MCKENNA

September 24, 2025

City Council
City of Grosse Pointe Woods
20025 Mack Plaza
Grosse Pointe Woods, MI 48236

Subject: **20647 Mack Avenue: Special Land Use for Playa Bowls**
Parcel ID: 007-01-1763-000
Special Land Use Review #2
Zoning: C, Commercial Business District

Dear Council Members,

JK Construction, Inc. has submitted a Special Land Use request for a fast-casual / take-out restaurant (Playa Bowls) in an existing, single-story, multi-tenant building. The restaurant unit will occupy approximately 1,224 square feet. No drive-thru is permitted, and dining is take-out or within the restaurant only.

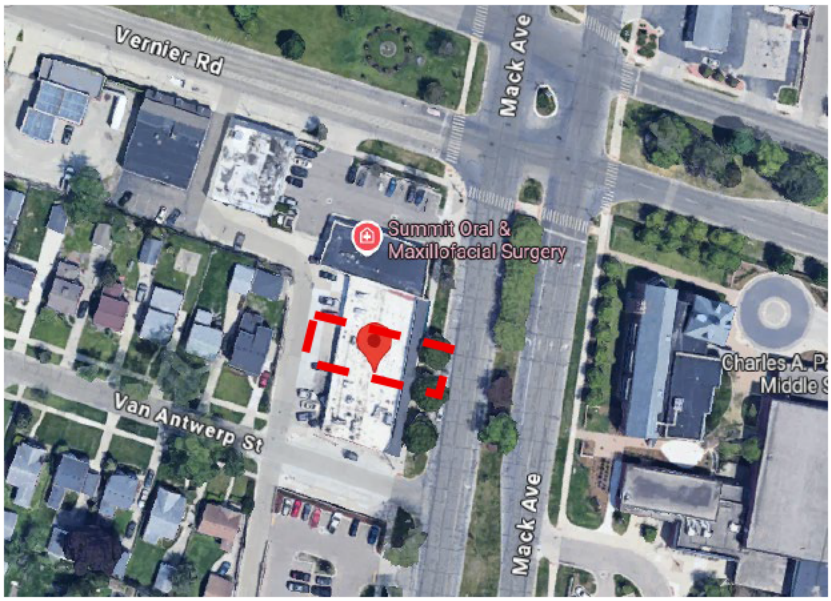
The site is located on Mack Avenue between Vernier Road and Van Antwerp Street, and is zoned the C, Commercial Business District where take-out restaurants are a *Special Land Use. Special Land Uses* require a public hearing and consideration before the Planning Commission. A public hearing was noticed and held at the August 26, 2025 Planning Commission meeting. Following this public hearing, the Planning Commission recommended the Special Land Use request to the City Council for approval, with the conditions that the site plan be updated to reflect operating hours, a loading zone, and specific information about the dumpster enclosure location and materials.

The applicant has since provided drawings and additional information that reflect the following:

1. The normal hours of operation for this business will be 8:00am to 8:00pm Monday through Sunday.
2. A 12” by 50” loading zone is indicated in the rear lot of the building, off of the alley.
3. A dumpster is also proposed at the rear of the building facing the alley, which is proposed to be enclosed with a solid wood/plastic composite enclosure.

HEADQUARTERS
235 East Main Street
Suite 105
Northville, Michigan 48167

O 248.596.0920
F 248.596.0930
MCKA.COM


Vernier Rd
Mack Ave
Summit Oral &
Maxillofacial Surgery
Van Antwerp St
Mack Ave


Great Frame Up
12 ft
loading
zone
50ft
50ft
12 ft
Frost & Kretsch
Plumbing Inc
Hours: 8:00 am to 8:00 pm
Monday through Sunday
Joe's Pizza
Pizza
Noorjahan Indian
cuisine (vernier/mack)
Indian
Google

Recommendation

As a Special Land Use, the City Council may impose reasonable standards to offset negative impacts on surrounding properties based on their findings and comments brought forth during the required public hearing.

Based upon general compliance with the City's Zoning Ordinance, it is recommended that the Special Land Use for a fast-food / take-out restaurant (Playa Bowls) at 20647 Mack Avenue be approved by City Council, pending the following.

1. *The proposed delivery hours are deemed acceptable to the City Council.*
2. *The proposed plan for a dumpster enclosure is deemed acceptable to the City Council.*
3. *The applicant submits a boundary survey of the subject property.*
4. *Administrative site plan approval is granted.*

This recommendation is based on the following findings:

A. **Consistency with the Master Plan.** The subject site is designated as "Corridor Mixed Use" on the Future Land Use Map of the 2024 Master Plan. The proposed use aligns with the intended uses of the Corridor Mixed Use designation, which includes retail, restaurant, and personal service establishments serving nearby residents. Additionally, the current zoning district of the site (C, Commercial Business) is consistent with the Corridor Mixed Use designation.

B. **Compatible Surrounding Land Uses.** The site is located on an existing commercial corridor. Adjacent land uses are either buffered by zoning transitions or are not expected to be negatively impacted.

C. **No Anticipated Nuisance or Public Hazard.** The nature of the proposed business (smoothies, juices, smoothie bowls) is lower impact, with no anticipated disruptive noise, smoke, odor, glare, or vibration. The proposed use is similar in character and intensity to existing nearby commercial operations.

D. **Support for Walkable, Mixed-Use Development.** The site is located on Mack Avenue, a commercial corridor designed to accommodate pedestrian-oriented businesses and promote a walkable environment. The reuse of an existing commercial storefront supports compact, efficient development and avoids contributing to strip-style development.

E. **Compliance with Zoning Ordinance Intent.** The proposed restaurant use is consistent with the intent of the C, Commercial Business District to support local business development that benefits both residents and merchants.

If you have further questions, please do not hesitate to contact us.

Respectfully submitted,

McKENNA

Ashley Jankowski, AICP
Associate Planner

Alicia Warren
Associate Planner

Special Land Use Review

This project is reviewed against the Zoning Ordinance requirements and the City's Master Plan. We offer the following comments for your consideration; items that do not comply or require additional information are noted in **bold** and **underlined**.

1. HARMONY WITH MASTER PLAN (MI ZONING ENABLING ACT)

Criteria: *Is the proposal consistent with the goals, policies, and future land use map of the Master Plan? Or, has the applicant demonstrated that conditions have changed significantly since the Master Plan was developed, and request is demonstrably consistent with the development trends in the area?*

Findings: Complies.
The chart below details the existing land use, current zoning, and future land use designations.

The Future Land Use Map of the 2024 Master Plan designates this area as "Corridor Mixed Use". In the Master Plan, this land use classification is generally described as retail, restaurant, personal service, and office establishments which are designed for the day-to-day retail and personal service needs of nearby residents. These facilities are intended to be near residential neighborhoods with adequate buffering. The existing C, Commercial Business District corresponds to this land use classification.

The proposal complies with the future land use designation of "Corridor Mixed Use" as the use is for a smaller-scale restaurant that will serve nearby residents. Additionally, this request aligns with other economic development initiatives, such as the Social District, established in 2024.

Location	Existing Land Use	Zoning Districts	Future Land Use Designation
Subject Site	Vacant	C, Commercial Business	Corridor Mixed Use
North	Retail	C, Commercial Business	Corridor Mixed Use
South	Retail	C, Commercial Business	Corridor Mixed Use
East	Public Library (across Mack Avenue)	C-F, Community Facilities	Institutional
West	Single-Unit Residential	R1-E, One-Family Residential	Single Family Medium Density

2. HAZARDOUS OR DISRUPTIVE SMOKE, FUME, GLARE, NOISE, VIBRATION OR ODOR POLLUTION (SEC. 50-4.11)

Criteria: *To promote such business development insofar as it is possible and appropriate in each area, uses are prohibited [in the C Commercial District] which would create hazards, offensive and loud noises, vibration, smoke, glare, heavy truck traffic or late hours of operation.*

Findings: Complies.
The restaurant will be open for quick meal services (such as smoothies, juices, and smoothie bowls) and features limited seating inside. The proposed restaurant is similar to surrounding uses, both on this

commercial block and along the greater Mack Avenue corridor. The restaurant is not expected to be hazardous or disruptive, provided the site is properly maintained.

Hours of operation are not anticipated to be a concern at this location. As conditioned by the Planning Commission, the applicant has noted on a site drawing that the hours of operation for this property as 8:00am-8:00pm, Monday through Sunday. **The applicant must also clarify the hours of deliveries to this location, for consideration by the City Council.**

3. CONSISTENCY WITH INTENT OF THE ZONING ORDINANCE (SEC. 50-3.1)

Criteria: *The intent of the C, Commercial Business District is to encourage the concentration of local business areas to the mutual advantage of both the consumers and merchants and thereby promote the best use of land at certain strategic locations and avoid the continuance of encouraging marginal strip business development along major streets.*

Findings: Complies.
The proposed commercial business provides a quick restaurant option to nearby residential areas. The restaurant will occupy an existing storefront along Mack Avenue, which is designed to facilitate pedestrian traffic and a mix of commercial establishments and services. The existing building is also compliant with the dimensional standards of the C, Commercial Business District.

We find that this restaurant will serve local residents, invite visitors, and encourage orderly business development along Mack Avenue.

CITY OF GROSSE POINTE WOODS

Building Department

20025 Mack Plaza, Grosse Pointe Woods, MI 48236
(313) 343-2426 – E-mail: building@gpwmi.us

SITE PLAN REVIEW & SPECIAL LAND USE

COMMERCIAL – Zoned As – Please Check One:

- [X] C – Commercial Business
- [ ] CF – Community Facilities
- [ ] RO-1 – Restricted Office
- [ ] C-2 – High Intensity City Ctr
- [ ] P-1 – Vehicular Parking

Property Owner Name: Matthew Caplan Date: 7/16/25

GPW Property Address: 20647 Mack Ave

Telephone #: Work _____ Home/Cell: [redacted]

Contractor/Applicant Name: JK Construction, Inc.

Telephone # 248-855-3303 Cell Phone # 248-739-0720

Contractor/Applicant Address: 7001 Orchard Lake Rd., ste. 324. W. Bloomfield, MI 48322

E-mail: ~~Bryan~~ BryanE JKCONSTRUCTION@michigan.com

MI Builder's License #: N/A MI Driver's License #: [redacted]

Nature of Proposed Work:

Buildout of a 1,200 S.F. take-out restaurant (Playa Bowls).

Value of Construction $ 200,000

Section 23a of State Construction Code Act of 1972, No. 230 of the Public Acts of 1972, being Section 125.1523a of the Michigan Compiled Laws, prohibits a person from conspiring to circumvent the licensing requirements of the State relating to persons who are to perform work on a residential building or a residential structure. Violations of Section 23a are subject to civil fines.

Applicant Signature: _____

I hereby certify that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and we agree to conform to all applicable laws of this jurisdiction.

For Planning & Zoning Use Only

Review category:

____ Site Plan – Planning Commission ____ Site Plan – Administration
____ Special Land Use ____ Use Variance ____ Non-Use Dimensional Variance
____ Public Hearing # _____

For Office Use Only

Approved: _____ Denied: _____ Zoning Board of Approval Required # _____

Inspector: _____ Date: ____/____/____

PLAYA BOWLS OF MICHIGAN
4301 ORCHARD LAKE RD., SUITE 180-264, WEST BLOOMFIELD, MI 48323 PLAYABOWLSOFMI@GMAIL.COM (248)500-4737

To the City of Grosse Pointe Woods City Council:

I am one of the Franchisee/owners of Playa Bowls of Michigan. This letter is to request the issuance of a Special Land Use permit so that we can operate in your fine city.

We are not a fast-food restaurant. We make everything fresh to order, using fresh fruits and vegetables that are delivered to us six (6) days per week by our local produce supplier Tom & Maceri & Sons. We offer seating in our store, although limited, which patrons enjoy due to our relaxing vibe. We have also offer "carry out" service which consists mostly of third-party delivery. We are environmentally friendly using biodegradable serving utensils and containers. We do not cook, grill, fry or bake, so no odors emanate from our store other than the smell of fresh fruit and juices.

As indicated in our application and site plan, our standard operating hours are between the hours of 8:00 a.m. to 8:00 p.m. We are a family-friendly, healthy meal alternative. We look forward to serving a community whose residents patronize our other locations and request we open a store in Grosse Pointe Woods. We look forward to serving our healthy, all natural products which can be made to accommodate every diet and allergy.

Thank you for your consideration.

