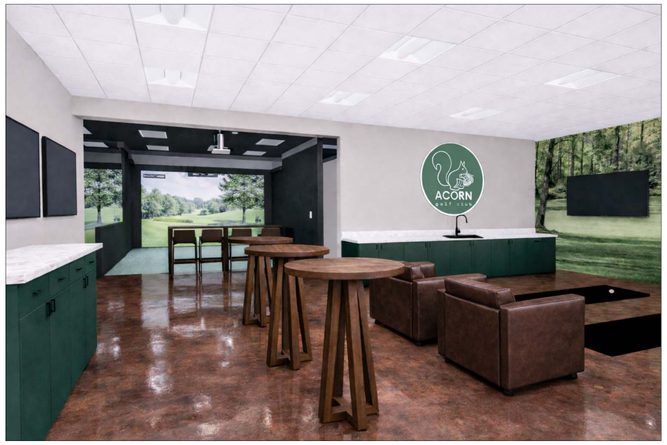
ACORN GOLF CLUB

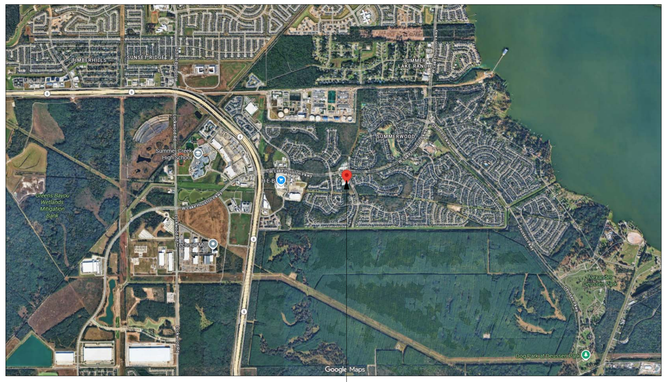
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

APRIL 10, 2026: ISSUED FOR BID

RENDERING



VICINITY MAP



PROJECT LOCATION:
TIMBER FOREST DR, HOUSTON, TX 77044

GENERAL

T-1.00	TITLE SHEET
T-1.10	ACCESSIBILITY ROUTE COMPLIANCE
T-1.20	ACCESIBILITY ELEMENT COMPLIANCE
SP-1.00	SITE PLAN
LS-1.00	LIFE SAFETY PLAN

ARCHITECTURAL

A-1.00	OVERALL BUILDING PLAN
A-1.01	FLOOR PLAN-DEMO
A-1.02	FLOOR PLAN-DIMENSIONED
A-1.10	ENLARGED PLANS
A-1.20	DETAILS
A-2.00	DOOR SCHEDULE
A-3.00	INTERIOR PARTITIONS
A-4.00	REFLECTED CEILING PLAN
IP-1.00	INTERIOR PHOTOMETRIC
A-5.00	ROOF PLAN
A-6.00	EXTERIOR BUILDING ELEVATIONS
A-7.00	BUILDING SECTIONS
A-9.00	BAY SIMULATOR DETAILS
A-10.00	INTERIOR ELEVATIONS
A-10.01	INTERIOR ELEVATIONS
A-11.00	MILLWORK DETAILS
A-12.00	FINISH FLOOR PLAN
A-12.02	RESTROOM ACCESSORIES
A-13.00	POWER PLAN
A-14.00	INTERIOR SIGNAGE

MEP

MEP-1.00	MEP SPECIFICATIONS
MEP-2.00	MEP SPECIFICATIONS
MEP-3.00	MEP SPECIFICATIONS
M-1.00	MECHANICAL INFORMATION
M-2.00	MECHANICAL PLAN
M-3.00	MECHANICAL ROOF PLAN
M-4.00	MECHANICAL DETAILS
E-1.00	ELECTRICAL INFORMATION
E-2.00	ELECTRICAL LIGHTING PLAN
E-3.00	ELECTRICAL POWER PLAN
E-4.00	ELECTRICAL RISER DIAGRAM
P-1.00	PLUMBING INFORMATION
P-2.00	PLUMBING PLAN
P-3.00	PLUMBING FIXTURES
P-4.00	PLUMBING DETAILS

BUILDING CODE AND PROJECT INFORMATION

LEGAL DESCRIPTION
TYPE LEGAL DESCRIPTION

SCOPE OF WORK
NEW INTERIOR BUILD OUT OF A 2,301 SF SPORT SIMULATOR FACILITY MADE UP OF THREE DESIGNATED SIMULATION SPACES.

BUILDING CODE
2018 IBC WITH CITY OF HARRIS COUNTY AMENDMENTS
2014 NEC NOT REVIEWED/INSPECTED BY HARRIS COUNTY
2015 IPC NOT REVIEWED/INSPECTED BY HARRIS COUNTY
2018 IFC WITH CITY OF HARRIS COUNTY AMENDMENTS
2015 IECC NOT REVIEWED/INSPECTED BY HARRIS COUNTY
2015 IMC NOT REVIEWED/INSPECTED BY HARRIS COUNTY
NFPA LIFE SAFETY 101 CURRENT EDITION

OCCUPANCY CLASSIFICATION, EGRESS & OCCUPANT LOADS

NO CHANGE OCCUPANCY TYPE:	B-BUSINESS
NO CHANGE CONSTRUCTION TYPE:	VB
NO CHANGE EXISTING BUILDING HEIGHT:	20 FT
NO CHANGE EXISTING NUMBER OF STORIES:	1
NO CHANGE EXISTING BUILDING AREA:	4,751 S.F

BUILD-OUT OCCUPANCY TYPE:	B-BUSINESS
BUILD-OUT AREA:	2,301 S.F
OCCUPANT LOAD:	B-BUSINESS
FACTOR:	150 GROSS SQ.FT./ OCCUPANTS
TOTAL:	16 OCCUPANTS
EXITS REQUIRED:	1
EXITS PROVIDED:	1
WIDTH OF EXIST REQUIRED:	36 IN.
WIDTH OF EXIST PROVIDED:	36 IN. MINIMUM
MAXIMUM ALLOWABLE TRAVEL DISTANCE:	75 FT.
ACTUAL TRAVEL DISTANCE:	50 FT.

Architectural Barriers Project Registration #
TABS##########

FIRE RESISTANCE (HRS.)

EXTERIOR BEARING WALLS	0
INTERIOR BEARING WALLS	0
STRUCTURAL FRAME	0
CORRIDORS	0
SHAFT ENCLOSURE	0
ROOFS/CEILINGS:	0
EXTERIOR DOORS AND WINDOWS	0
SMOKE BARRIER SEPERATIONS	0

FIRE EXTINGUISHERS	CLASS 2A	MAX. SEP. 75 FT.
ALARM SYSTEMS	REF: N/A	
SPRINKLER:	NO	
STANDPIPE:	NO	

SITE

CURRENT ZONING:
PROPOSED ZONING:

REQUIRED SET BACKS
FRONT:
BACK:
SIDES:

PARKING ANALYSIS
OFFICE = 2.5 SPACES/1000 S.F. GROSS FLOOR AREA
2,301 BUILDOUT S.F. /1000 S.F.
2.5 SPACES PER 1,000 SQ. FT.

PARKING SPACES REQUIRED:	8
EXISTING SPACES PROVIDED:	22
ACCESSIBLE PARKING SPACES REQUIRED:	1
EXISTING ACCESSIBLE SPACES PROVIDED:	2
OVERALL SITE PARKING:	52

PROJECT TEAM

ARCHITECT/CONTRACTOR
SLI GROUP
15810 PARK TEN PLACE, SUITE 300
HOUSTON, TEXAS 77084
713-465-4650

STRUCTURAL ENGINEER

SURVEYOR

CIVIL ENGINEER

MEP ENGINEER
EBE ENGINEERS
12603 Southwest Frwy, Ste 170
Stafford, Tx 77477

GEOTECHNICAL

SLI DESIGN, INC.
ARCHITECTURE PLANNING INTERIOR DESIGN
15810 PARK TEN PLACE, SUITE 300
HOUSTON, TEXAS 77084
713-465-4650
www.sligroup.com

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ACORN GOLF CLUB
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

	DATE
ISSUED FOR CLIENT APPROVAL	03.30.2026
ISSUED FOR BIDDING	04.10.2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

MARK	DESCRIPTION	DATE

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REGISTERED ARCHITECT
TOMMY BARNETT
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
TITLE SHEET

DRAWN BY	RG	SHEET NO.
CHECKED BY	BL	T-1.00
APPROVED BY	TB	

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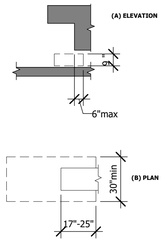

FIG 306.2
TOE CLEARANCE

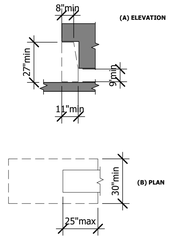

FIG 306.3
KNEE CLEARANCE

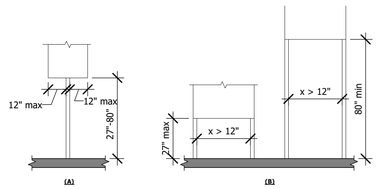

FIG 307.3
POST-MOUNTED PROTRUDING OBJECTS

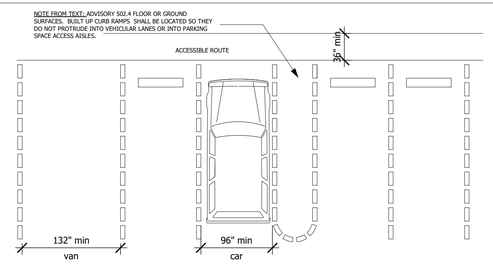

FIG 502.2
VEHICLE PARKING SPACES

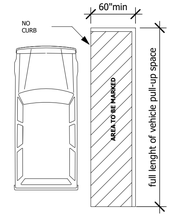

FIG 306.2
TOE CLEARANCE

TOTAL PARKING SPACES IN LOT OR GARAGE	MINIMUM REQUIRED NUMBER OF ACCESSIBLE SPACES
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1,000	2% OF TOTAL SPACES 20 SPACES PLUS 1 SPACE FOR EVERY 100 SPACES, OR FRACTION THEREOF
OVER 1,000	OVER 1,000

TABLE PER THE FOLLOWING CODES SECTIONS: 2009 INTERNATIONAL BUILDING CODE, TABLE 1106.1, AND TEXAS ACCESSIBILITY STANDARDS TABLE 208.2 VERIFY WITH LOCAL MUNICIPALITY AND ADDITIONAL ORDINANCES, AMENDMENTS OR MODIFICATIONS.

REQUIRED ACCESSIBLE PARKING SPACES

SITE, PARKING, ENTRANCE

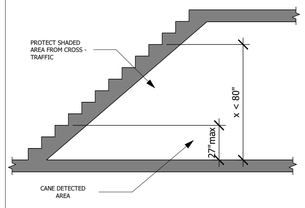

FIG 307.4
VERTICAL CLEARANCE

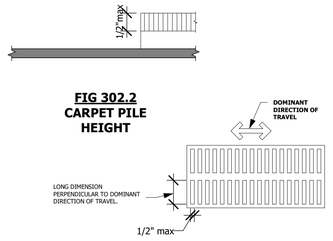

FIG 302.2
CARPET PILE HEIGHT

FIG 302.3
ELONGATED OPENING IN FLOOR OR GROUND SURFACES

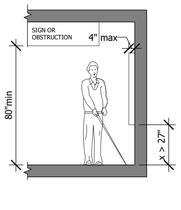

FIG 307.2
LIMITS OF PROTRUDING OBJECTS

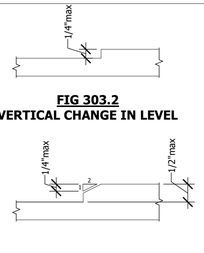

FIG 303.2
VERTICAL CHANGE IN LEVEL

FIG 303.3
BEVELED CHANGE IN LEVEL

SLOPE	MAXIMUM RISE
STEEPER THAN 1:10 BUT NOT STEEPER THAN 1:8	3 INCHES (75 MM)
STEEPER THAN 1:12 BUT NOT STEEPER THAN 1:10	6 INCHES (150 MM)

TABLE 405.2
MAXIMUM RAMP SLOPE AND RISE FOR EXISTING SITES, BUILDINGS, AND FACILITIES

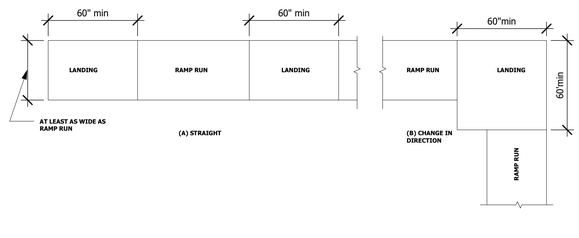

FIG 405.7
RAMP LANDINGS

PROTRUSIONS AND OBSTRUCTIONS ON AN ACCESSIBLE PATH

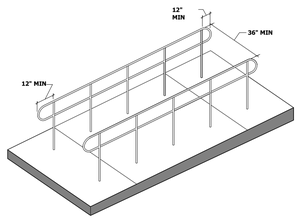

FIG 505.10.1
EXAMPLE OF CLEAR WIDTH AND EDGE PROTECTION

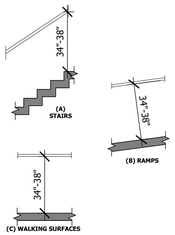

FIG 505.4
HANDRAIL HEIGHT

FIG 505.5
HANDRAIL CLEARANCE

FIG 505.6
HORIZONTAL PROJECT BELOW GRIPPING SURFACE

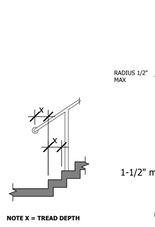

FIG 505.10.3
BOTTOM HANDRAIL EXTENSION AT STAIRS

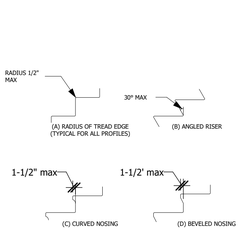

FIG 504.5
STAIR NOSINGS

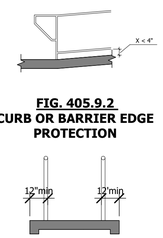

FIG. 405.9.2
CURB OR BARRIER EDGE PROTECTION

FIG. 405.9.1
EXTENDED FLOOR OR GROUND SURFACE EDGE PROTECTION

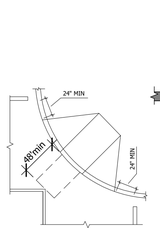

FIG. 406.6
DIAGONAL OR CORNER TYPE CURB RAMPS

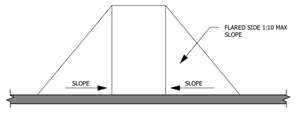

FIG. 406.3
SIDES OF CURB RAMPS

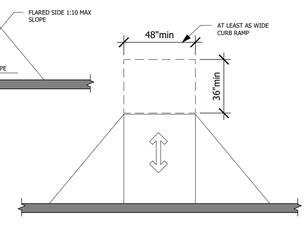

FIG. 406.4
LANDINGS AT THE TOP OF CURB RAMPS

RAMPS, SLOPES AND ASSOCIATED HANDRAILS

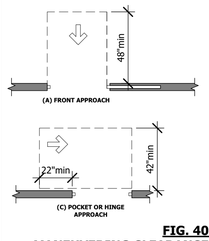

FIG. 404.2.4.2
MANEUVERING CLEARANCES AT DOORWAYS WITHOUT DOORS SLIDING DOORS, GATES, AND FOLDING DOORS

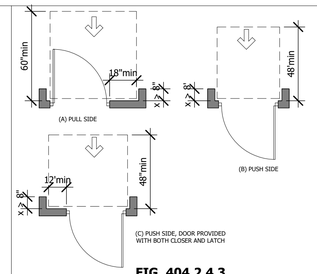

FIG. 404.2.4.3
MANEUVERING CLEARANCES AT RECESSED DOORS AND GATES

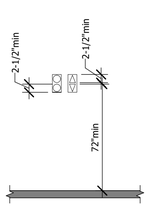

FIG. 407.2.2.2
VISIBLE HALL SIGNALS

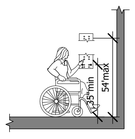

FIG. 407.2.1.1
(EXCEPTION)HEIGHT

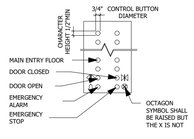

TABLE 407.4.7.1.3
ELEVATOR CONTROL BUTTON IDENTIFICATION

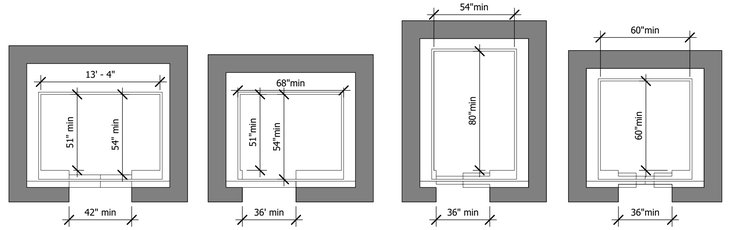

FIG. 407.4.1
ELEVATOR CAR DIMENSIONS

RAMPS, ELEVATORS, AND ASSOCIATED HANDRAILS

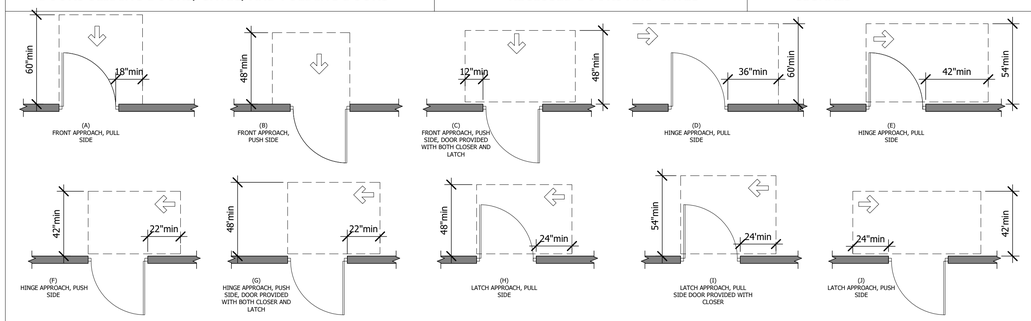

FIG. 404.2.4.1
MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES

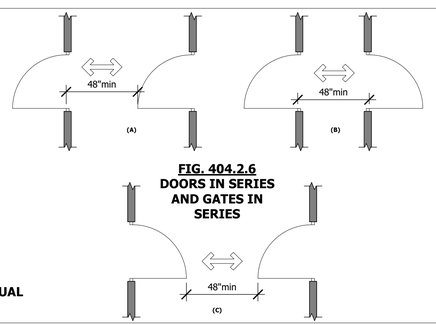

FIG. 404.2.6
DOORS IN SERIES AND GATES IN SERIES

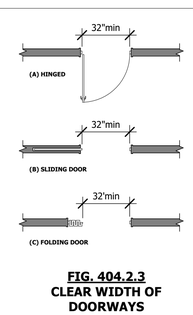

FIG. 404.2.3
CLEAR WIDTH OF DOORWAYS

DOORS AND PASSAGEWAYS

SLI DESIGN, INC.
ARCHITECTURE PLANNING INTERIOR DESIGN
15810 PARK TEN PLACE, SUITE 300
HOUSTON, TEXAS 77084
713-465-4650
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ACORN GOLF CLUB
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

ISSUED FOR CLIENT APPROVAL	DATE 03.30.2026
ISSUED FOR BIDDING	04.10.2026
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REVISIONS

MARK	DESCRIPTION	DATE

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REGISTERED ARCHITECT THOMAS B. TAYLOR 14288 STATE OF TEXAS
04/10/2026

DRAWING TITLE
ACCESSIBILITY ROUTE COMPLIANCE

DRAWN BY	RG	SHEET NO.
CHECKED BY	BL	T-1.10
APPROVED BY	TB	

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MANEUVERING, TURNING & CLEAR FLOOR SPACE

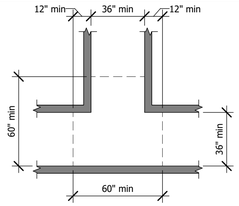


FIG. 304.3.2
T-SHAPED TURNING SPACE

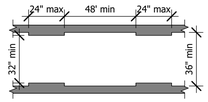
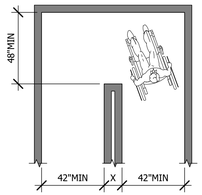
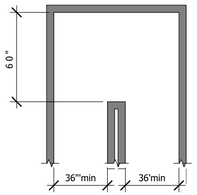


FIG. 403.5.1
CLEAR WIDTH OF AN ACCESSIBLE ROUTE



NOTE: DIMENSIONS SHOWN APPLY WHEN X < 48".
(A) 180 DEGREE TURN



(B) 180 DEGREE TURN (EXCEPTION)

FIG. 403.5.2
CLEAR WIDTH AT TURN

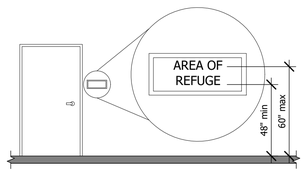


FIG. 703.4.1
HEIGHT OF TACTILE CHARACTERS ABOVE FINISH FLOOR OR GROUND

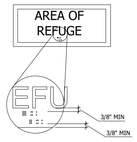


FIG. 703.3.2
POSITION OF BRAILLE

MEASUREMENT RANGE	MINIMUM IN INCHES MAXIMUM IN INCHES
DOT BASE DIAMETER	0.059" (1.5 MM) TO 0.063" (1.6 MM)
DISTANCE BETWEEN CORRESPONDING DOTS IN THE SAME CELL	0.090" (2.3 MM) TO 0.100 (2.5 MM)
DISTANCE BETWEEN CORRESPONDING DOTS DOTS IN ADJACENT CELLS	0.241 (6.1 MM) TO 0.300 (7.6 MM)
DOT HEIGHT	0.395 (10 MM) TO 0.400 (10.2 MM)
DISTANCE BETWEEN CORRESPONDING DOTS FROM ONE CELL DIRECTLY BELOW	0.395 (10 MM) TO 0.400 (10.2 MM)

TABLE 703.3.1
BRAILLE DIMENSIONS

SEATING CLEARANCE, CLEAR FLOOR SPACE,APPROACHES, ALCOVES,& REACH RANGES

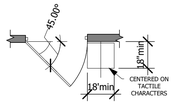


FIG. 703.4.2
LOCATION OF TACTILE SIGNS AT DOORS

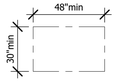


FIG. 305.3
CLEAR FLOOR OR GROUND SPACE

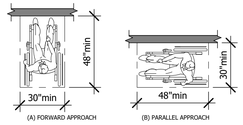


FIG. 305.5
POSITION OF CLEAR FLOOR OR GROUND SPACE

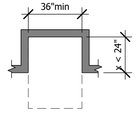


FIG. 305.7.1
MANEUVERING CLEARANCE IN AN ALCOVE, FORWARD APPROACH

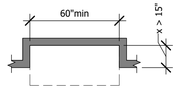


FIG. 305.7.2
MANEUVERING CLEARANCE IN AN ALCOVE, PARALLEL APPROACH

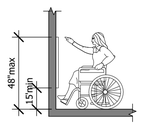


FIG. 308.2.1
UNOBSTRUCTED FORWARD REACH

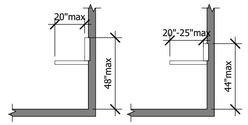


FIG. 308.2.2
OBSTRUCTED HIGH FORWARD REACH

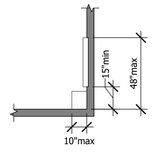


FIG. 308.3.1
UNOBSTRUCTED SIDE REACH

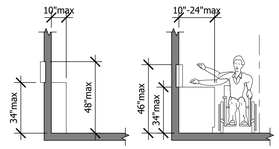


FIG. 308.3.2
OBSTRUCTED HIGH SIDE REACH

WATER FOUNTAINS, AND SERVING LINES HEIGHTS AT PHONES,

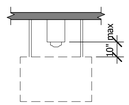


FIG. 704.2.1.1
PARALLEL APPROACH TO TELEPHONE

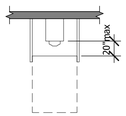


FIG. 704.2.1.2
FORWARD APPROACH TO TELEPHONE

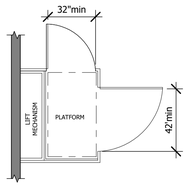


FIG. 410.6
PLATFORM LIFT DOORS AND GATE

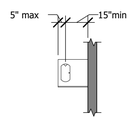


FIG. 602.5
DRINKING FOUNTAIN SPOUT LOCATION

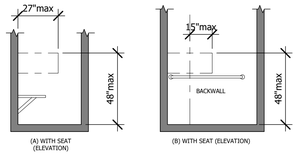


FIG. 608.5.3
ALTERNATE ROLL-IN TYPE SHOWER COMPARTMENT CONTROL LOCATION

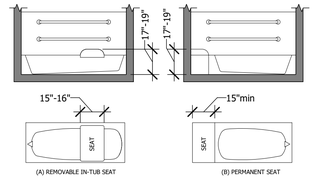


FIG. 610.2
BATHTUB SEATS

LAVATORIES, WATER CLOSETS & TOILET STALLS

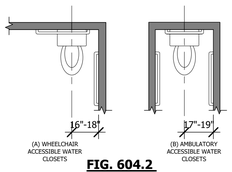


FIG. 604.2
WATER CLOSET LOCATION

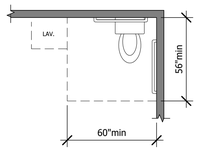


FIG. 604.3.1
SIZE OF CLEARANCE AT WATER CLOSETS

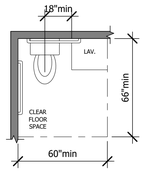


FIG. 604.3.2
(EXCEPTION)OVERLAP OF WATER CLOSET CLEARANCE IN (RESIDENTIAL UNITS)

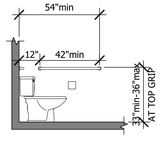


FIG. 604.5.1
SIDE WALL GRAB BAR AT WATER CLOSETS

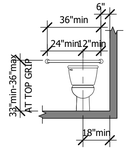


FIG. 604.5.2
REAR WALL GRAB BAR AT WATER CLOSETS

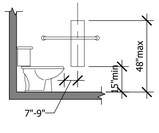


FIG. 604.7
DISPENSER OUTLET LOCATION

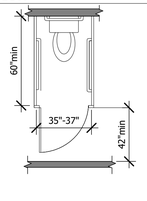


FIG. 604.8.2
AMBULATORY ACCESSIBLE TOILET COMPARTMENT

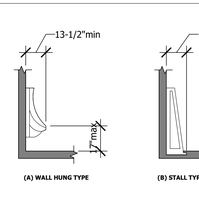


FIG. 605.2
HEIGHT AND DEPTH OF URINALS

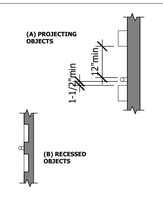


FIG. 609.3
SPACING OF GRAB BARS

SINKS AND BATH TUBS WITH AND WITHOUT SEATS

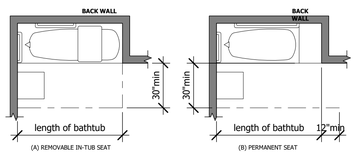


FIG. 607.2
CLEARANCE FOR BATHTUBS

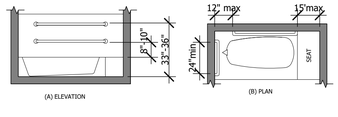


FIG. 607.4.1
GRAB BARS FOR BATHTUBS WITH PERMANENT SEATS

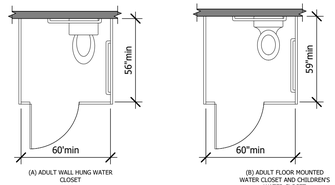


FIG. 604.8.1.1
SIZE OF WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT

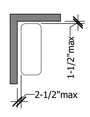


FIG. 610.3.1
RECTANGULAR SHOWER SEAT

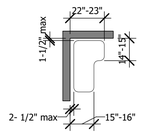


FIG. 610.3.2
L-SHAPED SHOWER SEAT

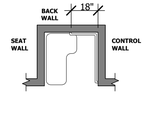


FIG. 608.3.1
GRAB BARS FOR TRANSFER TYPE SHOWERS

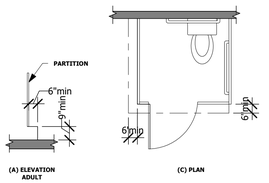


FIG. 604.8.1.4
WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT TOE CLEARANCE

SHOWERS: ROLL IN & TRANSFER STALLS

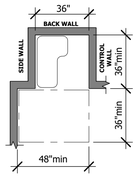


FIG. 608.2.1
SHOWER SIZE AND CLEARANCES 36" BY 36" STALL

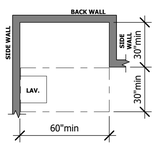


FIG. 608.2.2
STANDARD ROLL-IN TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE

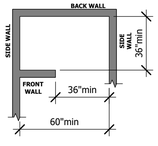


FIG. 608.2.3
ALTERNATE ROLL-IN TYPE SHOWER COMPARTMENT SIZE AND CLEARANCE

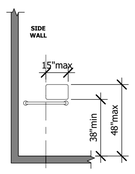


FIG. 608.5.1
TRANSFER TYPE SHOWER COMPARTMENT CONTROL LOCATION

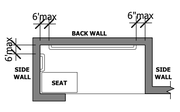


FIG. 608.3.3
GRAB BARS FOR ALTERNATE ROLL-IN TYPE SHOWERS

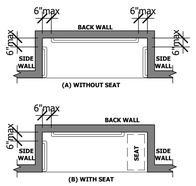
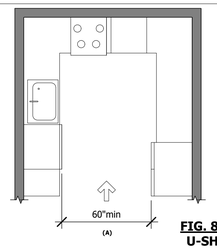


FIG. 608.3.2
GRAB BARS FOR STANDARD ROLL-IN TYPE SHOWERS



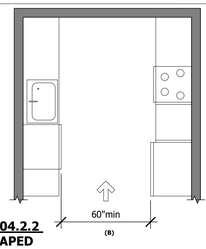


FIG. 804.2.2
U-SHAPED KITCHENS

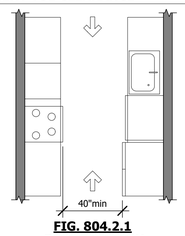


FIG. 804.2.1
PASS THROUGH KITCHENS

SLI DESIGN, INC.
ARCHITECTURE PLANNING INTERIOR DESIGN
15810 PARK TEN PLACE, SUITE 300
HOUSTON, TEXAS 77084
713-465-4650
www.sligroup.com

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ACORN GOLF CLUB
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

ISSUED FOR CLIENT APPROVAL	DATE 03.30.2026
ISSUED FOR BIDDING	04.10.2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

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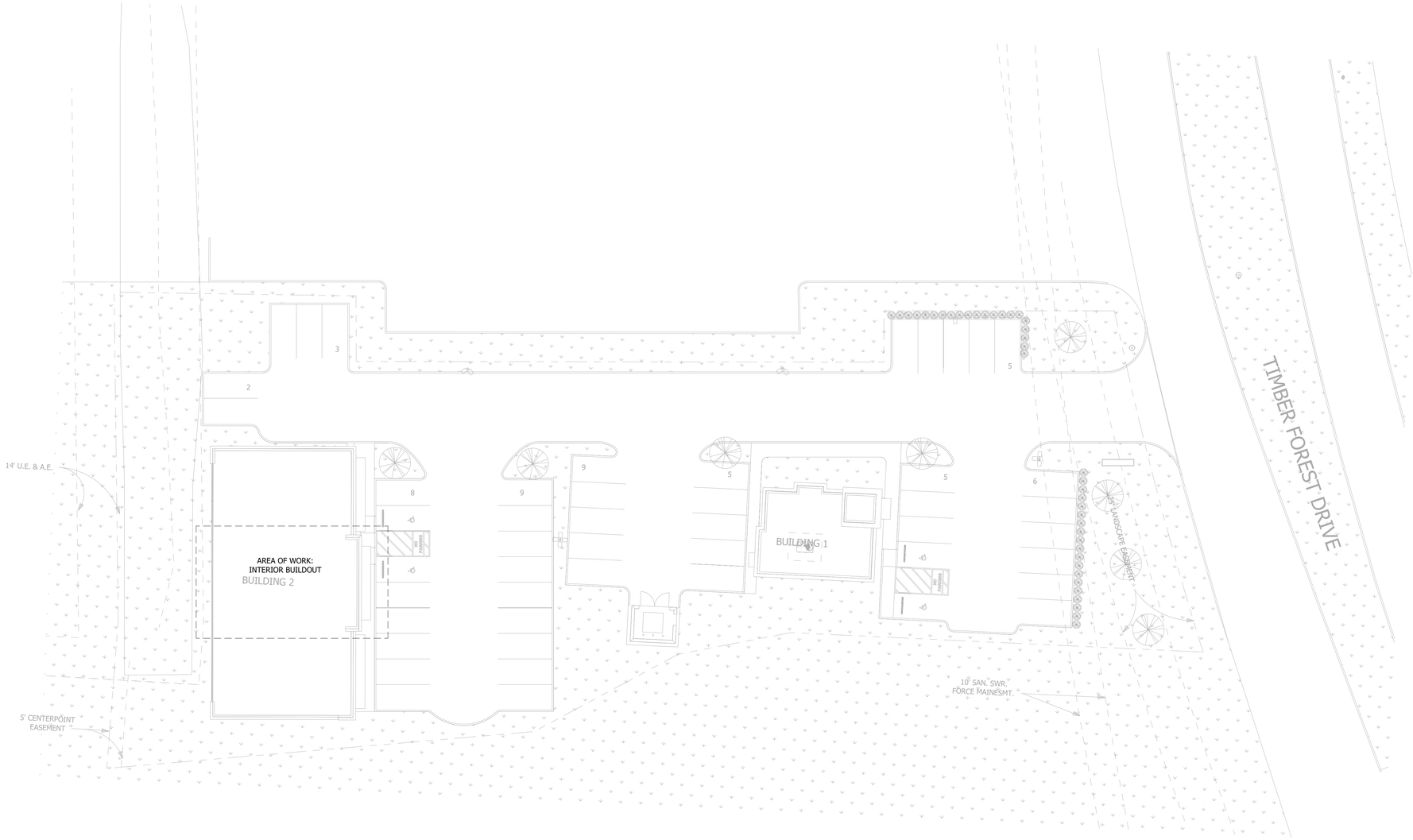

TRUE NORTH PLAN NORTH

1 Export Site Plan
1" = 20'-0"

SLI DESIGN, INC.

ARCHITECTURE PLANNING INTERIOR DESIGN

15810 PARK TEN PLACE, SUITE 300
HOUSTON, TEXAS 77084
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ACORN golf club

ACORN GOLF CLUB

13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

	DATE
ISSUED FOR CLIENT APPROVAL	03.30.2026
ISSUED FOR BIDDING	04.10.2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

MARK	DESCRIPTION	DATE

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REGISTERED ARCHITECT
THOMAS B. LAWLER
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
SITE PLAN

DRAWN BY	RG
CHECKED BY	BL
APPROVED BY	TB

SHEET NO.
SP-1.00

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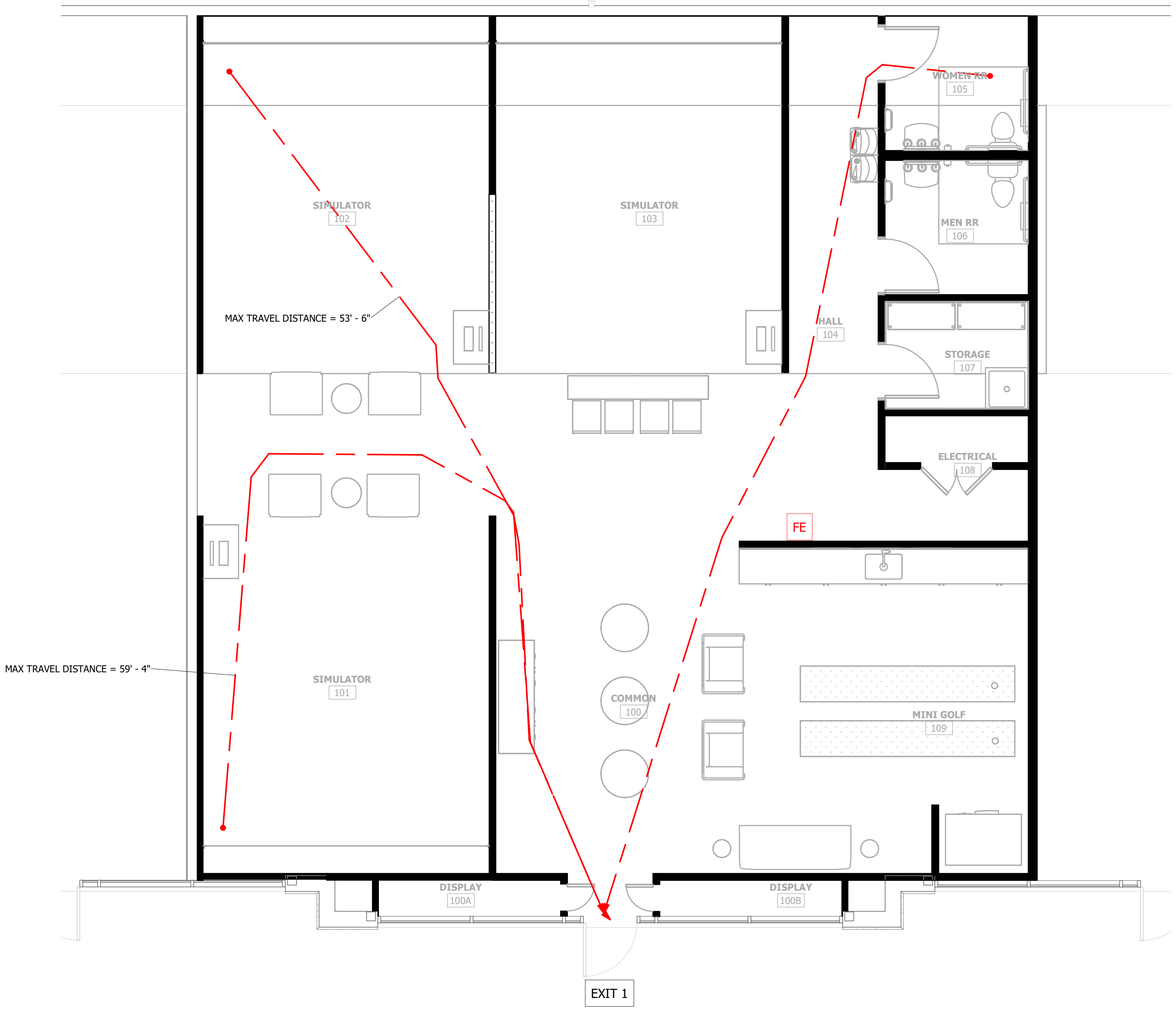
LIFE SAFETY:

NOTE:
EMERGENCY LIGHTING :REF. ELECTRICAL LIGHTING PLAN
EXIT SIGNS :REF. ELECTRICAL LIGHTING PLAN
FIRE ALARM REF.: N/A
SMOKE DETECTORS: REF. SHEET N/A
PANIC HARDWARE: REF. SHEET A-2.00
NUMBER OF EXITS AND TRAVEL DISTANCE
POINT A TO EXIT 1: 53'-6"
POINT B TO EXIT 1: 56'-5"
POINT C TO EXIT 1: 59'-4"

99 GENERAL NOTES - LIFE SAFETY PLAN (LS-1.00)
1 1/2" = 1'-0"



TRUE NORTH PLAN NORTH

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

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ACORN GOLF CLUB
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

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04/10/2026

DRAWING TITLE
LIFE SAFETY PLAN

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APPROVED BY	TB	

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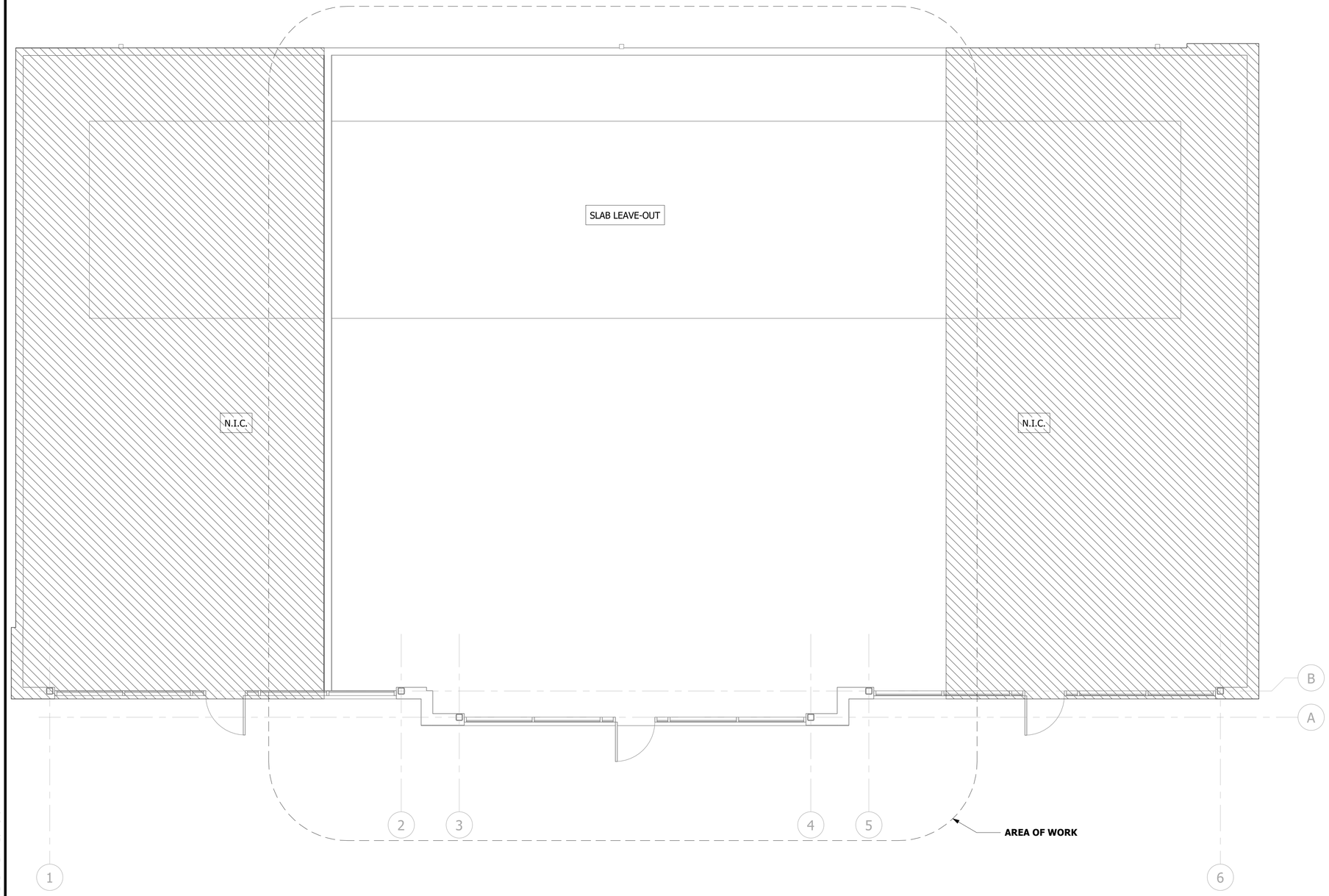

TRUE NORTH PLAN NORTH

1 OVERALL BUILDING PLAN
1/4" = 1'-0"

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ACORN GOLF CLUB

13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

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REGISTERED ARCHITECT THOMAS B. LANIER 14288 STATE OF TEXAS

04/10/2026

DRAWING TITLE
OVERALL BUILDING PLAN

DRAWN BY	RG	SHEET NO.
CHECKED BY	BL	A-1.00
APPROVED BY	TB	

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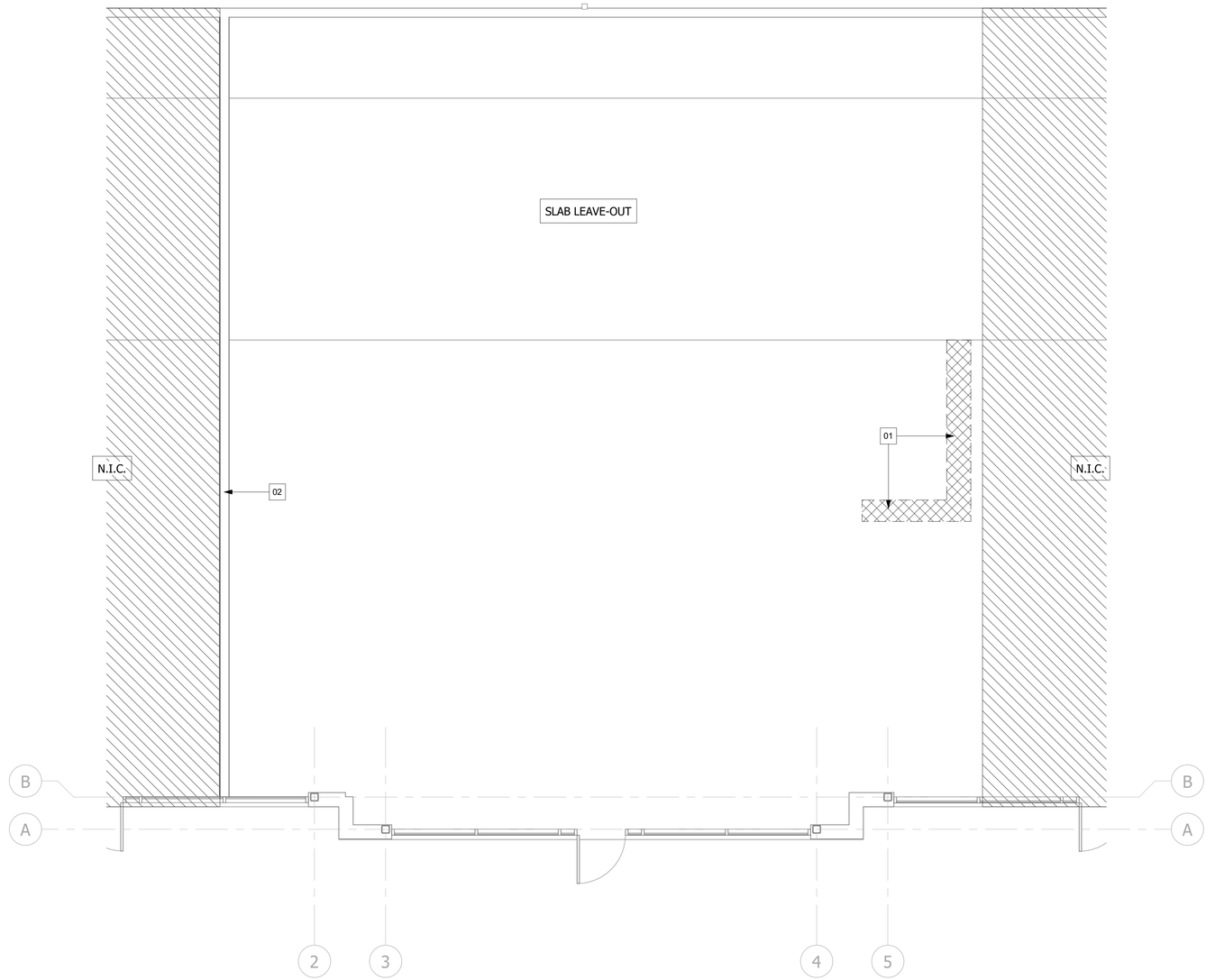

PLAN KEYED NOTES	
NOTE NUMBER	NOTE TEXT
01	SAWCUT FOR PROPOSED SEWER, FLOOR DRAINS AND OTHER.
02	EXISTING DEMISING WALL TO REMAIN.

