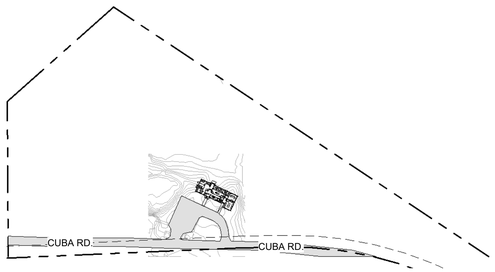
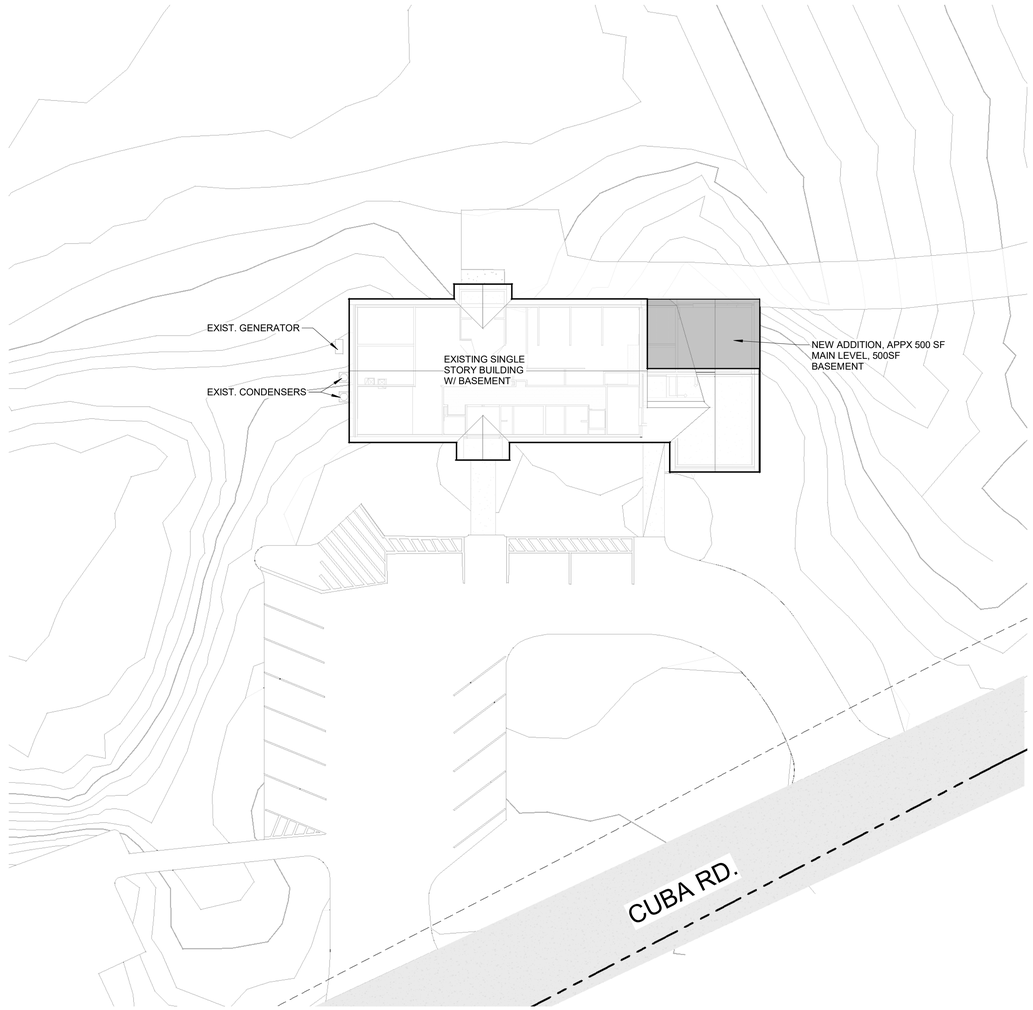
CUBA TOWNSHIP BLDG. ADDITION

28000 W CUBA RD, BARRINGTON, IL 60010



2 REF. SITE PLAN
1" = 200'-0"

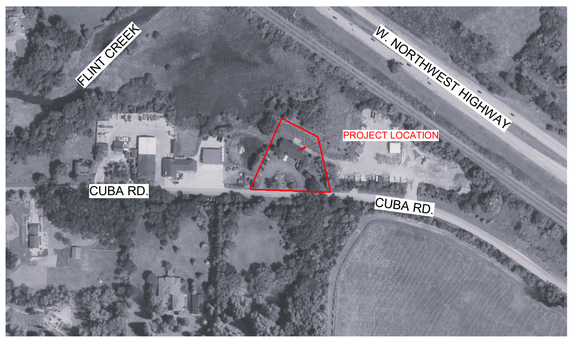


1 SITE PLAN
1" = 20'-0"

LIST OF DRAWINGS

	NAME	DESCRIPTION	CURRENT REVISION NO.	CURRENT REVISION DATE
GENERAL				
1	G1-1	GENERAL BUILDING INFORMATION	3	08.26.2026
2	G1-2	CODE STUDY	2	06.30.2026
3	G1-3	ACCESSIBLITY STANDARDS		
4	G1-4	PHOTOS		
5	G1-5	SPECIFICATIONS		
6	G1-6	SPECIFICATIONS		
7	G1-7	SITE PLAN	1	05.18.2026
8	G1-8	SILTWORM DETAILS	1	05.18.2026
ARCHITECTURAL				
9	A0-1	DEMOLITION PLAN		
10	A0-2	DEMO REFLECTED CEILING PLAN		
11	A1-1	FIRST FLOOR PLAN	4	09.09.2026
12	A1-2	BASEMENT PLAN	4	09.09.2026
13	A1-3	FOUNDATION PLANS AND DETAILS	4	09.09.2026
14	A1-4	REFLECTED CEILING PLANS	3	08.26.2026
15	A1-5	ROOF PLAN	4	09.09.2026
16	A2-1	EXTERIOR ELEVATIONS		
17	A2-2	EXTERIOR ELEVATIONS & SECTIONS	3	08.26.2026
18	A3-1	BUILDING SECTIONS	3	08.26.2026
19	A3-2	INTERIOR ELEVATIONS	3	08.26.2026
20	A3-3	3D PERSPECTIVES		
21	A3-4	WALL SECTIONS	4	09.09.2026
22	A3-5	WALL SECTIONS & DETAILS	4	09.09.2026
23	A4-1	WALL TYPES & DETAILS	3	08.26.2026
24	A4-2	SCHEDULES	3	08.26.2026
MECHANICAL				
25	M0.1	MECHANICAL LEGENDS, ABBREVIATIONS AND NOTES		
26	M0.2	MECHANICAL SPECIFICATIONS		
27	M1.0	MECHANICAL BASEMENT FLOOR PLAN		
28	M1.1	MECHANICAL FIRST FLOOR PLAN		
29	M2.0	MECHANICAL DETAILS		
30	M3.0	MECHANICAL SCHEDULES		
ELECTRICAL				
31	E0.0	ELECTRICAL COVER SHEET		
32	E1.0	BASEMENT LIGHTING PLAN		
33	E1.1	FIRST FLOOR LIGHTING PLAN		
34	E2.0	BASEMENT POWER PLAN		
35	E2.1	FIRST FLOOR POWER PLAN		
36	E3.0	ELECTRICAL SCHEDULES		

SITE LOCATION



LIST OF ABBREVIATIONS

@	AT (THE RATE OF)	FD	FLOOR DRAIN	PLAS LAM	PLASTIC LAMINATE
&	AND	FL	FLOOR	PSP	POUNDS PER SQUARE FOOT
#	NUMBER OR POUND	FT	FOOT	PT	PAINT
ACT	ACOUSTIC CEILING TILE	GL	GLASS	PTD	PAINTED
AFF	ABOVE FINISHED FLOOR	GYP BD	GYPSUM WALLBOARD	REQ'D	REQUIRED
ALUM	ALUMINUM	HC	HOLLOW CORE	SC	SOLID CORE
BLDG	BUILDING	HCA	HANDICAP ACCESSIBLE	ST/ST	STAINLESS STEEL
B/O	BOTTOM OF	HT	HEIGHT	SECT	SECTION
CL	CENTER LINE	HM	HOLLOW METAL	SF	SQUARE FOOT
CLG	CEILING	INSUL	INSULATION	SY	SQUARE YARD
COL	COLUMN	JB	JUNCTION BOX	SHT	SHEET
CONC	CONCRETE	LA	LANDSCAPE ARCHITECT	STD	STANDARD
CONST	CONSTRUCTION	LAM	LAMINATE OR LAMINATED	STL	STEEL
CONT	CONTINUOUS	LAV	LAVATORY	T&B	TOP AND BOTTOM
CONTR	CONTRACTOR	MAX	MAXIMUM	T&G	TONGUE AND GROOVE
CPT	CARPET	MECH	MECHANICAL	THK	THICK, THICKNESS
DET	DETAIL	MO	MASONRY OPENING	T/O	TOP OF
DIA	DIAMETER	MTL	METAL	TYP	TYPICAL
DIAG	DIAGONAL	MFG	MANUFACTURER	UNO	UNLESS NOTED OTHERWISE
DIM	DIMENSION	MIN	MINIMUM	VCT	VINYL COMPOSITION TILE
DWGS	DRAWINGS	MISC	MISCELLANEOUS	VIF	VERIFY IN FIELD
ELECT	ELECTRICAL	NIC	NOT IN CONTRACT	W/	WITH
EL	ELEVATION	NO	NUMBER	W/O	WITHOUT
EQ	EQUAL	NTS	NOT TO SCALE	W/C	WATERCLOSET
EW	EACH WAY	OC	ON CENTER	YD	YARD
EXT	EXTERIOR	OD	OUTSIDE DIAMETER		
EXIST	EXISTING				
EXP JT	EXPANSION JOINT				

SYMBOLS LEGEND

ROOM IDENTIFICATION TAG
ROOM
000
ROOM NAME
ROOM NUMBER

DOOR IDENTIFICATION TAG
101-1
DOOR LOCATION
DOOR NUMBER

ELEVATION TAG
X
A.X.X
SIM
DRAWING NUMBER
SHEET NUMBER

SECTION TAG
TYP
X
A.X.X
TAG NOTE
DRAWING NUMBER
SHEET NUMBER

NOTE: ARROW FILL REMOVED WHEN USING THE BUILDING SECTION TAG

DETAIL TAG
1
A101
SIM
DRAWING NUMBER
TAG NOTE
SHEET NUMBER

N
NORTH ARROW
1
KEYNOTE
ELEVATION TAG
XX
WALL TYPE TAG
1hr
WALL FIRE RATING TAG
REVISION CLOUD
HANDICAP ACCESSIBLE
FE
FIRE EXTINGUISHER
EXISTING EXIT SIGN
NEW EXIT SIGN
EXISTING EMERGENCY LIGHT
NEW EMERGENCY LIGHT

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DO NOT SCALE THE PLANS. ALL DIMENSIONS SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO ASSEMBLY.

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001-015516
REGISTERED LICENSED ARCHITECT
OF
ILLINOIS
EXP. 11/30/26

DESIGN FIRM #: IL 184-002172

DATE OF SIGNATURE: 2/25/2026

This seal and signature cover only the structural design, framing, and/or structural calculations shown on these sheets. The engineer assumes no responsibility for architectural layout, dimensions, life safety compliance, or non-structural components depicted herein

MICHAEL J WILBUR
081-4248
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

9/9/2026

REV 4 9-10-26

Expires 11/30/2026

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ENGINEERS
-

CUBA TOWNSHIP BLDG. ADDITION
28000 W CUBA RD, BARRINGTON, IL 60010
Contact Info

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description
1	05.18.2026	Revision 1
3	08.26.2026	Revision 3

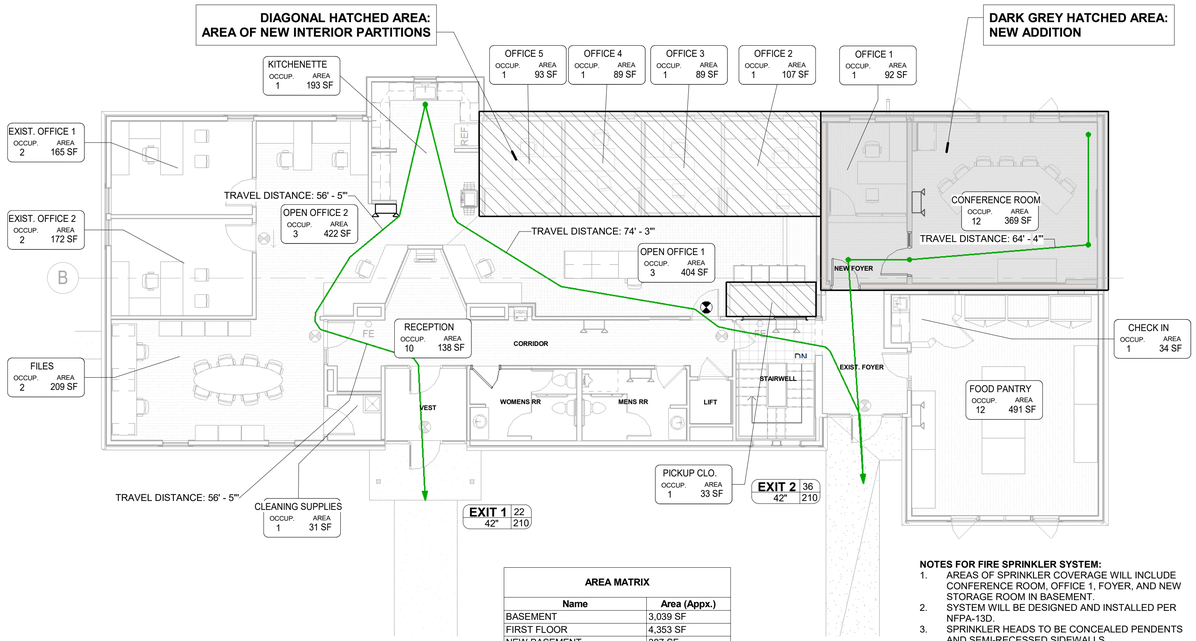
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GENERAL BUILDING INFORMATION

G1-1

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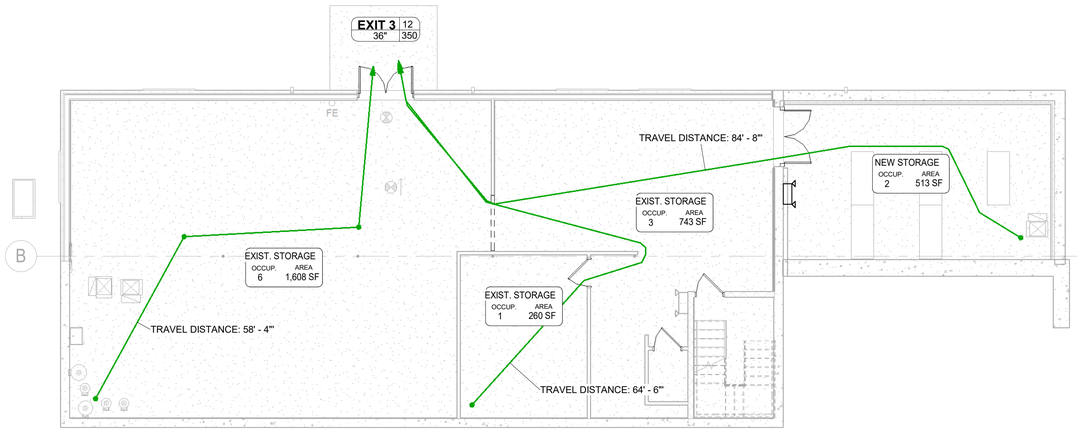


1 FIRST FLOOR - EGRESS PLAN
1/8" = 1'-0"

AREA MATRIX	
Name	**Area (Appx.)**
BASEMENT	3,039 SF
FIRST FLOOR	4,353 SF
NEW BASEMENT	387 SF
	7,778 SF

NOTES FOR FIRE SPRINKLER SYSTEM:

1. AREAS OF SPRINKLER COVERAGE WILL INCLUDE CONFERENCE ROOM, OFFICE 1, FOYER, AND NEW STORAGE ROOM IN BASEMENT.
2. SYSTEM WILL BE DESIGNED AND INSTALLED PER NFPA-13D.
3. SPRINKLER HEADS TO BE CONCEALED PENDENTS AND SEMI-RECESSED SIDEWALLS.
4. (1) WATER TANK (APPROX. 300 GALLONS) – INSTALLED IN NEW STORAGE ROOM.
   A. NOVA WILL DROP TANK DOWN INTO STORAGE ROOM PRIOR TO 1ST FLOOR DECK ABOVE BEING INSTALLED.
5. (1) 13D FIRE PUMP. (POWER/ALARM WIRING BY OTHERS).
6. (1) 1" DUAL CHECK VALVE INSTALLED ON TANK. THE PLUMBER MUST CONNECT WATER RE-SUPPLY LINE TO THIS VALVE.
7. ONE FLOW SWITCH WILL BE INSTALLED ON THE SYSTEM (WIRING BY OTHERS).
8. ENGINEERED SHOP DRAWINGS, HYDRAULIC CALCULATIONS, AND SUBMITTAL TO CITY FOR PERMIT REVIEW.
9. ENTIRE SYSTEM TO BE WET PIPE.
10. ALL SIGNS REQUIRED PER CODE ARE INCLUDED.
11. ALL SPRINKLER PIPING SHALL BE INSTALLED PER MANUFACTURER'S LISTING AND APPROVALS.
12. NOVA FIRE PROTECTION WILL SUPPLY THE CITY-REQUIRED ANNUNCIATION DEVICES TO BE INSTALLED/WIRED BY OTHERS. IN MOST CITIES THIS INCLUDES
    ONE ALARM BELL PER FURNACE AND ONE EXTERIOR HORN/STROBE DEVICE.
13. HYDROSTATIC TESTING AND/OR INSPECTION WITH CITY OFFICIAL UPON COMPLETION.



2 BASEMENT - EGRESS PLAN
1/8" = 1'-0"

ENERGY CODE REQUIREMENTS

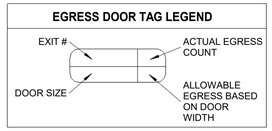
IECC 2024 TABLE C301.1, C402.1.3 AND C402.4, R402.1

CLIMATE ZONE (C301.1): 5A		COMMERCIAL	RESIDENTIAL- 4+ ST., R2, R3, R4, NOT 1&2 FAMILY
ROOFS (C402.1.3/ R402.1.3)	INSULATION ENTIRELY ABOVE ROOF	R-30 ci (continuous insulation)	R-30ci (IL AMMEND. 2024)
	METAL BUILDINGS (b)	R-19 + R-11 LS (Liner System)	N/A
	ATTIC AND OTHER	R-49	R-49
WALLS ABOVE GRADE (C402.1.3)	MASS (g)	R-11.4ci	R-13/17
	METAL BUILDING	R-13+R-14ci	N/A
	METAL FRAMED	R-0+R-15.2ci or R-13 +R-10ci or R20+R-9ci	**Steel-Frame, 16" O.C.:** (R-20+5): R-13+12.7 or R-15+12.3 or R-19+11.6 or R-21+11.3 or R-25+ 10.9 (R-13+10): R-0+20 or R-13+15 or R-15+14 or R-19+13 or R-21+13 **Steel-Frame, 24" O.C.:** (R-20+5): R-13+11.5 or R-15 +10.9 or R-19+10.1 / R-21+ 9.7 or R-25+9.1 (R-13+10): R-0+20 or R-13+ 13 or R-15+12 or R-19+11 or R-21+11
	WOOD FRAMED AND OTHER	R-0+R-16CI or R-13+R-7.5ci or R20+R3.8ci or R-27	30 or 20+5ci or 13+10ci or 0+20ci
WALLS BELOW GRADE (C402.1.3/ R402.1.3)	BELOW-GRADE WALL (d)	R-7.5ci	15ci or 19 or 13+5ci
FLOORS (C402.1.3/ R402.1.3)	MASS (e)	R-14.6ci	30 or 19+7.5ci or 20ci
	JOIST/FRAMING	R-30	R-30
SLAB-ON-GRADE FLOORS (C402.1.3 / R402.1.3)	UNHEATED SLABS	R-15 FOR 24" BELOW	R-10ci FOR 36" DEPTH
	HEATED SLABS (h)	R-15 FOR 36" BELOW + R-5 FULL SLAB	R-10ci, 36" and R-5 full slab
OPAQUE DOORS (C402.1.4 / R402.1.2)	NON-SWINGING	U-0.31	U-0.31
	SWINGING DOOR (C402.1.4)	U-0.37	U-0.37
	GARAGE DOOR (<14% GLAZING)	U-0.31	U-0.31
FENESTRATION (C402.4 / R402.1.2)	FIXED FENESTRATION:	U-0.34, SHGC- 0.33	U-0.30, SHGC: N/A
	OPERABLE FENESTRATION:	U-0.45, SHGC- 0.38	U-0.30, SHGC: N/A
	ENTRANCE DOORS:	U-0.63, SHGC- 0.40	U-0.30, SHGC: N/A
	SKYLIGHTS:	U-0.50, SHGC- 0.40	U-0.50, SHGC: N/A

(b) Where using R-value compliance method, a thermal spacer block shall be provided, otherwise use the U-factor compliance method in Table C402.1.4
(d) Where heated slabs are below grade, below-grade walls shall comply with exterior insulation requirements for heated slabs.
(e) "Mass floors" shall be in accordance with Section C402.2.3
(f) "Mass walls" shall be in accordance with Section C402.2.2.
(g) The first value is for perimeter insulation and the second value is for full, under-slab insulation. Perimeter insulation is not required to extend below the bottom of the slab.

NOTES:
1. PER 2024 IECC C402.2.4: "WHERE THE SLAB-ON-GRADE IS GREATER THAN 24 INCHES (610MM) BELOW THE FINISHED EXTERIOR GRADE, PERIMETER INSULATION IS NOT REQUIRED."

EGRESS DOOR TAG LEGEND



01 - Code Study - Occupancy Calculation

Name	Occupancy 1/x	Area	Total Occupants
NEW STORAGE	300	513 SF	2
CONFERENCE ROOM	15	369 SF	25
OFFICE 1	150	92 SF	1
FOOD PANTRY	150	491 SF	4
OFFICE 2	150	107 SF	1
OFFICE 3	150	89 SF	1
OFFICE 4	150	89 SF	1
OFFICE 5	150	93 SF	1
PICKUP CLO.	0	33 SF	
CHECK IN	0	34 SF	
FILES	150	209 SF	2
MENS RR	0	93 SF	
WOMENS RR	0	95 SF	
VEST	150	77 SF	1
NEW FOYER	150	69 SF	1
EXIST. FOYER	150	115 SF	1
STAIRWELL	0	120 SF	
CORRIDOR	0	163 SF	
KITCHENETTE	150	193 SF	2
OPEN OFFICE 2	150	422 SF	3
OPEN OFFICE 1	150	404 SF	3
CLEANING SUPPLIES	0	31 SF	
EXIST. OFFICE 2	150	172 SF	2
EXIST. OFFICE 1	150	165 SF	2
RECEPTION	15	138 SF	10
LIFT	0	22 SF	
EXIST. STORAGE	300	1,608 SF	6
EXIST. STORAGE	300	743 SF	3
EXIST. STORAGE	300	260 SF	1

BUILDING INFORMATION

SUMMARY OF WORK:
1. BUILDING ADDITION TO MAIN LEVEL APPX 900SF WITH BASEMENT
2. NEW INTERIOR OFFICES RENOVATION
3. (1) NEW EXTERIOR WINDOW IN EXISTING EXTERIOR WALL
4. NEW INTERIOR LIGHTING
5. NEW FINISHES
6. NEW FIRE SPRINKLER SYSTEM WITH TANK & PUMP ASSEMBLY PER NFPA 13D IN NEW ADDITION ONLY.

APPLICABLE CODES **ALL CODES MAY BE SUBJUECT TO MUNICIPAL AMENDMENTS

2024 INTERNATIONAL BUILDING CODE
2024 INTERNATIONAL FIRE CODE
2024 INTERNATIONAL FUEL AND GAS CODE
2024 INTERNATIONAL MECHANICAL CODE
2023 NATIONAL ELECTRIC CODE, 2023 NFPA 70
2014 ILLINOIS STATE PLUMBING CODE
2024 ILLINOIS ENERGY CONSERVATION CODE
2018 ILLINOIS ACCESSIBILITY CODE, 2003 ICC/ANSI ACCESSIBILITY CODE

OCCUPANCY CLASSIFICATION AND USE TYPES (CH. 3)

PROPOSED OCCUPANCY: USE GROUP: B - BUSINESS
ZONING CLASSIFICATION: UNINCORPERATED

TYPE OF CONSTRUCTION (CH 6): 5B
FIRE PROTECTION: EXIST. BUILDING UNSPRINKLERED
PER TIM AHLER @ BARRINGTON COUNTRYSIDE FPD, ONLY NEW ADDITION AREA WILL REQUIRE FIRE PROTECTION BASED ON NFPA 13D SYSTEM.

S.F. ANALYSIS: (APPROXIMATIONS +/ 20 s.f.)
1. FIRST FLOOR: 3,860 SF + 495 SF (ADDITION) = 4,355 SF
2. BASEMENT: 3,170 SF + 520 SF (ADDITION) = 3,690 SF
3. TOTAL AREA: 8,045 SF

ALLOWABLE AREA:
ALLOWABLE HEIGHT: 2 STORIES; 35' MAX HEIGHT

MEANS OF EGRESS (CH. 10)

DEAD END LIMIT (1020.5):	20 FEET / 50 FT. IN M OCCUPANCY
NUMBER OF EXITS REQUIRED (1006.2.1):	2 PER FLOOR
CORRIDOR WIDTH (1020.3):	44" MINIMUM / 36" MIN. IF SERVING <50
CLEAR EXIT WIDTH:	32" (36" NOMINAL)
STAIR WIDTH:	44" MINIMUM / 36" MIN. IF SERVING <50
LANDING WIDTH:	48" MINIMUM OR WIDTH OF STAIRCASE
STAIR HANDRAIL HEIGHT:	34" - 38"
STAIR GUARDRAIL HEIGHT:	42"
PANIC HARDWARE:	50 OR MORE
DOOR SERVING OCCUPANT LOADS:	2 FOR OCCUPANCY W/ 50 OR MORE
MINIMUM WIDTH AT DOORS:	MINIMUM 32" CLEAR OPENING

1. TYPICAL EGRESS WIDTHS, SPRINKLED BUILDING (1005.3.1):
   STAIRWAYS: .3" PER OCCUPANT
   OTHER AREAS: .2" PER OCCUPANT
2. TRAVEL DISTANCE (1017.2):
   B OCCUPANCY- 200' W/OUT SPRINKLER

FIRE RESISTANCE RATING REQUIREMENTS (TABLE 601)

STRUCTURAL FRAME:	0-HRS
ROOF:	0-HR SUPPORTING ROOF ONLY BEARING WALLS
BEARING WALLS	
EXTERIOR	0-HRS - SEE TABLE 601 and as per 704.5: within 5'
INTERIOR	
NON-BEARING WALLS:	0 HRS
EXTERIOR:	0 HRS
INTERIOR	0 HRS
ROOF CONSTRUCTION:	0 HRS

FIRE RESISTANCE OF THE EXTERIOR WALL AND OPENINGS PER TABLE 705.5 AND 709.5

0 HR	IF STRUCTURE IS OVER 30 FT AWAY FROM THE FACE OF THE BUILDING. (PERTAINS TO DOOR 104 AND 103)
1 HR	IF DISTANCE FROM FAÇADE TO ADJACENT PROPERTY LINE IS BETWEEN 10' AND 30'
45% OF WALL CAN BE AN OPENING	IF THE BUILDING IS GREATER THAN 20' - 25' AWAY

FLAME SPREAD PER CHAPTER 8 (TABLE 803.9):
ALL NEW INTERIOR FINISHES SHALL COMPLY WITH CHAPTER 8 IBC:

	EXIT ENCLS.	CORRIDORS	ROOMS & ENC. SPACES
GROUP B:	B	C	C

ASTM E84 / FLAME SPREAD (FS) AND SMOKE DEVELOPMENT (SD) INDEX:

CLASS	FLAME SPREAD	SMOKE DEVELOPED
A	FRS: 0-25	0-450
B	FOS: 26-75	0-450
C	FOS: 76-200	0-450

NOTE: BARRINGTON COUNTRYSIDE FIRE PROTECTION DISTRICT IS RESPONSIBLE FOR FIRE PROTECTION

ADA REQUIREMENTS

SEE SHEET G1-2 AREA OF REFUGE
-LOCATIONS AT STAIRS AS SHOWN
-COMMUNICATION DEVICES NOT REQUIRED IF SPRINKLED BUILDING

DESIGN LOADS

DESIGN LOADS: SEE STRUCTURAL

ALLEN PEPA ARCHITECTS
INFO@ALLENPEPA.COM
TEL: (630) 578-1105
215 FULTON ST., GENEVA, IL 60134

ENGINEERS
-

CUBA TOWNSHIP BLDG. ADDITION

28000 W CUBA RD, BARRINGTON, IL 60010

Contact Info

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description
1	05.18.2026	Revision 1
2	06.30.2026	Revision 2

PROJECT NO.	25-023
DRAWN BY	-
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SHEET	2 OF 44

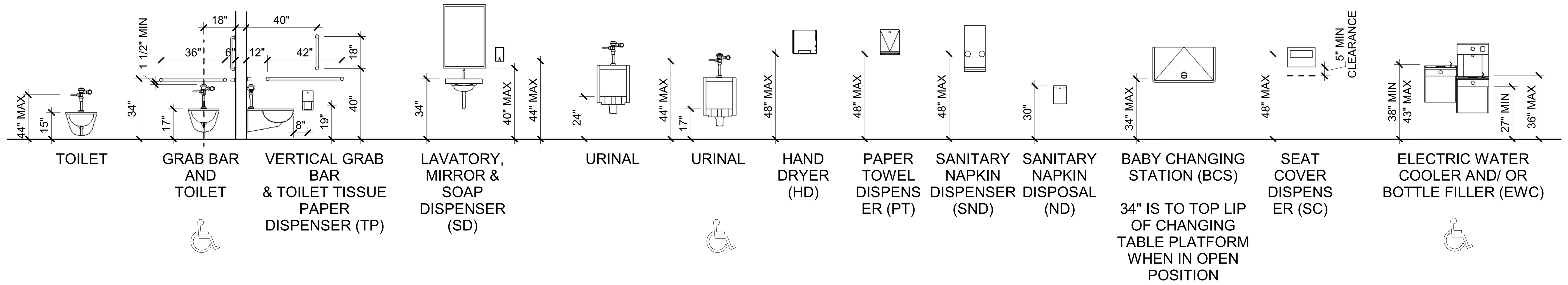
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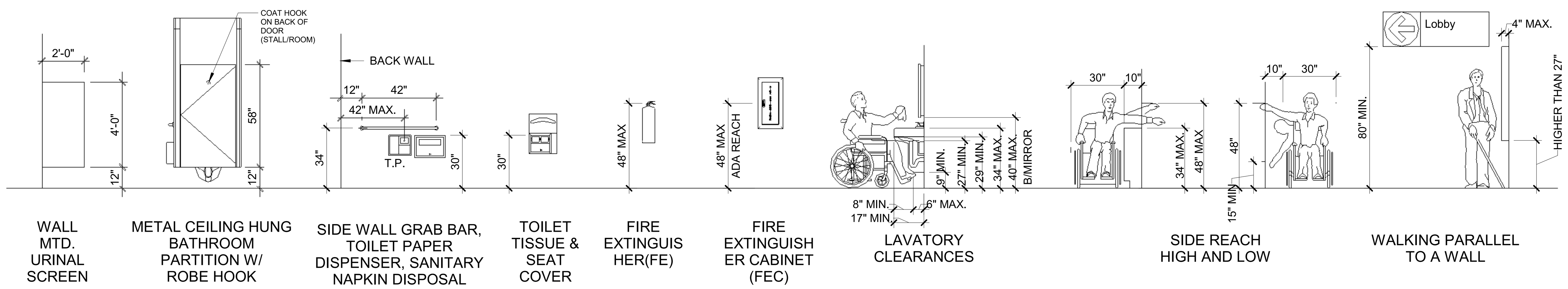
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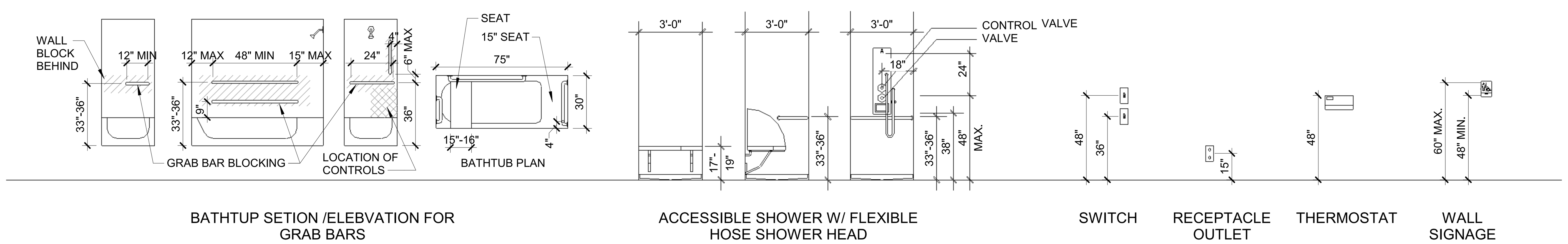
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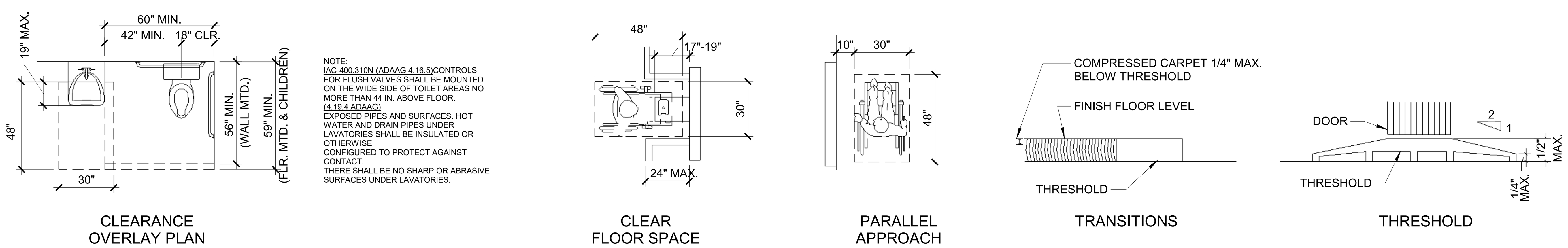
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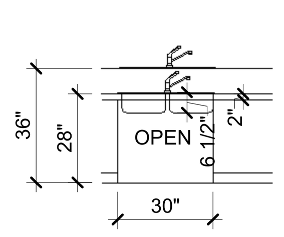






SINK and COUNTER: replaceable as a unit, or adjustable ht. btwn 28" and 36", or fixed ht of 34" or less. See SECT. 400.360(d) 5B

SINK: The depth of a bowl shall be no greater than 6-1/2 in. Only one bowl of double-bowl or triple-bowl sinks needs to meet this requirement. See SECT.400.360(d 5C

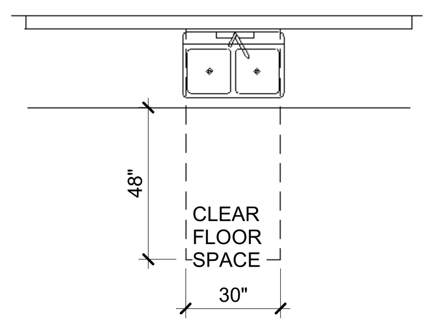


BASE CABINETS: removable under the full 30 in. minimum frontage of the counter. The finished floor shall extend under the counter to the wall. See 400.360(d 5E

PLUMBING: Where sinks are installed to be adjustable in height, rough-in plumbing shall be located to accept connections of supply and drain pipes for sinks mounted at the height of 28 in. See 400.360(d)5B

SINK AND COUNTER ELEVATION

FAUCET: lever operated or push-type operation. See 400.360(d)5D

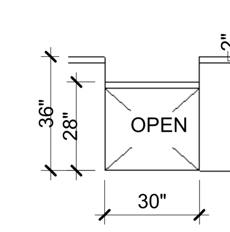


CLEAR FLOOR SPACE: A clear floor space at least 30 in. by 48 in. at all appliances in the kitchen, inc. the range, oven, refrigerator, dishwasher, and trash compactor. See 400.360(d) 2

SINK AND COUNTER PLAN

BASE CABINETS: removable under the full 30 in. minimum frontage of the counter. The finished floor shall extend under the counter to the wall. 400.360(d)4B

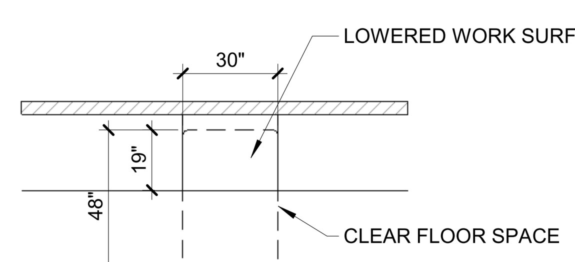
WORK SURFACE: at least (1) 30" section of counter replaceable as a unit, or adjustable ht. btwn 28" and 36", or fixed ht of 34" or less. See 400.360(d)4A



ROUTE:Accessible kitchens and their components shall be on an accessible route.

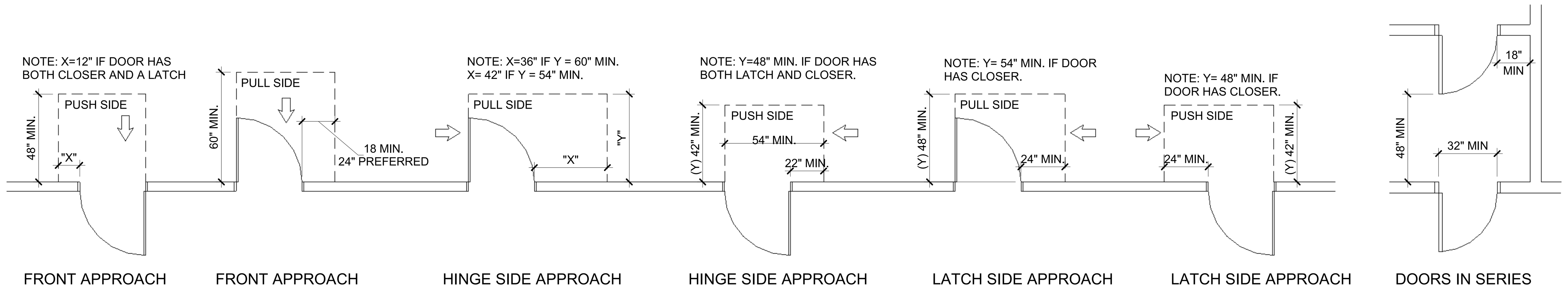
CLEARANCE: Where counters provide the knee clearances specified in Section 400.310(n)(7)(B), clearances between those counters and all opposing base cabinets, countertops, appliances, or walls in kitchens shall be 40 in. min.except in U-shaped kitchens, where such clearances shall be 60 in.

KITCHEN WORK SURFACE



CLEAR FLOOR SPACE: a clear floor space of 30 in. by 48 in. 19" max of the clear floor space may extend underneath the counter.The knee space shall have a min.clear width of 30 in. 400.360(d)4D

KITCHEN WORK SURFACE



ADA GENERAL NOTES

1. ALL HEIGHTS ARE TYPICAL, UNO.
2. SOAP DISPENSERS (SD), TOILET TISSUE PAPER DISPENSERS (TP) AND PAPER TOWEL DISPENSERS (PTD) ARE TO BE SUPPLIED BY OWNER AND INSTALLED BY TRADE CONTRACTOR. TRADE CONTRACTOR TO INSTALL BLOCKING IN WALLS AS REQUIRED.
3. COORDINATE FLUSH VALVE HEIGHT SO AS NOT TO INTERFERE WITH GRAB BAR INSTALLATION.
4. COORDINATE FLUSH VALVE HANDLE POSITION SO AS TO FACE AWAY FROM NEAREST WALL/ PARTITION WALL.
5. IF FIRE EXTINGUISHER (FE) WEIGHS LESS THAN OR EQUAL TO 40 LBS, THEN MOUNTING HEIGHT = 52" AFF. IF FIRE EXTINGUISHER (FE) WEIGHS MORE THAN 40 LBS, THEN MOUNTING HEIGHT = 42" AFF.
6. ALL ILLUSTRATIONS HEREIN ARE INCLUDED AS REFERENCE ONLY. ALL DIMENSIONS AND CLEARANCES SHOULD BE VERIFIED WITH ADAAG CURRENT GUIDELINES AND ILLINOIS ACCESSIBILITY CODE.
7. MANUEVERING CLEARANCE @ DOORS PER ILLINOIS ACCESSIBILITY CODE SECTION 400, ILLUSTRATION B, FIG. 25

CLEAR FLOOR OR GROUND SPACE FOR WHEELCHAIRS

1. THE MINIMUM, CLEAR FLOOR OR GROUND SPACE REQUIRED TO ACCOMMODATE A SINGLE, STATIONARY WHEELCHAIR AND OCCUPANT IS 30 INCHES X 48 INCHES. THE MINIMUM CLEAR FLOOR OR GROUND SPACE FOR WHEELCHAIRS MAY BE POSITIONED FOR FORWARD OR PARALLEL APPROACH TO AN OBJECT. CLEAR FLOOR OR GROUND SPACE FOR WHEELCHAIRS MAY BE PART OF THE KNEE SPACE REQUIRED UNDER SOME OBJECTS.
2. PROVIDE AN ADDITIONAL 12 INCHES WIDTH ON ONE SIDE FOR ALCOVES GREATER THAN 15 INCHES DEEP AND DESIGNED FOR SIDE APPROACH.
3. PROVIDE AN ADDITIONAL 6 INCHES WIDTH ON ONE SIDE FOR ALCOVES GREATER THAN 24 INCHES DEEP AND DESIGNED FOR FRONTAL APPROACH.

HAZARDS AND PROTRUDING OBJECTS

1. OBJECTS PROJECTING FROM WALLS WITH THEIR LEADING EDGES BETWEEN 27 INCHES AND 80 INCHES ABOVE THE FINISHED FLOOR SHALL PROTRUDE NO MORE THAN 4 INCHES INTO WALKS, HALLS, CORRIDORS, PASSAGEWAYS, OR AISLES.
2. OBJECTS MOUNTED WITH THEIR LEADING EDGES AT OR BELOW 27 INCHES ABOVE THE FINISHED FLOOR MAY PROTRUDE ANY AMOUNT.
3. FREE-STANDING OBJECTS MOUNTED ON POSTS OR PYLONS MAY OVERHANG 12 INCHES MAXIMUM FROM 27 INCHES TO 80 INCHES ABOVE THE GROUND OR FINISHED FLOOR. 4. PROTRUDING OBJECTS SHALL NOT REDUCE THE REQUIRED CLEAR WIDTH OF AN ACCESSIBLE ROUTE OR MANEUVERING SPACE. 5. ANY OBSTRUCTION OVERHANGING A PEDESTRIAN WAY SHALL BE A MINIMUM OF 80 INCHES ABOVE THE WALKING SURFACE AS MEASURED TO THE BOTTOM OF THE OBSTRUCTION.

PARKING

1. SURFACE SLOPES OF PARKING SPACES FOR THE PHYSICALLY DISABLED SHALL NOT EXCEED 1/4 INCH PER FOOT (2% GRADIENT) IN ANY DIRECTION.
2. A DISABLED PARKING SPACE SHALL BE LOCATED SO AS NOT TO REQUIRE ITS USER TO WHEEL OR WALK BEHIND ANY OTHER DISABLED OR NON-DISABLED PARKING SPACE.
3. IN EACH PARKING AREA, A BUMPER OR CURB SHALL BE PROVIDED AND LOCATED TO PREVENT ENCROACHMENT OF CARS OVER THE REQUIRED WIDTH OF WALKWAYS,
4. EACH PARKING SPACE RESERVED FOR PERSONS WITH PHYSICAL DISABILITIES SHALL BE IDENTIFIED BY A REFLECTORIZED SIGN PERMANENTLY POSTED IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL OR SPACE, CONSISTING OF A PROFILE VIEW OF A WHEELCHAIR WITH OCCUPANT, IN WHITE ON DARK BLUE BACKGROUND. THE SIGN SHALL NOT BE SMALLER THAN 70 SQUARE INCHES IN AREA AND, WHEN IN THE PATH OF TRAVEL, SHALL BE POSTED AT A MINIMUM HEIGHT OF 80 INCHES FROM THE BOTTOM OF THE SIGN TO THE PARKING SPACE FINISHED GRADE. SIGNS MAY ALSO BE CENTERED ON THE WALL AT THE INTERIOR END OF THE PARKING SPACE AT A MINIMUM HEIGHT OF 36 INCHES FROM THE PARKING SPACE FINISHED GRADE, GROUND, OR SIDEWALK.

WALKS AND SIDEWALKS

1. WALKS AND SIDEWALKS SHALL HAVE A CONTINUOUS COMMON SURFACE NOT INTERRUPTED BY STEPS OR BY ABRUPT CHANGES IN LEVEL EXCEEDING 1/2 INCHES, AND SHALL BE A MINIMUM OF 48 INCHES IN WIDTH.
2. SURFACE CROSS SLOPES SHALL NOT EXCEED 1/4 INCH PER FOOT.
3. WALKS, SIDEWALKS, AND PEDESTRIAN WAYS SHALL BE FREE OF GRATING WHENEVER POSSIBLE. GRID OPENINGS WITHIN GRATINGS LOCATED IN THE SURFACE OF ANY OF THESE AREAS SHALL BE LIMITED TO 1/2 INCH IN THE DIRECTION OF THE TRAFFIC FLOW.
4. WHEN THE SLOPE IN THE DIRECTION OF TRAVEL OF ANY WALK EXCEEDS 1 VERTICAL TO 20 HORIZONTAL, IT SHALL COMPLY WITH THE PROVISIONS OF PEDESTRIANS RAMPS.

ENTRANCES/DOORS

1. ALL PRIMARY ENTRANCES AND EXTERIOR GROUND FLOOR EXIT DOORS TO BUILDINGS AND FACILITIES SHALL BE MADE ACCESSIBLE TO THE PHYSICALLY DISABLED.
2. ALL ACCESSIBLE ENTRANCES SHALL BE IDENTIFIED WITH AT LEAST ONE (1) STANDARD SIGN AND WITH ADDITIONAL DIRECTIONAL SIGNS, AS REQUIRED, VISIBLE FROM APPROACHING PEDESTRIAN WAYS. UBC 1127B.3, 1117B.5 THROUGH 1117B.5.10.
3. EVERY REQUIRED ENTRANCE OR PASSAGE DOORWAY SHALL BE OF A SIZE AS TO PERMIT THE INSTALLATION OF A DOOR NOT LESS THAN 36 INCHES IN WIDTH, AND NOT LESS THAN 80 INCHES IN HEIGHT. DOORS SHALL BE CAPABLE OF OPENING AT LEAST 90 DEGREES AND SHALL BE SO MOUNTED THAT THE CLEAR WIDTH OF THE DOORWAY IS NOT LESS THAN 32 INCHES.
4. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL, SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.
5. LEVER HAND ACTIVATED DOOR OPENING HARDWARE SHALL BE CENTERED BETWEEN 30 INCHES AND 44 INCHES MAXIMUM ABOVE THE FLOOR.
6. THE FLOOR OR LANDING LENGTH ON EACH SIDE OF AN ENTRANCE OR A PASSAGE DOOR SHALL BE LEVEL AND CLEAR AT LEAST 60 INCHES IN THE DIRECTION OF THE DOOR SWING AND AT LEAST 48 INCHES OPPOSITE THE DIRECTION OF DOOR AS MEASURED AT RIGHT ANGLES TO THE FACE OF THE DOOR IN ITS CLOSED POSITION. THE WIDTH OF THE LEVEL AND CLEAR AREA ON THE SIDE WHICH THE DOOR SWINGS SHALL EXTEND A MINIMUM OF 24 INCHES PAST THE STRIKE EDGE OF THE DOOR FOR EXTERIOR DOORS, AND 18 INCHES PAST THE STRIKE EDGE FOR INTERIOR DOORS. REFER TO DETAIL NO. 2 ON THIS DRAWING FOR ADDITIONAL CLEARANCE REQUIREMENTS.
7. THE FLOOR OR LANDING SHALL NOT BE MORE THAN 1/2 INCH LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGES IN LEVEL BETWEEN 1/4 INCH AND 1/2 INCH SHALL BE LEVELED WITH A SLOPE NO GREATER THAN 1:2.
8. THE BOTTOM 10 INCHES OF ALL DOORS (EXCEPT AUTOMATIC AND SLIDING) SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED, A 1 INCH HIGH SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST.
9. THE MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 8-1/2 LBS. FOR EXTERIOR DOORS AND 5 LBS. FOR INTERIOR DOORS. SUCH PULL OR PUSH EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY NOT EXCEED 15 LBS.

STAIRWAYS

1. STAIRWAYS SHALL HAVE HANDRAILS ON EACH SIDE AND EVERY STAIRWAY REQUIRED TO BE MORE THAN 88 INCHES IN WIDTH SHALL BE PROVIDED WITH NOT LESS THAN ONE INTERMEDIATE HANDRAIL FOR EACH 88 INCHES OF REQUIRED WIDTH. INTERMEDIATE HANDRAILS SHALL BE SPACED APPROXIMATELY EQUALLY WITHIN THE ENTIRE WIDTH OF THE STAIRWAY.
2. THE UPPER APPROACH AND THE LOWER TREAD OF EACH INTERIOR STAIR SHALL BE MARKED BY A STRIP OF CLEARLY CONTRASTING COLOR AT LEAST 2 INCHES WIDE AND PLACED PARALLEL TO AND NOT MORE THAN 1 INCH FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED. THE STRIP SHALL BE OF A MATERIAL THAT IS AT LEAST AS SLIP-RESISTANT AS THE TREADS OF THE STAIR.
3. WHERE STAIRWAYS OCCUR OUTSIDE A BUILDING, THE UPPER APPROACH AND ALL TREADS SHALL BE MARKED BY A STRIP OF CLEARLY CONTRASTING COLOR AT LEAST 2 INCHES WIDE AND PLACED PARALLEL TO, AND NOT MORE THAN 1 INCH FROM THE NOSE OF THE STEP OF LANDING TO ALERT THE VISUALLY IMPAIRED. THE STRIP SHALL BE OF A MATERIAL THAT IS AT LEAST AS SLIP-RESISTANT AS THE TREADS OF THE STAIR. A PAINTED STRIPE SHALL BE ACCEPTABLE.
4. ALL STAIR TREAD SURFACES SHALL BE SLIP-RESISTANT.

HANDRAILS

1. HANDRAILS AT STAIRWAYS SHALL BE 34 INCHES TO 38 INCHES ABOVE THE NOSING OF THE TREADS.
2. HANDRAILS AT STAIRWAYS SHALL EXTEND A MINIMUM OF 12 INCHES BEYOND THE TOP NOSING AND 12 INCHES PLUS THE TREAD WIDTH BEYOND THE BOTTOM NOSING.
3. WHERE THE EXTENSION OF THE HANDRAIL IN THE DIRECTION OF THE STAIR RUN WOULD CREATE A HAZARD, THE EXTENSION SHALL BE MADE AT RIGHT ANGLES, ON THE FACE OF A RETURNING WALL. WHERE THE STAIRS ARE CONTINUOUS FROM LANDING TO LANDING, THE INNER RAIL SHALL BE CONTINUOUS AND NEED NOT EXTEND OUT INTO THE LANDING.
4. HANDRAILS ARE REQUIRED ON RAMPS WHEN THE SLOPE EXCEEDS 1:20.
5. HANDRAILS AT RAMPS SHALL RUN ALONG BOTH SIDES OF A RAMP, BE CONTINUOUS THE FULL LENGTH, EXTEND AT LEAST 12 INCHES BEYOND THE TOP AND BOTTOM OF THE RAMP, AND THE ENDS SHALL BE RETURNED.
6. THE HANDRAIL GRIP SURFACE AT RAMPS SHALL BE MOUNTED BETWEEN 34 INCHES AND 38 INCHES ABOVE THE RAMP SURFACE.
7. HANDRAIL ENDS SHALL BE RETURNED OR SHALL TERMINATE IN NEWEL POSTS OR SAFETY TERMINALS.
8. HANDRAILS PROJECTED FROM A WALL SHALL HAVE AN ABSOLUTE CLEARANCE 1-1/2 INCHES BETWEEN THE WALL AND THE HANDRAIL.
9. THE HANDGRIP PORTION OF HANDRAILS SHALL BE NOT LESS THAN 1-1/4 INCH NOR MORE THAN 1-1/2 INCH IN CROSS-SECTIONAL DIMENSION OR THE SHAPE SHALL PROVIDE AN EQUIVALENT SMOOTH GRIPPING SURFACE WITH NO SHARP CORNERS.

RAMPS

1. ALL RAMPS USED AS EXITS AND ANY PATH OF TRAVEL HAVING A SLOPE GREATER THAN 1:20 SHALL COMPLY WITH THE REQUIREMENTS OF THIS SECTION. RAMPS SHALL HAVE THE LEAST POSSIBLE SLOPE.
2. PEDESTRIAN RAMPS SERVING PRIMARY ENTRANCES TO A BUILDING SHALL HAVE A MINIMUM WIDTH OF 48 INCHES. RAMPS SERVING AN OCCUPANCY LOAD GREATER THAN 300 SHALL HAVE A MINIMUM WIDTH OF 60 INCHES.
3. ALL RAMPS IN AREAS ACCESSIBLE TO PERSONS WITH DISABILITIES ON A PATH OF TRAVEL OR SERVING EXITS SHALL HAVE A 1:12 MAXIMUM SLOPE WITH CROSS SLOPES NO GREATER THAN 1:50.
4. THE LANDING WIDTH SHALL EXTEND PAST THE STRIKE EDGE OF ANY DOOR OR GATE AS SHOWN ON DETAIL NO. 2 ON THIS DRAWING.
5. DOORS STANDING IN ANY POSITION SHALL NOT REDUCE THE MINIMUM DIMENSION OF THE RAMP TO LESS THAN 42 INCHES OR THE REQUIRED WIDTH BY MORE THAN 3 INCHES.

SANITARY FACILITIES (GENERAL)

1. ALL DOORWAYS LEADING TO SANITARY FACILITIES SHALL HAVE 32 INCH CLEAR, UNOBSTRUCTED OPENINGS.
2. ALL SINKS, FAUCET CONTROLS, AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBS. LEVER-OPERATED, PUSH-TYPE, AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.
3. LAVATORIES SHALL BE MOUNTED WITH A MINIMUM DISTANCE OF 18 INCHES FROM A WALL OR PARTITION TO THE CENTER LINE OF THE FIXTURE. ACCESSIBLE LAVATORIES SHALL BE MOUNTED WITH THE RIM OR COUNTER SURFACE NO HIGHER THAN 34 INCHES ABOVE THE FINISHED FLOOR.

TOILET ROOM FIXTURES AND ACCESSORIES

1. THE HEIGHT OF ACCESSIBLE WATER CLOSETS SHALL BE A MINIMUM OF 17 INCHES AND A MAXIMUM OF 19 INCHES MEASURED TO THE TOP OF THE TOILET SEAT.
2. PROVIDE 18 INCHES FROM THE CENTERLINE OF THE WATER CLOSET TO THE ADJACENT WALL.
3. TOILET AND URINAL FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. CONTROLS FOR THE FLUSH VALVES SHALL BE MOUNTED ON THE OPEN (WIDE) SIDE OF THE TOILET STALL, NO MORE THAN 44 INCHES ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBS.
4. WHERE URINALS ARE PROVIDED, AT LEAST ONE SHALL HAVE A CLEAR SPACE 30 INCHES WIDE X 48 INCHES LONG IN FRONT OF THE URINAL. AT LEAST ONE URINAL WITH A RIM PROJECTING A MINIMUM OF 14 INCHES FROM THE WALL AND A MAXIMUM OF 17 INCHES ABOVE THE FLOOR SHALL BE INSTALLED.
5. A CLEAR FLOOR SPACE 30 INCHES WIDE X 48 INCHES LONG SHALL BE PROVIDED IN FRONT OF A LAVATORY TO ALLOW A FORWARD APPROACH. SUCH CLEAR FLOOR SPACE SHALL ADJOIN OR OVERLAP AN ACCESSIBLE ROUTE AND SHALL EXTEND INTO KNEE AND TOE SPACE UNDERNEATH THE LAVATORY. CLEAR FLOOR AREAS MAY NOT OVERLAP THE DOOR SWING.
6. LAVATORIES SHALL BE MOUNTED WITH A CLEARANCE OF AT LEAST 29 INCHES FROM THE FLOOR TO THE BOTTOM OF THE APRON WITH KNEE CLEARANCE UNDER THE FRONT LIP EXTENDING A MINIMUM OF 30 INCHES IN WIDTH WITH 8 INCHES MINIMUM DEPTH AT THE TOP. TOE CLEARANCE SHALL BE THE SAME WIDTH AND SHALL BE A MINIMUM OF 9 INCHES HIGH FROM THE FLOOR AND A MINIMUM OF 17 INCHES DEEP FROM THE FRONT OF THE LAVATORY. PROVIDE 60" CLEAR FROM EDGE OF LAVATORY TO WALL AT TOILET SIDE OF LAVATORY.
7. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.
8. MIRRORS SHALL BE MOUNTED WITH THE BOTTOM EDGE OF THE REFLECTIVE SURFACE NOT MORE THAN 40 INCHES FROM THE FLOOR.
9. LOCATE PAPER TOWEL DISPENSERS, SANITARY NAPKIN DISPENSERS, AND WASTE RECEPTACLES WITH ALL OPERABLE PARTS NOT MORE THAN 40 INCHES FROM THE FLOOR.
10. LOCATE TOILET TISSUE DISPENSERS ON THE WALL WITHIN 12 INCHES OF THE FRONT EDGE OF THE TOILET SEAT.