Sincerely,

Matthew Caplan

Matthew Caplan

PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

1. CONTRACTOR IS TO VERIFY ALL GRADES AND ESTABLISHED ELEVATIONS (SHOWN) PRIOR TO THE START OF CONSTRUCTION. COORD NATE SAME AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO THE START OF ANY CONSTRUCTION. DO NOT DEVIATE FROM THESE DOCUMENTS WITHOUT FIRST NOT FY NG THE ARCHITECT IN WRITING.
2. CONTRACTOR SHALL FOLLOW ACCEPTED TRADE PROCEDURES AND MANUFACTURER'S STANDARDS AND SHALL PRODUCE THE PROJECT N A GOOD AND WORKMAN LIKE MANNER. ALL MATERIALS ARE TO BE NEW AND CONTRACTOR SHALL NOT SUBSTITUTE ANY STRUCTURAL GRADE MATERIALS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT.
3. THESE PLANS ARE THE INTELLECTUAL PROPERTY OF THE ARCHITECT. THEY MAY NOT BE COP ED, REUSED, OR ALTERED WITHOUT THE ARCHITECTS EXPLICIT APPROVAL. DUPLICATION OF THESE DOCUMENTS MAY OCCUR ONLY FOR THE PURPOSE OF B DD NG, ESTIMAT NG, CREATING SHOP DRAWINGS, AND DURING PROJECT CONSTRUCTION.
4. DRAW NGS ARE NOT INTENDED TO BE SCALED. USE D MENSIONS NOTED ON DRAWINGS. IF ANY D MENSIONS ARE MISS NG OR REQU RE CLARIFICATION, THE CONTRACTOR IS TO SUBMIT A REQUEST FOR THIS INFORMATION N WRITING, I.E. LETTER TRANSMITTAL OR EMAIL.
5. THE CONTRACTOR SHALL PRODUCE ALL PERMITS REQU RED AND PROCEED WITH THE WORK MMEDIATELY UPON RECEIVING SAME. PERMITS TO BE POSTED AS REQU RED.
6. THE GENERAL CONTRACTOR SHALL COMPLETE, SUBMIT, AND F LE PERMIT APPLICATIONS. APPROVED PERMIT TO BE PAID FOR AND PICKED UP BY GENERAL CONTRACTOR. COP ES OF SAID PERMIT SHALL BE FORWARDED TO THE OWNER, TENANT, AND ARCHITECT.
7. CONTRACTOR TO REVIEW ARCHITECTURAL AND ENGINEERING PLANS - BOTH DISCIPL NES NDICATE THE TOTAL SCOPE OF WORK. WHERE DISCREPANCIES OCCUR ARCHITECT TO BE NOTIFIED.
8. IN THE EVENT MOLD OR WHAT APPEARS TO BE MOLD IS FOUND DURING CONSTRUCTION. THE OWNER IS TO NOTIF ED MMEDIATELY. AT THAT TIME A CERTIFIED MOLD TEST NG NSPECTING F RM IS TO BE CONTACTED MMEDIATELY TO REVIEW THE SUSPECT MATERIAL(S). PROPER PRACTICE AND REMOVAL OF ANY IDENTIF ED MATERIAL WITH MOLD CONTAM NATION IS TO FOLLOW.
9. THE GENERAL CONTRACTOR IS RESPONS BLE FOR ENSURING ALL SUBCONTRACTORS HAVE A VALID COPY OF THE ENTIRE SET OF CONSTRUCTION DOCUMENTS, AND NFORMATION FOR B DDING.
10. ALL NEW DOORS SHALL HAVE A FINISH AND HARDWARE UNLESS OTHERWISE NOTED. ALL DOORS AND HARDWARE ON DOORS TO BE LEVER / ADA COMPLIANT (UNLESS IN PRIVATE RESIDENCE).
11. THE CONTRACTOR SHALL MAINTAIN CURRENT AND COMPLETE SETS OF ALL CONSTRUCTION DOCUMENTS, INCLUSIVE OF ALL ADDENDUM ITEMS, DURING ALL PHASES OF CONSTRUCTION FOR USE BY ALL TRADES.
12. CONTRACTOR IS RESPONS BLE FOR THE HOOKING UP AND TEST NG OF ALL NEW EQUIPMENT (RTUS, HW HEATERS, SUMP PUMPS, ETC) SHOWN ON THE DRAW NGS. THIS NCLUDES ALL ELECTRICAL W R NG, GAS PIP NG, WATER PIPING, DRA NS, CURBS, ETC. IF NO QUESTIONS OR CLAR FICATIONS ARE MADE N WRITING DUR NG PRIC NG/ BIDD NG IT IS UNDERSTOOD THAT THE G.C HAS NCLUDED ALL NECESSARY UT LIT ES N THE BASE PRICE.
13. HVAC- CONTRACTOR IS RESPONSIBLE FOR MAKING ALL NEW HVAC UNITS FULLY OPERATIONAL WITH TRUNK LINE INTO SPACE, THERMOSTAT, W RING, AND CONTROLS WILL BE NCLUDED. IF TENANT FIT UP IS SHOWN ON THE DRAWINGS CONTRACTOR IS RESPONSIBLE FOR ALL DUCTWORK SHOP DRAWINGS, REGISTERS, CONTROLS AND THERMOSTATS. UNLESS FULLY ENGINEERED DRAWINGS ARE PROVIDED, THIS IS DESIGN/ BUILD BASED ON THE DESIGN CONCEPT PROV DED BY ARCHITECT.
14. WHEN THE ARCHITECTS DRAW NGS NOTE THE LOCATION AND TYPE OF ELECTRICAL DEVICES (OUTLETS, SWITCHES, HORNS, STROBES, PULL STATIONS, LIGHTS, DETECTORS, ETC) WITHOUT ANY W R NG OR PANEL SCHEDULES, THE ELECTRICAL CONTRACTOR SHALL WIRE AND INSTALL WIRE AND NSTALL SAME AS PER NEC - CURRENT VERSION. ELECTRICAL CONTRACTOR TO REV EW EXIST NG SERVICE PANELS AND WIRING TO DETERMINE METHOD TO PRICE THE PROJECT AND PROCEED N MPLEMENTATION. ALL ELECTRICAL DEVICES ARE ASSUMED TO BE 110V UNLESS OTHERWISE NOTED.
15. EXIST NG LIGHTING AND HVAC VOLTAGE TO BE CONFIRMED/VERIFIED BY THE CONTRACTORS ELECTRICAL SUBCONTRACTOR DURING THE PRIC NG/ B DD NG PROCESS TO ASSESS THAT THE CORRECT FIXTURES AND EQUIPMENT ARE NCLUDED N THE B D ESTIMATE.
16. THE TERM GENERAL CONTRACTOR OR CONSTRUCTION MANAGER NOTED IN THE DRAWINGS, NOTES, ADDENDUM, MINUTES, SPEC FICATIONS, ETC. ARE TO BE UNDERSTOOD AS THE SAME RESPONSIB LITY OR OBLIGATION BEING REQUESTED WITH N THE CONSTRUCTION DOCUMENTS.
17. THE GENERAL CONTRACTOR / CONSTRUCTION MANAGER IS RESPONS BLE FOR REVIEWING THE CONSTRUCTION DOCUMENTS AND INCLUDING ALL NECESSARY HOOK-UPS, UT LIT ES, DRAINS, ELECTRICAL CONNECTIONS / SERVICE, GAS CONNECTIONS / SERVICE, WASTE LINES, VENTS, WATER CONNECTIONS / SERVICE, FOR EQU PMENT SHOWN ON THE PLANS. EQU PMENT NCLUDED BUT NOT L MITED TO: HVAC UNITS, HOT WATER HEATERS, SUMP PUMPS, VENTILATION AND EXHAUST FANS, PLUMBING FIXTURES, HEATERS, BO LERS, ETC.
18. THESE DRAWINGS MAY NOT SHOW SPECIFIC PIP NG OR WIR NG DIAGRAMS TO EQUIPMENT, BUT IT IS CLEAR, ALL EQU PMENT ARE TO BE FULLY OPERATIONAL FOR INSPECTION BY THE ARCHITECT AND APPROVING MUNIC PAL AUTHORITY FOR OCCUPATION OF THE SPACE OR BUILD NG.
19. CONTRACTOR HAS REVIEWED THESE DOCUMENTS FOR THE DESIGN INTENT AND F NAL USE. ANY ADDITIONAL DETA LS OR NFORMATION NEEDED FOR BIDDING OR CONSTRUCTION PRICING ARE TO BE REQUESTED N WRITING TO THE ARCHITECT PRIOR TO BID DUE DATE. SUBMISSION OF BID W LL CONSTITUTE ALL INFORMATION NECESSARY TO PROVIDE A COMPREHENSIVE BID HAS BEEN RECEIVED.
20. ALL LICENSED SUBCONTRACTORS ARE TO INCLUDE OR INDICATE TO THE ARCHITECT, N WRITING ANY CODE REQUIRED "ELEMENT" THAT MIGHT NOT BE SHOWN OR NOTED N THE DRAWINGS. IF REQU RED TO COMPLETE THE DESIGN INTENT OR WOULD BE NECESSARY TO OBTA N INSPECTION APPROVALS, "ELEMENT" (EQUIPMENT, DEVICE OR FIXTURE) IS TO BE NCLUDED BY CONTRACTOR AT NO ADDITIONAL CHARGE.
21. ANY CONDITION, CODE ISSUE OR DEFIC ENCY N THE CONSTRUCTION DOCUMENTS THAT COULD HAVE BEEN CLARIFIED DUR NG THE BIDD NG PROCESS WILL BE A PART OF THE BASE BID AND NOT OPEN TO CHANGE ORDER CONS DERATION, UNLESS STIPULATED AS AN ALTERNATE PRICE OR EXCLUSION ON THE BID PROPOSAL, THESE ITEMS ARE A PART OF THE SCOPE.
22. ALL CONTRACTORS TO REV EW ALL OF THE INFORMATION LISTED ON THE SPECIFICATIONS SHEET ATTACHED TO THESE DRAWINGS. THE SPECIFICATION SHEET INCLUDES NFORMATION THAT IS NCLUDED N THE SCOPE OF WORK AND CONTRACTORS BASE BID.
23. AT ALL RESTROOMS, BOILER ROOMS, MOP AREAS, AND WET LOCATIONS, MOLD RESISTANT GYPSUM WALL BOARD IS TO BE USED INSIDE THE ENTIRE ROOM UNLESS OTHERWISE NOTED. MOISTURE RESISTANT (MR) GYPSUM BOARD IS NOT AN ACCEPTABLE SUBSTITUTE.
24. ALL CONCRETE MASONRY BLOCK USED ON AN EXTERIOR WALL, BE IT ABOVE OR BELOW GRADE, SHALL AND MUST BE DRY BLOCK WITH DRY MORTAR INSTALLED TO BU LD SUCH WALLS. DRY BLOCK ALONE DOES NOT PROVIDE WATERPROOFING FOR THE EXTERIOR ENVELOPE OF A BUILDING. ALL BLOCK WITH A MASONRY BASEMENT OR CRAWL SPACE SHALL HAVE A MEMBRANE GLUED WITH MASTIC TO THE EXTERIOR OF THE BU LD NG FROM GRADE TO BOTTOM EDGE OF FOOTING. ALL BLOCK ABOVE GRADE SHALL HAVE SOME FORM OF SIDING, BRICK VENEER, OR DRYVIT (EIFS: STUCCO IS NEVER PERMITTED.) WHEN USING EIFS, PROVIDE DRAIN BOARDS, WEEPS, AND COUNTER- FLASHING AS PER MANUFACTURER'S D RECTIONS.
25. CONTRACTORS ARE TO REVIEW ALL GENERAL NOTES, SPEC FICATIONS AND LISTED INFORMATION WITHIN THIS SET OF DRAW NGS. SOME OF THESE NOTES MAY NOT REQU RE AN ACTION, OBLIGATION OR WORK ON THIS PROJECT. IF THE CONTRACTOR IS UNSURE F AN ITEM CONTA NED IN THESE DOCUMENTS A WRITTEN REQUEST FOR INFORMATION IS TO BE SUBMITTED TO THE ARCHITECT. IF THE CONTRACTOR IS NOT INCLUDING SOMETH NG, THE ITEM/WORK IS TO BE SPEC FICALLY WRITTEN AS NCLUDED OR EXCLUDED INTO THE BID AND OR CONTRACT. IF DEEMED REQUIRED BUT SILENT IN THE BID/CONTRACT AND NO REQUEST FOR INFORMATION ARE PROVIDED THE ITEM/WORK IS TO BE NCLUDED IN THE PROJECT WITHOUT ADDITIONAL COST OR T ME TO THE PROJECT.

General Notes

1. IN RENOVATIONS, RESTRUCTURING OR ALTERATIONS, THE LEVEL OF EXISTING FLOORS CAN NOT HAVE DEVIATIONS GREATER THAN A 1/4" PER FOOT. LEVELING IS DICTATED BY DOOR LOCATIONS AND COORD NATION WITH ANY ADJOIN NG FLOORS. ENT RE FLOOR IS TO BE REVIEWED PRIOR TO ANY FLOOR FINISHES BEING NSTALLED.
2. DURING DEMOLITION ALL HEATING AND COOL NG SYSTEMS, EXHAUST SYSTEMS OR AIR C RCULATION DEVICES ARE TO BE TURNED OFF FROM START OF DEMOLITION TO TIME OF ADEQUATE DUST SETTLEMENT. TEMPERATURE OF SPACE TO BE MONITORED AS TO NOT ALLOW EXISTING OR NEW WATER AND SPRINKLER PIPING FROM BEING COMPROMISED. SYSTEMS TO BE RETURNED BACK TO NORMAL AFTER WORK IS COMPLETE- DA LY/HOURLY ETC.
3. IF THE BU LD NG HAS SPRINKLERS AND WE ARE ADDING AND/OR RELOCAT NG 5 OR MORE SPRINKLER HEADS - SHOP DRAWINGS ARE REQU RED AND HYDRAULIC CALCULATIONS AS REQUIRED BY THE BUILDING AND FIRE DEPARTMENT.
4. IF THE WORK IS REMOVING, ALTER NG, AND OR ADD NG ROOMS/SPACES THE ELECTRICIAN IS TO RE-CIRCUIT EXIST NG AND NEW WIR NG TO SEPARATE, CONJO N, AND ISOLATE WIRING / SWITCHING AS REQUIRED. ARCHITECTS DRAW NGS NOTE LIGHT NG PLACEMENT AND SPECIFICATIONS BUT TYPICALLY NO WIR NG OR C RCUIT LAYOUT. INDIVIDUAL OFFICES TO BE CONTROLLED BY SWITCH IN OFFICE AND GENERAL OPEN AREAS TO BE CONTROL ON 1 OR 2 THREE WAY SWITCHES IN THE AREA THEY SERVE (REMOVE FROM EACH OTHER).
5. THE INTENT OF DESIGN BUILD HVAC (IF ENGINEERING DRAW NG ARE NOT PROVIDED) IS FOR THE HVAC AND GC. CONTRACTORS TO REVIEW THE EXISTING UNITS FOR USEFUL LIFE, GENERAL CONDITIONS AND LOCATIONS AT TIME OF BID. ALL WORK NOTED MAY REQU RE CHANGES TO REGISTER LOCATIONS, DUCTWORK REVISIONS AND OTHER CONTROL CHANGES TO DISTRIBUTE AND BALANCE AIR WITHIN THE WORK AREA. THESE DESIGN BUILD CONDITIONS ARE INCLUDED IN BASE BID.