TRUE NORTH PLAN NORTH

1 LEVEL 1 - EXISTING & DEMO
1/4" = 1'-0"

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ACORN GOLF CLUB

13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

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REGISTERED ARCHITECT
THOMAS B. LANIER
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
FLOOR PLAN-DEMO

DRAWN BY	RG	SHEET NO.
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APPROVED BY	TB	

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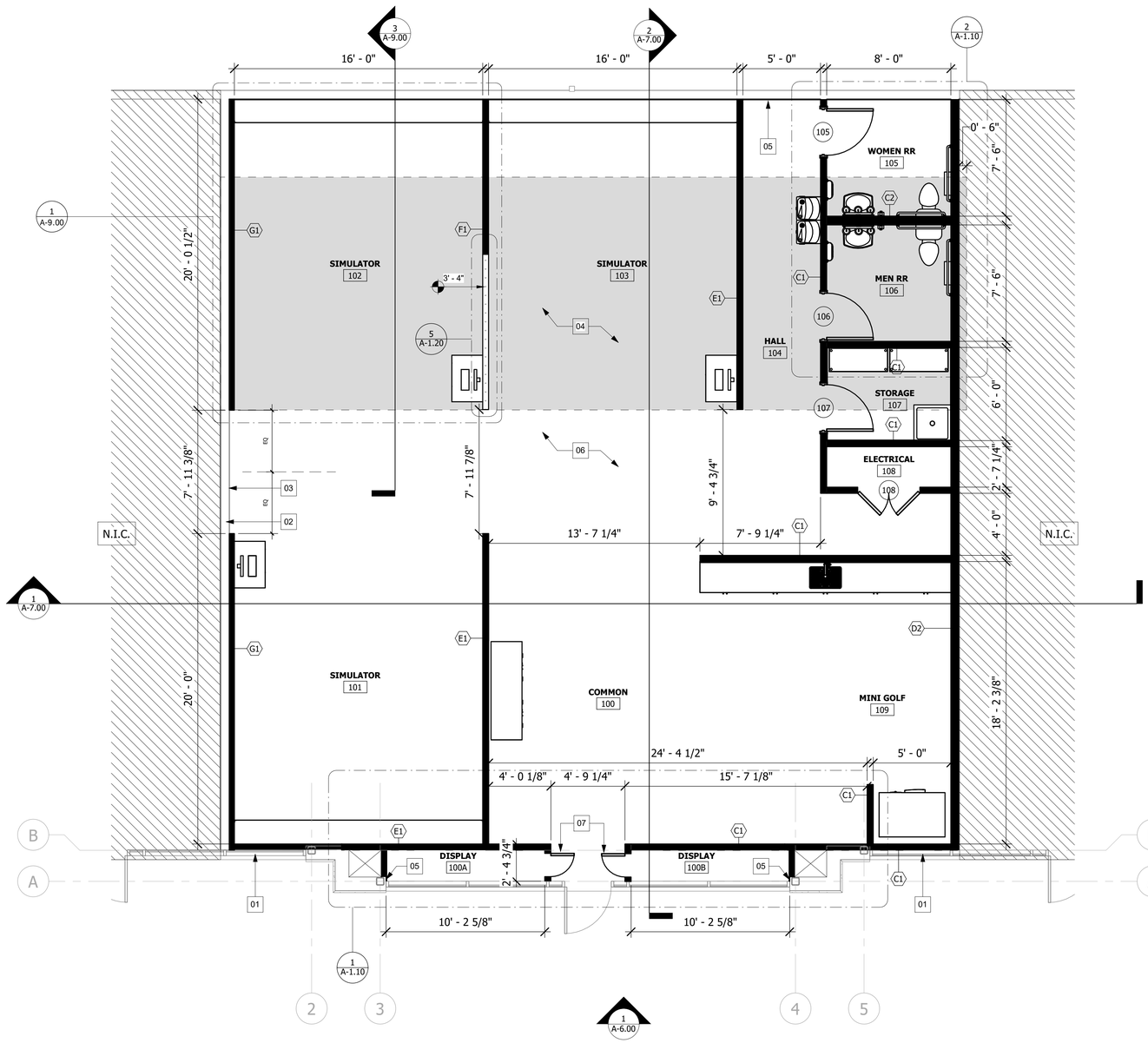

TRUE NORTH PLAN NORTH

1 LEVEL 1 - E&N - DIMENSION PLAN
1/4" = 1'-0"

GENERAL NOTES

1. NOTIFY ARCHITECT OF ANY DISCREPANCIES AND/OR OMISSIONS.
2. ALL DIMENSIONS ARE TO FINISHED FACE OF PARTITIONS; RE: A-3.0 FOR PARTITION WIDTHS.
3. ALL PARTITIONS TO BE TYPE "A1" UNLESS NOTED OTHERWISE.
4. ALL COLUMNS TO BE TYPE "E1" UNLESS NOTED OTHERWISE.
5. ALL DOORS ON ACCESSIBLE ROUTES SHALL HAVE A MIN. OF 18" CLEAR ON THE PULL SIDE AND A MIN. OF 12" CLEAR ON THE PUSH SIDE WHEN DOOR IS EQUIPPED WITH BOTH A LATCH AND A CLOSER.
6. FIRE EXTINGUISHERS ARE TO BE 10 LB. ABC TYPE, AND LOCATED AS SHOWN.
7. REFER TO SHEET A-2.0 FOR DOOR, WINDOW, AND HARDWARE SCHEDULES AND INFORMATION.
8. ADD BLOCKING BEHIND ALL GRAB BARS AND BATHROOM ACCESSORIES.

LEGEND

- EXISTING PARTITION
- NEW PARTITION
- 5" THICK CONCRETE INFILL

PLAN KEYED NOTES	
NOTE NUMBER	NOTE TEXT
01	TINT EXISTING WINDOWS
02	INFILL EXISTING DEMISING WALL WITH R-11 SOUND BATTS
03	5/8 GYP. OVER EXISTING DEMISING WALL
04	CONCRETE INFILL
05	5/8 GYP. APPLIED TO EXISTING EXTERIOR WALL
06	CONCRETE FLOOR. REF INTERIOR DWGS. FOR FINISH
07	MILLWORK DOORS. REF INTERIOR DWGS. FOR INFORMATION

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ACORN GOLF CLUB

13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

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REGISTERED ARCHITECT
THOMAS B. LAMBERT
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
FLOOR PLAN-DIMENSIONED

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A-1.02

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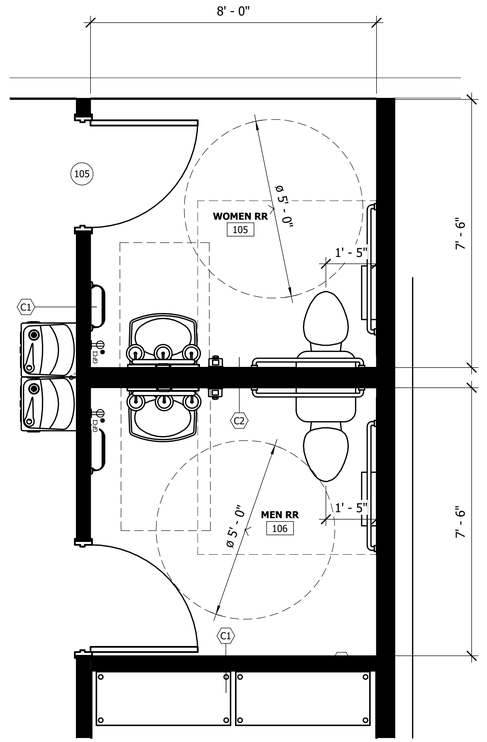
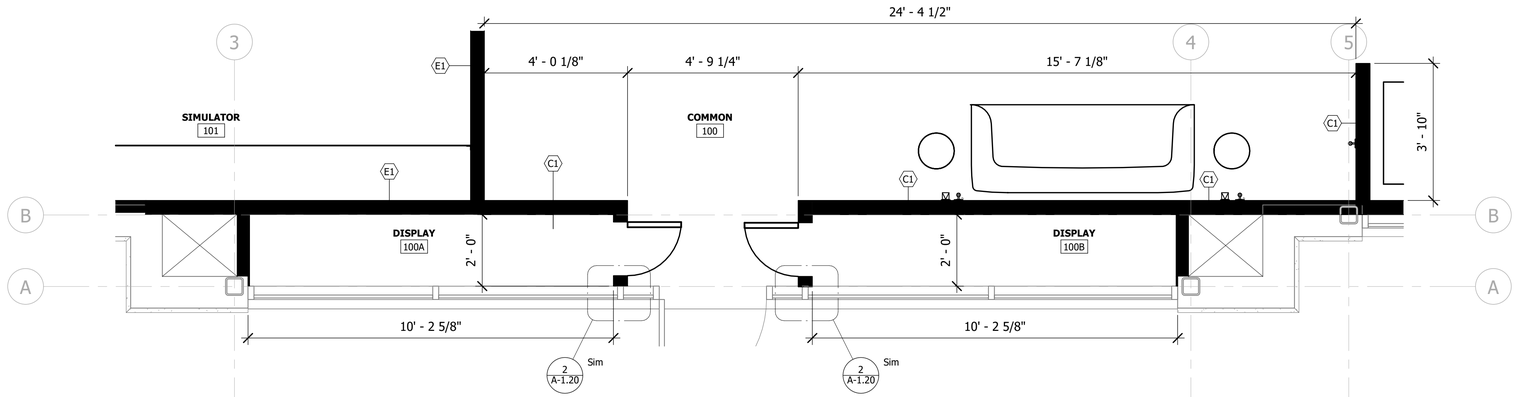


2 ENLARGED PLAN - RESTROOMS
1/2" = 1'-0"



1 ENLARGED PLAN - DISPLAY CLOSETS
1/2" = 1'-0"

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SUITE #103

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REGISTERED ARCHITECT
THOMAS B. LAMB
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
ENLARGED PLANS

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APPROVED BY	TB	

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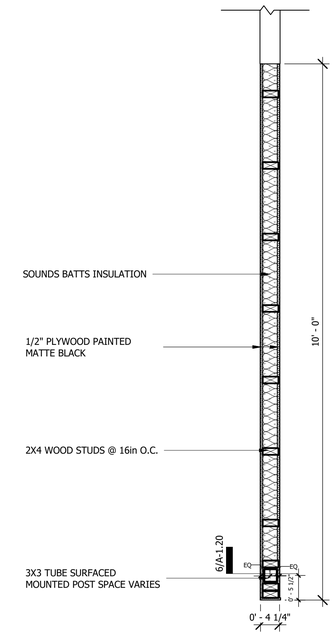
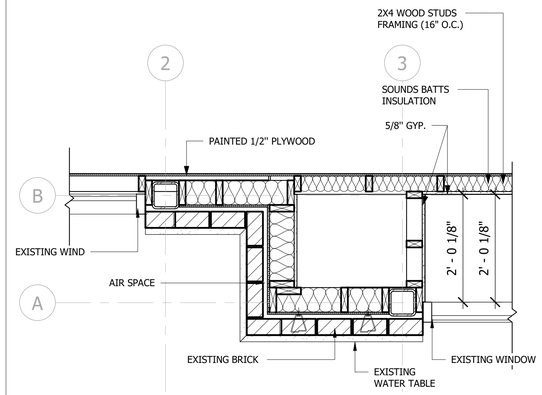
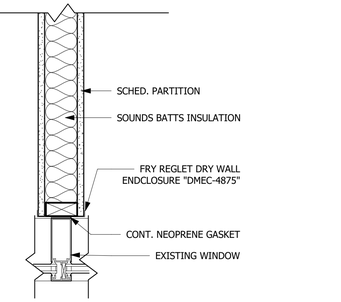


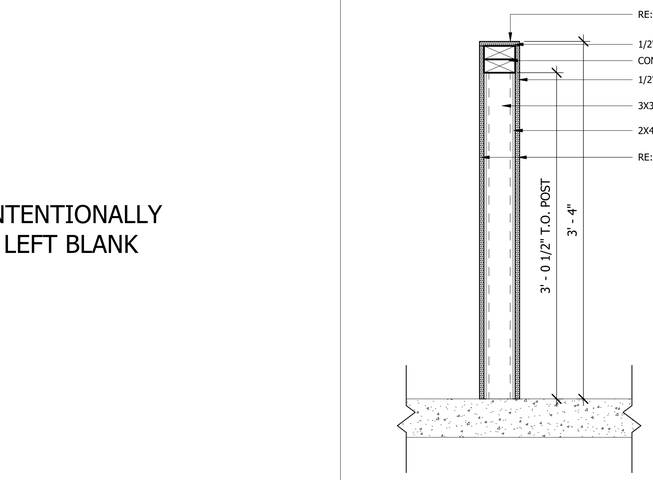
5 HALF WALL PLAN DETAIL
3/4" = 1'-0"



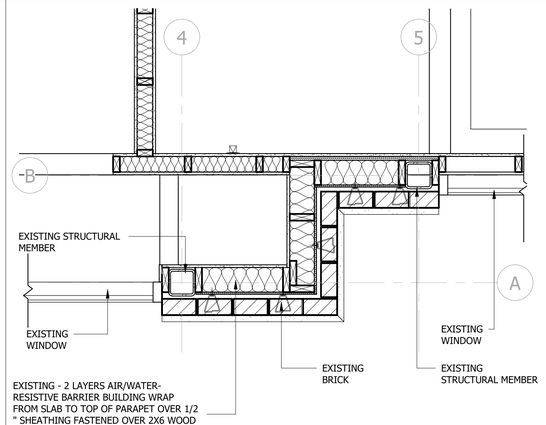
3 PLAN DETAIL 3
3/4" = 1'-0"



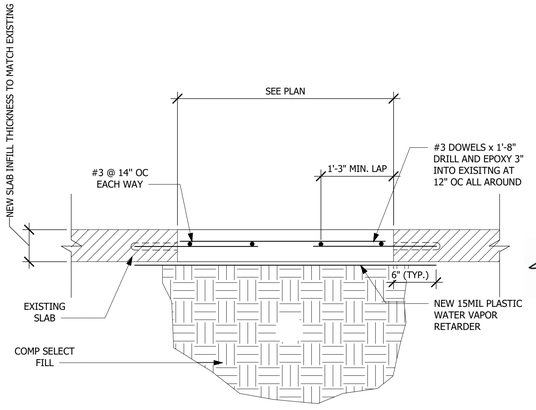
2 WALL INTERSECTION @ MUILLION
1 1/2" = 1'-0"



6 HALF WALL POST-UP DETAIL
1 1/2" = 1'-0"



4 PLAN DETAIL 4
3/4" = 1'-0"



1 TYP. SLAB INFILL DETAIL
N.T.S.

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ACORN golf club

ACORN GOLF CLUB

13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

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REGISTERED ARCHITECT
THOMAS B. LAMER
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
DETAILS

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APPROVED BY	TB	

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GENERAL NOTES

1. NOTIFY ARCHITECT OF ANY DISCREPANCIES AND/OR OMISSIONS.
2. REMODEL PROJECTS REQUIRE FIELD VERIFICATION BY SUBCONTRACTOR
3. SAMPLE SHALL BE SUBMITTED TO ARCHITECT FOR APPROVAL

HW SET #01 (EXTERIOR PANIC HARDWARE)
1 EA. EXIT DEVICE - FLACON 25-R SERIES RIM ARCHER WITH LEVER WITH KEY-IN-LEVER TRIM FINISH:622

HW SET #02 (PRIVACY LOCKSET WITH INDICATOR)
1 ½ PR BUTTS - HAGER BB1279 L1 4 ½ X 4 ½ FINISH: 622 FINISH: US622
1 EA. PRIVACY LATCHSET - FALCON T301 - WITH INDICATOR LEVER- AVALON FINISH:622
1 EA. FLOOR STOP - HAGER 243F FINISH: 626

HW SET #03 (STOREROOM)
1 ½ PR BUTTS - HAGER BB1279 4 ½ X 4 ½ FINISH: 622
1 EA. STOREROOM LOCK-FALCON T581 FINISH: 622 LEVER- AVALON
1 EA. FLOOR STOP - HAGER 243F FINISH: 622

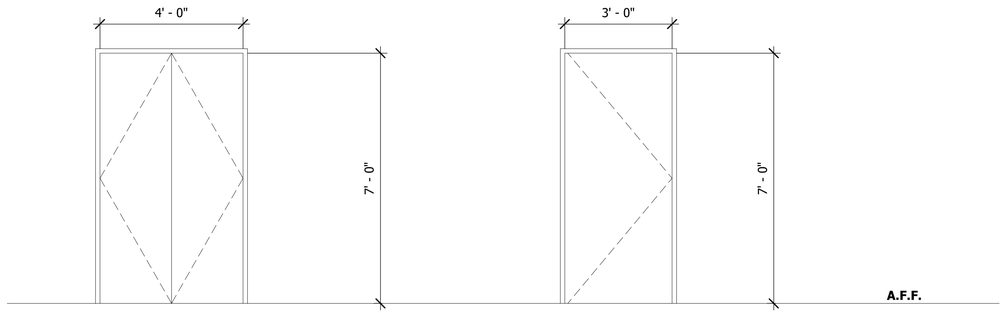
HW SET #04 (DOUBLE DOOR STOREROOM)
1 ½ PR BUTTS - HAGER BB1279 4 ½ X 4 ½ FINISH: 622
1 EA. STOREROOM LOCK-FALCON T581 FINISH: 622 LEVER- AVALON
2 EA. FLOOR STOP - HAGER 243F FINISH: 622
1 EA. DUMMY TRIM-FALCON T12 SINGLE DUMMY AVALON LEVER
1 EA. 40B-BLK 6" LIGHT-DUTY SURFACE BOLT - MATTE BLACK

****CLOSERS: HAGER 5100 (SURFACE MOUNTED) AND 5200 SERIES-HEAVY DUTY GRADE 1 DOOR CLOSER ****
****ALL MAGLOCKS AND KEYFOB HARDWARE BY OWNER****

1 HARDWARE SETS
1 1/2" = 1'-0"

DOOR SCHEDULE

DOOR #	FROM	TO	DOOR			FRAME		HARDWARE		FIRE RATING	NOTES
			HAND	TYPE	FINISH	TYPE	FINISH	SET	FINISH		
105	HALL 104	WOMEN RR 105	LH	A	PL-1	ALUM.	BLK	02	BLK		CLOSER
106	HALL 104	MEN RR 106	RH	A	PL-1	ALUM.	BLK	02	BLK		CLOSER
107	HALL 104	STORAGE 107	RH	A	PL-1	ALUM.	BLK	03	BLK		CLOSER
108	ELECTRICAL 108	HALL 104	RHR/LHR	B	PL-1	ALUM.	BLK		BLK		CLOSER
EX1		COMMON 100	LHR		GLASS	S.F.	BLK	01	BLK		EXISTING DOOR PREP FOR ELECTRICAL ACCESS CONTROL AND PANIC EGRESS



DOOR TYPE "B"

P-LAM DOOR IN A BLACK ALUMINUM FRAME

DOOR TYPE "A"

P-LAM DOOR IN A BLACK ALUMINUM FRAME

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ACORN golf club

ACORN GOLF CLUB
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

ISSUED FOR CLIENT APPROVAL	DATE 03.30.2026
ISSUED FOR BIDDING	04.10.2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

MARK	DESCRIPTION	DATE

The information, ideas, designs, details, layouts, techniques, features, arrangements, plans, sequences, dimensions, allowances, tolerances, conceptions, specifications, intentions, technology or embodiments, as illustrated, arranged, displayed, noted, recorded, indicated, represented, disclosed, evidenced, detailed or otherwise reduced to tangible form hereon, either expressly, inherently or by implication, are the confidential and proprietary information of SLI Design, Inc., and shall not be used for any purpose other than the specific project or undertaking identified on the drawing title block or legend for which they are and have been prepared by SLI Design, Inc. Any other reproduction, disclosure or use of any portion of the confidential and proprietary information of SLI Design, Inc., shall be a breach of the obligation of confidence created by the acceptance of this drawing from SLI Design, Inc. for a specific project or Contract. Any copying, duplicating, reproducing, utilization, alteration, modification, revision or change to this drawing, is expressly prohibited unless done with the prior written consent or approval of SLI Design, Inc., and shall not be undertaken without receipt of such prior written approval. This drawing is loaned by SLI Design, Inc., for the limited purpose of complying with a specific Contract. The drawing remains the property of SLI Design, Inc., and shall be returned upon request or completion of the contract, unless specifically authorized by Contract, under which it was loaned.

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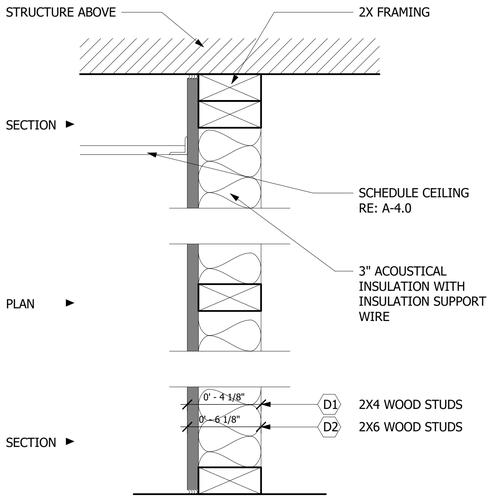
REGISTERED ARCHITECT THOMAS B. TAYLOR 14288 STATE OF TEXAS
04/10/2026

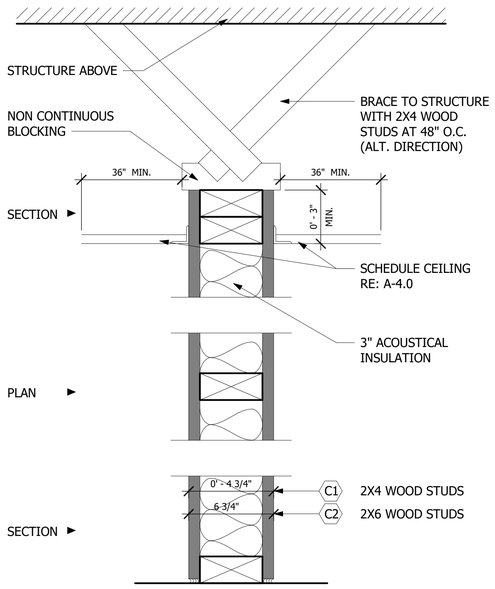
DRAWING TITLE
DOOR SCHEDULE

DRAWN BY	RG	SHEET NO.
CHECKED BY	BL	A-2.00
APPROVED BY	TB	

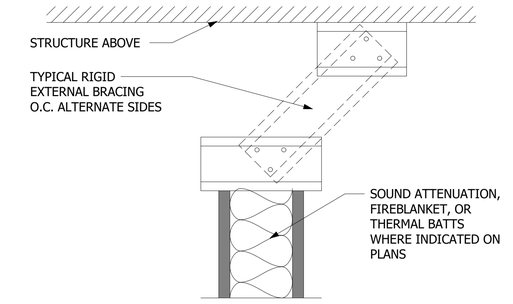
C:\Users\PC-24-20\Documents\00_Revit Local Files\ACORN GOLF CLUB\Acorn Golf Club_WS_2026V_260310_rgates@sligroup.com.rvt



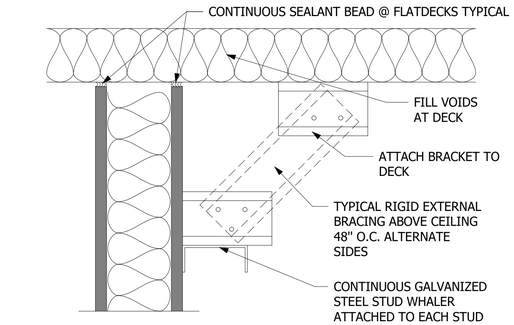
PARTITION TYPE D:
2X WOOD STUDS @ 16" O.C.
WITH ONE LAYER OF 5/8" GYPSUM BOARD EACH SIDE
AND 3" FIBERGLASS ACOUSTICAL INSULATION FULL HEIGHT



PARTITION TYPE C:
2X WOOD STUDS @ 16" O.C.
WITH ONE LAYER OF 5/8" GYPSUM BOARD EACH SIDE
AND 3" FIBERGLASS ACOUSTICAL INSULATION FULL HEIGHT



HEAD (FOR LOCATIONS WHERE
PARTITIONS DO NOT ATTACH TO DECK ABOVE)

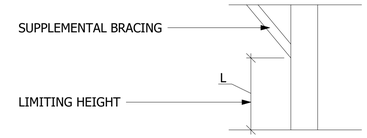


HEAD (FOR LOCATIONS WHERE
PARTITIONS HEIGHT EXCEEDS LISTED LIMITING HEIGHT)

THE ALPHANUMERIC DESIGNATION IN EACH PARTITION TYPE SYMBOL DESCRIBES THE PARTITION CONSTRUCTION, THICKNESS, AND FIRE RATING, IF REQUIRED.

WHERE FIRE RESISTIVE GYPSUM WALLBOARD CONSTRUCTION IS INDICATED. PROVIDE "TYPE X" GYPSUM WALLBOARD AND PROVIDE SEALANT AT PERIMETER AND ALL PENETRATIONS, TYPICAL BOTH SIDES OF PARTITION. MARKINGS AND IDENTIFICATIONS REQUIRED ABOVE WALLS PER IBC 703.7 (15FT OFF END WALLS AND 30 FT MAX INTERNALS)

UNDERWRITERS LABORATORY AND OTHER TESTING AGENCY DESIGNATIONS INDICATED FOR FIRE RESISTIVE CONSTRUCTION ARE GIVEN FOR PURPOSES OF DESCRIBING CONSTRUCTION REQUIREMENTS ONLY AND ARE NOT INTENDED TO LIMIT MANUFACTURERS OF MATERIALS. COMPLY WITH THE CONSTRUCTION REQUIREMENTS OF THE INDICATED DESIGN.
LIMITING HEIGHTS GIVE THE MAXIMUM UNSUPPORTED HEIGHT FOR THAT PARTITION TYPE BASED ON A DEFLECTION CRITERIA RATIO OF L/240. WHERE FLOOR TO STRUCTURE HEIGHT OF PARTITION EXCEEDS THE INDICATED LIMITING HEIGHT, PROVIDE SUPPLEMENTAL BRACING TO THE STRUCTURE OVERHEAD AS REQUIRED TO MAINTAIN DEFLECTION RATIO WITHIN L/240.



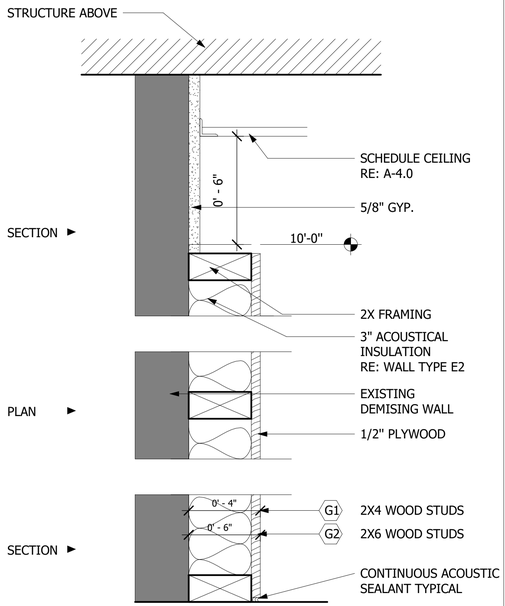
FOR PARTITION WITH "BRITTLE" FINISHES SUCH AS PLASTER AND CERAMIC TILE, DESIGN PARTITION SYSTEM TO MAINTAIN DEFLECTION RATIO WITHIN L/360.
SUSPENDED CEILING SHALL NOT BE CONSIDERED AS BRACING.
PROVIDE DUROCK CEMENT BOARD AS SUBSTRATE FOR APPLICATION OF CERAMIC TILE.
PROVIDE GREENBOARD IN ALL RESTROOMS, JANITOR CLOSETS AND BEHIND WATER FOUNTAINS.
STC RATINGS FOR SOUND WALLS ARE BASED ON LABORATORY TESTED ASSEMBLIES AND DO NOT NECESSARILY INDICATE THE ACTUAL STC RATING OF THE COMPLETED WORK.

PARTITION TYPE: D GENERAL SCALE : N.T.S.

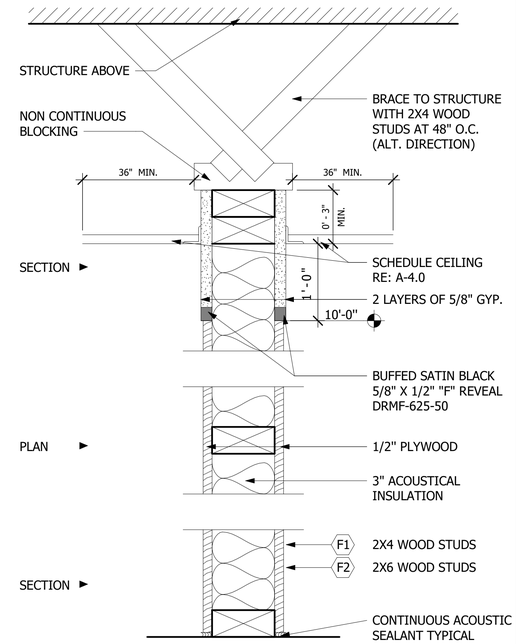
PARTITION TYPE: C GENERAL SCALE : N.T.S.

BRACE DETAIL GENERAL SCALE : N.T.S.

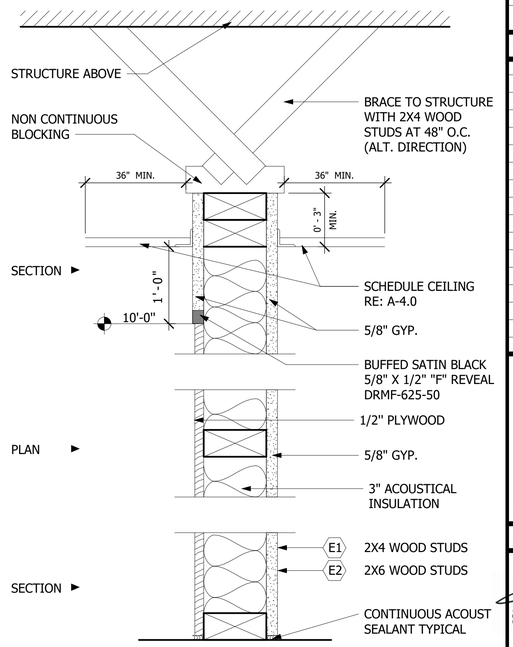
1 GENERAL NOTES - INTERIOR PARTITIONS (A-3.00)1
1 1/2" = 1'-0"



PARTITION TYPE G:
2X4 WOOD STUDS @ 16" O.C. WITH ONE LAYER OF 1/2" PLYWOOD
ON ONE SIDE



PARTITION TYPE F:
2X WOOD STUDS @ 16" O.C.
WITH ONE LAYER OF 1/2" PLYWOOD BOARD EACH SIDE
AND 3" FIBERGLASS ACOUSTICAL INSULATION FULL HEIGHT



PARTITION TYPE E:
2X WOOD STUDS @ 16" O.C.
WITH ONE LAYER OF 1/2" PLYWOOD BOARD EACH SIDE
AND 3" FIBERGLASS ACOUSTICAL INSULATION FULL HEIGHT

PARTITION TYPE: G GENERAL SCALE : N.T.S.

PARTITION TYPE: F GENERAL SCALE : N.T.S.

PARTITION TYPE: E GENERAL SCALE : N.T.S.

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ACORN GOLF CLUB
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

ISSUED FOR	DATE
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PRINT DATE: 4/10/2026 9:15:08 AM

REGISTERED ARCHITECT
THOMAS B. LANIER
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
INTERIOR PARTITIONS

DRAWN BY	RG
CHECKED BY	BL
APPROVED BY	TB

SHEET NO.
A-3.00

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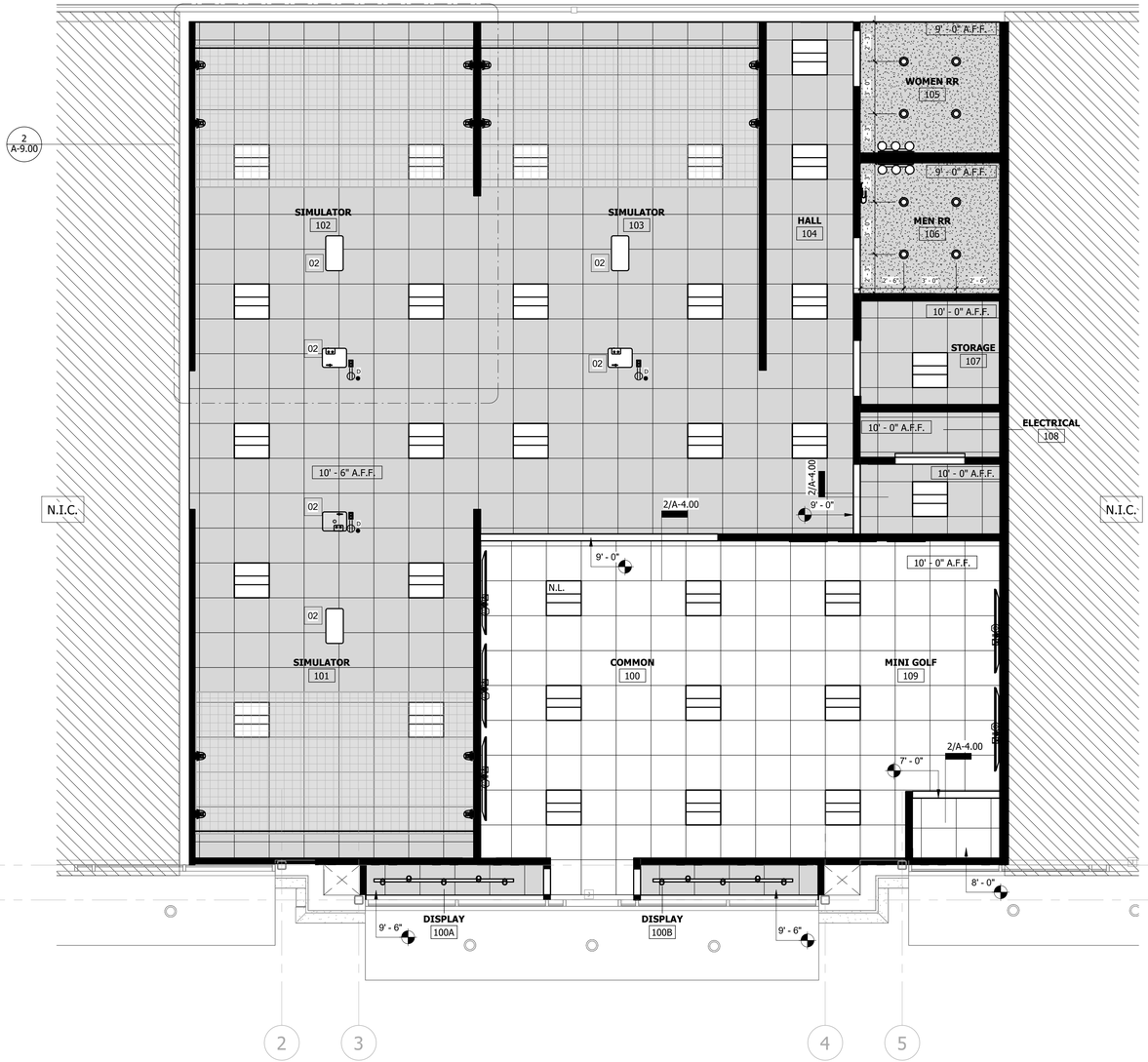
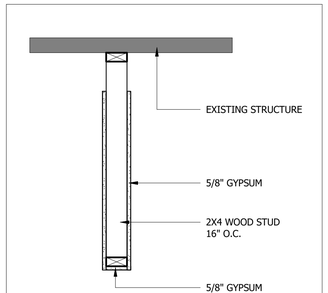


TRUE NORTH PLAN NORTH

1 RCP
1/4" = 1'-0"



2 TYP. FURR DOWN DETAIL
1" = 1'-0"

GENERAL NOTES

1. NOTIFY ARCHITECT OF ANY DISCREPANCIES AND/OR OMISSIONS.
2. REMODEL PROJECTS REQUIRE FIELD VERIFICATION BY SUBCONTRACTOR
3. ALL CEILING GRIDS SHALL BE CENTERED IN ROOM UNLESS OTHERWISE SPECIFIED
4. CEILING HEIGHTS TO BE 9'-0" A.F.F. UNLESS OTHER WISED SPECIFIED.
5. SUPPLY DIFFUSER AND RETURN AIR GRILLS FINISH TO BE BLACK IN ALL AREAS WITH BLACK CEILING TILE.
6. 2X2 LIGHT FIXTURES FINISH TO BE BLACK IN ALL AREAS WITH BLACK CEILING TILE.

CEILING LEGEND

	CERTAINTEED SAND MICRO WITH THE NRC OF .50 TEGULAR 2'x2' WHITE CEILING TILE WITH 15/16" WHITE GRID
	CERTAINTEED THEATRE BLACK f WITH THE NRC OF .80 2'x2' BLACK CEILING LAY-IN TILE AND 15/16" BLACK GRID
	5/8" GYPSUM WALLBOARD CEILING/SOFFIT PAINTED BLACK. REF INTERIOR FINISH SCHEDULE FOR SPEC
10' - 10" A.F.F.	INDICATES CEILING HEIGHT

LIGHTING LEGEND

	2'X2' RECESSED LED FIXTURE; RE:ELECTRICAL DRAWINGS
	2'X2' RECESSED LED FLAT PANEL FIXTURE WITH EMERGENCY BACKUP; RE:ELECTRICAL DRAWINGS
	RECESSED CAN LIGHT FIXTURE; RE:ELECTRICAL DRAWINGS
	RECESSED CAN LIGHT FIXTURE; WITH EMERGENCY BACKUP RE:ELECTRICAL DRAWINGS
	STUDIO LIGHTING RE:ELECTRICAL DRAWINGS

RCP NOTES	
NOTE NUMBER	NOTE TEXT
02	PROPVIDED BLOCKING ABOVE CEILING FOR CELING MOUNTED EQUIPMENT

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ACORN golf club

ACORN GOLF CLUB

13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

	DATE
ISSUED FOR CLIENT APPROVAL	03.30.2026
ISSUED FOR BIDDING	04.10.2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

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REGISTERED ARCHITECT THOMAS B. LAMER 14288 STATE OF TEXAS
04/10/2026

DRAWING TITLE
REFLECTED CEILING PLAN

DRAWN BY	RG	SHEET NO.
CHECKED BY	BL	A-4.00
APPROVED BY	TB	

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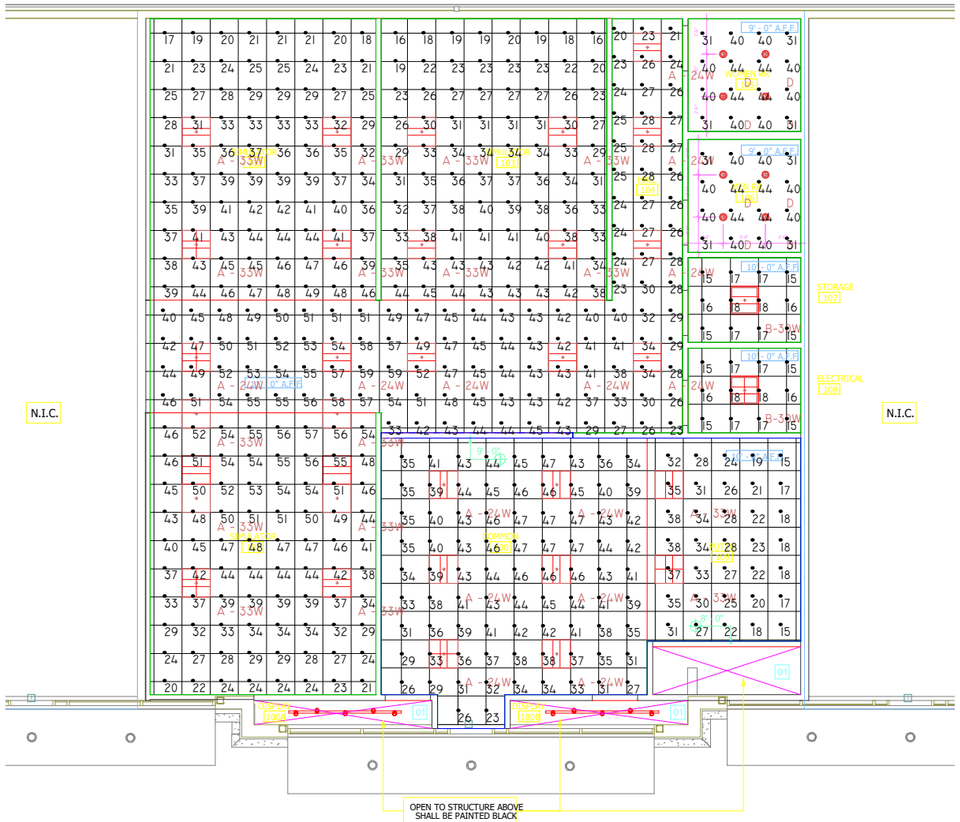
NOTES:
1. NOT FOR CONSTRUCTION PURPOSES
2. ALL CALCULATIONS CONTAIN AN ERROR FACTOR OF +/- 10%
3. ALL CALCULATIONS ARE IN FOOTCANDLE MEASUREMENTS
4. UNLESS OTHERWISE NOTED ALL REFLECTANCE VALUES ARE CALCULATED USING DEFAULT VALUES OF: FLOOR - .2/WALLS - .5/CEILING - .80

Luminaire Schedule								
Symbol	Qty	Label	Mounting Height	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Watts
	16	A - 33W	11	WILLIAMS P/N: FT-22-LS-8CS-AF-DIM-UNV - 33W@3500K	0.900	4379	32.7	523.2
	14	A - 24W	11	WILLIAMS P/N: FT-22-LS-8CS-AF-DIM-UNV - 24W@3500K	0.900	3386	23.8	333.2
	2	B-30W	10	WILLIAMS P/N: BP-22-LS-8CS-DIM-UNV - 30W@3500K	0.900	3559	30.5	61
	8	D	9	WILLIAMS P/N: 4DR-TL-LI0/835-DIM-UNV-0W-0F-CS-N-FI	0.900	1027	9	72

Calculation Summary								
Label	CalcType	Grid Z	Units	Avg	Max	Min	Avg/Min	Max/Min
COMMON 100	Illuminance	0	Fc	39	47	23	2	2
ELECTRICAL 108_Floor	Illuminance	0	Fc	16	18	15	1	1
HALL 104	Illuminance	0	Fc	40	59	20	2	3
MENS RR_Floor	Illuminance	0	Fc	39	44	31	1	1
PUTTER 109	Illuminance	0	Fc	26	38	15	2	3
SIMULATOR 101	Illuminance	0	Fc	41	57	20	2	3
SIMULATOR 102	Illuminance	0	Fc	34	49	17	2	3
SIMULATOR 103	Illuminance	0	Fc	32	45	16	2	3
STORAGE 107_Floor	Illuminance	0	Fc	16	18	15	1	1
WOMENS RR_Floor	Illuminance	0	Fc	39	44	31	1	1



CEILING LEGEND

CERT/ THE M CEILI GRID

2'x2' E 15/16

5/8" G CEILI

10' - 10" A.F.F.