MULTIPLE ACCOMMODATION TOILET FACILITIES

1. A CLEAR SPACE MEASURED FROM THE FLOOR TO A HEIGHT OF 27 INCHES ABOVE THE FLOOR, WITHIN THE SANITARY FACILITY ROOM, OF SUFFICIENT SIZE TO INSCRIBE A CIRCLE WITH A DIAMETER NOT LESS THAN 60 INCHES, OR A CLEAR SPACE NOT LESS THAN 56 INCHES X 63 INCHES IN SIZE SHALL BE PROVIDED. DOORS OTHER THAN THE DOOR TO THE DISABLED TOILET COMPARTMENT, IN ANY POSITION, MAY ENCROACH INTO THIS SPACE BY NOT MORE THAN 12 INCHES.
2. AN ACCESSIBLE INDIVIDUAL TOILET STALL SHALL PROVIDE AT LEAST 28 INCHES CLEAR SPACE FROM A FIXTURE OR 32 INCHES CLEAR SPACE FROM A WALL AT ONE SIDE OF THE WATER CLOSET. A 48 INCH LONG CLEAR SPACE IN FRONT OF THE WATER CLOSET SHALL BE PROVIDED IF THE COMPARTMENT HAS AN END OPENING DOOR (FACING THE WATER CLOSET). A 60 INCH LONG CLEAR SPACE SHALL BE PROVIDED IN A COMPARTMENT WHEN THE DOOR IS LOCATED AT THE SIDE. GRAB BARS SHALL NOT PROJECT MORE THAN 3 INCHES INTO THE CLEAR SPACES AS SPECIFIED ABOVE.
3. WATER CLOSET COMPARTMENTS SHALL BE EQUIPPED WITH A DOOR THAT HAS AN AUTOMATIC CLOSING DEVICE, AND SHALL HAVE A CLEAR UNOBSTRUCTED OPENING WIDTH OF 32 INCHES WHEN LOCATED AT THE END AND 34 INCHES WHEN LOCATED AT THE SIDE WITH THE DOOR POSITIONED AT AN ANGLE OF 90 DEGREES FROM ITS CLOSED POSITION.
4. EXCEPT FOR DOOR OPENING WIDTHS AND DOOR SWINGS, A CLEAR UNOBSTRUCTED ACCESS NOT LESS THAN 44 INCHES SHALL BE PROVIDED TO WATER CLOSET COMPARTMENTS DESIGNED FOR USE BY THE DISABLED. THE SPACE IMMEDIATELY IN FRONT OF A WATER CLOSET COMPARTMENT SHALL BE NOT LESS THAN 48 INCHES AS MEASURED AT RIGHT ANGLES TO THE COMPARTMENT DOOR IN ITS CLOSED POSITION.

GRAB BARS

1. GRAB BARS SHALL BE LOCATED ON ONE SIDE AND THE BACK OF THE PHYSICALLY DISABLED TOILET STALL OR COMPARTMENT AND SHALL BE SECURELY ATTACHED 33 INCHES ABOVE AND PARALLEL TO THE FLOOR.
2. GRAB BARS AT THE SIDE SHALL BE AT LEAST 42 INCHES LONG WITH THE FRONT END POSITIONED 54 INCHES FROM THE BACK OF THE STALL. GRAB BARS AT THE BACK SHALL NOT BE LESS THAN 36 INCHES LONG.
3. PROVIDE A VERTICAL GRAB BAR AT SIDE WALL OF TOILET PER 18 INCHES MINIMUM IN LENGTH WITH THE BOTTOM OF TEH BAR LOCATED BETWEEN 39 INCNES AND 41 INCHES ABOVE THE FLOOR, AND WITH THE CENTER LINE OF THE BAR LOCATED BETWEEN 39 INCHES AND 41 INCHES FROM THE REAR WALL.
4. THE DIAMETER OR WIDTH OF THE GRIPPING SURFACES OF A GRAB BAR SHALL BE 1-1/4 INCHES OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE. IF THE GRAB BARS ARE MOUNTED ADJACENT TO A WALL, THE SPACE BETWEEN THE WALL AND THE GRAB BARS SHALL BE 1-1/2 INCHES.
5. A GRAB BAR AND ANY WALL OR OTHER SURFACE ADJACENT TO IT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS. GRAB BAR EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8 INCH.
6. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
7. GRAB BARS SHALL BE DESIGNED TO SUPPORT A 250 POUND FORCE.

TELEPHONES

1. PROVIDE A 30 INCH X 48 INCH CLEAR SPACE AT TELEPHONE. THE CLEAR SPACE MAY INCLUDE KNEE SPACE UNDER THE TELEPHONE.
2. THE HIGHEST OPERABLE PART OF THE TELEPHONE SHALL BE WITHIN 48 INCHES OF THE FLOOR IF FORWARD APPROACHED AND 54 INCHES IF SIDE APPROACHED.
3. TELEPHONES MOUNTED DIAGONALLY IN A CORNER THAT REQUIRE WHEELCHAIR USERS TO REACH DIAGONALLY SHALL HAVE THE HIGHEST OPERABLE PART NO HIGHER THAN 54 INCHES ABOVE THE FLOOR.
4. THE CORD FROM THE TELEPHONE TO THE HANDSET SHALL BE AT LEAST 29 INCHES LONG.
5. IF BANKS OF PUBLIC TELEPHONES ARE PROVIDED, THEN A REASONABLE NUMBER, BUT ALWAYS AT LEAST ONE (1), IN A BUILDING OR FACILITY SHALL BE EQUIPPED WITH A VOLUME CONTROL.
6. TELEPHONES SHALL HAVE PUSH-BUTTON CONTROLS WHERE SERVICE FOR SUCH EQUIPMENT IS AVAILABLE.

ADDITIONAL REQUIREMENTS

1. THE CENTER OF RECEPTACLE OUTLETS SHALL BE NOT LESS THAN 15 INCHES ABOVE THE FLOOR OR WORKING PLATFORM.
2. THE CENTER OF THE GRIP OF THE OPERATING HANDLE OF SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES, OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL BE NOT LESS THAN 36 INCHES NOR MORE THAN 48 INCHES ABOVE THE FLOOR OR WORKING PLATFORM.
3. THE CENTER OF FIRE ALARM INITIATING DEVICES (BOXES) SHALL BE LOCATED 48 INCHES ABOVE THE LEVEL OF THE FLOOR, WORKING PLATFORM, GROUND SURFACE, OR SIDEWALK.
4. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE THE STANDARD USED TO IDENTIFY FACILITIES THAT ARE ACCESSIBLE TO AND USABLE BY PHYSICALLY DISABLED PERSONS. THE SYMBOL SPECIFIED ABOVE SHALL CONSIST OF A WHITE FIGURE ON BLUE BACKGROUND. THE BLUE SHALL BE EQUAL TO COLOR NO. 15090 IN FEDERAL STANDARD 595A.
5. WHERE PERMANENT IDENTIFICATION IS PROVIDED OR WHERE SIGNAGE IS REQUIRED FOR ROOMS AND SPACES, RAISED LETTERS SHALL BE PROVIDED AND SHALL BE ACCOMPANIED BY BRAILLE IN CONFORMANCE WITH SECTIONS 1117B.5.6, 1117B.5.6.1, 1117B.5.6.2, AND 1117B.5.6.3. SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH OUTSIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE, INCLUDING AT DOUBLE LEAF DOORS, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. MOUNTING HEIGHT SHALL BE 60 INCHES ABOVE THE FINISH FLOOR TO THE CENTERLINE OF THE SIGN. MOUNTING LOCATIONS SHALL BE DETERMINED SO THAT A PERSON MAY APPROACH WITHIN 3 INCHES OF SIGNAGE WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE SWING OF THE A DOOR.

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ENGINEERS

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CUBA TOWNSHIP BLDG. ADDITION

28000 W CUBA RD, BARRINGTON, IL 60010

Contact Info

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description

PROJECT NO.	25-023
DRAWN BY	-
CHECKED BY	-
SHEET	3 OF 44

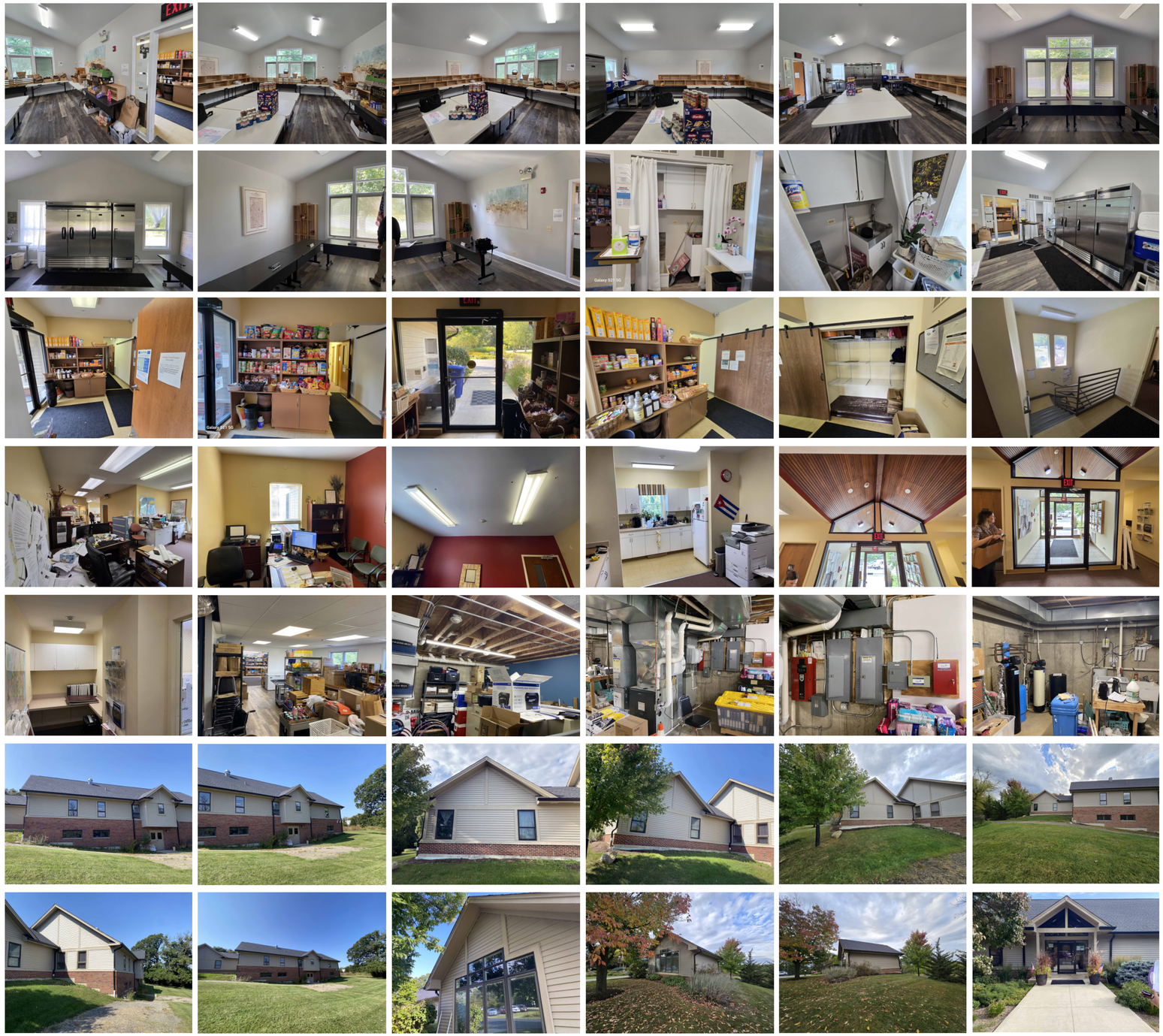
ACCESSIBLITY STANDARDS

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PROJECT NO.	25-023
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PHOTOS

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1.00 GENERAL PROVISIONS

1.01 ALL WORK IS TO BE DONE IN ACCORDANCE WITH STATE AND LOCAL BUILDING CODES AND ALL OTHER CODES OR ORDINANCES WHICH MAY HAVE AUTHORITY OVER THIS PROJECT. IN THE CASE OF DISCREPANCY IN THOSE CODES, THE MORE STRINGENT ONE SHALL BE OBSERVED.

1.02 MATERIALS AND SPECIFIC MANUFACTURERS SPECIFIED MAY BE CHANGED UPON REQUEST IF THE SUBSTITUTION IS OF COMPARABLE QUALITY, COST AND SERVICEABILITY AS DETERMINED BY THE ARCHITECT.

1.03 THE GENERAL CONTRACTOR SHALL PAY ALL REQUIRED FEES AND SECURE ALL PERMITS AS REQUIRED BY GOVERNING BODIES OVER THIS PROJECT.

1.04 THE GENERAL CONTRACTOR SHALL HAVE APPROPRIATE LIABILITY. OWNER AND ARCHITECT SHALL BE PROTECTED FROM ALL LIABILITIES FROM THE CONTRACTOR, ITS EMPLOYEES, AGENTS OR SUBCONTRACTORS.

1.10 SURVEY OF EXISTING CONDITIONS
1.11 THE GENERAL CONTRACTOR, PRIOR TO SUBMITTING HIS BID, SHALL FIELD SURVEY SITE OF PROPOSED WORK TO DETERMINE THE EXTENT AND NATURE OF WORK, VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS AND ACQUAINT HIMSELF WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES, OMISSIONS OR CONFLICTS FOUND BETWEEN THE SITE CONDITIONS AND THOSE SHOWN ON THE DRAWINGS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF THE ARCHITECT.

1.12 THE GENERAL CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY UNFORESEEN JOB CONDITIONS WHICH MIGHT AFFECT PROJECT COSTS. CLAIMS FOR ADDITIONAL COMPENSATION AND/OR EXTENSIONS OF TIME BECAUSE OF THE CONTRACTOR'S FAILURE TO FOLLOW THE FOREGOING PROCEDURE AND TO FAMILIARIZE HIMSELF WITH THE CONTRACT DOCUMENTS AND ALL CONDITIONS WHICH MIGHT AFFECT WORK WILL NOT BE ALLOWED. EXTRA WORK AND/OR COSTS MUST BE APPROVED IN WRITING PRIOR TO CONSTRUCTION OF SUCH WORK.

1.20 PROVISIONS FOR LABOR AND MATERIAL
1.21 THE GENERAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR THE SUCCESSFUL EXECUTION AND COMPLETION OF THIS PROJECT.

1.22 ALL MATERIALS, METHODS OF INSTALLATION AND FINISHING OF CONSTRUCTION SYSTEMS (PARTITIONS, CEILING, DOORS, FRAMES, FLOORS, ETC.) SHALL CONFORM TO THE MANUFACTURERS' SPECIFICATIONS AND INSTALLATION INSTRUCTION FOR THE EXPECTED USE.

1.30 KEEPING PREMISES CLEAN
1.31 THE GENERAL CONTRACTOR SHALL REMOVE ALL WASTE MATERIALS ON A REGULAR BASIS, AND SHALL PREVENT ANY DIRT, DEBRIS OR DUST FROM AFFECTING ANY FINISHED AREA.

1.32 THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS SHALL TURN THE PROJECT OVER TO THE OWNER FREE FROM ALL CONSTRUCTION DEBRIS, MATERIAL AND EQUIPMENT.

1.40 PROTECTION OF PERSONS AND PROPERTY
1.41 PRIOR TO THE COMMENCEMENT OF WORK, THE GENERAL CONTRACTOR SHALL PROTECT AREAS AND NEW OR EXISTING MATERIALS AND FINISHES FROM DAMAGE WHICH MAY OCCUR FROM CONSTRUCTION, DUST, WATER, ETC.

1.42 ALL EXISTING SURFACES SUCH AS, BUT NOT LIMITED TO, WALLS AND COLUMNS DAMAGED BY WORK ARE TO BE PATCHED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT.

1.50 COORDINATION
1.51 THE GENERAL CONTRACTOR SHALL COORDINATE ALL TRADES REQUIRED TO PERFORM WORK AS OUTLINED IN THE CONTRACT DOCUMENTS.

1.60 DRAWINGS
1.61 DO NOT SCALE DRAWINGS. DIMENSIONS SHALL GOVERN. LARGE SCALE DETAILS SHALL GOVERN OVER SMALL SCALE DETAILS.

1.62 ALL DIMENSIONS ARE TO AND FROM WALL CENTERLINES OR NOMINAL STUD WIDTHS, U.N.O.

SECTION 03000 - STRUCTURAL CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS OF ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND THE ACI 302 "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION".
2. SUBMIT FOR REVIEW CONCRETE DESIGN MIXES, INCLUDING REQUIRED BACK UP DATA, FOR EACH TYPE OF CONCRETE PROPOSED FOR USE IN THE WORK. PROVIDE AIR-ENTRAINING FOR ALL CONCRETE EXPOSED TO THE WEATHER UNLESS NOTED OTHERWISE WITH A RANGE OF AIR-ENTRAINMENT OF BETWEEN 5% AND 7%.
3. THE USE OF CALCIUM CHLORIDE IN ANY CONCRETE IS STRICTLY PROHIBITED.
4. REFER ACI 305 FOR REQUIREMENTS FOR PLACING CONCRETE IN COLD WEATHER.
5. LOCATE JOINTS, IF PROVIDED, AT POINTS OF MINIMUM STRESS. HORIZONTAL JOINTS IN ANY CONCRETE POURS ARE NOT PERMITTED.
6. CLEAN AND MOISTEN ALL CONSTRUCTION JOINTS IMMEDIATELY PRIOR TO PLACING FRESH CONCRETE.
7. WHERE WATERSTOPS ARE INDICATED ON PLANS, USE CONTINUOUS 6" PVC RIBBED STYLE.
8. REFER TO ACI 318, CHAPTER 7.7 FOR MINIMUM CONCRETE COVER REQUIREMENTS.
9. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR CURBS, PADS, DEPRESSIONS, WALL/SLAB OPENINGS, SPECIAL FINISHES, ETC. PROVIDE ONLY THOSE OPENINGS SHOWN ON THE APPROVED SHOP DRAWINGS. REINFORCED BARS SHALL NOT BE CUT OR DISPLACED FOR THE WORK OF OTHER TRADES WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
10. DETAIL, FABRICATE, LABEL, SUPPORT AND PLACE ALL CONCRETE REINFORCEMENT IN ACCORDANCE ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" AND ACI 318.
11. SUBMIT FOR REVIEW DETAILED SHOP DRAWINGS INDICATING REINFORCEMENT SIZE, SPACING AND PLACEMENT PRIOR TO FABRICATION. INCLUDE DETAILS AND LOCATIONS OF ALL CURBS, CONSTRUCTION JOINTS, SLAB DEPRESSIONS, SLEEVES, OPENINGS, ETC.
12. PROVIDE DOWELS, WHERE REQUIRED, TO MATCH MAIN REINFORCING SIZE AND SPACING.
13. LAP WELDED WIRE FABRIC ONE FULL MESH PANEL TYPICALLY AND TWO MESH PANELS AT ALL CONSTRUCTION JOINTS AND TIE SECURELY. LAP ALL CONTINUOUS REINFORCEMENT SHOWN ON PLANS A MINIMUM OF 36 BAR DIAMETERS OR 24" WHICHEVER IS GREATER. LAP TOP BARS ONLY AT MIDSPAN AND BOTTOM BARS ONLY OVER SUPPORTS.
14. PROVIDE ONLY CONCRETE AND REINFORCING MATERIAL OF THE TYPES AND GRADES LISTED IN THE TABLE BELOW

CONCRETE	F'c (PSI)	UNIT WEIGHT (PCF)
FOOTINGS	3000 PSI	150 PCF
SLAB ON GRADE	4000 PSI	150 PCF
ALL OTHER CONCRETE	3000PSI	150 PCF
REINFORCING BARS	ASTM A-615 GRADE 60	
WELDED WIRE FABRIC	ASTM A-82 AND ASTM A-185 FOR PLAIN BARS - FIBERMESH REINF.	
WELDABLE BARS	ASTM A-706	

15. BASEPLATES, ANCHOR BOLTS, SUPPORT ANGLES, ETC. BELOW GRAD SHALL BE COVERED WITH A MINIMUM OF 3 INCHES OF CONCRETE

SECTION 04000 - MASONRY

1. STONE, MASONRY VENEERS, AND TIES: BRICK TIES AT 16 INCHES ON CENTER IN EITHER DIRECTION, WITH HORIZONTAL 9 GAGE WIRE MECHANICALLY ATTACHED TO TIES
2. MASONRY CHIMNEY TERMINATION: 2 FEET HIGHER THAN ANY PORTION OF BUILDING WITHIN 10 FEET, 3 FEET TALL MIN., MASONRY CHIMNEY CROSS-SECTION
3. FIREPLACE HEARTHS: 16 INCHES IN FRONT AND 8 INCHES BEYOND EACH SIDE OF FIREBOX LESS THAN 6 SQ FT, OR 20 INCHES IN FRONT AND 12 INCHES BEYOND WITH FIREBOX GREATER THAN 6 SQ FT

SECTION 06100 - ROUGH CARPENTRY

PART 1 - GENERAL
PART 2 - PRODUCTS
2.1 WOOD PRODUCTS, GENERAL
A. LUMBER: PROVIDE DRESSED LUMBER, S4S, 19 PERCENT MAXIMUM MOISTURE CONTENT FOR 2-INCH NOMINAL THICKNESS OR LESS, MARKED WITH GRADE STAMP OF INSPECTION AGENCY.
B. ENGINEERED WOOD PRODUCTS: ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION AND FOR WHICH CURRENT MODEL CODE RESEARCH OR EVALUATION REPORTS EXIST THAT SHOW COMPLIANCE WITH BUILDING CODE IN EFFECT FOR PROJECT.
C. TIMBER: ALL NEW TIMBER STRUCTURAL MEMBERS SHALL BE SOUTHERN PINE STRUCTURAL GRADE # 1 MIN.
D. WOOD STRUCTURAL PANELS: DOC PS 2. PROVIDE PLYWOOD COMPLYING WITH DOC PS 1, WHERE PLYWOOD IS INDICATED.
1. COMPLY WITH APA'S FORM E30T "ENGINEERED WOOD CONSTRUCTION GUIDE"
2.2 TREATED MATERIALS
A. PRESERVATIVE-TREATED MATERIALS: AWPA C2 LUMBER AND AWPA C9 PLYWOOD, LABELED BY AN INSPECTION AGENCY APPROVED BY ALSC'S BOARD OF REVIEW. AFTER TREATMENT, KILN-DRY LUMBER AND PLYWOOD TO 19 AND 15 PERCENT MOISTURE CONTENT, RESPECTIVELY. TREAT INDICATED ITEMS AND THE FOLLOWING:
1. WOOD MEMBERS IN CONNECTION WITH ROOFING, FLASHING, VAPOR BARRIERS, AND WATERPROOFING.
2. CONCEALED MEMBERS IN CONTACT WITH MASONRY OR CONCRETE.
3. WOOD FRAMING MEMBERS LESS THAN 18 INCHES ABOVE GRADE.
4. WOOD FLOOR PLATES INSTALLED OVER CONCRETE SLABS DIRECTLY IN CONTACT WITH EARTH.

SECTION 06100 - ROUGH CARPENTRY (CONT.)

2.3 LUMBER
A. DIMENSION LUMBER: THE FOLLOWING GRADES ARE PER INSPECTION AGENCY INDICATED:
1. NON-LOAD-BEARING INTERIOR PARTITIONS: CONSTRUCTION
2. FRAMING OTHER THAN NON-LOAD-BEARING PARTITIONS: NO. 2.
B. MISCELLANEOUS LUMBER: CONSTRUCTION, STUD, OR NO. 3 GRADE OF ANY SPECIES FOR NAILERS, BLOCKING, AND SIMILAR MEMBERS.
2.4 PANEL PRODUCTS
A. NOT APPLICABLE
2.5 MISCELLANEOUS PRODUCTS
A. FASTENERS: SIZE AND TYPE INDICATED. WHERE ROUGH CARPENTRY IS EXPOSED TO WEATHER, IN GROUND CONTACT, OR IN AREA OF HIGH RELATIVE HUMIDITY, PROVIDE FASTENERS WITH HOT-DIP ZINC COATING COMPLYING WITH ASTM A153/A153M.
1. POWER-DRIVEN FASTENERS: CABO NER-272.
2. BOLTS: STEEL BOLTS COMPLYING WITH ASTM A 307, GRADE A; WITH ASTM A 563 HEX NUTS AND, WHERE INDICATED, FLAT WASHERS.
B. METAL FRAMING ANCHORS: HOT-DIP GALVANIZED STEEL OF STRUCTURAL CAPACITY, TYPE, AND SIZE INDICATED.
C. BUILDING WRAP: NOT APPLICABLE
D. SILL-SEALER: NOT APPLICABLE
E. ADHESIVES FOR FIELD GLUING PANELS TO FRAMING: APA AFG-01.

PART 3 - EXECUTION
3.1 INSTALLATION
A. SET ROUGH CARPENTRY TO REQUIRED LEVELS AND LINES, WITH MEMBERS PLUMB, TRUE TO LINE, CUT, AND FITTED. FIT CARPENTRY TO OTHER CONSTRUCTION; SCRIBE AND COPE FOR ACCURATE FIT. LOCATE NAILERS, BLOCKING, AND SIMILAR SUPPORTS TO COMPLY WITH REQUIREMENTS FOR ATTACHING OTHER CONSTRUCTION.
B. SECURELY ATTACH ROUGH CARPENTRY TO SUBSTRATES, COMPLYING WITH APPLICABLE CODES AND RECOGNIZED STANDARDS AND THE FOLLOWING:
1. CABO NER-272 FOR POWER-DRIVEN FASTENERS.
2. PUBLISHED REQUIREMENTS OF METAL FRAMING ANCHOR MANUFACTURER.
3. IBC 2003
C. FASTENING METHODS: COMPLY WITH RECOMMENDATIONS IN APA'S FORM E30T "ENGINEERED WOOD CONSTRUCTION GUIDE" AND THE FOLLOWING:
1. COMBINATION SUBFLOORING-UNDERLAYMENT: NOT APPLICABLE
D. COUNTERSINK NAIL HEADS ON EXPOSED CARPENTRY WORK AND FILL HOLES WITH WOOD FILLER.
E. INSTALLATION OF PANEL PRODUCTS: COMPLY WITH RECOMMENDATIONS AND "CODE PLUS" PROVISIONS IN APA FORM NO. E30K
F. INSTALL WOOD TRIM WITH MINIMUM NUMBER OF JOINTS PRACTICAL, USING FULL-LENGTH PIECES FROM MAXIMUM LENGTHS OF LUMBER AVAILABLE. COPE AT RETURNS AND MITER AT CORNERS TO PRODUCE TIGHT-FITTING JOINTS WITH FULL-SURFACE CONTACT THROUGHOUT LENGTH OF JOINT. USE SCARF JOINTS FOR END-TO-END JOINTS.

SECTION 06200 - FINISH CARPENTRY

PART 1 - GENERAL (NOT APPLICABLE)
PART 2 - PRODUCTS
2.1 MATERIALS, GENERAL
A. LUMBER: DOC PS 20 AND GRADING RULES OF INSPECTION AGENCIES CERTIFIED BY AMERICAN LUMBER STANDARDS COMMITTEE BOARD OF REVIEW.
PART 3 - EXECUTION
3.1 INSTALLATION
A. CONDITION FINISH CARPENTRY IN INSTALLATION AREAS FOR 24 HOURS BEFORE INSTALLING.
B. PRIME AND BACKPRIME LUMBER FOR PAINTED FINISH EXPOSED ON THE EXTERIOR.
C. INSTALL FINISH CARPENTRY LEVEL, PLUMB, TRUE, AND ALIGNED WITH ADJACENT MATERIALS. SCRIBE AND CUT TO FIT ADJOINING WORK. REFINISH AND SEAL CUTS.
D. INSTALL STANDING AND RUNNING TRIM WITH MINIMUM NUMBER OF JOINTS PRACTICAL, USING FULL-LENGTH PIECES FROM MAXIMUM LENGTHS OF LUMBER AVAILABLE. STAGGER JOINTS IN ADJACENT AND RELATED TRIM. COPE AT RETURNS AND MITER AT CORNERS.

SECTION 08211 - FLUSH WOOD DOORS

PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. SUBMITTALS: SAMPLES FOR FACTORY-FINISHED DOORS.
B. QUALITY STANDARD: NWWDA I.S.1-A.
C. FIRE-RATED WOOD DOORS: LABELED BY A TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION BASED ON TESTING PER NFPA 252 AT ATMOSPHERIC PRESSURE.

PART 2 - PRODUCTS
2.1 FLUSH WOOD DOORS
A. DOORS FOR TRANSPARENT FINISH: CUSTOM GRADE.
1. FACES: TO BE SELECTED BY ARCHITECT
2. PAIR MATCHING.
B. INTERIOR VENEER-FACED SOLID-CORE DOORS: FIVE-PLY, PARTICLEBOARD CORES.
C. PROVIDE BLOCKING IN PARTICLEBOARD CORES OR PROVIDE DOORS WITH CLOSERS EXIT DEVICES AND KICK PLATES.
D. FIRE-RATED SOLID-CORE DOORS: CORE CONSTRUCTION TO PROVIDE FIRE RATING INDICATED, FACES AND GRADE TO MATCH NON-FIRE-RATED DOORS.
1. COMPOSITE BLOCKING WHERE REQUIRED TO ELIMINATE THROUGH-BOLTING HARDWARE.
2. LAMINATED-EDGE CONSTRUCTION.
3. FORMED-STEEL EDGES AND ASTRAGALS FOR PAIRS OF FIRE-RATED DOORS.
2.2 FABRICATION AND FINISHING
A. FACTORY FIT DOORS TO SUIT FRAME-OPENING SIZES INDICATED AND TO COMPLY WITH REFERENCED QUALITY STANDARD.
1. COMPLY WITH NFPA 80 FOR FIRE-RESISTANCE-RATED DOORS.
B. FACTORY MACHINE DOORS FOR HARDWARE THAT IS NOT SURFACE APPLIED.
C. CUT AND TRIM OPENINGS TO COMPLY WITH REFERENCED STANDARDS.
1. TRIM LIGHT OPENINGS WITH MOLDINGS INDICATED.
D. FACTORY DOORS INDICATED FOR TRANSPARENT FINISH WITH STAIN AND MANUFACTURER'S STANDARD FINISH COMPARABLE TO AWI SYSTEM TR-6, CATALYZED POLYURETHANE.

PART 3 - EXECUTION
3.1 INSTALLATION
A. COMPLY WITH WDMA'S "HOW TO STORE, HANDLE, FINISH, INSTALL, AND MAINTAIN WOOD DOORS."
B. INSTALL FIRE-RATED DOORS TO COMPLY WITH NFPA 80.
C. REPAIR, REFINISH, OR REPLACE FACTORY-FINISHED DOORS DAMAGED DURING INSTALLATION, AS DIRECTED BY ARCHITECT.

SECTION 08 71 00 – DOOR HARDWARE

PART 1 - GENERAL
1.01 RELATED DOCUMENTS
A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.
1.02 SUMMARY
A. SECTION INCLUDES:
1. MECHANICAL AND ELECTRIFIED DOOR HARDWARE FOR:
A. SWINGING DOORS.
2. ELECTRONIC ACCESS CONTROL SYSTEM COMPONENTS, INCLUDING:
A. ELECTRONIC ACCESS CONTROL DEVICES.
3. FIELD VERIFICATION, PREPARATION AND MODIFICATION OF EXISTING DOORS AND FRAMES TO RECEIVE NEW DOOR HARDWARE.
4. THE INTENT OF THE HARDWARE SPECIFICATION IS TO SPECIFY THE HARDWARE FOR INTERIOR AND EXTERIOR DOORS, AND TO ESTABLISH A TYPE, CONTINUITY, AND STANDARD OF QUALITY. HOWEVER, IT IS THE DOOR HARDWARE SUPPLIER'S RESPONSIBILITY TO THOROUGHLY REVIEW EXISTING CONDITIONS, SCHEDULES, SPECIFICATIONS, DRAWINGS, AND OTHER CONTRACT DOCUMENTS TO VERIFY THE SUITABILITY OF THE HARDWARE SPECIFIED.
B. EXCLUSIONS: UNLESS SPECIFICALLY LISTED IN HARDWARE SETS, HARDWARE IS NOT SPECIFIED IN THIS SECTION FOR:
1. WINDOWS
2. CABINETS (CASEWORK), INCLUDING LOCKS IN CABINETS
3. SIGNAGE
4. TOILET ACCESSORIES
5. OVERHEAD DOORS
C. RELATED SECTIONS:
1. DIVISION 01 SECTION "ALTERNATES" FOR ALTERNATES AFFECTING THIS SECTION.
2. DIVISION 07 SECTION "JOINT SEALANTS" FOR SEALANT REQUIREMENTS APPLICABLE TO THRESHOLD INSTALLATION SPECIFIED IN THIS SECTION.
3. DIVISION 09 SECTIONS FOR TOUCHUP, FINISHING OR REFINISHING OF EXISTING OPENINGS MODIFIED BY THIS SECTION.
4. DIVISION 26 SECTIONS FOR CONNECTIONS TO ELECTRICAL POWER SYSTEM AND FOR LOW-VOLTAGE WIRING.
5. DIVISION 28 SECTIONS FOR COORDINATION WITH OTHER COMPONENTS OF ELECTRONIC ACCESS CONTROL SYSTEM.

SECTION 08 71 00 – DOOR HARDWARE (CONT.)

1.03 REFERENCES
A. UL - UNDERWRITERS LABORATORIES
1. UL 10B - FIRE TEST OF DOOR ASSEMBLIES
2. UL 10C - POSITIVE PRESSURE TEST OF FIRE DOOR ASSEMBLIES
3. UL 1784 - AIR LEAKAGE TESTS OF DOOR ASSEMBLIES
4. UL 305 - PANIC HARDWARE
B. DHI - DOOR AND HARDWARE INSTITUTE
1. SEQUENCE AND FORMAT FOR THE HARDWARE SCHEDULE
2. RECOMMENDED LOCATIONS FOR BUILDERS HARDWARE
3. KEY SYSTEMS AND NOMENCLATURE
C. ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
1. ANSI/BHMA A156.1 - A156.29, AND ANSI/BHMA A156.31 - STANDARDS FOR HARDWARE AND SPECIALTIES
1.04 SUBMITTALS
A. GENERAL:
1. SUBMIT IN ACCORDANCE WITH CONDITIONS OF CONTRACT AND DIVISION 01 REQUIREMENTS.
2. HIGHLIGHT, ENCIRCLE, OR OTHERWISE SPECIFICALLY IDENTIFY ON SUBMITTALS DEVIATIONS FROM CONTRACT DOCUMENTS, ISSUES OF INCOMPATIBILITY OR OTHER ISSUES WHICH MAY DETRIMENTALLY AFFECT THE WORK.
3. PRIOR TO FORWARDING SUBMITTAL, COMPLY WITH PROCEDURES FOR VERIFYING EXISTING DOOR AND FRAME COMPATIBILITY FOR NEW HARDWARE, AS SPECIFIED IN PART 3, "EXAMINATION" ARTICLE, HEREIN.
B. ACTION SUBMITTALS:
1. PRODUCT DATA: TECHNICAL PRODUCT DATA FOR EACH ITEM OF DOOR HARDWARE, INSTALLATION INSTRUCTIONS, MAINTENANCE OF OPERATING PARTS AND FINISH, AND OTHER INFORMATION NECESSARY TO SHOW COMPLIANCE WITH REQUIREMENTS.
2. RISER AND WIRING DIAGRAMS: AFTER FINAL APPROVAL OF HARDWARE SCHEDULE, SUBMIT DETAILS OF ELECTRIFIED DOOR HARDWARE, INDICATING:
A. WIRING DIAGRAMS: FOR POWER, SIGNAL, AND CONTROL WIRING AND INCLUDING:
1. DETAILS OF INTERFACE OF ELECTRIFIED DOOR HARDWARE AND BUILDING SAFETY AND SECURITY SYSTEMS.
2. SCHEMATIC DIAGRAM OF SYSTEMS THAT INTERFACE WITH ELECTRIFIED DOOR HARDWARE.
3. POINT-TO-POINT WIRING.
4. RISERS.
3. SAMPLES FOR VERIFICATION: IF REQUESTED BY ARCHITECT, SUBMIT PRODUCTION SAMPLE OF REQUESTED DOOR HARDWARE UNIT IN FINISH INDICATED, AND TAGGED WITH FULL DESCRIPTION FOR COORDINATION WITH SCHEDULE.
A. SAMPLES WILL BE RETURNED TO SUPPLIER. UNITS THAT ARE ACCEPTABLE TO ARCHITECT MAY, AFTER FINAL CHECK OF OPERATIONS, BE INCORPORATED INTO WORK, WITHIN LIMITATIONS OF KEY COORDINATION REQUIREMENTS.
4. DOOR HARDWARE SCHEDULE: SUBMIT SCHEDULE WITH HARDWARE SETS IN VERTICAL FORMAT AS ILLUSTRATED BY SEQUENCE OF FORMAT FOR THE HARDWARE SCHEDULE AS PUBLISHED BY THE DOOR AND HARDWARE INSTITUTE. INDICATE COMPLETE DESIGNATIONS OF EACH ITEM REQUIRED FOR EACH DOOR OR OPENING, INCLUDE:
A. DOOR INDEX; INCLUDE DOOR NUMBER, HEADING NUMBER, AND ARCHITECTS HARDWARE SET NUMBER.
B. OPENING LOCK FUNCTION SPREADSHEET: LIST LOCKING DEVICE AND FUNCTION FOR EACH OPENING.
C. QUANTITY, TYPE, STYLE, FUNCTION, SIZE, AND FINISH OF EACH HARDWARE ITEM.
D. NAME AND MANUFACTURER OF EACH ITEM.
E. FASTENINGS AND OTHER PERTINENT INFORMATION.
F. LOCATION OF EACH HARDWARE SET CROSS-REFERENCED TO INDICATIONS ON DRAWINGS.
G. EXPLANATION OF ALL ABBREVIATIONS, SYMBOLS, AND CODES CONTAINED IN SCHEDULE.
H. MOUNTING LOCATIONS FOR HARDWARE.
I. DOOR AND FRAME SIZES AND MATERIALS.
J. NAME AND PHONE NUMBER FOR LOCAL MANUFACTURER'S REPRESENTATIVE FOR EACH PRODUCT.
K. OPERATIONAL DESCRIPTION OF OPENINGS WITH ANY ELECTRIFIED HARDWARE (LOCKS, EXITS, ELECTROMAGNETIC LOCKS, ELECTRIC STRIKES, AUTOMATIC OPERATORS, DOOR POSITION SWITCHES, MAGNETIC HOLDERS OR CLOSER/HOLDER UNITS, AND ACCESS CONTROL COMPONENTS). OPERATIONAL DESCRIPTION SHOULD INCLUDE OPERATIONAL DESCRIPTIONS FOR: EGRESS, INGRESS (ACCESS), AND FIRE/SMOKE ALARM CONNECTIONS.
1. SUBMITTAL SEQUENCE: SUBMIT DOOR HARDWARE SCHEDULE CONCURRENT WITH SUBMISSIONS OF PRODUCT DATA, SAMPLES, AND SHOP DRAWINGS. COORDINATE SUBMISSION OF DOOR HARDWARE SCHEDULE WITH SCHEDULING REQUIREMENTS OF OTHER WORK TO FACILITATE FABRICATION OF OTHER WORK THAT IS CRITICAL IN PROJECT CONSTRUCTION SCHEDULE.
5. KEY SCHEDULE:
A. AFTER KEYING CONFERENCE, PROVIDE KEYING SCHEDULE LISTING LEVELS OF KEYING AS WELL AS EXPLANATION OF KEY SYSTEM'S FUNCTION, KEY SYMBOLS USED AND DOOR NUMBERS CONTROLLED.
B. USE ANSI/BHMA A156.28 "RECOMMENDED PRACTICES FOR KEYING SYSTEMS" AS GUIDELINE FOR NOMENCLATURE, DEFINITIONS, AND APPROACH FOR SELECTING OPTIMAL KEYING SYSTEM.
C. PROVIDE 3 COPIES OF KEYING SCHEDULE FOR REVIEW PREPARED AND DETAILED IN ACCORDANCE WITH REFERENCED DHI PUBLICATION. INCLUDE SCHEMATIC KEYING DIAGRAM AND INDEX EACH KEY TO UNIQUE DOOR DESIGNATIONS.
D. INDEX KEYING SCHEDULE BY DOOR NUMBER, KEYSET, HARDWARE HEADING NUMBER, CROSS KEYING INSTRUCTIONS, AND SPECIAL KEY STAMPING INSTRUCTIONS.
E. PROVIDE ONE COMPLETE BITTING LIST OF KEY CUTS AND ONE KEY SYSTEM SCHEMATIC ILLUSTRATING SYSTEM USAGE AND EXPANSION.
1. FORWARD BITTING LIST, KEY CUTS AND KEY SYSTEM SCHEMATIC DIRECTLY TO OWNER, BY MEANS AS DIRECTED BY OWNER.
F. PREPARE KEY SCHEDULE BY OR UNDER SUPERVISION OF SUPPLIER, DETAILING OWNER'S FINAL KEYING INSTRUCTIONS FOR LOCKS.
6. TEMPLATES: AFTER FINAL APPROVAL OF HARDWARE SCHEDULE, PROVIDE TEMPLATES FOR DOORS, FRAMES AND OTHER WORK SPECIFIED TO BE FACTORY OR SHOP PREPARED FOR DOOR HARDWARE INSTALLATION.
C. INFORMATIONAL SUBMITTALS:
1. QUALIFICATION DATA: FOR SUPPLIER, INSTALLER AND ARCHITECTURAL HARDWARE CONSULTANT.
2. PRODUCT DATA FOR ELECTRIFIED DOOR HARDWARE:
A. CERTIFY THAT DOOR HARDWARE APPROVED FOR USE ON TYPES AND SIZES OF LABELED FIRE-RATED DOORS COMPLIES WITH LISTED FIRE-RATED DOOR ASSEMBLIES.
3. CERTIFICATES OF COMPLIANCE:
A. UL LISTINGS FOR FIRE-RATED HARDWARE AND INSTALLATION INSTRUCTIONS IF REQUESTED BY ARCHITECT OR AUTHORITY HAVING JURISDICTION.
B. INSTALLER TRAINING MEETING CERTIFICATION: LETTER OF COMPLIANCE, SIGNED BY CONTRACTOR, ATTESTING TO COMPLETION OF INSTALLER TRAINING MEETING SPECIFIED IN "QUALITY ASSURANCE" ARTICLE, HEREIN.
C. ELECTRIFIED HARDWARE COORDINATION CONFERENCE CERTIFICATION: LETTER OF COMPLIANCE, SIGNED BY CONTRACTOR, ATTESTING TO COMPLETION OF ELECTRIFIED HARDWARE COORDINATION CONFERENCE, SPECIFIED IN "QUALITY ASSURANCE" ARTICLE, HEREIN.
4. WARRANTY: SPECIAL WARRANTY SPECIFIED IN THIS SECTION.
D. CLOSEOUT SUBMITTALS:
1. OPERATIONS AND MAINTENANCE DATA: PROVIDE IN ACCORDANCE WITH DIVISION 01 AND INCLUDE:
A. COMPLETE INFORMATION ON CARE, MAINTENANCE, AND ADJUSTMENT; DATA ON REPAIR AND REPLACEMENT PARTS, AND INFORMATION ON PRESERVATION OF FINISHES.
B. CATALOG PAGES FOR EACH PRODUCT.
C. FACTORY ORDER ACKNOWLEDGEMENT NUMBERS (FOR WARRANTY AND SERVICE)
D. NAME, ADDRESS, AND PHONE NUMBER OF LOCAL REPRESENTATIVE FOR EACH MANUFACTURER.
E. PARTS LIST FOR EACH PRODUCT.
F. FINAL APPROVED HARDWARE SCHEDULE, EDITED TO REFLECT CONDITIONS AS-INSTALLED.
G. FINAL KEYING SCHEDULE
H. COPIES OF FLOOR PLANS WITH KEYING NOMENCLATURE
I. AS-INSTALLED WIRING DIAGRAMS FOR EACH OPENING CONNECTED TO POWER, BOTH LOW VOLTAGE AND 110 VOLTS.
J. COPY OF WARRANTIES INCLUDING APPROPRIATE REFERENCE NUMBERS FOR MANUFACTURERS TO IDENTIFY PROJECT.
1.05 QUALITY ASSURANCE
A. SUPPLIER QUALIFICATIONS AND RESPONSIBILITIES: RECOGNIZED ARCHITECTURAL HARDWARE SUPPLIER WITH RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE FOR SUPPLYING DOOR HARDWARE SIMILAR IN QUANTITY, TYPE, AND QUALITY TO THAT INDICATED FOR THIS PROJECT AND THAT PROVIDES CERTIFIED ARCHITECTURAL HARDWARE CONSULTANT (AHC) AVAILABLE TO OWNER, ARCHITECT, AND CONTRACTOR, AT REASONABLE TIMES DURING THE WORK FOR CONSULTATION.
1. WAREHOUSING FACILITIES: IN PROJECT'S VICINITY.
2. SCHEDULING RESPONSIBILITY: PREPARATION OF DOOR HARDWARE AND KEYING SCHEDULES.
3. ENGINEERING RESPONSIBILITY: PREPARATION OF DATA FOR ELECTRIFIED DOOR HARDWARE, INCLUDING SHOP DRAWINGS, BASED ON TESTING AND ENGINEERING ANALYSIS OF MANUFACTURER'S STANDARD UNITS IN ASSEMBLIES SIMILAR TO THOSE INDICATED FOR THIS PROJECT.

SECTION 08 71 00 – DOOR HARDWARE (CONT.)

4. COORDINATION RESPONSIBILITY: ASSIST IN COORDINATING INSTALLATION OF ELECTRONIC SECURITY HARDWARE WITH ARCHITECT AND ELECTRICAL ENGINEERS AND PROVIDE INSTALLATION AND TECHNICAL DATA TO ARCHITECT AND OTHER RELATED SUBCONTRACTORS.
A. UPON COMPLETION OF ELECTRONIC SECURITY HARDWARE INSTALLATION, INSPECT AND VERIFY THAT ALL COMPONENTS ARE WORKING PROPERLY.
B. ARCHITECTURAL HARDWARE CONSULTANT QUALIFICATIONS: PERSON WHO IS EXPERIENCED IN PROVIDING CONSULTING SERVICES FOR DOOR HARDWARE INSTALLATIONS THAT ARE COMPARABLE IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT AND MEETS THESE REQUIREMENTS:
1. FOR DOOR HARDWARE, DHI-CERTIFIED, ARCHITECTURAL HARDWARE CONSULTANT (AHC).
2. CAN PROVIDE INSTALLATION AND TECHNICAL DATA TO ARCHITECT AND OTHER RELATED SUBCONTRACTORS.
3. CAN INSPECT AND VERIFY COMPONENTS ARE IN WORKING ORDER UPON COMPLETION OF INSTALLATION.
4. CAPABLE OF PRODUCING WIRING DIAGRAMS.
5. CAPABLE OF COORDINATING INSTALLATION OF ELECTRIFIED HARDWARE WITH ARCHITECT AND ELECTRICAL ENGINEERS.
C. SINGLE SOURCE RESPONSIBILITY: OBTAIN EACH TYPE OF DOOR HARDWARE FROM SINGLE MANUFACTURER.
D. FIRE-RATED DOOR OPENINGS: PROVIDE DOOR HARDWARE FOR FIRE-RATED OPENINGS THAT COMPLIES WITH NFPA 80 AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. PROVIDE ONLY ITEMS OF DOOR HARDWARE THAT ARE LISTED PRODUCTS TESTED BY UNDERWRITERS LABORATORIES, INTERTEK TESTING SERVICES, OR OTHER TESTING AND INSPECTING ORGANIZATIONS ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION FOR USE ON TYPES AND SIZES OF DOORS INDICATED, BASED ON TESTING AT POSITIVE PRESSURE AND ACCORDING TO NFPA 252 OR UL 10C AND IN COMPLIANCE WITH REQUIREMENTS OF FIRE-RATED DOOR AND DOOR FRAME LABELS.
E. ELECTRIFIED DOOR HARDWARE: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
F. ACCESSIBILITY REQUIREMENTS: FOR DOOR HARDWARE ON DOORS IN AN ACCESSIBLE ROUTE, COMPLY WITH GOVERNING ACCESSIBILITY REGULATIONS CITED IN "REFERENCES" ARTICLE, HEREIN.
G. KEYING CONFERENCE
1. INCORPORATE KEYING CONFERENCE DECISIONS INTO FINAL KEYING SCHEDULE AFTER REVIEWING DOOR HARDWARE KEYING SYSTEM INCLUDING:
A. FUNCTION OF BUILDING, FLOW OF TRAFFIC, PURPOSE OF EACH AREA, DEGREE OF SECURITY REQUIRED, AND PLANS FOR FUTURE EXPANSION.
B. PRELIMINARY KEY SYSTEM SCHEMATIC DIAGRAM.
C. REQUIREMENTS FOR KEY CONTROL SYSTEM.
D. REQUIREMENTS FOR ACCESS CONTROL.
E. ADDRESS FOR DELIVERY OF KEYS.
H. PRE-INSTALLATION CONFERENCE
1. REVIEW AND FINALIZE CONSTRUCTION SCHEDULE AND VERIFY AVAILABILITY OF MATERIALS, INSTALLER'S PERSONNEL, EQUIPMENT, AND FACILITIES NEEDED TO MAKE PROGRESS AND AVOID DELAYS.
2. INSPECT AND DISCUSS PREPARATORY WORK PERFORMED BY OTHER TRADES.
3. INSPECT AND DISCUSS ELECTRICAL ROUGHING-IN FOR ELECTRIFIED DOOR HARDWARE.
4. REVIEW SEQUENCE OF OPERATION FOR EACH TYPE OF ELECTRIFIED DOOR HARDWARE.
5. REVIEW REQUIRED TESTING, INSPECTING, AND CERTIFYING PROCEDURES.
I. COORDINATION CONFERENCES:
1. INSTALLATION COORDINATION CONFERENCE: PRIOR TO HARDWARE INSTALLATION, SCHEDULE AND HOLD MEETING TO REVIEW QUESTIONS OR CONCERNS RELATED TO PROPER INSTALLATION AND ADJUSTMENT OF DOOR HARDWARE.
2. ELECTRIFIED HARDWARE COORDINATION CONFERENCE: PRIOR TO ORDERING ELECTRIFIED HARDWARE, SCHEDULE AND HOLD MEETING TO COORDINATE DOOR HARDWARE WITH SECURITY, ELECTRICAL, DOORS AND FRAMES, AND OTHER RELATED SUPPLIERS.
1.06 DELIVERY, STORAGE, AND HANDLING
A. INVENTORY DOOR HARDWARE ON RECEIPT AND PROVIDE SECURE LOCK-UP FOR HARDWARE DELIVERED TO PROJECT SITE.
B. TAG EACH ITEM OR PACKAGE SEPARATELY WITH IDENTIFICATION COORDINATED WITH FINAL DOOR HARDWARE SCHEDULE, AND INCLUDE INSTALLATION INSTRUCTIONS, TEMPLATES, AND NECESSARY FASTENERS WITH EACH ITEM OR PACKAGE.
1. DELIVER EACH ARTICLE OF HARDWARE IN MANUFACTURER'S ORIGINAL PACKAGING.
C. PROJECT CONDITIONS:
1. MAINTAIN MANUFACTURER-RECOMMENDED ENVIRONMENTAL CONDITIONS THROUGHOUT STORAGE AND INSTALLATION PERIODS.
2. PROVIDE SECURE LOCK-UP FOR DOOR HARDWARE DELIVERED TO PROJECT. CONTROL HANDLING AND INSTALLATION OF HARDWARE ITEMS SO THAT COMPLETION OF WORK WILL NOT BE DELAYED BY HARDWARE LOSSES BOTH BEFORE AND AFTER INSTALLATION.
D. PROTECTION AND DAMAGE:
1. PROMPTLY REPLACE PRODUCTS DAMAGED DURING SHIPPING.
2. HANDLE HARDWARE IN MANNER TO AVOID DAMAGE, MARRING, OR SCRATCHING. CORRECT, REPLACE OR REPAIR PRODUCTS DAMAGED DURING WORK.
3. PROTECT PRODUCTS AGAINST MALFUNCTION DUE TO PAINT, SOLVENT, CLEANSER, OR ANY CHEMICAL AGENT.
E. DELIVER KEYS TO MANUFACTURER OF KEY CONTROL SYSTEM FOR SUBSEQUENT DELIVERY TO OWNER.
F. DELIVER KEYS TO OWNER BY REGISTERED MAIL OR OVERNIGHT PACKAGE SERVICE.
1.07 COORDINATION
A. COORDINATE LAYOUT AND INSTALLATION OF FLOOR-RECESSED DOOR HARDWARE WITH FLOOR CONSTRUCTION. CAST ANCHORING INSERTS INTO CONCRETE.
B. INSTALLATION TEMPLATES: DISTRIBUTE FOR DOORS, FRAMES, AND OTHER WORK SPECIFIED TO BE FACTORY OR SHOP PREPARED. CHECK SHOP DRAWINGS OF OTHER WORK TO CONFIRM THAT ADEQUATE PROVISIONS ARE MADE FOR LOCATING AND INSTALLING DOOR HARDWARE TO COMPLY WITH INDICATED REQUIREMENTS.
C. SECURITY: COORDINATE INSTALLATION OF DOOR HARDWARE, KEYING, AND ACCESS CONTROL WITH OWNER'S SECURITY CONSULTANT.
D. ELECTRICAL SYSTEM ROUGHING-IN: COORDINATE LAYOUT AND INSTALLATION OF ELECTRIFIED DOOR HARDWARE WITH CONNECTIONS TO POWER SUPPLIES AND BUILDING SAFETY AND SECURITY SYSTEMS.
E. EXISTING OPENINGS: WHERE EXISTING DOORS, FRAMES AND/OR HARDWARE ARE TO REMAIN, FIELD VERIFY EXISTING FUNCTIONS, CONDITIONS AND PREPARATIONS AND COORDINATE TO SUIT OPENING CONDITIONS AND TO PROVIDE PROPER DOOR OPERATION.
1.08 WARRANTY
A. WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF DOOR HARDWARE THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
1. WARRANTY PERIOD: BEGINNING FROM DATE OF SUBSTANTIAL COMPLETION, FOR DURATIONS INDICATED.
A. CLOSERS:
1. MECHANICAL: FALCON SC SERIES, 10 YEARS.
B. EXIT DEVICES:
1. MECHANICAL: 3 YEARS.
C. LOCKSETS:
1. MECHANICAL: FALCON, 10 YEARS.
D. CONTINUOUS HINGES: LIFETIME WARRANTY.
E. KEY BLANKS: LIFETIME
2. WARRANTY DOES NOT COVER DAMAGE OR FAULTY OPERATION DUE TO IMPROPER INSTALLATION, IMPROPER USE OR ABUSE.
1.09 MAINTENANCE
A. MAINTENANCE TOOLS: FURNISH COMPLETE SET OF SPECIAL TOOLS REQUIRED FOR MAINTENANCE AND ADJUSTMENT OF HARDWARE, INCLUDING CHANGING OF CYLINDERS.
PART 2 - PRODUCTS
2.01 MANUFACTURERS
A. APPROVAL OF MANUFACTURERS AND/OR PRODUCTS OTHER THAN THOSE LISTED AS "SCHEDULED MANUFACTURER" OR "ACCEPTABLE MANUFACTURERS" IN THE INDIVIDUAL ARTICLE FOR THE PRODUCT CATEGORY SHALL BE IN ACCORDANCE WITH QUALITY ASSURANCE ARTICLE, HEREIN.
B. APPROVAL OF PRODUCTS FROM MANUFACTURERS INDICATED IN "ACCEPTABLE MANUFACTURERS" IS CONTINGENT UPON THOSE PRODUCTS PROVIDING ALL FUNCTIONS AND FEATURES AND MEETING ALL REQUIREMENTS OF SCHEDULED MANUFACTURER'S PRODUCT.
C. WHERE SPECIFIED HARDWARE IS NOT ADAPTABLE TO FINISHED SHAPE OR SIZE OF MEMBERS REQUIRING HARDWARE, FURNISH SUITABLE TYPES HAVING SAME OPERATION AND QUALITY AS TYPE SPECIFIED, SUBJECT TO ARCHITECT'S APPROVAL.
2.02 MATERIALS
A. FASTENERS
1. PROVIDE HARDWARE MANUFACTURED TO CONFORM TO PUBLISHED TEMPLATES, GENERALLY PREPARED FOR MACHINE SCREW INSTALLATION.
2. FURNISH SCREWS FOR INSTALLATION WITH EACH HARDWARE ITEM. FINISH EXPOSED (EXPOSED UNDER ANY CONDITION) SCREWS TO MATCH HARDWARE FINISH, OR, IF EXPOSED IN SURFACES OF OTHER WORK, TO MATCH FINISH OF THIS OTHER WORK INCLUDING PREPARED FOR PAINT SURFACES TO RECEIVE PAINTED FINISH.
3. PROVIDE CONCEALED FASTENERS FOR HARDWARE UNITS EXPOSED WHEN DOOR IS CLOSED EXCEPT WHEN NO STANDARD UNITS OF TYPE SPECIFIED ARE AVAILABLE WITH CONCEALED FASTENERS. DO NOT USE THRU-BOLTS FOR INSTALLATION WHERE BOLT HEAD OR NUT ON OPPOSITE FACE IS EXPOSED IN OTHER WORK UNLESS THRU-BOLTS ARE REQUIRED TO FASTEN HARDWARE SECURELY. REVIEW DOOR SPECIFICATION AND ADVISE ARCHITECT IF THRU-BOLTS ARE REQUIRED.
4. INSTALL HARDWARE WITH FASTENERS PROVIDED BY HARDWARE MANUFACTURER.