Renovation Notes

THESE DRAW NGS INDICATE THE GENERAL SCOPE OF THE PROJECT IN TERMS OF ARCHITECTURAL DESIGN CONCEPT, THE D MENSIONS OF THE BU LD NG, THE MAJOR ARCHITECTURAL ELEMENTS AND THE TYPE OF STRUCTURAL, MECHANICAL, AND ELECTRICAL SYSTEMS. AS SCOPE DOCUMENTS THE DRAW NGS DO NOT NECESSAR LY INDICATE OR DESCRIBE ALL THE WORK REQU RED FOR THE FULL PERFORMANCE AND COMPLETION OF THE REQU REMENTS OF THE CONTRACT DOCUMENTS. ON THE BASIS OF THE GENERAL SCOPE INDICATED OR DESCRIBED THE CONTRACTOR SHALL FURNISH ALL ITEMS REQU RED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK. DECISIONS OF THE ARCHITECT AS TO THE ITEMS OF WORK NCLUDED WITHIN THE SCOPE OF THIS DOCUMENT SHALL BE FINAL AND B ND NG ON THE OWNER AND THE CONTRACTOR. THESE DRAW NGS WHEN USED FOR BID/D NG / CONSTRUCTION PRICING ARE TO BE REVIEWED FOR F NAL INTENT, WHICH IS TO IMPROVE OR CREATE A STRUCTURE FOR A CERTIFICATE OF APPROVAL OR CERT FICATE OF OCCUPANCY. THE INTENT IS TO PROVIDE THE OWNER OR CLIENT A SPACE OR BU LDING THEY CAN OCCUPY/ USE AFTER THE CONSTRUCTION IS COMPLETE.

Scope Document

ADOPTED CODES & STANDARDS

Reference Code	Edition	Effective Date
Michigan Building Code - Incorporating the 2021 International Building Code as published by the International Code Council (ICC) with state amendments	2021	APR 9, 2025
Michigan Rehabilitation Code Incorporating the 2021 International Existing Building Code as published by the International Code Council (ICC) with state amendments	2021	APR 9, 2025
Michigan Energy Code – Part 10a. – Non-residential - Incorporating the 2015 International Energy Conservation Code as published by the International Code Council (ICC), ANSI/ASHRAE/IESNA Standard 90.1 - 2013, and state amendments	2015	FEB 8, 2022
Michigan Electrical Code - Incorporating the 2023 National Electrical Code as published by NFPA with state amendments	2023	MAR 12,2024
Michigan Mechanical Code - Incorporating the 2021 International Plumbing Code as published by ICC with state amendments	2021	MAR 12,2024
Michigan Plumbing Code - Incorporating the 2021 International Plumbing Code as published by ICC with state amendments	2021	MAR 12,2024
ASHRAE 90.1	2019	SEP 06, 2022

BUILDING DEPARTMENT NOTES

Item	Code Section	Comments
BUILDING USE	CHAPTER 3 (OCCUPANCY CLASSIFICATION AND USE)	BUSINESS
OCCUPANCY CLASSIFICATION	CHAPTER 3 (OCCUPANCY CLASSIFICATION AND USE)	BUSINESS (B)
CONSTRUCTION CLASSIFICATION	601 (FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS)	TYPE 2B - NON-COMBUSTIBLE
AREA		1224 SF
SPRINKLER REQUIREMENT	504 (BUILDING HEIGHT AND NO. OF STORIES)	REQUIRED/SPRINKLERED
OCCUPANT LOAD	1004.5 (MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT)	SEE LIFE SAFETY PLAN FOR OCCUPANT LOAD
EGRESS CAPACITY	1005 (MEANS OF EGRESS SIZING)	SEE LIFE SAFETY PLAN FOR INFO
MEANS OF EGRESS	1017.2 (EXIT ACCESS TRAVEL DISTANCE) IBC 2021, MI ED - TABLE 1006.2.1 COMMON PATH OF EGRESS TRAVEL IBC 2021, MI ED , 1020.5 (DEAD ENDS)	SEE LIFE SAFETY PLAN FOR INFO
NUMBER OF EXITS	1006 (NUMBER OF EXITS AND EXIT ACCESS DOORWAYS)	NO CHANGE IN NUMBER OF EXITS
PLUMBING REQUIREMENTS	7.21.1 (MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES)	TOTAL/2= OF EACH SEX

DRAWING LIST - ARCHITECTURAL

Sheet No.	Sheet Name	Current Revision	Revision Date
G-001	COVER SHEET		
G-002	SYMBOLS AND ABBREVIATIONS		
G-003	RESPONSIBILITY MATRIX AND TENANT SCHEDULE		
A-001	LIFE SAFETY PLAN		
D-100	DEMO PLAN		
A-100	CONSTRUCTION FLOOR PLAN		
A-101	REFLECTED CEILING PLAN / LIGHTING SCHEDULE		
A-102	FINISH PLAN AND SCHEDULE		
A-103	EQUIPMENT PLAN		
A-104	ENLARGED RESTROOM PLAN		
A-200	INTERIOR ELEVATIONS		
A-201	INTERIOR ELEVATIONS		
A-400	WALL AND MILLWORK DETAILS AND NOTES		
A-401	TYPICAL DETAILS		
A-402	TRASH CAN DETAILS		
A-600	ANSI A117.1 REFERENCES		
A-601	ANSI A117.1 REFERENCES		
A-602	GENERAL SPECIFICATIONS		
A-603	GENERAL SPECIFICATIONS		
A-604	GENERAL NOTES		

DRAWING LIST - STRUCTURAL ENGINEERING

SHEET #	SHEET NAME
S1	GENERAL NOTES
S2	PARTIAL EXISTING ROOF FRAMING PLAN

DRAWING LIST - MECHANICAL

Sheet No.	Sheet Name	Current Revision	Revision Date
M100	MECHANICAL SPECIFICATION		
M200	MECHANICAL PLAN & SCHEDULE		
M201	MECHANICAL ROOF PLAN		
M300	MECHANICAL DETAILS		

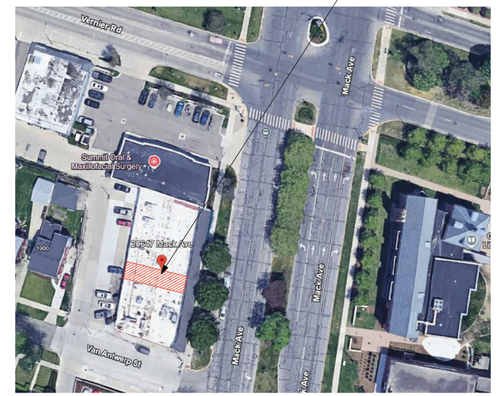
DRAWING LIST - ELECTRICAL

Sheet No.	Sheet Name	Current Revision	Revision Date
E-1	ELECTRICAL SPECIFICATIONS		
E-2	ELECTRICAL SPECIFICATIONS		
E-3	ELECTRICAL POWER PLAN		
E-4	ELECTRICAL LIGHTING PLAN		
E-5	RISER & PANEL SCHEDULE		

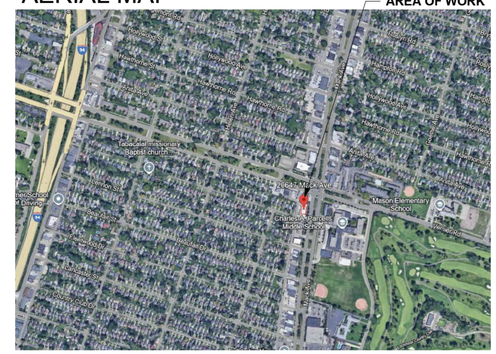
DRAWING LIST - PLUMBING

Sheet No.	Sheet Name	Current Revision	Revision Date
P1-01	PLUMBIN NOTES		
P2-01	PLUMBING PLAN		
P3-01	PLUMBIN RISERS		
P4-01	PLUMBING DETAILS		

SITE MAP



AERIAL MAP



INTERIOR FIT-UP

ALL WORK AS INDICATED ON THESE ARCHITECTURAL DRAWINGS TO OCCUR ON THE INTERIOR EXCEPT FOR REAR DOOR, HVAC AND ROOF WORK. NO OTHER WORK SHALL BE CONSTRUED TO BE PART OF THE SCOPE OF WORK OF THESE DOCUMENTS. UNLESS OTHERWISE NOTED EXISTING INCOMING UTILITIES MAY OR MAY NOT BE INCREASED, SEE DRAWING NOTES. SPACES FOR THESE FIT UPS ARE TYPICALLY FULL DEMOLITION OF INTERIOR WALL, DOORS, CEILINGS, LIGHTS AND ALL FINISHES. UTILITIES ARE TYPICALLY TO REMAIN IN PLACE AND MOTIFIED, EXTENDED, OR CHANGED AS REQUIRED.

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NO.	DESCRIPTION	DATE

DESIGNED BY:	JG	DRAWN BY:	CM
CHECKED BY:	JG	APPROVED BY:	JG
PROJECT #		STQ-0994-0125	

PROJECT:
PLAYA BOWLS
20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: 12" = 1'-0"

DRAWING TITLE:
COVER SHEET

SHEET:
G-001

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ABBREVIATIONS.

ABBRV	ABBREVIATION DESCRIPTION
#	POUND OR NUMBER
&	AND
@	AT
A/O	AND/OR
ACOUST	ACOUSTICAL
ACT	ACOUSTIC CEILING TILE
AD	AREA DRAIN
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
ALUM	ALUMINUM
ANOD	ANODIZED
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APC	AUTOMATED POSTAL CENTER
APPROX	APPROXIMATE; APPROXIMATELY
ARCH	ARCHITECTURAL
ASPH	ASPHALT
B.O.	BOTTOM OF
B.R.	BULLET RESISTANT
B.W.C.	BOTTLED WATER COOLER
BD	BOARD
BIT	BITUMINOUS
BLDG	BUILDING
BLK'G	BLOCKING
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BR	BRICK
BRG.	BEARING
BTWN	BETWEEN
BTWN	BETWEEN
BYND	BEYOND
C	CARPET
CAB	CABINET
CB	CATCH BASIN
CCTV	CLOSED-CIRCUIT TELEVISION
CEM	CEMENT
CG	CORNER GUARD
CHNL	CHANNEL
CI	CAST IRON
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COLS	COLUMNS
COMPR	COMPRESSIBLE
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CPT	CARPET
CR	CARD READER
CT	CERAMIC TILE
CU FT	CUBIC FEET
CUST	CUSTOM, CUSTOMER
D.F.	DRINKING FOUNTAIN
DF	DOUBLE FACED
DBL	DOUBLE
DEMO	DEMOLISH OF DEMOLITION
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DIMS	DIMENSIONS
DISP	DISPLAY OR DISPENSER
DISP	DISPENSER
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL	DETAIL
DWG	DRAWING
E.W.C.	ELECTRIC WATER COOLER
EA	EACH
EDPM	ETHYLENE PROPYLENE DIENE M-CLASS (ROOFING)
EFS	EXTREIOR FINISH SYSTEM
EIFS	EXTERIOR FINISH & INSULATION SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR OR ELEVATION
ENCL	ENCLOSURE
EP	ELECTRIC PANEL
EQ	EQUAL
EQUIP	EQUIPMENT
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXP	EXPOSED STRUCTURE
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
F.A.P.	FIRE ALARM PANEL
F.E.	FIRE EXTINGUISHER
FAC FIN	FACTORY FINISH
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FACTORY FINISH / FINISH FLOOR
FF&E	FURNITURE, FINISH & EQUIP.
FHMS	FLAT HEAD MACHINE SCREW
FIN	FINISH, FINISH(ED)
FIN. FL.	FINISH FLOOR
FIXT	FIXTURE
FLR	FLOOR
FM	FILLED METAL
FND	FOUNDATION
FO	FACE OF
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER
FOS	FACE OF STUD
FRP	FIBER REINFORCED PLASTIC
FRT	FIRE RETARDANT TREATMENT
FS	FLOOR SINK
FTG	FOOTING
FURN	FURNISHED
FURR	FURRING
FWP	FABRIC WRAP WALL PANEL
G.C.	GENERAL CONTRACTOR
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GL	GLASS
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
GYP. BD.	GYPSUM BOARD
H	HIGH
H.W.H.	HOT WATER HEATER
HB	HOSE BIBB
HC	HOLLOW CORE
HDW	HARDWARE
HDWR	HARDWARE
HG	HARDWARE GROUP
HGT.	HEIGHT
HI	HIGH
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HT.	HEIGHT
HTR	HEATER

ABBREVIATIONS.