INDIC

LIGHTING LEGEND

2'X2' RE:EL

2'X2' FIXTU BACK DRAV

RECE RE:EL

RECE WITH RE:EL

STUD RE:EL

Bell & McCoy LIGHTING AND CONTROLS

BELL & McCOY FRM

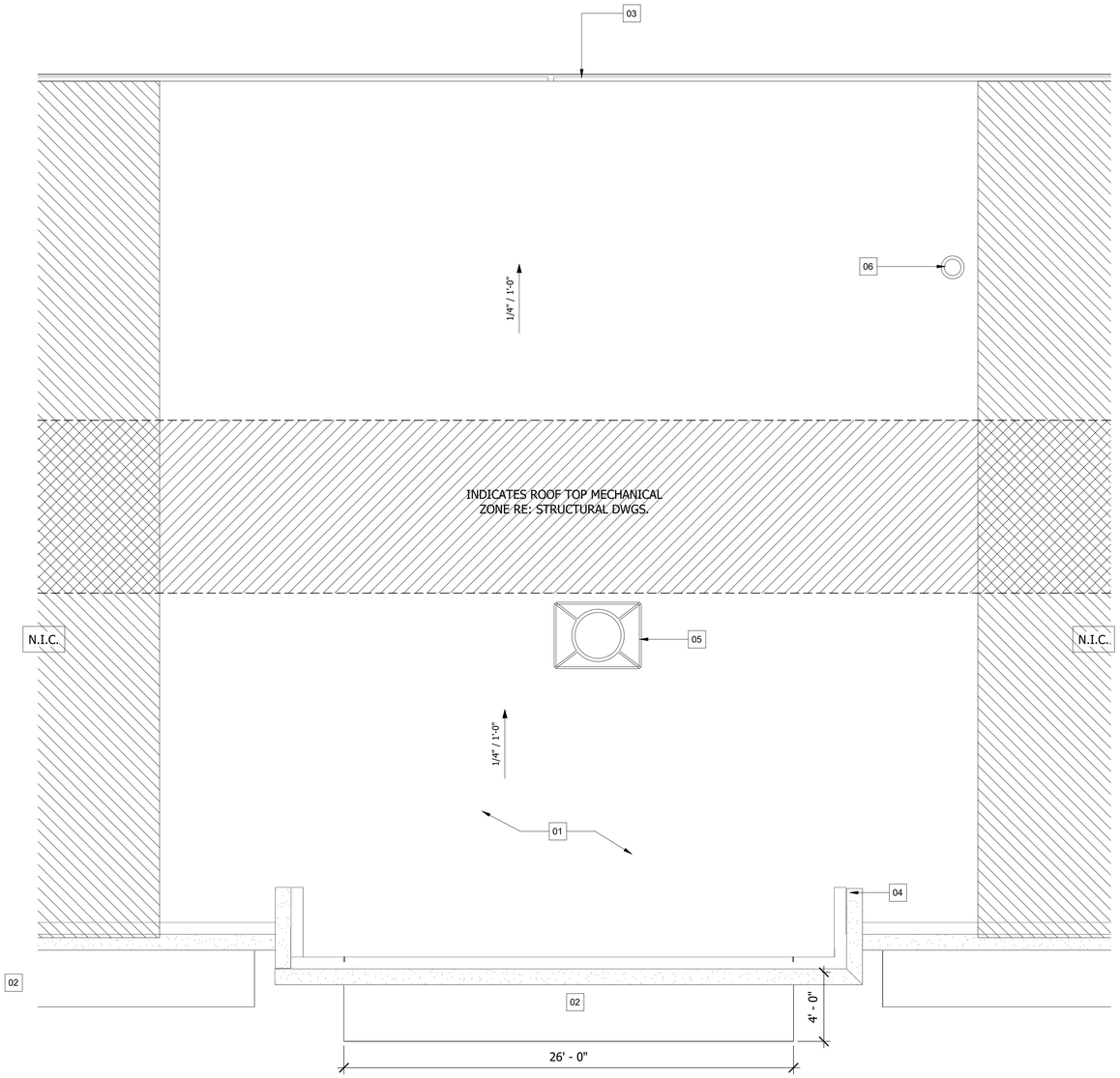
SPEC CHECK

#	Date	Comments

Revisions

Drawn By: CB
Checked By:
Date: 3/13/2026
Scale: NTS

ACORN GOLF SIMULATOR



TRUE NORTH PLAN NORTH

2 ROOF
1/4" = 1'-0"

GENERAL NOTES

1. NOTIFY ARCHITECT OF ANY DISCREPANCIES AND/OR OMISSIONS.

ROOF NOTES	
NOTE NUMBER	NOTE TEXT
01	EXISTING SINGLE SLOPED 60 Mil SINGLE PLY TPO ROOF OVER ISO BOARD 5/8" APA RATED ROOFDECK.
02	EXISTING 26'-0" X 4'-0" PRE-MANUFACTURED CANOPY.
03	EXISTING GUTTER AND DOWNSPOUT
04	EXISTING PARAPET CROWN TRIM WITH METAL CAP
05	PROVIDE NEW ROOF MOUNTED UNITS (RTU-1) AT LOCATION INDICATED. FIELD VERIFY EXACT LOCATION AND MAINTAIN A MINIMUM 10'-0" FROM BUILDING EDGE TO EQUIPMENT.
06	PROVIDE NEW ROOF CAP FOR 8" EXHAUST ROOF CAP AT LOCATION INDICATED.

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ACORN GOLF CLUB

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SUITE #103

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PRINT DATE: 4/10/2026 9:15:20 AM

REGISTERED ARCHITECT
TOMAS BLANCO
74288
STATE OF TEXAS
04/10/2026

DRAWING TITTLE
ROOF PLAN

DRAWN BY	RG	SHEET NO.
CHECKED BY	BL	A-5.00
APPROVED BY	TB	

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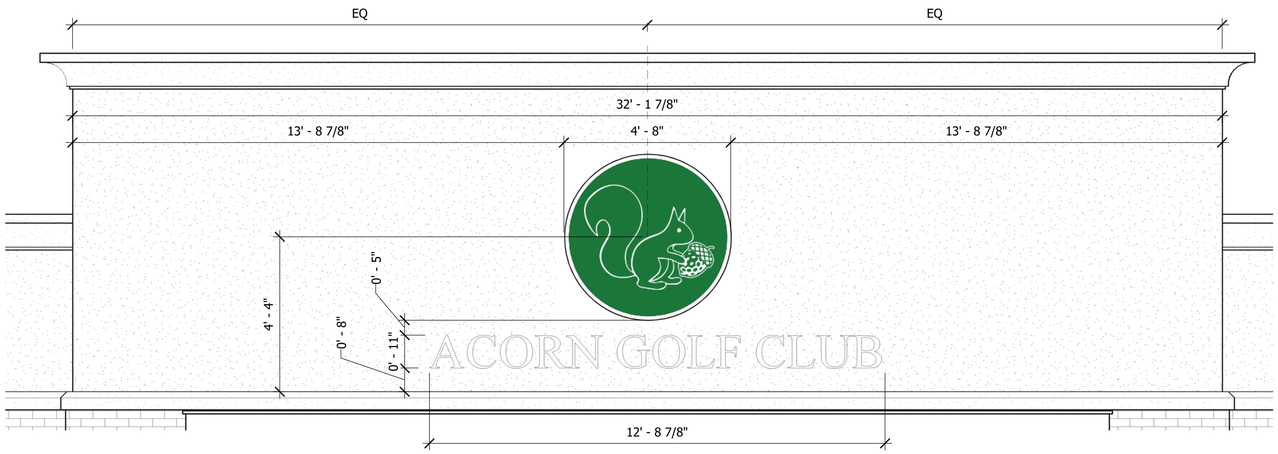
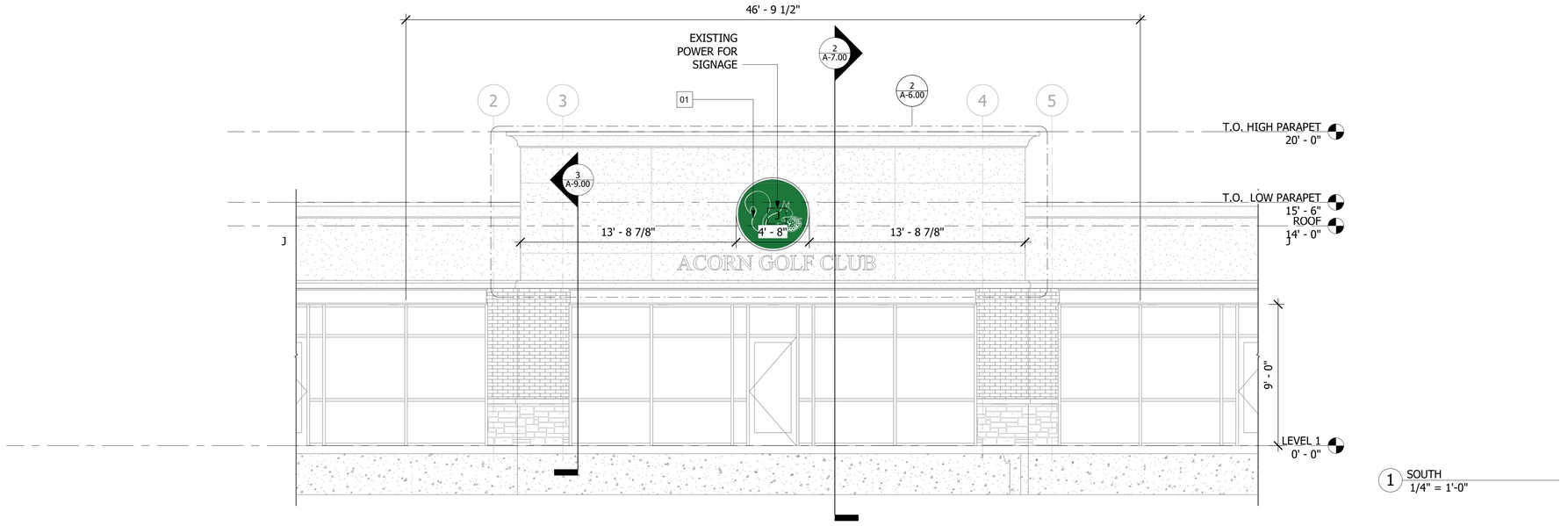


2 EXTERIOR SIGNAGE
1/2" = 1'-0"

EXTERIOR WALL SIGN	
SYMBOL:	ES-01
QTY:	1
LIGHTING:	ILLUMINATED
LETTER:	• 3IN DEEP FLUSH MOUNTED CHANNEL LETTERS • FACE LITE • WHITE FACE LETTERS WITH BLACK CHANNEL RETURNS • FONT: TIMES NEW ROMAN
LOGO CAN:	• 5IN DEEP FLUSH MOUNTED FACE LITE CHANNEL • WHITE ACRYLIC FACE WITH LOGO GRAPHIC • BLACK CHANNEL RETURNS
MOUNTING:	WALL MOUNTED
MANUFACTURER:	SIGN VENDOR
NOTES:	• ONE-SIDED • PMS COLORS TO BE APPROVED BY ACORN GOLF CLUB

ELEVATION NOTES	
NOTE NUMBER	NOTE TEXT
01	PROPOSED SIGNAGE RE: A-14.00



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

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REGISTERED ARCHITECT THOMAS B. TAYLOR 14288 STATE OF TEXAS
04/10/2026

DRAWING TITLE
EXTERIOR BUILDING ELEVATIONS

DRAWN BY	RG
CHECKED BY	BL
APPROVED BY	TB

SHEET NO.
A-6.00

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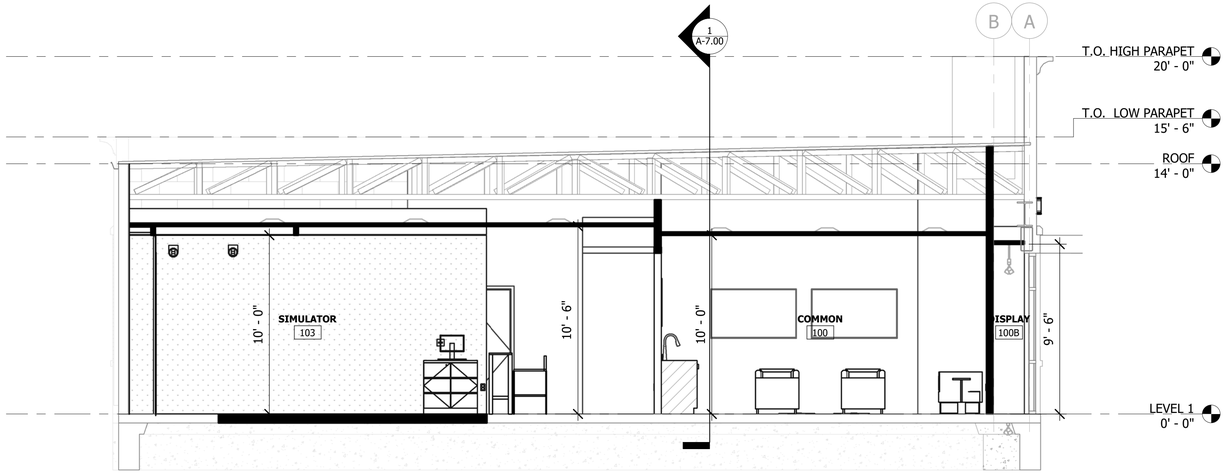
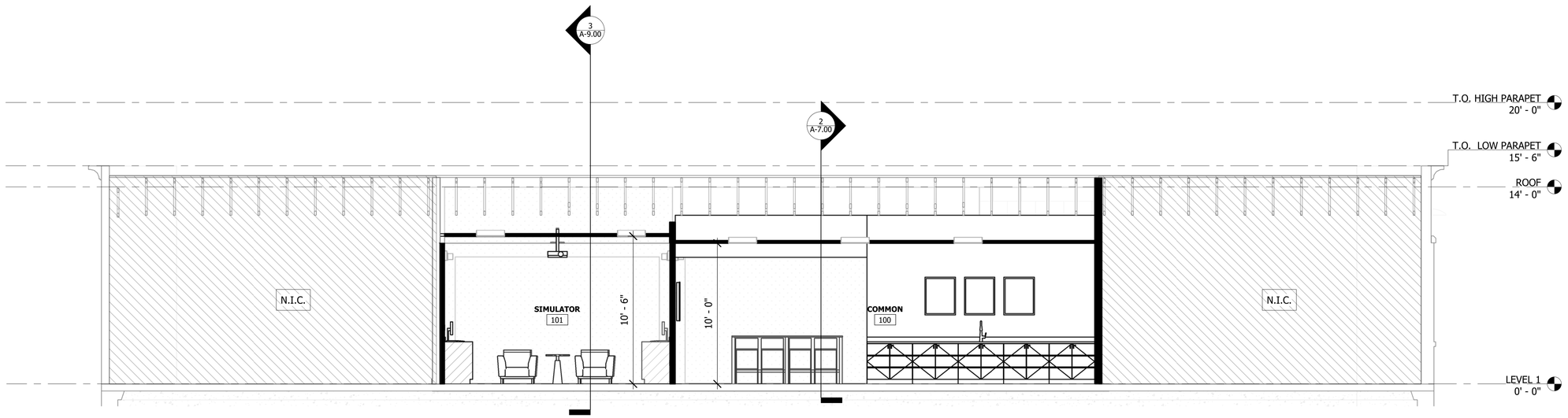


2 BUILDING SECTION 2
1/4" = 1'-0"



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

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ACORN GOLF CLUB

13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

	DATE
ISSUED FOR CLIENT APPROVAL	03.30.2026
ISSUED FOR BIDDING	04.10.2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

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REGISTERED ARCHITECT
THOMAS B. TAYLOR
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
BUILDING SECTIONS

DRAWN BY	RG	SHEET NO.
CHECKED BY	BL	A-7.00
APPROVED BY	TB	

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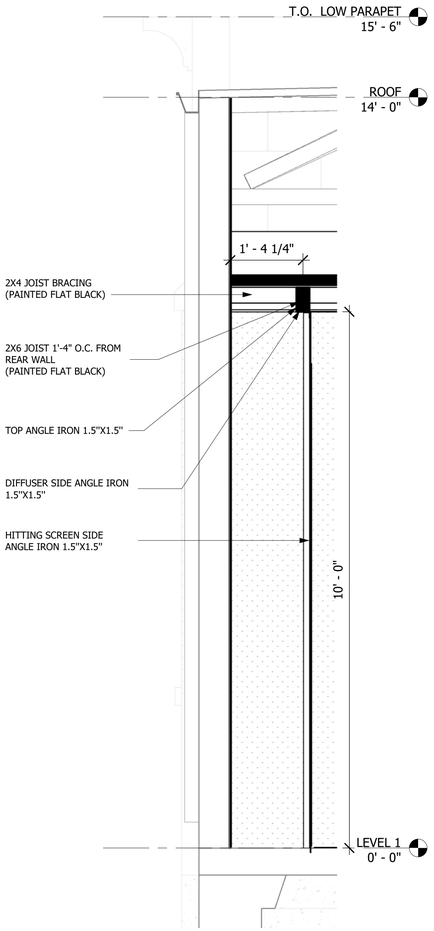
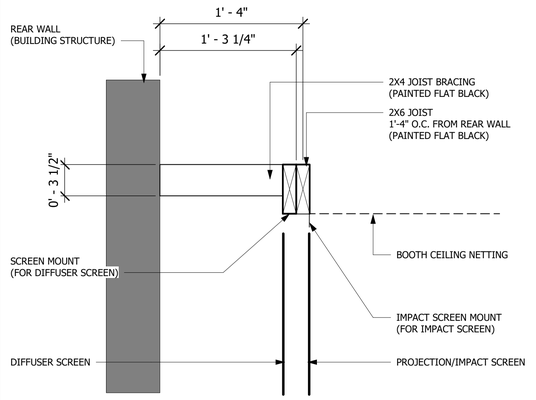
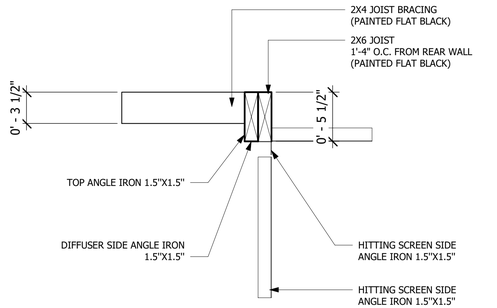


7 BUILDING SECTION 3 - Callout 1
3/4" = 1'-0"

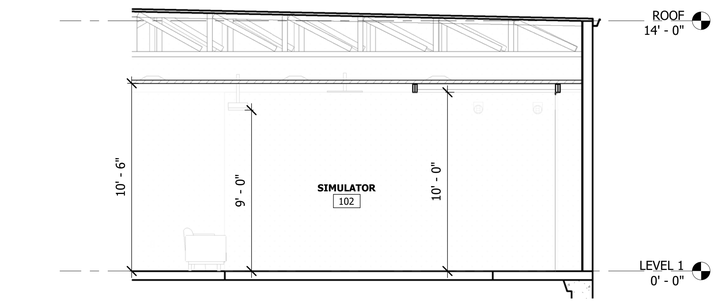


6 SCREEN INSTALL DETAIL VIEW
1 1/2" = 1'-0"

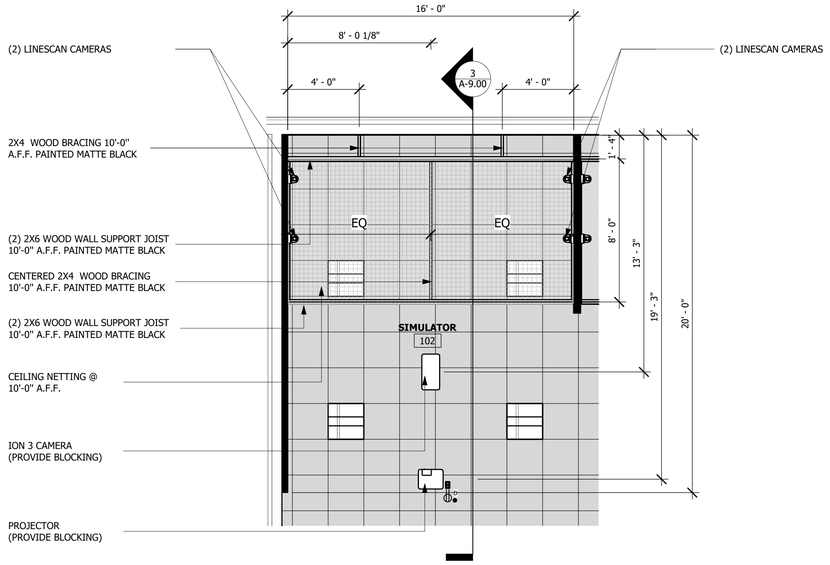


NOTE: ONE SECTION OF SIDE ANGLE IRON MUST BE CUT TO SIZE, PER SIDE.
1. INSTALL THE SIDE ANGLE IRON (1.5"X1.5") VERTICALLY ON BOTH WALLS. LEAVE APPROXIMATELY 1" BETWEEN THE BOTTOM OF THE SIDE ANGLE IRON AND THE CONCRETE FLOOR TP ALLOW SPACE FOR THE D-RINGS THE SIDE ANGLE IRON WILL MEET THE TOP ANGLE IRON SO THAT THE FRONT FACES ARE FLUSH WITH EACH OTHER. THE SIDE ANGLE IRON SHOULD BE 16" FROM THE BACK WALL, ON CENTER.

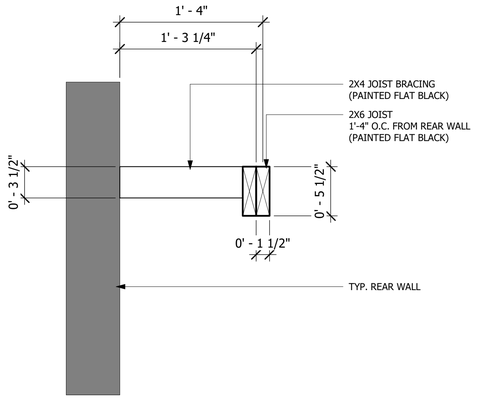
5 SIDE ANGLE IRON MOUNT DETAIL
1 1/2" = 1'-0"



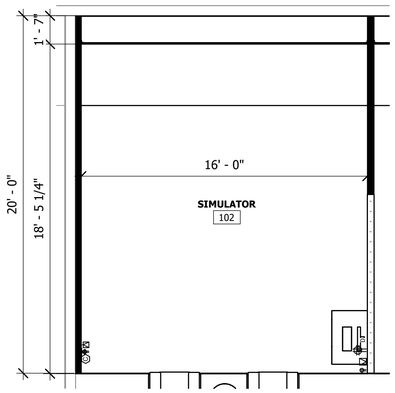
3 TYP. BAY SECTION
1/4" = 1'-0"



2 TYP. BAY SIMULATOR SCREEN & CEILING NETTING FRAMING
1/4" = 1'-0"



4 JOIST BRACING DETAIL
1 1/2" = 1'-0"



1 ENLARGED BAY SIMULATOR TYP.
1/4" = 1'-0"

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13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

ISSUED FOR	DATE
ISSUED FOR CLIENT APPROVAL	03.30.2026
ISSUED FOR BIDDING	04.10.2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

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REGISTERED ARCHITECT
THOMAS B. TAYLOR
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
BAY SIMULATOR DETAILS

DRAWN BY	RG	SHEET NO.
CHECKED BY	BL	A-9.00
APPROVED BY	TB	

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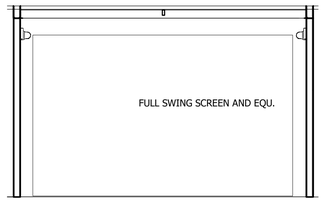
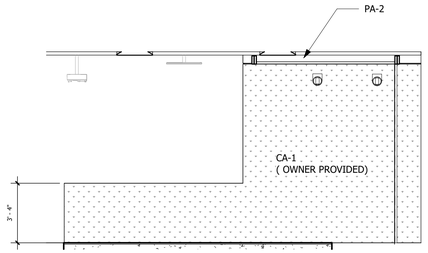
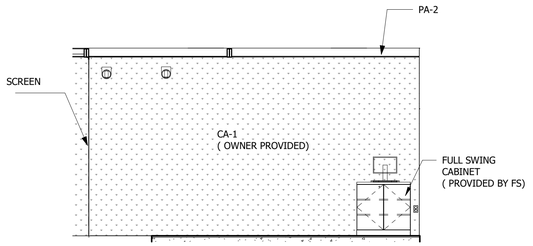


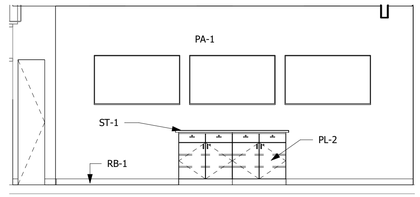
16 SIMULATOR 103 - NORTH
1/4" = 1'-0"



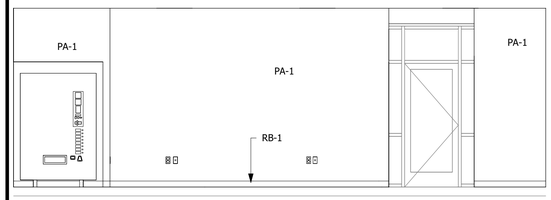
15 SIMULATOR 103 - WEST
1/4" = 1'-0"



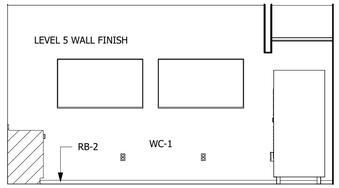
14 SIMULATOR 103 - EAST
1/4" = 1'-0"



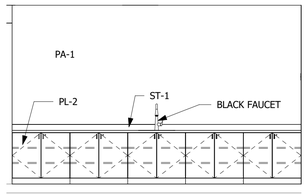
13 COMMON 100 - WEST
1/4" = 1'-0"



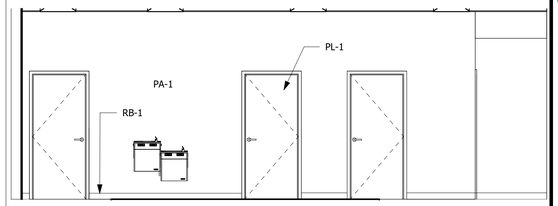
12 COMMON 100 - SOUTH
1/4" = 1'-0"



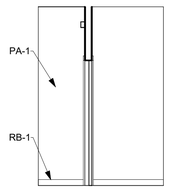
11 MINI GOLF 109 - EAST
1/4" = 1'-0"



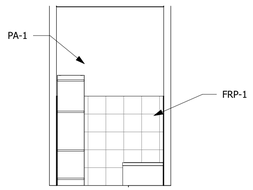
10 COMMON 100 - NORTH
1/4" = 1'-0"



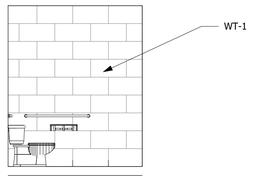
9 HALL 104
1/4" = 1'-0"



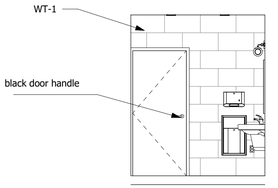
8 ELEC 108
1/4" = 1'-0"



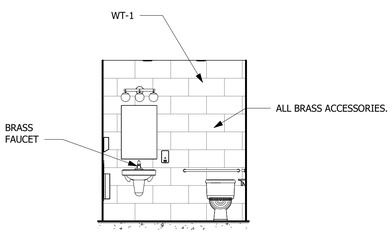
7 STORAGE 107
1/4" = 1'-0"



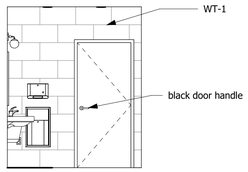
6 MENS RR 106 - EAST
1/4" = 1'-0"



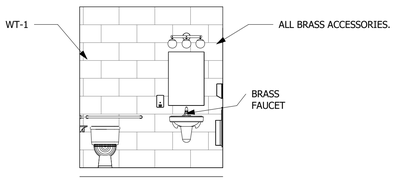
5 MENS RR 106 - WEST
1/4" = 1'-0"



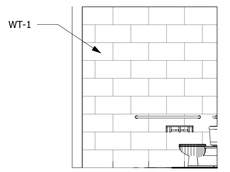
4 MENS RR 106- NORTH
1/4" = 1'-0"



3 WOMENS RR 105 - WEST
1/4" = 1'-0"



2 WOMENS RR 105 - SOUTH
1/4" = 1'-0"



1 WOMENS RR 105 - EAST
1/4" = 1'-0"

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ACORN golf club

ACORN GOLF CLUB
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

	DATE
ISSUED FOR CLIENT APPROVAL	03.30.2026
ISSUED FOR BIDDING	04.10.2026
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REGISTERED ARCHITECT THOMAS B. TAYLOR 14288 STATE OF TEXAS
04/10/2026

DRAWING TITLE
INTERIOR ELEVATIONS

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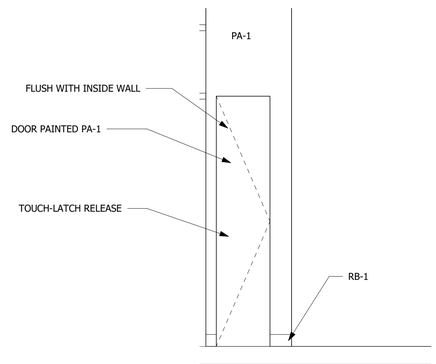
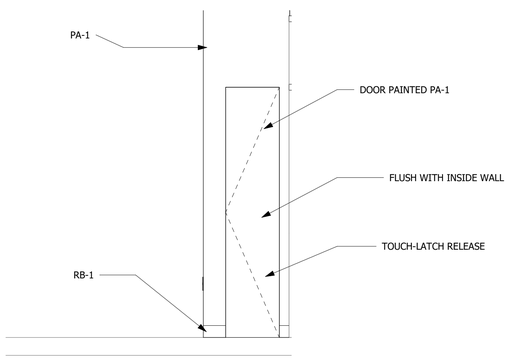
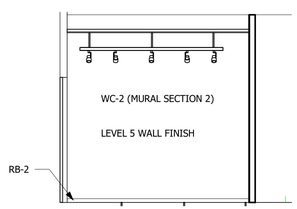


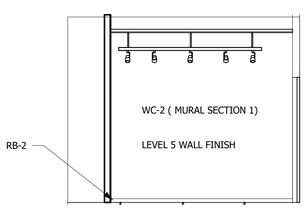
4 ENTRYWAY - WEST
1/2" = 1'-0"



3 ENTRYWAY - EAST
1/2" = 1'-0"



2 DISPLAY 100 B
1/4" = 1'-0"



1 DISPLAY 100 A
1/4" = 1'-0"

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SUITE #103

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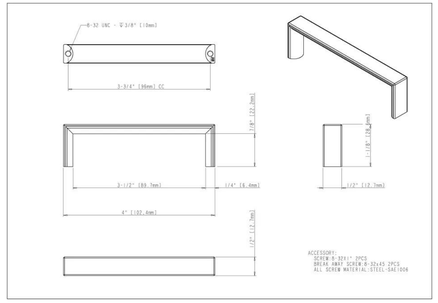
REGISTERED ARCHITECT
LORNA S. BLAIR
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
INTERIOR ELEVATIONS

DRAWN BY	PL
CHECKED BY	BL
APPROVED BY	TB

SHEET NO.
A-10.01



MFG - HARDWARE RESOURCES

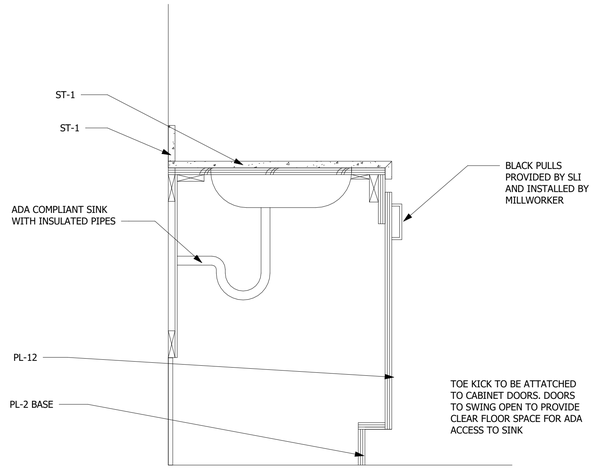
SERIES - WALKER 2 CABINET PULL

ITEM # - 727-96MB

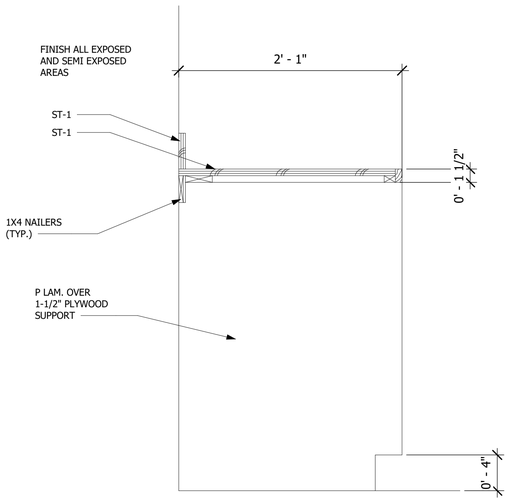
FINISH - MATTE BLACK

SIZE - 96MM CENTER TO CENTER

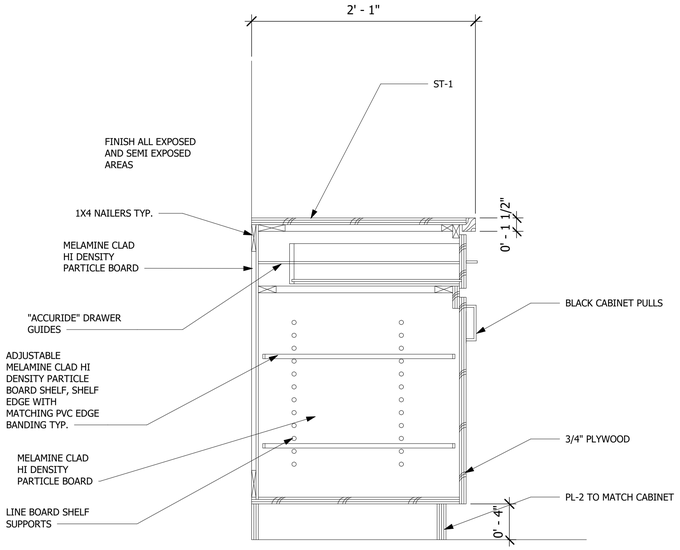
CABINET PULL



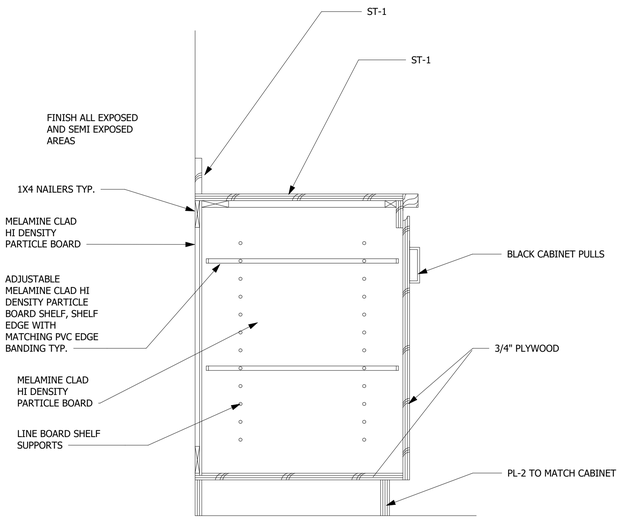
4 BASE CABINET - ADA SINK - TOE KICK
1 1/2" = 1'-0"



3 TYPICAL COUNTER
1 1/2" = 1'-0"



2 BASE CABINET W DRAWER & HANDLE
1 1/2" = 1'-0"



1 BASE CABINET - HANDLE
1 1/2" = 1'-0"

DESIGN, INC.

ARCHITECTURE PLANNING INTERIOR DESIGN

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ACORN GOLF CLUB
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

	DATE
ISSUED FOR CLIENT APPROVAL	03.30.2026
ISSUED FOR BIDDING	04.10.2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

MARK	DESCRIPTION	DATE

The information, ideas, designs, details, layouts, techniques, features, arrangements, plans, sequences, dimensions, allowances, tolerances, conceptions, specifications, intentions, technology or embodiments, as illustrated, arranged, displayed, noted, recorded, indicated, represented, disclosed, evidenced, detailed or otherwise reduced to tangible form hereon, either expressly, inherently or by implication, are the confidential and proprietary information of SLI Design, Inc., and shall not be used for any purpose other than the specific project or undertaking identified on the drawing title block or legend for which they are and have been prepared by SLI Design, Inc. Any other reproduction, disclosure or use of any portion of the confidential and proprietary information of SLI Design, Inc., shall be a breach of the obligation of confidence created by the acceptance of this drawing from SLI Design, Inc. for a specific project or Contract. Any copying, duplicating, reproducing, utilization, alteration, modification, revision or change to this drawing, is expressly prohibited unless done with the prior written consent or approval of SLI Design, Inc., and shall not be undertaken without receipt of such prior written approval. This drawing is loaned by SLI Design, Inc., for the limited purpose of complying with a specific Contract. The drawing remains the property of SLI Design, Inc., and shall be returned upon request or completion of the contract, unless specifically authorized by Contract, under which it was loaned.

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REGISTERED ARCHITECT
THOMAS B. TAYLOR
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
MILLWORK DETAILS

DRAWN BY	RG	SHEET NO.
CHECKED BY	BL	A-11.00
APPROVED BY	TB	

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FLOORING MATERIAL LEGEND							
CODE	MFG	SERIES	COLOR	ITEM #	SIZE	NOTES	FLAME SPREAD & SMOKE DEVELOP INDEX
PC-1	AMERIPOLISH	CLASSIC/SURELOCK/DYE-N-SEAL	WALNUT			POLISHED CONCRETE	
CA-1							CARPET PROVIDED BY OWNER, JUST DOING INSTALLATION

BASE MATERIAL LEGEND						
CODE	MFG	SERIES	COLOR	ITEM #	SIZE	NOTES
RB-2	FLEXCO	VINYL WALL BASE	OUTER BANKS	038	2 1/2" COVE	
RB-1	FLEXCO	VINYL WALL BASE	OUTER BANKS	038	4" COVE	

WALL MATERIAL LEGENED					
CODE	MFG	SERIES	COLOR	ITEM #	NOTES
PA-1	SHERWIN WILLIAMS	PRO MAR 200	ANEW GRAY	7030	
PA-2	SHERWIN WILLIAMS	PRO MAR 200	TRICORN BLACK	6258	
WT-1	ARIZONA TILE	FUTURA	SILVER, MATTE		12" X 24" , 2CM THICKNESS
WC-1	LIMITLESS WALLS	12th Hole At Augusta National Wall Mural		6449476	18' 6" X 10' 2" , LINEN FINISH, LEVEL 5 WALL FINISH
WC-2	LIMITLESS WALLS	The Masters Wall Mural		558516319	21' x 10' , VINYL FINISH, LEVEL 5 WALL FINISH
GR-1	TEXRITE		HOUSTON GRAY	713	
FRP-1	PANOLAM	TEXTURE CLASS C	WHITE		.090 THICKNESS

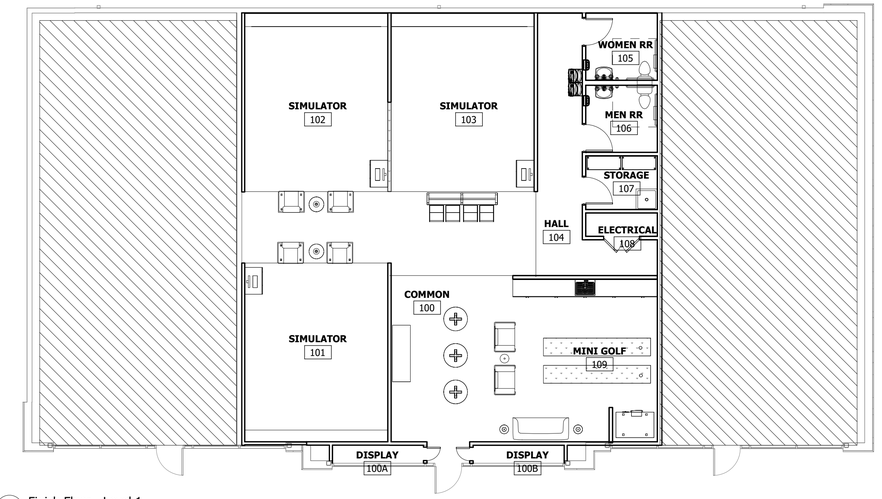
PLASTIC LAMINATE MATERIAL LEGEND					
CODE	MFG	SERIES	COLOR	ITEM #	NOTES
PL-1	WILSONART		LOWELL ASH	7994	DOOR
PL-2	WILSONART		MISTLETOE	Y0841	CABINET

SOLID SURFACE MATERIAL LEGEND					
CODE	MFG	SERIES	COLOR	ITEM #	NOTES
ST-1	CEASAR STONE	SUPERNATURAL ULTRA	ARABETTO	5171	

RESTROOM ACCESSORIES					
NO.	MFG	DESCRIPTION	ITEM #	QTY.	NOTES
RA-1	BRADLEY	ADA GRAB BAR , NO HOOKS	8B1-0013600, 8B1-0014200	2, 36" AND 2, 42"	BRUSHED BRASS FINISH
RA-2	BRADLEY	SURFACE MOUNTED AUTOMATIC SOAP DISPENSER	6B1-119373	2	BRUSHED BRASS FINISH
RA-3	BRADLEY	SURFACE MOUNTED DOUBLE TOILET PAPER DISPENSER WITH SHELF	5B2-110089	2	BRUSHED BRASS FINISH
RA-4	BRADLEY	24" X 36" FRAMED MIRROR	7B1-0024360	2	BRUSHED BRASS FINISH
RA-5	BRADLEY	SURFACE-MOUNTED TOWEL DISPENSER SMALL SIZE	2B1-113400	2	BRUSHED BRASS FINISH
RA-6	BRADLEY	RECESSED WASTE RECEPTACLE, SMALL SIZE	3B1-003400	2	BRUSHED BRASS FINISH

ROOM FINISH SCHEDULE								
NO.	ROOM	FLOOR	BASE	WALL ►	WALL ▲	WALL ◄	WALL ▼	CEILING
100	COMMON	PC-1	RB-1	PA-1	PA-1	PA-1	PA-1	2X2 WHITE CEILING TILES
100A	DISPLAY	PC-1	RB-2	PA-1	WC-2	PA-1	PA-1	2X2 BLACK CEILING TILES
100B	DISPLAY	PC-1	RB-2	PA-1	WC-2	PA-1	PA-1	2X2 BLACK CEILING TILES
101	SIMULATOR	PC-1	N/A	CA-1, PA-2	CA-1	CA-1, PA-2	CA-1	2X2 BLACK CEILING TILES
102	SIMULATOR	PC-1	N/A	CA-1, PA-2	CA-1	CA-1, PA-2	CA-1	2X2 BLACK CEILING TILES
103	SIMULATOR	PC-1	N/A	CA-1, PA-2	CA-1	CA-1, PA-2	CA-1	2X2 BLACK CEILING TILES
104	HALL	PC-1	RB-1	PA-1	PA-1	PA-1	PA-1	2X2 BLACK CEILING TILES
105	WOMEN RR	PC-1	N/A	WT-1	WT-1	WT-1	WT-1	GYP. CEILING, BLACK
106	MEN RR	PC-1	N/A	WT-1	WT-1	WT-1	WT-1	GYP. CEILING, BLACK
107	STORAGE	PC-1	RB-1	PA-1,FRP-1	PA-1,FRP-1	PA-1, FRP-1	PA-1,FRP-1	2X2 BLACK CEILING TILES
108	ELECTRICAL	PC-1	RB-1	PA-1	PA-1	PA-1	PA-1	2X2 BLACK CEILING TILES
109	MINI GOLF	PC-1	RB-1, RB-2	WC-1	PA-1	PA-1	PA-1	2X2 WHITE CEILING TILES

GENERAL NOTES	
NO.	DESCRIPTION
1	SUBMIT A 12" X 12" SAMPLE OF WALL FINISHES TO SLI FOR APPROVAL
2	PROVIDE SHOP DRAWINGS FOR ALL PLASTIC LAMINATE CASE GOODS
3	ALL CARPET/VCT TRANSITIONS TO BE FLUSH
4	RUBBER TRANSITION STRIPS TO BE INSTALLED ALL OTHER TRANSITIONS; CERAMIN TO VCT
5	RUBBER TRANSITION STRIPS TO BE INSTALLED ALL OTHER TRANSITIONS; RUBBER TILE TO GLUE DOWN CARPET
6	ALL GROUT LINES TO BE SEALED
7	ALL WALL COVERING MATERIAL SUPPLIED AND INSTALLED BY SLI
8	RENO TX SCHLUTER MATERIAL TRANSION STRIP TO BE INSTALLED BETWEEN CERAMIC TILE AND GLUE DOWN CARPET
9	ALL VCT TO BE SEALED WITH 3-5 COATS OF WAX, BUFF BETWEEN COATS
10	ANY REMAING MATERIAL TO BE GIVEN TO CLIENT AS ATTIC STOCK
11	WALKING SURFACES ALONG PATH OF EGRESS SHALL BE NON SLIP AND ADHERED SECURELY PER IBC 2015 SECTION 1003.4



1 Finish Floor - Level 1
1/8" = 1'-0"

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ARCHITECTURE PLANNING INTERIOR DESIGN
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REGISTERED ARCHITECT
THOMAS B. TAYLOR
14288
STATE OF TEXAS
04/10/2026

DRAWING TITLE
FINISH FLOOR PLAN

DRAWN BY	PL	SHEET NO.
CHECKED BY	BL	A-12.00
APPROVED BY	TB	

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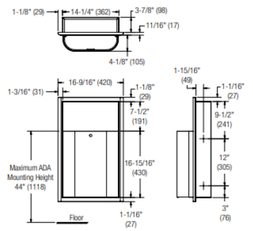
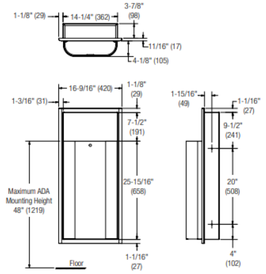
3B1-00 & 3B1-10 Series
Elvari™ Recessed & Semi-Recessed Waste Receptacles

Dimensions – Recessed (mm)

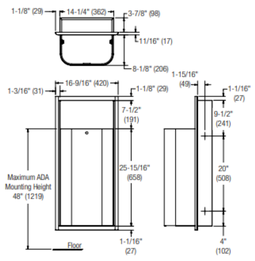
Small Capacity



Medium Capacity



Large Capacity



Rough-In Dimensions

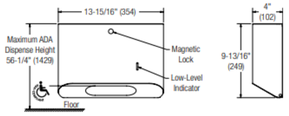
Combination Unit Capacity	Height	Width	Depth (Recessed)	Depth (Semi-Recessed)
Small	25" (635)	14-3/4" (375)	4" (102)	2" (51)
Medium	34" (864)	14-3/4" (375)	4" (102)	2" (51)
Large	34" (864)	14-3/4" (375)	4" (102)	2" (51)

RA-6

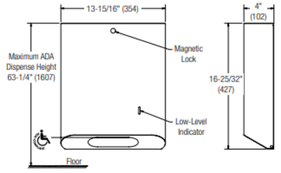
2B1 Series
Elvari™ Surface-Mounted Towel Dispenser

Dimensions (mm)

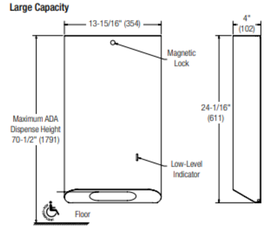
Small Capacity



Medium Capacity



Large Capacity



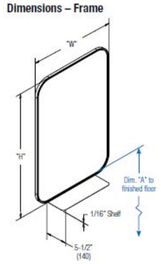
Dim. "A" Key Surface:	For Dim. "A"	Top of Dispenser			Bottom of Dispenser (All Sizes)
		Small:	Medium:	Large:	All Sizes:
Paper towel top of opening to furnished floor.	48" (1219)	56-1/4" (1429)	63-1/4 (1607)	70-1/2 (1791)	46-7/16" (1180)
Models: 2B1-113400 2B1-110000 2B1-113600	45" (1143)	53-1/4" (1353)	60-1/4" (1530)	67-1/2" (1415)	43-7/16" (1103)
	42" (1067)	50-1/4" (1276)	57-1/4" (1454)	64-1/2" (1638)	40-7/16" (1027)
	40" (1016)	48-1/4" (1226)	55-1/4" (1403)	62-1/2" (1588)	38-7/16" (976)
Rough wall opening: N/A					

Orders composed of products indicated as **BradEX®** will be available to ship in three days after receipt of order at the factory. There is no pricing penalty for this service from Bradley.