SECTION 08 71 00 – DOOR HARDWARE (CONT.)

B. MODIFICATION AND PREPARATION OF EXISTING DOORS: WHERE EXISTING DOOR HARDWARE IS INDICATED TO BE REMOVED AND REINSTALLED.
1. PROVIDE NECESSARY FILLERS, DUTCHMEN, REINFORCEMENTS, AND FASTENERS, COMPATIBLE WITH EXISTING MATERIALS, AS REQUIRED FOR MOUNTING NEW OPENING HARDWARE AND TO COVER EXISTING DOOR AND FRAME PREPARATIONS.
2. USE MATERIALS WHICH MATCH MATERIALS OF ADJACENT MODIFIED AREAS.
3. WHEN MODIFYING EXISTING FIRE-RATED OPENINGS, PROVIDE MATERIALS PERMITTED BY NFPA 80 AS REQUIRED TO MAINTAIN FIRE-RATING.
C. PROVIDE SCREWS, BOLTS, EXPANSION SHIELDS, DROP PLATES AND OTHER DEVICES NECESSARY FOR HARDWARE INSTALLATION.
1. WHERE FASTENERS ARE EXPOSED TO VIEW: FINISH TO MATCH ADJACENT DOOR HARDWARE MATERIAL.
2.03 HINGES
A. MANUFACTURERS AND PRODUCTS:
1. SCHEDULED MANUFACTURER AND PRODUCT: IVES 5BB SERIES.
2. ACCEPTABLE MANUFACTURERS AND PRODUCTS: MCKINNEY T4B SERIES, STANLEY FBB SERIES.
B. REQUIREMENTS:
1. PROVIDE HINGES CONFORMING TO ANSI/BHMA A156.1.
2. 1-3/4 INCH (44 MM) THICK DOORS, UP TO AND INCLUDING 36 INCHES (914 MM) WIDE:
A. INTERIOR: STANDARD WEIGHT, STEEL, 4-1/2 INCHES (114 MM) HIGH
3. PROVIDE THREE HINGES PER DOOR LEAF FOR DOORS 90 INCHES (2286 MM) OR LESS IN HEIGHT, AND ONE ADDITIONAL HINGE FOR EACH 30 INCHES (762 MM) OF ADDITIONAL DOOR HEIGHT.
4. WHERE NEW HINGES ARE SPECIFIED FOR EXISTING DOORS OR EXISTING FRAMES, PROVIDE NEW HINGES OF IDENTICAL SIZE TO HINGE PREPARATION PRESENT IN EXISTING DOOR OR EXISTING FRAME.
5. HINGE PINS: EXCEPT AS OTHERWISE INDICATED, PROVIDE HINGE PINS AS FOLLOWS:
A. STEEL HINGES: STEEL PINS
B. NON-FERROUS HINGES: STAINLESS STEEL PINS
C. OUT-SWINGING EXTERIOR DOORS: NON-REMOVABLE PINS
D. OUT-SWINGING INTERIOR LOCKABLE DOORS: NON-REMOVABLE PINS
E. INTERIOR NON-LOCKABLE DOORS: NON-RISING PINS
6. WIDTH OF HINGES: 4-1/2 INCHES (114 MM) AT 1-3/4 INCH (44 MM) THICK DOORS, AND 5 INCHES (127 MM) AT 2 INCHES (51 MM) OR THICKER DOORS. ADJUST HINGE WIDTH AS REQUIRED FOR DOOR, FRAME, AND WALL CONDITIONS TO ALLOW PROPER DEGREE OF OPENING.
7. PROVIDE SPRING HINGES WHERE SPECIFIED. PROVIDE TWO SPRING HINGES AND ONE BEARING HINGE PER DOOR LEAF FOR DOORS 90 INCHES (2286 MM) OR LESS IN HEIGHT. PROVIDE ONE ADDITIONAL BEARING HINGE FOR EACH 30 INCHES (762 MM) OF ADDITIONAL DOOR HEIGHT.
2.04 CONTINUOUS HINGES
A. ALUMINUM GEARED
1. MANUFACTURERS:
A. SCHEDULED MANUFACTURER: IVES.
B. ACCEPTABLE MANUFACTURERS: SELECT, STANLEY.
2. REQUIREMENTS:
A. PROVIDE ALUMINUM GEARED CONTINUOUS HINGES CONFORMING TO ANSI/BHMA A156.26, GRADE 1.
B. PROVIDE ALUMINUM GEARED CONTINUOUS HINGES, WHERE SPECIFIED IN THE HARDWARE SETS, FABRICATED FROM 6063-T6 ALUMINUM.
C. PROVIDE SPLIT NYLON BEARINGS AT EACH HINGE KNUCKLE FOR QUIET, SMOOTH, SELF-LUBRICATING OPERATION.
D. PROVIDE HINGES CAPABLE OF SUPPORTING DOOR WEIGHTS UP TO 450 POUNDS, AND SUCCESSFULLY TESTED FOR 1,500,000 CYCLES.
E. ON FIRE-RATED DOORS, PROVIDE ALUMINUM GEARED CONTINUOUS HINGES THAT ARE CLASSIFIED FOR USE ON RATED DOORS BY TESTING AGENCY ACCEPTABLE TO AUTHORITY HAVING JURISDICTION.
F. PROVIDE ALUMINUM GEARED CONTINUOUS HINGES WITH ELECTRIFIED OPTION SCHEDULED IN THE HARDWARE SETS. PROVIDE WITH SUFFICIENT NUMBER AND WIRE GAGE TO ACCOMMODATE ELECTRIC FUNCTION OF SPECIFIED HARDWARE.
G. INSTALL HINGES WITH FASTENERS SUPPLIED BY MANUFACTURER.
H. PROVIDE HINGES 1 INCH (25 MM) SHORTER IN LENGTH THAN NOMINAL HEIGHT OF DOOR, UNLESS OTHERWISE NOTED OR DOOR DETAILS REQUIRE SHORTER LENGTH AND WITH SYMMETRICAL HOLE PATTERN.
2.05 MORTISE LOCKS
A. MANUFACTURERS AND PRODUCTS:
1. SCHEDULED MANUFACTURER AND PRODUCT: FALCON MA SERIES.
2. ACCEPTABLE MANUFACTURERS AND PRODUCTS: CORBIN-RUSSWIN ML2000 SERIES.
B. REQUIREMENTS:
1. PROVIDE MORTISE LOCKS CONFORMING TO ANSI/BHMA A156.13 SERIES 1000, GRADE 1, AND UL LISTED FOR 3 HOUR FIRE DOORS.
2. PROVIDE LOCKS MANUFACTURED FROM HEAVY GAUGE STEEL, CONTAINING COMPONENTS OF STEEL WITH A ZINC DICHROMATE PLATING FOR CORROSION RESISTANCE.
3. PROVIDE LOCK CASE THAT IS MULTI-FUNCTION AND FIELD REVERSIBLE FOR HANDING WITHOUT OPENING CASE. CYLINDERS: REFER TO "KEYING" ARTICLE, HEREIN.
4. PROVIDE LOCKS WITH STANDARD 2-3/4 INCHES (70 MM) BACKSET WITH FULL 3/4 INCH (19 MM) THROW STAINLESS STEEL MECHANICAL ANTI-FRICTION LATCHBOLT. PROVIDE DEADBOLT WITH FULL 1 INCH (25 MM) THROW, CONSTRUCTED OF STAINLESS STEEL.
5. PROVIDE STANDARD ASA STRIKES UNLESS EXTENDED LIP STRIKES ARE NECESSARY TO PROTECT TRIM.
6. PROVIDE ELECTRIFIED OPTIONS AS SCHEDULED IN THE HARDWARE SETS. WHERE SCHEDULED, PROVIDE A REQUEST TO EXIT (RX) SWITCH THAT IS ACTUATED WITH ROTATION OF INSIDE LEVER.
7. LEVER TRIM: SOLID BRASS, BRONZE, OR STAINLESS STEEL, CAST OR FORGED IN DESIGN SPECIFIED, WITH WROUGHT ROSES AND EXTERNAL LEVER SPRING CAGES. PROVIDE THRU-BOLTED LEVERS WITH 2-PIECE SPINDLES.
A. LEVER DESIGN: FALCON DGM.
B. TACTILE WARNING (KNURLING): WHERE REQUIRED BY AUTHORITY HAVING JURISDICTION. PROVIDE ON LEVERS ON EXTERIOR (SECURE SIDE) OF DOORS SERVING ROOMS CONSIDERED TO BE HAZARDOUS.
2.06 CYLINDRICAL LOCKS – GRADE 1
A. MANUFACTURERS AND PRODUCTS:
1. SCHEDULED MANUFACTURER AND PRODUCT: FALCON W SERIES.
2. ACCEPTABLE MANUFACTURERS AND PRODUCTS: CORBIN-RUSSWIN CL3800 SERIES.
B. REQUIREMENTS:
1. PROVIDE CYLINDRICAL LOCKS CONFORMING TO ANSI/BHMA A156.2 SERIES 4000, GRADE 2, AND UL LISTED FOR 3 HOUR FIRE DOORS.
2. CYLINDERS: REFER TO "KEYING" ARTICLE, HEREIN.
3. PROVIDE LOCKS WITH STANDARD 2-3/4 INCHES (70 MM) BACKSET, UNLESS NOTED OTHERWISE, WITH 1/2 INCH LATCH THROW. PROVIDE PROPER LATCH THROW FOR UL LISTING AT PAIRS.
4. PROVIDE LOCKSETS WITH SEPARATE ANTI-ROTATION THRU-BOLTS, AND NO EXPOSED SCREWS.
5. PROVIDE INDEPENDENTLY OPERATING LEVERS WITH TWO EXTERNAL RETURN SPRING CASSETTES MOUNTED UNDER ROSES TO PREVENT LEVER SAG.
6. PROVIDE STANDARD ASA STRIKES UNLESS EXTENDED LIP STRIKES ARE NECESSARY TO PROTECT TRIM.
7. LEVER TRIM: SOLID CAST LEVERS WITHOUT PLASTIC INSERTS AND WROUGHT ROSES ON BOTH SIDES.
a. LEVER DESIGN: FALCON DAN.
b. TACTILE WARNING (KNURLING): WHERE REQUIRED BY AUTHORITY HAVING JURISDICTION. PROVIDE ON LEVERS ON EXTERIOR (SECURE SIDE) OF DOORS SERVING ROOMS CONSIDERED TO BE HAZARDOUS.
2.07 EXIT DEVICES
A. MANUFACTURERS AND PRODUCTS:
1. SCHEDULED MANUFACTURER AND PRODUCT: FALCON 24/25 SERIES.
2. ACCEPTABLE MANUFACTURERS AND PRODUCTS: CORBIN RUSSWIN ED4000/5000 SERIES.
B. REQUIREMENTS:
1. PROVIDE EXIT DEVICES TESTED TO ANSI/BHMA A156.3 GRADE 1 AND UL LISTED FOR PANIC EXIT OR FIRE EXIT HARDWARE.
2. CYLINDERS: REFER TO "KEYING" ARTICLE, HEREIN.
3. PROVIDE TOUCHPAD TYPE EXIT DEVICES, FABRICATED OF BRASS, BRONZE, STAINLESS STEEL, OR ALUMINUM, PLATED TO STANDARD ARCHITECTURAL FINISHES TO MATCH BALANCE OF DOOR HARDWARE.
4. TOUCHPAD MUST EXTEND A MINIMUM OF ONE HALF OF DOOR WIDTH. NO PLASTIC INSERTS ARE ALLOWED IN TOUCHPADS.
5. PROVIDE EXIT DEVICES WITH DEADLATCHING FEATURE FOR SECURITY AND FOR FUTURE ADDITION OF ALARM KITS AND/OR OTHER ELECTRIFIED REQUIREMENTS.
6. PROVIDE FLUSH END CAPS FOR EXIT DEVICES.
7. PROVIDE EXIT DEVICES WITH MANUFACTURER'S APPROVED STRIKES.
8. PROVIDE EXIT DEVICES CUT TO DOOR WIDTH AND HEIGHT. INSTALL EXIT DEVICES AT HEIGHT RECOMMENDED BY EXIT DEVICE MANUFACTURER, ALLOWABLE BY GOVERNING BUILDING CODES, AND APPROVED BY ARCHITECT.
9. MOUNT MECHANISM CASE FLUSH ON FACE OF DOORS, OR PROVIDE SPACERS TO FILL GAPS BEHIND DEVICES. WHERE GLASS TRIM OR MOLDING PROJECTS OFF FACE OF DOOR, PROVIDE GLASS BEAD KITS.

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ISSUE DATE:	00/00/00

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No.	Date	Description

PROJECT NO.	25-023
DRAWN BY	Author
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SHEET	5 OF 44

SPECIFICATIONS

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SECTION 08 71 00 – DOOR HARDWARE (CONT.)

10. PROVIDE CYLINDER OR HEX-KEY DOGGING AS SPECIFIED AT NON FIRE-RATED OPENINGS.
11. REMOVABLE MULLIONS: 2 INCHES (51 MM) X 3 INCHES (76 MM) STEEL TUBE. WHERE SCHEDULED AS KEYED REMOVABLE MULLION, PROVIDE TYPE THAT CAN BE REMOVED BY USE OF A KEYED CYLINDER, WHICH IS SELF-LOCKING WHEN RE-INSTALLED.
12. PROVIDE FACTORY DRILLED WEEP HOLES FOR EXIT DEVICES USED IN FULL EXTERIOR APPLICATION, HIGHLY CORROSIVE AREAS, AND WHERE NOTED IN HARDWARE SETS.
13. PROVIDE ELECTRIFIED OPTIONS AS SCHEDULED.
14. PROVIDE EXIT DEVICES WITH OPTIONAL TRIM DESIGNS TO MATCH OTHER LEVER AND PULL DESIGNS USED ON THE PROJECT.
A. TACTILE WARNING (KNURLING): WHERE REQUIRED BY AUTHORITY HAVING JURISDICTION. PROVIDE ON LEVERS ON EXTERIOR (SECURE SIDE) OF DOORS SERVING ROOMS CONSIDERED TO BE HAZARDOUS.

2.08 CYLINDERS
A. MANUFACTURERS AND PRODUCTS:
1. SCHEDULED MANUFACTURER: FALCON.
2. ACCEPTABLE MANUFACTURERS AND PRODUCTS: CORBIN-RUSSWIN.
B. REQUIREMENTS:
1. PROVIDE CYLINDERS/CORES, FROM THE SAME MANUFACTURER OF LOCKSETS, COMPLIANT WITH ANSI/BHMA A156.5; LATEST REVISION; CYLINDER FACE FINISHED TO MATCH LOCKSET, MANUFACTURER'S SERIES AS INDICATED. REFER TO "KEYING" ARTICLE, HEREIN.
2. PROVIDE CYLINDERS IN THE BELOW-LISTED CONFIGURATION(S), DISTRIBUTED THROUGHOUT THE PROJECT AS INDICATED.
a. CONVENTIONAL OPEN: CYLINDER WITH K-I-L CYLINDER WITH OPEN KEYWAY

2.09 KEYING
A. COMPLY WITH GUIDELINES IN ANSI/BHMA A156.28, INCORPORATING DECISIONS MADE AT KEYING CONFERENCE.
B. REQUIREMENTS:
1. PROVIDE PERMANENT CYLINDERS/CORES KEYED BY THE MANUFACTURER ACCORDING TO THE FOLLOWING KEY SYSTEM.
A. MASTER KEYING SYSTEM AS DIRECTED BY THE OWNER.
2. FORWARD BITTING LIST AND KEYS SEPARATELY FROM CYLINDERS, BY MEANS AS DIRECTED BY OWNER. FAILURE TO COMPLY WITH FORWARDING REQUIREMENTS WILL BE CAUSE FOR REPLACEMENT OF CYLINDERS/CORES INVOLVED AT NO ADDITIONAL COST TO OWNER.
3. PROVIDE KEYS WITH THE FOLLOWING FEATURES:
A. MATERIAL: NICKEL SILVER; MINIMUM THICKNESS OF .107-INCH (2.3MM)
4. IDENTIFICATION:
A. MARK PERMANENT CYLINDERS/CORES AND KEYS WITH APPLICABLE BLIND CODE PER DHI PUBLICATION "KEYING SYSTEMS AND NOMENCLATURE" FOR IDENTIFICATION. DO NOT PROVIDE BLIND CODE MARKS WITH ACTUAL KEY CUTS.
B. IDENTIFICATION STAMPING PROVISIONS MUST BE APPROVED BY THE ARCHITECT AND OWNER.
C. STAMP CYLINDERS/CORES AND KEYS WITH OWNER'S UNIQUE KEY SYSTEM FACILITY CODE AS ESTABLISHED BY THE MANUFACTURER; KEY SYMBOL AND EMBOSSED OR STAMPED WITH "DO NOT DUPLICATE".
D. FAILURE TO COMPLY WITH STAMPING REQUIREMENTS WILL BE CAUSE FOR REPLACEMENT OF KEYS INVOLVED AT NO ADDITIONAL COST TO OWNER.
5. QUANTITY: FURNISH IN THE FOLLOWING QUANTITIES.
A. CHANGE (DAY) KEYS: SEE KEYING CONVENTION ON SHEET A5-1 FOR KEYS PER CYLINDER/CORE.
B. MASTER KEYS: 5.

2.10 KEY CONTROL SYSTEM
A. MANUFACTURERS:
1. SCHEDULED MANUFACTURER: TELKEE.
2. ACCEPTABLE MANUFACTURERS: HPC, LUND.
B. REQUIREMENTS:
1. PROVIDE KEY CONTROL SYSTEM, INCLUDING ENVELOPES, LABELS, TAGS WITH SELF-LOCKING KEY CLIPS, RECEIPT FORMS, 3-WAY VISIBLE CARD INDEX, TEMPORARY MARKERS, PERMANENT MARKERS, AND STANDARD METAL CABINET, ALL AS RECOMMENDED BY SYSTEM MANUFACTURER, WITH CAPACITY FOR 150% OF NUMBER OF LOCKS REQUIRED FOR PROJECT.
A. PROVIDE COMPLETE CROSS INDEX SYSTEM SET UP BY HARDWARE SUPPLIER, AND PLACE KEYS ON MARKERS AND HOOKS IN CABINET AS DETERMINED BY FINAL KEY SCHEDULE.
B. PROVIDE HINGED-PANEL TYPE CABINET FOR WALL MOUNTING.

2.11 DOOR CLOSERS
A. MANUFACTURERS AND PRODUCTS:
1. SCHEDULED MANUFACTURER AND PRODUCT: FALCON SC70A SERIES.
2. ACCEPTABLE MANUFACTURERS AND PRODUCTS: CORBIN RUSSWIN DC6000 SERIES.
B. REQUIREMENTS:
1. PROVIDE DOOR CLOSERS CONFORMING TO ANSI/BHMA A156.4 GRADE 1 REQUIREMENTS BY BHMA CERTIFIED INDEPENDENT TESTING LABORATORY. ISO 9000 CERTIFY CLOSERS. STAMP UNITS WITH DATE OF MANUFACTURE CODE.
2. PROVIDE DOOR CLOSERS WITH FULLY HYDRAULIC, FULL RACK AND PINION ACTION WITH ALUMINUM CYLINDER.
3. CLOSER BODY: 1-1/2 INCH (38 MM) DIAMETER WITH 5/8 INCH (16 MM) DIAMETER HEAT-TREATED PINION JOURNAL.
4. HYDRAULIC FLUID: FIREPROOF, PASSING REQUIREMENTS OF UL10C, AND REQUIRING NO SEASONAL CLOSER ADJUSTMENT FOR TEMPERATURES RANGING FROM 120 DEGREES F TO -30 DEGREES F.
5. SPRING POWER: CONTINUOUSLY ADJUSTABLE OVER FULL RANGE OF CLOSER SIZES, AND PROVIDING REDUCED OPENING FORCE AS REQUIRED BY ACCESSIBILITY CODES AND STANDARDS.
6. HYDRAULIC REGULATION: BY TAMPER-PROOF, NON-CRITICAL VALVES, WITH SEPARATE ADJUSTMENT FOR LATCH SPEED, GENERAL SPEED, AND BACKCHECK.
7. PRESSURE RELIEF VALVE (PRV) TECHNOLOGY: NOT PERMITTED.
8. PROVIDE SPECIAL TEMPLATES, DROP PLATES, MOUNTING BRACKETS, OR ADAPTERS FOR ARMS AS REQUIRED FOR DETAILS, OVERHEAD STOPS, AND OTHER DOOR HARDWARE ITEMS INTERFERING WITH CLOSER MOUNTING.

2.12 DOOR CLOSERS
A. MANUFACTURERS AND PRODUCTS:
1. SCHEDULED MANUFACTURER AND PRODUCT: FALCON SC80A SERIES.
2. ACCEPTABLE MANUFACTURERS AND PRODUCTS: CORBIN RUSSWIN DC3000 SERIES.
B. REQUIREMENTS:
1. PROVIDE DOOR CLOSERS CONFORMING TO ANSI/BHMA A156.4 GRADE 1 REQUIREMENTS BY BHMA CERTIFIED INDEPENDENT TESTING LABORATORY.
2. PROVIDE DOOR CLOSERS WITH FULLY HYDRAULIC, FULL RACK AND PINION ACTION WITH ALUMINUM CYLINDER.
3. CLOSER BODY: 1-1/4 INCH (32 MM) DIAMETER, WITH 5/8 INCH (16 MM) DIAMETER HEAT-TREATED PINION JOURNAL.
4. HYDRAULIC FLUID: FIREPROOF, PASSING REQUIREMENTS OF UL10C, AND REQUIRING NO SEASONAL CLOSER ADJUSTMENT FOR TEMPERATURES RANGING FROM 120 DEGREES F TO -30 DEGREES F.
5. SPRING POWER: CONTINUOUSLY ADJUSTABLE OVER FULL RANGE OF CLOSER SIZES, AND PROVIDING REDUCED OPENING FORCE AS REQUIRED BY ACCESSIBILITY CODES AND STANDARDS.
6. HYDRAULIC REGULATION: BY TAMPER-PROOF, NON-CRITICAL VALVES, WITH SEPARATE ADJUSTMENT FOR LATCH SPEED, GENERAL SPEED, AND BACKCHECK.
7. PRESSURE RELIEF VALVE (PRV) TECHNOLOGY: NOT PERMITTED.
8. PROVIDE SPECIAL TEMPLATES, DROP PLATES, MOUNTING BRACKETS, OR ADAPTERS FOR ARMS AS REQUIRED FOR DETAILS, OVERHEAD STOPS, AND OTHER DOOR HARDWARE ITEMS INTERFERING WITH CLOSER MOUNTING.

2.13 DOOR TRIM
A. MANUFACTURERS:
1. SCHEDULED MANUFACTURER: IVES.
2. ACCEPTABLE MANUFACTURERS: HIAWATHA, TRIMCO.
B. REQUIREMENTS:
1. PROVIDE PUSH PLATES 4 INCHES (102 MM) WIDE BY 16 INCHES (406 MM) HIGH BY 0.050 INCH (1 MM) THICK AND BEVELED 4 EDGES. WHERE WIDTH OF DOOR STILE PREVENTS USE OF 4 INCHES (102 MM) WIDE PLATE, ADJUST WIDTH TO FIT.
2. PROVIDE PUSH BARS OF SOLID BAR STOCK, DIAMETER AND LENGTH AS SCHEDULED. PROVIDE PUSH BARS OF SUFFICIENT LENGTH TO SPAN FROM CENTER TO CENTER OF EACH STILE. WHERE REQUIRED, MOUNT BACK TO BACK WITH PULL.
3. PROVIDE OFFSET PULLS OF SOLID BAR STOCK, DIAMETER AND LENGTH AS SCHEDULED. WHERE REQUIRED, MOUNT BACK TO BACK WITH PUSH BAR.
4. PROVIDE FLUSH PULLS AS SCHEDULED. WHERE REQUIRED, PROVIDE BACK-TO-BACK MOUNTED MODEL.
5. PROVIDE PULLS OF SOLID BAR STOCK, DIAMETER AND LENGTH AS SCHEDULED. WHERE REQUIRED, MOUNT BACK TO BACK WITH PUSH BAR.
6. PROVIDE PULL PLATES 4 INCHES (102 MM) WIDE BY 16 INCHES (406 MM) HIGH BY 0.050 INCH (1 MM) THICK, BEVELED 4 EDGES, AND PREPPED FOR PULL. WHERE WIDTH OF DOOR STILE PREVENTS USE OF 4 INCHES (102 MM) WIDE PLATE, ADJUST WIDTH TO FIT.
7. PROVIDE PULLS OF SOLID BAR STOCK, DIAMETER AND LENGTH AS SCHEDULED. WHERE REQUIRED, MOUNT BACK TO BACK WITH PUSH BAR.
8. PROVIDE PULL PLATES 4 INCHES (102 MM) WIDE BY 16 INCHES (406 MM) HIGH BY 0.050 INCH (1 MM) THICK, BEVELED 4 EDGES, AND PREPPED FOR PULL. WHERE WIDTH OF DOOR STILE PREVENTS USE OF 4 INCHES (102 MM) WIDE PLATE, ADJUST WIDTH TO FIT.

SECTION 08 71 00 – DOOR HARDWARE (CONT.)

2.14 PROTECTION PLATES
A. MANUFACTURERS:
1. SCHEDULED MANUFACTURER: IVES.
2. ACCEPTABLE MANUFACTURERS: HIAWATHA, TRIMCO.
B. REQUIREMENTS:
1. PROVIDE KICK PLATES, MOP PLATES, AND ARMOR PLATES MINIMUM OF 0.050 INCH (1 MM) THICK, BEVELED FOUR EDGES AS SCHEDULED. FURNISH WITH SHEET METAL OR WOOD SCREWS, FINISHED TO MATCH PLATES.
2. SIZES OF PLATES:
A. KICK PLATES: 10 INCHES (254 MM) HIGH BY 2 INCHES (51 MM) LESS WIDTH OF DOOR ON SINGLE DOORS, 1 INCH (25 MM) LESS WIDTH OF DOOR ON PAIRS
B. MOP PLATES: 4 INCHES (102 MM) HIGH BY 2 INCHES (51 MM) LESS WIDTH OF DOOR ON SINGLE DOORS, 1 INCH (25 MM) LESS WIDTH OF DOOR ON PAIRS
C. OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS
C. MANUFACTURERS:
1. SCHEDULED MANUFACTURERS: GLYNN-JOHNSON.
2. ACCEPTABLE MANUFACTURERS: RIXSON, SARGENT.
D. REQUIREMENTS:
1. PROVIDE HEAVY DUTY CONCEALED MOUNTED OVERHEAD STOP OR HOLDER AS SPECIFIED FOR EXTERIOR AND INTERIOR VESTIBULE SINGLE ACTING DOORS.
2. PROVIDE HEAVY DUTY CONCEALED MOUNTED OVERHEAD STOP OR HOLDER AS SPECIFIED FOR DOUBLE ACTING DOORS.
3. PROVIDE HEAVY OR MEDIUM DUTY AND CONCEALED OR SURFACE MOUNTED OVERHEAD STOP OR HOLDER FOR INTERIOR DOORS AS SPECIFIED. PROVIDE MEDIUM DUTY SURFACE MOUNTED OVERHEAD STOP FOR INTERIOR DOORS AND AT ANY DOOR THAT SWINGS MORE THAN 140 DEGREES BEFORE STRIKING WALL, OPEN AGAINST EQUIPMENT, CASEWORK, SIDELIGHTS, AND WHERE CONDITIONS DO NOT ALLOW WALL STOP OR FLOOR STOP PRESENTS TRIPPING HAZARD.
4. WHERE OVERHEAD HOLDERS ARE SPECIFIED PROVIDE FRICTION TYPE AT DOORS WITHOUT CLOSER AND POSITIVE TYPE AT DOORS WITH CLOSER.

2.15 DOOR STOPS AND HOLDERS
A. MANUFACTURERS:
1. SCHEDULED MANUFACTURER: IVES.
2. ACCEPTABLE MANUFACTURERS: HIAWATHA, TRIMCO.
B. PROVIDE DOOR STOPS AT EACH DOOR LEAF:
1. PROVIDE WALL STOPS WHEREVER POSSIBLE. PROVIDE CONVEX TYPE WHERE MORTISE TYPE LOCKS ARE USED AND CONCAVE TYPE WHERE CYLINDRICAL TYPE LOCKS ARE USED.
2. WHERE A WALL STOP CANNOT BE USED, PROVIDE UNIVERSAL FLOOR STOPS FOR LOW OR HIGH RISE OPTIONS.
3. WHERE WALL OR FLOOR STOP CANNOT BE USED, PROVIDE MEDIUM DUTY SURFACE MOUNTED OVERHEAD STOP.

2.16 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING
A. MANUFACTURERS:
1. SCHEDULED MANUFACTURER: ZERO INTERNATIONAL.
2. ACCEPTABLE MANUFACTURERS: NATIONAL GUARD, REESE.
B. REQUIREMENTS:
1. PROVIDE THRESHOLDS, WEATHER-STRIPPING (INCLUDING DOOR SWEEPS, SEALS, AND ASTRAGALS) AND GASKETING SYSTEMS (INCLUDING SMOKE, SOUND, AND LIGHT) AS SPECIFIED AND PER ARCHITECTURAL DETAILS. MATCH FINISH OF OTHER ITEMS.
2. SMOKE- AND DRAFT-CONTROL DOOR ASSEMBLIES: WHERE SMOKE- AND DRAFT-CONTROL DOOR ASSEMBLIES ARE REQUIRED, PROVIDE DOOR HARDWARE THAT MEETS REQUIREMENTS OF ASSEMBLIES TESTED ACCORDING TO UL 1784 AND INSTALLED IN COMPLIANCE WITH NFPA 105.
3. SIZE OF THRESHOLDS:
A. SADDLE THRESHOLDS: 1/2 INCH (13 MM) HIGH BY JAMB WIDTH BY DOOR WIDTH
B. BUMPER SEAL THRESHOLDS: 1/2 INCH (13 MM) HIGH BY 5 INCHES (127 MM) WIDE BY DOOR WIDTH
4. PROVIDE DOOR SWEEPS, SEALS, ASTRAGALS, AND AUTO DOOR BOTTOMS ONLY OF TYPE WHERE RESILIENT OR FLEXIBLE SEAL STRIP IS EASILY REPLACEABLE AND READILY AVAILABLE.

2.17 SILENCERS
A. MANUFACTURERS:
1. SCHEDULED MANUFACTURER: IVES.
2. ACCEPTABLE MANUFACTURERS: HIAWATHA, TRIMCO.
B. REQUIREMENTS:
1. PROVIDE "PUSH-IN" TYPE SILENCERS FOR HOLLOW METAL OR WOOD FRAMES.
2. PROVIDE ONE SILENCER PER 30 INCHES (762 MM) OF HEIGHT ON EACH SINGLE FRAME, AND TWO FOR EACH PAIR FRAME.
3. OMIT WHERE GASKETING IS SPECIFIED.

2.18 BI-FOLD DOOR HARDWARE
A. MANUFACTURER:
1. SCHEDULED MANUFACTURER: JOHNSON HARDWARE.
2. ACCEPTABLE MANUFACTURERS: STANLEY, KN CROWDER.
B. REQUIREMENTS:
1. PROVIDE COMPLETE SETS OF BI-FOLD DOOR HARDWARE AS RECOMMENDED BY MANUFACTURER FOR DOOR TYPE AND WEIGHT.
a. INCLUDE TRACK, HANGERS, FASTENERS, GUIDES, AND OTHER HARDWARE AS REQUIRED FOR COMPLETE INSTALLATION.

2.19 FINISHES
A. FINISH: BHMA 626/652 (US26D); EXCEPT:
1. CONTINUOUS HINGES: BHMA 628 (US28)
2. PUSH PLATES, PULLS, AND PUSH BARS: BHMA 630 (US32D)
3. PROTECTION PLATES: BHMA 630 (US32D)
4. OVERHEAD STOPS AND HOLDERS: BHMA 630 (US32D)
5. DOOR CLOSERS: POWDER COAT TO MATCH
6. WALL STOPS: BHMA 630 (US32D)
7. WEATHERSTRIPPING: CLEAR ANODIZED ALUMINUM
8. THRESHOLDS: MILL FINISH ALUMINUM

PART 3 - EXECUTION
3.01 EXAMINATION
A. PRIOR TO INSTALLATION OF HARDWARE, EXAMINE DOORS AND FRAMES, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES, LABELED FIRE-RATED DOOR ASSEMBLY CONSTRUCTION, WALL AND FLOOR CONSTRUCTION, AND OTHER CONDITIONS AFFECTING PERFORMANCE.
B. FIELD VERIFY EXISTING DOORS AND FRAMES RECEIVING NEW HARDWARE AND EXISTING CONDITIONS RECEIVING NEW OPENINGS. VERIFY THAT NEW HARDWARE IS COMPATIBLE WITH EXISTING DOOR AND FRAME PREPARATION AND EXISTING CONDITIONS.
C. EXAMINE ROUGHING-IN FOR ELECTRICAL POWER SYSTEMS TO VERIFY ACTUAL LOCATIONS OF WIRING CONNECTIONS BEFORE ELECTRIFIED DOOR HARDWARE INSTALLATION.
D. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.02 PREPARATION
A. WHERE ON-SITE MODIFICATION OF DOORS AND FRAMES IS REQUIRED:
1. CAREFULLY REMOVE EXISTING DOOR HARDWARE AND COMPONENTS BEING REUSED. CLEAN, PROTECT, TAG, AND STORE IN ACCORDANCE WITH STORAGE AND HANDLING REQUIREMENTS SPECIFIED HEREIN.
2. FIELD MODIFY AND PREPARE EXISTING DOOR AND FRAME FOR NEW HARDWARE BEING INSTALLED.
3. WHEN MODIFICATIONS ARE EXPOSED TO VIEW, USE CONCEALED FASTENERS, WHEN POSSIBLE.
4. PREPARE HARDWARE LOCATIONS AND REINSTALL IN ACCORDANCE WITH INSTALLATION REQUIREMENTS FOR NEW DOOR HARDWARE AND WITH:
A. STEEL DOORS AND FRAMES: FOR SURFACE APPLIED DOOR HARDWARE, DRILL AND TAP DOORS AND FRAMES ACCORDING TO ANSI/SDI A250.6.
B. WOOD DOORS: DHI WDHS.5 "RECOMMENDED HARDWARE REINFORCEMENT LOCATIONS FOR MINERAL CORE WOOD FLUSH DOORS."
C. DOORS IN RATED ASSEMBLIES: NFPA 80 FOR RESTRICTIONS ON ON-SITE DOOR HARDWARE PREPARATION.
3.03 INSTALLATION
A. MOUNT DOOR HARDWARE UNITS AT HEIGHTS TO COMPLY WITH THE FOLLOWING, UNLESS OTHERWISE INDICATED OR REQUIRED TO COMPLY WITH GOVERNING REGULATIONS.
1. STANDARD STEEL DOORS AND FRAMES: ANSI/SDI A250.8.
2. CUSTOM STEEL DOORS AND FRAMES: HMMA 831.
3. WOOD DOORS: DHI WDHS.3, "RECOMMENDED LOCATIONS FOR ARCHITECTURAL HARDWARE FOR WOOD FLUSH DOORS."
B. INSTALL EACH HARDWARE ITEM IN COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS, USING ONLY FASTENERS PROVIDED BY MANUFACTURER.
C. DO NOT INSTALL SURFACE MOUNTED ITEMS UNTIL FINISHES HAVE BEEN COMPLETED ON SUBSTRATE. PROTECT ALL INSTALLED HARDWARE DURING PAINTING.
D. SET UNITS LEVEL, PLUMB AND TRUE TO LINE AND LOCATION. ADJUST AND REINFORCE ATTACHMENT SUBSTRATE AS NECESSARY FOR PROPER INSTALLATION AND OPERATION.
E. DRILL AND COUNTERSINK UNITS THAT ARE NOT FACTORY PREPARED FOR ANCHORAGE FASTENERS. SPACE FASTENERS AND ANCHORS ACCORDING TO INDUSTRY STANDARDS.
F. INSTALL OPERATING PARTS SO THEY MOVE FREELY AND SMOOTHLY WITHOUT BINDING, STICKING, OR EXCESSIVE CLEARANCE.
G. HINGES: INSTALL TYPES AND IN QUANTITIES INDICATED IN DOOR HARDWARE SCHEDULE BUT NOT FEWER THAN QUANTITY RECOMMENDED BY MANUFACTURER FOR APPLICATION INDICATED OR ONE HINGE FOR EVERY 30 INCHES (750 MM) OF DOOR HEIGHT, WHICHEVER IS MORE STRINGENT, UNLESS OTHER EQUIVALENT MEANS OF SUPPORT FOR DOOR, SUCH AS SPRING HINGES OR PIVOTS, ARE PROVIDED.

SECTION 08 71 00 – DOOR HARDWARE (CONT.)

H. LOCK CYLINDERS: INSTALL CONSTRUCTION CORES TO SECURE BUILDING AND AREAS DURING CONSTRUCTION PERIOD.
1. REPLACE CONSTRUCTION CORES WITH PERMANENT CORES AS INDICATED IN KEYING SECTION.
I. WIRING: COORDINATE WITH DIVISION 26, ELECTRICAL SECTIONS FOR:
1. CONDUIT, JUNCTION BOXES AND WIRE PULLS.
2. CONNECTIONS TO AND FROM POWER SUPPLIES TO ELECTRIFIED HARDWARE.
3. CONNECTIONS TO FIRE/SMOKE ALARM SYSTEM AND SMOKE EVACUATION SYSTEM.
4. CONNECTION OF WIRE TO DOOR POSITION SWITCHES AND WIRE RUNS TO CENTRAL ROOM OR AREA, AS DIRECTED BY ARCHITECT.
5. TESTING AND LABELING WIRES WITH ARCHITECT'S OPENING NUMBER.
J. KEY CONTROL SYSTEM: TAG KEYS AND PLACE THEM ON MARKERS AND HOOKS IN KEY CONTROL SYSTEM CABINET, AS DETERMINED BY FINAL KEYING SCHEDULE.
K. DOOR CLOSERS: MOUNT CLOSERS ON ROOM SIDE OF CORRIDOR DOORS, INSIDE OF EXTERIOR DOORS, AND STAIR SIDE OF STAIRWAY DOORS FROM CORRIDORS. MOUNT CLOSERS SO THEY ARE NOT VISIBLE IN CORRIDORS, LOBBIES AND OTHER PUBLIC SPACES UNLESS APPROVED BY ARCHITECT.
L. CLOSER/HOLDERS: MOUNT CLOSER/HOLDERS ON ROOM SIDE OF CORRIDOR DOORS, INSIDE OF EXTERIOR DOORS, AND STAIR SIDE OF STAIRWAY DOORS.
M. THRESHOLDS: SET THRESHOLDS IN FULL BED OF SEALANT COMPLYING WITH REQUIREMENTS SPECIFIED IN DIVISION 07 SECTION "JOINT SEALANTS."
N. STOPS: PROVIDE FLOOR STOPS FOR DOORS UNLESS WALL OR OTHER TYPE STOPS ARE INDICATED IN DOOR HARDWARE SCHEDULE. DO NOT MOUNT FLOOR STOPS WHERE THEY MAY IMPEDE TRAFFIC OR PRESENT TRIPPING HAZARD.
O. PERIMETER GASKETING: APPLY TO HEAD AND JAMB, FORMING SEAL BETWEEN DOOR AND FRAME.
P. MEETING STILE GASKETING: FASTEN TO MEETING STILES, FORMING SEAL WHEN DOORS ARE CLOSED.
Q. DOOR BOTTOMS: APPLY TO BOTTOM OF DOOR, FORMING SEAL WITH THRESHOLD WHEN DOOR IS CLOSED.
3.04 FIELD QUALITY CONTROL
A. ENGAGE QUALIFIED MANUFACTURER TRAINED REPRESENTATIVE TO PERFORM INSPECTIONS AND TO PREPARE INSPECTION REPORTS.
1. REPRESENTATIVE WILL INSPECT DOOR HARDWARE AND STATE IN EACH REPORT WHETHER INSTALLED WORK COMPLIES WITH OR DEVIATES FROM REQUIREMENTS, INCLUDING WHETHER DOOR HARDWARE IS PROPERLY INSTALLED AND ADJUSTED.
3.05 ADJUSTING
A. INITIAL ADJUSTMENT: ADJUST AND CHECK EACH OPERATING ITEM OF DOOR HARDWARE AND EACH DOOR TO ENSURE PROPER OPERATION OR FUNCTION OF EVERY UNIT. REPLACE UNITS THAT CANNOT BE ADJUSTED TO OPERATE AS INTENDED. ADJUST DOOR CONTROL DEVICES TO COMPENSATE FOR FINAL OPERATION OF HEATING AND VENTILATING EQUIPMENT AND TO COMPLY WITH REFERENCED ACCESSIBILITY REQUIREMENTS.
1. DOOR CLOSERS: ADJUST SWEEP PERIOD TO COMPLY WITH ACCESSIBILITY REQUIREMENTS AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
B. OCCUPANCY ADJUSTMENT: APPROXIMATELY THREE TO SIX MONTHS AFTER DATE OF SUBSTANTIAL COMPLETION, INSTALLER'S ARCHITECTURAL HARDWARE CONSULTANT MUST EXAMINE AND READJUST EACH ITEM OF DOOR HARDWARE, INCLUDING ADJUSTING OPERATING FORCES, AS NECESSARY TO ENSURE FUNCTION OF DOORS AND DOOR HARDWARE.
3.06 CLEANING AND PROTECTION
A. CLEAN ADJACENT SURFACES SOILED BY DOOR HARDWARE INSTALLATION.
B. CLEAN OPERATING ITEMS AS NECESSARY TO RESTORE PROPER FUNCTION AND FINISH.
C. PROVIDE FINAL PROTECTION AND MAINTAIN CONDITIONS THAT ENSURE DOOR HARDWARE IS WITHOUT DAMAGE OR DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION.
3.07 DOOR HARDWARE SCHEDULE
A. HARDWARE ITEMS ARE REFERENCED IN THE FOLLOWING HARDWARE. REFER TO THE ABOVE-SPECIFICATIONS FOR SPECIAL FEATURES, OPTIONS, CYLINDERS/KEYING, AND OTHER REQUIREMENTS.
B. HARDWARE SETS: SEE A5-1.

SECTION 09260 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. SUBMITTALS: PRODUCT DATA.
B. FIRE-RESISTANCE-RATED ASSEMBLIES: PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLIES PER ASTM E 119 BY AN INDEPENDENT TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
C. STC-RATED ASSEMBLIES: PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLIES PER ASTM E 90 AND CLASSIFIED PER ASTM E 413 BY A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY.
PART 2 - PRODUCTS
2.1 METAL FRAMING AND SUPPORTS
A. STEEL FRAMING MEMBERS, GENERAL: ASTM C 754.
1. STEEL SHEET COMPONENTS: ASTM C 645, WITH MANUFACTURER'S STANDARD CORROSION-RESISTANT ZINC COATING.
B. SUSPENDED CEILING AND SOFFIT FRAMING:
1. TIE WIRE: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER, 0.0625-INCH DIAMETER, OR DOUBLE STRAND OF 0.0475 INCH-DIAMETER WIRE.
2. WIRE HANGERS: ASTM A 641/A 641M, CLASS 1 ZINC COATING, SOFT TEMPER, 0.162-INCH DIAMETER.
3. FURRING CHANNELS: STEEL STUDS, 0.0312 INCH THICK, IN DEPTH INDICATED.
4. GRID SUSPENSION SYSTEM FOR INTERIOR CEILINGS: INTERLOCKING, DIRECT-HUNG SYSTEM.
C. PARTITION AND SOFFIT FRAMING:
1. STUDS AND RUNNERS: IN DEPTH INDICATED AND [0.0312 INCH THICK, UNLESS OTHERWISE INDICATED.
2. FLAT STRAP AND BACKING: 0.027 INCH THICK.
2.2 PANEL PRODUCTS
A. PROVIDE IN MAXIMUM LENGTHS AVAILABLE TO MINIMIZE END-TO-END BUTT JOINTS.
B. GYPSUM WALLBOARD: ASTM C 36, IN THICKNESS INDICATED, WITH MANUFACTURER'S STANDARD EDGES. REGULAR TYPE, UNLESS OTHERWISE INDICATED, AND AS REQUIRED FOR SPECIFIC FIRE-RESISTANCE-RATED ASSEMBLIES.
C. CEMENTITIOUS BACKER UNITS: ANSI A118.9.
2.3 ACCESSORIES
A. TRIM ACCESSORIES: ASTM C 1047, FORMED FROM GALVANIZED OR ALUMINUM-COATED STEEL SHEET, ROLLED ZINC, OR PLASTIC.
1. PROVIDE CORNERBEAD AT OUTSIDE CORNERS, UNLESS OTHERWISE INDICATED.
2. PROVIDE LC-BEAD (J-BEAD) AT EXPOSED PANEL EDGES.
3. PROVIDE CONTROL JOINTS WHERE INDICATED.
B. ALUMINUM ACCESSORIES: EXTRUDED-ALUMINUM ACCESSORIES INDICATED WITH MANUFACTURER'S STANDARD CORROSION-RESISTANT PRIMER CLASS II, CLEAR ANODIC FINISH; AA-C12C22A31.
C. JOINT-TREATMENT MATERIALS: ASTM C 475.
1. JOINT TAPE: PAPER, UNLESS OTHERWISE RECOMMENDED BY PANEL MANUFACTURER.
2. JOINT COMPOUNDS: DRYING-TYPE, READY-MIXED, ALL-PURPOSE COMPOUNDS.
3. CEMENTITIOUS BACKER UNIT JOINT-TREATMENT MATERIALS: PRODUCTS RECOMMENDED BY CEMENTITIOUS BACKER UNIT MANUFACTURER.
D. ACOUSTICAL SEALANT FOR EXPOSED AND CONCEALED JOINTS: NONSAG, PAINTABLE, NONSTAINING LATEX SEALANT COMPLYING WITH ASTM C 834.
E. SOUND-ATTENUATION BLANKETS: ASTM C 665, TYPE I (UNFACED).
F. MISCELLANEOUS MATERIALS: AUXILIARY MATERIALS FOR GYPSUM BOARD CONSTRUCTION THAT COMPLY WITH REFERENCED STANDARDS.

PART 3 - EXECUTION
3.1 INSTALLATION
A. INSTALL STEEL FRAMING TO COMPLY WITH ASTM C 754 AND WITH ASTM C 840 REQUIREMENTS THAT APPLY TO FRAMING INSTALLATION AND WITH UNITED STATES GYPSUM'S "GYPSUM CONSTRUCTION HANDBOOK."
B. ISOLATE STEEL FRAMING FROM BUILDING STRUCTURE, EXCEPT AT FLOOR, TO PREVENT TRANSFER OF LOADING IMPOSED BY STRUCTURAL MOVEMENT.
1. WHERE STUDS ARE INSTALLED DIRECTLY AGAINST EXTERIOR WALLS, INSTALL FOAM-GASKET ISOLATION STRIP BETWEEN STUDS AND WALL.
C. INSTALL AND FINISH GYPSUM PANELS TO COMPLY WITH ASTM C 840 AND GA-216.
1. ISOLATE GYPSUM BOARD ASSEMBLIES FROM ABUTTING STRUCTURAL AND MASONRY WORK. PROVIDE EDGE TRIM AND ACOUSTICAL SEALANT.
2. SINGLE-LAYER FASTENING METHODS: FASTEN GYPSUM PANELS TO SUPPORTS WITH SCREWS.
3. MULTILAYER FASTENING METHODS: FASTEN BASE LAYERS AND FACE LAYER SEPARATELY TO SUPPORTS WITH SCREWS.
D. STC-RATED ASSEMBLIES: COMPLY WITH ASTM C 919 FOR LOCATION OF EDGE TRIM AND CLOSING OFF SOUND-FLANKING PATHS AROUND OR THROUGH GYPSUM BOARD ASSEMBLIES.
E. FIRE-RESISTANCE-RATED ASSEMBLIES: COMPLY WITH REQUIREMENTS OF LISTED ASSEMBLIES.
F. CEMENTITIOUS BACKER UNITS: COMPLY WITH ANSI A108.11.
G. FINISHING GYPSUM BOARD ASSEMBLIES:
1. UNLESS OTHERWISE INDICATED, PROVIDE LEVEL 4 FINISH: EMBED TAPE AND APPLY SEPARATE FIRST, FILL, AND FINISH COATS OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES.
2. AT CONCEALED AREAS, UNLESS A HIGHER LEVEL OF FINISH IS REQUIRED FOR FIRE-RESISTANCE-RATED ASSEMBLIES, PROVIDE LEVEL 1 FINISH: EMBED TAPE AT JOINTS.
3. AT SUBSTRATES FOR TILE, PROVIDE LEVEL 2 FINISH: EMBED TAPE AND APPLY SEPARATE FIRST COAT OF JOINT COMPOUND TO TAPE, FASTENERS, AND TRIM FLANGES.

SECTION 09512 - ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. SUBMITTALS: PRODUCT DATA AND MATERIAL SAMPLES.
B. SURFACE-BURNING CHARACTERISTICS OF PANELS: ASTM E 1264,CLASS A MATERIALS, TESTED PER ASTM E 84.
C. FIRE-RESISTANCE-RATED ASSEMBLIES: PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLIES PER ASTM E 119 BY AN INDEPENDENT TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
PART 2 - PRODUCTS
2.1 ACOUSTICAL TILE: USG MARS ACOUSTICAL CEILING PANEL (86785), CLIMAPLUS, SHADOWLINE TAPERED (SLT) EDGE OR APPROVED EQUAL. IN KITCHEN & TOILET AREAS USE USG KITCHEN LAY-IN PANEL (3210), SQUARE (SQ) EDGE OR SHEETROCK BRAND LAY-IN PANEL (3260), SQUARE (SQ) EDGE OR APPROVED EQUAL.
A. COLOR: WHITE
B. LIGHT REFLECTANCE (LR) COEFFICIENT: NOT LESS THAN 0.9 KITCHEN & TOILET AREAS. NOT LESS THAN 0.77.
C. NOISE REDUCTION COEFFICIENT (NRC): NOT LESS THAN 0.70. KITCHEN & TOILET AREAS N/A
D. CEILING ATTENUATION CLASS (CAC): NOT LESS THAN 35.
E. EDGE DETAIL: SHADOWLINE TAPERED (SLT). KITCHEN & TOILET AREAS SQUARE (SQ).
F. THICKNESS: 3/4 INCH. KITCHEN & TOILET AREAS 5/8 INCH OR 1/2 INCH.
G. SIZE: 24 BY 24 INCHES.
2.2 SUSPENSION SYSTEM: USG DONN BRAND DX/DXL 15/16" ACOUSTICAL SUSPENSION SYSTEM OR APPROVED EQUAL.
A. CEILING SUSPENSION SYSTEM: DIRECT HUNG; ASTM C 635, INTERMEDIATE-DUTY STRUCTURAL CLASSIFICATION.
B. ATTACHMENT DEVICES: SIZE FOR 5 TIMES THE DESIGN LOAD INDICATED IN ASTM C 635, TABLE 1, DIRECT HUNG, UNLESS OTHERWISE INDICATED.
C. WIRE HANGERS, BRACES, AND TIES: ZINC-COATED CARBON-STEEL WIRE; ASTM A 641/, CLASS 1 ZINC COATING, SOFT TEMPER.
1. SIZE: PROVIDE YIELD STRENGTH AT LEAST 3 TIMES THE HANGER DESIGN LOAD (ASTM C 635, TABLE 1, DIRECT HUNG), BUT NOT LESS THAN 0.106-INCH- DIAMETER WIRE.
PART 3 - EXECUTION
3.1 INSTALLATION
A. CEILING SUSPENSION SYSTEM INSTALLATION: COMPLY WITH ASTM C 636 AND CISCA'S "CEILING SYSTEMS HANDBOOK."

SECTION 09653 - RESILIENT WALL BASE AND ACCESSORIES

PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. SUBMITTALS: PRODUCT DATA AND SAMPLES.
B. EXTRA MATERIALS: DELIVER TO OWNER AT LEAST 50 LINEAR FEET, OF EACH TYPE AND COLOR OF RESILIENT WALL BASE INSTALLED.
PART 2 - PRODUCTS
2.1 WALL BASE
A. COLOR AND PATTERN: TO BE SELECTED BY ARCHITECT
B. ASTM F 1861, TYPE TV (VINYL).
C. MINIMUM THICKNESS: 0.080 INCH
D. HEIGHT: 4 INCHES.
E. LENGTHS: COILS IN MANUFACTURER'S STANDARD LENGTHS.
F. OUTSIDE CORNERS: PREMOLDED.
G. INSIDE CORNERS: PREMOLDED.
2.2 INSTALLATION ACCESSORIES
A. TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, PORTLAND CEMENT- OR BLENDED HYDRAULIC CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY FLOORING MANUFACTURER FOR APPLICATIONS INDICATED.
B. ADHESIVES: WATER-RESISTANT TYPE RECOMMENDED BY MANUFACTURER TO SUIT PRODUCTS AND SUBSTRATE CONDITIONS.
C. STAIR-TREAD-NOSE FILLER: TWO-PART EPOXY COMPOUND RECOMMENDED BY RESILIENT TREAD MANUFACTURER TO FILL NOSING SUBSTRATES THAT DO NOT CONFORM TO TREAD CONTOURS.
PART 3 - EXECUTION
3.1 INSTALLATION
A. PREPARE CONCRETE SUBSTRATES ACCORDING TO ASTM F 710. VERIFY THAT SUBSTRATES ARE DRY AND FREE OF CURING COMPOUNDS, SEALERS, AND HARDENERS.
B. ADHESIVELY INSTALL RESILIENT WALL BASE AND ACCESSORIES.
C. INSTALL WALL BASE IN MAXIMUM LENGTHS POSSIBLE. APPLY TO WALLS, COLUMNS, PILASTERS, CASEWORK, AND OTHER PERMANENT FIXTURES IN ROOMS OR AREAS WHERE BASE IS REQUIRED.
D. INSTALL STAIR-TREAD-NOSE FILLER TO NOSING SUBSTRATES THAT DO NOT CONFORM TO TREAD CONTOURS.
E. INSTALL REDUCER STRIPS AT EDGES OF FLOOR COVERINGS THAT WOULD OTHERWISE BE EXPOSED.

SECTION 09651 - RESILIENT FLOOR TILE

PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. SUBMITTALS: PRODUCT DATA AND SAMPLES.
B. FIRE TEST RESPONSE: RESILIENT TILE HAS CRITICAL RADIANT FLUX CLASSIFICATION OF CLASS I, NOT LESS THAN 0.45 W/SQ. CM PER ASTM E 648.
C. EXTRA MATERIALS: DELIVER TO OWNER 1 BOX FOR EVERY 50 BOXES OR FRACTION THEREOF, OF EACH TYPE AND COLOR OF RESILIENT FLOOR TILE INSTALLED.
2.1 VINYL COMPOSITION FLOOR TILE - V.C.T.
A. PRODUCTS:
1. TO BE SELECTED BY ARCHITECT
B. COLOR AND PATTERN: TO BE SELECTED BY ARCHITECT
C. ASTM F 1066, CLASS 1 THROUGH-PATTERN TILE.
D. WEARING SURFACE: TO BE SELECTED BY ARCHITECT
E. THICKNESS: 0.125 INCH 3.2 MM.
F. SIZE: 12 BY 12 INCHES 304.8 BY 304.8 MM.
2.4 INSTALLATION ACCESSORIES
A. TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, PORTLAND CEMENT- OR BLENDED HYDRAULIC CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY FLOORING MANUFACTURER FOR APPLICATIONS INDICATED.
B. ADHESIVES: WATER-RESISTANT TYPE RECOMMENDED BY MANUFACTURER TO SUIT RESILIENT PRODUCTS AND SUBSTRATE CONDITIONS INDICATED.
C. METAL EDGE STRIPS: EXTRUDED ALUMINUM IN MAXIMUM AVAILABLE LENGTHS TO MINIMIZE JOINTS.
PART 3 - EXECUTION
3.1 INSTALLATION
A. PREPARE CONCRETE SUBSTRATES ACCORDING TO ASTM F 710. VERIFY THAT SUBSTRATES ARE DRY AND FREE OF CURING COMPOUNDS, SEALERS, AND HARDENERS.
B. LAY OUT TILES SO TILE WIDTHS AT OPPOSITE EDGES OF ROOM ARE EQUAL AND ARE AT LEAST ONE-HALF OF A TILE.
C. MATCH TILES FOR COLOR AND PATTERN BY SELECTING TILES FROM CARTONS IN SAME SEQUENCE AS MANUFACTURED AND PACKAGED. LAY TILES IN BASKET-WEAVE PATTERN WITH GRAIN DIRECTION ALTERNATING IN ADJACENT TILES.

