHAUST FAN REF-1

TIME CLOCK SHALL BE TORK #1101B FEATURE, INTERMATIC OR EQUAL "ON" CONTROL TO BE ACTUATED BY THE TIME CLOCK. "OFF" CONTROL TO BE ACTUATED BY THE TIME CLOCK. TIME CLOCK TO EXHAUST FAN REF-1. EXHAUST FAN TO BE IN THE ON POSITION DURING OCCUPIED HOURS.



UPON PURCHASE OF CRYO MACHINE, MANUFACTURE SHALL PROVIDE APPROVED DESIGN SHOP DRAWINGS. ELECTRICAL CONTRACTOR SHALL REFER TO APPROVED SHOP DRAWING FOR ALL FINAL FEEDER SIZES. NO ROUGH-IN SHALL BE INSTALLED UNTIL APPROVED SHOP DRAWINGS ARE IN HAND.



UTILITY POWER PLAN

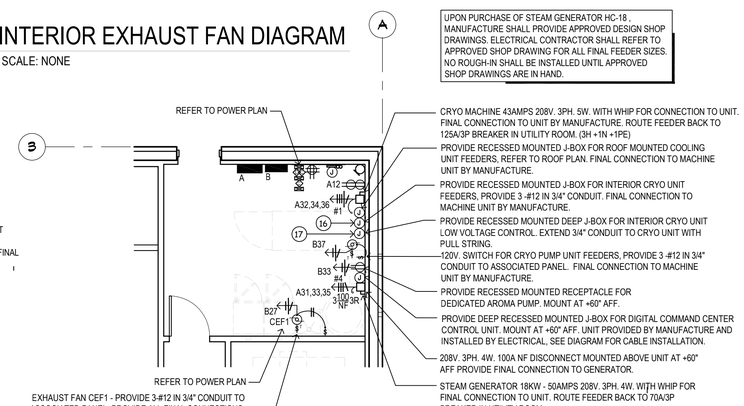
SCALE: 3/16" = 1'-0"

PROJ. NORTH

INTERIOR EXHAUST FAN DIAGRAM

SCALE: NONE

UPON PURCHASE OF STEAM GENERATOR HC-18 , MANUFACTURE SHALL PROVIDE APPROVED DESIGN SHOP DRAWINGS. ELECTRICAL CONTRACTOR SHALL REFER TO APPROVED SHOP DRAWING FOR ALL FINAL FEEDER SIZES. NO ROUGH-IN SHALL BE INSTALLED UNTIL APPROVED SHOP DRAWINGS ARE IN HAND.



UTILITY POWER PLAN

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

PROJ. NORTH

REVISIONS

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SAUNA GUARD FOR
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FRANKFORT, IL

SHEET TITLE
ELECTRICAL POWER PLAN
ELECTRICAL SHEET NOTES
ELECTRICAL SCHEDULES

2238

E2

RETAIL ELECTRICAL LIGHTING PLAN NOTES:

1. PROVIDE 120/208V. 3PH. 4W. SURFACE MOUNTED POWER PANEL LOCATED AT BACK WALL OF TENANT SUITE. PANELS SHALL BE 60 CIRCUITS. REFER TO SCHEDULE FOR CIRCUITING REQUIRED BY ELECTRICAL TRADE. PANEL WITH MLO.

2. PROVIDE NEW DEDICATED NIGHT LIGHTING FEEDER ROUTED TO LOCAL TENANT POWER PANEL. CIRCUIT AS NOTED ON PLANS. ROUTE 2-#12 IN 3/4" CONDUIT TO 20A 1P. BREAKER. IDENTIFY BREAKER AS 24HR/NL. PROVIDE LOCKED BREAKER.

3. PROVIDE GENERAL LIGHTING FEEDERS ROUTED TO LOCAL TENANT POWER PANEL. PROVIDE CIRCUITING AS NOTED IN TENANT SUITE. ROUTED #12 FEEDERS IN 3/4" CONDUIT OR AS PER CODE TO 20A 1P. BREAKER. REFER TO SCHEDULES. LIGHTING FIXTURES TO BE ROUTED THRU TIMECLOCK ASSEMBLY, SEE DETAIL. .

4. PROVIDE ILLUMINATED BATTERY EMERGENCY LIGHTING AS REQUIRED BY CODE. EMERGENCY LIGHTING SHALL PROVIDE A MINIMUM 0F ONE FOOT-CANDLE AT THE FLOOR LEVEL. WIRE TO GENERAL LIGHTING BRANCH CIRCUIT AS LIGHTING IN AREA SERVED. CONNECT AHEAD OF ANY LOCAL SWITCHING. ROUTE CIRCUIT TO LOCAL POWER PANEL CIRCUIT AS NOTED. CLEARLY IDENTIFY LIGHTING CIRCUIT FEEDER UNIT EQUIPMENT PER LOCAL AUTHORITY AND NATIONAL ELECTRICAL CODE.

5. PROVIDE NEW 24HR NIGHT LIGHTING FIXTURE AS NOTED ON PLAN. PROVIDE DEDICATED FEEDER CIRCUIT TO LOCAL TENANT SURFACE MOUNTED POWER PANEL. NIGHT LIGHTING TO BE MOUNTED AT TENANT MAIN POINT OF SERVICE SERVICE LOCATION ALL AS REQUIRED BY LOCAL CODE. REFER TO NOTE #2 ABOVE FOR ADDITIONAL INFORMATION.

6. WIRE NEW EXIT LIGHTING FIXTURES TO SEPARATE UN-SWITCHED 24HR - NIGHT LIGHT SOURCE CIRCUIT. WIRE IN SEPARATE RACEWAY. WIRING IS NOT SHOWN FOR CLARITY. CLEARLY IDENTIFY EXIT LIGHTING CIRCUIT FEEDER UNIT EQUIPMENT IN LOCAL FLOOR PANEL. PROVIDE LOCKED DEDICATED BREAKER.

7. PROVIDE ILLUMINATED BATTERY EMERGENCY LIGHTING AS REQUIRED BY CODE. EMERGENCY LIGHTING SHALL PROVIDE A MINIMUM OF ONE FOOT-CANDLE AT THE FLOOR LEVEL. ELECTRICAL CONTRACTOR SHALL PROVIDE DEDICATED FEEDER TO NEW 24HR/ NIGHT LIGHTING BRANCH CIRCUIT AS LIGHTING IN THE AREA SERVED. CONNECT AHEAD OF ANY LOCAL SWITCHING. ROUTE CIRCUIT TO LOCAL POWER AS NOTED ON PLANS. CLEARLY IDENTIFY LIGHTING CIRCUIT FEEDER UNIT EQUIPMENT PER CITY OF HIGHLAND AND NATIONAL ELECTRICAL CODE. VERIFY FIXTURE LOCATION NOT TO EXCEED 9'-0" AFF.

8. PROVIDE EXTERIOR WALL MOUNTED FIXTURE AS NOTED ON PLANS, INSTALLED ABOVE TENANT DOOR. REFER TO ARCHITECT'S PLANS FOR REQUIRED ELEVATION. THIS TRADE SHALL ROUTE 2-#12 IN 3/4" CONDUIT WITH FULL SIZE GROUND CIRCUIT FEEDERS TO FIXTURE FROM TENANTS POWER PANEL B17. POINT OF SERVICE SHALL BE ROUTED THRU TIMECLOCK/PHOTOCELL CIRCUIT, REFER TO SEQUENCE OF OPERATION (LIGHTING CONTROL SEQUENCE). THIS TRADE SHALL ROUTE FEEDER ON INTERIOR WALL ONLY.

9. PROVIDE SQUARE "D" CLASS 8903 ELECTRICAL HELD LIGHTING CONTACTOR HAVING THE REQUIRED NUMBER OF 20A 1P. AND ENCLOSURE TO CONTROL EXTERIOR LIGHTING AND TENANT SIGNAGE. PROVIDE 120V. CONTROL CIRCUIT TO LOCAL POWER PANEL. PROVIDE 2-#12 IN 3/4" WITH FULL SIZE GROUND, EXTEND AND MAKE FINAL CONNECTION.

10. PROVIDE REMOTE BATTERY EMERGENCY LIGHTING AS REQUIRED BY CODE. EMERGENCY LIGHTING HEAD SHALL PROVIDE A MINIMUM ILLUMINATION AT THE EXTERIOR DOOR. WIRE TO 24HR EXIT LIGHTING CIRCUIT AS IN AREA SERVED. CONNECT AHEAD OF ANY LOCAL SWITCHING. CLEARLY IDENTIFY 24HR EXIT LIGHTING CIRCUIT FEEDER UNIT EQUIPMENT PER LOCAL AUTHORITY AND NATIONAL ELECTRICAL CODE.

11. PROVIDE EXTERIOR WALL MOUNTED FIXTURES ON COLUMN AS NOTED ON PLANS. REFER TO ARCHITECTURAL PLAN AS FOR REQUIRED ELEVATION. THIS TRADE SHALL ROUTE 2-#12 IN 3/4" CONDUIT WITH FULL SIZE GROUND CIRCUIT FEEDERS TO FIXTURE FROM TENANT POWER PANEL. POINT OF SERVICE SHALL BE ROUTED THRU TIMECLOCK/ PHOTOCELL CIRCUIT. REFER TO SEQUENCE OF OPERATION (LIGHTING CONTROL SEQUENCE). THIS TRADE SHALL ROUTE FEEDER ON INTERIOR WALL ONLY.

12. PROVIDE SWITCH BANK FOR LIGHTING CIRCUITS AS NOTED ON PLANS. PROVIDE ONE SWITCH PER SWITCH LEG FEEDER DESIGNATION ALL AS REQUIRED BY IECC. PROVIDE SWITCH LEG FEEDER TO POINT OF SERVICE AND MAKE ALL FINAL CONNECTIONS. SWITCH LEG FEEDER NOT SHOWN FOR CLARITY.

13. PROVIDE INTERMATIC 3 CHANNEL ELECTRONIC TIME CLOCK #P1353ME OR EQUAL. LIGHTING CIRCUITS TO BE ROUTED THROUGH TIME CLOCK. PROVIDE ALL REQUIRED SWITCH LEG FEEDERS AND CONTROL CIRCUITS. MAKE ALL FINAL CONNECTIONS. PROVIDE 120V. CONTROL CIRCUIT TO LOCAL POWER PANEL B. PROVIDE 2 #12 IN 3/4" CONDUIT WITH FULL SIZE GROUND. SEE DETAIL.

14. PROVIDE BREAKWATER BAY, DORNING 4 - LIGHT VANITY LIGHT. APPROVED FOR WET LOCATIONS. 4 - GLASS CYLINDERS - 9 WATT LED LAMP/E26. SKU #W004292608.