RA-5

7B1 Series
Elvari™ Frame & Frameless Mirrors

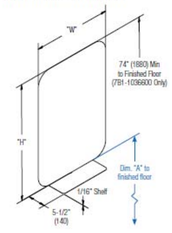
Dimensions – Frame (mm)



Standard Model Number	Width "W" (mm)	Height "H" (mm)	Shelf Width (mm)
7B1-0018300	18" (457)	30" (762)	n/a
7B1-0018360	18" (457)	36" (915)	n/a
7B1-0024360	24" (610)	36" (915)	n/a
7B1-2018300	18" (457)	30" (762)	10" (254)
7B1-2018360	18" (457)	36" (915)	10" (254)
7B1-2024360	24" (610)	36" (915)	10" (254)

Dim. "A" Key Surface:	For Dim. "A" (mm)	Bottom of Unit (mm)
Mirror's bottom edge of the reflecting surface to finished floor	40" (1016)	39-5/8" (1006)
	37" (940)	36-5/8" (930)
	34" (864)	33-5/8" (854)

Dimensions – Frameless



Standard Model Number	Width "W" (mm)	Height "H" (mm)	Shelf Width (mm)
7B1-1024360	24" (610)	36" (915)	n/a
7B1-1030360	30" (762)	36" (915)	n/a
7B1-1036600	36" (915)	60" (1524)	n/a
7B1-3024360	24" (610)	36" (915)	16" (406)
7B1-3030360	30" (762)	36" (915)	22" (559)

Dim. "A" Key Surface:	For Dim. "A" (mm)	Bottom of Unit ¹ (mm)
Mirror's bottom edge of the reflecting surface to finished floor	40" (1016)	39-7/16" (1002)
	37" (940)	36-7/16" (926)
	34" (864)	33-7/16" (849)

¹ Bottom of Unit dimensions for frameless mirror without a shelf should equal information in column A.

Orders composed of products indicated as **BradEX®** will be available to ship in three days after receipt of order at the factory. There is no pricing penalty for this service from Bradley.

Verify all rough-in dimensions prior to installation.

RA-4

5B2-110089
Elvari™ Toilet Paper Dispenser with Shelf

Optional Electrocoat Finishes

Bradley offers an exclusive, proprietary electrocoat color process on the Elvari toilet paper dispenser models. Unlike powder coating, color is applied to the entire stainless steel part using a submersion process with electrically charged particles. This process results in a precise film thickness across all surfaces, allowing the grain of the stainless steel to show through.

Electrocoat provides complete coverage to the part and has environmental advantages such as no or low-VOC and HAPs (Hazardous Air Pollutants), heavy metal-free products, and minimum waste discharge. Bradley's electrocoat is durable and easy to clean as well as fingerprint, stain and corrosion resistant. A UV light stabilizer additive enhances resistance to weathering and color fade.

Products are performance tested for adhesion following ASTM D3359-22 and impact resistance following ASTM D2794.

Model (Must select one)
- (•) **5B2-110089** Elvari Toilet Paper Dispenser

Standard Selections (Must select one from each category)

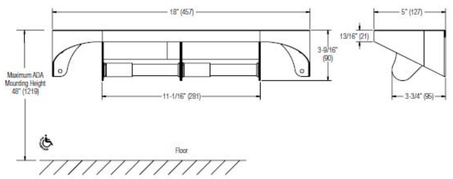
Mounting
- (•) **11** Surface Mounted

Shelf
- (•) **89** With Shelf

Toilet Paper Dispenser Finish Type (Must select one)
- ( ) **BB** Brushed Black
- (•) **BR** Brushed Brass
- ( ) **BZ** Brushed Bronze
- ( ) **BN** Brushed Nickel
- ( ) **BS** Brushed Stainless
- ( ) **SS** Satin Stainless ¹

¹ Model available with **BradEX®** expedited shipping.

Dimensions (mm)



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Verify all rough-in dimensions prior to installation.

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RA-3

6B1-1193, 6B1-1194
Elvari™ Sensored Surface-Mounted Soap Dispenser

Optional Electrocoat Finishes

Bradley offers an exclusive, proprietary electrocoat color process on the Elvari soap dispenser models. Unlike powder coating, color is applied to the entire stainless steel part using a submersion process with electrically charged particles. This process results in a precise film thickness across all surfaces, allowing the grain of the stainless steel to show through.

Electrocoat provides complete coverage to the part and has environmental advantages such as no or low-VOC and HAPs (Hazardous Air Pollutants), heavy metal-free products, and minimum waste discharge. Bradley's electrocoat is durable and easy to clean as well as fingerprint, stain and corrosion resistant. A UV light stabilizer additive enhances resistance to weathering and color fade.

Products are performance tested for adhesion following ASTM D3359-22 and impact resistance following ASTM D2794.

Soap Dispenser Models

Standard Model Number	Soap Type	Power	Drip Tray
6B1-1193373	Foam	Battery	No
6B1-1193473T	Foam	Battery	Yes
6B1-1193000	Liquid/Gel Sanitizer	Battery	No
6B1-1193000T	Liquid/Gel Sanitizer	Battery	Yes
6B1-1194073	Foam	AC PLUG	No
6B1-1194073T	Foam	AC PLUG	Yes
6B1-1194000	Liquid/Gel Sanitizer	AC PLUG	No
6B1-1194000T	Liquid/Gel Sanitizer	AC PLUG	Yes

Model (Must select one)
- (•) **6B1** Elvari Soap Dispenser

Standard Selections (Must select one from each category)

Mounting Type (select one)
- (•) **11** Surface Mounted

Power Supply Type (select one)
- (•) **93** Battery
- ( ) **34** AC Plug

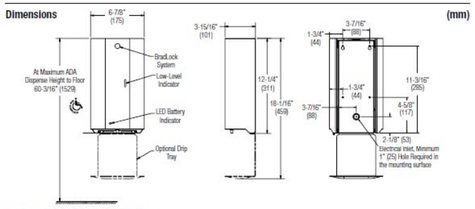
Soap Type (select one)
- ( ) **0** Liquid Soap/Gel Sanitizer
- (•) **73** Foam

Drip Tray (select one)
- (•) **0** None
- ( ) **T** Standard Drip Tray

Soap Dispenser Finish Type (Must select one)
- ( ) **BB** Brushed Black
- (•) **BR** Brushed Brass
- ( ) **BZ** Brushed Bronze
- ( ) **BN** Brushed Nickel
- ( ) **BS** Brushed Stainless
- ( ) **SS** Satin Stainless ¹

¹ Model available with **BradEX®** expedited shipping.

Dimensions (mm)



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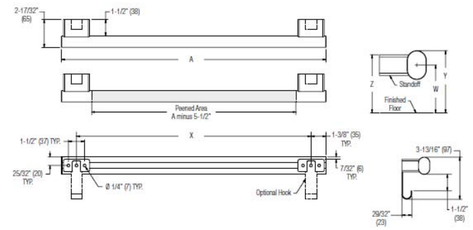
RA-2

8B1 Series
Elvari™ Grab Bar

Dimensions (mm)

☑ *Grab bar dimensions shown with optional hooks. Dimensions for grab bar without hooks similar.*



Grab Bar Part Number	Grab Bar Length "A"	Centerline of Standoffs "X"	Off Finish Floor Dim "Y" @ 33"	Off Finish Floor Dim "Y" @ 34"	Off Finish Floor Dim "Y" @ 35"	Off Finish Floor Dim "Y" @ 36"
8B1-0011800 8B1-0011896	18" (457)	15-1/4" (387)	Top of Standoff Dim "Z" 32-25/32" (833) Centerline of Standoff Dim "W" 32-7/32" (818)	Top of Standoff Dim "Z" 33-25/32" (858) Centerline of Standoff Dim "W" 33-7/32" (844)	Top of Standoff Dim "Z" 34-25/32" (883) Centerline of Standoff Dim "W" 34-7/32" (869)	Top of Standoff Dim "Z" 35-25/32" (909) Centerline of Standoff Dim "W" 35-7/32" (895)
8B1-0012400 8B1-0012496	24" (610)	21-1/4" (540)				
8B1-0013600 8B1-0013696	36" (914)	33-1/4" (845)				
8B1-0014200 8B1-0014296	42" (1067)	39-1/4" (997)				
8B1-0014800 8B1-0014896	48" (1219)	45-1/4" (1149)				

Orders composed of products indicated as **BradEX®** will be available to ship in three days after receipt of order at the factory. There is no pricing penalty for this service from Bradley.

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SLI DESIGN, INC.
ARCHITECTURE PLANNING INTERIOR DESIGN
15810 PARK TEN PLACE, SUITE 300
HOUSTON, TEXAS 77084
713-465-4650
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ACORN GOLF CLUB
13825 Timber Forest Dr, Houston, TX 77044
SUITE #103

Project Number : 8982

ISSUED FOR	DATE
ISSUED FOR CLIENT APPROVAL	03.30.2026
ISSUED FOR BIDDING	04.10.2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

MARK	DESCRIPTION	DATE

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REGISTERED ARCHITECT THOMAS B. HAMER 14288 STATE OF TEXAS
04/10/2026

DRAWING TITLE
RESTROOM ACCESSORIES

DRAWN BY	RG	SHEET NO.
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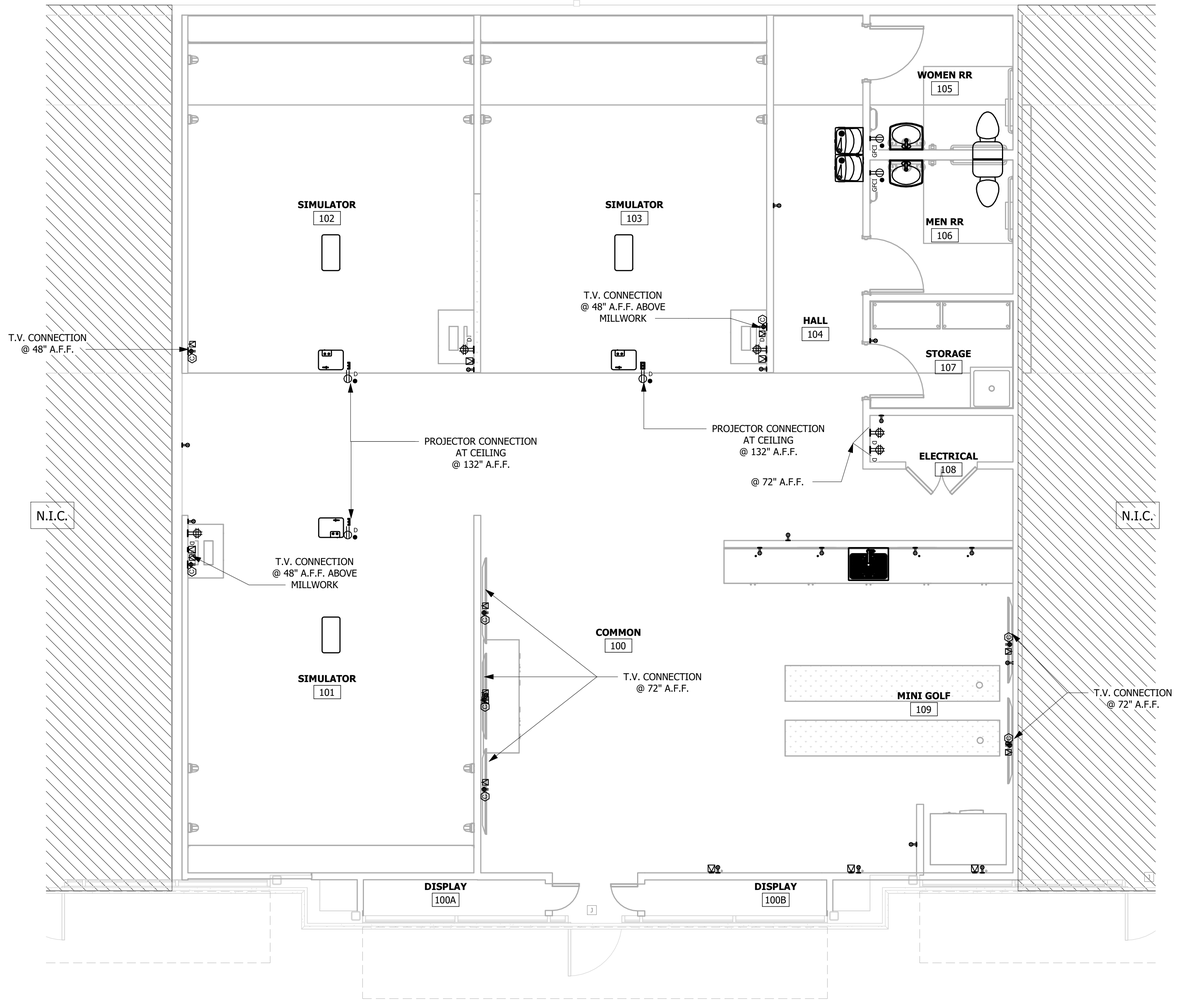

TRUE NORTH PLAN NORTH

1 POWER PLAN
1/4" = 1'-0"

GENERAL NOTES

1. ALL OUTLETS/RECEPTACLES TO BE MOUNTED VERTICALLY @ 15" A.F.F. U.N.O.
2. ALL OUTLETS/RECEPTACLES MOUNTED ABOVE COUNTER HEIGHT TO BE MOUNTED HORIZONTALLY
3. OUTLET/RECEPTACLE PLATE; COLOR: WHITE FOR ALL SWITCHES OR SHEETROCK AND BLACK ON WOODGRAIN

ELECTRICAL LEGEND	
	DUPLEX WALL RECEPTACLE
D	DEDICATED DUPLEX WALL RECEPTACLE
GFCI	DUPLEX WALL RECEPTACLE, GROUND FAULT INTERCEPT
	QUADPLEX WALL RECEPTACLE
*	DUPLEX WALL RECEPTACLE MOUNTED ABOVE COUNTER
*D	DEDICATED DUPLEX WALL RECEPTACLE MOUNTED ABOVE COUNTER
GFCI	DUPLEX WALL RECEPTACLE, GROUND FAULT INTERCEPT MOUNTED ABOVE COUNTER
*	QUADPLEX WALL RECEPTACLE MOUNTED ABOVE COUNTER
	FLOOR BOX WITH QUADPLEX AND RJ-45
	DATA BOX WITH (1) PHONE LINE AND (1) RJ-45
	DATA BOX WITH (1) PHONE LINE AND (1) RJ-45
SM	SOFFIT MOUNTED WEATHERPROOF DUPLEX RECEPTACLE
WP	EXTERIOR WEATHERPROOF DUPLEX RECEPTACLE
C	CABLE TV
J	JUNCTION BOX

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14288
STATE OF TEXAS
04/10/2026

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POWER PLAN

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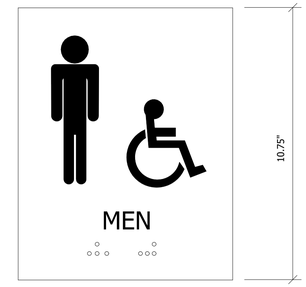
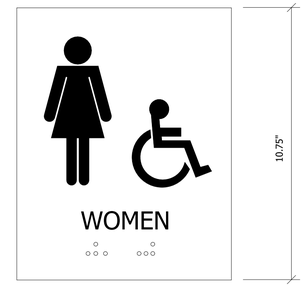


RESTROOM SIGNAGE	
QUANTITY:	1
MFG:	INTERSIGN CORPORATION
FRAME:	N/A
BACKGROUND:	BLACK
LETTER:	BALANCED BEIGE
BRAILLE:	Yes
MOUNTING:	Sticky tape back to wall
SYMBOL:	MEN AND ADA
NOTES:	ITEM # AV3-RG312



RESTROOM SIGNAGE	
QUANTITY:	1
MFG:	INTERSIGN CORPORATION
FRAME:	N/A
BACKGROUND:	BLACK
LETTER:	BALANCED BEIGE
BRAILLE:	Yes
MOUNTING:	Sticky tape back to wall
SYMBOL:	WOMAN AND ADA
NOTES:	ITEM # AV3-RG31

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14288
STATE OF TEXAS
04/10/2026

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GENERAL MEP NOTES

COORDINATION

EACH CONTRACTOR SHALL COORDINATE ITS CONSTRUCTION OPERATIONS WITH THOSE OF OTHER CONTRACTORS AND ENTITIES TO ENSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. EACH CONTRACTOR SHALL COORDINATE ITS OPERATIONS WITH OPERATIONS, INCLUDED IN DIFFERENT SECTIONS, THAT DEPEND ON EACH OTHER FOR PROPER INSTALLATION, CONNECTION, AND OPERATION.

1. SCHEDULE CONSTRUCTION OPERATIONS IN SEQUENCE REQUIRED TO OBTAIN THE BEST RESULTS WHERE INSTALLATION OF ONE PART OF THE WORK DEPENDS ON INSTALLATION OF OTHER COMPONENTS, BEFORE OR AFTER ITS OWN INSTALLATION.
2. COORDINATE INSTALLATION OF DIFFERENT COMPONENTS WITH OTHER CONTRACTORS TO ENSURE MAXIMUM PERFORMANCE AND ACCESSIBILITY FOR REQUIRED MAINTENANCE, SERVICE, AND REPAIR.
3. MAKE ADEQUATE PROVISIONS TO ACCOMMODATE ITEMS SCHEDULED FOR LATER INSTALLATION.
4. VISIT THE SITE PRIOR TO SUBMITTING A BID TO VERIFY THE EXISTING CONDITIONS AND DESIGN CONSTRAINTS. FAILURE TO MEET THIS REQUIREMENT SHALL NOT BE JUSTIFICATION FOR FAULTY INSTALLATION OR ADDITIONAL COSTS.
5. SECURE ALL PERMITS AND INSPECTIONS REQUIRED FOR WORK, AND PAY ALL FEES FOR REQUIRED WORK.
6. COMPLY WITH ALL CURRENT LAWS, BUILDING CODES AND REGULATIONS FEDERAL, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND THE LOCAL AUTHORITY HAVING JURISDICTION, THE LATTER SHALL RULE. ANY CHANGES RESULTING SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR ARCHITECT/ENGINEER. THE CONTRACTOR SHALL REPORT ANY SUCH MODIFICATIONS TO THE ARCHITECT/ENGINEER AND SECURE HIS APPROVAL BEFORE PROCEEDING. SHOULD THE REQUIREMENTS OF THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THE CODES, THE CONTRACT DOCUMENTS SHALL GOVERN, PROVIDED THOSE REQUIREMENTS ARE NOT IN CONFLICT WITH THOSE CODES. ALL ITEMS OF EQUIPMENT AND ALL MATERIALS FOR WHICH APPROVAL STANDARDS HAVE BEEN ESTABLISHED BY UNDERWRITERS' LABORATORIES, INC. (UL), FACTORY MUTUAL (FM), AMERICAN STANDARD CODES, ASME, AGA, AMCA, ASA, ANSI, ASHRAE, AND ARI SHALL BE SO APPROVED AND SHALL BEAR APPROVAL LABELS.
7. PENETRATIONS OF WALLS AND FLOORS OF FIRE-RATED ASSEMBLIES SHALL COMPLY WITH ASTM, UL, AND THE AUTHORITIES HAVING JURISDICTION.
8. IF THE DRAWINGS AND SPECIFICATIONS ARE IN CONFLICT THE GREATER AMOUNT OF WORK SHALL BE PRICED. BRING THE CONFLICT TO THE ATTENTION OF THE ENGINEER AND REQUEST DIRECTION.
9. DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW ALL FITTINGS, COMPONENTS AND OFFSETS, ETC. THE CONTRACTOR SHALL PROVIDE ALL FITTINGS, COMPONENTS, OFFSETS OR OTHER FEATURES REQUIRED FOR THE FULL OPERATIONAL CONDITION OF THIS PROJECT.
10. CONFIRM DIMENSIONS AND LOCATIONS IN THE FIELD, DRAWINGS ARE NOT TO BE SCALED AND ARE NOT INTENDED TO SHOW EXACT LOCATIONS BASED ON SCALING DIMENSIONS.
11. GUARANTEE LABOR AND MATERIALS OF ENTIRE INSTALLATION FOR ONE YEAR. WORK BELOW FLOOR OR OVER CORRIDORS SHALL BE PERFORMED AT THE OWNER'S CONVENIENCE AND MAY BE REQUIRED TO BE DONE DURING EVENINGS AND WEEKENDS. DEMOLITION DAMAGE TO EXISTING MATERIALS/EQUIPMENT WILL BE REPAIRED AT NO ADDITIONAL COST TO OWNER. RE-SUPPORT ANY REMAINING PIPING OR DEVICES THAT WERE SUPPORTED BY WALLS BEING REMOVED.
12. ELECTRONIC COPIES OF CAD DRAWINGS OF THE CONTRACT DRAWINGS WILL NOT BE PROVIDED BY THE ENGINEER FOR CONTRACTOR'S USE IN PREPARING SUBMITTALS OR AS-BUILT DRAWINGS

ACOUSTIC TREATMENT

A. IT IS THE INTENT OF THESE DRAWINGS TO SPECIFY AND FOR THE CONTRACTOR TO INSTALL SYSTEMS THAT ARE QUIET AND FREE OF VIBRATION. EQUIPMENT SHALL BE BALANCED AND VIBRATION ISOLATED TO MEET THE REQUIREMENTS SPECIFIED HEREIN FOR BOTH THE EQUIPMENT ITSELF AND CONDITIONS WITHIN OCCUPIED SPACES. THIS CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND INSTALLING EQUIPMENT THAT IS QUIET IN OPERATION AS COMPARED TO OTHER AVAILABLE EQUIPMENT OF ITS SIZE, CAPACITY, AND TYPE.

B. EQUIPMENT NOT MEETING THESE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR TO AN ACCEPTABLE LEVEL BUT WITHIN THE REQUIREMENTS OF THE SPECIFICATIONS AT NO COST TO THE OWNER, ARCHITECT OR ENGINEER.

C. AIR DISTRIBUTION EQUIPMENT SHALL BE SOUND TESTED AT THE DESIGN OPERATING CONDITIONS AND SHALL NOT EXCEED A MAXIMUM DISCHARGE NC RATING OF 25 OR A RADIATED NC RATING OF 30 AT RATED CFM.

D. UNLESS NOTED OTHERWISE HEREIN OR ON THE DRAWINGS, THE NOISE LEVEL IN ALL OCCUPIED SPACES SHALL NOT EXCEED THE "LOWEST VALUE IN THE RANGE" OF THE NOISE CRITERIA CURVES PUBLISHED IN THE CURRENT FUNDAMENTALS EDITION OF THE ASHRAE GUIDE AND DATA BOOK. THE NOISE CRITERIA CURVES SHALL BE BASED ON ANSI STANDARD S1.6-1967 OCTAVE BANDS AND A SOUND PRESSURE LEVEL IN DECIBELS REFERENCED TO 0.002 MICROBARS. SOUND LEVELS IN OCCUPIED SPACES MUST MEET THE DESIGN CRITERIA WITH ALL CONSTRUCTION IN PLACE.

E. SHOULD A QUESTION ARISE REGARDING THE ACCEPTABLE LEVEL OF NOISE OR VIBRATION IN A PARTICULAR SPACE OR PIECE OF EQUIPMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE SERVICES OF AN APPROVED ACOUSTICAL CONSULTANT TO DETERMINE ACTUAL NOISE/VIBRATION CONDITIONS.

SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. ELECTRONIC COPIES OF CAD DRAWINGS OF THE CONTRACT DRAWINGS WILL NOT BE PROVIDED BY THE ENGINEER FOR CONTRACTOR'S USE IN PREPARING SUBMITTALS OR AS-BUILT DRAWINGS.

B. COORDINATE PREPARATION AND PROCESSING OF SUBMITTALS WITH PERFORMANCE OF CONSTRUCTION ACTIVITIES. COORDINATE EACH SUBMITTAL WITH FABRICATION, PURCHASING, TESTING, DELIVERY, OTHER SUBMITTALS, AND RELATED ACTIVITIES THAT REQUIRE SEQUENTIAL ACTIVITY. SUBMIT ALL ITEMS REQUIRED FOR EACH SPECIFICATION SECTION CONCURRENTLY.

C. ALLOW TIME FOR SUBMITTAL REVIEW, INCLUDING TIME FOR RESUBMITTALS, AS FOLLOWS. TIME FOR REVIEW SHALL COMMENCE ON ENGINEER'S RECEIPT OF SUBMITTAL. NO EXTENSION OF THE CONTRACT TIME WILL BE AUTHORIZED BECAUSE OF FAILURE TO TRANSMIT SUBMITTALS ENOUGH IN ADVANCE OF THE WORK TO PERMIT PROCESSING, INCLUDING RESUBMITTALS.

1. INITIAL REVIEW: ALLOW 7 DAYS FOR INITIAL REVIEW OF EACH SUBMITTAL EXCLUSIVE OF TRAVEL TIME. ALLOW ADDITIONAL TIME IF COORDINATION WITH SUBSEQUENT SUBMITTALS IS REQUIRED.
2. RESUBMITTAL REVIEW: ALLOW 7 DAYS FOR REVIEW OF EACH RESUBMITTAL EXCLUSIVE OF TRAVEL TIME.

D. PLACE A PERMANENT LABEL OR TITLE BLOCK ON EACH PAPER COPY SUBMITTAL ITEM FOR IDENTIFICATION. INDICATE NAME OF FIRM OR ENTITY THAT PREPARED EACH SUBMITTAL ON LABEL OR TITLE BLOCK.

E. INCLUDE THE FOLLOWING INFORMATION FOR PROCESSING AND RECORDING ACTION TAKEN:
1. PROJECT NAME.
2. DATE.
3. NAME OF ARCHITECT.
4. NAME OF ENGINEER.
5. NAME OF CONTRACTOR.
6. NAME OF SUBCONTRACTOR.
7. NAME OF SUPPLIER.
8. NAME OF MANUFACTURER.

F. CONTRACTOR'S REVIEW:
REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK OF THE CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO ARCHITECT/ENGINEER.
STAMP EACH SUBMITTAL WITH A UNIFORM, APPROVAL STAMP. PROVIDE A STATEMENT CERTIFYING THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND THE PHYSICAL SPACE LIMITATIONS AT THE SITE.
PROVIDE A STATEMENT CERTIFYING THAT SUBMITTAL HAS BEEN REVIEWED, CHECKED, AND APPROVED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND THE PHYSICAL SPACE LIMITATIONS AT THE SITE.
IF THE GENERAL CONTRACTOR IS DEFERRING THE ABOVE REQUIREMENTS TO THE SUBCONTRACTOR, THEN THE SUBCONTRACTOR MUST ALSO REVIEW, STAMP AND CERTIFY THE SUBMITTAL.

G. ENGINEER'S ACTION:
ENGINEER WILL NOT REVIEW SUBMITTALS THAT DO NOT BEAR CONTRACTOR'S APPROVAL STAMP AND WILL RETURN THEM.
ENGINEER WILL REVIEW EACH SUBMITTAL, NOTE CORRECTIONS OR MODIFICATIONS REQUIRED, AND RETURN IT. ENGINEER WILL PROVIDE SUBMITTAL WITH AN ACTION SHEET TO INDICATE ACTION.

REQUESTS FOR INFORMATION (RFI)

IMMEDIATELY ON DISCOVERY OF THE NEED FOR ADDITIONAL INFORMATION OR INTERPRETATION OF THE CONTRACT DOCUMENTS, CONTRACTOR SHALL PREPARE AND SUBMIT AN RFI IN THE FORM SPECIFIED.

1. ENGINEER WILL RETURN RFIS SUBMITTED TO ENGINEER BY OTHER ENTITIES CONTROLLED BY CONTRACTOR WITH NO RESPONSE.
2. COORDINATE AND SUBMIT RFIS IN A PROMPT MANNER SO AS TO AVOID DELAYS IN CONTRACTOR'S WORK OR WORK OF SUBCONTRACTORS.
3. INCLUDE A PROPOSED SOLUTION AS WELL AS INCLUDE A DETAILED, LEGIBLE DESCRIPTION OF ITEM NEEDING INFORMATION OR INTERPRETATION. INCLUDE SKETCHES, DESCRIPTIONS, MEASUREMENTS, PHOTOS, PRODUCT DATA, SHOP DRAWINGS, COORDINATION DRAWINGS, AND OTHER INFORMATION NECESSARY TO FULLY DESCRIBE ITEMS NEEDING INTERPRETATION.

RECORD DRAWINGS

A. WITHIN 90 DAYS OF COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, A COMPLETE SET OF "AS BUILT" DRAWINGS PORTRAYING ACTUAL SITE CONDITIONS OF THE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION WORK. SUBMISSION SHALL CONSIST OF ONE SET OF PAPER SEPIAS AND ONE SET OF CAD FILES IN AUTOCAD 2007 FORMAT. ENGINEER AND ARCHITECT SEALS AND LOGOS SHALL BE REMOVED FROM THE DRAWINGS AND THEY SHALL BE STAMPED "AS-BUILT DRAWINGS".

B. WITHIN 90 DAYS OF COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, A COMPLETE SET OF "O&M MANUALS". EQUIPMENT DATA, HVAC AIR AND WATER BALANCING REPORT, AND LIGHTING CONTROL TESTING REPORT FOR COMPLIANCE WITH CURRENT ENERGY CODE. THE CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION THAT ALL NEW MATERIALS AND COMPONENTS DO NOT CONTAIN ASBESTOS OR PCBS.

REQUIRED SUBMITTALS

A. PROVIDE FOUR BOUND PRODUCT DATA SUBMITTALS FOR THE NEW EQUIPMENT LISTED BELOW TO THE ARCHITECT/ENGINEER. EACH CONTRACTOR RESPONSIBLE FOR THE WORK SHALL REVIEW AND CERTIFY THE SUBMITTAL DATA TO BE IN FULL COMPLIANCE WITH THE CONTRACT DOCUMENTS AND THE PHYSICAL SPACE LIMITATIONS.
1. AIR HANDLING UNITS
2. FAN COIL UNITS
3. AIR DISTRIBUTION DEVICES
4. ELECTRICAL PANELS
5. ELECTRICAL TRANSFORMERS
6. LIGHTING FIXTURES
7. WIRING DEVICES
8. PLUMBING FIXTURES
9. AIR AND WATER BALANCE REPORTS
10. CIRCUIT DIRECTORY CARDS

MECHANICAL AND SERVICE WATER HEATING COMMISSIONING

A. ALL REQUIREMENTS SHALL BE PERFORMED PER THE CURRENTLY ADOPTED ENERGY CONSERVATION CODE IN THE AUTHORITY HAVING JURISDICTION. THE FOLLOWING IS NOT A COMPLETE LISTING.

B. SYSTEMS ADJUSTING AND BALANCING: HVAC SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS. AIR AND WATER FLOW RATES SHALL BE MEASURED AND ADJUSTED TO DELIVER FINAL FLOW RATES WITHIN TOLERANCES PROVIDED IN THE PRODUCT SPECIFICATIONS. TEST AND BALANCE ACTIVITIES SHALL INCLUDE AIR SYSTEM AND HYDRONIC SYSTEM BALANCING. THE FOLLOWING SYSTEMS ARE EXEMPT:
1. MECHANICAL SYSTEMS AND SERVICE WATER HEATER SYSTEMS IN BUILDINGS WHERE THE TOTAL MECHANICAL EQUIPMENT CAPACITY IS LESS THAN 480,000 BTUH COOLING CAPACITY AND 600,000 BTUH COMBINED SERVICE WATER HEATING AND SPACE HEATING CAPACITY.
2. SYSTEMS THAT SERVE INDIVIDUAL DWELLING UNITS AND SLEEPING UNITS.

C. AIR SYSTEMS BALANCING: EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING. DISCHARGE DAMPERS USED FOR AIR SYSTEM BALANCING ARE PROHIBITED ON CONSTANT VOLUME FANS AND VARIABLE VOLUME FANS WITH MOTORS 10 HP AND LARGER. AIR SYSTEMS SHALL BE BALANCED IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES. THEN, FOR FANS WITH SYSTEM POWER OF GREATER THAT 1 HP, FAN SPEED SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS. EXCEPTIONS: FANS WITH MOTORS OF 1 HP OR LESS ARE NOTE REQUIRED TO BE PROVIDED WITH A MEANS FOR AIR BALANCING.

D. HYDRONIC SYSTEM BALANCING: INDIVIDUAL HYDRONIC HEATING AND COOLING COILS SHALL BE EQUIPPED WITH A MEANS FOR BALANCING AND MEASURING FLOW. HYDRONIC SYSTEMS SHALL BE PROPORTIONATELY BALANCED IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES, THEN THE PUMP IMPELLER SHALL BE TRIMMED OR PUMP SPEED SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS. EACH HYDRONIC SYSTEM SHALL HAVE EITHER THE CAPABILITY TO MEASURE PRESSURE ACROSS THE PUMP, OR TEST PORTS AT EACH SIDE OF EACH PUMP. THE FOLLOWING EQUIPMENT IS NOT REQUIRED TO BE EQUIPPED WITH A MEANS FOR BALANCING OR MEASURING FLOW.
1. PUMPS WITH PUMP MOTORS OF 5 HP (3.7 KW) OR LESS.
2. WHERE THROTTLING RESULTS IN NO GREATER THAN 5 PERCENT OF THE NAMEPLATE HORSEPOWER DRAW ABOVE THAT REQUIRED IF THE IMPELLER WERE TRIMMED.

E. FUNCTIONAL PERFORMANCE TESTING. FUNCTIONAL PERFORMANCE TESTING SHALL BE CONDUCTED.
1. EQUIPMENT. EQUIPMENT FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THE INSTALLATION AND OPERATION OF COMPONENTS, SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS SUCH THAT OPERATION, FUNCTION, AND MAINTENANCE SERVICEABILITY FOR EACH OF THE COMMISSIONED SYSTEMS IS CONFIRMED. TESTING SHALL INCLUDE ALL MODES AND SEQUENCE OF OPERATION, INCLUDING UNDER FULL-LOAD, PART-LOAD AND THE FOLLOWING EMERGENCY CONDITIONS:
1.1. ALL MODES AS DESCRIBED IN THE SEQUENCE OF OPERATION.
1.2. REDUNDANT OR AUTOMATIC BACK-UP MODE.
1.3. PERFORMANCE OF ALARMS.
1.4. MODE OF OPERATION UPON A LOSS OF POWER AND RESTORATION OF POWER.
EXCEPTION: UNITARY OR PACKAGED HVAC EQUIPMENT THAT DO NOT REQUIRE SUPPLY AIR ECONOMIZERS.

F. CONTROLS. HVAC AND SERVICE WATER-HEATING CONTROL SYSTEMS SHALL BE TESTED TO DOCUMENT THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS ARE CALIBRATED AND ADJUSTED AND OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. SEQUENCES OF OPERATION SHALL BE FUNCTIONALLY TESTED TO DOCUMENT THEY OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS.

G. ECONOMIZERS. AIR ECONOMIZERS SHALL UNDERGO A FUNCTIONAL TEST TO DETERMINE THAT THEY OPERATE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

LIGHTING SYSTEM FUNCTIONAL TESTING

A. ALL REQUIREMENTS SHALL BE PERFORMED PER THE CURRENTLY ADOPTED ENERGY CONSERVATION CODE IN THE AUTHORITY HAVING JURISDICTION. THE FOLLOWING IS NOT A COMPLETE LISTING.

B. OCCUPANT SENSOR CONTROLS. WHERE OCCUPANT SENSOR CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
1. CERTIFY THAT THE OCCUPANT SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
2. FOR PROJECTS WITH SEVEN OR FEWER OCCUPANT SENSORS, EACH SENSOR SHALL BE TESTED.
3. FOR PROJECTS WITH MORE THAN SEVEN OCCUPANT SENSORS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY. WHERE MULTIPLES EXIST FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY ARE PROVIDED, NOT LESS THAN 10 PERCENT, BUT IN NO CASE LESS THAN ONE, OF EACH COMBINATION SHALL BE TESTED UNLESS THE CODE OFFICIAL OR DESIGN PROFESSIONAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED. WHERE 30 PERCENT OR MORE OF THE TESTED CONTROLS FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED. FOR OCCUPANT SENSOR CONTROLS TO BE TESTED, VERIFY THE FOLLOWING:
3.1. WHERE OCCUPANT SENSOR CONTROLS INCLUDE STATUS INDICATORS, VERIFY CORRECT OPERATION.
3.2. THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
3.3. FOR AUTO-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN AN OCCUPANT ENTERS THE SPACE.
3.4. FOR MANUAL-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
3.5. THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN ADJACENT AREAS OR BY HVAC OPERATION.

C. TIME-SWITCH CONTROLS. WHERE TIME-SWITCH CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
1. CONFIRM THAT THE TIME-SWITCH CONTROL IS PROGRAMMED WITH ACCURATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES.
2. PROVIDE DOCUMENTATION TO THE OWNER OF TIMESWITCH CONTROLS PROGRAMMING INCLUDING WEEKDAY, WEEKEND, HOLIDAY SCHEDULES, AND SET-UP AND PREFERENCE PROGRAM SETTINGS.
3. VERIFY THE CORRECT TIME AND DATE IN THE TIME SWITCH.
4. VERIFY THAT ANY BATTERY BACK-UP IS INSTALLED AND ENERGIZED.
5. VERIFY THAT THE OVERRIDE TIME LIMIT IS SET TO NOT MORE THAN 2 HOURS.
6. SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
6.1. ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
6.2. THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
7. SIMULATE UNOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
7.1. NONEXEMPT LIGHTING TURNS OFF.
7.2. MANUAL OVERRIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERRIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUTOFF OCCURS.
8. ADDITIONAL TESTING AS SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL.

D. DAYLIGHT RESPONSIVE CONTROLS. WHERE DAYLIGHT RESPONSIVE CONTROLS ARE PROVIDED, THE FOLLOWING SHALL BE VERIFIED:
1. CONTROL DEVICES HAVE BEEN PROPERLY LOCATED, FIELD CALIBRATED AND SET FOR ACCURATE SETPOINTS AND THRESHOLD LIGHT LEVELS.
2. DAYLIGHT CONTROLLED LIGHTING LOADS ADJUST TO LIGHT LEVEL SET POINTS IN RESPONSE TO AVAILABLE DAYLIGHT.
3. THE LOCATIONS OF CALIBRATION ADJUSTMENT EQUIPMENT ARE READILY ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL.

MECHANICAL SPECIFICATIONS

SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS

A. GENERAL FABRICATION REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE" BASED ON REQUIRED STATIC-PRESSURE CLASS UNLESS OTHERWISE INDICATED.

B. TRANSVERSE JOINTS: SELECT JOINT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE," FIGURE 2-1, "RECTANGULAR DUCT/TRANSVERSE JOINTS," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE."

C. LONGITUDINAL SEAMS: SELECT SEAM TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE," FIGURE 2-2, "RECTANGULAR DUCT/LONGITUDINAL SEAMS," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE."

D. ELBOWS, TRANSITIONS, OFFSETS, BRANCH CONNECTIONS, AND OTHER DUCT CONSTRUCTION: SELECT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE," CHAPTER 4, "FITTINGS AND OTHER CONSTRUCTION," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE."

SINGLE-WALL ROUND AND FLAT-OVAL DUCTS AND FITTINGS

A. GENERAL FABRICATION REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE," CHAPTER 3, "ROUND, OVAL, AND FLEXIBLE DUCT," BASED ON INDICATED STATIC-PRESSURE CLASS UNLESS OTHERWISE INDICATED.

B. FLAT-OVAL DUCTS: INDICATED DIMENSIONS ARE THE DUCT WIDTH (MAJOR DIMENSION) AND DIAMETER OF THE ROUND SIDES CONNECTING THE FLAT PORTIONS OF THE DUCT (MINOR DIMENSION).

C. TRANSVERSE JOINTS: SELECT JOINT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE," FIGURE 3-1, "ROUND DUCT TRANSVERSE JOINTS," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE."

D. LONGITUDINAL SEAMS: SELECT SEAM TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE," FIGURE 3-2, "ROUND DUCT LONGITUDINAL SEAMS," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE."

E. TEES AND LATERALS: SELECT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE," FIGURE 3-5, "90 DEGREE TEES AND LATERALS," AND FIGURE 3-6, "CONICAL TEES," FOR STATIC-PRESSURE CLASS, APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT-SUPPORT INTERVALS, AND OTHER PROVISIONS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE."

SHEET METAL DUCTWORK

A. GENERAL MATERIAL REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE" FOR ACCEPTABLE MATERIALS, MATERIAL THICKNESSES, AND DUCT CONSTRUCTION METHODS UNLESS OTHERWISE INDICATED. SHEET METAL MATERIALS SHALL BE FREE OF PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.

B. GALVANIZED SHEET STEEL: COMPLY WITH ASTM A 653/A 653M.

C. SUPPLY AND RETURN DUCTWORK SHALL BE EXTERNALLY INSULATED WITH EXTERNAL BLANKET INSULATION. DUCTWORK SHALL BE INTERNALLY LINED ONLY WHERE SPECIFICALLY INDICATED.

D. DUCTWORK SHALL BE SEALED AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION AND AS REQUIRED TO LIMIT LEAKAGE. LEAKAGE IN EXCESS OF 5% SHALL NOT BE ACCEPTABLE.

E. DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS.

F. THE INTERIOR SURFACE OF ALL DUCTWORK SHALL BE SMOOTH WITH NO SHEETMETAL OR OTHER PARTS PROJECTING INTO THE AIR STREAM. ALL SEAMS AND JOINTS SHALL BE EXTERNAL. THE INSIDE OF DUCTWORK SHALL BE THOROUGHLY CLEANED AND ALL FANS OPERATED TO REMOVE ANY DEBRIS PRIOR TO CONNECTION OF AIR DISTRIBUTION DEVICES.

G. ALL DUCTWORK DIMENSIONS ON THE DRAWINGS ARE CLEAR INSIDE

H. INSTALL ALL DUCTWORK TIGHT TO STRUCTURE UNLESS OTHERWISE NOTED. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES PRIOR TO THE CONSTRUCTION OR INSTALLATION OF DUCTWORK.

