

PROPOSED INTERIOR BUILD-OUT FOR
AL - HUDA ACADEMY
HANOVER PARK, ILLINOIS
BUILDING PERMIT

• ARCHITECT •
JAKL-BRANDEIS ARCHITECTS LTD.
1800 HAWTHORNE LANE, SUITE Q
WEST CHICAGO, ILLINOIS 60185
PHONE: (630) 562-3900
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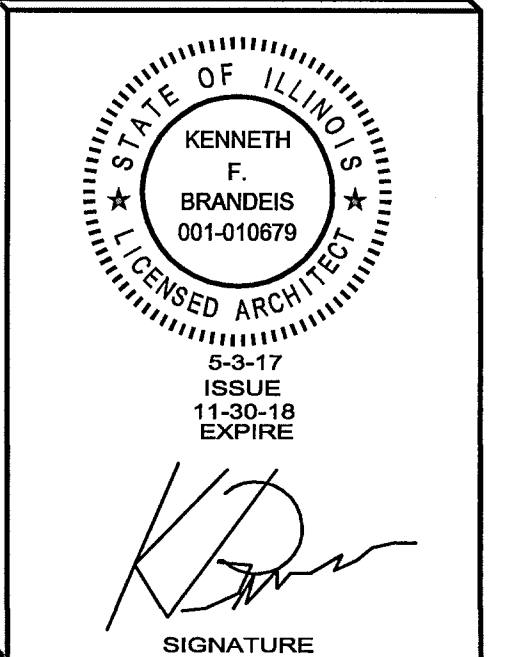
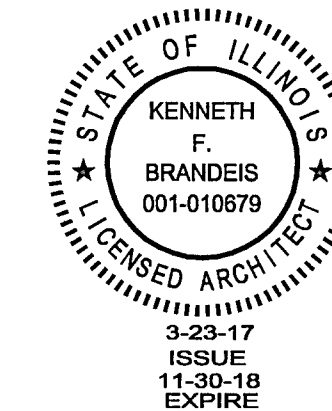
STATEMENT OF COMPLIANCE I HAVE PREPARED, OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH THE ENVIRONMENTAL BARRIERS ACT [410 ILCS 25] AND THE ILLINOIS ACCESSIBILITY CODE (71 ILL. ADM. CODE 400).

SIGNED:

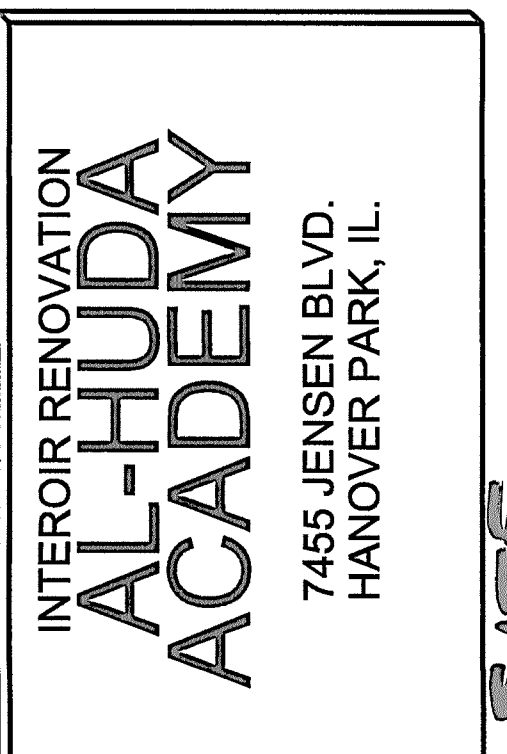
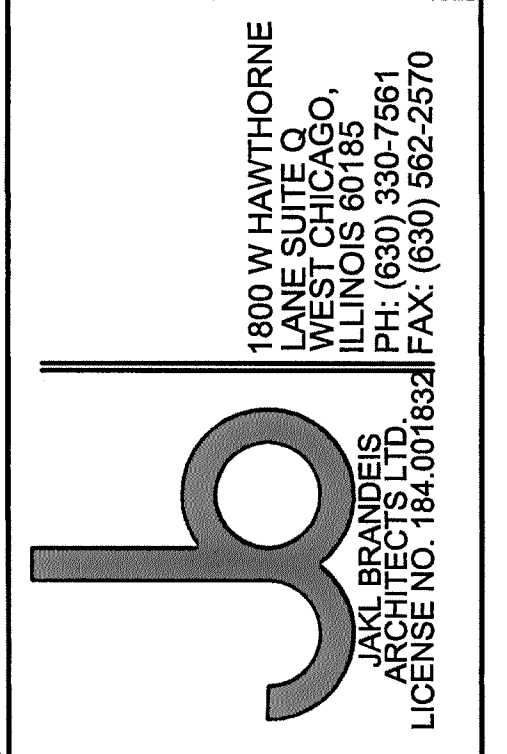
ARCHITECT/ENGINEER

SEAL
ILLINOIS REGISTRATION NO.:
001-010679

DATE: 3/23/17



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ISSUE	DATE
PERMIT	2-22-17
CODE REVISIONS	3-23-17
CODE REVISIONS	5-3-17

SHEET TITLE
INDEX, DATA
AND SYMBOL

SHEET NUMBER
T-1
1 of 23

Project Data Legend

CODE:
ILLINOIS PLUMBING CODE 2014 EDITION
INTERNATIONAL FIRE CODE - 2012 EDITION
INTERNATIONAL MECHANICAL - 2012 EDITION
NATIONAL ELECTRIC CODE - 2011 EDITION
INTERNATIONAL FUEL GAS CODE - 2012 EDITION
INTERNATIONAL BUILDING CODE - 2012 EDITION
ILLINOIS ACCESSIBILITY CODE - 2012 EDITION
INTERNATIONAL ENERGY CONSERVATION CODE - 2015 EDITION AND NFPA 101
ILLINOIS HAS ADOPTED THE 2015 IECC AND 2014 IDPH STATE PLUMBING CODE
INTERNATIONAL PROPERTY MAINTENANCE CODE - 2012 EDITION
*CODES REQUIRED BY THE STATE OF ILLINOIS, SUCH
AS THE ILLINOIS STATE PLUMBING CODE AND NFPA 101, LIFE
SAFETY CODE REMAIN IN EFFECT, AS DO ALL OTHER
EXISTING MUNICIPAL ORDINANCES.
USE CLASSIFICATION "A-3" ASSEMBLY
USE CLASSIFICATION "B" BUSINESS ASSEMBLY
USE CLASSIFICATION "E" EDUCATIONAL
CONSTRUCTION TYPE TYPE IIB - SPRINKLERED - EXISTING BUILDING
TENANT SPACE EXISTING 24420 SQ. FT.
OCCUPANCY LOAD FOR EGRESS
BUSINESS 434/100 = 4.34 PEOPLE
EDUCATIONAL 8899/20 = 444.95 PEOPLE
ACCESSORY EQUIPMENT 964/300 = 3.2 PEOPLE
ASSEMBLY 5660/15 = 377.33 PEOPLE
LIBRARY 1433/50 = 28.66 PEOPLE
DAYCARE 1557/35 = 77.85 PEOPLE
TOTAL (936.33) 937 PEOPLE
EXITS WIDTH
REQUIRED 102.6" REQUIRED 77.55"
TOTAL REQUIRED 180.15
TOTAL PROVIDED 324"
TRAVEL DISTANCE 250'
DEAD END CORRIDOR 20'-0"

PLUMBING FIXTURES
BUSINESS 434/100 = 4.345 PEOPLE
MEN 2.16 WOMEN 2.16
REQUIRED REQUIRED

WC	1	1
LAV	1	1

EDUCATION 8899/20 = 444.95 PEOPLE
MEN 222.47 WOMEN 222.47
REQUIRED REQUIRED

WC	6	6
LAV	6	6

DAYCARE 1557/20 = 77.85 PEOPLE
MEN 38.92 WOMEN 38.92
REQUIRED REQUIRED

WC	2	2
LAV	2	2

ACCESSORY EQUIPMENT RM 964 / 300 = 3.2
MEN 1.60 WOMEN 1.60
REQUIRED REQUIRED

WC	1	1
LAV	1	1

ASSEMBLY 5660 / 15 = 377.33 PEOPLE
MEN 188.65 WOMEN 188.65
REQUIRED REQUIRED

WC	2	3
LAV	1	1

LIBRARY 1433 / 50 = 28.66 PEOPLE
MEN 14.33 WOMEN 14.33
REQUIRED REQUIRED

WC	1	1
LAV	1	1

TOTAL REQUIRED
MEN WOMEN

WC	13	14
LAV	13	12

TOTAL PROVIDED
MEN WOMEN

WC	16	16
LAV	13	14

APPROVED
VILLAGE OF HANOVER PARK
FIRE DEPARTMENT
INSPECTIONAL SERVICES DIVISION
Permit No. 2017-0135 Type C4 REM-001
Date 5/9/2017 Initial TSL

DRINKING FOUNTAIN
EDUCATIONAL REQUIRED = 566.67 PEOPLE / 75 = 7.55 ASSEMBLY REQUIRED = 377.33 PEOPLE : FIRST 100 = 1 277.33/150 = 1.84
EDUCATIONAL PROVIDING 1 EXISTING 7 NEW ASSEMBLY PROVIDE 3 NEW
EDUCATIONAL MOP SINK 1 PER LEVEL EXISTING ASSEMBLY MOP SINK 1 PER LEVEL NEW
TOTAL 2.84

Drawing Symbols and Materials

- SECTION NUMBER
SHEET NUMBER (WHERE DRAWN)
DETAIL NUMBER
SHEET NUMBER (WHERE DRAWN)
ROOM NUMBER
INDIVIDUAL DOOR DESIGNATION
ELEVATION NUMBER
SHEET NUMBER (WHERE DRAWN)
DESCRIPTION
ELEVATION
COLUMN LINE NO.
FIRE EXTINGUISHER
FIRE EXTINGUISHER CABINET - RECESSED
FIRE EXTINGUISHER CABINET - SURFACE MOUNTED
"A" INDICATES ABANDON OR REMOVE AS REQUIRED
"E" INDICATES EXISTING
"R" INDICATES RELOCATION
"N" INDICATES NEW / REPLACE EXISTING
"A.F.F." INDICATES ABOVE FINISH FLOOR
EARTH/COMPACT FILL
POROUS FILL/GRAVEL
CAST-IN-PLACE CONCRETE
LT. WEIGHT CONCRETE
REINFORCING BARS
PRE-CAST CONCRETE UNITS
FACE BRICK
CONCRETE BLOCK
STRUCTURAL GLAZED TILE ON CONCRETE BLOCK
STRUCTURAL STEEL SHAPES
STEEL/METALS
WOOD - ROUGH
WOOD - BLOCKING
WOOD - FINISH
LOOSE FILL OR BATT INSUL.
RIGID INSULATION
ACOUSTICAL TILE
STEEL STUD WALL
WOOD STUD WALL
EXISTING CONSTRUCTION
EXISTING CONSTRUCTION - TO BE REMOVED

"I HEREBY CERTIFY THAT THESE PLANS
WERE PREPARED UNDER MY DIRECT
SUPERVISION AND TO THE BEST OF MY
PROFESSIONAL KNOWLEDGE, THEY
CONFORM TO ALL PERTINENT CODES"

(SIGNED)

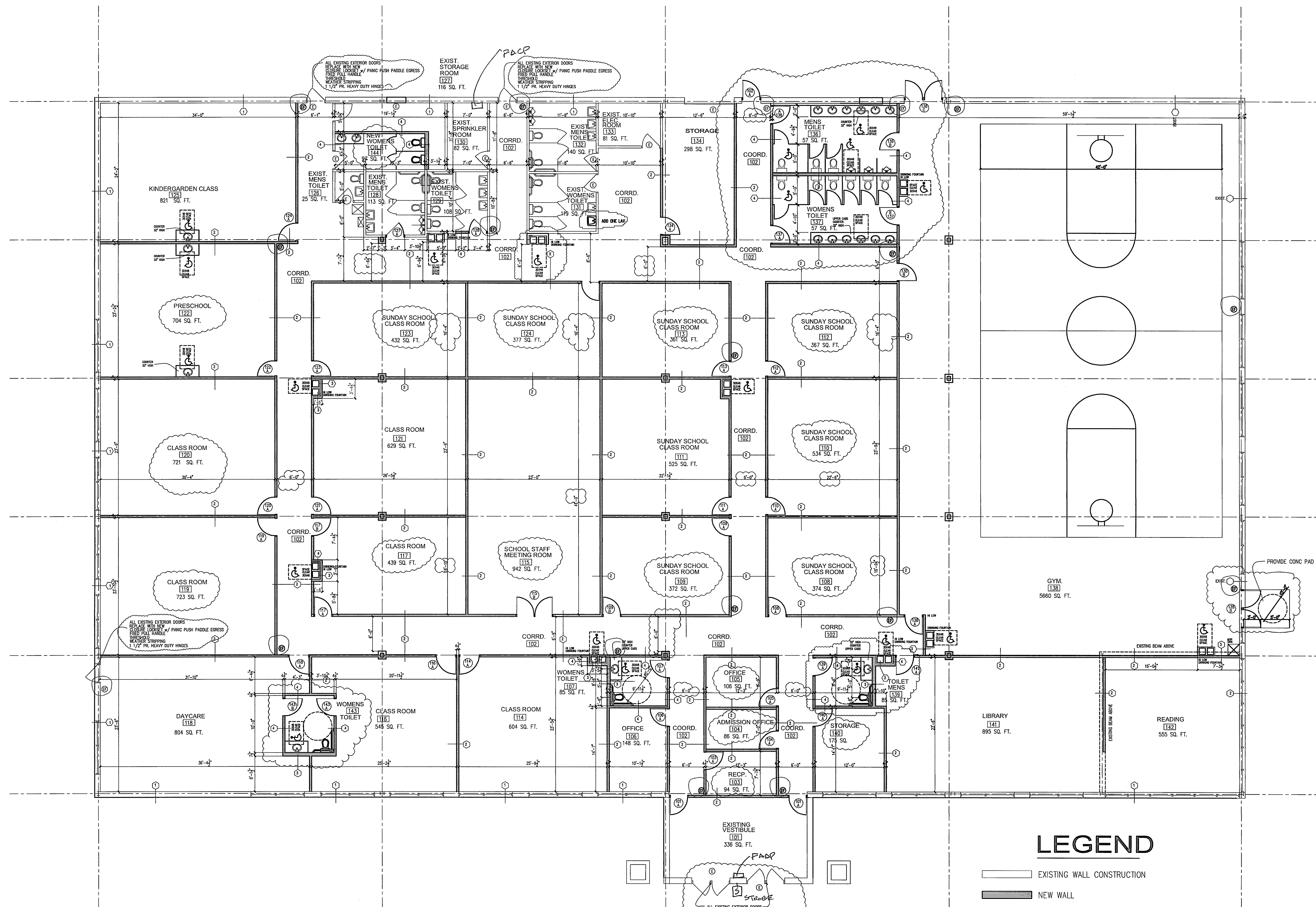
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OCCUPANCY LOADS PER ROOM

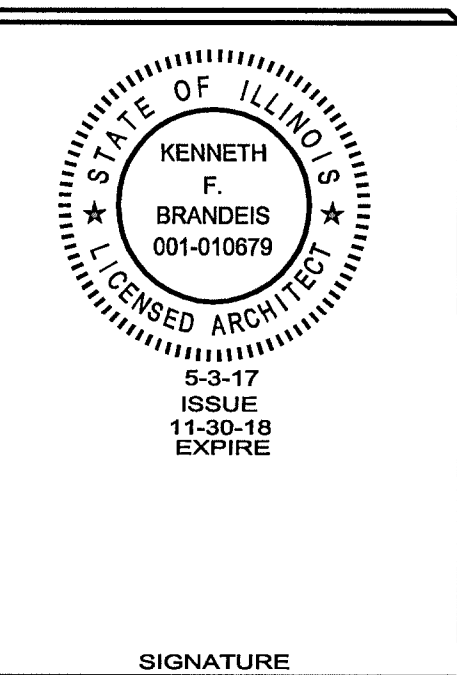
ROOM #	DESCRIPTION	SQ. FT.	PER. OCCUPANT	OCCUPANCY
103	RECEPTION	94	100 SQ. FT.	0.94
104	ADVICE	86	100 SQ. FT.	0.86
105	OFFICE	148	100 SQ. FT.	1.48
106	OFFICE	434	100 SQ. FT.	4.34
107	EDUCATIONAL			
108	SUNDAY SCHOOL CLASS ROOM	347	20 SQ. FT.	18.7
109	SUNDAY SCHOOL CLASS ROOM	372	20 SQ. FT.	18.6
110	SUNDAY SCHOOL CLASS ROOM	534	20 SQ. FT.	26.7
111	SUNDAY SCHOOL CLASS ROOM	525	20 SQ. FT.	26.25
112	SUNDAY SCHOOL CLASS ROOM	367	20 SQ. FT.	18.35
113	SUNDAY SCHOOL CLASS ROOM	361	20 SQ. FT.	18.05
114	SUNDAY SCHOOL CLASS ROOM	604	20 SQ. FT.	30.2
115	CLUB ROOM	942	20 SQ. FT.	45.2
116	CLUB ROOM	544	20 SQ. FT.	27.2
117	CLUB ROOM	439	20 SQ. FT.	24.25
118	CLUB ROOM	723	20 SQ. FT.	37.35
119	CLUB ROOM	721	20 SQ. FT.	36.15
120	CLUB ROOM	744	20 SQ. FT.	36.05
121	CLUB ROOM	432	20 SQ. FT.	21.6
122	SUNDAY SCHOOL CLASS ROOM	377	20 SQ. FT.	18.85
123	SUNDAY SCHOOL CLASS ROOM	821	20 SQ. FT.	41.05
124	SUNDAY SCHOOL CLASS ROOM	821	20 SQ. FT.	41.05
125	KEY USED			
126	NO. AL	8853		444.55
127	TOTAL			
128	CARE PRESCHOOL	800	20 SQ. FT.	40
129	SCHOOL CLASS ROOM	704	20 SQ. FT.	35.2
130	TOTAL	1504		75.2
131	ACCESSORY EQUIPMENT			
132	ROOM			
133	STORAGE	289	300 SQ. FT.	0.96
134	STORAGE	223	300 SQ. FT.	0.74
135	EXISTING SPRINKLER ROOM	82	300 SQ. FT.	0.27
136	EXISTING ELECTRICAL ROOM	81	300 SQ. FT.	0.27
137	STORAGE	289	300 SQ. FT.	0.96
138	TOTAL	964		3.2
139	ASSEMBLY			
140	GYM	5660	15 SQ. FT.	377.33
141	TOTAL			377.33
142	LIBRARY			
143	LIBRARY	895	50 SQ. FT.	17.9
144	LIBRARY	81	50 SQ. FT.	11.1
145	READING RM	555	50 SQ. FT.	11.1
146	TOTAL	1450		29



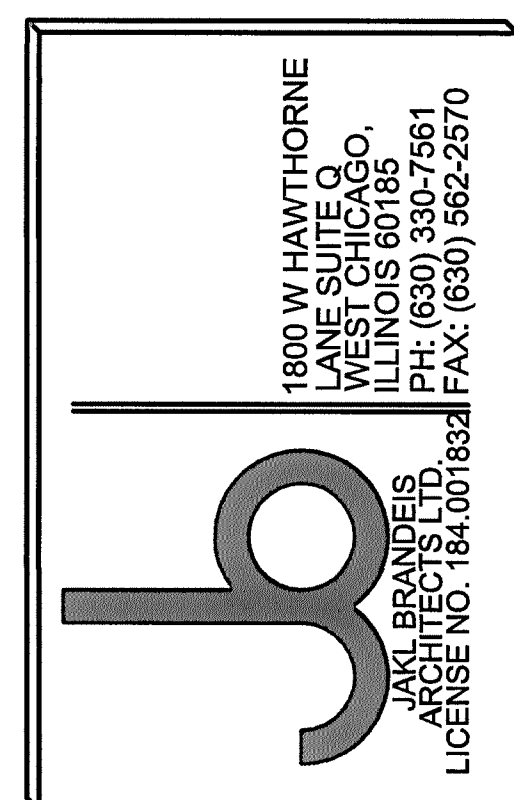
PROPOSED FLOOR PLAN
SCALE: 1/8" = 1'-0"

LEGEND

- EXISTING WALL CONSTRUCTION
- NEW WALL
- EXISTING DOOR TO REMAIN
- NEW DOOR
- NEW FIRE EXTINGUISHER INSTALLED PER NFPA WITHIN 75 FT. OF TRAVEL DISTANCE AND CURRENT NFPA INSPECTION TAGS ATTACHED



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INTERIOR RENOVATION
**AL-HUDA
ACADEMY**
7455 JENSEN BLVD.
HANOVER PARK, IL.

ISSUE	DATE
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SHEET TITLE
**PROPOSED
FLOOR PLAN**

SHEET NUMBER
A-2
3 of 23

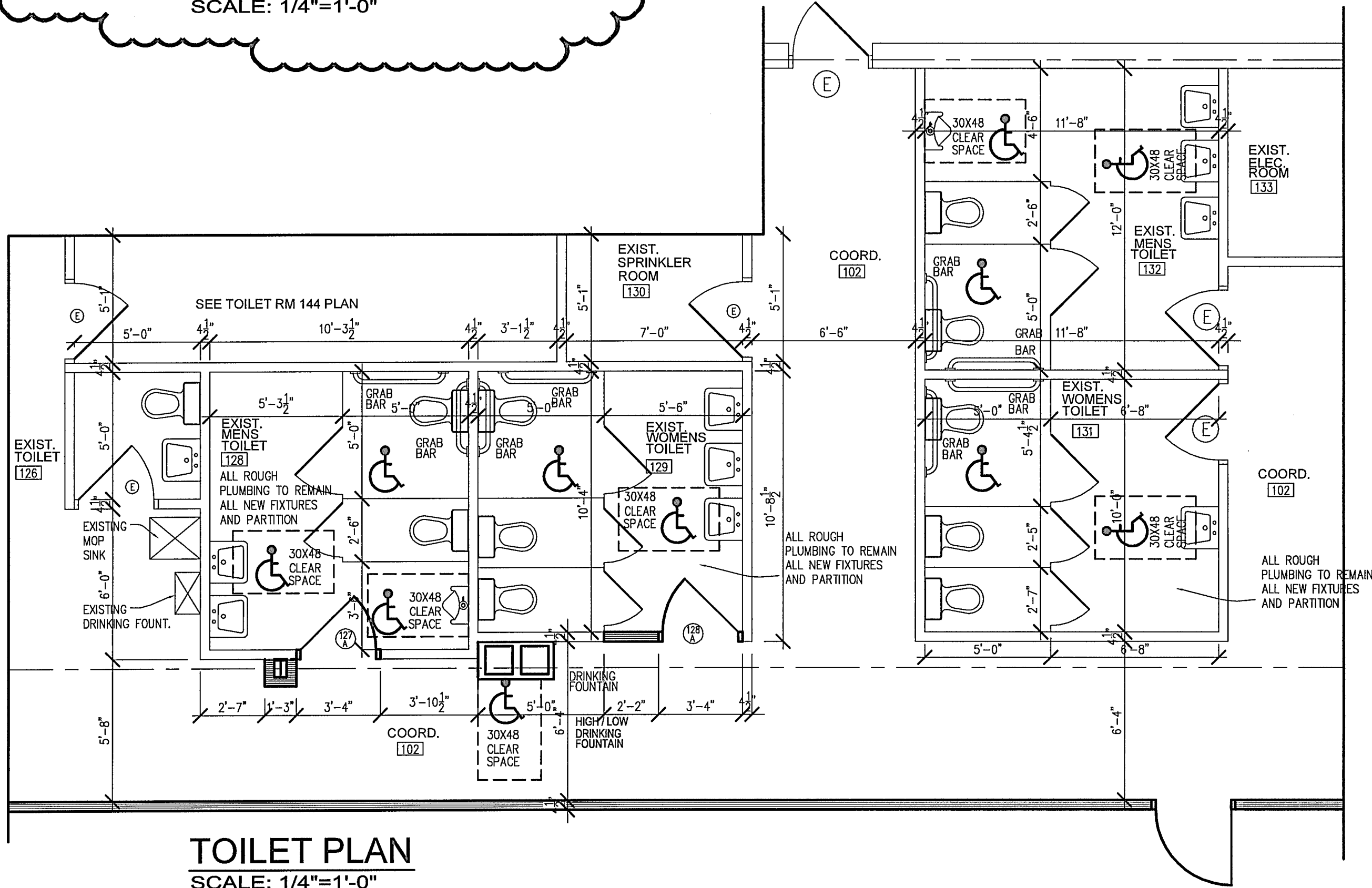
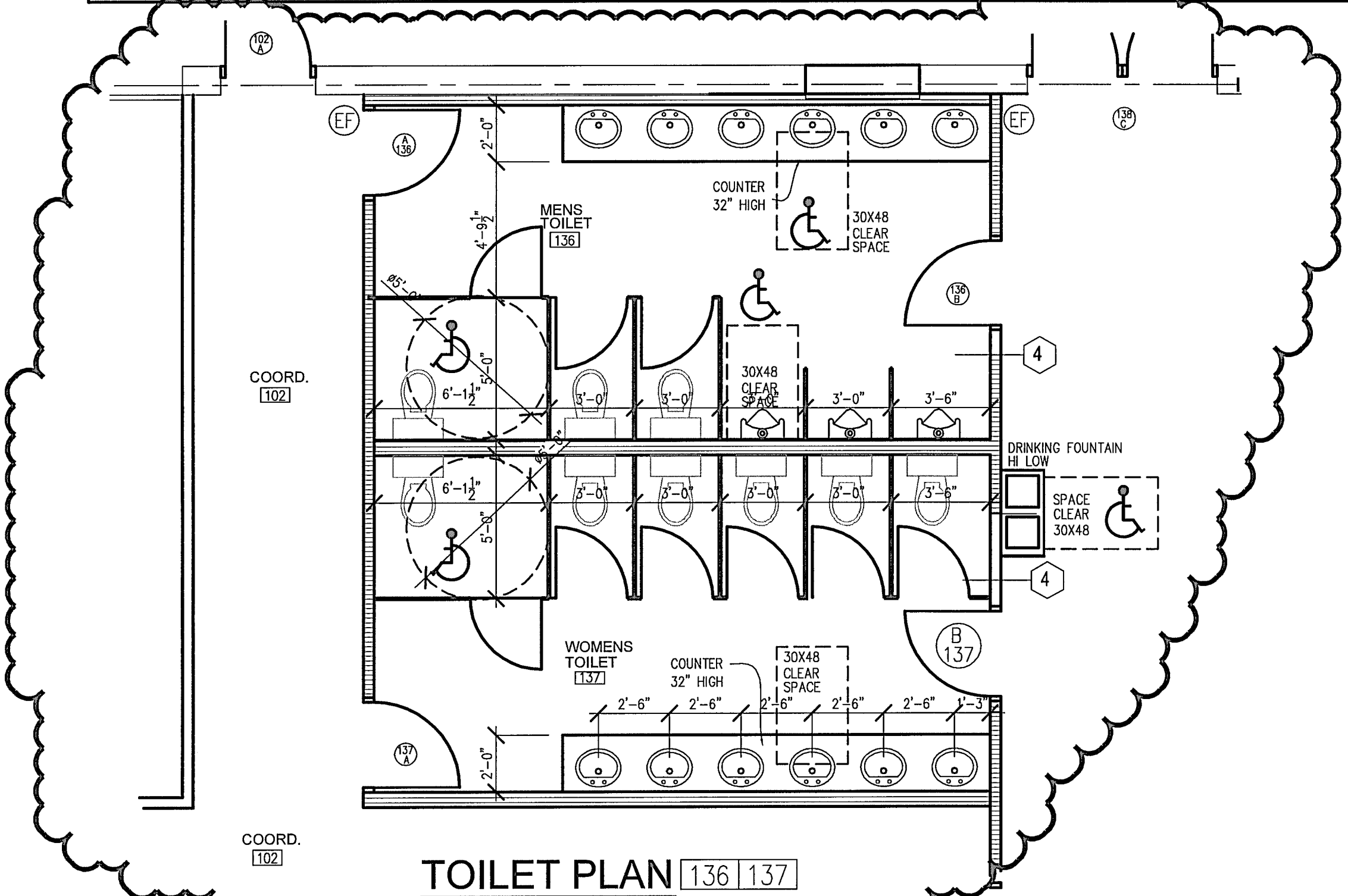
PLUMBING/RESTROOM: SCHEDULE

FIXTURE MARK/ITEM	MAKE & MODEL	DESCRIPTION	LOCATIONS
GRAB BAR	BRADLEY #812-001-18	18" LONG - CONCEALED MOUNTING; S.S. SATIN FINISH	ALL ADA RESTROOMS/STALLS
GRAB BAR	BRADLEY #812-001-36	36" LONG - CONCEALED MOUNTING; S.S. SATIN FINISH	ALL ADA RESTROOMS/STALLS
GRAB BAR	BRADLEY #812-001-42	42" LONG - CONCEALED MOUNTING; S.S. SATIN FINISH	ALL ADA RESTROOMS/STALLS
SOAP DISPENSER	BRADLEY #6562 (TO BE VERIFIED WITH OWNER)	SURFACE MOUNTED	ALL REST. ABOVE LAV., EXCEPT PRIVATE RR.
MIRROR	BRADLEY #747 SERIES; FRAMELESS - CLIP FASTENERS	36" H X 2'-0" W SW/ OUT LAV. COUNTER... & 36" H X FULL COUNTER WIDTH	ALL RESTROOMS ABOVE LAVATORIES
TOILET TISSUE DISPENSER	BRADLEY #5234	SURFACE MOUNTED; S.S. - SATIN FINISH	ALL RESTROOMS/STALLS
TOWEL DISP. & WASTE RECEPT.	BRADLEY #234-10	SEMI-RECESSED ON WALL; S.S. - SATIN FINISH	ONE IN EACH RR, EXCEPT PRIVATE OFFICE RR.
TOWEL DISPENSER	BRADLEY #250-15	SURFACE MOUNTED; - SATIN FINISH	PRIVATE OFFICE RESTROOM
NAPKIN DISPOSAL	BRADLEY #4721 SERIES	SURFACE MOUNTED; - SATIN FINISH	ALL WOMENS RR, EXCEPT FOR PRIVATE RR.
WASTE RECEPTACLE			PRIVATE OFFICE RESTROOM

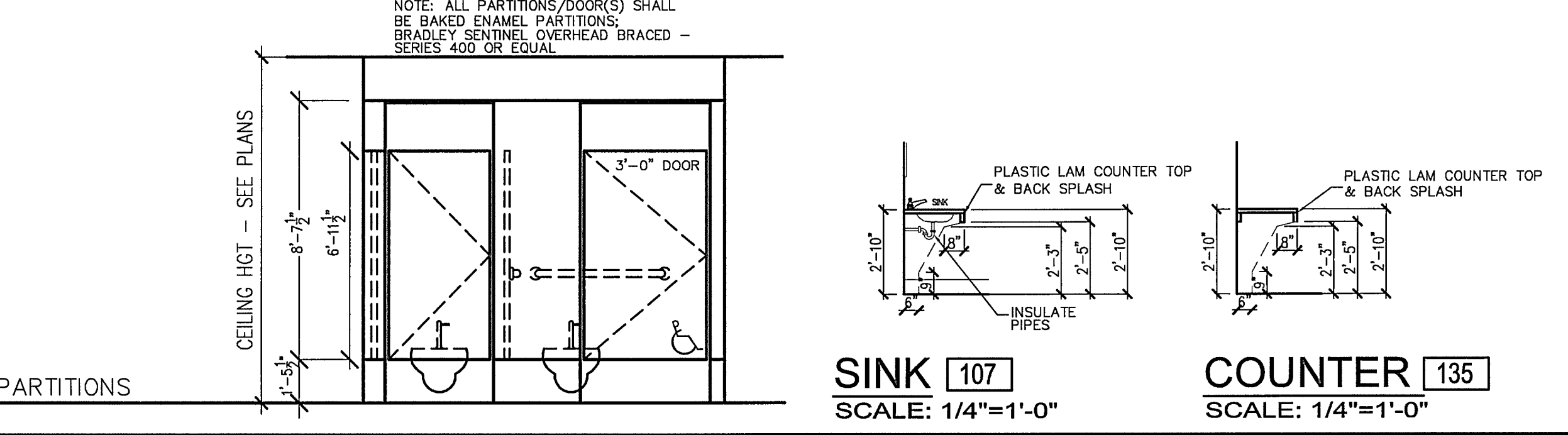
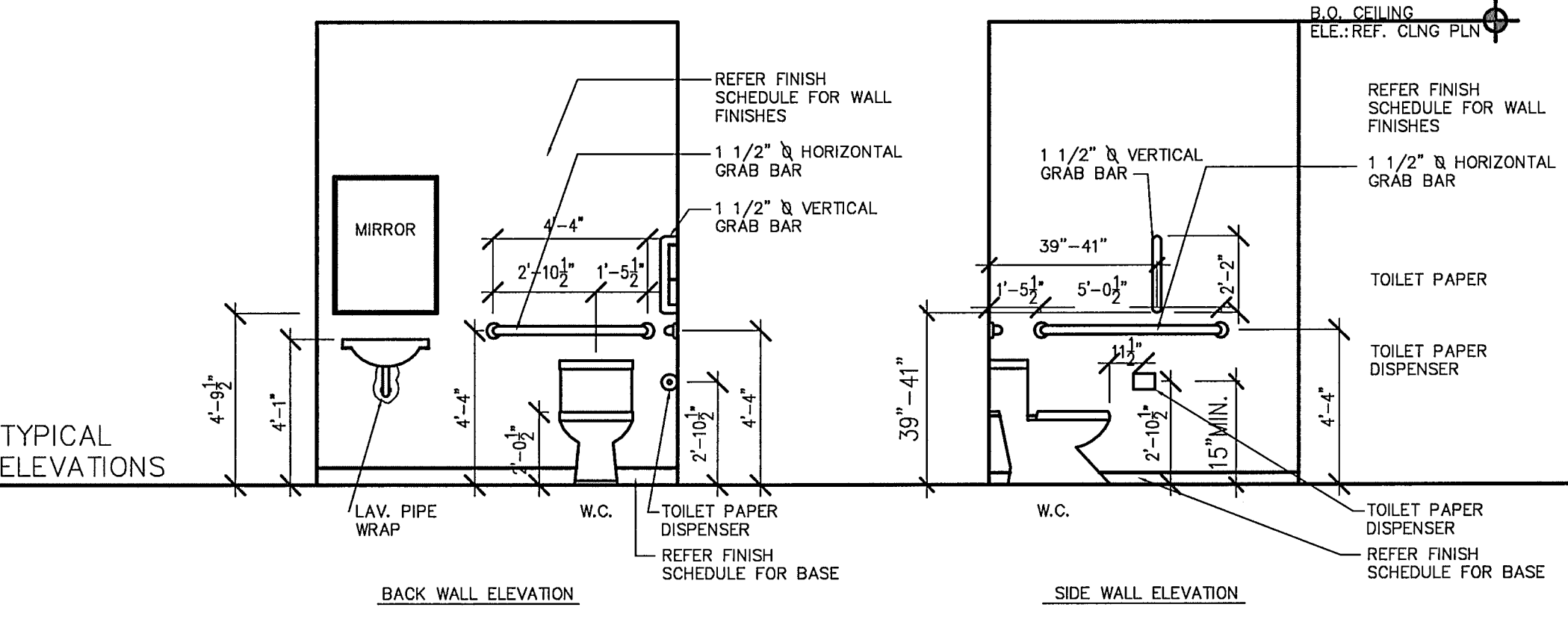
PROVIDE THE FIXTURE ACCESSORIES IN ALL THE RESTROOMS AS REQUIRED BY CODE. PROVIDE PER BELOW MAKE & MODEL OR ARCHITECT/OWNER APPROVED EQUAL.