SECTION 09910 - PAINTING

PART 1 - GENERAL
1.1 SECTION REQUIREMENTS
A. SUMMARY: PAINT EXPOSED SURFACES, NEW AND EXISTING, UNLESS OTHERWISE INDICATED.
1. PAINT THE BACK SIDE OF ACCESS PANELS.
2. DO NOT PAINT PREFINISHED ITEMS, ITEMS WITH AN INTEGRAL FINISH, OPERATING PARTS, AND LABELS, UNLESS OTHERWISE INDICATED.
B. SUBMITTALS: PRODUCT DATA AND SAMPLES.
C. MOCKUPS: FULL-COAT FINISH SAMPLE OF EACH TYPE OF COATING, COLOR, AND SUBSTRATE, APPLIED WHERE DIRECTED.
D. OBTAIN BLOCK FILLERS AND PRIMERS FOR EACH COATING SYSTEM FROM SAME MANUFACTURER AS FINISH COATS.
E. EXTRA MATERIALS: DELIVER TO OWNER 1 GAL. OF EACH COLOR AND TYPE OF FINISH COAT PAINT USED ON PROJECT, IN CONTAINERS, PROPERLY LABELED AND SEALED.
PART 2 - PRODUCTS
2.1 PAINT
A. PRODUCTS:
1. BENJAMIN MOORE, 2. SHERWIN WILLIAMS, 3. PRATT AND LAMBERT 4. PPG
2. COLORS: TO BE SELECTED BY ARCHITECT
B. MATERIAL COMPATIBILITY: PROVIDE MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH SUBSTRATES.
C. MATERIAL QUALITY: MANUFACTURER'S BEST-QUALITY PAINT MATERIAL OF COATING TYPES SPECIFIED THAT ARE FORMULATED AND RECOMMENDED BY MANUFACTURER FOR APPLICATION INDICATED.
PART 3 - EXECUTION
3.1 PREPARATION
A. REMOVE HARDWARE LIGHTING FIXTURES AND SIMILAR ITEMS THAT ARE NOT TO BE PAINTED. MASK ITEMS THAT CANNOT BE REMOVED. REINSTALL ITEMS IN EACH AREA AFTER PAINTING IS COMPLETE.
B. CLEAN AND PREPARE ALL SURFACES IN AN AREA BEFORE BEGINNING PAINTING IN THAT AREA. SCHEDULE PAINTING SO CLEANING OPERATIONS WILL NOT DAMAGE NEWLYPAINTED SURFACES.
3.2 APPLICATION
A. APPLY COATINGS BY BRUSH, ROLLER, SPRAY OR OTHER APPLICATORS ACCORDING TO COATING MANUFACTURERS WRITTEN INSTRUCTIONS.

SECTION 09910 - PAINTING (CONT.)

1. USE BRUSHES ONLY FOR EXTERIOR PAINTING AND WHERE THE USE OF OTHER APPLICATORS IS NOT PRACTICAL.
2. USE ROLLERS FOR FINISH COAT ON INTERIOR WALLS AND CEILINGS.
A. PIGMENTED (OPAQUE) FINISHES: COMPLETELY COVER SURFACES TO PROVIDE A SMOOTH, OPAQUE SURFACE OF UNIFORM APPEARANCE. PROVIDE A FINISH FREE OF CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS.
B. EXTERIOR PAINT SYSTEMS
1. EXTERIOR GYPSUM SOFFIT BOARD: PROVIDE THE FOLLOWING FINISH SYSTEMS OVER EXTERIOR GYPSUM SOFFIT BOARD.
A. ACRYLIC FINISH: TWO FINISH COATS OVER AN ALKALI-RESISTANT PRIMER.
a. PRIMER: PPG PAINTS. 17-921XI SERIES SEAL GRIP 100 PERCENT ACRYLIC UNIVERSAL PRIMER. APPLIED DRY FILM THICKNESS: 1.6 MILS MIN.
b. EXTERIOR FLAT ACRYLIC FINISH: PPG PAINTS. 6-610XI SERIES SPEEDHIDE EXTERIOR HOUSE PAINT FLAT LATEX. APPLIED DRY FILM THICKNESS: 1.3 MILS MIN.
c. EXTERIOR EGGSHELL ACRYLIC FINISH: PPG PAINTS. 6-2045XI SERIES SPEEDHIDE EXTERIOR HOUSE AND TRIM SATIN-ACRYLIC LATEX. APPLIED DRY FILM THICKNESS: 1.0 MIL MIN.
d. EXTERIOR SEMI-GLOSS ACRYLIC ENAMEL FINISH: PPG PAINTS. 6-900XI SERIES SPEEDHIDE EXTERIOR HOUSE AND TRIM SEMI-GLOSS ACRYLIC LATEX PAINT. APPLIED DRY FILM THICKNESS: 1.5 MILS MIN.
2. SMOOTH WOOD: PROVIDE THE FOLLOWING FINISH SYSTEMS OVER SMOOTH WOOD SIDING, WOOD TRIM, AND OTHER SMOOTH EXTERIOR WOOD SURFACES.
A. ACRYLIC OR ALKYD FINISH: TWO FINISH COATS OVER A PRIMER.
a. PRIMER: PPG PAINTS. 17-921XI SERIES SEAL GRIP 100 PERCENT ACRYLIC UNIVERSAL PRIMER. APPLIED DRY FILM THICKNESS: 1.6 MILS MIN.
b. EXTERIOR FLAT ACRYLIC FINISH: PPG PAINTS. 6-610XI SERIES SPEEDHIDE EXTERIOR HOUSE PAINT FLAT LATEX. APPLIED DRY FILM THICKNESS: 1.3 MILS MIN.
c. EXTERIOR EGGSHELL ACRYLIC FINISH: PPG PAINTS. 6-2045XI SERIES SPEEDHIDE EXTERIOR HOUSE AND TRIM SATIN-ACRYLIC LATEX. APPLIED DRY FILM THICKNESS: 1.0 MILS MIN.
d. EXTERIOR SEMI-GLOSS ACRYLIC ENAMEL FINISH: PPG PAINTS. 6-900XI SERIES SPEEDHIDE EXTERIOR HOUSE AND TRIM SEMI-GLOSS ACRYLIC LATEX PAINT. APPLIED DRY FILM THICKNESS: 1.5 MILS MIN.
C. INTERIOR PAINT SYSTEMS
1. GYPSUM BOARD: PROVIDE THE FOLLOWING FINISH SYSTEMS OVER INTERIOR GYPSUM BOARD SURFACES.
A. ACRYLIC OR ALKYD FINISH: TWO FINISH COATS OVER A PRIMER.
a. PRIMER-ZERO VOC: PPG PAINTS. 6-4900XI SPEEDHIDE ZERO INTERIOR ZERO VOC LATEX PRIMER. APPLIED DRY FILM THICKNESS: 1.2 MILS MIN.
b. INTERIOR FLAT ACRYLIC FINISH-ZERO VOC: PPG PAINTS. 6-4110XI SERIES SPEEDHIDE ZERO INTERIOR ZERO VOC FLAT LATEX. APPLIED DRY FILM THICKNESS: 1.4 MILS MIN.
c. INTERIOR EGGSHELL ACRYLIC ENAMEL FINISH-ZERO VOC: PPG PAINTS. 6-4310XI SERIES SPEEDHIDE ZERO INTERIOR ZERO VOC EGGSHELL LATEX. APPLIED DRY FILM THICKNESS: 1.5 MILS MIN.
d. INTERIOR SATIN ACRYLIC ENAMEL FINISH-ZERO VOC: PPG PAINTS. 6-4410XI SERIES SPEEDHIDE ZERO INTERIOR ZERO VOC SATIN LATEX. APPLIED DRY FILM THICKNESS: 1.5 MILS MIN.
e. INTERIOR SEMI-GLOSS ACRYLIC ENAMEL-ZERO VOC: PPG PAINTS. 6-4510XI SERIES SPEEDHIDE ZERO INTERIOR ZERO VOC SEMI-GLOSS LATEX. APPLIED DRY FILM THICKNESS: 1.3 MILS MIN.
2. FERROUS METAL: PROVIDE THE FOLLOWING FINISH SYSTEMS OVER FERROUS METAL.
A. ACRYLIC OR ALKYD FINISH: TWO FINISH COATS OVER A PRIMER.
a. PRIMER/FLAT ACRYLIC FINISH: PPG PAINTS. 4020 PF PITT-TECH PLUS INTERIOR/EXTERIOR WATERBORNE ACRYLIC PRIMER FINISH. APPLIED DRY FILM THICKNESS: 2.2 MILS MIN.
b. INTERIOR SATIN ACRYLIC ENAMEL FINISH: PPG PAINTS. 90-1110 SERIES PITT-TECH PLUS INTERIOR/EXTERIOR SATIN DTM INDUSTRIAL ENAMEL. APPLIED DRY FILM THICKNESS: 2.0 MILS MIN.
c. INTERIOR SEMI-GLOSS ACRYLIC ENAMEL FINISH: PPG PAINTS. 4216 HP SERIES PITT-TECH PLUS INTERIOR/EXTERIOR HIGH PERFORMANCE WATERBORNE SEMI-GLOSS DTM ENAMEL. APPLIED DRY FILM THICKNESS: 1.5 MILS MIN.
d. DRY FALL FINISH: TWO FINISH COATS OVER A PRIMER.
e. PRIMER/FLAT ACRYLIC FINISH: PPG PAINTS. 4020 PF PITT-TECH PLUS INTERIOR/EXTERIOR WATERBORNE ACRYLIC PRIMER FINISH. APPLIED DRY FILM THICKNESS: 2.2 MILS MIN.
f. INTERIOR WATER-BASED FLAT FINISH: PPG PAINTS. 6-725XI SERIES SPEEDHIDE SUPER TECH WB INTERIOR DRY-FOG FLAT LATEX. APPLIED DRY FILM THICKNESS: 2.2 MILS MIN.
g. INTERIOR WATER-BASED EGGSHELL: PPG PAINTS. 6-724XI SPEEDHIDE SUPER TECH WB INTERIOR 100 PERCENT ACRYLIC DRY-FOG EGGSHELL LATEX. APPLIED DRY FILM THICKNESS: 2.0 MILS MIN.
h. INTERIOR WATER-BASED SEMI-GLOSS: PPG PAINTS. 6-727XI SPEEDHIDE SUPER TECH WB INTERIOR 100 PERCENT ACRYLIC DRY-FOG SEMI-GLOSS LATEX. APPLIED DRY FILM THICKNESS: 2.2 MILS MIN.
3. ZINC-COATED METAL: PROVIDE THE FOLLOWING FINISH SYSTEMS OVER INTERIOR ZINC-COATED METAL SURFACES.
A. ACRYLIC OR ALKYD FINISH: TWO FINISH COATS OVER A PRIMER.
a. PRIME/FLAT ACRYLIC FINISH: PPG PAINTS. 4020 PF PITT-TECH PLUS INTERIOR/EXTERIOR WATERBORNE ACRYLIC PRIMER FINISH. APPLIED DRY FILM THICKNESS: 2.2 MILS MIN.
b. INTERIOR SATIN ACRYLIC ENAMEL FINISH: PPG PAINTS. 90-1110 SERIES PITT-TECH PLUS INTERIOR/EXTERIOR SATIN DTM INDUSTRIAL ENAMEL. APPLIED DRY FILM THICKNESS: 2.0 MILS MIN.
c. INTERIOR SEMI-GLOSS ACRYLIC ENAMEL FINISH: PPG PAINTS. 4216 HP SERIES PITT-TECH PLUS INTERIOR/EXTERIOR HIGH PERFORMANCE WATERBORNE SEMI-GLOSS DTM ENAMEL. APPLIED DRY FILM THICKNESS: 1.5 MILS MIN.
d. DRY FALL FINISH: TWO FINISH COATS OVER A PRIMER.
e. PRIMER/FLAT ACRYLIC FINISH: PPG PAINTS: 4020 PF PITT-TECH PLUS INTERIOR/EXTERIOR WATERBORNE ACRYLIC PRIMER FINISH. APPLIED DRY FILM THICKNESS: 2.2 MILS MIN.
f. INTERIOR WATER-BASED FLAT FINISH: PPG PAINTS. 6-725XI SERIES SPEEDHIDE SUPER TECH WB INTERIOR DRY-FOG FLAT LATEX. APPLIED DRY FILM THICKNESS: 2.2 MILS MIN.
g. INTERIOR WATER-BASED EGGSHELL: PPG PAINTS. 6-724XI SPEEDHIDE SUPER TECH WB INTERIOR 100 PERCENT ACRYLIC DRY-FOG EGGSHELL LATEX. APPLIED DRY FILM THICKNESS: 2.0 MILS MIN.
h. INTERIOR WATER-BASED SEMI-GLOSS: PPG PAINTS. 6-727XI SPEEDHIDE SUPER TECH WB INTERIOR 100 PERCENT ACRYLIC DRY-FOG SEMI-GLOSS LATEX. APPLIED DRY FILM THICKNESS: 2.2 MILS MIN.
D. TRANSPARENT (CLEAR) FINISHES INTERIOR/EXTERIOR: USE MULTIPLE COATS TO PRODUCE A GLASS-SMOOTH SURFACE FILM OF EVEN LUSTER. PROVIDE A FINISH FREE OF LAPS, RUNS, CLOUDINESS, COLOR IRREGULARITY, BRUSH MARKS, ORANGE PEEL, NAIL HOLES, OR OTHER SURFACE IMPERFECTIONS.
1. NATURAL FINISH WOODWORK: PROVIDE THE FOLLOWING STAINED FINISHES OVER NEW EXTERIOR WOODWORK.
A. WATERBORNE VARNISH FINISH: TWO FINISH COATS OF WATERBORNE CLEAR VARNISH OVER A PROPERLY PREPARED WOOD SURFACE. WIPE WOOD FILLER BEFORE APPLYING STAIN. NOT FOR DECK APPLICATIONS.
a. FINISH COATS: DEFT: DFT259 CLEAR DEFT POLYURETHANE INTERIOR/EXTERIOR WATER-BASED ACRYLIC SATIN.
b. FINISH COATS: DEFT: DFT258 CLEAR DEFT POLYURETHANE INTERIOR/EXTERIOR WATER-BASED ACRYLIC SEMI-GLOSS.
c. FINISH COATS: DEFT: DFT257 CLEAR DEFT POLYURETHANE INTERIOR/EXTERIOR WATER-BASED ACRYLIC GLOSS.
2. CLEAR PENETRATING WOOD FINISH: PENETRATING SEALER/FINISH SYSTEMS APPLIED ON PROPERLY CLEANED AND PREPARED WOOD SURFACE.
A. SEALER/FINISH COAT: FLOOD: FLD565 FLOOD CWF-UV5 CLEAR/NATURAL PENETRATING WOOD FINISH. APPLY 1 COAT.
3. NATURAL FINISH WOODWORK: PROVIDE THE FOLLOWING NATURAL FINISHES OVER NEW INTERIOR WOODWORK.
A. WATERBORNE SATIN-VARNISH FINISH: TWO FINISH COATS OF WATERBORNE CLEAR VARNISH OVER A SANDING SEALER. WIPE WOOD FILLER BEFORE APPLYING STAIN.
a. SEALER COAT: DEFT. DFT61 SANDING SEALER INTERIOR WATER-BASED.
b. FINISH COATS: DEFT. DFT159 CLEAR POLYURETHANE INTERIOR WATER-BASED ACRYLIC SATIN.
c. FINISH COATS: DEFT. DFT158 CLEAR POLYURETHANE INTERIOR WATER-BASED ACRYLIC SEMI-GLOSS.
d. FINISH COATS: DEFT. DFT157 CLEAR POLYURETHANE INTERIOR WATER-BASED ACRYLIC GLOSS.

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Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description

PROJECT NO.	25-023
DRAWN BY	Author
CHECKED BY	Checker
SHEET	6 OF 44

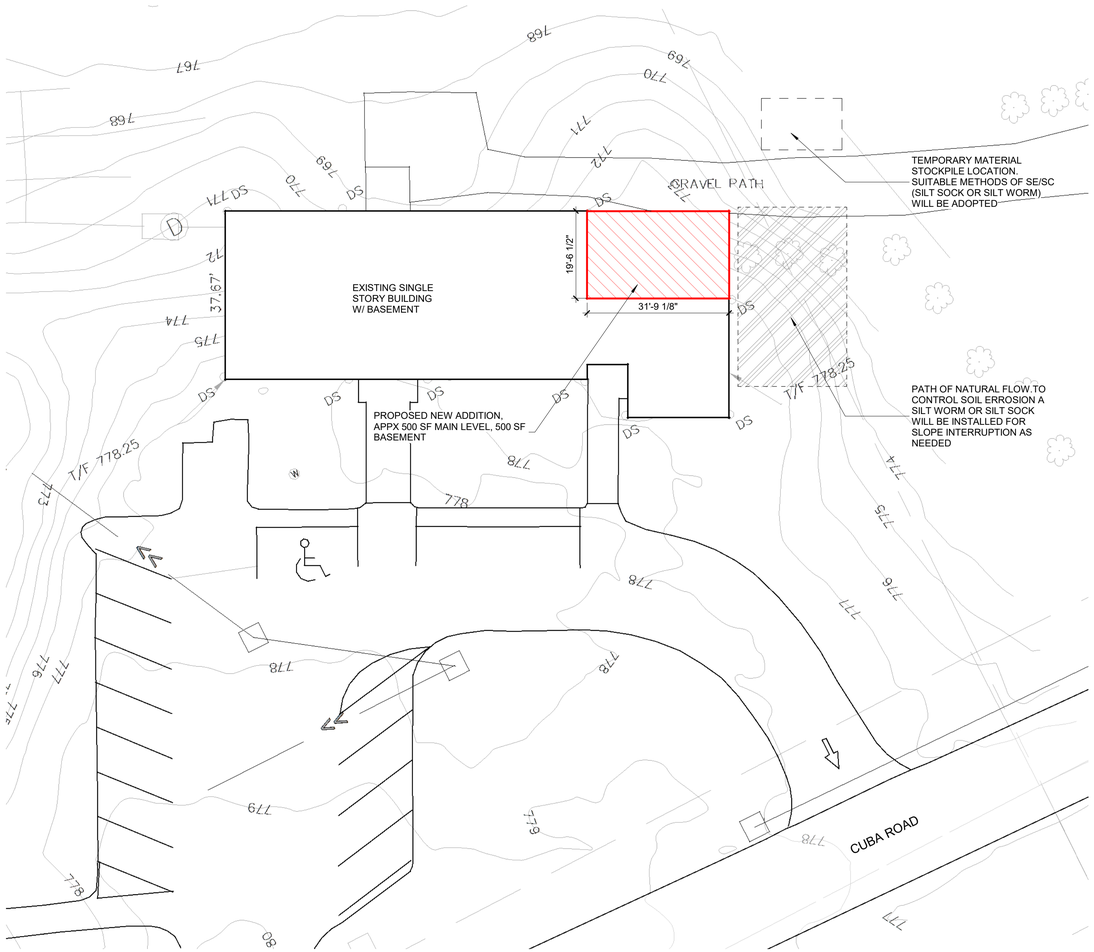
SPECIFICATIONS

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1 SITE/ GRADING PLAN
1/16" = 1'-0"

GENERAL SITE PLAN NOTES

1. SEE SHEET **G1-1** FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. CONTRACTOR TO HIRE A PRIVATE UTILITY LOCATING COMPANY TO LOCATE ALL UTILITIES ON SITE AND UTILITIES INVOLVING COORDINATION OF WORK. THE CONTRACTOR SHALL PROVIDE THE OWNER AND PROJECT ARCHITECT AT LEAST TWO (2) WORKING DAYS OF NOTICE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
3. TAKE SPECIAL CARE NOT TO DAMAGE OR DISTURB EXISTING UTILITY SERVICES. ALL UTILITY SERVICES DAMAGED SHALL BE PLACED BACK IN SERVICE PROMPTLY, AT NO EXPENSE TO OWNER.
4. ALL POSTS, FENCE FABRIC, CONC. FOOTINGS, ETC. THAT ARE REMOVED SHALL BE DISPOSED OF AND NOT REUSED IN ANY PORTION OF THE PROJECT UNO. NEW PERIMETER FENCE AND CONC. FOOTINGS TO BE INSTALLED IN NEW LOCATIONS AS INDICATED.
5. PATCH/REPAIR/PAINT ALL EXISTING DISTURBED ADJACENT/DAMAGED CONSTRUCTION TO A FINISHED APPEARANCE WHETHER OR NOT INDICATED ON THE PLANS. NEW MATERIALS & FINISHES SHALL BE BROUGHT TO A STOPPING POINT TO MINIMIZE DETECTION OF REPAIR, VERIFY LOCATIONS WITH ARCHITECT.
6. CONTRACTOR RESPONSIBLE FOR ALL DAMAGE THAT OCCURS TO EXISTING CONSTRUCTION THAT IS TO REMAIN, EVEN IF NOT IN DESIGNATED WORK AREAS.
7. CONFIRM WITH OWNER ITEMS TO BE SALVAGED. RELOCATE TO OWNER DESIGNATED LOCATION.
8. AFTER CONCRETE/ASPHALT WORK HAS BEEN COMPLETED, RESTORE ALL ADJACENT DAMAGED GRASS AREAS W/ NEW SOD, UNO - SEE SPECIFICATIONS AND CIVIL DRAWINGS.
9. ALL PAVEMENT MARKINGS SHOWN ON ARCHITECTURAL, OR CIVIL DRAWINGS INCLUDING, BUT NOT LIMITED TO, STRIPING ARROWS, STOP BARS, HATCHING, ADA SYMBOLS, ETC. ARE ASSUMED TO BE INCLUDED IN THE BID.
10. AFTER ALL WORK HAS BEEN COMPLETED, RESTORE ALL ADJACENT DAMAGED GRASS AREAS WITH NEW PULVERIZED BLACK DIRT (6" MIN) AND APPROVED SOD AND ALL ADJACENT PLANTED AREAS WITH MATCHING/SIMILAR MATERIALS OF SIMILAR SIZE/AGE AS DIRECTED BY OWNER, AT NO EXPENSE TO OWNER.
11. ASPHALT GRINDINGS SHALL NOT BE REUSED AS AN ASPHALT BASE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINISH GRADES, AND EXTENT OF ROUGH GRADING AND FINE GRADING, INCLUDING DE-ROCKING AND IMPORTING FRESH DIRT, AS REQUIRED.
13. VERIFY ALL EXISTING CONDITIONS RELATED TO CONSTRUCTION COMPARED TO THE INFORMATION PROVIDED IN THE CONSTRUCTION DOCUMENTS. IF DISCREPANCIES OR CONFLICTS BETWEEN THE TWO ARE DISCOVERED, NOTIFY THE ARCHITECT FOR CLARIFICATION PRIOR TO SUBMITTING A BID AND/OR PERFORMING WORK.
14. COMPLY WITH ALL APPLICABLE STATE AND LOCAL CODES.
15. CONTRACTOR IS RESPONSIBLE TO LOCATE, IDENTIFY, DISCONNECT AND SEAL OR CAP OFF UTILITIES SERVING BUILDINGS AND STRUCTURE TO BE DEMOLISHED. EXISTING UTILITIES TO BE DISCONNECTED TO THE POINT OF SOURCE OR AS DETERMINED TO THE AUTHORITY HAVING JURISDICTION. CONTRACTOR IS RESPONSIBLE TO COORDINATE SHUT DOWNS WITH ALL UTILITY COMPANIES AND TO COORDINATE WITH EXISTING CONDITIONS. UTILITY COMPANIES INCLUDE, BUT ARE NOT LIMITED TO ELECTRIC, GAS, WATER, TELEPHONE AND CABLE.
16. THE CONTRACTOR IS TO IMPLEMENT A STORMWATER POLLUTION AND PREVENTION PLAN (SWPP) AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
17. FIELD VERIFY AND COORDINATE THE EXACT LOCATIONS AND EXTENT OF ALL DEMOLITION AS REQUIRED. PROPERLY DISPOSE ALL ITEMS OFF SITE THAT ARE TO BE REMOVED. VERIFY WITH OWNER IF ANY ITEMS NEED TO BE SALVAGED BEFORE DISPOSING.
18. LEGALLY DISPOSE OF ALL MATERIALS OR RECYCLE OF THEM PER THE ILLINOIS EPA AND FEDERAL GOVERNMENT.
19. ENTRAPMENT. OPENINGS IN GUARDRAILS AND SPACES BETWEEN PLATFORMS, LADDER RUNGS, AND UPRIGHTS IN PROTECTIVE BARRIERS ON CLIMBING EQUIPMENT THAT MEASURE 3" MAXIMUM AIR SPACE BETWEEN PICKETS
20. DO NOT USE TOXIC PLANTS. EXISTING PLANTS SHALL BE EVALUATED AND HAZARDOUS PLANTS REMOVED. CONTACT OWNER FOR LIST OF POISONOUS PLANTS. CONTRACTOR IS RESPONSIBLE FOR ENSURING NO POISONOUS PLANTS ARE USED. PLANTS WHICH HAVE FRUITS THAT POSE A CHOKING HAZARDS SHALL NOT BE USED. PLANTS WITH OTHER HAZARDS SUCH AS THORNS SHALL NOT BE USED. EXISTING VEGETATION SHALL BE PROTECTED WHENEVER POSSIBLE.
21. NO TREE SHALL BE PLANTED WITHIN 10' OF A UTILITY LINE UNLESS APPROVED BY OWNER
22. TREES AND SHRUBS SHALL NOT INTERFERE WITH PHYSICAL OR SIGHT CLEARANCES REQUIRED FOR VEHICLE OR PEDESTRIAN TRAFFIC WITHIN AND ACCESSING THE SITE, BOTH INITIALLY AND THROUGH MATURITY.
23. THERE IS NO SITE GRADING ASSOCIATED WITH THE NEW SCOPE OF WORK

SITE PLAN LEGEND

- VEGETATION
- DS — DOWNSPOUT
- STORM MANHOLE
- W — WELL
- CATCH BASIN
- STORM SEWER

SUMMARY OF IMPERVIOUS SURFACES

EXIST:	
ASPHALT PARKING:	11,675 SF
SIDEWALKS AND CONCRETE PADS:	560 SF
EXISTING ROOF:	4,340 SF
TOTAL EXIST SURFACES:	**16,575 SF**
NEW:	
PROPOSED NEW ADDITION ROOF:	**615 SF**
EXIST SURFACES:	16,575 SF
NEW SURFACES:	615 SF
TOTAL ALL IMPERVIOUS SURFACES:	**17,190 SF**

NOTE: SQUARE FOOTAGE IS APPROXIMATE

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ENGINEERS
-

CUBA TOWNSHIP BLDG. ADDITION

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Contact Info

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description
1	05.18.2026	Revision 1

PROJECT NO.	25-023
DRAWN BY	-
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SHEET	7 OF 44

SITE PLAN

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MINIMUM SPECIFICATION FOR SILTWORM		
PROPERTY		
PH	PH	5.0 - 8.5
MOISTURE CONTENT	% WET WEIGHT BASIS	< 60
ORGANIC MATTER CONTENT	% DRY WEIGHT BASIS	25 - 100
PHYSICAL CONTAMINANTS	% DRY WEIGHT BASIS	< 1%
PARTICLE SIZE		2 INCH - 70%-80% ⅜ INCH - 20% - 30% MAX. PARTICLE SIZE 2"

SILTWORM HEIGHTS INSTALLED		
NOMINAL DIAMETER, D	INSTALLED HEIGHT OF SINGLE SILTWORM	INSTALLED HEIGHT OF STACKED SILTWORM
9"	7.5"'	N/A
12"	9.5"	19"
18"	14.5"	29"

CURB IRON SPILLWAY APPLICATION

MAINTENANCE APPLICATION

AREA DRAIN APPLICATION

HELLO

FLARED END APPLICATION

CATCH BASIN APPLICATION

FOR DITCH CHECK APPLICATIONS THE MAXIMUM DRAINAGE AREA SHALL BE 15 ACRES. THE MINIMUM INSTALLED HEIGHT OF THE SILTWORM SHALL BE NO LESS THAN 19". THIS CAN BE ACCOMPLISHED BY STACKING SILTWORM PER STACK DETAIL ON PAGE 3. SILTWORM SHALL BE INSTALLED PERPENDICULAR TO THE WATER-FLOW, AND SHOULD PROGRESS UP THE SIDE-SLOPES OF THE DITCH BY A MINIMUM OF 3'.

PLAN VIEW FOR DITCH APPLICATION

PLAN VIEW FOR FOR SLOPE APPLICATION

DITCH CHECK APPLICATION

SECTION B-B



SILTWORM JOINT DETAIL
EROSION CONTROL PLAN LEGEND SILTWORM

SILTWORM JOINT STACK DETAIL ONLY)
SEE NOTE 4

1 SILTWORM DETAILS NTS

SILTWORM HEIGHTS INSTALLED

7.5"

MINIMUM SPECIFICATION FOR SILTWORM

NOTE: MANUFACTURER SPECIFICATIONS MAY BE SUBSTITUTE WITH THE APPROVAL OF ENGINEER

SILTWORM CHECK DAM ESTIMATED QUANTITIES				
	V- DITCH (1)		TRAPEZOIDAL DITCH (2)	
	12" SILTWORM	18" SILTWORM	12" SILTWORM	18" SILTWORM
LENGTH (FT)	60	48	72	60

(1) ESTIMATED QUANTITIES BASED ON A 4:1 SIDE SLOPE. QUANTITIES WILL VARY BASED ON ACTUAL DITCH CONFIGURATION
(2) ESTIMATED QUANTITIES BASED ON A 4 FT BOTTOM WIDTH, 4 FT. DEPTH, AND 4:1 SIDE SLOPES. QUANTITIES WILL VARY BASED ON ACTUAL DITCH CONFIGURATION

SILTWORM SPACING FOR SLOPE APPLICATION

SILTWORM SPACING FOR DITCH APPLICATION

N/A = NOT RECOMMENDED SPACING NOT TO EXCEED 100'

SILTWORM GENERAL NOTES

SILTWORM ARE SUPPLIED AND INSTALLED IN DIAMETERS OF 9", 12", OR 18". DIAMETER TOLERANCES ARE 2". SILTWORM WILL BECOME OVAL IN SHAPE WHEN IN PLACE. THUS THE INSTALLED HEIGHT WILL BE LESS THAN NOMINAL DIAMETER.

MATERIAL SPECIFICATIONS

NETTING:

SILTWORM IS A TUBULAR KNIT HIGH DENSITY POLYPROPYLENE

FILL MATERIAL:

IS A KILN DRIED MATERIAL CONSISTING OF WOOD CHIPS, BARK FREE SOFTWOOD, THAT IS 100% RECYCLED.

APPLICATIONS

SILTWORM CAN BE PLACED IN DITCHES OR AT THE TOP, ON THE FACE, OR AT THE TOW OF SLOPES AS SEDIMENT TRAPPING DEVICES. THEY CAN ALSO SERVE TO REMOVE SEDIMENT FROM RUNOFF AND RELEASE IT AS SHEET FLOW.

PERIMETER CONTROL:

PLACE SILTWORM DIRECTLY ON TOP OF GRADE, AND OVERLAP ENDS A MINIMUM OF 6". SITE PREPARATION IS MINIMAL, AND THERE IS NO STAKING OR TRENCHING REQUIREMENT FOR GRADES UNDER 12%. ARRANGE THE SILTWORM PERIMETER CONTROL IN A MANNER THAT IS APPLIED PERPENDICULAR TO SHEET FLOW. MAINTAIN CONSISTENT GROUND CONTACT.

SLOPE INTERRUPTION:

PLACE SILTWORM PERPENDICULAR TO SHEET FLOW AND CURL ENDS UP TOWARD THE TOP OF THE SLOPE. STAKE THE SILTWORM EVERY 4', AND OVERLAP THE ENDS BETWEEN 1 TO 2 FEET. PLACE A LINE OF DEPENSE AT THE TOP OF THE SLOPE, AND ANOTHER WITHIN 10 FROM THE TOE OF THE SLOPE.

SILTWORM INSTALLATION ON A SLOPE SHALL BE PLACED ALONG OR ON THE GROUND CONTOUR. WHERE POSSIBLE SILTWORM APPLIED TO THE TOE OF A SLOPE SHOULD BE PLACED 10 FEET AWAY FROM THE TOE IN ORDER TO PROVIDE SEDIMENT STORAGE.

DITCH CHECK:

SILTWORM SHOULD BE INSTALLED WITH A SLIGHT ENTRENCHMENT, AND STAKED EVERY 4' IN THE DITCH CHECK APPLICATION.

FOR DITCH APPLICATIONS, THE MAXIMUM DRAINAGE ARE SHALL BE 15 ACRES. AT SITES WHICH DISCHARGE TO SENSITIVE AREAS SUCH AS WATER OR SEDIMENT-IMPAIRED STREAMS, THE MAXIMUM DRAINAGE AREA SHALL BE LIMITED TO 10 ACRES.

SILTWORM SHALL BE PLACED PERPENDICULAR TO THE FLOW OF WATER. SILTWORM SHALL CONTINUE UP THE SIDE SLOPES TO THE UP OF BANK OR A MAXIMUM OF 3 FEET ABOVE THE INSTALLED HEIGHT. SILTWORM SHALL REMAIN IN PLACE UNTIL ALL UPSTREAM AREAS ARE PERMANENTLY STABILIZED.

MAINTENANCE

SILTWORMS SHALL BE INSPECTED AFTER EACH RUNOFF EVENT AND SHALL BE REMOVED AND REPLACED IT SIGNS OF UNDERCUTTING OR DOWN STREAMING BILLS ARE OBSERVED

SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILTWORM WHEN IT HAS ACCUMULATED TO ½ THE ORIGINAL HEIGHT OF THE STRUCTURE AND PAY FOR UNDER ITEM NUMBER 2324.05, SEDIMENT REMOVAL PER CUBIC YARD.

REMOVAL

SILTWORM SHALL BE REMOVED FROM SLOPES, DITCHES, PERIMETERS, OR INLETS AFTER STABILIZATION IS COMPLETE. THIS MAY BE ACCOMPLISHED BY CUTTING THE SOCK OPEN AND SPREADING THE FILL MATERIAL ON THE SITE. ALL NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED. SILTWORMS APPLIED IN DITCHED SHALL BE COMPLETELY REMOVED.

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28000 W CUBA RD, BARRINGTON, IL 60010
Contact Info

Schematic Design:	
Design Development	
Bidding:	
Permit:	
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No.	Date	Description
1	05.18.2026	Revision 1

PROJECT NO.	25-023
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SILTWORM DETAILS

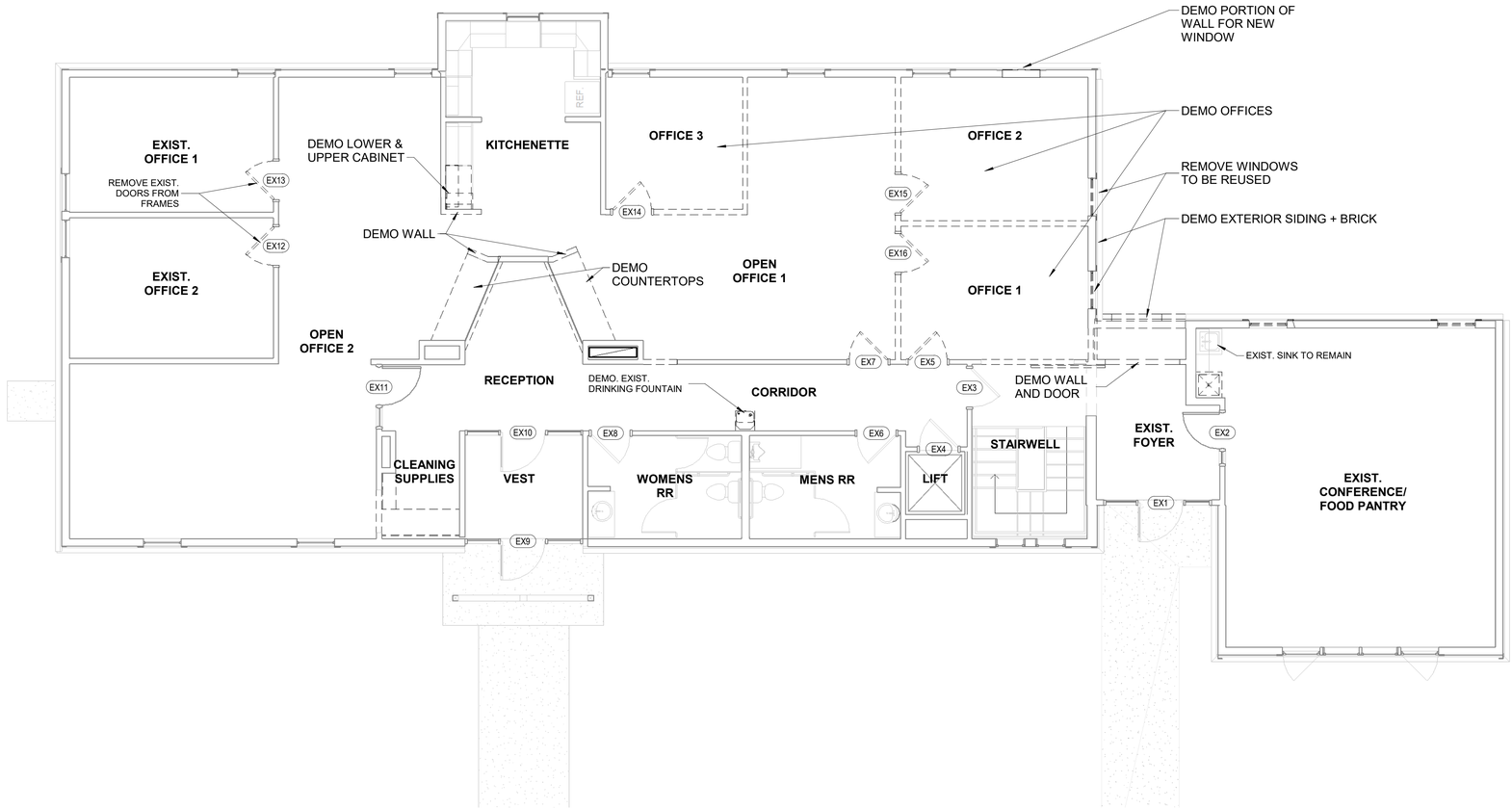
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DEMOLITION GENERAL NOTES

1. THE GENERAL CONTRACTOR SHALL VISUALLY INSPECT ALL EXISTING CONDITIONS AND SHALL COORDINATE ANY OUTSTANDING DEMO ISSUES WITH THE ARCHITECT PRIOR TO BEGINNING WORK. ALL BASE BUILDING FRAMES, WINDOW SILLS, AND CORE PARTITIONS TO BE FREE FROM MASTIC OR OTHER BUILDING RESIDUE AND READY TO RECEIVE FINISH.
2. PROVIDE PROTECTION OF ALL EXISTING FINISHES TO REMAIN.
3. MAINTAIN AND PROTECT EXISTING UTILITIES TO REMAIN IN SERVICE BEFORE PROCEEDING WITH DEMOLITION, PROVIDING BYPASS CONNECTIONS TO OTHER PARTS OF THE BUILDING.
4. LOCATE, IDENTIFY, SHUT OFF, DISCONNECT, AND CAP OFF UTILITY SERVICES TO BE DEMOLISHED.
5. CONDUCT DEMOLITION OPERATIONS AND REMOVE DEBRIS TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT BUILDINGS AND SITE IMPROVEMENTS.
6. PROVIDE AND MAINTAIN SHORING, BRACING, OR STRUCTURAL SUPPORT TO PRESERVE BUILDING STABILITY AND PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE.
7. PROTECT BUILDING STRUCTURE AND INTERIOR FROM WEATHER AND WATER LEAKAGE AND DAMAGE.
8. PROTECT WALLS, CEILINGS, FLOORS, AND EXPOSED FINISHES THAT ARE TO REMAIN. ERECT AND MAINTAIN DUSTPROOF PARTITIONS BETWEEN AREA OF WORK AND NON-WORK AREAS INCLUDING DUCTS & AREA ABOVE CEILING. COVER AND PROTECT FIXTURES, FURNISHINGS, AND EQUIPMENT THAT ARE TO REMAIN.
9. NEATLY CUT OPENINGS AND HOLES PLUMB, SQUARE, AND TRUE TO DIMENSIONS REQUIRED. USE CUTTING METHODS LEAST LIKELY TO DAMAGE CONSTRUCTION TO REMAIN OR ADJOINING CONSTRUCTION.
10. PROMPTLY PATCH AND REPAIR HOLES AND DAMAGED SURFACES OF BUILDING CAUSED BY DEMOLITION. RESTORE EXPOSED FINISHES OF PATCHED AREAS AND EXTEND FINISH RESTORATION INTO REMAINING ADJOINING CONSTRUCTION.
11. PROMPTLY REMOVE DEMOLISHED MATERIALS FROM OWNER'S PROPERTY AND LEGALLY DISPOSE OF THEM. DO NOT BURN DEMOLISHED MATERIALS.
12. TO THE BEST OF THE OWNER'S AND ARCHITECT'S KNOWLEDGE, THERE ARE NO HAZARDOUS MATERIALS PRESENT IN THE EXISTING AREA OF WORK. IF MATERIAL IS FOUND WHICH MAY BE SUSPECTED TO BE HAZARDOUS, CONTRACTOR SHALL NOTIFY ARCHITECT AND BUILDING OWNER IMMEDIATELY. IF IT IS DETERMINED TO BE HAZARDOUS, THE MATERIAL SHALL BE FULLY ABATED ACCORDING TO APPLICABLE LAWS.
13. PROVIDE DUMPSTER FOR DEBRIS REMOVAL. COORDINATE LOCATION WITH BUILDING OWNER. REMOVE DEMOLITION MATERIALS EACH DAY AND VACUUM PUBLIC/COMMON AREAS BEFORE LEAVING SITE.



1 FIRST FLOOR DEMOLITION PLAN
3/16" = 1'-0"

NEW WALL
EXISTING WALL TO REMAIN
DEMO WALL
RATED WALL
INSULATED WALL
CMU WALL
CONCRETE WALL

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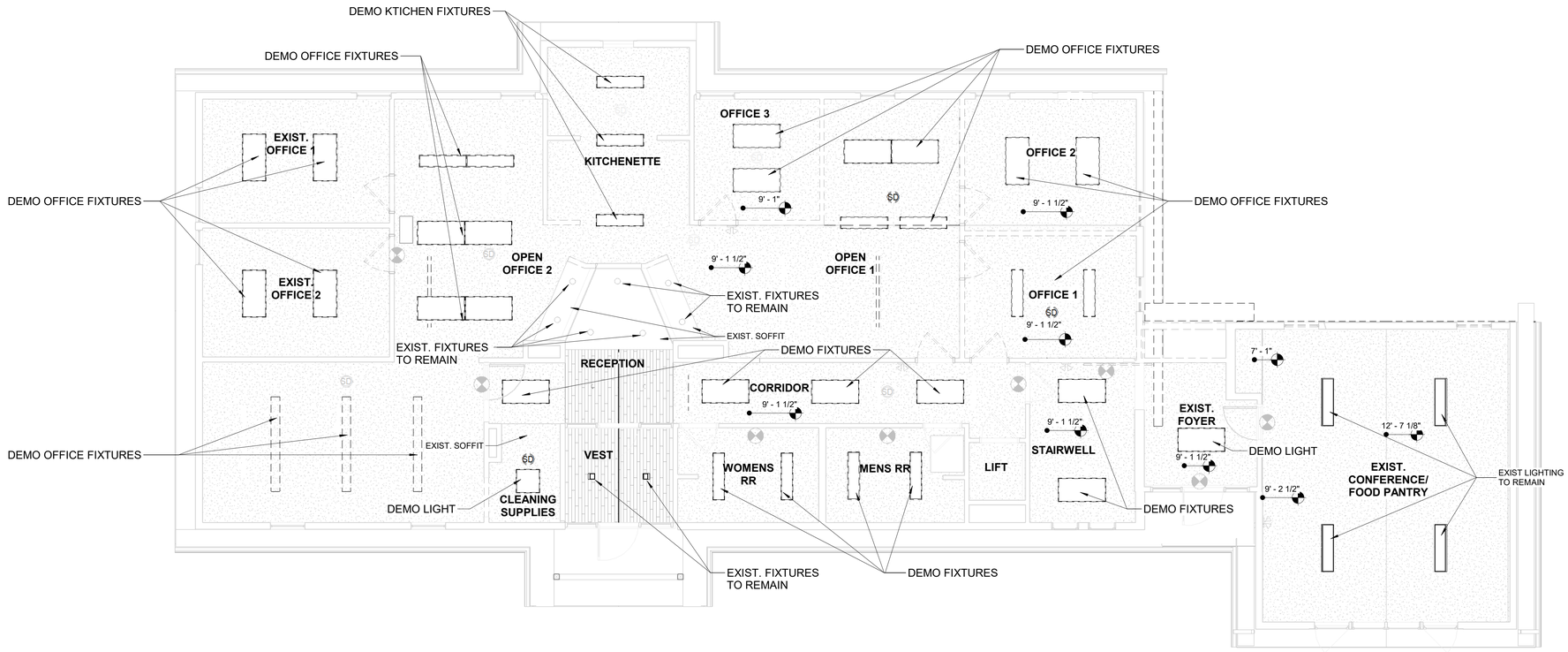
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DEMOLITION PLAN

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1 FIRST FLOOR DEMO RCP
3/16" = 1'-0"

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DEMO REFLECTED CEILING PLAN

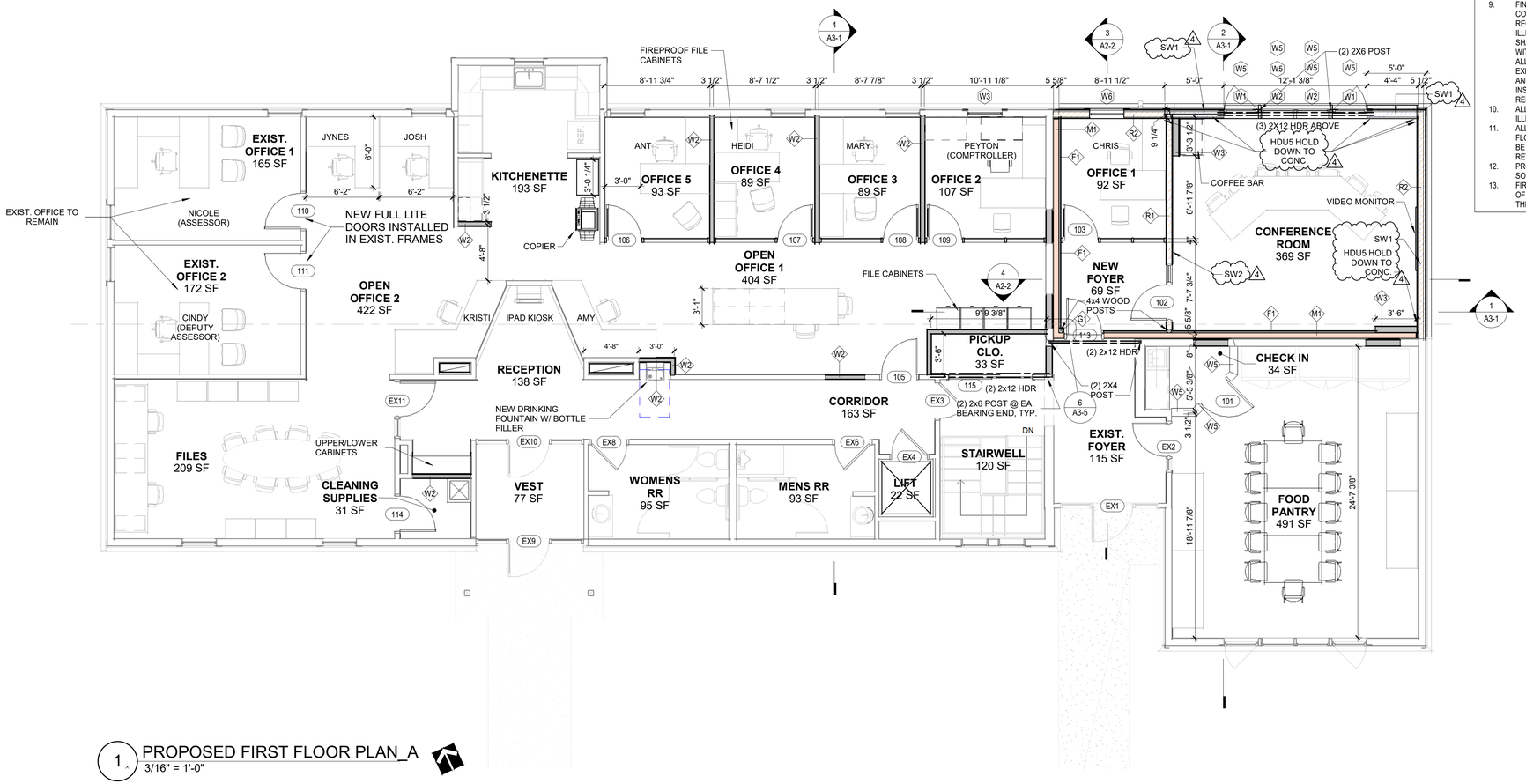
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GENERAL NOTES

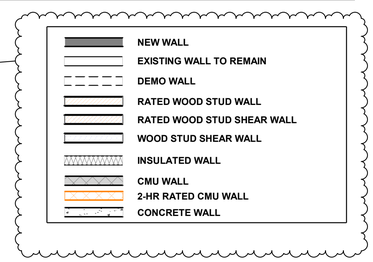
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3. THE GENERAL CONTRACTOR SHALL FAMILIARIZE THEMSELF WITH THE CONTRACT DOCUMENTS AND ALL CONDITIONS WHICH MIGHT AFFECT WORK. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY UNFORESEEN JOB CONDITIONS WHICH MIGHT AFFECT PROJECT COSTS AND SUCH COSTS MUST BE APPROVED BY THE OWNER IN WRITING PRIOR TO CONSTRUCTION OF SUCH WORK.
4. DIMENSIONS ARE TO ROUGH FRAMING SURFACES, OR FACE OF BLOCK @ EXTERIOR WALLS, U.N.O.
5. ALL RESTROOM WALLS SHALL BE INSULATED.
6. ALL DOORS TO HAVE LEVER HANDLES, U.N.O.
7. KEYING SYSTEM TO BE COORDINATED W/ OWNER/TENANT.
8. ALL DOORS IN CONNECTION W/ EGRESS SHALL BE ARRANGED SO AS TO BE READILY OPENED WITHOUT THE USE OF KEY, SPECIAL KNOWLEDGE, TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE.
9. FINISH HARDWARE INSTALLATION SHALL CONFORM TO THE MANUFACTURER'S REQUIREMENTS AND COMPLY WITH THE 2018 ILLINOIS ACCESSIBILITY CODE. INSTALLATION SHALL BE IN A NEAT AND SKILLFUL MANNER, WITH ALL COMPONENTS OPERATING PROPERLY. ALL LEVERS, HANDLES, PULLS AND OTHER EXPOSED ITEMS, SHALL BE SUITABLY WRAPPED AND PROTECTED AS SOON AS THEY HAVE BEEN INSTALLED AND SUCH PROTECTION SHALL REMAIN UNTIL THE ACCEPTANCE OF THE WORK.
10. ALL FLOORING TO BE SLIP-RESISTANT PER ILLINOIS ACCESSIBILITY CODE.
11. ALL WALL PENETRATIONS THROUGH ATTIC, FLOOR, AND EXTERIOR WALL MEMBERS ARE TO BE DRAFTSTOPPED WITH APPROVED FIRE RETARDANT MATERIALS.
12. PROVIDE FIRESTOPPING AT 8', AND AT ALL SOFFITS, PLENUMS AND CHASES.
13. FIRE CAULK ALL OPENINGS @ TOP AND BOTTOM OF WALL FRAMING & AT OTHER PENETRATIONS THROUGH ATTIC OR DEMISING WALLS
14. 14. ALL FINISHES TO BE CLASS C OR BETTER. FLAME SPREAD 76-200, SMOKE DEVELOPED 0-450.
15. CARPET CONTRACTOR TO PROVIDE AND INSTALL RUBBER REDUCER STRIPS AT DOORS WHERE ALL CARPET AND RESILIENT FLOORING MEET, U.N.O.
16. FLASH PATCH ALL AREAS WHERE FLOOR IS NOT LEVEL OR TRUE PRIOR TO FLOORING INSTALLATION.
17. RESTROOM SIGNAGE SHALL BE PROVIDED ON WALL ADJACENT TO LATCH SIDE OF DOOR. MOUNTING HEIGHT SHALL BE 60" AFF. TO CL. OF SIGN.
18. BOTTLED WATER SHALL BE PROVIDED IN LIEU OF DRINKING FOUNTAIN AS PER ILLINOIS ACCESSIBILITY CODE.
19. FIRE EXTINGUISHERS ARE REQUIRED. CONTRACTOR SHALL COORDINATE WITH FIRE DEPARTMENT FOR EXACT LOCATION (NO MORE THAN 75' FROM ANY LOCATION WITHIN SUITE). VERIFY FINAL FIRE EXTINGUISHER LOCATIONS WITH THE FIRE INSPECTOR IN THE FIELD DURING ROUGH INSPECTION. FIRE EXTINGUISHERS SHALL NOT PROJECT MORE THAN 4" OUT FROM WALLS WHEN LOCATED IN PATHS OF CIRCULATION.
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21. ELECTRICAL OUTLETS SHALL BE LOCATED @ 15" A.F.F. EXCEPT WHERE NOTED A/C (ABOVE COUNTER).
22. MAINTAIN 30" WIDE BY 36" DEEP CLEARANCE IN FRONT OF ELECTRICAL SERVICE PANEL
23. SPRINKLER WORK TO BE DONE BY CERTIFIED SPRINKLER CONTRACTOR
24. FIRE ALARM WORK TO BE DONE BY CERTIFIED FIRE ALARM CONTRACTOR



1. PROPOSED FIRST FLOOR PLAN_A
3/16" = 1'-0"

AREA MATRIX

Name	Area (Appx.)
BASEMENT	3,039 SF
FIRST FLOOR	4,353 SF
NEW BASEMENT	387 SF
	7,778 SF



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FIRST FLOOR PLAN

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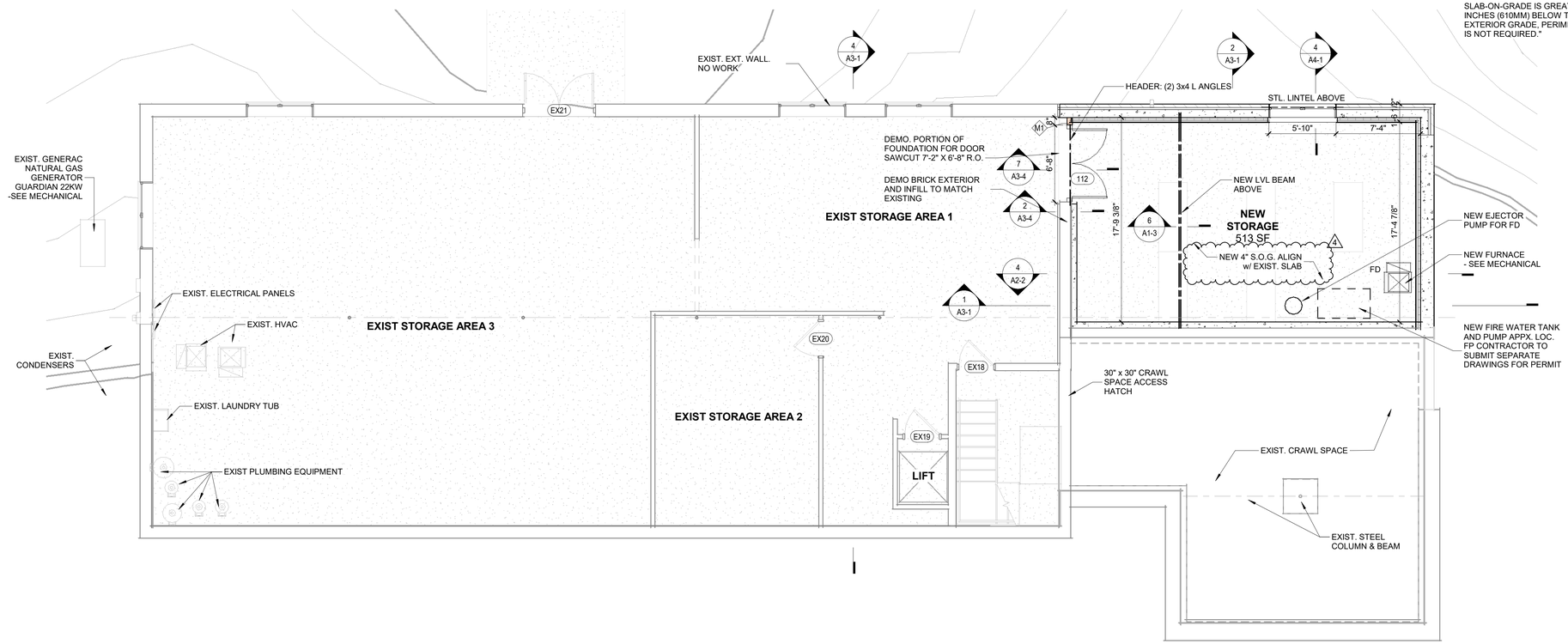
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NOTE: PER 2024 IECC C402.2.4: "WHERE THE SLAB-ON-GRADE IS GREATER THAN 24 INCHES (610MM) BELOW THE FINISHED EXTERIOR GRADE, PERIMETER INSULATION IS NOT REQUIRED."



