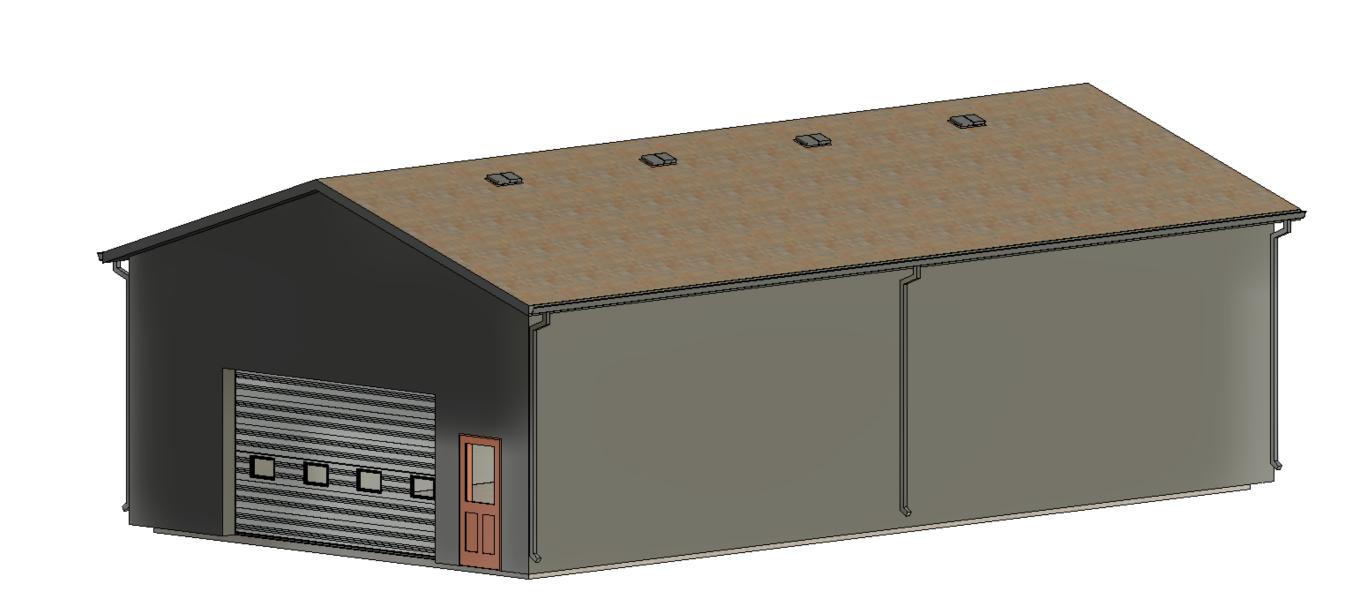
BRIARWOOD APARTMENTS 56X30 COMMERCIAL BUILDING



OWNER: HOUSING AUTHORITY OF DEKALB COUNTY 310 N. 6TH STREET Dekalb, ILLINOIS 60115 p: (815) 758 - 2692	
ARCHITECT: 1919 ARCHITECTS 4000 MORSAY DRIVE ROCKFORD, ILLINOIS 61107 (815) 229-8222 RONALD G. BILLY JR., LEED AP	
STRUCTURAL: SELECT STRUCTURAL 2435 KIMBERLY ROAD #240S BETTENDORF, IOWA 52722 (563) 359-3117	
MECHANICAL: MEP GREEN DESIGN 915 GEMINI ST. HOUSTON, TX 77058 (281) 786-1195	
PLUMBING/FIRE PROTECTION: MEP GREEN DESIGN 915 GEMINI ST. HOUSTON, TX 77058 (281) 786-1195	
ELECTRICAL: MEP GREEN DESIGN 915 GEMINI ST. HOUSTON, TX 77058 (281) 786-1195	



SHEET NO.	SHEET NAME
SENERAL	COVER SHEET
G000	
G001 G002	GENERAL NOTES AND PROJECT STANDARDS CODE REVIEW AND LIFE SAFETY PLAN
G002	CODE REVIEW AND LIFE SAFETT FLAN
CIVIL	
C100	SITE PLAN
C101	ENLARGED SITE PLAN
C102	SITE DETAILS
STRUCTURAL	
\$100	FOUNDATION PLAN
STRUCTURAL	1
S001	GENERAL NOTES
S300	FOUNDATION DETAILS
ARCHITECTUF A100 A200	FIRST FLOOR PLAN EXTERIOR ELEVATIONS
A300	WALL SECTIONS-WALL TYPES-INTERIOR ELEVATIONS
A400	AIR SEALING AND EXTERIOR ENVELOPE DETAILS
PLUMBING	DI LIMBINO NOTEO AND LEGEND
P1.0	PLUMBING NOTES AND LEGEND
P1.1	PLUMBING SCHEDULE AND DIAGRAM
P2.0	SANITARY SEWER FLOOR PLAN
P2.1	STORM DRAINAGE ROOF PLAN
P3.0	DOMESTIC WATER FLOOR PLAN
P4.0	PLUMBING RISER AND DETAILS
MECHANICAL	
M1.0	MECHANICAL SPECIFICATIONS AND SYMBOLS
M1.1	MECHANICAL TECHNICAL SCHEDULES
M2.0	MECHANICAL FLOOR PLAN
M3.0	MECHANICAL INSTALLATION DETAILS
M4.0	MECHANICAL COMCHECK REPORT
ELECTRICAL	
E1.0	ELECTRICAL ONE LINE DIAGRAM
E1.1	ELECTRICAL NOTES & LEGEND OF SYMBOLS
E2.0	LIGHTING FLOOR PLAN
E3.0	POWER FLOOR PLAN
	ELECTRICAL COMCHECK REPORT

STATEMENT OF COMPLIANCE

I HAVE PREPARED, OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTURAL OBLIGATION, THEY ARE IN COMPLIANCE WITH THE ENVIRONMENTAL BARRIERS ACT (410 ILCS 25) AND THE ILLINOIS ACCESSIBILITY CODE (71 111. ADM. CODE 400)

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, COMPLY WITH ALL APPLICABLE CODES.

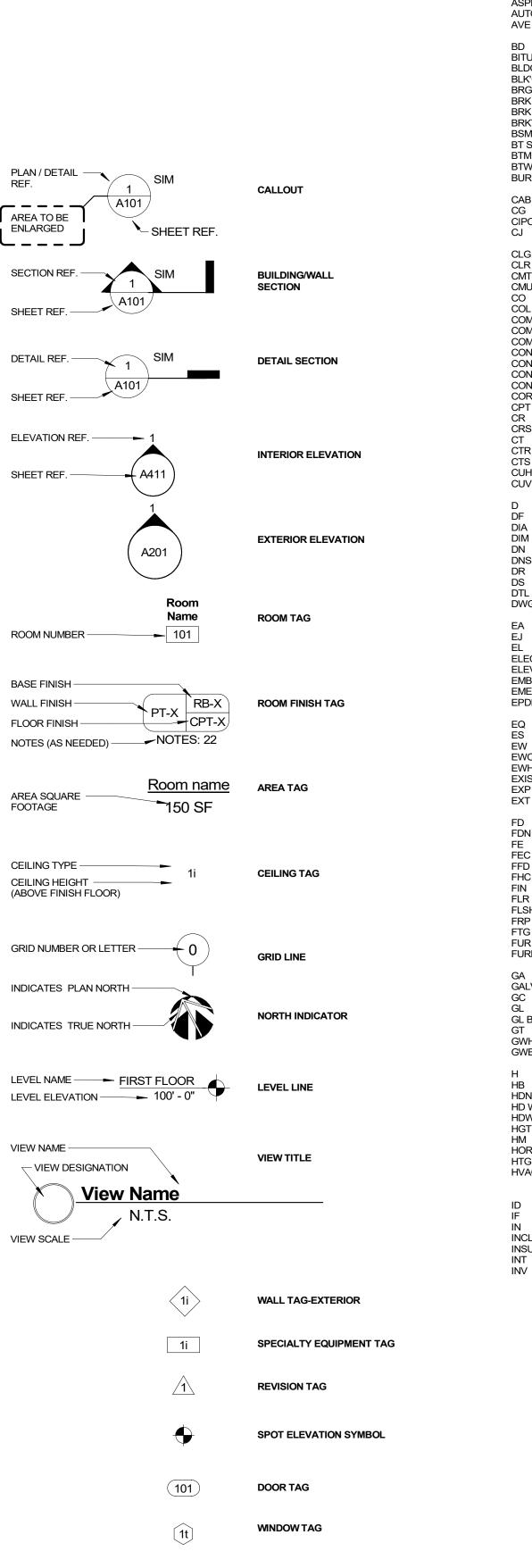
Architect/Engineer

ILLINOIS REGISTRATION NO.: 001-015480 Exp. Date: 11/30/2024 ILLINOIS PROFESSIONAL DESIGN FIRM REGISTRATION NO. 184003452

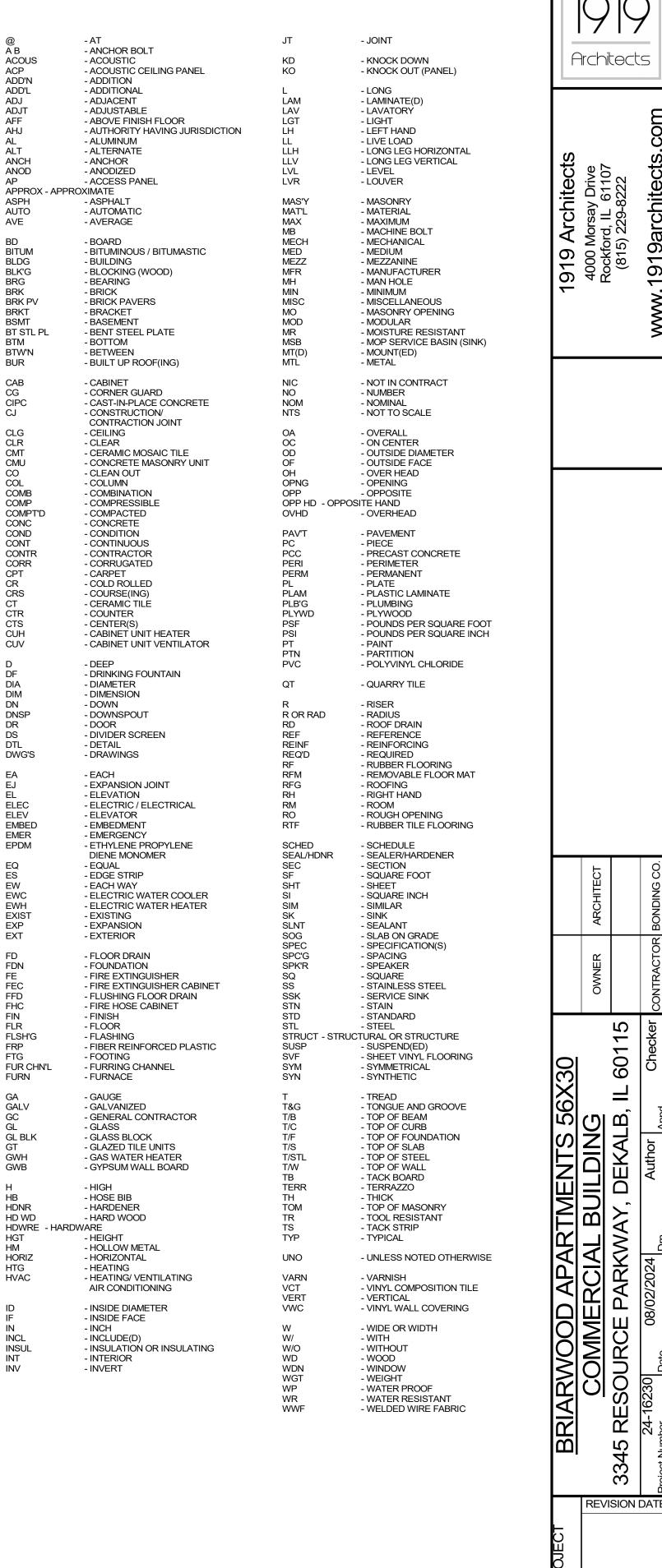
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3345 RES

REVISION DATE



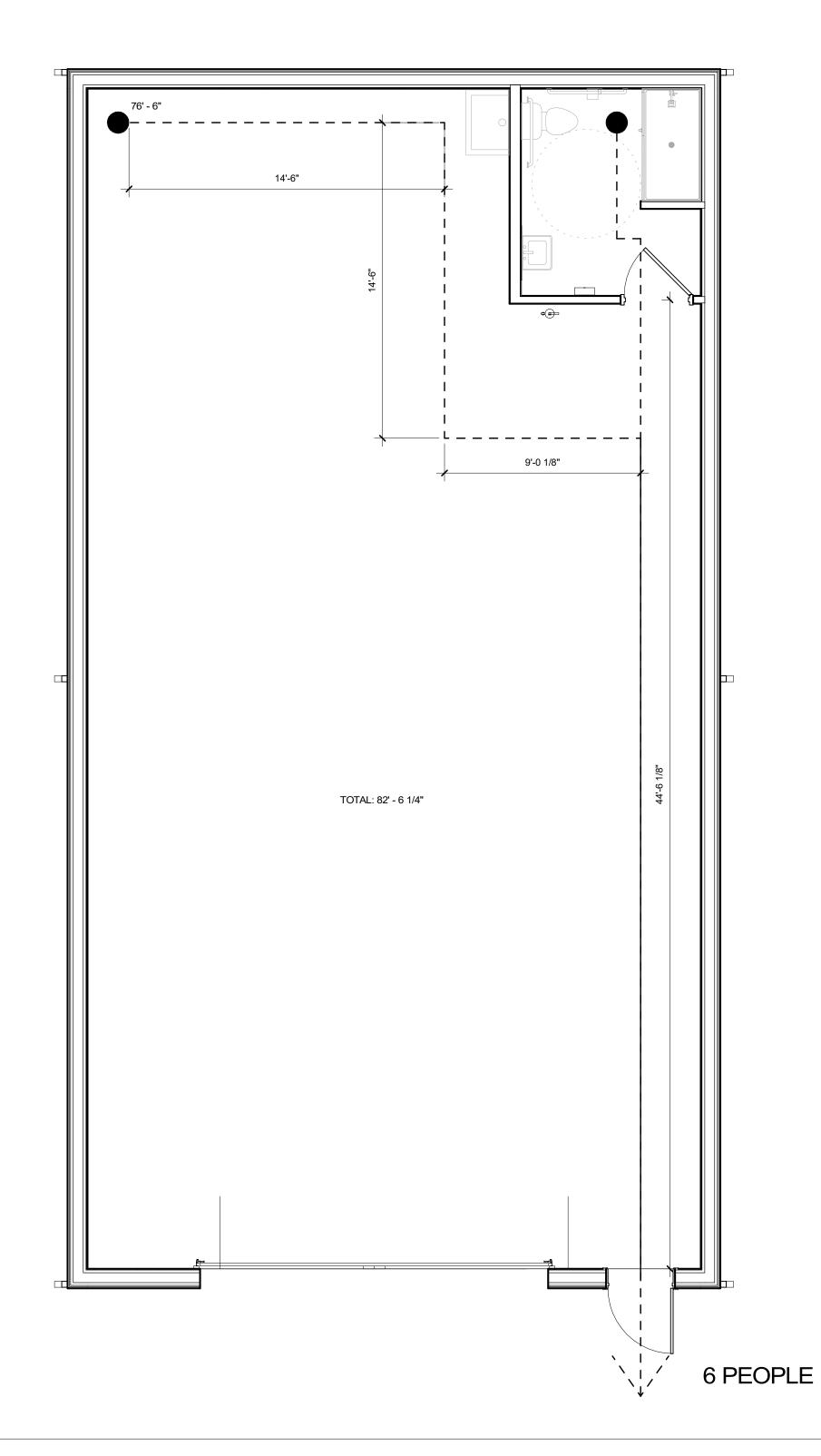
WALL TAG-INTERIOR



9

ALB,

3345



1 LIFE SAFETY PLAN
Scale: 1/4" = 1'-0"

Architects PROJECT INFORMATION

BRIARWOOD APARTMENTS 56X30 COMMERCIAL BUILDING 3345 RESOURCE PARKWAY, DEKALB, IL 60115

REFERENCE CODES 2015 INTERNATIONAL BUILDING CODE W/ LOCAL AMENDMENTS NFPA 70 - 2014 NATIONAL ELECTRIC CODE W/ LOCAL AMENDMENTS

2014 PART 890 ILLINOIS PLUMBING CODE W/ LOCAL AMENDMENTS 2015 INTERNATIONAL PLUMBING CODE (CHAPTER 11 FOR ROOF DRAWINGS ONLY)

2015 INTERNATIONAL MECHANICAL CODE W/ LOCAL AMENDMENTS 2015 INTERNATIONAL PROPERTY MAINTANENCE CODE W/ LOCAL AMENDMENTS

2015 INTERNATIONAL FIRE CODE W/ AMENDMENTS

2018 INTERNATIONAL ENERGY CONSERVATION CODE 2015 NFPA 101 LIFE SAFETY CODE W/ AMENDMENTS

ILLINOIS ACCESSIBILITY CODE 2018 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

USE GROUP AND CONSTRUCTION TYPE

VB UNPROTECTED S-2 STORAGE CONSTRUCTION TYPE: USE GROUP:

FIRE PROTECTION

FIRE PROTECTION SYSTEMS (SECTION 903.2.1.3):

AUTOMATIC SPRINKLER SYSTEM NOT REQUIRED (FIRE AREAS DO NOT EXCEED 12,000 SF)

FIRE ALARM AND DETECTION SYSTEMS (SECTION 907.2.1):
 MANUAL FIRE ALARM SYSTEM THAT ACTIVATES THE OCCUPANT NOTIFICATION SYSTEM SHALL BE INSTALLED THROUGHOUT (OCCUPANT LOAD EXCEEDS 300)

AREA AND HEIGHT

• MAXIMUM HEIGHT (TABLE 504.3): 40'

ACTUAL: 20'

40' (NON - SPRINKLERED BUILDING)

ACTUAL BUILDING AREA = 1,680SF

MEANS OF EGRESS

OCCUPANCY LOAD (TABLE 1004.1.2):

WARHOUSE/STORAGE = 1680 SF/300SF= 6 OCCUPANTS

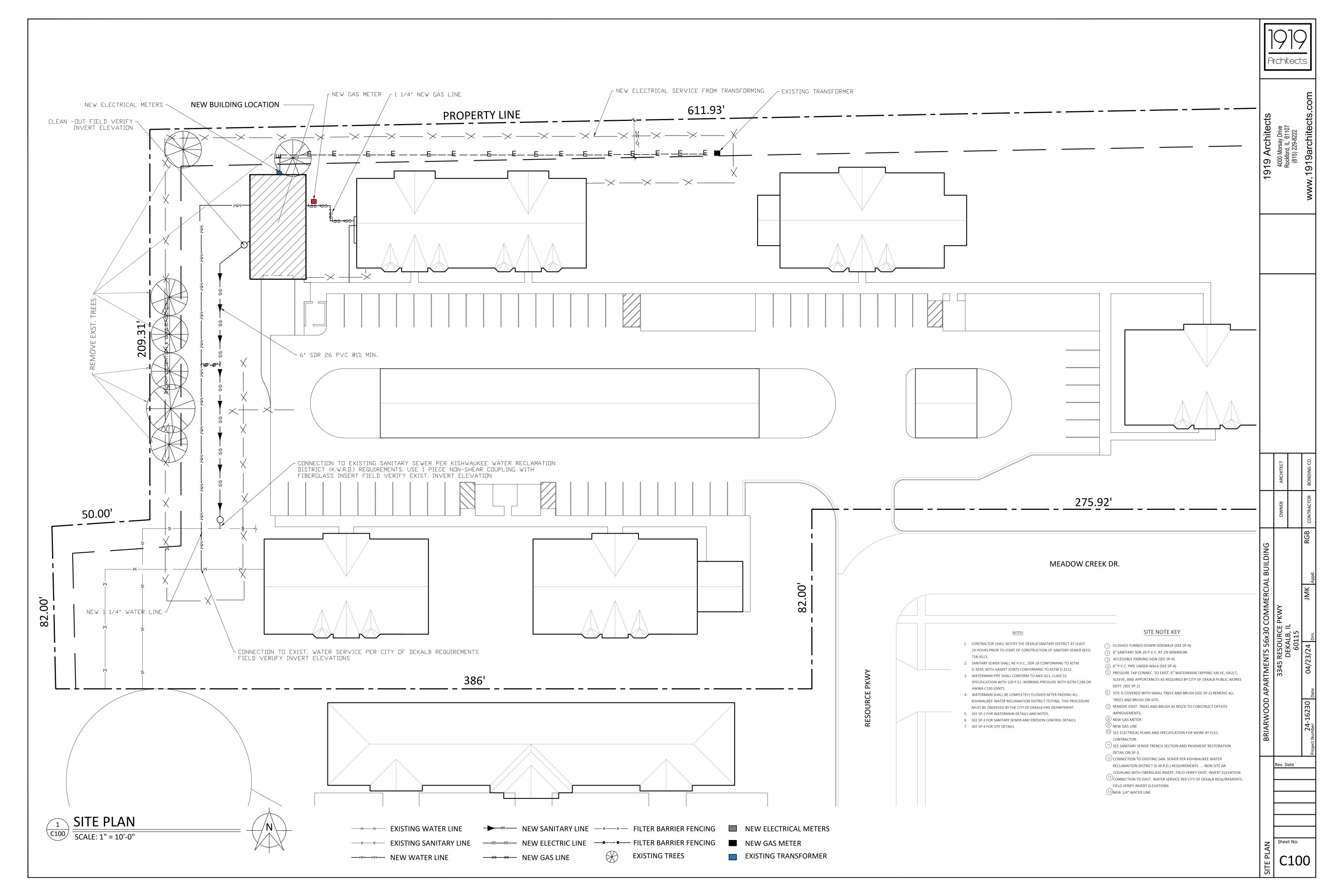
• TOTAL OCCUPANT LOAD = 6 OCCUPANTS

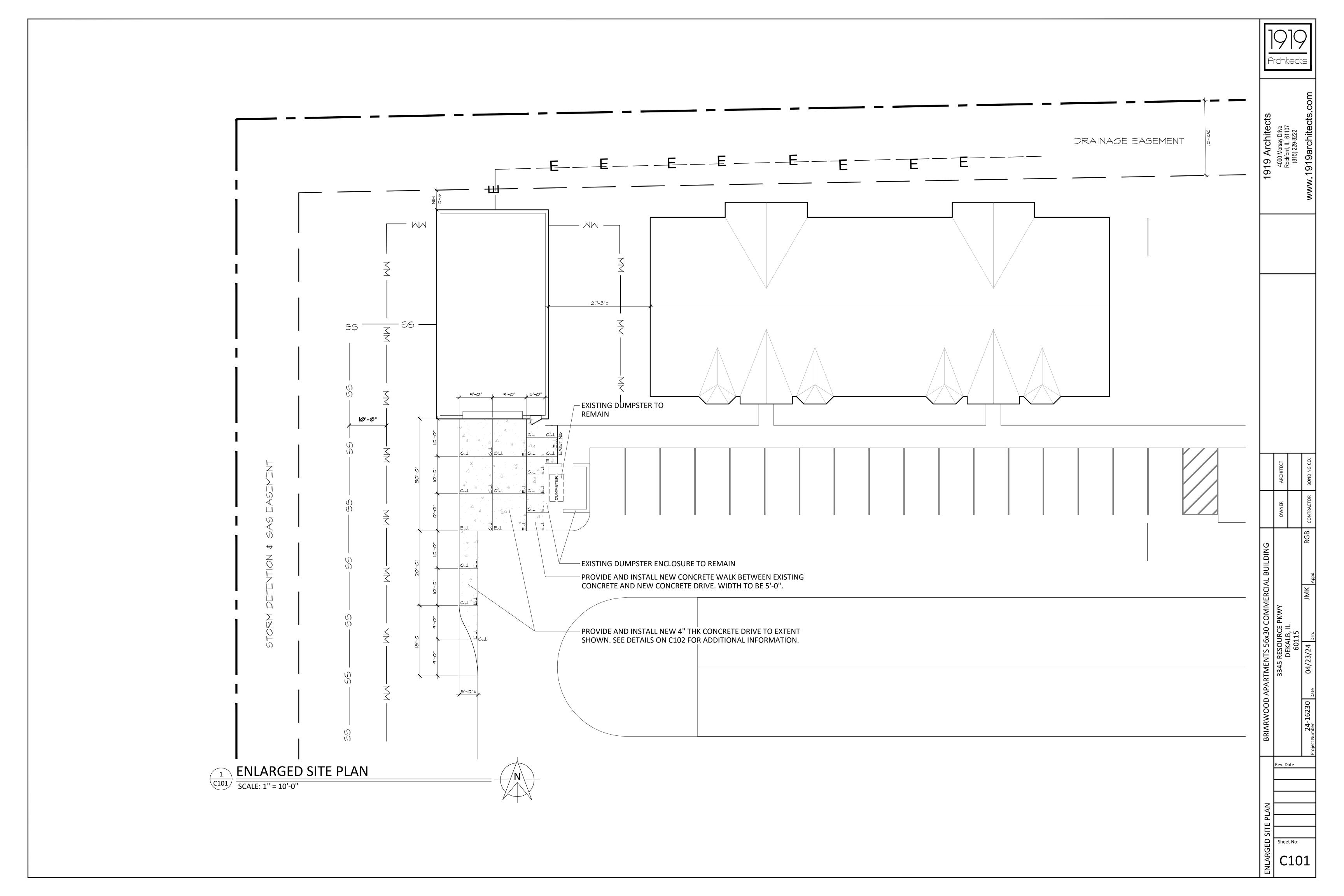
MAXIMUM TRAVEL DISTANCE (TABLE 1017.2):
 300' ("S-2" OCCUPANCY WITHOUT SPRINKLER SYSTEM)

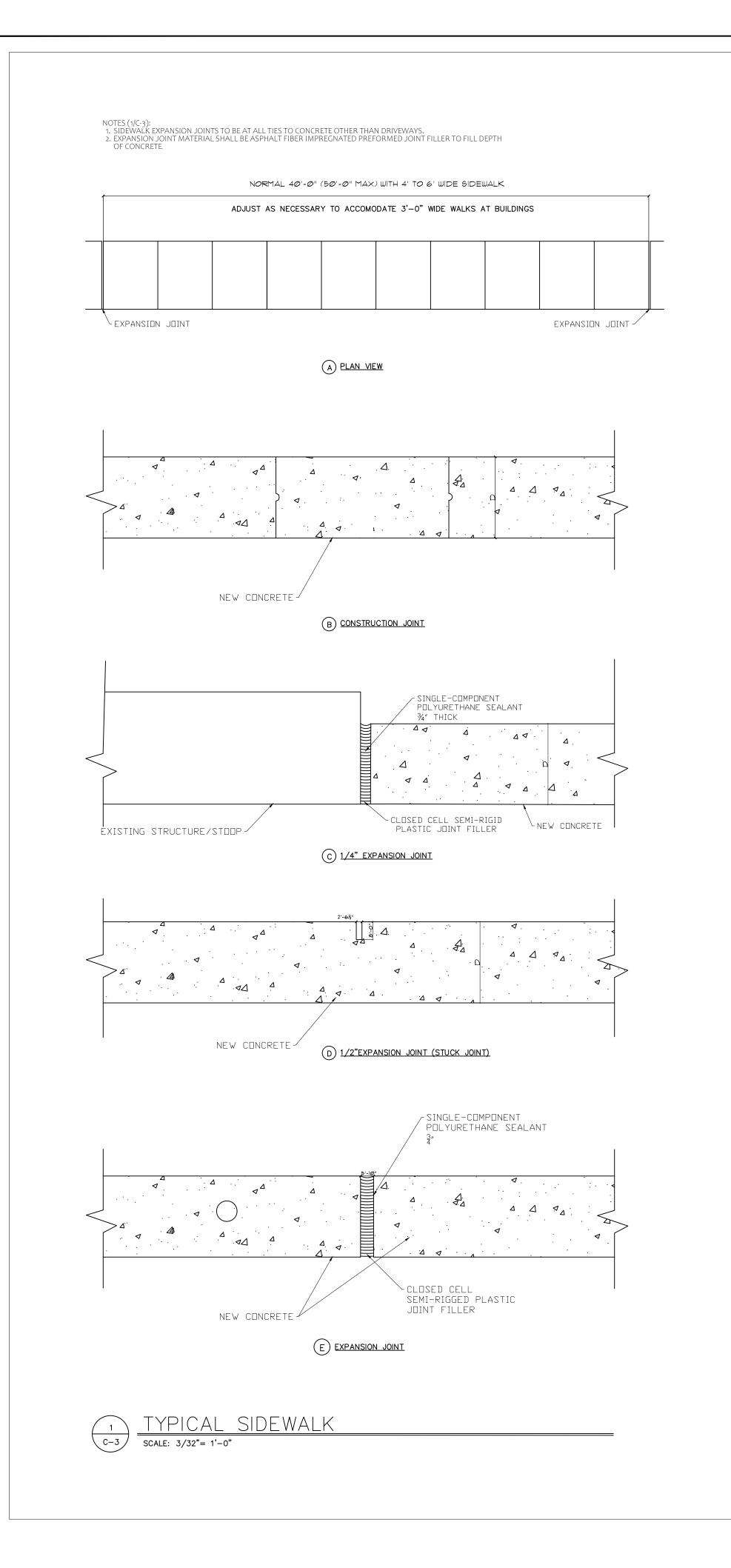
MINIMUM NUMBER OF EXITS (TABLE 1006.2.1):
1 EXITS (1-30 OCCUPANTS)