PLUMBING/RESTROOMS GENERAL NOTES

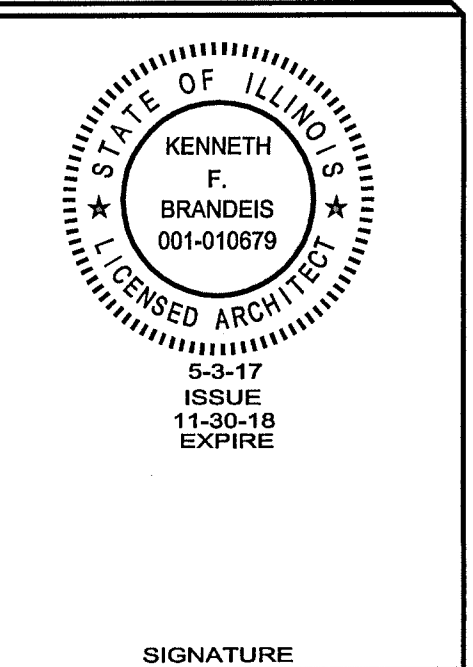
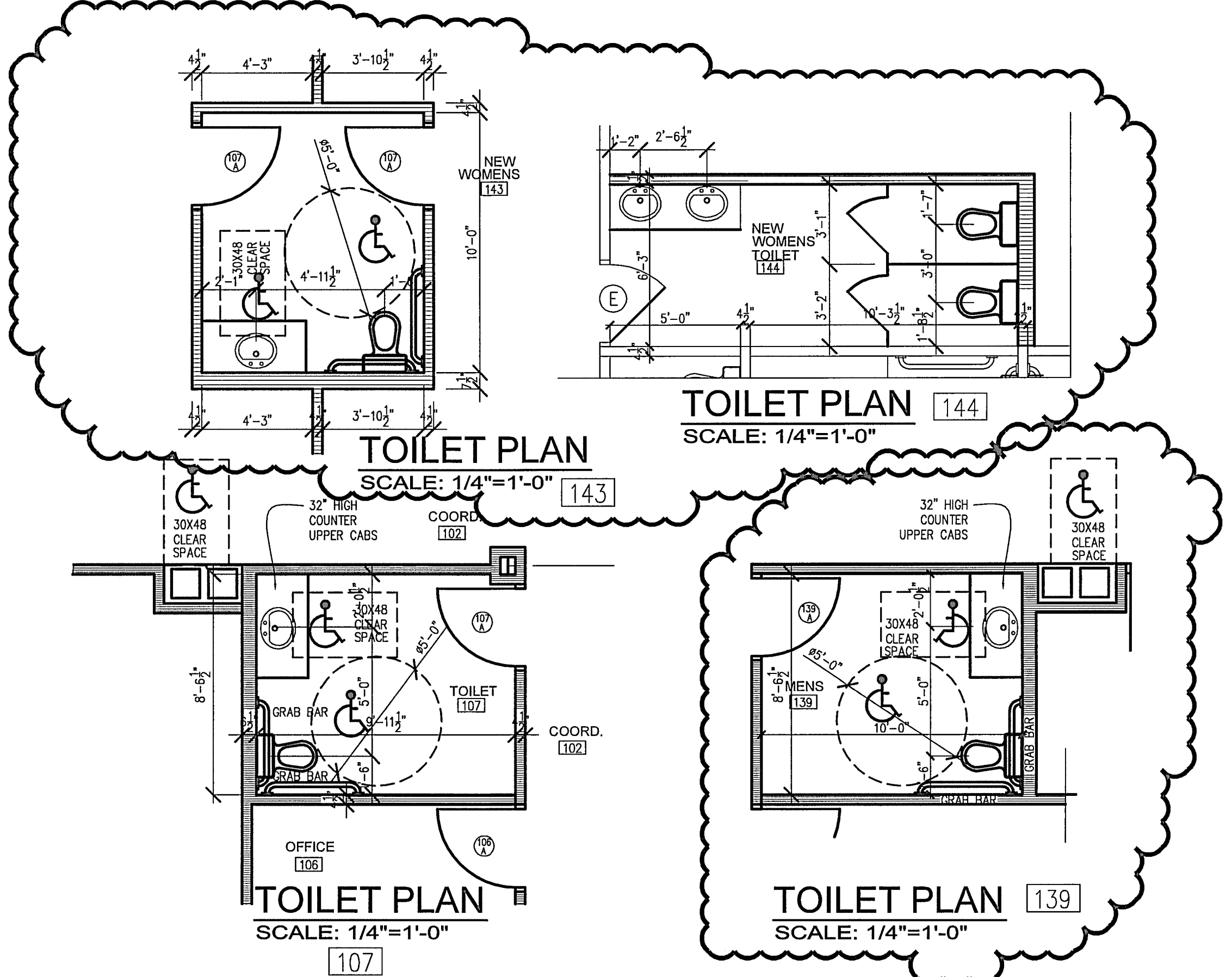
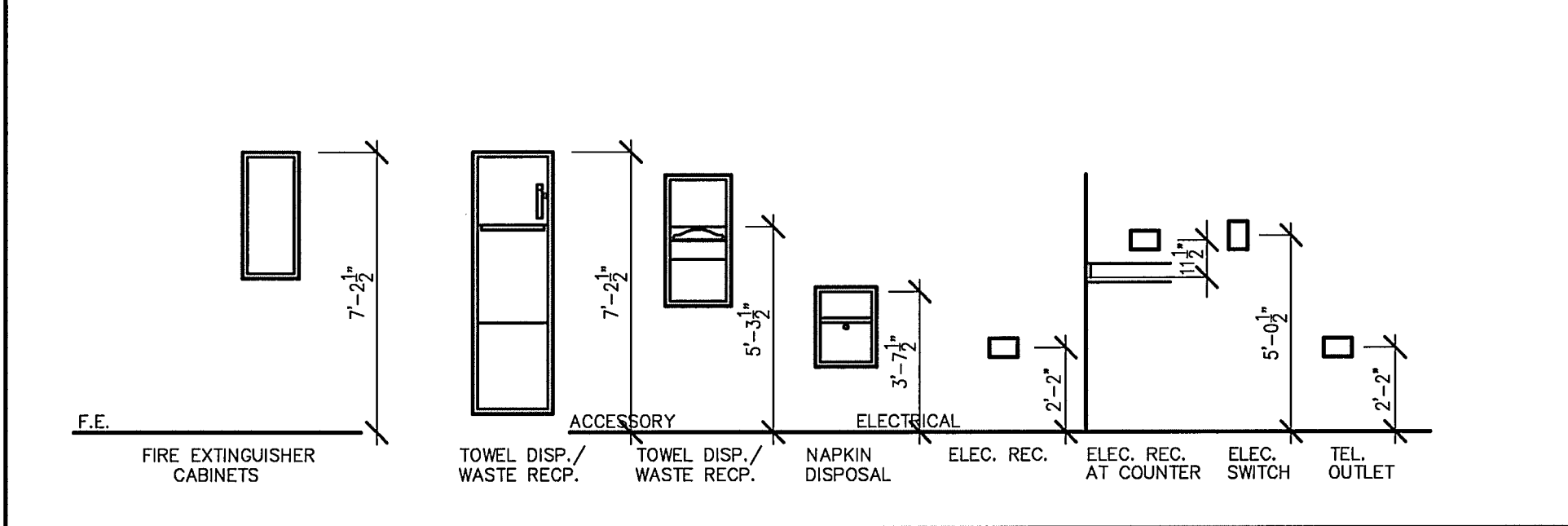
1. REFER TO SHEETS A0.3 FOR ACCESSIBILITY DETAILS, DIMENSIONS & NOTES.
2. ALL ACCESSIBILITY RELATED CRITICAL DIMENSIONS ARE:
 - 2.1. FROM CENTERLINE OF PLUMBING FIXTURE TO CENTERLINE OF PLUMBING FIXTURE, OR TO FINISHED FACE OF WALL.
 - 2.2. FROM CENTERLINE OF OPENING TO FINISH FACE OF WALL.
3. REFER TO SHEET A7.1 & A7.2 FOR INFORMATION ON DOORS.
4. PROVIDE SOLID BLOCKING FOR GRAB BARS AND ALL WALL MOUNTED FIXTURES & ACCESSORIES.
5. ALL PIPES BELOW THE LAVATORY TO BE INSULATED.
6. FAUCET CONTROLS AND MECHANISMS SHALL NOT REQUIRE ANY TIGHT GRASPING, PINCHING OR TWISTING OF WRIST, WITH OPERATING FORCE NOT TO EXCEED 5LBS/FT.
7. ALL LAVATORY COUNTER TOPS TO SHALL BE 3/4" THK. SOLID SURFACE W/ BULL NOSE EDGE & MINIMUM OF 4" HIGH INTEGRAL BACK SPLASH, MANUFACTURED BY CORIAN OR EQUAL. OWNER TO SELECT THE COLOR & DESIGN.



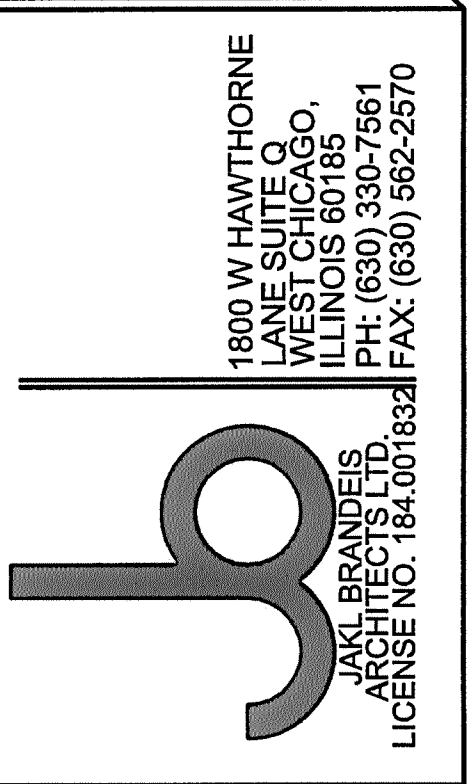
PLUMBING/RESTROOM: TYPICAL ELEVATIONS & HEIGHTS



MISCELLANEOUS FIXTURE MOUNTING HEIGHTS



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INTERIOR RENOVATION
**AL-HUDA
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7455 JENSEN BLVD.
HANOVER PARK, IL.

ISSUE	DATE
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SHEET TITLE
TOILET ROOM PLANS

SHEET NUMBER
A-4
5 of 23

DOOR SCHEDULE												
DOOR #	SIZE	DOOR		FRAME		LABEL	DETAILS			DOOR HARDWARE	NOTES	
		MAT'L	TYPE	MAT'L	TYPE		HEAD	JAMB	SILL			
101A	3'-0" X 7'-0" x 1 3/4"	ALUM	1	ALUM	A	-	4	5	6	SET 02		
101B	3'-0" X 7'-0" x 1 3/4"	ALUM	1	ALUM	A	-	4	5	6	SET 02		
102A	3'-0" X 7'-0" x 1 3/4"	WOOD	2	HM	A	-	1	2	3	SET 01	PROVIDE PANIC HARDWARE	
103A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 03		
104A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 03		
105A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 03		
106A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 04		
107A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 04		
108A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
109A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
110A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
111A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
113A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
114A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
115A	2'-3'-0" X 7'-0" x 1 3/4"	WOOD	2	HM	B	-	7	8	-	SET 03		
116A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
117A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
118A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
119A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
120A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
121A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
122A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
123A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
124A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 05		
127A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 04		
128A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 04		
134A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 06		
135A	3'-0" X 7'-0" x 1 3/4"	WOOD	2	HM	A	-	7	8	-	SET 06		
136A	3'-0" X 7'-0" x 1 3/4"	WOOD	2	HM	A	-	7	8	-	SET 04		
137A	3'-0" X 7'-0" x 1 3/4"	WOOD	2	HM	A	-	7	8	-	SET 04		
138A	3'-0" X 7'-0" x 1 3/4"	WOOD	2	HM	A	-	7	8	-	SET 02	PROVIDE PANIC HARDWARE	
138B	3'-0" X 7'-0" x 1 3/4"	WOOD	2	HM	A	-	7	8	-	SET 02	PROVIDE PANIC HARDWARE	
138C	2'-3'-0" X 7'-0" x 1 3/4"	HM	2	HM	B	-	1	2	3	SET 01	PROVIDE PANIC HARDWARE	
138D	2'-3'-0" X 7'-0" x 1 3/4"	ALUM	1	ALUM	A	-	4	5	6	SET 01	PROVIDE PANIC HARDWARE	
139A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 02		
140A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 06		
141A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 04		
143A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 04		
143B	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 04		
144A	3'-0" X 7'-0" x 1 3/4"	WOOD	3	HM	A	-	7	8	-	SET 04		

KEYING REQUIREMENTS:

- ALL CYLINDERS FOR THE PROJECT ARE TO BE SHIPPED TO THE JOBSITE WITH NO LESS THAN TWO (2) OUT KEYS EACH.
- HARDWARE SUPPLIER SHALL COORDINATE REQUIRED KEYING WITH THE OWNERSHIP, AND PROVIDE ALL CYLINDERS KEYPED IN STRICT ACCORDANCE WITH THE OWNERS DIRECTION.

HARDWARE, DOORS & FRAME NOTE:

IT IS THE RESPONSIBILITY OF THE FINISH HARDWARE, DOOR, WINDOW, & GLAZING SUPPLIER TO THOROUGHLY REVIEW THESE PLANS & SCHEDULES, AND TO INCLUDE IN HIS BID ALL ITEMS OF FINISH HARDWARE, THESE ITEMS INCLUDE BUT ARE NOT SPECIFICALLY LIMITED TO, SPECIAL TEMPLATES, WRING DIAGRAMS, SHIM KITS FOR EXIT DEVICES, FILLER BARS AND DOOR CLOSER ARM MOUNTING BRACKETS FOR BAR TYPE COORDINATORS, DROP PLATES OR OTHER DOOR CLOSER ACCESSORY ITEMS, SPECIAL FASTENERS REQUIRED FOR ATTACHMENT OF HARDWARE TO DOORS, FRAMES OR OTHER SUBSTRATES. WHERE THERE IS UNCLEAR OR CONFLICTING INFORMATION IN THE HARDWARE SETS, THE HARDWARE SUPPLIER SHALL MAKE EVERY EFFORT TO GAIN CLARITY FROM THE ARCHITECT PRIOR TO FINAL BID SUBMITTAL.

REQUIREMENTS FOR LABELING FIRE-RATED PROTECTIVE ASSEMBLIES:

ALL FIRE-RATED DOOR ASSEMBLIES SHALL BE LABELED BY AN APPROVED AGENCY. THE LABELS SHALL COMPLY WITH NFPA 80, AND SHALL BE PERMANENTLY AFFIXED TO THE DOOR OR FRAME. THE LABEL SHALL BE APPLIED AT THE FACTORY OR LOCATION WHERE FABRICATION AND ASSEMBLY ARE PERFORMED. THE LABEL FOR FIRE-RATED DOOR AND FRAME SHALL SHOW THE NAME OF MANUFACTURER, THE NAME OF THE THIRD PARTY INSPECTION AGENCY AND THE FIRE PROTECTION RATING.

REQUIREMENTS FOR LABELING FIRE-RATED PROTECTIVE GLAZING:

ALL FIRE-PROTECTION-RATED GLAZING SHALL BE LABELED TO SHOW THE NAME OF MANUFACTURER AND THE TEST STANDARD. THE LABEL SHALL BE PERMANENTLY AFFIXED TO THE GLAZING.

DOOR TYPES

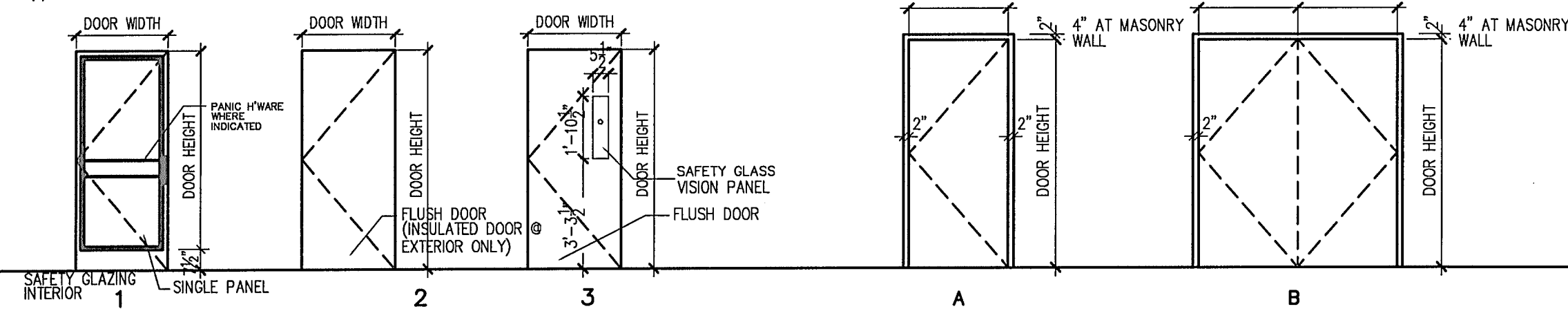
NOTE: MAX. FENESTRATION U-FACTOR FOR ALL NEW OPERABLE DOORS SHALL BE 0.45 MAX.; FOR ALL NEW DOORS 0.77 MAX; & FOR ALL OTHER EXTERIOR DOORS 0.55 MAX.

DOOR SPECIFICATIONS

- ALL EXTERIOR MAIN ENTRY/EXIT/VESTIBULE DOORS SHALL BE ANODIZED ALUMINUM NARROW STYLE STORE FRONT STYLE WITH A STANDARD FINISH - FINISH TO BE VERIFIED WITH OWNERSHIP
- ALL REMAINING EXTERIOR DOORS SHALL BE MIN. 18 GA. INSULATED HOLLOW METAL WITH STANDARD PAINT FINISH - STANDARD COLOR TO BE SELECTED BY THE OWNERSHIP.
- ALL INTERIOR RATED / NON-RATED DOORS SHALL BE MIN. 18 GA HOLLOW METAL WITH STANDARD PAINT FINISH - COLOR TO BE SELECTED BY THE OWNERSHIP.
- OWNERSHIP MAY SALVAGE/ REUSE ANY EXISTING DOOR/FRAME; AS LONG AS IT MEETS THE REQUIRED SPECIFICATIONS, CONTRACTOR TO VERIFY REPAIRING THIS WITH THE OWNER.

FRAME SPECIFICATIONS:

- ALL ENTRY & VESTIBULE DOOR FRAMES SHALL BE 2" X 4 1/2" STORE FRONT STYLE PRE-FINISHED ALUMINUM - FINISH TO BE STANDARD FINISH & TO BE VERIFIED WITH OWNERSHIP
- ALL REMAINING EXTERIOR DOOR FRAMES TO BE MIN. 18 GA. FACTORY FINISHED HULL, FRAMES WITH STANDARD PAINT FINISH - STANDARD PAINT COLOR TO BE SELECTED BY OWNERSHIP.
- ALL INTERIOR RATED FRAMES TO BE MIN. 18 GA. FACTORY FINISHED HOLLOW METAL FRAMES WITH STANDARD FINISH, LAMB.
- ALL INTERIOR NON-RATED FRAMES TO PRE-FINISHED HOLLOW METAL WITH A STANDARD COLOR FINISH. OWNERSHIP TO VERIFY THE FINISH, TYPICAL.



DOOR TYPES

DOOR FRAME TYPES

HARDWARE SET SCHEDULE

MANUFACTURERS & THEIR ABBREVIATIONS: GLY - GLYN-JOHNSON HARDWARE, HAG - HAGER HINGE, IVE - H.B. IVES, LCN - LCN CLOSERS, NCP - NATIONAL GUARD PRODUCTS, SARG - SARGENT, SCH - SCHLAGE LOCK COMPANY, TRM - TRIMCO, VON - VON DUPPIN

SUBSTITUTIONS: ALL BIDDERS SHALL BE ALLOWED TO PROVIDE "EQUAL OR BETTER" SUBSTITUTIONS WITH A WRITTEN REQUEST TO THE OWNERSHIP / ARCHITECT FOR REVIEW AND APPROVAL.

SET # 01

EXTERIOR ENTRY DOOR(S) - (HEAVY DUTY USE)

- 1 CONTINUOUS HINGE (EACH LEAF), 2240 BY IVE / 780-2240 BY ROTON (WHERE APPLICABLE)
- 1 SURFACE CLOSER W/ BACKCHECK & HOLD-OPEN DEVICE AT EACH LEAF, 4110 SERIES BY LCN
- 1 PANIC DEVICE PER LEAF, 2272 (SURFACE MNT. VERTICAL ROD) LEVER, STRIKE BY VON
- 1 CYLINDER (KEYING PER OWNER REQUIREMENTS), RM CYLINDER BY SAN
- 1 SET WEATHER-STRIPPING & DOOR BRUSH (EACH BY IVE)
- 1 PRE-FINISHED ADA COMPLIANT ALUMINUM THRESHOLD

SET # 02

INTERIOR ENTRY DOOR(S) - (HEAVY DUTY USE)

- 1 CONTINUOUS HINGE (EACH LEAF), 2240 BY IVE / 780-2240 BY ROTON (WHERE APPLICABLE)
- 1 SURFACE CLOSER W/ BACKCHECK & HOLD-OPEN DEVICE AT EACH LEAF, 4110 SERIES BY LCN
- 1 PUSH-PLATE, METAL, 8200 4" X 16" W/ ROUNDED CORNERS BY IVE
- 1 FULL-HANDLE 8200-4 BY ROUNDED CORNERS BY IVE
- 1 PRE-FINISHED ADA COMPLIANT ALUMINUM THRESHOLD
- 1 CYLINDER (KEYING PER OWNER REQUIREMENTS), RM CYLINDER BY SAN
- 1 SET WEATHER-STRIPPING & DOOR BRUSH (EACH BY IVE) / 1270WK BY TRM

SET # 03

OFFICE (PRIVACY) DOOR

- 1 1/2 PAIR S.S. B.B. BUTT HINGES PER EACH DOOR LEAF, 58B1 4.5X4.5 BY IVE
- 1 OFFICE LOCKSET, JOISTS WITH ATTEND LEVER BY SCH (KEYING PER OWNER REQUIREMENTS)
- 1 DOOR STOP (WALL TYPE OR OVERHEAD TYPE), W54000V BY IVE / 1270WK BY TRM
- 1 SURFACE CLOSER W/ BACKCHECK AT RATED DOOR LOCATIONS ONLY, 4110 SERIES BY LCN

SET # 04

INTERIOR RESTROOM DOORS

- 2 PAIR BUTT HINGES EACH LEAF, 58B1 4.5X4.5 BY IVE
- 1 DOOR CLOSER
- 1 S.S. MDP PLATE, 8400 10" X 34" BY IVE
- 1 GLASSHOWN LOCKSET, L500L 07A BY SCH
- 1 SURFACE CLOSER W/ BACKCHECK, 4110 SERIES BY LCN
- 1 DOOR STOP (WALL TYPE OR OVERHEAD TYPE), W54000V BY IVE / 1270WK BY TRM
- 1 PROVIDE LOCK PLATE AT ALL WOOD DOOR IN TOILET ROOM, CORRIDORS, AND STAIR WAYS
- 10" HIGH AND WIDTH OF DOOR

SET # 05

CLASSROOM DOOR(S)

- 1 1/2 PAIR(S) S.S. BUTT HINGES (EACH LEAF), 58B1 4.5X4.5 BY IVE
- 1 GLASSHOWN LOCKSET, L500L 07A BY SCH
- 1 SURFACE CLOSER W/ BACKCHECK, 4110 SERIES BY LCN
- 1 DOOR STOP (WALL TYPE OR OVERHEAD TYPE), W54000V BY IVE / 1270WK BY TRM
- 1 S.S. MDP PLATE, 8400 10" X 34" BY IVE

SET # 06

UTILITY DOOR (STOREROOM LOCK)

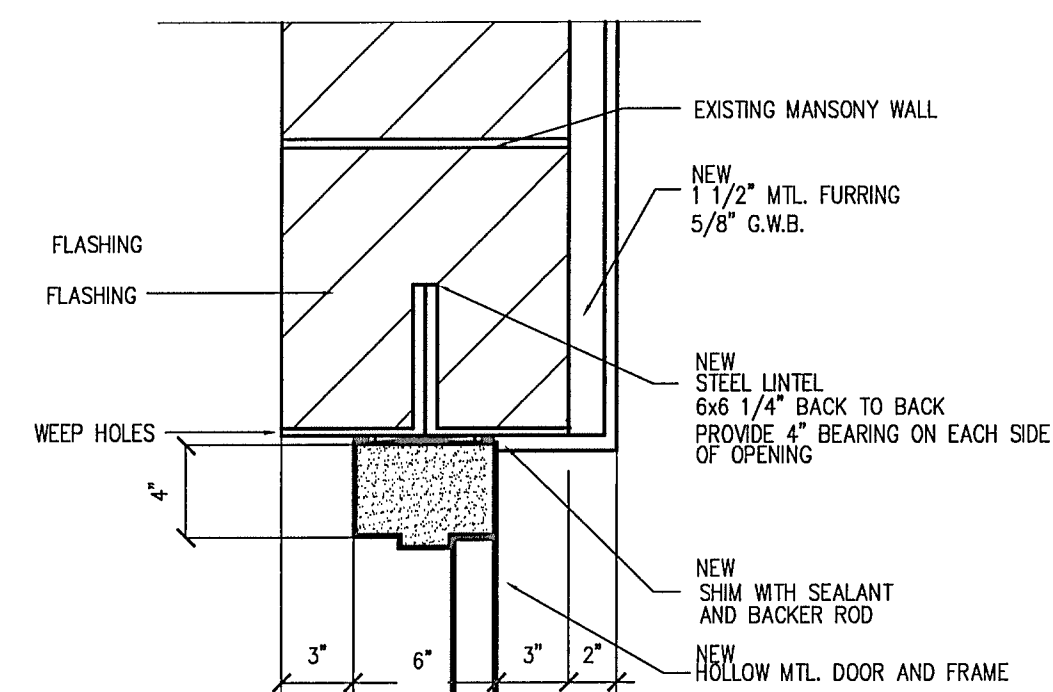
- 1 1/2 PAIR(S) B.B. BUTT HINGES (EACH LEAF), 58B1 4.5X4.5 BY IVE
- 1 STOREROOM LOCKSET, L500L 07A BY SCH
- 1 SURFACE CLOSER W/ BACKCHECK AT RATED DOOR LOCATIONS ONLY, 4110 SERIES BY LCN
- 1 CYLINDER (KEYING PER OWNER REQUIREMENTS), RM CYLINDER BY SAN

GENERAL NOTES- DOORS

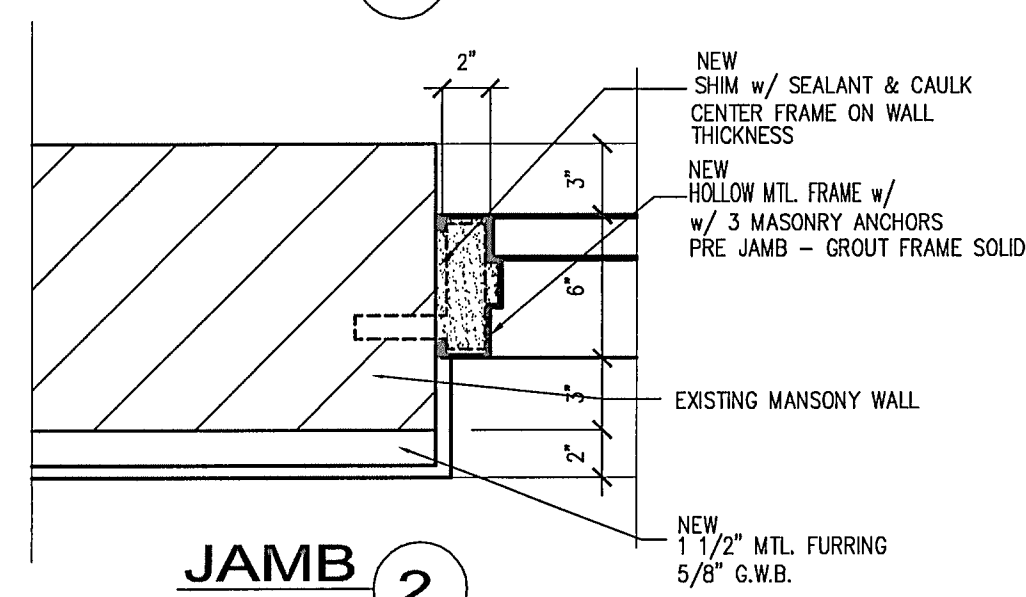
- CONTRACTOR MUST VERIFY ALL ROUGH OPENING AND MASONRY DIMENSIONS, WITH DOOR MANUFACTURER PRIOR TO ORDERING, FABRICATING OR INSTALLATION.
- ALL DOORS ON EXISTING DOORS SHALL BE PLACED OPERABLE FROM THE TOP DOWN WHICH UNDER IT TO BE MADE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
- INTERIOR DOORS - CLOSERS SHALL BE MOUNTED TOWARD UNFINISHED SPACE. PARALLEL ARM SHALL BE USED WHEN MOUNTED TOWARD FINISHED SPACE.
- EXTENSION DOORS - CLOSERS SHALL BE MOUNTED TOWARD INTERIOR SPACE.
- DOORS WITH CLOSERS SHALL REQUIRE NO MORE THAN ONE (1) LIPS TO EACH / PULL OPEN AT INTERIOR HINGED LOCATIONS & SHALL REQUIRE NO MORE THAN EIGHT-AND-A-HALF (8.5) LBS. MAX. AT EXTERIOR HINGED LOCATIONS.
- DOOR OPERATING FORCE SHALL BE NO MORE THAN 5 LBS. FORCE.
- DOOR OPERATING FORCE FOR ALL DOORS SHALL NOT EXCEED 5 LBS. FORCE.
- DOORS IN VOLTAGE REQUIREMENTS FOR ELECTRIC LOCKS (CARD READERS) W/ SECURITY SENSOR AND HARDWARE SELECTED.
- PROVIDE SILENT REINFORCING AT LOCATIONS OF ALL LOCK & LATCH SETS AND AT LOCATIONS OF CLOSERS WHERE APPLICABLE.
- CHANGES TO THE PL PLANS SYSTEM AS A TEMPORARY MEASURE TO THE BUILDING, ALL EXISTING STRINGS AND MAGNETIC "HOLD OPEN" LOCKS SHALL RELEASE AND THOSE DOORS SHALL BE READILY OPENABLE.
- ALL DOOR CLOSING SHALL BE CLEAR & EASY TO BE OPENED BY HAND.
- ALL DOOR CLOSING SHALL BE CLEAR & EASY TO BE OPENED BY HAND.
- SEE FLOOR PLANS FOR DOOR NUMBERS, LOCATIONS, AND SWING OF DOORS(S).
- ALL INTERIOR DOORS TO BE PRIME AND PAINTED, UNLS.
- ALL SAFETY / TEMPERED FRAMES SHALL BEAR A PERMANENT MARKING/LABEL, INDICATING THE MANUFACTURER & THE TYPE OF GLASS OR SHALL BEAR THE U.L. RESISTANCE LABEL, TYPICAL.
- ALL EXTERIOR HOLLOW METAL DOORS & FRAMES SHALL BE GALVANIZED AND INSULATED. ALL H.M. FRAMES TO BE FULLY WELDED.
- ALL EXTERIOR HOLLOW METAL DOORS & FRAMES SHALL BE GALVANIZED AND INSULATED. ALL H.M. FRAMES TO BE FULLY WELDED.
- PUSH- PLATES, PULLS AND PROTECTION PLATES SHALL BE GENERALLY .010 IN. (2.54 MM) B20 SATIN STAINLESS STEEL (UNLS).
- DOOR CLOSERS FACTORY POWDER COATED TO MATCH OTHER HARDWARE (UNLS).
- ALUMINUM ITEMS SHALL MATCH PREDOMINANT ADJACENT MATERIAL. SEALS THE MATCH WITH FRAME COLORS.
- ALL HOLLOW METAL FRAMES SHALL BE EQUIPPED WITH MINIMUM THREE (3) DOOR SLENDERS, TYPICAL.
- PROVIDE A TACTILE WARNING (KNURLING) ON ALL DOOR HANDLES FOR DOOR HANDLES FOR DOORS THAT LEAD TO POTENTIALLY DANGEROUS AREAS, SUCH AS ELECTRICAL, MECHANICAL, OR TRASH ROOMS