I. ALL TRANSVERSE JOINTS SHALL BE SEALED WITH A WATER BASE ADHESIVE SEALER DESIGNED FOR USE IN MEDIUM VELOCITY DUCT SYSTEMS. SEALER SHALL BE EFFECTIVE AGAINST BOTH NEGATIVE AND POSITIVE PRESSURE LOSSES. SEALER SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS. APPLY LOW-PENNED WITH BRUSH, TROWEL OR CAULKING GUN AS PER THE MANUFACTURER'S RECOMMENDATIONS AND ALLOW TO DRY FOR A MINIMUM OF 48 HOURS BEFORE AIR IS APPLIED TO THE SYSTEM. SEALER SHALL BE "IRON GRIP WATER BASE DUCT SEALANT #601" AS MANUFACTURED BY HARDCAST, INC., UNI-GRIP AS MANUFACTURED BY UNITED MCGILL, OR AN APPROVED EQUAL.

J. ALL ROUND TAKE-OFFS SHALL BE MADE WITH A DAMPER EXTRACTOR SPIN-IN COLLAR. SPIN-INS SHALL BE INSTALLED WITH THEIR DAMPER AXIS PARALLEL TO AIR FLOW.

K. ALL DUCTWORK SUPPORTS SHALL BE PER TABLE 5-1 OF THE SMACNA MANUAL WITH ALL SUPPORTS DIRECTLY ANCHORED TO THE BUILDING STRUCTURE. SUPPORTS SHALL BE ON MAXIMUM 8'-0" CENTERS WITH ADDITIONAL SUPPORTS AS REQUIRED TO PREVENT SAGGING.

L. FLEXIBLE DUCT FABRIC CONNECTIONS SHALL BE INSTALLED ON THE INLET AND OUTLET CONNECTIONS TO ALL POWERED AIR MOVING EQUIPMENT WHICH IS NOT CONNECTED WITH FLEXIBLE DUCT. A MINIMUM OF 1" OF SLACK SHALL BE ALLOWED IN ALL FLEXIBLE CONNECTIONS TO INSURE VIBRATION ISOLATION. FLEXIBLE FABRIC SHALL BE A MINIMUM OF 3 INCHES WIDE WITH "GRIP-LOC" SEAM TO 24 GAUGE GALVANIZED METAL SIDE CONNECTORS A MINIMUM OF 3 INCHES WIDE EACH. FLEXIBLE CONNECTION ARE TO FABRICATED WITH ELGEN "ZIPPERLOCK" #ZLN-4 NEOPRENE COATED 30 OZ. FIBERGLASS WITH 24 GAUGE GALVANIZED IRON SIDE CONNECTORS, OR DURO DYNE EXCELON "METAL-FAB" VINYL COATED 22 OZ. NYLON WITH 24 GAUGE GALVANIZED IRON SIDE CONNECTORS OR "APPROVED EQUAL".

M. INSTALL MANUAL SPLITTER DAMPERS IN BRANCH TAKE-OFFS WHERE SHOWN. SPLITTER DAMPERS SHALL BE MINIMUM 16 GAUGE GALVANIZED SHEET METAL AND SHALL BE 3/4 OF THE WIDTH OF THE SMALLEST TAKE-OFF BUT NO LESS THAN 6" LONG. DAMPERS SHALL HAVE 1/8" OF CLEARANCE TO THE DUCT IN WHICH THEY ARE INSTALLED. SPLITTER DAMPERS SHALL BE CONTROLLED BY ONE OR MORE CONTROL RODS IN ACCORDANCE WITH FIG. 2-5 OF THE SMACNA MANUAL. WHERE SPLITTERS ARE IN CONCEALED INACCESSIBLE LOCATIONS, SUBMIT PROPOSED CONTROL ROD DETAILS FOR APPROVAL.

N. DUCTWORK WHICH IS EXPOSED TO WEATHER SHALL HAVE SOLDERED JOINTS AND SEAMS AND SHALL BE PAINTED WITH A SUITABLE EPOXY COATING.

HVAC FILTRATION AND AIR QUALITY

A. UNO, EACH NEW EQUIPMENT SHALL BE PROVID

PLUMBING SPECIFICATIONS

DOMESTIC WATER PIPING - COPPER TUBE AND FITTINGS

A. HARD COPPER TUBE: ASTM B 88, TYPE L (ASTM B 88M, TYPE B) WATER TUBE, DRAWN TEMPER.
   1. CAST-COPPER SOLDER-JOINT FITTINGS: ASME B16.18, PRESSURE FITTINGS.
   2. WROUGHT-COPPER SOLDER-JOINT FITTINGS: ASME B16.22, WROUGHT-COPPER PRESSURE FITTINGS.
   3. BRONZE FLANGES: ASME B16.24, CLASS 150, WITH SOLDER-JOINT ENDS.
   4. COPPER UNIONS: MSS SP-123, CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES, AND SOLDER-JOINT OR THREADED ENDS.

B. SOFT COPPER TUBE: ASTM B 88, TYPE K (ASTM B 88M, TYPE A) AND ASTM B 88, TYPE L (ASTM B 88M, TYPE B) WATER TUBE, ANNEALED TEMPER.
   COPPER SOLDER-JOINT FITTINGS: ASME B16.22, WROUGHT-COPPER PRESSURE FITTINGS.
   COPPER PRESSURE-SEAL-JOINT FITTINGS:
   MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
      1. NIBCO INC.
      2. MEGA, PLUMBING AND HEATING SYSTEMS.
   NPS 2 (DN 50) AND SMALLER: WROUGHT-COPPER FITTING WITH EPDM-RUBBER O-RING SEAL IN EACH END.
   NPS 3 AND NPS 4 (DN 80 AND DN 100): CAST-BRONZE OR WROUGHT-COPPER FITTING WITH EPDM-RUBBER O-RING SEAL IN EACH END.

C. DIELECTRIC FITTINGS
   GENERAL REQUIREMENTS: ASSEMBLY OF COPPER ALLOY AND FERROUS MATERIALS WITH SEPARATING NONCONDUCTIVE INSULATING MATERIAL. INCLUDE END CONNECTIONS COMPATIBLE WITH PIPES TO BE JOINED.

D. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DOMESTIC WATER PIPING. INDICATED LOCATIONS AND ARRANGEMENTS ARE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS.

E. INSTALL COPPER TUBING UNDER BUILDING SLAB ACCORDING TO CDA'S "COPPER TUBE HANDBOOK."

F. INSTALL SHUTOFF VALVE IMMEDIATELY UPSTREAM OF EACH DIELECTRIC FITTING.

G. INSTALL DOMESTIC WATER PIPING LEVEL WITH 0.125 PERCENT SLOPE DOWNWARD TOWARD DRAIN AND TRAP.

H. INSTALL PIPING CONCEALED FROM VIEW AND PROTECTED FROM PHYSICAL CONTACT BY BUILDING OCCUPANTS UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.

I. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.

J. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL, AND COORDINATE WITH OTHER SERVICES OCCUPYING THAT SPACE.

K. INSTALL PIPING ADJACENT TO EQUIPMENT AND SPECIALTIES TO ALLOW SERVICE AND MAINTENANCE.

L. INSTALL PIPING TO PERMIT VALVE SERVICING.

M. INSTALL NIPPLES, UNIONS, SPECIAL FITTINGS, AND VALVES WITH PRESSURE RATINGS THE SAME AS OR HIGHER THAN SYSTEM PRESSURE RATING USED IN APPLICATIONS BELOW UNLESS OTHERWISE INDICATED.

N. INSTALL PIPING FREE OF SAGS AND BENDS.

O. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.

P. INSTALL UNIONS IN COPPER TUBING AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT, MACHINE, AND SPECIALTY.

Q. INSTALL SLEEVES FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

R. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

S. INSTALL SHUTOFF VALVE CLOSE TO WATER MAIN ON EACH BRANCH AND RISER SERVING PLUMBING FIXTURES OR EQUIPMENT, ON EACH WATER SUPPLY TO EQUIPMENT, AND ON TO EACH WATER SUPPLY TO PLUMBING FIXTURES THAT DO NOT HAVE SUPPLY STOPS. USE BALL VALVES FOR PIPING NPS 2 (DN 50) AND SMALLER. USE GATE VALVES FOR PIPING NPS 2-1/2 (DN 65) AND LARGER.

T. HANGER AND SUPPORT INSTALLATION: SUPPORT VERTICAL PIPING AND TUBING AT BASE AND AT EACH FLOOR.

U. ROD DIAMETERS MAY BE REDUCED ONE SIZE FOR DOUBLE-ROD HANGERS, TO A MINIMUM OF 3/8 INCH (10 MM).

V. INSTALL HANGERS FOR COPPER TUBING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS:
   1. NPS 3/4 (DN 20) AND SMALLER: 60 INCHES (1500 MM) WITH 3/8-INCH (10-MM) ROD.
   2. NPS 1 AND NPS 1-1/4 (DN 25 AND DN 32): 72 INCHES (1800 MM) WITH 3/8-INCH (10-MM) ROD.
   3. NPS 1-1/2 AND NPS 2 (DN 40 AND DN 50): 96 INCHES (2400 MM) WITH 3/8-INCH (10-MM) ROD.
   4. NPS 2-1/2 (DN 65): 108 INCHES (2700 MM) WITH 1/2-INCH (13-MM) ROD.
   5. NPS 3 TO NPS 5 (DN 80 TO DN 125): 10 FEET (3 M) WITH 1/2-INCH (13-MM) ROD.
   6. NPS 6 (DN 150): 10 FEET (3 M) WITH 5/8-INCH (16-MM) ROD.
   7. NPS 8 (DN 200): 10 FEET (3 M) WITH 3/4-INCH (19-MM) ROD.

W. INSTALL SUPPORTS FOR VERTICAL COPPER TUBING EVERY 10 FEET (3 M).

X. FIELD QUALITY CONTROL PERFORM TESTS AND INSPECTIONS.
   PIPING INSPECTIONS:
   1. DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT HAS BEEN INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION.
   2. DURING INSTALLATION, NOTIFY AUTHORITIES HAVING JURISDICTION AT LEAST ONE DAY BEFORE INSPECTION MUST BE MADE. PERFORM TESTS SPECIFIED BELOW IN PRESENCE OF AUTHORITIES HAVING JURISDICTION:
   3. ROUGHING-IN INSPECTION: ARRANGE FOR INSPECTION OF PIPING BEFORE CONCEALING OR CLOSING-IN AFTER ROUGHING-IN AND BEFORE SETTING FIXTURES.
   4. FINAL INSPECTION: ARRANGE FINAL INSPECTION FOR AUTHORITIES HAVING JURISDICTION TO OBSERVE TESTS SPECIFIED BELOW AND TO ENSURE COMPLIANCE WITH REQUIREMENTS.
   5. REINSPECTION: IF AUTHORITIES HAVING JURISDICTION FIND THAT PIPING WILL NOT PASS TESTS OR INSPECTIONS, MAKE REQUIRED CORRECTIONS AND ARRANGE FOR REINSPECTION.
   6. REPORTS: PREPARE INSPECTION REPORTS AND HAVE THEM SIGNED BY AUTHORITIES HAVING JURISDICTION.

Y. PIPING TESTS:
   1. FILL DOMESTIC WATER PIPING. CHECK COMPONENTS TO DETERMINE THAT THEY ARE NOT UNDER BOUND AND THAT PIPING IS FULL OF WATER.
   2. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT A SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF PIPING TESTED.
   3. LEAVE NEW, ALTERED, EXTENDED, OR REPLACED DOMESTIC WATER PIPING UNCOVERED AND UNCONCEALED UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED.
   4. CAP AND SUBJECT PIPING TO STATIC WATER PRESSURE OF 50 PSIG (345 KPA) ABOVE OPERATING PRESSURE, WITHOUT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR FOUR HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
   5. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING OR PORTION THEREOF UNTIL SATISFACTORY RESULTS ARE OBTAINED.
   6. PREPARE REPORTS FOR TESTS AND FOR CORRECTIVE ACTION REQUIRED.

Z. DOMESTIC WATER PIPING WILL BE CONSIDERED DEFECTIVE IF IT DOES NOT PASS TESTS AND INSPECTIONS.

AA. PREPARE TEST AND INSPECTION REPORTS.

AB. CLEAN AND DISINFECT POTABLE AND NON-POTABLE DOMESTIC WATER PIPING AS FOLLOWS:

AC. PURGE NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED BEFORE USING.

AD. USE PURGING AND DISINFECTING PROCEDURES PRESCRIBED BY AUTHORITIES HAVING JURISDICTION IF METHODS ARE NOT PRESCRIBED, USE PROCEDURES DESCRIBED IN EITHER AWWA C651 OR AWWA C652 OR FOLLOW PROCEDURES DESCRIBED BELOW:
   1. FLUSH PIPING SYSTEM WITH CLEAN, POTABLE WATER UNTIL DIRTY WATER DOES NOT APPEAR AT OUTLETS.
   2. FLUSH SYSTEM WITH CLEAN, POTABLE WATER UNTIL NO CHLORINE IS IN WATER COMING FROM SYSTEM AFTER THE STANDING TIME.
   3. SUBMIT WATER SAMPLES IN STERILE BOTTLES TO AUTHORITIES HAVING JURISDICTION. REPEAT PROCEDURES IF BIOLOGICAL EXAMINATION SHOWS CONTAMINATION.

AE. UNDER-BUILDING-SLAB, DOMESTIC WATER PIPING, NPS 2 (DN 50) AND SMALLER, SHALL BE THE FOLLOWING:
   1. SOFT COPPER TUBE, ASTM B 88, TYPE L (ASTM B 88M, TYPE B); WROUGHT-COPPER SOLDER-JOINT FITTINGS; AND BRAZED JOINTS.

AF. ABOVEGROUND DOMESTIC WATER PIPING, NPS 2 (DN 50) AND SMALLER, SHALL BE THE FOLLOWING:
   1. HARD COPPER TUBE, ASTM B 88, TYPE L (ASTM B 88M, TYPE B); WROUGHT-COPPER SOLDER-JOINT FITTINGS; AND SOLDERED JOINTS.
   2. COOPER PRESS FITTING AT THE CONTRACTOR'S OPTION ON THE DOMESTIC HOT AND COLD WATER PIPING, COOLING COIL CONDENSATE DRAINS IN COPPER LINES 1/2" DIAMETER UP THROUGH 2-1/2" DIAMETER MECHANICAL PRESS (PRO-PRESS) JOINTS AND FITTINGS INCLUDING THE SMART CONNECTION FEATURE OPTION TO ENSURE THAT UNPRESSED FITTING WILL EASILY AND RELIABLY DETECTED DURING PRESSURE TESTING AS MANUFACTURER BY VEGA, NIBCO AND APOLLO PRESS WILL BE ACCEPTABLE PROVIDED THE FITTING MANUFACTURER'S RECOMMENDED CRIMPING TOOL WITH PROPERLY SIZED REPLACEABLE JAWS ARE UTILIZED RIGID TOOL COMPANY. INSTALLATION WILL BE IN ACCORDANCE WITH MANUFACTURER'S APPROVED PUBLISHED GUIDELINES.

AG. ABOVEGROUND DOMESTIC WATER PIPING, NPS 2-1/2 TO NPS 4 (DN 65 TO DN 100), SHALL BE OF THE FOLLOWING:
   1. HARD COPPER TUBE, ASTM B 88, TYPE L (ASTM B 88M, TYPE B); CAST-COPPER SOLDER-JOINT FITTINGS; AND SOLDERED JOINTS.
   2. GALVANIZED-STEEL PIPE; GROOVED-JOINT, GALVANIZED-STEEL-PIPE APPURTENANCES; AND GROOVED JOINTS.

AH. DRAWINGS INDICATE VALVE TYPES TO BE USED. WHERE SPECIFIC VALVE TYPES ARE NOT INDICATED, THE FOLLOWING REQUIREMENTS APPLY:
   1. SHUTOFF DUTY: USE BALL VALVES FOR PIPING NPS 2 (DN 50) AND SMALLER. USE GATE VALVES WITH FLANGED ENDS FOR PIPING NPS 2-1/2 (DN 65) AND LARGER.
   2. THROTTLING DUTY: USE BALL VALVES FOR PIPING NPS 2 (DN 50) AND SMALLER. USE BALL VALVES WITH FLANGED ENDS FOR PIPING NPS 2-1/2 (DN 65) AND LARGER.
   3. HOT-WATER CIRCULATION PIPING, BALANCING DUTY: CALIBRATED BALANCING VALVES.
   4. DRAIN DUTY: HOSE-END DRAIN VALVES.

AI. USE CHECK VALVES TO MAINTAIN CORRECT DIRECTION OF DOMESTIC WATER FLOW TO AND FROM EQUIPMENT.

AJ. IRON GROOVED-END VALVES MAY BE USED WITH GROOVED-END PIPING.

AK. WATER HAMMER ARRESTERS
   1. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
      A. AMTROL, INC.
      B. JOSAM COMPANY.
      C. MIFAB, INC.
      D. PPP INC.
      E. SIOUX CHIEF MANUFACTURING COMPANY, INC.
      F. SMITH, JAY R. MFG. CO.; DIVISION OF SMITH INDUSTRIES, INC.
      G. TYLER PIPE; WADE DIV.
      H. WATTS DRAINAGE PRODUCTS INC.
   2. STANDARD: ASSE 101 OR PDI--WH201.
   3. TYPE: COPPER TUBE WITH PISTON.
   4. SIZE: ASSE 1010, SIZES AA AND A THROUGH F OR PDI--WH 201, SIZES A THROUGH F.

   INSTALL WATER HAMMER ARRESTERS IN WATER PIPING ACCORDING TO PDI--WH 201.

   INSTALL AIR VENTS AT HIGH PINTS OF WATER PIPING. INSTALL DRAIN PIPING AND DISCHARGE ONTO FLOOR DRAIN.

SANITARY WASTE AND STORM PIPING

A. HUB-AND--SPIGOT, CAST--IRON SOIL PIPE AND FITTINGS
   PIPE AND FITTINGS: ASTM A 74, SERVICE CLASS(ES).
   GASKETS: ASTM C 564, RUBBER.

B. HUBLESS, CAST--IRON SOIL PIPE AND FITTINGS
   PIPE AND FITTINGS: ASTM A 888 OR CISPI 301.
   SOVENT STACK FITTINGS: ASME B16.45 OR ASSE 1043, HUBLESS, CAST--IRON AERATOR AND DEAERATOR DRAINAGE FITTINGS.
   CISPI, HUBLESS--PIPING COUPLINGS:
   MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
      1. ANACO--HUSKY, SD--4000.
      2. MIFAB, INC.
      3. MISSION RUBBER COMPANY; A DIVISION OF MCP INDUSTRIES, INC.
      4. CLAMP--ALL CORP.
      5. STANDARDS: ASTM C 1277 AND CISPI 310.
      6. DESCRIPTION: STAINLESS--STEEL CORRUGATED SHIELD WITH STAINLESS--STEEL BANDS AND TIGHTENING DEVICES; AND ASTM C 564, RUBBER SLEEVE WITH INTEGRAL CENTER PIPE STOP.

C. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS.

D. INSTALL PIPING IN CONCEALED LOCATIONS UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.

E. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.

F. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.

G. INSTALL PIPING TO PERMIT VALVE SERVICING.

H. INSTALL PIPING AT INDICATED SLOPES.

I. INSTALL PIPING FREE OF SAGS AND BENDS.

J. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.

K. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION.

L. MAKE CHANGES IN DIRECTION FOR SOIL AND WASTE DRAINAGE AND VENT PIPING USING APPROPRIATE BRANCHES, BENDS, AND LONG--SWEEP BENDS. SANITARY TEES AND SHORT--SWEEP 1/4 BENDS MAY BE USED ON VERTICAL STACKS IF CHANGE IN DIRECTION OF FLOW IS FROM HORIZONTAL TO VERTICAL. LONG--TURN, DOUBLE SANITARY--TEE--BRANCH AND 1/8--BEND FITTINGS IF TWO FIXTURES ARE INSTALLED BACK TO BACK OR SIDE BY SIDE WITH COMMON DRAIN PIPE. STRAIGHT TEES, ELBOWS, AND CROSSES MAY BE USED ON VENT LINES. DO NOT CHANGE DIRECTION OF FLOW MORE THAN 90 DEGREES. USE PROPER SIZE OF STANDARD INCREASERS AND REDUCERS IF PIPES OF DIFFERENT SIZES ARE CONNECTED. REDUCING SIZE OF DRAINAGE PIPING IN DIRECTION OF FLOW IS PROHIBITED.

M. LAY BURIED BUILDING DRAINAGE PIPING BEGINNING AT LOW POINT OF EACH SYSTEM. INSTALL TRUE TO GRADES AND ALIGNMENT INDICATED, WITH UNBROKEN CONTINUITY OF INVERT. PLACE HUB ENDS OF PIPING UPSTREAM. INSTALL REQUIRED GASKETS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS FOR USE OF LUBRICANTS, CEMENTS, AND OTHER INSTALLATION REQUIREMENTS. MAINTAIN SWAB IN PIPING AND PULL PAST EACH JOINT AS COMPLETED.

N. INSTALL SOIL AND WASTE DRAINAGE AND VENT PIPING AT THE FOLLOWING MINIMUM SLOPES UNLESS OTHERWISE INDICATED:
   1. BUILDING SANITARY DRAIN: 2 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 3 (DN 80) AND SMALLER; 1 PERCENT DOWNWARD IN DIRECTION OF FLOW FOR PIPING NPS 4 (DN 100) AND LARGER.
   2. HORIZONTAL SANITARY DRAINAGE PIPING: 1 PERCENT DOWNWARD IN DIRECTION OF FLOW.
   3. VENT PIPING: 1 PERCENT DOWN TOWARD VERTICAL FIXTURE VENT OR TOWARD VENT STACK.

O. INSTALL CAST--IRON SOIL PIPING ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK," CHAPTER IV, "INSTALLATION OF CAST IRON SOIL PIPE AND FITTINGS."

P. DO NOT ENCLOSE, COVER, OR PUT PIPING INTO OPERATION UNTIL IT IS INSPECTED AND APPROVED BY AUTHORITIES HAVING JURISDICTION.

Q. INSTALL SLEEVES FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

R. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

S. HANGER AND SUPPORT INSTALLATION
   COMPLY WITH REQUIREMENTS FOR PIPE HANGER AND SUPPORT DEVICES AND INSTALLATION.
   1. INSTALL CARBON--STEEL PIPE HANGERS FOR HORIZONTAL PIPING IN NONCORROSIVE ENVIRONMENTS.
   2. INSTALL STAINLESS--STEEL PIPE HANGERS FOR HORIZONTAL PIPING IN CORROSIVE ENVIRONMENTS.
   3. INSTALL CARBON--STEEL PIPE SUPPORT CLAMPS FOR VERTICAL PIPING IN NONCORROSIVE ENVIRONMENTS.
   4. INSTALL STAINLESS--STEEL PIPE SUPPORT CLAMPS FOR VERTICAL PIPING IN CORROSIVE ENVIRONMENTS.
   5. VERTICAL PIPING: MSS TYPE 8 OR TYPE 42, CLAMPS.
   6. INSTALL INDIVIDUAL, STRAIGHT, HORIZONTAL PIPING RUNS:
   7. 100 FEET (30 M) AND LESS: MSS TYPE 1, ADJUSTABLE, STEEL CLEVIS HANGERS.
   8. LONGER THAN 100 FEET (30 M): MSS TYPE 43, ADJUSTABLE ROLLER HANGERS.
   9. LONGER THAN 100 FEET (30 M) IF INDICATED: MSS TYPE 49, SPRING CUSHION ROLLS.
   10. MULTIPLE, STRAIGHT, HORIZONTAL PIPING RUNS 100 FEET (30 M) OR LONGER: MSS TYPE 44, PIPE ROLLS. SUPPORT PIPE ROLLS ON TRAPEZE.
   11. BASE OF VERTICAL PIPING: MSS TYPE 52, SPRING HANGERS.

T. SUPPORT HORIZONTAL PIPING AND TUBING WITHIN 12 INCHES (300 MM) OF EACH FITTING, VALVE, AND COUPLING.

U. SUPPORT VERTICAL PIPING AND TUBING AT BASE AND AT EACH FLOOR.

V. ROD DIAMETERS MAY BE REDUCED ONE SIZE FOR DOUBLE--ROD HANGERS, WITH 3/8--INCH (10--MM) MINIMUM RODS.

W. INSTALL HANGERS FOR CAST--IRON SOIL PIPING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS:
   1. NPS 1--1/2 AND NPS 2 (DN 40 AND DN 50): 60 INCHES (1500 MM) WITH 3/8--INCH (10--MM) ROD.
   2. NPS 3 (DN 80): 60 INCHES (1500 MM) WITH 1/2--INCH (13--MM) ROD.
   3. NPS 4 AND NPS 5 (DN 100 AND DN 125): 60 INCHES (1500 MM) WITH 5/8--INCH (16--MM) ROD.
   4. NPS 6 AND NPS 8 (DN 150 AND DN 200): 60 INCHES (1500 MM) WITH 3/4--INCH (19--MM) ROD.
   5. INSTALL SUPPORTS FOR VERTICAL CAST--IRON SOIL PIPING EVERY 15 FEET (4.5 M).

X. DURING INSTALLATION, NOTIFY AUTHORITIES HAVING JURISDICTION AT LEAST 24 HOURS BEFORE INSPECTION MUST BE MADE. PERFORM TESTS SPECIFIED BELOW IN PRESENCE OF AUTHORITIES HAVING JURISDICTION.
   ROUGHING--IN INSPECTION: ARRANGE FOR INSPECTION OF PIPING BEFORE CONCEALING OR CLOSING--IN AFTER ROUGHING--IN AND BEFORE SETTING FIXTURES.
   FINAL INSPECTION: ARRANGE FOR FINAL INSPECTION BY AUTHORITIES HAVING JURISDICTION TO OBSERVE TESTS SPECIFIED BELOW AND TO ENSURE COMPLIANCE WITH REQUIREMENTS.

Y. REINSPECTION: IF AUTHORITIES HAVING JURISDICTION FIND THAT PIPING WILL NOT PASS TEST OR INSPECTION, MAKE REQUIRED CORRECTIONS AND ARRANGE FOR REINSPECTION.

Z. REPORTS: PREPARE INSPECTION REPORTS AND HAVE THEM SIGNED BY AUTHORITIES HAVING JURISDICTION.

AA. TEST SANITARY DRAINAGE AND VENT PIPING ACCORDING TO PROCEDURES OF AUTHORITIES HAVING JURISDICTION OR, IN ABSENCE OF PUBLISHED PROCEDURES, AS FOLLOWS:
   1. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED. IF TESTING IS PERFORMED IN SEGMENTS, SUBMIT SEPARATE REPORT FOR EACH TEST, COMPLETE WITH DIAGRAM OF PORTION OF PIPING TESTED.
   2. LEAVE UNCOVERED AND UNCONCEALED NEW, ALTERED, EXTENDED, OR REPLACED DRAINAGE AND VENT PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED.
   3. ROUGHING--IN PLUMBING TEST PROCEDURE: TEST DRAINAGE AND VENT PIPING EXCEPT OUTSIDE LEADERS ON COMPLETION OF ROUGHING--IN. CLOSE OPENINGS IN PIPING SYSTEM AND FILL WITH WATER TO POINT OF OVERFLOW, BUT NOT LESS THAN 10--FOOT HEAD OF WATER (30 KPA). FROM 15 MINUTES BEFORE INSPECTION STARTS TO COMPLETION OF INSPECTION, WATER LEVEL MUST NOT DROP. INSPECT JOINTS FOR LEAKS.
   4. FINISHED PLUMBING TEST PROCEDURE: AFTER PLUMBING FIXTURES HAVE BEEN SET AND TRAPS FILLED WITH WATER, TEST CONNECTIONS AND PROVE THEY ARE GASTIGHT AND WATERTIGHT. PLUG VENT--STACK OPENINGS ON ROOF AND BUILDING DRAINS WHERE THEY LEAVE BUILDING. INTRODUCE AIR INTO PIPING SYSTEM EQUAL TO PRESSURE OF (25 MM) (1 INCH (PA). USE U--TUBE OR MANOMETER INSERTED IN TRAP OF WATER CLOSET TO MEASURE THIS PRESSURE. AIR PRESSURE MUST REMAIN CONSTANT WITHOUT INTRODUCING ADDITIONAL AIR THROUGHOUT PERIOD OF INSPECTION. INSPECT PLUMBING FIXTURE CONNECTIONS FOR GAS AND WATER LEAKS.
   5. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING, OR PORTION THEREOF, UNTIL SATISFACTORY RESULTS ARE OBTAINED.

AB. CAP AND SUBJECT PIPING TO STATIC--WATER PRESSURE OF 50 PSIG (345 KPA) ABOVE OPERATING PRESSURE, WITHOUT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR FOUR HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.

AC. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING, OR PORTION THEREOF, UNTIL SATISFACTORY RESULTS ARE OBTAINED.

AD. PREPARE REPORTS FOR TESTS AND REQUIRED CORRECTIVE ACTION.

AF. ABOVEGROUND, SOIL AND WASTE PIPING 6" AND SMALLER SHALL BE ANY OF THE FOLLOWING:
   1. SERVICE CLASS, CAST--IRON SOIL PIPE AND FITTINGS; GASKETS; AND GASKETED JOINTS.
   2. HUBLESS, CAST--IRON SOIL PIPE AND FITTINGS HEAVY--DUTY HUBLESS--PIPING COUPLINGS; AND COUPLED JOINTS.

AG. ABOVEGROUND, SOIL AND WASTE PIPING 8" AND LARGER SHALL BE ANY OF THE FOLLOWING:
   1. SERVICE WEIGHT(SV) HUB AND SPIGOT CAST IRON SOIL PIPE FITTINGS

AH. ABOVEGROUND, VENT PIPING 6" AND SMALLER SHALL BE ANY OF THE FOLLOWING:
   1. HUBLESS, CAST--IRON SOIL PIPE AND FITTINGS; CISPI HUBLESS--PIPING COUPLINGS; AND COUPLED JOINTS.

AI. ABOVEGROUND, VENT PIPING 8" AND LARGER SHALL BE ANY OF THE FOLLOWING:
   1. SERVICE CLASS, CAST--IRON SOIL PIPE AND FITTINGS; GASKETS; AND GASKETED JOINTS.

AJ. UNDERGROUND, SOIL, WASTE, AND VENT PIPING 15" AND SMALLER SHALL BE ANY OF THE FOLLOWING:
   1. SERVICE CLASS, CAST--IRON SOIL PIPE AND FITTINGS; GASKETS; AND GASKETED JOINTS
   2. SOLID WALL PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT--CEMENTED JOINTS

CLEANOUTS

A. EXPOSED METAL CLEANOUTS:
   MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   1. JOSAM COMPANY; JOSAM DIV.
   2. MIFAB, INC.
   3. SMITH, JAY R. MFG. CO.; DIVISION OF SMITH INDUSTRIES, INC.
   4. TYLER PIPE; WADE DIV.
   5. ZURN PLUMBING PRODUCTS GROUP; SPECIFICATION DRAINAGE OPERATION.
   STANDARD: ASME A112.36.2M FOR CAST IRON FOR CLEANOUT TEST TEE.
   SIZE: SAME AS CONNECTED DRAINAGE PIPING
   BODY MATERIAL: HUB--AND--SPIGOT, CAST--IRON SOIL PIPE T--BRANCH AS REQUIRED TO MATCH CONNECTED PIPING.
   CLOSURE: COUNTERSUNK PLUG.
   CLOSURE PLUG SIZE: SAME AS OR NOT MORE THAN ONE SIZE SMALLER THAN CLEANOUT SIZE.
   CLOSURE: STAINLESS--STEEL PLUG WITH SEAL.

B. METAL FLOOR CLEANOUTS:
   MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   1. JOSAM COMPANY; JOSAM DIV.
   2. SMITH, JAY R. MFG. CO.; DIVISION OF SMITH INDUSTRIES, INC.
   3. TYLER PIPE; WADE DIV.
   4. A. MIFAB, INC.
   STANDARD: ASME A112.36.2M FOR THREADED, ADJUSTABLE HOUSING CLEANOUT.
   SIZE: SAME AS CONNECTED BRANCH.
   TYPE: ADJUSTABLE HOUSING THREADED, ADJUSTABLE HOUSING.
   BODY OR FERRULE: CAST IRON.
   CLAMPING DEVICE: NOT REQUIRED.
   OUTLET CONNECTION: THREADED.
   CLOSURE: BRASS PLUG WITH STRAIGHT THREADS AND GASKET.
   ADJUSTABLE HOUSING MATERIAL: CAST IRON WITH SET--SCREWS OR OTHER DEVICE.
   FRAME AND COVER MATERIAL AND FINISH: ROUGH BRONZE.
   FRAME AND COVER SHAPE: ROUND.
   TOP LOADING CLASSIFICATION: LIGHT DUTY.
   RISER: ASTM A 74, SERVICE CLASS, CAST--IRON DRAINAGE PIPE FITTING AND RISER TO CLEANOUT.
   STANDARD: ASME A112.3.1.
   SIZE: SAME AS CONNECTED BRANCH.
   HOUSING: STAINLESS STEEL.
   CLOSURE: STAINLESS STEEL WITH SEAL.
   RISER: STAINLESS--STEEL DRAINAGE PIPE FITTING TO CLEANOUT.

C. CAST--IRON WALL CLEANOUTS:
   MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
   1. JOSAM COMPANY; JOSAM DIV.
   2. MIFAB, INC.
   3. SMITH, JAY R. MFG. CO.; DIVISION OF SMITH INDUSTRIES, INC.
   4. TYLER PIPE; WADE DIV.
   5. ZURN PLUMBING PRODUCTS GROUP; SPECIFICATION DRAINAGE OPERATION.
   STANDARD: ASME A112.36.2M. INCLUDE WALL ACCESS.
   SIZE: SAME AS CONNECTED DRAINAGE PIPING.
   BODY: HUB--AND--SPIGOT, CAST--IRON SOIL PIPE T--BRANCH AS REQUIRED TO MATCH CONNECTED PIPING.
   CLOSURE: COUNTERSUNK OR RAISED--HEAD, BRASS PLUG.
   CLOSURE PLUG SIZE: SAME AS OR NOT MORE THAN ONE SIZE SMALLER THAN CLEANOUT SIZE.
   WALL ACCESS: ROUND, STAINLESS--STEEL COVER PLATE WITH SCREW.
   WALL ACCESS: ROUND, STAINLESS--STEEL WALL--INSTALLATION FRAME AND COVER.

D. INSTALL CLEANOUTS IN ABOVEGROUND PIPING AND BUILDING DRAIN PIPING ACCORDING TO THE FOLLOWING, UNLESS OTHERWISE INDICATED:
   1. SIZE SAME AS DRAINAGE PIPING UP TO NPS 4 (DN 100). USE NPS 4 (DN 100) FOR LARGER DRAINAGE PIPING UNLESS LARGER CLEANOUT IS INDICATED.
   2. LOCATE AT EACH CHANGE IN DIRECTION OF PIPING GREATER THAN 45 DEGREES.
   3. LOCATE AT MINIMUM INTERVALS OF 50 FEET (15 M) FOR PIPING NPS 4 (DN 100) AND SMALLER AND 100 FEET (30 M) FOR LARGER PIPING.
   4. LOCATE AT BASE OF EACH VERTICAL SOIL AND WASTE STACK.

E. FOR FLOOR CLEANOUTS FOR PIPING BELOW FLOORS, INSTALL CLEANOUT DECK PLATES WITH TOP FLUSH WITH FINISHED FLOOR.

F. FOR CLEANOUTS LOCATED IN CONCEALED PIPING, INSTALL CLEANOUT WALL ACCESS COVERS, OF TYPES INDICATED, WITH FRAME AND COVER FLUSH WITH FINISHED WALL.

G. INSTALL FLOOR DRAINS AT LOW POINTS OF SURFACE AREAS TO BE DRAINED. SET GRATES OF DRAINS FLUSH WITH FINISHED FLOOR, UNLESS OTHERWISE INDICATED.

H. INSTALL ROOF FLASHING ASSEMBLIES

ELECTRICAL SPECIFICATIONS

ELECTRICAL CONDUCTORS

A. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
ALCAN PRODUCTS CORPORATION; ALCAN CABLE DIVISION.
AMERICAN INSULATED WIRE CORP.; A LEVITON COMPANY.
GENERAL CABLE CORPORATION.
SENATOR WIRE & CABLE COMPANY.
SOUTHWIRE COMPANY.
COPPER CONDUCTORS: COMPLY WITH NEMA WC 70.
CONDUCTOR INSULATION: COMPLY WITH NEMA WC 70 FOR TYPES THW, THHN-THWN, XHHW, UF, USE, AND SO.
MULTICONDUCTOR CABLE: COMPLY WITH NEMA WC 70 FOR ARMORED CABLE, TYPE AC, METAL-CLAD CABLE, TYPE MC ,TYPE SO, AND TYPE USE WITH GROUND WIRE.

B. CONDUCTOR MATERIAL APPLICATIONS:
COPPER: SOLID FOR NO. 10 AWG AND SMALLER; STRANDED FOR NO. 8 AWG AND LARGER.

C. CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS
1. SERVICE ENTRANCE: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY, TYPE SE OR USE MULTICONDUCTOR CABLE.
2. EXPOSED FEEDERS: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY.
3. FEEDERS CONCEALED IN CEILINGS, WALLS, PARTITIONS, AND CRAWLSPACES: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY.
4. FEEDERS CONCEALED IN CONCRETE, BELOW SLABS-ON-GRADE, AND UNDERGROUND: YPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY.
5. FEEDERS INSTALLED BELOW RAISED FLOORING: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY.
6. EXPOSED BRANCH CIRCUITS, INCLUDING IN CRAWLSPACES: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY, METAL-CLAD CABLE, TYPE MC .
7. BRANCH CIRCUITS CONCEALED IN CEILINGS, WALLS, AND PARTITIONS: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY, ARMORED CABLE, TYPE AC, METAL-CLAD CABLE, TYPE MC .
8. BRANCH CIRCUITS CONCEALED IN CONCRETE, BELOW SLABS-ON-GRADE, AND UNDERGROUND: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY.
9. BRANCH CIRCUITS INSTALLED BELOW RAISED FLOORING: TYPE THHN-THWN, SINGLE CONDUCTORS IN RACEWAY OR ARMORED CABLE, TYPE AC, METAL-CLAD CABLE, TYPE MC.
10. BRANCH CIRCUITS INSTALLED IN PATIENT CARE AREAS: TYPE HCF-MCAP OR AC-HCF WITH ASSEMBLY CERTIFIED AS AN EQUIPMENT GROUNDING CONDUCTOR AND A GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR CONNECTED TO ALL RECEPTACLES, METALLIC BOXES CONTAINING RECEPTACLES, AND ALL METALLIC EQUIPMENT CASINGS.

GROUNDING

A. INSULATED CONDUCTORS: COPPER WIRE OR CABLE INSULATED FOR 600 V UNLESS OTHERWISE REQUIRED BY APPLICABLE CODE OR AUTHORITIES HAVING JURISDICTION.

B. BARE COPPER CONDUCTORS:
1. SOLID CONDUCTORS: ASTM B 3.
2. STRANDED CONDUCTORS: ASTM B 8.
3. BONDING CABLE: 28 KCMIL, 14 STRANDS OF NO. 17 AWG CONDUCTOR, 1/4 INCH (6 MM) IN DIAMETER.
4. BONDING CONDUCTOR: NO. 4 OR NO. 6 AWG, STRANDED CONDUCTOR.
5. BONDING JUMPER: COPPER TAPE, BRAIDED CONDUCTORS TERMINATED WITH COPPER FERRULES; 1-5/8 INCHES (41 MM) WIDE AND 1/16 INCH (1.6 MM) THICK.

C. GROUNDING BUS: PREDRILLED RECTANGULAR BARS OF ANNEALED COPPER, 1/4 BY 4 INCHES (6.3 BY 100 MM) IN CROSS SECTION, WITH 9/32-INCH (7.14-MM) HOLES SPACED 1-1/8 INCHES (28 MM) APART. STAND-OFF INSULATORS FOR MOUNTING SHALL COMPLY WITH UL 891 FOR USE IN SWITCHBOARDS, 600 V. LEXAN, IMPULSE TESTED AT 5000 V.

D. CONNECTORS:LISTED AND LABELED BY AN NRTL ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION FOR APPLICATIONS IN WHICH USED AND FOR SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS CONNECTED.

E. BOLTED CONNECTORS FOR CONDUCTORS AND PIPES: COPPER OR COPPER ALLOY, PRESSURE TYPE WITH AT LEAST TWO BOLTS.
PIPE CONNECTORS: CLAMP TYPE, SIZED FOR PIPE.

F. WELDED CONNECTORS: EXOTHERMIC-WELDING KITS OF TYPES RECOMMENDED BY KIT MANUFACTURER FOR MATERIALS BEING JOINED AND INSTALLATION CONDITIONS.

G. BUS-BAR CONNECTORS: MECHANICAL TYPE, CAST SILICON BRONZE, SOLDERLESS COMPRESSION-TYPE WIRE TERMINALS, AND LONG-BARREL, TWO-BOLT CONNECTION TO GROUND BUS BAR.

H. CONDUCTORS: INSTALL SOLID CONDUCTOR FOR NO. 8 AWG AND SMALLER, AND STRANDED CONDUCTORS FOR NO. 6 AWG AND LARGER UNLESS OTHERWISE INDICATED.

I. ISOLATED GROUNDING CONDUCTORS: GREEN-COLORED INSULATION WITH CONTINUOUS YELLOW STRIPE. ON FEEDERS WITH ISOLATED GROUND, IDENTIFY GROUNDING CONDUCTOR WHERE VISIBLE TO NORMAL INSPECTION, WITH ALTERNATING BANDS OF GREEN AND YELLOW TAPE, WITH AT LEAST THREE BANDS OF GREEN AND TWO BANDS OF YELLOW.

J. CONDUCTOR TERMINATIONS AND CONNECTIONS:
PIPE AND EQUIPMENT GROUNDING CONDUCTOR TERMINATIONS: BOLTED CONNECTORS.
UNDERGROUND CONNECTIONS: WELDED CONNECTORS EXCEPT AT TEST WELLS AND AS OTHERWISE INDICATED. CONNECTIONS TO GROUND RODS AT TEST WELLS: BOLTED CONNECTORS. CONNECTIONS TO STRUCTURAL STEEL: WELDED CONNECTORS.

K. EQUIPMENT GROUNDING:
INSTALL INSULATED EQUIPMENT GROUNDING CONDUCTORS TO COMPLY WITH THE NEC AND AS INDICATED ON THE DRAWINGS.

ELECTRICAL HANGERS AND SUPPORTS

A. COMPLY WITH NECA 1 AND NECA 101 FOR APPLICATION OF HANGERS AND SUPPORTS FOR ELECTRICAL EQUIPMENT AND SYSTEMS EXCEPT IF REQUIREMENTS IN THIS SECTION ARE STRICTER. MAXIMUM SUPPORT SPACING AND MINIMUM HANGER ROD SIZE FOR RACEWAY: SPACE SUPPORTS FOR EMT, IMC, AND RMC AS SCHEDULED IN NECA 1, WHERE ITS TABLE 1 LISTS MAXIMUM SPACINGS LESS THAN STATED IN NFPA 70. MINIMUM ROD SIZE SHALL BE 1/4 INCH (6 MM) IN DIAMETER. MULTIPLE RACEWAYS OR CABLES: INSTALL TRAPEZE-TYPE SUPPORTS FABRICATED WITH STEEL SLOTTED OR OTHER SUPPORT SYSTEM, SIZED SO CAPACITY CAN BE INCREASED BY AT LEAST 25 PERCENT IN FUTURE WITHOUT EXCEEDING SPECIFIED DESIGN LOAD LIMITS. SECURE RACEWAYS AND CABLES TO THESE SUPPORTS WITH TWO-BOLT CONDUIT CLAMPS. SPRING-STEEL CLAMPS DESIGNED FOR SUPPORTING SINGLE CONDUITS WITHOUT BOLTS MAY BE USED FOR 1-1/2-INCH (38-MM) AND SMALLER RACEWAYS SERVING BRANCH CIRCUITS AND COMMUNICATION SYSTEMS ABOVE SUSPENDED CEILINGS AND FOR FASTENING RACEWAYS TO TRAPEZE SUPPORTS.

B. SUPPORT INSTALLATION: COMPLY WITH NECA 1 AND NECA 101 FOR INSTALLATION REQUIREMENTS EXCEPT AS SPECIFIED IN THIS ARTICLE.

C. RACEWAY SUPPORT METHODS: IN ADDITION TO METHODS DESCRIBED IN NECA 1, EMT, IMC, AND RMC MAY BE SUPPORTED BY OPENINGS THROUGH STRUCTURE MEMBERS, AS PERMITTED IN NFPA 70.

D. STRENGTH OF SUPPORT ASSEMBLIES: WHERE NOT INDICATED, SELECT SIZES OF COMPONENTS SO STRENGTH WILL BE ADEQUATE TO CARRY PRESENT AND FUTURE STATIC LOADS WITHIN SPECIFIED LOADING LIMITS. MINIMUM STATIC DESIGN LOAD USED FOR STRENGTH DETERMINATION SHALL BE WEIGHT OF SUPPORTED COMPONENTS PLUS 200 LB (90 KG).