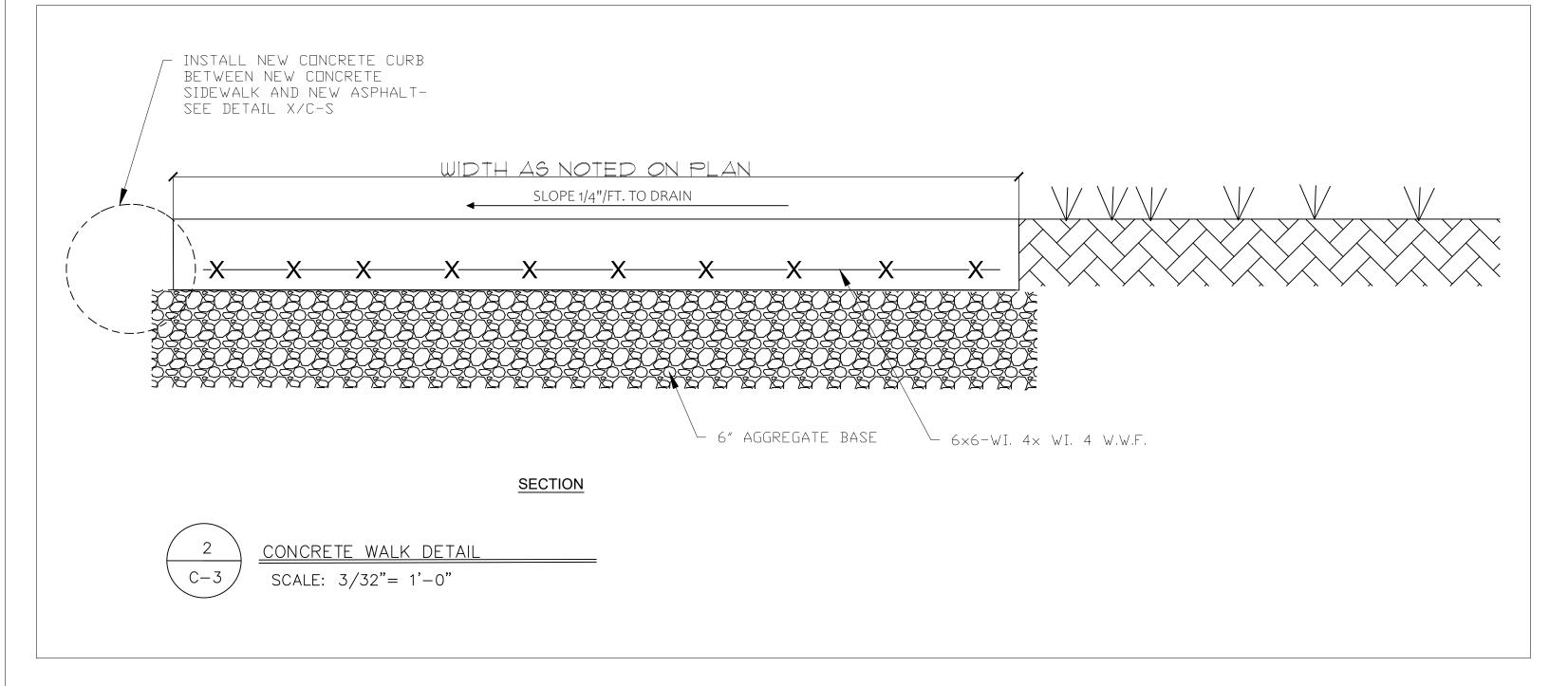
IBC/ NFPA 101 FIRE RESISTANCE RATINGS	(IBC) VB	
FIRE RESISTANCE RATING (PER TABLE 601)	0 HOUR	
PRIMARY STRUCTURAL FRAME (SEE SECTION 202)	0 HOUR	
BEARING WALLS EXTERIOR INTERIOR	0 HOUR 0 HOUR	
NONBEARING WALLS AND PARTITIONS EXTERIOR INTERIOR	0 HOUR 0 HOUR	
FLOOR CONSTRUCTION AND SECONDARY MEMBERS (SEE SECTION 202)	0 HOUR	
ROOF CONSTRUCTION AND SECONDARY MEMBERS (SEE SECTION 202)	0 HOUR	

REVISION DATE









CITY OF DEKALB

ACI 530, ACI 530.1

NDS: SDPWS

ACI 318

ACI 318, ACI 301, ACI 305R, ACI 306R

PER BUILDING SUPPLIER

115 MPH [3-SECOND GUST]

ENCLOSED/PARTIAL/OPEN

EQUIVALENT LATERAL FORCE

1500 PSF PER IBC TABLE 1806.2: **YES**/NO

50 LBS APPLIED OVER 1 SQ. FT. OF AREA

20 PSF

20 PSF

25 PSF

100 PSF

90 MPH

0.102

42 IN

200 LBS

REDUCIBLE: YES/NO

REDUCIBLE: YES/NO

REDUCIBLE: YES/NO

AISC 341, AISC 360, AISC 303

S212, S213, S214, S230

AISI S100, S110, S200, S210, S211

[WITH IBC AMENDMENTS]

ANALYSIS PROCEDURE

STRUCTURE LOCATED IN FLOOD HAZARD AREA

CONCENTRATED LIVE LOAD INTERMEDIATE RAIL LIVE LOAD 0.3 SERVICEABILITY REQUIREMENTS:

DEFLECTION LIMITS PROVIDED BELOW SHALL NOT EXCEED THOSE SPECIFIED IN THE MATERIAL SPECIFIC CODES LISTED IN SECTION 0.1.1

LL, SL, OR WL DEFLECTION SHALL NOT EXCEED L/240

TOTAL LOAD DEFLECTION SHALL NOT EXCEED L/180

FLOOR MEMBERS: LIVE LOAD DEFLECTION SHALL NOT EXCEED L/360 TOTAL LOAD DEFLECTION SHALL NOT EXCEED L/240

EXCEPTION: WOOD I-JOIST FLOOR MEMBERS SHALL NOT EXCEED L/480 FOR LIVE LOAD

WIND LOAD DEFLECTION SHALL NOT EXCEED L/240

SPECIFICATIONS FOR REQUIREMENTS.

EXCEPTION: WALLS SUPPORTING BRICK OR STONE SHALL NOT EXCEED L/480

STEEL HORIZONTAL MEMBERS SUPPORTING UNREINFORCED MASONRY SHALL NOT EXCEED L/600 OR 1/2" TOTAL VERTICAL DEFLECTION. STEEL HORIZONTAL MEMBERS SUPPORTING REINFORCED MASONRY SHALL NOT EXCEED L/600.

GENERAL NOTES:

0.4.1 REFER TO ARCHITECTURAL PLANS FOR LOCATION OF NON-BEARING PARTITION WALLS. DOOR AND WINDOW LOCATIONS, AND DIMENSIONS NOT SHOWN ON THE STRUCTURAL PLANS.

0.4.2 ELEVATIONS INDICATED ON STRUCTURAL PLANS/DETAILS ARE TO THE TOP OF BEAMS FOOTINGS, SLABS, ETC., UNO.

0.4.3 BUILDING DRAINAGE, INSULATION, FLASHING, VAPOR/MOISTURE PROTECTION. FIREPROOFING, AND OTHER NON-STRUCTURAL COMPONENTS ARE NOT SHOWN ON THE STRUCTURAL PLANS. REFER TO THE ARCHITECTURAL/MECHANICAL DRAWINGS AND

0.4.4 ALL SECTIONS, DETAILS AND NOTES SHOWN ON THE STRUCTURAL DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS, UNO.

0.4.5 THE STRUCTURAL INTEGRITY OF THE BUILDING SHOWN ON THESE PLANS IS DEPENDENT UPON COMPLETION ACCORDING TO THE CONTRACT DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FURNISH ALL TEMPORARY BRACING AND/OR SHORING SUPPORT REQUIRED AS A RESULT OF CONSTRUCTION METHODS AND SEQUENCES.

0.4.6 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ELEVATIONS. AND SITE CONDITIONS BEFORE STARTING WORK. NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY IN WRITING OF ANY

0.4.7 DO NOT SCALE DIMENSIONS FROM THE PLANS, SECTIONS, OR DETAILS.

0.4.8 ANY OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AND RESOLVED BEFORE PROCEEDING WITH ANY WORK INVOLVED.

0.4.9 THE STRUCTURAL ENGINEER OF RECORD IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE PRIMARY STRUCTURE IN ITS COMPLETED FORM. THE CONTRACTOR IS RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE TEMPORARY SHORING, BRACING AND OTHER ELEMENTS REQUIRED TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE WORK REQUIRED IN THE CONSTRUCTION DOCUMENTS AND THE REQUIREMENTS FOR EXECUTING IT PROPERLY. THE CONTRACTOR, AT HIS DISCRETION, SHALL EMPLOY HIS OWN SPECIALTY STRUCTURAL ENGINEER HAVING EXPERIENCE IN TEMPORARY BRACING AND SHORING.

0.4.10 THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND THE METHODS OF CONSTRUCTION AND FOR JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THE PROJECT. CONTRACTOR TO FOLLOW ALL JOB SITE SAFETY STANDARDS, SUCH AS OSHA

0.4.11 DO NOT CUT OR MODIFY IN ANY OTHER WAY ANY STRUCTURAL MEMBER FOR PLACEMENT OF PIPES, DUCTS, ETC.

0.4.12 ANY DIFFERENCES IN DIMENSIONS BETWEEN STRUCTURAL PLANS AND ARCHITECTURAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IMMEDIATELY.

0.4.13 ALL HOLES THROUGH EXISTING CONSTRUCTION SHALL BE CORE DRILLED OR SAW CUT AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

1 – SOIL AND GEOTECHNICAL NOTES

1.1 FOUNDATION DESIGN BEARING PRESSURES ARE BASED UPON GEOTECHNICAL REPORT (IF AVAILABLE) AS INDICATED IN SECTION 0.2.5.

1.2 SELECT STRUCTURAL ENGINEERING RECOMMENDS SOIL CONDITIONS BE VERIFIED BY QUALIFIED GEOTECHNICAL ENGINEER PRIOR TO FOOTING PLACEMENT.

1.3 FOUNDATIONS SHALL BEAR ON SUITABLE NATIVE SOILS OR COMPACTED STRUCTURAL FILL EXTENDING TO SUITABLE NATIVE SOILS AS DETERMINED BY THE GEOTECHNICAL ENGINEER.

1.4 EXISTING UNSUITABLE FILL MATERIAL ENCOUNTERED BELOW FLOOR SLABS AND FOUNDATIONS, AS DETERMINED BY THE GEOTECHNICAL ENGINEER, SHALL BE REMOVED AND REPLACED WITH PROPERLY PLACED AND COMPACTED STRUCTURAL FILL MATERIAL.

1.5 EXCAVATIONS SHALL BE FREE OF WATER, FROST, ICE, LOOSE SOIL, AND OTHER DELETERIOUS MATERIALS PRIOR TO CONCRETE PLACEMENT. ANY UNSUITABLE MATERIAL IS TO BE REMOVED AND REPLACED WITH COMPACTED STRUCTURAL FILL MATERIAL.

1.6 ANY FILL MATERIAL REQUIRED TO BRING THE SUBGRADE TO BEARING ELEVATION IS TO BE TESTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT. FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT (8) INCHES IN THICKNESS WHEN HEAVY, SELF-PROPELLED COMPACTION EQUIPMENT IS UTILIZED, SIX (6) INCHES IN THICKNESS

1.6.1 FILL MATERIAL SHALL BE COMPACTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER AND SOILS REPORT, OR:

WHEN HAND-HELD COMPACTION EQUIPMENT IS UTILIZED.

UNDER SLABS: MATERIAL SHOULD BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D-698).

UNDER FOOTINGS: MATERIAL SHOULD BE COMPACTED TO AT LEAST 98% OF ITS MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D-698).

THE HIGHER DEGREE OF FILL COMPACTION BELOW FOOTINGS SHALL EXTEND LATERALLY BEYOND THE EXTERIOR EDGES OF THE ELEMENT AT LEAST EIGHT (8) INCHES PER FOOT OF THICKNESS BELOW THE ELEMENT'S BASE ELEVATION.

1.7 THE CONTRACTOR IS RESPONSIBLE TO LOCATE, VERIFY AND MARK THE LOCATION OF UNDERGROUND UTILITIES PRIOR TO EXCAVATION FOR FOOTINGS/FOUNDATIONS.

2 – CONCRETE NOTES

2.1 EXCEPT WHERE MODIFIED BY THESE PLANS AND SPECIFICATIONS, ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE MATERIAL CODES LISTED IN SECTION 0.1.1

2.2 REINFORCING IS TO BE DETAILED IN ACCORDANCE WITH ACI 315-LATEST, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".

2.3 CONCRETE SHALL BE TYPE I/II FOR NON-WINTER CONSTRUCTION AND TYPE III FOR WINTER CONSTRUCTION, CONFORMING TO ASTM C150, AND HAVE 28 DAY COMPRESSIVE STRENGTHS AS

> 3000 PSI FOUNDATION WALLS, PIERS 3000 PSI 4000 PSI SLABS-ON-GRADE BEAMS 3000 PSI SLABS OVER STEEL DECK 3000 PSI

2.4 CONCRETE SHALL BE NORMAL WEIGHT CONCRETE UNLESS NOTED OTHERWISE. CONCRETE AGGREGATES SHALL CONFORM TO ASTM C33 FOR NORMAL WEIGHT CONCRETE MIXES.

2.5 CONCRETE REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

REINFORCING BARS ASTM A615, GRADE 60 WELDED WIRE FABRIC ASTM A1064 REBAR TO BE WELDED ASTM A706, GRADE 60

2.6 LAP-SPLICES SHALL BE CLASS A, UNO AND THE FOLLOWING LAP SCHEDULE SHALL APPLY TO BEAMS & PRECAST CONCRETE:

> #3 REBAR 18 INCHES #4 REBAR 24 INCHES #5 REBAR 30 INCHES #6 REBAR 36 INCHES #7 REBAR 56 INCHES #8 REBAR 64 INCHES WELDED WIRE FABRIC 8 INCHES

LAP-SPLICES SHALL BE CLASS A, UNO AND FOLLOW LAP SCHEDULE SHALL APPLY TO CONCRETE FOUNDATION:

> #3 REBAR 13 INCHES #4 REBAR 17 INCHES #5 REBAR 22 INCHES #6 REBAR 27 INCHES #7 REBAR 36 INCHES #8 REBAR 42 INCHES WELDED WIRE FABRIC 8 INCHES

2.7 WELDED WIRE FABRIC MAY BE REPLACED WITH FIBER REINFORCING, SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

2.8 STANDARD HOOKS SHALL BE PROVIDED AS NOTED AND CONFORM TO TYPICAL DETAILS.

2.9 MAINTAIN THE MINIMUM CONCRETE COVERAGE FOR REINFORCING AS INDICATED ON THE DRAWINGS, UNO.

CONCRETE CAST DIRECTLY AGAINST EARTH 3 INCHES

CONCRETE EXPOSED TO EARTH OR WEATHER: 2 INCHES

1-1/2 INCHES BARS #5 AND SMALLER CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:

> SLABS, WALLS, JOISTS: BARS #11 AND SMALLER 3/4 INCHES

BEAMS AND COLUMNS: PRIMARY BARS, TIES, AND STIRRUPS

PLACE REINFORCING BARS AS NEAR TO THE SURFACE AS THESE MINIMUMS PERMIT, UNO.

2.10 PROVIDE 4' - 0" LONG #5 BAR, AT 45 DEGREES TO MAIN REINFORCING AT CORNERS OF OPENINGS AND REENTRANT CORNERS OF SLABS, UNO.

2.11 SHIFT REINFORCING TO CLEAR ANCHOR BOLTS AND EMBEDDED ITEMS, CUTTING OF REINFORCING BARS IS NOT PERMITTED.

2.12 REINFORCING SHALL RUN CONTINUOUS THROUGH CONSTRUCTION JOINTS, UNO.

2.13 VERTICAL CONSTRUCTION JOINTS IN WALLS SHALL HAVE KEYWAYS 1-1/2 INCHES DEEP BY ONE THIRD THE WALL THICKNESS. 2.14 PROVIDE HORIZONTAL REINFORCING CONTINUOUS AROUND ALL CORNERS. UNO. PROVIDE CORNER BARS WITH 48 BAR DIAMETER LENGTH LAP SPLICE AT ALL INTERSECTIONS OF

FOOTINGS, AND WALLS, SAME SIZE AND SPACING AS HORIZONTAL REINFORCING, UNO. 2.15 MAXIMUM SPACING BETWEEN CONSTRUCTION/CONTROL JOINTS AT FOUNDATION WALLS SHALL NOT EXCEED 60 FEET. ALL HORIZONTAL REINFORCING SHALL RUN CONTINUOUS

2.16 CONTRACTION JOINTS SHALL BE PROVIDED BY THE CONTRACTOR IN SLABS ON GRADE AT A

MAXIMUM SPACING OF 15' - 0" OC.

2.17 HOT WEATHER CONCRETE OPERATIONS SHALL BE IN ACCORDANCE WITH ACI 305. COLD WEATHER CONCRETE OPERATIONS SHALL BE IN ACCORDANCE WITH ACI 306. 2.18 AIR ENTRAINMENT SHALL BE EMPLOYED TO REACH 5 - 7% TOTAL AIR CONTENT IN CONCRETE

USED FOR EXTERIOR CONSTRUCTION. 2.19 ALL LINTELS AND BEAMS BEARING ON CONCRETE SHALL HAVE A MINIMUM BEARING LENGTH

OF 8 INCHES, UNO. 2.20 FLY ASH IN CONFORMANCE WITH ASTM C618 MAY BE USED TO REPLACE UP TO 25% OF THE

REQUIRED CEMENTITIOUS MATERIAL. 2.21 ADMIXTURES ARE PERMITTED AS FOLLOWS, SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD:

WATER REDUCING ASTM C494 FLOWING AGENTS **ASTM C1017** AIR-ENTRAINING ASTM C260

2.22 CHLORIDE BASED ACCELERANT'S ARE NOT PERMITTED WITHOUT APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.

<u>6 – ANCHORAGE, FASTENERS, WELDING, AND OTHER CONNECTING MEDIUMS</u>

6.1 CAST-IN-PLACE CONCRETE ANCHORS SHALL BE 3/4" DIAMETER ASTM F1554 GRADE 55 ANCHORS OR ASTM A193 GRADE B7, UNO. APPLICABLE ANCHOR TYPES AND INSTALLATION REQUIREMENTS SHALL BE PER THE TYPICAL CONCRETE ANCHORAGE DETAIL

6.2 POST INSTALLED CONCRETE ANCHORS SHALL CONFORM TO THE REQUIREMENTS OF APPENDIX D OF ACI 318. WEDGE/SLEEVE BOLTS, UNDERCUT BOLTS, EPOXY/ADHESIVE ANCHORS, AND SCREW ANCHORS ARE PERMISSIBLE IN ACCORDANCE WITH THE TYPICAL CONCRETE ANCHORAGE DETAIL WHERE EXPLICIT ANCHORS ARE NOT SPECIFIED ON THE PLANS OR DETAILS

6.3 MASONRY ANCHORAGE SHALL BE AS NOTED ON PLANS AND DETAILS, AND SHALL CONFORM TO ASTM A307 GRADE A, UNO.

6.4 STRUCTURAL STEEL STUDS, BOLTS, NUTS, AND WASHERS SHALL BE 3/4" DIAMETER, UNO. AND CONFORM TO THE FOLLOWING MATERIAL GRADES:

ASTM F3125 HEAVY-HEX STRUCTURAL BOLT STRUCTURAL NUTS ASTM A563 STRUCTURAL WASHERS ASTM F436 STEEL HEADED STUD ANCHORS ASTM A108 ASTM F1554. ASTM A193 B7 C.I.P. ANCHOR BOLTS **CLEVISES AND TURNBUCKLES** ASTM A29, GR 1035 EYE NUTS AND EYE BOLTS ASTM A29, GR 1030 ASTM A307, ASTM A36 THREADED ROD

TENSION CONTROL INDICATING HARDWARE FOR PRE-TENSIONED AND SLIP CRITICAL CONNECTIONS:

TWIST-OFF TYPE BOLTS **ASTM F3125** ASTM F959 COMPRESSIBLE-WASHER

6.5 SELF TAPPING STEEL SCREWS SHALL CONFORM TO ASTM C1513. TEKS ® SCREWS SPECIFIED IN PLANS AND DETAILS SHALL BE PROVIDED BY ITW BUILDEX. SUBSTITUTION OF TEKS ® IS PERMITTED WHEN CONTRACTOR SUPPLIES DOCUMENTATION INDICATING LOAD CAPACITIES OF REPLACEMENT IS EQUAL OR GREATER THAN THE ORIGINALLY SPECIFIED HARDWARE AND WITH PRIOR APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

6.6 POWDER-ACTUATED FASTENERS SHALL BE PROVIDED PER PLANS AND DETAILS. PINS SPECIFIED ON PLANS ARE HILTI X-U, HILTI X-HSN24, OR HILTI X-ENP19, UNO. STEEL DECK FASTENING SHALL BE HILTI X-HSN24 WHEN ATTACHED TO BAR JOIST WITH A METAL THICKNESS NOT EXCEEDING 3/8"; HILTI X-ENP19 SHALL BE USED FOR BASE MATERIAL THICKNESSES EXCEEDING 3/8". DECK SIDELAP CONNECTORS SHALL BE HILTI SLC FASTENERS, UNO.

6.7 WOOD FASTENERS SHALL CONFORM TO THE FOLLOWING:

6.7.1 STEEL NAIL FASTENERS SHALL CONFORM TO ASTM F1667. WHERE NAIL PENNY WEIGHT DESIGNATION IS USED ON PLANS AND DETAILS THE FOLLOWING MINIMUM DIMENSIONS SHALL BE MET FOR AN ALTERNATIVE FASTENER TO BE DEEMED EQUIVALENT.

TYPICAL PENNYWEIGHT NAIL PROPERTIES

PENNYWEIGHT	LENGTI	JN H DIAMETER	LENGTI	H DIAMETER	LENGT	: H DIAMETER
LINITIVEIGITI	LLITOTI	T BIT WILL TELL	LLITOTI	T BIT WILL TELL	LLITOTI	1 DI WILLEN
6D	2"	.113"	2"	.099"	1-7/8"	.092"
8D	2-1/2"	.131"	2-1/2"	.113"	2-3/8"	.113"
10D	3"	.148"	3"	.128"	2-7/8"	.12"
12D	3-1/4"	.148"	3-1/4"	.128"	3-1/8"	.135"
16D	3-1/2"	.162"	3-1/2"	.135"	3-1/4"	.148"
20D	4"	.192"	4"	.148"	3-1/4"	.177"

6.7.2 STANDARD WOOD SCREWS SHALL CONFORM TO ANSI/ASME B18.6.1

6.7.3 STANDARD HEX LAG SCREWS SHALL CONFORM TO ANSI/ASME B18.2.1.

6.7.4 STANDARD DOWELS (BOLTS) AND NUTS SHALL CONFORM TO ANSI/ASME B18.2.1. STANDARD CUT WASHERS SHALL CONFORM TO ANSI/ASME B18.22.1.

6.8 WOOD STRUCTURAL CONNECTORS (INCLUDING JOIST HANGERS, HOLD DOWNS, TIES, STRAPS CLIPS, ETC) SHALL BE PROVIDED AS SPECIFIED ON THE PLANS AND DETAILS. SUBSTITUTION OF THE BRAND AND TYPE OF CONNECTOR IS PERMITTED WHEN THE CONTRACTOR PROVIDES DOCUMENTATION INDICATING LOAD CAPACITIES OF REPLACEMENT IS EQUAL OR GREATER THAN THE ORIGINALLY SPECIFIED HARDWARE AND WITH PRIOR APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

6.9 ALL WELDING SHALL CONFORM TO THE LATEST A.W.S. SPECIFICATIONS. ARC WELDING SHALL UTILIZE E70XX ELECTRODES.

6.10 COLD-FORMED STRUCTURAL CONNECTORS (INCLUDING CLIPS, HANGERS, BRACING, HOLD DOWNS, STRAPS, SHEAR BOOTS, ETC) SHALL BE PROVIDED AS SPECIFIED ON THE PLANS AND DETAILS. CONNECTORS WILL BE SPECIFIED FROM ONE MANUFACTURER CLARKDIETRICH, TSN. SIMPSON STRONG-TIE. ETC): HOWEVER. SUBSTITUTIONS ARE PERMITTED WHEN THE CONTRACTOR PROVIDES DOCUMENTATION INDICATING LOAD CAPACITIES OF REPLACEMENTS ARE EQUAL OR GREATER THAN THE ORIGINALLY SPECIFIED HARDWARE AND WITH PRIOR APPROVAL BY THE STRUCTURAL ENGINEER OF RECORD.

13 – SHOP DRAWINGS

13.1 SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS.

13.2 CONSTRUCTION DOCUMENTS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.

13.3 NO MORE THAN FOUR SETS SHALL BE REVIEWED FOR EACH SUBMITTAL.

13.4 REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL ITEMS NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS SHALL BE FLAGGED UPON HIS REVIEW. VERIFY ALL DIMENSIONS WITH

13.5 THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANY TIME BEFORE OR AFTER SHOP DRAWING REVIEW.

13.6 THE SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED OR SHOWN INCORRECTLY AND ARE NOT FLAGGED BY THE STRUCTURAL ENGINEER OR ARCHITECT ARE NOT TO BE CONSIDERED CHANGES TO CONTRACT DOCUMENTS.

13.7 REVIEWING IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS. RESPONSIBILITY FOR CORRECTNESS AND COMPLETENESS SHALL REST WITH THE CONTRACTOR.

13.8 SHOP DRAWINGS WILL BE RETURNED FOR RESUBMITTAL IF MAJOR ERRORS ARE FOUND DURING REVIEW.

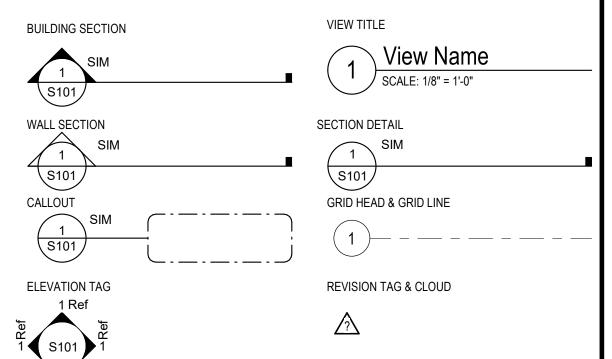
13.9 ALLOW FIVE WORKING DAYS FOR REVIEW OF SHOP DRAWINGS BY STRUCTURAL ENGINEER.