ROOM FINISH SCHEDULE

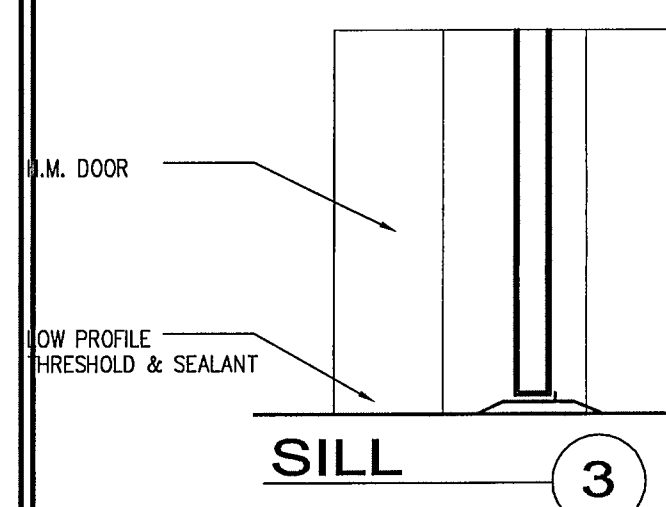
NO.	ROOM NAME	FLOOR	BASE	WALLS	CEILING	CEILING HEIGHT	REMARK'S
		VINYL TILE STAINED CONC. WITH EPOXY SEALER VINYL		GYPSUM BOARD PAINT EPOXY PAINT WASHABLE	SUSPENDED ACOUSTICAL TILE EXPOSED	10'-0" EXISTING BAR JOISTS	
101	EXISTING VESTIBULE	•		•	•	•	
102	CORRIDOR	•	•	•	•	•	
103	RECEPTION	•	•	•	•	•	
104	ADMISSION OFFICE	•	•	•	•	•	
105	OFFICE	•	•	•	•	•	
106	OFFICE	•	•	•	•	•	
107	TOILET	•	•	•	•	•	
108	SUNDAY SCHOOL CLASS ROOM	•	•	•	•	•	
109	SUNDAY SCHOOL CLASS ROOM	•	•	•	•	•	
110	SUNDAY SCHOOL CLASS ROOM	•	•	•	•	•	
111	SUNDAY SCHOOL CLASS ROOM	•	•	•	•	•	
112	SUNDAY SCHOOL CLASS ROOM	•	•	•	•	•	
113	CLASS ROOM	•	•	•	•	•	
114	CONFERENCE ROOM	•	•	•	•	•	
115	CLASS ROOM	•	•	•	•	•	
116	CLASS ROOM	•	•	•	•	•	
117	CLASS ROOM	•	•	•	•	•	
118	DAYCARE	•	•	•	•	•	
119	CLASS ROOM	•	•	•	•	•	
120	CLASS ROOM	•	•	•	•	•	
120	CLASS ROOM	•	•	•	•	•	
121	CLASS ROOM	•	•	•	•	•	
122	PRESCHOOL	•	•	•	•	•	
123	SUNDAY SCHOOL CLASS ROOM	•	•	•	•	•	
124	SUNDAY SCHOOL CLASS ROOM	•	•	•	•	•	
125	KINDERGARDEN CLASS	•	•	•	•	•	
126	EXISTING TOILET	•	•	•	•	•	ALL NEW EXCEPT ROUGHT PLUMBING
127	EXISTING STORAGE ROOM	•	•	•	•	•	
128	EXISTING MEN'S TOILET	•	•	•	•	•	ALL NEW EXCEPT ROUGHT PLUMBING
129	EXISTING WOMEN'S TOILET	•	•	•	•	•	ALL NEW EXCEPT ROUGHT PLUMBING
130	EXISTING SPRINKLER ROOM	•	•	•	•	•	NO WORK TO BE DONE
131	EXISTING WOMEN'S TOILET	•	•	•	•	•	ALL NEW EXCEPT ROUGHT PLUMBING
132	EXISTING MEN'S TOILET	•	•	•	•	•	ALL NEW EXCEPT ROUGHT PLUMBING
133	EXISTING ELECTRICAL RM	•	•	•	•	•	NO WORK TO BE DONE
134	STORAGE ROOM	•	•	•	•	•	
135	NOT USED	•	•	•	•	•	
136	MEN'S TOILET	•	•	•	•	•	
137	WOMEN'S TOILET	•	•	•	•	•	
138	GYM	•	•	•	•	•	
139	MEN'S TOILET	•	•	•	•	•	
140	STORAGE	•	•	•	•	•	
141	LIBRARY	•	•	•	•	•	
142	READING AREA	•	•	•	•	•	
143	WOMEN'S TOILET	•	•	•	•	•	
144	MEN'S TOILET	•	•	•	•	•	



HEAD 1

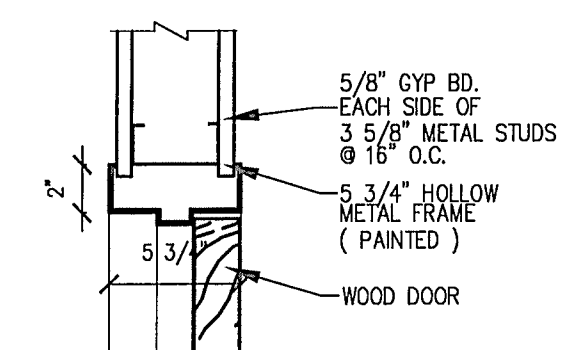


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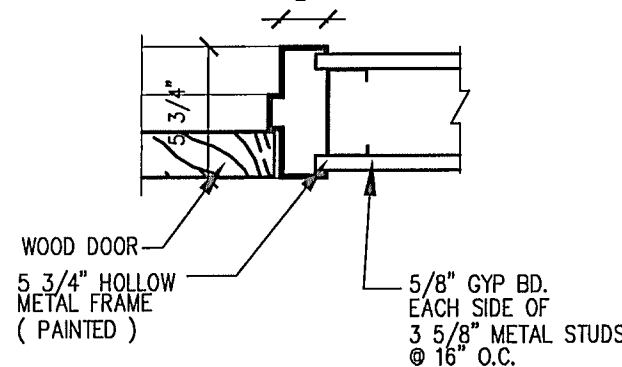


SILL 3

H.M. DOOR DETAILS
SCALE: 1 1/2" = 1'-0"

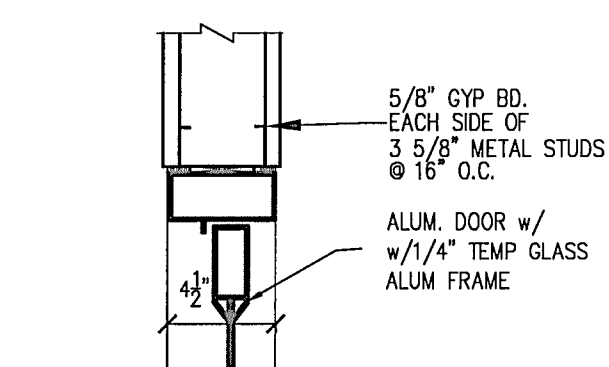


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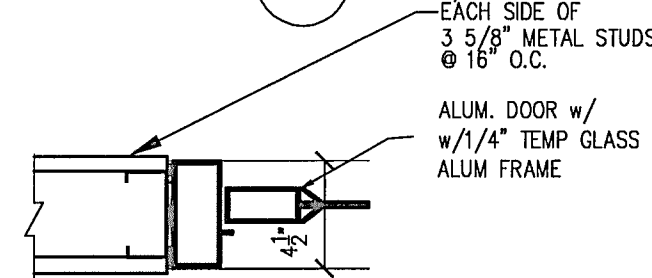


JAMB 8

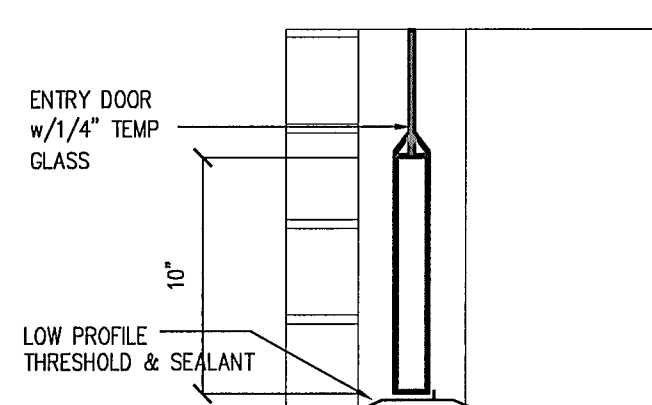
WOOD DOOR INTERIOR DETAILS
SCALE: 1 1/2" = 1'-0"



HEAD 4

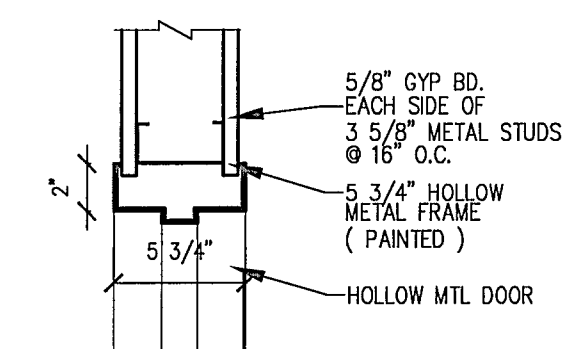


JAMB 5

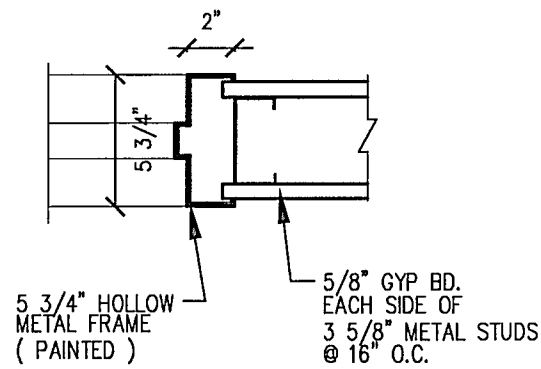


SILL 6

ALUM DOOR DETAILS
SCALE: 1 1/2" = 1'-0"

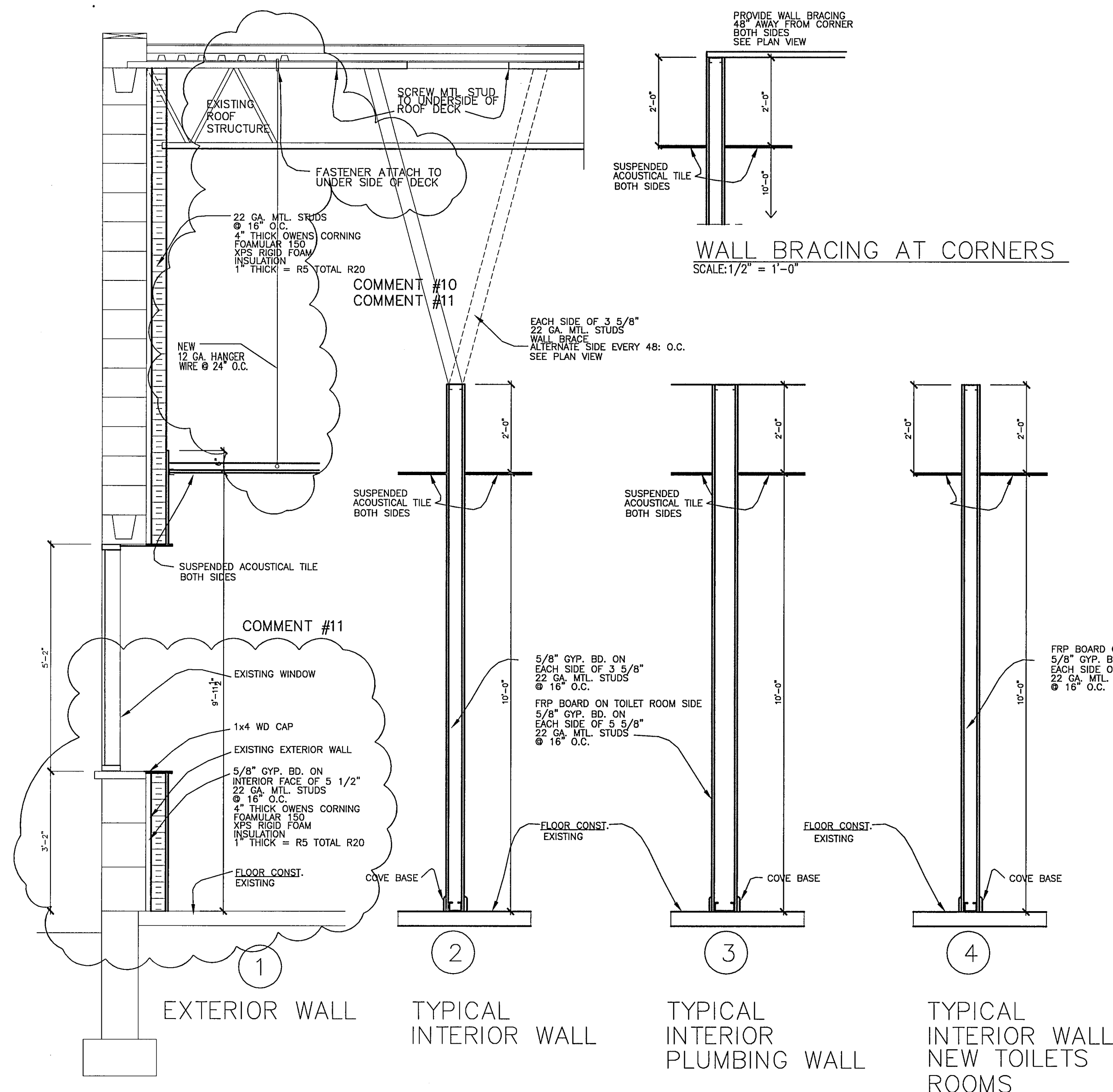


HEAD 9

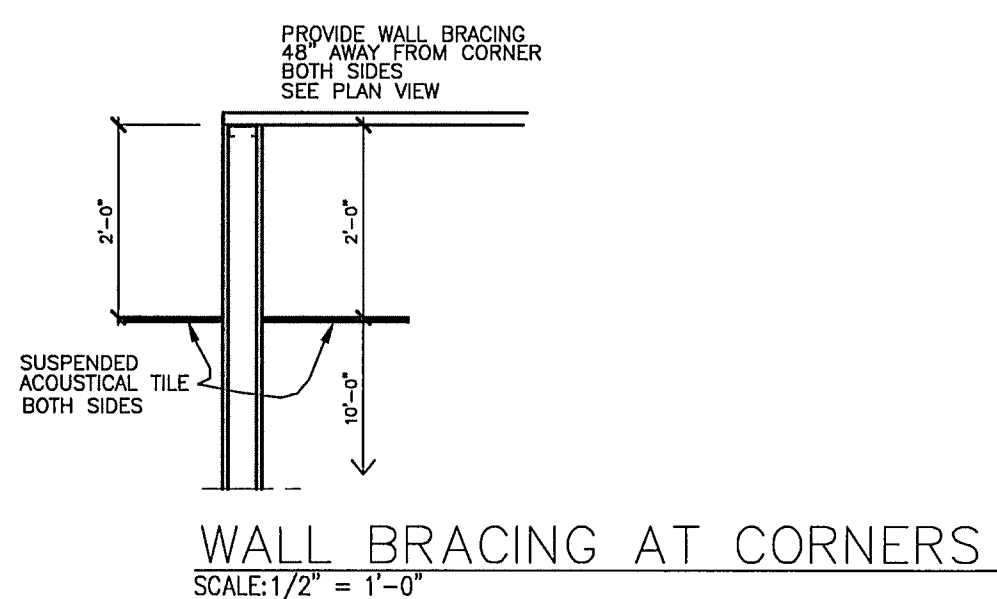


JAMB 10

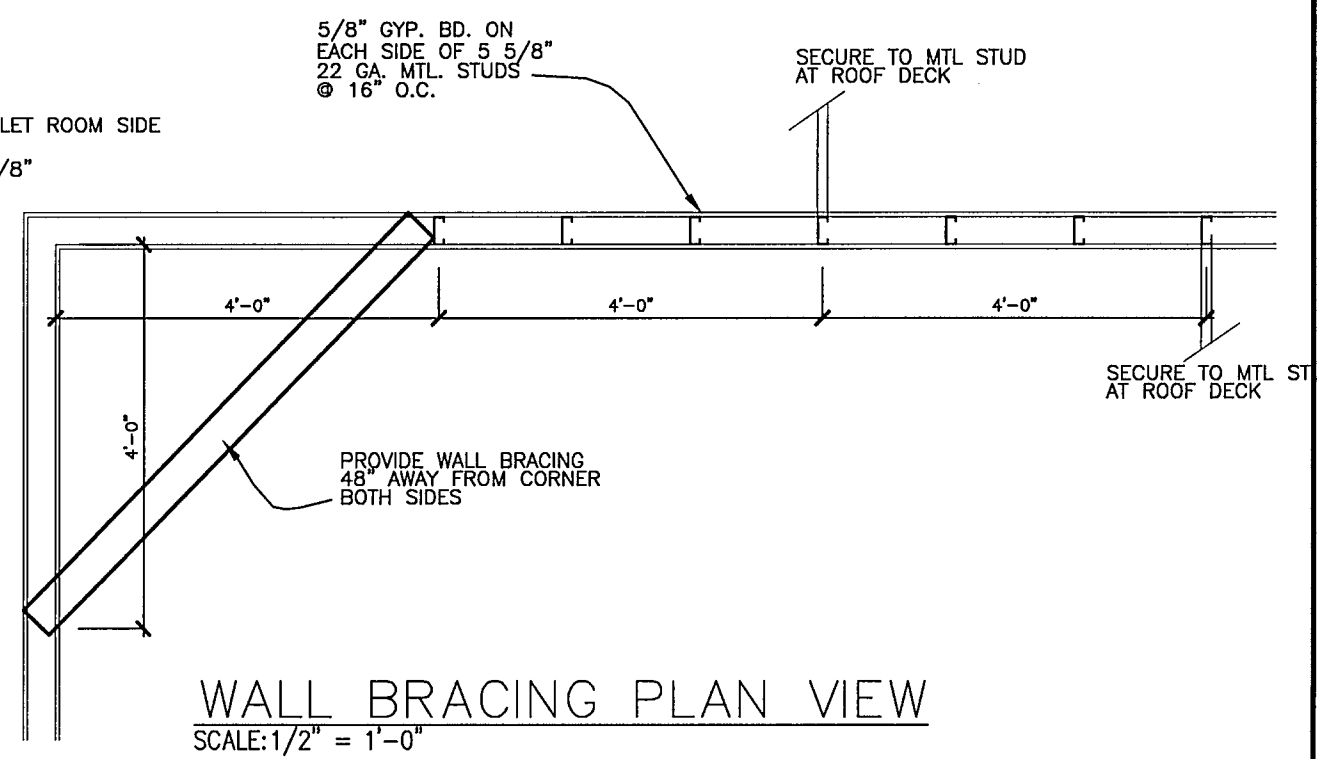
H.M. DOOR INTERIOR DETAILS
SCALE: 1 1/2" = 1'-0"



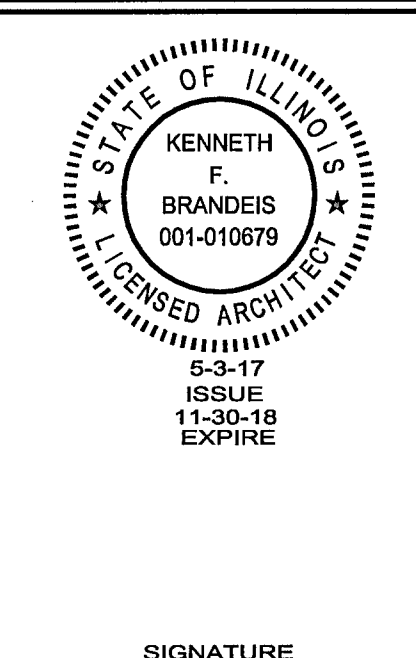
WALL TYPE
SCALE: 1/2" = 1'-0"



WALL BRACING AT CORNERS
SCALE: 1/2" = 1'-0"

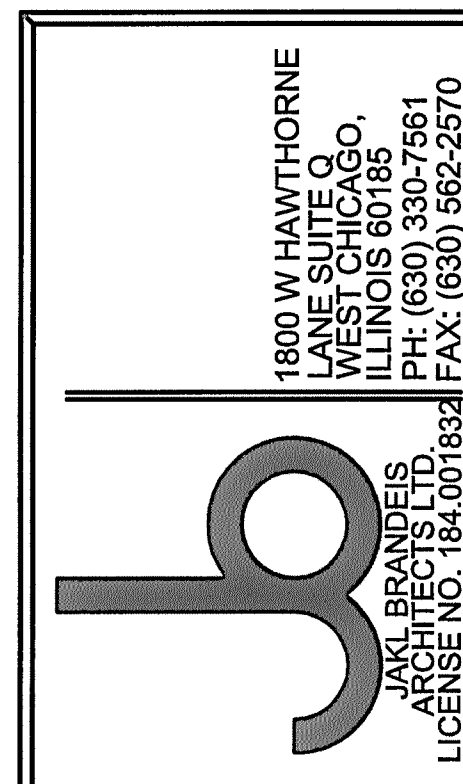


WALL BRACING PLAN VIEW
SCALE: 1/2" = 1'-0"



SIGNATURE

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INTERIOR RENOVATION
**AL-HUDA
ACADEMY**
7455 JENSEN BLVD.
HANOVER PARK, IL.

ISSUE	DATE
PERMIT	2-22-17
CODE REVISIONS	3-23-17
CODE REVISIONS	5-3-17

SHEET TITLE
**WALL TYPES
DOOR DETAILS**

SHEET NUMBER
A-6
7 of 23



1800 W HAWTHORNE
LANE SUITE Q
WEST CHICAGO,
ILLINOIS 60185
PH: (630) 330-7561
FAX: (630) 562-2570

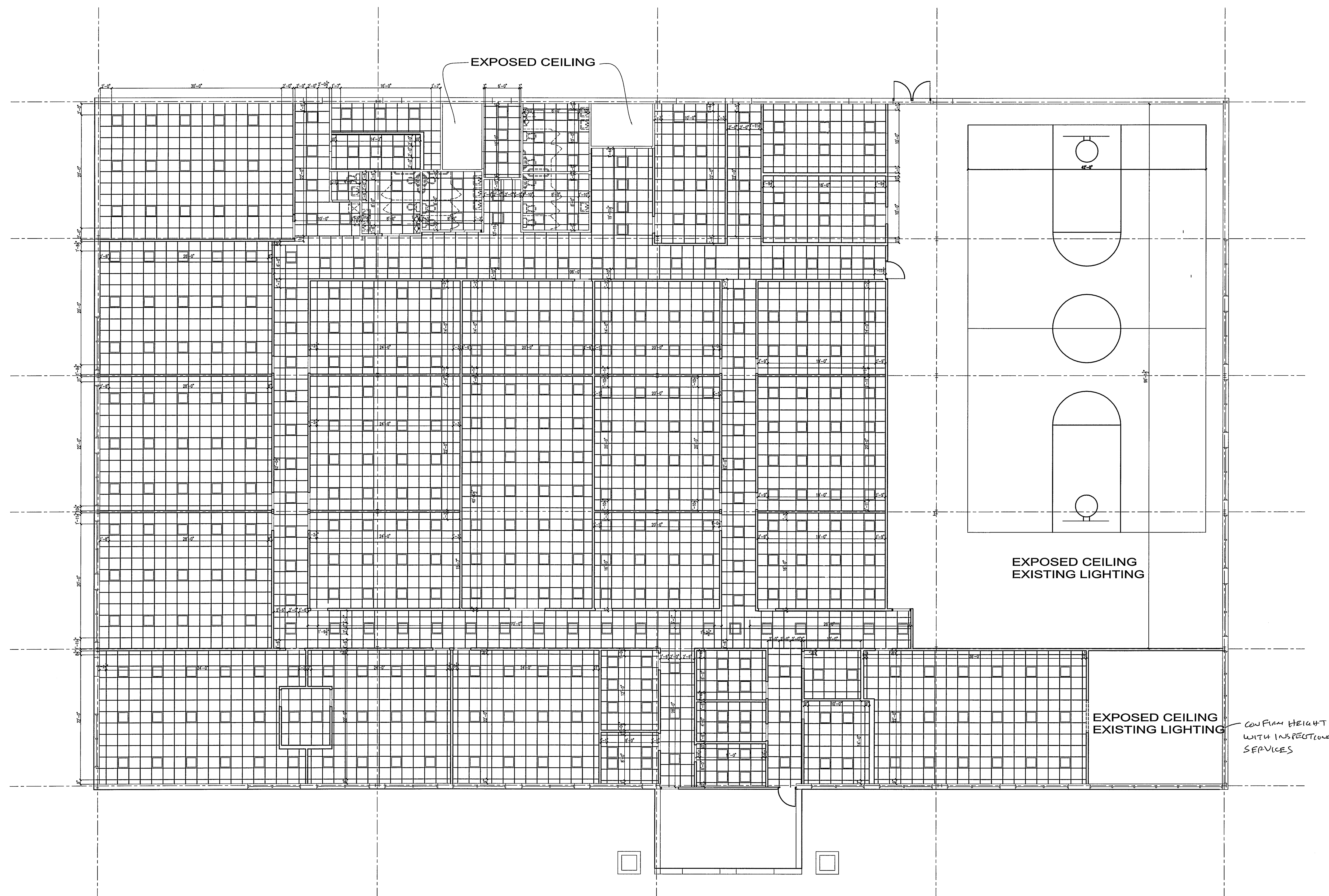


SHEET TITLE

REFLECTED
CEILING PLAN

A-7

8 OF 23

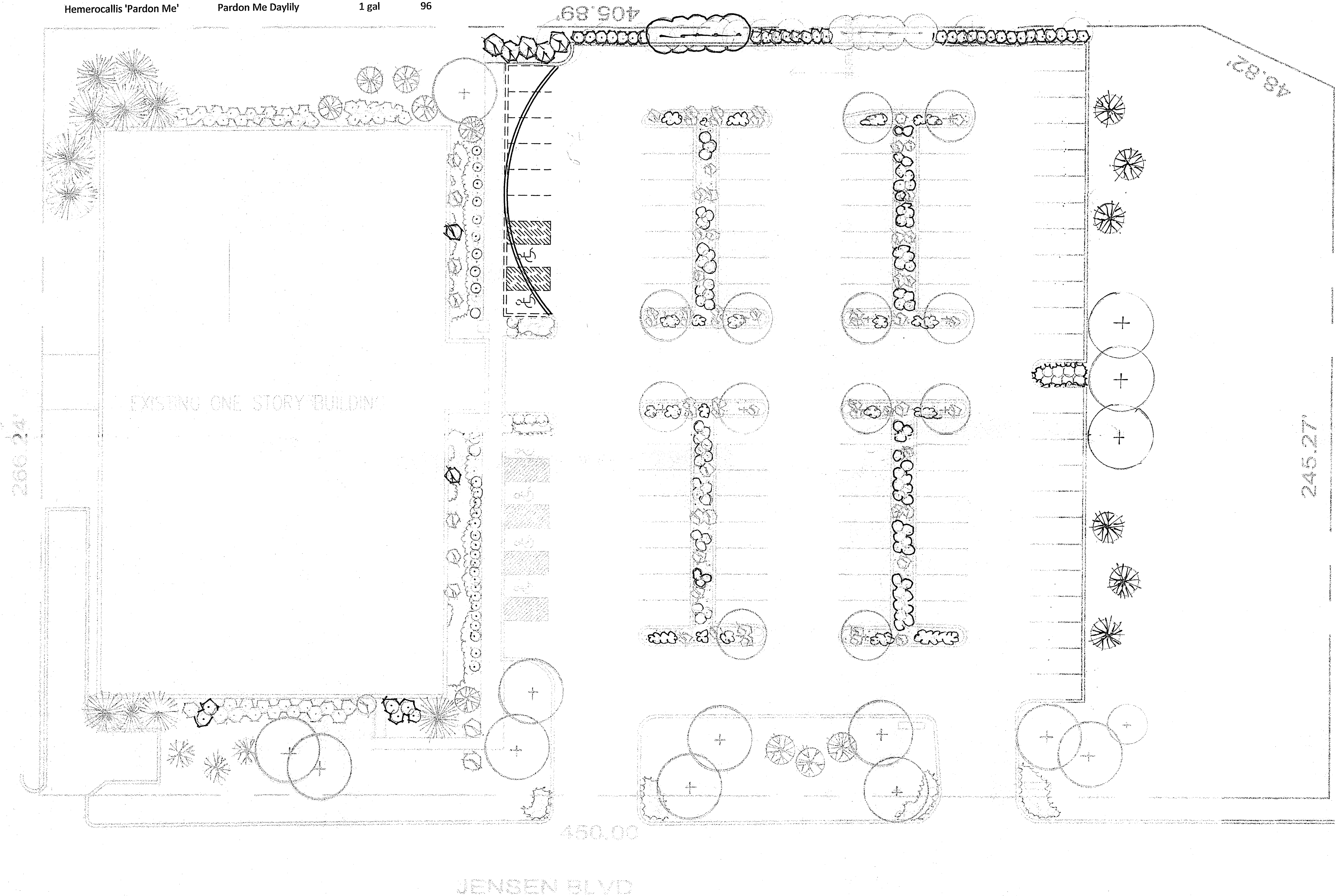


PROPOSED CEILING GRID

Planting Refurbishment
Additions to Existing

Scientific	Common	Size	Qty
Gleditsia tri. Inemis 'Skyline'	Skyline Honey Loust	2.5"	3
Cercis canadensis	American Redbud	6'	5
Malus spp.	Crab Apple	6'	3
Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae	6' B&B	7
Viburnum dentatum	Arrowwood Viburnum	4' B&B	36
Juniper spp.	juniper (cultivar TBD)	5 gal	16
Taxus media 'Hicksii'	Hick's Japanese Yew	24" B&B	19
Festuca glaua 'Elijah Blue'	Elijah Blue Fescue	1 gal	84
Hemerocallis 'Pardon Me'	Pardon Me Daylily	1 gal	96

Notes:
1) Reove Taxus m Hicksii in center Parking Lot islands. Replace with salt tolerant grasses and daylily
2) Remove volunteer, diseased and declining trees and shrubs along East and South sides of Parking Lot. Replace with Viburnum dentatum hedge, Cercis multi-stem, Malus multi-istem and Gelditsia.
3) Fill in where plants are missing or declined with same species, various locations.



- Gleditsia spp.
- Malus spp.
- Picea pungens glauca
- Thuja occidentalis 'Smaragd'
- Juniper viginiana, upright
- Cercis Canadensis
- Viburnum dentatum
- Juniper spp., spreading
- Taxus m hicksii
- Festuca glauca 'Elijah Blue'
- Hemerocallis 'Pardon Me'

NEW LANDSCAPE PLAN
SCALE: 1" = 20'-0"

SIGNATURE

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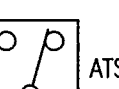
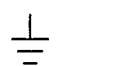

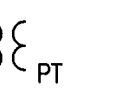
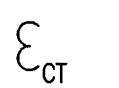
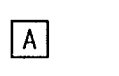
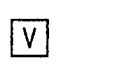











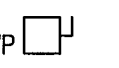
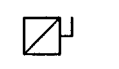





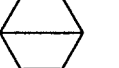
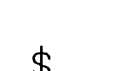
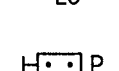
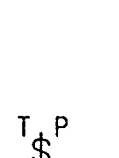
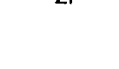

















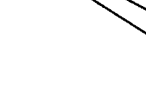


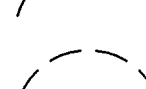

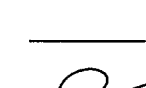

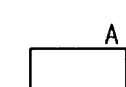
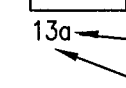


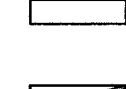




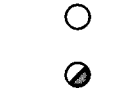
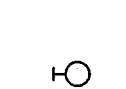
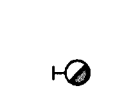

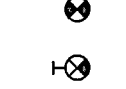

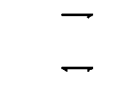

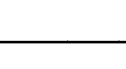
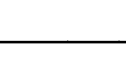
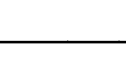
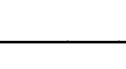
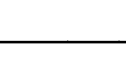
1800 W HAWTHORNE
LAKE SUITE 200
JANESVILLE, IL 60130
PH: (630) 330-7561
FAX: (630) 562-2570
JAKL BRANDIES
ARCHITECTS
LICENSE NO: 184001832

INTERIOR RENOVATION
AL-HUDA
COMMUNITY CENTER
7455 JENSEN BLVD.
HANOVER PARK, IL.