E. MOUNTING AND ANCHORAGE OF SURFACE-MOUNTED EQUIPMENT AND COMPONENTS: ANCHOR AND FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTS TO BUILDING STRUCTURAL ELEMENTS BY THE FOLLOWING METHODS UNLESS OTHERWISE INDICATED BY CODE:
1. TO WOOD: FASTEN WITH LAG SCREWS OR THROUGH BOLTS.
2. TO NEW CONCRETE: BOLT TO CONCRETE INSERTS.
3. TO MASONRY: APPROVED TOGGLE-TYPE BOLTS ON HOLLOW MASONRY UNITS AND EXPANSION ANCHOR FASTENERS ON SOLID MASONRY UNITS.
4. TO EXISTING CONCRETE: EXPANSION ANCHOR FASTENERS.
5. INSTEAD OF EXPANSION ANCHORS, POWDER-ACTUATED DRIVEN THREADED STUDS PROVIDED WITH LOCK WASHERS AND NUTS MAY BE USED IN EXISTING STANDARD-WEIGHT CONCRETE 4 INCHES (100 MM) THICK OR GREATER. DO NOT USE FOR ANCHORAGE TO LIGHTWEIGHT-AGGREGATE CONCRETE OR FOR SLABS LESS THAN 4 INCHES (100 MM) THICK.
6. TO STEEL: WELDED THREADED STUDS COMPLYING WITH AWS D1.1/D1.1M, WITH LOCK WASHERS AND NUTS OR BEAM CLAMPS (MSS TYPE 19, 21, 23, 25, OR 27) COMPLYING WITH MSS SP-69.
7. TO LIGHT STEEL: SHEET METAL SCREWS.
8. DRILL HOLES FOR EXPANSION ANCHORS IN CONCRETE AT LOCATIONS AND TO DEPTHS THAT AVOID REINFORCING BARS.

ELECTRICAL CONDUIT

A. METAL CONDUIT AND TUBING
MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. AFC CABLE SYSTEMS, INC.
2. ALFLEX INC.
3. ALLIED TUBE & CONDUIT; A TYCO INTERNATIONAL LTD. CO.
4. ANAMET ELECTRICAL, INC.; ANACONDA METAL HOSE.
5. ELECTRI-FLEX CO.
6. MAVERICK TUBE CORPORATION.
7. O-Z GEDNEY; A UNIT OF GENERAL SIGNAL.
8. WHEATLAND TUBE COMPANY.

B. RIGID STEEL CONDUIT: ANSI C80.1.
C. ALUMINUM RIGID CONDUIT: ANSI C80.5.
D. IMC: ANSI C80.6.
E. PVC-COATED STEEL CONDUIT: PVC-COATED RIGID STEEL CONDUIT.
F. COMPLY WITH NEMA RN 1.
G. COATING THICKNESS: 0.040 INCH (1 MM), MINIMUM.
H. EMT: ANSI C80.3.
I. FMC: ZINC-COATED STEEL.
J. LFMC: FLEXIBLE STEEL CONDUIT WITH PVC JACKET.
K. FITTINGS FOR CONDUIT (INCLUDING ALL TYPES AND FLEXIBLE AND LIQUIDTIGHT), EMT, AND CABLE: NEMA FB 1; LISTED FOR TYPE AND SIZE RACEWAY WITH WHICH USED, AND FOR APPLICATION AND ENVIRONMENT IN WHICH INSTALLED.
1. FITTINGS FOR EMT: STEEL SET-SCREW OR COMPRESSION TYPE. DIE-CAST IS NOT ACCEPTABLE.
2. COATING FOR FITTINGS FOR PVC-COATED CONDUIT: MINIMUM THICKNESS, 0.040 INCH (1 MM), WITH OVERLAPPING SLEEVES PROTECTING THREADED JOINTS.

L. JOINT COMPOUND FOR RIGID STEEL CONDUIT OR IMC: LISTED FOR USE IN CABLE CONNECTOR ASSEMBLIES, AND COMPOUNDED FOR USE TO LUBRICATE AND PROTECT THREADED RACEWAY JOINTS FROM CORROSION AND ENHANCE THEIR CONDUCTIVITY.
M. SURFACE METAL RACEWAYS: GALVANIZED STEEL WITH SNAP-ON COVERS. MANUFACTURER'S STANDARD ENAMEL FINISH IN COLOR SELECTED BY ARCHITECT.
MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. THOMAS & BETTS CORPORATION.
2. WALKER SYSTEMS, INC.; WIREMOLD COMPANY (THE).
3. WIREMOLD COMPANY (THE); ELECTRICAL SALES DIVISION.

N. BOXES, ENCLOSURES, AND CABINETS:
MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
1. COOPER CROUSE-HINDS; DIV. OF COOPER INDUSTRIES, INC.
2. EGS/APPLETON ELECTRIC.
3. HOFFMAN.
4. HUBBELL INCORPORATED; KILLARK ELECTRIC MANUFACTURING CO. DIVISION.
5. O-Z/GEDNEY; A UNIT OF GENERAL SIGNAL.
6. RACO; A HUBBELL COMPANY.
7. ROBROY INDUSTRIES, INC.; ENCLOSURE DIVISION.
8. THOMAS & BETTS CORPORATION.
9. WALKER SYSTEMS, INC.; WIREMOLD COMPANY (THE).

O. SHEET METAL OUTLET AND DEVICE BOXES: NEMA OS 1.
P. CAST-METAL OUTLET AND DEVICE BOXES: NEMA FB 1, FERROUS ALLOY, TYPE FD, WITH GASKETED COVER.
Q. METAL FLOOR BOXES: CAST METAL, FULLY ADJUSTABLE, RECTANGULAR.
R. SMALL SHEET METAL PULL AND JUNCTION BOXES: NEMA OS 1.
S. CAST-METAL ACCESS, PULL, AND JUNCTION BOXES: NEMA FB 1, GALVANIZED, CAST IRON WITH GASKETED COVER.
T. HINGED-COVER ENCLOSURES: NEMA 250, TYPE 1, WITH CONTINUOUS-HINGE COVER WITH FLUSH LATCH, UNLESS OTHERWISE INDICATED.
1. METAL ENCLOSURES: STEEL, FINISHED INSIDE AND OUT WITH MANUFACTURER'S STANDARD ENAMEL.
A. IN STANDARD PARTITIONS, WHERE 1/2" AND 3/4" CONDUITS ARE EMPLOYED: 4" SQUARE BY 2-1/8" DEEP BOXES WITH 1-GANG OR 2-GANG PLASTER COVERS SHALL BE USED, NO. 4SD-SPL.
B. IN THIN PARTITIONS MEASURING 3-1/2" OR LESS: 4" SQUARE BY 1-1/2" DEEP BOXES WITH 1-GANG OR 2-GANG PLASTER COVERS SHALL BE USED, NO. 4S-SPL.
C. IN STANDARD PARTITIONS, WHERE CONDUITS OF A SIZE GREATER THAN 3/4" ARE EMPLOYED: 4" SQUARE BY 2-1/8" DEEP BOXES WITH 1-GANG OR 2-GANG PLASTER COVERS SHALL BE USED, NO. 4SJD SERIES. THE OUTLET BOXES SHALL BE LOCATED WHEREBY NO TWO (2) OUTLET BOXES ARE INSTALLED CLOSER THAN 24" ON CENTER, AND SECURELY ATTACHED TO THE PARTITION STUDS, WITH AT LEAST ONE (1) PARTITION STUD SEPARATING THE OUTLET BOXES. IT IS NOT ACCEPTABLE TO SECURE OUTLET BOXES ONLY TO DRYWALL PARTITION.

U. CABINETS:
1. NEMA 250, TYPE 1, GALVANIZED-STEEL BOX WITH REMOVABLE INTERIOR PANEL AND REMOVABLE FRONT, FINISHED INSIDE AND OUT WITH MANUFACTURER'S STANDARD ENAMEL.
2. HINGED DOOR IN FRONT COVER WITH FLUSH LATCH AND CONCEALED HINGE.
3. KEY LATCH TO MATCH PANELBOARDS.
4. METAL BARRIERS TO SEPARATE WIRING OF DIFFERENT SYSTEMS AND VOLTAGE.
5. ACCESSORY FEET WHERE REQUIRED FOR FREESTANDING EQUIPMENT.

V. RACEWAY APPLICATION:
OUTDOORS: APPLY RACEWAY PRODUCTS AS SPECIFIED BELOW, UNLESS OTHERWISE INDICATED:
1. EXPOSED CONDUIT: RIGID STEEL CONDUIT.
2. CONCEALED CONDUIT, ABOVEGROUND: RIGID STEEL CONDUIT, EMT, RNC.
3. UNDERGROUND CONDUIT: RNC, TYPE EPC-40-PVC, DIRECT BURIED.
4. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): LFMC.
5. BOXES AND ENCLOSURES, ABOVEGROUND: NEMA 250, TYPE 3R.

W. COMPLY WITH THE FOLLOWING INDOOR APPLICATIONS, UNLESS OTHERWISE INDICATED:
1. EXPOSED, NOT SUBJECT TO PHYSICAL DAMAGE: EMT.
2. EXPOSED, NOT SUBJECT TO SEVERE PHYSICAL DAMAGE: EMT.
3. EXPOSED AND SUBJECT TO SEVERE PHYSICAL DAMAGE: RIGID STEEL CONDUIT. INCLUDES RACEWAYS IN THE FOLLOWING LOCATIONS: LOADING DOCK, CORRIDORS USED FOR TRAFFIC OF MECHANIZED CARTS, FORKLIFTS, AND PALLET-HANDLING UNITS, MECHANICAL ROOMS.
4. CONCEALED IN CEILINGS AND INTERIOR WALLS AND PARTITIONS: EMT.
5. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): FMC, EXCEPT USE LFMC IN DAMP OR WET LOCATIONS.
6. DAMP OR WET LOCATIONS: RIGID STEEL CONDUIT.
7. RACEWAYS FOR OPTICAL FIBER OR COMMUNICATIONS CABLE IN SPACES USED FOR ENVIRONMENTAL AIR: PLENUM-TYPE, OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY, EMT.
8. RACEWAYS FOR OPTICAL FIBER OR COMMUNICATIONS CABLE RISERS IN VERTICAL SHAFTS: RISER-TYPE, OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY, EMT.
9. RACEWAYS FOR CONCEALED GENERAL PURPOSE DISTRIBUTION OF OPTICAL FIBER OR COMMUNICATIONS CABLE: GENERAL-USE, OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY, RISER-TYPE, OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY, PLENUM-TYPE, OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY, EMT.
10. BOXES AND ENCLOSURES: NEMA 250, TYPE 1, EXCEPT USE NEMA 250, TYPE 4X, STAINLESS STEEL IN DAMP OR WET LOCATIONS.

X. MINIMUM RACEWAY SIZE: 1/2-INCH (16-MM) TRADE SIZE.
Y. RACEWAY FITTINGS: COMPATIBLE WITH RACEWAYS AND SUITABLE FOR USE AND LOCATION.
1. RIGID AND INTERMEDIATE STEEL CONDUIT: USE THREADED RIGID STEEL CONDUIT FITTINGS, UNLESS OTHERWISE INDICATED.
2. PVC EXTERNALLY COATED, RIGID STEEL CONDUITS: USE ONLY FITTINGS LISTED FOR USE WITH THAT MATERIAL. PATCH AND SEAL ALL JOINTS, NICKS, AND SCRAPES IN PVC COATING AFTER INSTALLING CONDUITS AND FITTINGS. USE SEALANT RECOMMENDED BY FITTING MANUFACTURER.

Z. INSTALLATION
COMPLY WITH NECA 1 FOR INSTALLATION REQUIREMENTS APPLICABLE TO PRODUCTS SPECIFIED EXCEPT WHERE REQUIREMENTS ON DRAWINGS OR IN THIS ARTICLE ARE STRICTER.
AA. KEEP RACEWAYS AT LEAST 6 INCHES (150 MM) AWAY FROM PARALLEL RUNS OF FLUES AND STEAM OR HOT-WATER PIPES. INSTALL HORIZONTAL RACEWAY RUNS ABOVE WATER AND STEAM PIPING.
AB. COMPLETE RACEWAY INSTALLATION BEFORE STARTING CONDUCTOR INSTALLATION.
AC. SUPPORT RACEWAYS AS SPECIFIED IN "HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS."
AD. ARRANGE STUB-UPS SO CURVED PORTIONS OF BENDS ARE NOT VISIBLE ABOVE THE FINISHED SLAB.
AE. INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90-DEGREE BENDS IN ANY CONDUIT RUN EXCEPT FOR COMMUNICATIONS CONDUITS, FOR WHICH FEWER BENDS ARE ALLOWED.
AF. CONCEAL CONDUIT AND EMT WITHIN FINISHED WALLS, CEILINGS, AND FLOORS, UNLESS OTHERWISE INDICATED.
AG. RACEWAYS EMBEDDED IN SLABS:
1. RUN CONDUIT LARGER THAN 1-INCH (27-MM) TRADE SIZE, PARALLEL OR AT RIGHT ANGLES TO MAIN REINFORCEMENT. WHERE AT RIGHT ANGLES TO REINFORCEMENT, PLACE CONDUIT CLOSE TO SLAB SUPPORT.
2. ARRANGE RACEWAYS TO CROSS BUILDING EXPANSION JOINTS AT RIGHT ANGLES WITH EXPANSION FITTINGS.
3. CHANGE FROM ENT TO RNC, TYPE EPC-40-PVC, RIGID STEEL CONDUIT, OR IMC BEFORE RISING ABOVE THE FLOOR.

AH. THREADED CONDUIT JOINTS, EXPOSED TO WET, DAMP, CORROSIVE, OR OUTDOOR CONDITIONS: APPLY JOINT COMPOUND TO THREADS OF RACEWAY AND FITTINGS BEFORE MAKING UP JOINTS. FOLLOW COMPOUND MANUFACTURER'S WRITTEN INSTRUCTIONS.
AI. RACEWAY TERMINATIONS AT LOCATIONS SUBJECT TO MOISTURE OR VIBRATION: USE INSULATING BUSHINGS TO PROTECT CONDUCTORS, INCLUDING CONDUCTORS SMALLER THAN NO. 4 AWG.
AJ. INSTALL PULL WIRES IN EMPTY RACEWAYS. USE POLYPROPYLENE OR MONOFILAMENT PLASTIC LINE WITH NOT LESS THAN 200-LB (90-KG) TENSILE STRENGTH. LEAVE AT LEAST 12 INCHES (300 MM) OF SLACK AT EACH END OF PULL WIRE.
AK. RACEWAYS FOR OPTICAL FIBER AND COMMUNICATIONS CABLE: INSTALL RACEWAYS, METALLIC AND NONMETALLIC, RIGID AND FLEXIBLE, AS FOLLOWS:
1. 3/4-INCH (19-MM) TRADE SIZE AND SMALLER: INSTALL RACEWAYS IN MAXIMUM LENGTHS OF 50 FEET (15 M).
2. 1-INCH (25-MM) TRADE SIZE AND LARGER: INSTALL RACEWAYS IN MAXIMUM LENGTHS OF 75 FEET (23 M).
3. INSTALL WITH A MAXIMUM OF TWO 90-DEGREE BENDS OR EQUIVALENT FOR EACH LENGTH OF RACEWAY UNLESS DRAWINGS SHOW STRICTER REQUIREMENTS. SEPARATE LENGTHS WITH PULL OR JUNCTION BOXES OR TERMINATIONS AT DISTRIBUTION FRAMES OR CABINETS WHERE NECESSARY TO COMPLY WITH THESE REQUIREMENTS.

AL. INSTALL RACEWAY SEALING FITTINGS AT SUITABLE, APPROVED, AND ACCESSIBLE LOCATIONS AND FILL THEM WITH LISTED SEALING COMPOUND. FOR CONCEALED RACEWAYS, INSTALL EACH FITTING IN A FLUSH STEEL BOX WITH A BLANK COVER PLATE HAVING A FINISH SIMILAR TO THAT OF ADJACENT PLATES OR SURFACES. INSTALL RACEWAY SEALING FITTINGS AT THE FOLLOWING POINTS:
1. WHERE CONDUITS PASS FROM WARM TO COLD LOCATIONS, SUCH AS BOUNDARIES OF REFRIGERATED SPACES.
2. WHERE OTHERWISE REQUIRED BY NFPA 70.

AP. FLEXIBLE CONDUIT CONNECTIONS: USE MAXIMUM OF 48 INCHES (1219 MM) OF FLEXIBLE CONDUIT FOR RECESSED AND SEMIRECESSED LIGHTING FIXTURES, EQUIPMENT SUBJECT TO VIBRATION, NOISE TRANSMISSION, OR MOVEMENT; AND FOR TRANSFORMERS AND MOTORS.
1. USE LFMC IN DAMP OR WET LOCATIONS.

AQ. RECESSED BOXES IN MASONRY WALLS: SAW-CUT OPENING FOR BOX IN CENTER OF CELL OF MASONRY BLOCK, AND INSTALL BOX FLUSH WITH SURFACE OF WALL.
AR. SET METAL FLOOR BOXES LEVEL AND FLUSH WITH FINISHED FLOOR SURFACE.
AS. FIRESTOPPING
APPLY FIRESTOPPING TO ELECTRICAL PENETRATIONS OF FIRE-RATED FLOOR AND WALL ASSEMBLIES TO RESTORE ORIGINAL FIRE-RESISTANCE RATING OF ASSEMBLY. PROVIDE SLEEVES FOR FLOOR PENETRATIONS EXTENDING 2" ABOVE FLOOR EXCEPT IN FINISHED AREAS WHERE COORDINATED WITH ARCHITECT.

TRANSFORMERS

A. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:
ACME ELECTRIC CORPORATION; POWER DISTRIBUTION PRODUCTS DIVISION.
EATON ELECTRICAL INC.; CUTLER-HAMMER PRODUCTS.
GENERAL ELECTRIC COMPANY.
SIEMENS ENERGY & AUTOMATION, INC.
SOLA/HEVI-DUTY.
SQUARE D; SCHNEIDER ELECTRIC.

B. GENERAL TRANSFORMER REQUIREMENTS
DESCRIPTION: FACTORY-ASSEMBLED AND -TESTED, AIR-COOLED UNITS FOR 60-HZ SERVICE.
GRAIN-ORIENTED, NON-AGING SILICON STEEL.
CONTINUOUS WINDINGS WITHOUT SPLICES EXCEPT FOR TAPS.
INTERNAL COIL CONNECTIONS: BRAZED OR PRESSURE TYPE.
WINDINGS: COPPER.

C. COMPLY WITH NEMA ST 20, AND UST AND LABEL AS COMPLYING WITH UL 1561. ONE LEG PER PHASE.

D. ENCLOSURE: VENTILATED, NEMA 250, TYPE 2. CORE AND COIL SHALL BE ENCAPSULATED WITHIN RESIN COMPOUND, SEALING OUT MOISTURE AND AIR.

E. ENCLOSURE: VENTILATED, NEMA 250, TYPE 3R. CORE AND COIL SHALL BE ENCAPSULATED WITHIN RESIN COMPOUND, SEALING OUT MOISTURE AND AIR.

F. TRANSFORMER ENCLOSURE FINISH: COMPLY WITH NEMA 250. FINISH COLOR: GRAY.

G. TAPS FOR TRANSFORMERS SMALLER THAN 7.5 KVA: ONE 5 PERCENT TAP ABOVE NORMAL FULL CAPACITY.

H. TAPS FOR TRANSFORMERS 7.5 TO 24 KVA: ONE 5 PERCENT TAP ABOVE AND ONE 5 PERCENT TAP BELOW NORMAL FULL CAPACITY.

I. TAPS FOR TRANSFORMERS 25 KVA AND LARGER: TWO 2.5 PERCENT TAPS ABOVE AND TWO 2.5 PERCENT TAPS BELOW NORMAL FULL CAPACITY.

J. INSULATION CLASS: 220 DEG C, UL-COMPONENT-RECOGNIZED INSULATION SYSTEM WITH A MAXIMUM OF 115 DEG C RISE ABOVE 40 DEG C AMBIENT TEMPERATURE.

K. ENERGY EFFICIENCY FOR TRANSFORMERS RATED 15 KVA AND LARGER: COMPLYING WITH DOE-2016 10 CFR PART 431.

L. K-FACTOR RATING: TRANSFORMERS INDICATED TO BE K-FACTOR RATED SHALL COMPLY WITH UL 1561 REQUIREMENTS FOR NONSINUSOIDAL LOAD CURRENT-HANDLING CAPABILITY TO THE DEGREE DEFINED BY DESIGNATED K-FACTOR. UNIT SHALL NOT OVERHEAT WHEN CARRYING FULL-LOAD CURRENT WITH HARMONIC DISTORTION CORRESPONDING TO DESIGNATED K-FACTOR. INDICATE VALUE OF K-FACTOR ON TRANSFORMER NAMEPLATE.

M. ELECTROSTATIC SHIELDING: EACH WINDING SHALL HAVE AN INDEPENDENT, SINGLE, FULL-WIDTH COPPER ELECTROSTATIC SHIELD ARRANGED TO MINIMIZE INTERWINDING CAPACITANCE. ARRANGE COIL LEADS AND TERMINAL STRIPS TO MINIMIZE CAPACITIVE COUPLING BETWEEN INPUT AND OUTPUT TERMINALS. INCLUDE SPECIAL TERMINAL FOR GROUNDING THE SHIELD. SHIELD EFFECTIVENESS: CAPACITANCE BETWEEN PRIMARY AND SECONDARY WINDINGS: NOT TO EXCEED 33 PICOFARADS OVER A FREQUENCY RANGE OF 20 HZ TO 1 MHZ

MECHANICAL GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION. ISOLATE WORK AREAS BY MEANS OF TEMPORARY PARTITIONS AND/OR TARPS TO KEEP DUST AND DIRT WITHIN THE CONSTRUCTION AREA.
2. NO PIPING, EQUIPMENT, ETC. SHALL BE REMOVED, DISCONNECTED OR SHUT DOWN WITHOUT PRIOR REVIEW WITH THE LANDLORD AND/OR ENGINEER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION WILL NOT BE AFFECTED. IF ANY AREAS NOT WITHIN THE SCOPE OF WORK ARE AFFECTED BY ANY SHUTDOWN, REMOVAL OR DISCONNECTION, SUFFICIENT ADVANCE NOTICE MUST BE GIVEN TO THE LANDLORD INDICATING WHICH AREAS WILL BE AFFECTED, WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD OF TIME.
3. ALL ITEMS REMOVED SHALL BECOME PROPERTY OF THE LANDLORD AND SHALL BE DISPOSED OF AS PER THE LANDLORD'S INSTRUCTIONS, UNLESS INDICATED OTHERWISE. ALL ITEMS WHICH ARE NOT TO BE STORED ON SITE BY OWNERS SHALL BE REMOVED FROM THE BUILDING IMMEDIATELY.
4. THIS CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH ANY WORK. WHERE DISCREPANCIES OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED TO THE LANDLORD AND/OR ENGINEER FOR EXPEDITING AND THE RESOLUTION.
5. CLEAN THE JOB SITE DAILY AND REMOVE FROM THE PREMISES ANY DIRT AND DEBRIS CAUSED BY THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT.
6. USE OF THE LANDLORD'S ELEVATORS AND BUILDING CORRIDORS FOR HANDLING OF THE LANDLORD'S AND REMOVED EQUIPMENT AND MATERIALS SHALL BE AT THE DIRECTION OF THE LANDLORD AND SHALL BE COORDINATED WITH HIS OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTIES AGAINST FIRE, THEFT AND ENVIRONMENTAL CONDITIONS.
8. EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED IN NEW SYSTEMS, EXCEPT WHERE INDICATED AS BEING RELOCATED.
9. PROVIDE ALL NECESSARY TEMPORARY OR PERMANENT CAPS OR PLUGS FOR PIPING. DO NOT LEAVE PIPING OPEN ENDED.
10. WHERE USED, THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
11. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH THE LANDLORD AND ALL OTHER TRADES PRIOR TO FABRICATION, PURCHASE AND/OR INSTALLATION OF ALL WORK.
12. SUBMISSION OF PROPOSAL DIRECTLY OR INDIRECTLY IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE UNDER WHICH HE WILL BE OBLIGATED TO OPERATE SHOULD HE BE AWARDED THE WORK UNDER THIS CONTRACT. NO EXTRA CHARGE WILL BE ALLOWED FOR FAILURE OF ANY BIDDER TO EXAMINE THE SITE PRIOR TO BID.
13. ALL WORK SHALL CONFORM TO ALL STATE AND LOCAL CODES, RULES AND REGULATIONS AND ORDINANCES.
14. CONTRACTOR SHALL SECURE AND PAY ALL FEES AND PERMITS PERTAINING TO THE CONTRACT.
15. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. THE CONTRACTOR SHALL PROVIDE ALL HANGERS AND SUPPORTS REQUIRED FOR A COMPLETE INSTALLATION.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR WORKMEN'S IDENTIFICATION AND BADGING, SAFETY AND FIRE PROTECTION, CONTRACTOR'S LIABILITY INSURANCE, BARRICADES, WARNING SIGNS, TRASH REMOVAL, CUTTING AND PATCHING.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RIGGING, HANDLING AND PROTECTION OF MATERIALS.
18. CONTRACTOR SHALL PROVIDE LABOR TO RECEIVE, UNLOAD, STORE, PROTECT AND TRANSFER TO POINT OF INSTALLATION, OWNER FURNISHED ITEMS.
19. WHERE CONDUIT, CABLES, DUCTWORK OR PIPING PASSES THROUGH FIRE RATED FLOORS OR WALLS, THE SLEEVES SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS UL LISTED AND ACCEPTED BY THE BUILDING DEPARTMENT AND FIRE DEPARTMENT AS BEING SUITABLE FOR THIS SERVICE.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING AS IT RELATES TO HIS WORK.
21. CONTRACTOR SHALL REFER TO BUILDING MANAGEMENT'S RULES AND REGULATIONS' TO COMPLY WITH BUILDING STANDARDS.
22. FLEXIBLE DUCTWORK LENGTHS SHALL NOT EXCEED 5'-0". USE INSULATED RIGID ROUND DUCTWORK WHERE REQUIRED. ALL NEW FLEXIBLE DUCTWORK CONNECTIONS TO AIR DEVICES SHOWN ON THE DRAWING SHALL BE SIZED ACCORDING TO THE NECK SIZE SCHEDULE.
23. THE ENTIRE AIR SUPPLY SYSTEM SHALL BE RE-BALANCED TO THE AIR QUANTITIES INDICATED ON THIS DRAWING BY AN INDEPENDENT AIR BALANCE CONTRACTOR. THE AIR BALANCE CONTRACTOR SHALL SUBMIT NEBB CERTIFIED AIR BALANCE REPORTS FOR ENGINEERING REVIEW AND TO BUILDING MANAGEMENT. PROVIDE AHU DRIVE ADJUSTMENTS AS REQUIRED.
24. REFER TO DRAWING MEP FOR SPECIFICATIONS THAT APPLY TO THIS SHEET.
25. CONTRACTOR SHALL VERIFY THAT SUFFICIENT RETURN AIR OPENINGS ARE PROVIDED IN EXISTING WALLS ABOVE CEILING. AIR IS RETURNED TO THE CEILING PLENUM AND THEN TO THE AIR HANDLING UNITS THROUGH RETURN AIR GRILLES, ARCHITECTURAL CEILING OPENING AND LIGHT FIXTURES.
26. EXISTING TAPS TO SUPPLY DUCTWORK SHALL BE USED WHERE POSSIBLE. ANY UNUSED TAPS TO EXISTING SUPPLY DUCTWORK SHALL BE CAPPED, SEALED AIRTIGHT, AND INSULATED.
27. EXISTING MAIN TRUNK SUPPLY DUCTWORK SHALL REMAIN. CONTRACTOR SHALL VERIFY EXISTING LOCATION AND LIGHTING FIXTURE CLEARANCES AND INCLUDE IN THEIR COST THE RELOCATION OR REMOVAL OF EXISTING EQUIPMENT REQUIRED TO COMPLY WITH THIS DRAWING.
28. CONTRACTOR SHALL PROVIDE TO BUILDING OWNER THE AS-BUILT RECORD DRAWINGS AND THE OPERATING AND MAINTENANCE MANUALS WITHIN 90 DAYS OF SYSTEMS ACCEPTANCE. RECORD DRAWINGS SHALL INCLUDE PERFORMANCE DATA FOR EQUIPMENT, DUCT AND PIPE DISTRIBUTION SYSTEMS, AND AIR AND WATER FLOW RATES. O&M MANUALS SHALL INCLUDE EQUIPMENT AND ASSOCIATED OPTIONS REQUIRING SERVICE, REQUIRED MAINTENANCE ACTIVITIES, CONTACT INFO OF SERVICE AGENCIES, HVAC CONTROLS CALIBRATION INFORMATION AND SET-POINTS, AND DESCRIPTION OF EQUIPMENTS' INTENDED OPERATIONS.
29. FOR RETURN AIR PLENUMS, ALL MATERIALS LOCATED WITHIN A RETURN AIR PLENUM SHALL BE RATED AND APPROVED FOR INSTALLATION IN A RETURN AIR PLENUM.

EXHAUST SYSTEM ANALYSIS:

ROOMS SHALL BE EXHAUSTED IN ACCORDANCE WITH MECHANICAL CODES. RESTROOMS SHALL BE EXHAUSTED AT A MINIMUM 70 CFM/FIXTURE.

	REQUIRED	DESIGN
105 SINGLE USER	70 CFM	70 CFM
106 SINGLE USER	70 CFM	70 CFM
107 JAN	50 CFM	50 CFM
TOTAL	190 CFM	190 CFM

DIFFUSER NECK SIZE SCHEDULE

CFM RANGE	SQUARE NECK SIZE	ROUND NECK SIZE
0 – 120	6 X 6	6"ø
125 – 220	8 X 8	8"ø
225 – 330	10 X 10	10"ø
335 – 450	12 X 12	12"ø
455 – 530	15 X 15	14"ø
540 – 700	16 X 16	16"ø

RETURN DIFFUSER NECK SIZE SCHEDULE

CFM RANGE	SQUARE NECK SIZE	ROUND NECK SIZE
0 – 90	6 X 6	6"ø
95 – 140	8 X 8	8"ø
145 – 220	10 X 10	10"ø
225 – 315	12 X 12	12"ø
320 – 430	–	14"ø
435 – 560	–	16"ø

EXHAUST FAN SCHEDULE

MARK	EF-1	EF-2	–	–
SERVES	RESTROOM	JANITORS CLOSET	–	–
CFM	70	50	–	–
TYPE/DRIVE	DIRECT	DIRECT	–	–
S.P. IN. WG.	0.2	0.2	–	–
(WATTS)	11	13	–	–
RPM (MAX)	–	–	–	–
VOLTS/PHASE/HERTZ	120/1/60	120/1/60	–	–
MANUFACTURER	GREENHECK	GREENHECK	–	–
SERIES NO.	SP-A90	SP-B80	–	–
NOTES	1,2,4	1,3,4	–	–

NOTES:

1. PROVIDE FAN WITH BACKDRAFT DAMPER, DISCONNECT SWITCH.
2. CONTROLS:
   - 2.1. FAN TO OPERATE INTERMITTENTLY.
   - 2.2. INTERLOCK FAN ON/OFF OPERATION WITH THE MOTION SENSOR SWITCH TO OPERATE WHEN SWITCH IS TURNED ON.
3. CONTROLS:
   - 3.1. FAN TO OPERATE CONTINUOUS.
   - 3.2. INTERLOCK FAN ON/OFF OPERATION WITH RTU-1.
4. PROVIDE ALL REQUIRED ACCESSORIES FOR PROPER INSTALLATION. INSTALL IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION. ALTERNATE MANUFACTURERS ARE ACCEPTABLE PROVIDED THEY MEET THE PERFORMANCE AND SPECIFICATIONS.

OUTSIDE AIR ANALYSIS

OUTSIDE AIR SHALL BE PROVIDED IN ACCORDANCE WITH THE MECHANICAL CODES:

(Rp x Pz) + (Ra x Az) = Vbz

OFFICE SPACE: (5 CFM/PER x 10 PPL) + (0.06 CFM/SQFT x 2,262 SQFT) = 185 CFM

TOTAL = 185 CFM

OVERALL: Vbz / Ez = Voz
185 CFM / 1 = 185 CFM

TOTAL OUTSIDE AIR REQUIRED = 185 CFM

TOTAL OUTSIDE AIR PROVIDED = 190 CFM

ROOFTOP UNIT SCHEDULE

DESIGNATION	RTU-1	–	–	–
SERVES	SUITE	–	–	–
TOTAL CFM	1,700	–	–	–
O.A. CFM	190	–	–	–
EXT. S.P. IN. WC	0.8	–	–	–
FAN HP	1/3	–	–	–
COOLING				
EAT (DB/WB)	77.50/64.64	–	–	–
LAT (DB/WB)	55.00/54.20	–	–	–
SEN. HT. BTU/HR	41,919	–	–	–
TOTAL HT. BTU/HR	52,750	–	–	–
AMB. TEMP.	105	–	–	–
HEATING	ELECTRIC			
BTU/HR	34,100	–	–	–
KW	10.0	–	–	–
VOLTS/PHASE/CYCLES	240/1/60	–	–	–
MCA/MOCP	61/70	–	–	–
EER2/SEER2	11.0/13.4	–	–	–
MANUFACTURER	TRANE	–	–	–
MODEL NO.	5TCC4060A	–	–	–
WEIGHT (LBS)	484	–	–	–
DIMENSIONS (L X W X H) FT	50x47x61	–	–	–
NOTES	ALL	–	–	–

NOTES:

1. SUBMITTAL EQUIPMENT MUST MEET AND ACHIEVE THE LOW DEWPOINT REQUIRED ABOVE. SUBMITTAL EQUIPMENT MEETING ONLY THE TOTAL AND SENSIBLE LOADS SHOWN IN THE SCHEDULE IS NOT ACCEPTABLE REGARDING ITS PERFORMANCE.
2. PROVIDE 2" MERV 11. FILTER. AND HINGED ACCESS PANELS.
3. PROVIDE FACTORY BOTTOM DISCHARGE CURB AT LEAST 14" HIGH WITH R-8 INSULATION.
4. PROVIDE FACTORY INSTALLED DISCONNECT AND SINGLE POINT ELECTRICAL CONNECTION.
5. PROVIDE WITH LOW AMBIENT KIT, FREEZSTAT, CRANKCASE HEATER, HIGH PRESSURE CONTROL AND FAN DELAY RELAY KIT.
6. UNITS SHALL HAVE A MAXIMUM DAMPER LEAKAGE AT 1.0 IN W.G. THAT DOES NOT EXCEED 4 CFM/SQ.FT. OF DAMPER AREA.
7. PROVIDE 2021 IECC COMPLIANT THERMOSTAT FOR EACH ZONE. THERMOSTAT SHALL BE CALIBRATED TO DISPLAY SPACE TEMPERATURE AT +/- 1°F. THE CONTROL SYSTEM SHALL CONTROL ECONOMIZER, DISCHARGE AIR TEMPERATURE CONTROL, SPACE TEMPERATURE.
   - 7.1. THERMOSTAT SHALL INCLUDE A DEADBAND NOT LESS THAN 5°F.
   - 7.2. PROVIDE THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY TIME CLOCK OR PROGRAMMABLE SYSTEM.
   - 7.3. SETBACK CONTROLS SHALL BE CONFIGURED TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURE DOWN TO 55°F AUTOMATIC SETBACK.
   - 7.4. AUTOMATIC TIME CLOCK OR PROGRAM CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTINGS DURING A LOSS OF POWER FOR NOT FEWER THAN 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CONFIGURED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS.
   - 7.5. PROVIDE AUTOMATIC START CONTROLS TO EACH SYSTEM. CONTROLS SHALL BE CONFIGURED TO AUTOMATICALLY ADJUST THE DAILY START TIME OF THE HVAC SYSTEM IN ORDER TO BRING EACH SPACE TO THE DESIRED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY
8. PROVIDE CORROSION RESISTANT BIRD SCREEN WITHIN THE OUTDOOR AIR INTAKE.
9. PROVIDE MOTORIZED DAMPER FOR OUTSIDE AIR INTAKE. DAMPER SHALL CLOSE WHEN UNIT IS DE-ENERGIZED.
10. PROVIDE BI-POLAR IONIZATION POWERED BY THE EQUIPMENT. SEE MEP SPECIFICATION FOR SPECS.
11. PROVIDE POWER EXHAUST FAN FOR EACH UNIT TO MAINTAIN PROPER PRESSURE INSIDE THE SPACE DURING NORMAL OPERATION, AND ECONOMIZER MODE.
12. PROVIDE SUPPLY FAN WITH PREMIUM EFFICIENCY (MINIMUM 2021 IECC REQUIREMENT), ECM, VARIABLE-SPEED MOTOR.
13. PROVIDE FACTORY INSTALLED SMOKE DETECTORS IN THE SUPPLY AND RETURN DUCTS. THE DETECTORS WILL SHUTDOWN HVAC UNITS UPON ALARM. HVAC UNITS WILL RESTART AUTOMATICALLY ON RESET OF SMOKE DETECTOR.
14. PROVIDE FACTORY INSTALLED DUAL 115 VOLT GFCI SERVICE OUTLET.
15. WEIGHT MAY EXCEEDS THE LIMITS AS SPECIFIED ON THE BASE BUILD STRUCTURAL DESIGN DRAWINGS. CONTRACTOR SHALL VERIFY THE WEIGHT LIMITATIONS AND MANUFACTURERS SPECIFICATIONS. CONSULT A STRUCTURAL ENGINEER FOR ANY MODIFICATION TO THE STRUCTURE AS REQUIRED BY THE MANUFACTURERS SPECIFICATIONS.

LEGEND OF MECHANICAL SYMBOLS

SYMBOL	DESCRIPTION
	SUPPLY DUCT VIEW INTO DUCT
	SUPPLY DUCT VIEW HEEL OF ELBOW
	RETURN OR EXHAUST DUCT VIEW INTO DUCT
	RETURN OR EXHAUST DUCT VIEW HEEL OF ELBOW
	SQUARE TO ROUND TRANSITION
	SQUARE ELBOW WITH TURNING VANES.
	RADIUS ELBOW WITHOUT TURNING VANES.
	SUPPLY SIDEWALL REGISTER
	RETURN OR EXHAUST SIDEWALL REGISTER
	ROUND S.A. DIFFUSER
	EXISTING FLEX DUCT
	NEW FLEX DUCT
	EXISTING DUCTWORK
	NEW DUCTWORK
	DUCTWORK TO BE REMOVED
	SQUARE CEILING DIFFUSER
	RETURN AIR GRILLE
	RETURN OR EXHAUST AIR REGISTER W/ SQUARE NECK
	PLENUM SLOT DIFFUSER
MD	MANUAL DAMPER
	FIRE DAMPER WITH ACCESS DOOR
D	DRAIN LINE
	PIPE RISING
	PIPE TURNING DOWN
S	EXHAUST FAN SPEED CONTROL
T	THERMOSTAT
(E)	EXISTING TO REMAIN
(R)	RELOCATED
R.A.	RETURN AIR
S.A.	SUPPLY AIR
C.F.M.	CUBIC FEET PER MINUTE
AHU	AIR HANDLER UNIT

NOTES:

1. ALL SYMBOLS MAY NOT BE USED ON THIS DRAWINGS.

AIR DEVICE SCHEDULE

MARK	MANUF. + MODEL	TYPE	REMARKS
	TITUS OMNI OR EQUAL (VERIFY COLORS WITH ARCHITECT)	CEILING SUPPLY	24x24 PLAQUE FACE. PROVIDE AIR PATTERN CONTROLS. FACE AND FRAME SHALL HAVE AN OFF-WHITE ENAMEL FINISH. COORDINATE CEILING MOUNTING TYPE WITH ARCHITECTURAL CEILING TYPE. PROVIDE REMOTE DAMPER OPERATORS IN AREAS WITH INACCESSIBLE CEILINGS.
	TITUS OMNI OR EQUAL (VERIFY COLORS WITH ARCHITECT)	CEILING RETURN	24x24 PLAQUE FACE. FACE SHALL BE ALUMINUM WITH A STEEL BACK PAN. FACE AND FRAME SHALL HAVE AN OFF- WHITE ENAMEL FINISH. COORDINATE CEILING MOUNTING TYPE WITH ARCHITECTURAL CEILING TYPE.

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ACORN GOLF SIMULATOR
13825 Timber Forest Dr, Houston, TX 77044
SUITE 103

E/B/E PROJECT NUMBER: 25052.00

ISSUED FOR CLIENT APPROVAL	DATE
ISSUED FOR BIDDING	04/09/2026
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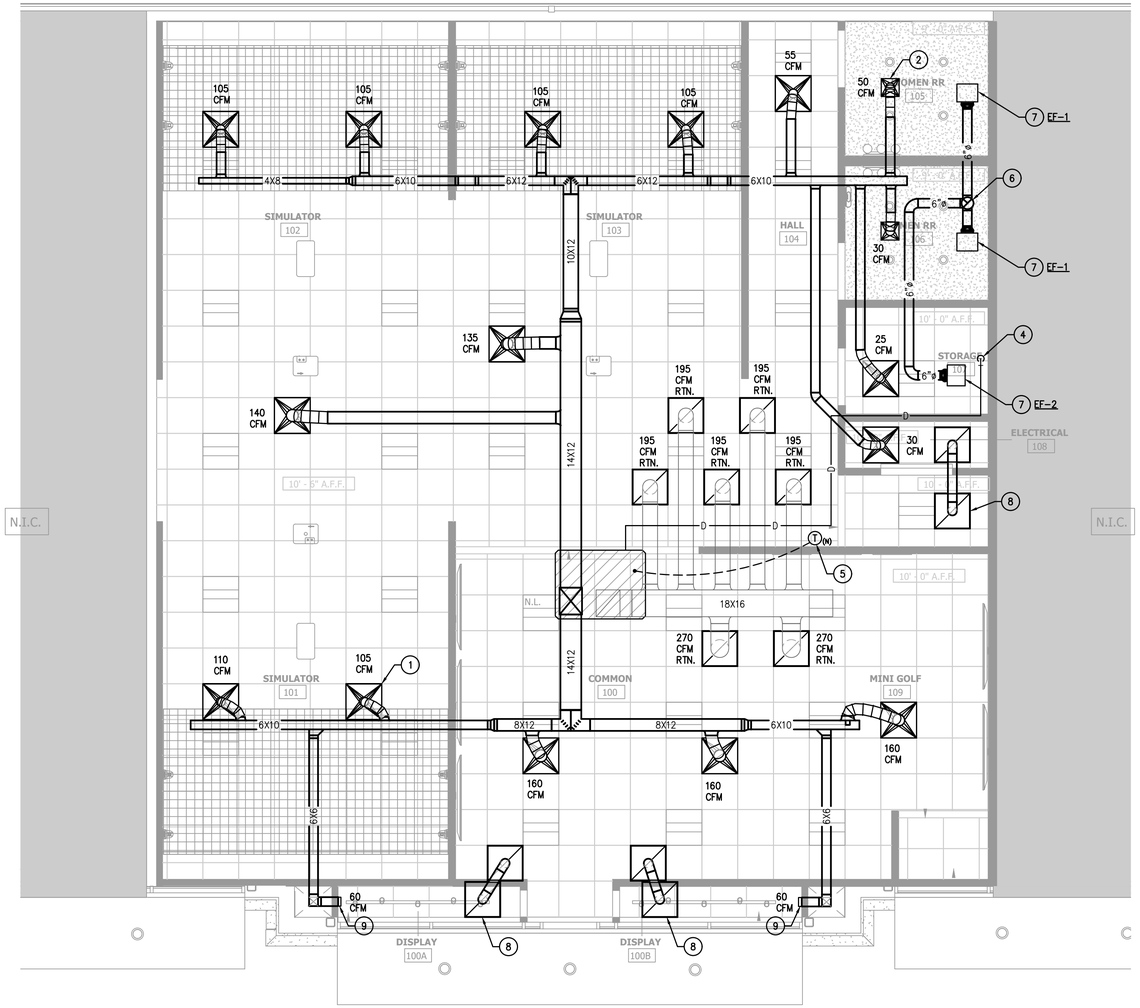
MECHANICAL: CC
ELECTRICAL: JG
CHECKED-BY:

DRAWING TITLE
MECHANICAL INFORMATION

SHEET NO.
M-1.00

E/B/E Mechanical Electrical Plumbing CONSULTING ENGINEERS
12603 Southwest Frwy, Ste 170, Stafford, Tx 77477
Tel: (713) 840-0177 / Firm Reg. No: 5638

JOSE M. GUERRERO
154536
LICENSED PROFESSIONAL ENGINEER



01 MECHANICAL PLAN
SCALE: 1/8"=1'-0"

MECHANICAL KEYED NOTES:

1. PROVIDE NEW 24" X 24" SUPPLY AIR DEVICE AT LOCATION INDICATED. BALANCE TO CFM INDICATED. SEE SCHEDULE AND DETAILS. TYPICAL.
2. PROVIDE NEW 12" X 12" SUPPLY AIR DEVICE AT LOCATION INDICATED. BALANCE TO CFM INDICATED. SEE SCHEDULE AND DETAILS. TYPICAL.
3. PROVIDE NEW 24" X 24" RETURN AIR GRILLE AT LOCATION INDICATED. SEE SCHEDULE AND DETAILS. TYPICAL.
4. PROVIDE NEW CONDENSATE LINE AT 1/8" PER FOOT OF SLOPE TO APPROVED LOCATION IN STORAGE ROOM. FIELD COORDINATE FOR EXACT LOCATION TO AVOID ANY CONFLICT. PIPING SHALL NOT OBSTRUCT MAINTENANCE ACCESS TO ABOVE CEILING EQUIPMENT. TYPICAL.
5. PROVIDE NEW THERMOSTAT AT LOCATION INDICATED AT 4' A.F.F.. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH BUILDING ENGINEER FOR EXACT THERMOSTAT AND LOCATION.
6. PROVIDE NEW 8"ø EXHAUST DUCT UP TO ROOF CAP.
7. PROVIDE NEW CEILING MOUNTED EXHAUST FAN AT LOCATION INDICATED. SEE DETAILS AND SCHEDULE.
8. PROVIDE 6"ø JUMPER DUCT.
9. PROVIDE WALL MOUNTED SUPPLY AIR GRILLE (6" x 6" TITUS 350FL).