ABBRV	ABBREVIATION DESCRIPTION
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
i.e.	THAT IS
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
ILO	IN LIEU OF
IN	INCH
INSUL	INSULATION
INT	INTERIOR
IRGWB	IMPACT RESISTANT GYPSUM WALL BOARD
INT	INTEGRATED RETAIL SPACE
JAN	JANITOR
JT	JOINT
L	LENGTH, LONG
L.C.	LEAD COATED
LAM	LAMINATE
LB	POUND
LBS	POUNDS
LF	LINEAR FEET
LIQ	LIQUID
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LMC	LINEAR METAL CEILING
LO	LOW
LP	LOW POINT
LT	LIGHT
LT WT	LIGHT WEIGHT
M.R.	MANUFACTURER RECOMMENDED
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEMBR	MEMBRANE
MEZZ	MEZZANINE
MFGR	MANUFACTURER
MFR	MANUFACTURER
MH	MANHOLE
MHO	MAGNETIC HOLD OPEN
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MOD	MODIFIED
MRGWB	MOISTURE-RESISTANT GYPSUM WALL BOARD
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MULL	MULLION
N/A	NOT APPLICABLE
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NIMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND, OVERHEAD
OPNG	OPENING
OPP.	OPPOSITE
OSHA	OCCUPATIONAL SAFETY HAZARD ACT
P	PAINT
P.LAM	PLASTIC LAMINATE
P.O.	POST OFFICE
PART.	PARTITION, PARTIAL
PEMB	PRE ENGINEERED BUILDING MFR.
PERP	PERPENDICULAR
PL	PROPERTY LINE, PLATE, PLASTIC
PLAS	PLASTER
PLBG	PLUMBING
PLUMB	PLUMBING
PLYD	PLYWOOD
PLYWD	PLYWOOD
PNL	PANEL
PNT	PAINT PAINTED
POLY.	POLYETHYLENE
PR	PAIR
PREFIN	PRE-FINISHED
PROJ	PROJECT
PT	PRESSURE TREATED, POST-TENSIONED, POINT, PAINT
PTD	PAINTED
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
QTR	QUARTER
R	RADIUS, RISER
R.O.	ROUGH OPENING
R.T.U.	ROOF TOP UNIT
RB	RESILIENT BASE, RUBBER BASE
RBR.	RUBBER
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RECEP.	RECEPTACLE
REFR	REFER, REFERENCE
REFR	REFRIDGERATOR
REINF	REINFORCING
REQD	REQUIRED
RF	RUBBER FLOORING
RFT	RESILIENT FLOOR TILE
RM	ROOM
ROW	RIGHT OF WAY
S.C.	SMOOTH CONCRETE
S.S.	STAINLESS STEEL
SC	SUSPENDED CEILING, SMOOTH CONCRETE, SOLID CORE
SCW	SOLID CORE WOOD
SF	SQUARE FEET
SHT.MTL.	SHEET METAL
SHT.	SHEET
SHTS	SHEETS
SIM	SIMILAR
SPEC	SPECIFIED OR SPECIFICATION
SPECS	SPECIFICATIONS
SPK	SPRINKLER OR SPEAKER
SQ	SQUARE
SQ FT.	SQUARE FEET
SQ IN.	SQUARE INCHES
SS	STAINLESS STEEL, SANITARY SEWER
SSK	SELF SERVICE KIOSK
SST	STAINLESS STEEL
SSTL	STAINLESS STEEL
ST.	STONE: MASONRY OR TILE
STC	SOUND TRANSMISSION COEFFICIENT
STD	STANDARD
STL	STEEL
STRUCT.	STRUCTURE OR STRUCTURAL
SUSP	SUSPENDED
SYM	SYMMETRICAL
SYS	SYSTEM
T	TILE
T&B	TOP AND BOTTOM
T&G	TOUNGUE AND GROOVE
T/D	TELEPHONE/DATA
TBD	TO BE DETERMINED
TEL	TELEPHONE
TELE	TELEPHONE
TEMP	TEMPERATURE, TEMPORARY
TER	TERRAZZO
THICK	THICKNESS
THK	THICKNESS
THRESH.	THRESHOLD
TLT	TOILET
TO	TOP OF
TOC	TOP OF CONCRETE
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY

ABBREVIATIONS.

ABBRV	ABBREVIATION DESCRIPTION
TOP	TOP OF PARAPET
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS.	TRANSMISSION
TRANSP	TRANSPARENT
TYP	TYPICAL
U/S	UNDERSIDE
UHMW	ULTRA HIGH MOLECULAR WEIGHT
UL	UNDERWRITER'S LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UTL	UTILITY
V	VENT
V.P.	VENT PIPE
VAR	VARNISH
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VP	VENEER PLASTER
VT	VINYL TILE
VTR	VENT THROUGH ROOF
W	WIDE
W/	WITH
W/O	WITHOUT
WD	WOOD
WDC	WOOD CEILING
WDP	WOOD PANELING
WF	WOOD FLOORING
WIN	WINDOW
WM	WIRE MESH
WOM	WALK OFF MAT OR CARPET
WP	WATERPROOF, OR WORK POINT
WR	WATER RESISTANT
WRB	WEATHER RESISTANT BARRIER
WS	WEATHERSTRIP
WSCT	WAINSCOT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
YD	YARD
℄	CENTERLINE

SYMBOLS

ENLARGED V EW BUBBLE — INDICATION OF AREA DETAILED; DETAIL NO /DESIGNATION; SHEET NO /DESIGNATION (A1 / A000)

DETAIL V EW CALLOUT — VIEW NUMBER; SHEET LOCATION (A1 / A000)

BUILDING SECTION (A1 / A000)

DETAIL SECTION — VIEW NUMBER; SHEET LOCATION (A1 / A000)

SECTION CUT — DETAIL NO./DESIGNATION; SECTION CUT/DESIGNATION; SHEET NO./DESIGNATION (A1 / A000)

GRAPHIC SCALE — 0' 5' 10' 20' 40'

EXTERIOR ELEVATION — VIEW NUMBER; SHEET LOCATION (A1 / A000)

NTERIOR ELEVATION — DETAIL NO /DESIGNATION; SHEET NO /DESIGNATION (1 / A000 / 1)

ROOM NAME & NUMBER — ROOM NAME/DESIGNATION; ROOM NUMBER; ROOM AREA (ROOM NAME / 150 SF)

DOOR NUMBER (1i)

W NDOW NUMBER (00)

FURNITURE/ FIXTURE NUMBER (000)

SHEET SPECIFIC KEYNOTE (00)

REVISION DATE & CLOUD (00 Date)

DATUM ELEVATION — LEVEL 1; 0'-0" AFF

CE L NG HEIGHT (0'-0")

SPOT ELEVATION — HEIGHT

VIEW REFERENCE

10A VIEW NAME

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

NORTH ARROW — PROJECT NORTH-ORIENT TO BUILDING; TRUE NORTH

GRIDLINE BUBBLE — EXISTING GR D; 0; 0; 0; 0

CONSTRUCTION LEGEND

- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- NEW WALK- N FREZZER WALLS
- NEW DOOR

CONSTRUCTION PLAN LEGEND

- NOT N CONTRACT
- EXIST NG CONSTRUCTION TO REMA N
- NEW CONSTRUCTION
- WOOD PANEL
- OPEN CEILING
- BATT INSULATION
- CONCRETE
- CONCRETE BLOCK
- EXPOSED BRICK
- FINISH WOOD FOR ARCH WOODWORK
- GRAVEL
- GYPSUM BOARD
- ROUGH PLYWOOD
- STEEL

MATERIAL HATCH LEGEND

GRA DESIGN STUDIO

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DESIGNED BY:	JG	DRAWN BY:	CM
CHECKED BY:	JG	APPROVED BY:	JG
PROJECT #		STQ-0994-0125	

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: As indicated

DRAWING TITLE:
SYMBOLS AND ABBREVIATIONS

SHEET:
G-002

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RESPONSIBILITY MATRIX

	NOTE: O = OWNER, G.C. = GENERAL CONTRACTOR, V = VENDOR, L.L. = LANDLORD	FURNISH	INSTALL
	UNLESS NOTED OTHERWISE, ALL WORK SHOWN IN THESE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR OF RECORD		
FLOOR WORK & DEMO	SMOOTH, LEVEL CONCRETE FLOOR WITH ADA TRANISITON REQUIREMENTS	G.C.	G.C.
	REPAIR, LEVEL AND SLOPE FINISHES AND TRANSITIONS	G.C.	G.C.
FLOOR COVERING	TILE, BASE AND GROUT, EPOXY FLOOR, & TRANSITIONS	G.C.	G.C.
	WATERPROOF MEMBRANE (IF REQUIRED)	G.C.	G.C.
EXTERIOR WALLS / STORE FRONT	ENTRY / EXIT DOORS AND HARDWARE	G.C.	G.C.
	SERVICE / EXIT DOOR AND HARDWARE	G.C.	G.C.
	ALUMINUM STOREFRONT AND GLAZING (BRING EXISTING TO 'LIKE NEW' CONDITION)	G.C.	G.C.
INTERIOR PARTITIONS	FRAMING, PLYWOOD BLOCKING AND GYP. BD	G.C.	G.C.
	F.R.P. PANELS AND WAINSCOT	G.C.	G.C.
	WATERPROOF MEMBRANE (IF REQUIRED)	G.C.	G.C.
	GYPSUM BOARD CEILING AND SOFFIT	G.C.	G.C.
	SERVICE LINE AND DINING AREA KNEE WALL AT SERVICE	G.C.	G.C.
	PREP / PRIME / PAINT BASE COLORS	G.C.	G.C.
	MURAL PAINTINGS	O	O
	GYPSUM BOARD WITH SUSPENSION SYSTEM	G.C.	G.C.
	LAY-IN CEILING WITH SUSPENSION SYSTEM	G.C.	G.C.
	DOORS, FRAMES AND HARDWARE	G.C.	G.C.
	ARTWORK PACKAGE	O	O
	'COMING SCON' WINDOW POSTERS	V	V
FURNISHINGS	DINING ROOM TABLES	V	G.C.
	TELEVISION SCREENS	O	G.C.
	TOILET ACCESSORIES	G.C.	G.C.
	KITCHEN EQUIPMENT (FF&E PACKAGE)	O	G.C. OR V
	WALK-IN COOLER	O	G.C. OR V
	SELF CONTAINED WALK-IN REFRIGERATION PACKAGE	O	G.C. OR V
	REMOTE WALK-IN REFRIGERATION PACKAGE	O	G.C. OR V
	EMPLOYEE LOCKERS	O	G.C.
	OFFICE SHELVING AND CHAIR	O	G.C.
	SNEEZE GUARD - C.R. LAWRENCE	G.C.	G.C.
	WALL MOUNTED SHELVING AND BLOCKING (BLOCKING PROVIDED BY GC)	G.C.	G.C.
SIGNAGE	EXTERIOR SIGN (SEPERATE PERMIT)	O	V
	MENU BOARD	O	O
	RESTROOM SIGNAGE	G.C.	G.C.
HVAC	HVAC ROOF TOP UNIT(S), CURBS AND DROPS	G.C.	L.L.
	ROOF SPACE AND SUPPORT FOR HVAC EQUIPMENT	G.C.	L.L.
	ROOF REPAIRS AND FLASHING (USE LANDLORDS WARRANTY ROOFING CONTRACTOR, IF APPLICABLE)	G.C.	G.C.
	WIRING AND CONNECTIONS	G.C.	G.C.
	AIR BALANCE REPORT	G.C.	G.C.
	DUCTWORK, DAMPERS AND GRILLES	G.C.	G.C.
	THERMOSTATS AND CONTROLS	G.C.	G.C.
	TOILET EXHAUST FAN	G.C.	G.C.
	CODE COMPLAIANT AREA FOR EXHAUST FANS, MAU, ETC.	G.C.	G.C.
PLUMBING	SANITARY WASTE LINE TO SPACE	G.C.	G.C.
	GREASE TRAP OR GREASE LINE STUBBED INTO SPACE	G.C.	G.C.
	WATER METER AND SERVICE STUBBED TO PREMISES	G.C.	G.C.
	GAS METER AND SERVICE TO SPACE	G.C.	G.C.
	FINAL CONNECTIONS	G.C.	G.C.
	HVAC CONNECTIONS	G.C.	G.C.
	GAS PIPING A/C	G.C.	G.C.
	WATER HEATERS	O	G.C.
	ALL SINKS AND FAUCETS, EXCEPT MOP SINK	O	G.C.
	MOP SINK & FAUCET	G.C.	G.C.
ELECTRICAL	SEPARATELY METERED 200 AMP, 120/208 V, 3 PHASE, 4W SERVICE	L.L. OR G.C.	G.C.
	FLUSH MOUNTED PANEL WITH BREAKERS AND WITH 200 AMP BREAKER PANEL FOR TENANTS SUB PANEL	G.C.	G.C.
	INTERNET SERVICE AND CABLE PULLS	O	G.C.
	LIGHT FIXTURES, MOUNTING ACCESSORIES, AND LAMPS (FKG TO SUPPLY)	FKG	G.C.
	CEILING FANS (FKG TO SUPPLY)	FKG	G.C.
	MUSIC SYSTEM AND SPEAKERS	O	G.C.
	EXIT/EMERGENCY LIGHT SYSTEMS	G.C.	G.C.
	P.O.S CONDUIT, CABLES & JACKS	G.C.	G.C.
	P.O.S. EQUIPMENT INSTALLATION	O	O
FIRE PROTECTION	FIRE ALARM SHOP DRAWINGS AND PERMIT SUBMITTAL	G.C.	G.C.
	FIRE ALARM INSTALL AND CONNECTION TO BUILDING MAIN CONTROL PANEL, IF APPLICABLE	G.C.	G.C.
	SPRINKLER SHOP DRAWINGS AND PERMIT SUBMITTAL	G.C.	G.C.
	SPRINKLER INSTALL AND CONNECTION TO BUILDING MAIN SYSTEM, IF APPLICABLE	G.C.	G.C.