ISSUE	DATE
PERMIT	2/22/17
CODE REVISION	3/23/17

SHEET TITLE
LANDSCAPE
PLAN

SHEET NUMBER
L-1
9 OF 11

GENERAL MISCELLANEOUS SYSTEMS NOTES		GENERAL SHEET NOTES		GENERAL DEMOLITION NOTES		DISTRIBUTION/SINGLE LINE DIAGRAM		ABBREVIATIONS	
<div>1. UNLESS INDICATED OTHERWISE ON THE DRAWINGS EXISTING SYSTEMS DEVICES, ASSOCIATED CONDUIT AND WIRING, PULL AND JUNCTION BOXES SHALL BE DISCONNECTED AND REMOVED IN THE AREA OF WORK.</div> <div>2. ALL EXISTING SYSTEMS EXTENDING INTO OTHER AREAS THAT ARE NOT INCLUDED IN THE SCOPE SHALL BE MAINTAINED IN CONTINUOUS AND UNINTERRUPTED OPERATION. REFER TO GENERAL DEMOLITION NOTES FOR FURTHER DIRECTIONS. IF IT IS NECESSARY TO SHUT DOWN THE SYSTEM, THE SYSTEM'S IMPAIRMENTS SHALL BE OF AS MINIMUM A DURATION AS POSSIBLE. ALL IMPAIRMENTS SHALL BE CLOSELY COORDINATED WITH THE OWNER'S REPRESENTATIVE AND CONSTRUCTION MANAGER.</div> <div>3. PROVIDE COMPLETE AND OPERATIONAL NEW SYSTEMS AS INDICATED ON THE DRAWINGS.</div> <div>4. FOR THE EXISTING SYSTEMS TO BE EXPANDED RE-USE EXISTING DEVICES IF APPROVED BY OWNER AND PROVIDE ADDITIONAL NEW DEVICES THAT MATCH AND ARE COMPATIBLE WITH THE EXISTING SYSTEMS. VERIFY EXACT MANUFACTURER AND TYPE OF DEVICES IN FIELD AND WITH OWNER'S REPRESENTATIVE. CONSULT MANUFACTURER AS TO THE EXTENT OF MODIFICATIONS TO THE EXISTING HEAD END EQUIPMENT. VERIFY IN FIELD EXACT QUANTITY OF THE DEVICES TO BE RE-USED.</div> <div>5. PROVIDE ALL NECESSARY DEVICES, INTERCONNECTION WIRING, MISCELLANEOUS HARDWARE AND SOFTWARE UPGRADES NECESSARY TO INTERFACE WITH THE EXISTING SYSTEMS AND ACHIEVE COMPLETELY INTEGRATED FULLY OPERATIONAL SYSTEMS.</div> <div>6. ALL WIRING FOR FIRE ALARM AND TELECOMMUNICATIONS IS TO BE INSTALLED IN SEPARATE RACEWAYS DEDICATED TO EACH RESPECTIVE SYSTEM. WHERE COMBINATION METAL RACEWAYS ARE INSTALLED FOR DIFFERENT SYSTEMS, INDIVIDUAL SYSTEM WIRING SHALL BE INSTALLED IN SEPARATE COMPARTMENTS AND CLEARLY IDENTIFIED. MAINTAIN THE SAME RELATIVE POSITION OF COMPARTMENTS THROUGHOUT THE ENTIRE INSTALLATION.</div> <div>7. THE ENTIRE RACEWAY SYSTEM SHALL BE INSTALLED TO MAINTAIN CONTINUOUS GROUNDING BOND.</div> <div>8. ALL NEW WIRING THAT WILL BE INSTALLED FOR THE RENOVATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.</div> <div>9. ALL MODIFICATIONS TO THE EXISTING BUILDING SYSTEMS AS A RESULT OF A NEW WORK SHALL BE INCLUDED IN THE BID PRICE, INCLUDING BUT NOT LIMITED TO SOFTWARE AND HARDWARE MODIFICATIONS, UPGRADING BATTERIES AND POWER SUPPLIES, FURNISHING OF NEW AMPLIFIERS, EXPANSION OF THE EXISTING AND (OR) ADDITION OF NEW CIRCUIT BOARDS OR MODULES TO EXISTING CONTROL PANELS OR EQUIPMENT RACKS.</div> <div>10. PROTECT ALL EXISTING SYSTEM DEVICES FROM DUST, DAMAGE AND VIBRATION DURING CONSTRUCTION.</div> <div>11. PROVIDE SERVICES OF A TECHNICIAN TRAINED BY THE MANUFACTURER OF EACH RESPECTIVE SYSTEM, TO OVERSEE INSTALLATION, ASSIST IN LOCATING OF DEVICES, SUPERVISE FINAL CONNECTIONS, ENERGIZE CONTROL EQUIPMENT, MAKE ADJUSTMENTS, PERFORM MANUFACTURERS' RECOMMENDED FIELD AND ACCEPTANCE TESTING. ALL FINAL TESTING SHALL BE CONDUCTED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.</div> <div>12. ALL MISCELLANEOUS SYSTEMS DEVICE LOCATIONS AND MOUNTING HEIGHT SHALL BE COORDINATED WITH ARCHITECT AND OWNER'S REPRESENTATIVE IN FIELD.</div>		<div>1. ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND ALL OTHER DRAWINGS RELATED TO THE PERFORMANCE OF THE WORK.</div> <div>2. THE CONTRACTOR IS RESPONSIBLE FOR THE EXECUTION OF THIS WORK SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT SPECIFICATIONS BEFORE COMMENCING ANY WORK. THE PROJECT SPECIFICATIONS AND DRAWINGS FORM THE BASIS OF THIS CONTRACT DOCUMENTS AND INCLUDE THE TYPE AND GRADE OF MATERIALS AND EQUIPMENT TO BE FURNISHED. THE MANNER BY WHICH TO BE INSTALLED AND WHERE TO BE LOCATED. IN THE EVENT OF A CONFLICT BETWEEN THE PROJECT SPECIFICATIONS AND DRAWINGS, SPECIFICATIONS GOVERN UNLESS THE OWNER'S REPRESENTATIVE DIRECTS OTHERWISE.</div> <div>3. THE CONTRACTOR SHALL CHECK CAREFULLY ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS THAT ARE PART OF THIS PROJECT TO INSURE THAT NO FIXTURE, OUTLET, ALARM STATION OR CONTROL AND POWER WIRING IS OMITTED. HE SHALL CONSULT ALL TRADES AND MANUFACTURER'S FURNISHING EQUIPMENT AND OBTAIN FROM THEM ALL DATA. IN SOME CASES DETAILS OF THE EQUIPMENT, FIXTURES AND DEVICE WIRING CONNECTIONS ARE SHOWN FOR REFERENCE ONLY. ASCERTAIN AND PROVIDE THE WIRING AND CONTROL STATIONS REQUIRED FOR THE PROPER FUNCTION OF ALL THE EQUIPMENT.</div> <div>4. EQUIPMENT LABELS AND INSTRUCTIONS REGARDING THE APPLICATION AND INSTALLATION OF THE LISTED EQUIPMENT SHALL BE FOLLOWED TO INSURE THAT THE EQUIPMENT IS BEING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. THE TEMPERATURE RATING OF THE EQUIPMENT TERMINATIONS SHALL BE CAREFULLY CORRELATED WITH THE CONDUCTOR AMPACITY TO PREVENT OVERHEATING AND PREMATURE FAILURE.</div> <div>5. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT DIMENSIONALLY ACCURATE. CONTRACTOR SHALL CONSULT ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF LIGHTING FIXTURES, MISCELLANEOUS DEVICES AND OUTLETS.</div> <div>6. COORDINATE WITH OTHER TRADES AND INSTALL CONDUITS AND BOXES TO CLEAR EMBEDDED DUCTS, OPENINGS AND OTHER STRUCTURAL FEATURES.</div> <div>7. ALL LIGHTING FIXTURES ARE TO BE LOCATED AS REQUIRED ON THE JOB TO CLEAR DUCTS, PIPING, EQUIPMENT, AND/OR MECHANICAL UNITS AND BUILDING STRUCTURE. COORDINATE EXACT LOCATION OF LIGHTING FIXTURES AND OTHER CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN AND OTHER CONTRACTORS.</div> <div>8. CONDUIT RUNS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. ALL CONDUITS SHALL RUN CONCEALED, EXCEPT IN EQUIPMENT ROOMS, MECHANICAL SPACES AND WHERE APPROVED BY THE OWNER'S REPRESENTATIVE</div> <div>9. FURNISH AND INSTALL EQUIPMENT DISCONNECT SWITCHES IN STRICT COMPLIANCE WITH THE CHICAGO ELECTRIC CODE REQUIREMENTS.</div> <div>10. ALL RECEPTACLES WITHIN 6' FROM SINKS AND WHERE SPECIFICALLY INDICATED ON DRAWINGS, SHALL BE GFCI PROTECTED.</div> <div>11. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL DEVICES WITH THE ARCHITECTURAL PLANS AND ELEVATIONS.</div> <div>12. ALL NEW ELECTRICAL EQUIPMENT, CONDUIT, AND WIRING IS INDICATED ON THE DRAWING BY HEAVY WEIGHT CONTINUOUS TYPE LINES.</div> <div>13. ALL EXISTING ELECTRICAL EQUIPMENT CONDUIT AND WIRING IS INDICATED ON DRAWING BY LIGHT COLOR HIDDEN TYPE LINES.</div> <div>14. CONTRACTOR SHALL PROVIDE A COMPLETE CONDUCTOR AND RACEWAY SYSTEM FOR ALL CIRCUIT DEVICES INDICATED ON THE PLANS EVEN THOUGH NOT DELINEATED.</div> <div>15. ALL PENETRATIONS THROUGH EXISTING FIRE RATED WALLS AND FLOOR SLABS SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK. PROVIDE FIREPROOFING AS REQUIRED TO RESTORE ORIGINAL FIRE RATING AFTER THE WORK IS COMPLETE. USE ONLY UL APPROVED MATERIALS, METHODS AND ASSEMBLIES.</div> <div>22. ALL NEW POWER DISTRIBUTION EQUIPMENT FURNISHED BY CONTRACTOR SHALL MATCH SHORT CIRCUIT RATING OF EXISTING SYSTEM.</div> <div>23. ALL EXISTING LIGHTING FIXTURES THAT WERE DAMAGED OR SOILED DURING CONSTRUCTION SHALL BE REPAIRED OR CLEANED AT NO ADDITIONAL COST TO THE OWNER'S REPRESENTATIVE AFTER THE CONSTRUCTION IS COMPLETED.</div> <div>24. THE ELECTRICAL CONTRACTOR SHALL PROVIDE EXPANSION FITTINGS IN ALL RACEWAYS CROSSING BUILDING EXPANSION JOINTS.</div> <div>25. UNLESS OTHERWISE NOTED ALL PANELS, TRANSFORMERS, CABINETS, AND THE LIKE IN ELECTRICAL EQUIPMENT ROOMS SHALL BE MOUNTED ON STRUCTURAL CHANNEL FRAMING AND FRAMED FROM FLOOR TO STRUCTURAL SLAB CEILING.</div> <div>26. PROVIDE PULL STRING IN ALL EMPTY CONDUITS.</div>		<div>1. DEMOLITION DRAWINGS INDICATE GENERAL INTENT OF THE SCOPE OF WORK. CONTRACTOR SHALL REVIEW ARCHITECTURAL, MECHANICAL, PLUMBING AND MISCELLANEOUS OTHER DOCUMENTS AND DRAWINGS TO VERIFY THE EXTENT OF THE DEMOLITION WORK. CONTRACTOR SHALL SURVEY EXISTING SITE TO DETERMINE THE EXTENT OF THE NECESSARY REMOVALS, REPAIRS AND RELOCATIONS TO AVOID CONFLICTS WITH NEW CONSTRUCTION. DISCUSS ANY DISCREPANCIES WITH THE OWNER.</div> <div>2. UNLESS NOTED OTHERWISE, DISCONNECT AND REMOVE IN THE AREA OF REMODELING ALL POWER, VOICE/DATA, MISCELLANEOUS SYSTEM DEVICES, AND OTHER MISCELLANEOUS SYSTEM DEVICES. SHALL BE DISCONNECTED, REMOVED AND TURNED OVER TO OWNER FOR FURTHER RE-USE.</div> <div>3. FOR ALL ELECTRICAL EQUIPMENT AND DEVICES TO BE REMOVED, WIRING SHALL BE REMOVED COMPLETELY BACK TO THE SOURCE. EXISTING CONDUITS SHALL BE REMOVED, EXISTING CONDUIT THAT CAN NOT BE RE-USED, SHALL BE CUT FLUSH AND CAPPED.</div> <div>4. EXISTING BUILDING SYSTEMS INCLUDING POWER, LIGHTING, VOICE/DATA, MISCELLANEOUS ALARMS, SECURITY ETC., SHALL REMAIN IN CONTINUOUS AND NON-INTERRUPTED OPERATION DURING THIS RENOVATION WORK. CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES FOR ALL SYSTEMS UNTIL THE RENOVATION WORK IS COMPLETE. RE-ROUTE AND/OR MAINTAIN ANY RACEWAYS, FEEDERS, BRANCH CIRCUITS, JUNCTION/PULL BOXES FOR THE AFFECTED SYSTEMS TO ASSURE AN UNINTERRUPTED OPERATION.</div> <div>5. EXISTING ELECTRICAL EQUIPMENT THAT IS NOTED TO BE REMOVED IS TO REMAIN AS THE PROPERTY OF THE OWNER AFTER THE REMOVAL. EXISTING ELECTRICAL EQUIPMENT BEING REMOVED THAT THE OWNER DOES NOT WISH TO RETAIN SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES AND DISPOSED OF PROPERLY.</div> <div>6. LOCATION AND QUANTITY OF EXISTING EQUIPMENT, DEVICES, RACEWAYS, ETC., SHALL BE FIELD VERIFIED.</div> <div>7. THE BUSINESS OPERATION SHALL NOT BE DISRUPTED DURING THE EXECUTION OF THIS WORK WITHOUT PRIOR NOTIFICATION AND APPROVAL BY THE OWNER. COORDINATE ALL POWER OUTAGES AND MISCELLANEOUS SYSTEMS IMPAIRMENTS THAT ARE NECESSARY WITH OWNER.</div> <div>8. THE CONTRACTOR SHALL PROTECT THE EXISTING FACILITY AND EXERCISE CARE NOT TO DAMAGE ANY EXISTING CONSTRUCTION TO REMAIN. ALL WORK DAMAGED BY THE CONTRACTOR SHALL BE RESTORED SO AS TO MATCH EXISTING ADJACENT SURFACES IN ALL RESPECTS AND AS APPROVED BY THE OWNER. ANY SUCH CORRECTIVE WORK SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. ALL CORING AND ELECTRICAL WORK AT THE FLOOR BELOW OR ABOVE SHALL BE COORDINATED WITH THE OWNER AND PERFORMED, IF REQUIRED, AFTER HOURS AND ON OVERTIME BASIS WITH NO ADDITIONAL CHARGE.</div> <div>12. THE CONTRACTOR SHALL REMOVE ALL EXISTING HANGERS AND SUPPORTS ASSOCIATED WITH EXISTING RACEWAYS TO BE REMOVED.</div> <div>13. COORDINATE ALL DEMOLITION WORK WITH THE OWNER AND OTHER TRADES.</div> <div>14. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE STAGING OF THE WORK. PROVIDE LIGHTING AND POWER FOR ALL TRADES DURING ALL STAGES OF THE CONSTRUCTION.</div> <div>15. ALL CUTTING AND PATCHING OF EXISTING PLASTER, DRYWALL, CONCRETE, ETC., FOR THE ELECTRICAL INSTALLATION IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. NOTIFY THE OWNER AND OBTAIN APPROVAL IN WRITING PRIOR TO CUTTING. CARE IS THE BE TAKEN THAT ALL CUTS OR CORING ARE TO BE ROUND TO THE SURFACE. NO CHIPPING SHALL BE ALLOWED. ALL CUTTING AND CORING PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL REVIEW THE CONTRACT DRAWINGS AND ASCERTAIN EXISTING SITE CONDITIONS TO VERIFY THE EXTENT OF DEMOLITION AND REMODELING WORK. FAILURE TO DO SO SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING ALL RELOCATIONS, RENOVATION AND REMOVAL REQUIRED IN THIS CONTRACT. CONTRACTOR SHALL VERIFY IN THE FIELD THE EXISTING CONDITIONS AND COORDINATE AS REQUIRED.</div> <div>16. BRANCH CIRCUIT AND CONTROL WIRING FOR EXISTING EQUIPMENT TO BE REMOVED SHALL BE DISCONNECTED AT SOURCE AND REMOVED. REMOVE EXISTING WIRING, EXISTING CONDUITS SHALL REMAIN IN PLACE TO BE RE-USED WHERE POSSIBLE. DISCONNECT AND REMOVE ALL CONDUITS THAT WILL NOT BE RE-USE. JUNCTION BOXES, CONDUIT AND WIRING THAT IS TO BE RE-USED BUT IF NOT CODE COMPLIANT, SHALL BE MODIFIED TO MEET CODE AT THE EXPENSE OF THE ELECTRICAL CONTRACT. PROVIDE ALL MODIFICATIONS, MATERIALS AND LABOR REQUIRED.</div> <div>17. CONTRACTOR SHALL REMOVE ALL ELECTRICAL DEVICES AS REQUIRED AND AS SHOWN ON THE DEMOLITION DRAWINGS. LEAVE POWER SOURCE JUNCTION BOXES AT ACCESSIBLE LOCATION FOR FUTURE ELECTRICAL CONNECTION EXTENSIONS.</div> <div>18. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION FOR THE PORTIONS OF THE EXISTING BUILDING EQUIPMENT FOR THIS WORK, AND ACCESS TO WORK SPACE, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. LATER CLAIMS SHALL NOT BE MADE FOR ADDITIONAL LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD BEEN FORESEEN DURING AN EXAMINATION. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, REINSTALLING, REPAIRING, OR REPLACING CONDUIT WIRING AND OTHER COMPONENTS OF INTERFERING EXISTING SYSTEMS ABOVE AND BELOW FLOOR LEVEL, AS MAY BE REQUIRED FOR THE PERFORMANCE OF THE WORK.</div> <div>19. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR FOR REMOVAL OF RELOCATION OF EXISTING ELECTRICAL EQUIPMENT (FOR EXAMPLE: LIGHT FIXTURES, RECEPTACLES DEVICES, CONDUIT, AND WIRE) THAT WILL BE IN CONFLICT WITH NEW CONSTRUCTION. NO ADDITIONAL COST WILL BE PERMITTED FOR ANY WORK NOT COORDINATE DURING THE BID PROCESS.</div> <div>20. ALL DEVICES AND EXPOSED RACEWAY THAT HAVE BEEN REMOVED FROM EXISTING WALLS AND CEILINGS THE E.C. SHALL COORDINATE WITH G.C. OF ALL THE PATCHING AND REPAINTING, NEW PAINT, PATCHING AND TILES SHALL MATCH EXISTING.</div>		<div> A CIRCUIT BREAKER * ____ A" INDICATES TRIP RATING/SETTING (AMPS)</div> <div> A FUSIBLE SWITCH ____ A" INDICATES DISCONNECT TRIP RATING AND FUSE SIZE, RESPECTIVELY (AMPS)</div> <div> ATS AUTOMATIC TRANSFER SWITCH</div> <div> GROUND</div> <div> SURGE ARRESTOR</div> <div> PT POTENTIAL TRANSFORMER SECONDARY:PRIMARY VOLTAGE</div> <div> CT CURRENT TRANSFORMER SECONDARY:PRIMARY CURRENT</div> <div> A AMMETER</div> <div> V VOLTMETER</div> <div> WH WATHOUR METER</div> <div> MH MANHOLE</div> <div> HH HANDHOLE</div> <div> IM DIGITAL METERING</div> <div> GFR GFR - GROUND FAULT PROTECTIVE RELAY</div> <div> BR BRANCH CIRCUIT PANELBOARD</div> <div> DP DISTRIBUTION PANELBOARD</div> <div> TR TRANSFORMER</div> <div> TR-1 TRANSFORMER</div> <div> M ELECTRIC UTILITY METER</div> <div> NF NON-FUSED DISCONNECT SWITCH</div> <div> WP NON-FUSED DISCONNECT SWITCH WITH WEATHERPROOF, NEMA 3R ENCLOSURE</div> <div> F FUSED DISCONNECT SWITCH</div> <div> L LIGHTING CONTACTOR</div> <div> MS MAGNETIC MOTOR STARTER</div> <div> CS COMBINATION STARTER/DISCONNECT SWITCH</div> <div> VFD VARIABLE FREQUENCY DRIVE</div> <div> M MOTOR EQUIPMENT</div> <div> MET MOTOR/EQUIPMENT TAG</div> <div> L LOCK-OUT SWITCH</div> <div> P PUSHBUTTON CONTROL SWITCH- "P" INDICATES STATION WITH PILOT LIGHT</div> <div> T P SINGLE POLE MANUAL STARTER WITH THERMAL OVERLOAD PROTECTION FOR FRACTIONAL SINGLE PHASE MOTORS. "P" INDICATES WITH PILOT LIGHT "2P" INDICATES DOUBLE POLE</div> <div> E ELECTRIC EQUIPMENT CONNECTION</div> <div> K KEY INTERLOCK CONNECTION</div> <div> L LARGE SCALE PLAN TAG- DRAWING/SHEET</div> <div> I IMAGE OR ELEVATION VIEW PLAN TAG- DRAWING/SHEET</div>		<div>A - AMPS</div> <div>AFF - ABOVE FINISHED FLOOR</div> <div>A/C - AIR CONDITIONING</div> <div>APPROX - APPROXIMATE</div> <div>ARC - ARC-FAULT INTERRUPTER</div> <div>ATS - AUTOMATIC TRANSFER SWITCH</div> <div>BLDG - BUILDING</div> <div>BPS - BOLTED PRESSURE SWITCH</div> <div>C - CONDUIT</div> <div>CKT - CIRCUIT</div> <div>COL - COLUMN</div> <div>CB - CIRCUIT BREAKER</div> <div>CLG - CEILING</div> <div>CP - CONTROL PANEL</div> <div>CR - CONTACT RELAY</div> <div>CU - COPPER</div> <div>CT - CURRENT TRANSFORMER</div> <div>DIA - DIAMETER</div> <div>DISC - DISCONNECTING</div> <div>DN - DOWN</div> <div>ELECT - ELECTRIC, ELECTRICAL</div> <div>EW - ELECTRIC WATER COOLER</div> <div>EMER - EMERGENCY</div> <div>EXIST - EXISTING</div> <div>GC - GENERAL CONTRACTOR</div> <div>XP - EXPLOSION PROOF</div> <div>F/O - FIBER OPTIC</div> <div>FDR - FEEDER</div> <div>F - FUSE</div> <div>FLA - FULL LOAD AMPS</div> <div>FLR - FLOOR</div> <div>FIXT - FIXTURE</div> <div>FVNR - FULL VOLTAGE, NON REVERSING (MAGNETIC STARTER)</div> <div>GFI - GROUND FAULT INTERRUPTER</div> <div>GFR - GROUND FAULT RELAY</div> <div>GRD - GROUND</div> <div>HIP - HIGH INTENSITY DISCHARGE</div> <div>HD - HORSEPOWER</div> <div>HOA - HAND-OFF-AUTO</div> <div>IG - ISOLATED GROUND</div> <div>LTG - LIGHTING</div> <div>M - MOTOR</div> <div>MCB - MAIN CIRCUIT BREAKER</div> <div>MCC - MOTOR CONTROL CENTER</div> <div>MCP - MAXIMUM CIRCUIT PROTECTION</div> <div>MLO - MAIN LUGS ONLY</div> <div>MTD - MOUNTED</div> <div>MECH - MECHANICAL</div> <div>MOCP - MAIN OVERCURRENT PROTECTION</div> <div>N - NEUTRAL</div> <div>N/A - NOT APPLICABLE</div> <div>NC - NORMALLY CLOSED</div> <div>NIC - NOT IN CONTRACT</div> <div>NO - NORMALLY OPEN</div> <div>NTS - NOT TO SCALE</div> <div>O/H - OVERHEAD</div> <div>OL - OVER LOAD</div> <div>PB - PUSHBUTTON</div> <div>PH - PHASE</div> <div>PNL - PANEL</div> <div>PRI - PRIMARY</div> <div>PT - POTENTIAL TRANSFORMER</div> <div>RM - ROOM</div> <div>S - SWITCH</div> <div>SEC - SECONDARY</div> <div>SWBD - SWITCHBOARD</div> <div>SWGR - SWITCHGEAR</div> <div>SWTCH - SWITCH</div> <div>TR - TRANSFORMER</div> <div>TTB - TELEPHONE TERMINAL BOARD</div> <div>TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSOR</div> <div>UPS - UNINTERRUPTIBLE POWER SUPPLY</div> <div>USS - UNIT SUBSTATION</div> <div>V - VOLTS</div> <div>VFD - VARIABLE FREQUENCY DRIVE</div> <div>WG - WIRE GUARD</div> <div>WP - WEATHERPROOF</div> <div>WW - WIREWAY</div> <div>W - WATTS</div>	
<div>BRANCH CIRCUITING NOTES</div> <div>1. PROVIDE ALL BRANCH CIRCUITING FROM EACH WIRING DEVICE, FIXTURE, MOTOR, UTILIZATION EQUIPMENT, OR APPLIANCE TO CIRCUIT AND PANEL/SOURCE INDICATED ON PLANS.</div> <div>2. UNLESS INDICATED OTHERWISE, EACH BRANCH CIRCUIT SHALL CONSIST OF PHASE CONDUCTOR(S), NEUTRAL CONDUCTOR, AND EQUIPMENT GROUNDING CONDUCTOR.</div> <div>3. UNLESS NOTED OTHERWISE, 15 AND 20 AMP 208/120 VOLT BRANCH CIRCUITS SHALL UTILIZE MINIMUM #12 AWG FOR CIRCUITS UP TO 75' IN LENGTH, #10 AWG FOR CIRCUITS 76' TO 100' IN LENGTH, AND #8 AWG FOR CIRCUITS OVER 100' UP TO 250' IN LENGTH. THE LENGTH OF THE CIRCUIT SHALL BE MEASURED FROM THE LAST DEVICE OR OUTLET ON THE CIRCUIT TO THE PANEL/SOURCE.</div> <div>4. UNLESS NOTED OTHERWISE, 15 AND 20 AMP 480/277 VOLT BRANCH CIRCUITS SHALL UTILIZE MINIMUM #12 AWG FOR CIRCUITS UP TO 100' IN LENGTH, #10 AWG FOR CIRCUITS 100' TO 150' IN LENGTH, AND #8 AWG FOR CIRCUITS OVER 150' UP TO 350' IN LENGTH. THE LENGTH OF THE CIRCUIT SHALL BE MEASURED FROM THE LAST DEVICE OR OUTLET ON THE CIRCUIT TO THE PANEL/SOURCE.</div> <div>5. UNLESS NOTED OTHERWISE, ALL 120V, 1Ø CIRCUITS SHALL BE PROVIDED WITH SEPARATE NEUTRAL CONDUCTOR SIZED EQUALLY TO THE SIZE OF BRANCH CIRCUIT WIRING.</div>		<div>WIRING DEVICES</div> <div> \$ SINGLE POLE TOGGLE SWITCH</div> <div> \$SW THREE-WAY SWITCH</div> <div> \$K KEY-OPERATED SWITCH</div> <div> \$OR OVERRIDE SWITCH (ASSOCIATED WITH A CEILING-MTD OCCUPANCY SENSOR)</div> <div> - CKT. DUPLEX RECEPTACLE CKT. - CIRCUIT NUMBER</div> <div>ALARMS & COMMUNICATIONS</div> <div> VOICE/DATA OUTLET - STUB CONDUIT INTO ACCESSIBLE CEILING SPACE</div> <div> TELEPHONE OUTLET - STUB CONDUIT INTO ACCESSIBLE CEILING SPACE</div> <div> DATA OUTLET - STUB CONDUIT INTO ACCESSIBLE CEILING SPACE</div> <div>RACEWAYS & WIRING</div> <div> SD SMOKE DETECTOR - SYSTEM</div> <div> D HEAT DETECTOR</div> <div> S MANUAL PULL STATION</div> <div> DD DUCT SMOKE DETECTOR</div> <div> AV COMBINATION FIRE ALARM AUDIO DEVICE</div>		<div>RACEWAYS & WIRING</div> <div> CONDUIT HOMERUN</div> <div> CONDUIT - SURFACE MOUNTED</div> <div> CONDUIT - CONCEALED</div> <div> CONDUIT UNDERFLOOR OR UNDERGROUND</div> <div> CONDUIT TURNED UP</div> <div> CONDUIT TURNED DOWN</div> <div> FLEXIBLE CONDUIT</div> <div> J JUNCTION BOX</div>		<div>LIGHTING</div> <div> A FIXTURE TYPE</div> <div> 13a SWITCH DESIGNATION</div> <div> CIRCUIT NUMBER</div> <div> 2' x 4' FLUORESCENT FIXTURE</div> <div> 2' x 4' FLUORESCENT EMERGENCY FIXTURE</div> <div> 1' x 4' FLUORESCENT FIXTURE</div> <div> 1' x 4' FLUORESCENT EMERGENCY FIXTURE</div> <div> 2' x 2' FLUORESCENT FIXTURE</div> <div> 2' x 2' FLUORESCENT EMERGENCY FIXTURE</div> <div> FLUORESCENT STRIP FIXTURE</div> <div> FLUORESCENT STRIP EMERGENCY FIXTURE</div> <div> INCANDESCENT OR FLUORESCENT CEILING-MOUNTED FIXTURE</div> <div> INCANDESCENT OR FLUORESCENT CEILING-MOUNTED EMERGENCY FIXTURE</div> <div> INCANDESCENT OR FLUORESCENT WALL-MOUNTED FIXTURE</div> <div> WALL-MOUNTED EMERGENCY FIXTURE</div> <div> EXIT - SINGLE-FACED, CEILING-MOUNTED</div> <div> EXIT - DOUBLE-FACED, CEILING-MOUNTED</div> <div> EXIT - SINGLE-FACED, WALL-MOUNTED</div> <div> EXIT - DOUBLE-FACED, WALL-MOUNTED</div> <div> EXIT ARROW - ONE WAY</div> <div> EXIT ARROW - TWO WAYS</div> <div> EMERGENCY LIGHTING BATTERY UNIT</div>			

SIGNATURE

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1800 W HAWTHORNE
LAINE, SUITE Q
WEST CHICAGO,
ILLINOIS 60718
PH: (630) 330-7561
FAX: (630) 562-2570

INTERIOR RENOVATION
**AL-HUDA
ACADEMY**

7455 JENSEN BLVD.
HANOVER PARK, IL.

[illegible]

SHEET TITLE

**ELECTRICAL
SYMBOLS &
ABBREVIATIONS**

SHEET NUMBER

EO-0

OF

SECTION 16000

ELECTRICAL WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, AND INSTRUCTIONS TO BIDDERS APPLY TO THIS SECTION.

1.02 RULES AND REGULATIONS

A. WORK AND MATERIALS SHALL CONFORM TO AND BE EXECUTED, INSPECTED AND TESTED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND WITH THE GOVERNING RULES AND REGULATIONS OF FEDERAL, STATE AND LOCAL GOVERNMENTAL AGENCIES.

B. OTHER CODES WHICH WILL APPLY TO THIS INSTALLATION INCLUDE THE CURRENT EDITIONS OF:
1. ANSI C2 - NATIONAL ELECTRICAL SAFETY CODE.
2. ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS.
3. BOCA - BUILDING OWNERS AND CODE ADMINISTRATORS.
4. IEEE - STANDARDS FOR WIRE AND CABLE.
5. IEEE STANDARDS.
6. ISNA STANDARDS.
7. NEMA STANDARDS.
8. OSHA REGULATIONS.
9. UNDERWRITERS LABORATORIES.

C. WHERE GOVERNING CODES INDICATE THE DRAWINGS AND SPECIFICATIONS DO NOT COMPLY WITH MINIMUM REQUIREMENTS OF APPLICABLE CODES, THE CONTRACTOR SHALL EITHER NOTIFY THE ARCHITECT/ENGINEER IN WRITING DURING THE BIDDING PERIOD IDENTIFYING THE REVISIONS REQUIRED TO MEET CODE REQUIREMENTS OR PROVIDE AN INSTALLATION WHICH WILL COMPLY WITH THE CODE REQUIREMENTS.

D. WHERE ANY MATERIALS, EQUIPMENT OR INSTALLATION IS NOT IN COMPLIANCE WITH THE MORE STRINGENT OF THE APPLICABLE CODES, LAWS, ORDINANCES, REGULATIONS AND CONTRACT DOCUMENTS, THEY SHALL BE ENTIRELY REMOVED, REPLACED, MODIFIED, OR OTHERWISE CORRECTED AT NO ADDITIONAL COST TO THE OWNER.

1.03 INTENT OF DRAWINGS AND SPECIFICATIONS

A. THESE SPECIFICATIONS AND ATTENDANT DRAWINGS ARE INTENDED TO COVER A COMPLETE INSTALLATION OF SYSTEMS. THE OMISSION OF EXPRESSED REFERENCE TO ANY ITEM OR LABOR OR MATERIAL NECESSARY FOR THE PROPER EXECUTION OF THE WORK IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE SUCH ADDITIONAL LABOR AND MATERIALS.

B. THE ELECTRICAL DRAWINGS DO NOT ATTEMPT TO SHOW THE COMPLETE DETAILS OF BUILDING CONSTRUCTION WHICH AFFECT THE ELECTRICAL INSTALLATION. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL DETAILS THAT AFFECT THE PROPER INSTALLATION OF THIS WORK. THE ELECTRICAL CONTRACTOR IS CAUTIONED THAT DIAGRAMS SHOWING ELECTRICAL CONNECTIONS AND/OR CIRCUITING ARE DIAGRAMMATIC ONLY AND MUST NOT BE USED FOR OBTAINING LINEAL RUNS OF WIRE OR CONDUIT. WORKING DIAGRAMS DO NOT NECESSARILY SHOW THE EXACT PHYSICAL ARRANGEMENT OF THE EQUIPMENT. IF A CONFLICT EXISTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, THIS CONTRACTOR SHALL BASE HIS PROPOSAL ON THE GREATER QUANTITY, COST OR QUALITY OF THE ITEM IN QUESTION.

1.04 MATERIAL AND EQUIPMENT

A. ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND OF THE QUALITY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE, AND SHALL BE STANDARD PRODUCT OF THE LISTED MANUFACTURERS.

B. EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, CATALOG NUMBER AND CAPACITY OF RATING ON A NAMEPLATE, SECURELY FASTENED ON THE EQUIPMENT IN A CONSPICUOUS PLACE. WHERE TWO OR MORE UNITS OF THE SAME CLASS OF EQUIPMENT ARE REQUIRED, THESE UNITS SHALL BE PRODUCTS OF A SINGLE MANUFACTURER.

C. THE LISTING OF A MANUFACTURER FOR CERTAIN EQUIPMENT AND SYSTEMS DOES NOT INDICATE ACCEPTANCE OF A STANDARD OR CATALOGUED ITEM OF EQUIPMENT. ALL EQUIPMENT AND SYSTEMS SHALL CONFORM TO THE SPECIFICATIONS.

D. UL LISTING AND LABELING

1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITER'S LABORATORIES (U.L.), OR OTHER APPROVED AGENCY, LISTING LABEL.
2. WHENEVER AN ITEM OF EQUIPMENT IS SPECIFIED TO BE U.L. LISTED, THE ENTIRE ASSEMBLY SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC. ANY MODIFICATIONS TO SUIT THE INTENT OF THE SPECIFICATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LISTED BY U.L.