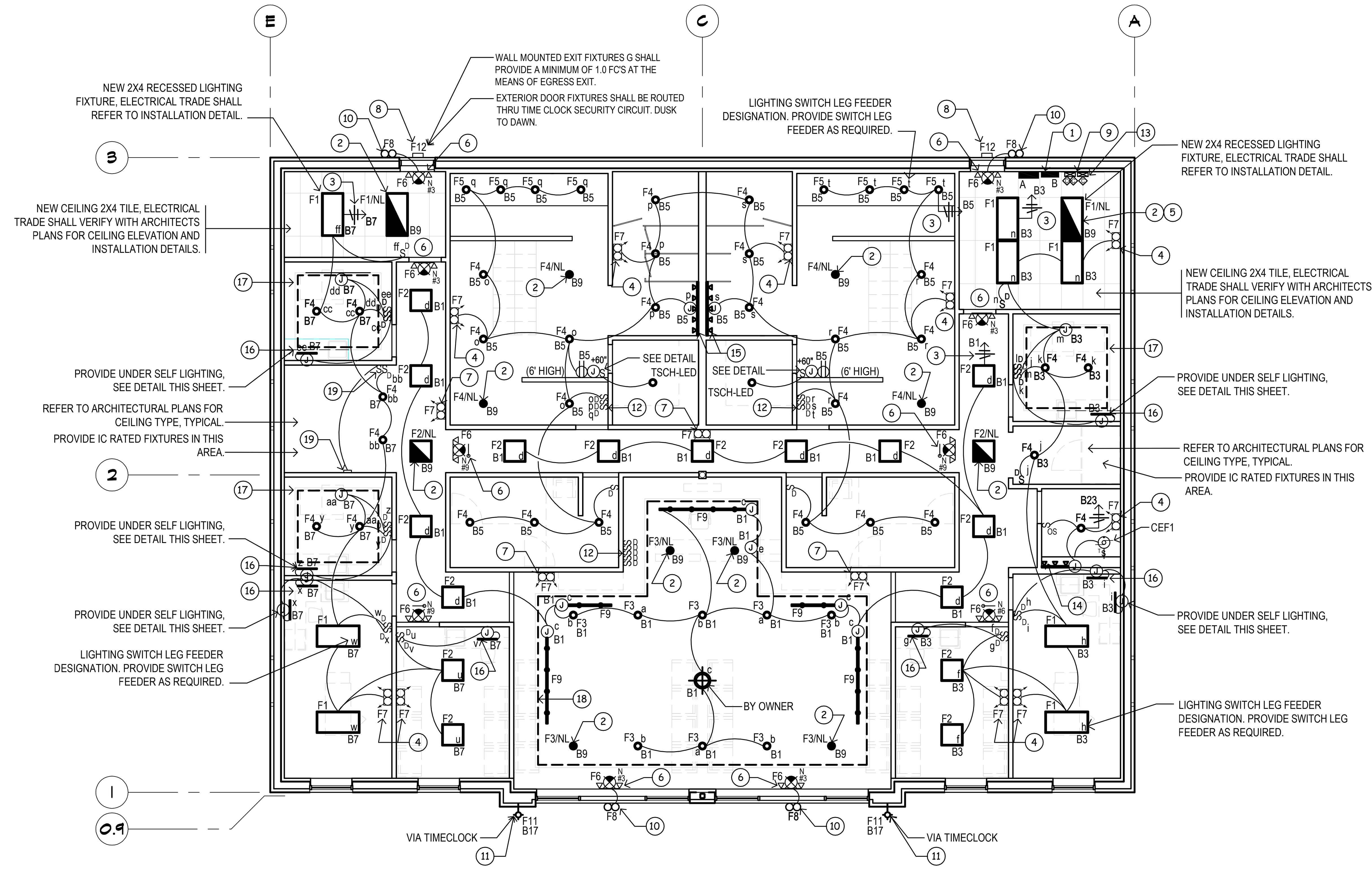
15. PROVIDE (2) BREAKWATER BAY, DORNING 4 LIGHT VANITY LIGHT. APPROVED FOR WET LOCATIONS. 4 - GLASS CYLINDERS - 9 WATT LED LAMPS/E26. SKU #W004292608.

16. PROVIDE UNDER CABINET LIGHTING AS MANUFACTURED BY JUNO #UPLD-22IN-SWW4-90CRI-WH. ELECTRICAL CONTRACTOR SHALL RETURN ON A DESIGNATED DAY FOR FIXTURE INSTALLATION AND FINAL CONNECTION. INSTALL FIXTURE UNDER CABINET AS PER MANUFACTURE. PROVIDE RECESSED MOUNTED J-BOX FOR DIRECT WIRING CONNECTIONS WITH 3/8" FLEXIBLE METAL CONDUIT. REFER TO ARCHITECTURAL ELEVATIONS FOR CABINET HEIGHT. FIXTURE TO ROUTED THRU LOCAL LIGHT SWITCH, PROVIDE SWITCH LEG FEEDER AS REQUIRED. SET FIXTURE TO 3500K.

17. PROVIDE SOFFIT MOUNTED LIGHTING, REFER TO ARCHITECTURAL DETAIL FOR FIXTURE INSTALLATION. PROVIDE (4) - F10 SOFFIT LIGHTING FIXTURES IN SOFFIT.PROVIDE SWITCH LEG FEEDER TO SOFFIT LIGHTING. EXTEND CIRCUIT AS NOTED AND MAKE ALL FINAL CONNECTIONS.

18. PROVIDE SOFFIT MOUNTED LIGHTING. REFER TO ARCHITECTURAL DETAIL FOR FIXTURE INSTALLATION. PROVIDE (12) - F10a SOFFIT LIGHTING FIXTURES AND (1) - F10 SOFFIT MOUNTED LIGHTING FIXTURE IN SOFFIT. PROVIDE SWITCH LEG FEEDER TO SOFFIT LIGHTING. EXTEND CIRCUIT AS NOTED AND MAKE ALL FINAL CONNECTION.

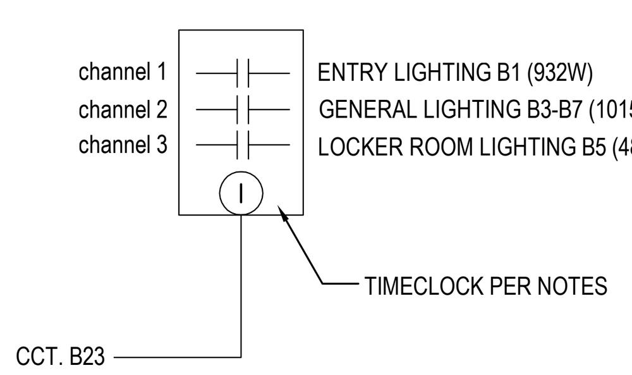
19. RECESSED MOUNTED SAUNA LIGHT FIXTURE TO BE FURNISHED BY MANUFACTURE AND INSTALLED BY ELECTRICAL CONTRACTOR, REFER TO APPROVED SHOP DRAWINGS FOR FIXTURE LOCATION. PROVIDE RECESSED MOUNTED LIGHT SWITCH WITH SWITCH LEG FEEDER TO LIGHT. EXTEND TO LIGHTING CIRCUIT B7 AND MAKE ALL FINAL CONNECTIONS.



ELECTRICAL LIGHTING PLAN

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

PROJ. NORTH

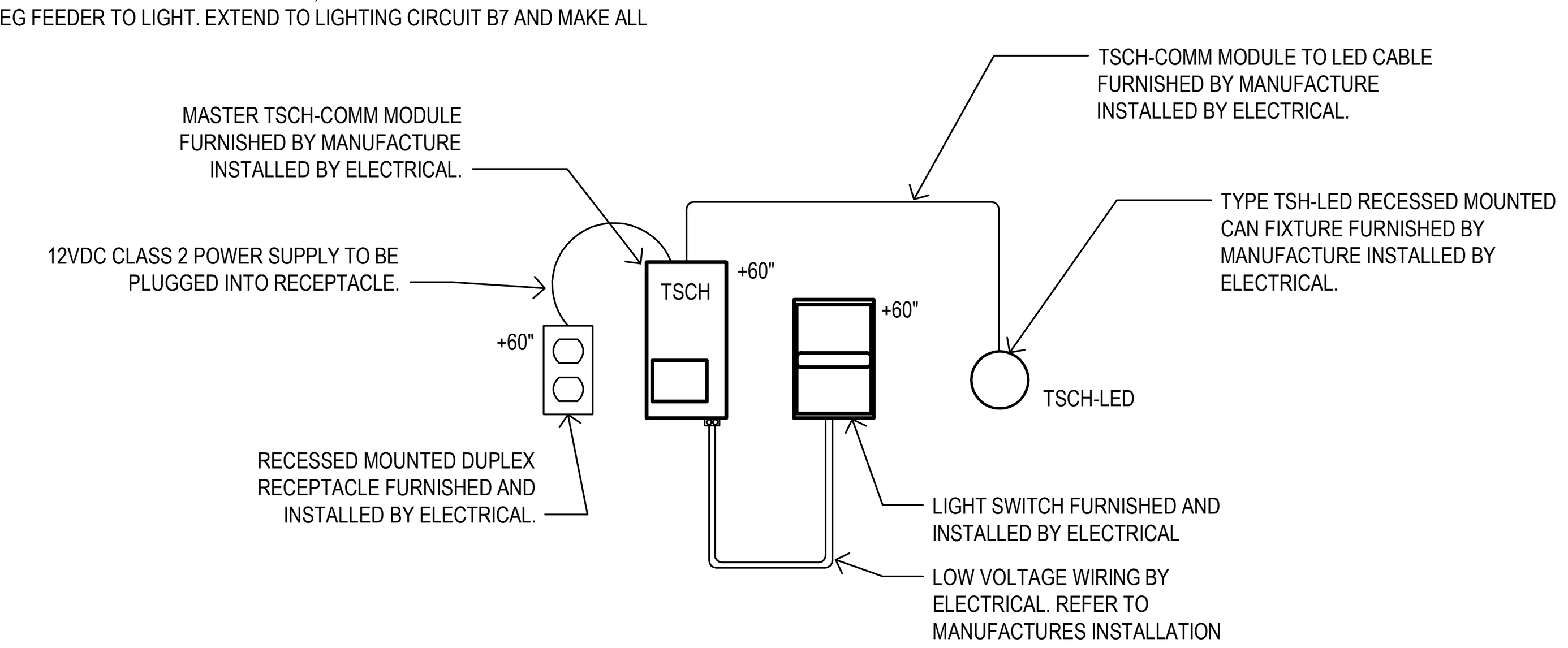


INTERIOR LIGHTING DIAGRAM

SCALE: NONE

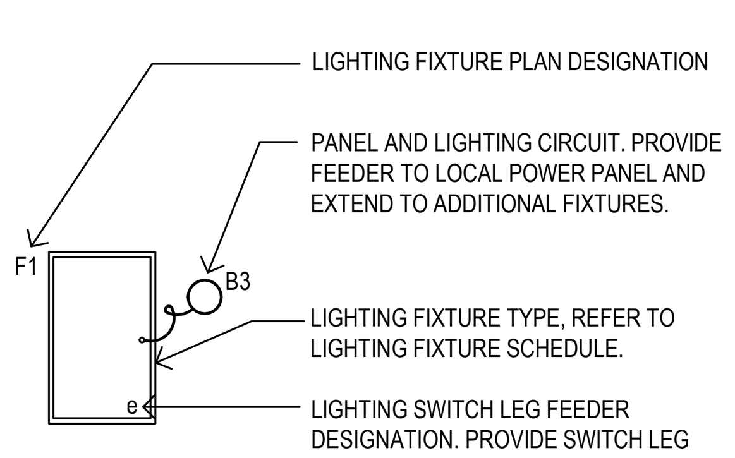
RETAIL CONTROL SCHEDULE

TIME CLOCK SHALL BE 3 CHANNEL INTERMATIC #P1353ME OR EQUAL
"ON" CONTROL TO BE ACTUATED BY THE TIME CLOCK LOCATED AT THE TENANT PANEL LOCATION OF TENANT SPACE. "OFF" CONTROL TO BE ACTUATED BY THE TIME CLOCK. ELECTRICAL TRADE SHALL PROVIDE ALL REQUIRED CONTROL CIRCUITING AND MAKE ALL FINAL CONNECTIONS.