TENANT SCHEDULE

LOCATION	FLOOR		WALLS			COUNTERTOP	CASEWORK CABINET	CEILING			NOTES
NAME	FLOOR	BASE	PRIMARY	ACCENT	TRIM			MATERIAL	COLOR	HEIGHT	
DINING	FT-1	WB-2	NOTES 2,9	NOTE 9	NOTE 3	-	-	EXPOSED		SEE A101	1,2,3,4,8,9
SERVICE	ET-1	WB-1	NOTES 5,9	NOTE 9	NOTE 3	CT-1	NOTE 6	ACT-22	WHITE	SEE A101	3,4,5,6,8,9
KITCHEN	ET-1	WB-1	FRP-1	-	NOTE 3	-	-	ACT-24	WHITE	SEE A101	3,7,8
RESTROOMS	FT-1	WB-1	NOTE 9	-	WP-3	-	-	GWB-1	WHITE	9'-0"	3,9,11

NOTES
1. FOR THE ROUGH PINE AND CORRUGATED CHCKIEN WIRED GLASS PANELS: CONTACT MATT WHITE AT RECYCLING THE PAST 609.618.7606, PROVIDE SQUARE FOOTAGES OF ALL NEEDED MATERIAL. PLEASE ACCOUNT FOR 15-20% OF THE TOTAL SQUARE FOOTAGE FOR WASTE AND EXTRAS WHEN ORDERING MATERIALS, ALL HEMLOCK WOOD WILL BE SHIPED APPROXIMATELY AS 1X8 - WOOD TO BE RIPPED DOWN TO NOTED SIZES THE CONTRACTOR AS NEEDED
2. WD-1 UP TO UNDERSIDE OF WOOD CAP OR DISPLAY COUNTER. PAINT ABOVE TO UNDERSIDE OF CEILING
3. DOOR TRIM PNT-3. TRIM AT CEILING PNT-4
4. FLOORING TRANSISTION STRIPS TO BE SCHULTER-RENO-U
5. FRP-1 UP TO UNDERSIDE OF CEILING
6. ROUGH PINEWOOD FINISH ON DINING SIDE AND FRP-1 FINISH ON SERVICE SIDE
7. FRP-1 UP TO UNDERSIDE OF CEILING
8. ALL FRESH CUT EDGES OF THE HEMLOCK WOOD TO BE PAINTED WITH A KILZ WATERBASE PRIMER, SAND LIGHTLY AFTER PAINTING
9. VERY ALL PAINT COLOR LOCATIONS WITH ROCK CANDY PAINT CREW. CONTACT: RAMONA SCHATZER 917.450.5085
10. IF NEEDED FOR CONSTRUCTION CLASS ALL WOOD TO BE FIRE RETARDANT TREATED, BY CONTRACTOR WITH FLAME CONTROL NO.141, A POLYURETHANE VARNISH WITH FIRE HAZARD CLASSIFICATION. CLASS "B" BY FLAME CONTROL COATINGS LLC. LOW GLOSS FINISH.
11. CT-2 UP TO 48" AFF PAINT 48" TO UNDERSIDE OF CIELING

FT-1	6"X36" WOOD-LOOK NON-SLIP CERAMIC FLR. TILE AS MANUF. BY GAYAFORES SERIES: TRIBECA COLORS: EQUAL MIX OF BLANCO, AQUA AND GRIS. MUST BE LAID IN HERRINGBONE PATTERN. 1/8" JOINT GROUT: LACTICRETE SPECTRALOCK COLOR: #78 STERLING SILVER WORLDWIDE FLOORING: 1055 ROUTE 1 SOUTH EDISON, NJ 08837 TEL: (908)285-1110 DSB@WORLWIDEWHOLESALE.COM	ACT-22	2X2 ACOUSTICAL CEILING TILE ULTIME SQUARE TEGULAR 2X2 VINYL FACED CEILING TILE. KITCHEN ZONE CEILING TILE #672 9/16" SQUARE, BY ARMSTRONG
WT-1	3"X6" GLAZED CERAMIC WALL TILES AS MANUF. BY DALTILE. SERIES: CLASSIC COLOR WHEEL. COLOR: ARTIC WHITE #0190 TOP TRIM: WALL BULLNOSE S-4369MOD BASE: COVE BASE A-3361MOD	WB-1	4" STANDARD COVE VINYL BASE AS MANUF. BY ROPPE COLOR: #123 CHARCOAL

WP-1	BEHR PREMIUM PLUS INTERIOR PAINT EGGSHELL FINISH 2 COATS OVER PRIMER COLOR: M6460-3 "BIG SURF"		
WP-2	BEHR PREMIUM PLUS INTERIOR PAINT EGGSHELL FINISH 2 COATS OVER PRIMER COLOR: BLACK	WB-2	1X3 ROUGH PINE WOOD BASE W/ NEW WHITE WASH FINISH AS SUPPLIED BY RECYCLING THE PAST. CONTACT MATT WHITE 609.618.7606 (SEE NOTE #1)
WP-4	BEHR PREMIUM PLUS INTERIOR PAINT SEMI-GLOSS FINISH 2 COATS OVER PRIMER COLOR: P480-6 "ARUBA BLUE"	FRP-1	STANDARD FRP PANELS AS MANUF. BY MARLITE. PEBBLED SURFACE COLOR:P199 BRIGHT WHITE
WP-5	RUST-OLEUM SPECIALTY PAINT FLAT FINISH COATS & PRIMER PER MANUF. SPECS COLOR: BLACK CHALKBOARD	ET-1	NON-SLIP EPOXY FLOORING SYSTEMS AS MANUF. BY ELITE CRETE SYSTEMS (OR APPROVED EQUAL) COLOR: WOMBAT
WC-1	ROUGH PINE WOOD WAINSCOTTING		
CT-1	3" THICK ANTIQUE WOOD COUNTERTOP AS SUPPLIED BY RECYCLING THE PAST CONTACT:MATT WHITE 609.618.7606. TO BE STAINED & SEALED BY CONTRACTOR BEFORE INSTALLATION WITH EP-2 (SEE NOTE #1)		

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LICENSE # 1301072639
EXPIRATION 3/08/2026

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EXISTING CONDITIONS	
SCHEMATIC DESIGN	
DESIGN DEVELOPMENT	
PROGRESS PRINT	
FULL RELEASE	

ISSUED TO:

NO	DESCRIPTION	DATE

DESIGNED BY:	JG	DRAWN BY:	CM
CHECKED BY:	JG	APPROVED BY:	JG
PROJECT #			STQ-0994-0125

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE:

DRAWING TITLE:
RESPONSIBILITY MATRIX AND TENANT SCHEDULE

SHEET:
G-003

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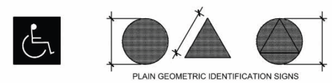
LIFE SAFETY LEGEND

- EMERGENCY LIGHTS
- DIRECTIONAL EXIT SIGN - SEE ELECTRICAL PLAN
- EXIT
- # — TOTAL LENGTH OF EXIT TRAVEL DISTANCE (FEET) FROM START POINT
- FE — PROPOSED FIRE EXTINGUISHER
- # — COMMON PATH OF EGRESS TRAVEL DISTANCE FROM START POINT (FEET)
- TS — TACTILE "EXIT" SIGN

KEYED NOTES - LIFE SAFETY

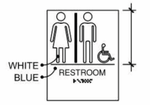
1. PROVIDE INTERNATIONAL SYMBOL OF ACCESSIBILITY - MOUNT 60" A.F.F. TO CENTERLINE OF SIGN. PROVIDE TACTILE GRADE- 2 CONTRACTED BRAILLE WALL SIGN - REFER TO RESTROOM SIGNAGE DETAIL.
2. PROVIDE TACTILE GRADE -2 CONTRACTED BRAILLE WALL SIGN - REFER TO RESTROOM SIGNAGE DETAIL.
3. LINE INDICATES 50' MAX KITCHEN TRAVEL DISTANCE
4. LINE INDICATED 52' MAX ASSEMBLY TRAVEL DISTANCE

EGRESS & OCCUPANCY INFORMATION/ SEATING CALCULATIONS



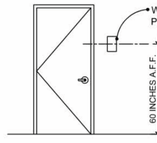
ISA SYMBOL - TYPICAL @ THESE LOCATIONS, BUT NOT LIMITED TO: RESTROOMS, TABLES/BOOTHES, SERVICE COUNTERS, ACCESSIBLE RESTROOM STALLS, AND FRONT ENTRY

REFER TO ADAAG 703.7.2.1 FOR SIGNAGE REQUIREMENTS



MODEL NUMBERS:
UNISEX: #840-B
(PROVIDE @ SPACES W/ (1) TOILET ROOM)

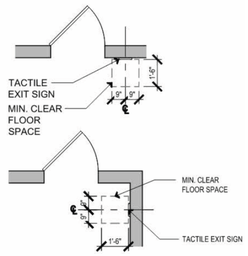
MOUNTING LOCATIONS



WHERE NO WALL SPACE ON LATCH SIDE, PLACE NEAREST ADJACENT

ACCESSIBILITY SIGNAGE:
ANSI APPROVED E.S. PLASTIC, NEMA RATED SELF-EXTINGUISHING ADHESIVE MOUNTED

BLUE COLOR NO. EQUAL TO 15090 IN FEDERAL STANDARD 595B



EGRESS INFORMATION

EGRESS CAPACITIES DESIGNED TO CONFORM WITH THE 2018 INTERNATIONAL BUILDING CODE
GROSSE POINTE, MICHIGAN EDITION

PROPOSED TENANT SPACE CALCULATED OCCUPANT LOAD = 29
REQUIRED EGRESS WIDTH: (.2)*(29)= 5.8"
MINIMUM DOOR WIDTH PER 1008.1.1 = 32"
PROPOSED EGRESS WIDTH PROVIDED = 36",36"
TOTAL EGRESS WIDTH PROVIDED = 72"

EXIT ACCESS TRAVEL DISTANCE REQUIRED W/ SPRINKLERS = 300' PER TABLE 1017.2
EXIT ACCESS TRAVEL DISTANCE PROVIDED = 52'-0

EGRESS LEGEND	
A	OCCUPANT LOAD AT THIS EXIT
B	REQUIRED EXIT WIDTH
C	PROVIDED EXIT W DTH

SEATING CALCULATIONS		
SEAT NG TYPE	QUANITY	SEATS
2 TOP	8	16
BAR TOP	1	4
SURFBOARD	1	6
TOTAL SEATS		26

PROPOSED OCCUPANCY TABLE

CLASSIFICATION	DIAGRAM / PATTERN	FLOOR AREA	SF/OCCUPANT	CALCULATED OCCUPANCY
COMMERCIAL KITCHEN		787 SF	200 SF (GROSS)	4
ASSEMBLY: - UNCONCENTRATED		30 SF	15 SF (NET)	2
- BAR SEATING		84 INCHES	1 PER 18"	5
- FIX SEATING		4 SEAT	1 PER SEAT	4
TOTAL:		1224 SF		15

SPACE CHARACTERISTICS	
OCCUPANCY GROUP	B
OCCUPANT LOAD	29
TENANT AREA (NET LEASABLE)	1224 SF
TENANT VOLUME	- CF
SPR NKLER	NO
FIRE ALARM	NO

SPACE CHARACTERISTIC NOTES:
1. PROPOSED TENANT SPACE USE: CLASSIFIED AS 'B' PER BC 304
REFER TO OCCUPANCY TABLE THIS SHEET

ACCESSIBILITY NOTES

WHILE IT IS THE INTENT OF THE ARCHITECT, HIS EMPLOYEES, AND ASSIGNS TO ADHERE TO ALL ASPECTS AND REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) AND LOCAL ACCESSIBILITY CODES, THE CONTRACTOR SHALL NOT BE RELIEVED OF SOLE RESPONSIBILITY TO VERIFY ALL REQUIREMENTS OF SAID ACTS AS PERTAINING TO CONTRACT DOCUMENT CONTAINED HEREIN PRIOR TO COMMENCEMENT OF ANY WORK. HE SHALL ALSO BE RESPONSIBLE TO IMMEDIATELY NOTIFY DESIGNER OF POSSIBLE DISCREPANCIES. HE SHALL ALSO PAY SPECIAL ATTENTION TO ITEMS LISTED BELOW"

A. REFER TO G-002 COVER SHEET, FOR CODE SUMMARY AND BUILDING DATA.

B. REFER TO ARCHITECTURAL FLOOR PLANS FOR BUILDING DIMENSIONS.

C.REQUIRED ACCESSIBLE PARKING AREAS, CURBS, CROSSWALKS, SIGNS, ETC. SHALL COMPLY WITH CURRENT STATE AND LOCAL CODES.