3. DEFINITIONS:
A. LISTED: EQUIPMENT OR MATERIALS INCLUDED IN A LIST PUBLISHED BY AN ORGANIZATION ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AND CONCERNED WITH PRODUCT EVALUATION, THAT MAINTAIN PERIODIC INSPECTION OF PRODUCTION OF LISTED EQUIPMENT OR MATERIALS, AND WHOSE LISTING STATES EITHER THAT THE EQUIPMENT OR MATERIAL MEETS APPROPRIATE DESIGNATED STANDARDS OR HAS BEEN TESTED AND FOUND SUITABLE FOR USE IN A SPECIFIED MANNER.

B. LABELED: EQUIPMENT OR MATERIALS TO WHICH HAS BEEN ATTACHED A LABEL, SYMBOL, OR OTHER IDENTIFYING MARK OF AN ORGANIZATION THAT IS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AND CONCERNED WITH PRODUCT EVALUATION THAT MAINTAINS PERIODIC INSPECTION OF PRODUCTION OF LABELED EQUIPMENT OR MATERIALS AND BY WHOSE LABELING THE MANUFACTURER INDICATES COMPLIANCE WITH APPROPRIATE STANDARDS OR PERFORMANCE IN A SPECIFIED MANNER.

1.05 SUBSTITUTIONS

A. THE MATERIALS, PRODUCTS AND EQUIPMENT DESCRIBED IN THE BIDDING DOCUMENTS ESTABLISH A STANDARD OF REQUIRED FUNCTIONS, DIMENSIONS, APPEARANCE AND QUALITY TO BE MET BY ANY PROPOSED SUBSTITUTION.

B. NO SUBSTITUTION WILL BE CONSIDERED PRIOR TO RECEIPT OF BIDS UNLESS WRITTEN REQUEST FOR APPROVAL HAS BEEN RECEIVED BY THE ARCHITECT/ENGINEER AT LEAST TEN (10) DAYS PRIOR TO THE DATE FOR RECEIPT OF BIDS. EACH SUCH REQUEST SHALL INCLUDE THE NAME OF THE MATERIAL OR EQUIPMENT FOR WHICH IT IS TO BE SUBSTITUTED AND A COMPLETE DESCRIPTION OF THE PROPOSED SUBSTITUTE INCLUDING DRAWINGS, COST, PERFORMANCE, TEST DATA AND WARRANTIES, AND THE ADVANTAGES AND DISADVANTAGES OF THE SUBSTITUTION. A STATEMENT SETTING FORTH ANY CHANGES IN OTHER MATERIAL, EQUIPMENT OR OTHER WORK NOT INCORPORATION OF THE SUBSTITUTE WOULD REQUIRE SHALL BE INCLUDED. THE BURDEN OF PROOF OF THE MERIT OF THE PROPOSED SUBSTITUTE IS UPON THE PROPOSER. THE ARCHITECT/ENGINEER'S DECISION OF APPROVAL OR DISAPPROVAL OF A PROPOSED SUBSTITUTE SHALL BE FINAL.

C. IF THE ARCHITECT/ENGINEER APPROVED ANY PROPOSED SUBSTITUTION PRIOR TO RECEIPT OF BIDS, SUCH APPROVAL WILL BE SET FORTH IN AN ADDENDUM. THIS ADDENDUM SHALL THEN BE ISSUED TO ALL BIDDERS.

D. REQUESTS FOR SUBSTITUTION SHALL BE MADE ONLY BY A BIDDER. REQUESTS FOR SUBSTITUTION RECEIVED BY THE ARCHITECT/ENGINEER FROM SALES REPRESENTATIVES, VENDORS, SUPPLIERS, ETC., ARE NOT ACCEPTABLE.

E. PREPARE SHOP DRAWINGS AND OBTAIN APPROVALS FROM INSPECTION AUTHORITIES FOR EMERGENCY AND EXIST LIGHTING, FIRE ALARM AND LIFE SAFETY SYSTEMS, AND OTHER ELECTRICAL INSTALLATIONS REQUIRING SPECIAL APPROVAL.

F. SUBMIT TO ENGINEER FOR REVIEW, COPIES OF MANUFACTURER'S SHOP DRAWINGS AND/OR EQUIPMENT BROCHURE DEPICTING:
1. PANELBOARDS
2. LIGHTING DEVICES
3. WIRING DEVICES
4. FIRE ALARM SYSTEM

SUBMIT A TOTAL OF FIVE (5) COPIES OF SHOP DWGS FOR REVIEW.

D. SUBMIT COORDINATION DRAWINGS FOR REVIEW PRIOR TO THE START OF CONSTRUCTION FOR THE AREAS SPECIFIED. PREPARE AND SUBMIT COORDINATION DRAWINGS FOR THOSE AREAS DEFINED AS "PROBLEM" COORDINATION AREAS DURING CONSTRUCTION.

E. ELECTRICAL DRAWING FILES IN AUTOCAD 2012 OF ELECTRICAL DRAWINGS FOR USE IN PREPARING SUBMITTALS MAY BE PURCHASED FROM THE ENGINEER. THESE DRAWINGS WILL NOT BE PROVIDED WITHOUT CHARGE TO THE CONTRACTOR OR ANY OF THE SUBCONTRACTORS.

1.06 SUBMITTALS

A. GENERAL: FOLLOW THE PROCEDURES SPECIFIED IN DIVISION 1 SECTION "SHOP DRAWINGS PRODUCT DATA AND SAMPLES."

1.07 DELIVERY, STORAGE, AND HANDLING

A. DELIVER PRODUCTS TO THE PROJECT PROPERLY IDENTIFIED WITH NAMES, MODEL NUMBERS, TYPES, GRADES, COMPLIANCE LABELS, AND OTHER INFORMATION NEEDED FOR IDENTIFICATION.

B. PROTECT ALL EQUIPMENT AND MATERIALS FROM THE ELEMENTS, DIRT AND OTHER DAMAGE FROM THE TIME IT IS REMOVED FROM THE POINT OF STORAGE UNTIL FINAL ACCEPTANCE.

C. ALL MANUFACTURERS' FINISHED EQUIPMENT SURFACES DAMAGED DURING CONSTRUCTION SHALL BE BROUGHT TO AN "AS NEW" CONDITION BY TOUCH UP OR REPAIRING. ANY RUST SHALL BE COMPLETELY REMOVED AND THE SURFACE PRIMED PRIOR TO REPAINTING.

1.08 QUALITY ASSURANCE

A. CAREFULLY EXAMINE THE CONTRACT DOCUMENTS (INCLUDING THOSE OF THE OTHER TRADES), VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.

B. DISCOVERY OF ANY CONFLICTING DESIGN INFORMATION OR ANY DESIGN INTENTIONS THAT ARE NOT READILY INTERPRETTED SHALL BE REFERRED TO THE ARCHITECT/ENGINEERS FOR FURTHER DESCRIPTION OR ILLUSTRATION PRIOR TO ANY PROJECT SELECTION OR EXECUTION OF WORK.

C. DISCOVERY OF ANY MATERIALS OR EQUIPMENT THAT ARE DAMAGED, UNSUITABLE, INCOMPATIBLE, OR NON-COMPLIANT WITH ANY APPLICABLE CODES, LAWS, ORDINANCES OR OTHER REGULATIONS SHALL BE BROUGHT TO THE DIRECT ATTENTION OF THE ARCHITECT/ENGINEER.

D. SHOULD THERE BE ANY DISCREPANCIES OR QUESTION OF INTENT, REFER THE MATTER TO THE ARCHITECT/ENGINEER FOR A FINAL DECISION BEFORE ORDERING ANY EQUIPMENT OR MATERIALS AND BEFORE STARTING ANY RELATING WORK.

1. IN CASE OF CONFLICT BETWEEN PROJECT SPECIFICATIONS AND DRAWINGS, THE CONTRACTOR SHALL ASSUME THE MORE EXPENSIVE METHOD FOR PURPOSES OF BIDDING, UNLESS THE ARCHITECT/ENGINEER RULES OTHERWISE.

E. MANUFACTURERS OF EQUIPMENT SHALL BE FIRMS REGULARLY ENGAGED IN MANUFACTURING FACTORY-FABRICATED SYSTEMS AND EQUIPMENT WHOSE PRODUCTS HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR NOT LESS THAN 5 YEARS.

1.09 RELATED WORK SPECIFIED IN OTHER SECTIONS

A. OPENINGS: WALL, FLOOR, CEILING, AND ROOF OPENINGS SPECIFICALLY SHOWN AND IDENTIFIED ON THE ARCHITECTURAL AND STRUCTURAL OR ELECTRICAL DRAWING SHALL BE PROVIDED.

B. ROOF SLEEVES: ROOF SLEEVES SHOWN AS FURNISHED AND INSTALLED AND SHALL BE INCORPORATED INTO THE FINISHED ROOFING AND MADE WATER TIGHT.

C. PAINTING: PAINTING OF ALL EXPOSED-TO-WIND CONDUT, PIPES, UNFINISHED OFFICE HANGERS, SUPPORTS, AND EQUIPMENT, INSULATED OR NOT, IN FINISHED AND UNFINISHED AREAS, SHALL BE PROVIDED. FURNISH ALL NECESSARY EQUIPMENT IN FACTORY-FINISHED BAKED ENAMEL, UNLESS OTHERWISE SPECIFIED.

1.10 WIRING AND CONTROLS

A. WIRING AND CONTROLS ASSOCIATED WITH EQUIPMENT SHALL BE FURNISHED, INSTALLED, AND WIRED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS AND APPLICABLE STANDARDS AND CODES. PROVIDE INSTALLATION INSTRUCTIONS, LOCATING DIMENSIONS, AND WIRING DIAGRAMS FOR THE OTHER TRADES. SUPERVISE THE INSTALLATION AND START-UP AND TEST THE EQUIPMENT UNLESS OTHERWISE SPECIFIED.

B. EQUIPMENT FURNISHED BY OTHER DIVISIONS: EQUIPMENT SPECIFIED IN OTHER DIVISIONS AND REQUIRING ELECTRICAL SUPPLY SHALL BE ERECTED, ALIGNED, LEVELLED, AND PREPARED FOR OPERATION. PROVIDE REQUIRED CONTROLS AND ACCESSORIES ALONG WITH INSTALLATION INSTRUCTIONS, DIMENSIONS AND SUPERVISION OF INSTALLATION AND START-UP. PROVIDE THE REQUIRED ELECTRICAL ROUGH-INS, AND CONFIRM THE ELECTRICAL CONTROLS AND ACCESSORIES FURNISHED UNDER THE SPECIFICATIONS FOR THE OTHER DIVISIONS.

INSTALL THOSE CONTROLS AND ACCESSORIES NOT LOCATED IN THE MECHANICAL, PIPING AND DUCTWORK. PROVIDE ADDITIONAL ELECTRICAL CONTROLS, ACCESSORIES, FITTINGS, AND DEVICES NOT SPECIFIED UNDER THE EQUIPMENT BUT REQUIRED FOR A FINISHED, OPERATING JOB. MAKE FINAL ELECTRICAL CONNECTIONS. PARTICIPATE IN THE START-UP AND TEST SERVICES.

1.11 PERMIT AND INSPECTIONS

A. PERMITS: OBTAIN AND PAY FOR ALL PERMITS, BONDS, LICENSES, TAP-IN FEES, ETC., REQUIRED BY THE CITY, STATE, OR OTHER AUTHORITY HAVING JURISDICTION OVER THE WORK, AS A PART OF THE WORK OF THE AFFECTED SECTION.

B. INSPECTIONS: ARRANGE AND PAY FOR ALL INSPECTIONS REQUIRED BY THE ABOVE WHEN THEY BECOME DUE AS PART OF THE WORK OF THE SECTIONS AFFECTED. CONCEAL NO WORK UNTIL APPROVED BY THESE GOVERNING AGENCIES. PRESENT THE CONTRACTOR, ARCHITECT/ENGINEER WITH PROPERLY SIGNED CERTIFICATE OF FINAL INSPECTION.

1.12 DAMAGE TO OTHER WORK

A. THE ELECTRICAL CONTRACTOR WILL BE HELD RIGIDLY RESPONSIBLE FOR ALL DAMAGES TO THE WORK OF HIS OWN OR ANY OTHER TRADE RESULTING FROM THE EXECUTION OF HIS WORK. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO ADEQUATELY PROTECT HIS WORK AT ALL TIMES. ALL DAMAGES RESULTING FROM HIS OPERATIONS SHALL BE REPAIRED OR THE DAMAGED PORTIONS REPLACED BY THE PARTY ORIGINALLY PERFORMING THE WORK (TO THE ENTIRE SATISFACTION OF THE ARCHITECT OR ENGINEER), AND ALL COST THEREOF SHALL BE BORNE BY THE CONTRACTOR RESPONSIBLE FOR THE DAMAGE.

1.13 COOPERATION WITH OTHER TRADES

A. THE ELECTRICAL CONTRACTOR SHALL COMPLETELY COOPERATE WITH ALL OTHER TRADES IN THE METHOD OF PLANNING AND EXECUTING THE WORK. EVERY REASONABLE EFFORT SHALL BE MADE TO PREVENT CONFLICT AND INTERFERENCE AS TO SPACE REQUIREMENTS, DIMENSIONS, LOCATIONS, OPENINGS, SLEEVING OR OTHER MATTERS WHICH TEND TO DELAY OR OBSTRUCT THE WORK OF ANY TRADE.

1.14 NEGLIGENCE

A. SHOULD THE ELECTRICAL CONTRACTOR FAIL TO PROVIDE MATERIALS, TEMPLATES, ETC., OR OTHER NECESSARY INFORMATION CAUSING DELAY OR EXPENSE TO ANOTHER PARTY, HE SHALL PAY THE ACTUAL AMOUNT OF THE DAMAGES TO THE PARTY WHO SUSTAINED THE LOSS.

1.15 FIELD CHANGES

A. SHOULD ANY CHANGE IN DRAWINGS OR SPECIFICATIONS BE REQUIRED TO COMPLY WITH LOCAL REGULATIONS AND/OR FIELD CONDITIONS, THE CONTRACTOR SHALL REFER SAME TO ARCHITECT FOR APPROVAL BEFORE ANY WORK WHICH DEVIATES FROM THE ORIGINAL REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS IS STARTED. IN THE EVENT OF DISAGREEMENTS AS TO THE NECESSITY OF SUCH CHANGES, THE DECISION OF THE ARCHITECT/ENGINEER SHALL BE FINAL.

1.16 CUTTING AND PATCHING

A. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE CUTTING AND PATCHING ASSOCIATED WITH THE INSTALLATION ELECTRICAL EQUIPMENT AND MATERIALS.

B. PROTECT THE STRUCTURE, FURNISHINGS, FINISHES AND ADJACENT MATERIALS NOT INDICATED OR SCHEDULED TO BE REMOVED. PROVIDE AND MAINTAIN TEMPORARY PARTITIONS OR DUST BARRIERS ADEQUATE TO PREVENT THE SPREAD OF DUST AND DIRT TO ADJACENT AREAS.

C. PATCH FINISHED SURFACES AND BUILDING COMPONENTS USING NEW MATERIALS MATCHING EXISTING MATERIALS AND EXPERIENCED INSTALLERS. INSTALLERS' QUALIFICATIONS REFER TO THE MATERIALS AND METHODS REQUIRED FOR THE SURFACE AND BUILDING COMPONENTS BEING PATCHED.

1.17 COMPLETION DATES

A. THE ELECTRICAL CONTRACTOR SHALL BE IN A POSITION TO MEET ALL COMPLETION DATES ESTABLISHED BY THE ARCHITECT AND SHALL FURNISH ALL LABOR OF ALL CLASSES REQUIRED TO MEET SUCH SCHEDULES AND COMPLETION DATES. FURTHER, THE CONTRACTOR SHALL FURNISH HONESTLY WITH THE DELIVERY DATES ESTABLISHED BY THE MANUFACTURERS OF MATERIALS AND EQUIPMENT THAT SHALL BE ORDERED AND EXPEDITED AS REQUIRED TO CONFORM WITH SCHEDULING AND COMPLETION DATES.

1.18 CLEAN-UP

A. THE ELECTRICAL CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE FROM EXCESSIVE ACCUMULATION OF WASTE MATERIAL OR RUBBISH RESULTING FROM HIS WORK, INCLUDING TOOLS, SCAFFOLDING AND SURPLUS MATERIALS, AND HE SHALL LEAVE HIS WORK ROOM CLEAN OR ITS EQUIVALENT. IN CASE OF DISPUTE, THE ARCHITECT MAY ORDER THE REMOVAL OF SUCH RUBBISH AND CHARGE THE COST TO THE RESPONSIBLE CONTRACTOR AS DETERMINED BY THE ARCHITECT. AT THE TIME OF FINAL CLEAN UP, ALL FIXTURES AND EQUIPMENT SHALL BE THOROUGHLY CLEANED AND LEFT IN PROPER CONDITION FOR THEIR INTENDED USE.

1.19 TESTS

A. THE CONTRACTOR SHALL PROVIDE ALL INSTRUMENTATION, LABOR AND CONDUCT ALL TESTS REQUIRED BY THE ARCHITECT. ALL TESTS SHALL BE MADE BEFORE ANY CIRCUIT OR ITEM OF EQUIPMENT IS PERMANENTLY ENERGIZED. CIRCUITS SHALL BE PHASED OUT AND LOADS SHALL BE DISTRIBUTED AS EVENLY AS POSSIBLE ON ALL PHASES. ALL PHASE CONDUCTORS SHALL BE ENTIRELY FREE FROM GROUNDS AND SHORT CIRCUITS. ALL INSTRUMENTATION AND PERSONNEL REQUIRED FOR TESTING SHALL BE PROVIDED BY THE CONTRACTOR AND ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE ARCHITECT OR HIS AUTHORIZED REPRESENTATIVE. SUBMIT FOUR COPIES OF TEST RESULTS TO ARCHITECT/ENGINEER FOR RECORD.

1.20 WORKMANSHIP

A. THE INSTALLATION OF ALL WORK SHALL BE MADE SO THAT ITS SEVERAL COMPONENT PARTS WILL FUNCTION AS A WORKABLE SYSTEM COMPLETE WITH ALL ACCESSORIES NECESSARY FOR ITS OPERATION AND SHALL BE LEFT WITH ALL EQUIPMENT PROPERLY ADJUSTED AND IN WORKING ORDER. THE WORK SHALL BE EXECUTED IN CONFORMITY WITH THE BEST ACCEPTED STANDARD PRACTICE OF THE TRADE SO AS TO CONTRIBUTE TO EFFICIENCY AND APPEARANCE. IT SHALL ALSO BE EXECUTED SO THAT THE INSTALLATION WILL CONFORM AND ADJUST ITSELF TO THE BUILDING STRUCTURE, ITS EQUIPMENT AND ITS USAGE.

1.21 FIELD MEASUREMENTS

A. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY FOR HIS WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY.

1.22 STRUCTURAL INTERFERENCES

A. SHOULD ANY STRUCTURAL INTERFERENCE PREVENT THE INSTALLATION OF THE OUTLETS, RUNNING OF CONDUITS, ETC., AT POINTS SHOWN ON DRAWINGS, THE NECESSARY MINOR DEVIATIONS THEREFROM, AS DETERMINED BY THE ARCHITECT, MAY BE PERMITTED. MINOR CHANGES IN THE POSITION OF THE OUTLETS OR EQUIPMENT IF DECIDED UPON BEFORE THE CONTRACTOR HAS DONE ANY WORK SHALL BE MADE WITHOUT ADDITIONAL CHARGE.

1.23 GUARANTEE

A. THE CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE HIS WORK AND ALL COMPONENTS THEREOF, EXCLUDING LAMPS, FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. HE SHALL REMEDY ANY DEFECTS IN WORKMANSHIP AND REPAIR OR REPLACE ANY FAULTY EQUIPMENT, WHICH SHALL APPEAR WITHIN THE GUARANTEE PERIOD TO THE ENTIRE SATISFACTION OF THE ARCHITECT AT NO ADDITIONAL CHARGE.

PART 2 - PRODUCTS

2.01 RACEWAYS AND BOXES

A. CONDUIT

1. CONDUIT 1-1/4" AND SMALLER SHALL BE ELECTRICAL METAL TUBING; ALL 1-1/2" AND LARGER CONDUIT SHALL BE RIGID HEAVY WALL GALVANIZED STEEL. ALL CONDUITS IN CONCRETE SHALL BE RIGID STEEL.

2. CONDUIT IN DIRECT CONTACT WITH THE EARTH AND CONDUIT EMBEDDED IN CONCRETE LIGHTING FIXTURE POLE BASES SHALL BE HEAVY WALL SCHEDULE 40 PVE EXCEPT WHERE UNDERGROUND CONDUITS ENTER/EXIT THE BUILDING ENVELOPE. GALVANIZED RIGID CONDUIT SHALL BE UTILIZED FROM THE POINT OF PENETRATION OF THE BUILDING AND THE NEXT FIVE-FOOT PORTION OF THE RUN IN DIRECT CONTACT OF THE EARTH. WHERE CONDUITS PASS THROUGH POURED CONCRETE WALL, THE EC SHALL INSTALL METAL SLEEVES PRIOR TO THE WALLS BEING POURED.

3. FLEXIBLE METAL CONDUIT SHALL BE 1/2" MINIMUM NOMINAL TRADE SIZE FOR MOTORIZED EQUIPMENT, 3/8" FOR INDIVIDUAL LIGHT FIXTURES INSTALLED IN A SUSPENDED ACCESSIBLE CEILING SYSTEM. LENGTH SHALL NOT EXCEED 3 FEET FOR CONNECTION TO MOTORIZED EQUIPMENT, A FEET FOR LIGHT FIXTURES. GROUNDING LIQUID TIGHT WHERE EXPOSED TO WATER, AND GREEN GROUND WIRE TO JUMP FLEXIBLE CONDUIT ROUTED IN THE SAME CONDUIT AS THE PHASE CONDUCTORS.

B. COUPLINGS, CONNECTORS AND FITTINGS

1. USE STANDARD ITEMS TO PROPERLY ATTACH CONDUITS, OUTLET BOXES, PULL BOXES, CABINETS, ETC., TO PROVIDE A COMPLETE RACEWAY SYSTEM. ALL STEEL COMPRESSION TYPE FITTINGS SHALL BE USED FOR EMT AND THEY SHALL BE PAINTED AND CONCRETE TIGHT. MALLEABLE OR DIE CAST FITTINGS ARE NOT APPROVED. ALL CONNECTORS SHALL HAVE INSULATED THROATS; IDENTIFICATION TYPE MARKED BY E SET SCREW TYPE, AND PUSH-ON FITTINGS ARE NOT ACCEPTABLE. BUSINGS FOR RIGID HEAVY WALL CONDUIT SHALL BE REINFORCED INSULATED TYPE WITH DOUBLE LOCKNUTS.

C. OUTLET BOXES

1. PROVIDE OUTLET BOXES AS REQUIRED TO ACCOMMODATE THE DEVICE INDICATED BY SYMBOL ON THE DRAWINGS, SIZED IN ACCORDANCE WITH CODE, WITH THE FOLLOWING MINIMUM REQUIREMENTS:

2. OUTLET BOXES SHALL BE IN FORMED, GALVANIZED AND SECURELY FASTENED IN PLACE AND LEVEL WITH ADJACENT CONSTRUCTION NOT DEPENDENT UPON CONDUIT FOR SUPPORT. PROVIDE 4" SQUARE BOXES FOR RECEPTACLES AND SWITCHES. PROVIDE 4" HEXAGON BOXES FOR CEILING OUTLETS. BOXES SHALL BE 2" MINIMUM IN DEPTH.

3. MULTI-GEAR DIE FORMED BOXES SHALL BE PROVIDED FOR ALL DEVICES INDICATED ADJACENT TO ONE ANOTHER ON THE PLANS.

4. PROVIDE STAMPED AND FABRICATED STEEL BRACKETS TO SUPPORT BOXES BETWEEN WALL STUDS AS MANUFACTURED BY EPOCH, RES, SGB OR ISGB SERIES.

D. PULL BOXES AND JUNCTION BOXES

1. PROVIDE AS REQUIRED BY CODE OF CODE GAUGE STEEL, IN SIZES AS REQUIRED BY THE CODE. COVERS SHALL BE OF THE SAME MATERIAL FASTENED WITH BRASS MACHINE SCREWS. BOXES AND COVERS SHALL HAVE GALVANIZED FINISH AND THEY SHALL BE SECURELY FASTENED TO STRUCTURAL MEMBERS.

2.02 CONDUCTORS AND CABLES

A. CONDUCTORS

1. CONDUCTORS SHALL BE NEW SOFT DRAWN COPPER. NO. 8 AND LARGER SHALL BE STRANDED; NO. 12 SHALL BE SOLID. 600-V INSULATION, COLOR-CODED AS REQUIRED BY CODE. WIRE MUST BE DELIVERED TO JOB SITE IN ORIGINAL CONTAINERS.

2. WIRE AND CABLE FOR GENERAL INTERIOR USE SHALL HAVE 600-VOLT INSULATION. SIZES SMALLER THAN NO. 8 SHALL COMPLY WITH CODE FOR TYPE THIN. SIZE NO. 8 AND LARGER SHALL COMPLY WITH CODE FOR TYPE THIN OR THIN.

3. COLOR CODING:
208/120 VOLTS 480/277 VOLTS
PHASE COLOR PHASE COLOR
A BLACK A BROWN
B RED B ORANGE
C BLUE C YELLOW
NEUTRAL WHITE NEUTRAL GRAY
GROUND GREEN GROUND GREEN

B. CONNECTORS AND SPLICES

1. CONDUCTORS NO. 10 AWG AND SMALLER SHALL UTILIZE 3M SCOTCH-LOK COMPRESSION TYPE SOLDERLESS CONNECTORS WITH PLASTIC COVER.
2. CONDUCTORS NO. 8 AWG AND LARGER SHALL UTILIZE BURNDY "HY-DENT" SOLDERLESS COMPRESSION TYPE CONNECTORS. TOOL AND DIE APPLIED, OF A TYPE THAT WILL NOT LOOSEN UNDER VIBRATION OR NORMAL STRAINS. WRAP WITH TWO HALF-LAP LAYERS OF VINYL PLASTIC ELECTRICAL TAPE AND A FINISH WRAP OF COLOR-CODING TAPE. ELECTRICAL TAPE SHALL BE 3M SCOTCH BRAND.

2.03 WIRING DEVICES

A. AT EACH LOCATION SHOWN ON THE DRAWINGS, FURNISH AND INSTALL WIRING DEVICE AS INDICATED BY SYMBOL ON THE DRAWINGS.

B. UNLESS OTHERWISE INDICATED, ALL WIRING DEVICES SHALL BE BY THE SAME MANUFACTURER, ARROW-HART, HUBBELL, ARROW OR SEMOUR. GENERAL ELECTRIC OR LEVITON. PASS AND SEMOUR CATALOG NUMBERS ARE USED HEREIN TO DESIGNATE TYPE OF DEVICE REQUESTED.

C. ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE.

D. WALL SWITCHES

1. GENERAL USE LIGHTING SWITCHES SHALL BE 20 AMP TOGGLE TYPE.
A. SINGLE POLE - PASS AND SEMOUR CAT. NO. 20AC1
B. DOUBLE POLE - PASS AND SEMOUR CAT. NO. 20AC2
C. THREE-WAY - PASS AND SEMOUR CAT. NO. 20AC3
D. FOUR-WAY - PASS AND SEMOUR CAT. NO. 20AC4

2. ALL LOCAL SWITCHES CONTROLLING LIGHTS OR EQUIPMENT AT LOCATIONS OTHER THAN THE ROOM IN WHICH THE SWITCH IS LOCATED SHALL BE COMPLETE WITH RED NEON PILOT LAMP TO INDICATE THE ENERGIZED POSITION OF THE LIGHTS OR EQUIPMENT IN QUESTION. IN ADDITION, SWITCH PLATE SHALL BE ENGRAVED TO IDENTIFY LIGHTS OR EQUIPMENT CONTROLLED.

E. RECEPTACLES

1. ALL RECEPTACLES SHALL BE RATED FOR CAPACITY AND CHARACTERISTICS OF THE EQUIPMENT SERVICED AND SHALL BE COMPLETE WITH ONE ADDITIONAL POLE FOR GROUNDING.
2. GENERAL USE RECEPTACLES SHALL HAVE ONE OF THE FOLLOWING:
A. 15 AMP, 120 VOLT, NEMA TYPE 5-15R, GROUNDING TYPE, PASS AND SEMOUR CAT. NO. 5262
B. 20 AMP, 120 VOLT, NEMA TYPE 5-20R, GROUNDING TYPE, PASS AND SEMOUR CAT. NO. 5362
C. 15 AMP, 120 VOLT, NEMA TYPE 5-15R, GROUND FAULT INTERRUPTER, PASS AND SEMOUR CAT. NO. 1591
D. 20 AMP, 120 VOLT, NEMA TYPE 5-20R, GROUND FAULT INTERRUPTER, PASS AND SEMOUR CAT. NO. 2091
E. 15 AMP, 120 VOLT, NEMA TYPE 5-15R, ISOLATED GROUND, PASS AND SEMOUR CAT. NO. 16-6200
F. 20 AMP, 120 VOLT, NEMA TYPE 5-20R, ISOLATED GROUND, PASS AND SEMOUR CAT. NO. 16-6300

3. WHERE A SINGLE DUPLEX RECEPTACLE IS WIRED TO A DEDICATED 20 AMP, 120 VOLT CIRCUIT, PROVIDE A NEMA TYPE 5-20R GROUNDING RECEPTACLE.
4. WEATHERPROOF (WP) PLATES AND COVERS FOR EXTERIOR DEVICES OR DEVICES IN DAMP LOCATIONS: GRAY CAST ALUMINUM WITH GASKETED, LIFT, SPRING LOCKING COVER PLATE AS SHOWN ON DRAWINGS. WEATHERPROOF WHILE IN USE, DEVICES PROVIDED BY CHOOSE-HINDUS CATALOG NO. WUG-1 WITH WUGA-1, OR EQUAL, BY APPROVED ELECTRIC.

F. COVER PLATES

1. PROVIDE WALL PLATES FOR WIRING DEVICES, WITH GANGING AND OUTLOTS AS INDICATED AND WITH METAL SCREWS FOR SECURING PLATES TO DEVICES, SCREW HEADS COLORED TO MATCH FINISH OF PLATE.
2. PLATES FOR FLUSH MOUNTING DEVICES: COVER PLATES SHALL BE OF PLASTIC, NON-COMBUSTIBLE, MAR-PROOF THERMOSETTING MATERIAL, MINIMUM 0.100" THICK. PASS AND SEMOUR SYNERAPLEX SERIES.

3. COLOR OF PLASTIC PLATES SHALL MATCH TYPE OF DEVICE.
4. DEVICE PLATES FOR SURFACE MOUNTING SHALL BE OF BOX TYPE: PSK GALVANIZED STEEL COVERS.
5. DEVICE PLATES FOR SURFACE MOUNTED, 4-IN. SQUARE BOXES: 1/2 IN. RAISED GALVANIZED STEEL COVERS.

2.04 PANELBOARDS

A. GENERAL

1. ELECTRICAL DISTRIBUTION PANELS SHALL BE DEAD FRONT TYPE EQUIPPED WITH CIRCUIT BREAKERS OF THE TYPE REQUIRED TO ACCOMMODATE BRANCH CIRCUITS. MAIN CIRCUIT BREAKERS AND SPACES AS SCHEDULED. THE PHASE BUSSES SHALL BE ORLED TO ACCOMMODATE THE INSTALLATION OF FUTURE CIRCUITS AS SPECIFIED BY SCHEDULED SPACES IN THE PANEL SCHEDULE.

2. MAIN BUS, NEUTRAL AND GROUND BARS SHALL BE COPPER COMPLETE WITH MECHANICAL LUGS OF THE SIZE REQUIRED TO TERMINATE FEEDER SCHEDULED. BRANCH CIRCUITS SHALL BE ARRANGED FOR PHASE SEQUENCING AND SHALL BE EQUIPPED WITH SOLDERLESS CLAMP TYPE TERMINALS. ALL LUGS AND TERMINALS SHALL BE SUITABLE FOR USE WITH COPPER OR ALUMINUM.

3. PANELBOARD SHALL HAVE SERVICE RATING COMPATIBLE WITH THE APPLICATION AND SHALL BEAR THE UL INSPECTION LABEL.

B. CIRCUIT BREAKERS

1. LIGHTING PANEL MOUNTED CIRCUIT BREAKERS SHALL BE SINGLE-HANDLE COMMON TRIP, QUICK-MAKE AND QUICK-BREAK, THERMAL AND MAGNETIC PROTECTION, BOLT-ON TYPE, HANDLE POSITION INDICATION (ON IN UP POSITION, OFF IN DOWN POSITION, TRIPPED IN CENTER POSITION).

2. POWER PANEL MOUNTED CIRCUIT BREAKERS SHALL BE SINGLE-HANDLE COMMON TRIP, QUICK-MAKE AND QUICK-BREAK, THERMAL AND MAGNETIC PROTECTION, PLUG-IN TYPE WITH NONJUDICIAL POSITIVE-LOCK DEVICE REQUIRING MECHANICAL RELEASE FOR REMOVAL.

3. CIRCUIT BREAKER ARC RATINGS SHALL MATCH OR EXCEED THOSE VALUES SPECIFIED HEREIN OR AS INDICATED ON THE DRAWINGS. SERIES RATINGS SHALL NOT BE ACCEPTABLE.

4. CIRCUIT BREAKERS SHALL BE UL LISTED AND SHALL CONFORM TO THE LATEST APPLICABLE NEMA STANDARDS.

C. PANEL CABINETS

1. PANEL CABINETS SHALL BE CODE GAUGE GALVANIZED STEEL CONSTRUCTION WITH A MINIMUM OF 6" WIDE GUTTERS. FLUSH OR SURFACE TYPE AS SCHEDULED. THE MINIMUM WIDTH OF 6" WIDE GUTTERS. THE MINIMUM DEPTH SHALL BE 5".