1 PROPOSED BASEMENT FLOOR PLAN
3/16" = 1'-0"

AREA MATRIX	
Name	**Area (Appx.)**
BASEMENT	3,039 SF
FIRST FLOOR	4,353 SF
NEW BASEMENT	387 SF
	7,778 SF

- NEW WALL
- EXISTING WALL TO REMAIN
- DEMO WALL
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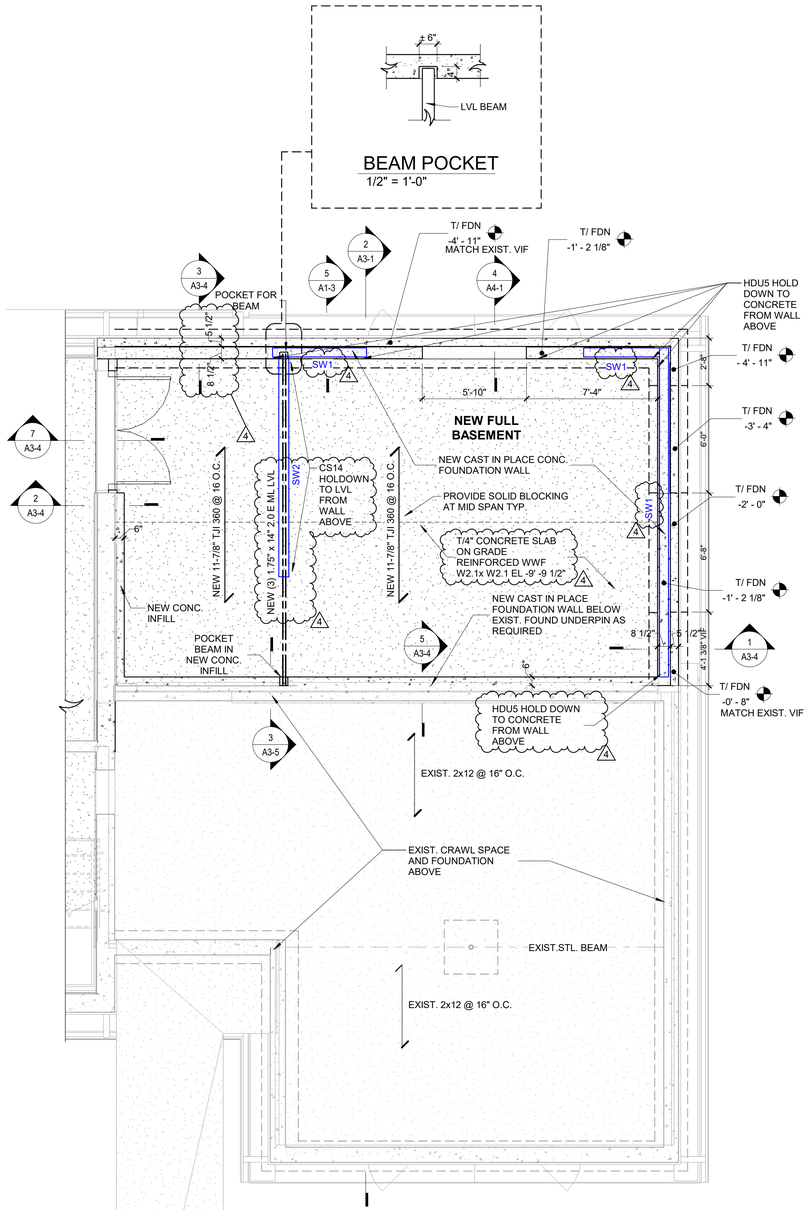
BASEMENT PLAN

A1-2

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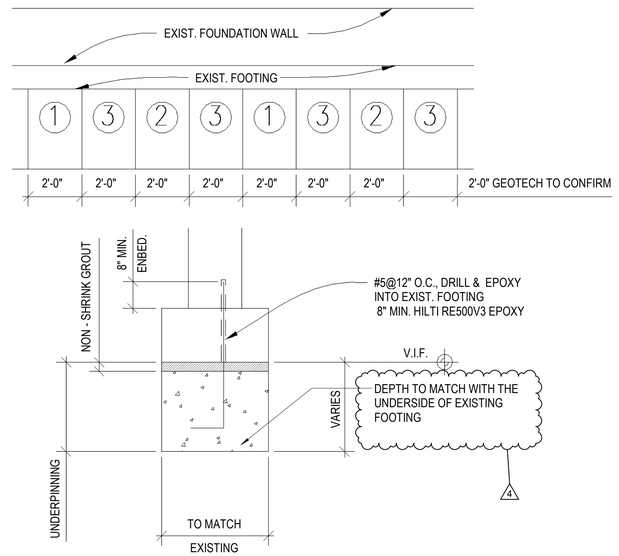
1 ADDITION FOUNDATION PLAN
1/4" = 1'-0"

DESIGN LOADS		
	LIVE LOAD	DEAD LOAD
OFFICE LOADS	50 PSF	10 PSF
CORRIDORS	100 PSF	10 PSF
ROOF/ SNOW LOAD	30 PSF	10 PSF
ATTIC LOAD	20 PSF	10 PSF

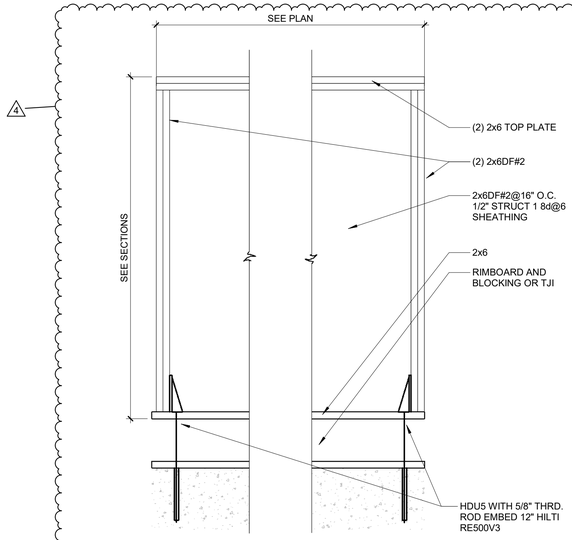
NOTES:
1. T/ FND STEPS DOWN FROM -0'-8" TO -4'11" AT LOCATIONS AS INDICATED IN THE PLAN
2. T/FND STEPS IN PROFILE SEE WALL SECTIONS AND PLAN

CONCEPTUAL PROCEDURE FOR UNDERPINNING OF EXISTING FOUNDATION WALL FINAL DESIGN IS DELEGATED DESIGN BY OTHERS

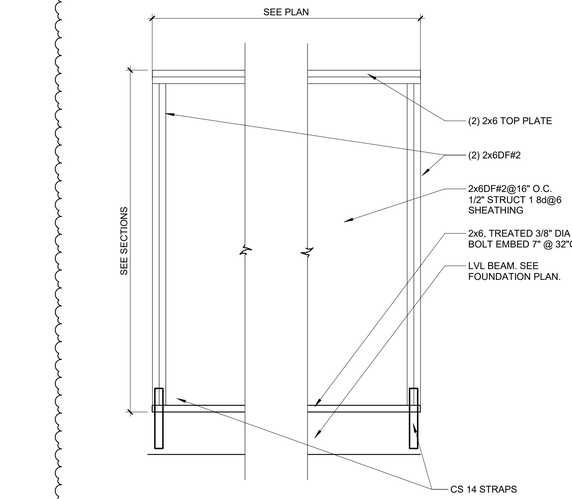
1. EXCAVATE AREA TO BE UNDERPINNED TO 1'-0" ABOVE EXISTING FOOTING. DO NOT EXCAVATE ANY AREA BELOW BOTTOM OF EXISTING FOOTING UNLESS A 4'-0" LEDGE AND A MINIMUM 4:1 SLOPE CAN BE MAINTAINED FROM THE EDGE OF THE EXISTING FOOTING.
2. NEEDLE IN TEMPORARY SUPPORTS FOR THE FOUNDATION WALL @ 24" ON CENTER OR MORE FREQUENTLY, IF NECESSARY, AT ALL AREAS AFFECTED BY EXCAVATION FOR UNDERPINNING.
3. UNDERPIN BY HAND EXCAVATING 24" WIDE TRENCHES DUG PERPENDICULAR TO EXISTING FOUNDATION WALLS. TRENCHES SHALL BE AT LEAST 8'-0" ON CENTERS, UNLESS A GREATER SPACING IS SHOWN ON DRAWINGS.
4. DRILL IN DOWELS AND POUR NEW CONCRETE WALL AND FOOTING THE WIDTH OF THE TRENCH. GROUT WITH NON-SHRINK NON-METALLIC GROUT TO COMPLETELY FILL THE VOID BETWEEN THE NEW AND THE EXISTING WALL.
5. AFTER CONCRETE HAS ATTAINED 75% OF DESIGN STRENGTH, AT LEAST 7 DAYS AFTER POUR, PROVIDE TEMPORARY SUPPORTS AS OUTLINED IN ITEM 2 AND EXCAVATE TRENCHES AT INTERMEDIATE LOCATIONS AND REPEAT STEPS 2, 3, AND 4.
6. REMOVE PROJECTIONS OF EXISTING FOOTING INTO THE NEW BUILDING AS SHOWN. PATCH AND GRIND WALL SMOOTH.
7. ENGAGE THE SERVICES OF AN EXPERIENCED GEOTECHNICAL ENGINEER TO FREQUENTLY MONITOR AND MODIFY, AS REQUIRED, THE SPECIFIED UNDERPINNING PROCEDURE.



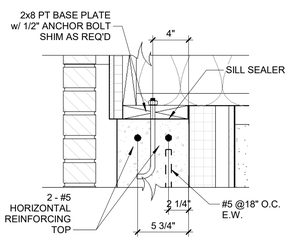
2 UNDERPINNING DETAIL
3/8" = 1'-0"



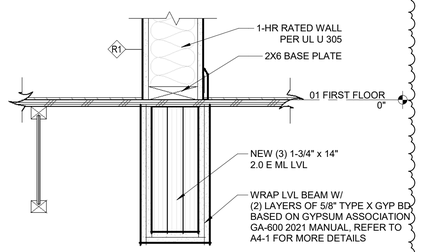
3 SW1 ELEVATION DIAGRAM



4 SW2 ELEVATION DIAGRAM



5 TOP OF FOUNDATION DETAIL
1 1/2" = 1'-0"



6 LVL SECTION DETAIL
1 1/2" = 1'-0"

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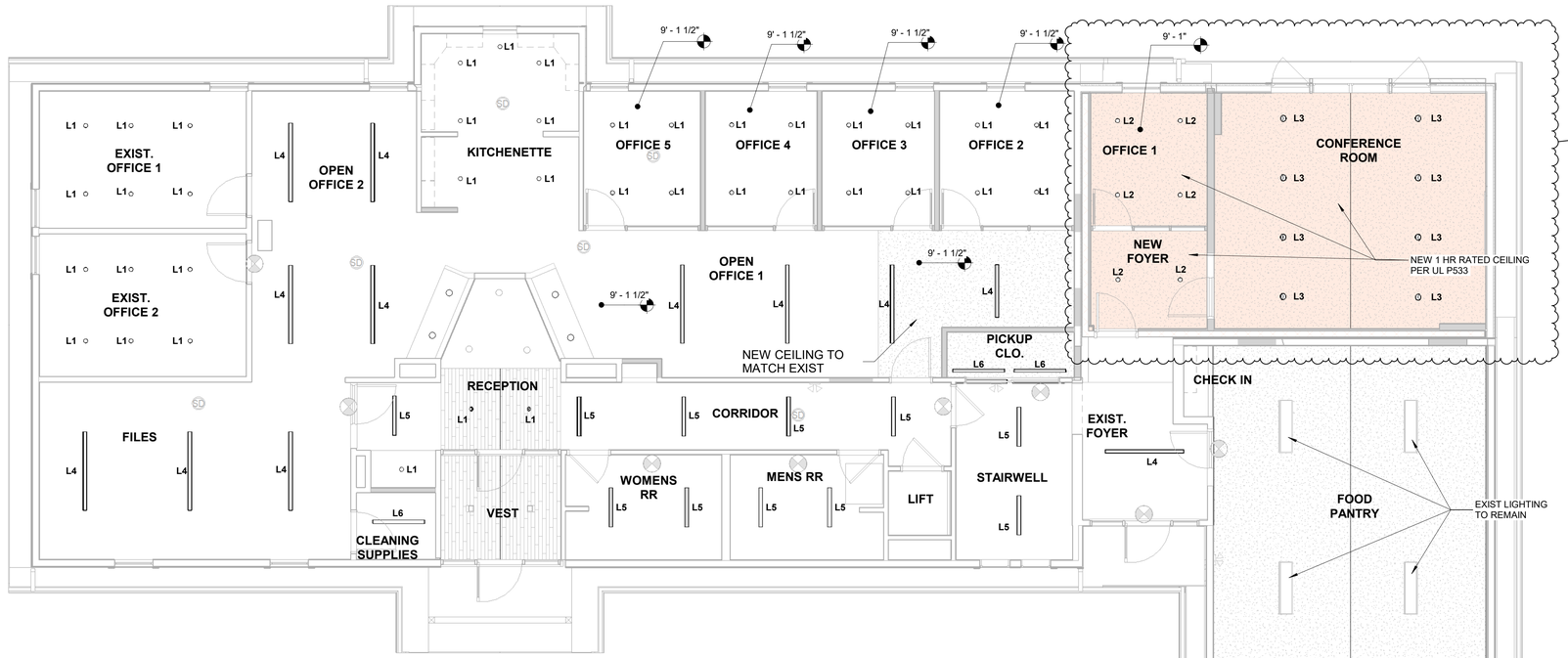
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FOUNDATION PLANS AND DETAILS

A1-3

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1 FIRST FLOOR REFLECTED CEILING PLAN
3/16" = 1'-0"



2 BASEMENT REFLECTED CEILING PLAN
3/16" = 1'-0"

LIGHTING LEGEND

L1	GOTHAM IVO 4" ROUND SHALLOW RECESSED DOWNLIGHT	
L2	NUWATT 4" ROUND CANLESS RECESSED DOWNLIGHT - 2-HR FIRE RATED	
L3	NUWATT 6" ROUND CANLESS RECESSED DOWNLIGHT - 2-HR FIRE RATED	
L4	LIGHTPLANE+ 2R 6' LPX2R RECESSED LINEAR LIGHT	
L5	LIGHTPLANE+ 2R 3' LPX2R RECESSED LINEAR LIGHT	
L6	LITHONIA FML4W LINEAR LED	
L7	CLX L48 4' LINEAR SURFACE MOUNTED	

GENERAL REFLECTED CEILING NOTES

1. EXISTING CEILING AREA TO BE PATCHED/REPAIRED TO ACCOMMODATE NEW CONSTRUCTION.
2. ALL CEILINGS ARE TO BE SUSPENDED FROM DECK ABOVE.
3. ALIGN NEW GRID TO EXISTING GRID.
4. SPRINKLER HEADS ARE SHOWN FOR REFERENCE ONLY. SPRINKLER CONTRACTOR SHALL PREPARE PERMIT DRAWINGS AND OBTAIN PERMITS SEPARATELY.
5. SEE SHEET G1-1 FOR GENERAL NOTES AND SYMBOLS.
6. SEE MECHANICAL DRAWINGS FOR LOCATION OF DIFFUSER AND RETURN GRILLES.
7. SEE ELECTRICAL DRAWINGS FOR COORDINATION OF ELECTRICAL FIXTURES.
8. PROVIDE CONTROL JOINTS 20'-0" TO 25'-0" OC IN ALL GYP BD CEILINGS AND SOFFITS. COORDINATE LOCATIONS WITH ARCHITECT IN FIELD, UNO.
9. LOCATE ALL SPRINKLER HEADS IN THE CENTER OF CEILING TILES.
10. PATCH/REPAIR EXISTING CEILING SYSTEM AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION WHETHER OR NOT INDICATED ON PLANS.

FIRE-RATED CEILING PENETRATION NOTES

1. ALL RECESSED LIGHT FIXTURES (LUMINAIRES) INSTALLED IN FIRE-RATED RECESSED CEILING ASSEMBLIES SHALL BE CHOSEN, INSTALLED, AND COMPLY WITH THE SPECIFIC UL / ULC DESIGN ASSEMBLY REQUIRED FOR THIS PROJECT.
2. **FIXTURE RATING:** PROVIDE RECESSED LIGHT FIXTURES SPECIFICALLY INHERENTLY LISTED AND TESTED FOR A 1-HOUR FIRE RESISTANCE RATING MINIMUM (COMPLYING WITH ASTM E119 OR UL 263), OR ENCLOSE STANDARD RECESSED FIXTURES IN AN APPROVED, FIELD-FABRICATED ARCHITECTURAL ENCLOSURE OR PRE-MANUFACTURED FIRE-RATED FIXTURE COVER MEETING THE ASSEMBLY REQUIREMENTS.
3. **FIRESTOPPING & SEALING:** ALL HOUSING PENETRATIONS, JUNCTION BOXES, AND GAP PERIMETERS BETWEEN THE FIXTURE FLANGE AND THE GYPSUM BOARD MEMBRANE SHALL BE SEALED WITH AN APPROVED INTUMESCENT FIRESTOP SEALANT / ACOUSTICAL CAULK TO MAINTAIN THE SMOKE, ACUITY, AND FIRE INTEGRITY OF THE CEILING MEMBRANE.
4. **INSTALLATION LIMITS:** CONTRACTOR SHALL STRICTLY ADHERE TO MAX ALLOWABLE SURFACE AREA LIMITATIONS AND SPACING REQUIREMENTS FOR PENETRATIONS PER 100 SQ. FT. OF CEILING MEMBRANE AREA AS DICTATED BY THE GOVERNING UL ASSEMBLY DESIGN AND LOCAL BUILDING CODE.

NEW WALL
EXISTING WALL TO REMAIN
DEMO WALL
RATED WALL
INSULATED WALL
CMU WALL
CONCRETE WALL

REV 4 9-10-26

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215 FULTON ST., GENEVA, IL 60134

ENGINEERS
-

CUBA TOWNSHIP BLDG. ADDITION

28000 W CUBA RD, BARRINGTON, IL 60010

Contact Info

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description
1	05.18.2026	Revision 1
3	08.26.2026	Revision 3

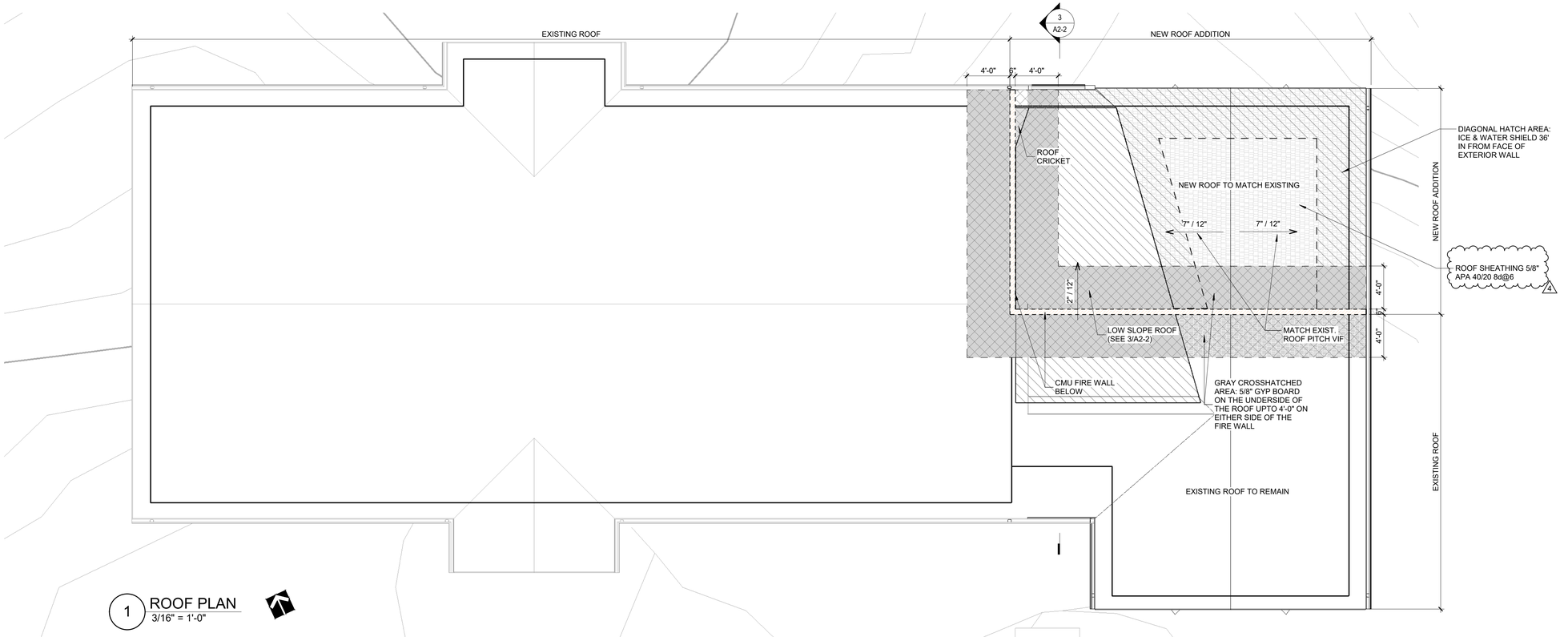
PROJECT NO.	25-023
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CHECKED BY	EP
SHEET	14 OF 44

REFLECTED CEILING PLANS

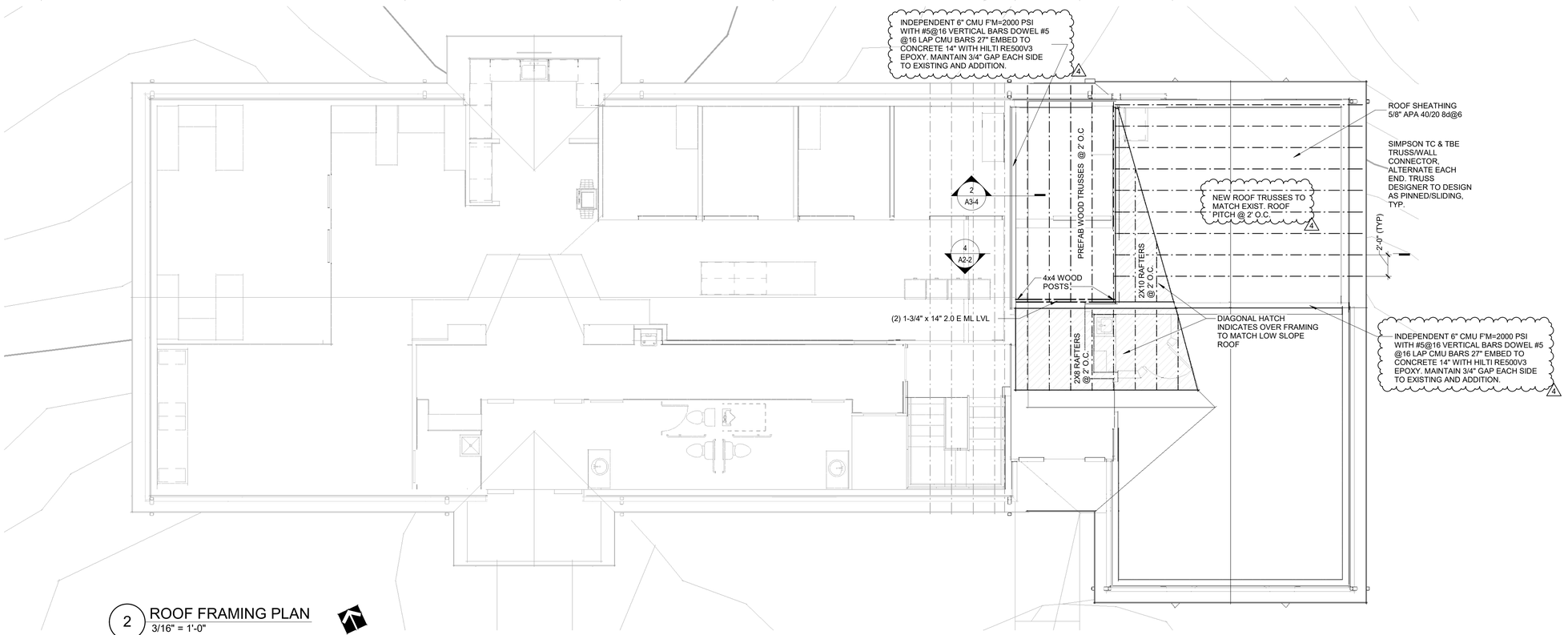
A1-4

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



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

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ENGINEERS

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CUBA TOWNSHIP BLDG. ADDITION

28000 W CUBA RD, BARRINGTON, IL 60010

Contact Info

Schematic Design:	
Design Development	
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Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description
3	08.26.2026	Revision 3
4	09.09.2026	Revision 4

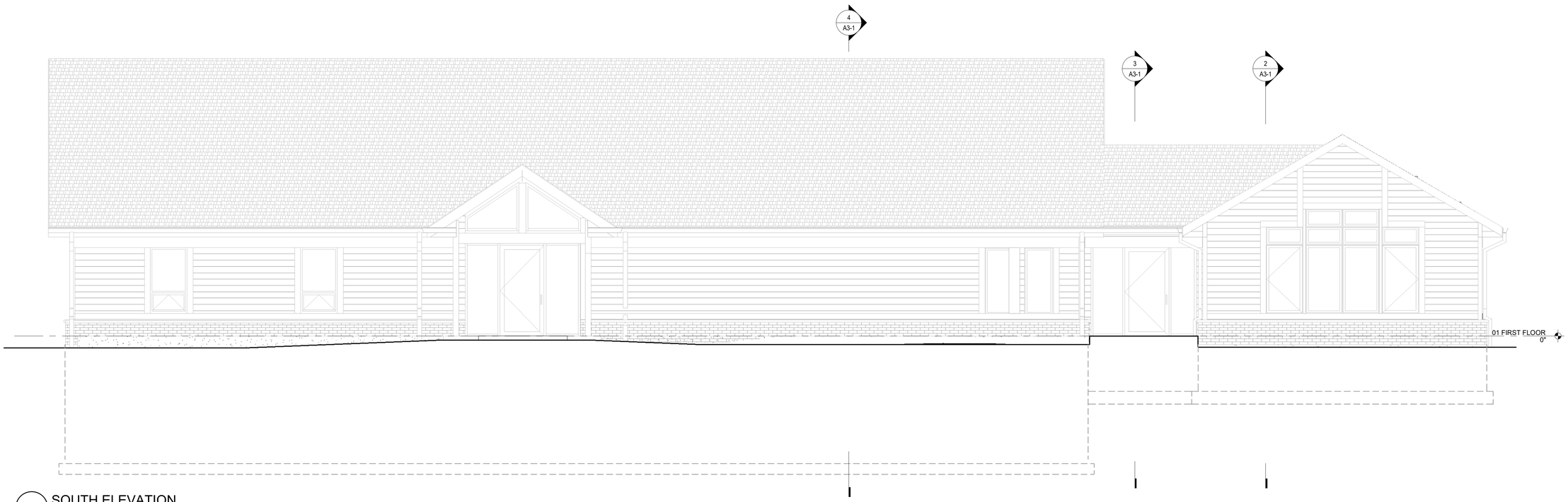
PROJECT NO.	25-023
DRAWN BY	LE,MO
CHECKED BY	EP
SHEET	15 OF 44

ROOF PLAN

A1-5

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1 SOUTH ELEVATION
1/4" = 1'-0"

NEW ADDITION

EXISTING BUILDING

2 NORTH ELEVATION
1/4" = 1'-0"

REV 4 9-10-26

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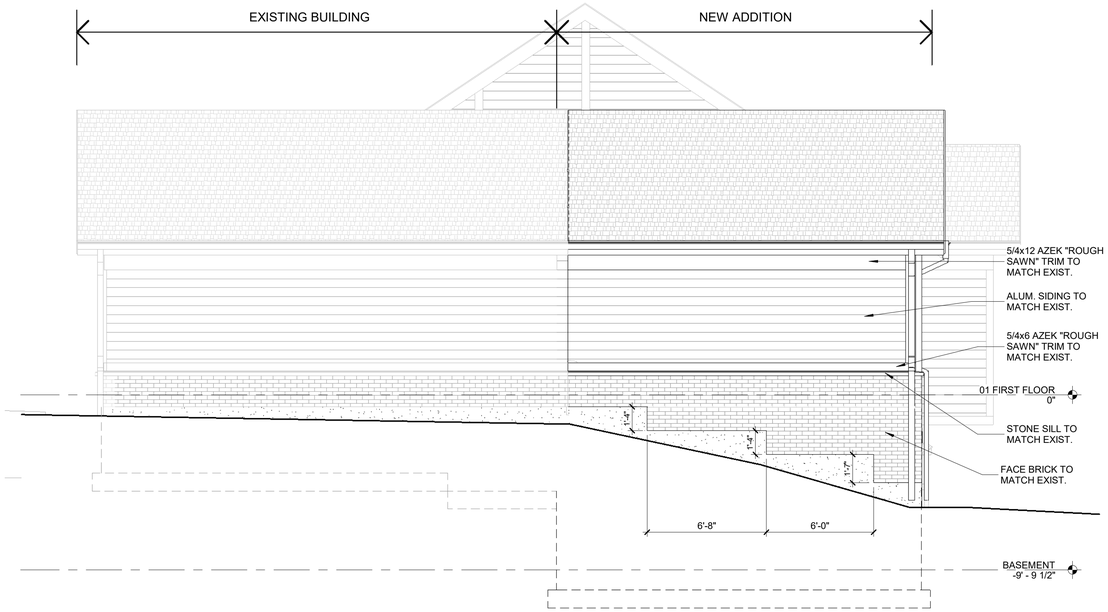
No.	Date	Description

PROJECT NO.	25-023
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CHECKED BY	EP
SHEET	16 OF 44

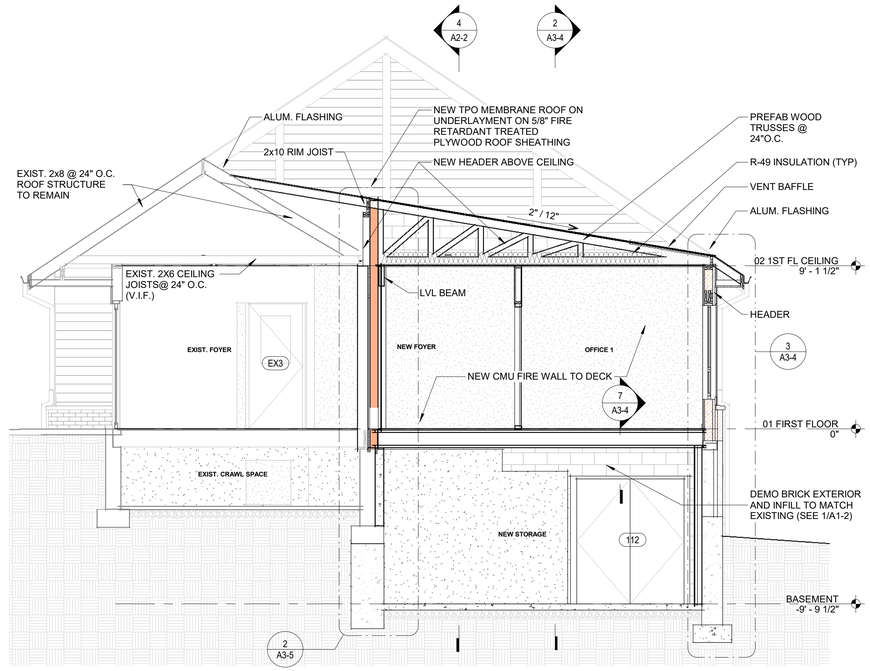
EXTERIOR ELEVATIONS

A2-1

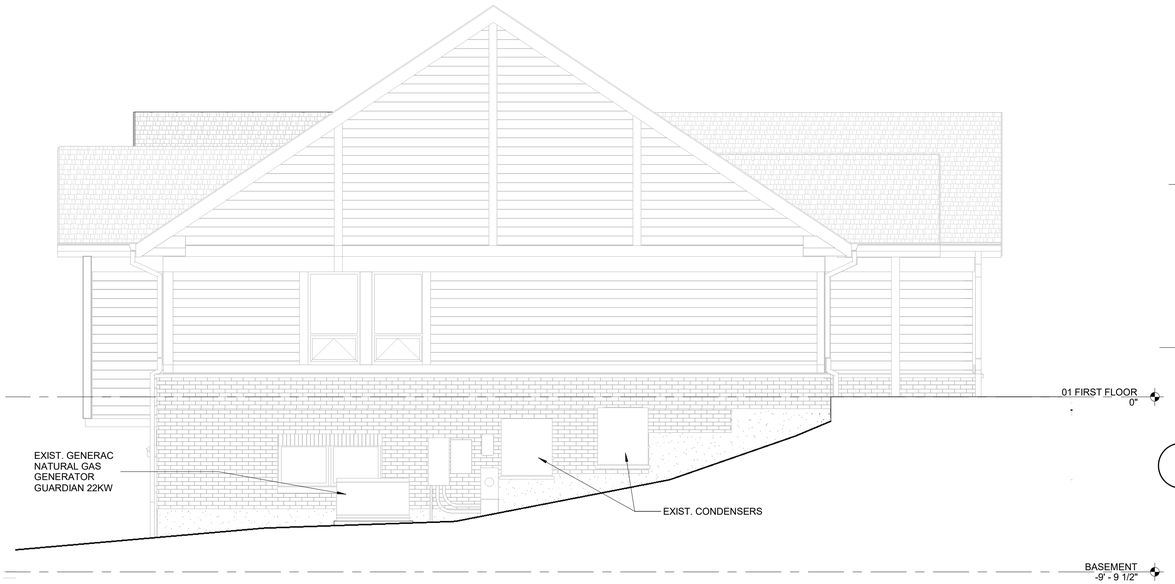
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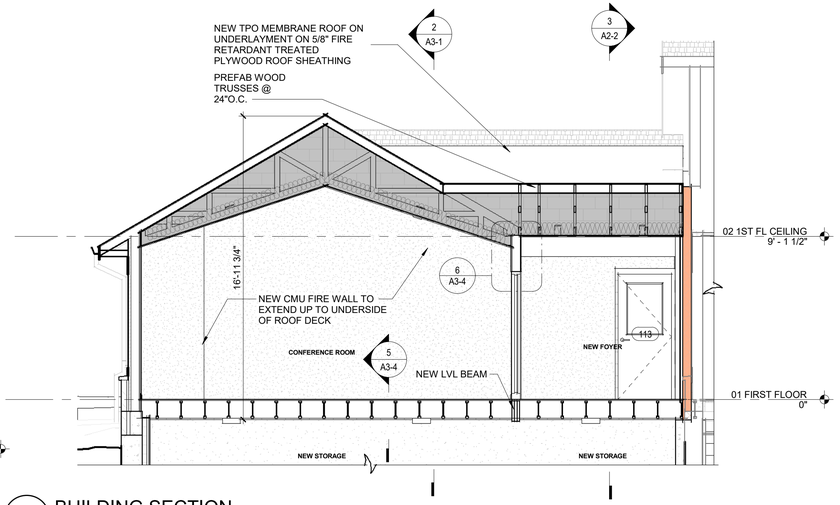
1 EAST ELEVATION
1/4" = 1'-0"



3 BUILDING SECTION
1/4" = 1'-0"



2 WEST ELEVATION
1/4" = 1'-0"



4 BUILDING SECTION
1/4" = 1'-0"

REV 4 9-10-26

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ENGINEERS
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No.	Date	Description
3	08.26.2026	Revision 3

PROJECT NO.	25-023
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CHECKED BY	EP
SHEET	17 OF 44

EXTERIOR ELEVATIONS & SECTIONS

A2-2

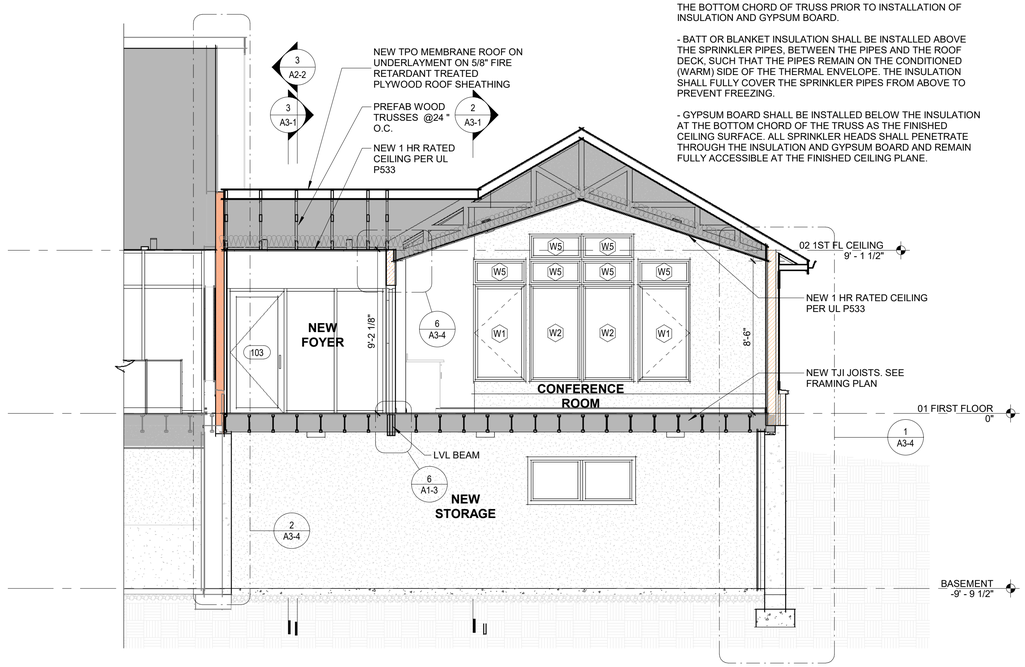
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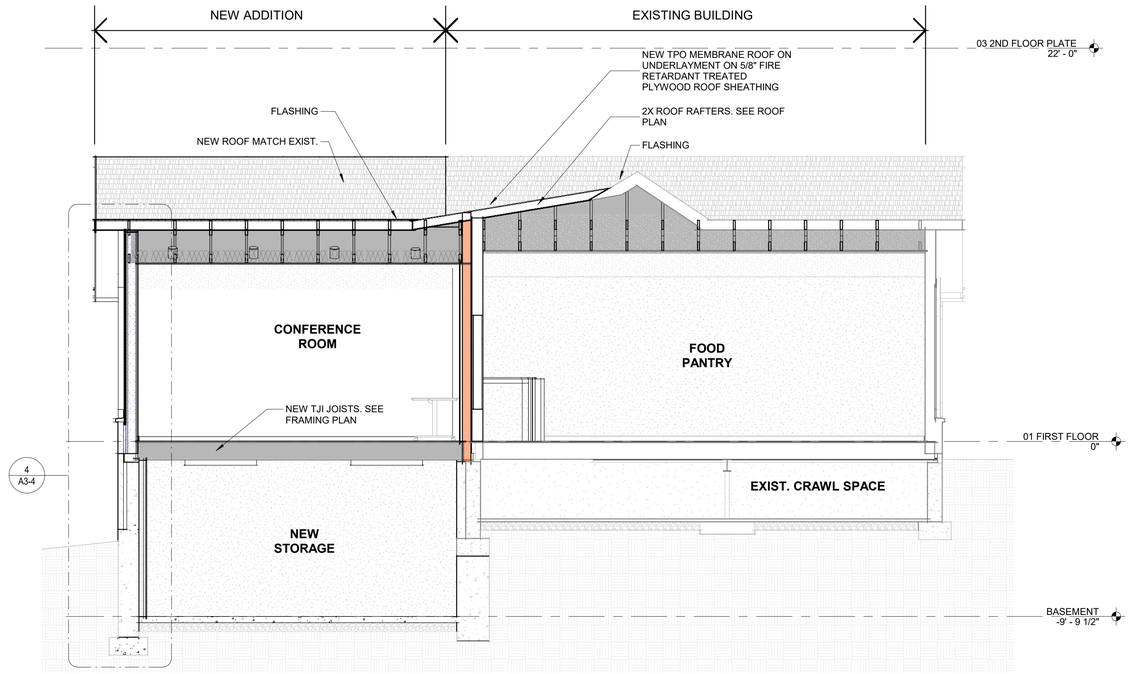
GENERAL CONTRACTOR TO NOTE:
- FOR OFFICE 1, NEW FOYER & CONFERENCE ROOM SPRINKLER PIPES SHALL BE ROUGHED IN WITHIN THE CEILING CAVITY AT THE BOTTOM CHORD OF TRUSS PRIOR TO INSTALLATION OF INSULATION AND GYPSUM BOARD.

- BATT OR BLANKET INSULATION SHALL BE INSTALLED ABOVE THE SPRINKLER PIPES, BETWEEN THE PIPES AND THE ROOF DECK, SUCH THAT THE PIPES REMAIN ON THE CONDITIONED (WARM) SIDE OF THE THERMAL ENVELOPE. THE INSULATION SHALL FULLY COVER THE SPRINKLER PIPES FROM ABOVE TO PREVENT FREEZING.

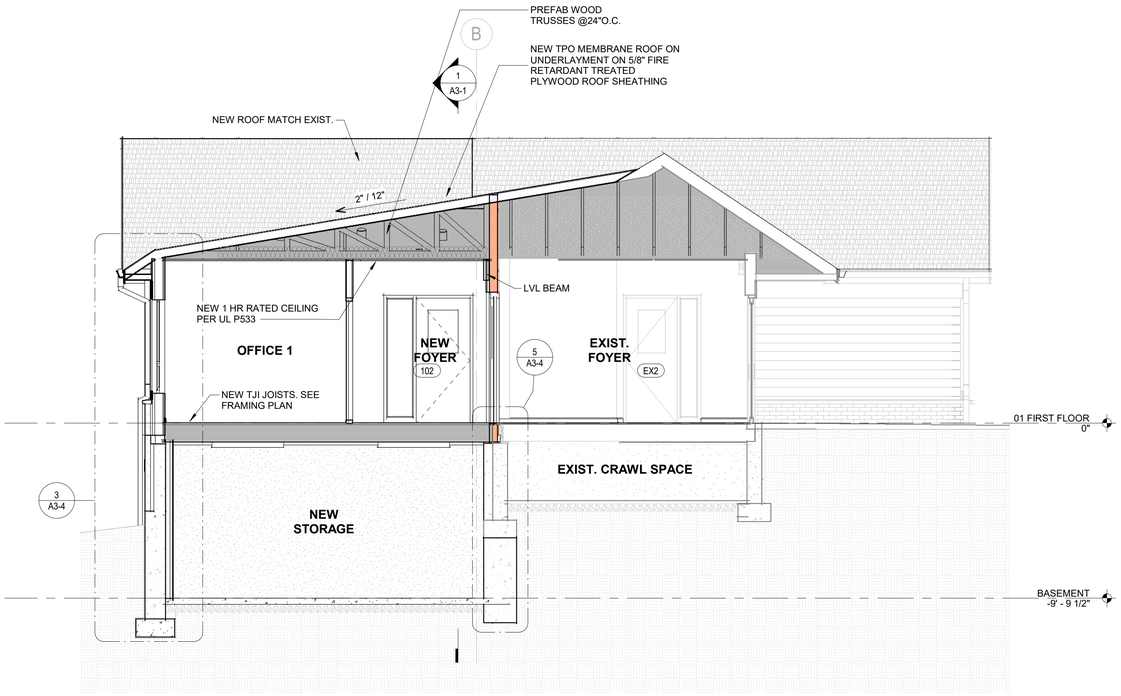
- GYPSUM BOARD SHALL BE INSTALLED BELOW THE INSULATION AT THE BOTTOM CHORD OF THE TRUSS AS THE FINISHED CEILING SURFACE. ALL SPRINKLER HEADS SHALL PENETRATE THROUGH THE INSULATION AND GYPSUM BOARD AND REMAIN FULLY ACCESSIBLE AT THE FINISHED CEILING PLANE.



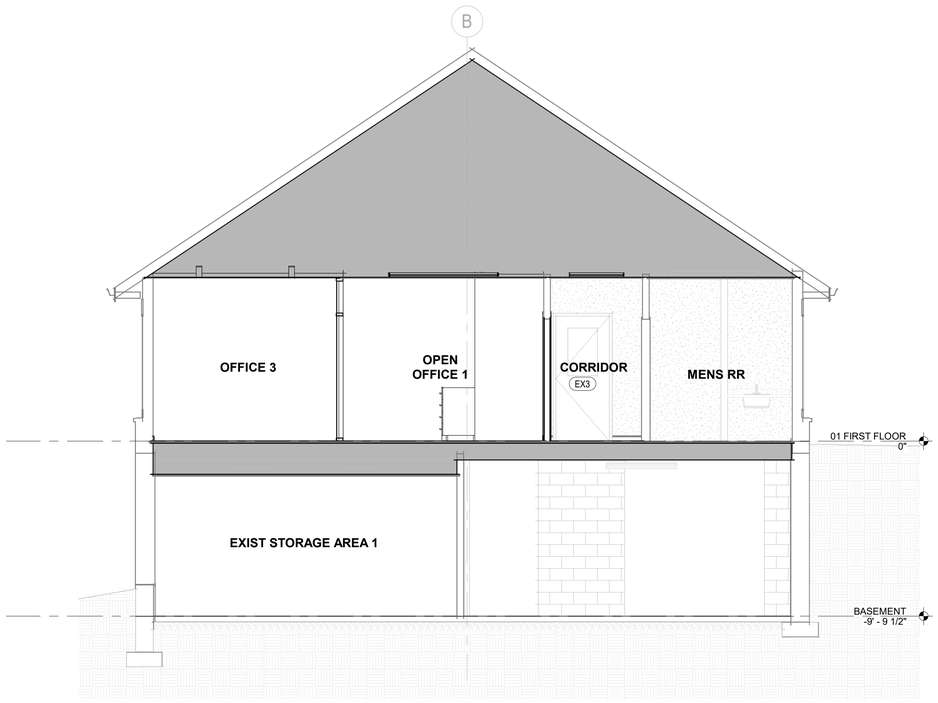
1 BUILDING SECTION
1/4" = 1'-0"



2 BUILDING SECTION
1/4" = 1'-0"



3 BUILDING SECTION
1/4" = 1'-0"



4 BUILDING SECTION
1/4" = 1'-0"

REV 4 9-10-26

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ENGINEERS
-

CUBA TOWNSHIP BLDG. ADDITION

28000 W CUBA RD, BARRINGTON, IL 60010

Contact Info

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description
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3	08.26.2026	Revision 3

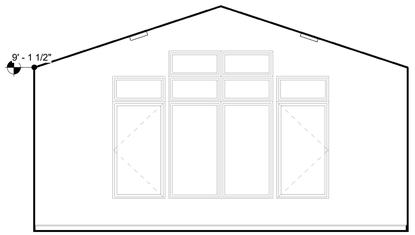
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SHEET	18 OF 44

BUILDING SECTIONS

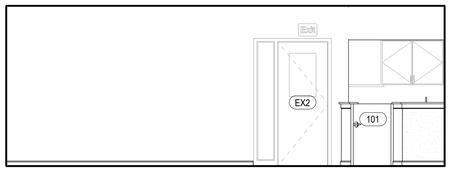
A3-1

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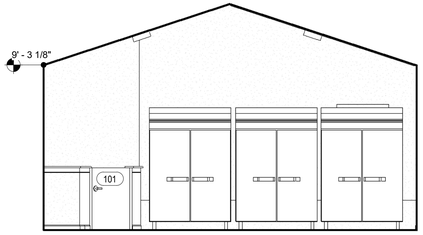
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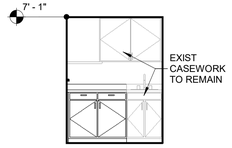
1 FOOD PANTRY LKG. SOUTH
1/4" = 1'-0"



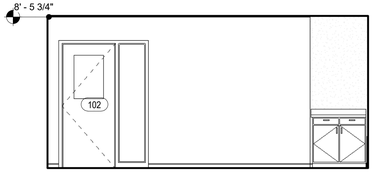
2 FOOD PANTRY LKG. WEST
1/4" = 1'-0"



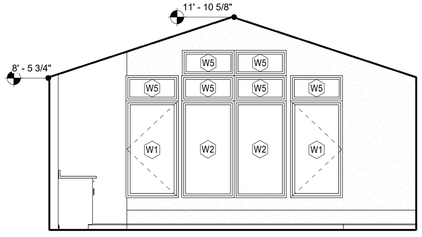
3 FOOD PANTRY LKG. NORTH
1/4" = 1'-0"



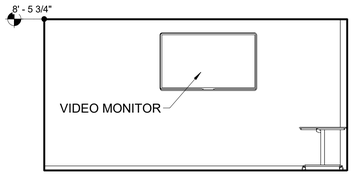
4 CHECK IN LKG. WEST
1/4" = 1'-0"



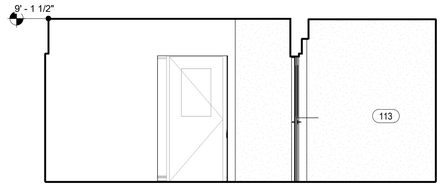
5 CONFERENCE LKG. WEST
1/4" = 1'-0"



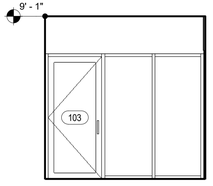
6 CONFERENCE LKG. NORTH
1/4" = 1'-0"



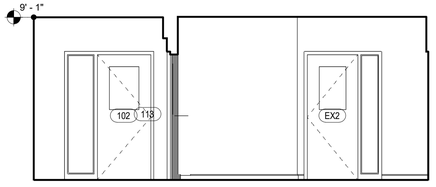
7 CONFERENCE LKG. EAST
1/4" = 1'-0"



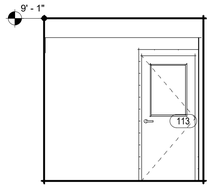
8 FOYER LKG. WEST.
1/4" = 1'-0"



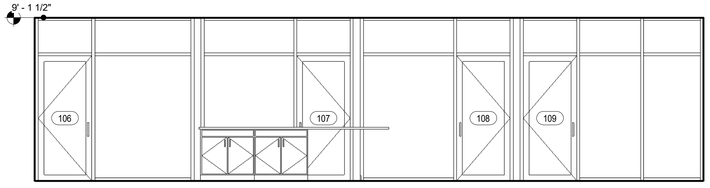
9 FOYER LKG. NORTH
1/4" = 1'-0"



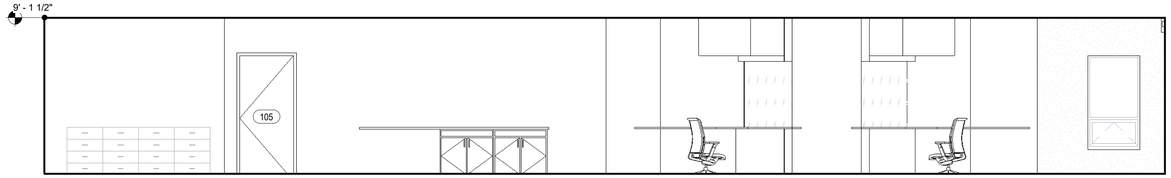
10 FOYER LKG. EAST
1/4" = 1'-0"



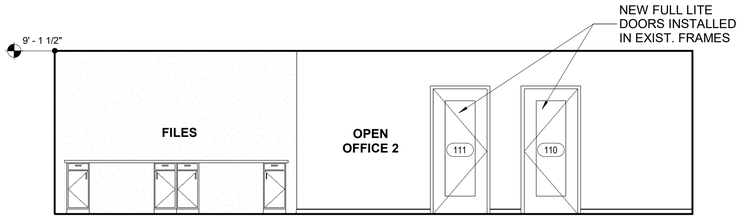
11 FOYER LKG. SOUTH
1/4" = 1'-0"



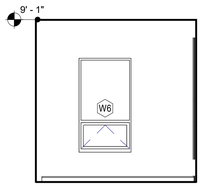
12 OPEN OFFICE LKG. NORTH
1/4" = 1'-0"



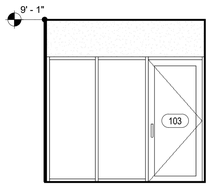
13 OPEN OFFICE LKG. SOUTH
1/4" = 1'-0"



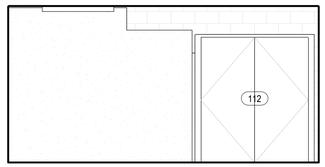
14 OPEN OFFICE 2 LKG. WEST
1/4" = 1'-0"



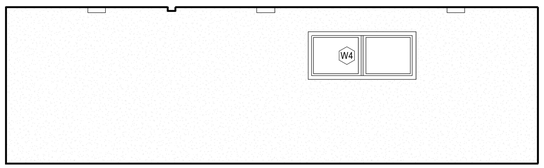
15 OFFICE 1 LKG. NORTH
1/4" = 1'-0"



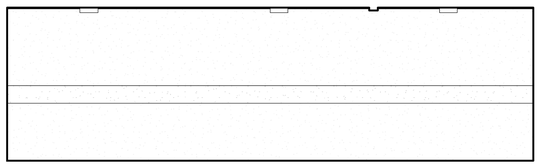
16 OFFICE 1 LKG. SOUTH
1/4" = 1'-0"



17 NEW BASEMENT STORAGE LKG. WEST
1/4" = 1'-0"



18 NEW BASEMENT LKG. WEST
1/4" = 1'-0"



19 NEW STORAGE LKG. SOUTH
1/4" = 1'-0"

REV 4 9-10-26

ALLEN PEPA ARCHITECTS
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215 FULTON ST., GENEVA, IL 60134

ENGINEERS
-

CUBA TOWNSHIP BLDG. ADDITION
28000 W CUBA RD, BARRINGTON, IL 60010
Contact Info

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description
1	05.18.2026	Revision 1
3	08.26.2026	Revision 3

PROJECT NO.	25-023
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SHEET	19 OF 44

INTERIOR ELEVATIONS

A3-2

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1 REAR OF ADDITION



2 NEW CONFRENCE LKG. NORTHEAST



3 OFFICE PERSPECTIVE



4 FOOD PANTRY PERSPECTIVE

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SHEET	20 OF 44

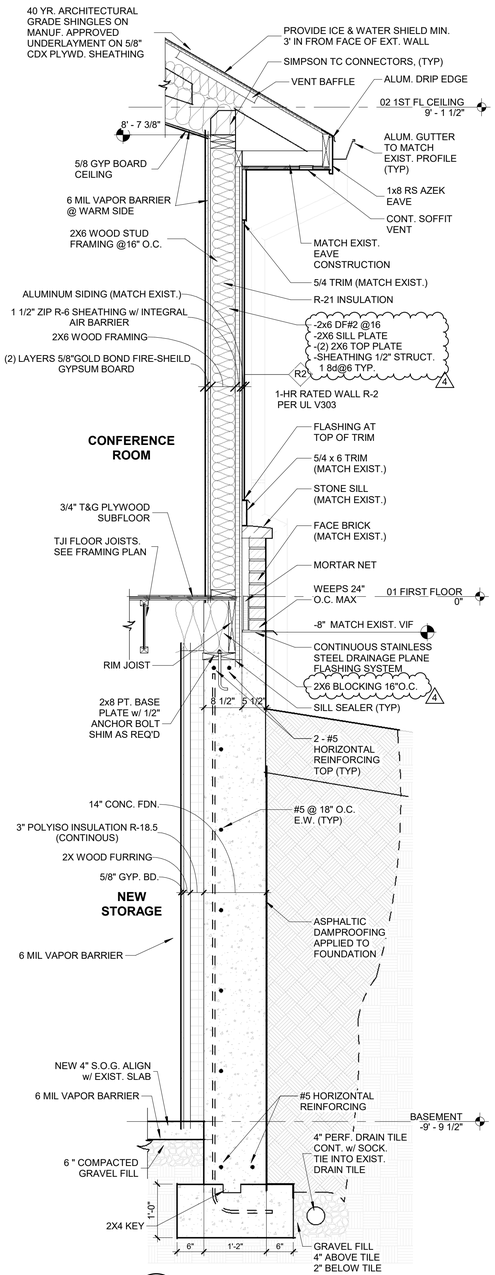
3D PERSPECTIVES

A3-3

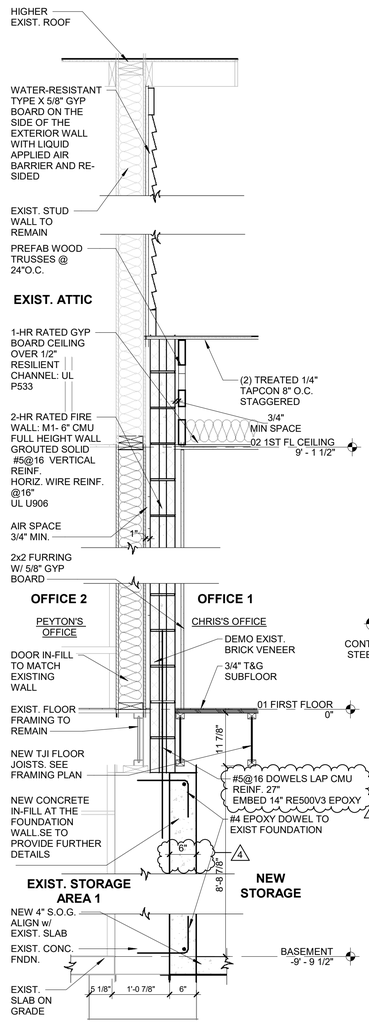
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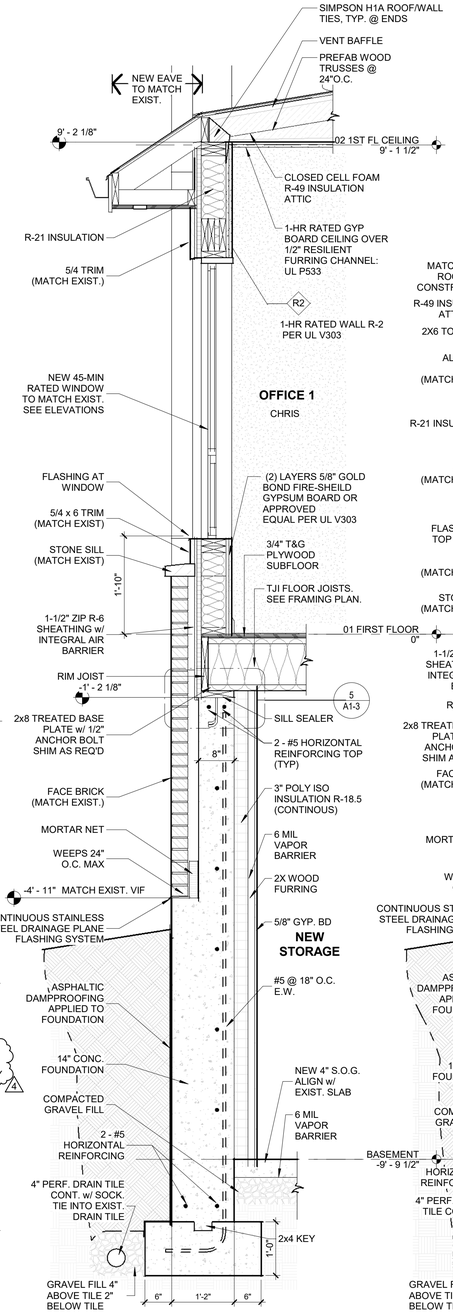
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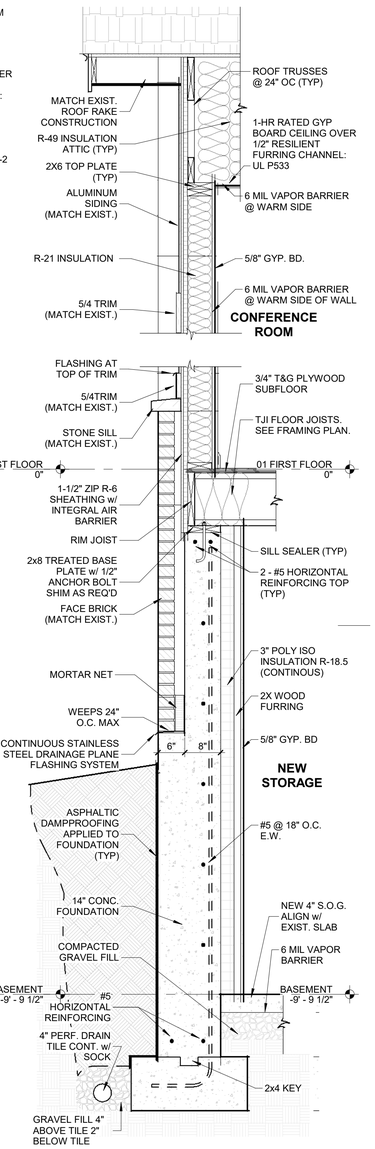
1 WALL SECTION 1
3/4" = 1'-0"



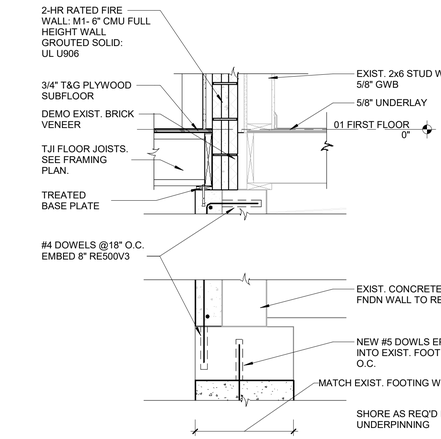
2 WALL SECTION 2
3/4" = 1'-0"



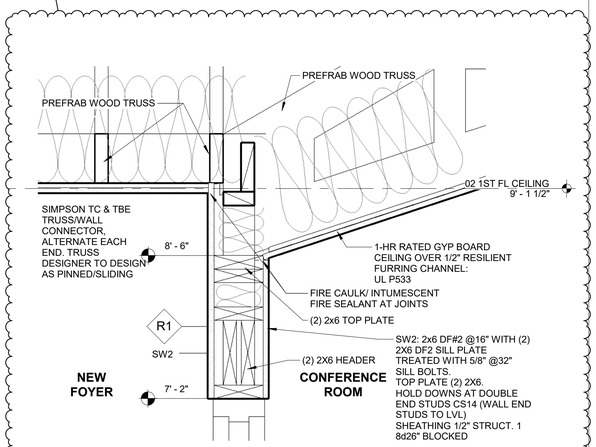
3 WALL SECTION 3
3/4" = 1'-0"



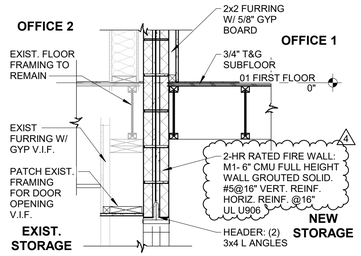
4 WALL SECTION 4
3/4" = 1'-0"



5 WALL SECTION 5
3/4" = 1'-0"



6 WALL SECTION 6
1 1/2" = 1'-0"



7 BASEMENT DOOR HEADER DETAIL
3/4" = 1'-0"

NOTES:
1. PER 2024 IECC C402.2.4: "WHERE THE SLAB-ON-GRADE IS GREATER THAN 24 INCHES (610MM) BELOW THE FINISHED EXTERIOR GRADE, PERIMETER INSULATION IS NOT REQUIRED."
2. ALL INSULATION SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS
3. ALL THERMAL BRIDGES WILL COMPLY WITH IECC C402.7
4. ALL AIR BARRIERS WILL BE CONTINOUS AND SEALED IN APPROVED MANNER
5. ALL OPENINGS IN BUILDING ENVELOPE WILL BE PROPERLY SEALED TO PROVIDE CONTINOUS AIR BARRIER
6. FINISH FLOOR LEVEL TO MATCH EXISTING.