D. TACTILE EXIT SIGNS SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:

D.A. EACH GRADE LEVEL EXTERIOR DOOR SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORD " EXIT".

D.B. EACH EXIT, EXIT ACCESS DOOR FROM AN INTERIOR ROOM OR AREA TO A CORRIDOR OR A HALLWAY THAT IS REQUIRED TO HAVE A VISUAL EXIT SIGN, SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS, " EXIT ROUTE".

E. THE BOTTOM 10" OF ALL DOORS SHALL HAVE A SMOOTH UNINTERRUPTEDD SURFACE TO ALLOW DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST.

F. NO THRESHOLD SHALL EXCEED 1/2" IN HEIGHT.

G. HAND-OPERATED DOOR OPENING HARDWARE SHALL NOT REQUIRE TIGHT GRASPING OR TWISTING OF THE WRIST IN ORDER TO OPERATE, AND SHALL BE MOUNTED NO HIGHER THAN 48" A.F.F.

H. MAXIMUM FORCE REQUIRED TO OPEN EXTERIOR DOORS SHALL NOT EXCEED 5 LBS. MAXIMUM FORCE REQUIRED TO OPEN INTERIOR DOORS SHALL NOT EXCEED 5LBS.

I. IF A DOOR HAS A CLOSER, THEN THE SWEEP PERIOD OF THE CLOSER SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 70 DEGREES, THE DOOR WILL TAKE A LAST 3 SECONDS TO MOVE TO A POINT 5 INCHES FROM THE LATCH, MEASURED TO THE LEADING EDGE OF THE DOOR.

J. FAUCET CONTROL AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBS. LEVER OPERATED, FLUSH TYPE AND ELECTRONICALLY OPERATED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. IF SELF CLOSING VALVES ARE USED, THE FAUCET SHALL REMAIN OPEN FOR A MINIMUM OF 10 SECONDS.

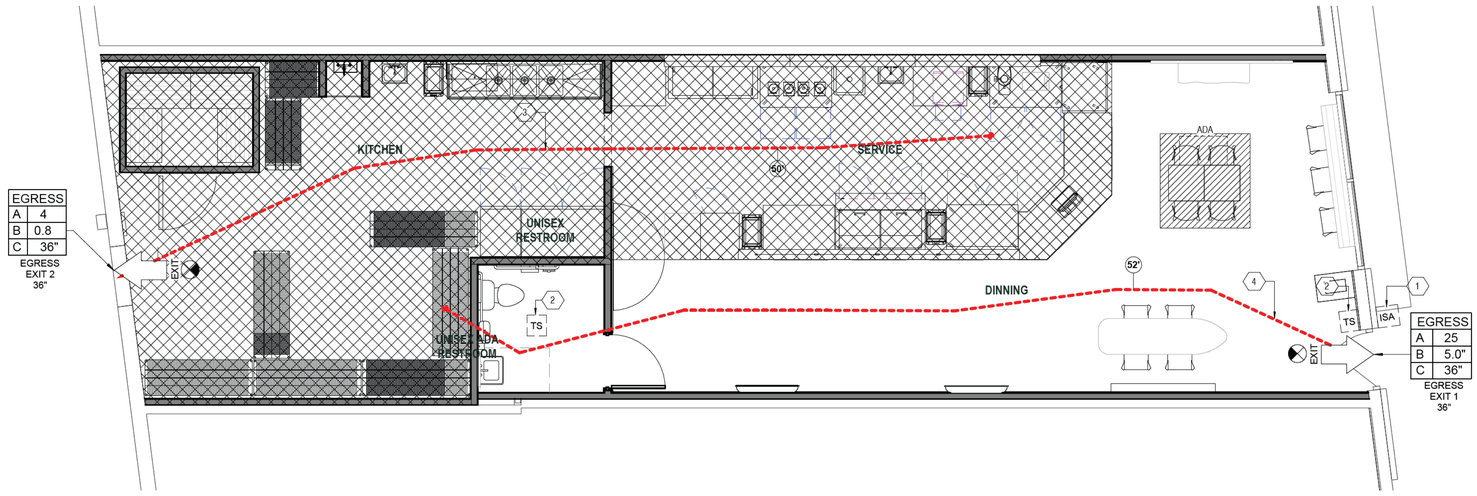
K. PROVIDE SIGNAGE WITH INTERNATIONAL SYMBOL OF ACCESSIBILITY IN ACCORDANCE WITH ANSI A117.1 AND ADA REQUIREMENT.

L. SIGNAGE HEIGHT SHALL BE IN ACCORDANCE WITH ALL APPLICATION NATIONAL, STATE AND LOCAL ACCESSIBILITY CODES.

M. RESTROOM SIGNAGE SHALL BE MOUNTED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE RESPECTIVE RESTROOM DOOR.

LIFE SAFETY NOTES

#	Comments - Fire
A	PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A, 10-B:C, 5LBS. WITHIN 75-FOOT TRAVEL DISTANCE TO ALL PORTIONS OF THE BUILDING ON EACH FLOOR, AND ADDITIONAL EXTINGUISHERS AS REQUIRED BY AUTHORITY HAVING JURISDICTION.
B	PROVIDE EXIT SIGN WITH 6" LETTERS OVER REQUIRED EXITS, WHERE SHOWN ON DRAWINGS AND AS REQUIRED BY APPLICABLE CODES, AND ADDITIONAL SIGNS AS REQUIRED BY AUTHORITY HAVING JURISDICTION. CONNECT EXIT SIGNS TO EMERGENCY POWER CIRCUITS AS REQUIRED. COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS. SEE MEP DRAWINGS FOR EXIT/EMERGENCY LIGHT LOCATIONS.
C	DOORS OPENING INTO REQUIRED 1-HOUR, FIRE-RESISTIVE CORRIDORS SHALL BE PROTECTED WITH A SMOKE OR DRAFT STOP ASSEMBLY HAVING A 20-MINUTE RATING AND SHALL BE SELF-CLOSING.
D	20-MINUTE DOOR JAMBS TO BE TIGHT-FITTING, SMOKE AND DRAFT CONTROLLED.
E	STORAGE, DISPENSING OR USE OF ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS, FLAMMABLE GAS AND HAZARDOUS SUBSTANCES SHALL COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS.
F	WOOD BLOCKING WHERE PERMITTED SHALL BE FIRE TREATED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS.
G	PROVIDE A FIRE/LIFE SAFETY SYSTEM AS REQUIRED. SUBMIT PLANS TO AUTHORITY HAVING JURISDICTION WITH COMPLETE DESCRIPTION OF SEQUENCE OF OPERATION, AND OBTAIN APPROVAL PRIOR TO INSTALLATION.
H	PROVIDE AN APPROVED AUTOMATIC FIRE EXTINGUISHING SYSTEM AS REQUIRED. SEE ALSO MEP DRAWINGS. SUBMIT PLANS TO AUTHORITY HAVING JURISDICTION AND OBTAIN APPROVAL PRIOR TO INSTALLATION.
J	AUTOMATIC SPRINKLER SYSTEMS SHALL BE SUPERVISED BY AN APPROVED CENTRAL, PROPRIETARY OR REMOTE STATION SERVICE OR A LOCAL ALARM WHICH WILL GIVE AN AUDIBLE SIGNAL AT A CONSTANTLY ATTENDED LOCATION.



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

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LICENSE #	1301072639
EXPIRATION	3/08/2026

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FULL RELEASE	

ISSUED TO:

NO	DESCRIPTION	DATE

DESIGNED BY:	JG	DRAWN BY:	CM
CHECKED BY:	JG	APPROVED BY:	JG
PROJECT #		STQ-0994-0125	

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: As indicated

DRAWING TITLE:
LIFE SAFETY PLAN

SHEET:
A-001

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DEMOLITION NOTES

1. REMOVE ALL WALLS AS SHOWN (FULL HEIGHT). PATCH ADJACENT WALLS, FLOORS, AND CEILINGS TO - AS NEW CONDITION AS REQUIRED BY THE NEW DESIGN SCHEME
2. RE-USE ANY EXISTING WALLS ONLY AS POSSIBLE TO ACCOMMODATE THE NEW DESIGN SCHEME, ALL EXISTING WALLS MUST BE FLUSH WITH THE NEW CONSTRUCTION AS SHOWN UNLESS NOTED OTHERWISE
3. REMOVE ANY EXISTING DOORS, SIDELIGHT PANELS AND FRAMES ETC, AS INDICATED
4. REMOVE ALL RECEPTACLES, THERMOSTATS, SWITCHES, CONTROLS, AND DEVICES (AS WELL AS ANY WRING) WHICH WILL NOT BE USED FOR THE NEW DESIGN SCHEME VERIFY WITH OWNER/LANDLORD AND ARCHITECT THE CORRECT LOCATIONS OF ANY & ALL EXISTING RECEPTACLES WHICH ARE TO REMAIN
5. REMOVE AND/OR RELOCATE ANY MECHANICAL/ELECTRICAL/PLUMBING OR EQUIPMENT AS REQUIRED IF NOT COMPATIBLE WITH THE NEW DESIGN SCHEME
6. THE CONTRACTOR SHALL COORDINATE THE CONTINUANCE OF ANY & ALL UTILITIES TO THE SITE DURING DEMOLITION AND SHALL DISCONNECT ONLY DURING THE RELOCATION OF SERVICES AS REQUIRED & WITH CANER/LANDLORD'S CONSENT
7. ALL PIPING, WIRING & DUCTWORK SHALL BE RECONFIGURED AS REQUIRED TO ACCOMMODATE THE REMOVAL OF ANY WALLS AS SHOWN SO THAT THE INTEGRITY OF ALL MECHANICAL SYSTEMS ARE MAINTAINED
8. VERIFY LOAD REQUIREMENTS FOR HEATING & AIR CONDITIONING ALL SPACES & THE ROUTING OF ALL DUCTWORK. PROVIDE SUPPLY/RETURN DUCTS AT ALL ALTERED SPACES IN CONNECTION WITH THE BUILDING HVAC SYSTEM AS WELL AS CONTROL/THERMOSTATS & FINAL BALANCING REQUIRED IN THE OPERATION OF HEATING/COOLING THE SPACE & TO MAINTAIN INDUSTRY STANDARD (ASHRAE) COMFORT LEVEL
9. ALL MECHANICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH NATIONAL & LOCAL PLUMBING, ELECTRICAL & HVAC CODES & REGULATIONS. IT SHALL BE THE GENERAL CONTRAGTOR'S RESPONSIBILITY TO OBTAIN ALL PERMITS, INSPECTIONS & MUNICIPAL APPROVALS FOR THIS WORK

DEMOLITION KEYED NOTES

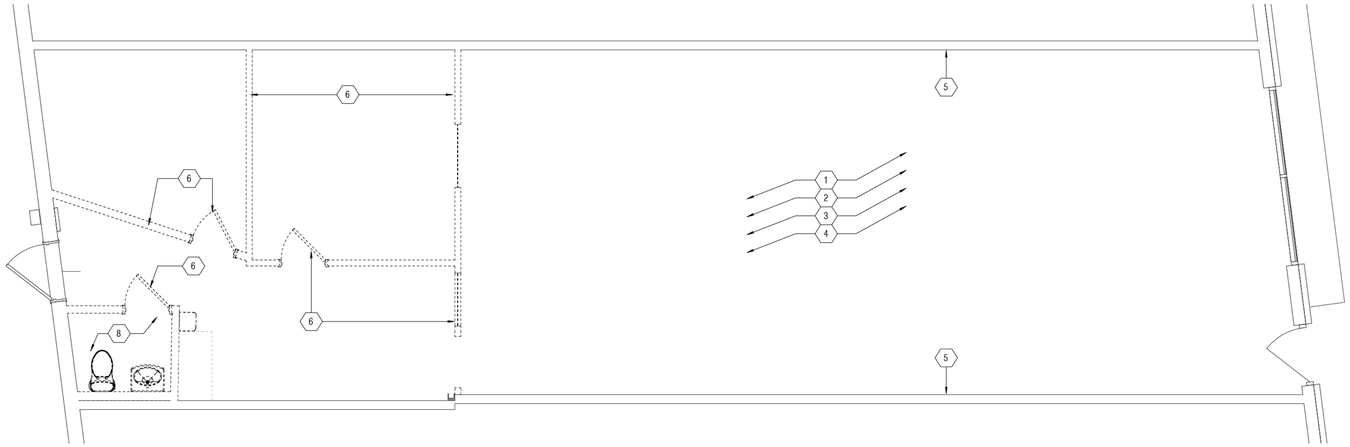
1. REMOVE EXISTING FLOOR FINISHES THROUGHOUT - LEAVE CONC CLEAN, LEVEL AND SMOOTH, READY TO RECEIVE NEW FINISHES.
2. EXISTING CEILING FINISHES TO BE REMOVED.
3. REMOVE EXISTING EXPOSED WIRING AND OUTLETS THROUGHOUT. TERMINATE AND CAP READY TO RECEIVE TENANT WORK.
4. REMOVE MISC. PIPING THROUGHOUT.
5. REMOVE MISCELLANEOUS MATERIALS FROM DEMISING WALL AND EXTERIOR WALL SURFACES AND PREPARE TO RECEIVE NEW FINISH MATERIALS.
6. REMOVE WALLS AND DOORS SHOWN DASHED.
7. N/A
8. REMOVE PLUMBING FIXTURES

DEMOLITION LEGEND

EXISTING WALLS TO REMAIN

EXISTING WALLS TO BE DEMOLISHED AND REMOVED FROM SITE.