E|B|E Mechanical Electrical Plumbing
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JOSE M. GUERRERO
154536
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS

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SUITE 103

E/B/E PROJECT NUMBER: 25052.00

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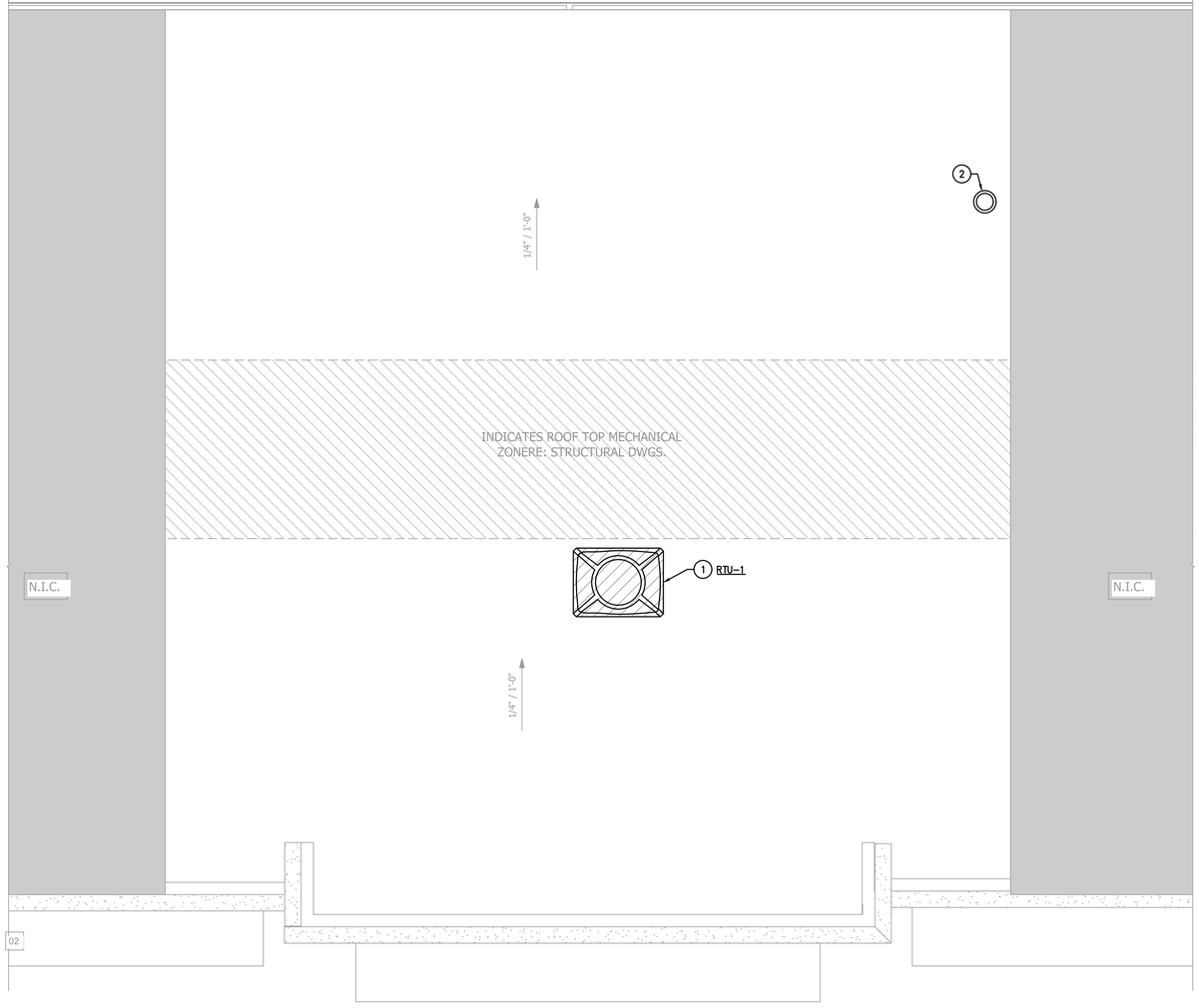
DRAWING TITLE
MECHANICAL PLAN

SHEET NO.
M-2.00



01 MECHANICAL PLAN
SCALE: 1/8"=1'-0"

MECHANICAL KEYED NOTES:

1. PROVIDE NEW ROOF MOUNTED UNITS (RTU-1) AT LOCATION INDICATED. FIELD VERIFY EXACT LOCATION AND MAINTAIN A MINIMUM 10'-0" FROM BUILDING EDGE TO EQUIPMENT.
2. PROVIDE NEW ROOF CAP FOR 8"ø EXHAUST ROOF CAP AT LOCATION INDICATED.

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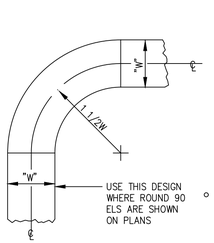
ELECTRICAL: JG
CHECKED-BY:

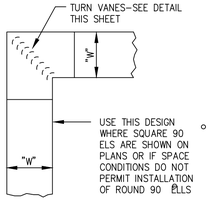
DRAWING TITLE
MECHANICAL ROOF PLAN

SHEET NO.
M-3.00

JOSE M. GUERRERO
154536
REGISTERED PROFESSIONAL ENGINEER

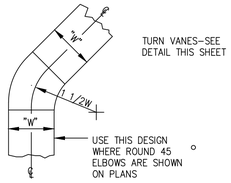


ROUND 90 ELBOW

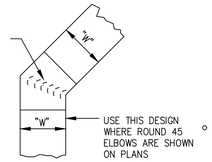


SQUARE 90 ELBOW

CONSTRUCTION OF 90 ELBOWS



ROUND 45 ELBOW

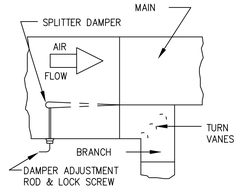


SQUARE 45 ELBOW

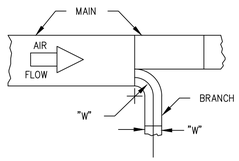
CONSTRUCTION OF 45 ELBOWS

TYPICAL RECTANGULAR TRANSITION

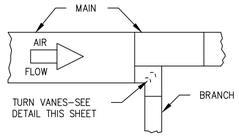
TYPICAL RECTANGULAR TO ROUND TRANSITION



TYPICAL SPLITTER DAMPER

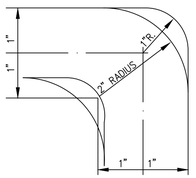


ROUND BRANCH TAKEOFF

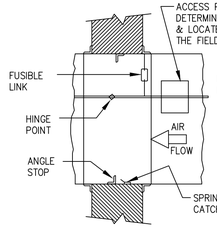


SQUARE BRANCH TAKEOFF

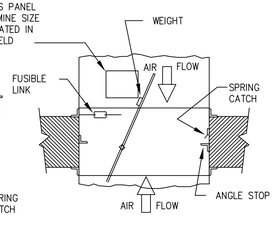
CONSTRUCTION OF BRANCH TAKEOFFS FROM MAIN



DETAIL OF TURN VANES

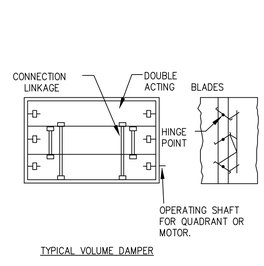


HORIZONTAL



VERTICAL

TYPICAL FIRE DAMPER



TYPICAL VOLUME DAMPER

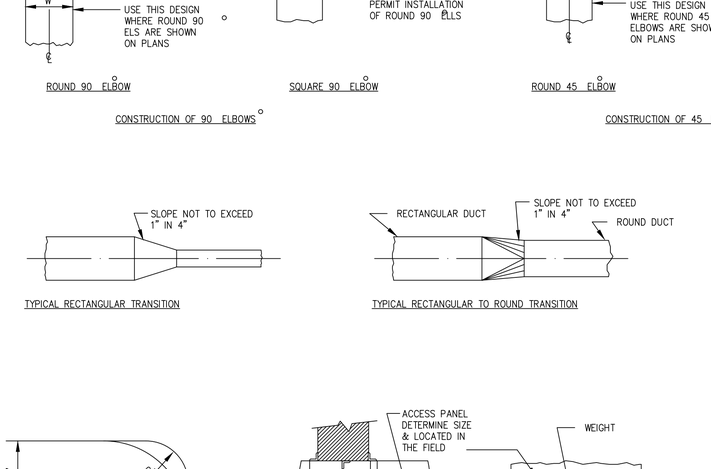
INSTALLATION NOTES

1. ALL DUCTS SHALL BE CONSTRUCTED AND ERECTED IN A NEAT AND WORKMANLIKE MANNER.
2. DUCTS SHALL BE CONSTRUCTED OF THE WEIGHTS, GAGES AND MATERIAL SHOWN IN THE SCHEDULE ON THESE DRAWINGS.
3. THE DIMENSION SHOWN FOR ALL DUCTS SHOWN IN PLAN GIVE THE WIDTH FIRST AND THEN THE HEIGHT.
4. DUCT RISERS SHOULD BE SUPPORTED BY ANGLES AT EVERY FLOOR.
5. AIR TURN SHALL BE INSTALLED IN ALL ABRUPT ELBOWS TO PREVENT TURBULENCE.
6. DUCTS SHALL BE SECURELY ATTACHED TO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER.
7. DIVERGING TRANSITION PIECES SHALL BE MADE AS GRADUAL AS POSSIBLE.
8. INSTALL FIRE DAMPERS IN ACCORDANCE WITH UL 555.
9. ACCESS PANELS SHOULD BE PLACED BEFORE AND/OR AFTER EQUIPMENT INSTALLED IN THE DUCT.
10. DUCT AREA SHOULD NOT BE DECREASED MORE THAN 10 PERCENT WHEN OBSTRUCTIONS CANNOT BE AVOIDED, AND THEN A STREAMLINED FITTING SHOULD BE USED.
11. FLEXIBLE FABRIC CONNECTIONS (OR EQUAL) SHOULD BE USED ON BOTH INLETS AND OUTLETS OF ALL FANS AND AIR HANDLING UNITS.
12. JOINTS AND SEAMS OF SUPPLY DUCTS SHALL BE FASTENED SECURELY AND MADE AIR TIGHT.

DETAILS OF THE LOW VELOCITY DUCT LAYOUT

SCALE: NONE

01



ROOFTOP PACKAGED HVAC UNIT DETAIL

SCALE: NONE

02

NOTES:

1 REFER:
TO MECHANICAL PLANS FOR DUCT WORK CONFIGURATION FOR EACH UNIT.

TO SCHEDULES FOR SPECIFIC UNIT TYPE.

TO STRUCTURAL DRAWINGS FOR ROOF FRAMING AT OPENING.

TO MEP SPECIFICATION FOR ALL APPROPRIATE CONNECTIONS TO UNIT.

2 PROVIDE FLEXIBLE DUCT CONNECTION ON SUPPLY AND RETURN DUCTS AT UNIT.

3 PROVIDE SMOKE DETECTORS IN SUPPLY AND RETURN DUCTS AT UNIT FOR UNITS WITH 2000 CFM OR GREATER.

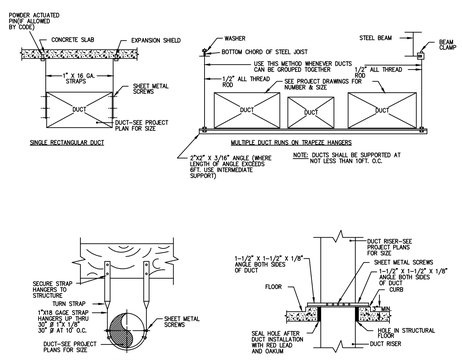
4 PROVIDE AUTOMATIC DAMPER IN OUTSIDE AIR INTAKE TO BALANCE OUTSIDE AND TO CLOSE WHEN UNIT IS NOT IN OPERATION.

5 PROVIDE SINGLE POINT CONNECTION FOR UNITS WITH ELECTRIC HEAT.

6 ROOFING MEMBRANE TO EXTEND TO TOP OF CURB AND OVER.

7 ANCHOR CURB AND UNIT TO ROOF FOR STORM RESISTANCE SEE GOVERNING BODY'S REQUIREMENTS AND MANUFACTURES SPECIFICATIONS.

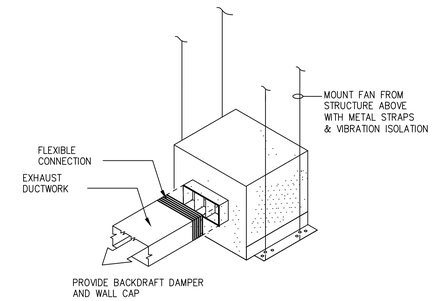
8 ROUTE CONDENSATE DRAINS TO APPROPRIATE LOCATION. INSULATE CONDENSATE DRAIN TRAP. SEE MECHANICAL PLANS.



DUCT HANGERS AND SUPPORTS DETAIL

SCALE: NONE

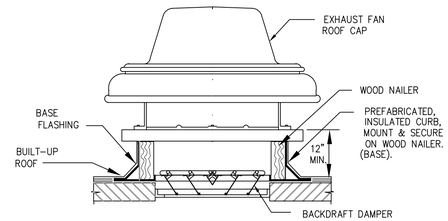
03



CEILING EXHAUST FAN

SCALE: NONE

04



EXHAUST FAN ROOF CAP

SCALE: NONE

05

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Tel: (713) 840-0177 / Firm Reg. No: 5638

TEXAS BOARD OF PROFESSIONAL ENGINEERS
JOSE M. GUERRERO
154536
REGISTERED
PROFESSIONAL ENGINEER

ELECTRICAL LIGHTING GENERAL NOTES:

1. MEP SPECIFICATIONS SHALL APPLY TO ALL WORK SHOWN ON THIS DRAWING UNLESS OTHERWISE NOTED.
2. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN FOR THE EXACT LOCATION OF ALL LIGHTING FIXTURES.
3. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL JUNCTION BOXES IN THE JUNCTION BOX GRID AND AVAILABILITY OF ALL CIRCUITS INDICATED TO BE USED.
4. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EXISTING EQUIPMENT PRIOR TO CONSTRUCTION. PROVIDE CIRCUIT TRACING AS REQUIRED TO DETERMINE CIRCUIT AVAILABILITY. PROVIDE A WRITTEN REPORT TO ENGINEER AND BUILDING MANAGEMENT SHOWING LIGHTING LOCATIONS AND CIRCUIT NUMBER USED.
5. EGRESS AND EXIT LIGHT FIXTURES SHALL BE CONNECTED TO WITH 2#10,1/2"C. TO 90-MINUTE BATTERY PACK.
6. ALL FIRE ALARM DEVICES SHALL MATCH EXISTING.
7. CONTRACTOR SHALL REFER TO BUILDING MANAGEMENT'S "RULES AND REGULATIONS" TO COMPLY WITH BUILDING STANDARDS.
8. FOR RETURN AIR PLENUMS, ALL MATERIALS LOCATED WITHIN A RETURN AIR PLENUM SHALL BE RATED AND APPROVED FOR INSTALLATION IN A RETURN AIR PLENUM.

ELECTRICAL POWER GENERAL NOTES:

1. MEP SPECIFICATIONS SHALL APPLY TO ALL WORK ON THIS DRAWING UNLESS OTHERWISE NOTED.
2. REFER TO ARCHITECT FOR EXACT HEIGHT AND LOCATION OF ALL FLOOR AND WALL OUTLETS.
3. ALL DATA/TELEPHONE OUTLETS SHALL BE PROVIDED WITH PULL STRINGS.
4. CONTRACTOR SHALL LOCATE ALL ELECTRICAL & TELEPHONE OUTLETS WITHIN THE LIMITS OF THE TENANT FURNITURE PLAN PROVIDED BY THE ARCHITECT. CONTRACTOR SHALL MARK INTENDED LOCATION OF ALL OUTLETS PRIOR TO INSTALLATION, THEN SHALL NOTIFY TENANT FOR APPROVAL BEFORE PROCEEDING.
5. CONTRACTOR SHALL PROVIDE NEW CIRCUIT DIRECTORY CARD AT PANELS. CIRCUITS SHALL BE LABELED TO CORRESPOND TO THE CIRCUITS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL CONNECT CIRCUITS AS REQUIRED TO COMPLY WITH THIS DRAWING.
6. CONDUCTORS SHALL BE #12 AWG SOLID COPPER (THWN) IN 1/2" CONDUIT UNLESS OTHERWISE INDICATED.
7. ALL OUTLETS TO BE MOUNTED VERTICALLY UNLESS OTHERWISE INDICATED.
8. CONTRACTOR SHALL PROVIDE ONE PULL STRING FOR EACH VOICE OR DATA OUTLET SHOWN. WHEN VOICE AND DATA OUTLETS ARE SHOWN ADJACENT, CONTRACTOR SHALL PROVIDE ONE PULL STRING (WITH ONE WALL PENETRATION) FOR THE PAIR, UNLESS NOTED OTHERWISE. VOICE AND DATA LINES SHALL BE PULLED BY OTHERS.
9. CONTRACTOR SHALL REFER TO BUILDING MANAGEMENT'S "RULES AND REGULATIONS" TO COMPLY WITH BUILDING STANDARDS.
10. GANG TOGETHER, ALL NEW ELECTRICAL, TELEPHONE AND COMPUTER OUTLETS SHOWN ADJACENT TO EACH OTHER.
11. VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED.
12. COORDINATE THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT ABOVE CEILINGS WITH SUSPENSION SYSTEM, MECHANICAL EQUIPMENT AND SYSTEMS, AND STRUCTURAL COMPONENTS. COORDINATE ELECTRICAL EQUIPMENT AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS.
13. VERIFY MECHANICAL EQUIPMENT SWITCH AND CONNECTION REQUIREMENTS, ITEM BY ITEM, WITH THE MECHANICAL CONTRACTOR, BEFORE WIRING EQUIPMENT. RESOLVE ALL DISCREPANCIES WITHOUT FURTHER COST TO OWNER.
14. FOR RETURN AIR PLENUMS, ALL MATERIALS LOCATED WITHIN A RETURN AIR PLENUM SHALL BE RATED AND APPROVED FOR INSTALLATION IN A RETURN AIR PLENUM.

LEGEND OF ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
FCA – XXXXA FCLT – XXXXA MIN I.C. – XXXXA	FAULT CURRENT CALCULATION RESULTS.
	CONDUIT RUN CONCEALED IN WALLS OR ABOVE CEILING. ARROW INDICATES HOMERUN TO PANEL. CONDUCTOR DESIGNATIONS ARE AS FOLLOWS: LONG HATCH INDICATES NEUTRAL, SHORT HATCH INDICATES PHASE, " " INDICATES INSULATED OR ISOLATED GROUND, " " INDICATES SWITCHLEG, AND NO HATCHES INDICATES TWO CONDUCTORS.
	PARTIAL HOME RUN. SAME AS ABOVE.
	CONDUIT RUN CONCEALED IN FLOOR SLAB, BELOW FLOOR SLAB OR BELOW GRADE. WIRING SAME AS ABOVE.
	DUPLEX RECEPTACLE OUTLET; 20 AMP, 125V., 3 WIRE, GROUNDED TYPE.
	QUADRUPLEX RECEPTACLE OUTLET GANGED WITH A COMMON WALL PLATE; (2)-20 AMP, 125V, 3 WIRE, GROUNDED TYPE.
GFCI	DUPLEX RECEPTACLE OUTLET WITH GROUND FAULT INTERRUPTER; 20 AMP, 125V., 3 WIRE GROUNDED TYPE.
	JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING.
	JUNCTION BOX
	DISCONNECT IN A NEMA 1 ENCLOSURE, UNLESS OTHERWISE SPECIFIED. REFER TO DRAWINGS FOR AMPERAGE, PHASES, & FUSE SIZE. (IF REQUIRED)
	MOTOR STARTER / DISCONNECT IN A NEMA 1 ENCLOSURE, UNLESS OTHERWISE SPECIFIED. REFER TO DRAWINGS FOR AMPERAGE, PHASES, FUSE SIZE (IF REQUIRED), AND SIZE.
	TRANSFORMER – REFER TO DRAWINGS FOR VOLTAGE AND AMPERAGE.
	SURFACE PANELBOARD W/ NEC CLEARANCES; 120/208 VOLT.
	SURFACE PANELBOARD W/ NEC CLEARANCES; 277/480 VOLT.

NOTES: 1. ALL SYMBOLS MAY NOT BE USED ON THIS DRAWINGS.
2. REFER TO SPECIFICATIONS FOR MOUNTING HEIGHTS

WIRELESS LIGHT SWITCHING CONTROLS

SYMBOL	DESCRIPTION
	A SINGLE LEADER CORRESPONDS TO A SINGLE SWITCH FOR THAT LIGHTING CIRCUIT. THE SWITCH WILL HAVE A CORRESPONDING AND MATCHING DESIGNATION LETTER IF THERE ARE OTHER SWITCHES IN THE SAME ROOM.
	MULTIPLE LEADERS CORRESPOND TO MULTIPLE SWITCHES FOR THAT LIGHTING CIRCUIT. THE QUANTITY OF LEADERS CORRESPONDS TO THE QUANTITY OF SWITCHES THAT CONTROL THAT CIRCUIT. THE SWITCHES WILL HAVE A CORRESPONDING AND MATCHING DESIGNATION LETTER.

RECEPTACLE CONTROL SCHEDULE

MARK	CONTROL DESCRIPTION	CONTROL DEVICES	SEQUENCE OF OPERATION
1	VACANCY SENSING SPLIT-CIRCUIT CONTROLLED	16352-1PX (20A, 125V, SPLIT-CIRCUIT MARKED CONTROLLED DUPLEX RECEPTACLE) RMJS-20R-DV-B (RECEPTACLE CONTROL POWER PACK WITH WIRELESS RECEIVER)	TOP HALF OF ALL RECEPTACLES IN THIS ROOM ARE TO BE AUTO-ON/AUTO-OFF CONTROLLED BY THE RECEPTACLE CONTROL POWER PACK RECEIVING INPUTS FROM THE LIGHTING CONTROL SENSOR IN THE ROOM, REFER TO LIGHTING PLAN. BOTTOM HALF TO REMAIN UNSWITCHED.

THIS CONTROL SCHEDULE IS INTENDED TO PROVIDE GENERAL RECEPTACLE CONTROL DEVICE QUALITY AND PERFORMANCE REQUIREMENTS ONLY. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN THE EXACT MODEL/CATALOG NUMBER OF THE RECEPTACLE CONTROL DEVICES LISTED ABOVE. THIS RECEPTACLE CONTROL DESIGN IS BASED ON LUTRON LIGHTING CONTROL DEVICES AND LEVITON RECEPTACLES, CONTRACTOR MUST SUBMIT ANY SUBSTITUTION OF AN APPROVED MANUFACTURER TO THE ENGINEER FOR REVIEW.

LIGHTING CONTROL SCHEDULE

MARK	CONTROL DESCRIPTION	CONTROL DEVICES	SEQUENCE OF OPERATION
1	WALL MOUNTED VACANCY SENSING	MS-B102 (DUAL-TECHNOLOGY WALL VACANCY SENSOR)	LIGHT FIXTURES IN THIS ROOM ARE TO BE MANUAL-ON/ AUTO-OFF CONTROLLED BY THE WALL MOUNTED VACANCY SENSOR SWITCH.
1C	WALL MOUNTED OCCUPANCY SENSING	MS-B102 (DUAL-TECHNOLOGY WALL OCCUPANCY SENSOR)	LIGHT FIXTURES IN THIS ROOM ARE TO BE AUTO-ON/ AUTO-OFF CONTROLLED BY THE WALL MOUNTED OCCUPANCY SENSOR SWITCH.
2B	CEILING MOUNTED VACANCY SENSING	PJ2-2B-GXX-L01 (WIRELESS REMOTE SWITCH) LRF2-OCR2B-P (WIRELESS CEILING VACANCY SENSOR) RMJS-16R-DV-B (RELAY POWER PACK WITH WIRELESS RECEIVER)	LIGHT FIXTURES IN THIS ROOM ARE TO BE MANUAL-ON/ AUTO-OFF CONTROLLED BY THE RELAY POWER PACK WITH WIRELESS RECEIVER; RECEIVING INPUTS FROM THE WIRELESS CEILING MOUNTED VACANCY SENSOR & THE WIRELESS REMOTE SWITCH.
2C	CEILING MOUNTED OCCUPANCY SENSING	PJ2-2B-GXX-L01 (WIRELESS REMOTE SWITCH) LRF2-OCR2B-P (WIRELESS CEILING OCCUPANCY SENSOR) RMJS-16R-DV-B (RELAY POWER PACK WITH WIRELESS RECEIVER)	LIGHT FIXTURES IN THIS ROOM ARE TO BE AUTO-ON/ AUTO-OFF CONTROLLED BY THE RELAY POWER PACK WITH WIRELESS RECEIVER; RECEIVING INPUTS FROM THE WIRELESS CEILING MOUNTED OCCUPANCY SENSOR & THE WIRELESS REMOTE SWITCH.
4B	CEILING MOUNTED VACANCY SENSING WITH DIMMING	PJ2-2BRL-GXX-L01 (WIRELESS REMOTE SWITCH WITH DIMMING) LRF2-OCR2B-P (WIRELESS CEILING VACANCY SENSOR) RMJS-8T-DV-B (0-10V DIMMING POWER PACK WITH WIRELESS RECEIVER)	LIGHT FIXTURES IN THIS ROOM ARE TO BE MANUAL-ON/ AUTO-OFF CONTROLLED BY THE DIMMING POWER PACK WITH WIRELESS RECEIVER; RECEIVING INPUTS FROM THE WIRELESS CEILING MOUNTED VACANCY SENSOR & THE WIRELESS DIMMING REMOTE SWITCH.
6	DIMMING WITH TIMECLOCK CONTROL	PJ2-2BRL-GXX-L01 (WIRELESS REMOTE SWITCH WITH DIMMING) RMJS-8T-DV-B (0-10V DIMMING POWER PACK WITH WIRELESS RECEIVER)	LIGHT FIXTURES IN THIS ROOM ARE TO BE MANUAL-ON/ AUTO-OFF CONTROLLED BY A TIMECLOCK;& WIRELESS DIMMING REMOTE SWITCH.

THIS CONTROL SCHEDULE IS INTENDED TO PROVIDE GENERAL LIGHTING CONTROL DEVICE QUALITY AND PERFORMANCE REQUIREMENTS ONLY. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN THE EXACT MODEL/CATALOG NUMBER OF THE LIGHTING CONTROL DEVICES LISTED ABOVE. THIS LIGHTING CONTROL DESIGN IS BASED ON LUTRON LIGHTING CONTROL DEVICES, CONTRACTOR MUST SUBMIT ANY SUBSTITUTION OF AN APPROVED MANUFACTURER TO THE ENGINEER FOR REVIEW.

LIGHT FIXTURE SCHEDULE

Label	Mounting	Lamp	Description	Luminaire Watts
A - 33W	RECESSED	LED	WILLIAMS P/N: FT-22-LS-8CS-AF-DIM-UNV – 33W@3500K	32.7
AE	RECESSED	LED	SAME AS ABOVE WITH 90-MINUTE BATTERY PACK	32.7
A1 - 24W	RECESSED	LED	WILLIAMS P/N: FT-22-LS-8CS-AF-DIM-UNV – 24W@3500K	23.8
A1E	RECESSED	LED	SAME AS ABOVE WITH 90-MINUTE BATTERY PACK	23.8
BE-30W	RECESSED	LED	WILLIAMS P/N: BP-22-LS-8CS-DIM-UNV – 30W@3500K WITH 90-MINUTE BATTERY PACK	30.5
D	RECESSED	LED	WILLIAMS P/N: 4DR-TL-L10/835-DIM-UNV-OW-OF-CS-N-F1	9
DE	RECESSED	LED	SAME AS ABOVE WITH 90-MINUTE BATTERY PACK	9
DW (EXISTING)	RECESSED	LED	HE WILLIAMS 6DR-TL-L15/835-DIM-UNV-OM-OF-CS-WET-CC-N-F1	13.8
DWE (EXISTING)	RECESSED	LED	HE WILLIAMS 6DR-TL-L15/835-DIM-UNV-OM-OF-CS-WET-CC-N-F1-EM/10	13.8
T	SURFACE	LED	LUMENTURE JT-8 TRACK WITH LUMENTURE T50-30H-11022-22-X-J HEADS	14. PROVIDE WITH 80W CURRENT LIMITER
V	SURFACE	LED	LOUIS PARISIAN 3-LIGHT MODERN CONTEMPORARY LED VANITY	4
X	SURFACE	LED	NEW EXIT SIGN T.B.D WITH 90-MINUTE BATTERY PACK	<5

THIS FIXTURE SCHEDULE IS INTENDED TO PROVIDE GENERAL LIGHTING FIXTURE QUALITY AND PERFORMANCE REQUIREMENTS ONLY. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN THE EXACT MODEL/CATALOG NUMBER OF THE LIGHTING FIXTURES LISTED ABOVE. ANY DIFFERENCES BETWEEN THIS LIGHTING FIXTURE SCHEDULE AND ARCHITECTURAL DRAWINGS OR MANUFACTURERS PRODUCT LISTINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER. FLUORESCENT LIGHTS THAT ARE SHOWN WITH DIMMER CONTROL SHALL BE PROVIDED WITH AN ELECTRONIC DIMMING BALLAST. FLUORESCENT LIGHTS NOT SHOWN DIMMED SHALL HAVE A NON-DIMMING ELECTRONIC BALLAST. ALL LAMPS SHALL MATCH BUILDING STANDARD.

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ACORN golf club

ACORN GOLF SIMULATOR
13825 Timber Forest Dr, Houston, TX 77044
SUITE 103

E/B/E PROJECT NUMBER: 26052.00

ISSUED FOR CLIENT APPROVAL	DATE
ISSUED FOR BIDDING	04/09/2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

MARK	DESCRIPTION	DATE
	REVIEW SET	03/27/2026
	ISSUE FOR BID SET	04/09/2026

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MECHANICAL: CC
ELECTRICAL: JG
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DRAWING TITLE
ELECTRICAL INFORMATION

SHEET NO.
E-1.00

E/B/E Mechanical Electrical Plumbing
CONSULTING ENGINEERS
12603 Southwest Frwy, Ste 170, Stafford, Tx 77477
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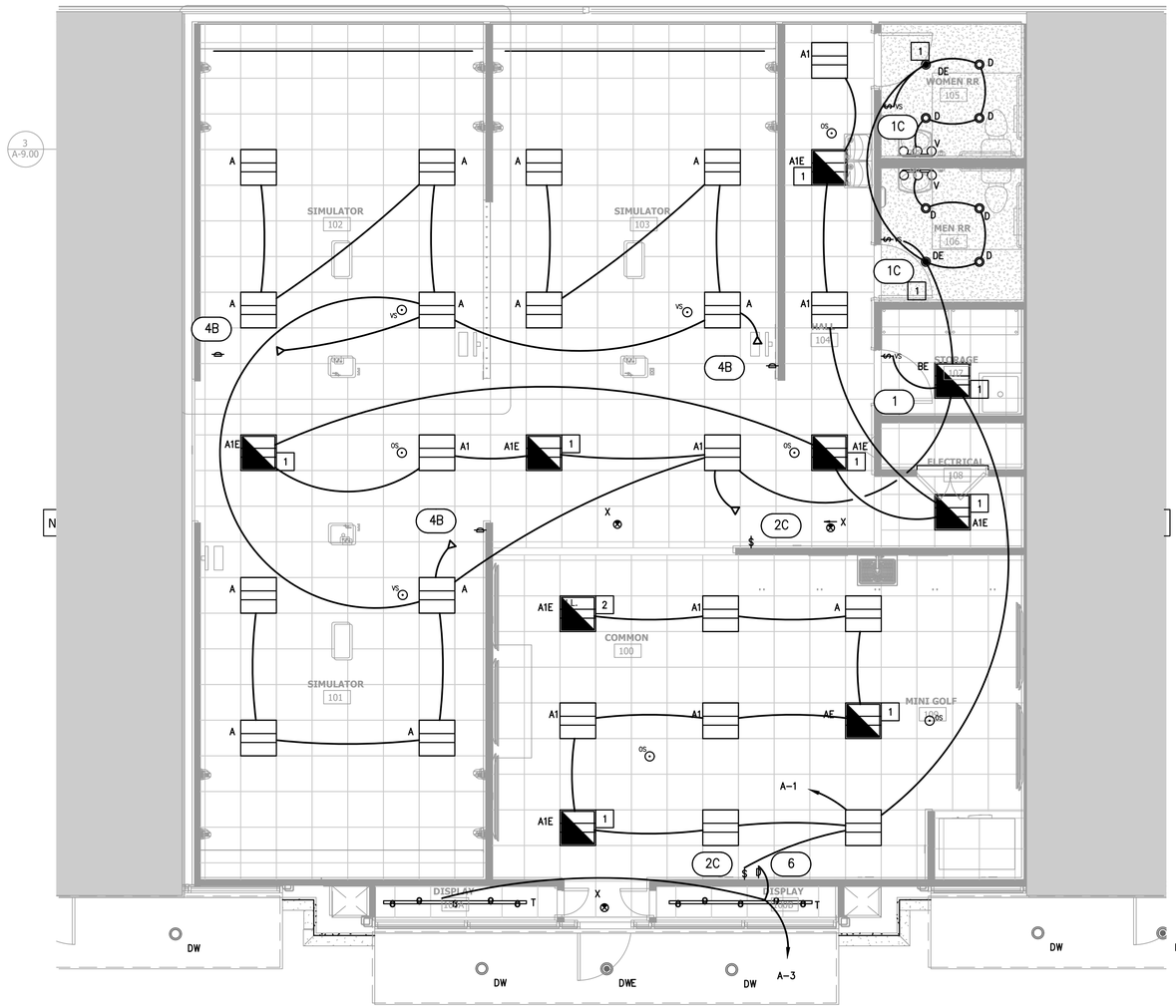
JOSE M. GUERRERO
154536
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS



ELECTRICAL LIGHTING CONTROL NOTES:

1. TIMECLOCK TO BE INTERMATIC ET2100 SERIES WITH TWO INDEPENDENT OUTPUTS AND HOLIDAY FUNCTION.
   TIME CLOCK FEATURES:
   A. 365-DAY PROGRAMMABLE CLOCK WITH 48 ON/48 OFF FEATURES.
   B. AUTOMATIC DAYLIGHT SAVING TIME (DST) ON/OFF ADJUSTMENT.
   C. NON-VOLATILE EEPROM MEMORY FOR LIFETIME PROGRAMMING PROTECTION.
   D. TEMPORARY OVERRIDE OR PERMANENT MANUAL OVERRIDE AVAILABLE VIA CONTROL BUTTONS.
   E. ADDITIONAL MODE OF OPERATION ALLOWS FOR ON/OFF BUTTONS TO BECOME A 2 HOUR OVERRIDE CONTROL.
   F. 100-HOUR SUPERCAPACITOR ELIMINATES BATTERY DEPENDENCY.
   G. 50 HOLIDAY BLOCKS WITH SCHEDULES.
2. CIRCUIT TO BE CONTROLLED BY TIMECLOCK OUTPUT WITH 2-HOUR TIMED OVERRIDE SWITCH:
   A-3 (DISPLAY TRACK LIGHTS)
3. CIRCUIT TO BE CONTROLLED BY TIMECLOCK OUTPUT
   A-5 (SIGN)

01 ELECTRICAL LIGHTING PLAN

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

ELECTRICAL LIGHTING KEYED NOTES:

1. CROSS HATCHING INDICATES EMERGENCY LIGHTING. FIXTURE TO BE CONNECTED TO UN-SWITCHED HOT CONDUCTOR WITH 2#10, 1/2"C . PROVIDE FIXTURE WITH 90 MINUTE EMERGENCY BATTERY PACK. FIXTURE TO BE SWITCHED AS SHOWN UNDER NORMAL CONDITIONS.
2. CROSS HATCHING INDICATES EMERGENCY LIGHTING. FIXTURE TO BE CONNECTED TO UN-SWITCHED HOT CONDUCTOR WITH 2#10, 1/2"C . PROVIDE FIXTURE WITH 90 MINUTE EMERGENCY BATTERY PACK. FIXTURE TO RUN CONTINUOUSLY AND UN-SWITCHED.
3. PROVIDE ON/OFF TOGGLE SWITCH AT THIS LOCATION FOR LIGHT CONTROL.

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ACORN GOLF SIMULATOR
13825 Timber Forest Dr, Houston, TX 77044
SUITE 103

E/B/E PROJECT NUMBER - 25052.00

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ISSUED FOR BIDDING	04/09/2026
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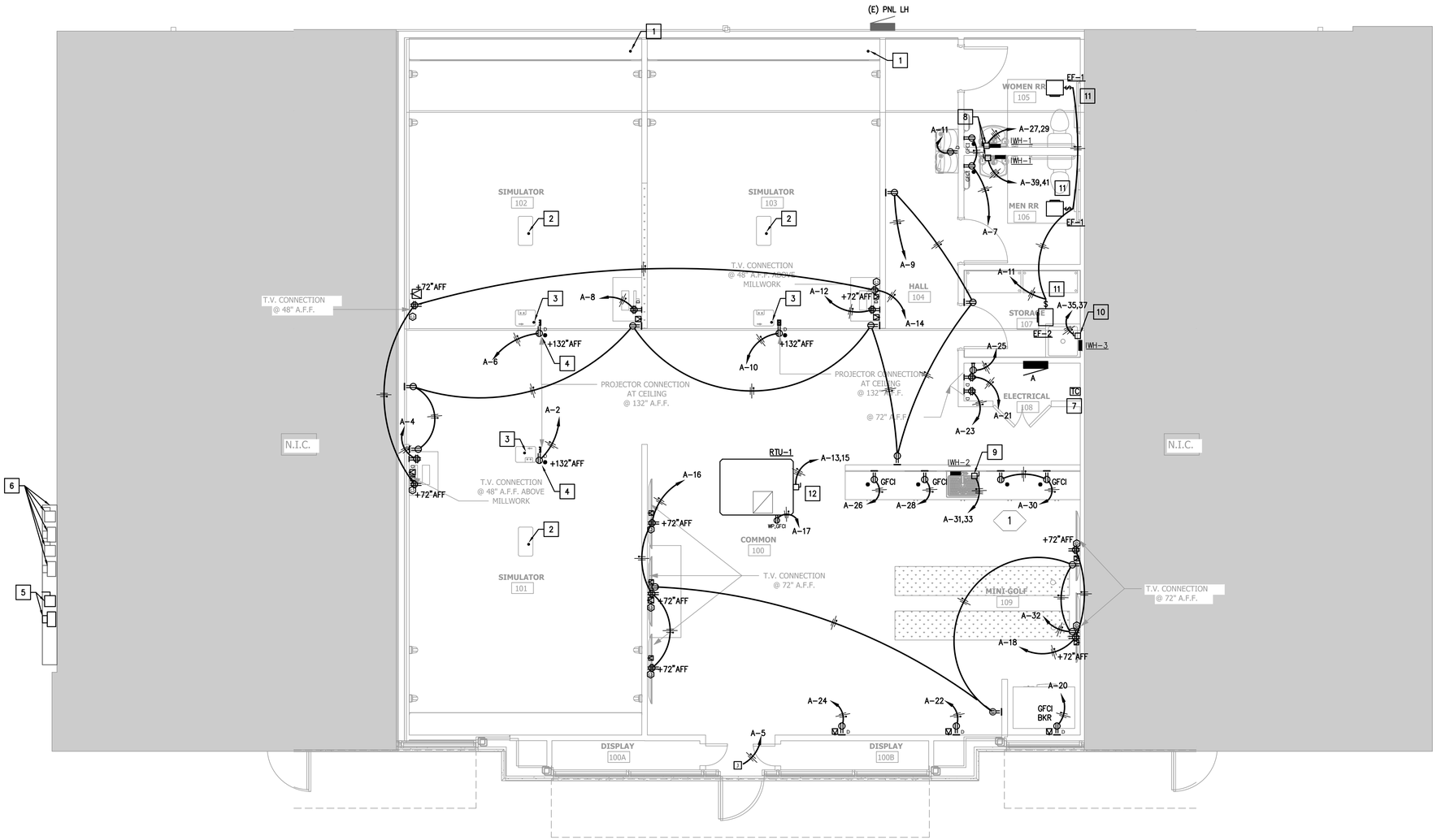
DRAWING TITLE
ELECTRICAL LIGHTING PLAN

SHEET NO.
E-2.00



01 ELECTRICAL POWER PLAN
SCALE: 1/4"=1'-0"

ELECTRICAL POWER KEYED NOTES:

1. PROVIDE 1.5" CONDUIT FROM TRACKING SYSTEM TO CPU WITH PULL STRING. COORDINATE EXACT LOCATION PRIOR TO COMMENCEMENT OF WORK.
2. PROVIDE 1.5" CONDUIT FROM ION CAMERA TO CPU WITH PULL STRING. COORDINATE EXACT LOCATION PRIOR TO COMMENCEMENT OF WORK.
3. PROVIDE 1.5" CONDUIT FROM PROJECTOR TO CPU WITH PULL STRING. COORDINATE EXACT LOCATION PRIOR TO COMMENCEMENT OF WORK.
4. CEILING MOUNTED DUPLEX FOR PROJECTOR.
5. NEW METER AND DISCONNECT LOCATION. REFER TO RISER DIAGRAM FOR MORE INFORMATION. COORDINATE EXACT LOCATION IN FIELD PRIOR TO COMMENCEMENT OF WORK.
6. EXISTING WIRE GUTTER, METERS AND DISCONNECTS. VERIFY EXACT LOCATION.
7. TIMECLOCK LOCATION. REFER TO LIGHTING CONTROL NOTES FOR MORE INFORMATION.
8. PROVIDE 30A./NF/240V/2-POLE/NEMA 1 DISCONNECT IN ACCESSIBLE LOCATION.
9. PROVIDE 60A./NF/240V/2-POLE/NEMA 1 DISCONNECT IN ACCESSIBLE LOCATION.
10. PROVIDE 100A./NF/240V/2-POLE/NEMA 1 DISCONNECT IN ACCESSIBLE LOCATION.
11. PROVIDE 20A./120V./HD TOGGLE SWITCH IN ACCESSIBLE LOCATION.
12. PROVIDE 100A./NF/240V/2-POLE/NEMA 3R DISCONNECT IN ACCESSIBLE LOCATION.

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DRAWING TITLE
ELECTRICAL POWER PLAN

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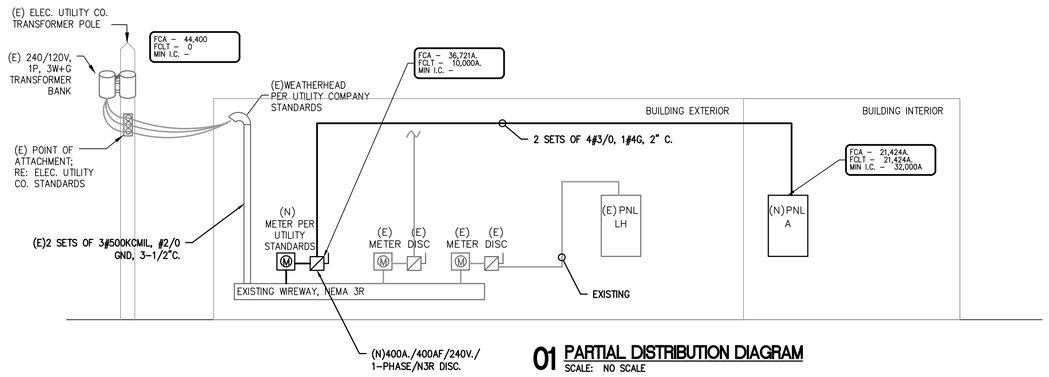

01 PARTIAL DISTRIBUTION DIAGRAM
SCALE: NO SCALE

ELECTRICAL DISTRIBUTION DIAGRAM NOTES:

1. CONDUCTOR SIZES SHOWN ARE FOR COPPER CONDUCTORS WITH THWN INSULATION IN EMT (4" C., OR LESS) OR RIGID CONDUIT (> 4" C.) PROVIDE GROUNDING CONDUCTORS FOR ALL CONDUIT. GROUNDING CONDUCTORS ARE NEEDED FOR ALL PVC CONDUIT.
2. SHORT CIRCUIT CURRENT VALUES ARE GIVEN IN RMS SYMETRICAL AMPERES. PREFIX 'FCA' INDICATES MAXIMUM AVAILABLE FAULT CURRENT. PREFIX 'FCLT' INDICATES APPARENT LET-THRU CURRENT FROM UPSTREAM CURRENT LIMITING DEVICE.
3. ELECTRICAL SYSTEM SHALL BE FULLY RATED. SERIES RATED EQUIPMENT IS NOT ACCEPTABLE.
4. PROVIDE FULL LENGTH, FULL SIZE INSULATED GROUND AND NEUTRAL BUS IN ALL PANELBOARDS.
5. REFER TO ELECTRICAL UTILITY SPECIFICATIONS FOR ALL WORK AT SERVICE POINT OF ATTACHMENT.
6. CONTRACTOR TO VERIFY FAULT CURRENT AVAILABLE AT UTILITY TRANSFORMER SECONDARY WITH ELECTRICAL UTILITY FOR THE FINAL SELECTION OF EQUIPMENT AIC RATINGS.
7. SPARES AND SPACES ARE INDICATED ON PANELBOARD SCHEDULES.
8. FLEXIBLE METAL CONDUIT SHALL NOT BE USED IN WET LOCATIONS OR WET AREAS.
9. ALL FEEDER AND BRANCH CIRCUIT WIRING METHODS SHALL INCLUDE AN EQUIPMENT-GROUNDING CONDUCTOR PER NEC.
10. ALL CONDUIT BELOW GRADE OR IN CONCRETE SLABS SHALL BE PVC. MAXIMUM CONDUIT SIZE FOR CONDUIT IN CONCRETE SLABS IS 3/4".
11. A PERMANENTLY AFFIXED LABEL SHALL BE APPLIED WITH THE AVAILABLE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION. THE LABEL SHALL BE 2 X 3 IN SIZE AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION. COH ELECTRICAL CODE 504.1.1.