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215 FULTON ST., GENEVA, IL 60134

ENGINEERS

-

CUBA TOWNSHIP BLDG. ADDITION

28000 W CUBA RD, BARRINGTON, IL 60010

Contact Info

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	00/00/00

POST BID/PERMIT REVISIONS:

No.	Date	Description
3	08.26.2026	Revision 3
4	09.09.2026	Revision 4

PROJECT NO.	25-023
DRAWN BY	LE/ MO
CHECKED BY	EP
SHEET	21 OF 44

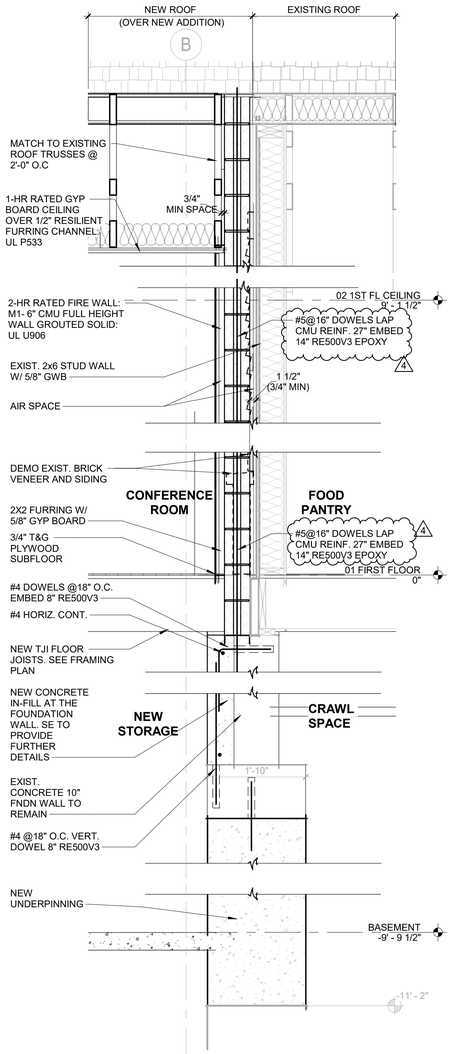
WALL SECTIONS

A3-4

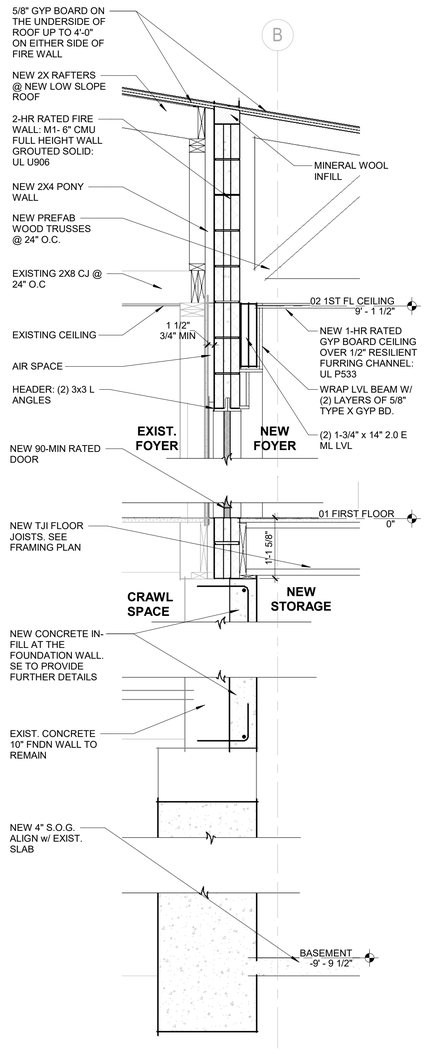
REV 4 9-10-26

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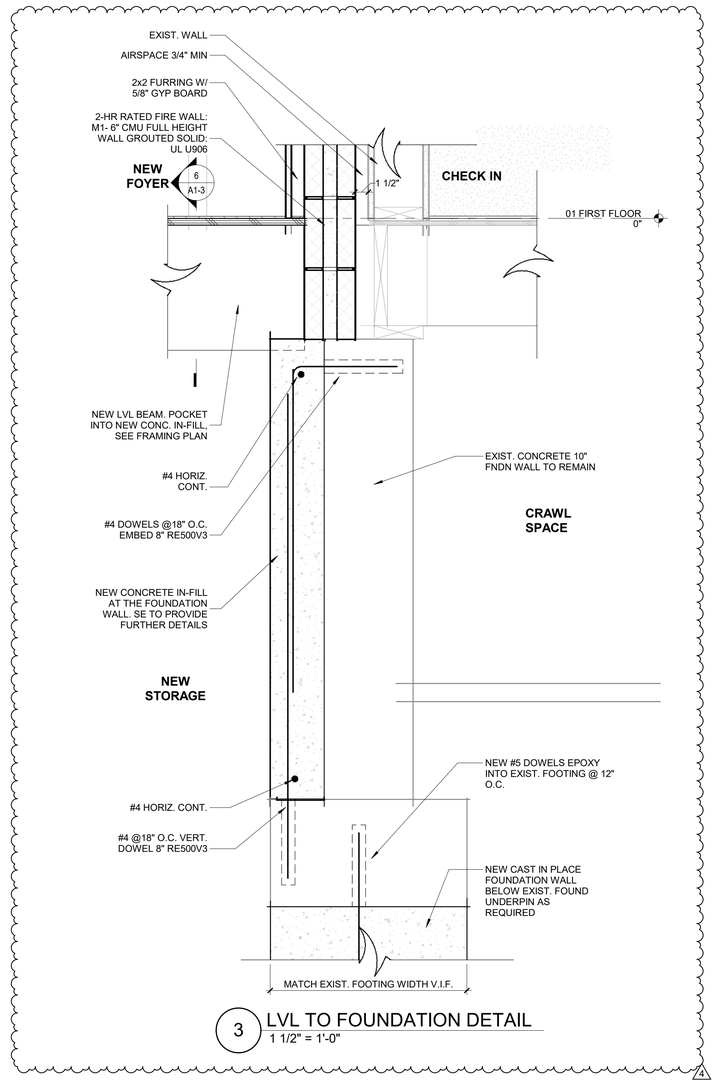
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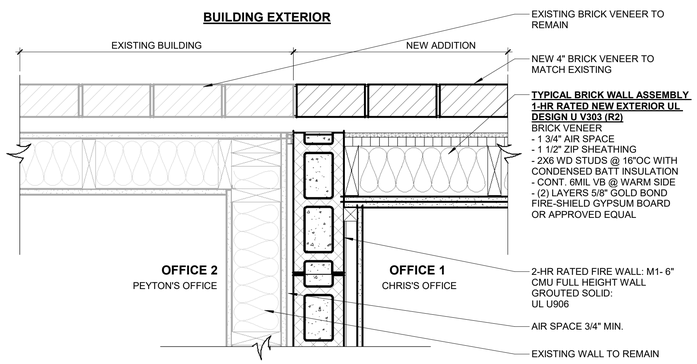
1 SECTION THRU FIRE WALL 1
3/4" = 1'-0"



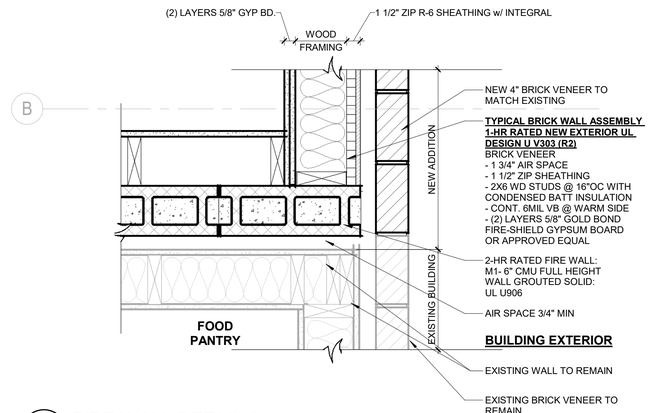
2 SECTION THRU FIRE WALL 2
3/4" = 1'-0"



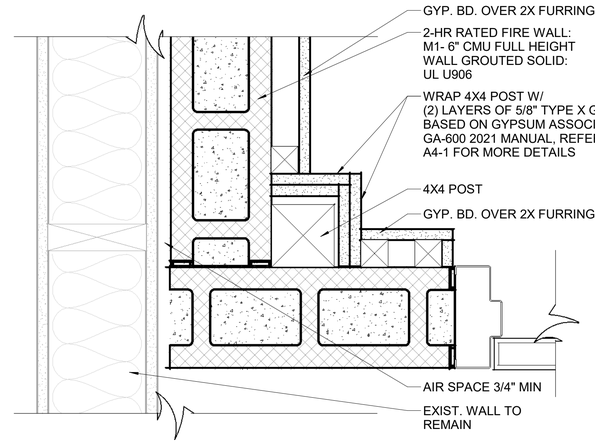
3 LVL TO FOUNDATION DETAIL
1 1/2" = 1'-0"



4 FIRE WALL DETAIL 1
1 1/2" = 1'-0"



5 FIRE WALL DETAIL 2
1 1/2" = 1'-0"



6 4X4 POST PLAN DETAIL
3" = 1'-0"

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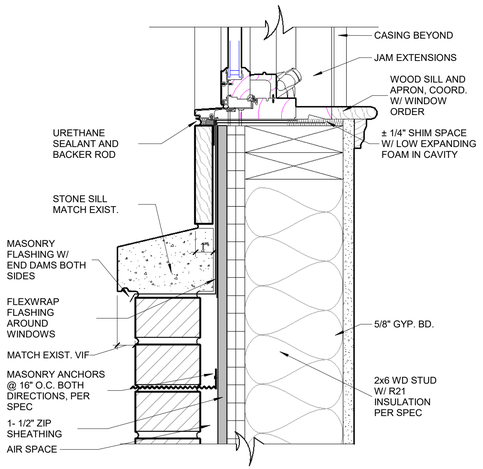
PROJECT NO.	25-023
DRAWN BY	LE/ MO
CHECKED BY	EP
SHEET	22 OF 44

WALL SECTIONS & DETAILS

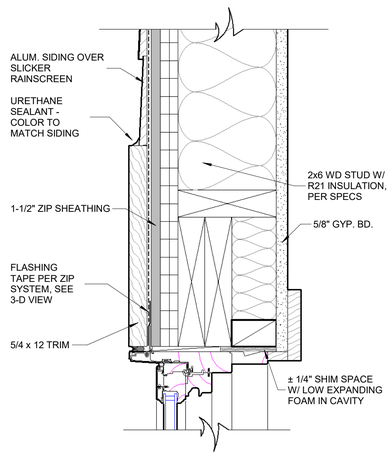
A3-5

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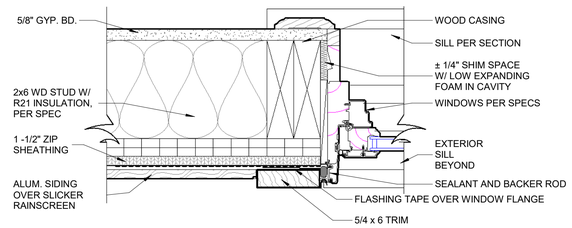
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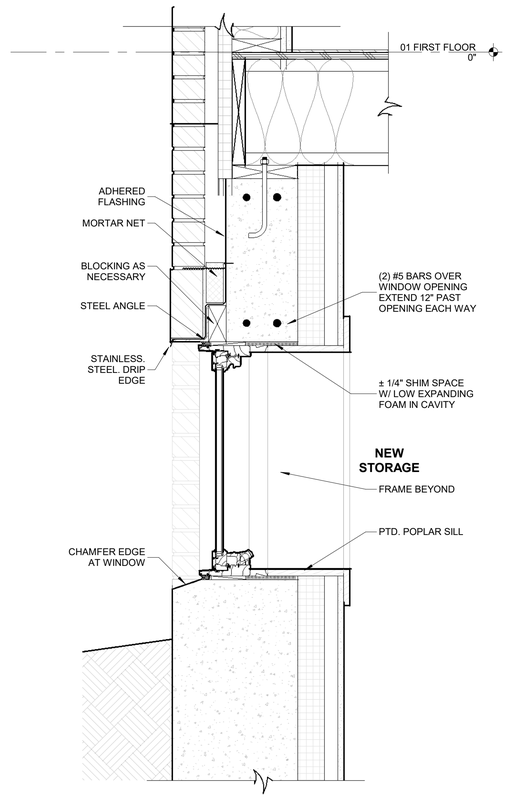
3 WINDOW SILL DETAIL (BRICK)
3" = 1'-0"



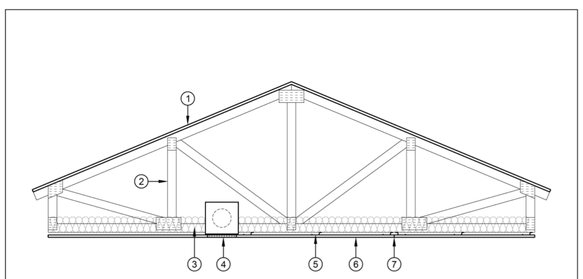
1 WINDOW HEAD DETAIL (SIDING)
3" = 1'-0"



2 WINDOW JAMB DETAIL (SIDING)
3" = 1'-0"



4 SECTION DETAIL BASMENT WINDOW
1 1/2" = 1'-0"



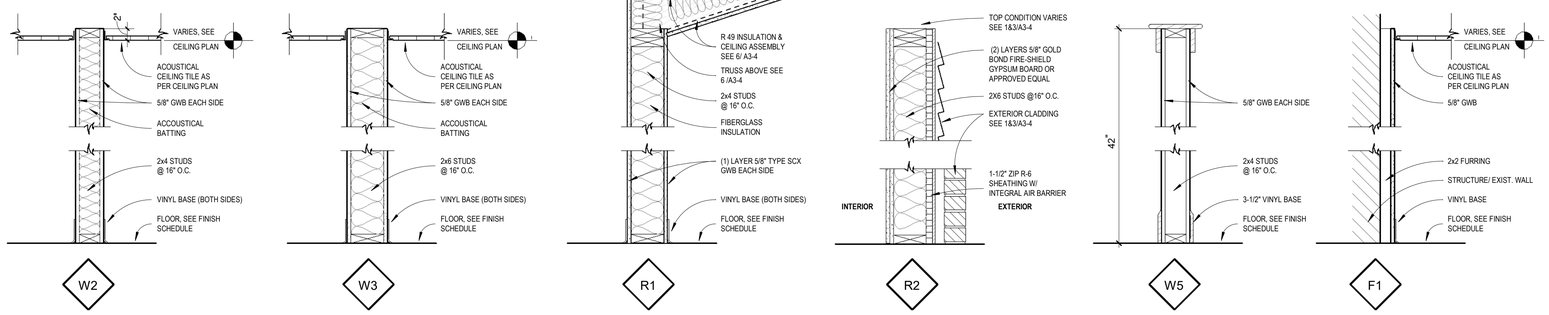
END JOINT DETAIL

1. CLASS A, B, OR C ROOFING SYSTEM OVER MIN. 15/32" WOOD STRUCTURAL PANELS
2. PITCHED OR PARALLEL CHORD ROOF TRUSSES 24" O.C.
3. GLASS FIBER OR MINERAL WOOL INSULATION (OPTIONAL)
4. CEILING DAMPER AND GRILLE (OPTIONAL)
5. MIN. 25 GAUGE 1/2" RESILIENT FURRING CHANNELS (RC-1, RC-2) 16" O.C.
6. 5/8" GOLD BOND EVOLVE X FIRE-SHIELD GYPSUM BOARD (FSLX) FASTENED WITH 1" TYPE S SCREWS 8" O.C. AND LOCATED MIN. 1/2" FROM EDGE JOINTS AND 3" FROM END JOINTS.
7. TAPE AND JOINT COMPOUND OVER JOINTS AND FASTENER HEADS

DATE: 07/01/2024	UL DESIGN: P533	National Gypsum.
SCALE: NTS	1 HOUR WOOD TRUSS ROOF-CEILING ASSEMBLY	

© 2024 National Gypsum Services Company

5 1-HOUR RATED CEILING UL P533



W2 — 2x4 STUD WALL W/ 5/8" GYP. BD.

W3 — 2x6 STUD WALL W/ 5/8" GYP. BD.

R1 — 2x4 STUD SHEAR WALL 1-HR RATED PER UL U305

R2 — 2x6 STUD EXTERIOR WALL 1-HR RATED PER UL V303

W5 — 2x4 STUD WALL W/ 5/8" GYP. BD.

F1 — 2x2 FURRING WALL W/ 5/8" GYP. BD.

WALL TYPES
1" = 1'-0"

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ENGINEERS

-

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CHECKED BY	-
SHEET	23 OF 44

WALL TYPES & DETAILS

A4-1

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WALL SIGNAGE

SIGNAGE NOTES

1. PERMANENT LETTERS AND NUMERALS SHALL BE RAISED 1/32" UPPER CASE AND ACCOMPANIED WITH GRADE 2 BRAILLE.

2. CHARACTERS AND BACKGROUND OF SIGNS SHALL BE MATTE FINISH.

3. BACKGROUNDS SHALL BE BLACK IN COLOR. CHARACTERS SHALL BE WHITE IN COLOR. FRAMES SHALL BE WHITE IN COLOR.

4. SIGNAGE SHALL BE PROVIDED AND INSTALLED IN COMPLIANCE WITH ILLINOIS ACCESSIBILITY CODE SECTION 400.310.a

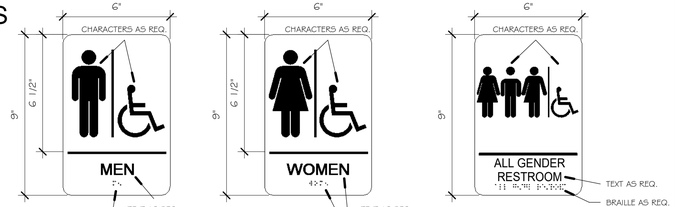
5. ALL SIGNS SHALL BE WALL MOUNTED W/ HARDWARE APPROVED BY SIGN MANUFACTURER.

6. PROVIDE SHOP DRAWINGS FOR OWNER/ARCHITECT REVIEW PRIOR TO INSTALLATION OF ANY SIGNS. USE OF ALTERNATE SIGNAGE, FRAMES, ETC. SHALL BE APPROVED BY OWNER/ARCHITECT.

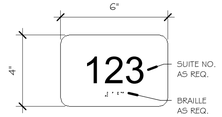
7. CONTACT _____.

8. VERIFY ROOM NAMES, ROOM NUMBERS, ETC. WITH OWNER PRIOR TO MANUFACTURING SIGNS.

9. SEE ACCESSIBILITY STANDARDS SHEET FOR MOUNTING HEIGHT.



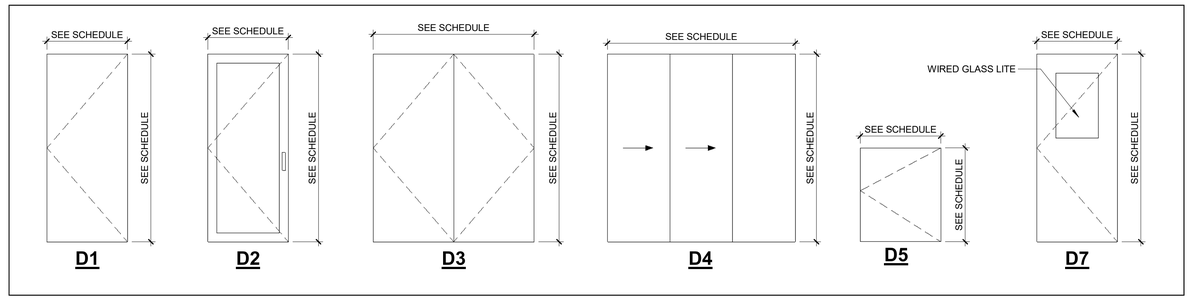
1 MEN'S RESTROOM
2 WOMEN'S RESTROOM
4 ALL GENDER RESTROOM



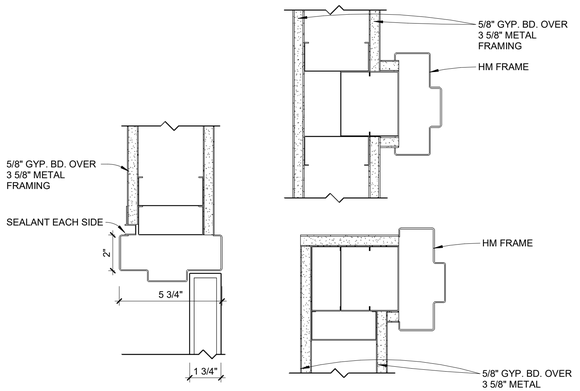
3 ROOM

08 - Door & Frame Schedule

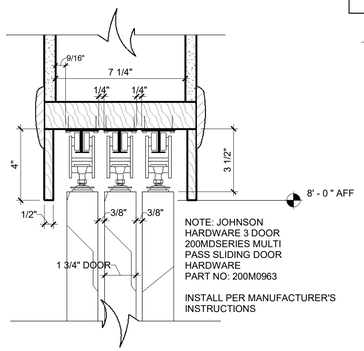
	Door						Frame						
				Size									
Door Number	Type	Material	Finish	Width	Height	Thickness	Type	Material	Finish	Hardware	Rating	Signage	Comments
New Construction													
101	D5	SC WD	STN.	3' - 0"	3' - 6"	1 3/4"	F1	HM	PTD.	HDWE 1			
102	D6	SC WD	STN.	3' - 0"	7' - 0"	1 3/4"	F2	HM	PTD.	HDWE 2			45 MIN RATED
103	D2	ALUM	ANOD.	3' - 0"	6' - 10"	1 3/4"	F1	ALUM	ANOD.	HDWE 3			
105	D1	SC WD	STN.	3' - 0"	7' - 0"	1 3/4"	F1	ALUM	ANOD.	HDWE 3			
106	D2	ALUM	ANOD.	3' - 0"	7' - 0"	1 3/4"	F1	ALUM	ANOD.	HDWE 3			
107	D2	ALUM	ANOD.	3' - 0"	7' - 0"	1 3/4"	F1	ALUM	ANOD.	HDWE 3			
108	D2	ALUM	ANOD.	3' - 0"	7' - 0"	1 3/4"	F1	ALUM	ANOD.	HDWE 3			
109	D2	ALUM	ANOD.	3' - 0"	7' - 0"	1 3/4"	F1	ALUM	ANOD.	HDWE 3			
110	D2	SC WD	PTD.	3' - 0"	7' - 0"	1 3/4"	F1	N/A	N/A	HDWE 3			
111	D2	SC WD	PTD.	3' - 0"	7' - 0"	1 3/4"	F1	N/A	N/A	HDWE 3			
112	D3	SC WD	PTD.	6' - 0"	7' - 0"	1 3/4"	F1	HM	PTD.	HDWE 5			
113	D7	HM	PTD.	3' - 0"	7' - 0"	1 3/4"	F1	HM	PTD.	HDWE 1			90 MIN RATE
114	D1	SC WD	PTD.	3' - 0"	6' - 8"	1 3/4"	F1	HM	PTD.	HDWE 1			
115	D4	SC WD	PTD.	7' - 0"	8' - 0"	1 3/8"	F3	WD	PTD.	HDWE 4			SEE 2/ A4-2. INSTALL PER MANUF.



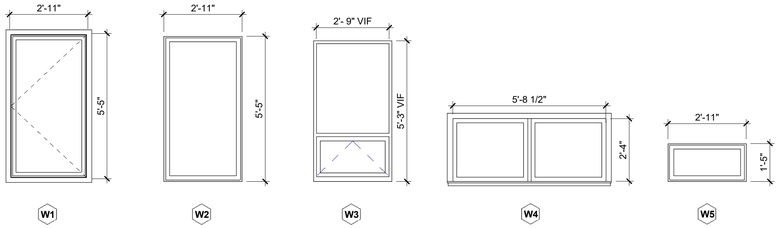
DOOR LEGEND
3/8" = 1'-0"



1 HOLLOW METAL DOOR FRAME DETAILS
3" = 1'-0"



2 DOOR TYPE D4 HEADER DETAIL1
3" = 1'-0"

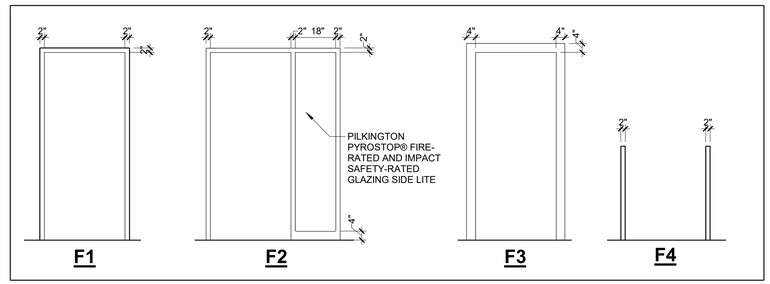


W3 REUSE EXISTING WINDOWS

WINDOW LEGEND
3/8" = 1'-0"

NOTE:
1. ALL WINDOWS WILL BE NRFC CERTIFIED
2. ALL NEW EXTERIOR WINDOWS TO RECEIVE BIRD FRIENDLY TREATMENT (DECALS,SCREENS ETC) IN ACCORDANCE WITH AMERICAN BIRD CONSERVANCY

WINDOW SCHEDULE						
TYPE	DESCRIPTION	COUNT	WIDTH	HEIGHT	OPERATION TYPE	COMMENTS
New Construction						
W1	DUAL PANE CASEMENT	2	2' - 11"	5' - 5"	OPERABLE	3565 PELLA LOW E ARGON FILLED
W2	DUAL PANE CASEMENT	2	2' - 11"	5' - 5"	FIXED	3565 PELLA LOW E ARGON FILLED
W3	CASEMENT OVER AWNING	1	2' - 11"	5' - 3"	COMBINATION	REUSE EXIST. WINDOWS SEE DEMO PLAN
W4	DUAL PANE CASEMENT	1	5' - 8 1/2"	2' - 4"	FIXED	
W5	DUAL PANE CASEMENT	6	2' - 11"	1' - 3"	FIXED	3517 PELLA LOW E ARGON FILLED
W6	CASEMENT OVER AWNING	1	2' - 11"	5' - 3"	COMBINATION	REUSE EXIST. WINDOWS SEE DEMO PLAN



FRAME LEGEND
3/8" = 1'-0"

Hardware Schedule Legend																						
Hardware Set:	Latchsets	Vestibule	Passage	Office/Corridor	Classroom	Bath Privacy	Storeroom	Cylinder/deadbolt if req'd	Push Paddle Storefront latch	Exit devices - Rim device	Closer	Push plate - pull plate	1 1/2 pair hinges	1 pair hinges	Kick plate	Kick-down hold open	Silencers	Door stop	Spring Hinge	Overhead Door Hardware	Weather Strips	Magnetic Hold Open Hardware (LHC SEM 7500)	Comments
HDWE 1			●								●			●			●	●					HALF DOOR
HDWE 2											●	●	●				●	●					CONF. RM. DOORS
HDWE 3				●									●				●	●					OFFICE DOORS
HDWE 4																	●						POCKET SLIDING DOORS
HDWE 5							●				●		●		●		●	●					STORAGE RM. DOORS
HDWE 6			●																			●	FOR DOOR 113

NOTE: ALL HARDWARE SHALL COMPLY WITH THE 2018 ILLINOIS ACCESSIBILITY CODE

DOOR SCHEDULE ABBREVIATIONS
HM HOLLOW METAL
WD WOOD DOOR
FV FIELD VERIFY

SPECIFICATIONS:
LOCKSETS: SCHLAGE, BEST ACCESS, YALE

PANIC BAR: VON DUPRIN

HINGES: BOMMER INDUSTRIES, HAGER COMPANIES, STANLEY HARDWARE

CYLINDRICAL LOCKS: SCHLAGE, BEST, ACCESS, YALE

CLOSERS: LCN, SARGENT, CORBIN OR YALE

GASKETING: NATIONAL GUARD PRODUCTS, PEMKO MANUFACTURING

DOOR STOPS: ROCKWOOD, QUALITY, HAGER

ALUMINUM THRESHOLDS: NATIONAL OR WITH DOOR FRAME

KEYING: PROVIDE 5 KEYS

LOCKSET DEFINITIONS:

VESTIBULE LOCK: UNLOCKED BY KEY FROM OUTSIDE, NEVER LOCKED FROM INTERIOR

PASSAGE: BOTH LEVERS ALWAYS UNLOCKED

OFFICE/CORRIDOR LOCK: LOCKED OR UNLOCKED FROM OUTSIDE, PUSH BUTTON LOCKING WITH THUMBTURN, CLOSING DOOR OR TURNING LEVER RELEASES LOCK

CLASSROOM: OUTSIDE LEVER LOCKED AND UNLOCKED BY KEY, INTERIOR ALWAYS UNLOCKED

BED/BATH PRIVACY: PUSH BUTTON LOCKING. CAN BE OPENED FROM OUTSIDE WITH SMALL SCREWDRIVER. TURNING RELEASES BUTTON

STOREROOM: OUTSIDE LEVER ALWAYS FIXED, INSIDE LEVER ALWAYS UNLOCKED

PUSH PADDLE STOREFRONT LATCH (CYLINDER REQUIRED):
ALWAYS ACTIVE INTERIOR PANEL THAT CAN BE LOCKED IN THE OPEN POSITION DURING THE DAY OR LATCHED DURING OFF-HOURS AND OPENED WITH A KEY.

REV 4 9-10-26

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Permit:	
ISSUE DATE:	00/00/00

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No.	Date	Description
1	05.18.2026	Revision 1
3	08.26.2026	Revision 3

PROJECT NO.	25-023
DRAWN BY	-
CHECKED BY	-
SHEET	24 OF 44

SCHEDULES

A4-2

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MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	DUCT WIDTH x DEPTH CLEAR INSIDE DIMENSION
UP DN	SUPPLY AIR DUCT SECTION UP - DOWN
UP DN	RETURN AIR DUCT SECTION UP - DOWN
UP DN	EXHAUST AIR DUCT SECTION UP - DOWN
UP DN	ROUND SUPPLY AIR DUCT SECTION UP - DOWN
UP DN	ROUND RETURN AIR DUCT SECTION UP - DOWN
UP DN	ROUND EXHAUST AIR DUCT SECTION UP - DOWN
	SQUARE ELBOW W/TURNING VANES
DN	DROP IN DUCT (DIRECTION OF FLOW)
UP	RISE IN DUCT (DIRECTION OF FLOW)
	TAKE-OFF DAMPER/EXTRACTOR
	MANUAL VOLUME DAMPER
FD	FIRE DAMPER
FSD	FIRE & SMOKE DAMPER
M	MOTORIZED DAMPER
	RECTANGULAR TO ROUND TRANSITION
	SUPPLY DIFFUSER
	SUPPLY GRILLE
	EXHAUST GRILLE
	RETURN GRILLE
CD	CONDENSATE DRAIN PIPE
CS	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
G	GAS PIPE
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
MU	MAKEUP WATER
RL RS	REFRIGERANT PIPE
	REDUCER
	UNION
	PIPE DOWN
	PIPE UP
	GAS PRESSURE REDUCING VALVE (GPR) WITH VENT
	ISOLATION VALVE
S	SOLENOID VALVE
	BALL VALVE (2-1/2" AND SMALLER)
	GLOBE VALVE
	CHECK VALVE
	BUTTERFLY VALVE (3" AND LARGER)
	BALANCING VALVE
	TWO WAY CONTROL VALVE
	THREE WAY CONTROL VALVE
	RELIEF(R), OR SAFETY(S) VALVE
	PUMP, IN SCHEMATIC PRESENTATION
T	THERMOSTAT
H	HUMIDISTAT
SD	DUCT SMOKE DETECTOR
CO	CARBON MONOXIDE DETECTOR
T/H	DUCT TEMP / HUMID SENSOR
	NEW CONNECTION
	LIMIT OF DEMOLITION
UC 1"	UNDERCUT
S	SPACE TEMP. AVERAGING SENSOR

ABBREVIATIONS

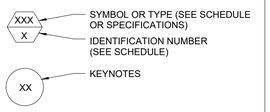
AC	AIR CONDITIONING
ACH	AIR CHANGES PER HOUR
AD	ACCESS DOOR OR PANEL
AF	AIR FOIL
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AMP	AMPERE
AP	ACCESS PANEL
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BG	BELOW GRADE
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BLDG	BUILDING
BOP	BOTTOM OF PIPE
BS	BELOW SLAB
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
C	COMMON
CA	COMPRESSED AIR, COMBUSTION AIR
CAP	CAPACITY
CB	CIRCUIT BREAKER
CC	COOLING COIL
CD	CEILING DIFFUSER
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFM	CUBIC FEET PER MINUTE
CFH	CUBIC FEET PER HOUR
CH	CHILLER
CLG	CEILING
CEF	CEILING EXHAUST FAN
CMU	CONCRETE MASONRY UNIT
COND	CONDENSER, CONDENSATE
CONT	CONTINUATION
COP	COEFFICIENT OF PERFORMANCE
CRD	CEILING RADIATION DAMPER
CTE	CONNECT TO EXISTING
CU	CONDENSING UNIT
DB	DRY BULB, OR DECIBEL
DDC	DIRECT DIGITAL CONTROL
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DTG	DOOR TRANSFER GRILL
DWG	DRAWING
(E)	EXISTING
EA	EXHAUST AIR
EAD	EXHAUST AIR DAMPER
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EFF	EFFICIENCY
EG	EXHAUST GRILLE
EL.	ELEVATION
ELEV	ELEVATION
ENT	ENTERING
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST AIR
EXT	EXTERIOR
F	FAHRENHEIT
F/A	FROM ABOVE
F/B	FROM BELOW
FC	FORWARD CURVED
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPS
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET
G	NATURAL GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REDUCING VALVE
GR.	GRILLE
GSM	GALVANIZED SHEET METAL
HC	HEATING COIL
HP	HORSEPOWER, OR HEAT PUMP
HTG.	HEATING
HZ	HERTZ
ID	INSIDE DIAMETER
IN	INCHES
KEF	KITCHEN EXHAUST FAN
kW	KILOWATTS
KWH	KILOWATT HOURS
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MTD	MOUNTED
MTG	MEETING
(N)	NEW
NC	NORMALLY CLOSED
NO	NORMALLY OPEN, OR NUMBER
NPT	NATIONAL PIPE THREAD
N.R.	NOT REQUIRED
N.T.S.	NOT TO SCALE
OA	OUTSIDE AIR
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OSA	OUTSIDE AIR
OSAD	OUTSIDE AIR DAMPER
P	PUMP
PD	PRESSURE DROP
PH	PHASE
PLBG	PLUMBING
PLC	PROGRAMMABLE LOGIC CONTROL
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAGE
(R)	REMOVE
R OR RA	RETURN AIR
RAD	RETURN AIR DAMPER
(RL)	RELOCATE
REQD	REQUIRED
RF	RETURN FAN
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP HVAC UNIT
S OR SA	SUPPLY AIR
SAD	SUPPLY AIR DAMPER
SCH	SCHEDULE
SF	SQUARE FEET
SHT	SHEET
SP	STATIC PRESSURE
SQ	SQUARE
SQ. FT.	SQUARE FEET
SR	SPRING RANGE
SS	STAINLESS STEEL
STD	STANDARD
T OR TA	TRANSFER AIR
T/A	TO ABOVE
T/B	TO BELOW
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE, OR TEMPORARY
TOS	TOP OF SLAB
TSP	TOTAL STATIC PRESSURE
TTC	TIGHT TO CEILING
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT-AMPERE
VAV	VARIABLE AIR VOLUME
V.D.	VOLUME DAMPER
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
V.I.F.	VERIFY IN FIELD
VOL	VOLUME
VV	VARIABLE VOLUME
W/	WITH
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
W/O	WITHOUT

DUCTWORK / EQUIPMENT / PIPING LEGEND

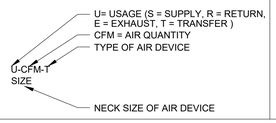
	DEMOLISH LINE (EXISTING DUCTWORK, EQUIPMENT, AND PIPING TO BE REMOVED)
	EXISTING LINE (EXISTING DUCTWORK, EQUIPMENT, AND PIPING TO BE REMAIN)
	NEW LINE (NEW DUCTWORK, EQUIPMENT, AND PIPING TO BE INSTALLED)

NOTES:
ETR- EXISTING TO REMAIN.

EQUIPMENT IDENTIFICATION



AIR DEVICE IDENTIFICATION



GENERAL NOTES :

1. ALL WORK PERFORMED SHALL CONFORM WITH LOCAL CITY & STATE REGULATIONS. ALL WORK SHALL BE CONDUCTED, INSTALLED AND COMPLETED IN A WORKMANLIKE AND APPROVED MANNER SO AS TO SECURE THE RESULTS INTENDED BY THESE DOCUMENTS.
2. ALL WORK IS TO BE FULLY COORDINATED WITH ALL OTHER TRADES.
3. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND INCLUDING ANY ITEMS NOT INDICATED ON THE DRAWINGS BUT NECESSARY FOR PROPER OPERATION OF MECHANICAL SYSTEM.
4. THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT & IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER & OWNER'S STIPULATION.
5. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES & SHALL MAKE NECESSARY OFF-SETS & CHANGES IN ELEVATIONS TO ACCOMMODATE OTHER TRADES & THE EXISTING CONDITIONS.
6. WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS & MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTORS SHALL VERIFY EXACT LOCATIONS OF ALL DEVICES & EQUIPMENT WITH FIELD CONDITIONS, SHOP DRAWINGS, & WORK OF OTHER TRADES PRIOR TO ROUGH IN. EACH CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL & REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
7. ALL EQUIPMENT AND MATERIALS SHALL BE U.L. LISTED OR ETL.
8. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND FEES REQUIRED FOR THEIR WORK.
9. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL & STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE GENERAL CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
10. INCLUDE ALL OVERTIME NECESSARY TO MAINTAIN JOB SCHEDULE UNDER NORMAL CONDITIONS OR DUE TO THIS CONTRACTOR'S NEGLIGENCE OR INABILITY TO PROPERLY STAFF THE PROJECT.
11. ALL MAJOR PIECES OF MECHANICAL EQUIPMENT SHALL BE STARTED AND ADJUSTED AND PUT INTO OPERATION BY A FACTORY REPRESENTATIVE OR A FACTORY TRAINED AND AUTHORIZED PERSONNEL. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.
12. PRIOR TO BID, IF THE CONTRACTOR FINDS ANY DISCREPANCIES OR OMISSIONS IN THE PROJECT DOCUMENTS, THE CONTRACTOR IS TO NOTIFY THE ENGINEER IN WRITING & OBTAIN CLARIFICATION. ADDITIONAL COMPENSATION WILL NOT BE GRANTED AFTER AWARD OF CONTRACT FOR ANY ADDITIONAL WORK REQUIRED TO COMPLY WITH THESE DOCUMENTS.
13. ALL CHANGE PROPOSAL REQUESTS FOR WORK ADDITIONAL TO THE BASE BID CONTRACT SHALL BE BASED ON MATERIAL, LABOR, OVERHEAD AND PROFIT AS PUBLISHED IN THE LATEST EDITION OF "MEANS MECHANICAL, ELECTRICAL, PLUMBING AND BUILDING CONSTRUCTION COST DATA. "ALL CHANGE REQUESTS MUST BE BROKEN DOWN IN THE FOLLOWING MANNER.
    a. MATERIAL COST: (I.E. EQUIPMENT, SHEET METAL PER POUND AND PIPING PER LINEAL FOOT/FITTING)
    b. LABOR COST: (NUMBER OF HOURS AT CURRENT LABOR RATE PER HOUR) OVERHEAD & PROFIT: (INDICATING PERCENTAGES)
    c. TOTAL CHANGE ORDER PRICE: (MATERIAL + LABOR + O&P)
    d. PRICING FOR ALL ITEMS OF WORK WHICH ARE TO BE CREDITED TO THE PROJECT SHALL BE BROKEN DOWN IN A SIMILAR MANNER TO THE ADDED COSTS.
14. ALL CUTTING AND PATCHING THAT IS REQUIRED TO COMPLETE THE WORK SHALL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.
15. THE CONTRACTOR IS TO PROVIDE ALL LINTELS, SUPPORT STEEL AND FRAMING THAT IS REQUIRED TO COMPLETE THE WORK.
16. CONTRACTOR SHALL PROVIDE SLEEVES IN BEAMS, FLOORS, AND COLUMNS AND WALLS AS SHOWN ON DRAWINGS, AS REQUIRED BY JOB SITE CONDITIONS, AND/OR SPECIFIED, WHEN INSTALLING THEIR WORK. ALL BEAMS AND COLUMNS WHICH ARE REQUIRED TO BE SLEEVED SHALL BE CUT AND REINFORCED AS REQUIRED BY FIELD CONDITIONS AND LOCATIONS AND SIZES SHALL BE CHECKED AND APPROVED BY ARCHITECTS BEFORE CONTRACTOR CUTS ANY STRUCTURAL BUILDING MEMBER.
17. PROVIDE ALL COORDINATION AND MISCELLANEOUS STEEL NECESSARY FOR SUITABLE ANCHORAGE OF HVAC ITEMS AND EQUIPMENT.
18. CONTRACTOR IS TO INCLUDE ALL REQUIRED PREMIUM TIME IN BASE BID INCLUDE ALL TIME ESCALATION COSTS REQUIRED TO COMPLETE THE WORK.
19. PROVIDE FOR SAFETY AND PROTECTION OF CONTRACTOR'S OWN WORK, INCLUDING THE COVERING OF ANY HOLES, SHAFT OPENINGS, ETC., SO AS TO AVOID ANY UNNECESSARY SAFETY HAZARDS AS REQUIRED AND OUTLINED BY OSHA AND ALL APPLICABLE REGULATIONS.
20. PROVIDE DUST AND NOISE PROTECTION OF ADJOINING NON-CONSTRUCTION AREAS. PROPERLY PROTECT ALL FLOORS, ROOFS AND THE LIKE.
21. MECHANICAL EQUIPMENT & APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR THE LABELED EQUIPMENT. CONNECTIONS TO THE MECHANICAL EQUIPMENT AND APPLIANCES, SUCH AS FUEL SUPPLY, CHIMNEY & DUCTS, SHALL CONFORM TO THE REQUIREMENTS OF THESE DOCUMENTS. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOBSITE AT ALL TIMES FOR INSPECTION.
22. THE DRAWINGS, SCHEDULES, & SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH TYPES OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL & MECHANICAL DESIGN. SUBSTITUTIONS FOR PRODUCTS WILL ONLY BE CONSIDERED IF SUBMITTED ONLY FOR PRODUCTS EQUAL OR BETTER THAN THAT SPECIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED. PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION & MAINTENANCE ON THE EQUIPMENT.
23. THE MECHANICAL EQUIPMENT HAS BEEN COORDINATED WITH THE ELECTRICAL DESIGN DRAWINGS BASED ON THE ELECTRICAL CHARACTERISTICS OF THE EQUIPMENT SPECIFIED. ALL CHANGES AND/OR MODIFICATIONS TO THE ELECTRICAL DESIGN AND INSTALLATION EXPENSE, DUE TO SUBSTITUTIONS OF EQUIPMENT (I.E. AMPERAGE INCREASE) WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.
24. CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT THEY SUBMIT FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED.
25. WHEN EQUIPMENT IS SUBMITTED FOR REVIEW AND DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED & SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT, OR ENGINEER TO MAKE CHANGE WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE & FUNCTION AS INTENDED.
26. COORDINATED SHOP DRAWINGS SHALL BE PROVIDED BY EACH SUBCONTRACTOR AND SHALL CONTAIN A LAYOUT OF ALL DUCTWORK, CONDUIT, PIPING, EQUIPMENT, STRUCTURE, WALLS, CEILING, ETC. AS REQUIRED TO REFLECT FULL COORDINATION ACROSS ALL TRADES AND SHALL BE SUBMITTED FOR REVIEW.
27. COORDINATED DRAWINGS SHALL BE SIGNED OFF BY ALL OTHER TRADES PRIOR TO BEING SUBMITTED FOR REVIEW. PLANS SHALL BE PREPARED AT A MINIMUM OF 1/8" SCALE OR THE SCALE OF THE DESIGN DRAWINGS, WHICHEVER IS LARGER. NO EQUIPMENT SHALL BE INSTALLED WITHOUT APPROVED SHOP DRAWINGS.

HVAC NOTES :

1. FIBERGLASS DUCT IS NOT PERMISSIBLE.
2. ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS AND DO NOT INCLUDE ALLOWANCES FOR DUCT LINER THICKNESS.
3. PROVIDE DUCT OFFSETS OVER OR UNDER PIPING OR OBSTRUCTIONS AS REQUIRED. WHERE DUCT OFFSETS ARE REQUIRED, USE 45° SMOOTH RADIUS ELBOWS OR MITERED ELBOWS WITH TURNING VANES WHERE SPACE IS RESTRICTED.
4. ALL SUPPLY DUCTS LARGER THAN 10" ON EITHER SIDE WITH RECTANGULAR ELBOWS SHALL HAVE TURNING VANES.
5. MAINTAIN DUCTWORK LEVEL AS HIGH AS POSSIBLE UNLESS NOTED OTHERWISE.
6. ALL DUCT TRANSITIONS FROM SQUARE TO ROUND SHALL BE SMOOTH AND GRADUAL SQUARE TO ROUND TRANSITIONS. SPIN-IN FITTINGS AT THE END OF CAPPED DUCTS ARE NOT ACCEPTABLE.
7. PROVIDE FLEX DUCT CONNECTORS AT DUCT CONNECTIONS TO UNITS HOUSING ROTATING EQUIPMENT.
8. FOR RECTANGULAR DUCT, ALL TAKEOFFS FROM THE MAIN SHALL BE 45 TAP COLLARS (OR BOOT).
9. DUCT RUNOUTS TO DIFFUSERS OR GRILLES ARE THE SAME SIZE AS NECK UNLESS NOTED OTHERWISE (UON).
10. SEE THE REFLECTED CEILING PLAN FOR THE EXACT LOCATION OF DIFFUSERS AND GRILLES WITH RESPECT TO THE LIGHTING LAYOUT.
11. FLEXIBLE DUCT RUNOUTS TO ALL DIFFUSERS SHALL BE INSTALLED FREE OF KINKS AND SAGS. THE LENGTH OF FLEXIBLE RUNOUTS TO AIR REGISTERS SHALL NOT EXCEED 5 FEET. SUPPORT FLEXIBLE DUCTS IN ACCORDANCE WITH THE SMACNA STANDARD.
12. PROVIDE ACCESS DOORS IN ALL PLENUMS AND DUCTS AT EACH AIR HANDLING UNIT.
13. PROVIDE ACCESS PANELS TO ANY EQUIPMENT REQUIRING ADJUSTMENT OR MAINTENANCE THAT IS LOCATED ABOVE NON-ACCESSIBLE CEILINGS.
14. PROVIDE A ACCESS DOOR IN DUCTWORK AT EACH A FIRE DAMPER TO ENSURE EASY ACCESS, BY FACILITIES MAINTENANCE AND LOCAL AUTHORITY APPROVAL, FOR MAINTENANCE INSPECTION AND RESETTING. IN DUCT 10" x 10" (100 SQ. INS.) AND SMALLER PROVIDE A 12" LONG FLANGED AND GASKETED SECTION OF DUCT ADJACENT TO THE FIRE DAMPER.
15. PROVIDE A DESCRIPTION OF EVERY ACCESS PANEL TO INDICATE ITS FUNCTION. DESCRIPTION SHALL BE STENCILED WITH MIN. 1/2" HIGH LETTERS.
16. REFER TO ARCHITECTURAL FLOOR PLANS AND ELEVATIONS FOR EXACT LOUVER LOCATIONS. REFER TO THE MECHANICAL SCHEDULE FOR SIZES.
17. THE METHOD OF FIXING THE UPPER ATTACHMENTS FOR PIPE AND DUCT SUPPORTS SHALL BE TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.DUCT SHALL BE SUPPORTED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARD-METAL AND FLEXIBLE. FLEXIBLE AND OTHER FACTORY-MADE DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
18. LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS AND CONNECTIONS IN METALLIC AND NONMETALLIC DUCTS SHALL BE CONSTRUCTED AS SPECIFIED IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE AND NAIMA FIBROUS GLASS DUCT CONSTRUCTION STANDARDS.
    18.1. JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK INCLUDING CONNECTIONS TO FLANGES SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC-PLUS-EMBEDDED-FABRIC SYSTEMS, LIQUID SEALANTS OR TAPES.
    18.2. MASTICS USED TO SEAL METALLIC AND FLEXIBLE AIR CONNECTORS SHALL COMPLY WITH UL181B AND SHALL BE MARKED "181B-FX" FOR PRESSURE-SENSITIVE TAPE OR "181 B-M" FOR MASTIC.
19. MECHANICAL EXHAUSTS SHALL DISCHARGE TO THE OUTDOORS.
    19.1. ALL ENVIRONMENTAL AIR EXHAUST TERMINATION POINTS SHALL BE MINIMUM 3 FEET FROM THE OPERABLE OPENINGS OF THE BUILDING.
20. DUE TO EXTREMELY LIMITED CLEARANCES BETWEEN CEILINGS AND STRUCTURE, FIELD COORDINATION BETWEEN TRADES IS CRITICAL. MECHANICAL CONTRACTOR MAY NEED TO ADJUST DUCT ELEVATIONS AND SIZES TO SUITE CONDITIONS. CHANGES TO DUCT SIZES ARE ALLOWED BASED ON THE FOLLOWING: AREA OF DUCT MUST BE MAINTAINED TO SIZE SHOWN; MINIMUM DUCT SIZE IS 6" INSIDE. CONTRACTOR SHALL KEEP ACCURATE DOCUMENTATION OF ADJUSTMENTS AND PROVIDE AS BUILT DRAWINGS.
21. ALL OUTDOOR AIR, RETURN AIR AND EXHAUST AIR MOTORIZED DAMPERS SHALL HAVE AND A MANUALLY OPERATED OPPOSED BLADE TYPE BALANCING DAMPER INSTALLED ADJACENT TO EACH.
22. PROVIDE SPRING OR NEOPRENE TYPE VIBRATION ISOLATOR HANGERS FOR ALL SUSPENDED AIR MOVING EQUIPMENT. ISOLATORS SHALL BE SELECTED AND SIZED FOR THE DUTY BY THE INSTALLATION CONTRACTOR.

MECHANICAL SHEET INDEX

SHEET NO.	SHEET NAME	SCALE
M0.1	MECHANICAL LEGENDS, ABBREVIATIONS AND NOTES	N.T.S.
M0.2	MECHANICAL SPECIFICATIONS	N.T.S.
M1.0	MECHANICAL BASEMENT FLOOR PLAN	3/16" = 1'-0"
M1.1	MECHANICAL FIRST FLOOR PLAN	3/16" = 1'-0"
M2.0	MECHANICAL DETAILS	N.T.S.
M3.0	MECHANICAL SCHEDULES	N.T.S.

APPLICABLE CODES

1. 2024 INTERNATIONAL BUILDING CODE (IBC)
2. 2023 NATIONAL ELECTRIC CODE (NEC)
3. 2024 INTERNATIONAL MECHANICAL CODE (IMC)
4. 2024 ILLINOIS ENERGY CONSERVATION CODE
5. 2014 STATE PLUMBING CODE
6. 2024 INTERNATIONAL FUEL GAS CODE (IFGC)

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ADDITION

28000 W CUBA RD, BARRINGTON, IL 60010

Contact Info:

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	

POST BID/PERMIT REVISIONS:

No.	Date	Description
0	02/25/26	ISSUED FOR PERMIT
1	06/17/26	PERMIT REVISION #1
2	08/26/26	REVISION #3

PROJECT NO.	2025-23
DRAWN BY	H.T.
CHECKED BY	N.R.
SHEET	01 OF 06

MECHANICAL LEGENDS, ABBREVIATIONS AND NOTES

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065605
STATE OF ILLINOIS
EXP:11/30/2027

M0.1

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MECHANICAL SPECIFICATION

HVAC NOTES :

23. NO HANGERS OR SUPPORT OF ANY TRADE SHALL PENETRATE THRU ANY NEW OR EXISTING DUCTWORK EITHER FOR TEMPORARY OR PERMANENT PURPOSES.

24. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR COORDINATION OF ALL SUPPLY AND RETURN AIR DEVICE LOCATIONS. ALL MEDIUM PRESSURE ROUND DUCT TAKE-OFFS SHALL BE BELLMOUTH, GASKETED FITTINGS, BUCKLEY "AIR-TITE" OR EQUAL.

25. DUCTS AND PLENUMS OPERATING AT STATIC PRESSURES IN EXCESS OF 3 INCHES OF WATER GAUGE (W.G.) SHALL BE LEAK TESTED IN ACCORDANCE WITH SMACNA.