EXISTING DOOR TO BE REMOVED. REFER TO DEMOLITION KEYNOTES FOR MORE INFORMATION.



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

GRA DESIGN STUDIO

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PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: As indicated

DRAWING TITLE:
DEMO PLAN

SHEET:
D-100

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GENERAL NOTES

A. PROVIDE BLOCKING WITHIN PARTITIONS AND/OR CEILING AS NECESSARY FOR ALL NOTED AND SHOWN WALL/CEILING MOUNTED ACCESSORIES, FIXTURES, MILLWORK AND EQUIPMENT OR WHERE NOTED IN THESE OR CONSULTANT DRAWINGS FOR INSTALLATION OF SUCH FIXTURES.

B. MAINTAIN 18" ON PULL SIDE AND 12" ON PUSH SIDE AT ALL DRS. REFER ALSO TO ADA NOTES AND DIAGRAMS FOR FURTHER INFORMATION.

C. COORDINATE ALL FRAMING AS REQUIRED W/ ADJACENT / ALIGNED PARTITIONS. WHERE SPECIFIC DIMENSIONS OR ALIGNMENTS ARE REQUIRED AS SHOWN IN THE DRAWINGS, PROVIDE FRAMING AS REQUIRED TO ACHIEVE NOTED DIMENSIONS OR ALIGNMENT. REFER TO PARTITION TYPE DETAILS FOR FURTHER INFORMATION.

D. GENERAL CONTRACTOR TO PROVIDE ALLOWANCE TO INSULATE EXISTING PIPES AS REQUIRED ALL EXPOSED PIPES TO BE PAINTED TO MATCH ADJACENT SURFACES. PROVIDE FRAMING AROUND ALL PIPES AS SHOWN IN DWGS. U.O.N. CONTRACTOR SHALL IMMEDIATELY NOTIFY ARCHITECT OF ANY EXIST. PIPES NOT SHOWN ON THESE DWGS WHICH ARE IN CONFLICT WITH THE LAYOUT AS SHOWN.

E. PROVIDE & INSTALL ACCESS HATCHES AT ALL LOCATIONS - WITHIN PARTITIONSAND/OR CLGS - FOR EXIST. OR NEW MEP EQUIP., PIPES, VALVES, ETC. WHERE REQ. SEE MEP. DWGS. FOR FURTHER INFORMATION. CONSULT BLDG. LANDLORD FOR REQ. ACCESS TO EXIST. EQUIP. COORD. FINAL QUANTITIES AND LOCATIONS BETWEEN THESE DWGS., CONSULTANT DWGS. AND LANDLORD. ACCESS HATCHES SHALL BE FLUSH MTD.,TRIMLESS TYPE AND SHALL BE PTD. TO MATCH ADJACENT SURFACE WHERE INSTALLED. SUBMIT CUTS FOR APPROVAL.

F. FOR EXIST. PARTITIONS BEING PATCHED AND INFILLED, PROVIDE STUD SIZE A REQUIRED TO MATCH EXISTING CONSTRUCTION. GYP. BD. SHALL BE FLUSH AND ALIGN WITH ADJACENT CONSTRUCTION., SKIMCOAT AS REQ. TO CREATE INVISIBLE TRANSITION, BOTH SIDES TYP. ALL OTHER REQUIREMENTS FOR NOTED PARTITION TYPE SHALL REMAIN.

G. IN AREAS WHERE EQUIP., INFRASTRUCTURE AND LTG. ARE REMOVED,PATCH/REPAIR GYP. BD. TO ACHIEVE SMOOTH/SEAMLESS/FLAT SURFACE, TYP.

H. G.C. IS RESPONSIBLE FOR REPAIRING/ PATCHING/ REPLACING IN KIND, ANY AND ALL FINISHES AT AREAS CONTAINING MECH. SCOPE BOTH WITHIN AND OUTSIDE OF ARCHITECTURAL SCOPE OF WORK.

I. G.C. WALLS TO BE SKIMMED/PATCHED/REPAIRED AS REQ. FOR SMOOTH CONTINUOUS SURFACE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND JOB CONDITIONS

J. PRIOR TO COMMENCING WORK AND SHALL REPORT TO GREG RALPH ARCHITECT ANY DISCREPANCIES OR OMISSIONS WHICH WOULD INTERFERE WITH THE SATISFACTORY COMPLETION OF THE WORK.

K. ALL DIMENSIONS ARE FROM FINISH SURFACE TO FINISH SURFACE OR FROM FACE OF COLUMNS AND EXISTING WALLS TO FINISH SURFACE UNLESS NOTED OTHERWISE. SEE PARTITION TYPES FOR TYPICAL DIMENSIONS AND CONSTRUCTION OF PARTITIONS.

L. CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING OF EXISTING GYP., TAPING AND SPACKLING TO THE SATISFACTION OF GREG RALPH ARCHITECT AND APPROPRIATE FINISH CONTRACTORS.

M. METAL STUDS SHALL BE ROLL FORMED CHANNEL TYPE SECTIONS FABRICATED OF U.S.S. NO. 25 GAUGE, GALVANIZED SHEET STEEL, 2 ½ INCHES WIDE AND IN THE LONGEST ONE PIECE LENGTHS AVAILABLE, UNLESS OTHERWISE NOTED. SEE PARTITION TYPES FOR PARTITION ASSEMBLY INFORMATION.

N. CORNER REINFORCEMENT SHALL BE NO. 103 "DURA-BEAD" AS MANUFACTURED BY US GYPSUM CO., OR AN APPROVED EQUAL. CORNER AND EDGE TRIM MEMBERS SHALL BE IN SINGLE LENGTHS. WALLBOARD EDGE TRIM TO BE USG 200-B OR 200-A OR EQUAL.

O. SCREWS FOR FASTENING WALLBOARD TO STUDS SHALL BE BUGLE TYPE PHILLIPS HEAD SCREWS SPECIFICALLY MANUFACTURED FOR POWER TOOL INSTALLATION.

P. JOINT TREATMENT MATERIALS SHALL BE EXPRESSLY MANUFACTURED BY THE WALLBOARD MANUFACTURER FOR USE WITH THE MANUFACTURER'S WALLBOARD MATERIALS. JOINT COMPOUNDS SHALL BE THE READY MIXED TYPE CONFORMING TO ASTM C475. TAPING AND SPACKLING SHALL BE A THREE (3) COATS APPLICATION

Q. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDIN. OF CUTTING AND PATCHING FOR ALL TRADES. WHERE NEW AND EXIST. WALLS AND PARTITIONS ARE IN CONFLICT WITH DUCTWORK, PLUMBING LINES, ETC., CONTRACTOR SHALL PROVIDE ALL NECESSARY BRIDGING AND BRACING REQUIRED TO SECURE DRYWALL AND TO MAINTAIN FIRE OR SOUND RATING WHERE REQUIRED.

R. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY CUT-OUTS FOR THE INSTALLATION OF ELECTRICAL OUTLETS, TELEPHONE AND DATA OUTLETS, SWITCHES AND OTHER ELECTRICAL AND/OR PLUMBING DEVICES.

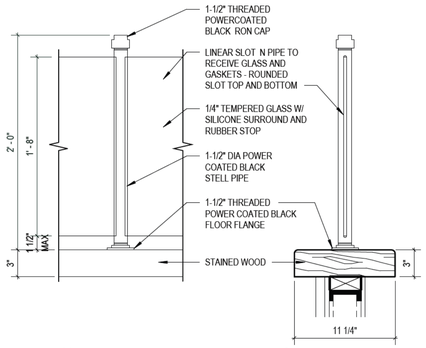
S. THE CONTRACTOR SHALL REPAIR OR REPLACE EXISTING CONSTRUCTION TO REMAIN THAT IS DAMAGED IN THE PERFORMANCE OF THIS CONTRACT AT NO COST TO THE CLIENT.

T. CONTRACTOR TO COORD. W/ MILLWORKER AND FINISH CARPENTER AND INSTALL ALL WOOD GROUNDS AND METAL SUPPORTS IN CLG. AND PARTITIONS WHERE NECESSARY FOR THE INSTALLATION OF OTHER TRADE WORK.

U. DURING THE ELECTRICAL ROUGH-IN, THE CONTRACTOR IS TO VERIFY IN FIELD WITH THE ARCHITECT THE LOCATIONS OF THERMOSTATS, STROBES, SWITCHES,OUTLETS, AND ALL OTHER VISIBLE WIRED DEVICES

KEY NOTES

1. STARTING POINT. ALL SUB-TRADES SHALL USE THIS POINT AS BEGINNING POINT FOR LAY-OUT (INSIDE FACE OF DEMISING WALL DRY WALL / STUDS.)
2. CORNER GUARD / WALL CAP. TYPICAL AT ALL OUTSIDE CORNERS IN INFRONT OF HOUSE
3. NEW WALL MOUNTAED TANKLESS WATER HEATER MOUNTED ABOVE MOP SINK. SEE PLUMBING DRAWINGS FOR MORE INFORMATION
4. PREPARE SURFACE TO RECEIVE NEW FLOORING- SCRAPE, FILL AND DEGREASE AS NECESSARY TO INSTALL NEW FLOORING
5. EXISTING ELECTRICAL PANEL. REVIEW ALL EXISTING BREAKERS FOR ANY REPLACEMENTS
6. PREP WALL SURFACE TO CLEAN-SMOOTH TO RECEIVE PAINT -REPAIR/ SPACKLE
7. ADJUST DOOR CLOSER TO ENSURE MAXIMUM FORCE TO OPEN DOORS DOES NOT EXCEED 5LBS.
8. THE SWEEP PERIOD OF THE CLOSER SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 70 DEGREES THE DOOR WILL TAKE AT LEAST 3 SECONDS TO MOVE A POINT 5 INCHES FROM THE LATCH. MEASURED TO LEADING EDGE OF DOOR
9. FLOOR DRAIN/SINK. SEE PLUMBING DRAWINGS FOR DETAILS AND INFORMATION. FLOOR DRAIN. SEE PLUMBING DRAWINGS FOR DETAILS AND INFORMATION
10. NEW 34" ADA COUNTERTOP
11. WALL INSTALL FIRE EXTINGUISHER



NOTE: 1/4" GLASS PRE-MANUFACTURED SNEEZEGUARD FMIW W/ 2" CHANNEL TUBE SUPPORT POWERCOATED BLACK W NO END PANELS AS MANUNF. BY PREMIER METAL AND GLASS INC.

4 SNEEZE GUARD DETAIL
SCALE: 1 1/2" = 1'-0"

FLOOR PLAN NOTES

DIMENSIONS:

A. ALL DIMENSIONS ARE TO FINISH FACE TO FINISH FACE

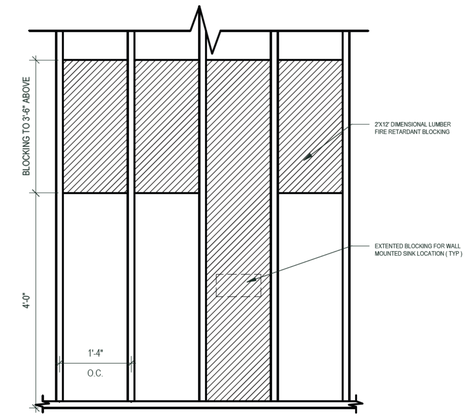
B. DIMENSIONS NOTED AS "CLEAR" OR "HOLD" ARE MIN. REQ'D. NET CLEARANCE FROM FACE OF WALL / WAINSCOT FINISH. VERIFY FINAL EQUIPMENT SIZES W/ VENDOR PRIOR TO INSTALLING WALL FRAMING.

FINISH SUBSTRATES:

A. ALL JOINTS, GAPS OR SPACES LEADING TO ALL HOLLOW OR INACCESSIBLE SPACES SHALL BE SEALED WITH "NSF INTERNATIONAL" APPROVED SEALANTS.

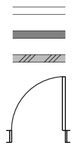
GENERAL:

A. PROVIDE THREE FIRE EXTINGUISHERS - (2) 10 lb. ABC TO COMPLY WITH LOCAL FIRE CODE. LOCATE PER DIRECTION OF FIRE MARSHALL OR LOCAL AUTHORIZING AGENT.