2. PANEL FRONTS SHALL BE DEAD TYPE OF CODE GAUGE STEEL WITH RUST INHIBITING PRIMER AND BAKED ENAMEL FINISH.

3. LOCKABLE COVERS SHALL HAVE A PIANO HINGE TO ALLOW ACCESS TO WIRING OUTLETS WITHOUT THE REMOVAL OF THE HINGE, HELD IN PLACE WITH SCREW FASTENERS. LIGHTING PANELS SHALL BE FURNISHED WITH FLUSH CATCH AND TUMBLER LOCK DISTRIBUTION PANELS SHALL BE FURNISHED WITH VAULT-TYPE LATCH WITH TUMBLER LOCK (DOORS OF 48 INCHES HIGH SHALL HAVE A THREE POINT LATCH).

D. LIGHTING PANELS

1. LIGHTING PANELS SHALL BE COMPLETE WITH BRANCHES, BRANCH RATINGS AND SPARE CAPACITY AS SCHEDULED.

2. MINIMUM RATINGS SHALL BE 10,000 A.I.C. FOR 120/208 VOLT EQUIPMENT AND 14,000 A.I.C. FOR 277/480 VOLT EQUIPMENT, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

3. 240-VOLT PANELS SHALL BE SQUARE D M900, GENERAL ELECTRIC A SERIES, CUTLER-HAMMER POW-R-LINE C SERIES OR SIEMENS TYPE 51.

4. 480-VOLT PANELS SHALL BE SQUARE D NEHS, GENERAL ELECTRIC A SERIES, CUTLER-HAMMER POW-R-LINE C SERIES OR SIEMENS TYPE 52.

E. DIRECTORIES

1. FURNISH AND INSTALL IN DIRECTORY FRAME ON INSIDE OF DOOR OF EACH NEW PANEL CABINET A TYPEWRITTEN DIRECTORY IDENTIFYING EACH CIRCUIT.

2.05 OVERCURRENT PROTECTIVE DEVICES

A. GENERAL

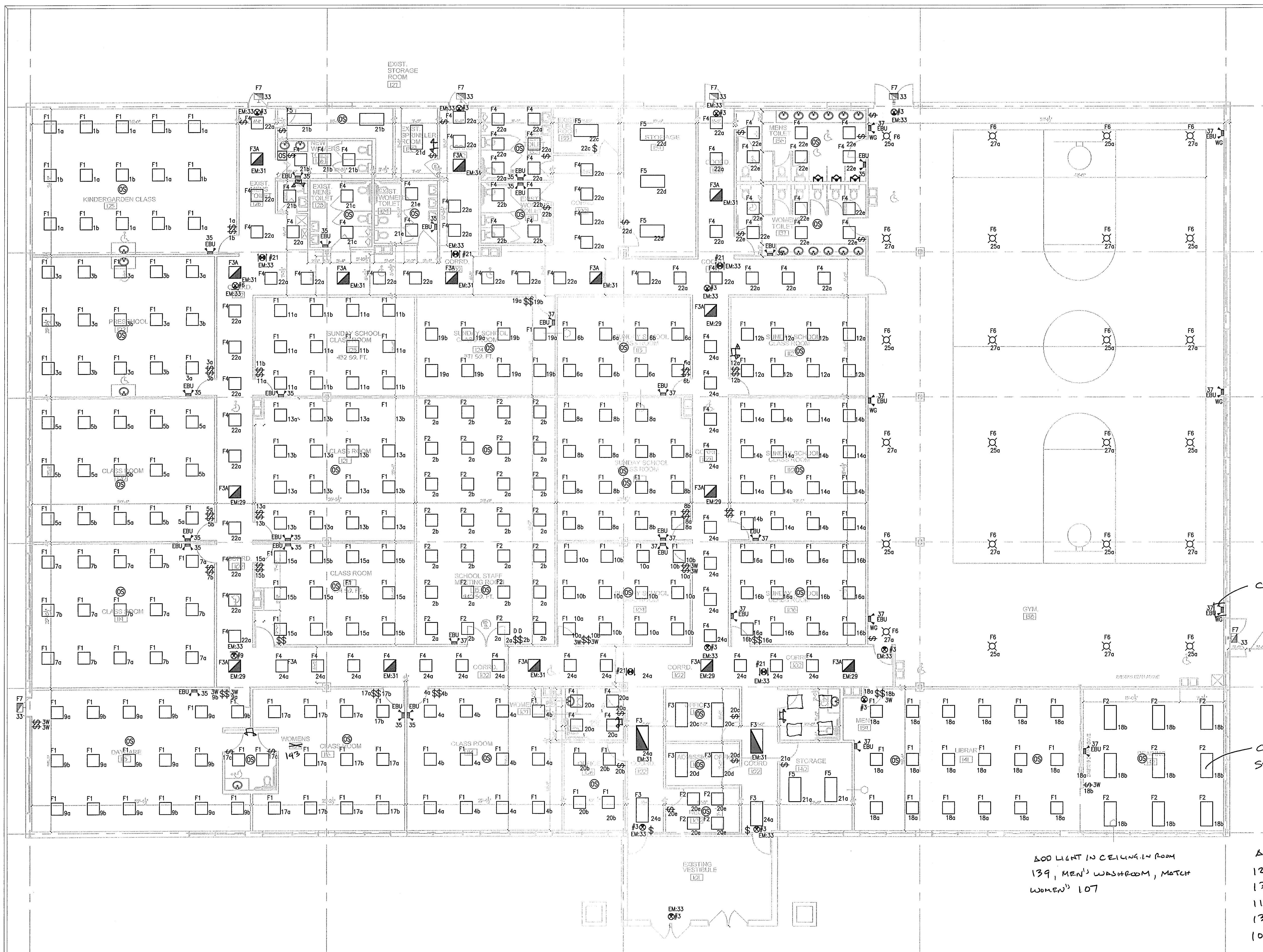
1. OVERCURRENT PROTECTIVE DEVICES SHALL BE OF THE TYPE, CLASS AND CURRENT RATINGS AS INDICATED. VOLTAGE RATINGS SHALL BE CONSISTENT WITH THE CIRCUITS ON WHICH USED.

2. ARC RATINGS SHALL MATCH OR EXCEED THOSE VALUES SPECIFIED HEREIN OR AS INDICATED ON THE DRAWINGS. SERIES RATINGS SHALL NOT BE ACCEPTABLE.

3. DEVICES SHALL BE UL LISTED AND SHALL CONFORM TO THE LATEST APPLICABLE NEMA STANDARDS.

B. CIRCUIT BREAKERS

1. CONSTRUCTION
A. TRIPPING



SHEET NOTES:

1. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR ADDITIONAL INFORMATION AND EXACT LOCATION OF LIGHT FIXTURES.
2. CONFIRM LOCATION OF ALL LIGHT SWITCHES AND CONTROL DEVICES WITH ARCHITECT AND COORDINATE WITH ARCHITECTURAL DRAWINGS AND ELEVATIONS PRIOR TO ROUGH-IN.
3. ALL NEW NORMAL-POWER LIGHTING FIXTURES SHOWN SHALL BE WIRED TO THE EXISTING PANELBOARD "A", UNLESS NOTED OTHERWISE.
4. WHERE MULTIPLE SWITCHES ARE GROUPED TOGETHER AT A SINGLE LOCATION, ALL SWITCHES SHALL BE MOUNTED UNDER A COMMON FACEPLATE.
5. REFER TO DRAWING E4.0 FOR LUMINAIRE SCHEDULE AND NOTES.
6. REFER TO POWER & SYSTEMS DWG E2-1 FOR LOCATION OF EXISTING PANELBOARD SERVING LIGHTING CIRCUITS.
7. COORDINATE EXACT MOUNTING OF EXIT SIGNS WITH ARCHITECT PRIOR TO ORDERING. PROVIDE SEPARATE NEUTRAL WIRES FOR EMERGENCY LIGHTING AND EXIT SIGN CIRCUITS.
8. ALL EMERGENCY LIGHT FIXTURES SHALL BE ON UN-SWITCH CIRCUIT AND ON LOCK-OUT CIRCUIT BREAKER, FIXTURES SHALL BE PROVIDED WITH INTERNAL BATTERY BACKUP.
9. ALL FIXTURES LOCATED AT COMMON CORRIDORS SHALL BE WIRED BACK TO REMOTE RELAY PANEL WITH TIME-CLOCK AN 8 RELAY CIRCUITS, COORDINATE EXACT LOCATION OF OVERRIDE SWITCHES.
10. CIRCUIT NUMBERS SHOWN ARE FOR DESIGN INTENT AND REFLECT AVAILABILITY OF CIRCUITS BASED ON FIELD SURVEY AND PANELBOARD DIRECTORIES. FIELD VERIFY ALL AVAILABLE CIRCUITS MADE AVAILABLE AFTER DEMOLITION AND UPDATE AND CORRECT ANY DISCREPANCIES ON THE PANELBOARD DIRECTORIES.
11. ACTUAL CIRCUITS SHOWN SHALL BE SHOWN ON THE FINAL RECORD AS-BUILT DOCUMENTS.

COAES (TYPICAL) IN GYM

CONFIRM HEIGHT WITH INSPECTORIAL SERVICES.

200 LIGHT IN CEILING IN ROOM
139, MEN'S WASHROOM, MATCH
WOMEN'S 107

ADD BATT FLOODS IN ROOMS
126- WASHROOM
130- FIRE SPRINKLER ROOM
112- CLASS ROOM
139- MEN'S WASHROOM
107- WOMEN'S WASHROOM
143- DAYCARE WASHROOM

LIGHTING FLOOR PLAN
SCALE: 1/8"=1'-0"

SIGNATURE

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1800 W HAWTHORNE
LANE SUITE 200
WILSON, ILLINOIS 60181
JAKL - BRANDENBERG ARCHITECTS, LTD.
ARCHITECTS, LTD.
PHONE: (630) 337-6861
FAX: (630) 562-2570
LICENSE NO. 164.001832

INTERIOR RENOVATION
**AL-HUDA
ACADEMY**
7455 JENSEN BLVD.
HANOVER PARK, IL.

ISSUE	DATE
REVISED LAYOUT	11-16-16

SHEET TITLE
**ELECTRICAL
LIGHTING
FLOOR PLAN**

SHEET NUMBER
E1-1
OF



SHEET NOTES:

- ALL CIRCUITS SHOWN SHALL BE WIRED TO PANELS INDICATED BY THE PANEL DIVISION LINES, U.N.O.
- SEE ARCHITECTURAL DRAWINGS FOR MOUNTING OF ELECTRICAL DEVICES. ALL LOCATIONS SHALL BE CONFIRMED WITH ARCHITECT PRIOR TO ROUGH-IN.
- PROVIDE FIRE STOPPING AT ALL FIRE RATED WALLS AND PARTITIONS.
- COORDINATE MOTOR EQUIPMENT WITH MECHANICAL DRAWINGS FOR EXACT LOCATION.
- ALL RECEPTACLES SHALL BE MOUNTED VERTICALLY EXCEPT ABOVE COUNTERTOPS WHERE THEY SHALL BE MOUNTED HORIZONTALLY.
- PROVIDE REMOTE, TOGGLE USER DISCONNECT SWITCH FOR FAN POWERED BOXES WITH HEATING ELEMENTS.
- ALL FIRE ALARM SYSTEM WIRING SHALL BE RUN IN CONDUIT.
- SEE DETAILS FOR CONDUIT PROVISIONS FOR CARD READER LOCATIONS.
- REFER TO LOW VOLTAGE DRAWINGS FOR TELECOMMUNICATIONS, AUDIO-VISUAL, SECURITY AND PAGING SYSTEMS LAYOUT AND REQUIREMENTS. ALL CONDUIT AND BACKBOXES SHALL BE PROVIDED BY E.C.
- ALL DATA/VOICE CABLES SHALL BE INSTALLED IN CONDUIT.
- CIRCUIT NUMBERS SHOWN ARE FOR DESIGN INTENT AND REFLECT AVAILABILITY OF CIRCUITS BASED ON FIELD SURVEY AND PANELBOARD DIRECTORIES. FIELD VERIFY ALL AVAILABLE CIRCUITS [MADE AVAILABLE AFTER DEMOLITION] AND UPDATE AND CORRECT ANY DISCREPANCIES ON THE PANELBOARD DIRECTORIES. ACTUAL CIRCUITS SHOWN SHALL BE SHOWN ON THE FINAL RECORD AS-BUILT DOCUMENTS. ALL CIRCUITS SHALL BE WIRED TO 20A-1P CIRCUIT BREAKERS. PROVIDE NEW BREAKERS AS REQUIRED. MATCH EXISTING MANUFACTURER. [SCOPE].
- CONNECT NEW FIRE-ALARM DEVICES, INCLUDING BUT NOT LIMITED TO AUDIO/VISUAL DEVICES (750C SPECIFIED), TO THE BUILDING FIRE ALARM SYSTEM. CONNECT TO THE NEAREST FIRE ALARM TERMINAL BOX. PROVIDE ALL ASSOCIATED CONDUIT AND WIRING AND MAKE ALL NECESSARY MODIFICATIONS REQUIRED IN ORDER TO ACCEPT THE NEW DEVICES. ALL FIRE ALARM SYSTEM WIRING SHALL BE RUN IN CONDUIT. PROVIDE ALL REPROGRAMMING, TESTING, ETC. AS REQUIRED. FIRE ALARM LOCATIONS AND QUANTITIES SHOWN ARE CONCEPTUAL; UTILIZE THE SERVICES OF BUILDING'S DESIGNATED FIRE ALARM VENDOR. COORDINATE ALL WORK WITH LANDLORD.
- ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH TELECOM RISER MANAGEMENT COMPANY.
- ALL RECEPTACLES IN CLASS ROOMS SHALL BE TAMPER TYPE.
- CONTRACTOR SHALL COORDINATE WITH MECHANICAL FOR EXACT LOCATION OF ROOF TOP UNITS. ELECTRICAL CONTRACTOR SHALL PROVIDE WEATHER PROOF DISCONNECT SWITCH AS REQUIRED.

KEYED NOTES:

- ELECTRICAL CONTRACTOR SHALL UTILIZE EXISTING PANELBOARDS TO SERVED NEW RENOVATED SPACE. PROVIDE SPARE CIRCUIT BREAKER AS SHOWN ON SCHEDULES. MATCH EXISTING AND AIC RATING.
- DISCONNECT AND REMOVE EXISTING PANELBOARD. ELECTRICAL CONTRACTOR SHALL CONDUIT AND WIRING BACK TO SOURCE, UNLESS NOTED OTHERWISE BY OWNER.
- CONTRACTOR SHALL REMOVE EXISTING CIRCUIT BREAKER SERVING PANELBOARDS SCHEDULE TO BE REMOVED, AND PROVIDE NEW (4) 100A/3P CIRCUIT BREAKER TO FEED NEW ROOF TOP UNITS. FURNISH AND INSTALL CONDUIT AND WIRING AS REQUIRED, WITH 4#1, 1#8GRN, 1-1/2" C.

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

SIGNATURE

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LANE SUITE 200
MILWAUKEE, WI 53215
PH: (414) 330-7561
FAX: (414) 330-7562
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ISSUE	DATE
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SHEET TITLE
**ELECTRICAL
POWER
FLOOR PLAN**

SHEET NUMBER
E2-1
OF

NOTES	
1	REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT/ORIENTATION AND CONSTRUCTION MATERIAL.

TOTAL VA PHASE A	7960	CONNECTED AMPS	66
TOTAL VA PHASE B	7288	CONNECTED VA	21488
TOTAL VA PHASE C	6240	DESIGN AMPS	80

TOTAL VA PHASE A	3240	CONNECTED AMPS	27
TOTAL VA PHASE B	3240	CONNECTED VA	9720
TOTAL VA PHASE C	3240	DESIGN AMPS	30

TOTAL VA PHASE A	4320	CONNECTED AMPS	36
TOTAL VA PHASE B	4320	CONNECTED VA	12960
TOTAL VA PHASE C	4320	DESIGN AMPS	40

TOTAL VA PHASE A	4320	CONNECTED AMPS	36
TOTAL VA PHASE B	4140	CONNECTED VA	10620
TOTAL VA PHASE C	2160	DESIGN AMPS	32

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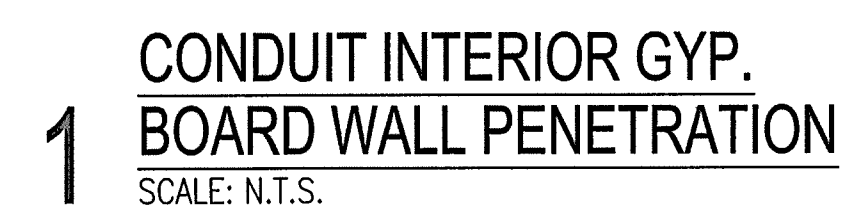
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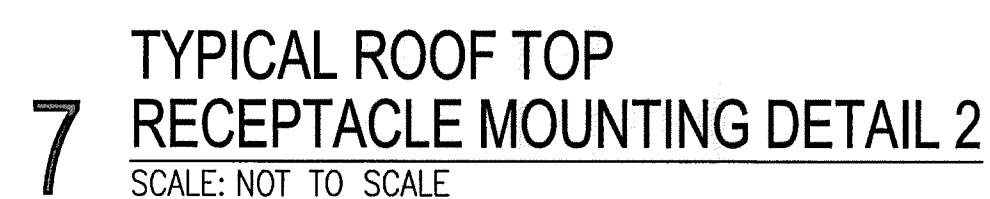
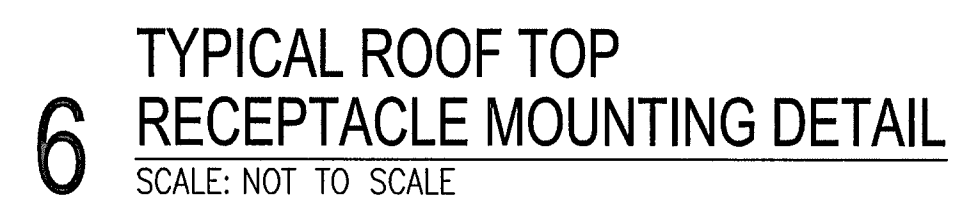
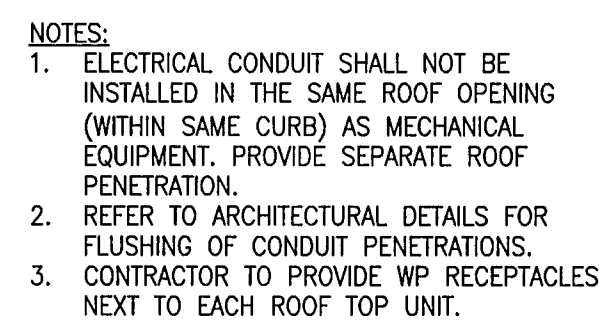
SHEET NUMBER

OF



NOTES:

SPACE PILLOW BLOCK STANDS
AT 8'-0" INTERVALS ON ROOF



SHEET TITLE

**ELECTRICAL
DETAILS**

SHEET NUMBER

E4-0

OF

SIGNATURE

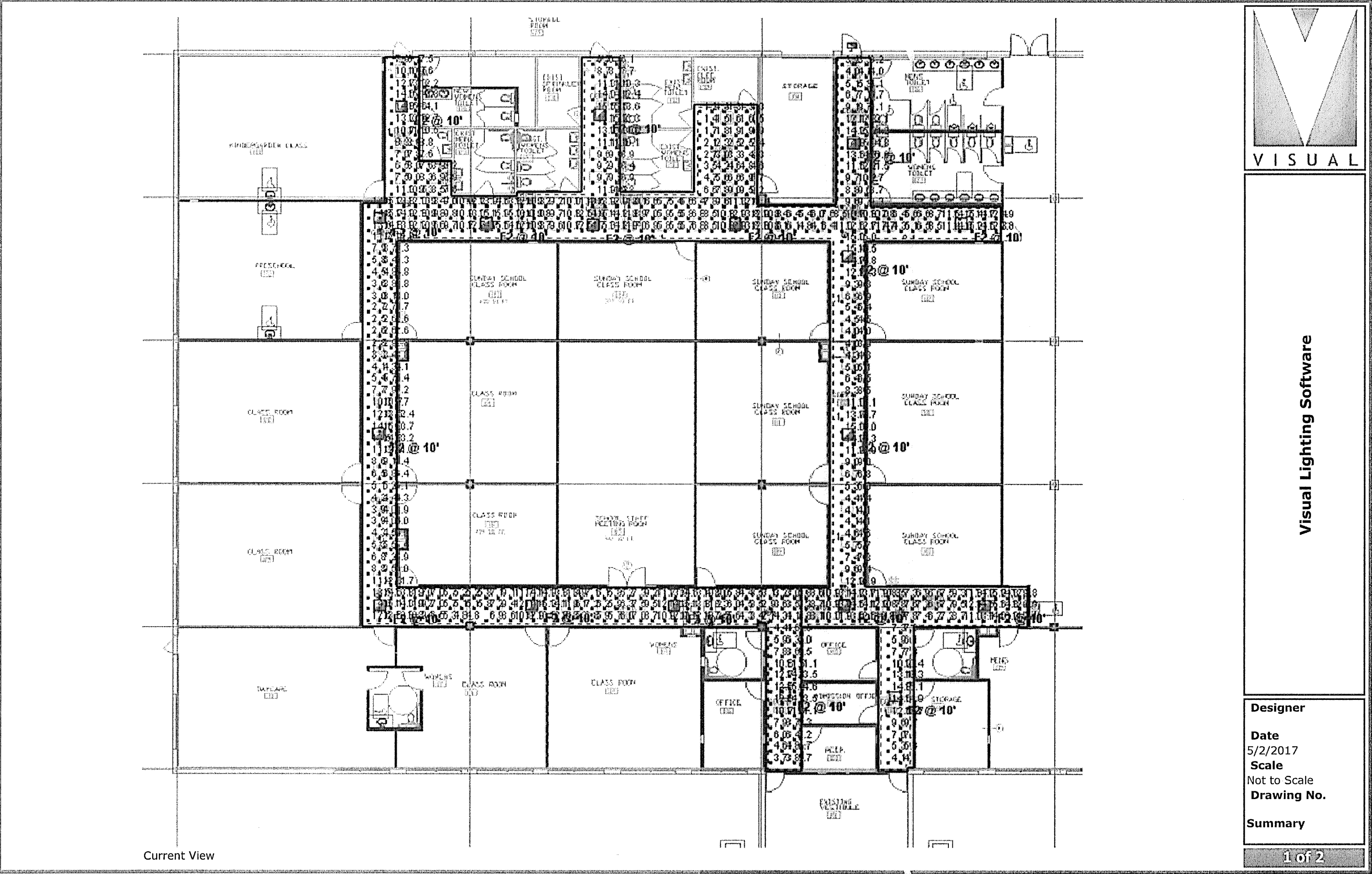
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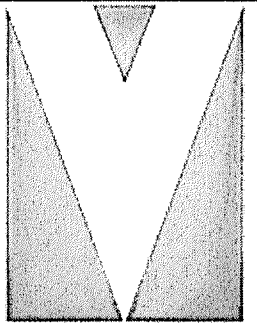
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INTERIOR RENOVATION
**AL-HUDA
ACADEMY**
7455 JENSEN BLVD.
HANOVER PARK, IL.

SHEET TITLE




VISUAL

Visual Lighting Software

Designer


Date
5/2/2017

Scale
Not to Scale

Drawing No.

Summary

1 of 2

Schedule											
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	F2	18	Lithonia Lighting	25BSL2 40L MVOLT E21 LP840	25BSL2 2X2 4000 NOMINAL LUMENS, 4000K	LED	1	25BSL2_40L_MVOLT_E21_LP840.ies	3265.066	0.95	35

Luminaire Locations									
Location						Aim			
No.	Label	X	Y	Z	Mt.	Orientation	Tilt	X	Y
1	F2	37.70	131.90	10.00	10.00	0.00	0.00	37.70	131.90
2	F2	34.00	113.00	10.00	10.00	0.00	0.00	34.00	113.00
3	F2	52.10	112.30	10.00	10.00	0.00	0.00	52.10	112.30
4	F2	70.60	112.00	10.00	10.00	0.00	0.00	70.60	112.00
5	F2	71.10	130.60	10.00	10.00	0.00	0.00	71.10	130.60
6	F2	94.10	112.30	10.00	10.00	0.00	0.00	94.10	112.30
7	F2	113.10	106.80	10.00	10.00	0.00	0.00	113.10	106.80
8	F2	114.10	125.70	10.00	10.00	0.00	0.00	114.10	125.70
9	F2	132.20	112.30	10.00	10.00	0.00	0.00	132.20	112.30
10	F2	113.20	76.80	10.00	10.00	0.00	0.00	113.20	76.80
11	F2	136.20	47.80	10.00	10.00	0.00	0.00	136.20	47.80
12	F2	112.60	47.90	10.00	10.00	0.00	0.00	112.60	47.90
13	F2	121.20	32.30	10.00	10.00	0.00	0.00	121.20	32.30
14	F2	102.60	33.00	10.00	10.00	0.00	0.00	102.60	33.00
15	F2	83.90	47.70	10.00	10.00	0.00	0.00	83.90	47.70
16	F2	34.20	47.70	10.00	10.00	0.00	0.00	34.20	47.70
17	F2	34.20	47.70	10.00	10.00	0.00	0.00	34.20	47.70
18	F2	33.80	76.70	10.00	10.00	0.00	0.00	33.80	76.70

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
floor calcs		9.0 fc	15.9 fc	1.2 fc	13.3:1	7.5:1

[illegible]

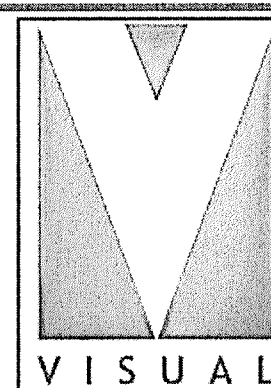
CSA Capable Luminaires

Boytzler is a CSA capable luminaire, which has been designed and tested to provide consistent light appearance and out-of-the-box central symmetry with single commissioning.

- Allotted portions of the luminaire meet the Axi Symmetry specification for the luminaire community
- Translucent light fixture is a CSA Certified luminaire in light control systems with approved fixtures marked by a **CSA logo**
- Translucent light fixture is a CSA Certified luminaire in light control systems, providing excellent light distribution for the luminaire body, when subject to installation and commissioning, marked by a **CSA logo**

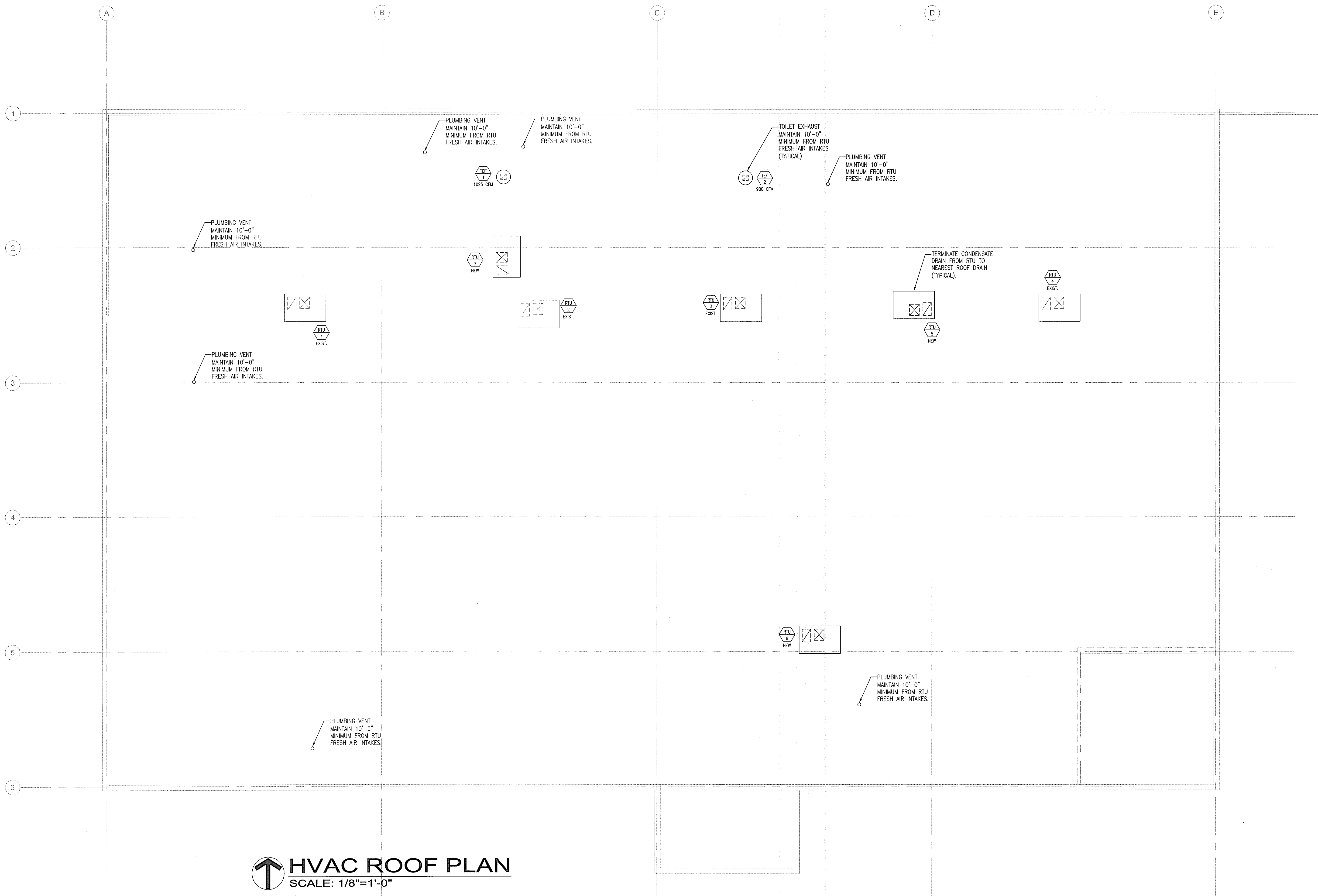
Learn more about CSA, visit www.csa.ca

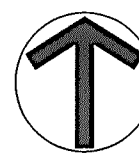
"See us online for details"



Visual Lighting Software

Designer
Date 5/2/2017
Scale Not to Scale
Drawing No.
Summary



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

SIGNATURE

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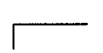
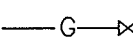


INTERIOR RENOVATION
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7455 JENSEN BLVD.
HANOVER PARK, IL.

ISSUE	DATE
PERMIT	2-22-17
CODE REVISION	3-23-17

SHEET TITLE
**HVAC ROOF
PLAN**

SHEET NUMBER
M-2

- ALL WORK MUST BE DONE PER 2012 INTERNATIONAL MECHANICAL CODE AND VILLAGE OF HANOVER PARK ORDINANCES.
- DRAWINGS ARE DIAGRAMMATIC ONLY. ACTUAL LOCATIONS AND ROUTING AND OF PIPES, DUCTS ETC. SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHOULD COORDINATE WITH OTHER TRADES FOR SPACE REQUIREMENTS & INTERFERENCE. INSTALL VALVES IN ACCESSIBLE LOCATIONS OR PROVIDE ACCESS DOORS FOR EASY ACCESS.
- BEFORE STARTING INSTALLATION, CONTRACTOR SHALL SUBMIT DETAILED & COORDINATED SHOP DRAWINGS OF MINIMUM 1/4"=1'-0" SCALE FOR ENGINEERS APPROVAL. SHOP DRAWINGS SHALL BE NEWLY PREPARED AND NOT REPRODUCED FROM THE ARCHITECTS DRAWINGS. LAYOUTS SHALL SHOW SIZES, LOCATIONS AND CLEARANCES OF PIPES, DUCTS, EQUIPMENT ETC. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES IN PREPARATION OF THE SHOP DRAWINGS.
- ALL DUCTWORK SHALL BE MADE OUT OF GALVANIZED SHEET METAL AND SHALL BE AS PER SMACNA & ASHRAE STANDARDS.
- ALL SUPPLY & RETURN DUCTWORK ABOVE SUSPENDED CEILING SHALL BE INSULATED WITH R8 INSULATION/VAPOR BARRIER.
- PROVIDE (R8) DUCT LINING FOR FIRST 25 FEET OF SUPPLY & RETURN DUCTWORK.
- ALL DUCT SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
- LOCATION OF THERMOSTATS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE DETERMINED AT SITE.
- CONTRACTOR TO VISIT SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE STARTING ANY WORK.
- CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS, FEES, INSPECTIONS, TAXES AND SHALL PAY FOR SAME AS REQUIRED.
- GAS PIPING SHALL BE SCH. 40 BLACK STEEL PIPES PER ANSI/ASTM A-53 GRADE B. ALL FITTINGS SHALL BE MALLEABLE IRON, 150 LBS, PER ANSI B 16.3. FOR PIPE 2" & UNDER & WELD FITTINGS, BLACK STEEL, STANDARD WEIGHT PER ANSI B 16.9 FOR PIPE 2 1/2" & OVER.
- FLEXIBLE DUCTWORK SHALL MEET NFPA 90A, UL STANDARDS, AND SHALL NOT EXCEED (5) FT. IN LENGTH.
- COORDINATE ROOF, WALL, AND FLOOR OPENINGS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- OUTSIDE AIR INTAKE SHALL BE A MINIMUM OF 15 FT. AWAY FROM ANY EXHAUST OR PLUMBING VENT AND MINIMUM 10' ABOVE GRADE.
- ALL EQUIPMENT AND DUCTWORK SHALL BE ISOLATED FROM BUILDING WALLS, FLOORS SO AS TO MINIMIZE NOISE.
- NOISE LEVEL FROM EQUIPMENT SHALL NOT EXCEED 55 DBA AT PROPERTY LINE AND SHALL COMPLY WITH ANY LOCAL ORDINANCES.
- ALL HANGERS, DUCT AND PIPE SUPPORTS, ETC. SHALL BE GALVANIZED STEEL.
- ALL PIPING SHALL BE TESTED FOR LEAKS AND CORRECTED.
- CONDENSATE DRAIN SHALL BE COPPER PIPE AND COMPLETE WITH TRAP. INSULATE WITH 1" THICK FIBERGLASS INSULATION.
- ALL MATERIALS, EQUIPMENT, WORKMANSHIP SHALL BE GUARANTEED FOR ONE (1) YEAR AFTER SYSTEM ACCEPTANCE. PROVIDE TYPEWRITTEN OPERATING INSTRUCTIONS AND EQUIPMENT WARRANTIES.
- ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING. THE TEMPERATURE CONTROL CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPERATURE CONTROL WIRING AND CONNECTIONS TO EQUIPMENT AS REQUIRED.
- CHECK, TEST AND START UP ALL HEATING, AIR CONDITIONING AND VENTILATION SYSTEMS.
- TEST, BALANCE AND ADJUST ALL AIR SYSTEMS TO DESIGN AIR QUANTITIES. TAB CONTRACTOR SHALL BE CERTIFIED BY NEBB. SUBMIT FINAL REPORT TO OPERATING SERVICES DIVISION OF HANOVER PARK.