26. PROVIDE BALANCING DAMPERS (VOLUME DAMPERS) AT POINTS ON RETURN & EXHAUST SYSTEMS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. ALL LOW PRESSURE SUPPLY BRANCH DUCTS SHALL BE PROVIDED WITH "EXTRACTOR" DAMPERS WITH LOCKING RODS. ALL INACCESSIBLE VOLUME DAMPERS INSTALLED ABOVE NON-ACCESSIBLE CEILINGS (I.E. FINISHED GYP BOARD) SHALL BE INSTALLED WITH REMOTE ADJUSTABLE OPERATORS COMPLETE WITH ALL PERTINENT LINKAGES, ETC. TO LOCATIONS AS APPROVED BY THE ARCHITECT.

27. CONSTRUCT BENDS AND ELBOWS WITH RADIUS OF NOT LESS THAN 1-1/2 TIMES WIDTH OF DUCT ON CENTERLINE, OR USE SQUARE THROAT ELBOWS WITH TURNING VANES.

28. INCREASE DUCT SIZES GRADUALLY NOT EXCEEDING 15 DEGREES DIVERGENCE WHEREVER POSSIBLE. DIVERGENCE UPSTREAM OF EQUIPMENT SHALL NOT EXCEED 30 DEGREES. CONVERGENCE DOWNSTREAM SHALL NOT EXCEED 45 DEGREES.

29. ADEQUATE ACCESS IS TO BE PROVIDED TO EASILY CHANGE FILTERS. PROVIDE ONE SPARE SET OF ALL FILTERS.

30. ALL KITCHEN EXHAUST HOODS SUPPLIED TO THE PROJECT ARE TO BE RECEIVED & HUNG BY THE CONTRACTOR.

31. WHENEVER POSSIBLE, ALL DUCT ELBOWS ON KITCHEN EXHAUST SYSTEMS SHALL BE CONSTRUCTED WITH LONG RADIUS FITTINGS.

INSTALLATION NOTES :

1. ALL EQUIPMENT, DUCTWORK, PIPEWORK, ETC SHALL BE SUPPORTED.

2. ALL DUCTWORK AND PIPING IS SHOWN SCHEMATICALLY. PROVIDE ALL TRANSITIONS, TURNING VANES, ELBOWS, FITTINGS, ETC. TO ALLOW SMOOTH FLOWS. ALL SPLIT DUCT FITTINGS SHALL TRANSITION TO FULL SIZE OF THE SUM OF BOTH BRANCHES UPSTREAM OF SPLIT.

3. MAINTAIN A MINIMUM 6" CLEARANCE BETWEEN DUCTWORK, PIPING, EQUIPMENT, ETC. AND ALL FIRE RATED AND FIRE/SMOKE RATED PARTITIONS, TO ALLOW FOR INSPECTION OF RATED WALLS.

4. ALL EQUIPMENT SHALL BE CAPABLE OF FITTING INTO THE SPACES ALLOCATED WHILE MEETING THE MANUFACTURER'S RECOMMENDED ACCESS REQUIREMENTS. REVIEW ALL SPACES WHERE EQUIPMENT IS TO BE INSTALLED PRIOR TO ORDERING OF EQUIPMENT AND NOTIFY THE ENGINEER OF ANY INADEQUATE CLEARANCES OR CONDITIONS THAT WILL PREVENT THE PROPER INSTALLATION, MAINTENANCE, AND OPERATION OF THE EQUIPMENT.

5. SLEEVE AND SEAL ALL PIPING PENETRATIONS THROUGH BUILDING PARTITIONS.

6. VERIFY AND COORDINATE ALL ROOF, WALL, AND FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS PRIOR TO THE START OF CONSTRUCTION.

7. PROVIDE ACCESS PANELS TO ALL CONCEALED VALVES, DAMPERS, AND EQUIPMENT. PANELS SHALL BE MILCOR, ELMDOR, OR EQUAL. COORDINATE THE LOCATION OF ACCESS PANELS TO ENSURE THAT THE EQUIPMENT CAN BE MAINTAINED ADEQUATELY.

8. INSTALL CONDENSATE DRAINS AT A MINIMUM SLOPE OF 1/4" PER FOOT. INDIVIDUAL UNIT CONDENSATE DRAINS SHALL BE 3/4" DIAMETER LINES AND 1" FOR COMBINED LINES UNLESS OTHERWISE INDICATED.

9. THE CONTRACTOR SHALL PROVIDE ALL CONTROL COMPONENTS AND ACCESSORIES INCLUDING EQUIPMENT MOTOR STARTERS, THERMOSTATS, SENSORS, WIRING, BOXES, ETC.

10. INSULATE ALL SEWER PIPING RECEIVING AIR CONDITIONING CONDENSATE DRAINS, OR ANY OTHER COLD LIQUID WHICH MAY CREATE CONDENSATION, FROM POINT OF CONNECTION TO TOP OF CONCRETE SLAB-ON-GRADE.

11. MOUNT ALL ROOM THERMOSTATS AT 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED.

12. ALL HVAC SYSTEM THERMOSTATS IN UNITS SHALL BE EQUIPPED WITH ENERGY STAR SEVEN DAY PROGRAMMABLE THERMOSTATS WITH NIGHT SETBACK.

13. PRIOR TO PERMIT BEING FINALED, A COMPLETE REPORT OF THE TESTING AND ADJUSTING SHALL BE PROVIDE TO THE OWNER/OWNER'S REPRESENTATIVE AND TO THE INSPECTOR.

14. INSTALLING CONTRACTOR SHALL INSTALL HILTI FIRE CAULK ON ALL DUCT AND PIPE PENETRATION GOING THROUGH FIRE RATED ASSEMBLIES. INSTALLATION SHALL BE PER HILTI DETAIL.

15. PENETRATION IN FIRE-RESISTANCE-RATED WALLS/PARTITIONS OR HORIZONTAL ASSEMBLIES: PENETRATION FIRESTOPPING SYSTEMS WITH RATINGS DETERMINED PER ASTM E 814 OR UL 1479, BASED ON TESTING AT A POSITIVE PRESSURE DIFFERENTIAL OF 0.01-INCH WG. FIRE RATING: NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED.

16. PENETRATIONS IN SMOKE BARRIERS: PENETRATION FIRESTOPPING SYSTEMS WITH RATINGS DETERMINED PER UL 1479, BASED ON TESTING AT A POSITIVE PRESSURE DIFFERENTIAL OF 0.30-INCH WG.

17. ACCESSORIES: PROVIDE COMPONENTS FOR EACH PENETRATION FIRESTOPPING SYSTEM THAT ARE NEEDED TO INSTALL FILL MATERIALS AND TO MAINTAIN RATINGS REQUIRED. USE ONLY THOSE COMPONENTS SPECIFIED BY PENETRATION FIRESTOPPING SYSTEM MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR CONDITIONS INDICATED.

18. EXHAUST AND INTAKE VENTING MATERIAL, SIZING & TERMINATION TO BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS BASED ON ACTUAL INSTALLED CONDITIONS.

TESTING AND BALANCING :

1. TEST AND BALANCE OF AIR AND HYDRONIC SYSTEM SHALL BE PERFORMED BY A THIRD-PARTY INDEPENDENT CONTRACTOR CERTIFIED BY EITHER AABC (THE ASSOCIATED AIR BALANCE COUNCIL) OR NEBB (NATIONAL ENVIRONMENTAL BALANCING BUREAU). BALANCING AND TESTING SHALL BE PERFORMED BY AABC OR NEBB CERTIFIED TECHNICIANS.

2. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN AABC'S OR NEBB'S STANDARDS FOR TOTAL SYSTEM BALANCE. SUBMIT REPORT IN THE FORMAT PUBLISHED BY AABC OR NEBB.

3. MARK EQUIPMENT AND BALANCING DEVICES, INCLUDING DAMPER-CONTROL POSITIONS, VALVE POSITION INDICATORS, FAN-SPEED-CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIAL TO SHOW FINAL SETTINGS.

4. TAKE AND REPORT TESTING AND BALANCING MEASUREMENTS IN INCH-POUND (IP) UNITS.

DUCTWORK INSULATION :

A. INDOOR DUCT INSULATION

1. CONCEALED, SUPPLY-AIR, RETURN-AIR, EXHAUST-AIR, OUTDOOR AIR DUCT AND PLENUM INSULATION: MINERAL-FIBER BLANKET (R-6) 1-1/2 INCHES THICK WITH FSK JACKET.

2. CONCEALED, TYPE I, COMMERCIAL, KITCHEN HOOD EXHAUST DUCT AND PLENUM INSULATION: FIRE-RATED BLANKET; THICKNESS AS REQUIRED TO ACHIEVE 2-HOUR FIRE RATING.

3. EXPOSED, SUPPLY-AIR, RETURN-AIR, EXHAUST-AIR, OUTDOOR AIR DUCT AND PLENUM INSULATION: MINERAL-FIBER BOARD (R-6) 1-1/2 INCHES THICK WITH FSK JACKET.

4. EXPOSED SUPPLY-AIR DUCT IN CONDITIONED SPACE SHALL NOT BE INSULATED. UNLESS SPECIFIED ON PLANS.

5. EXPOSED, TYPE I, COMMERCIAL, KITCHEN HOOD EXHAUST DUCT AND PLENUM INSULATION: FIRE-RATED BOARD; THICKNESS AS REQUIRED TO ACHIEVE 2-HOUR FIRE RATING.

B. OUTDOOR DUCT INSULATION

1. EXPOSED SUPPLY, RETURN, EXHAUST AND OUTDOOR AIR DUCT AND PLENUM INSULATION: MINERAL-FIBER BOARD 3 INCHES (R-12) THICK WITH WEATHERPROOF ALUMINUM JACKET W/ VAPOR BARRIER (3M VENTURE CLAD 1577 CW OR EQUAL).

2. CONCEALED SUPPLY, RETURN, EXHAUST AND OUTDOOR AIR DUCT AND PLENUM INSULATION: MINERAL-FIBER BOARD 3 INCHES (R-12) THICK WITH WEATHERPROOF FSK JACKET.

C. SURFACE-BURNING CHARACTERISTICS: FOR INSULATION AND RELATED MATERIALS, AS DETERMINED BY TESTING IDENTICAL PRODUCTS ACCORDING TO ASTM E 84, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. FACTORY LABEL INSULATION AND JACKET MATERIALS AND ADHESIVE, MASTIC, TAPES, AND CEMENT MATERIAL CONTAINERS, WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.

1. INSULATION INSTALLED INDOORS: FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS.
2. INSULATION INSTALLED OUTDOORS: FLAME-SPREAD INDEX OF 75 OR LESS, AND SMOKE-DEVELOPED INDEX OF 150 OR LESS.
3. NFPA 90A AND 90B •CALIFORNIA INSULATION QUALITY STANDARDS CA-T052.

D. FLEXIBLE DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH 1" THICK 1 PCF FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEXIBLE DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR MINIMUM 2" W.G. PRESSURE AND 0 TO 250°F TEMPERATURE. PROVIDE SCREW-OPERATED METAL ADJUSTABLE CLAMPING DEVICES. USE TWIST-LOCK TAP COLLARS AT CONNECTIONS INTO SHEET METAL DUCTWORK. MAXIMUM EXTENDED LENGTH OF FLEXIBLE DUCT SHALL CONFORM TO THE APPLICABLE CODE."

E. ITEMS NOT INSULATED:

1. METAL DUCTS WITH DUCT LINER OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1.
2. FACTORY-INSULATED FLEXIBLE DUCTS.
3. FACTORY-INSULATED PLENUMS AND CASINGS.
4. FLEXIBLE CONNECTORS.
5. VIBRATION-CONTROL DEVICES.
6. FACTORY-INSULATED ACCESS PANELS AND DOORS.

PIPING INSULATION :

A. CONTRACTOR SHALL REVIEW MANUFACTURER'S INSULATION R-VALUE CHART FOR ASSOCIATED PIPE SIZE TO DETERMINE INSULATION THICKNESS.

B. INDOOR PIPING INSULATION :

1. REFRIGERANT SUCTION, LIQUID, AND HOT-GAS PIPING:
   a. FLEXIBLE ELASTOMERIC, 1 INCH THICK WITH PVC JACKET.
   b. MINERAL-FIBER, PREFORMED PIPE, TYPE I, 1 INCH THICK WITH ASJ JACKET.

2. CONDENSATE PIPING:
   a. FLEXIBLE ELASTOMERIC, 1/2 INCH THICK.
   b. MINERAL-FIBER, PREFORMED PIPE, TYPE I, 1/2 INCH THICK WITH ASJ JACKET.

C. OUTDOOR, ABOVEGROUND PIPING INSULATION SCHEDULE.

1. REFRIGERANT SUCTION, LIQUID, AND HOT-GAS PIPING:
   a. FLEXIBLE ELASTOMERIC, 1 INCH THICK WITH PVC JACKET.
   b. MINERAL-FIBER, PREFORMED PIPE, TYPE I, 1 INCH THICK WITH PVC JACKET.

2. CONDENSATE PIPING:
   a. FLEXIBLE ELASTOMERIC, 1/2 INCH THICK WITH PVC JACKET.
   b. MINERAL-FIBER, PREFORMED PIPE, TYPE I, 1/2 INCH THICK WITH PVC JACKET.

REFRIGERATION PIPING :

A. REFRIGERANT PIPING SHALL BE COPPER TUBE ASTM B819, TYPE K OR ASTM B 280, TYPE ACR. PIPING SHALL BE RATED FOR LINE TEST PRESSURE FOR THE REFRIGERANT USED ON THE PROJECT. ALL COPPER PIPING SHALL BE BRAZED USING AWS A5.8 FILLER MATERIAL. THE BRAZING SHALL BE PERFORMED PER AMERICAN WELDING SOCIETY (AWS) STANDARDS. SOLDERED JOINTS SHALL NOT BE USED IN SUCH REFRIGERATION SYSTEMS.

B. AFTER COMPLETION OF PIPING INSTALLATION AND PRIOR TO INITIAL OPERATION, CONDUCT TEST ON PIPING SYSTEM ACCORDING TO ASME B31.5. FURNISH MATERIALS AND EQUIPMENT REQUIRED FOR TESTS. PERFORM TESTS IN THE PRESENCE OF COR. IF THE TEST FAILS, CORRECT DEFECTS AND PERFORM THE TEST AGAIN UNTIL IT IS SATISFACTORILY DONE AND ALL JOINTS ARE PROVED TIGHT.

IECC GENERAL NOTES :

1. 2024 ILLINOIS ENERGY CONSERVATION CODE, ALL EQUIPMENT AND SYSTEMS MUST BE SIZED TO BE NO GREATER THAN NEEDED TO MEET CALCULATED LOADS.

2. 2024 ILLINOIS ENERGY CONSERVATION CODE CLIMATE ZONE-5A FOR THE PROJECT LOCATION: 28000 W CUBA RD, BARRINGTON, IL 60010.

3. EACH HEATING OR COOLING SYSTEM SERVING A SINGLE ZONE MUST HAVE ITS OWN TEMPERATURE CONTROL DEVICE.

4. DESIGN HEATING AND COOING LOADS FOR THE BUILDING MUST BE DETERMINED USING PROCEDURES IN THE ASHRAE HANDBOOK OF FUNDAMENTALS OR AN APPROVED EQUIVALENT CALCULATION PROCEDURE.

5. THE SYSTEM OR ZONE CONTROL MUST BE A PROGRAMMABLE THERMOSTAT OR OTHER AUTOMATIC CONTROL MEETING THE FOLLOWING CRITERIA:

   a. CAPABLE OF SETTING BACK TEMPERATURE TO 55°F DURING HEATING AND SETTING UP TO 85°F DURING COOLING.
   b. CAPABLE OF AUTOMATICALLY SETTING BACK OR SHUTTING DOWN SYSTEMS DURING UNOCCUPIED HOURS USING 7 DIFFERENT DAY SCHEDULES.
   c. HAVE AN ACCESSIBLE 2-HOUR OCCUPANT OVERRIDE.
   d. HAVE A BATTERY BACKUP CAPABLE OF MAINTAINING PROGRAMMED SETTINGS FOR AT LEAST 10 HOURS WITHOUT POWER.

6. THE SYSTEM MUST SUPPLY OUTSIDE VENTILATION AR AS REQUIRED BY THE BUILDING CODE. IF THE VENTILATION SYSTEM IS DESIGNED TO SUPPLY OUTDOOR-AIR QUANTITIES EXCEEDING THE MINIMUM REQUIRED LEVELS. THE SYSTEM MUST BE CAPABLE OF REDUCING OUTDOOR-AIR FLOW TO THE MINIMUM REQUIRED LEVELS.

7. AIR DUCTS MUST BE INSULATED TO THE FOLLOWING LEVELS:

   a. SUPPLY AND RETURN AIR DUCTS FOR CONDITIONED AIR LOCATED IN UNCONDITIONED SPACES (SPACEITHER HEATED NOR COOLED) MUST BE INSULATED WITH A MINIMUM OF R-6. UNCONDITIONED SPACES INCLUDE UNVENTILATED ATTICS, CRAWL SPACES. UNHEATED BASEMENTS, AND UNHEATED GARAGES.
   b. SUPPLY AND RETURN AIR DUCTS AND PLENUMS MUST BE INSULATED TO A MINIMUM OF R-12 WHEN LOCATED OUTSIDE THE BUILDING.
   c. WHEN DUCTS ARE LOCATED WITHIN EXTERIOR COMPONENTS (E.G., FLOORS OR ROOFS) OR IN VENTILATED ATTICS, MINIMUM R-12 INSULATION IS REQUIRED ONLY BETWEEN THE DUCT AND THE BUILDING EXTERIOR.

   EXCEPTION(S):
   a. DUCT INSULATION IS NOT REQUIRED ON DUCTS LOCATED WITHIN THE EQUIPMENT.

8. MECHANICAL FASTENERS AND SEALS, MASTICS, OR GASKETS MUST BE USED WHEN CONNECTING DUCTS TO FANS AND OTHER AIR DISTRIBUTION EQUIPMENT. INCLUDING MULTIPLE-ZONE TERMINAL UNITS.

9. ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS. AND CONNECTIONS IN DUCTWORK MUST BE SECURELY SEALED USING WELDMENTS; MECHANICAL FASTENERS WITH SEALS, GASKETS, OR MASTICS: MESH AND MASTIC SEALING SYSTEMS; OR TAPES. TAPES AND MASTICS MUST BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A AND SHALL BE MARKED '181A-P' FOR PRESSURE SENSITIVE TAPE, '181A-M' FOR MASTIC OR '181A-H' FOR HEAT-SENSITIVE TAPE. TAPES AND MASTICS USED TO SEAL FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED '1810-FX' FOR PRESSURE-SENSITIVE TAPE OR '1818-M' FOR MASTIC. UNLISTED DUCT TAPE IS NOT PERMITTED AS A SEALANT ON ANY METAL DUCTS.

   EXCEPTION(S):
   a. CONTINUOUSLY WELDED AND LOCKING-TYPE LONGITUDINAL JOINTS AND SEAMS ON DUCTS OPERATING AT STATIC PRESSURES LESS THAN 2 INCHES W.G. PRESSURE CLASSIFICATION.

10. OPERATION AND MAINTENANCE DOCUMENTATION MUST BE PROVIDED TO THE OWNER THAT INCLUDES AT LEAST THE FOLLOWING INFORMATION:
    a. EQUIPMENT CAPACITY (INPUT AND OUTPUT) AND REQUIRED MAINTENANCE ACTIONS.
    b. EQUIPMENT OPERATION AND MAINTENANCE MANUALS.
    c. HVAC SYSTEM CONTROL MAINTENANCE AND CALIBRATION INFORMATION,
    d. INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE.
    e. DESCRIPTIONS; DESIRED OR FIELD-DETERMINED SET POINTS MUST BE PERMANENTLY RECORDED ON CONTROL DRAYANGS, AT CONTROL DEVICES, OR, FOR DIGITAL.
    f. CONTROL SYSTEMS, IN PROGRAMMING COMMENTS.
    g. COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE.

11. THERMOSTATS CONTROLLING BOTH HEATING AND COOLING MUST BE CAPABLE OF MAINTAINING A 5°F DEADBAND (A RANGE OF TEMPERATURES WHERE NO HEATING OR COOLING IS PROVIDED).

    EXCEPTION(S):
    a. DEADBAND CAPACITY IS NOT REQUIRED IF THE THERMOSTAT DOES NOT HAVE AUTOMATIC CHANGEOVER CAPABILITY BETWEEN HEATING AND COOLING.
    b. SPECIAL OCCUPANCY OR SPECIAL APPLICATIONS WHERE WIDE TEMPERATURE RANGES ARE NOT ACCEPTABLE AND ARE APPROVED BY THE AUTHORITY HAVING JURISDICTION.

12. BALANCING DEVICES PROVIDED IN ACCORDANCE WITH BUILDING CODE. ALL AIR BALANCING & TESTING SHALL BE DONE BY AN INDEPENDENT CONTRACTOR.

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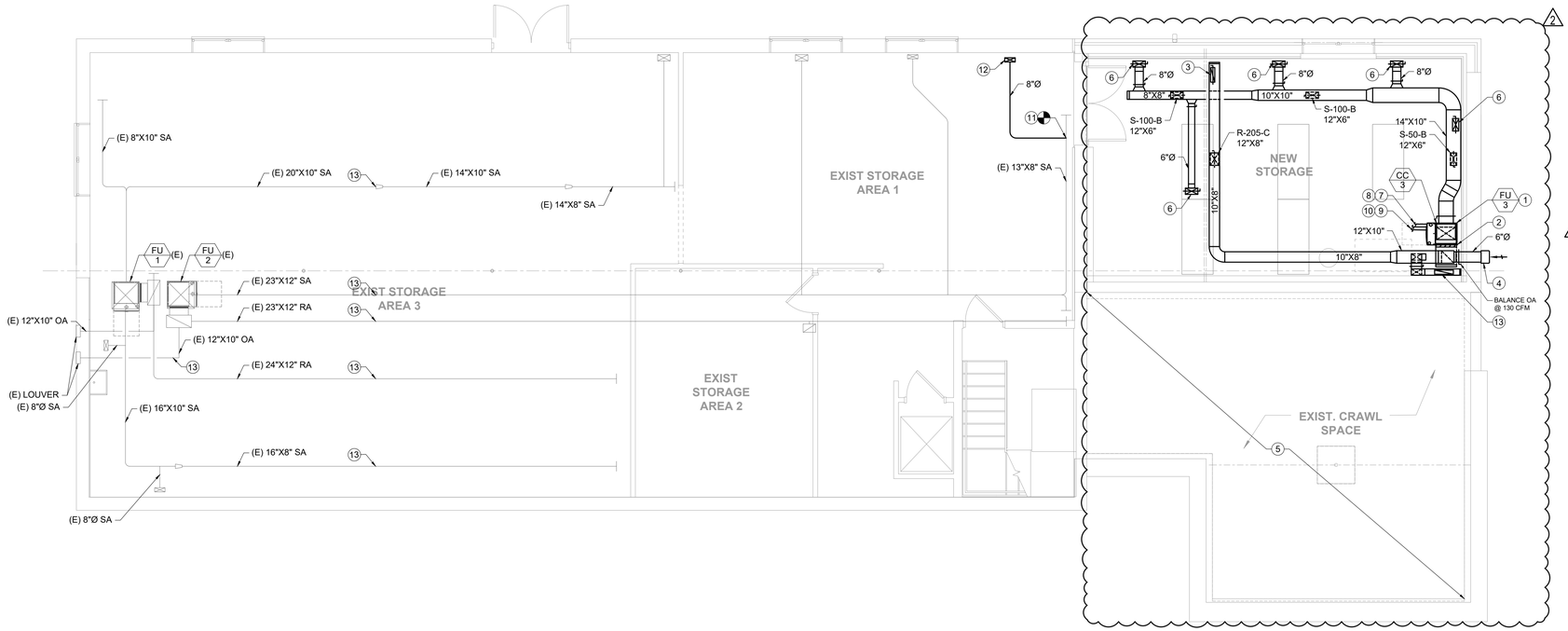
PROJECT NO.	2025-23
DRAWN BY	H.T.
CHECKED BY	N.R.
SHEET	02 OF 06

MECHANICAL SPECIFICATIONS

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065805
STATE OF ILLINOIS
EXP:11/30/2027

M0.2

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NORTH

1 MECHANICAL BASEMENT FLOOR PLAN

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

MECHANICAL GENERAL NOTES:

1. ALL DUCTWORK SHALL CONFORM TO SMACNA STANDARDS. ALL DUCTWORK SIZES ARE NET INSIDE DIMENSIONS.
2. MECHANICAL CONTRACTOR SHALL COORDINATE THE DUCT LAYOUT AND DIMENSIONS WITH FIELD VERIFICATION.
3. ADJUST SUPPLY, RETURN, AND EXHAUST AIR REGISTERS/GRILLES TO FIT AS PER FIELD VERIFICATION.
4. DIFFUSERS SHALL BE INSTALLED SYMMETRICALLY IN ACCORDANCE WITH THE LIGHTING LAYOUT DESIGN. DIFFUSERS SHALL NOT BE OFF-CENTERED OR MISALIGNED. COORDINATE WITH ARCHITECT FOR APPROVAL.
5. INDOOR CONCEALED DUCTWORK SHALL BE INSULATED AS PER THE SPECIFICATIONS. REFER SHEET #M0.2, DUCTWORK INSULATION SECTION.
6. T&B CONTRACTOR SHALL SPECIFY MINIMUM POSITION OF THE OUTSIDE AIR DAMPER CORRESPONDING TO THE FRESH AIR VENTILATION REQUIRED FOR THE UNIT. REFER TO THE VENTILATION SCHEDULE FOR THE FRESH AIR VENTILATION REQUIREMENTS.
7. SALVAGE AND CLEAN EXISTING DIFFUSER. THE CONTRACTOR SHALL COORDINATE WITH LANDLORD AND TENANT SPACE OWNER BEFORE INSTALLING EXISTING DIFFUSER.
8. INDOOR CONCEALED DUCTWORK SHALL BE INSULATED WITH 5/8" THICK R-8 DUCT WRAP INSULATION.

(#) MECHANICAL FLOOR PLAN KEYNOTES:

1. FIELD COORDINATE THE EXACT LOCATION OF HVAC EQUIPMENT. MAINTAIN CODE REQUIRED, MANUFACTURER'S RECOMMENDED CLEARANCES AT HVAC EQUIPMENT.
2. PROVIDE MERV-8 FILTER KIT CONNECTED AT THE RETURN DUCT OF FURNACE
3. 14"X4" RA DUCT UP.
4. 6"Ø OA DUCT TO WALL CAP WITH WIRE MESH SCREEN.(MANUFACTURER #BROAN, MODEL NO: 641 FA OR EQUIVALENT).
5. EXISTING SUPPLY AND RETURN DUCT TO REMAIN AS IS. CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION AND CONDITION AT SITE.
6. 12"X6" SA REGISTER PLENUM BOX FOR FIRST FLOOR.
7. ROUTE REFRIGERANT PIPING BETWEEN OUTDOOR UNIT AND ASSOCIATED INDOOR UNIT. PIPE SIZES AND INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
8. REFRIGERATION PIPING SHALL BE COPPER ASTM B-280 ACR TUBING WITH INSULATION.
9. 1/4"Ø INSULATED CONDENSATE DRAIN PIPE (PIPE MATERIAL PVC). PIPE SHALL BE SLOPED MIN. 1/8" PER FT. IN DIRECTION OF FLOW.
10. ROUTE CONDENSATE DRAIN PIPE TO NEAREST FLOOR DRAIN WITH INDIRECT CONNECTION.
11. CONNECT THE NEW 8" Ø DUCT TO THE RELOCATED EXISTING GRILLE 10"X4" AS SHOWN ON THE PLAN.
12. 10"X4" SA DUCT UP.
13. 18"X4" RA DUCT UP

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MECHANICAL BASEMENT FLOOR PLAN

PROFESSIONAL ENGINEER
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062.065805
STATE OF ILLINOIS

EXP:11/30/2027

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MECHANICAL GENERAL NOTES:

1. ALL DUCTWORK SHALL CONFORM TO SMACNA STANDARDS. ALL DUCTWORK SIZES ARE NET INSIDE DIMENSIONS.
2. MECHANICAL CONTRACTOR SHALL COORDINATE THE DUCT LAYOUT AND DIMENSIONS WITH FIELD VERIFICATION.
3. ADJUST SUPPLY, RETURN, AND EXHAUST AIR REGISTERS/GRILLES TO FIT AS PER FIELD VERIFICATION.
4. DIFFUSERS SHALL BE INSTALLED SYMMETRICALLY IN ACCORDANCE WITH THE LIGHTING LAYOUT DESIGN. DIFFUSERS SHALL NOT BE OFF-CENTERED OR MISALIGNED. COORDINATE WITH ARCHITECT FOR APPROVAL.
5. INDOOR CONCEALED DUCTWORK SHALL BE INSULATED AS PER THE SPECIFICATIONS. REFER SHEET #M0.2, DUCTWORK INSULATION SECTION.
6. T&B CONTRACTOR SHALL SPECIFY MINIMUM POSITION OF THE OUTSIDE AIR DAMPER CORRESPONDING TO THE FRESH AIR VENTILATION REQUIRED FOR THE UNIT. REFER TO THE VENTILATION SCHEDULE FOR THE FRESH AIR VENTILATION REQUIREMENTS.
7. SALVAGE AND CLEAN EXISTING DIFFUSER. THE CONTRACTOR SHALL COORDINATE WITH LANDLORD AND TENANT SPACE OWNER BEFORE INSTALLING EXISTING DIFFUSER.

(#) MECHANICAL FLOOR PLAN KEYNOTES:

(2) 1. EXISTING FAN AND DUCTWORK SHALL BE RELOCATED AND ADJUSTED AS PER NEW LIGHTING PLAN.

2. INSTALL THE THERMOSTAT AT THE PROPOSED LOCATIONS. THE EXACT LOCATION SHALL BE FIELD CONFIRMED AND COORDINATED WITH THE ARCHITECT/OWNER PRIOR INSTALLATION.

(2) 3. 18"X4" RA DUCT DN.

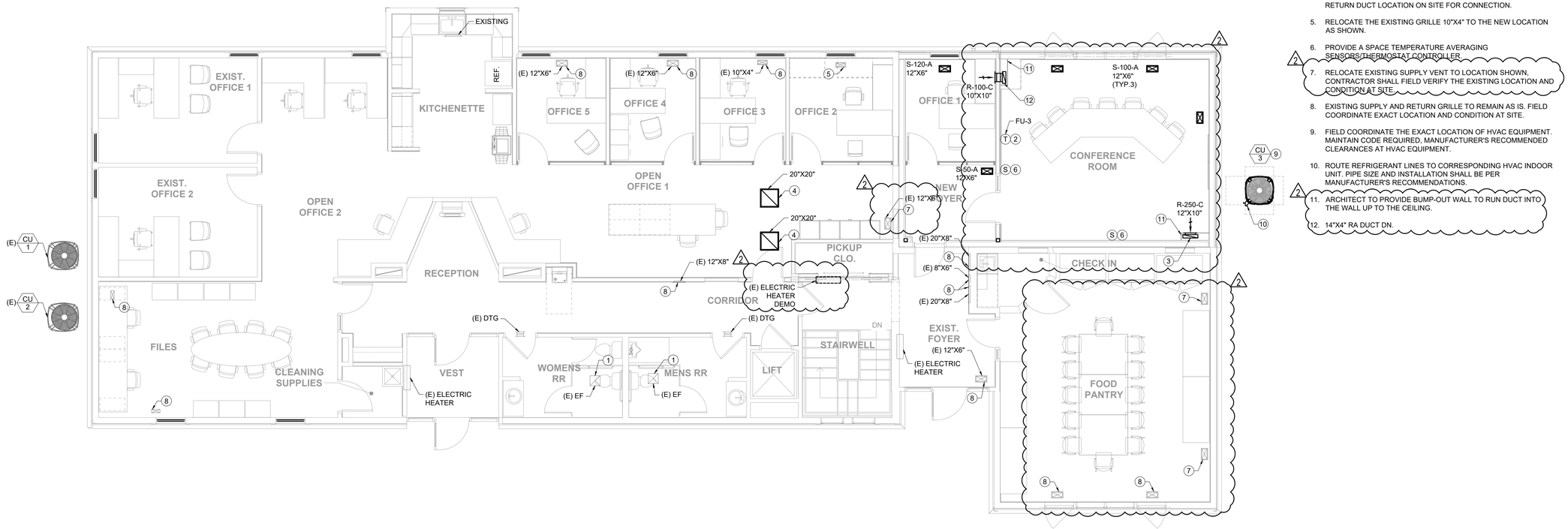
4. DEMOLISH THE EXISTING 20"X20" RETURN GRILLE AND PROVIDE NEW RETURN GRILLES AS SHOWN. CONNECT NEW RETURN GRILLES TO EXISTING RETURN DUCT. COORDINATE EXISTING RETURN DUCT LOCATION ON SITE FOR CONNECTION.
5. RELOCATE THE EXISTING GRILLE 10"X4" TO THE NEW LOCATION AS SHOWN.
6. PROVIDE A SPACE TEMPERATURE AVERAGING SENSORS/THERMOSTAT CONTROLLER.

(2) 7. RELOCATE EXISTING SUPPLY VENT TO LOCATION SHOWN, CONTRACTOR SHALL FIELD VERIFY THE EXISTING LOCATION AND CONDITION AT SITE.

8. EXISTING SUPPLY AND RETURN GRILLE TO REMAIN AS IS. FIELD COORDINATE EXACT LOCATION AND CONDITION AT SITE.
9. FIELD COORDINATE THE EXACT LOCATION OF HVAC EQUIPMENT. MAINTAIN CODE REQUIRED, MANUFACTURER'S RECOMMENDED CLEARANCES AT HVAC EQUIPMENT.
10. ROUTE REFRIGERANT LINES TO CORRESPONDING HVAC INDOOR UNIT. PIPE SIZE AND INSTALLATION SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

(2) 11. ARCHITECT TO PROVIDE BUMP-OUT WALL TO RUN DUCT INTO THE WALL UP TO THE CEILING.

12. 14"X4" RA DUCT DN.



NORTH

1 MECHANICAL FIRST FLOOR PLAN

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

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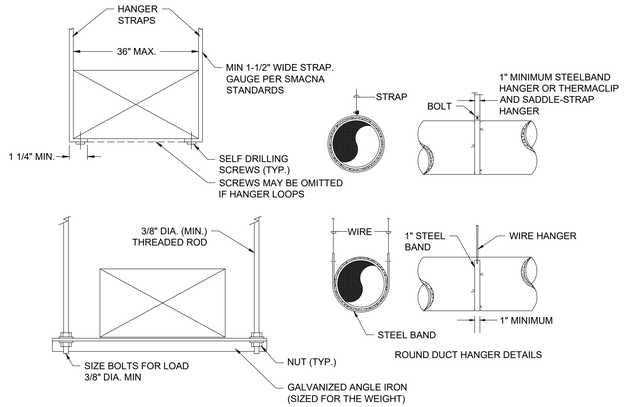
MECHANICAL FIRST FLOOR PLAN

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065805
STATE OF ILLINOIS

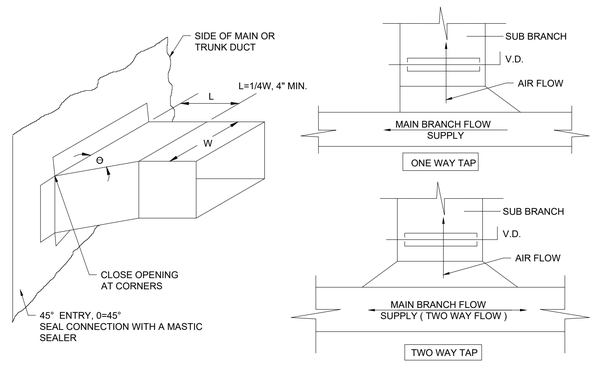
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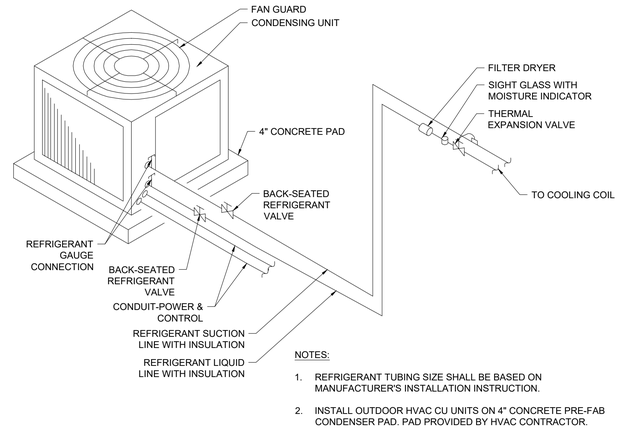
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1 HANGER SUPPORT DETAIL
SCALE: N.T.S.

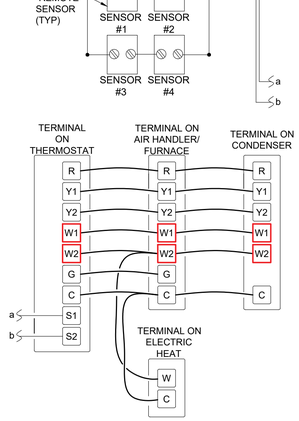


2 TYPICAL BRANCH CONNECTION DETAILS
SCALE: N.T.S.



NOTES:
1. REFRIGERANT TUBING SIZE SHALL BE BASED ON MANUFACTURER'S INSTALLATION INSTRUCTION.
2. INSTALL OUTDOOR HVAC CU UNITS ON 4" CONCRETE PRE-FAB CONDENSER PAD. PAD PROVIDED BY HVAC CONTRACTOR.

3 CONDENSING UNIT DETAIL
SCALE: N.T.S.

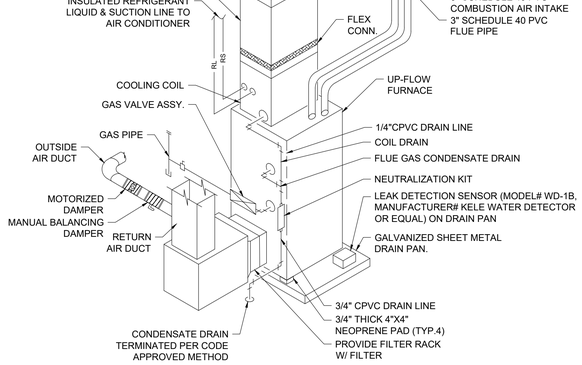


THERMOSTAT
SEE PLAN
MANUFACTURE: HONEYWELL
MODEL: T6 PRO OR EQUAL

REMOTE SENSOR
(WALL MOUNTED)
MANUFACTURE: HONEYWELL
MODEL: C7189 OR EQUAL

NOTES:
- THIS CONFIGURATION IS APPLICABLE ONLY FOR THERMISTOR-BASED SENSORS.
- REFER TO INSTALLATION MANUAL FOR DETAILED CONNECTION INSTRUCTIONS.
- THE SENSOR SHOULD BE INSTALLED 5 FT AFF IN A WELL-VENTILATED, AVERAGE-TEMPERATURE LOCATION.
- THE MAXIMUM DISTANCE BETWEEN THE REMOTE SENSOR AND THE THERMOSTAT SHALL BE 200 FEET AS PER MANUFACTURE INSTALLATION GUIDELINES.
- USE OF A REMOTE SENSOR DISABLES THE THERMOSTAT'S INTERNAL TEMPERATURE SENSOR.
- CONTRACTOR SHALL INSTALL THERMOSTAT WITH CORRECT NUMBER OF STAGES OF HEAT/COOL REQUIRED FOR THE SYSTEM.
- PROVIDE THERMOSTAT CONTROLLER. THERMOSTAT CONTROLLER SHALL BE WIRED WITH ALL THE ASSOCIATED SPACE TEMPERATURE AVERAGING SENSORS AND HVAC UNIT. CONTRACTOR SHALL VERIFY WITH MANUFACTURER ALL WIRING REQUIREMENTS PRIOR TO INSTALLATION AND INSTALL IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION REQUIREMENTS.

4 THERMOSTAT WITH AVERAGING REMOTE SENSOR
SCALE: N.T.S.



NOTES:
1. PROVIDE SUPPORT PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION OF THE HVAC UNIT.
2. THE MOTORIZED AIR DAMPER SHALL BE FAIL CLOSE AND INTERLOCKED WITH THE AHU. WHEN THE AHU STARTS, THE DAMPER SHALL OPEN AND CLOSE WHEN THE AHU STOPS. PROVIDE CONTROLS AND POWER WIRING AS NEEDED FOR OPERATION. THE MOTORIZED DAMPER SHALL BE IN COMPLIANCE WITH THE ILLINOIS ENERGY CONSERVATION CODE 2024, SECTION C403.7.7.

5 CONDENSING GAS FIRED FURNACE INSTALLATION DETAIL
SCALE: N.T.S.

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Contact Info:

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	

POST BID/PERMIT REVISIONS:

No.	Date	Description
0	02/25/26	ISSUED FOR PERMIT
1	06/17/26	PERMIT REVISION #1
2	08/26/26	REVISION #3

PROJECT NO.	2025-23
DRAWN BY	H.T.
CHECKED BY	N.R.
SHEET	05 OF 06

MECHANICAL DETAILS

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065805
STATE OF ILLINOIS
EXP:11/30/2027

M2.0

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COOLING COIL SCHEDULE

TAG	ASSOCIATED TO	QTY.	REFRIGERANT	NOMINAL COOLING CAPACITY(MBH)	REFRIGERANT LINE (IN.)		DRAIN CONNECTION (IN.)	WEIGHT (LBS)	DIMENSION (IN.) (W X D X H)	MODEL	BASIS OF DESIGN	NOTES
					SUCTION	LIQUID						
CC-3	FU-3	1	R-454B	24	3/4"Ø	3/8"Ø	3/4"Ø	43	17-1/2" X 14-1/2" X 20"	RCFY2417	RHEEM	1 TO 3

NOTES:
1. COOLING COIL, INSULATED REFRIGERANT PIPING, AND SLOPED CONDENSATE PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
2. CONDENSATE DRAIN PIPING SHALL BE INSULATED TO COMPLY WITH LOCAL CODE REQUIREMENTS.
3. UNIT SHALL BE EQUIPPED WITH A DRIP-PROOF CONDENSATE DRAIN PAN.

AIR DEVICE SCHEDULE

				NOMENCLATURE	U = USAGE (S = SUPPLY, R = RETURN, E = EXHAUST, T = TRANSFER)			EXAMPLE	REFERENCE IMAGE
				U-CFM-T SIZE	CFM = AIR QUANITY		T = TYPE OF AIR DEVICE	S-150-A 8"Ø	
					SIZE = NECK SIZE OF AIR DEVICE				
TYPE	USAGE	SERVING	NECK SIZE	FACE SIZE	MATERIAL	DESCRIPTION	MANUFACTURER	MODEL NO.	REMARKS
A	SUPPLY	REFER TO FLOOR PLAN	SEE PLAN	12"X6"	STEEL	HEAVY DUCTY STEEL FLOOR REGISTER	HART COOLEY	210	1,2,3
B	SUPPLY	REFER TO FLOOR PLAN	SEE PLAN	12"X6"	STEEL	STEEL DOUBLE DEFLECTION REGISTER, OBD DAMPER	HART COOLEY	92HVV	1,2,3,4
C	RETURN	REFER TO FLOOR PLAN	SEE PLAN	12"X8" 10"X10" 12"X10" 20"X20"	STEEL	94A-STEEL RETURN AIR GRILLE, 35-DEGREE FIXED BLADE	HART COOLEY	94A	1,2,3

NOTES:
1. CUSTOM FINISH & COLOR AS SELECTED BY ARCHITECT/OWNER.
2. PROVIDE FOAM GASKET SEAL.
3. COORDINATE FRAME TYPE WITH REFLECTED CEILING PLAN & ARCHITECT.
4. AIR SCOOP DEVICE ACCESSORIES TO BE INCLUDED FOR THE VOLUME ADJUSTMENT.

EXISTING CONDENSING UNIT SCHEDULE

TAG	ASSOCIATED TO	QTY.	REFRIGERANT	NOMINAL COOLING CAPACITY (MBH)	AMBIENT AIR TEMP. (°F)	COOLING STAGE	REFRIGERANT LINE (IN.)		COMPRESSOR DATA			CONDENSOR FAN		UNIT ELECTRICAL DATA					WEIGHT (LBS)	DIMENSION (IN.) (W X D X H)	SEER2	MODEL	BASIS OF DESIGN	NOTES
							SUCTION	LIQUID	TYPE	QTY.	RLA (A)	FAN QTY.	MOTOR FLA (A)	MCA (A)	MOCP (A)	V/Ph/Hz	DISCONNECT							
																	BY	TYPE						
(E)CU-1	(E)CC-1	1	R-410A	60	91.5	-	-	-	-	1	26.8	1	0.93	35	60	230/1/60	E.C.	-	-	-	-	4TTB3060D1000CA	AMERICAN STANDARD	-
(E)CU-2	(E)CC-2	1	R-410A	48	91.5	-	-	-	-	1	21.8	1	0.95	28	50	230/1/60	E.C.	-	-	-	-	4A7A3048D1000NA	AMERICAN STANDARD	-

NOTES:
1. CONTRACTOR SHALL PERFORM PREVENTATIVE MAINTENANCE ON UNIT INCLUDING BUT NOT LIMITED TO LUBRICATION OF MOTORS/FANS, CLEANING CONDENSER & EVAPORATOR COILS, REPLACING MOTOR BELT/SHEAVES, ETC. TO MAKE HVAC UNIT FULLY FUNCTIONAL.

CONDENSING UNIT SCHEDULE

TAG	ASSOCIATED TO	QTY.	REFRIGERANT	NOMINAL COOLING CAPACITY (MBH)	AMBIENT AIR TEMP. (°F)	COOLING STAGE	REFRIGERANT LINE (IN.)		COMPRESSOR DATA			CONDENSOR FAN		UNIT ELECTRICAL DATA					WEIGHT (LBS)	DIMENSION (IN.) (W X D X H)	SEER2	MODEL	BASIS OF DESIGN	NOTES
							SUCTION	LIQUID	TYPE	QTY.	RLA (A)	FAN QTY.	MOTOR FLA (A)	MCA (A)	MOCP (A)	V/Ph/Hz	DISCONNECT							
																	BY	TYPE						
CU-3	CC-3	1	R-454B	24	91.5	2	3/4"Ø	3/8"Ø	SCROLL	1	12	1	0.8	16	25	230/1/60	E.C.	-	184	33.75" X 33.75" X 25"	16	RA16AY24	RHEEM	1 TO 3

NOTES:
1. UNIT & IT'S INSULATED REFRIGERANT PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
2. COORDINATE WITH THE STRUCTURE FOR THE EXACT LOCATION BEFORE INSTALLING THE UNIT ON THE GRADE.
3. ELECTRICAL WORK MUST BE PERFORMED IN ACCORDANCE WITH RELEVANT LOCAL AND NATIONAL REGULATIONS AND WITH INSTRUCTIONS IN THE INSTALLATION MANUAL.

VENTILATION SCHEDULE - 2024 INTERNATIONAL MECHANICAL CODE

SR NO.	NAME	OCCUPANCY CATEGORY	AREA (S.FT.) (Az)	OCCUPANTS DENSITY PER 1000 S.F	CODE MAXIMUM OCCUPANTS	OCCUPANTS (ACTUAL) (Pz)	OCCUPANTS DIVERSITY (D)	CODE MINIMUM VENTILATION						ACTUAL MECHANICAL VENTILATION				UNIT(S) SERVING SPACE
								PEOPLE OUTDOOR AIR RATE		AREA OUTDOOR AIR RATE		AIR DISTRIBUTION EFFECTIVENESS (Ez)	TOTAL OUTDOOR AIR RATE (Voz = (D*RpPz + RaAz)/Ez)	TOTAL EXHAUST CFM	PRIMARY AIR FLOW CFM	SYSTEM % OA	SYSTEM OA = PRIMARY AIR FLOW x SYSTEM % OA	EXHAUST CFM	
								CFM/PERSON (Rp)	TOTAL CFM (Rp x Pz)	CFM/S.FT. (Ra)	TOTAL CFM (Ra x Az)								
1	CONFERENCE ROOM	CONFERENCE ROOM	400	50	20	7	0.75	5.0	35	0.06	24	1	50	0	300	18	54	0	FU-3
2	NEW FOYER ROOM	MAIN ENTRIES LOBBIES	70	10	1	0	0.75	5.0	0	0.06	4	1	4	0	50	18	9	0	
3	NEW STORAGE ROOM_BASEMENT	STORAGE ROOM	580	0	0	0	0.75	0.0	0	0.06	35	1	35	0	250	18	45	0	
4	OFFICE 1	OFFICE SPACE	110	5	1	1	0.75	5.0	5	0.06	7	1	10	0	120	18	22	0	
	TOTAL		**1160**			**8**							**99.6**	**0**	**720**		**130**	**0**	

NOTE:
1. COORDINATED WITH IMC 2024, TABLE 403.3.1.1.

EXISTING GAS-FIRED FURNACE SCHEDULE

TAG	TYPE	QTY.	SUPPLY AIR FLOW (CFM)	E.S.P. (IN. W.C.)	OUTSIDE AIR FLOW (CFM)	GAS INPUT (CFH)	HEATING AND COOLING STAGE	BLOWER SECTION DATA			GAS-BURNER SECTION DATA						UNIT ELECTRICAL DATA				WEIGHT (LBS)	DIMENSION (IN.) (W X D X H)	AFUE	MODEL	BASIS OF DESIGN	NOTES
								FAN DATA		MOTOR (HP)	TYPE	BURNER TYPE	BURNER QTY.	PIPE SIZE (IN.)	HEATING CAPACITY INPUT/OUTPUT (MBH)		GAS PRESSURE (MIN/MAX) (IN. W.C.)	MCA (A)	MOCP (A)	V/Ph/Hz	DISCONNECT					
								QTY.	DIA. X WIDTH (IN.)						1ST STAGE	2ND STAGE										
(E)FU-1	-	1	-	-	-	120	1	1	11"Ø X 10"	1	NATURAL GAS	MULTIPORT INSHOT	6	1/2"Ø	120/113.4	-	5 / 13.8	14.1	15	120/1/60	BY E.C.	156	24-1/2"X28-3/4"X34"	95%	S9X1D120U5PSB	AMERICAN STANDARD	-
(E)FU- 2	-	1	-	-	-	120	1	1	11"Ø X 10"	1	NATURAL GAS	MULTIPORT INSHOT	6	1/2"Ø	120/113.4	-	5 / 13.8	14.1	15	120/1/60	BY E.C.	156	24-1/2"X28-3/4"X34"	95%	S9X1D120U5PSB	AMERICAN STANDARD	-

NOTES:
1. CONTRACTOR SHALL PERFORM PREVENTATIVE MAINTENANCE ON UNIT INCLUDING BUT NOT LIMITED TO FILTER REPLACEMENT, LUBRICATION OF MOTORS/FANS, CLEANING CONDENSER/EVAPORATOR COILS, REPLACING MOTOR BELT/SHEAVES, ETC. TO MAKE HVAC UNIT FULLY FUNCTIONAL.

GAS-FIRED FURNACE SCHEDULE

TAG	TYPE	QTY.	SUPPLY AIR FLOW (CFM)	E.S.P. (IN. W.C.)	OUTSIDE AIR FLOW (CFM)	GAS INPUT (CFH)	HEATING AND COOLING STAGE	BLOWER SECTION DATA			GAS-BURNER SECTION DATA						UNIT ELECTRICAL DATA				WEIGHT (LBS)	DIMENSION (IN.) (W X D X H)	AFUE	MODEL	BASIS OF DESIGN	NOTES
								FAN DATA		MOTOR (HP)	TYPE	BURNER TYPE	BURNER QTY.	PIPE SIZE (IN.)	HEATING CAPACITY INPUT/OUTPUT (MBH)		GAS PRESSURE (MIN/MAX) (IN. W.C.)	MCA (A)	MOCP (A)	V/Ph/Hz	DISCONNECT					
								QTY.	DIA. X WIDTH (IN.)						1ST STAGE	2ND STAGE										
FU-3	UPFLOW	1	770	0.7	100	42	2	1	11"Ø X 7"	1/2	NATURAL GAS	-	-	1/2"Ø	42/41	29.4/28.2	5 / 10.5	9	15	120/1/60	BY E.C.	123	17-1/2" X 29-5/8" X 34"	96%	R962V0403A17	RHEEM	1 TO 3

NOTES:
1. UNIT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS & PROVIDE 24" CLEARANCE IN FRONT OF THE UNIT & ADDITIONAL CLEARANCE FOR ELECTRICAL CONNECTION AS RECOMMENDED.
2. THE CONCENTRIC VENT KIT (COMBUSTION AIR & VENT KIT), RETURN AIR FILTER KIT & CONDENSATE NEUTRALIZER KIT SHALL BE PROVIDED.
3. ELECTRICAL WORK MUST BE PERFORMED IN ACCORDANCE WITH RELEVANT LOCAL AND NATIONAL REGULATIONS AND WITH INSTRUCTIONS IN THE INSTALLATION MANUAL.

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PROJECT NO.	2025-23
DRAWN BY	H.T.
CHECKED BY	N.R.
SHEET	06 OF 06

MECHANICAL SCHEDULES

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065805
STATE OF ILLINOIS

EXP:11/30/2027

M3.0

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ELECTRICAL LEGEND

POWER

- ABOVE COUNTER QUADPLEX RECEPTACLE
- ABOVE COUNTER DUPLEX RECEPTACLE
- QUADPLEX RECEPTACLE
- DUPLEX RECEPTACLE
- GFI ABOVE COUNTER QUADPLEX RECEPTACLE
- GFI ABOVE COUNTER DUPLEX RECEPTACLE
- GFI QUADPLEX RECEPTACLE
- GFI DUPLEX RECEPTACLE
- USB DUPLEX RECEPTACLE
- SPECIAL RECEPTACLE
- WEATHER PROOF/GFI DUPLEX RECEPTACLE
- CEILING DUPLEX RECEPTACLE
- CEILING QUADPLEX RECEPTACLE
- CEILING SPECIAL RECEPTACLE
- FLOOR QUADPLEX RECEPTACLE
- FLOOR DUPLEX RECEPTACLE
- GFI FLOOR QUADPLEX RECEPTACLE
- GFI FLOOR DUPLEX RECEPTACLE
- AUTOMATIC CONTROLLED SPLIT QUADPLEX RECEPTACLE
- AUTOMATIC CONTROLLED SPLIT DUPLEX RECEPTACLE
- ABOVE COUNTER AUTOMATIC CONTROLLED SPLIT QUADPLEX RECEPTACLE
- ABOVE COUNTER AUTOMATIC CONTROLLED SPLIT DUPLEX RECEPTACLE
- AUTOMATIC CONTROLLED SPLIT FLOOR QUADPLEX RECEPTACLE
- PANELBOARD
- (E) [E] HARD WIRED CONNECTION - WALL /CEILING
- [SPD] SURGE PROTECTIVE DEVICE
- (J) [J] JUNCTION BOX(WALL MOUNTED)

LOW VOLTAGE

- [ACP] ACCESS CONTROL PANEL
- VOICE/DATA OUTLET
- ABOVE COUNTER VOICE/DATA OUTLET
- FLOOR / CEILING VOICE/DATA OUTLET
- DATA OUTLET
- FLOOR / CEILING VOICE/DATA OUTLET
- VOICE OUTLET
- FLOOR / CEILING VOICE OUTLET

LIGHTING

- $ SWITCH
- $D DIMMER SWITCH
- $3W 3 - WAY SWITCH
- $4W 4 - WAY SWITCH
- $VS VACANCY SENSOR (WALL MOUNT)
- $OS OCCUPANCY SENSOR (WALL MOUNT)
- $M LOW VOLTAGE MOMENTARY CONTACT SWITCH
- $OR TIME CLOCK OVER RIDE SWITCH
- (VS) VACANCY SENSOR (CEILING)
- (OS) OCCUPANCY SENSOR (CEILING)
- (DS) DAYLIGHT SENSOR (CEILING)
- (RC) 0-10V DIMMING CONTROLLER(CEILING)
- (MS) MOTION SENSOR (CEILING)
- BATTERY EMERGENCY LIGHT (WALL MOUNT)
- BATTERY EMERGENCY LIGHT (CEILING MOUNT)
- EXIT SIGN
- X UPPERCASE LETTER DENOTES FIXTURE TAG
- x LOWERCASE LETTER DENOTES SWITCH DESIGNATION

ANNOTATION

- (X) KEY NOTE TAG

MISCELLANEOUS

- [PP] POWER PACK
- [PB] PULL BOX
- CONDUIT CONCEALED IN WALL, CEILING OR UNDERGROUND. CENTER LINES DENOTE UNDERGROUND/FLOOR CONDUIT. DASHED LINES DENOTE DEMOLITION. ARROWHEAD DENOTES HOMERUN TO PANEL. SLASHED DENOTE QUANTITY OF CONDUCTORS. DOT DENOTES GROUND. LONG SLASH DENOTES NEUTRAL CONDUCTOR. SHORT SLASH DENOTES PHASE CONDUCTOR, SWITCH LEG OR CONTROL.
- FLEXIBLE CONDUIT WHIP - MAX 6'-0" IN LENGTH
- (M) CT CABINET AND UTILITY METER
- CIRCUIT BREAKER
- ENCLOSED CIRCUIT BREAKER
- FUSED SWITCH
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH

ELECTRICAL ABBREVIATIONS

ACP	ACCESS CONTROL PANEL
AOR	AREA OF RESCUE
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AT	AMPERE TRIP
BOH	BACK OF HOUSE
C	CEILING MOUNTED
CL	CENTER LINE
CKT	CIRCUIT
CR	CARD READER
D	DEDICATED
DG	DOWNERS GROVES
DP	DISTRIBUTION PANEL
EBC	EXTENDED BATTERY CABINET
EC	ELECTRICAL CONTRACTOR
EM	EMERGENCY
EX	EXISTING
ETR	EXISTING TO REMAIN
EPO	EMERGENCY PUSH OFF
ER	EXISTING, RELOCATED
FAC	FIRE ALARM CONTRACTOR
FPC	FIRE PROTECTION CONTRACTOR
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
HD	HAND DRYER
LVC	LOW VOLTAGE CONTRACTOR
MDP	MAIN DISTRIBUTION PANEL
MC	MECHANICAL CONTRACTOR
MT	MOUNT
NL	NIGHT LIGHT
PC	PLUMBING CONTRACTOR
PL	PILOT LIGHT
SM	SURFACE MOUNT
TC	TIMECLOCK
TGB	TELECOMMUNICATIONS GROUND BUS
TTC	TELEPHONE TERMINAL CABINET
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
W	WALL MOUNT AT 48" A.F.F.
WP	WEATHERPROOF

FEEDER SCHEDULE

(200)	3#3/0AWG CU THWN & 1#6AWG CU THWN EGC IN 2" C
(100)	3#1AWG CU THWN & 1#8AWG CU THWN EGC IN 1-1/2" C
(EX)	EXISTING FEEDER

LINE WEIGHT LEGEND

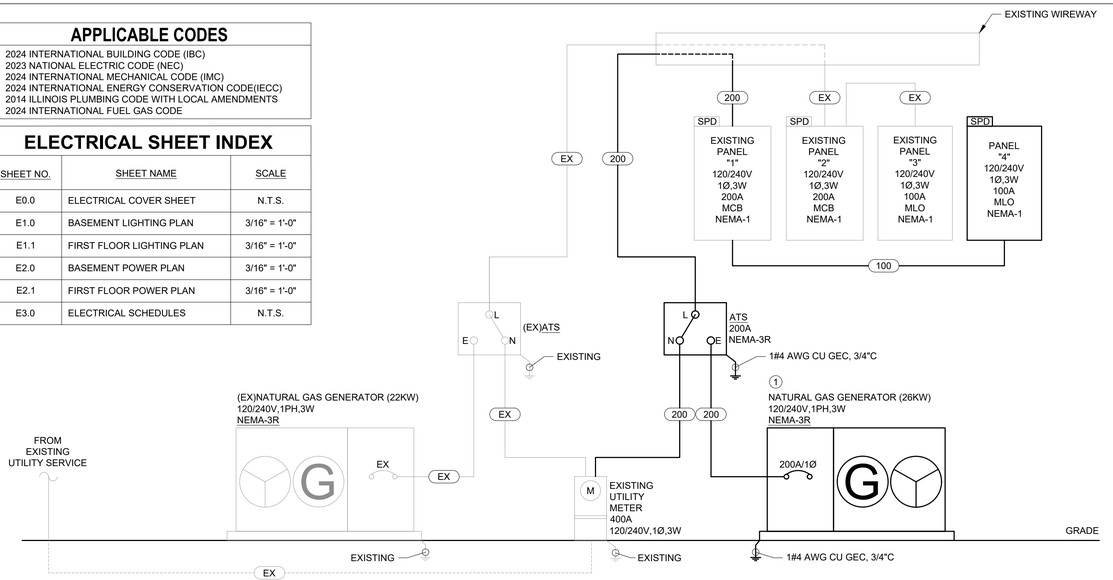
- NEW
- EXISTING

APPLICABLE CODES

1. 2024 INTERNATIONAL BUILDING CODE (IBC)
2. 2023 NATIONAL ELECTRIC CODE (NEC)
3. 2024 INTERNATIONAL MECHANICAL CODE (IMC)
4. 2024 INTERNATIONAL ENERGY CONSERVATION CODE(IECC)
5. 2014 ILLINOIS PLUMBING CODE WITH LOCAL AMENDMENTS
6. 2024 INTERNATIONAL FUEL GAS CODE

ELECTRICAL SHEET INDEX

SHEET NO.	SHEET NAME	SCALE
E0.0	ELECTRICAL COVER SHEET	N.T.S.
E1.0	BASEMENT LIGHTING PLAN	3/16" = 1'-0"
E1.1	FIRST FLOOR LIGHTING PLAN	3/16" = 1'-0"
E2.0	BASEMENT POWER PLAN	3/16" = 1'-0"
E2.1	FIRST FLOOR POWER PLAN	3/16" = 1'-0"
E3.0	ELECTRICAL SCHEDULES	N.T.S.