SYMBOLS

NORTH ARROW

NORTH

COLUMN & FOOTING TAG



SPOT ELEVATION & LEVEL MARKERS

STEPPED FOOTING ELEVATION MARKER

WALL LEGEND

MATERIAL LEGEND

MEMBER SIZE - EXISTING

MEMBER SIZE - VERIFY

MEMBER SIZE

COMPACTED GRANULAR FILL 2x6 WOOD STUD ္က1 CONCRETE 6" METAL STUD └-| EARTH 6" MASONRY EARTH - ENGINEERED FILL 8" MASONRY EXISTING MATERIAL GLUED LAMINATE 8" CONCRETE MASONRY - CONCRETE BLOCK 12" CONCRETE // PLYWOOD FOUNDATION 12" CONCRE

ABBREVIATIONS

CFSF

CJ

CMU

DBL

DTL

DWG

ELEC

EOD

EOS

EQUIP

EQ

EW

EXF

EXT

FNDN

GALV

GYP

HDG

HWS

ANDREW F

SEDERQUIST

081-008778

EXPIRES

11-30-2024

DEG

KIPS PER SQUARE FOOT LENGTH DEGREES POUND DIAMETER LINEAR FOOT AIR-HANDLING UNIT LONG LEG HORIZONTAI APPROXIMATE, -LY APPROX LLV LONG LEG VERTICAL ARCHITECT, -URE, -URAL LONG WAY **BOTTOM OF** LONGITUDINAL BASE PLATE MECHANICAL/ELECTRICAL BEARING MAX MAXIMUM COLD FORM STEEL FRAMING MEZZ MEZZANINE CONTROL JOINT MIN MINIMUM MISCELLANEOUS MISC CONCRETE MASONRY UNIT CONC CONCRETE NORTH CONST CONSTRUCTION LENGTH (AS PLATES) CONT CONTINUOUS NOT IN CONTRACT DFPTH NUMBER DOUBLE NTS NOT TO SCALE DEGREE OC ON CENTER OPNG DIMENSION OPENING OPP DEAD LOAD OPPOSITE OVHD DETAIL OVERHEAD DOOR PAF DRAWING PRECAST EACH EACH FACE PLATE **EXPANSION JOINT** PVC POLYVINYL CHLORIDE **ELEVATION ELECTRICAL** RADIUS EMBED **EMBEDDED** RD **ROOF DRAIN** EDGE OF DECK REINF REQ'D EDGE OF SLAB REQUIRED REFERENCE, REFER TO **EQUAL** RTU **EQUIPMENT** ROOF-TOP UNIT **FACH WAY EXPANSION** SCHED SCHEDULE **EXTERIOR** SHORT WAY CONCRETE COMPRESSIVE STRENGTH SIM SIMII AR FOUNDATION SPACE(S) SPEC FINISHED SPECIFICATION(S) **FLOOR** SPEC'D SPECIFIED FOOT SQUARE SQ FOOTING STD STANDARD YIELD STRESS STIFF STIFFENER **GAGE OR GAUGE** TOP OF GALVANIZED PRE-TENSIONED BOLT GRADE BEAM TEMP TEMPERATURE GENERAL CONTRACTOR **TRANS** TRANSVERSE HOT-DIPPED GALVANIZED TYPICAL HORIZ UNLESS NOTED OTHERWISE HORIZONTAL HEATING, VENTILATION, AIR CONDITIONING VFRTICAL HEADED, WELDED STUD VERIFY IN FIELD VWA VERIFY WITH ARCHITECTURAL DRAWINGS INTERIOR **WORKING POINT** JOIST WFIGHT WELDED WIRE FABRIC WWF JOINT K, KIP KILOPOUND (1,000 POUNDS) WELDED WIRE REINFORCING KNOCK-OUT

POWER ACTUATED FASTENER POUNDS PER SQUARE INCH REINFORCING, -MENT, -ED TC WITH CLASS A FAYING SURFACE BEAM FLANGE THICKNESS

SHEET LIST SHEET NUMBER SHEET NAME GENERAL NOTES FOUNDATION PLAN FOUNDATION DETAILS

IL DESIGN FIRM #184.008270

ISSUED FOR CONSTRUCTION

CHECKED BY: DMQ APPROVED BY: AFS JOB DATE: 6/25/2024 JOB NO: 24-339 PAGE NO.

2435 KIMBERLY RD

SUITE 240S BETTENDORF, IA 52722 563-359-3117

606 14TH AVE. SW

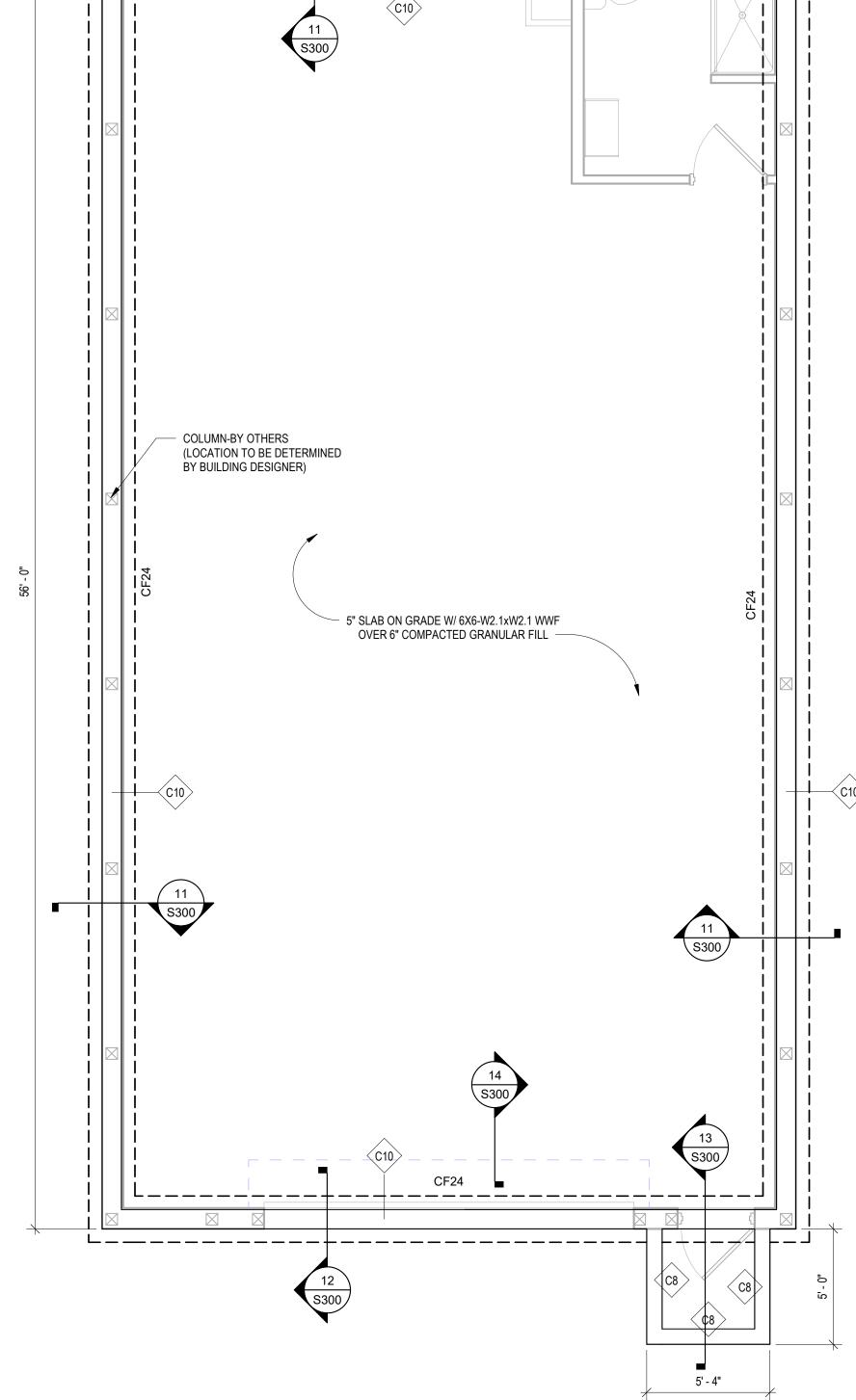
EDAR RAPIDS, IA 5240

319-365-1150

 $\mathbf{\Theta}$ \mathcal{L} ш

 \mathcal{L} $\overline{\Xi}$ $\mathbf{\Theta}$ DRAWN BY: DMQ

S001



30' - 0"

CF24

GENERAL FOUNDATION NOTES:

FOUNDATION PLAN

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

TOP OF FOUNDATION WALL = +0' - 6", UNO.

TOP OF SLAB = +0' - 0", UNO. TOP OF EXTERIOR SPREAD FOOTINGS = -3' - 0", UNO.

CF# = CONTINUOUS FOOTING. SEE CONTINUOUS FOOTING SCHEDULE THIS SHEET. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH ARCH PLANS PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL PLANS FOR WINDOW AND DOOR OPENING SIZES AND LOCATIONS.

SEE 1/S300 FOR TYPICAL CONCRETE FOUNDATION DETAILS AT SITE UTILITIES. SEE 2/S300 FOR TYPICAL TYPICAL OVEREXCAVATION & BACKFILL DETAIL. . SEE 3/S300 FOR TYPICAL CONCRETE FOOTING CORNER BAR DETAIL.

SEE 4/S300 FOR CONCRETE STANDARD REINFORCING HOOKS. SEE 5/S300 FOR TYPICAL CONCRETE SLAB ON GRADE SECTION.

SEE 6/S300 FOR TYPICAL CONCRETE SLAB ON GRADE CONTROL JOINT. SEE 7/S300 FOR TYPICAL CONCRETE SLAB CONSTRUCTION JOINT. SEE 8/S300 FOR TYPICAL CONCRETE WALL CONTROL JOINT.

SEE 9/S300 FOR TYPICAL CONCRETE WALL CORNER DETAIL. SEE 10/S300 FOR TYPICAL CONCRETE WALL INTERSECTION DETAIL. SEE 14/S300 FOR TYPICAL TRENCH DRAIN DETAIL- VERIFY LOCATION W/ ARCH PLANS SEE 15/S300 FOR TYPICAL REINFORCING AT FOUNDATION WALL PENETRATION

		WALL SCHEDULE
MARK	SIZE	REINFORCING
C8	8" CONCRETE	#4 BARS @ 12" O.C. EA. WAY
C10	10" CONCRETE	#4 VERT BARS @ 48" O.C. W/ #4 HORIZ. BARS AT 12" O.C.(EA. FACE)

	CONTINU	OUS WALL FOO	OTING SCHEDULE
MARK	WIDTH	THICKNESS	REINFORCING
CF24	2' - 0"	1' - 0"	(3) #4 CONT. BARS

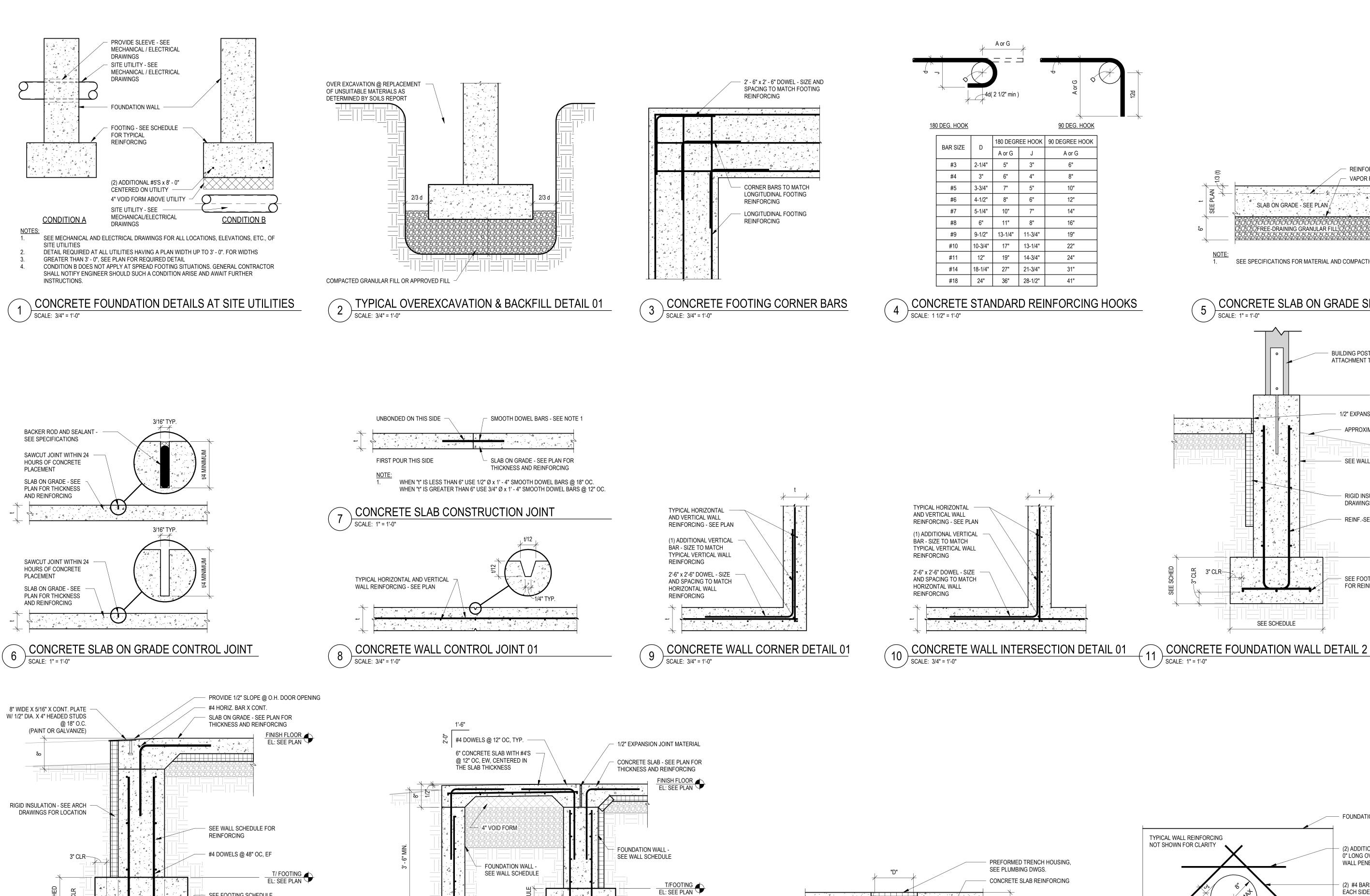
BUILDING COMMERCIAL BRIARWOOD DRAWN BY: DMQ CHECKED BY: DMQ APPROVED BY: AFS JOB DATE: 6/25/2024 JOB NO: 24-339 ISSUED FOR CONSTRUCTION

563-359-3117

2435 KIMBERLY RD. SUITE 240S BETTENDORF, IA 52722

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PAGE NO. \$100



SEE FOOTING SCHEDULE FOR

REINFORCING

SEE SCHEDULE

SEE PLAN FOR DIMENSION

CONCRETE STOOP SECTION 1

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

SEE FOOTING SCHEDULE FOR REINFORCING

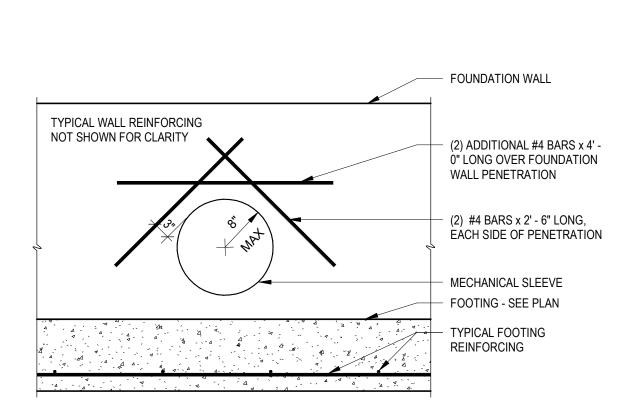
SEE

PLAN

SEE SCHEDULE

CONCRETE FOUNDATION WALL DETAIL @ OVERHEAD DOOR 1

SCALE: 1" = 1'-0"



SEE SCHEDULE

CONCRETE WALL OPENING REINFORCING 02

#4 BENT BARS @ 18" OC

(2) #4 BARS X CONT.

2 x "D"

CONCRETE TRENCH DRAIN DETAIL 02

/ SCALE: 1" = 1'-0"

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

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JOB DATE: 6/25/2024 JOB NO: 24-339 PAGE NO.

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BUILDING

COMMERCIAL

BRIARWOOD

DETAILS

FOUNDATION

606 14TH AVE. SW CEDAR RAPIDS, IA 5240 319-365-1150

2435 KIMBERLY RD.

SUITE 240S

BETTENDORF, IA 52722

563-359-3117

SE PLANS ARE PROPERTY OF SELECT STRUCTURAL ENGINEERING, I HESE PLANS PERTAIN TO THIS SPECIFIC PROJECT AND LOCATION MODIFY, ALTER OR DUPLICATE/COPY WITHOUT PRIOR AUTHORIZ

REINFORCING - SEE PLAN VAPOR RETARDER-SEE ARCH

BUILDING POST AND BRACKET ATTACHMENT TO FDN-BY OTHERS

1/2" EXPANSION JOINT MAT'L

APPROXIMATE GRADE

T/FDN WALL EL: SEE PLAN

SEE WALL SCHEDULE FOR REINFORCING

RIGID INSULATION - SEE ARCH

DRAWINGS FOR LOCATION

SEE FOOTING SCHEDULE

FOR REINFORCING

REINF.-SEE PLAN

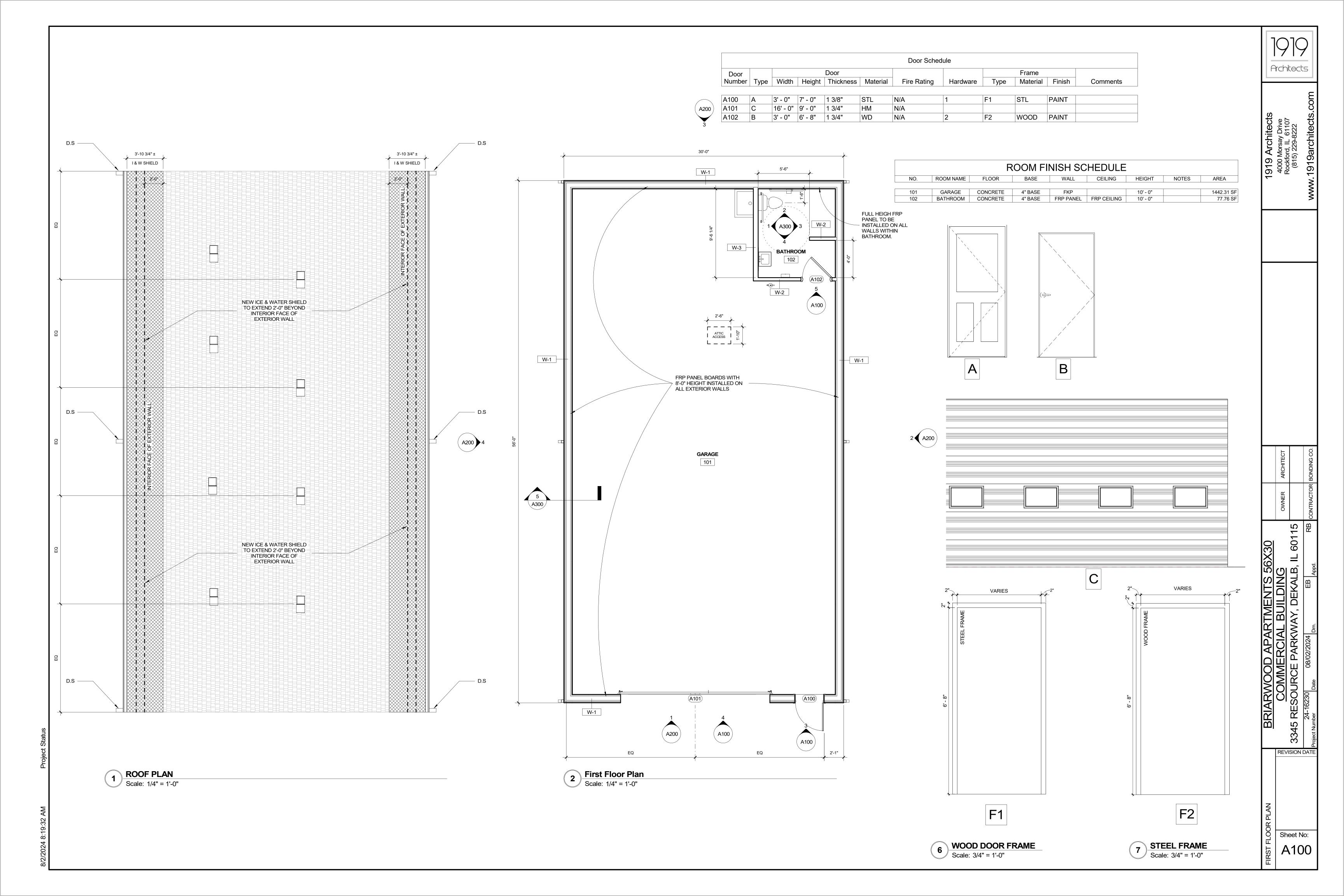
CONCRETE SLAB ON GRADE SECTION

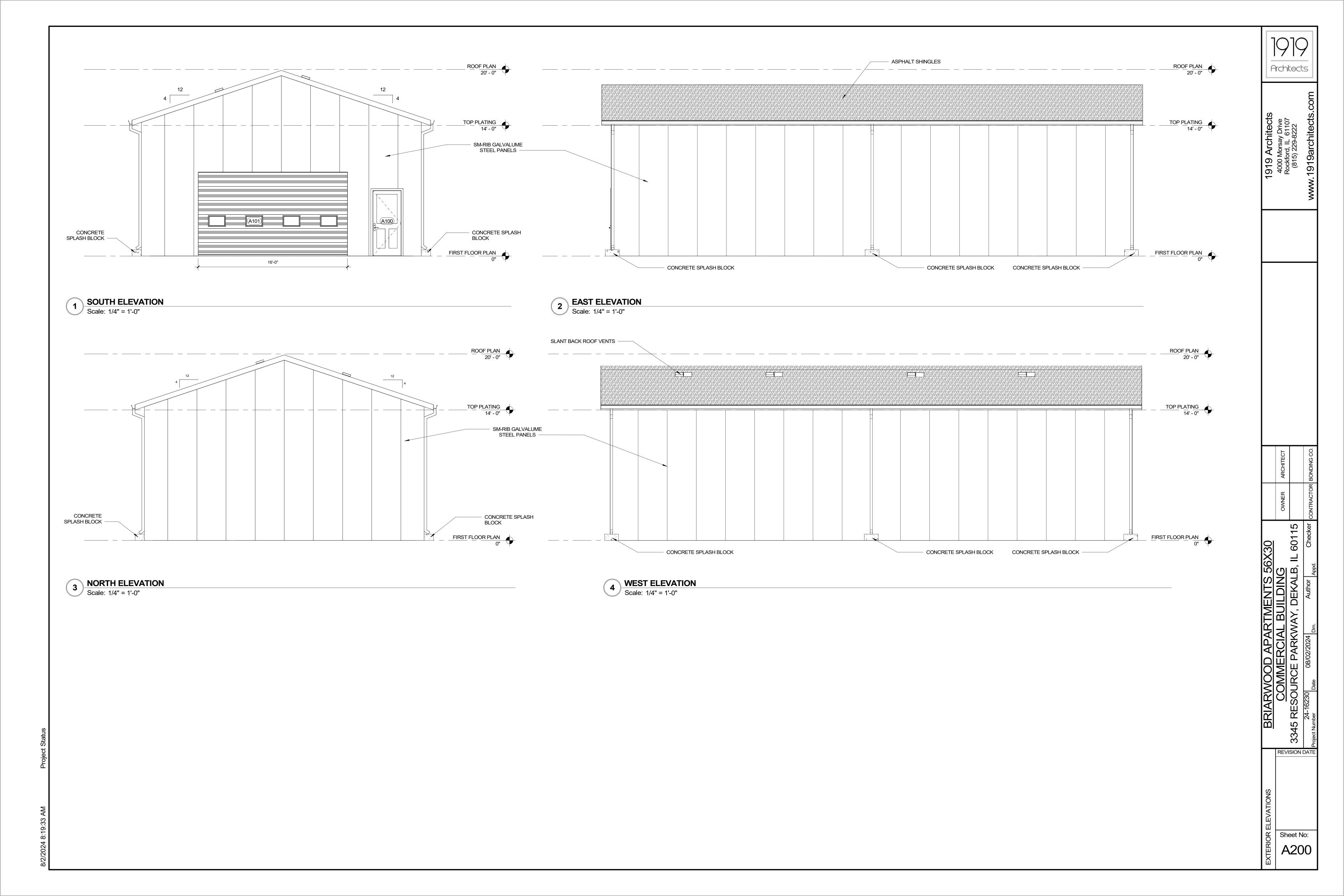
FREE-DRAINING GRANULAR FILL

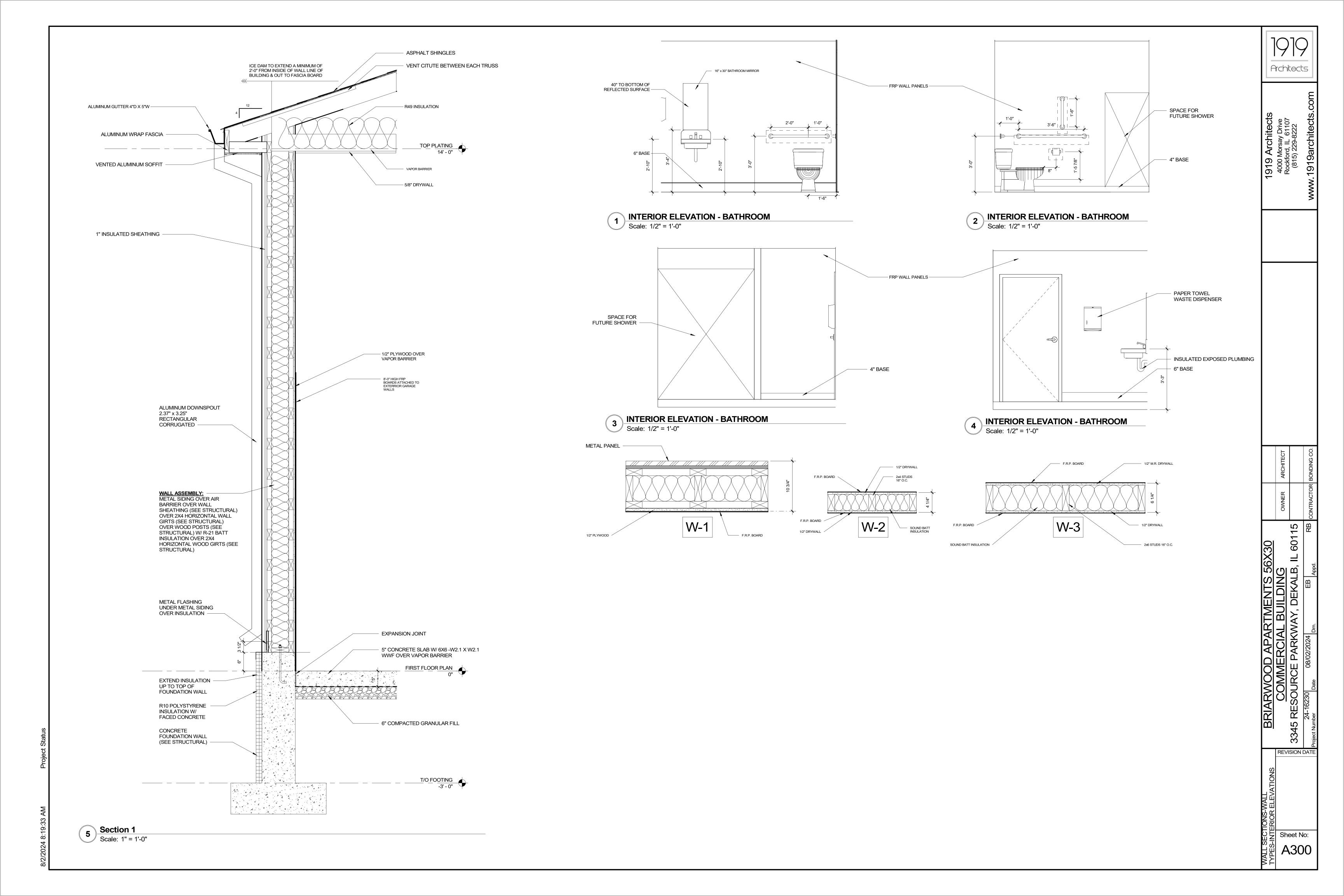
SEE SPECIFICATIONS FOR MATERIAL AND COMPACTION REQUIREMENTS.