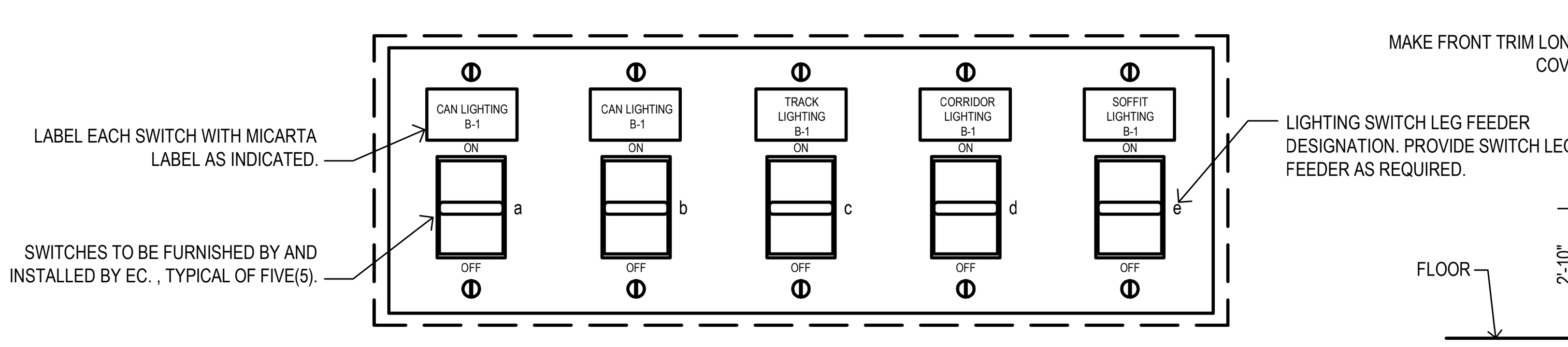
STEAM LIGHT SWITCH DETAIL

SCALE: NONE



FIXTURE NOTATION

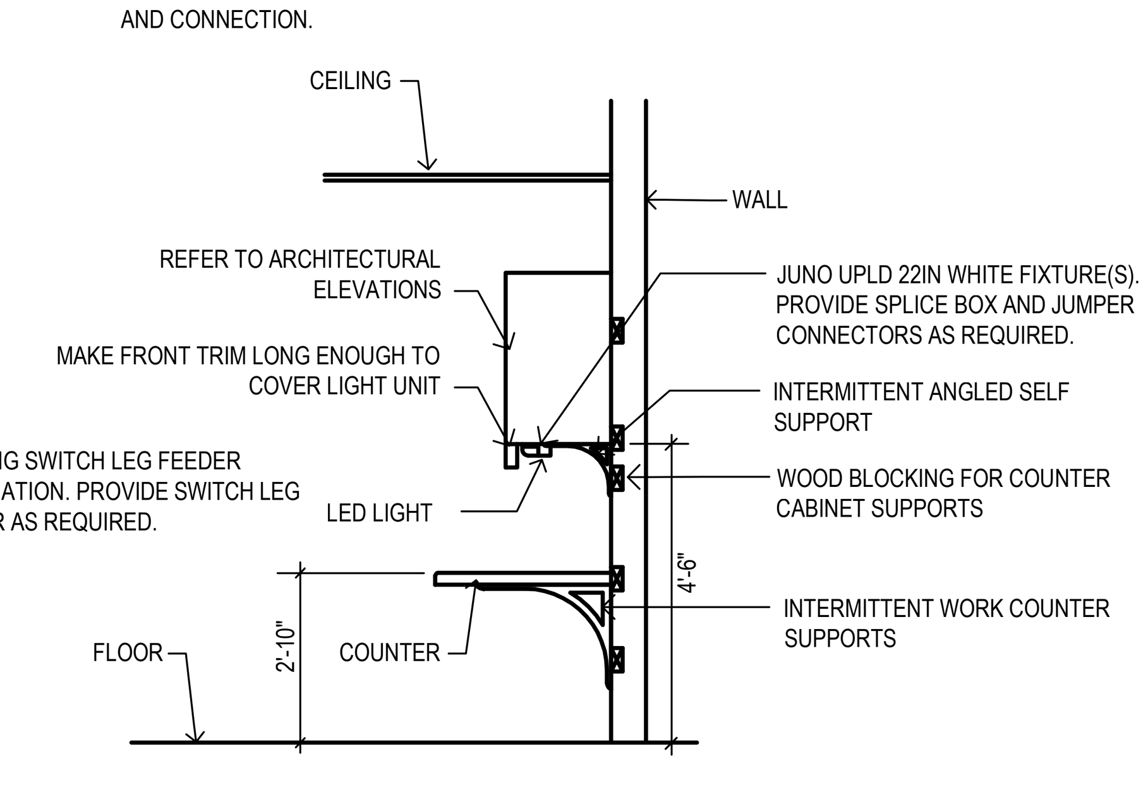
SCALE: NONE



SWITCH BANK DETAIL

SCALE: NONE

NOTE:
EC SHALL INSTALL LIGHTING ON THE UNDERSIDE OF THE UPPER SELF. FIXTURE TO BE WIRED THROUGH THE LOCAL LIGHT SWITCH. EC SHALL RETURN ON A DESIGNATED DAY FOR FINAL INSTALLATION AND CONNECTION.



CABINET LIGHT DETAIL

SCALE: NONE

TENANT SUITE EXCEED THE REQUIREMENTS OF AVERAGE ILLUMINATION OF 10 FCS OVER THE AREA AT A HEIGHT OF 30" AFF FOR ARTIFICIAL LIGHTING PER ICC CODE SECTION 1204.3

NOTE: ELECTRICAL TRADE SHALL WIRE EXIT LIGHTING TO SEPARATE INDEPENDENT UN-SWITCHED CIRCUIT. WIRE IN SEPARATE RACEWAY. WIRING IS NOT SHOWN FOR CLARITY. NO APPLIANCES, LAMPS OTHER THAN THOSE SPECIFIED AS REQUIRED FOR EMERGENCY USE. SHALL BE SUPPLIED BY EMERGENCY CIRCUITS.

UNIT BATTERY EQUIPMENT NOTE:

1. ALL UNIT BATTERIES SHALL BE INSTALL PER LOCAL AUTHORITY EM CODE AND IN COMPLIANCE WITH LOCAL INSPECTOR.
2. ALL UNIT BATTERIES SHALL BE LABELED AS EMERGENCY LIGHTING EQUIPMENT.
INDIVIDUAL UNIT EQUIPMENT FOR CODE REQUIRED STANDBY EMERGENCY ILLUMINATION SHALL CONSIST OF:
A RECHARGEABLE BATTERY
A BATTERY CHARGING MEANS
PROVISIONS FOR FOR ONE OR MORE LAMPS
A RELAY DEVICE TO AUTOMATICALLY ENERGIZE LAMPS UPON FAILURE OF THE SUPPLY TO THE UNIT EQUIPMENT
A TEST SWITCH
A PILOT LIGHT TO INDICATE SUPPLY FROM NORMAL SOURCE AND A PILOT LIGHT OR METER TO INDICATE THE BATTERY IS CHARGING. IT IS NOT PERMITTED FOR THIS PILOT LIGHT TO MARKED "READY" TO INDICATE POWER IS AVAILABLE.
UNIT EQUIPMENT SHALL BE PERMANENTLY FIXED IN PLACE AND SUPPLIED BY HARD WIRE. THE BRANCH CIRCUIT FEEDING THE UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NIGHT LIGHTING ILLUMINATION IN THE AREA.

REVISIONS

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SHEET TITLE
ELECTRICAL LIGHTING PLAN
ELECTRICAL SHEET NOTES
ELEVATIONS

2238

Eric L Smith

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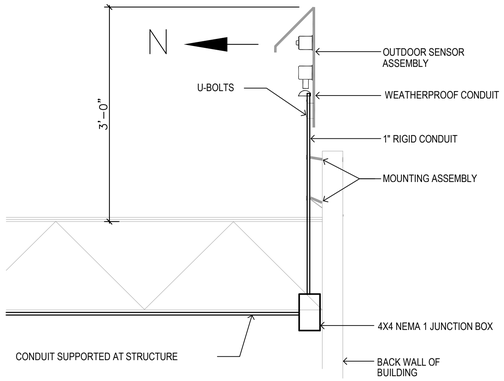
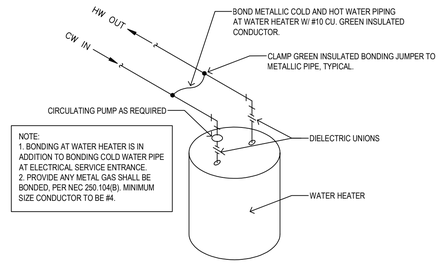
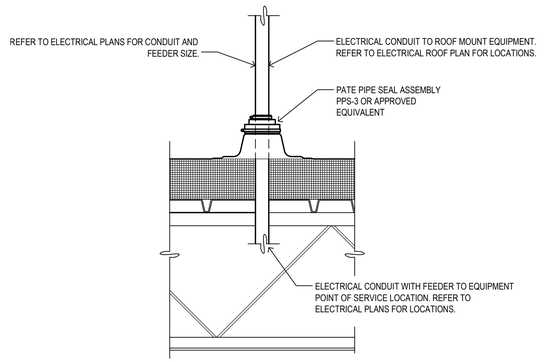