1 EXISTING ELECTRICAL ONE-LINE DIAGRAM

SCALE: N.T.S.

ONE-LINE GENERAL NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC-FLASH HAZARD WARNING FIELD LABELING TO ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC 110.16. SERVICE EQUIPMENT SHALL BE MARKED TO INDICATED THE MAXIMUM AVAILABLE FAULT CURRENT AS REQUIRED BY NEC SECTION 110.24. THE FIELD MARKING(S) SHALL INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. ELECTRICAL CONTRACTOR SHALL REQUEST A DATED LETTER WITH FAULT CURRENT INFORMATION FROM THE LOCAL UTILITY.
2. FEEDER SIZES INDICATED ARE BASED UPON COPPER CONDUCTORS. ALUMINUM CONDUCTORS MAY BE ALLOWED WITH PRIOR OWNER AND AHJ AUTHORIZATION. IF ALUMINUM CONDUCTORS ARE SUBSTITUTED FOR THE COPPER CONDUCTORS INDICATED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE THE FOLLOWING TO THE ENGINEER FOR REVIEW AND APPROVAL: REVISED FEEDER SIZES, VOLTAGE DROP CALCULATIONS, AND REVISED KAIC CALCULATIONS. ADDITIONALLY, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE CIVIL ENGINEER AND UTILITY COMPANY FOR ANY RESTRICTIONS REGARDING MAXIMUM QUANTITY OF ALLOWABLE CONDUCTORS, CONDUCTOR MATERIAL REQUIREMENTS, ETC.
3. THE CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS COMBINED SHALL BE SIZED FOR A MAXIMUM OF 5 PERCENT VOLTAGE DROP TOTAL, IN ACCORDANCE WITH THE 2018 CEC. CALCULATIONS SHALL BE COMPLETED BY THE ELECTRICAL CONTRACTOR BASED ON ACTUAL FIELD INSTALLATIONS AND DISTANCES PRIOR TO ROUGH-IN.
4. PROVIDE NEW CIRCUIT BREAKER(S) MATCHING EXISTING PANEL BOARD MANUFACTURER AND AIC RATING. AIC RATING BASED ON EXISTING DRAWINGS, FIELD VERIFY PRIOR TO CIRCUIT BREAKER INSTALLATION.
5. EC SHALL FIELD VERIFY ALL CIRCUITS AND CREATE A CIRCUIT BREAKER DIRECTORY FOR ALL BREAKERS ON THE PANEL. CONTRACTOR SHALL REMOVE THE EXISTING CIRCUIT BREAKER DIRECTORY AND REPLACE WITH NEW.
6. FEEDER CONDUCTORS FROM THE UTILITY SERVICE POINT TO ALL THE EXISTING PANELS ARE EXISTING AND SHALL REMAIN AS-IS. NO MODIFICATIONS OR VERIFICATION ARE REQUIRED UNLESS DIRECTED BY THE UTILITY PROVIDER. THE ELECTRICAL CONTRACTOR (EC) SHALL COORDINATE WITH THE UTILITY COMPANY FOR RECONNECTION AS NEEDED.
7. THE EC SHALL COORDINATE ROUTING, ACCESS, AND WORK SCHEDULE WITH OTHER TRADES TO AVOID CONFLICTS WITH EXISTING SYSTEMS, FINISHES, AND MECHANICAL/ELECTRICAL INFRASTRUCTURE.
8. THE EC SHALL CONFIRM THAT ALL PANELS AND ELECTRICAL EQUIPMENT MAINTAIN PROPER WORKING CLEARANCES PER NEC ARTICLE 110.26. ANY VIOLATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR RESOLUTION.
9. THE EC SHALL VERIFY THE PRESENCE AND INTEGRITY OF ALL GROUNDING AND BONDING CONNECTIONS, INCLUDING PANEL GROUND BUSES AND GROUNDING ELECTRODE CONDUCTORS. DEFICIENCIES SHALL BE CORRECTED PER NEC REQUIREMENTS.
10. THE EC SHALL IDENTIFY ANY SPARE BREAKERS, UNUSED CIRCUITS, OR ABANDONED WIRING IN EXISTING PANELS. UNUSED CONDUCTORS SHALL BE REMOVED OR PROPERLY TERMINATED AND LABELED IN ACCORDANCE WITH NEC STANDARDS.
11. EXISTING PANELBOARDS AND ASSOCIATED ELECTRICAL EQUIPMENT SHOWN ON THE SLD ARE ASSUMED TO REMAIN. THE EC SHALL VERIFY THE CONDITION AND CODE COMPLIANCE OF ALL COMPONENTS. ANY DAMAGED OR NON-COMPLIANT ITEMS SHALL BE REPORTED PRIOR TO REUSE.
12. PROVIDE A GROUNDING ELECTRODE CONDUCTOR (GEC) FROM EACH GENERATOR TO THE GROUNDING ELECTRODE SYSTEM (MINIMUM TWO RODS OR AS APPROVED BY AHJ).
13. INSTALL THE 26KW WEATHER PROOF ENCLOSURE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE 2017 (NEC), LOCAL BUILDING CODES, AND MANUFACTURERS SPECIFICATIONS.

(X) **ONE-LINE KEY NOTES:**

1. MAIN BREAKER IS MANUFACTURER INSTALLED IN GENERATOR, EC TO REFER EQUIPMENT CUTSHEET PRIOR TO ROUGH IN, EC SHALL COMPLY THE MANUFACTURER AND NEC GUIDELINES FOR INSTALLATION.

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POST BID/PERMIT REVISIONS:

No.	Date	Description
2	07/01/26	REVISION #2
3	08/26/26	REVISION #3
4	09/09/26	REVISION #4

PROJECT NO.	2025-23
DRAWN BY	S.P.
CHECKED BY	D.P.
SHEET	01 OF 06

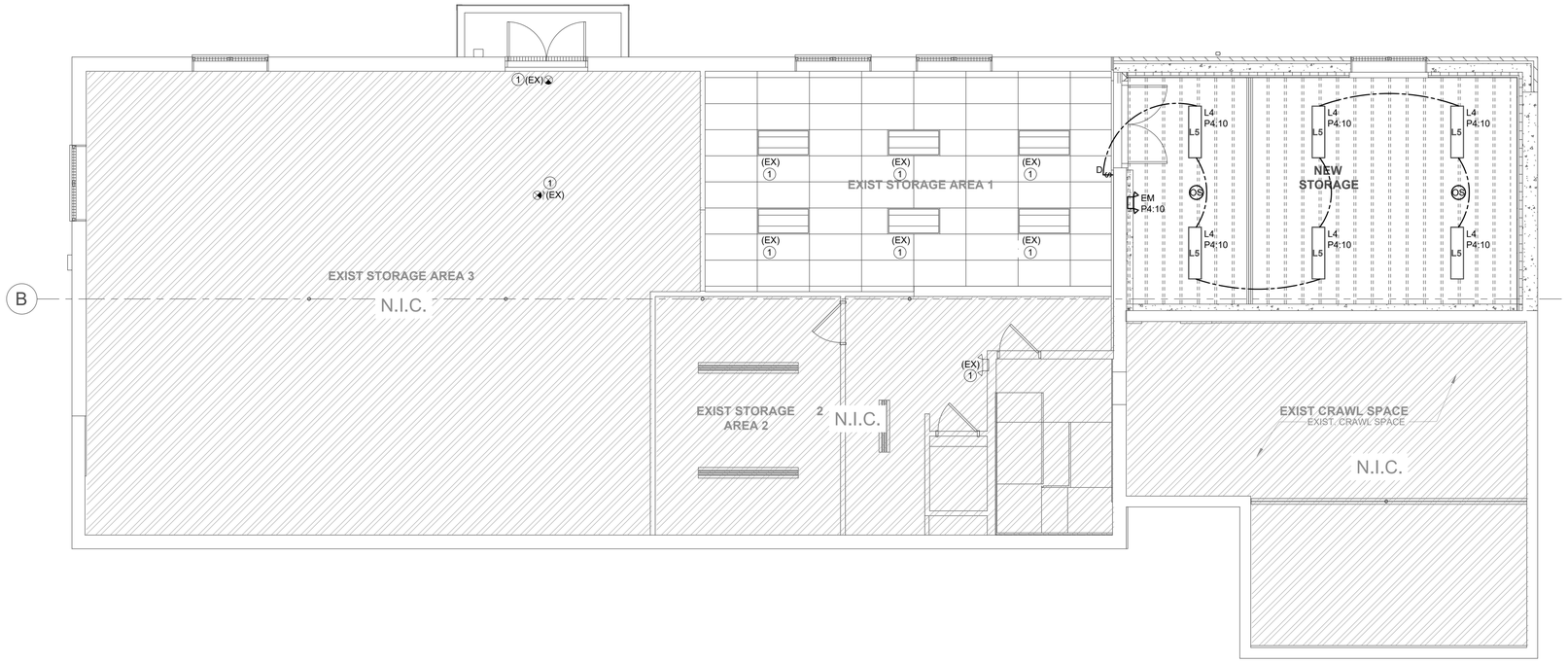
ELECTRICAL COVER SHEET

PROFESSIONAL ENGINEER SUSHIL KUMAR 062.065805 STATE OF ILLINOIS

EXP:11/30/2027

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NORTH

1 BASEMENT LIGHTING PLAN

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

LIGHTING GENERAL NOTES:

1. ALL 20A BRANCH CIRCUITS SHALL USE #12AWG CONDUCTORS IN 3/4"C MINIMUM. CONTRACTOR SHALL PROVIDE HOMERUNS TO ELECTRICAL PANELS AS REQUIRED. EACH CIRCUIT SHALL CONTAIN A DEDICATED NEUTRAL CONDUCTOR FOR A MAX. OF (1) NETWORK PER HOMERUN. ALL FEEDERS OR BRANCH CIRCUITS GREATER THAN 75' IN LENGTH SHALL BE INCREASED IN SIZE AS REQUIRED TO COMPENSATE FOR VOLTAGE DROP.
2. EMERGENCY LIGHTING MUST BE PROVIDED IN ALL EXIT ACCESS AREAS, CORRIDORS, AND NEAR EXIT DOORS.THE SYSTEM MUST PROVIDE A MINIMUM OF 1 FOOT-CANDLE (10.8 LUX) OF ILLUMINATION ALONG ALL EGRESS PATHS AND BE CONNECTED TO A RELIABLE EMERGENCY POWER SOURCE, ENSURING 90 MINUTES OF BACKUP POWER DURING A POWER FAILURE.
3. ALL LIGHTING MUST COMPLY WITH THE INTERNATIONAL ENERGY CONSERVATION CODE (IECC). USE OF LED FIXTURES, MOTION SENSORS, AND AUTOMATIC LIGHTING CONTROLS TO MINIMIZE ENERGY CONSUMPTION AND MAXIMIZE OPERATIONAL EFFICIENCY IS REQUIRED.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT FIXTURE LOCATIONS FOR GENERAL LIGHTING. EXIT SIGN AND BATTERY EMERGENCY LIGHTING SHALL BE BASED ON THE ENGINEERING PLANS.
5. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH ITS OWN DEDICATED NEUTRAL CONDUCTOR, AS REQUIRED BY NEC 210.4(B), TO ENSURE BALANCED LOADING, REDUCE THE RISK OF OVERHEATING, AND MAINTAIN COMPLIANCE WITH CODE.
6. ROUTING OF ALL FIXTURE WIRING SHALL BE CONCEALED AND RUN IN A NEAT AND WORKMANLIKE MANNER.
7. ALL LIGHTING FIXTURES MUST BE UL-LISTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. FIXTURES SHOULD BE PLACED IN LOCATIONS THAT DO NOT OBSTRUCT MEANS OF EGRESS OR VIOLATE REQUIRED CLEARANCE SPACE, ENSURING SAFETY AND ACCESSIBILITY.
8. LIGHTING CIRCUITS MUST BE CONTROLLED BY SUITABLE SWITCHES AND DIMMING SYSTEMS WHERE NECESSARY. ALL SWITCHES MUST BE EASILY ACCESSIBLE, PROPERLY LABELED, AND DESIGNED TO ALLOW EFFICIENT CONTROL OF THE LIGHTING SYSTEM.

(X) LIGHTING KEYNOTES:

1. EXISTING LIGHT FIXTURE, IT'S CONTROL AND CIRCUIT SHALL REMAIN. ELECTRICAL CONTRACTOR (EC) SHALL FIELD-VERIFY EXISTING CONDITIONS AND CONNECTIONS TO ENSURE COMPLIANCE WITH APPLICABLE CODES AND STANDARDS.

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CUBA TOWNSHIP HIP BLDG. ADDITION

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Design Development	
Bidding:	
Permit:	
ISSUE DATE:	

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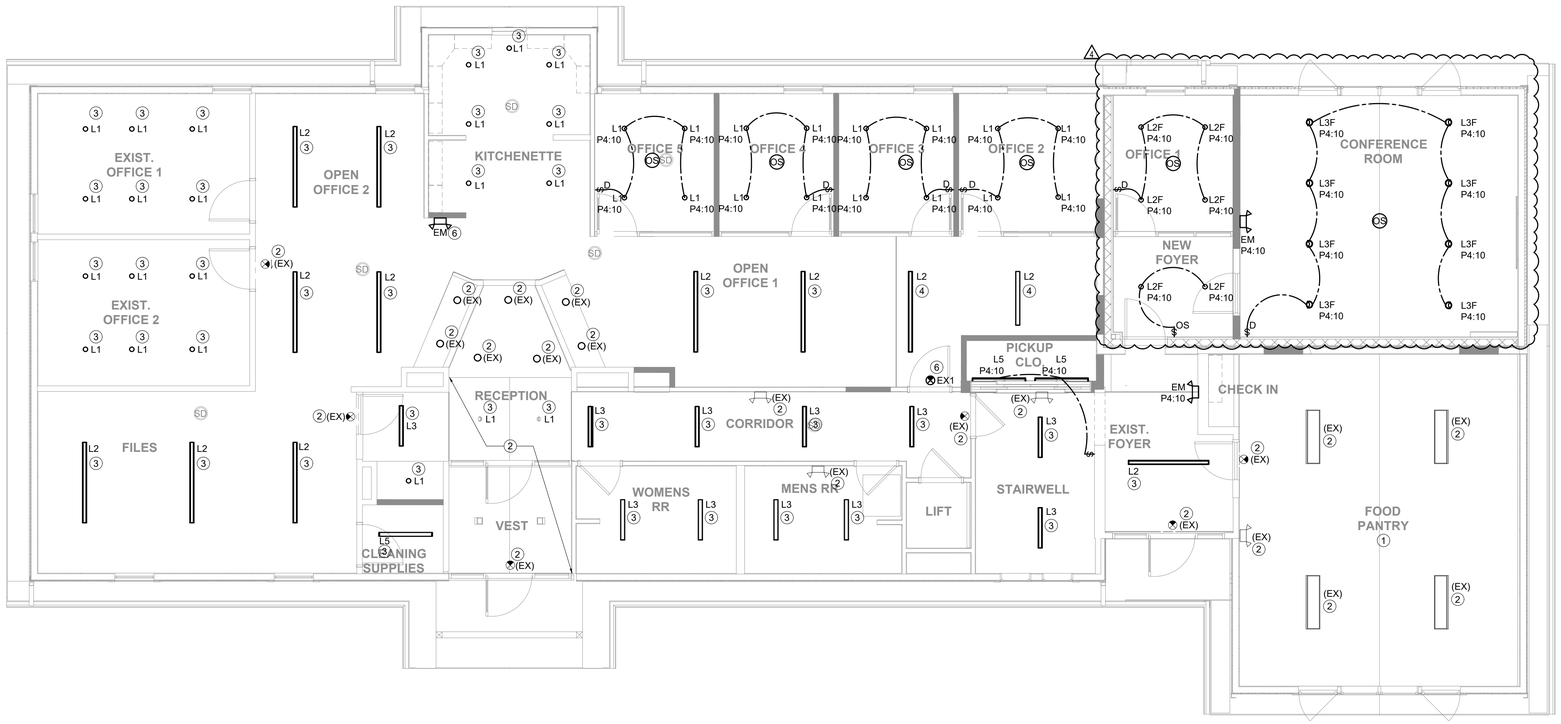
BASEMENT LIGHTING PLAN

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065805
STATE OF ILLINOIS

EXP:11/30/2027

E1.0

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NORTH

1 FIRST FLOOR LIGHTING PLAN

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

LIGHTING GENERAL NOTES:

1. ALL 20A BRANCH CIRCUITS SHALL USE #12AWG CONDUCTORS IN 3/4"C MINIMUM. CONTRACTOR SHALL PROVIDE HOMERUNS TO ELECTRICAL PANELS AS REQUIRED. EACH CIRCUIT SHALL CONTAIN A DEDICATED NEUTRAL CONDUCTOR FOR A MAX. OF (1) NETWORK PER HOMERUN. ALL FEEDERS OR BRANCH CIRCUITS GREATER THAN 75' IN LENGTH SHALL BE INCREASED IN SIZE AS REQUIRED TO COMPENSATE FOR VOLTAGE DROP.
2. EMERGENCY LIGHTING MUST BE PROVIDED IN ALL EXIT ACCESS AREAS, CORRIDORS, AND NEAR EXIT DOORS.THE SYSTEM MUST PROVIDE A MINIMUM OF 1 FOOT-CANDLE (10.8 LUX) OF ILLUMINATION ALONG ALL EGRESS PATHS AND BE CONNECTED TO A RELIABLE EMERGENCY POWER SOURCE, ENSURING 90 MINUTES OF BACKUP POWER DURING A POWER FAILURE.
3. ALL LIGHTING MUST COMPLY WITH THE INTERNATIONAL ENERGY CONSERVATION CODE (IECC). USE OF LED FIXTURES, MOTION SENSORS, AND AUTOMATIC LIGHTING CONTROLS TO MINIMIZE ENERGY CONSUMPTION AND MAXIMIZE OPERATIONAL EFFICIENCY IS REQUIRED.
4. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT FIXTURE LOCATIONS FOR GENERAL LIGHTING. EXIT SIGN AND BATTERY EMERGENCY LIGHTING SHALL BE BASED ON THE ENGINEERING PLANS.
5. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH ITS OWN DEDICATED NEUTRAL CONDUCTOR, AS REQUIRED BY NEC 210.4(B), TO ENSURE BALANCED LOADING, REDUCE THE RISK OF OVERHEATING, AND MAINTAIN COMPLIANCE WITH CODE.
6. ROUTING OF ALL FIXTURE WIRING SHALL BE CONCEALED AND RUN IN A NEAT AND WORKMANLIKE MANNER.
7. ALL LIGHTING FIXTURES MUST BE UL-LISTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. FIXTURES SHOULD BE PLACED IN LOCATIONS THAT DO NOT OBSTRUCT MEANS OF EGRESS OR VIOLATE REQUIRED CLEARANCE SPACE, ENSURING SAFETY AND ACCESSIBILITY.
8. LIGHTING CIRCUITS MUST BE CONTROLLED BY SUITABLE SWITCHES AND DIMMING SYSTEMS WHERE NECESSARY. ALL SWITCHES MUST BE EASILY ACCESSIBLE, PROPERLY LABELED, AND DESIGNED TO ALLOW EFFICIENT CONTROL OF THE LIGHTING SYSTEM.

(X) LIGHTING KEYNOTES:

1. EC SHALL PROVIDE POWER TO THE EXISTING LIGHTING FIXTURE IN THESE AREA AS PER MANUFACTURER GUIDELINES AND THE NEC CLEARANCES. CONTROLLING WILL REMAIN. VERIFY AT SITE IF NEEDED PROVIDE NEW CONTROL. COORDINATE WITH THE OWNER BEFORE ANY INSTALLATION.
2. EXISTING LIGHT FIXTURE, IT'S CONTROL AND CIRCUIT SHALL REMAIN. ELECTRICAL CONTRACTOR (EC) SHALL FIELD-VERIFY EXISTING CONDITIONS AND CONNECTIONS TO ENSURE COMPLIANCE WITH APPLICABLE CODES AND STANDARDS.
3. EC SHALL FEED NEW LIGHT FIXTURES FROM THE SAME CIRCUIT SERVING PREVIOUS FIXTURE OF THAT AREA AND PROVIDE THE SAME CONTROLLING AS PREVIOUS FIXTURES. IF REQUIRED PROVIDE NEW CIRCUITS AND CONTROLLING AT SITE AFTER VERIFYING. COORDINATE WITH THE OWNER BEFORE ANY INSTALLATION.
4. EC SHALL FEED NEW LIGHT FIXTURES FROM THE SAME CIRCUIT SERVING ADJACENT LIGHT FIXTURE OF THAT AREA AND PROVIDE THE SAME CONTROLLING AS ADJACENT FIXTURES TO KEEP SAME CONTROLLING FOR ENTIRE AREA. IF REQUIRED PROVIDE NEW CIRCUITS AND CONTROLLING AT SITE AFTER VERIFYING. COORDINATE WITH THE OWNER BEFORE ANY INSTALLATION.
5. EC TO VERIFY WHETHER AN EXIT SIGN IS EXISTING AT THIS LOCATION. IF EXISTING, RETAIN; IF NOT, PROVIDE A NEW EXIT SIGN PER PLANS.
6. EC SHALL FEED NEW LIGHT FIXTURES FROM THE SAME CIRCUIT SERVING ADJACENT LIGHT FIXTURE OF THAT AREA. IF REQUIRED PROVIDE NEW CIRCUITS AT SITE AFTER VERIFYING. COORDINATE WITH THE OWNER BEFORE ANY INSTALLATION.

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PROJECT NO.	2025-23
DRAWN BY	S.P.
CHECKED BY	D.P.
SHEET	03 OF 06

FIRST FLOOR LIGHTING PLAN

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065805
STATE OF ILLINOIS

EXP:11/30/2027

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NORTH

1 BASEMENT POWER PLAN

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

POWER GENERAL NOTES:

1. ALL ELECTRICAL WORK SHALL COMPLY WITH 2017 NEC, 2021 IECC WITH BARRINGTON AMENDMENTS. OBTAIN PERMITS AND COORDINATE INSPECTIONS WITH THE LOCAL AHJ AND UTILITY PROVIDER.
2. ALL FEEDERS AND BRANCH CIRCUITS SHALL USE COPPER CONDUCTORS IN EMT (OR RIGID/IMC AS REQUIRED). SIZE PER NEC 215 & 210 INCLUDING 125% FOR CONTINUOUS LOADS. VOLTAGE DROP SHALL NOT EXCEED 5% TOTAL.
3. PROVIDE A DEDICATED NEUTRAL FOR EACH CIRCUIT. ALL NEUTRALS AND GROUNDS MUST BE CONTINUOUS AND PROPERLY SIZED. MULTIWIRE BRANCH CIRCUITS SHALL HAVE A COMMON DISCONNECT.
4. PANELBOARDS SHALL BE CLEARLY LABELED WITH TYPED DIRECTORIES. MAINTAIN 36" CLEARANCE AND MOUNT PER NEC 408. ALL PANELS SHALL BE GROUNDED AND BONDED PER NEC 250.
5. GROUNDING SYSTEM SHALL INCLUDE BONDING TO WATER SERVICE, STRUCTURAL STEEL, AND TWO GROUND RODS 6' APART PER NEC 250 AND LOCAL CODE. GROUND ALL METALLIC CONDUIT AND ENCLOSURES.
6. VOLTAGE DROP ON FEEDERS AND BRANCH CIRCUITS SHALL NOT EXCEED 3% INDIVIDUALLY OR 5% COMBINED. UPSIZE CONDUCTORS AS REQUIRED.
7. PROVIDE GFCI PROTECTION FOR ALL 125V, 15A AND 20A RECEPTACLES LOCATED IN RESTROOMS, KITCHENS, WITHIN 6 FEET OF SINKS, AND IN WET OR DAMP LOCATIONS, AS REQUIRED BY NEC 210.8. PROTECTION SHALL BE PROVIDED USING GFCI BREAKERS OR GFCI RECEPTACLES, AS APPROPRIATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL REQUIRED LOCATIONS IN THE FIELD.
8. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH ITS OWN DEDICATED NEUTRAL CONDUCTOR, AS REQUIRED BY NEC 210.4(B), TO ENSURE BALANCED LOADING, REDUCE THE RISK OF OVERHEATING, AND MAINTAIN COMPLIANCE WITH CODE.
9. ALL 20A BRANCH CIRCUITS SHALL USE #12AWG CONDUCTORS IN 3/4"C MINIMUM. CONTRACTOR SHALL PROVIDE HOMERUNS TO ELECTRICAL PANELS AS REQUIRED. EACH CIRCUIT SHALL CONTAIN A DEDICATED NEUTRAL CONDUCTOR FOR A MAX. OF (1) NETWORK PER HOMERUN. ALL FEEDERS OR BRANCH CIRCUITS GREATER THAN 75' IN LENGTH SHALL BE INCREASED IN SIZE AS REQUIRED TO COMPENSATE FOR VOLTAGE DROP. ALL OTHER CIRCUITS CONDUCTORS SHALL BE SIZED TO MATCH THEIR RESPECTIVE OVER CURRENT PROTECTIVE DEVICES UNO.

ⓧ ELECTRICAL POWER KEYNOTES:

1. EC SHALL COORDINATE WITH THE MC/PC FOR EXACT LOCATION OF FIRE PUMP, PRIOR TO START OF WORK. PROVIDE ELECTRICAL CONNECTION AND DISCONNECT AS PER THE REQUIREMENT ALSO COMPLY WITH NEC AND LOCAL AHJ REQUIREMENTS. THE LOCATION IS JUST SHOWN FOR REPRESENTATION.
2. E.C TO FIELD COORDINATE EXACT LOCATION AND/OR MOUNTING HEIGHT WITH MECHANICAL/PLUMBING CONTRACTOR.
3. E.C TO FIELD COORDINATE EXACT LOCATION AND/OR MOUNTING HEIGHT WITH OWNER/ARCHITECT.

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SHEET	04 OF 06

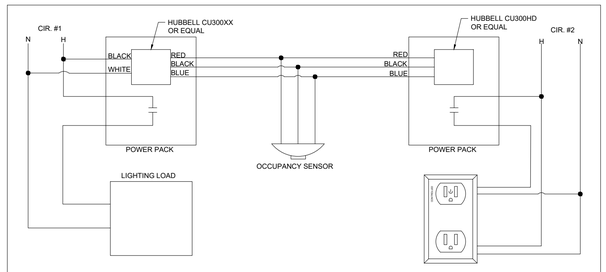
BASEMENT POWER PLAN

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065805
STATE OF ILLINOIS

EXP:11/30/2027

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2 AUTOMATIC RECEPTACLE CONTROL
SCALE: N.T.S.

AUTOMATIC RECEPTACLE CONTROL (ARC) REQUIREMENT (IECC 2021, SECTION C405.12.1)

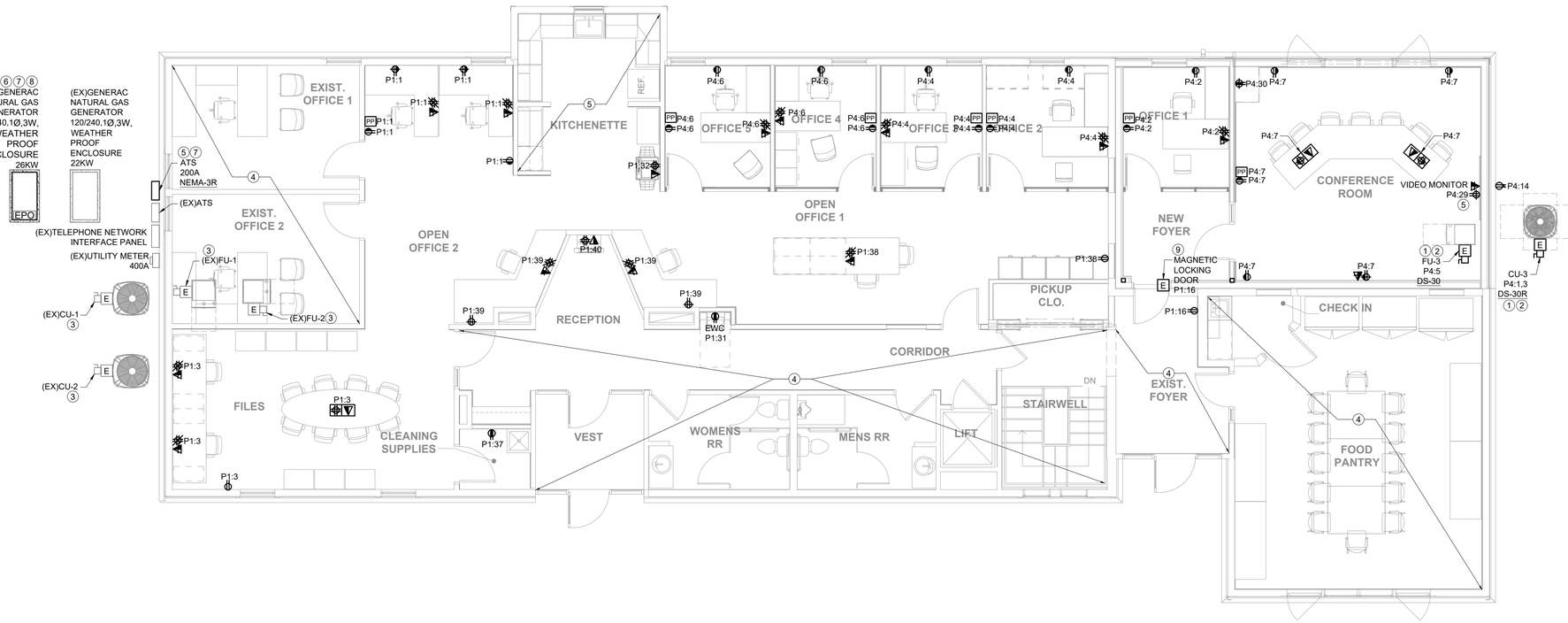
1. AT LEAST 50% OF ALL 125V, 15- AND 20-AMP RECEPTACLES IN ENCLOSED OFFICES, CONFERENCE ROOMS, COPY/PRINT ROOMS, BREAKROOMS, CLASSROOMS, AND INDIVIDUAL WORKSTATIONS (INCLUDING THOSE IN MODULAR FURNITURE SYSTEMS) SHALL BE AUTOMATICALLY CONTROLLED USING OCCUPANCY SENSORS OR TIME SCHEDULING.
2. AT LEAST 25% OF THE BRANCH CIRCUIT FEEDERS SERVING MODULAR FURNITURE SYSTEMS, NOT EXPLICITLY SHOWN ON THE CONSTRUCTION DOCUMENTS, SHALL BE AUTOMATICALLY CONTROLLED.
3. RECEPTACLES AND FEEDERS MUST DISCONNECT DURING PERIODS OF VACANCY OR BASED ON A TIME SCHEDULE TO COMPLY WITH ENERGY EFFICIENCY STANDARDS.

POWER GENERAL NOTES:

1. ALL ELECTRICAL WORK SHALL COMPLY WITH 2017 NEC, 2021 IECC WITH BARRINGTON AMENDMENTS. OBTAIN PERMITS AND COORDINATE INSPECTIONS WITH THE LOCAL AHJ AND UTILITY PROVIDER.
2. ALL FEEDERS AND BRANCH CIRCUITS SHALL USE COPPER CONDUCTORS IN EMT (OR RIGID/IMC AS REQUIRED). SIZE PER NEC 215 & 210 INCLUDING 125% FOR CONTINUOUS LOADS. VOLTAGE DROP SHALL NOT EXCEED 5% TOTAL.
3. PROVIDE A DEDICATED NEUTRAL FOR EACH CIRCUIT. ALL NEUTRALS AND GROUNDS MUST BE CONTINUOUS AND PROPERLY SIZED. MULTIWIRE BRANCH CIRCUITS SHALL HAVE A COMMON DISCONNECT.
4. PANELBOARDS SHALL BE CLEARLY LABELED WITH TYPED DIRECTORIES. MAINTAIN 36" CLEARANCE AND MOUNT PER NEC 408. ALL PANELS SHALL BE GROUNDED AND BONDED PER NEC 250.
5. GROUNDING SYSTEM SHALL INCLUDE BONDING TO WATER SERVICE, STRUCTURAL STEEL, AND TWO GROUND RODS 6' APART PER NEC 250 AND LOCAL CODE. GROUND ALL METALLIC CONDUIT AND ENCLOSURES.
6. VOLTAGE DROP ON FEEDERS AND BRANCH CIRCUITS SHALL NOT EXCEED 3% INDIVIDUALLY OR 5% COMBINED. UPSIZE CONDUCTORS AS REQUIRED.
7. PROVIDE GFCI PROTECTION FOR ALL 125V, 15A AND 20A RECEPTACLES LOCATED IN RESTROOMS, KITCHENS, WITHIN 6 FEET OF SINKS, AND IN WET OR DAMP LOCATIONS, AS REQUIRED BY NEC 210.8. PROTECTION SHALL BE PROVIDED USING GFCI BREAKERS OR GFCI RECEPTACLES, AS APPROPRIATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL REQUIRED LOCATIONS IN THE FIELD.
8. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH ITS OWN DEDICATED NEUTRAL CONDUCTOR, AS REQUIRED BY NEC 210.4(B), TO ENSURE BALANCED LOADING, REDUCE THE RISK OF OVERHEATING, AND MAINTAIN COMPLIANCE WITH CODE.
9. ALL 20A BRANCH CIRCUITS SHALL USE #12AWG CONDUCTORS IN 3/4"C MINIMUM. CONTRACTOR SHALL PROVIDE HOMERUNS TO ELECTRICAL PANELS AS REQUIRED. EACH CIRCUIT SHALL CONTAIN A DEDICATED NEUTRAL CONDUCTOR FOR A MAX. OF (1) NETWORK PER HOMERUN. ALL FEEDERS OR BRANCH CIRCUITS GREATER THAN 75' IN LENGTH SHALL BE INCREASED IN SIZE AS REQUIRED TO COMPENSATE FOR VOLTAGE DROP. ALL OTHER CIRCUITS CONDUCTORS SHALL BE SIZED TO MATCH THEIR RESPECTIVE OVER CURRENT PROTECTIVE DEVICES UNO.

ⓧ ELECTRICAL POWER KEYNOTES:

1. EC SHALL COORDINATE WITH THE MC FOR EXACT LOCATION OF MECHANICAL EQUIPMENT, PRIOR TO START OF WORK. PROVIDE ELECTRICAL CONNECTION AND DISCONNECT AS PER THE REQUIREMENT. THE LOCATION IS JUST SHOWN FOR REPRESENTATION.
2. E.C TO FIELD COORDINATE EXACT LOCATION AND/OR MOUNTING HEIGHT WITH MECHANICAL/PLUMBING CONTRACTOR.
3. EC TO VERIFY THE EXISTING ELECTRICAL CONNECTION & DISCONNECT FOR THE EXISTING MECHANICAL EQUIPMENT AT THE SITE.
4. EXISTING RECEPTACLES IN THE AREA ARE TO REMAIN UNLESS NOTED OTHERWISE. ELECTRICAL CONTRACTOR (EC) SHALL FIELD-VERIFY EXISTING CONDITIONS AND CONNECTIONS TO ENSURE COMPLIANCE WITH APPLICABLE CODES AND STANDARDS.
5. E.C TO FIELD COORDINATE EXACT LOCATION AND/OR MOUNTING HEIGHT WITH OWNER/ARCHITECT.
6. PROVIDE A LISTED SURGE PROTECTIVE DEVICE (SPD) AT THE GENERATOR OUTPUT AND AT THE AUTOMATIC TRANSFER SWITCH IN ACCORDANCE WITH NEC 700.8. COORDINATE SPD RATINGS WITH SYSTEM VOLTAGE, SHORT CIRCUIT RATING, AND UL 1449 TYPE 1 LISTING.
7. EC IS RESPONSIBLE FOR COORDINATING THE PRECISE POSITIONING OF ALL AUTOMATIC TRANSFER SWITCHES (ATS) WITH THE GC TO ENSURE ALIGNMENT WITH ACTUAL SITE CONDITIONS, PRIOR TO INSTALLATION,.
8. THE LOCATION OF THE GENERATOR IS BASED ON AN APPROXIMATE POSITION. THE ELECTRICAL CONTRACTOR (EC) SHALL COORDINATE WITH THE OWNER AND ARCHITECT TO DETERMINE THE EXACT LOCATION, ENSURING COMPLIANCE WITH ALL APPLICABLE NEC REQUIREMENTS, INCLUDING CLEARANCES, ACCESSIBILITY, AND VENTILATION.
9. EC SHALL FIELD-VERIFY MAGNETIC LOCKING DOOR POWER CONNECTION REQUIREMENTS AND DOOR OPERATING SYSTEM SPECIFICATIONS WITH THE VENDOR. THE DOOR CONTROL SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIRED EGRESS PATH AND LIFE SAFETY CODES.



NORTH
1 FIRST FLOOR POWER PLAN
SCALE: 3/16" = 1'-0"

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FIRST FLOOR
POWER PLAN

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065805
STATE OF ILLINOIS
EXP:11/30/2027

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TAG:	(EX)PANEL 1										
LOAD	LOAD TYPE	A	B	AMPS	CKT. NO.	CKT. NO.	AMPS	A	B	LOAD TYPE	LOAD
OFFICE AREA RECEPTACLE(S)	R	1440		20	1	2	20			R	EXISTING LOAD
OFFICE & RECEPTION AREA RECEPTACLE(S)	R		1440	20	3	4				R	
HALL WALL HEATER	H			30	5	6	20			HW	WATER HEATER
	H				7	8				HW	
FIRE ALARM	R			20	9	10	60			H	(EX)CU-1
SPACE					11	12				H	
LIFTS	EQ			30	13	14	50			H	(EX)CU-2
SPACE					15	16				H	
SPACE					17	18	20			L	EXTERIOR LIGHTS
FURNACE UNIT	H			40	19	20	20			H	LOBBY WALL HEAT
	H				21	22				H	
WATER SOFTNER	EQ			20	23	24	20			H	LOBBY WALL HEAT
EXTERIOR RECEPTACLE(S)	R			20	25	26				H	
SPACE					27	28	20			L	EXTERIOR LIGHTS
SPACE					29	30					SPACE
DRINKING FOUNTAIN COORRIDOR	EQ		370	20	31	32	20		360	EQ	COPIER MACHINE
PANEL-4	P	6329		100	33	34	20	1865		EQ	FIRE PUMP * NOTE-6
	P		7776		35	36			1865	EQ	
CLEANING SUPPLIES ARE A RECEPTACLE(S)	R	180		20	37	38	20	900		R	OPEN OFF.1 & NEW (STORAGE,FOYER RECEPTACLE(S)
OPEN OFFICE-2 RECEPTACLE(S)	R		1080	20	39	40	20		360	R	IPAD KIOSK
SPACE					41	42					SPACE
SUBTOTAL #1		7949	10666					2765	2585		**SUBTOTAL #2**
SUBTOTAL #2		2765	2585								
SUBTOTAL #1 + #2		**10714**	**13251**								

NEW ADDED PANEL LOAD:	23.97	KVA	99.9	**AMPS.**	78.4	**NEW ADDED DEMAND AMPS**
VOLTS:	120/240V	1PH	3W	**MIN. WITHSTAND:**	EXISTING	
MAINS:	200	A MCB				
MOUNTING:	SURFACE			AF=ARC FAULT,GF=GROUND FAULT,GC=GFCI,LO=LOCK ON		

NOTES:
1.CONTRACTOR SHALL PROVIDE ADEQUATE WITHSTAND RATING OF EQUIPMENT PER AVAILABLE FAULT CURRENT FROM THE EXISTING UTILITY OR DISTRIBUTION. COORDINATE WITH UTILITY.
2.THE CONTRACTOR SHALL ADJUST CIRCUITS AS REQUIRED BASED ON FINAL EQUIPMENT TO MAINTAIN 10% LOADING BETWEEN PHASES.
3.VERIFY ELECTRICAL REQUIREMENTS AND EQUIPMENT LOCATION PRIOR TO ROUGH-IN.
5.BOLD BREAKER AMPS TEXT DENOTES NEW CIRCUIT BREAKER IN THE EXISTING PANEL.
6. 20A/2P = 2#12 & 1#12 GND IN 3/4"C.

TAG:	(EX)PANEL-2										
LOAD	LOAD TYPE	A	B	AMPS	CKT. NO.	CKT. NO.	AMPS	A	B	LOAD TYPE	LOAD
EXISTING OFFICE AREA LIGHTS	L			20	1	2	20			EQ	EXISTING VOLTAGE SUPPRESSOR
EXISTING OFFICE & NEW OPEN OFFICE LIGHTS	L			20	3	4				EQ	
EXISTING EM LIGHTS	L			20	5	6	20			R	EXISTING OFFICE RECEPTACLE(S)
EXISTING OFFICE RECEPTACLE(S)	R			20	7	8	20			L	EXISTING ENTRY LIGHTS
EXISTING OFFICE RECEPTACLE(S)	R			20	9	10	20			R	EXISTING OFFICE RECEPTACLE(S)
EXISTING OFFICE RECEPTACLE(S)	R			20	11	12	20			R	EXISTING OFFICE RECEPTACLE(S)
EXISTING OFFICE RECEPTACLE(S)	R			20	13	14	20			R	EXISTING OFFICE RECEPTACLE(S)
EXISTING EXHAUST FAN	H			20	15	16	20			R	EXISTING OFFICE RECEPTACLE(S)
EXISTING BASEMENT LIGHTS	L			20	17	18	20			R	EXISTING OFFICE RECEPTACLE(S)
EXISTING BASEMENT RECEPTACLE(S)	R			20	19	20	20			L	EXISTING BATH LIGHTS
EXISTING LIGHTS	L			20	21	22	20			L	EXISTING JANITOR ROOM LIGHTS
EXISTING DOOR OPENER	EQ			20	23	24	20			R	EXISTING DEDICATED RECEPTACLE(S)
EXISTING RECEPTACLE(S)	R			20	25	26	20			EQ	EXISTING FRIDGE/FREEZER
EXISTING WATER HEATER	HW			20	27	28	20			R	EXISTING LOAD
EXISTING FRONT DESK RECEPTACLE(S)	R			20	29	30	20			R	EXISTING LOAD
EXISTING FRONT DESK RECEPTACLE(S)	R			20	31	32	20			R	EXISTING LOAD
EXISTING WELL PUMP	EQ			20	33	34	60			P	EXISTING PANEL-3
	EQ				35	36				P	
EXISTING LOAD	R			20	37	38	20			R	EXISTING LOAD
EXISTING LOAD	R			20	39	40	20			R	EXISTING LOAD
SUBTOTAL #1		0	0					0	0		**SUBTOTAL #2**
SUBTOTAL #2		0	0								
SUBTOTAL #1 + #2		**0**	**0**								

NEW ADDED PANEL LOAD:	0.00	KVA	0.0	**AMPS.**	0.0	**NEW ADDED DEMAND AMPS**
VOLTS:	120/240V	1PH	3W	**MIN. WITHSTAND:**	EXISTING	
MAINS:	200	A MCB				
MOUNTING:	SURFACE			AF=ARC FAULT,GF=GROUND FAULT,GC=GFCI,LO=LOCK ON		

NOTES:
1.CONTRACTOR SHALL PROVIDE ADEQUATE WITHSTAND RATING OF EQUIPMENT PER AVAILABLE FAULT CURRENT FROM THE EXISTING UTILITY OR DISTRIBUTION. COORDINATE WITH UTILITY.
2.THE CONTRACTOR SHALL ADJUST CIRCUITS AS REQUIRED BASED ON FINAL EQUIPMENT TO MAINTAIN 10% LOADING BETWEEN PHASES.
3.VERIFY ELECTRICAL REQUIREMENTS AND EQUIPMENT LOCATION PRIOR TO ROUGH-IN.

TAG:	(EX)PANEL-3										
LOAD	LOAD TYPE	A	B	AMPS	CKT. NO.	CKT. NO.	AMPS	A	B	LOAD TYPE	LOAD
EXISTING EAST FREEZER	EQ			20	1	2	20			EQ	EXISTING EAST FREEZER
EXISTING WEST FREEZER	EQ			20	3	4					SPACE
SPACE					5	6					SPACE
ASSEROR FURNACE	H			20	7	8	20			H	TOWN SKID FURNACE
SUBTOTAL #1		0	0					0	0		**SUBTOTAL #2**
SUBTOTAL #2		0	0								
SUBTOTAL #1 + #2		**0**	**0**								

NEW ADDED PANEL LOAD:	0.00	KVA	0.0	**AMPS.**	0.0	**NEW ADDED DEMAND AMPS**
VOLTS:	120/240V	1PH	3W	**MIN. WITHSTAND:**	EXISTING	
MAINS:	200	A MCB				
MOUNTING:	SURFACE			AF=ARC FAULT,GF=GROUND FAULT,GC=GFCI,LO=LOCK ON		

NOTES:
1.CONTRACTOR SHALL PROVIDE ADEQUATE WITHSTAND RATING OF EQUIPMENT PER AVAILABLE FAULT CURRENT FROM THE EXISTING UTILITY OR DISTRIBUTION. COORDINATE WITH UTILITY.
2.THE CONTRACTOR SHALL ADJUST CIRCUITS AS REQUIRED BASED ON FINAL EQUIPMENT TO MAINTAIN 10% LOADING BETWEEN PHASES.
3.VERIFY ELECTRICAL REQUIREMENTS AND EQUIPMENT LOCATION PRIOR TO ROUGH-IN.

GENERATOR SCHEDULE

TAG	MANUFACTURER	MODEL	FUEL TYPE	POWER (kW)	AMBIENT TEMPERATURE
NATURAL GAS GENERATOR	GENERAC OR EQUAL	G0007290-0 OR EQUAL	NATURAL GAS	26	50 °C

NOTES:
1. REFER TO MANUFACTURER SPECIFICATIONS FOR GENERATOR DETAILS.
2. GENERATOR SHOULD BE IN WEATHER-PROTECTED ENCLOSURE. THE REQUIREMENT OF SOUND ATTENUATED SHALL BE CONFIRM WITH CLIENT BEFORE ORDERING.

LUMINAIRE SCHEDULE

TAG	LUMINAIRE DECRIPTION	LUMINAIRE TYPE	CONTROL TYPE	LUMINAIRE MAX VA	LUMINAIRE VOLTS	MOUNTING	MANUFACTURING & CATALOG NUMBER
L1	4" ROUND RECESSED LED DOWNLIGHT	LED	0-10V	15.7	120	RECESSED	PROVIDED BY ARCHITECTURE / CLIENT
L2	6' LINEAR RECESSED LED LIGHT	LED	0-10V	72	120	RECESSED	PROVIDED BY ARCHITECTURE / CLIENT
L3	3' LINEAR RECESSED LED LIGHT	LED	0-10V	36	120	RECESSED	PROVIDED BY ARCHITECTURE / CLIENT
L4	LINEAR FLUSH MOUNT LED LIGHT	LED	0-10V	50.0	120	RECESSED	PROVIDED BY ARCHITECTURE / CLIENT
L5	4' LINEAR LED LIGHT	LED	0-10V	21.6	120	SURFACE	PROVIDED BY ARCHITECTURE / CLIENT
L2F	NUWATT 4" ROUND CANLESS DOWNLIGHT 2HR FIRE RATED	LED	0-10V	12.0	120	RECESSED	PROVIDED BY ARCHITECTURE / CLIENT
L3F	NUWATT 6" ROUND CANLESS DOWNLIGHT 2HR FIRE RATED	LED	0-10V	15.0	120	RECESSED	PROVIDED BY ARCHITECTURE / CLIENT
EM	WHITE THERMOPLASTIC WALL OR CEILING/PENDANT MOUNTED BATTERY PACK WITH TWO 6V, LED HEADS, 90 MINUTE BATTERY BACKUP	LED	-	5	120	WALL/SURFACE	LITHONIA LIGHTING ELM4L
EX1	EXIT SIGN WITH 90 MINUTES OF EMERGENCY BATTERY BACKUP	LED	-	5	120	WALL/SURFACE	#EXRG-EL-M6 OR EQUAL OR PROVIDED BY OWNER/ARCHITECT

NOTES:
1. LUMINAIRES TO BE SELECTED BY OWNER/CONTRACTOR.
2. REFER TO ARCHITECTURAL SHEETS FOR WALL, COLUMN, AND PENDANT MOUNTING HEIGHTS UNLESS NOTED OTHERWISE.
3. E.C. SHALL COORDINATE VOLTAGES REQUIRED FOR FIXTURES PRIOR TO ORDERING.
4. ALL FIXTURES SHALL BE UL OR ETL LISTED.
5. ALL FIXTURES SHALL BEAR A MAXIMUM WATTAGE LABEL AS INDICATED ABOVE. THE DISTRIBUTOR SHALL AFFIX THE MAX WATTAGE LABEL PRIOR TO SHIPMENT WHERE A REDUCTION IN MAXIMUM WATTAGE IS REQUIRED FOR ENERGY CODE COMPLIANCE.

DISCONNECT AND STARTER SCHEDULE

ITEM	DISCONNECT TYPE & RATING: HEAVY DUTY SWITCH FUSED	NON-FUSED	CIRCUIT BREAKER	VOLTAGE	POLES	STARTER: NEMA SIZE	STARTER: TYPE	NEMA ENCLOSURE	REMARKS	APPROVED MANUFACTURERS
DS-30		30		240	1			1		SQUARE D 3110 SERIES EATON DH SERIES ABB TH SERIES SIEMENS HNF SERIES
DS-60		60		240	1			1		SQUARE D 3110 SERIES EATON DH SERIES ABB TH SERIES SIEMENS HNF SERIES
DS-30R		30		240	2			3R		SQUARE D 3110 SERIES EATON DH SERIES ABB TH SERIES SIEMENS HNF SERIES

TAG:	PANEL-4										
LOAD	LOAD TYPE	A	B	AMPS	CKT. NO.	CKT. NO.	AMPS	A	B	LOAD TYPE	LOAD
CU-3 * NOTE-4	H	1536		25	1	2	20	720		R	OFFICE AREA-1 RECEPTACLE(S)
	H		1536		3	4	20		1440	R	OFFICE AREA-2,3 RECEPTACLE(S)
FU-3	H	864		20	5	6	20	1440		R	OFFICE AREA-4,5 RECEPTACLE(S)
CONFERENCE ROOM RECEPTACLE(S)	R		1620	20	7	8	20		1200	EQ	COFEE MACHINE
VIDEO MONITOR	EQ	500		20	9	10	20	1166		L	NEW OFFICE 1,2,3,4,5 & NEW FOYER AREA LIGHTS
IT RACK RECEPTACLE(S)	R		360	20	11	12	20		1440	M	SEP-1
SPARE				20	13	14	20	180		R	MAINTANANCE RECEPTACLE(S)
SPARE				20	15	16	20		180	R	FOYER AREA RECEPTACLE(S)
SPACE				20	17	18	20				SPARE
SPACE				20	19	20	20				SPARE
SPACE					21	22					SPACE
SPACE					23	24					SPACE
SPACE					25	26					SPACE
SPACE					27	28					SPACE
SPACE					29	30					SPACE
SUBTOTAL #1		2900	3516					3506	4260		**SUBTOTAL #2**
SUBTOTAL #2		3506	4260								
SUBTOTAL #1 + #2		**6406**	**7776**								

NEW ADDED PANEL LOAD:	14.18	KVA	59.1	**AMPS.**	59.1	**NEW ADDED DEMAND AMPS**
VOLTS:	120/240V	1PH	3W	**MIN. WITHSTAND:**	22K	
MAINS:	100	A MLO				
MOUNTING:	SURFACE			AF=ARC FAULT,GF=GROUND FAULT,GC=GFCI,LO=LOCK ON		

NOTES:
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3.VERIFY ELECTRICAL REQUIREMENTS AND EQUIPMENT LOCATION PRIOR TO ROUGH-IN.
4.40A/2P = 2#8 & 1#10 GND IN 3/4"C.

AUTOMATIC TRANSFER SWITCH SCHEDULE

SWITCH TYPE:
- AUTO - AUTOMATIC
- B/I - AUTOMATIC WITH BYPASS ISOLATION
- MAN - MANUAL OPERATION
- CT - CLOSED TRANSITION
- DT - DELAY TRANSITION - CENTER OFF
- STAT - STATIC SOLID STATE
- /30 - 30 CYCLE WITHSTAND RATING
- SN - SWITCHED NEUTRAL
- ON - OVERLAPPING SWITCHED NEUTRAL
- DN - SOLID NEUTRAL

ACCESSORIES: (ACC)
- EE - ENGINE EXERCISER
- IM - INPHASE MONITOR
- SH - STRIP HEATER WITH THERMOSTAT
- RM - REMOTE ANNUNCIATOR
- RC - REMOTE CONTROL CIRCUITS
- EL - ELEVATOR EMERGENCY TO NORMAL PRESIGNAL
- SP - SERIAL COMMUNICATIONS PORT
- PM - POWER MONITORING METER
- RTC - REMOTE TRANSFER CONTROL FROM FIRE COMMAND CENTER
- RMC - REMOTE ANNUNCIATION AT FIRE COMMAND CENTER
- TI - TRANSFER INHIBIT
- LS - LOAD SHED

ITEM	SWITCH: TYPE	VOLTAGE	POLES	AMPS	NEMA ENCLOSURE	ACC	MANUFACTURERS	MODEL
ATS	AUTO	240	3	200	3R	EE, IM	GENERAC OR EQUAL	G0099520 OR EQUAL

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Contact Info:

Schematic Design:	
Design Development	
Bidding:	
Permit:	
ISSUE DATE:	

POST BID/PERMIT REVISIONS:

No.	Date	Description
2	07/01/26	REVISION #2
3	08/26/26	REVISION #3
4	09/09/26	REVISION #4

PROJECT NO.	2025-23
DRAWN BY	S.P.
CHECKED BY	D.P.
SHEET	06 OF 06

ELECTRICAL SCHEDULES

PROFESSIONAL ENGINEER
SUSHIL KUMAR
062.065805
STATE OF ILLINOIS

EXP:11/30/2027

E3.0

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