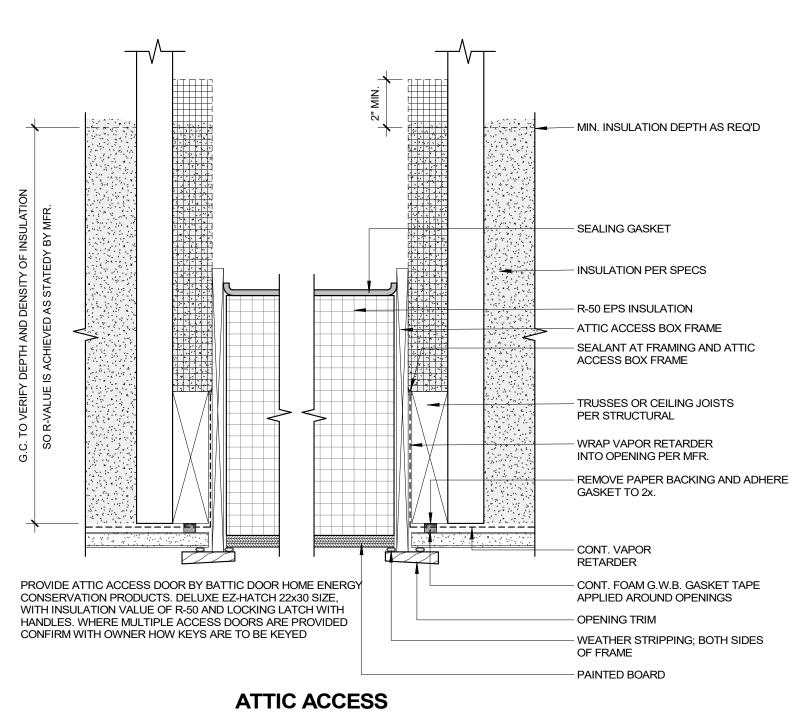
SLAB ON GRADE - SEE PLAN

\$300









CONT. VAPOR RETARDER BELOW ATTIC SPACE TURN VAPOR RETARDER DOWN AT CEILING SET WALL G.W.B. INTO A BEAD OF FOAM G.W.B. GASKET TAPE ACOUSTICAL SEALANT -AT TOP PLATE PROVIDE DETAIL AT ALL EXTERIOR WALLS, UNIT DEMISING WALLS AND WALLS LAP WALL VAPOR SEPARATING DWELLING UNITS FROM RETARDAER MIN. 3" COMMON AREAS 1" EPS INSULATION AT **HEADERS** APPLY GASKET TO FRAMING FIRST AND THEN INSTALL THE VAPOR RETARDER CONT. VAPOR RETARDER

VERTICAL AND - APPLY PUTTY PADS TO HORIZONTAL BACK OF OUTLET BOX APPLICATIONS - CUT VAPOR RETARDER AROUND ELECTRICAL BOX AND STRETCH AROUND MUD VAPOR RETARDER IS USED AT PROVIDE DETAIL AT ALL EXTERIOR ENVELOPE AND NOT EXTERIOR WALLS, UNIT PRESENT IN ALL CONDITIONS DEMISING WALLS AND WALLS SEPARATING DWELLING UNITS - SET DRYWALL INTO FROM COMMON AREAS ACOUSTICAL SEALANT OR PROVIDE GASKET

ELECTRICAL BOXES @ ENVELOPE

	TABLE R402.4 AIR BARRIER AND INSULATI	
COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA
	A CONTINUOUS AIR BARRIER SHALL BE INSTALLED IN THE BUILDING ENVELOPE.	
GENERAL REQUIREMENTS	THE EXTERIOR THERMAL ENVELOPE CONTAINS A CONTINUOUS AIR BARRIER.	AIR-PERMEABLE INSULATION SHALL NOT BE USED AS A SEALING MATERIAL
	BREAKS OR JOINTS IN THE AIR BARRIER SHALL BE SEALED.	
CEILINGS/ATTIC	THE AIR BARRIER IN ANY DROPPED CEILING/SOFFIT SHALL BE ALIGHED WITH THE INSULATION AND ANY GAPS IN THE AIR BARRIER SHALL BE SEALED.	THE INSULATION IN ANY DROPPED CEILING/SOFFIT SHALL BE ALIGNED WITH THE AIR BARRIER
021211109/111110	ACCESS OPENINGS, DROP DOWN STAIRS OR KNEE WALL DOORS TO UNCONDITION ATTIC SPACES SHALL BE SEALED.	
	THE JUNCTION OF THE FOUNDATION AND SILL PLATE SHALL BE SEALED.	CAVITIES WITHIN CORNERS AND HEADERS OF FRAME WALLS SHALL BE INSULATED BY COMPLETELY FILLING THE CAVITY WITH MATERIAL HAVING A THERMAL RESISTANCE OF R-3 PER INCH MINIMUM.
WALLS	THE JUNCTION OF THE TOP PLATE AND TOP OF THE EXTERIOR WALLS SHALL BE SEALED.	EXTERIOR THERMAL ENVELOPE INSULATION FOR FRAMED WALLS SHALL BE INSTALLED IN SUBSTAINTAL CONTACT AND CONTINUOUS
	KNEE WALLS SHALL BE SEALED.	ALIGNMENT WITH THE AIR BARRIER
WINDOWS, SKYLIGHTS AND DOORS	THE SPACE BETWEEN WINDOW/DOOR JAMBS AND FRAMING AND SKYLIGHTS AND FRAMING SHALL BE SEALED.	
RIM JOISTS	RIM JOISTS SHALL INCLUDE THE AIR BARRIER	RIM JOISTS SHALL BE INSULATED
FLOORS (INCLUDING ABOVE GARAGE AND CANTILEVERED FLOORS)	THE AIR BARRIER SHALL BE INSTALLED AT ANY EXPOSED EDGE OF INSULATION	FLOOR FRAMING CAVITY INSULATION SHALL BE INSTALLED TO MAINTAIL PERMANENT CONTACT WITH THE UNDERSIDE OF SUBFLOOR DECKING, OR FLOOR FRAMING CAVITY INSULATION SHALL BE PERMITEED TO BE II CONTACT WITH THE TOP SIDE OF SHEATHING, OR CONTINUOUS INSULATION INSTALLED ON THE UNDERSIDE OF FLOOR FRAMING AND EXTENDS FROM THE BOTTOM TO THE TOP OF ALL PERIMETER FLOOR FRAMING MEMEBERS.
CRAWL SPACE WALLS	EXPOSED EARTH IN UNVENTED CRAWL SPACES SHALL BE COVERED WITH A CLASS 1 VAPOR RETARDER WITH OVERLAPPING JOINTS TAPED.	WHERE PROVIDED INSTEAD OF FLOOR INSULATION, INSULATION SHALL BE PERMANTELY ATTACHED TO THE CRAWLSPACE WALLS.
SHAFTS, PENETRATIONS	DUCT SHAFTS, UTILITY PENETRATION, AND FLUE SHAFTS OPENING TO EXTERIOR OR UNCONDITIONED SPACE SHALL BE SEALED.	
NARROW CAVITIES		BATTS IN NARROW CAVITIES SHALL BE CUT TO FIT, OR NARROW CAVITIES SHALL BE FILLED BY INSULATION THAT ON INSTALLATION READILY CONFORMS TO THE AVAILABLE CAVITY SPACE.
GARAGE SEPARATION	AIR SEALING SHALL BE PROVIDED BETWEEN THE GARAGE AND CONDITIONED SPACES.	
RECESED LIGHTING	RECESED LIGHT FIXTURES INSTALLED IN THE BULDING THERMAL ENVELOPE SHALL BE SEALED TO THE DRYWALL.	RECESSED LIGHT FIXTURES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE AIR TIGHT AND IC RATED.
PLUMBING AND WIRING		BATT INSULATION SHALL BE CUT NEATLY TO FIT AROUND WIRING AND PLUMBING IN EXTERIOR WALLS, OR INSULATION THAT ON INSTALLATION READILY CONFORMS TO AVAILABLE SPACE SHALL EXTEND BEHING PIPING AND WIRING.
	THE AIR BARRIER INSTALLED AT EXTERIOR WALLS	

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA
GENERAL REQUIREMENTS	A CONTINUOUS AIR BARRIER SHALL BE INSTALLED IN THE BUILDING ENVELOPE. THE EXTERIOR THERMAL ENVELOPE CONTAINS A CONTINUOUS AIR BARRIER. BREAKS OR JOINTS IN THE AIR BARRIER SHALL BE SEALED.	AIR-PERMEABLE INSULATION SHALL NOT BE USED AS A SEALING MATERIAL
CEILINGS/ATTIC	THE AIR BARRIER IN ANY DROPPED CEILING/SOFFIT SHALL BE ALIGHED WITH THE INSULATION AND ANY GAPS IN THE AIR BARRIER SHALL BE SEALED. ACCESS OPENINGS, DROP DOWN STAIRS OR KNEE WALL DOORS TO UNCONDITION ATTIC SPACES SHALL BE SEALED.	THE INSULATION IN ANY DROPPED CEILING/SOFFIT SHALL BE ALIGNED WITH THE AIR BARRIER
WALLS	THE JUNCTION OF THE FOUNDATION AND SILL PLATE SHALL BE SEALED. THE JUNCTION OF THE TOP PLATE AND TOP OF THE EXTERIOR WALLS SHALL BE SEALED. KNEE WALLS SHALL BE SEALED.	CAVITIES WITHIN CORNERS AND HEADERS OF FRAME WALLS SHALL BE INSULATED BY COMPLETELY FILLING THE CAVITY WITH MATERIAL HAVING A THERMAL RESISTANCE OF R-3 PER INCH MINIMUM. EXTERIOR THERMAL ENVELOPE INSULATION FOR FRAMED WALLS SHALL BE INSTALLED IN SUBSTAINTAL CONTACT AND CONTINUOUS ALIGNMENT WITH THE AIR BARRIER
WINDOWS, SKYLIGHTS AND DOORS	THE SPACE BETWEEN WINDOW/DOOR JAMBS AND FRAMING AND SKYLIGHTS AND FRAMING SHALL BE SEALED.	
RIM JOISTS	RIM JOISTS SHALL INCLUDE THE AIR BARRIER	RIM JOISTS SHALL BE INSULATED
FLOORS (INCLUDING ABOVE GARAGE AND CANTILEVERED FLOORS)	THE AIR BARRIER SHALL BE INSTALLED AT ANY EXPOSED EDGE OF INSULATION	FLOOR FRAMING CAVITY INSULATION SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT WITH THE UNDERSIDE OF SUBFLOOR DECKING, OR FLOOR FRAMING CAVITY INSULATION SHALL BE PERMITEED TO BE IN CONTACT WITH THE TOP SIDE OF SHEATHING, OR CONTINUOUS INSULATION INSTALLED ON THE UNDERSIDE OF FLOOR FRAMING AND EXTENDS FROM THE BOTTOM TO THE TOP OF ALL PERIMETER FLOOR FRAMING MEMEBERS.

THE AIR BARRIER INSTALLED AT EXTERIOR WALLS EXTERIOR WALLS ADJACENT TO SHOWERS AND TUBS

SHALL BE INSULATED.

ADJACENT TO SHOWERS AND TUBS SHALL SEPARATE SHOWER/TUB ON EXTERIOR THEM FROM THE SHOWERS AND TUBS.

ELECTRICAL/PHONE BOX ON THE AIR BARRIER SHALL BE INSTALLED BEHIND ELECTRICAL OR COMMUNICATION BOXES OR AIR-EXTERIOR WALLS SEALED BOXES SHALL BE INSTALLED.

CEILINGS.

HVAC REGISTER BOOTS HVAC REGISTER BOOTS THAT PENETRATE BUILDING THERMAL ENVELOPE SHALL BE SEALED TO THE SUBFLOOR OR DRYWALL.

WHEN REQURED TO BE SEALED, CONCEALED FIRE SPRINKLERS SHALL ONLY BE SEALED IN A MANNER THAT IS CONCEALED SPRINKLERS RECOMMENDED BY THE MANUFACTER. CAULKING OR OTHER ADHESIVE SEALANTS SHALL NOT BE USED TO FILL VOIDS BETWEEN FIRE SPRINKLER COVER PLATES AND WALL OR

REVISION DATE

D APARTMENTS 56) IERCIAL BUILDING E PARKWAY, DEKALB, II

3345

Architects

AIR SEALING AND EXTERIOR ENVELOPE DETAILS

WALL PANEL JOINS

- THE BUILDING THERMAL ENVELOPE SHALL BE CONSTURCTED TO LIMIT AIR LEAKAGE
- METHODS USED TO SEAL DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION.
- THE BUILDING OR EACH DWELLING UNIT SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING FIVE AIR CHANGES PER HOUR (ACH).
- TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH ASTM E779 OR ASTM E1827 AND REPORTED AT A PRESSURE OF 0.2
- G.C. TO VERIFY WITH THE "CODE OFFICIAL" TO DETERMINE IF TESTING IS REQUIRED TO BE CONDUCTED BY AN APPROVED THIRD
- FOR THE PURPOSE OF THIS REQUIREMENT. APPROVED SHALL BE DEFINED AS: APPROVAL BY THE CODE OFFICIAL AS A RESULT OF INVESTIGATION AND TESTS CONDUCTED BY HIM OR HER, OR BY REASON OF ACCEPTED PRINCIPLES OR TESTS BY NATIONALLY
- A WRITTEN REPORT OF THE RESULTS OF THE TEST, INDICATING THE ACH, SHALL BE SIGNED BY THE PARTY CONDUCTING THE
- TEST AND PROVIDED TO THE ARCHITECT AND CODE OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE HAVE BEEN
- DURING TESTING:

RECOGNIZED ORGANIZATIONS.

- EXTERIOR WINDOWS AND DOORS, FIREPLACE AND STOVE DOORS SHALL BE CLOSED, BUT NOT SEALED, BEYOND THE INTENDED WEATERSTRIPPING OR OTHER INFILTRATION CONTROL MEASURES.
- DAMPERS INCLUDING EXHAUST, INTAKE, MAKE UP AIR, BACKDRAFT AND FLUE DAMPERS SHALL BE CLOSED, BUT NOT SEALED BEYOND INTENDED INFILTRATION CONTROL MEASURES. INTERIOR DOORS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE OPEN.
- EXTERIOR DOORS FOR CONTINUOUS VENTILATION SYSTEMS AND HEAT RECOVERY VENTILATORS SHALL BE CLOSED AND SEALED HEATING AND COOLING SYSTEM, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE TURNED OFF. SUPPLY AND RETURN REGISTERS, IF INSTALLED AT THE TIME OF THE TEST, SHALL BE FULLY OPEN.
- PER AMENDED IECC R403.6 (ILLINOIS ENERGY CONSERVATION CODE) EACH DWELLING UNIT SHALL BE PROVIDED WITH VENTILATION THAT MEETS THE REQUIREMENTS OF IECC SECTION 403
- OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENITLATION SYSTEM IS NOT OPERATING.

DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH THE INTERTATIONAL

- AIR HANDLERS SHALL HAVE A MANUFACTURER'S DESIGNATION FOR AN AIR LEAKAGE OF NO MORE THAN 2 PERCENT OF THE
- UNLESS DUCTS AND ASSOCIATED DUCTWORK AND AIR HANDLERS ARE LOCATED ENTRIRELY WITHIN THE BUILDING THERMAL ENVELOPE DUCTS SHALL BE PRESSURE TESTED TO DETERMINE AIR LEAKAGE BY ONE OF THE FOLLOWING METHODS:
- ROUGH IN TEST: TOTAL LEAKAGE SHALL BE MEASURED WITH A PRESSURE DIFFERENTIAL OF 0.1 INCH w.g. (25 Pa) ACROSS THE SYSTEM, INCLUDING THE MANUFACTURE'S AIR HANDLER ENCLOSURE IF INSTALLED AT THE TIME OF THE TEST. ALL REGISTERS
- SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. POSTCONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE MEASURED WITH A PRESSURE DIFFERENTIAL OF 0.1 INCH w.g. (25 Pa) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.
- IF REQUIRED TO BE TESTED THE TOTAL LEAKAGE OF THE DUCTS SHALL BE AS FOLLOWS:

FEET OF CONDITIONED FLOOR AREA.

DESIGN AIR FLOW RATE WHEN TESTED IN ACCORDANCE WITH ASHREA 193

- ROUGH-IN TEST: THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CUBIC FEET PER MINUTE PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHERE THE AIR HANDLER IS INSTALLED AT THE TIME OF THE TEST. WHERE THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CUBIC FEET PER MINUTE PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA POSTCONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CUBIC FEET PER MINUTE PER 100 SQUARE
- A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE ARCHITECT AND CODE OFFICIAL.

A PERMANENT CERTIFICATE SHALL BE POSTED ON THE ELECTRICAL PANEL. DO NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL LIST THE PREDOMINANT R-VALUES OF THE INSULATION INSTALLED ON CEILING/ROOF, WALLS, FOUNDATION WALL/SLAB AND ANY DUCTS OUTSIDE OF CONDITIONED SPACE. LIST U FACTORS FOR FENESTRATION AND THE SHGC OF FENESTRATION. LIST RESULT OF BLOWER DOOR TEST AND ANY REQUIRED DUCT TESTING. LIST EFFICIENCIES OF HEATING, COOLING AND SERVICE WATER HEATING EQUIPMENT.

TO A HEIGHT EQUAL TO THE LOWEST VENT. ALLOW TO STAND ONE HOUR OR LONGER AS REQUIRED. RECAULK LEAKING JOINTS AS DIRECTED AND THEN RE-TEST.

HOURS; REPAIR ALL LEAKING JOINTS AS DIRECTED AND THEN RE-TEST. AIR TEST TO PRESSURE EQUAL TO 100 PSI; RETAIN FOR FOUR HOURS;

AT THE SETTING INDICATED. TEST PRESSURE RELIEF VALVE AT LEAST THREE TIMES.

TO ENSURE THAT AIR HAS BEEN VENTED.

OTHER:

VALVES:

- . THE CONTRACTORS SHALL CONSTRUCT MEP SYSTEM ACCORDING TO MEPG'S PLANS, CALCULATION, DETAILS AND SPECIFICATION. ALL REQUESTS FOR ALTERNATE MATERIAL, EQUIPMENT AND SOLUTIONS MUST BE SUBMITTED THROUGH REQUEST FOR INFORMATION (RFI). FAILURE TO SUBMIT THE RFI SHALL RESULT IN THE DISAPPROVAL OF CHANGE ORDER (IF ANY) FOR THE PROPOSED ALTERNATE MATERIAL EQUIPMENT, AND SOLUTION.
- 3. THE CONTRACTORS ARE REQUIRED TO FOLLOW THE LOCAL BUILDING CODE OF AUTHORITY HAVING JURISDICTION.
- 4. THE COMPLETE COLD AND HOT WATER SYSTEMS MUST BE TESTED, BALANCED, AND COMMISSIONED BY QUALIFIED COMMISSIONER AGENT DURING THE CONSTRUCTION PHASE PRIOR TO FULL OPERATION. FAILURE TO PROPERLY CONDUCT TESTING, BALANCING, AND COMMISSIONING THE PLUMBING SYSTEM SHALL RESULT IN SYSTEM DYSFUNCTION, WHICH IS FULLY RESPONSIBLE BY THE CONTRACTOR.
- 5. DURING THE BIDDING PROCESS, THE CONTRACTOR IS RESPONSIBLE TO BID ANY NECESSARY PLUMBING ACCESSORIES OF THE SPECIFIED PLUMBING FIXTURE.
- ORDERING AND INSTALLATION

DRAWING AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND OTHER DIVISION—1 SPECIFICATION SECTIONS, APPLY TO WORK OF THIS SECTION.

WORK INCLUDED: THE PLUMBING SYSTEM FOR THIS WORK INCLUDES ALL COLD WATER DISTRIBUTION, DOMESTIC WATER HEATING AND DISTRIBUTION, VENTS AND WASTES, FLOOR DRAIN, EQUIPMENT, PLUMBING FIXTURES AND TRIM, AND ALL OTHER PLUMBING ITEMS INDICATED ON THE DRAWINGS OR DESCRIBED IN THESE SPECIFICATIONS, PLUS ALL OTHER PLUMBING ITEMS NEEDED FOR A COMPLETE AND PROPER INSTALLATION.

PART 1 - GENERAL AND RELATED DOCUMENTS

CODES ANS STANDARDS: IN ADDITION TO COMPLYING WITH ALL PERTINENT CODES AND REGULATIONS, COMPLY WITH THE FOLLOWING:

INTERNATIONAL PLUMBING CODE - 2015 EDITION (CHAPTER 11-FOR ROOF DRAINAGE ONLY) 2014 ILLINOIS STATE PLUMBING CODE (BY IL STATE PLUMBING INSPECTOR) 2015 INTERNATIONAL FUEL GAS CODE LOCAL UTILITY COMPANIES REGULATIONS.

PRODUCT DATA: WITHIN 15 CALENDAR DAYS AFTER AWARD OF CONTRACT, SUBMIT COMPLETE MATERIALS LIST OF ALL ITEMS PROPOSED TO BE FURNISHED AND INSTALLED UNDER THIS SECTION, ALONG WITH CATALOG CUTS AND OTHER DATA REQUIRED TO DEMONSTRATE COMPLIANCE WITH THE SPECIFIED REQUIREMENTS.

OPERATION AND MAINTENANCE MANUAL: UPON COMPLETION OF THE WORK, AND AS A CONDITION OF ITS ACCEPTANCE, COMPILE AND SUBMIT MANUALS AS REQUIRED. PRODUCT HANDLING / PROTECTION: USE ALL MEANS NECESSARY TO PROTECT THE MATERIALS OF THIS SECTION BEFORE, DURING, AND AFTER INSTALLATION AND TO PROTECT THE WORK AND MATERIALS OF ALL OTHER TRADES.

REPLACEMENT: IN THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE APPROVAL OF THE ARCHITECT AND AT NO ADDITIONAL COST TO THE OWNER. PART 2 - PRODUCTS

PIPE - SOIL, WASTE, AND VENTS IN BUILDING SHALL BE SCHEDULE 40 P.V.C. WITH SOLVENT WELD CONNECTIONS, UNLESS OTHERWISE NOTED ON THE DRAWING.

DOMESTIC WATER PIPING: ALL HOT AND COLD WATER PIPING, UNLESS OTHERWISE SHOWN ON THE DRAWINGS, SHALL BE CPVC SCHEDULE 40 FOR ABOVE GROUND AND

CPVC SCHEDULE 80 FOR UNDERGROUND. NO JOINTS OR CONNECTION SHALL BE MADEIN OR BELOW THE SLAB. REFER TO LOCAL CODE FOR ANY OTHER REQUIREMENTS FOR TYPE OF MATERIALS APPROVED AND METHODS OF JOINING.

NATURAL GAS PIPING: ALL GAS PIPING BELOW GRADE SHALL BE BLACK STEEL PIPE, PLASTIC COATED, WITH WELDED FITTINGS AND JOINTS. ALL GAS PIPING ABOVE GRADE, 3" (INCH) AND LARGER SHALL BE BLACK STEEL PIPE WITH WELDED FITTINGS AND JOINTS; 2-1/2" (INCH) AND SMALLER SHALL BE THREADED BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS.

PIPE WRAPPING: WRAP ALL GAS PIPE BURIED IN THE GROUND, AND OTHER PIPE WHERE SO NOTED ON THE DRAWING, WITH "SCOTCHRAP". WRAP ALL STRAIGHT RUNS WITH 0.020—INCH THICK TAPE, APPLIED IN HAPPLAYERS. PRE—WRAP ALL JOINTS, VALVES AND SIMILAR IRREGULAR SURFACES USING 0.010-INCH THICK TAPE.

VALVES: ALL VALVE DESIGN IS BASED ON THE USE OD "WALWORTH" IN THE MODEL SHOWN BELOW. PROVIDE VALVES EQUALING AND EXCEEDING THE QUALITY OF THOSE UPON WHICH DESIGN IS BASED.

DASED.		
TYPE	SIZE RANGE:	PART NUMBER:
GATE	3" AND SMALLER	3
GLOBE	2" AND SMALLER	95
CHECK	2" AND SMALLER	412
GAS COCK	1" AND SMALLER	597
GAS COCK	1 1/4" AND LARGER	655 & 7904
WRENCH-CHAN	GED FOR USE WITH EACH COCK.	

VALVE BOXES: ALL VALVE BOXES, UNLESS OTHERWISE SHOWN ON THE DRAWING, SHALL EQUAL THE QUALITY OF "FOMI", TRAFFIC TYPE, OF THE REQUIRED DEPTH, AND SHALL HAVE LOCK TYPE CAST IRON COVERS LABELED WATER OR GAS AS REQUIRED PIPE SLEEVES AND ESCUTCHEONS: ALL PIPE SLEEVES AND ESCUTCHEONS SHALL EQUAL OR EXCEED THE QUALITY OF "ADJUSTO-CRETE", SHALL HAVE AMPLE CLEARANCE FOR PIPE AND COVERING, AND SHALL HAVE CHROME PLATED WALL AND FLOOR ESCUTCHEONS OVER THE PIPE IN FINISHED AREAS.

HANGERS AND SUPPORTS, UNLESS OTHERWISE SHOWN ON THE DRAWINGS, SHALL EQUAL OR EXCEED THE QUALITY OF THE FOLLOWING:

ITEM: MANUFACTURER & MODEL NO. PIPE RING HANGER GRINNEL 107R SIDE BEAM CLAMP GRINNEL 202 TRAPEZE HANGERS SUPERSTRUT A1200

VERTICAL RISER GRINNEL 261 HANGER RODS SHALL CONFORM TO THE FOLLOWING: PIPE SIZE: ROD DIAMETER: 1/2 " TO 2" 3/8 " 2 1/2 " TO 3 1/2 ' 1/2 "

OF "EPCO" DIELECTRIC UNIONS.

4" TO 5" 5/8 " AT THE CONTRACTOR'S OPTION, TRAPEZE HANGERS MAY BE USED WHERE PARALLEL RUNS OF PIPE OCCURS. ALL RODS ON TRAPEZE HANGERS SHALL BE 1/2" MINIMUM.

VENT FLASHING: PROVIDE VENT FLASHING AT EACH VENT THROUGH THE ROOF, EQUAL TO OR EXCEEDING THE QUALITY OF "SEMO" NUMBER 1100-2 FLASHING AND COUNTER FLASHING. CLEANOUT: PROVIDE CLEANOUTS EQUALING OR EXCEEDING THE QUALITY OF THE FOLLOWING:

CLEANOUT: SIOUX CHIEF #833-4PF PVC BASE BASE TO BE USED WITH 834-4HNR

6-1/2" ROUND NICKLE BRONZE TOP AND 882-ST402 ALL EXPOSED PARTS OF FLOOR CLEANOUTS IN FINISHED AREAS SHALL BE SCORIATED NICKEL BRONZE, ALL OTHER INTERIOR CLEANOUTS SHALL BE POLISHED SCORIATED. BRONZE. ALL GRADE CLEANOUTS SHALL HAVE ROUGH SCORIATED BRONZE COVERS. ISOLATE ALL DISSIMILAR METALS WITH ISOLATORS EQUALING OR EXCEEDING THE QUALITY

ALL HOT WATER PIPING SHALL BE INSULATED WITH 1" THICK (MIN.) INSULATION HAVING A CONDUCTIVITY NO GREATER THAN 0.28 BTU-IN/(H-FT2-DEGREE F)ALL EXPOSED / EXTERIOR PIPING SHALL BE INSULATED WITH 1" THICK (MIN.) INSULATION HAVING A CONDUCTIVITY NO GREATER THAN HAVE 0.28 BTU-IN/(H-FT2-DEGREE F). AND HAVE ALUMINUM JACKETING APPLIED OVER INSULATION.

OTHER MATERIAL: ALL OTHER MATERIALS, NOT SPECIFICALLY DESCRIBED BUT REQUIRED FOR A COMPLETE AND PROPER INSTALLATION OF THE WORK OF THIS SECTION, SHALL BE NEW, FIRST QUALITY OF THEIR RESPECTIVE KINDS, AND AS SELECTED BY THE ARCHITECT.
INSPECTION: EXAMINE THE AREAS AND CONDITIONS UNDER WHICH WORK OF THIS SECTION
WILL BE INSTALLED. CORRECT CONDITIONS DETRIBOTED TO THE PROPER AND TIMELY COMPLETION OF THE WORK. DO NOT PROCEED UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

PLUMBING SYSTEM LAYOUT: LAYOUT THE PLUMBING SYSTEM IN CAREFUL COORDINATION WITH THE DRAWINGS, DETERMINING PROPER ELEVATIONS FOR ALL COMPONENTS OF THE SYSTEM AND USING ONLY THE MINIMUM NUMBER OF BENDS TO PRODUCE A SATISFACTORY FUNCTIONING SYSTEM. FOLLOW THE GENERAL LAYOUT SHOWN ON THE DRAWINGS IN ALL CASES EXCEPT WHERE OTHER WORK MAY INTERFERE. LAYOUT ALL PIPES TO FALL WITHIN PARTITION, WALLS, OR ROOF CAVITIES, AND TO NOT REQUIRE FURRING OTHER THAN AS SHOWN ON THE DRAWINGS.

TRENCHING AND BACKFILLING: GENERAL— DIG TRENCHES STRAIGHT AND TRUE TO LINE AND GRADE, WITH BOTTOM OF TRENCH FREE FROM ROCK POINTS AND WITH PIPE CUSHION CONSISTING OF EITHER UNDISTURBED NATURAL SOIL OR COMPACTED FINE SAND. PROVIDE A MINIMUM TRENCH OF 16" FOR MAIN SOIL AND DRAINAGE PIPE, AND A MINIMUM OF 24" COVER BELOW FINISHED GRADE WHEREVER CONDITIONS WILL PERMIT. WHERE CONDITIONS REQUIRE VARIANCE FROM THESE MINIMUMS, SECURE ARCHITECT'S APPROVAL BEFORE PROCEEDING WITH THE VARIANCE. PERFORM ALL SUCH VARIANCES AT NO ADDITIONAL COST TO THE OWNER.

BACKFILLING: BACK FILL PROMPTLY UPON RECEIPT OF ALL NECESSARY VARIANCES, USING STOCKPILED MATERIAL EXCAVATED FROM THE TRENCH, OR USING OTHER MATERIAL APPROVED BY THE ARCHITECT. ALL BACKFILL MATERIAL SHALL BE FREE FROM ROCKS, LARGE CLODS, ROOTS, AND OTHER FOREIGN MATTER, AND SHALL BE COMPACTED IN 6" LAYERS TO A MINIMUM OF 95 PERCENT COMPACTION. JETTING OF BACKFILL WILL NOT BE PERMITTED. PROMPTLY REMOVE ALL EXCESS EXCAVATED MATERIAL FROM THE SITE.