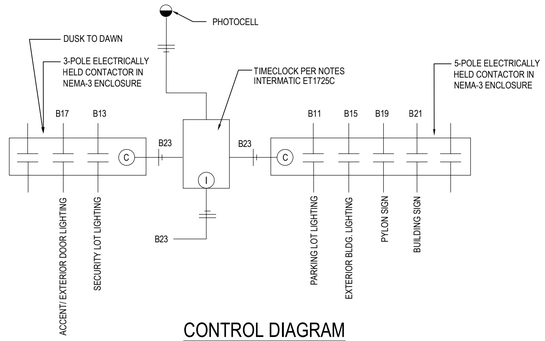
OUTDOOR SENSOR ASSEMBLY
SCALE: NONE



METALLIC WATER PIPE BONDING
SCALE: NONE



CONDUIT PENETRATION DETAIL
SCALE: NONE

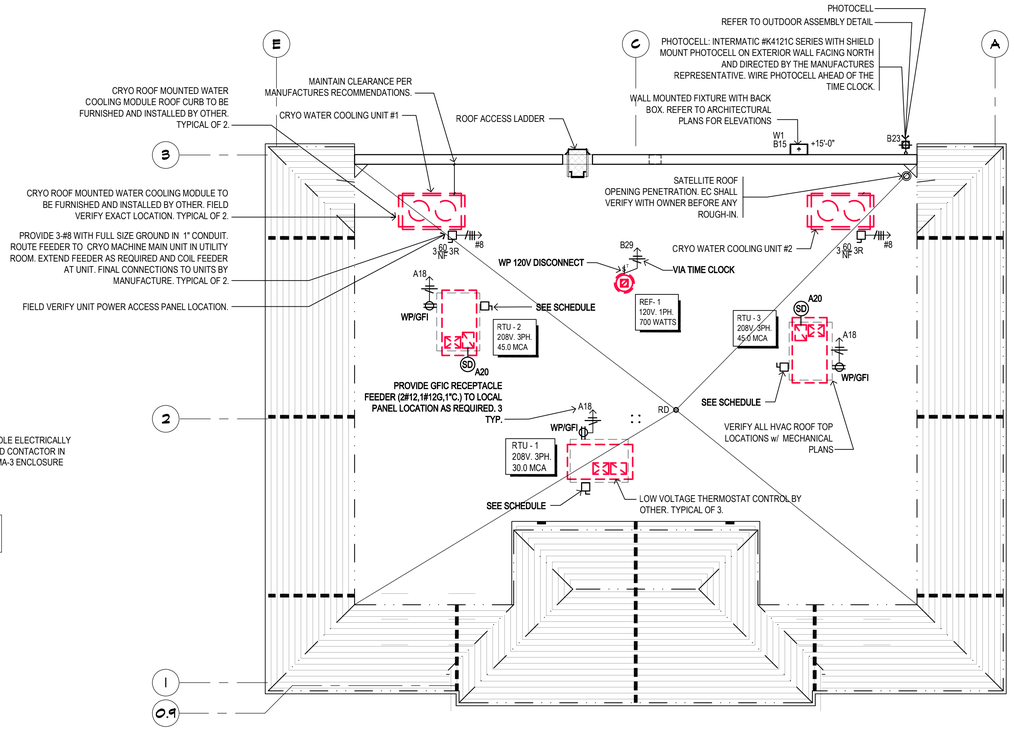


CONTROL DIAGRAM
SCALE: NONE

LIGHTING CONTROL SCHEDULE

TIME CLOCK SHALL BE INTERMATIC ET1725C (OR EQUAL). INTERMATIC OR EQUAL "ON" CONTROL TO BE ACTUATED BY THE TIME CLOCK WHICH SHALL ACTIVATE THE CONTACTOR FOR PHOTOCELL CONTROL OF THE SECURITY LIGHTING AND THE CONTACTOR FOR SITE LIGHTING AND SIGNS. PHOTOCELL CONTROLLER LOCATED ON THE BACK-SIDE OF THE EXTERIOR WALL. "OFF" CONTROL TO BE ACTUATED BY THE TIME CLOCK. ELECTRICAL TRADE SHALL PROVIDE SQUARE "D" CLASS 8903 ELECTRICALLY HELD LIGHTING CONTACTOR HAVING THE REQUIRED NUMBER OF 20AMP POLES AND ENCLOSURE, TO CONTROL EXTERIOR LIGHTING.

LUMINARIES TO OPERATE BETWEEN ONE-HALF HOUR BEFORE SUNSET AND 10:00PM OR 1 HOUR AFTER CLOSE OF BUSINESS BASED ON NORMAL HOURS OF OPERATION WHICH EVER IS LATER.



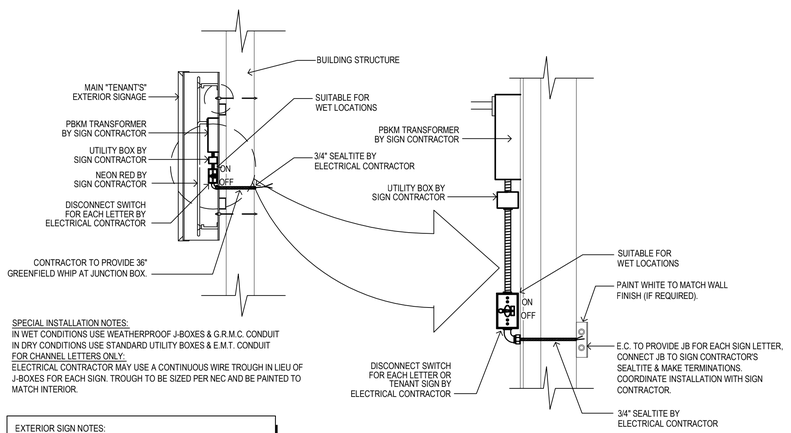
ELECTRICAL ROOF PLAN
SCALE: 1/8" = 1'-0"

PROJ. NORTH

INSTALLATION NOTES:

SMOKE DETECTOR IN RETURN AIR DUCT, PROVIDED BY MECHANICAL CONTRACTOR. TYPICAL OF 2 FOR ROOF MOUNTED UNITS. SMOKE DETECTOR POWER WIRE BY THE ELECTRICAL TRADE BACK TO POINT OF SERVICE. CONTROL WIRE BY MC.

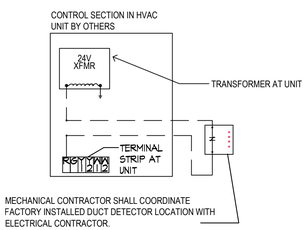
ALL POWER WIRING SHALL ENTER UNIT THROUGH ROOF CURB TO POWER ENTRY SECTION OF UNIT. ALL POWER WIRING INSIDE UNIT SHALL BE IN GALVANIZED CONDUIT. RECEPTACLE SHALL BE WIRED BY THE ELECTRICAL TRADE.



SPECIAL INSTALLATION NOTES:
IN WET CONDITIONS USE WEATHERPROOF J-BOXES & G.R.M.C. CONDUIT
IN DRY CONDITIONS USE STANDARD UTILITY BOXES & E.M.T. CONDUIT
FOR CHANNEL LETTERS ONLY:
ELECTRICAL CONTRACTOR MAY USE A CONTINUOUS WIRE TROUGH IN LIEU OF J-BOXES FOR EACH SIGN. TROUGH TO BE SIZED PER NEC AND BE PAINTED TO MATCH INTERIOR.

EXTERIOR SIGN NOTES:
ELECTRICAL SIGN CONTRACTOR SHALL PROVIDE A WEATHERPROOF SHUTOFF DISCONNECT AS APPROVED BY THE LOCAL AUTHORITY AT ALL EXTERIOR WALL SIGN LOCATIONS.

SIGN MOUNTING DETAIL
SCALE: NONE



— — — INDICATES WIRING BY ELECTRICAL CONTRACTOR

NOTES:
A. DUCT DETECTOR SHALL BE FURNISHED BY RTU SUPPLIER AND MOUNTED BY M.C., POWER WIRED BY THE E.C.
B. ALL EQUIPMENT & WIRING SHALL BE IN CONFORMANCE WITH ALL APPLICABLE CODES AND REGULATIONS.

HVAC CONTROL WIRING SCHEMATIC
SCALE: NONE

MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

DESCRIPTION	VOLTAGE AND PHASE	MCA	HP/ WATT	CONNECTION: DIRECT CONNECTION	CONNECTION: CONDUIT AND WIRE SIZE	PANEL	CIRCUIT NO.	CIRCUIT BREAKER SIZE	DISC. SWITCH	GFI RECEPTACLE	CIRCUIT NO.	SMOKE DETECTOR	NOTES
RTU-1	208V-3Ø	30.0	-	●	3#8, 1#10(G), 1"C.	A	1,3,5	45A/3P	60A/3P	YES	A18	NO	1,2,3,6
RTU-2	208V-3Ø	45.0	-	●	3#8, 1#10(G), 1"C.	A	7,9,11	50A/3P	60A/3P	YES	A18	YES	1,2,3,6,8
RTU-3	208V-3Ø	45.0	-	●	3#8, 1#10(G), 1"C.	A	13,15,17	50A/3P	60A/3P	YES	A18	YES	1,2,3,6,8

1. THE E.C. SHALL VERIFY ALL EQUIPMENT SPECIFICATIONS (VOLTAGE, OVERCURRENT PROTECTION, FUSE SIZES, ETC.) WITH M.C. PRIOR TO DISTRIBUTION OF EQUIPMENT AND ROUGH-IN. THE E.C. SHALL ALSO BE RESPONSIBLE FOR PROVIDING ALL CONNECTIONS, DEVICES, SAFETY SWITCHES, ETC. LISTED ON THIS SCHEDULE UNLESS NOTED ON THIS SCHEDULE AS BEING PROVIDED BY OTHERS.
2. EC SHALL PROVIDE INTEGRAL STARTER AND/OR DISCONNECT SWITCH. E.C. SHALL BRANCH TO FINAL CONNECTION VIA LIQUID TIGHT FLEXIBLE METALLIC CONDUIT.
3. ROUTE CONDUIT THRU EQUIPMENT CURB OR PROVIDE SEPARATE ROOT CONDUIT BOOT. COORDINATE WITH M.C.
4. CONNECT TO LOCAL LIGHTING CIRCUIT FOR FAN SERVICE.
5. FURNISHED WITH UNIT.
6. ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS, OR SHAFTS SHALL BE SEALED IN ACCORDANCE w/ WALL TYPE AS SHOWN ON ARCHITECTS.
7. PROVIDE 120V WATER PROOF TOGGLE SWITCH FOR DISCONNECTING MEANS.
8. PROVIDE SMOKE DETECTOR CONTROL CIRCUIT AND WIRING CONTROL, SEE DETAIL.

* NOT ALL NOTES MAY APPLY

GENERAL NOTES

1. COORDINATE ALL RECEPTACLE LOCATIONS & HEIGHTS WITH EQUIPMENT MANUFACTURER CUTSHEETS PRIOR TO ROUGH-IN.
2. COORDINATE ALL NON-EQUIPMENT RELATED RECEPTACLE LOCATIONS AND HEIGHTS WITH ARCHITECTURAL DRAWINGS.

UPON PURCHASE OF CRYO MACHINE, MANUFACTURE SHALL PROVIDE APPROVED DESIGN SHOP DRAWINGS. ELECTRICAL CONTRACTOR SHALL REFER TO APPROVED SHOP DRAWING FOR ALL FINAL FEEDER SIZES. NO ROUGH-IN SHALL BE INSTALLED UNTIL APPROVED SHOP DRAWINGS ARE IN HAND.