ELECTRICAL LOAD ANALYSIS
PROJECT NAME: ACORN GOLF CLUB
PROJECT NUMBER: 26052.00

SERVICE VOLTAGE: 120/240V, 1 PHASE, 3 WIRE, DELTA

SERVICE RATING: 400 AMPS

GROSS AREA: 2,354 SQUARE FEET

LOAD DESCRIPTION	CODE LOAD (kVA)	A PHASE LOAD (kVA)	C PHASE LOAD (kVA)	NEUTRAL LOAD (kVA)	DEMAND FACTORS (%)	DESIGN LOAD, A (A)	DESIGN LOAD, C (A)	DESIGN LOAD, N (A)	REMARKS
240V, 1 PHASE, 2 WIRE LOADS									
EQUIPMENT:		0.0	0.0		100%	0.0	0.0		NEC 220.14.A
WATER HEATERS:		16.5	16.5		100%	119.1	119.1		NEC 220.14.A
HVAC:		5.9	5.9		100%	42.6	42.6		NEC 220.14.C, 220.50
ELECTRIC HEAT:		0.0	0.0		100%	0.0	0.0		NEC 220.51
120V, 1 PHASE, 2 WIRE LOADS									
LIGHTS (1.7 VA/FT2):	4.0	2.6	0.6	2.0	125%	20.8	20.8	20.8	NEC 220.12
SIGN LIGHTS:		1.2	0.0	1.2	125%	12.5	0.0	12.5	NEC 220.14.F
SITE LIGHTS:		0.0	0.0	0.0	125%	0.0	0.0	0.0	NEC 220.42, 43, 44, 45
RECEPTACLES:		1.4	0.9	1.4	10kVA+50%	12.0	7.5	12.0	NEC 220.14.H, I, J, K, 220.47
EQUIPMENT:		4.3	5.9	5.9	100%	35.8	48.8	48.8	NEC 220.14.A
WATER HEATERS:		0.0	3.0	3.0	100%	0.0	25.0	25.0	NEC 220.14.A
HVAC:		0.0	0.0	0.0	100%	0.0	0.0	0.0	NEC 220.14.C, 220.50

TOTAL DESIGN LOAD:	A PHASE	C PHASE	NEUTRAL	
@ 240V, 1 PHASE:	243	264	119	AMPS

NOTE: ALL LOADS AND DEMAND FACTORS ARE IN ACCORDANCE WITH APPLICABLE SECTIONS OF NEC ARTICLE 220

PROJECT NAME: ACORN GOLF CLUB
PROJECT NUMBER: 26052.00

PANEL: A — NEW PANEL
VOLTAGE: 120/240V, 1PH, 3W BUS: 400 AMP MAINS: 400A M.C.B. ACCESSORIES: INSULATED GROUND
NEMA: 1 S.C.C.R: 32KAIC FEED-THRU LUGS
CODES: 0=LIGHTS 1=RECEP 2=EQUIP 3=A/C 4=HTG 5=125% LGST MTR 6=KITCHEN 7=PREVIOUSLY CALCULATED

CODE	LOAD	CIRCUIT DESCRIPTION	BKR	CKT	PH	CKT	BKR	CIRCUIT DESCRIPTION	LOAD	CODE
0	1350	LIGHTS	20/1	1	A	2	20/1	BAY 1 PROJECTOR	800	2
0	600	DISPLAY LTS	20/1	3	C	4	20/1	BAY 1 CPU	400	2
0	1200	SIGN	20/1	5	A	6	20/1	BAY 2 PROJECTOR	800	2
1	360	RESTROOM GFI	20/1	7	C	8	20/1	BAY 2 CPU	400	2
1	1080	G.P. RECEPTACLES	20/1	9	A	10	20/1	BAY 3 PROJECTOR	800	2
2	1200	EDF	20/1	11	C	12	20/1	BAY 3 CPU	400	2
3	5856	RTU-1	70/2	13	A	14	20/1	BAY TVS	900	2
3	5856	--	--	15	C	16	20/1	COMMON TVS	900	2
		SPARE	20/1	17	A	18	20/1	MINI GOLF TVS	600	2
		SPARE	20/1	19	C	20	20/1	VENDING MACHINE GFCI BRKR	1200	2
2	800	IT DED	20/1	21	A	22	20/1	EQUIPMENT	400	2
2	800	IT DED	20/1	23	C	24	20/1	EQUIPMENT	400	2
1	180	ELECT GP	20/1	25	A	26	20/1	SMALL APPLIANCE	600	6
4	2750	IWH 1	30/2	27	C	28	20/1	SMALL APPLIANCE	600	6
4	2750	--	--	29	A	30	20/1	G.P.	180	1
4	5750	IWH 2	60/2	31	C	32	20/1	G.P.	540	1
4	5750	--	--	33	A	34	20/1	SPARE		
4	6500	IWH 3	70/2	35	C	36	20/1	SPARE		
4	6500	--	--	37	A	38	20/1	SPARE		
4	2750	IWH 1	30/2	39	C	40	20/1	SPARE		
4	2750	--	--	41	A	42	20/1	SPARE		

LIGHTS	RECEP.	EQUIP.	MOTORS	EL. HEAT	PHASE
2550	1440	5700	5856	17750	A
600	900	6300	5856	17750	C
3150	2340	12000	11712	35500	TOTAL

PHASE	CONN.KVA	LOAD FACTORS	DES. KVA	DES. AMP
A	33.3	LIGHTS @ 125%	33.9	283
C	31.4	EQUIP. @ 100%	31.6	263
		L.G. MOTOR @125%		
TOTAL	64.7	RECEPS @ 10kW+50%	65.5	273

F.T.L.

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ACORN GOLF SIMULATOR
13825 Timber Forest Dr, Houston, TX 77044
SUITE 103
E/B/E PROJECT NUMBER: 26052.00

	DATE
ISSUED FOR CLIENT APPROVAL	
ISSUED FOR BIDDING	04/09/2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

MARK	DESCRIPTION	DATE
	REVIEW SET	03/27/2026
	ISSUE FOR BID SET	04/09/2026

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DESIGN TEAM
PM: JG
MECHANICAL: CC
ELECTRICAL: JG
CHECKED-BY:

E/B/E Mechanical Electrical Plumbing
CONSULTING ENGINEERS
12603 Southwest Frwy, Ste 170, Stafford, Tx 77477
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JOSE M. GUERRERO
154536
REGISTERED PROFESSIONAL ENGINEER

DRAWING TITLE
ELECTRICAL RISER DIAGRAM

SHEET NO.
E-4.00

FIRE PROTECTION NOTES:

1. PROVIDE A COMPLETE FULLY AUTOMATIC WET PIPE SYSTEM HYDRAULICALLY CALCULATED IN ACCORDANCE WITH THE STATE FIRE MARSHAL AND THE LATEST EDITION N.F.P.A. 13, 14, AND REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION.
2. ALL FIRE PROTECTION EQUIPMENT, I.E. PIPING, VALVES, FITTINGS AND ACCESSORIES, ETC. SHALL BE RATED FOR A MAXIMUM WORKING PRESSURE OF 250 PSI.
3. PROVIDE PRESSURE REDUCING VALVES AT ALL SPRINKLER SYSTEM AND FIRE DEPARTMENT HOSE CONNECTIONS WHERE PRESSURES EXCEED 175 PSIG IN ACCORDANCE WITH CODE REQUIREMENTS. CONTRACTOR SHALL FIELD PRESSURE TEST SYSTEM AND DETERMINE WHERE PRESSURE REDUCING VALVES ARE REQUIRED.
4. USE PIPING AND FITTINGS FOR FIRE SUPPRESSION SYSTEMS WHICH ARE APPROVED FOR USE BY UNDERWRITERS' LABORATORIES AND FACTORY MUTUAL SYSTEM ANDS OF THE FOLLOWING TYPES; AND IN ACCORDANCE WITH NFPA, LOCAL CODES ALL AUTHORITIES HAVING JURISDICTION.

   a) BLACK STEEL PIPING: MANUFACTURED TO SATISFY ASTM STANDARDS A53 OR A135.
5. ALL SPRINKLER PIPING SHALL BE INSTALLED SO THAT ALL PORTIONS OF THE SYSTEM CAN BE DRAINED BACK THROUGH THE DRAIN VALVE WHERE REQUIRED. PROVIDE DRAIN VALVES FOR ALL TRAPPED PORTIONS OF THE SYSTEM.
6. ALL FIRE EQUIPMENT THREADS SHALL CONFORM TO LOCAL FIRE DEPARTMENT STANDARDS.
7. ALL CONTROL VALVES – CHECK VALVES AND FLOW ALARM SWITCHES LOCATED ABOVE FINISHED CEILING SHALL BE ACCESSIBLE AND HAVE A NOTIFICATION MARKING TAG AS REQUIRED FOR INSPECTION VERIFICATION.
8. CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL PLUMBING/SPRINKLER PIPING TO MAINTAIN PROPER CLEARANCES OVER AREA.

PLUMBING NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH 2006 INTERNATIONAL PLUMBING CODE.
2. ALL SOIL AND WASTE PIPING SHALL BE INSTALLED AT A MAXIMUM OF 1/8" (1%) PER FOOT GRADE UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
3. PIPING AND/OR EQUIPMENT SHALL NOT BE SUPPORTED FROM STRUCTURAL MEMBERS WITHOUT PRIOR REVIEW AND APPROVAL FROM THE STRUCTURAL ENGINEER.
4. CONTRACTOR IS PROHIBITED FROM USING LEAD–BASED SOLDER.
5. PROVIDE ONE (1) TRAP PRIMER VALVE FOR EACH FLOOR DRAIN WITHOUT A CONSTANT SOURCE OF WATER SUPPLY TO MAINTAIN TRAP SEAL. PRIMER VALVE SHALL BE LOCATED IN AN ACCESSIBLE AREA AND CONNECTED TO THE NEAREST 3/4" COLD WATER LINE SERVING A FIXTURE.
6. BACK FLOW PREVENTER ASSEMBLY SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION (APPROXIMATELY 4'–0" A.F.F.). PIPE RELIEF VALVE DISCHARGE PIPING TO NEAREST FLOOR DRAIN. DO NOT INSTALL ABOVE FINISHED CEILINGS.
7. DOUBLE CHECK VALVE ASSEMBLY SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION (APPROXIMATELY 4'–0" A.F.F.). DO NOT INSTALL ABOVE FINISHED CEILINGS.
8. ALL PLUMBING FIXTURES AND EQUIPMENT SHALL CONFORM TO ALL APPLICABLE ENERGY CONSERVATION CODES.
9. ALL PIPING, VALVES, AND ACCESSORIES SERVING EQUIPMENT SHALL CONFORM TO ALL APPLICABLE ENERGY CONSERVATION CODES.
10. ANCILLARY SYSTEMS NOT ASSOCIATED WITH EQUIPMENT SHALL NOT BE INSTALLED SO AS TO INHIBIT SERVICING AND/OR REMOVAL OF SAID EQUIPMENT.
11. STERILIZE DOMESTIC WATER PIPING SYSTEM IN ACCORDANCE WITH STATE AND LOCAL CODES, AND BASE BUILDING SPECIFICATIONS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AN ON–SITE FLOW TEST AT THE NEAREST FIRE HYDRANT. THE RESULTS OF THIS TEST SHALL BE SUBMITTED TO THE ENGINEER OF RECORD UPON COMPLETION OF THE TEST.

GENERAL NOTES:

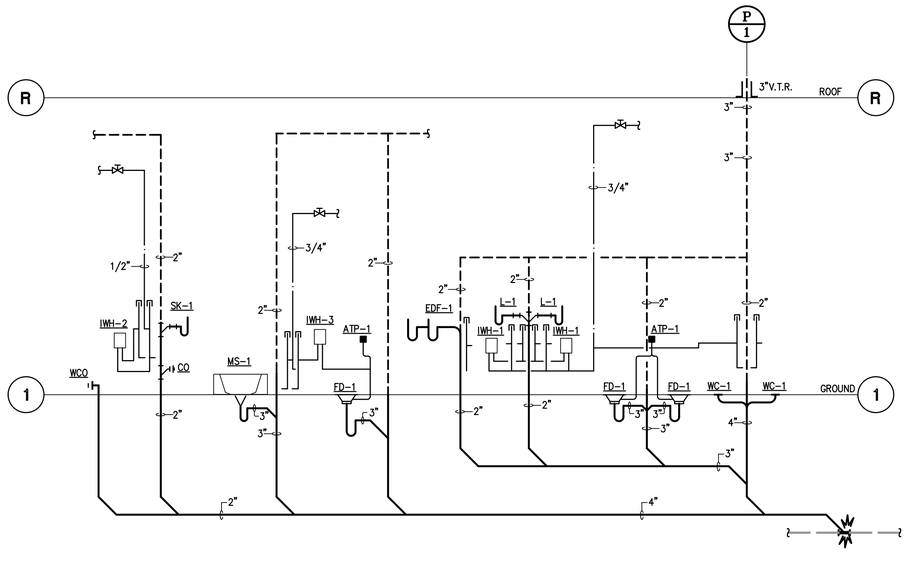
1. ALL CONTRACT DOCUMENTS (SPECIFICATIONS AND DRAWINGS), I.E., ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL ARE COMPLEMENTARY AND MUST BE USED IN COMBINATION TO OBTAIN COMPLETE CONSTRUCTION INFORMATION.
2. ALL CONFLICTS, WHICH MAY PREVENT THE COMPLETION OF WORK AS INTENDED, SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION. THE CONTRACTOR SHALL NOT PROCEED WITH ANY RELATED WORK UNTIL ALL CONFLICTS ARE RESOLVED AND THE CLARIFYING INFORMATION IS ISSUED TO THE CONTRACTOR BY THE ARCHITECT.
3. IT IS THE INTENTION OF THESE DRAWINGS TO CALL FOR FINISHED WORK, I.E., FULLY ADJUSTED, TESTED, AND READY FOR OPERATION. WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN, "FURNISH AND INSTALL COMPLETE AND READY FOR USE."
4. THE PLUMBING DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY SHOW EVERY COMPONENT AND/OR ACCESSORY REQUIRED FOR A COMPLETE INSTALLATION. THE CONTRACTOR SHALL INCLUDE SUCH ITEMS AS ARE REQUIRED TO ENSURE THAT THE ENTIRE SYSTEM IS FUNCTIONING IN COMPLIANCE WITH APPLICABLE CODES, ACCEPTED INDUSTRY STANDARDS, AND MANUFACTURER'S INSTALLATION REQUIREMENTS/RECOMMENDATIONS UPON COMPLETION OF THE WORK.
5. ALL CUTTING, DRILLING AND PATCHING OF WALLS, FLOORS, AND/OR STRUCTURAL MEMBERS FOR THE INSTALLATION OF THE PLUMBING AND FIRE PROTECTION SYSTEMS SHALL BE PROVIDED. STRUCTURAL COMPONENTS SHALL NOT BE CUT, DRILLED OR MODIFIED IN A WAY WITHOUT THE STRUCTURAL ENGINEER'S REVIEW AND PRIOR WRITTEN APPROVAL.
6. PROVIDE NFPA APPROVED FIRE STOPPING WHERE PIPES PENETRATE FIRE RATED FLOORS AND WALLS.

PLUMBING FIXTURE AND CONNECTION SCHEDULE

SYMBOL	DESCRIPTION	SIZE OF CONNECTION TRAP	SS	SV	CW	HW	REMARKS	WATER CONSERVATION
TS–1	TIME SWITCH	–	–	–	3/4"	–	TORK ELECTROMECHANICAL 24 HOUR TIME SWITCH POWERED BY A SELF STARTING SYNCHRONOUS MOTOR. INSTALL ON WALL ADJACENT TO CIRCULATING PUMP. COORDINATE WITH ELECTRICAL AND PROVIDE FOR 120/1/60 HZ POWER REQUIREMENT.	
ATP–1	AUTOMATIC TRAP PRIMER	–	–	–	1/2"	–	PRECISION PRODUCTS "PRIME–RITE" TRAP PRIMER MODEL # PRO1–500.	
TMV–1	THERMOSTATIC MIXING VALVE	–	–	–	1/2"	–	SYMMONS NO #8210CK THERMOSTATIC MIXING VALVE CONSTRUCTION SHALL BE ROUGH BRASS AND BRONZE WITH BRASS AND STAINLESS STEEL FLOW CONTROL COMPONENTS, WITH INTEGRAL CHECKS AND VALVES. 360 DEGREES HANDLE ADJUSTMENT FOR TEMPERATURE SELECTION. @ 110 F. MAX	
MS–1	SERVICE SINK	3"	3"	2"	1/2"	1/2"	STERN WILLIAMS MODEL No. SB–902–BP–2 –LB OR APPROVED EQUAL WHITE (24"x24") SERVICE SINK WITH 10" HIGH WALLS, 3" STAINLESS STEEL COMBINATION DOME STRAINER AND LINT BASKET OUTLET, ACID RESISTANT, MOLDED STONE (COLOR AS SPECIFIED BY ARCHITECT). REMOVABLE VINYL–COATED RIM GUARD No. V–70–24. SINK FITTING CHICAGO 897–RCF OR T&S No. B–0665–BSTR ROUGH CHROME PLATED BRASS FINISH, RIGID SPOUT, WALL BRACE, INTEGRAL STOPS, PAIL HOOK, HOSE END, VACUUM BREAKER AND VANDAL PROOF SCREWS. PROVIDE 30" HOSE (MINIMUM) WITH STAINLESS STEEL BRACKET (EQUAL TO STERN – WILLIAMS No. T–35) AND STAINLESS STEEL MOP HANGER (EQUAL TO STERN – WILLIAMS No. T–40). PROVIDE 12" HIGH, 20 GAUGE TYPE 316 STAINLESS STEEL SPLASH GUARDS ON ALL WALLS ADJACENT TO THE SERVICE SINK. PROVIDE AND INSTALL INTERNAL WALL SUPPORTS IN ACCORDANCE WITH THE ARCHITECTS REQUIREMENTS FOR THE WALL BRACE ATTACHMENTS.	
FD–1	FLOOR DRAIN	3"	3"	2"	1/2"		J.R. SMITH FIGURE No. 2005Y–A06NB–P OR APPROVED EQUAL PAINTED CAST IRON FLOOR DRAIN AND SEEPAGE FLANGE, SIZE AS NOTED ON DRAWINGS, CLAMPING UNIT, QUAD CLOSE TRAP SEAL, AND 6" ROUNDE ADJUSTABLE POLISHED NICKEL BRONZE STRAINER TYPE TOP AND DEEP SEAL TRAP.	
EDF–1	ELECTRIC DRINKING FOUNTAIN	1–1/4"	2"	2"	1/2"	---	ELKAY EMABFTLDDLC ADA BARRIER–FREE TWO LEVEL WALL MOUNT FOUNTAIN. McGUIRE NO. 8088 CHROME–PLATED ADJUSTABLE P–TRAP WITH CLEANOUT PLUG, 1–1/4" TRAP NIPPLE AND CHROME–PLATED STOP VALVE IN COLD WATER LINE LOCATED INSIDE CABINET. REFER TO ARCHITECT FOR MOUNTING HEIGHTS.	
WC–1	WATER CLOSET	–	4"	2"	1"	–	KOHLER NO. K–25077 "KINGSTON" 1.28 GPF 15" VITREOUS CHINA, FLOOR MOUNTED SIPHON JET WATER CLOSET WITH ELONGATED BOWL, SLOAN 8111–1.28 HIGH EFFICIENCY (1.28 GPF) FLUSH VALVE WITH SCREW DRIVER STOP AND PROTECTIVE CAP ON STOP. CHURCH 9500C WHITE FRONT SEAT WITH CONCEALED STAINLESS STEEL SELF–SUSTAINING AND EXTERNAL CHECK HINGE.	
L–1	LAVATORY HANDICAPPED	1 1/4"	2"	2"	1/2"	1/2"	KOHLER NO. K–2035–1 "PINOIR" 20" X 18" VITREOUS CHINA, WALL HUNG MOUNTED LAVATORY KOHLER K–27415–4 "TONE" FITTING WITH NO. 317 HANDLE, 6" SPOUT AND McGUIRE# 8872 CAST BRASS P–TRAP WITH CLEANOUT PLUG, McGUIRE # 155A CAST BRASS P.O. PLUG WITH OPEN GRID STRAINER AND 17 GAUGE TAILPIECE,McGUIRE # 2165LK SUPPLIES WITH RISER AND WALL ESCUTCHEON. ZURN FLR. MTD. CARRIER/ RECTANGULAR UPRIGHTS. ANGLE SUPPLY AND P–TRAP SHALL BE INSULATED WITH TRAP WRAP BY BROCAR PRODUCTS, INC. OR APPROVED EQUAL.	
SK–1	SINK HANDICAPPED	1–1/2"	2"	2"	1/2"	1/2"	ELKAY No. ELGUAD2519PD SINGLE COMPARTMENT STAINLESS STEEL DROP–IN/UNDER–MOUNT SINK, 18 GAUGE SELF–RIMMING (25" x 18" x 6" DEEP), ELKAY LKAV3031 "AVADO", PROVIDE TMV–1, RIGID/SWING GOOSENECK SPOUT WITH E3–2 AERATOR, CHICAGO No. 1017, ANGLE SUPPLIES WITH STOP, 1/2" CHROME–PLATED BRASS NIPPLES TO WALL, McGUIRE No. 151–A CRUMB CUP STRAINER, No. 8912 (1–1/2") ADJUSTABLE SEMI–CAST CHROME–PLATED BRASS P–TRAP WITH TUBING WASTE TO WALL AND CHROME–PLATED CAST WALL FLANGE WITH SET SCREW SUPPLIES, AND P–TRAP SHALL BE INSULATED WITH TRAP WRAP BY PLUMBEREX SPECIALTY PRODUCTS,INC OR APPROVED EQUAL.	

ELECTRIC TANKLESS WATER HEATER SCHEDULE

MARK	SERVICE	STORAGE IN GALLONS	RECOVERY AT 100° RISE	ELECTRICAL	ELEMENT WATTAGE	MAKE AND MODEL
IWH–1	INSTANTANEOUS WATER HEATER (LAVATORY)	---	---	240/1ø/60Hz	5.5kw	EEMAX TANKLESS MODEL SPEX55T "LAVADVANTAGE" CONNECTION – 0.2 GPM MIN.
IWH–2	INSTANTANEOUS WATER HEATER (SINK)	---	---	240/1ø/60Hz	11.5kw	EEMAX TANKLESS MODEL SPEX012240T "LAVADVANTAGE" CONNECTION – 0.2 GPM MIN.
IWH–3	INSTANTANEOUS WATER HEATER (MOP–SINK)	---	---	240/1ø/60Hz	13.0kw	EEMAX TANKLESS MODEL PR013240 "PROSERIES" CONNECTION – 0.3 GPM MIN.



01 PLUMBING RISER DIAGRAM
SCALE: NONE

PLUMBING LEGEND

SYMBOL	DESCRIPTION
	SANITARY SEWER PIPING
	VENT PIPING
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	EXISTING SANITARY SEWER PIPING
	EXISTING VENT PIPING
	EXISTING DOMESTIC COLD WATER
	EXISTING HOT WATER
	EXISTING HOT WATER RETURN
	NEW CONNECTION TO EXISTING
AFF	ABOVE FINISHED FLOOR
BF	BELOW FLOOR
	GATE VALVE
	CHECK VALVE
	PRESSURE RELIEF VALVE
	UNION
	PRESSURE GAUGE
	THERMOMETER
D	CONDENSATE DRAIN LINE
(E)	EXISTING
(D)	ITEMS TO BE REMOVED
	ELBOW UP
	ELBOW RISE OR DN. THROUGH SLAB
	FLOOR CLEANOUT
	CLEANOUT
	FLOOR DRAIN

DISREGARD LEGEND ITEMS NOT INDICATED ON DRAWINGS

PIPING MATERIAL SCHEDULE

PIPING FUNCTION	PIPING MATERIAL
SANITARY WASTE BELOW GRADE	SCHEDULE 40 PVC
SANITARY WASTE ABOVE GROUND	NO–HUB CAST IRON
SANITARY VENT	NO–HUB CAST IRON
DOMESTIC HOT & COLD WATER	COPPER, TYPE "L" HARD DRAWN
FIRE SPRINKLER ABOVE GROUND	BLACK STEEL SCHEDULE 40

NOTE:
NO HUB COUPLING SHALL HAVE A SHIELD CONSTRUCTED OF 304 CORRUGATED STAINLESS STEEL WITH A MINIMUM THICKNESS OF .016. COUPLING SIZE 1–1/2" – 4" SHALL HAVE FOUR (4) BANDS: APPROVED MANUFACTURES HUSKY SD 4000 AND MISSION. NO TWO BANDS ARE ACCEPT

LEGEND OF PLUMBING SYMBOLS

DISREGARD LEGEND ITEMS NOT INDICATED ON DRAWINGS

FIXTURES

SYMBOLS	DESCRIPTION	SIZE OF CONNECTION SANITARY	TRAP	VENT	C.W.	H.W.	I.W.
W C	WATER CLOSET (FLUSH VALVE)	4"	–	2"	1"	–	–
U	URINAL	2"	–	2"	3/4"	–	–
L	LAVATORY	2"	1–1/4"	1–1/4"	1/2"	1/2"	–
BT	BATH TUB	2"	1–1/2"	1–1/2"	1/2"	1/2"	–
MS	MOP SINK	–	2"	2"	1/2"	1/2"	–
SK–"X"	SINK (BY ARCHITECT)	–	1–1/2"	2"	1/2"	1/2"	–
SH	SHOWER	–	2"	2"	1/2"	1/2"	–
EDF	ELECTRIC DRINKING FOUNTAIN	–	1–1/4"	1–1/4"	1/2"	–	–
DF	DRINKING FOUNTAIN	–	1–1/4"	1–1/4"	1/2"	–	1/2"

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DESIGN TEAM
PM: JG
MECHANICAL: CC
ELECTRICAL: JG
CHECKED-BY:

DRAWING TITLE
PLUMBING INFORMATION

SHEET NO.
P-1.00

JOSE M. GUERRERO
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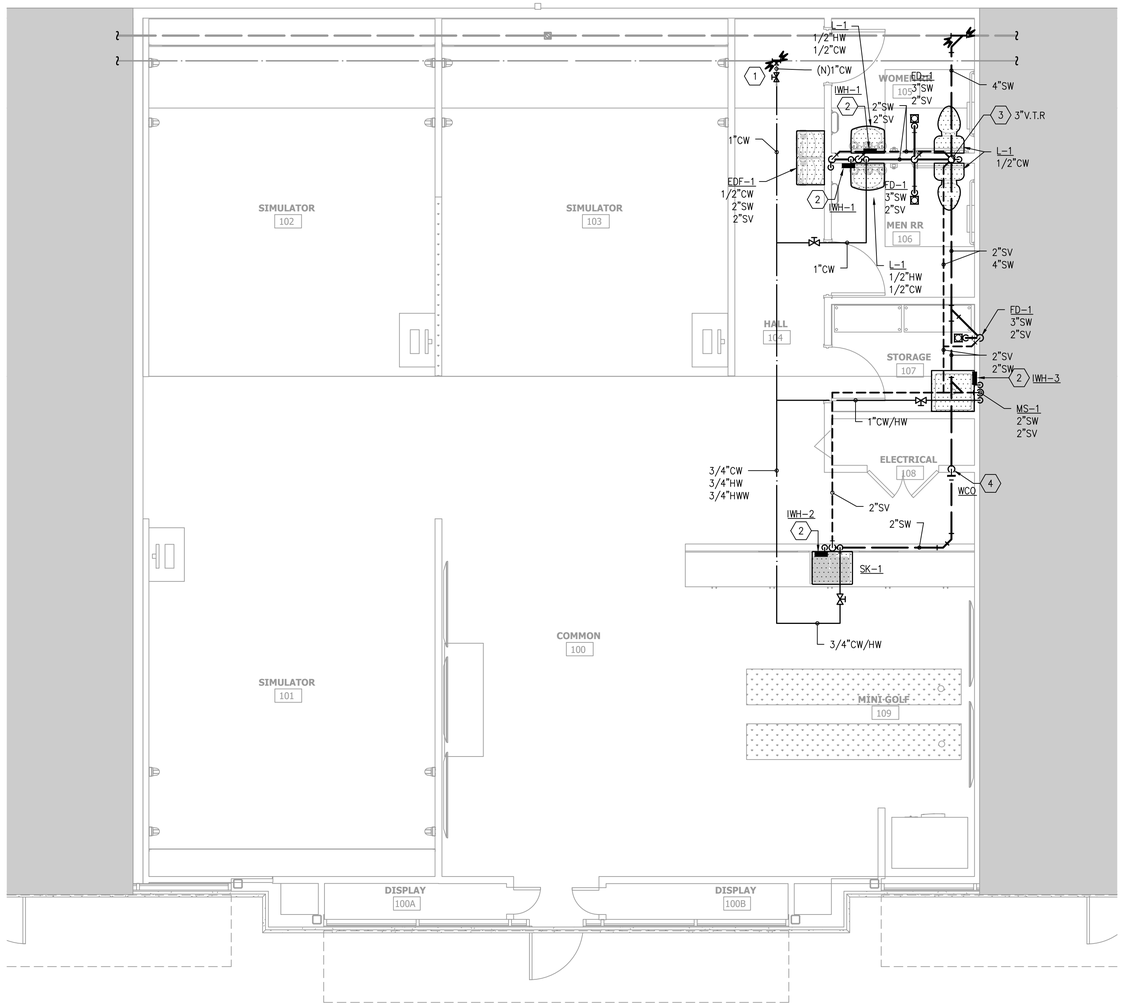
STATE OF TEXAS



01 PLUMBING PLAN
SCALE: 1/8"=1'-0"

PLUMBING KEYED NOTES:

1. MAKE NEW CONNECTION AND PROVIDE NEW DOMESTIC COLD WATER VALVE WHERE SHOWN.
2. NEW INSTANTANEOUS WATER HEATER BELOW MILLWORK. REFER TO SCHEDULE AND DETAILS. TYPICAL.
3. VENT THROUGH ROOF AT LOCATION INDICATED.
4. PROVIDE WALL MOUNTED CLEANOUT.

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DESIGN TEAM
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MECHANICAL: CC
ELECTRICAL: JG
CHECKED-BY:

DRAWING TITLE
PLUMBING PLAN

SHEET NO.
P-2.00

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12603 Southwest Frwy. Ste 170, Stafford, Tx 77477
Tel: (713) 840-0177 / Firm Reg. No: 5638

JOSE M. GUERRERO
154536
REGISTERED PROFESSIONAL ENGINEER

WC-1

KOHLER.

Kingston™
Two-piece elongated toilet, 1.28 gpf
K-25077

WaterSense

ADA | **CSA B651** | **OBC**

Features
- Ideal for commercial installations
- Two-piece design
- Elongated bowl offers added room and comfort
- 1.28 gpf (4.8 lpf)
- Durable metal left-hand Polished Chrome trip lever
- 2-1/8" (54 mm) fully glazed trapway
- Easy-to-service silicone seal
- Sanitary guard where bowl and tank meet for ease of cleaning
- Encapsulated bolts prevent rust and corrosion
- Comfort Height® feature offers chair-height seating that makes sitting down and standing up easier for most adults
- Class Five® canister optimizes the flow out of the tank, harnessing gravity and the natural, powerful reducing cascade of water to increase the power and effectiveness of the flush

Installation
- Three-bolt quick-connect installation
- Standard 12" (305 mm) rough-in
- Seat and supply line sold separately

Recommended Products/Accessories
K-7637 Angle Supply with Stop (single)
K-5420 Low-Profile Bolt Caps
K-4636-RL Cachet® ReadyLatch® Quiet-Close™ elongated toilet seat

Included Components
K-25076 Elongated toilet bowl
K-25100 Toilet tank, 1.28 gpf

Codes/Standards
ASME A112.19.2/CSA B45.1
DOE - Energy Policy Act 1992
EPA WaterSense®
California Energy Commission (CEC)
ADA
ICC/ANSI A117.1
CSA B651
OBC

KOHLER® Toilets and Seats Limited Warranty
See website for detailed warranty information.

Available Colors/Finishes
Color tiles intended for reference only.

Color	Code	Description
	0	White

L-1

KOHLER.

Pinoir® | K-2035-1
22" oval wall-mount bathroom sink

Features
- Single faucet hole
- Oval basin
- Overflow drain
- Combination consists of basin and shroud

Sustainability

Available Colors/Finishes
Color tiles intended for reference only.

	0	White
	47	Almond

ELKAY SPECIFICATIONS

SK-1

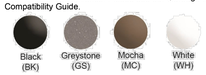
Quartz Classic® 25" x 18-1/2" x 5-1/2" Single Bowl Undermount ADA Sink with Perfect Drain®
Model(s) ELGUAD2519PD

PRODUCT SPECIFICATIONS
Quartz Classic® 25" x 18-1/2" x 5-1/2" Single Bowl Undermount ADA Sink with Perfect Drain®. Sink is molded with up to 80% natural quartz and high performance acrylic resins that are non-porous providing superior heat, scratch, fade and stain resistance. Naturally sound deadening and Rear Center drain placement.

Installation Type:	Undermount
Material:	Quartz
Special Features:	Perfect Drain
Finish:	Black (BK), Greystone (GS), Mocha (MC), White (WH)
Number of Bowls:	1
Sink Dimensions:	25" x 18-1/2" x 6-7/8"
Bowl 1 Dimensions:	22-5/16" x 16-7/16" x 5-1/2"
Drain Size:	3-5/8" (92mm)
Drain Location:	Rear Center
Minimum Cabinet Size:	30"
Mounting Hardware:	Part # 54300404 included
Template Included:	Yes
Cutout Template #:	0000001437

Template is available for download at elkay.com. CAD software will be required to open the template.

Perfect Drain: Seamlessly molded collar eliminates the gap between a traditional drain and the sink for a more sanitary and gap free installation. Select garbage disposers can be installed on either sink bowl for user convenience. Please see our Garbage Disposer Compatibility Guide.



Included with Product: **One LKPDQ1CR Perfect Drain and strainer.**

A Century of Tradition and Quality.
For more than 100 years, Elkay has been making innovative products and providing exceptional customer care. We take pride in offering plumbing products that make life easier, inspire change and leave the world a better place.

KBB READERS' CHOICE AWARDS WINNER

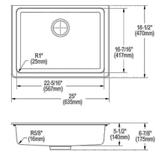
Product Compliance: CSA B45.5/IAPMO Z124
Accessory: ASME A112.18.2/CSA B125.2

IAPMO

Sinks are listed by IAPMO® as meeting the applicable requirements of the Uniform Plumbing Code®, International Plumbing Code®, and National Plumbing Code of Canada.

Complies with ADA & ICC A117.1 accessibility requirements when installed according to the requirements outlined in these standards.

Clean and Care Manual (PDF)
Installation Instructions (PDF) - 1000005238
Installation Instructions (PDF) - 1000004396
Installation Instructions (PDF) - 1000003889_perfect-drain
Installation Instructions (PDF) - Garbage_Disposer_Compatibility_Guide
Warranty (PDF)



PART:_____QTY: _____
PROJECT:_____
CONTACT:_____
DATE:_____
NOTES:_____
APPROVAL:_____

In keeping with our policy of continuing product improvement, Elkay reserves the right to change product specifications without notice. Please visit elkay.com for the most current version of Elkay product specification sheets. This specification describes an Elkay product with design, quality, and functional benefits to the user. When making a comparison of other producers' offerings, be certain these features are not overlooked. Latest version of the spec sheet available: https://www.elkayflees.com/spec-sheets/ELGUAD2519PD_spec.pdf

ELKAY SPECIFICATIONS

EDF-1

Wall Mount Mechanical Activation Bi-level ADA Cooler Non-filtered Non-refrigerated Light Gray Granite
Model EMABFTLDDLC

PRODUCT SPECIFICATIONS
Wall Mount Mechanical Activation Bi-level ADA Cooler Non-filtered Non-refrigerated Light Gray Granite. Furnished with Flexi-Guard ® Safety Bubbler. Mechanical Front Bubbler Button activation. Product shall be Wall Mount (On Wall), for Indoor applications, serving 2 station(s).

Finish:	Light Gray Granite (L)
Power:	No Electrical Required
Bubbler Style:	Flexi-Guard © Safety Bubbler
Activation by:	Mechanical Front Bubbler Button
Mounting Type:	Wall Mount (On Wall)
Chilling Capacity:	Non-refrigerated
Dimensions (L x W x H):	36-1/4" x 18-5/8" x 27"
Approx. Shipping Weight:	46 lbs.
Installation Location:	Indoor
No. of Stations Served:	2

- Mechanically-Activated unit continues to supply water in event of service disruptions.

Included with Product: **Water Cooler**
Ships in one box.

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PRODUCT COMPLIANCE
ADA & ICC A117.1
ASME A112.19.3/CSA B45.4
NSF/ANSI 61 (Qs1) & 372 (lead free)
NSF REG4

Complies with ADA & ICC A117.1 accessibility requirements when installed according to the requirements outlined in these standards. Installation may require additional components and/or construction features to be fully compliant. Consult the local Authority Having Jurisdiction if necessary.

Installation Instructions (PDF) - 98933C

Water Systems are warranted for 12 months from date of installation. **Warranty pertains to drinking water applications only. Non-drinking water applications are not covered under warranty.**
Warranty (PDF)

PART:_____QTY: _____
PROJECT:_____
CONTACT:_____
DATE:_____
NOTES:_____
APPROVAL:_____

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KOHLER.

L-1

Tone™ | K-27415-4
Single-handle bathroom sink faucet, 1.2 gpm

Features
- A single handle controls both on/off activation and temperature setting
- 1.2 gpm (4.5 lpm) maximum flow rate at 60 psi (4.14 bar)
- KOHLER® ceramic disc valves exceed industry longevity standards for a lifetime of durable performance
- Clicker drain with tailpiece and overflow
- Coordinates with other products in the Tone collection
- This product can help a building earn Water Efficiency points in LEED® Green Building Rating System

Sustainability

Available Colors/Finishes
Color tiles intended for reference only.

	CP	Polished Chrome
	BN	Vibrant Brushed Nickel
	BL	Matte Black
	2MB	Vibrant Brushed Moderne Brass
	BMB	Matte Black with Brushed Moderne Brass

ELKAY SPECIFICATIONS

Avado® Single Hole Kitchen Faucet with Pull-down Spray and Forward Only Lever Handle
Model(s) LKAV3031

PRODUCT SPECIFICATIONS
Avado® Single Hole Kitchen Faucet with Pull-down Spray and Forward Only Lever Handle. Faucet has a flow rate of 1.8 GPM, and is made of Brass material, with a Ceramic Disc valve. Faucet requires 1 faucet holes.

Mounting Type:	Deck Mount
Special Features:	Solid Brass Construction
Spray Type:	Pull Down
Finish:	Black Stainless (BK), Chrome (CR), Lustrous Steel (LS), Matte Black (MB)
Handle Type:	Forward Only Lever Handle
Deck Clearance:	8-1/8"
Spout Reach:	9-1/8"
Spout Height:	15-11/16"
Hole Drillings:	1
Material:	Brass
Valve Type:	Ceramic Disc
Valve Connection:	3/8" Female Compression Hose Assembly
Flow Rate:	1.8 GPM
Faucet Hole Size (min):	1-1/2"
Countertop Thickness:	3
Spout Swing Rotation:	360°
Spout Type:	Pull-down Spray
Spray Functions:	Aerated,Nylon Hand Spray Hose,Spray

EDF-1

Included with Product: **Optional Deck Plate/Escutcheon included**

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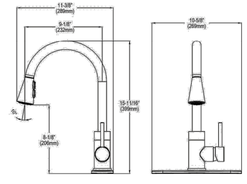
Product Compliance: ADA & ICC A117.1
ASME A112.18.1/CSA B125.1
CEC
NSF 372 (lead free)
NSF 61 (Qs1)

Complies with ADA & ICC A117.1 accessibility requirements when installed according to the requirements outlined in these standards.

Clean and Care Manual (PDF)
Installation Instructions (PDF) - lkav3031 - install sheet
Warranty (PDF)



PART:_____QTY: _____
PROJECT:_____
CONTACT:_____
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NOTES:_____
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ARCHITECTURE PLANNING INTERIOR DESIGN
15810 PARK TEN PLACE, SUITE 300
HOUSTON, TEXAS 77084
713-465-4650
www.sligroup.com

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ACORN golf club

ACORN GOLF SIMULATOR
13825 Timber Forest Dr, Houston, TX 77044
SUITE 103

E/B/E PROJECT NUMBER: 26052.00

ISSUED FOR CLIENT APPROVAL	DATE
ISSUED FOR BIDDING	04/09/2026
ISSUED FOR PERMIT	
ISSUED FOR CONSTRUCTION	

REVISIONS

MARK	DESCRIPTION	DATE
	REVIEW SET	03/27/2026
	ISSUE FOR BID SET	04/09/2026

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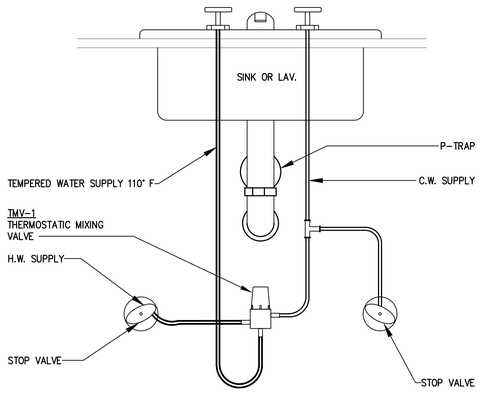
MECHANICAL: CC
ELECTRICAL: JG
CHECKED-BY:

DRAWING TITLE
PLUMBING FIXTURES

SHEET NO.
P-3.00

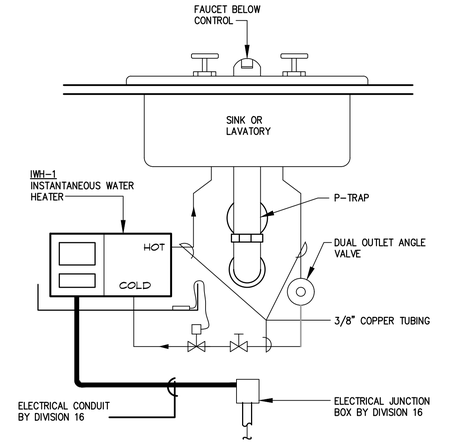
E/B/E Mechanical Electrical Plumbing
CONSULTING ENGINEERS
12603 Southwest Frwy, Ste 170, Stafford, Tx 77477
Tel: (713) 840-0177 / Firm Reg. No: 5638

STATE OF TEXAS
JOSE M. GUERRERO
154536
REGISTERED PROFESSIONAL ENGINEER



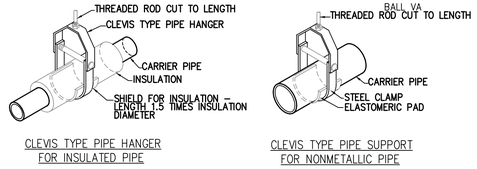
THERMOSTATIC MIXING VALVE TMV-1 01

SCALE: NONE



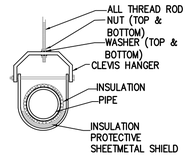
INSTANTANEOUS WATER HEATER DET. 02

SCALE: NONE



CLEVIS TYPE PIPE HANGER
FOR INSULATED PIPE

CLEVIS TYPE PIPE SUPPORT
FOR NONMETALLIC PIPE



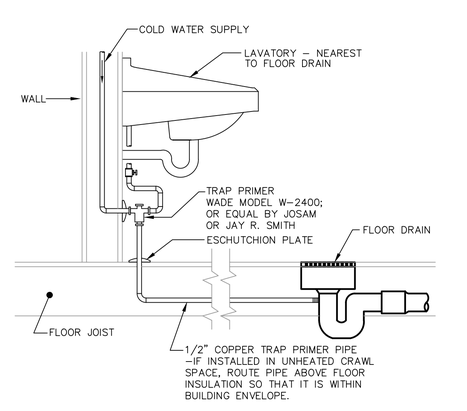
TYPICAL CLEVIS HANGER DETAIL

NOTES:

1. REFER TO MANUFACTURERS SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. 16 GA. GALVANIZED SHEET STEEL SADDLE AT LEAST 12" LONG. (INSULATED LINES ONLY)
3. INSULATION WHERE SPECIFIED.

CLEVIS PIPE HANGER SUPPORT DETAIL 03

SCALE: NONE



FLOOR DRAIN TRAP PRIMER 04

SCALE: NONE

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MECHANICAL: CC
ELECTRICAL: JG
CHECKED-BY:

DRAWING TITLE
PLUMBING DETAILS

SHEET NO.
P-4.00

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CONSULTING ENGINEERS
12603 Southwest Frwy, Ste 170, Stafford, Tx 77477
Tel: (713) 840-0177 / Firm Reg. No: 5638

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