INSTALLATION, GENERAL: DO NOT CUT INTO OR REDUCE THE SIZE OF ANY LOAD-CARRING STRUCTURAL MEMBER WITHOUT THE PRIOR APPROVAL OF THE ARCHITECT. INSTALL ALL PIPES TO CLEAR ALL BEAMS AND OBSTRUCTIONS AND IN ACCORDANCE WITH THE FOLLOWING:

- INSTALL ALL PIPING PROMPLY, CAPPING OR PLUGGING ALL OPEN ENDS INSTALL ALL PIPING GENERALLY LEVEL AND PLUMB, FREE FROM TRAPS, AND IN A MANNER TO CONSERVE SPACE FOR OTHER WORK.
- CUSHION ALL TRAPS AND BEARING TO MINIMIZE TRANSFER OF SOUND. PROVIDE COMPLETE ISOLATION OF ALL DISSIMILAR METALS. FIRMLY ANCHOR ALL PIPES INTO POSITION.
- PROVIDE UNIFORM PIPCH OF AT LEAST 1/4 INCH PER FOOT FOR ALL HORIZONTAL WASTE AND SOIL PIPING WITHIN THE BUILDING. PITCH ALL VENTS FOR PROPER DRAINAGE. INSTALL VENT PIPING WITH EACH BEND 45 DEGREES MINIMUM FROM THE HORIZONTAL WHEREVER STRUCTURAL CONDITIONS WILL PERMIT.
- PROVIDE AIR CHAMBERS OR WATER HAMMER ARRESORS ON HOT AND COLD WATER AT THE FIXTURES.
- CONCEAL ALL PIPING UNLESS OTHERWISE SHOWN ON THE DRAWINGS INSPECT EACH PIECE OF PIPE, COUPLINGS, FITTINGS, AND EQUIPMENT FOR DEFECTS AND OBSTRUCTIONS. PROMPTLY REMOVE ALL DEFECTIVE
- MATERIAL FROM THE SITE.

 PLUMBER SHALL CUT ALL HOLES IN CABINETS FOR LAVATORIES, SINKS AND FAUCETS. JOINTS AND CONNECTIONS: PREPARATION - PROPERLY REAM ALL CUT PIPE. CUT ALL THREADS STRAIGHT AND TRUE. APPLY BEST QUALITY TEFLON TAPE TO MALE PIPE THREADS, BUT NOT TO INSIDE OF FITTINGS. USE GRAPHITE ON ALL CLEANOUT PLUGS.
 PACKING: PACK ALL JOINTS IN CAST IRON SOIL AND WASTE PIPE AND FITTINGS, USING

OAKUM, AND SECURING WITH ONE INCH DEEP CAULKING OF LEAD. FULLY AND PROPERLY

PVC: MAKE ALL JOINTS IN PVC PIPING WITH PROPER JOINT CEMENT, APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS.

SUPPORTING: USE A SEPERATE HANGER FOR EACH BRANCH. SUPPORT VERTIVAL RISERS AT THE FLOOR WITH THE EXTENSION PIPE CLAMPS APPROVED BY THE ARECHITECT. WHEREVER INSULATED PIPE IS SUPPORTED BY RING HANGERS, THE RINGS SHALL PASS FREELY AROUND THE INSULATION AT POINT OF CONTACT WITH SADDLES APPROVED BY THE ARCHITECT.

SLEEVING, SEALING, ESCUTHEONS AND FIRE SAFING: ALL PIPING THROUGH ALL INTERIOR AND EXTERIOR WALLS SHALL BE SLEEVED. ANNULAR SPACE BETWEEN PIPING AND SLEEVE SHALL BE SEALED WATERTIGHT WITH NON-HARDENING COMPOUND (WHERE WALLS ARE NOT FIRE RATED) OR FIRE SAFING (WHERE WALLS ARE FIRE RATED). SLEEVE AND FIRE SAFING SHALL MAINTAIN FIRE RATING OF WALL ASSEMBLY. EACH END OF SLEEVE SHALL BE FITTED WITH TWO PIECE CHROME PLATED ESCUTHEON PLATE.

STERILIZATION OF PIPES:

CAULK AND FINISH.

CHLORINATION: AFTER PRELIMINARY PURGING OF THE SYSTEM, CHLORINATE THE ENTIRE POTABLE WATER SYSTEM IN ACCORDANCE WITH THE CURRENT PROCEDURE OF THE AMERICAN WATERWORKS ASSOCIATION FOR FLUSHING AND DISINFECTING WATER MAINS, AND IN ACCORDANCE WITH ALL OTHER PERTINENT RULES AND REGULATIONS. WHEN STERILIZATION IS COMPLETE, ARRANGE WITH THE PERTINENT AUTHORITIES FOR TEST ON MAINS AND SYSTEM. CHLORINATE ONLY WHEN BUILDING IS UNOCCUPIED.

CLOSING IN UNINSPECTED WORK: DO NOT COVER UP OR ENCLOSE WORK UNTIL IT HAS BEEN PROPERLY AND COMPLETELY INSPECTED AND APPROVED. SHOULD ANY OF THE WORK BE COVERED UP OR ENCLOSED PRIOR TO ALL REQUIRED INSPECTIONS APPROVALS, UNCOVER THE WORK AS REQUIRED AND, AFTER IT HAS BEEN COMPLETELY INSPECTED AND APPROVED, MAKE ALL REPAIRS AND REPLACEMENTS WITH SUCH MATERIALS AND WORKMANSHIP AS ARE NECESSARY TO THE APPROVAL OF THE ARCHITECT, AND AT NO ADDITIONAL COST TO THE OWNER.

WATER HAMMER ABSORBING DEVICES EACH PLUMBING FIXTURE SHALL BE PROVIDED WITH AIR CHAMBERS OR LISTED MECHANICAL DEVICES ON BOTH THE COLD WATER AND HOT WATER CONNECTIONS TO THE FIXTURE. ALL QUICK ACTING VALVES SHALL HAVE LISTED MECHANICAL DEVICES INSTALLED AS CLOSE AS POSSIBLE TO THE QUICK ACTING VALVE AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S

INSTRUCTIONS. AIR CHAMBERS SHALL BE SIZED AND INSTALLED AS PER SECTION SECTION 890.121 OFILLINOIS PLUMBING CODE W/ AMENDMENTS.

WATER HAMMER ARRESTOR, SIZE AS NOTED. PROVIDE PROPERLY SIZED WATER HAMMER ARRESTOR TO EACH GROUP OF FIXTURES WHETHER SHOWN OR NOT ON PLANS. PROVIDE ACCESS PANEL WHERE LOCATED IN ACCESSIBLE WALL/CEILING.

TEST AS NECESSARY TO DEMONSTRATE THE INTEGRITY OF THE FINISHED INSTALLATION TO THE APPROVAL OF ALL PERTINENT AUTHORITIES AND THE ARCHITECT.

UNLESS OTHERWISE DIRECTED, PLUG ALL OPENING AND FILL WITH WATER

WATER LINES: TEST AND MAKE TIGHT AT 150 PSI WATER GAGE, RETAIN FOR FOUR

> SOAP TEST IF THE THE PRESSURE DROPS; REPAIR ALL LEAKS; AND THEN RE-TEST. TEST ALL VALVE BONNETS FOR TIGHTNESS. TEST OPERATE ALL VALVES AT LEAST ONCE FROM CLOSED TO-OPEN-TO CLOSED POSITION WHILE VALVE IS

UNDER PRESSURE. TEST ALL AUTOMATIC VALVES FOR PROPER OPERATION TEST ALL PIPING SPECIALITIES FOR PROPER OPERATION. TEST ALL VENT POINTS

GENERAL NOTES:

- 2. THE CONTRACTORS ARE REQUIRED TO FOLLOW THE SPECIFIED EQUIPMENT'S INSTALLATION MANUAL FROM THE MANUFACTURE

- 6. DURING THE BIDDING PROCESS, THE CONTRACTORS ARE REQUIRED TO SUBMIT THE RFI TO RECEIVE OUR SOLUTION IN CASE THE LOCATION OF PLUMBING PIPES AND STRUCTURAL BEAMS AND FOOTING ARE CONFLICT. OTHERWISE, WE ARE NOT RESPONSIBLE FOR ANY ADDITIONAL FEE ARISING FROM CHANGE ORDERS.
- 7. THE CONTRACTOR MUST SUBMIT THE LIST OF BIDDING PLUMBING FIXTURES TO THE ARCHITECT, OWNER OR INTERIOR DESIGNER PRIOR TO
- 8. THE CONTRACTORS ARE REQUIRED TO SUBMIT THEIR VALUED ENGINEERING (IF ANY) TO MEP GREEN DESIGN AND BUILD PLLC FOR ASSESSMENT AND COMMENT/APPROVAL BEFORE EXECUTING THEM ON THE JOB SITE. OTHERWISE, THE CONTRACTORS SHALL HOLD ALL RESPONSIBILITIES REGARDING RESPONDING TO THE INSPECTORS, RESUBMITTING PLANS FOR CITY REAPPROVAL, ETC. DUE TO THE CHANGES MADE ON THE JOB SITE WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD AND OWNER.

		SYMBOLS AND	LEGEND
SYMBOLS	ABBREV.	DESCRIPTION	MATERIAL
	WASTE	SOIL OR WASTE	40 P.V.C. WITH SOLVENT WELD CONNECTIONS, UNLESS
	CD	CONDENSATE LINE	OTHERWISE NOTED ON THE DRAWING
	V	VENT	
·-	CW	COLD WATER	CPVC SCHEDULE 40 FOR ABOVEGROUND,
·	HW	HOT WATER	CPVC SCHEDULE 80 FOR UNDERGROUND
	FD	FLOOR DRAIN	
o -	FCO	FLOOR CLEAN OUT	
O +	wco	WALL CLEAN OUT	
H O -	СО	CLEAN OUT	
\bowtie	G.V.w/B.C.	GATE VALVE WITH BALL COCK	BASED ON THE USE OD "WALWORTH" IN THE MODEL SHOWN IN
7	C.V	CHECK VALVE	GENERAL NOTES
\bowtie		THERMOSTATIC MIXING VALVE	
\bowtie		GAS SHUT-OFF VALVE	
WM		WATER METER	
BP		BACKFLOW PREVENTOR	
GM		GAS METER	
	U/G	UNDERGROUND	
	H/L	HIGH LEVEL	

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DFU TOTAL FIXTURE 4 4.00 2.00 PROPOSED SHOWER FOR FUTURE 3.00 MOP SINK 3 3.00

1 WATER CLOSET 1 LAVATORY 5.00 1 | FLOOR DRAIN 3" 6.00 1 | TRENCH DRAIN 4" 23.00

DRAINAGE FIXTURE UNITS (DFU) SUMMARY

USE 4" MAIN SLOPED @1/8" PER FOOT DRAINAGE CALCULATION COMPLY WITH STATE OF ILLINOIS PLUMBING CODE - 2014

HOT WATER SUPPLY FIXTURE UNITS NO. FIXTURE X HWSFU TOTAL 1 LAVATORY 1.00 1 MOP SINK 2.00 PROPOSED SHOWER 1 FOR FUTURE 2.00 1 HOT & COLD SPICKET X 2 2.00

POSSIBLE HOT WATER DEMAND BASED ON 7 FIXTURE UNIT = 5.75 GPM PROBABLE MAXIMUM DEMAND: $5.75 \text{ GPM} \times 0.6 = 3.45 \text{ GPM}$

7.00

HEATING CAPACITY REQUIRED (TO RISE UP COLD WATER 50°F TO 120°F): 121,341 BTUH

HOT WATER CALCULATION COMPLY WITH STATE OF ILLINOIS PLUMBING CODE - 2014

SELECT 1 TANKLESS WATER HEATER - 150 000 BTUH

COLD WATER SUPPLY FIXTURE UNITS (WSFU)									
FIXTURE	Х	CWSFU	=	TOTAL					
WATER CLOSET (FLUSH TANK)	Х	3	=	3.00					
LAVATORY	Х	2	=	2.00					
PROPOSED SHOWER FOR FUTURE	Х	3	=	3.00					
MOP SINK	Х	3	=	3.00					
HOT & COLD SPICKET	Х	3	=	3.00					
WASHER HOSE	Х	1	=	2.00					
HOSE BIBB	Х	1	=	2.00					
				18.00					

TOTAL DEMAND BASED ON 18 FIXTURE UNIT FOR FLUSH TANK = 12.3 GPM. USE 11/4" MAIN. LOSS PER 100 FEET: 5.8 PSI CHOOSE WATER METER: 1 INCH

COLD WATER CALCULATION COMPLY WITH STATE OF ILLINOIS PLUMBING CODE - 2014

	HYDRAULIC CALCULATION	1	
Α	RESIDUAL PRESSURE	60	PSI
В	PRESSURE LOSS THROUGH 1 INCH WATER METER	0.8	PSI
С	PRESSURE LOSS THROUGH 1 INCH REDUCE PRESSURE BACKFLOW PREVENTER	12	PSI
D	PRESSURE LOSS DUE TO ELEVATION = 20 FEET (1 FT = 0.43 PSI)	8.60	PSI
E	5.8 PSI PRESSURE LOSS PER 100 FEET OF PIPE (TOTAL PIPE LENGTH = 200 FT)	11.60	PSI
F	TOTAL PRESSURE LOSSES	33.00	PSI
G	PRESSURE AVAILABLE TO HIGHEST/FARTHEST FIXTURE	27.00	PSI
IOTE,			

(F) TOTAL PRESSURE LOSSES = SUM (B) TO (E)

(G) PRESSURE AVAILABLE TO HIGHEST/FARTHEST FIXTURE = (A) RESIDUAL PRESSURE - (F) TOTAL PRESSURE LOSSES

THE PRESSURE AVAILABLE TO HIGHEST/ FARTHEST FIXTURE IS GREATER THAN 25 PSI REQUIRED FOR PLUMBING FIXTURES AND FAUCETS.

	GAS TANKLESS WATER HEATER SCHEDULE									
ITEM NO.	TYPE OF WATER HEATER	LOCATION	MANUFACTURER & MODEL	NATURAL GAS INPUT (BTHU)	QUANTITY	FLOW RATE	THERMAL EFFICIENCY	DELIVERY TEMP	APPROX. SHIPPING WEIGHT (LBS)	
WH-1	GAS TANKLESS WATER HEATER	RESTROOM	NAVIEN NPE-180S2	150,000	1	4.2 GPM @ 70°F TEMPERATURE RISE	97%	120°F	67	

1½" | ½" | ½" |

PLUMBING FIXTURE SCHEDULE (THE PLUMBING FIXTURES SHALL BE VERIFIED BY ARCHITECT/OWNER PRIOR TO PURCHASING OR INSTALLATION)

CHAMPION PRO RIGHT HEIGHT ELONGATED TOILET FLUSHOMETER 1.28 GPF, ADA COMPLIANT.

SIOUX CHIEF #833-3PNR FINISHLINE DRAIN WITH NICKEL BRONZE TOP. FLASHING

LISTED 1070, 10 GAL/MIN @ 45 PSI PRESSURE LOSS, 0.5 GAL/MIN MINIMUM. SET UP HOT

P-2 TRAP PRIMER VALVE, THE MODEL P-2 TRAP PRIMER VALVE IS A PRECISION DEVICE DESIGNED TO DELIVER POTABLE WATER FOR 1 - 2 FLOOR DRAINS. A PRESSURE DROP

COLLAR WITH PVC BASE. ADJUSTABLE BEFORE AND AFTER CONCRETE POUR.

THERMOSTATIC MIXING VALVE FOR RESTROOM LAVATORY: ZURN #ZW1070XL ASSE (R)

WATER DELIVERED FOR PUBLIC LAVATORIES MAXIMUM TEMPERATURE OF 110°F

OF 10 PSIG (70 KPA) IS REQUIRED TO ACTIVATE THE PRIMING VALVE.

PROVIDE AMERICAN STANDARD MODEL 5325.010 ELONGATED CHAMPION SLOW CLOSE SOLID PLASTIC SEAT AND COVER

WITH AMERICAN STANDARD 6055202.002, POLISHED CHROME TOUCHLESS FAUCET, FLOW RATE 0.5 GPM

INSTALLED WITH BACKFLOW PROTECTION

AND REMOVABLE LOOSE KEY HANDLE

34" 36"X 24"MOLDED STONE MOP BASIN. PROVIDE 830AA — SERVICE SINK FAUCET CHROME PLATED, FAUCET WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4" (19MM) HOSE THREAD ON SPOUT. 8" CENTERSET

SEWER

WASTE VENT

MODEL

211AA.104

0475047.020

833-3PNR

ZW1070XL

MSB3624

AMERICAN STANDARD

AMERICAN STANDARD

SIOUX CHIEF

PRECISION PLUMBING

PRODUCTS

FIAT

ITEM DESCRIPTION

WATER CLOSET

LAVATORY

MOP SINK

FLOOR DRAIN

THERMOSTATIC MIXING VALVE

HOSE BIBB

AUTOMATIC TRAP PRIMER

<u>LAV</u>

	BACKFLOW PREVENTION TYPES							
NO.	ITEMS/ EQUIPMENT (SIZE)	THE TYPE OF BACKFLOW PREVENTION						
1	HOSE BIBB (¾")	VACUUM BREAKER (VB)						

ROOF 1"(100) 1¼"(250) 1"(150) TANKLESS WATER HEATER SUPER TUBE HEATER-2 150,000 BTUH 50,000 BTUH GAS SHUT OFF____ 1¼"(250) VALVE (TYP.) SUPER TUBE HEATER-1 50,000 BTUH 110'TDL GAS SHUT OFF VALVE (TYP.) 250 MBH 1ST FLOOR 1¼"GAS LINE COORDINATE GAS METER SHUT OFF VALVE CONTINUATION WITH GAS PROVIDER

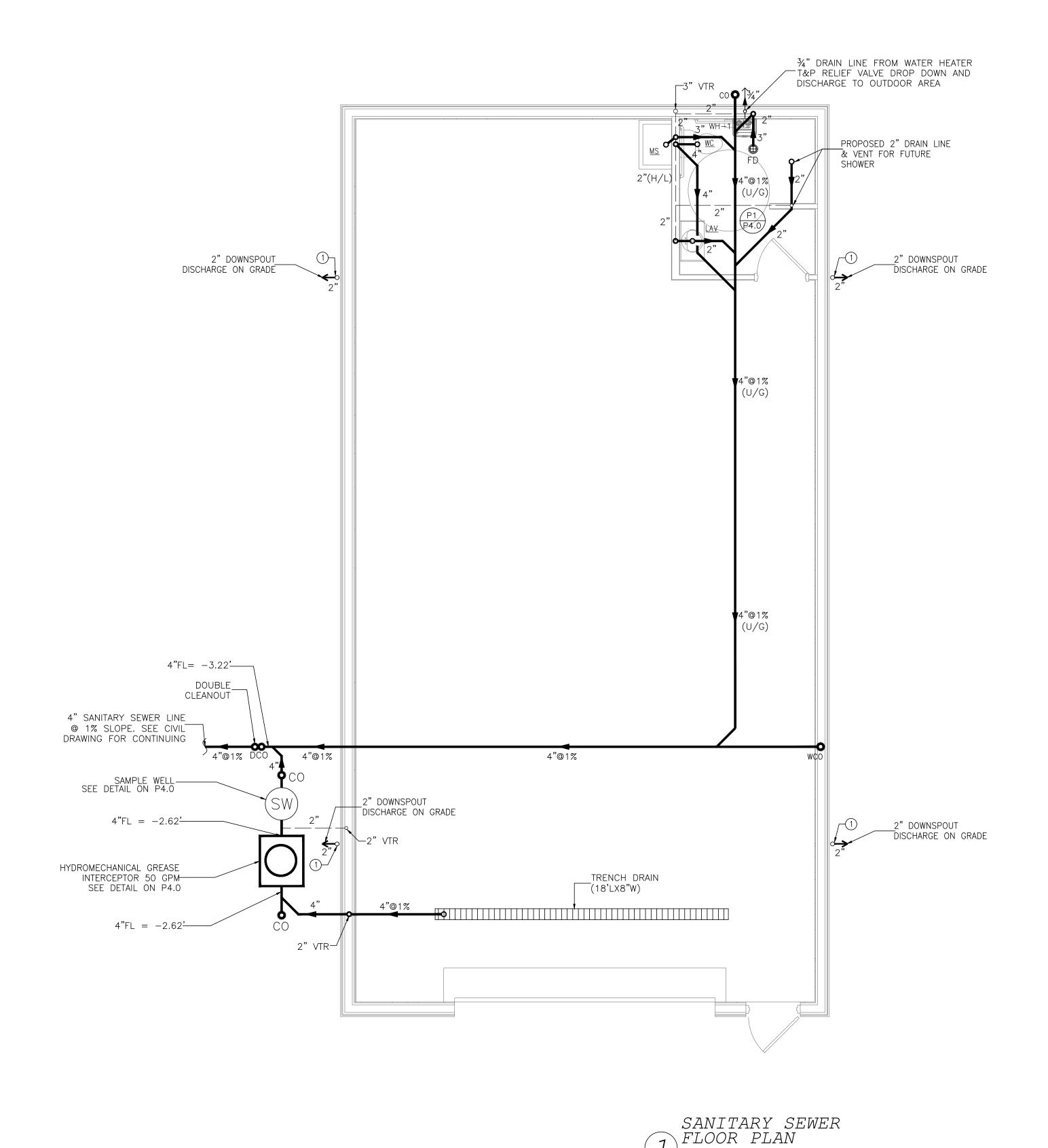
GAS SCHEMATIC DIAGRAM (< 2 PSI) BASIS OF DESIGN MAXIMUM DEMAND = 250,000 BTUH (250 MBH) TOTAL DEVELOPED LENGTH FROM POINT OF DELIVERY TO MOST REMOTE OUTLET = 110 FT. NOTE: TDL= TOTAL DEVELOPED LENGTH FROM METER TO MOST REMOTE OUTLET INLET PRESSURE: 7.0" W.C. PRESSURE DROP: 0.5" W.C. GAS CALCULATION COMPLY WITH TABLE 402.4(2) SCHEDULE 40 METALLIC PIPE FROM THE 2015 IFGC INSTALL GAS SHUT OFF VALVE FOR ALL EQUIPMENTS

GAS SCHEMATIC DIAGRAM (< 2 PSI)

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3345 REVISION DATE

Sheet No:



 $\int \overline{\text{SCALE: 1/4"=1'-0"}}$

KEYED NOTE:

1) 2" DOWNSPOUT

NOTES:

- FOR GENERAL NOTES, PLUMBING FIXTURES, SEE PLUMBING DRAWING P1.0, P1.1
- FOR DRAWING CLARITY, SEE THE VENT PIPING WITH SIZING ON RISER DIAGRAM P4.0
- ALL PENETRATIONS THROUGH FIRE WALL MUST BE SEALED TO MEET THE CRITERIA.
- FOR SCHEMATIC DIAGRAMS SEE PLUMBING DRAWING P4.0
- FOR GAS SCHEMATIC DIAGRAM SEE PLUMBING DRAWING P1.1
- ALL FLOOR DRAINS MUST PROVIDE P-TRAPS AND VENTS AS PER LOCAL CODE.
- INSTALL TRAP PRIMER FOR FLOOR DRAIN; EQUAL TO "PRIME-RITE" PRECISION PLUMBING PRODUCTS.
- DRAIN SIZES FROM PLUMBING FIXTURES SHALL BE AS FOLLOWS: WATER CLOSETS - 4"ø

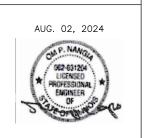
LAVATORY – 2"ø FLOOR DRAIN - 3"ø

1. THE PLUMBING CONTRACTOR MUST PREPARE SHOP DRAWING TO COORDINATE WITH STRUCTURAL ENGINEER BEFORE INSTALLING AND GUARANTEE THE WATER, SEWER AND STORM LINE DO NOT RUNNING ALONG WITH THE GRADE BEAMS.

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Sheet No:

2" DOWNSPOUT d—2" DOWNSPOUT GUTTER-ROOF AREA-1 = 928 SQUARE FEET ROOF AREA-2 = 928 SQUARE FEET 2" DOWNSPOUT— 2" DOWNSPOUT



SD1 STORM DRAINAGE SCHEMATIC DIAGRAM SCALE: N.T.S

GUTTER

2" STORM__ DRAINAGE PIPE

2" DOWNSPOUT_ DISCHARGE ON GRADE

1ST FLOOR

DOWNSPOUT CALCULATION:									
	ROOF AREA (SQUARE FEET)	CAPACITY OF DOWNSPOUT (GPM)	NO. OF D.S.	SERVED CAPACITY OF EACH DOWNSPOUT (GPM)					
ROOF AREA -1	928	48.2	2	24.1					
ROOF AREA -2	928	48.2	2	24.1					

BASED ON INTERNATIONAL PLUMBING CODE - 2015 EDITION (APPENDIX B) AND TABLE 1106.2:

- RAIN FALL IN INCHES PER HOUR: 5" (APPENDIX B)
- 2" DOWNSPOUT SERVED FOR 34 GPM (TABLE 1106.2)
- => CHOOSE 2 DOWNSPOUTS 2"(D) FOR EACH ROOF.

STORM DRAINAGE ROOF PLAN SCALE: 1/4"=1'-0"

KEYED NOTE: 1) 2" DOWNSPOUT

NOTES:

FOR GENERAL NOTES, PLUMBING FIXTURES, SEE PLUMBING DRAWING P1.0, P1.1

FOR DRAWING CLARITY, SEE THE VENT PIPING WITH SIZING ON RISER DIAGRAM P4.0

ALL PENETRATIONS THROUGH FIRE WALL MUST BE SEALED TO MEET THE CRITERIA.

FOR SCHEMATIC DIAGRAMS SEE PLUMBING DRAWING P4.0

FOR GAS SCHEMATIC DIAGRAM SEE PLUMBING DRAWING P1.1

ALL FLOOR DRAINS MUST PROVIDE P-TRAPS AND VENTS AS PER LOCAL CODE.

INSTALL TRAP PRIMER FOR FLOOR DRAIN; EQUAL TO "PRIME-RITE" PRECISION

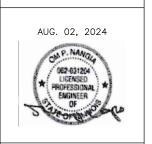
PLUMBING PRODUCTS.

DRAIN SIZES FROM PLUMBING FIXTURES SHALL BE AS FOLLOWS: WATER CLOSETS - 4"ø

LAVATORY – 2"ø FLOOR DRAIN - 3"ø

1. THE PLUMBING CONTRACTOR MUST PREPARE SHOP DRAWING TO COORDINATE WITH STRUCTURAL ENGINEER BEFORE INSTALLING AND GUARANTEE THE WATER, SEWER AND STORM LINE DO NOT RUNNING ALONG WITH THE GRADE BEAMS.