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SHEET TITLE
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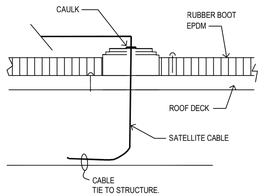
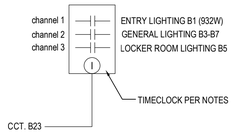


ALL ROOF PENETRATIONS SHALL BE MADE BY LESSOR'S ROOF WARRANTY CONTRACTOR OR WITH LESSOR'S APPROVAL. CONSULT ROOF MANUFACTURER'S DETAILS FOR PROPER PENETRATION DETAIL. FOR SIDE WALL PENETRATIONS PROVIDE PVC SLEEVE WITH FLANGE ON EXTERIOR AND INTERIOR PROPERLY CAULKED. INSTALL WITHIN 10' OF NETWORK HUB OR BOX AND WITH CLEAR SOUTH EXPOSURE FOR SATELLITE UPLINK. PROVIDE PORTALS PLUS SINGLE ALUMI-FLASH OR EQUAL PAN & BOOT (1-630-766-5240).

SATELLITE PENETRATION DETAIL

SCALE: NONE

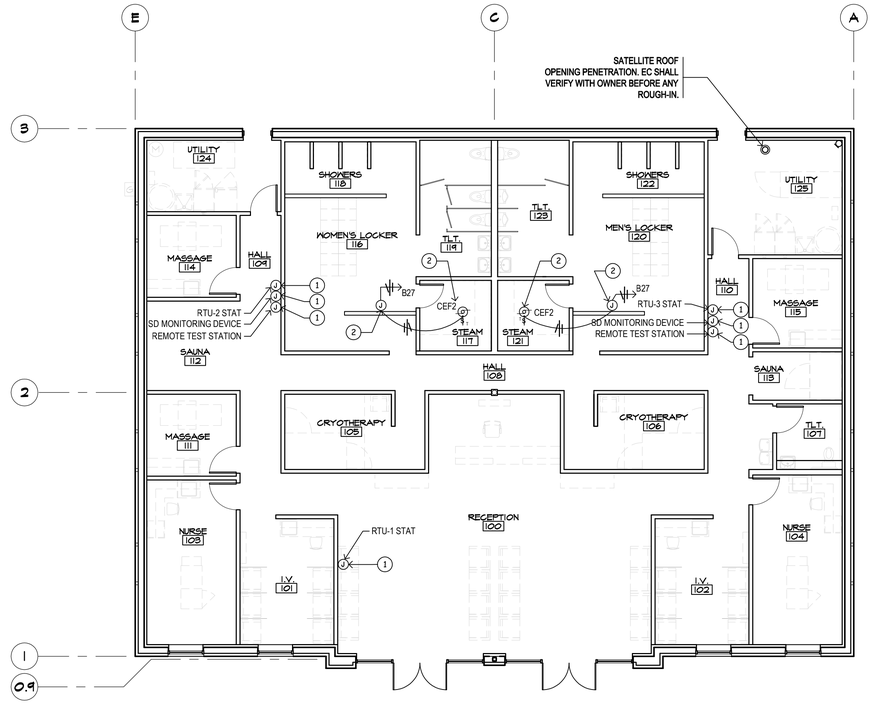


EXHAUST FAN REF-1 DIAGRAM

SCALE: NONE

RETAIL CONTROL SCHEDULE

TIME CLOCK SHALL BE 3 CHANNEL INTERMATIC #P1353ME OR EQUAL
"ON" CONTROL TO BE ACTUATED BY THE TIME CLOCK LOCATED AT THE TENANT PANEL LOCATION OF TENANT SPACE. "OFF" CONTROL TO BE ACTUATED BY THE TIME CLOCK. ELECTRICAL TRADE SHALL PROVIDE ALL REQUIRED CONTROL CIRCUITING AND MAKE ALL FINAL CONNECTIONS.



ELECTRICAL CONTROL PLAN

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

PROJ. NORTH

INSTALLATION NOTES:

1. PROVIDE RECESSED MOUNTED DEEP J-BOX FOR HVAC CONTROL. PROVIDE 3/4" CONDUIT WITH PULL-STRING UP TO ABOVE CEILING AND OUT WALL. CONTROL WIRING BY OTHER. REFER TO MECHANICAL PLANS FOR DEVICE HEIGHT.
2. PROVIDE RECESSED DEEP MOUNTED J-BOX FOR SPEED CONTROLLER. SPEED CONTROLLER TO BE FURNISHED AND INSTALLED BY OTHER. PROVIDE 3- #12 IN 3/4" CONDUIT AND ROUTE TO ASSOCIATED PANEL. COIL WIRE IN J-BOX FOR FINAL CONNECTION TO SPEED CONTROLLER. FINAL SPEED CONTROLLER CONNECTION BY OTHER. PROVIDE 3- #12 IN 3/4" CONDUIT AND ROUTE FROM J-BOX TO EXHAUST FAN CEF-2 AND MAKE FINAL CONNECTION TO CEF-2. COIL WIRE IN J-BOX FOR FINAL CONNECTION TO SPEED CONTROLLER. REFER TO MECHANICAL PLANS FOR DEVICE HEIGHT.

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SHEET TITLE
ELECTRICAL CONTROL PLAN
ELECTRICAL DETAILS

2238

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EXPIRES 11-30-24

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DIVISION 16
STANDARDS INFORMATION

PART 1 - GENERAL

1.01 GENERAL CONDITIONS

A. THE GENERAL, SPECIAL, AND OTHER CONDITIONS OF THE ARCHITECTURAL DOCUMENTS SHALL BE CONSIDERED AN INTEGRAL PART OF THESE ELECTRICAL SPECIFICATIONS.

B. REFERENCE TO "CONTRACTOR" IN THIS SPECIFICATION SHALL MEAN "ELECTRICAL CONTRACTOR", UNLESS OTHERWISE NOTED.

1.02 DRAWINGS AND DOCUMENTS

A. THE ELECTRICAL DRAWINGS AND SPECIFICATIONS SHALL FORM A SET OF PLANS FOR THE ELECTRICAL WORK. NEITHER THE DRAWINGS NOR THE SPECIFICATIONS SHALL BE COMPLETE WITHOUT THE OTHER. ANY ITEM SHOWN ON THE DRAWINGS OR SPECIFIED IN THE SPECIFICATIONS SHALL BE CONSIDERED AS SHOWN AND SPECIFIED ON BOTH.

B. ANY QUESTIONS REGARDING THE INTENT OF THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION AS SOON AS POSSIBLE. IF DIRECTION FROM THE ENGINEER CANNOT BE OBTAINED DUE TO TIME OR COMMUNICATION LIMITATIONS, THE GREATER QUANTITY, HIGHER QUALITY OR CONDITION MOST FAVORABLE TO THE OWNER SHALL BE ASSUMED. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND MISCELLANEOUS ITEMS NECESSARY FOR A COMPLETE AND OPERATIONAL ELECTRICAL INSTALLATION, AS SHOWN ON THE DRAWINGS AND CALLED FOR IN THESE SPECIFICATIONS.

C. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS. COORDINATE ALL SHAFTS, CHASES, FURRED SPACES, SUSPENDED CEILINGS, LOCATIONS OF EQUIPMENT, ETC.

D. ELECTRICAL CONTRACTOR SHALL COORDINATE ROUTING OF ALL CONDUIT AND WIRE WITHIN SOFFITS PROVIDED BY THE GENERAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SOFFITING REQUIRED TO COVER INSTALLATIONS NOT COORDINATED OR SPECIFICALLY APPROVED BY THE ARCHITECT AND ENGINEER.

E. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW APPROXIMATE LOCATION ONLY. PLACEMENT OF ELECTRICAL EQUIPMENT AND DEVICES SHALL NOT INTERFERE WITH LOCATIONS OR CLEARANCES OF OTHER TRADES' MATERIALS OR EQUIPMENT.

F. DIMENSIONS GIVEN ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. DIMENSIONS, WHETHER GIVEN IN FIGURES OR SCALED, SHALL BE VERIFIED IN THE FIELD.

G. CONTRACTOR SHALL VERIFY THAT THE EQUIPMENT TO BE FURNISHED UNDER CONTRACT WILL FIT WITHIN THE AVAILABLE SPACE.

H. NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES BETWEEN ELECTRICAL, ARCHITECTURAL AND MECHANICAL DRAWINGS.

I. VERIFY ITEMS SUCH AS DOOR SWINGS, WINDOW LOCATIONS, CASEWORK, ETC., BEFORE INSTALLING ANY ELECTRICAL EQUIPMENT OR DEVICES. ALL DEVICES CONFLICTING WITH AND OTHER TRADES WORK DUE TO LACK OF COORDINATION SHALL BE RELOCATED AT NO ADDITIONAL COST TO THE OWNER.

1.03 SCOPE OF WORK

A. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND OTHER ITEMS NECESSARY FOR OR INCIDENTAL TO INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM AS REQUIRED FOR THIS PROJECT.

1.04 CODES, INSPECTIONS, AND FEES

A. THE COMPLETED ELECTRICAL INSTALLATION SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AS WELL AS ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, REGULATIONS, AND STANDARDS, INCLUDING INTERPRETATIONS OF THESE BY APPROPRIATE AUTHORITIES HAVING JURISDICTION. WHERE THE DRAWINGS AND SPECIFICATIONS CALL FOR WORKMANSHIP OR MATERIALS IN EXCESS OF CODE OR REGULATORY REQUIREMENTS, THE DRAWINGS AND SPECIFICATIONS SHALL GOVERN.

B. THE WORK SPECIFIED HEREIN SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY AUTHORIZED REPRESENTATIVES OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION, AND THE ENGINEER. THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS TO HAVE THE ELECTRICAL WORK INSPECTED BY APPROPRIATE INSPECTOR(S) AND SHALL PROVIDE TWO (2) COPIES OF EVERY FINAL SIGNED "CERTIFICATE OF INSPECTION" TO THE OWNER.

C. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES AND PERMITS, PAY ALL FEES AND CHARGES FOR ALL WORK INSTALLED BY THE CONTRACTOR. AND PAY ALL FEES AND CHARGES LEVIED BY THE ELECTRIC UTILITY COMPANY FOR CONNECTION TO ELECTRIC SERVICES.

1.05 INSPECTION OF SITE

A. DIVISION 16 CONTRACTOR SHALL VISIT SITE PRIOR TO BID AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS IN REGARDS TO THE REQUIREMENTS OF THIS CONTRACT. ANY VISIBLE OR EASILY ATTAINABLE INFORMATION AVAILABLE AT THE SITE, EVEN IF DIFFERING FROM THESE DOCUMENTS, WILL NOT RESULT IN EXTRA COMPENSATION AFTER TIME OF BID. ANY DISCREPANCIES FROM THESE DOCUMENTS, SHOULD BE REPORTED TO THE ARCHITECT/ENGINEER AS SOON AS POSSIBLE.