LEGENDS	
	SUPPLY AIR
	RETURN AIR
	MANUAL DAMPER
	GAS WITH VALVE
	THERMOSTAT
	MOTORIZED CONTROL DAMPER
XXXS	CFM SUPPLY AIR
XXXR	CFM RETURN AIR
XXXE	CFM EXHAUST AIR
CFM	CUBIC FEET PER MINUTE
EF	EXHAUST FAN
EH	ENTRANCE HEATER
EWI	ELECTRIC WALL HEATER
RTU	ROOF TOP UNIT

ID MARK	AREA SERVED	EVAP. AIRFLOW CFM	UNIT ESP IN.WC.	COOLING DATA								HEATING DATA		WEIGHT /LBS	ELECT.		MANUFACTURER MODEL	NOTES
				CAPACITY LEAVING RTU			MIXED AIR		L.A.T		SEER	HEAT NET INPUT MBH	HEAT NET OUT MBH		240-3-60			
				NOMINAL TONS	TOTAL NET MBH	SENSIBLE NET MBH	D.B. DEG. F.	W.B. DEG. F.	D.B. DEG. F.	W.B. DEG. F.					UNIT MCA	UNIT MOP		
RTU-1	SEE PLAN	5000	1.5	12.5	163	116	80	67	58.5	56.7	11.5	240	192	1500	73.2	90	EXISTING UNIT	ALL
RTU-2	SEE PLAN	5000	1.5	12.5	163	116	80	67	58.5	56.7	11.5	240	192	1500	73.2	90	EXISTING UNIT	ALL
RTU-3	SEE PLAN	5000	1.5	12.5	163	116	80	67	58.5	56.7	11.5	240	192	1500	73.2	90	EXISTING UNIT	ALL
RTU-4	SEE PLAN	5000	1.5	12.5	163	116	80	67	58.5	56.7	11.5	240	192	1500	73.2	90	EXISTING UNIT	ALL
RTU-5	SEE PLAN	5000	1.5	12.5	163	116	80	67	58.5	56.7	11.5	240	192	1500	73.2	90	YORK J12ZHN	ALL
RTU-6	SEE PLAN	5000	1.5	12.5	163	116	80	67	58.5	56.7	11.5	240	192	1500	73.2	90	YORK J12ZHN	ALL
RTU-7	SEE PLAN	5000	1.5	12.5	163	116	80	67	58.5	56.7	11.5	240	192	1500	73.2	90	YORK J12ZHN	ALL

1. PROVIDE 100% ECONOMIZER W/MODULATING POWER EXHAUST
2. PROVIDE DUCT SMOKE DETECTOR FACTORY INSTALLED AND WIRED
3. PROVIDE 14" DETECTOR ROOF CURB. FOR UNITS WITH BYPASS DAMPER IN CURB USE 24" CURB
4. PROVIDE IECC 2015 COMPLAINT ROOFTOP UNIT
5. PROVIDE FACTORY INSTALLED & WIRED DISCONNECT
6. APPROVED MANUFACTURERS CARRIER, YORK, TRANE & McQUAY

7. PROVIDE IECC 2015 COMPLAINT PROGRAMMABLE THERMOSTAT (VENTSTAR T4900 OR EQUAL). THERMOSTAT SHALL BE PROGRAMMED FOR THE FOLLOWING CONDITIONS:

- O.A DAMPERS TO OPEN AT MINIMUM POSITION DURING OCCUPIED MODE
- O.A DAMPERS TO REMAIN CLOSE DURING UNOCCUPIED MODE
- O.A DAMPERS TO MODULATE BETWEEN 0%-100% DURING AIR SIDE ECONOMIZER MODE AND

TAG	LOCATION	CFM	EXTERNAL STATIC PRESSURE (INCHES)	FAN DATA			ELECTRICAL DATA				MAKE & MODEL	UNIT WT. (LBS)	NOTES
				FAN TYPE	RPM	DRIVE	WATTS/ HP	VOLTS	PH.	HZ.			
TEF-1	SEE PLAN	1025	0.375	CENTRIFUGAL	1750	DIRECT	1/2	208	3	60	GREENHECK GB-160	110	1,2
TEF-2	SEE PLAN	900	0.375	CENTRIFUGAL	1750	DIRECT	1/2	208	3	60	GREENHECK GB-140	60	1,2
TEF-3	TOILET 107	100	0.25	CEILING	1750	DIRECT	60	120	1	60	GREENHECK SPA-125	25	1
TEF-4	TOILET 116A	100	0.25	CEILING	1750	DIRECT	60	120	1	60	GREENHECK SPA-125	25	1

1. PROVIDE BACKDRAFT DAMPER AND DISCONNECT.
2. PROVIDE ROOF CURB

TAG	SERVICE	TYPE	LENGTH OR FACE AREA	OPPOSED BLADE OR DAMPER	MATERIAL/ FINISH	TYPE	BASED ON	NOTES
S1	SUPPLY	SQUARE	24" x 24"	NO	STEEL	ARCHITECTURAL CEILING DIFFUSER, 24"x24" SQUARE FACE, ROUND NECK	TITUS MODEL OMNI	1,2
S2	SUPPLY	LINEAR	60"	NO	STEEL	PLENUM SLOT DIFFUSER, 1-1/2" SLOT, 2 SLOTS	TITUS T80-80	1,2,3
S3	SUPPLY	REGISTER	SEE PLAN	YES	STEEL	RECTANGULAR REGISTER, DOUBLE ADJUSTABLE DEFLECTOR BLADES, 3/4" SPACING	TITUS 300RS	1,2,3
E1/R1	RETURN	GRILLE	24" x 24"	NO	STEEL	PERFORATED CEILING GRILLE, SQUARE NECK	TITUS MODEL PAR	1,2
R2	RETURN	GRILLE	30x30	NO	STEEL	RECTANGULAR REGISTER, 0 DEG. FIXED SINGLE DEFLECTION BLADES 3/4" SPACING	TITUS MODEL 350RS	1,2

1. REFER TO DRAWINGS FOR AIRFLOW REQUIREMENTS
2. COORDINATE BORDER TYPE WITH ARCHITECTURAL.
3. PROVIDE INSULATED PLENUM BOX

50 TO 100 CFM - 6" NK
101 TO 250 CFM - 8" NK
251 TO 400 CFM - 10" NK
401 TO 550 CFM - 12" NK
551 TO 750 CFM - 14" NK

50 TO 100 CFM - 6"x6" NK
101 TO 200 CFM - 8"x8" NK
201 TO 350 CFM - 10"x10" NK
351 TO 500 CFM - 12"x12" NK

501 TO 750 CFM - 15"x15" NK
751 TO 1000 CFM - 18"x18" NK
1001 TO 1800 CFM - 22"x22" NK

TAG	CAPACITY (WATTS)	VOLTAGE	MAKE & MODEL	REMARKS
EWB-1,2,3,4	1000	120V/1ø	QMARK - CWB	1


1. WALL MOUNTED HEATER WITH INTEGRAL THERMOSTAT

TAG	CAPACITY (WATTS)	VOLTAGE	MAKE & MODEL	REMARKS
EBH-1,2,3,4,5,6,7,8	2000	208V/1Ø	QMARK- 2500 SERIES	1

1. PROVIDE INTEGRAL THERMOSTAT

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WEST CHICAGO,
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**AL-HUDA
ACADEMY**

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[illegible]

MECHANICAL SCHEDULES

M-3

VENTILATION DATA (IMC 2012)

ROOM NUMBER	ROOM NAME	IMC OCCUPANCY	AREA SQFT(Az)	NUMBER OF FIXTURE	CALCULATED ORDINANCE ZONE O.A REQUIREMENT				CALCULATED ORDINANCE DIRECT EXHAUST			ACTUAL			SUPPLY SYSTEM	EXHAUST SYSTEM	REMARKS
					UNCORRECTED ZONE OUTSIDE AIR Vbz (RaAz+RpPz)	ZONE (Ez)	CORRECTED ZONE OUTSIDE AIR (Voz)	ZONE (Zp)	EXHAUST CFM/SQFT	EXHAUST CFM/FIXTURE	TOTAL EXHAUST CFM	SUPPLY CFM (Vpz)	RETURN CFM	EXHAUST CFM			
118	DAYCARE	DAYCARE (THROUGH AGE 4)	850	0	366	0.8	457	0.4	0	0	0	1200	790	460	RTU-1	RTU-1	--
119	CLASSROOM	CLASSROOMS (AGE 9+)	750	0	353	0.8	441	0.4	0	0	0	1000	450	450	RTU-1	RTU-1	--
120	CLASSROOM	CLASSROOMS (AGE 9+)	750	0	353	0.8	441	0.4	0	0	0	1000	450	450	RTU-1	RTU-1	--

MAX Zp	0.44	MAX ZONE PRIMARY OUTSIDE AIR FRACTION
Ev	0.71	SYSTEM VENTILATION EFFICIENCY
D	1.0	SYSTEM OCCUPANCY DIVERSITY
ΣPz	74	TOTAL ZONE OCCUPANCY SUMMATION
Ps	74	TOTAL SYSTEM POPULATON

Vou	1074	UNCORRECTED SYSTEM OUTDOOR AIR
Vot	1514	CORRECTED SYSTEM OUTDOOR AIR

SYSTEM: RTU-1 (MULTI-ZONE)	
IMC 2012 System OA Flow (Vot):	1514 CFM
Actual Scheduled System OA Flow:	1515 CFM

VENTILATION DATA (IMC 2012)

ROOM NUMBER	ROOM NAME	IMC OCCUPANCY	AREA SQFT(Az)	NUMBER OF FIXTURE	CALCULATED ORDINANCE ZONE O.A REQUIREMENT				CALCULATED ORDINANCE DIRECT EXHAUST			ACTUAL			SUPPLY SYSTEM	EXHAUST SYSTEM	REMARKS
					UNCORRECTED ZONE OUTSIDE AIR Vbz (RaAz+RpPz)	ZONE (Ez)	CORRECTED ZONE OUTSIDE AIR (Voz)	ZONE (Zp)	EXHAUST CFM/SQFT	EXHAUST CFM/FIXTURE	TOTAL EXHAUST CFM	SUPPLY CFM (Vpz)	RETURN CFM	EXHAUST CFM			
113	CLASSROOM	CLASSROOMS (AGE 9+)	400	0	188	0.8	235	0.4	0	0	0	600	0	0	RTU-2	0	--
115	MEETING ROOM	CONFERENCE/MEETING	980	0	304	0.8	380	0.3	0	0	0	1200	0	0	RTU-2	0	--
117	CLASSROOM	CLASSROOMS (AGE 9+)	490	0	230	0.8	288	0.5	0	0	0	600	0	0	RTU-2	0	--
121	CLASSROOM	CLASSROOMS (AGE 9+)	630	0	296	0.8	370	0.4	0	0	0	900	0	0	RTU-2	0	--
123	CLASSROOM	CLASSROOMS (AGE 9+)	485	0	228	0.8	285	0.5	0	0	0	600	0	0	RTU-2	0	--
124	CLASSROOM	CLASSROOMS (AGE 9+)	420	0	197	0.8	247	0.4	0	0	0	600	0	0	RTU-2	0	--

MAX Zp	0.48	MAX ZONE PRIMARY OUTSIDE AIR FRACTION
Ev	0.67	SYSTEM VENTILATION EFFICIENCY
D	0.6	SYSTEM OCCUPANCY DIVERSITY
ΣPz	134	TOTAL ZONE OCCUPANCY SUMMATION
Ps	85	TOTAL SYSTEM POPULATON

Vou	917	UNCORRECTED SYSTEM OUTDOOR AIR
Vot	1368	CORRECTED SYSTEM OUTDOOR AIR

SYSTEM: RTU-2 (MULTI-ZONE)	
IMC 2012 System OA Flow (Vot):	1368 CFM
Actual Scheduled System OA Flow:	1400 CFM

VENTILATION DATA (IMC 2012)

ROOM NUMBER	ROOM NAME	IMC OCCUPANCY	AREA SQFT(Az)	NUMBER OF FIXTURE	CALCULATED ORDINANCE ZONE O.A REQUIREMENT				CALCULATED ORDINANCE DIRECT EXHAUST			ACTUAL			SUPPLY SYSTEM	EXHAUST SYSTEM	REMARKS
					UNCORRECTED ZONE OUTSIDE AIR Vbz (RaAz+RpPz)	ZONE (Ez)	CORRECTED ZONE OUTSIDE AIR (Voz)	ZONE (Zp)	EXHAUST CFM/SQFT	EXHAUST CFM/FIXTURE	TOTAL EXHAUST CFM	SUPPLY CFM (Vpz)	RETURN CFM	EXHAUST CFM			
108	CLASSROOM	CLASSROOMS (AGE 9+)	435	0	204	0.8	256	0.4	0	0	0	600	0	0	RTU-3	0	--
109	CLASSROOM	CLASSROOMS (AGE 9+)	410	0	193	0.8	241	0.4	0	0	0	600	0	0	RTU-3	0	--
110	CLASSROOM	CLASSROOMS (AGE 9+)	560	0	263	0.8	329	0.4	0	0	0	800	0	0	RTU-3	0	--
111	CLASSROOM	CLASSROOMS (AGE 9+)	525	0	247	0.8	308	0.5	0	0	0	600	0	0	RTU-3	0	--
112	CLASSROOM	CLASSROOMS (AGE 9+)	430	0	202	0.8	253	0.4	0	0	0	600	0	0	RTU-3	0	--

MAX Zp	0.51	MAX ZONE PRIMARY OUTSIDE AIR FRACTION
Ev	0.74	SYSTEM VENTILATION EFFICIENCY
D	1.0	SYSTEM OCCUPANCY DIVERSITY
ΣPz	83	TOTAL ZONE OCCUPANCY SUMMATION
Ps	83	TOTAL SYSTEM POPULATON

Vou	1115	UNCORRECTED SYSTEM OUTDOOR AIR
Vot	1506	CORRECTED SYSTEM OUTDOOR AIR

SYSTEM: RTU-3 (MULTI-ZONE)	
IMC 2012 System OA Flow (Vot):	1506 CFM
Actual Scheduled System OA Flow:	1515 CFM

SIGNATURE

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JACKSONVILLE, IL 61830
PH: (630) 330-7561
FAX: (630) 562-2570

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SHEET TITLE

**MECHANICAL
SCHEDULES**

SHEET NUMBER

M-4

VENTILATION DATA (IMC 2012)

ROOM NUMBER	ROOM NAME	IMC OCCUPANCY	AREA SOFT(Az)	NUMBER OF FIXTURE	CALCULATED ORDINANCE ZONE O.A. REQUIREMENT			CALCULATED ORDINANCE DIRECT EXHAUST			ACTUAL			REMARKS		
					UNCORRECTED ZONE		ZONE	EXHAUST		EXHAUST	TOTAL EXHAUST CFM	SUPPLY CFM (Vozz)	RETURN CFM		EXHAUST CFM	
					OUTSIDE AIR Vbz (RoAz+RoPz)	(Ez)	OUTSIDE AIR (Voz)	CFM/SOFT	CFM/FIXTURE							
138	GYM	GYM, STADIUM, ARENA (PLAY AREA)	5620	0	1698	0.8	2123	0	0	0	9000	6850	2150	RTU-4.5	RTU-4.5	--

You	2123	UNCORRECTED SYSTEM OUTDOOR AIR
Vot	2123	CORRECTED SYSTEM OUTDOOR AIR

SYSTEM: RTU-4 & 5 (SINGLE ZONE SYSTEM)	
IMC 2012 System OA Flow (Vot):	2123 CFM
Actual Scheduled System OA Flow:	2150 CFM

VENTILATION DATA (IMC 2012)

ROOM NUMBER	ROOM NAME	IMC OCCUPANCY	AREA SQFT(Az)	NUMBER OF FUTURE	CALCULATED ORDINANCE ZONE O.A REQUIREMENT			CALCULATED ORDINANCE DIRECT EXHAUST			ACTUAL			REMARKS			
					UNCORRECTED ZONE OUTSIDE AIR Vbz (RaAz+RpPz)	ZONE (Ez)	CORRECTED ZONE OUTSIDE AIR (Voz)	ZONE (Zp)	EXHAUST CFM/SQFT	EXHAUST CFM/FUTURE	TOTAL EXHAUST CFM	SUPPLY CFM (Vpz)	RETURN CFM		EXHAUST CFM	SUPPLY SYSTEM	EXHAUST SYSTEM
101	VESTIBULE	CORRIDORS	335	0	20	0.8	25	0.1	0	0	0	300	0	0	RTU-6	0	--
102	CORRIDOR	CORRIDORS	2500	0	150	0.8	188	0.3	0	0	0	675	500	175	RTU-6	RTU-6	--
103	RECEPTION	RECEPTION AREAS	100	0	21	0.8	26	0.3	0	0	0	100	0	0	RTU-6	RTU-6	--
104	ADMISSIONS	OFFICE SPACES	100	0	9	0.8	11	0.1	0	0	0	100	0	0	RTU-6	RTU-6	--
105	OFFICE	OFFICE SPACES	115	0	10	0.8	12	0.1	0	0	0	100	0	0	RTU-6	RTU-6	--
106	OFFICE	OFFICE SPACES	150	0	13	0.8	16	0.1	0	0	0	150	0	0	RTU-6	RTU-6	--
107	TOILET	TOILET ROOMS - PUBLICA (INTERMITTENT)	85	1	0	0.8	0	0	0	70	70	0	0	100	--	TEF-3	--
114	CLASSROOM	CLASSROOMS (AGE 9+)	600	0	282	0.8	353	0.4	0	0	0	900	0	0	RTU-6	0	--
116	CLASSROOM	CLASSROOMS (AGE 9+)	590	0	277	0.8	347	0.4	0	0	0	900	0	0	RTU-6	0	--
139	STORAGE	STORAGE ROOMS	300	0	36	0.8	45	0.2	0	0	0	300	0	0	RTU-6	0	--
140	LIBRARY	LIBRARIES	875	0	149	0.8	186	0.2	0	0	0	1200	0	0	RTU-6	0	--
141	READING	LIBRARIES	555	0	94	0.8	118	0.1	0	0	0	900	0	0	RTU-6	0	--

MAX Zp	0.39	MAX_ZONE_PRIMARY_OUTSIDE_AIR_FRACTION
Ev	0.76	SYSTEM_VENTILATION_EFFICIENCY
D	1.0	SYSTEM_OCCUPANCY_DIVERSITY
ΣP_z	61	TOTAL_ZONE_OCCUPANCY_SUMMATION
Ps	61	TOTAL_SYSTEM_POPULATON

You	1064	UNCORRECTED SYSTEM OUTDOOR AIR
Vot	1404	CORRECTED SYSTEM OUTDOOR AIR

SYSTEM: RTU-6 (MULTI-ZONE)	
IMC 2012 System OA Flow (Vot):	1404 CFM
Actual Scheduled System OA Flow:	1450 CFM

VENTILATION DATA (IMC 2012)

ROOM NUMBER	ROOM NAME	IMC OCCUPANCY	AREA SQFT(Az)	NUMBER OF FIXTURE	CALCULATED ORDNANCE ZONE O.A REQUIREMENT				CALCULATED ORDNANCE DIRECT EXHAUST			ACTUAL			REMARKS		
					UNCORRECTED ZONE		ZONE	CORRECTED ZONE		EXHAUST CFM/SQFT	EXHAUST CFM/FIXTURE	TOTAL EXHAUST CFM	SUPPLY CFM (VpZ)	RETURN CFM		EXHAUST CFM	SUPPLY SYSTEM
					OUTSIDE AIR Vbz (RaAz+RpPz)	(Ez)	OUTSIDE AIR (Voz)	ZONE (Zp)									
122	CLASSROOM	CLASSROOMS (AGE 9+)	730	0	343	0.8	429	0.5	0	0	0	900	0	0	RTU-7	0	--
125	CLASSROOM	CLASSROOMS (AGE 9+)	820	0	385	0.8	482	0.4	0	0	0	1200	0	0	RTU-7	0	--
126	TOILET	TOILET ROOMS – PUBLICa (CONTINUOUS)	25	1	0	0.8	0	0	0	50	50	0	0	75	0	TEF-1	--
127	STORAGE	STORAGE ROOMS	225	0	27	0.8	34	0.1	0	0	0	300	0	0	RTU-7	0	--
128	TOILET	TOILET ROOMS – PUBLICa (CONTINUOUS)	115	4	0	0.8	0	0.0	0	200	200	150	0	200	RTU-7	TEF-1	--
129	TOILET	TOILET ROOMS – PUBLICa (CONTINUOUS)	108	3	0	0.8	0	0.0	0	150	150	150	0	200	RTU-7	TEF-1	--
130	SPRINKLER ROOM	NA	82	0	0	0.8	0	0	0	0	0	0	0	0	0	0	--
131	WOMENS	TOILET ROOMS – PUBLICa (CONTINUOUS)	120	3	0	0.8	0	0.0	0	150	150	150	0	200	RTU-7	TEF-1	--
132	MENS	TOILET ROOMS – PUBLICa (CONTINUOUS)	140	4	0	0.8	0	0.0	0	200	200	150	0	200	RTU-7	TEF-1	--
133	ELECTRICAL ROOM	NA	80	0	0	0.8	0	0	0	0	0	0	0	0	0	0	--
134	STORAGE	STORAGE ROOMS	300	0	36	0.8	45	0.1	0	0	0	400	0	0	RTU-7	0	--
135	BREAKROOM	DINING ROOMS	380	0	268	0.8	335	0.7	0	0	0	500	0	0	RTU-7	0	--
136	MENS	TOILET ROOMS – PUBLICa (CONTINUOUS)	135	2	0	0.8	0	0.0	0	100	100	100	0	150	RTU-7	TEF-2	--
137	WOMENS	TOILET ROOMS – PUBLICa (CONTINUOUS)	135	2	0	0.8	0	0.0	0	100	100	100	0	150	RTU-7	TEF-2	--

MAX Zp	0.67	MAX ZONE PRIMARY OUTSIDE AIR FRACTION
Ev	0.48	SYSTEM VENTILATION EFFICIENCY
D	0.7	SYSTEM OCCUPANCY DIVERSITY
ΣP_z	81	TOTAL ZONE OCCUPANCY SUMMATION
Ps	54	TOTAL SYSTEM POPULATION

Vou	708	UNCORRECTED SYSTEM OUTDOOR AIR
Vot	1473	CORRECTED SYSTEM OUTDOOR AIR

SYSTEM: RTU-7 (MULTI-ZONE)	
IMC 2012 System OA Flow (Vot):	1473 CFM
Actual Scheduled System OA Flow:	1475 CFM

SIGNATURE

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1800 W HAWTHORNE
LANE SUITE Q
WEST CHICAGO,
ILLINOIS 60785
PH: (630) 330-7561
FAX: (630) 562-2570

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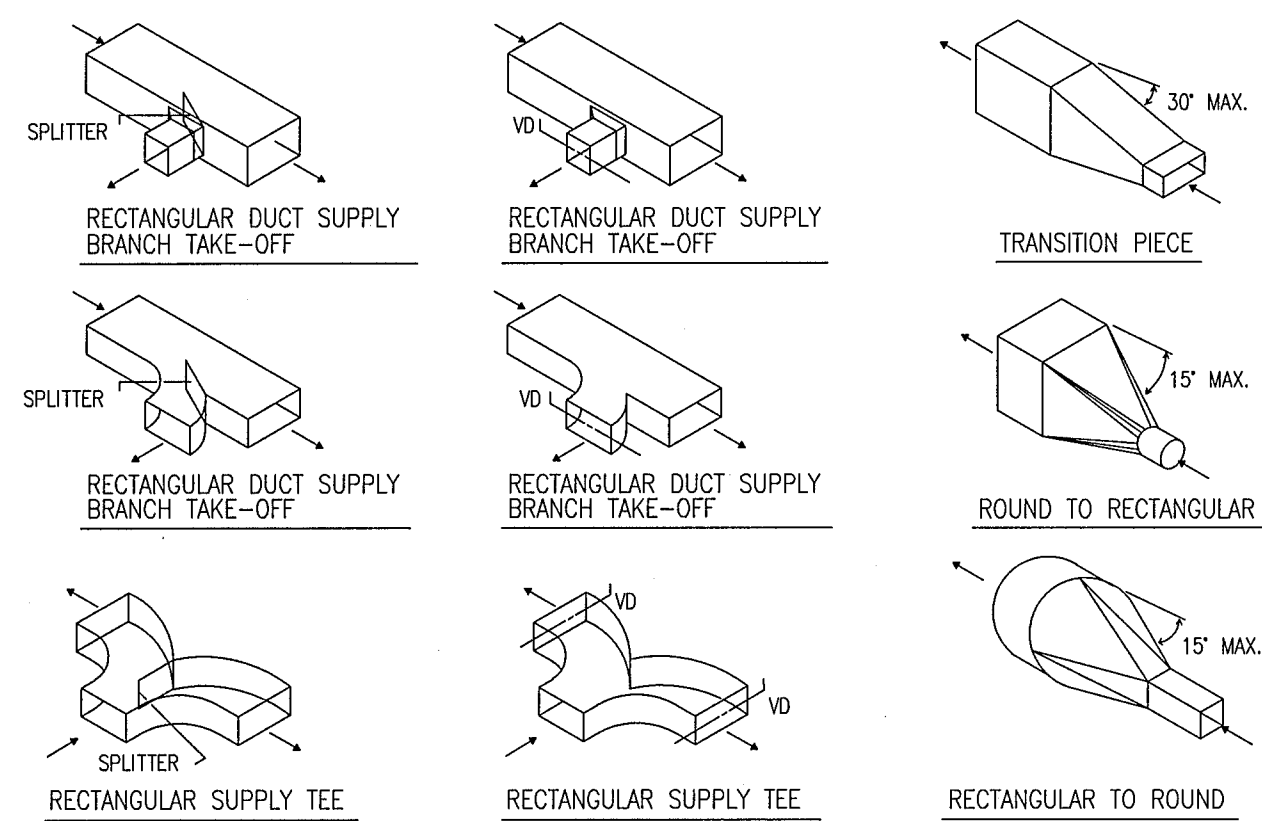
SHEET TITLE

MECHANICAL SCHEDULES

SHEET NUMBER

M-5

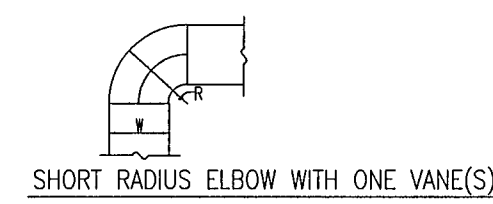
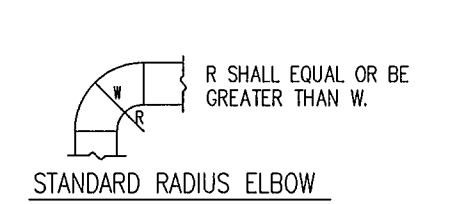
20 OF 24



- NOTES:
1. PROVIDE STANDARD RADIUS ELBOWS WHEN POSSIBLE - SHORT RADIUS WHERE REQUIRED.
 2. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED & FASTENED AS RECOMMENDED BY SMACNA.
 3. NO SQUARE OR RECTANGULAR HEEL ELBOWS SHALL BE ALLOWED.

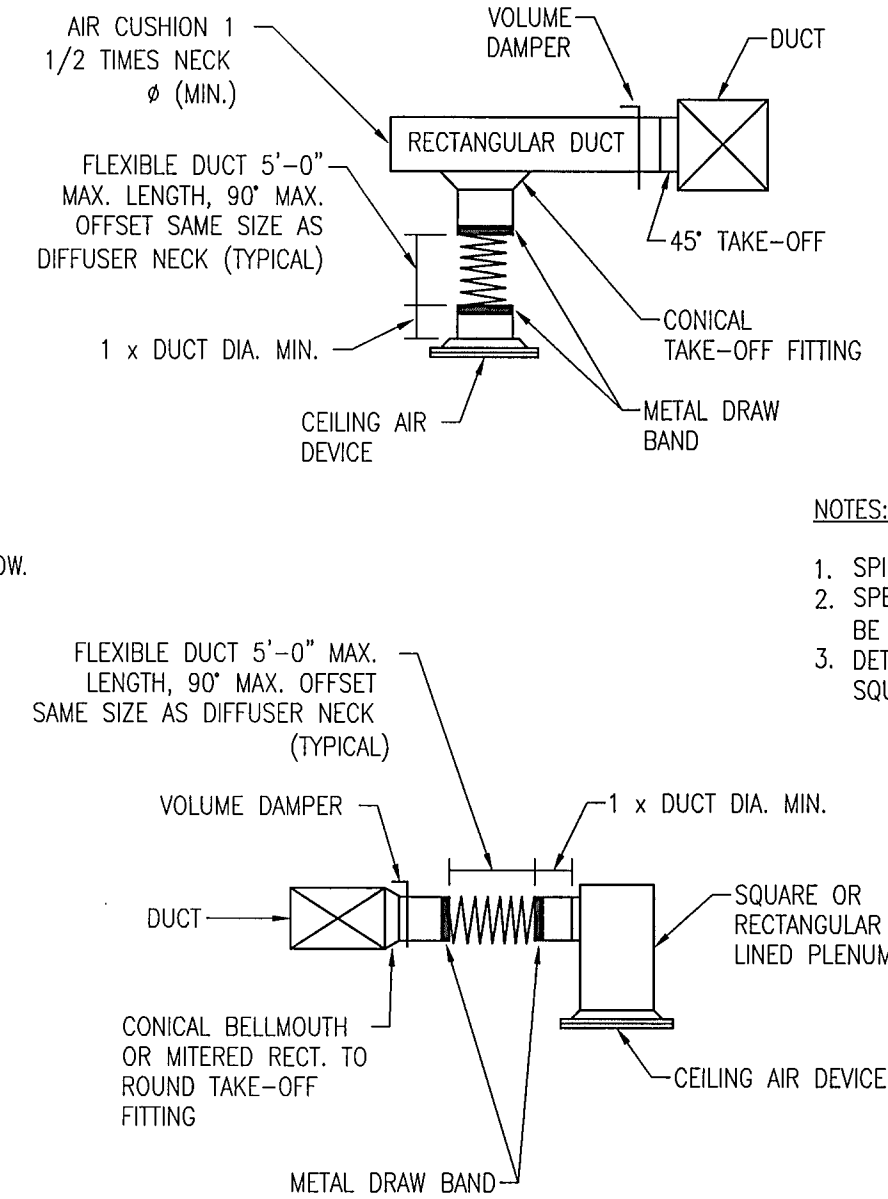
1 TYPICAL DUCT DETAILS

SCALE: N.T.S



- NOTE:
1. IF R IS LESS THAN W, THEN FULL ARC TURNING VANE(S) SHALL BE PROVIDED, SEE SCHEDULE BELOW.
 2. INSIDE BEND MAY BE SQUARE FOR W > 12", NO SQUARE HEELS PERMITTED.

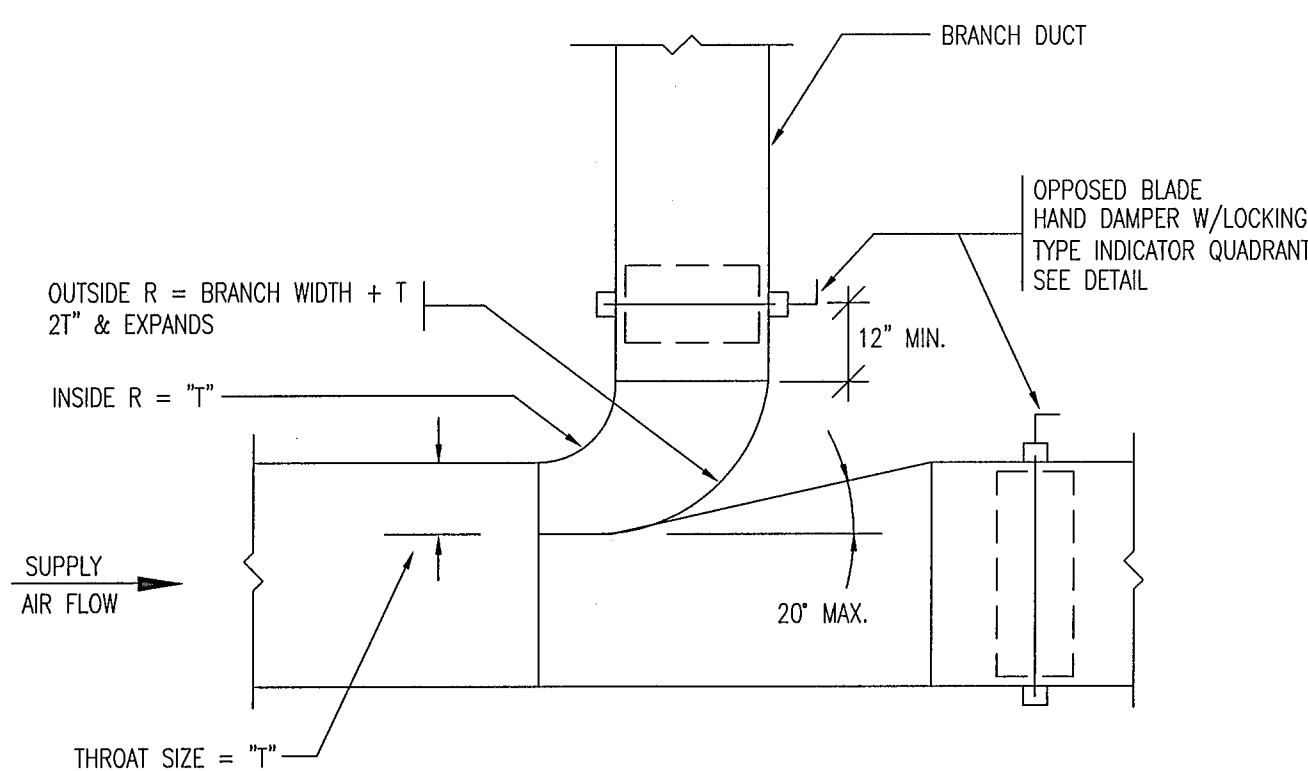
VANE SCHEDULE	
WIDTH	NO. OF VANES
≤ 12"	1
12"-24"	2
24"-36"	3
36"-60"	4
60"-84"	5
> 84"	6



- NOTES:
1. SPIN COLLARS SHALL NOT BE PERMITTED.
 2. SPECIAL CONDITIONS THAT CAN NOT MEET ONE OF THESE STANDARDS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION ON A CASE BY CASE BASIS.
 3. DETAILS ILLUSTRATE INSTALLATION WITH ROUND NECK DIFFUSERS AND DUCTS. SQUARE OR RECTANGULAR NECK DIFFUSERS AND DUCTS SHALL BE SIMILAR.