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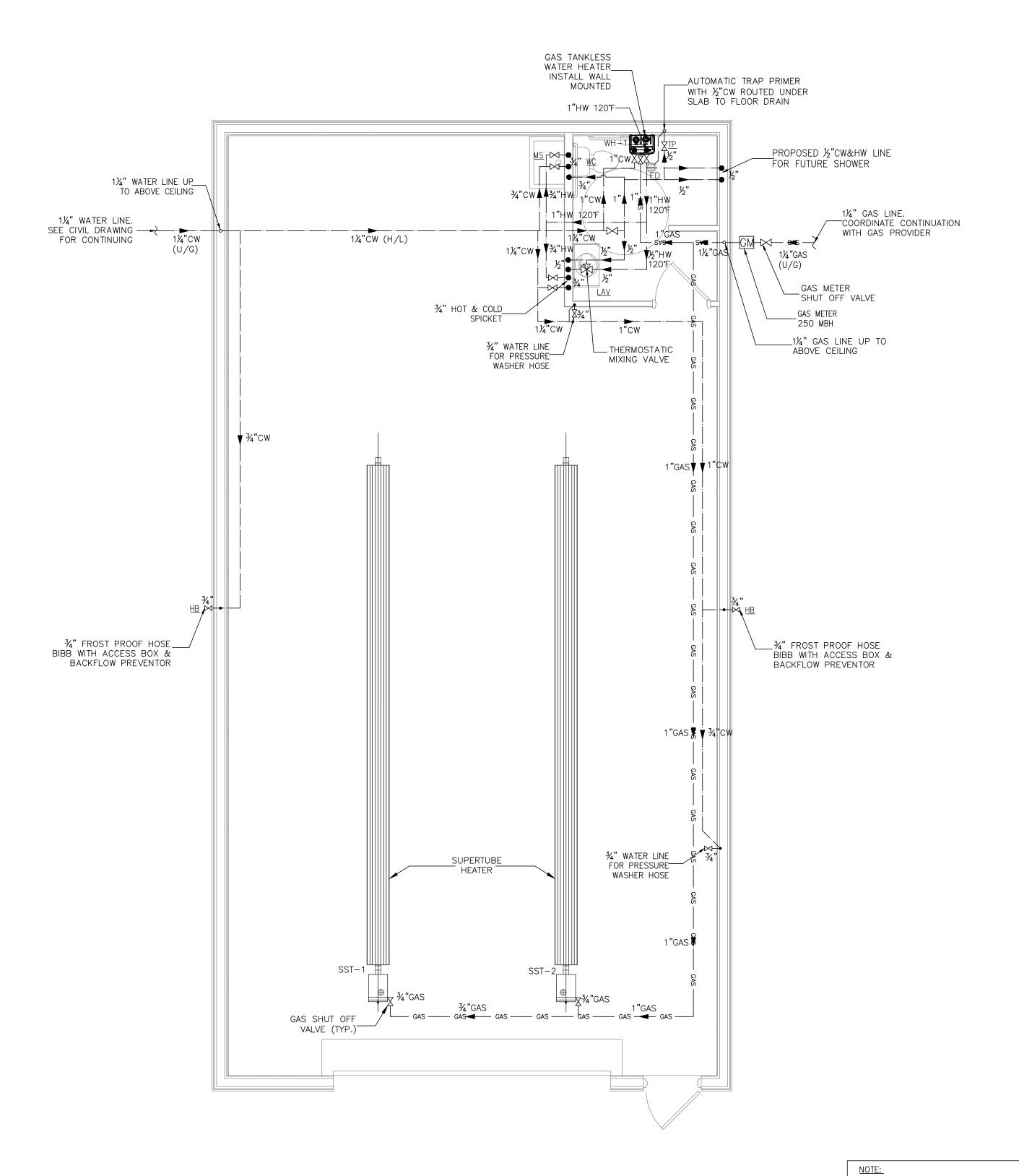


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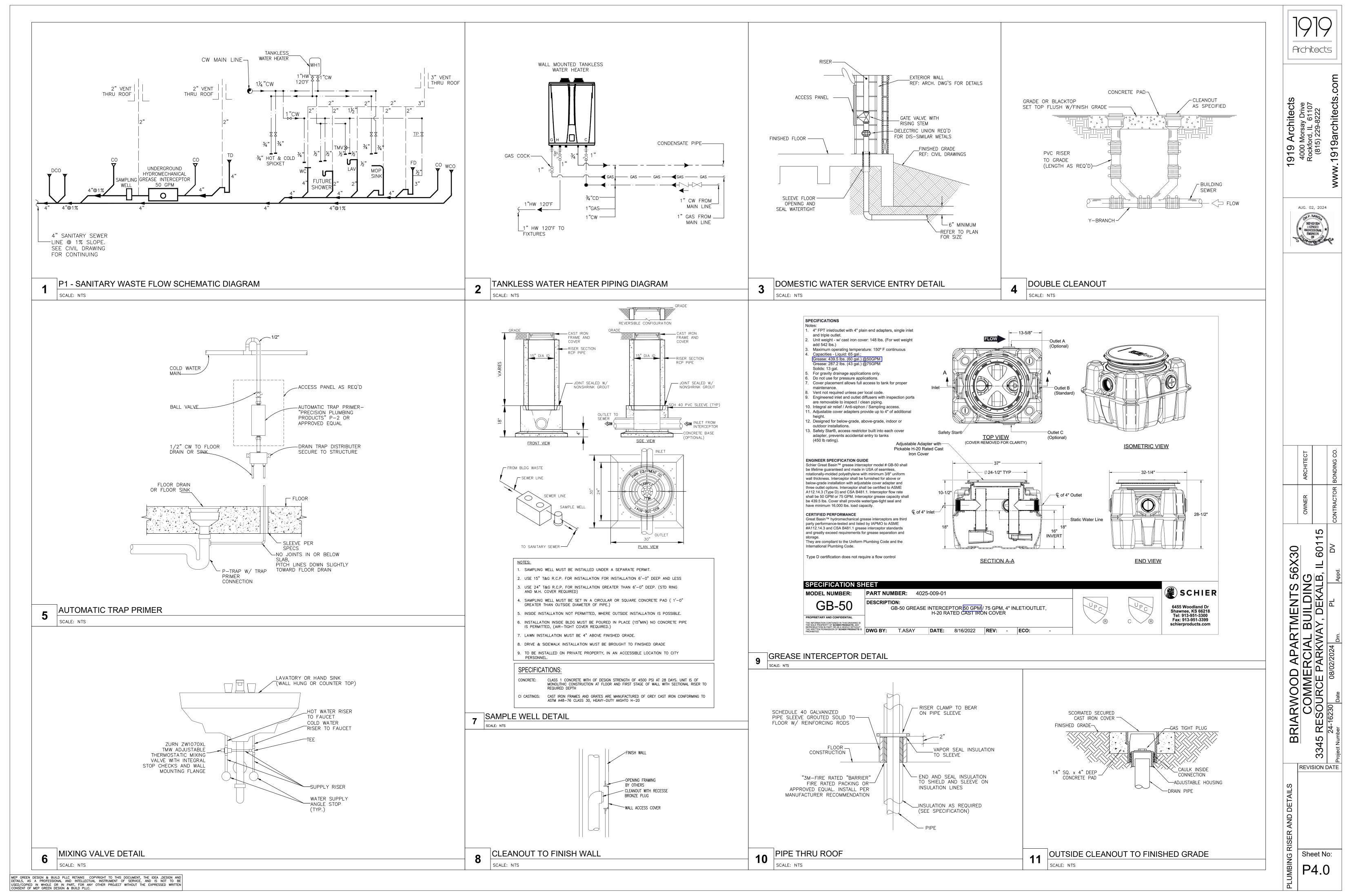
NOTES:

- FOR GENERAL NOTES, PLUMBING FIXTURES, SEE PLUMBING DRAWING P1.0, P1.1
- FOR DRAWING CLARITY, SEE THE VENT PIPING WITH SIZING ON RISER DIAGRAM P4.0
- ALL PENETRATIONS THROUGH FIRE WALL MUST BE SEALED TO MEET THE CRITERIA.
- FOR SCHEMATIC DIAGRAMS SEE PLUMBING DRAWING P4.0
- FOR GAS SCHEMATIC DIAGRAM SEE PLUMBING DRAWING P1.1
- ALL FLOOR DRAINS MUST PROVIDE P-TRAPS AND VENTS AS PER LOCAL CODE.
- INSTALL TRAP PRIMER FOR FLOOR DRAIN; EQUAL TO "PRIME-RITE" PRECISION PLUMBING PRODUCTS.
- DRAIN SIZES FROM PLUMBING FIXTURES SHALL BE AS FOLLOWS:
- WATER CLOSETS 4"ø LAVATORY – 2"ø

1. THE PLUMBING CONTRACTOR MUST PREPARE SHOP DRAWING TO COORDINATE WITH STRUCTURAL ENGINEER BEFORE INSTALLING AND GUARANTEE THE WATER, SEWER AND STORM LINE DO NOT RUNNING ALONG WITH THE GRADE BEAMS.

- SHUT OFF VALVE ABOVE CEILING. PROVIDE ACCESS PANEL WHERE LOCATED IN AN INACCESSIBLE CEILING PANEL SHALL BE 12"X12" J.R.T PAINTED TO MATCH CEILING.
- INSTALL A THERMOSTATIC MIXING VALVE AT LAVATORY. SET UP THE HOT WATER TEMPERATURE DELIVERED FOR PUBLIC LAVATORIES NOT TO EXCEED 110°F. THERMOSTATIC MIXING VALVE FOR RESTROOM LAVATORY: ZURN #ZW1070XL ASSE® LISTED 1070, 10 GAL/MIN @ 45 PSI PRESSURE LOSS, 0.5 GAL/MIN MINIMUM.
- WHERE STATIC WATER PRESSURE IN THE WATER SUPPLY PIPING IS EXCEEDING 80 PSI (552 KPA), AN APPROVED-TYPE PRESSURE REGULATOR PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED AND THE STATIC PRESSURE REDUCED TO 80 PSI (552 KPA) OR LESS.

FLOOR DRAIN - 3"ø



MECHANICAL SPECIFICATION AND GENERAL NOTES:

- 1. THE MECHANICAL CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, RIGGING, FEES, PERMITS, CERTIFICATE OF INSPECTION, ETC. FOR THE COMPLETE INSTALLATION FOR THE FOUR STORY BUILDING, IN ACCORDANCE WITH THESE DRAWINGS.
- 2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST APPLICABLE CODES AND STANDARDS LISTED BELOW. IN ADDITION, THE WORK SHALL COMPLY WITH ANY LOCAL, STATE, OR FEDERAL CODES, STANDARDS, AND REGULATIONS, HAVING JURISDICTION IN THE AREA WHERE THE EQUIPMENT OR WORK WILL BE INSTALLED.

AMERICAN AIR BALANCE COUNCIL AIR MOVING AND CONTROL ASSOCIATION, INC. AMCA AMERICAN NATIONAL STANDARD INSTITUTE ANSI AIR CONDITIONING AND REFRIGERATION INSTITUTE ASHARE AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS AMERICAN SOCIETY OF MECHANICAL ENGINEERS ASTM AMERICAN SOCIETY OF TESTING AND MATERIALS NEC NATIONAL ELECTRICAL CODE NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION MFPA NATIONAL FIRE PROTECTION ASSOCIATION BULLETIN 90A OSHA OCCUPATIONAL SAFETY AND HEALTH ASSOCIATION SHEET METAL AND AIR CONDITION CONTRACTORS NATIONAL ASSOCIATION UNDERWRITERS LABORATORY

3. ALL ELECTRICAL POWER WIRING FOR THE HVAC EQUIPMENTS INCLUDING LOW VOLTAGE CONTROL WIRING WILL BE OTHERS.

THE BOCA NATIONAL MECHANICAL CODE LATEST EDITION

BOCA

- 4. ALL WALL AND ROOF OPENINGS SHALL BE WATER PROOFED AND AIR TIGHT SEALED AND SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR
- 5. ALL DUCTS SHALL BE FABRICATED OF GALVANIZED LOCK FORMING QUALITY STEEL, AND INSTALLED IN STRICT COMPLIANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) BULLETIN 90A, AND THE SHEET METAL AND AIR CONDITIONING CONTRACTORS. NATIONAL ASSOCIATION (SMACNA) DUCT CONSTRUCTION STANDARDS 1985. SHEET METAL DUCTS SHALL BE FABRICATED USING THE FOLLOWING MINIMUM GAUGES FOR RECTANGULAR DUCT:

S

6. ALL DUCT DIMENSIONS SHOWN ARE OUTSIDE METAL DIMENSIONS AND ARE IN INCHES DUCT SIZES HAVE BEEN INCREASED, WHERE REQUIRED, TO ALLOW FOR LINING

60" AND OVER

- 7. MECHANICAL CONTRACTOR SHALL TAKE ACTUAL MEASUREMENTS IN THE FIELD BEFORE FABRICATING AND SHEET METAL WORK AND SHALL OBSERVE AND ALLOW FOR CLEARANCES AND SPACE REQUIREMENTS FOR PIPING AND EQUIPMENT, OR OTHER OBSTRUCTIONS.
- 8. THE DUCTWORK SHALL INCLUDE FURNISHING AND INSTALLING GALVANIZED SHEET METAL DUCTS, FLEXIBLE CONNECTIONS ROOF/WALL EXHAUST CAP, DUCT SUPPORTS, REGISTERS, GRILLES, DAMPERS, BRACING AND OTHER ACCESSORIES TO MAKE A COMPLETE AND OPERABLE SYSTEM.
- 9. PROVIDE SQUARE ELBOWS WITH TURNING VANES, AND SPLITTER DAMPERS IN BRANCHES. ALL TURNING VANES SHALL BE 16—GAUGE SINGLE THICKNESS METAL WITH A 4—INCH RADIUS. DOUBLE WALL TURNING VANES ARE NOT ACCEPTABLE.
- 10. ALL JOINTS IN DUCTS, CASINGS, AND PLENUMS SHALL BE SEALED TO PREVENT AIR LEAKAGE. ALL SEALANT AND TAPES SHALL HAVE A FLAME RATING UNDER 25 AND A SMOKE DEVELOPED RATING UNDER 50. DUCT SEALANT SHALL BE IRON GRIP WATER BASE DUCT SEALANT NO. 601, BY HARDCAST, INC., UNITED SHEET METAL DUCT SEALER OR APPROVED EQUAL, DUCTWORK TAPE SHALL BE HARDCAST, INC., TYPE DT-5300 OR DT-5400 OR APPROVED EQUAL. TAPE ADHESIVE SHALL BE HARDCAST, INC. TYPE FTA-20, OR APPROVED EQUAL.
- 11. PROVIDE MINIMUM 2 INCH THICK AND 3-LB/CU. FT. NOMINAL DENSITY MINERAL-FIBER BLANKET FOR ALL DUCTWORK. PROVIDE MINIMUM R-8 VALUE INSULATION. COMPLY WITH ASTM C553, TYPE II AND ASTM C1290. PROVIDE PRODUCTS FROM CERTAIN TEED CORP, KNAUF INSULATION, OR OWENS CORNING.
- 12. FLEXIBLE DUCT: PROVIDE INSULATED COMPLYING WITH UL 181, CLASS 1, 2 PLY VINYL FILM SUPPORTED BY HELICALLY WOUND, SPRING-STEEL WIRE; FIBROUS-GLAS INSULATION; MINIMUM R-8 VALUE INSULATION; POLYETHYLENE VAPOR-BARRIER FILE RATE FOR 10" WG POSITIVE AND 1" WG NEGATIVE. PROVIDE FLEXIBLE DUCT FROM FLEXMASTER U.S.A OR MCGILL AIRFLOW, LLC.
- 13. CEILING MOUNTED SUPPLY AIR DIFFUSERS SHALL BE 24 IN. X 24 IN. FULL FACE, WITH ROUND NECK INLET. CEILING MOUNTED RETURN AIR GRILLES SHALL BE WITH ½ " GRID AND 2 INCH THICK DISPOSABLE FILTER.
- 14. MECHANICAL CONTRACTOR SHALL PROVIDE RETURN AIR OPENING ABOVE CEILINGS IN ROOMS WHERE WALLS EXTENDS TO THE BOTTOM OF DECK.
- 15. INSTALLATION OF ALL MECHANICAL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS.
- 16. ALL HVAC PENETRATIONS THROUGH FIRE RATED WALLS AND CEILING SHALL BE PROTECTED WITH FIRE DAMPERS, CLASSIFIED UNDER UL STANDARD 555. FIRE DAMPERS SHALL BE RUSKIN TYPE "B", SEE DETAIL.
- 17. A FLEXIBLE CONNECTION AT THE INLET AND OUTLET OF EACH FAN AND AIR CONDITIONING EQUIPMENT SHALL BE PROVIDED. CONNECTION SHALL BE VENTLAS (VENTFABRIC, INC.) OR APPROVED EQUAL, NEOPRENE—COATED GLASS FABRIC, NOT LESS THAT 4 INCHES LING, INSTALLS IN ANGLE OR SHEET METAL FRAMES SECURELY FASTENED TO DUCTS AND EQUIPMENT. JOINTS IN FABRIC SHALL BE SEWN AND MADE AIRTIGHT WITH AN APPROVED SEALER.
- 18. ACCESS DOORS SHALL BE PROVIDED AT EACH FIRE DAMPER LOCATION. ACCESS DOORS SHALL BE VENTLOK, OR APPROVED EQUAL, APPROXIMATELY 10" X 12" UNLESS INDICATED OTHERWISE.
- 19. FURNISH AND INSTALL FULL SIZE CONDENSATE DRAIN LINES FROM ALL AIR CONDITIONING UNITS PIPED TO NEAREST LAVATORY TAILPIECE AS INDICATED ON THE MECHANICAL AND PLUMBING DRAWINGS. INSTALLATION AND ROUTING OF THESE LINES TO BE CHECKED WITH AND APPROVED BY THE GENERAL CONTRACTOR. PIPE SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE, A53 GRADE B, ASSEMBLED WITH 150 POUND SCREWED GALVANIZED MALLEABLE IRON FITTINGS. PIPE NIPPLES SHALL BE SCHEDULE 80 GALVANIZED STEEL. UNIONS SHALL BE 150 POUND GALVANIZED MALLEABLE IRON WITH COPPER TO COPPER GROUND JOINT. DRAIN PIPE INSULATION SHALL BE ½ INCH CLOSED CELL MATERIAL SIMILAR TO ARMSTRONG ARMAFLEX. BUTT JOINTS AND SEAMS SHALL BE SEALED WITH ARMSTRONG 520 ADHESIVE. 20. ALL VENTS FROM GAS FIRED EQUIPMENT MOUNTED INSIDE THE BUILDING SHALL BE DOUBLE WALL TYPE "B". ALL VENT TERMINATION OPENINGS SHALL BE LOCATED A MINIMUM OF 10 FEET FROM THE LOT LINE UNLESS OTHERWISE APPROVED. VERTICAL VENTS SHALL TERMINATE AT LEAST 3 FEET ABOVE ANY FORCED AIR INLET LOCATED WITHIN 10 FEET.
- 20. PROVIDE AT EACH AIR INTAKE A WALL LOUVER CONSTRUCTED OF EXTRUDED ALUMINUM WITH BIRD SCREEN AND AN OPPOSED BLADE VOLUME CONTROL DAMPER.
- 21. REFRIGERANT PIPING SHALL BE FABRICATED OF TYPE L "ARC" HARD DRAWN TUBING THAT HAS BEEN CLEANED AND CAPPED FOR REFRIGERATION SERVICE. FITTING S SHALL BE WROUGHT COPPER AND INSTALLED WITH BRAZED JOINT USING FILLER METAL CONFORMING TO AWS A5.8 PIPE SIZES SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURE. SLOPE ALL LINES TO FACULATE OIL RETURN TO THE COMPRESSOR. PROVIDE SUCTION LINE TRAPS ON VERTICAL RISE PER MANUFACTURERS RECOMMENDATION.

- 22. REFRIGERANT SUCTION LINES SHALL BE INSULATED WITH ½" THICK ARMSTRONG ARMAFLEX FLEXIBLE ELASTOMETRICS PIPE INSULATION. INSULATION SHALL BE INSTALLED IN CONTINUOUS LENGTHS WITH ARMSTRONG 5200ADHESIVE AT ALL
- 23. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL CONTROLS, LIKE THERMOSTAT, RELAYS AND SMOKE DETECTORS, AS REQUIRED, TO MAKE THE CONTROL SYSTEM FUNCTIONAL. ALL WIRING WILL BE PROVIDED BY OTHERS.
- 24. MECHANICAL CONTRACTOR'S QUALIFIED TEST PERSONNEL SHALL PROPERLY STARTUP, TEST, ADJUST, AND BALANCE ALL SYSTEMS INSTALLED AND SHALL PROVIDE LABOR, INSTRUMENTS AND TEST EQUIPMENT, AS REQUIRED.
- 25. MECHANICAL CONTRACTOR SHALL FURNISH SUBMITTALS CONTAINING EQUIPMENT, DUCTWORK, SHOP DRAWING, AND CONTROL DRAWINGS FOR APPROVAL PRIOR TO ORDERING ANY EQUIPMENT, OR MATERIAL.
- 26. MECHANICAL CONTRACTOR SHALL PROVIDE OWNERS REPRESENTATIVE A DETAILED OPERATIONAL DEMONSTRATION AT THE JOB SITE OF EACH SYSTEM. WRITTEN OPERATIONS MANUAL AND AS-BUILT DRAWINGS SHALL BE SUBMITTED BEFORE RETAINER IS PAID.
- 27. KITCHEN VENTILATION SYSTEMS (GREASE DUCTS) GREASE DUCTS AND PLENUMS SERVING A TYPE I HOOD SHALL BE CONSTRUCTED OF AT LEAST 0.044 INCH THICK STAINLESS STEEL.
- 28. THE CONTRACTOR SHALL VERIFY AND RECEIVE AN APPROVAL FROM THE HVAC SYSTEM 'S MANUFACTURE TO ENSURE THE HVAC EQUIPMENT 'S PROPER OPERATION AT THE LOCAL WEATHER.
- 29. THE CONTRACTORS SHALL CONSTRUCT THE MECHANICAL SYSTEM ACCORDING TO MEPG 'S MECHANICAL PLANS, CALCULATION, DETAILS AND SPECIFICATION. ALL REQUESTS FOR ALTERNATE MECHANICAL EQUIPMENT AND SOLUTIONS MUST BE SUBMITTED THROUGH REQUEST FOR INFORMATION (RFI)
- 30. THE CONTRACTOR SHALL REVIEW THE LIFE SAFETY OR FIRE RATED WALL PLANS ON THE ARCHITECT PLANS AND MECHANICAL PLANS TO ENSURE BIDDING PROPER NUMBERS OF FIRE/SMOKER DAMPER AND CEILING RADIANT DAMPERS.
- 31. THE CONTRACTOR IS RE.S.PONSIBLE TO PROVIDE ELECTRIC HEATER AND CONTACT WITH THE POOL 'S DEHUMIDIFIER MANUFACTURE TO ENSURE THE PROPER OPERATION AT THE LOCAL WEATHER
- 32. ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL AS RECOMMENDED IN SMACNA (LATEST EDITION) LOW-PRESSURE DUCT CONSTRUCTION STANDARDS, THE MINIMUM THICKNESS OF 0.0217 INCHES (NO. 26 GAGE), UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL JOINTS AND SEAMS IN ALL SHEET METAL DUCTWORK SHALL BE SEALED WITH DUCT SEALER.
- 33. THE COMPLETE MECHANICAL SYSTEM MUST BE TESTED, BALANCED, AND COMMISSIONED BY QUALIFIED COMMISSIONER AGENT DURING THE CONSTRUCTION PHASE PRIOR TO FULL OPERATION. FAILURE TO PROPERLY CONDUCT TESTING, BALANCING, AND COMMISSIONING THE MECHANICAL SYSTEM SHALL RESULT IN SYSTEM DYSFUNCTION, WHICH IS FULLY RE.S.PONSIBLE BY THE CONTRACTOR.
- 34. DUCTS AND PIPING SHALL BE DESIGNED AND INSTALLED TO MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE SMACNA DUCT CONSTRUCTION STANDARDS AND SEISMIC RESTRAINT MANUAL. INSTALLER SHALL HAVE A COPY OF THE MANUAL ON SITE AT TIME OF INSPECTIONS. WHERE DISCREPANCIES OCCUR IN THE FIELD, INSPECTION WILL HAVE JURISDICTION, OR JUSTIFICATION SHALL BE PROVIDED FOR STRUCTURAL REVIEW. 36 ENVIRONMENTAL AIR DUCT EXHAUST SHALL TERMINATE NOT LESS THAN 3 FEET (914 MM) FROM A PROPERTY LINE, 10 FEET (3048 MM) FROM A FORCED AIR INLET, AND 3 FEET (914 MM) FROM OPENINGS INTO THE BUILDING. ENVIRONMENTAL EXHAUST DUCTS SHALL NOT DISCHARGE ONTO A PUBLIC WALKWAY. CONTRACTOR TO VERIFY ON PLAN PRIOR BIDING
- 35. FACTORY—MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET (1524 MM) IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOWS OR FITTINGS. FLEXIBLE AIR DUCTS SHALL BE PERMITTED TO BE USED AS AN ELBOW AT A TERMINAL DEVICE
- 36. WHERE THE DUCTWORK PENETRATE THE RATE WALL WHICH NOT REQUIRE FD/FSD. THE CONTRACTOR MUST PROVIDE A MINIMUM 12-INCH-LONG (305 MM) BY 0.060-INCH-THICK (1.52 MM) STEEL SLEEVE. IT SHALL BE CENTERED IN EACH DUCT OPENING. THE SLEEVE SHALL BE SECURED TO BOTH SIDES OF THE WALL AND ALL FOUR SIDES OF THE SLEEVE WITH MINIMUM 11/2-INCH BY 0.060-INCH (38 MM BY 38 MM BY 1.52 MM) STEEL RETAINING ANGLES. THE RETAINING ANGLES SHALL BE SECURED TO THE SLEEVE AND THE WALL WITH NO. 10 (M5) SCREWS. THE ANNULAR SPACE BETWEEN THE STEEL SLEEVE AND THE WALL OPENING SHALL BE FILLED WITH ROCK (MINERAL) WOOL BATTING ON ALL SIDES.

COMMERCIAL ENERGY CONSERVATION CODE COMPLIANCE

DRAWINGS: CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE RECORD DRAWINGS OF THE ACTUAL INSTALLATION BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER. RECORD DRAWINGS SHALL INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES.

MANUALS. CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT AN OPERATING MANUAL AND A MAINTENANCE MANUAL BE PROVIDED TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE BUILDING OWNER WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE. THESE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY—ACCEPTED STANDARDS (SEE APPENDIX E) AND SHALL INCLUDE, AT A MINIMUM THE FOLLOWING:

(a) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.

(b) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.

(c) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY.

(d) HVAC CONTROLS SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD—DETERMINED SET—POINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS.

(e) A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SUGGESTED SET—POINTS.

NOTES ON ENERGY CODE:

- AN INTEGRATED AIR ECONOMIZER IS REQUIRED FOR INDIVIDUAL COOLING SYSTEMS OVER 90 kBtu/h OR 3,000 CFM IN THE SELECTED CLIMATE.
- AN INTEGRATED ECONOMIZER ALLOWS SIMULTANEOUS OPERATION OF OUTDOOR—AIR AND MECHANICAL COOLING.

MECHAN	NICAL SY	'MBOLS				
SYMBOL	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
	SST	SUPERTUBE HEATER	ACCU	AIR COOLED CONDENSING UNIT	LDB	LEAVING DRY BULB TEMPERATURE
			AHU	AIR HANDLING UNIT	LWB	LEAVING WET BULB TEMPERATURE
	EF	EXHAUST FAN - CEILING FAN	AD	ACCESS DOOR	LRA	LOCKED ROTOR AMP
			AFF	ABOVE FINISHED FLOOR	MC	MECHANICAL CONTRACTOR
	T'STAT	WALL MOUNTED THERMOSTAT	AP	ACCESS PANEL	MA	MIXED AIR
		SUPPLY AIR DUCT	ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERANT & AIR CONDITIONING	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
		RETURN AIR DUCT		ENGINEERS	M	ONE THOUSAND
		NETONN AIN DOCT	ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	МВН	1000 BTU PER HOUR
		OUTSIDE AIR DUCT	BTU	BRITISH THERMAL UNIT	OSA	OUTSIDE AIR
			BTUH	BRITISH THERMAL UNIT PER HOUR	OSAT	OUTSIDE AIR TEMPERATURE
		EXHAUST AIR DUCT	CA	COMBUSTION AIR	PACU	PACKAGE AIR-CONDITIONING UNIT
			CFM	CUBIC FEET PER MINUTE	RA	RETURN AIR
	EF	EXHAUST FAN — WALL MOUNTED	°F	DEGREES FAHRENHEIT	RG	RETURN GRILLE
			DIA.	DIAMETER	RR	RETURN REGISTER
			DF	DUCT FURNACE	RAT	RETURN AIR TEMPERATURE
			EBBH	ELECTRIC BASEBOARD HEATER	RPM	REVOLUTIONS PER MINUTE
			EUH	ELECTRIC UNIT HEATER	SMACNA	SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
			EAT	ENTERING AIR TEMPERATURE	TSP	TOTAL STATIC PRESSURE
			EDB	ENTERING DRY BULB TEMPERATURE	SA	SUPPLY AIR
			EWB	ENTERING WET BULB TEMPERATURE	SAG	SUPPLY AIR GRILLE
			EF	EXHAUST FAN	SR	SUPPLY REGISTER
			EAD	EXHAUST AIR DUCT	ΔT	TEMPERATURE DIFFERENCE
			EAL	EXHAUST AIR LOUVER	TYP.	TYPICAL
			FPM	FEET PER MINUTE	UL	UNDERWRITTEN LABORATORIES
			FD	FIRE DAMPER	VTAC	VERTICAL TERMINAL AIR-CONDITIONING
			FAL	FRESH AIR LOUVER	VCD	VOLUME CONTROL DAMPER
			FLA	FULL LOAD AMPS	WSA	WIRE SIZE AMPS
			GPM	GALLONS PER MINUTE		
			GC	GENERAL CONTRACTOR		
			HVAC	HEATING, VENTILATION AND AIR CONDITIONING		
			HP	HORSE POWER		
			"WC	INCHES WATER COLUMN		
			KW	KILOWATT		
			LAT	LEAVING AIR TEMPERATURE		



Architects

Morsay Drive
ford, IL 61107
5) 229-8222

AUG. 02, 2024

OF NATOR LICENSED PROFESSIONAL *

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OWNER ARCHITECT
CONTRACTOR BONDING CO.

2

CIAL BUILDING
RKWAY, DEKALB, IL 6011

BRIARWOOD A
COMMERC
3345 RESOURCE PAF

REVISION DATE

STOOMS AND SYMBOLS

OUT THE STOOM STOOM



1919 Architects 4000 Morsay Drive Rockford, IL 61107 (815) 229-8222

SUPERTUBE HEATER (GAS HEAT)

MARK MANUF. MODEL NO. TUBE LENGTH STRAIGHT (FT) (FT) BTU/HR VOLTAGE WATTS

SST-1 SCHWANK SST-S 30 31.25 50,000 120/1/60 145 NOTES #1, 2.