1.06 TEMPORARY ELECTRICAL SERVICE

A. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A TEMPORARY LIGHTING AND POWER SYSTEM AT A LOCATION SPECIFIED BY THE GENERAL CONTRACTOR. THE SERVICE SHALL BE 100-AMP, 120/208-VOLT, SINGLE-PHASE, 3-WIRE, WITH APPROPRIATE METERING AND PROTECTIVE EQUIPMENT. COMPONENTS OF THE TEMPORARY SYSTEM SHALL BE AS REQUIRED BY THE GENERAL CONTRACTOR. THE SYSTEM SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR SHALL REMOVE THE TEMPORARY SYSTEM WHEN IT IS NO LONGER NEEDED.

1.07 MATERIALS AND EQUIPMENT

A. UNLESS OTHERWISE SPECIFIED, ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND MANUFACTURED BY RECOGNIZED MANUFACTURERS. ALL MATERIALS AND EQUIPMENT SHALL MEET THE REQUIREMENTS OF GOVERNING CODES. B. ALL MATERIAL AND EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITERS LABORATORIES, INC. (UL), AS CONFORMING TO ITS STANDARDS IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED FOR THAT TYPE OF MATERIAL OR EQUIPMENT. C. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL TO USE ANY PROPOSED SUBSTITUTE MATERIAL OR EQUIPMENT BEFORE CONTRACTING TO PURCHASE SUCH SUBSTITUTES. THE OWNER RESERVES THE RIGHT TO REQUIRE THE REMOVAL OF ANY MATERIAL OR EQUIPMENT WHICH DOES NOT HAVE THIS WRITTEN APPROVAL AND WHICH DOES NOT COMPLY WITH THE SPECIFICATIONS, REGARDLESS OF THE STATE OF INSTALLATION OF SUCH EQUIPMENT. D. WHERE EQUIPMENT SUPPLIED BY THE CONTRACTOR HAS CHARACTERISTICS OTHER THAN AS SPECIFIED HEREIN, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, MAKE ALL CHANGES IN THE ELECTRICAL WORK NECESSITATED BY THE SUBSTITUTION.

1.08 WORKMANSHIP

A. THE INSTALLATION SPECIFIED HEREIN SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER BY PERSONS EXPERIENCED AND SKILLED IN THE TRADE. ONLY THE BEST QUALITY WORKMANSHIP WILL BE ACCEPTED. ALL EXPOSED COMPONENTS OF THE ELECTRICAL SYSTEMS SHALL BE SQUARE AND TRUE WITH BUILDING LINES AND SURFACES.

1.09 CORRELATION OF WORK

A. THE CONTRACTOR SHALL GIVE CAREFUL CONSIDERATION TO THE WORK OF THE GENERAL, MECHANICAL, AND ALL OTHER CONTRACTORS AND SUBCONTRACTORS ON THE PROJECT AND SHALL ORGANIZE THE ELECTRICAL WORK SO THAT IT WILL NOT INTERFERE WITH THE WORK OF OTHER TRADES.

B. DRAWINGS AND SPECIFICATIONS FOR OTHER TRADES AND GENERAL CONSTRUCTION DRAWINGS SHALL BE CONSULTED FOR CORRELATION INFORMATION, DETAILS, DIMENSIONS, ETC.

C. THE LOCATION OF ALL OUTLETS, WIRING, AND EQUIPMENT SHALL BE VERIFIED.

D. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR MOVING MISPLACED ELECTRICAL SYSTEM COMPONENTS.

1.11 MAINTENANCE MANUAL

A. THE CONTRACTOR SHALL FURNISH THE OWNER WITH TWO (2) COPIES OF A MANUAL COVERING THE OPERATION AND MAINTENANCE OF ALL EQUIPMENT PROVIDED UNDER THIS CONTRACT. THE MANUALS SHALL BE 3-RING, LOOSE LEAF, HEAVY DUTY, STEEL PIANO HINGED NOTEBOOKS, HYTONE #8711 OR EQUAL, AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL. EACH MANUAL SHALL CONTAIN THE FOLLOWING:

1. COMPLETE MANUFACTURER CATALOG DATA, MANUFACTURER'S LITERATURE, WIRING DIAGRAMS, DETAILED OPERATING INSTRUCTIONS, AND A COMPLETE LISTING OF SUPPLIERS AND DISTRIBUTORS WHERE REPLACEMENT PARTS AND MAINTENANCE SERVICES ARE AVAILABLE FOR ALL EQUIPMENT.

2. INSPECTION CERTIFICATES, SIGNED BY THE APPROPRIATE INSPECTOR, SHALL BE FURNISHED IN THE MAINTENANCE MANUAL.

3. AS WORK PROGRESSES, THE CONTRACTOR SHALL MARK A SET OF CONSTRUCTION DOCUMENTS TO SHOW ACTUAL CIRCUIT ROUTING AND MAKEUP, EQUIPMENT LOCATION CHANGES, AND ANY OTHER CHANGES OR DEVIATIONS BETWEEN PROJECT WORK, AS BUILT, AND THE CONTRACT DOCUMENTS. MARKINGS SHALL BE NEAT, LEGIBLE, AND PERMANENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL SIMILARLY MARK A SECOND SET OF DOCUMENTS AND PROVIDE BOTH SETS OF AS-BUILT DOCUMENTS TO THE OWNER WITH THE MAINTENANCE MANUALS.

1.12 GUARANTEE

A. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A WRITTEN GUARANTEE FOR THE PERIOD OF ONE (1) YEAR AGAINST THE FAILURE OF ANY PART OF THE ELECTRICAL SYSTEMS INSTALLED UNDER THE SPECIFICATIONS DUE TO FAULTY MATERIAL OR WORKMANSHIP. GUARANTEE PERIOD SHALL START UPON SUBSTANTIAL COMPLETION OR AS SPECIFIED UNDER GENERAL AND SPECIAL CONDITIONS. LAMP BULBS SHALL BE OPERABLE ON THE START DATE OF, BUT EXCLUDED FROM, THE GUARANTEE.

B. THE CONTRACTOR SHALL ASSURE THAT ANY EXTENDED WARRANTIES TO WHICH THE OWNER IS ELIGIBLE ARE PASSED ON TO THE OWNER.

1.13 CUTTING AND PATCHING

A. THE CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING NECESSARY FOR THE COMPLETION OF THE ELECTRICAL WORK FOR THIS PROJECT. NO STRUCTURAL MEMBERS SHALL BE DISTURBED WITHOUT OBTAINING WRITTEN PERMISSION OF THE ENGINEER.

B. ANY SURFACE WHICH IS DISTURBED IN ANY WAY BY THE CONTRACTOR SHALL BE REPAIRED AND REFINISHED TO PROVIDE A SURFACE EQUAL IN STRENGTH, DURABILITY, AND APPEARANCE TO THE ORIGINAL SURFACE.

C. WHERE IT IS NECESSARY TO DRILL OR CUT CONCRETE SURFACES, THE EDGES SHALL BE SHARPLY DEFINED. HOLES SHALL BE MADE WITH A ROTARY DRILL. CUTS SHALL BE MADE WITH A CONCRETE SAW UNLESS SOME OTHER METHOD OF MAKING SPECIFIC CUTS IS APPROVED BY THE ENGINEER.

D. PENETRATIONS THROUGH SMOKE, FIRE, HAZARDOUS AREA, OR OTHER RATED SEPARATIONS SHALL BE SEALED TO PRESERVE THE RATINGS OF THE SEPARATIONS.

E. ALL CUTTING, DRILLING, PATCHING, REPAIRING, AND REFINISHING SHALL BE DONE BY PERSONS SKILLED IN APPROPRIATE TRADES.

F. THE CONTRACTOR SHALL CLEAN AWAY ALL RUBBISH AND LITTER GENERATED DURING ELECTRICAL INSTALLATION.

1.14 DEMOLITION

A. WHERE ELECTRICAL WORK TO REMAIN IS DAMAGED OR DISTURBED IN THE COURSE OF THE WORK, REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL CAPACITY, QUALITY, AND FUNCTIONALITY.

B. ACCESSIBLE WORK INDICATED TO BE DEMOLISHED: REMOVE EXPOSED ELECTRICAL INSTALLATION IN ITS ENTIRETY.

C. ABANDONED WORK: CUT AND REMOVE BURIED RACEWAY AND WIRING INDICATED TO BE ABANDONED IN PLACE, 2 INCHES BELOW THE SURFACE OF ADJACENT CONSTRUCTION. CAP AND PATCH SURFACE TO MATCH EXISTING FINISH.

D. REMOVAL: REMOVE DEMOLISHED MATERIAL FROM THE PROJECT SITE.

E. TEMPORARY DISCONNECTION. REMOVE, STORE, CLEAN, REINSTALL, RECONNECT AND MAKE OPERATIONAL COMPONENTS INDICATED FOR RELOCATION.

1.15 GENERAL RACEWAY REQUIREMENTS

A. ELECTRICAL CONDUCTORS INSTALLED UNDER THESE SPECIFICATIONS SHALL BE IN ELECTRICAL RACEWAY. ALL RACEWAYS SHALL BE INSTALLED IN ACCORDANCE WITH THESE GENERAL REQUIREMENTS.

B. RACEWAY SHALL BE COMPLETE WITH NECESSARY COUPLINGS, CONNECTORS, BOXES, SUPPORTS, FITTINGS, AND ALL OTHER COMPONENTS NEEDED FOR A COMPLETE AND INTEGRAL RACEWAY SYSTEM. SYSTEM COMPONENTS SHALL BE DESIGNED FOR INTERCONNECTION AND SHALL BE INSTALLED TO PROVIDE A NEAT APPEARING, MECHANICALLY FIRM ASSEMBLY ADHERING TO CODES AND PRINCIPLES OF GOOD ELECTRICAL PRACTICE, AND CONFORMING WITH RECOMMENDATIONS OF THE RACEWAY AND CONDUCTOR MANUFACTURERS.

C. RACEWAY RUNS SHALL ORIGINATE AND TERMINATE AT LOCATIONS APPROXIMATELY AS SHOWN ON THE DRAWINGS. RUNS SHALL BE STRAIGHT AND TRUE WITH ELBOWS, OFFSETS AND BENDS, UNIFORM AND SYMMETRICAL. IN GENERAL, EXPOSED RUNS OF RACEWAY SHALL BE PARALLEL OR PERPENDICULAR TO SURROUNDING BUILDING LINES AND SURFACES. RUNS SHALL BE INSTALLED SO THAT THEY DO NOT INTERFERE WITH AISLES, PASSAGEWAYS, DOORWAYS, HATCHWAYS, WORKING AREAS, AND FLOORS.

D. SUFFICIENT PULL AND JUNCTION BOXES OF ADEQUATE SIZE SHALL BE LOCATED AS NECESSARY TO ENSURE EASY INSTALLATION AND SPLICING OF CONDUCTORS. BOXES SHALL BE SIZED TO PROVIDE ADEQUATE FREE SPACE FOR ALL ENCLOSED CONDUCTORS. BOX SIZES SHALL NOT BE DETERMINED BY SCALING THE DRAWINGS.