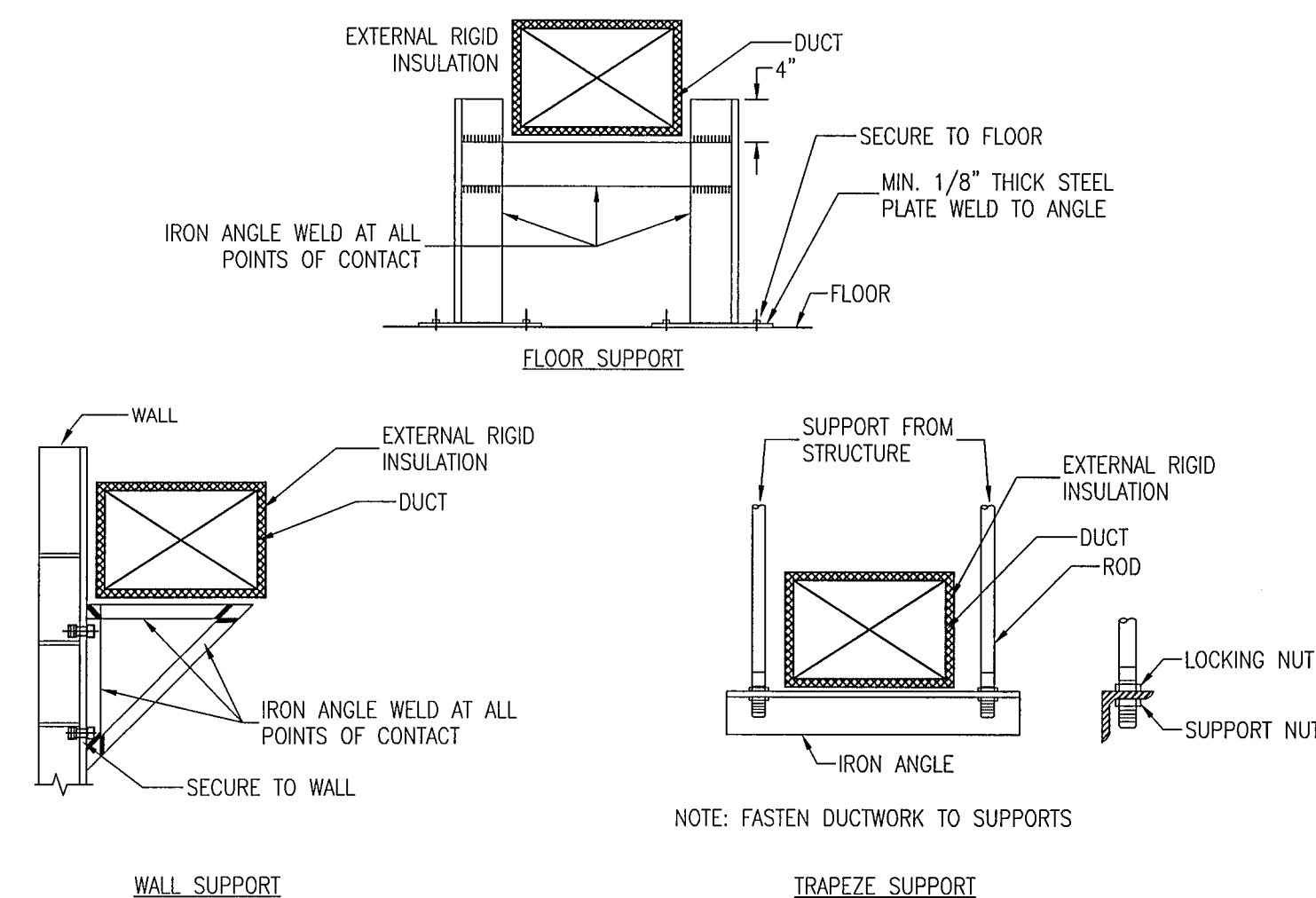
2 TYPICAL AIR DEVICE (INLET / OUTLET)

SCALE: N.T.S



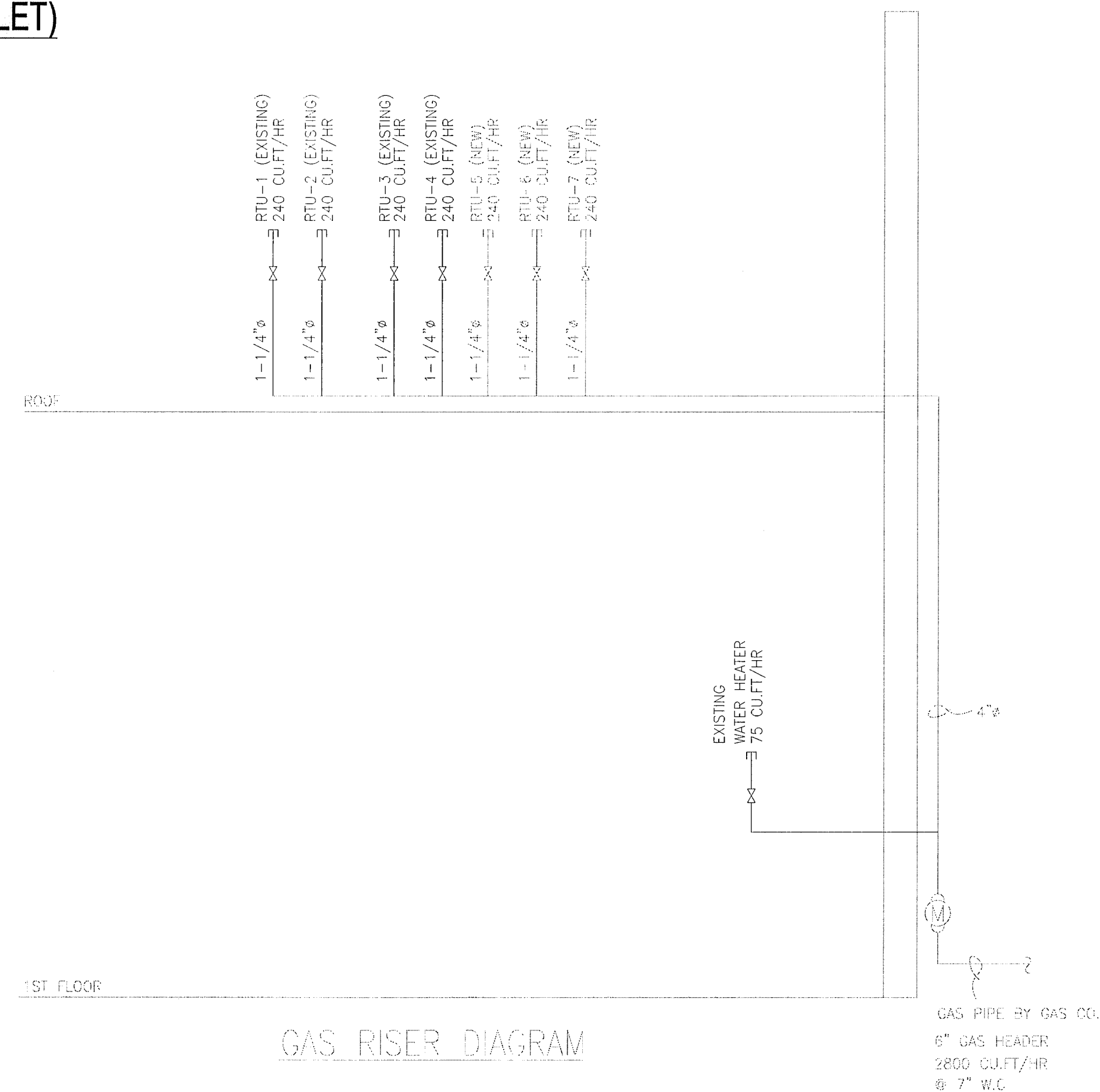
3 RECTANGULAR LOW PRESSURE DUCT BRANCH

SCALE: N.T.S



4 INTERIOR DUCTWORK SUPPORT DETAIL

SCALE: N.T.S



GAS RISER DIAGRAM

GAS PIPE BY GAS CO.
6" GAS HEADER
2800 CU.FT./HR
@ 7" W.C

SIGNATURE

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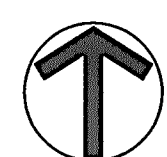
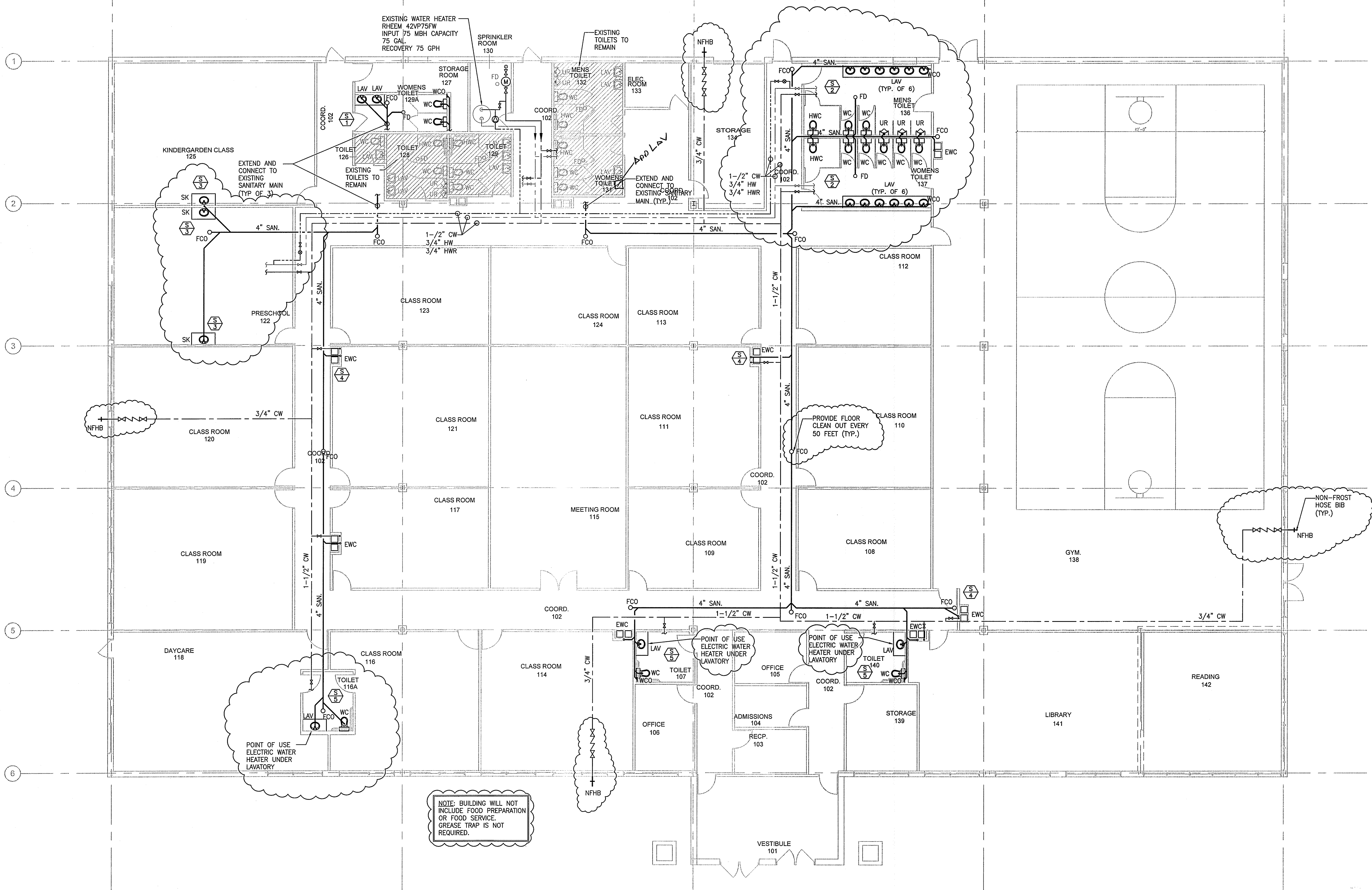
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LAKE SUITE 200
JULIA, IL 60148
PH: (630) 330-7561
FAX: (630) 562-2570
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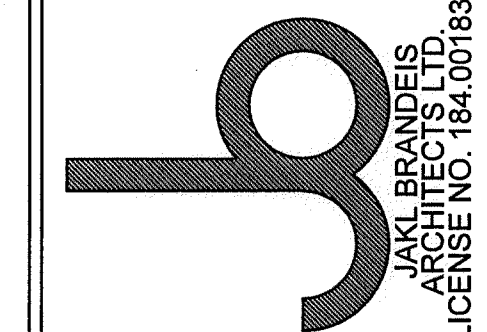
PLUMBING FLOOR PLAN

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

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LAW SUITE 200
JACKSONVILLE, FL 32218
PH: (904) 330-7551
FAX: (904) 330-7552



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PLUMBING
FLOOR
PLAN

SHEET NUMBER

P-1

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(FIXTURE MODELS ARE RECOMMENDED ONLY. OBTAIN OWNER APPROVAL FOR EACH FIXTURE TYPE)

HWC WATER CLOSET:

HANDICAPPED ACCESSIBLE WATER CLOSET 'KOHLER' - KINGSTON K-4330 WHITE VITREOUS CHINA WALL MOUNTED SIPHON JET ELONGATED BOWL WITH 1-1/2 INCH TOP SPUD. KOHLER NO. K-4670-C WHITE OPEN FRONT SEAT, NO COVER, WITH SELF SUSTAINING HINGE WITH CHECK. SLOAN 116-YB ROYAL FLUSH VALVE. PROVIDE CHAIR CARRIER TURN OR EQUAL.

WC WATER CLOSET:

HANDICAPPED ACCESSIBLE WATER CLOSET 'KOHLER' - KINGSTON K-4330 WHITE VITREOUS CHINA WALL MOUNTED SIPHON JET ELONGATED BOWL WITH 1-1/2 INCH TOP SPUD. KOHLER NO. K-4670-C WHITE OPEN FRONT SEAT, NO COVER, WITH SELF SUSTAINING HINGE WITH CHECK. SLOAN 116-YB ROYAL FLUSH VALVE, PROVIDE CHAIR CARRIER TURN OR EQUAL.

UR-URINAL

AMERICAN STANDARD - LYNBROOK WHITE VITREOUS CHINA, WALL HUNG SIPHON JET URINAL WITH SHIELDS, .5 GALLON FLUSH, INTEGRAL TRAP, REMOVABLE STAINLESS STEEL STRAINER, 3/4 INCH TOP SPUD, STEEL SUPPORTING HANGER. FLUSH VALVE TO BE EXPOSED CHROME PLATED, NON-HOLD OPEN HANDLE, .5 GALLON FLUSH, ESCUTCHEON, INTEGRAL SCREWDRIVER STOP, VACUUM BREAKER. SLOAN 8186-0.5 FLUSH VALVE.

LAV HANDICAPPED ACCESSIBLE LAVATORY:

AMERICAN STANDARD - 'LUCERNE' # 0356.028, WHITE VITREOUS CHINA WALL HUNG LAVATORY. 'CHICAGO FAUCET' '404-335CP' 1 1/4" CAST BRASS P-TRAP, SUPPLIES & STOP.

AMERICAN STANDARD - 'TROPIC 21' # 0403.004 WHITE VITREOUS CHINA DROP IN LAVATORY. 'CHICAGO FAUCET '404-335CP' 1 1/4" CAST BRASS P-TRAP, SUPPLIES & STOP.

EWC-ELECTRIC WATER COOLER

ELKAY MODEL LRPBGRNM28K, VANDAL-RESISTANT, RECESSED MOUNTED BI-LEVEL ELECTRIC WATER SYSTEM, BARRIER-FREE

FD FLOOR DRAIN

JAY R. SMITH MODEL #3510 WITH 2 INCH OUTLET, 6 INCH ROUND STRAINER, 4 INCH ROUND FUNNEL, AND FLASHING RING.

NFHB NON-FROST HOSE BIB

ZURN MODEL 1300, ECOLOTROL WALL HYDRANT ENCASED, NON FREEZE ANTI SIPHON AUTOMATIC DRAINING
w/BACKFLOW PREVENTOR

EWB ELECTRIC WATER HEATER

HUBBELL #CE110 ELECTRIC WATER HEATER 120V/1PH, 1000 WATTS. PROVIDE THERMOSTATIC MIXING VALVE, T&P RELIEF AND HI LIMIT SAFETY .

WATER FIXTURE UNIT COUNT

BASEMENT				WATER FIXTURE UNIT COUNT			
	DFO	QTY.	SUB TOTAL	GROUP	WFU	QTY.	SUB TOTAL
HWC/WC	4	15	60	HWC/WC	3	15	45
UR	4	5	20	UR	3	5	15
LAV	1	13	13	LAV	1	13	26
EWC	1	9	9	EWC	0.25	9	2.25
MB	3	1	3	MB	2	1	2
4'FD	6	7	42	NFHB	4	1	4
				Total			94.25
TOTAL			147	EXISTING 2" CW MAIN (90.25 GPM)			

EXISTING 6" SANITARY WITH 1/8" PITCH

UNIT	DESCRIPTION	WASTE	VENT	COLD	HOT	
HWC WC	WATER CLOSET FLUSH TANK	4"	2"	1"	--	
UR	URINAL	4"	2"	1"	---	
LAV	LAVATORY	2"	1-1/2"	1/2"	1/2"	
EW	WATER COOLER	2"	1-1/2"	1/2"	--	
MB	MOP SINK	2"	2"	3/4"	3/4"	
FD	FLOOR DRAIN	2"	2"	-	-	

- ALL WORK SHALL COMPLY WITH THE BUILDING CODE, ILLINOIS PLUMBING CODE 2014, AND ALL ADDITIONAL REQUIREMENTS OF MUNICIPAL AGENCIES RESPONSIBLE FOR CODE ENFORCEMENT, INCLUDING THE ILLINOIS STATE PLUMBING CODE (LATEST EDITION).
- CONTRACTOR SHALL APPLY AND PAY FOR ALL PERMITS AND INSPECTIONS FOR PLUMBING WORK.
- CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL CLEARANCES AND POINTS OF CONNECTION. THE DRAWINGS ARE DIAGRAMMATIC AND ALL WORK SHALL BE INSTALLED ACCORDING TO FIELD CONDITIONS. CONTRACTOR SHALL VERIFY EXISTING INVERTS OF PIPE AT POINTS OF CONNECTION AND AS INDICATED ON DRAWINGS. WHERE THE GENERAL CONTRACTOR DOES NOT PROVIDE AN ESTABLISHED POINT OF REFERENCE, THE PLUMBING CONTRACTOR SHALL ESTABLISH AND IDENTIFY THIS POINT AND CALCULATE ALL INVERTS ON THIS BASIS.
- CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES.
- CONTRACTOR SHALL REMOVE ALL DEBRIS FROM JOB SITE AND LEAVE ALL WORK AND EQUIPMENT IN CLEAN WORKING CONDITION.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (INCLUDING FIXTURE/EQUIPMENT PRODUCT DATA SUBMITTALS) PRIOR TO COMMENCEMENT OF WORK AND PURCHASE OF MATERIALS. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS AS DIRECTED BY THE OWNER.
- CONTRACTOR SHALL FURNISH PLUMBING INSTALLATION READY FOR USE AND COMPLETE IN EVERY RESPECT. CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF PROJECT ACCEPTANCE.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL PIPE SLEEVES. SLEEVES SHALL BE AT LEAST 1 1/2 TIMES THE SIZE OF THE PIPE AND SHALL BE OF SIMILAR MATERIAL TO PREVENT REACTION BETWEEN PIPE AND SLEEVE.
- CONTRACTOR SHALL PROVIDE AND INSTALL FIRE STOPPING AS TO COMPLETELY SEAL ALL PENETRATIONS OF FIRE RATED ASSEMBLIES, WALLS AND CEILINGS CAUSED BY THIS TRADE. THE SYSTEM SHALL BE INSTALLED ACCORDING TO AN UNDERWRITER'S LABORATORIES APPROVED THROUGH PENETRATION FIRE STOPPING PROTECTION SYSTEM, HAVE BEEN TESTED IN ACCORDANCE WITH ASTM #E-814 AND UL #1479, AND SHALL HAVE AN "F" RATING NOT LESS THAN THE REQUIRED RATING OF THE WALL PENETRATED. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR DUCT AND THE FIRE RATED ASSEMBLY SHALL BE FILLED WITH THE APPROVED MATERIAL SO AS TO MAINTAIN THE INTEGRITY OF THE FIRE RATING OF THE ASSEMBLY PENETRATED. INSULATION SHALL NOT PASS THROUGH FIRE RATED ASSEMBLIES.
- CONTRACTOR SHALL PROVIDE AND INSTALL ESCUTCHEON PLATES ON PIPES PASSING THROUGH WALLS. PROVIDE CHROME PLATED ESCUTCHEONS FOR ALL PIPES AT FIXTURE SUPPLIES, TRAPS, AND OTHER APPURTENANCES PASSING THROUGH WALLS.
- WHERE CONNECTIONS ARE MADE BETWEEN DISSIMILAR MATERIALS, DIELECTRIC UNIONS AND FLANGES SHALL BE USED TO PREVENT ELECTROLYTIC REACTION.
- HOT AND COLD WATER PIPING:
 - A. ALL NEW DOMESTIC COLD WATER AND HOT WATER PIPING WITHIN THE BUILDING AND AS SPECIFIED ON THE DRAWINGS SHALL BE INSULATED.
 - B. ALL HORIZONTAL RUNS OF HOT AND COLD WATER PIPING SHALL BE COPPER TYPE 'L'.
- ALL PIPING SHALL BE SUSPENDED INDEPENDENTLY FROM BUILDING STRUCTURE.
- PIPE HANGERS SHALL BE CONSTRUCTED AS TO ALLOW FOR PROPER PITCH AND EXPANSION OF PIPES. HANGERS FOR INSULATED PIPING SHALL BE SUFFICIENT SIZE TO PERMIT INSULATION TO EXTEND THROUGH SAME. INSULATION PROTECTION SADDLE SHALL BE FURNISHED AND INSTALLED AT EACH HANGER.
- WHERE A PIPE OR EQUIPMENT HANGER OCCURS BETWEEN THE BUILDING STRUCTURAL MEMBERS, PROVIDE SPECIAL STEEL ANGLE, CHANNEL OR UNISTRUT MEMBERS FOR SUPPORT OF SUCH HANGER, WELDED OR BOLTED TO STEEL FRAMING OR ANCHORED TO CONCRETE.
- HANGERS OR SUPPORTS FOR COPPER PIPE SHALL BE COPPER PLATED AT POINTS OF CONTACT WITH COPPER, TO BE FREE FROM ELECTROLYSIS.
- VERTICAL PIPES SHALL BE SUPPORTED AT LEAST ONCE FOR EACH STORY HEIGHT. RISER CLAMPS AND BASE OF RISER SHALL BE SO CONSTRUCTED AS TO ALLOW FOR PROPER PITCH AND EXPANSION
- CONTRACTOR SHALL LABEL PIPING SYSTEMS WITH MANUFACTURED LABELS DESIGNATING THE PIPING SYSTEM AGAINST AN APPROVED COLOR CODE.
- CONTRACTOR SHALL PRESSURE TEST ALL PLUMBING PIPING IN THE PRESENCE OF A MUNICIPAL PLUMBING INSPECTOR AS REQUIRED BY THE METHODS REQUIRED BY THE GOVERNING AUTHORITIES.
- CONTRACTOR SHALL DISINFECT ALL DOMESTIC WATER SUPPLY PIPING.
- PROVIDE CLEAN OUTS ON SANITARY PIPING AT EVERY CHANGE OF DIRECTION, A MAXIMUM OF 50°-0° ON CENTER IN STRAIGHT RUNS, AND AT THE END OF LINES, AND WHERE REQUIRED BY CODE. ANGLE CLEAN OUTS SO THEY OCCUR NEXT TO WALLS AND NOT IN TRAFFIC AREAS.

21. FIXTURES SHALL BE AS SPECIFIED IN SCHEDULE ON DRAWINGS OR SHALL BE APPROVED EQUAL BY THE ARCHITECT/ENGINEER. MOUNTING HEIGHTS OF ALL STANDARD FIXTURES SHALL BE ESTABLISHED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS UNLESS OTHERWISE SPECIFIED BY THE ARCHITECT/ENGINEER. MOUNTING HEIGHTS OF ALL HANDICAPPED FIXTURES SHALL BE ESTABLISHED ACCORDING TO THE FEDERAL, STATE AND MUNICIPAL CODES HAVING JURISDICTION.
22. CONTRACTOR SHALL PROVIDE AT EACH FIXTURE SUPPLY CONNECTION, BOTH HOT WATER AND COLD WATER, AN AIR CHAMBER NOT LESS THAN 12 INCHES LONG, ONE SIZE LARGER THAN THE FIXTURE SUPPLY. PROVIDE AIR CHAMBER AT OTHER LOCATIONS NOT LESS THAN 18 INCHES LONG, ONE PIPE SIZE LARGER THAN PIPES ON WHICH THEY ARE INSTALLED.
23. CONTRACTOR SHALL PROVIDE VACUUM BREAKER FOR EACH WATER CONNECTION TO PLUMBING FIXTURE OR ITEM OF EQUIPMENT HAVING SUBMERGED INLET OR HOSE END.
24. SANITARY AND VENT PIPING SHALL BE SCHEDULE 40 PVC
25. WATER SUPPLY PIPING:
A. COPPER TUBING: ASTM B88, TYPE L, HARD DRAIN.
1. FITTINGS: ASME B16.18, CAST BRONZE, OR ASME B16.22, WROUGHT COPPER AND BRONZE.
2. JOINTS: ASTM B32, SOLDER, GRADE 95TA
26. FLANGES, UNIONS AND COUPLINGS:
A. PIPE SIZES 2 INCHES AND UNDER: COPPER TUBE AND PIPE - 150 PSIG BRONZE UNIONS WITH SOLDERED JOINTS.
B. PIPE SIZE OVER 2 INCHES: 150 PSIG SLIP-ON BRONZE FLANGES; 1/16 INCH THICK PERFORMED NEOPRENE GASKETS.
C. DIELECTRIC CONNECTIONS: UNION WITH GALVANIZED OR PLATED STEEL THREADED END, COPPER SOLDER END, WATER IMPERVIOUS ISOLATION BARRIER.
27. CONTRACTOR MAY INSTALL ADDITIONAL PIPE FITTINGS NOT SHOWN ON DRAWINGS FOR TESTING PURPOSES OR FOR THE CONVENIENCE OF THE INSTALLATION.
28. ALL GAS SUPPLY LINES SHALL BE FITTED WITH INDIVIDUAL BALL TYPE SHUT-OFF VALVES PRIOR TO THE SERVICE CONNECTION OF EACH PIECE OF EQUIPMENT AT ROUGH-IN CONNECTION POINT.
29. HOT AND COLD WATER LINES SHALL BE FITTED WITH STOPS PRIOR TO THE SERVICE CONNECTION OF EACH FAUCET AT THE ROUGH-IN CONNECTION POINT.
30. CONTRACTOR SHALL PROVIDE APPROPRIATE PIPE SIZES PER MANUFACTURER'S RECOMMENDATION.
31. CONTRACTOR SHALL INCLUDE INCIDENTAL DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER INSTALLATION AND ORIENTATION.
32. CONTRACTOR SHALL INCLUDE ALL MODIFICATIONS, RELOCATION'S OR ADJUSTMENTS NECESSARY TO COMPLETE WORK OR TO AVOID INTERFERENCE.
33. INFORMATION GIVEN HEREIN IS AS EXACT AS COULD BE SECURED BUT IS NOT GUARANTEED. CONTRACTOR SHALL NOT SCALE DRAWINGS FOR EXACT DIMENSIONS.
34. PIPING DRAWINGS ARE FOR DIAGRAMMATIC PURPOSES ONLY. SIZES AND RUNNING PIPING ARE SHOWN, BUT IS NOT INTENDED TO SHOW EVERY FITTING AND OFFSET, NOR EVERY STRUCTURAL DIFFICULTY THAT CAN BE ENCOUNTERED DURING THE INSTALLATION OF THE WORK. ANY CHANGES FROM THE GENERAL ROUTING SHOWN ON THE DRAWINGS SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO OTHER PIPES AND FITTINGS SHALL BE DONE WITHOUT ADDITIONAL CHARGE.
35. CONTRACTOR SHALL ADJUST HIS WORK TO MEET ACTUAL CONDITIONS EXISTING IN FIELD.
36. ANY QUESTIONABLE INFORMATION IN THE DESIGN DOCUMENTS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH FABRICATION OR ERECTION OF THE PARTS AFFECTED. IF, IN THE OPINION OF THE CONTRACTOR, ANY ADDITIONAL DETAIL DRAWINGS ARE NECESSARY, CONTRACTOR SHALL PREPARE THEM AT HIS OWN EXPENSE, TOGETHER WITH THE BILL OF MATERIALS.
37. ANY RELOCATION OF PIPING OR ACCESSORIES REQUIRED TO PROVIDE MAINTENANCE ACCESS SHALL BE ACCOMPLISHED AT NO ADDITIONAL COST.
38. ALL PIPING SHALL BE ARRANGED AND LABELED IN ACCORDANCE WITH DESIGN DOCUMENTS. ALL DIMENSIONS SHALL BE FIELD VERIFIED FOR ACCURACY PRIOR TO PIPE FABRICATIONS.
39. FULL LENGTH OF PIPING SHALL BE USED WHEREVER POSSIBLE. CONTRACTOR SHALL INSTALL ALL PIPING STRAIGHT AND DIRECT AS POSSIBLE, GENERALLY FORMING 45° ANGLES WITH, OR RUNNING PARALLEL WITH, WALLS OR ADJACENT PIPING.
40. PLUMBING CONTRACTOR SHALL CAREFULLY DISCONNECT ALL EXISTING FIXTURES TO BE REMOVED.
41. FIELD CHECK FOR EXACT LOCATION AND SIZE OF EXISTING RISERS AND BRANCHES TO BE USED. REPLACE ALL PIPING SMALLER THAN REQUIRED FOR NEW INSTALLATION. HORIZONTAL GALVANIZED WATER SUPPLY PIPING SHALL BE REPLACED WITH COPPLER PIPES TYPE "L".
42. PROVIDE SHUT-OFF VALVES FOR NEW COLD AND HOT WATER BRANCH LINES. LOCATE WHERE THEY WILL BE ACCESSIBLE OR PROVIDE ACCESS PANEL IN THE WALL.
43. PLUMBING FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH THEIR LISTINGS AND THEIR MANUFACTURER INSTRUCTIONS. A COPY OF MANUFACTURER INSTALLATION INSTRUCTIONS MUST BE PROVIDED ON SITE FOR EACH INSTALLATION.
44. ALL PLUMBING THAT MAY POSE HEALTH OR SAFETY HAZARD MUST BE REVISED TO MEET ILLINOIS PLUMBING CODE.
45. ALL NEW PLUMBING MUST MEET ILLINOIS PLUMBING CODE 2014.
46. ALL UNUSED WATER PIPING SHALL BE CAPPED WITH IN 2 FEET OF MAIN.
47. CHECK ALL EXISTING CAST IRON PIPES FOR CORROSION OR COLLAPSE WHEN ENCOUNTERED.
48. PAINT ALL GAS PIPING INSTALLED OUTSIDE OF THE BUILDING.

SIGNATURE

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ARCHITECTS LTD.**
LICENSE NO. 184.00718321

**1800 W HAWTHORNE
LANE SUITE Q
WEST CHICAGO,
ILLINOIS 60185
PH: (630) 330-7561
FAX: (630) 562-2570**

INTERIOR RENOVATION
**AL-HUDA
ACADEMY**

7455 JENSEN BLVD.
HANOVER PARK, IL.

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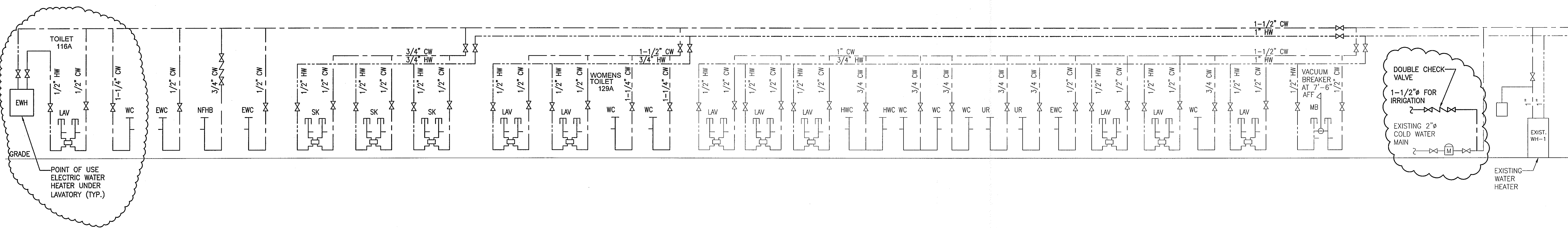
SHEET TITLE

PLUMBING SCHEDULES & NOTES

SHEET NUMBER

P-2

ROOF



SEE BELOW FOR CONTINUATION