SST-2 SCHWANK SST-S 30 31.25 50,000 120/1/60 145 NOTES #1, 2.

NOTES:

1. TEMPERATURE RISE 45 DEGREES F.
2. EUH SHALL BE CONTROLLED BY WALL MOUNTED THERMOSTAT.

<u>E</u>	EXHAUST FAN SCHEDULES																		
MARK	TYPE MANUF. MODEL # AREA SERVED		MIN. CA	PACITY											ELECTRICAL			WEIGHT LBS	REMARKS
		MANUF. MODEL #	AREA SERVED	C.F.M.	S.P.	DRIVE	RPM	WATTS	HP	VOLTAGE	MAX SONES								
EF-1	CEILING	GREENHECK	SP-A390-VG	RESTROOM	30	0.25	DIRECT	0,914	13		115/1/60	2.0	29	NOTES #1, 2, 3.					
EF-2	WALL MOUNTED	GREENHECK	AER-20-03-0608	STORAGE	600	0.5	DIRECT	1160	13		115/1/60	12.7	71	NOTES #2, 3.					

NOTES:

1. PROVIDE FAN CEILING RADIATION DAMPER WHERE THE FAN INSTALL AT RATED CEILING, REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATION OF FIRE RATE CEILING

2. PROVIDE FAN WITH MANUFACTURERS BACKDRAFT DAMPER.

3. FAN WILL RUN CONTINUOUSLY.

BRIARWOOD APARTMENTS 56X30

COMMERCIAL BUILDING

3345 RESOURCE PARKWAY, DEKALB, IL 60115

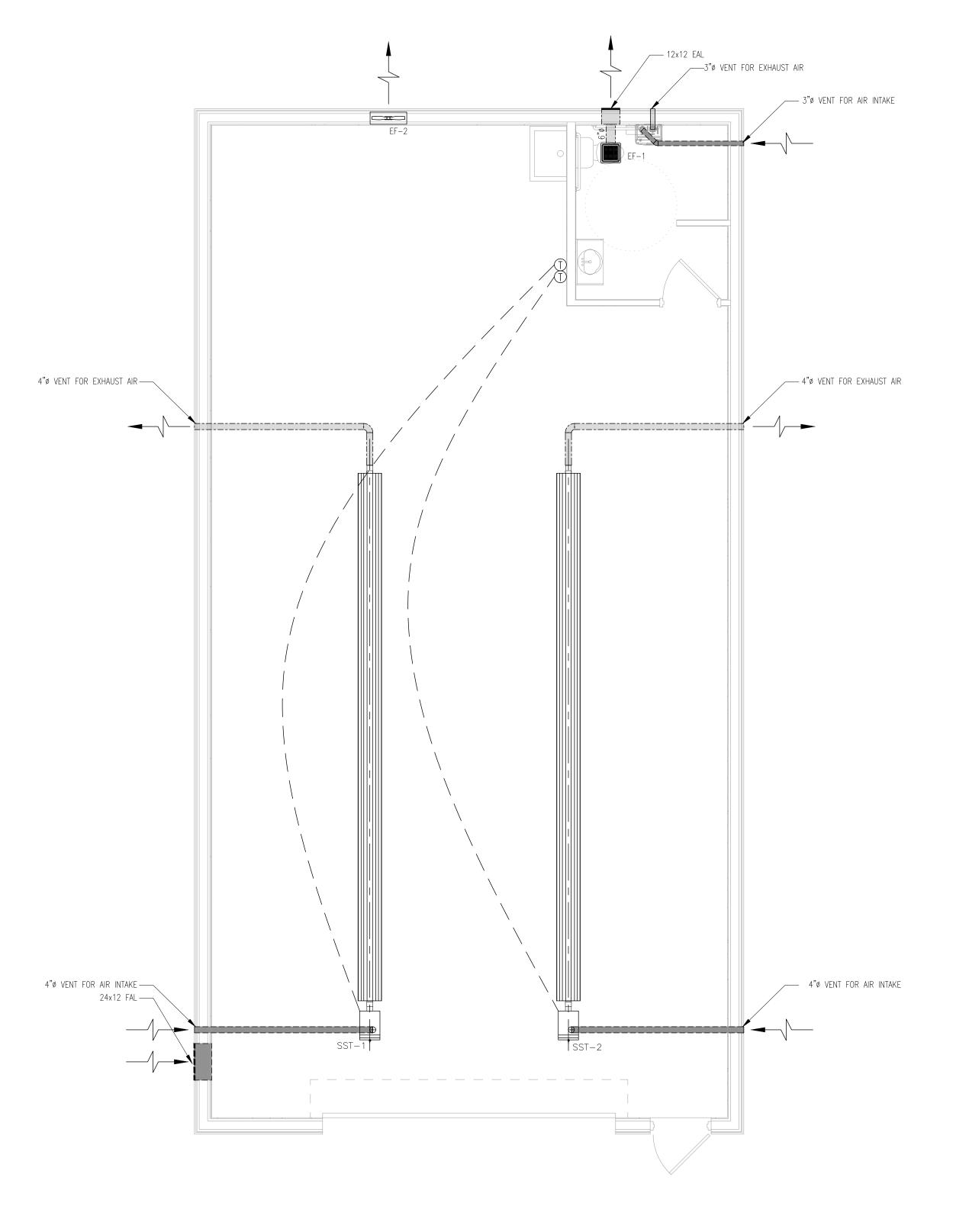
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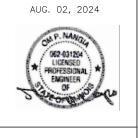
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4000 Morsay Rockford, IL (815) 229-8



ARCHITECT		BONDING CO.	
OWNER		CONTRACTOR BONDING CO.	
	15		

56X30	(D	B, IL 60115	2
TMENTS	BUILDING	AY, DEKAL	۵
BRIARWOOD APARTMENTS 56X30	COMMERCIAL BUILDING	SCE PARKW	NC0C/C0/80
BRIARW	CO	345 RESOURCE PARKWAY, DEKALB, IL 60115	24-16230

SCALE: NTS

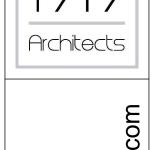
NOTE: PROVIDE REMOTE OPERATOR FOR INACCESSIBLE DAMPERS.

CLOSE OPENING AT CORNERS

NOTE:

L=1/4 W (6" MIN.)

SCALE: NTS



15 601°

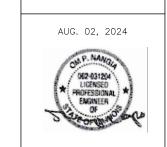
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BRIARWOOD APARTMENTS 56X30

COMMERCIAL BUILDING

45 RESOURCE PARKWAY, DEKALB, IL 60115

24-16230 Date 08/02/2024 Devenous Date Devenous De

3345

REVISION DATE

ELE	ECTRIC	AL LOAD ANALYSIS FOR SERVICE TRAN	SFORMER	R (NEC 201	14 ARTICL	E 220)	
		LOAD FOR STORAGE	KVA	AMPS @ 120/240V, 1P,3W			
		LOAD FOR STORAGE	KVA	PHASE "A"	PHASE "B"	NEUTRAL	
A.	HOUSE I	LOAD PANEL (PANEL LA)					
	1.	LIGHTING CONNECTED LOAD 1.5KVA @ 125%	1.9	15.6		15.6	
	2.	GENERAL RCPTS 17@180 VA FIRST 10,000W @ 100%	3.1	13	13	26	
	3.	HEATING @ 100%	0.3	1	1	1	
	4.	SERVICE EQUIPMENT 0.8KVA @ 100%	0.8	3	3	3	
B.	TOTAL D	DEMAND LOAD:	6.0	25	25	25	
C.	PANEL"	'LA" (Amps) :		60	60	60	
	CONDUC	CTORS SELECTION:		6 AWG CU,	6 AWG CU,	6 AWG CU,	
D.	D. (TABLE 310.15(B)(16) @ 75°C (167°F) RATING			THWN	THWN	THWN	
	(17,022			(65 AMPS)	(65 AMPS)	(65 AMPS)	
E.	SERVICE	E TRANSFORMER CAPACITY		WILL BE PROV	IDED BY UTILI	TY	

ELECTRICAL LOAD ANALYSIS SCALE: NTS

					ELECT	RICAL SI	ORT CIRC	UIT (NE	C 2014)						
SHORT CIRCUIT CALCULATION FORMU	LA: (POINT T	O POINT)													
Available lsc	KVA	%Z		KVA	1000	Voltage		FLA	100	%Z	Zm	lsc util sec (FLA x Zm)			
lsc util sec	15	1.3%		15	1000	240		63	100	1.3	76.92	4,808			
Total motor power (kW)	Total FLA														
0.50	1														
Panel of Feeder Origin	Ckt Brkr size (A)	Wire AWG /Kcmil (feeder)	Material	sqrt(3) or 2	L (Length of feeder)	Isc orig from upstream source	# of Parallel Conductors	C (Table I)	Voltage	f	M = 1/(1+f)	lsc orig x M	lsc motors = (Total FLA x 4) Note (1)	Total lsc = ((lsc orig x M) + lsc motors))	AI.C Ratin Selection (KA)
Transformer - Main Disc	60	6	(CU)	2.000	200	4,808	1	2,425	240	3.304	0.232	1,117	6	1,123	10
Main Disc - Panel LA	60	6	(CU)	2.000	10	1,117	1	2,425	240	0.038	0.963	1,076	6	1,081	5
Notes:	- (I): The mo	tor contribu	tion is rela	atively mi	nor even w	ith the a larg	e number of m	otors and t	he x4						

SHORT CIRCUIT CALCULATION

	V	OLTAGE DRO	OP CALC	ULATION	SHEET (NEC 2014)			
OLTAGE DROP CALCULATION F	ORMULA:								
/d	=	(IxRxLxM)/(P:	x 1000)						
/d	=	Maximum Voltage	Drop in Vo	olts					
	=	Current in Amps							
₹	=	Resistance in ohn	ns per foot	(Chapter 9, 1	able 8)				
	=	Length of wire one	way in fee	t					
Л	=	Multipler (2 for sing	gle phase o	or 1.732 for th	ree phase)				
	=	Number of paralle	runs						
L-L	=	240	V	(Phase to ph	ase voltage	rating)			
Л	=	1.732		(Three phase	e)		M =	2	(Single phase)
6Vd	=		%	(Maximum vo	oltage allowe	ed)			
	=	7.2	V						
Panel of Feeder Origin	Current (A)	Wire AWG /Kcmil (feeder)	Material	Sqrt(3) or 2	L (Length of feeder)	R Resistance (C9, Table 8) (Ohm /FT)	# of Parallel Conductors	Voltage Drop (Vd)	%Voltage Drop (%Vd)
Transformer - Main Disc	27	6	(CU)	2.000	200	0.5100	1	5.50	2.64%
Main Disc - Panel LA	27	6	(CU)	2.000	10	0.5100	1	0.27	0.13%

VOLTAGE DROP CALCULATION

PROJECT	NAME:	THE STORAGE AT BRIARWOOD APS (3345 RESOURCE	PARKWAY	DEKAL	B), IL													
PROJECT	NUMBER:	24-16230																
PANEL:		LA (FED FROM SERVICE TRANS)			A.I.C RA	ΠNG:			5 KA									
VOLTAGE	:	120/240V, 1PH, 3W			BUS:	60 AMP		MAINS:	60 AMP		MOUNTIN	G:	SURFA	CE MOUNT	ED			
		NEMA-1				COPPER			M.L.O		LOCATIO	N:	STORA	GE				
LOAD TYPE		CIRCUIT DESCRIPTION	CKT NO	Р	BRKR AMP	WIRE	WATT	Α	В	WATT	WIRE	BRKR AMP	Р	CKT NO		CIRCUIT DESCRIPT	ΠΟΝ	LOAD TYPE
LTG	LTS - STORAGE		1	1	20/1	12	1000	1300		300	12	20/1	1	2	WH-1			EQUIP
LTG	LTS - OUTDOOOR		3	1	20/1	12	500		645	145	12	20/1	1	4	SST-1			HTG
EQUIP	DOOR OPERATOR		5	1	20/1	12	1125	1270		145	12	20/1	1	6	SST-2			HTG
REC	RCPTS - STORAGE		7	1	20/1	12	1080		1080			20/1	1	8	SPARE			
REC	RCPTS - STORAGE		9	1	20/1	12	900	900				20/1	1	10				
REC	RCPTS - STORAGE		11	1	20/1	12	900		900			20/1	1	12	+			
	SPACE ONLY		13	1	20/1			0						14	SPACE ONLY			
			15	1	20/1				0					16				
			17					0						18				
			19						0					20				
			21					0						22				
	—		23						0					24	\			
	CONNECTED LOAD	LOAD CODES	DEMAND	LOAD				3.47	2.63	CONNECT	ED PHASE	(KW)						
LTG	1500	LTG =125% LIGHTING LOAD	187	' 5				28.92	21.88	CONNECT	ED PHASE	(AMPS)						
REC		REC = RCPTS LOAD (100% FIRST 10kW +50% REMAIN)	288					3.72		DEMAND P								
EQUIP	1425	EQUIP = EQUIPMENT LOAD	142	25				31.00	22.92	DEMAND P	HASE (AMI	PS)	_					
AC	0	AC = HVAC LOAD : (N/A)	0															
HTG	290	HTG = HEATING LOAD	290	0														
LGR	0	LGR = 125% LARGEST MOTOR : (N/A)	0			NOTE:	1 - SEE ONE	-LINE DI	AGRAM FO	OR THE COM	IPLETED F	EEDER S	IZES					
KIT	0	KIT = KITCHEN LOAD : (N/A)	0															
SUB	0	SUB = SUB PANEL x PF : (N/A)	0															
EVCS		EVCS = 125% ELECTRIC VEHICLE CHARGING STATION	0															
WATT	6095		647															
AMPS	25		27															

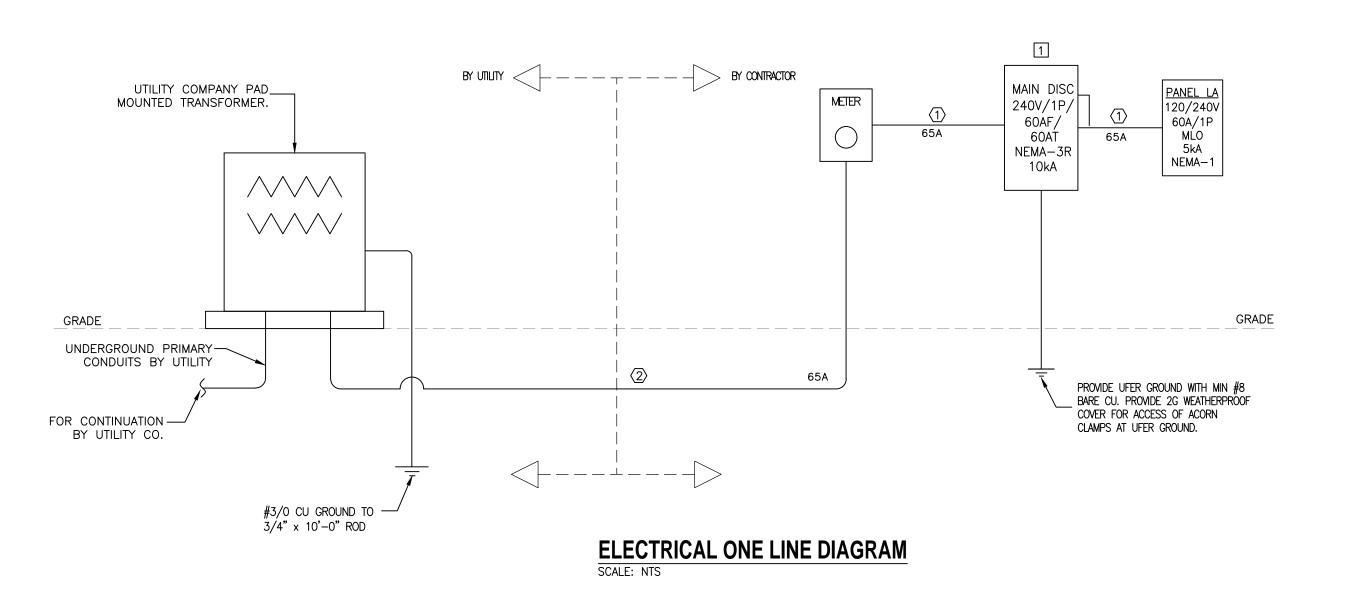
CONTRACTOR SHALL PROVIDE A PERMANENTLY AFFIXED LABEL SHALL BE APPLIED WITH THE FAULT CURRENT AT TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2"X3" IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND.

DISCONNECT SWITCH SCHEDULES:

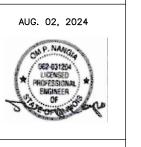
1. 600V, 3P, 60A DISCONNECT SWITCH W/60A CURRENT LIMITING CLASS RK1 FUSES (10KA) IN NEMA-3R ENCLOSURE.

		FEED	ER SCH	HEDULE		
KEY	SETS	TYPE	RATING @ 75°C (167°F)	SIZE	GROUND (CU) (TABLE 250.122(B))	CONDUIT
1	1	COPPER, THWN	65A	4 #6 AWG	# 10G	1"C
2	1	COPPER, THWN	65A	4 #6 AWG		1"C

1. FOR HOME RUNS 100 FT OR MORE, THE ELECTRICAL CONTRACTOR HAS TO CHECK THE VOLTAGE DROP AND SELECT THE SUITABLE CABLES TO COMPLY WITH THE MAXIMUM ALLOWED VOLTAGE DROP FOR THE FEEDER CONDUCTOR (3%). THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.



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ELECTRICAL SPECIFICATIONS

- 1. ALL WORK SHALL COMPLY WITH THE 2014 NATIONAL ELECTRICAL CODE, 2015 INTERNATIONAL BUILDING CODES, 2018 INTERNATIONAL ENERGY CONSERVATION CODE AND ALL APPLICABLE STATE AND LOCAL ORDINANCES.
- 2. ALL MATERIAL SHALL BE NEW, UNDAMAGED AND UNBLEMISHED EXCEPT AS NOTED.
- 3. OBTAIN ALL PERMITS REQUIRED TO DO THIS WORK AND PAY ANY FEES REQUIRED FOR SUCH PERMITS.
- 4. ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM TIME OF OWNER ACCEPTANCE, WORK OR EQUIPMENT FOUND TO BE SUBSTANDARD OR FAULTY SHALL BE CORRECTED DURING THIS PERIOD AT NO COST TO THE OWNER. LAMPS ARE EXCLUDED FROM THIS GUARANTEE.
- 5. SEAL PERIMETER JOINT OF ALL CONDUITS PASSING THROUGH WALLS WITH G.E. SILICONE COMPOUND OF COLOR SELECTED BY THE ARCHITECT.
- 6. ALL WORK SHALL BE GROUNDED TO COMPLY WITHOUT EXCEPTION WITH ALL PROVISIONS OF ARTICLE 250 OF 2014 EDITION OF THE NATIONAL ELECTRICAL CODE.
- 7. PROVIDE TEMPORARY SERVICE AS REQUIRED FOR CONSTRUCTION POWER AND REMOVE SUCH TEMPORARY SERVICE WHEN WORK IS COMPLETED.
- 8. MAKE ALL ARRANGEMENTS WITH LOCAL POWER COMPANY AND DO ALL WORK NECESSARY TO PROVIDE PERMANENT SERVICE TO THE BUILDING.
- 9. SAFETY SWITCHES SHALL BE GENERAL DUTY AS MANUFACTURER AS PANEL BOARDS, ETC.
- 10. PANEL BOARDS SHALL BE SQUARED D OR SIEMENS OR G.E., OR CUTLER-HAMMER AND BUSSING SHALL BE COPPER ONLY. PRIOR TO ORDERING/ INSTALLATION, THE CONTRACTOR MUST SUBMIT THE GEAR SUBMITTAL TO THE PLAN REVIEWER/ CITY INSPECTOR FOR FINAL APPROVAL REGARDING WHETHER IF THE SERIES RATED IS ACCEPTABLE.
- 11. ALL FUSES SHALL BE BUSSMAN "CURRENT LIMITING" TYPE UNLESS O/W INDICATED.
- 12. CONDUIT RUN IN BUILDING SHALL BE CONCEALED IN WALLS OR ABOVE CEILING AND SHALL BE E.M.T (USE GALVANIZED WHERE EXPOSED). UNDERGROUND FEEDER RUN 30" BELOW GRADE CAN BE SCHEDULE 80 PVC WITH GROUND WIRE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
- 13. ALL WIRE SHALL BE COPPER USING TYPE "THWN/THHN" UNLESS OTHERWISE INDICATED ON THE PLANS. THE ELECTRICAL CONTRACTOR MUST VERIFY THE AMPERE RATING AND THE VOLTAGE DROP OF THE WIRE TO ENSURE IT COMPLIES WITH NEC REQUIREMENT.
- 14. COORDINATE COLOR AND STYLE OF WIRING DEVICES (HUBBELL) WITH THE ARCHITECT. SPECIFICATIONS SHOULD BE ON DRAWINGS.
- 15. COORDINATE ALL CONTROL REQUIREMENTS FOR THE HVAC SYSTEMS WITH THE CONTRACTORS. PROVIDE POWER (TO A/C CONTROL PANEL WHEN USED) AND EMPTY 3/4" CONDUIT (WITH PULL—STRING) FOR CONTROL WIRING.
- 16. COORDINATE LOCATION OF TELEPHONE OUTLETS WITH THE OWNER. PROVIDE 3/4" CONDUIT (W/PULL-STRING) FOR PHONE WIRING.
- 17. PROVIDE SPECIFIED LIGHT FIXTURES WITH FINAL LOCATIONS PER THE ARCHITECT.
- 18. COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES TO AVOID ANY CONFLICTS.
- 19. ALL ELECTRICAL EQUIPMENT AND INSTALLATIONS SHALL BE OF ADEQUATE STRENGTH TO WITHSTAND, WITHOUT FAILURE, FORCES ENCOUNTERED IN APPLICABLE SEISMIC CATEGORY.
- 20. PROVIDE A COMPLETE DEVICE COORDINATION STUDY WITH RECOMMENDED INTERRUPTING RATINGS AND SETTINGS FOR ALL ADJUSTABLE TRIP DEVICES. PROVIDE ARC FLASH LABELING PER NEC REQUIREMENTS
- 21. ROUTE A MAXIMUM OF 3 PHASE CONDUCTORS, 3 NEUTRALS, AND GROUND IN A SINGLE HOME RUN CONDUIT
- 22. THE CONTRACTORS SHALL CONSTRUCT MEP SYSTEM ACCORDING TO MEPG'S PLANS, CALCULATION, DETAILS AND SPECIFICATION. ALL REQUESTS FOR ALTERNATE MATERIAL, EQUIPMENT AND SOLUTIONS MUST BE SUBMITTED THROUGH REQUEST FOR INFORMATION (RFI). FAILURE TO SUBMIT THE RFI SHALL RESULT IN THE DISAPPROVAL OF CHANGE ORDER (IF ANY) FOR THE PROPOSED ALTERNATE MATERIAL, EQUIPMENT, AND SOLUTION.
- 23. THE COMPLETE ELECTRICAL SYSTEMS MUST BE TESTED, BALANCED, AND COMMISSIONED BY QUALIFIED COMMISSIONER AGENT DURING THE CONSTRUCTION PHASE PRIOR TO FULL OPERATION. FAILURE TO PROPERLY CONDUCT TESTING, BALANCING, AND COMMISSIONING THE ELECTRICAL SYSTEM SHALL RESULT IN SYSTEM DYSFUNCTION, WHICH IS FULLY RESPONSIBLE BY THE CONTRACTOR.
- 24. THE CONTRACTORS ARE REQUIRED TO FOLLOW THE SPECIFIED EQUIPMENT'S INSTALLATION MANUAL FROM THE MANUFACTURER.
- 25. THE CONTRACTORS ARE REQUIRED TO FOLLOW THE LOCAL BUILDING CODE OF AUTHORITY HAVING JURISDICTION.
- 26. THE CONTRACTOR SHALL VERIFY ALL REQUIREMENTS FOR WIRING CONTROL, NEUTRAL WIRES FOR ALL ELECTRICAL EQUIPMENT WITH THE SUPPLIER/ MANUFACTURER PRIOR TO INSTALLATION.
- 27. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND IT IS THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS THAT THE CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSTALLATION THAT IS COMPLETE WITH ALL ITEMS AND APPURTENANCES NECESSARY, REASONABLE INCIDENTAL, OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFICALLY CALLED OUT OR SHOWN. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, LABOR, SUPERVISION AND SERVICE NECESSARY SO AS TO PROVIDE A COMPLETE, FUNCTIONING ELECTRICAL SYSTEM IN SAFE WORKING ORDER.
- 28. IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO EXAMINE THE CONTRACT DOCUMENTS CAREFULLY BEFORE SUBMITTING THEIR BID, WITH PARTICULAR ATTENTION TO ERRORS, OMISSIONS, CONFLICTS WITH PROVISIONS OF LAWS AND CODES HAVING JURISDICTION, CONFLICTS BETWEEN DRAWINGS OR DRAWINGS AND SPECIFICATIONS, AND AMBIGUOUS DEFINITION OF THE EXTENT OF COVERAGE BETWEEN CONTRACTS. ANY SUCH DISCREPANCY SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ARCHITECT FOR CORRECTION. SHOULD ANY OF THESE ERRORS, OMISSIONS, CONFLICTS, OR AMBIGUITIES EXIST, THE CONTRACTOR SHALL HAVE THEM EXPLAINED AND ADJUSTED IN WRITING BEFORE SIGNING THE CONTRACT OR PROCEEDING WITH THE WORK; OTHERWISE, THE CONTRACTOR SHALL, AT THEIR OWN EXPENSE, SUPPLY THE PROPER MATERIALS AND LABOR TO MAKE GOOD ANY DAMAGE OR DEFECTS IN THEIR WORK OR THE RESULTS OBTAINED THEREFROM, CAUSED BY SUCH DISCREPANCY.
- 29. WHEREVER CONFLICTS OCCUR BETWEEN DIFFERENT PARTS OF THE CONTRACT DOCUMENTS, THE GREATER QUANTITY, THE BETTER QUALITY, OR LARGER SIZE SHALL PREVAIL UNLESS THE ARCHITECT INFORMS THE CONTRACTOR OTHERWISE IN WRITING
- 30. REFERENCE THE MECHANICAL AND PLUMBING DRAWINGS FOR ALL EQUIPMENT NEEDING ELECTRICAL CONNECTIONS. MAKE ALL CONNECTIONS AND PROVIDE APPROPRIATE WIRE, CONDUIT, AND OVER CURRENT PROTECTION FOR ALL
- 31. VERIFY EXACT LOCATION OF ALL POWER CONNECTIONS AND CONTROL DEVICES WITH OTHER TRADES AND MANUFACTURERS SHOP DRAWINGS BEFORE CONSTRUCTION. COORDINATE ALL REQUIRED ENERGY MANAGEMENT SYSTEM POINTS AND CONTACT CONNECTIONS TO ENSURE THE COMPLETE AND PROPER OPERATION OF ALL SYSTEMS.
- 32. ALL FUSED SWITCH AND/OR CIRCUIT BREAKERS SERVING EQUIPMENT SHALL HAVE PROVISIONS FOR HANDLE LOCKS.
- 33. ALL CIRCUIT BREAKERS SERVING MECHANICAL EQUIPMENT SHALL BE AN 'HACR' RATING.
- 34. COORDINATE LOCATION OF ALL DISCONNECTS, CONTROL PANELS AND ELECTRICAL CONNECTIONS FOR MECHANICAL AND PLUMBING EQUIPMENT TO MAINTAIN NEC REQUIRED CLEARANCES OF 42" DEEP AND 30" WIDE IN FRONT OF
- 35. COORDINATE EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO F/S DAMPERS, VAV BOXES, FCU'S, ETC WITH MECHANICAL DRAWINGS.
- 36. ELECTRICAL CONTRACTORS MUST VERIFY ALL ELECTRICAL REQUIREMENTS WITH THE HVAC AND PLUMBING SYSTEMS TO PROVIDE ALL NECESSARY ACCESSORIES TO COMPLETE THE CONTROL WIRING FOR THE MOTORS.
- 37. CONTRACTOR SHALL VERIFY AND FURNISH EXIT SIGNS TO COMPLY WITH SECTION 1013 IFC REQUIREMENT.
- 38. PRODUCTS INSTALLED BY THE ELECTRICAL CONTRACTOR AND PROVIDE BY OTHERS MUST BE SUBMITTED FOR REVIEW PRIOR TO PURCHASING. PRODUCTS SHALL NOT BE SELECTED BASED ON PERMIT DRAWINGS WITHOUT EXPRESS PERMISSION. PRODUCTS SHALL BE SELECTED BASED ON CONSTRUCTION DRAWINGS.
- 39. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED CONDUIT, WIRING, AND SAFETY SWITCHES FOR ALL MOTORS, AND OTHER ELECTRICAL EQUIPMENT, EVEN THOUGH THE MOTORS AND ELECTRICAL EQUIPMENT MAY BE SUPPLIED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL WORK AND CONNECTIONS REQUIRED TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL. PROVIDE MAGNETIC STARTERS FOR EQUIPMENT AS INDICATED ON THE DRAWINGS.
- 40. PROVIDE A NEW LIGHTING SYSTEM COMPLETE AND FULLY OPERATIONAL AND IN CONFORMANCE WITH CODE AND UL LISTING REQUIREMENTS. CLEAN ALL FIXTURES AT TIME OF JOB COMPLETION UTILIZING MANUFACTURES APPROVED OR RECOMMENDED CLEANING SOLUTIONS. ALL FIXTURES AND LAMPS ARE PROVIDED BY THIS CONTRACTOR AS SCHEDULED UNLESS NOTED OTHERWISE. CONTRACTOR SHALL FURNISH ALL BOXES, MOUNTING KITS, TRANSFORMERS, CONTROLLERS, AND OTHER COMPONENTS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.
- 41. ALL EQUIPMENT LOCATED OUTDOORS SHALL BE LABELED NEMA-3R.
- 42. DIRECT BURIED CABLE OR CONDUIT OR OTHER RACEWAYS SHALL BE INSTALLED TO MEET THE MINIMUM COVER REQUIREMENTS OF TABLE 300.5.
- 43. FOR HOME RUNS (FROM UNITS) 100 FT OR MORE, THE ELECTRICAL CONTRACTOR HAS TO CHECK THE VOLTAGE DROP AND SELECT THE SUITABLE CABLES SIZE TO COMPLY WITH THE MAXIMUM ALLOWED VOLTAGE DROP FOR THE FEEDER CONDUCTOR (3%). THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTOR TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.
- 44. INSTALL AND MAINTAIN EMERGENCY LIGHTING AS PER IFC SECTION 1008.
- 45. CONTRACTOR SHALL FURNISH AND INSTALL ALL RECEPTACLES WITH A SELF-ADHESIVE LABEL STATIN PANELBOARD NAME AND CIRCUIT NUMBER FEEDING DEVICE. APPLY TO COVERPLATE.
- 46. ALL WIRING SHALL BE IN CONDUIT OR OTHER APPROVED RACEWAYS PER CODES.
- 47. GFCI TYPE RECEPTACLES SHALL BE SELF-CONTAINED UNITS WITH CLASS "A" SENSITIVITY.
- 48. WHERE SINGLE POLE BRANCH CIRCUIT CONDUCTORS HAVE BEEN INCREASED ABOVE THE SIZE OF THE CIRCUIT BREAKER TO COMPENSATE FOR VOLTAGE DROP, THE INCREASE SIZE SHALL EXTEND THROUGHOUT THE ENTIRE CIRCUIT, EXCEPT WHERE IT IS NECESSARY TO REDUCE THE SIZE FOR CONNECTION TO SWITCH AND RECEPTACLE TERMINALS, ETC. EQUIPMENT GROUNDING CONDUCTORS SHALL ALSO BE ADJUSTED PROPORTIONATELY PER SECTION 250.122 (B).
- 49. ELECTRICAL CONTRACTOR SHALL VERIFY SERVICE AND VOLTAGE REQUIREMENTS FOR ALL EQUIPMENT TO BE CONNECTED (BOTH NEW AND EXISTING) PRIOR TO MAKING CONNECTIONS.
- 50. PROVIDE FIRE AND SMOKE STOP PRODUCT AROUND ALL CONDUIT, EQUIPMENT, ETC. WHICH PENETRATES FLOORS, WALLS, AND CEILINGS.
- 51. NO PIPING, DUCTS OR REQUIREMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE ELECTRICAL EQUIPMENT.
- 52. THE CONTRACTORS ARE REQUIRED TO SUBMIT THEIR VALUED ENGINEERING (IF ANY) TO MEP GREEN DESIGN AND BUILD PLLC FOR ASSESSMENT AND COMMENT/APPROVAL BEFORE EXECUTING THEM ON THE JOB SITE. OTHERWISE, THE CONTRACTORS SHALL HOLD ALL RESPONSIBILITIES REGARDING RESPONDING TO THE INSPECTORS, RESUBMITTING PLANS FOR CITY REAPPROVAL, ETC. DUE TO THE CHANGES MADE ON THE JOB SITE WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD AND
- 53. WHEREVER ANY CONFLICTS OCCUR BETWEEN THE SPECIFIED BREAKER SIZE FOR MECHANICAL OR PLUMBING EQUIPMENT OF THE ELECTRICAL PLAN, WITH THE BREAKER SIZE SPECIFIED ON THE MECHANICAL /PLUMBING EQUIPMENT SCHEDULE OF THE PLUMBING/ MECHANICAL PLANS, THE VALUES SHOWN ON THE MECHANICAL /PLUMBING SCHEDULE OF THE PLUMBING/ MECH PLANS SHALL BE CONFORMED.
- 54. ALL DISCONNECT SWITCHES WILL MATCH THE BREAKER /SWITCH SIZE PROTECTING THE SAME BRANCH CIRCUIT/FEEDER IN PANEL RESPECTIVELY.
- 55. ELECTRICAL PANELS MUST BE LOCATED PER THE NEC 240.24 REQUIREMENTS. THE ELECTRICAL CONTRACTOR HAS TO VERIFY THE LOCATIONS PRIOR TO INSTALLATION.