1.16 METAL CONDUIT RACEWAY

A. RIGID METAL CONDUIT SHALL BE INSTALLED WHERE EXPOSED TO WEATHER, OR WHERE IMBEDDED OR PASSING THROUGH CONCRETE. NONMETALLIC CONDUIT MAY BE USED BELOW GRADE, INCLUDING BENEATH SLABS. FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINAL CONNECTION TO ELECTRICAL EQUIPMENT SUBJECT TO MOVEMENT. EMT SHALL BE USED ELSEWHERE UNLESS OTHERWISE NOTED.

B. ALL COMPONENTS OF CONDUIT RACEWAY SYSTEMS SUCH AS CONDUIT, SEAL TIGHT CONDUIT, BOXES, SUPPORTS AND FITTINGS SHALL MEET THE LATEST APPLICABLE STANDARD OF UNDERWRITERS LABORATORIES, INC. ALL STEEL COMPONENTS OF CONDUIT RACEWAY SYSTEMS SHALL BE HOT-DIPPED GALVANIZED, METALLIZED, SHERADIZED, OR ZINC-COATED BY SOME OTHER APPROVED MEANS. SEAL TIGHT CONDUIT AND PVC CONDUIT SHALL HAVE SEPARATE GROUND CONDUCTOR.

1.17 PULLBOXES

A. PULLBOXES SHALL BE INSTALLED AS REQUIRED IN LONG RUNS OR WHEN MORE THAN FOUR QUARTER BENDS OCCUR IN ANY CONDUIT RUN. ALL PULLBOXES SHALL BE SIZED TO CONFORM TO THE REQUIREMENTS OF ARTICLE 370 OF THE NATIONAL ELECTRIC CODE. PULLBOXES SHALL BE RECESSED IN ALL FINISHED PORTIONS OF THE BUILDING.

1.18 OPERATING INSTRUCTIONS & TESTING

A. THE CONTRACTOR SHALL FURNISH INSTRUCTION IN THE CARE, ADJUSTMENT, OPERATION, AND MAINTENANCE OF ALL PARTS OF THE ELECTRICAL EQUIPMENT. INSTRUCTION SHALL BE GIVEN TO EMPLOYEES DESIGNATED BY THE OWNER, AT NO ADDITIONAL COST TO THE OWNER, AND AT A TIME ACCEPTABLE TO THE OWNER, JUST PRIOR TO ACCEPTANCE OF THE EQUIPMENT BY THE OWNER.

B. THE CONTRACTOR SHALL TEST THE EQUIPMENT INSTALLED UNDER THIS SPECIFICATION AND SHALL DEMONSTRATE ITS PROPER OPERATION TO THE ENGINEER. NO EQUIPMENT SHALL BE TESTED OR OPERATED FOR ANY PURPOSE UNTIL IT HAS BEEN FULLY PREPARED, CONNECTED, AND READIED FOR NORMAL OPERATION. ANY EQUIPMENT DAMAGED BY IMPROPER OR ILL-TIMED OPERATION OR TESTING SHALL BE REPAIRED OR REPLACED, AT THE CONTRACTOR'S EXPENSE, BEFORE FINAL INSPECTION AND ACCEPTANCE.

1.19 OTHER

A. ALL CIRCUITS SPECIFIED ARE DESIGNED ON THE BASIS OF LOAD REQUIREMENTS AND CONTROL PROCEDURES AS INDICATED. THE CONTRACTOR SHALL MAKE THE NECESSARY CHANGES TO THE CIRCUITS AND CONTROL EQUIPMENT WHERE MOTORS, APPLIANCES, AND DEVICES FURNISHED BY THE CONTRACTOR HAVE OTHER RATINGS THAN THOSE INDICATED.

PART 2 - PRODUCTS

2.01 DISCONNECT SWITCHES

A. THE CONTRACTOR SHALL FURNISH AND INSTALL DISCONNECT SWITCHES HAVING THE NUMBER OF POLES AND AMPERE RATINGS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN THE EQUIPMENT SCHEDULE.

B. DISCONNECT SWITCHES SHALL BE HEAVY DUTY, AC, SINGLE THROW SAFETY SWITCHES, BUILT IN ACCORDANCE WITH NEMA REQUIREMENTS WITH A VOIDABLE FULL COVER INTERLOCK AND QUICK-MAKE, QUICK-BREAK MECHANISM. EACH SWITCH SHALL BE FUSIBLE UNLESS NONFUSIBLE (NF) IS SPECIFICALLY INDICATED. SWITCHES SHALL BE IN NEMA 1 ENCLOSURES IN DRY LOCATIONS AND NEMA 3 WHERE EXPOSED TO THE WEATHER. DISCONNECT SWITCHES SHALL BE "HEAVY-DUTY" AS MANUFACTURED BY SQUARE-D, GENERAL ELECTRIC OR SIEMEN'S.

C. DISCONNECT SWITCHES RATED AT 20A SHALL BE GENERAL USE, 20A, AC, SNAP SWITCH WIRING DEVICES.

2.02 FUSES

A. THE CONTRACTOR SHALL FURNISH AND INSTALL FUSES OF THE TYPES AND RATINGS DESIGNATED IN THE DRAWINGS AND SPECIFICATIONS IN EACH FUSIBLE DEVICE INSTALLED BY THE CONTRACTOR. IN ADDITION, THE CONTRACTOR SHALL FURNISH AND STORE, AT A LOCATION DIRECTED BY THE OWNER, THREE (3) SPARE FUSES OF EACH SIZE AND TYPE INSTALLED DURING THIS PROJECT. THE CONTRACTOR SHALL PROVIDE TWO (2) COPIES OF THE A SPARE FUSE LIST TO THE OWNER FOR OWNER'S RECORDS. THE SPARE FUSE LIST SHALL BE TYPED ON THE CONTRACTOR'S LETTERHEAD.

B. FUSES SHALL BE ONE-TIME CARTRIDGE FUSES MANUFACTURED BY BUSSMAN, GOULD SHAWMUT, OR LITTLE FUSE.

2.03 WIRE AND CABLE

A. ELECTRICAL CONDUCTORS SHALL BE BUILDING WIRE, EXCEPT WHERE SOME OTHER TYPE OF WIRE OR CABLE IS SPECIFICALLY INDICATED.

B. BUILDING WIRE CONDUCTORS SHALL BE SOFT-DRAWN ANNEALED COPPER, HAVING A CONDUCTIVITY OF NOT LESS THAN 98% PURE COPPER. CONDUCTOR SIZES ARE AMERICAN WIRE GAUGE (AWG) OR CIRCULAR MILS (MCM). MINIMUM CONDUCTOR SIZE SHALL BE #12 UNLESS OTHERWISE SPECIFIED. CONDUCTORS LARGER THAN #10 SHALL BE STRANDED. CONDUCTORS #10 AND SMALLER SHALL BE SOLID WIRE.

C. BUILDING WIRE INSULATION SHALL BE 600-VOLT. CONDUCTORS SHALL HAVE TW, THW, THWN, OR THHN INSULATION UNLESS SPECIFICALLY NOTED OTHERWISE OR REQUIRED BY CODE OR APPLICATION TO BE OTHERWISE.

2.04 WIRING DEVICES

A. WIRING DEVICES SHALL BE INSTALLED IN METAL CONDUIT DEVICE BOXES.

B. SWITCHES AND RECEPTACLES SHALL BE HUBBELL, BRYANT LEVITON, PASS & SEYMOUR, OR APPROVED EQUAL SUBJECT TO APPROVAL BY THE ARCHITECT, COLOR SHALL BE WHITE.

C. SWITCHES SHALL BE SPECIFICATION GRADE, AC QUIET TYPE, 20-AMP, 20/277-VOLT, WITH SILVER ALLOY CONTACTS, EQUAL TO HUBBELL #1221.

D. GENERAL PURPOSE DUPLEX RECEPTACLES SHALL BE SPECIFICATION GRADE NEMA 5-20R, 20-AMP, 125-VOLT, 3-WIRE GROUNDING TYPE DEVICES, EQUAL TO HUBBELL #5362, WITH THE THIRD POLE GROUNDED TO THE OUTLET BOX. EACH RECEPTACLE SHALL BE RIGIDLY POSITIONED WITHIN THE BOX SO THAT THE EXPOSED FACE OF THE RECEPTACLE PROTRUDES BEYOND THE FACE OF THE COVER PLATE.

E. GROUND FAULT CIRCUIT INTERRUPTER (GFI) DUPLEX RECEPTACLES SHALL BE SPECIFICATION GRADE, 20-AMP DEVICES, EQUAL TO HUBBELL #GF5362, WIRED SO THAT EACH UNIT IS SELF CONTAINED. GFI RECEPTACLES SHALL NOT BE CONNECTED TO FEED THROUGH UNLESS SPECIFICALLY SO NOTED ON THE DRAWINGS.

F. WEATHERPROOF DUPLEX RECEPTACLES SHALL BE GFCI PROTECTED WITH "WHILE-IN-USE" WEATHERPROOF COVERPLATES.

2.05 WALL AND COVER PLATES

A. THE CONTRACTOR SHALL FURNISH AND INSTALL WALL PLATES FOR ALL FLUSH MOUNTED WIRING DEVICES AND ALL FLUSH MOUNTED SPECIAL SYSTEM OUTLETS. SECTIONAL WALL PLATES SHALL NOT BE USED. BLANK PLATES SHALL BE INSTALLED OVER ALL OUTLETS PROVIDED FOR FUTURE USE. WALL PLATES SHALL BE IVORY AS MANUFACTURED BY EAGLE, BRYANT, GENERAL ELECTRIC, HUBBELL OR LEVITON. WALL PLATES SHALL BE SECURED WITH MATCHING SCREWS. ENGRAVED WALL PLATES SHALL HAVE BACK FILL.

B. COVER PLATES FOR TELEPHONE, SHALL BE AS SPECIFIED ABOVE.

2.06 MANUAL MOTOR STARTERS

A. MANUAL STARTERS SHALL BE TOGGLE SWITCH TYPE STARTERS. WHERE A RED PILOT LIGHT IS INDICATED, THE LIGHT SHALL BE A NEON BULB INTEGRAL WITH THE STARTER. FLUSH MOUNTING UNITS SHALL HAVE ENGRAVED WALL PLATES. SURFACE MOUNTING UNITS SHALL BE IN NEMA 1 ENCLOSURES, UNLESS SOME OTHER TYPE OF ENCLOSURE IS INDICATED. MANUAL STARTERS SHALL BE CUTLER HAMMER BULLETIN 9101 OR SQUARE-D CLASS 2510.

2.08 PANELBOARDS

A. PANELBOARDS SHALL BE SQUARE D #NQOD, GENERAL ELECTRIC AQ OR SIEMENS P1. REFER TO STANDARDS, THIS SHEET.

B. PANELBOARDS SHALL BE DEAD FRONT SAFETY TYPE WITH ENCLOSURES OF CODE GRADE STEEL. OVERSIZE GUTTERS SHALL BE PROVIDED FOR FEED THROUGH WHERE INDICATED OR REQUIRED. WHERE DOUBLE LUGS ARE NOT PERMITTED BY LOCAL CODE, A SUITABLE PULL BOX OR GUTTER ADJACENT TO PANELS SHALL BE PROVIDED FOR CONNECTIONS. TOP OF PANELBOARD TUBS SHALL BE 6'-6" ABOVE FINISHED FLOOR.