	SYMBOL LIST	
SYMB.	DESCRIPTION	MOUNTING OR AS INDICATED
T5	STEP DOWN TRANSFORMER	SURFACE/ WALL
	ELECTRICAL PANEL	SURFACE/ WALL
	FLUORESCENT LIGHT FIXT. W/LETTER DESIG.	SURFACE/ WALL
<u> </u>	STRIP FLUORESCENT LIGHT W/LETTER DESIG.	SURFACE
A	LIGHT FIXTURE WITH LETTER DESIGNATION	RECESSED OR SURFACE
HA	LIGHT FIXTURE WITH LETTER DESIGNATION	WALL
7	EMERGENCY LIGHT FIXTURE W/BATTERY PACK	WALL
4_	EMERGENCY LIGHT FIXTURE W/REMOTE BATTERY	WALL
⊗xa	EXIT LIGHT W/LTR. DESIG. (SHADE IND. FACE)	CEILING
H ⊗ XA	EXIT LIGHT W/LTR. DESIG. (SHADE IND. FACE)	WALL
\$	SINGLE POLE SWITCH	WALL - 48"AFF
\$3	THREE-WAY SWITCH	WALL - 48"AFF
	MOTION SENSOR SWITCH	CEILING
$\vdash \mathfrak{D}$	MOTION SENSOR SWITCH-WATTSTOPPER WS-120	WALL - 48"AFF
\Rightarrow	DUPLEX RECEPTACLE - 20A	WALL - 18"AFF
 	QUAD-PLEX RECEPTACLE - 20A	WALL - 18"AFF
=	GFI DUPLEX RECEPTACLE - 20A	WALL - 18"AFF
	JUNCTION BOX	
	SAFETY SWITCH	AS NOTED
♦	MOTOR	
a,b,c,	SWITCHING SCHEME	
Е	INDICATES DEVICE ON EMERGENCY CIRCUIT	
GFI	GROUND FAULT INTERRUPTER	
IG	ISOLATED GROUND	
U.G	UNDERGROUND	

ALL WIRING SHALL BE RUN CONCEALED WHERE FEASIBLE. CONTRACTOR TO PROVIDE WIREMOLD SYSTEM TO CONCEAL WIRING IN EXPOSED CEILING AREAS. SUBMIT SHOP DRAWING FOR APPROVAL

FIELD VERIFICATION ALL CONDITIONS

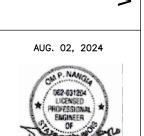
DESIGN DRAWING ARE SCHEMATIC. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, OR ENGINEER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COST TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY ARCHITECT, OR ENGINEER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTOR'S COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THE BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, OR ENGINEER OR ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

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LIGHT FIXTURES SCHEDULE

(THE CONTRACTOR SHOULD SUBMIT THE LIGHTING FIXTURE SCHEDULE TO ARCHITECT/ OWNER FOR REVIEW AND APPROVAL BEFORE BIDDING, ORDERING, OR INSTALLATION.

SYMB.	TYPE	MANUFACTURER AND MODEL	MOUNTING	No., SIZE AND TYPE LAMPS	VOLTAGE	NOTES
0	В	MLLG-LED-HBC3-80-50-120	EYE HOOK	80W LED/ 5000K	120V	
0	Α	SARIN # SES-DL4-CCT-10	RECESSED	10W LED	120V	WET LISTED
	С	EDGE-3M-E_EDITABLE OR APPROVED EQUAL	WALL	101W LED	120V	FULL CUT-OFF/ UL WET LABEL
 	EM	SARIN LIGHTING # SES-EM7012 OR APPROVED EQUAL	WALL	2.5W	120V	BATTERY BACKUP MIN OF 90 MINUTES
4	EM1	SARIN LIGHTING # SES-OEM5WP OR APPROVED EQUAL	WALL	2@12W	120V	BATTERY BACKUP MIN OF 90 MINUTES

NOTES FOR LIGHTING FIXTURE:

- 1. REFER TO LIGHTING SPECIFICATION FOR FURTHER LAMP AND BALLAST INFORMATION.
- 2. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION OF LIGHT FIXTURES
- 3. LUMINAIRES INSTALLED IN WET OR DAMP LOCATIONS SHALL BE INSTALLED SUCH THAT WATER CANNOT ENTER OR ACCUMULATE IN WIRING COMPARTMENTS, LAMP HOLDERS, OR OTHER ELECTRICAL PARTS. ALL LUMINAIRES SHALL BE SELECTED SUITABLE FOR WET LOCATIONS OR DAMP LOCATION.
- 4. RECESSED LIGHTS MUST BE RATED OR PROTECTED WHEN INSTALLED IN THE RATED FLOOR/ CEILLING ASSEMBLY WHERE APPLICABLE.
- 5. THE ELECTRICAL CONTRACTOR MUST CONFIRM THE LOCATION AND QUANTITIES OF LIGHT FIXTURES WITH THE ARCHITECT/INTERIOR DESIGNER AND REFER TO PROTOTYPE DRAWNGS (IF ANY) BEFORE PROCEEDING WITH THE INSTALLATION

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GENERAL NOTES:

- 1. GENERAL CONTRACTOR TO ENSURE THAT ALL RELOCATED AND NEW LIGHT FIXTURES TO BE INDEPENDENTLY SUPPORTED FROM THE
- 2. EMERGENCY LIGHTING TO BE INSTALLED AS PER THE IFC 2015 CHAPTER 10 SECTION 1008
- 3. EMERGENCY EGRESS TO MEET IFC 2015 CHAPTER 10 SECTION 1018
- 4. THE EMERGENCY AND EXIT LIGHTS THAT CONNECT TO LOCAL AREA NORMAL LIGHTING CIRCUITS WILL BE CONNECTED AHEAD OF ANY LOCAL SWITCHES COMPLY WITH NEC 700.12(F).
- 5. LUMINAIRES INSTALLED IN WET OR DAMP LOCATIONS SHALL BE INSTALLED SUCH THAT WATER CANNOT ENTER OR ACCUMULATE IN WIRING COMPARTMENTS, LAMP HOLDERS, OR OTHER ELECTRICAL PARTS. ALL LUMINAIRES SHALL BE SELECTED SUITABLE FOR WET LOCATIONS OR DAMP LOCATION.
- 6. CONTRACTOR SHALL VERIFY AND FURNISH EXIT SIGNS TO COMPLY WITH SECTION 1013 IFC REQUIREMENT.
- 7. THE OCCUPANCY SENSOR SWITCHES SHALL AUTOMATICALLY TURN LIGHTING ON INSTANTANEOUSLY WHEN THE ROOM/ SPACE IS OCCUPIED AND AUTOMATICALLY TURN LIGHTING OFF WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THAT ROOM/

ELECTRICAL NOTES TO COMPLY:

EACH SPACE ENCLOSED BY CEILING-HEIGHT PARTITIONS HAVE AT LEAST ONE CONTROL DEVICE TO INDEPENDENTLY CONTROL THE GENERAL LIGHTING WITHIN THE SPACE. EACH MANUAL DEVICE SHALL BE READILY ACCESSIBLE AND LOCATED SO THE OCCUPANTS CAN SEE THE CONTROLLED LIGHTING-POWER BACKUP.

A. A CONTROL DEVICE SHALL BE INSTALLED THAT AUTOMATICALLY TURNS LIGHTING OFF WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING A SPACE. OPERATION. AUTOMATIC TIME SWITCHES SHALL HAVE A COMBINATION SEVEN—DAY AND SEASONAL DAYLIGHT PROGRAM SCHEDULE ADJUSTMENT, AND A MIN. 4—HOUR POWER BACKUP.

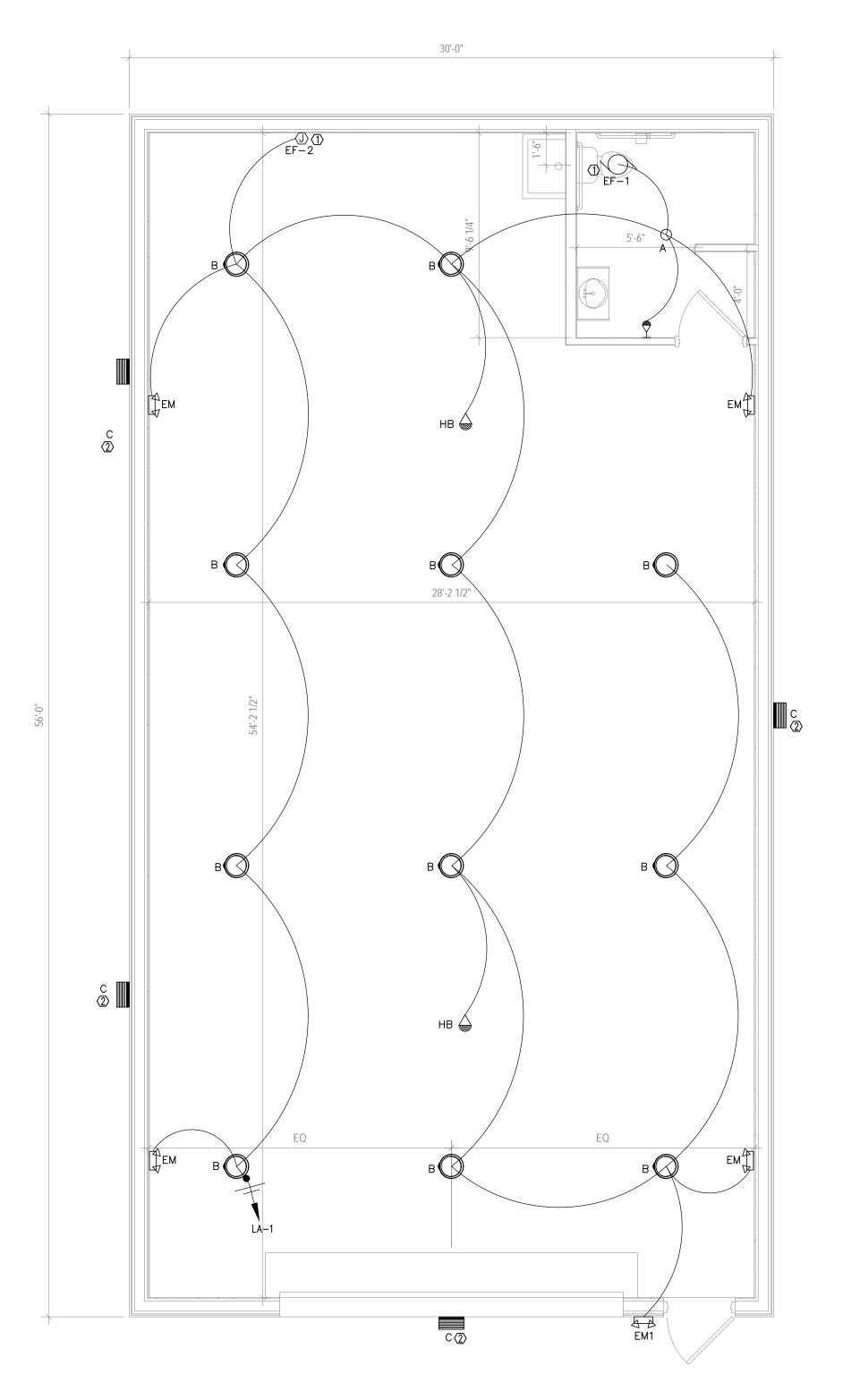
B. EACH CONTROL DEVICE SHALL BE ACTIVATED EITHER MANUALLY BY AN OCCUPANT OR AUTOMATICALLY BY SENSING AN OCCUPANT. EACH CONTROL DEVICE SHALL CONTROL A MAXIMUM OF 2500 SQUARE FEET AREA FOR A SPACE 10,000 SQUARE FEET OR LESS A MAXIMUM OF 10,000 SQUARE FEET AND BE CAPABLE OF OVERRIDING ANY TIME-OF-DAY SCHEDULE SHUT-OFF CONTROL FOR NO MORE THAN FOUR HOURS.

CONTRACTOR NOTES:

- A. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW AL DRAWINGS AND SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL PRIOR TO SUBMITTING A BID, REPORT ANY DISCREPANCIES TO ARCHITECT OR ENGINEER PRIOR TO BID.
- B. BIDDERS ARE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS AND SATISFY THEMSELVES AS TO THE NATURE AND SCOPE OF THE WORK. THE SUBMISSION OF A BID WILL BE EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT, OR MATERIALS REQUIRED, OR FOR ANY DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD AN EXAMINATION BEEN MADE WILL NOT BE ALLOWED.
- C. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ARCHITECT, LANDLORD, OR TENANT OF ANY DISCREPANCIES ENCOUNTERED ON THE PLANS OR IN EXISTING SITE CONDITIONS PRIOR TO SUBMISSION OF BID.
- D. CONTRACTOR, DURING PRE-BID SITE VISIT, SHALL TAKE NOTICE OF ANY VISUALLY APPARENT CODE VIOLATIONS AND ALLOW IN HIS/HER BID FOR CORRECTING SUCH VIOLATIONS.
- E. COORDINATE WITH OTHER TRADES FOR ITEMS IN THEIR SCOPE OF WORK WHICH WOULD REQUIRE ELECTRICAL WORK, (DISCONNECTION, RECONNECTION, ETC.), AND ARE NOT INDICATED ON ELECTRICAL DRAWINGS.
- F. THESE NOTES APPLY TO ALL SHEETS.

\bigcirc <u>KEYED NOTES:</u>

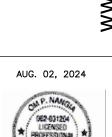
- 1. THE FAN SHALL RUN CONTINUOUSLY AND BE KEPT UNSWITCHED FROM OCCUPANCY SENSOR/ LIGHT SWITCH.
- 2. CONNECT ALL "C" EXTERIOR LIGHTS TO LA-3, USING 2#12, 1/2"C.







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APARTMENTS 56X30
CONNER ARCHITECT
ARKWAY, DEKALB, IL 60115
ARKWAY, DEKALB DV CONTRACTOR BONDING CO.

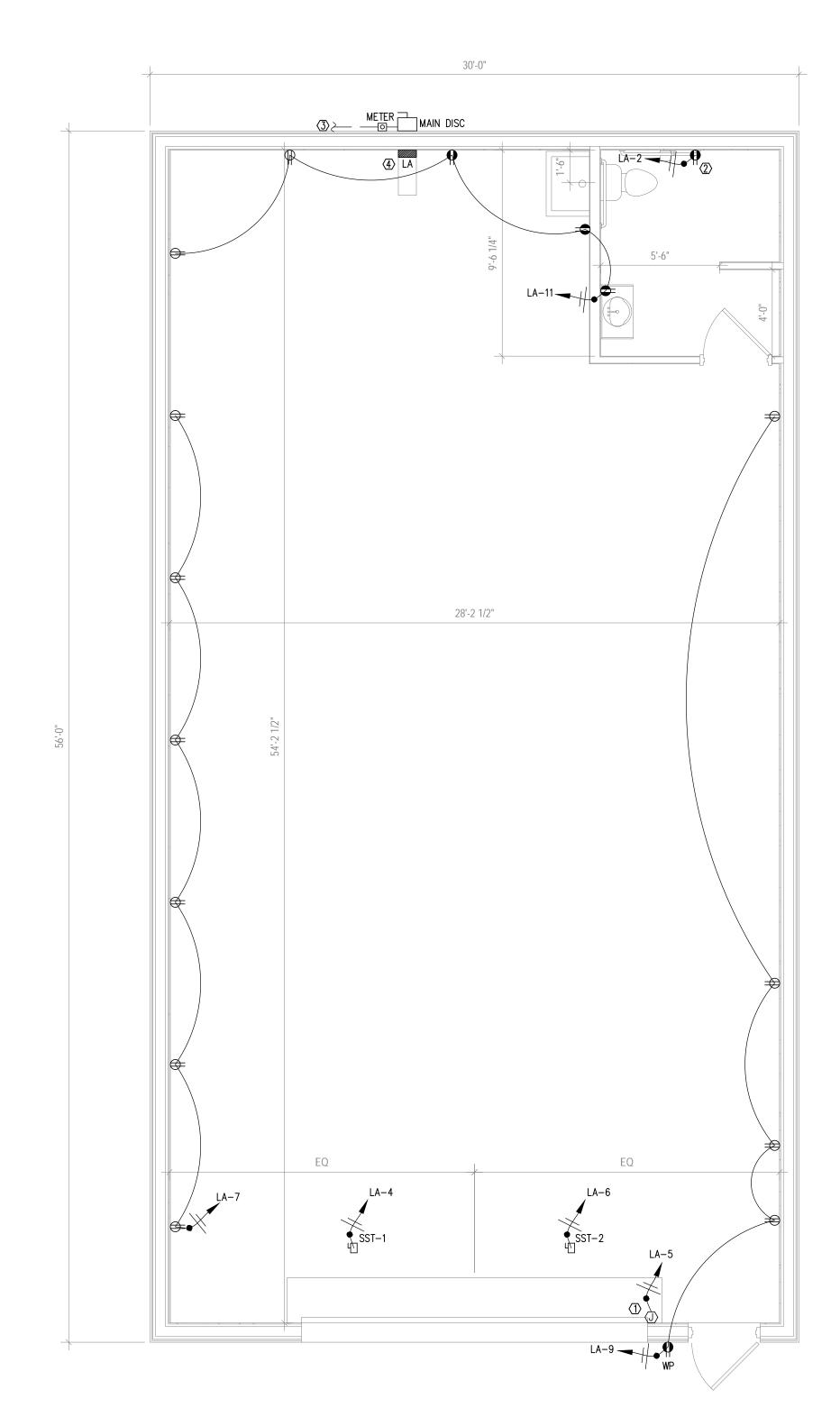
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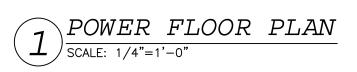
E2.0

GENERAL NOTES:

- 1. FOR HOME RUNS (FROM UNITS) 100 FT OR MORE, THE ELECTRICAL CONTRACTOR HAS TO CHECK THE VOLTAGE DROP AND SELECT THE SUITABLE CABLES SIZE TO COMPLY WITH THE MAXIMUM ALLOWED VOLTAGE DROP FOR THE FEEDER CONDUCTORS (3%). THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5
- CONTRACTORS TO COORDINATE WITH OWNER FOR LOW-VOLTAGE SYSTEMS (PHONE, DATA, SECURITY, CCTV, etc)
- 3. CODE REFERENCE: NEC 2014
- 4. HOMERUNS SHALL BE COMBINED WHERE POSSIBLE IN ACCORDING TO NFPA 70.
- 5. HOMERUN CIRCUITS FOR ISOLATED GROUND RECEPTACLES SHALL BE SEPARATED FROM OTHER CIRCUITS. EACH CIRCUIT SHALL HAVE ITS OWN NEUTRAL CONDUCTOR AND EACH HOMERUN SHALL CONTAIN AN ISOLATED AND EQUIPMENT GROUND CONDUCTOR.
- 6. WALL AND FLOOR MOUNTED POWER RECEPTACLES SHOWN NEAR DATA OUTLETS SHALL BE LOCATED WITHIN SIX (6) INCHES OF THE DATA OUTLET. LOCATE AT SAME MOUNTING HEIGHT LINESS NOTED OTHERWISE
- 7. ALL GFCI RECEPTACLES SHALL BE CONNECTED SO THAT ALL DEVICES ON THE SAME CIRCUIT AS THE GFCI RECEPTACLE DO NOT DE-ENERGIZE UPON TRIPPING. ALL GFCI RECEPTACLES SHALL INCLUDE A LOCK-OUT FUNCTION TO PROTECT AGAINST THE USE OF MISWIRED DEVICES OR DEVICES THAT HAVE BEEN DAMAGED DUE TO DISABLING SURGES.
- 8. ELECTRICAL CONTRACTORS MUST VERIFY ALL ELECTRICAL REQUIREMENTS WITH THE HVAC AND PLUMBING SYSTEMS TO PROVIDE ALL NECESSARY ACCESSORIES TO COMPLETE THE CONTROL WIRING FOR THE MOTORS.
- 9. VERIFY WITH THE SUPPLIER /MANUFACTURER TO PROVIDE BUCK BOOST TRANSFORMER (FROM 208V TO 230V) FOR THE 230V EQUIPMENT IF REQUIRED.

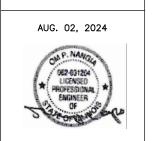
- 1. J.BOX FOR DOOR OPERATOR. VERIFY LOCATION ON SITE PRIOR TO INSTALLATION.
- 2. RECEPTACLES FOR WATER HEATER. VERIFY LOCATION WITH PLUMPING PLAN PRIOR TO INSTALLATION.
- 3. U.G CABLES CONNECT TO UTILITY TRANSFORMER. REFER TO ONE LINE DIAGRAM ON SHEET E1.0 FOR MORE DETAILS
- 4. FIELD VERIFICATION OF THE BEST LOCATION OF ELECTRICAL PANELS PRIOR TO INSTALLATION. THE LOCATION OF ELECTRICAL PANELS MUST COMPLY WITH 110.26 AND 240.24 OF THE NEC







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RWOOD APARTMENTS 56X30 COMMERCIAL BUILDING

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Project Number

REVISION DATE

BARE DIAGRAM

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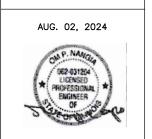
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Interior Lighting Compliance Certificate Project Information Energy Code: Project Title: Project Title: Project Type: Construction Site: 3345 Resource Parkway DeKalb, IL Additional Efficiency Package(s) Designer/Contractor: MEP Green Designs & Build For 915 Gemini St, Houston, TX 77058 281-786-1195	
Energy Code: Project Title: The Storage at Briarwood Apartments Project Type: New Construction Construction Site: 3345 Resource Parkway DeKalb, IL Designer/Contractor: MEP Green Designs & Build F 915 Gemini St, Houston, TX 77058	PLLC
Project Title: The Storage at Briarwood Apartments Project Type: New Construction Construction Site: Owner/Agent: Designer/Contractor: 3345 Resource Parkway DeKalb, IL 915 Gemini St, Houston, TX 77058	PLLC
3345 Resource Parkway DeKalb, IL MEP Green Designs & Build F 915 Gemini St, Houston, TX 77058	PLLC
Credits: 1.0 Required 1.0 Proposed Reduced Lighting Power, 1.0 credit Allowed Interior Lighting Power	
A B C	D Allowed Watts
1-Common Space Types:Storage 1576 0.57 2-Common Space Types:Restrooms 104 0.77	898 80
Total Allowed Watts =	978
Proposed Interior Lighting Power	
A B C D Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast Lamps/ # of Fixture Fixture Watt.	
1-Common Space Types:Storage LED: B: Other: 1 11 80	880
LED: B: Other: 1 11 80	880
LED: B: Other: 1 11 80 2-Common Space Types:Restrooms	10
2-Common Space Types:Restrooms LED: A: Other: 1 <td< td=""><td>10</td></td<>	10
LED: B: Other: 2-Common Space Types:Restrooms LED: A: Other: 1 11 80 Total Proposed Watts Interior Lighting PASSES: Design 9% better than code Interior Lighting Compliance	10
LED: B: Other: 2-Common Space Types:Restrooms LED: A: Other: 1 1 1 10 Total Proposed Watts Interior Lighting PASSES: Design 9% better than code Interior Lighting Compliance Statement Compliance Statement: The proposed interior lighting design represented in this document is consistent with the buspecifications, and other calculations submitted with this permit application. The proposed interior lighting systems designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any application.	10 = 890 uilding plans, have been
LED: B: Other: 1 11 80 2-Common Space Types:Restrooms LED: A: Other: 1 1 1 10 Total Proposed Watts Interior Lighting PASSES: Design 9% better than code	uilding plans, have been ble





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