C. PANELBOARDS SHALL HAVE TRIM AND FLAT LOCKING DOORS WITH BOTH HINGES AND TRIM CLAMPS COMPLETELY CONCEALED. DOOR LOCKS SHALL BE FLUSH WITH THE COVER. ALL DOOR LOCKS SHALL BE COMMON KEYED. TWO (2) KEYS SHALL BE PROVIDED FOR EACH PANELBOARD. A CLEAR PLASTIC-COVERED TYPEWRITTEN CIRCUIT DIRECTORY SHALL BE MOUNTED IN A CARD HOLDER ATTACHED TO THE INNER SIDE OF THE DOOR. PANELBOARDS SHALL HAVE BLACK MICARTA PLATES WITH 1/2-INCH HIGH WHITE CUT LETTERS STATING PANELBOARD NUMBER AND VOLTAGE. WHERE PANELBOARDS ARE IN PUBLIC AREAS, IDENTIFICATION PLATES SHALL BE INSIDE DOOR.

D. BUSES SHALL BE MADE FROM 98 PERCENT ELECTROLYTIC COPPER. THE USE OF ALUMINUM SHALL NOT BE ALLOWED, AND SHALL BE INDEPENDENTLY SUPPORTED (WITHOUT DEPENDENCE UPON THE CIRCUIT BREAKERS). SOLDERLESS LUGS ONLY SHALL BE PROVIDED IN ALL MAINS UNLESS NOTED OTHERWISE IN THE PANELBOARD SCHEDULE. ALL MAIN LUGS SHALL BE CRIMP COMPRESSION TYPE. WHERE BREAKERS AND/OR SWITCHES ARE LISTED IN THE SCHEDULES AS "SPACE ONLY", THIS SHALL INCLUDE EXTENDED BUS AND MOUNTING PROVISIONS.

E. CIRCUIT BREAKERS SHALL BE BOLT-ON AND SHALL HAVE BOLTED LINE AND LOAD TERMINALS. ALL BRANCH CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, THERMAL MAGNETIC, COMMON TRIP ON ALL MULTIPOLE BREAKERS AND HAVE A MINIMUM UL SHORT CIRCUIT RATING OF 10,000 SYMMETRICAL R.M.S. AMPS. EACH BREAKER SHALL HAVE IT'S CURRENT RATING ENGRAVED, IN EASY TO READ NUMBERS, ON THE TOGGLE HANDLE. ALL BREAKERS USED FOR FLUORESCENT LIGHTING SWITCHING CONTROL SHALL BE UL LISTED "SWD" SWITCHING DUTY.

F. CIRCUIT NUMBERS APPEARING ON DRAWINGS SHALL BE USED FOR REFERENCE ONLY. ACTUAL CONNECTIONS SHALL BE IN ACCORDANCE WITH PHASING OF THE CABINET, LOAD BALANCE, AND COMMON NEUTRAL REQUIREMENTS. ROOM NUMBERS OR NAMES USED FOR CIRCUIT IDENTIFICATION SHALL CORRESPOND TO NAME PLATES INSTALLED ON ROOM DOORS BY THE GENERAL CONTRACTOR OR AS SELECTED BY THE OWNER AND SHALL BE VERIFIED AS THESE MAY NOT BE THE SAME AS ROOM TITLES ON THE DRAWINGS.

2.10 LIGHTING FIXTURES

A. ALL LIGHTING FIXTURES AND LAMPS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REFER TO LIGHT FIXTURE SCHEDULE ON DRAWINGS FOR FOR LIGHT FIXTURE MANUFACTURES AND FEATURES. LAMPS SHALL BE BY OSRAM-SYLVANIA, GENERAL ELECTRIC, OR PHILLIPS.

2.11 GROUNDING SYSTEMS

A. CIRCUITS, METAL RACEWAY SYSTEMS, AND ALL OTHER PERMANENTLY INSTALLED ELECTRICAL EQUIPMENT SHALL BE SOLIDLY GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE TO FORM A CONTINUOUS, PERMANENT AND EFFECTIVE GROUNDING SYSTEM.

B. GROUNDING CONDUCTOR CONNECTIONS SHALL BE MADE WITH SOLDERLESS PRESSURE TYPE FITTINGS. WHERE WELDED CONNECTIONS ARE PRACTICAL, CONNECTIONS MAY BE MADE BY THE USE OF A SUITABLE WELDING PROCESS. ALL CONNECTIONS SHALL BE MADE IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

C. TO MAINTAIN UNINTERRUPTED ELECTRICAL CONTINUITY, FLEXIBLE RACEWAY SECTIONS MUST HAVE CONDUCTANCE EQUAL TO THAT OF THE SYSTEM'S INFLEXIBLE RACEWAY. RACEWAY FITTINGS USED MUST BE SUCH AS TO ENSURE EXISTENCE OF A PERMANENT BOND. GROUNDING BUSHINGS SHALL BE PROVIDED TO GROUND CONDUITS TO CONTROL CENTER GROUND. ALL NEW EQUIPMENT SHALL BE GROUNDED TO THE EXISTING GROUNDING SYSTEM.

D. PROVIDE SERVICE GROUNDING AS INDICATED ON ONE-LINE DIAGRAM.

E. INCLUDE A SEPARATE BARE GROUND CONDUCTOR IN ALL TYPE NM CABLE OF THE SAME SIZE AS PHASE CONDUCTOR.

F. INCLUDE A SEPARATE GROUND CONDUCTOR IN ALL PVC RACEWAY.

2.12 IDENTIFICATION AND LABELING OF ELECTRICAL EQUIPMENT

A. ALL CONTROL DEVICES AND DEVICE ENCLOSURES SHALL BE LABELED WITH INDIVIDUAL NAME PLATES OR LEGEND PLATES.

B. INDIVIDUAL NAME OR LEGEND PLATES SHALL BE BLACK LAMINATED PLASTIC OR MICARTA PLATES WITH WHITE CUT LETTERS. PAPER, FOIL OR TAPE MARKERS ATTACHED WITH ADHESIVES SHALL NOT BE USED.

2.13 SERVICE TO ELECTRICALLY-POWERED EQUIPMENT

A. THE CONTRACTOR SHALL FURNISH AND INSTALL OUTLETS FOR AND MAKE FINAL ELECTRICAL CONNECTIONS TO ALL MOTORS AND ELECTRICALLY POWERED EQUIPMENT INDICATED ON THE EQUIPMENT SCHEDULE.

B. THE CONTRACTOR SHALL OBTAIN EXACT INFORMATION PERTAINING TO LOCATION, ELECTRICAL CHARACTERISTICS, AND WIRING FOR EQUIPMENT FURNISHED BY OTHERS FROM THE CONTRACTOR FURNISHING THE EQUIPMENT. THIS INFORMATION SHALL BE VERIFIED BY EXAMINING NAMEPLATES AND MANUFACTURER'S WIRING DIAGRAMS. ANY DISCREPANCY BETWEEN THE EQUIPMENT REQUIREMENTS AND THE PROVISIONS MADE BY THESE SPECIFICATIONS SHALL BE REPORTED. EQUIPMENT DAMAGED AS A RESULT OF THE CONTRACTOR'S FAILURE TO OBSERVE MANUFACTURER'S REQUIREMENTS SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR. THE THERMAL PROTECTION ELEMENTS IN MANUAL STARTERS SHALL BE RECHECKED WITH NAME PLATE DATA AT THE SITE BEFORE OPERATION OF THE EQUIPMENT.

STANDARDS INFORMATION

1. ELECTRICAL CONTRACTOR INSTALLATION SHALL BE BASED ON THE INSTALLATION OF 75C COPPER CONDUCTORS CONNECTED TO TERMINAL LUGS AND EQUIPMENT. UL LISTED FOR FOR MINIMUM 75C. CONDUCTORS TERMINATED ON EQUIPMENT WITH LOWER RATING (60C) OR NO RATING SHOWN TO HAVE CONDUCTORS SIZE INCREASED TO CONFORM TO NEC TABLE 310-16 AND UL NO. 489 REQUIREMENTS.

2. SWITCHBOARDS, PANEL BOARDS, DISCONNECT SWITCHES, AND CONDUCTORS ARE TO BE LISTED AND IDENTIFIED AS RATED FOR MINIMUM OF 75C CONDUCTOR TERMINATION.

3. DISCONNECT SWITCHES SHALL BE HEAVY-DUTY, QUICK-MAKE, QUICK-BREAK TYPE, NEMA 1 ENCLOSURE FOR INDOOR LOCATION AND NEMA 3 FOR OUTDOOR LOCATION. SWITCHES SHALL BE MANUFACTURES BY SQUARE "D", GENERAL ELECTRIC OR SIEMEN'S (ITE). PROVIDE FUSES AS MANUFACTURES BY BUSSMAN, GOULD-SHAWMUT OR LITTLE-FUSE. ALL CONDUCTORS USED AS SERVICE ENTRANCE EQUIPMENT TO BE UL LISTED AS "SEER" RATED EQUIPMENT.

4. PANELBOARDS SHALL BE AS MANUFACTURED BY SQUARE "D" NQOD SERIES, GENERAL ELECTRIC AQ SERIES, SEIMENS P1 SERIES OR EATON PRL1A SERIES, MEETING UL STANDARDS 50 AND 67 WITH UL LABEL. PANELS USED AS SERVICE ENTRANCE EQUIPMENT TO BE UL LISTED AS "SER" RATED EQUIPMENT.

5. ALL PANELBOARDS, SWITCHBOARDS AND LINE VOLTAGE CONTROL EQUIPMENT SHALL BE FIELD MARK TO WARN QUALIFIED PERSONS OF THE POTENTIAL ELECTRICAL ARC FLASH HAZARDS. MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTING, SERVICING OR MAINTAINING OF EQUIPMENT. MARKING SHALL BE SELF ADHESIVE, COMMERCIAL LABEL CONFORMING TO NEC 100.16 AND ANSI Z535.4 AS MANUFACTURED BY IDEAL OR APPROVED EQUAL.

6. CONDUCTORS ARE TO BE LISTED AND IDENTIFIED AS RATED FOR A MINIMUM OF 75C CONDUCTOR TERMINATION.

REVISIONS

THIS DRAWING

	FOR REVIEW	
NOT	FOR BIDDING	5/18/2023
NOT	FOR PERMIT	5/18/2023
NOT	FOR CONTRACTING	
NOT	FOR CONSTRUCTION	

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SAUNA GUARD FOR UNLIMITED MASONRY
LARAWAWAY AVENUE WEST OF WOLF ROAD
FRANKFORT, IL

SHEET TITLE
ELECTRICAL SPECIFICATIONS

2238

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