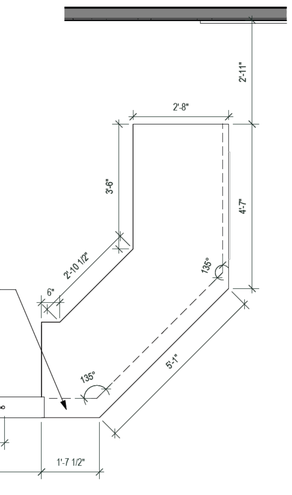


3 BLOCKING DETAIL
SCALE: 3/4" = 1'-0"

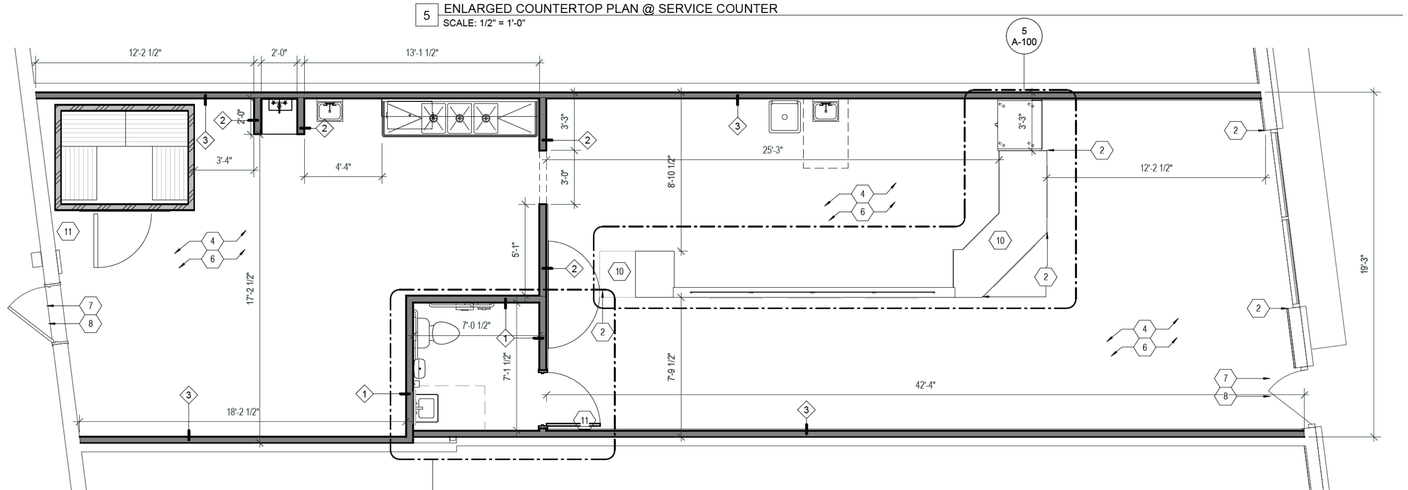
CONSTRUCTION LEGEND



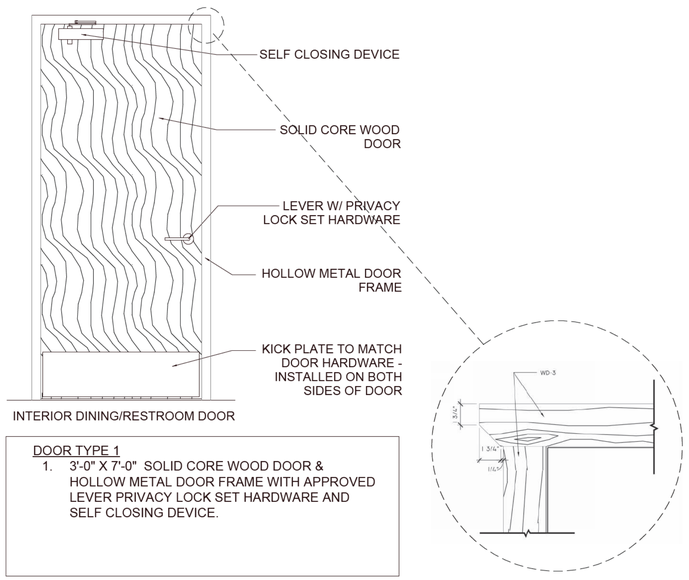
CONSTRUCTION PLAN LEGEND
SCALE: 1/4" = 1'-0"



5 ENLARGED COUNTERTOP PLAN @ SERVICE COUNTER
SCALE: 1/2" = 1'-0"



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



DOOR TYPE 1

1. 3'-0" X 7'-0" SOLID CORE WOOD DOOR & HOLLOW METAL DOOR FRAME WITH APPROVED LEVER PRIVACY LOCK SET HARDWARE AND SELF CLOSING DEVICE.

2 DOOR DETAIL
SCALE: 3/4" = 1'-0"

GRA DESIGN STUDIO

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ARCHITECT
No. 1301072639
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MICHIGAN

LICENSE # 1301072639
EXPIRATION 3/08/2026

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RELEASE TYPE:

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DESIGN DEVELOPMENT	
PROGRESS PRINT	
FULL RELEASE	

ISSUED TO:

NO.	DESCRIPTION	DATE

DESIGNED BY:	JG	DRAWN BY:	CM
CHECKED BY:	JG	APPROVED BY:	JG
PROJECT #	STQ-0094-0125		

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: As indicated

DRAWING TITLE:
CONSTRUCTION FLOOR PLAN

SHEET:
A-100

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RCP GENERAL NOTES

1. CONTRACTOR TO PROVIDE CEILING SAMPLES FOR OWNER APPROVAL, ALTERNATE TO BE APPROVED BY ARCHITECT.
2. ALL CEILING HEIGHTS ARE ABOVE FINISHED FLOOR.
3. ALL CEILINGS ARE 9'-6' AFF UNO.
4. CEILING TILES SHALL BE INSTALLED SO GRAIN LINES OF TILE ARE RUNNING IN SAME DIRECTION ON ALL CEILINGS.
5. COMMUNICATION DEVICES AND CEILING MOUNTED EQUIPMENT TO BE CENTERED IN CEILING TILE UNO.
6. ALL CEILING GRIDS TO BE CENTERED IN ROOMS UNO.
7. ARCHITECTURAL CEILING PLAN SHALL GOVERN FOR LOCATIONS OF ALL DEVICES AS SHOWN. ENGINEERING DOCUMENTATIONS SHALL PREVAIL ONLY IN CASE OF SCOPE OF WORK AND ELEMENTS OCCURRING ABOVE CEILING DISCREPANCIES.
8. SINGLE LIGHT FIXTURES IN GYPSUM BOARD CEILINGS TO BE CENTERED IN BOTH DIRECTIONS UNO.
9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL AUDIO/VISUAL REQUIREMENTS WITH TENANT AND/OR AV CONSULTANT.
10. ATTACHED ALL GRID SUPPORTED LIGHT FIXTURES TO CEILING AND TO BUILDING STRUCTURE.
11. LOUVERS AND PANEL FRONTS SHALL BE SPRAY PAINTED TO MATCH ADJACENT SURFACES, INCLUDING FACTORY FINISHED ITEMS, UNO. BRUSH PAINTING OF THESE ITEMS WILL NOT BE PERMITTED.
12. ALL EXPOSED GYPSUM BOARD SHALL BE SEALED WITH ONE COAST OF SEALER, FOLLOWED BY TWO COATS PER PAINT FINISH W/ SMOOTH FINISH.
13. DO NOT LOCATE ANY JUNCTION BOXES, HVAC BOXES, TRANSFORMERS, ETC. ABOVE HARD CEILING AREA. ANY ITEMS ABOVE HARD CEILNG REQUIREING AN ACCESS PANEL SHALL BE RELO ATED SO AS TO AVOID NECCISITY OF ACCES PANEL.

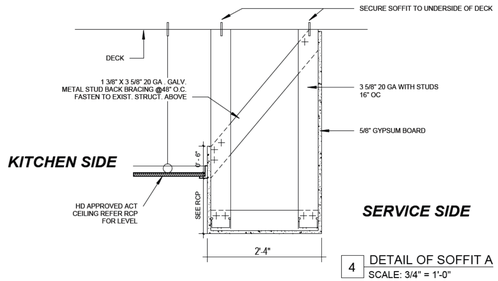
CEILING PLAN NOTES

DIMENSIONS:
A. ALL DIMENSIONS ARE TO FACE OF FINISH U.O.N.

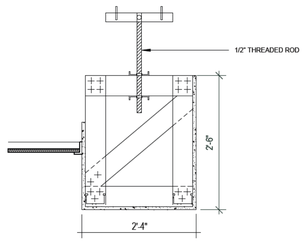
SUSPENDED CEILING:
A. ACOUSTICAL PANEL INSTALLATION: INSTALL ACOUSTICAL PANELS WITH EDGES IN CLOSE CONTACT WITH METAL SUPPORTS AND IN TRUE ALIGNMENT.
B. ALLOWABLE VARIATIONS FROM FLAT AND LEVEL SURFACE: 1/8" IN 10'-0" MAX.
C. ALLOWABLE VARIATIONS FROM PLUMB OF GRID MEMBERS: AS CAUSED BY ECCENTRIC LOADS, 2 DEGRESS MAX.
D. INSTALL SYSTEM AFTER MAJOR ABOVE CLG. WORK IS COMPLETE. COORD LOCATIONS OF HNAGERS WITH RELATED WORK.

KEY NOTES

1. CEILING GRID STARTING POINT
2. HANGING CHALK BOARDS
3. SPEAKER. DINING ROOM SPEAKERS TO BE WALL MOUNTED



4 DETAIL OF SOFFIT A
SCALE: 3/4" = 1'-0"



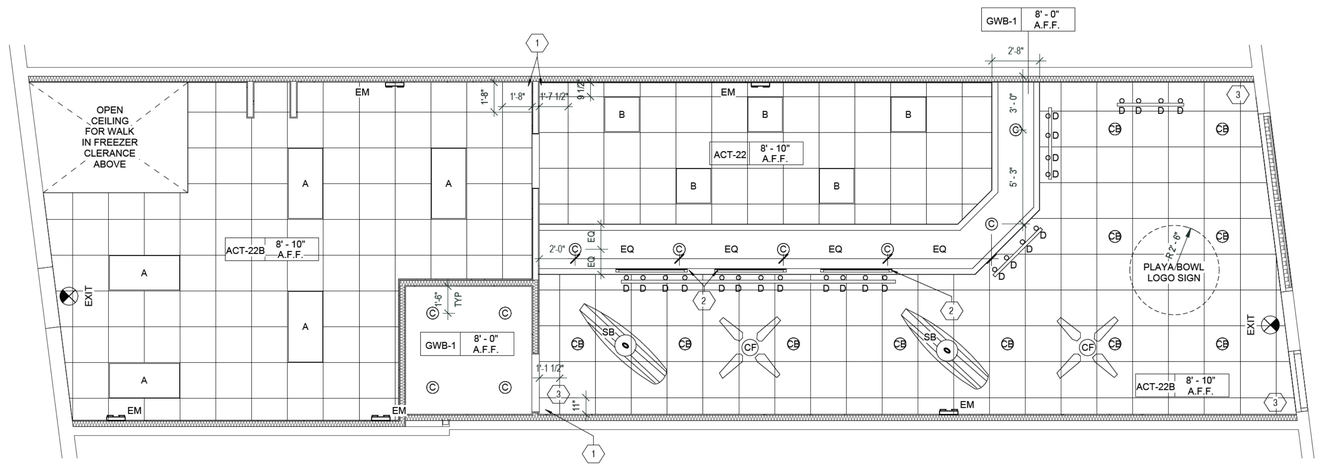
5 DETAIL OF SOFFIT B
SCALE: 3/4" = 1'-0"

CEILING SCHEDULE

TAG	SYMBOL	DESCRIPTION	MATERIAL	MANUFACTURER	COMMENTS
ACT22		2 X 2 VINYL FACED CEILING TILE	KITCHEN ZONE CEILING TILE #672 9/16" SQUARE	ARMSTRONG	USE 9/16" SUPRAFINE SUSPENSION SYSTEM
ACT22B		2 X 2 VINYL FACED CEILING TILE (BLACK)	KITCHEN ZONE CEILING TILE #672 9/16" SQUARE (BLACK)	ARMSTRONG	USE 9/16" SUPRAFINE SUSPENSION SYSTEM (BLACK)
GWB-1		GYPSUM WALL BOARD	5/8" GYPSUM WALL BOARD	TBD	GYPSUM WALL BOARD ON METAL STUD (SEE CEILING / SOFFIT SCHEDULE)
CP-1		BLACK PAINTED EXPOSED DECK	BENJAMIN MOORE OR SIMILAR	TBD	PAINT ANY EXPOSED DECK, BEAMS AND JOISTS BLACK.

LIGHT SCHEDULE

SYMBOL	TYPE
C	6" RECESSED CAN LIGHT - MODEL #: MIC-HH-CCTS-WS-6IN - WATTS 23
CB	6" RECESSED CAN LIGHT - MODEL #: MIC-HH-CCTS-WS-6IN - WATTS 23 COLOR: BLACK
B	2X2 FLAT PANEL LED - MODEL #: MIC-22F-CCTS-45W - WATTS 45
A	2X4 FLAT PANEL LED - MODEL #: MIC-24FP-CCTS-50W - WATTS 50
D	TRACK HEAD LIGHT 10W 3000K (BLACK) - MODEL #: TH-10W-3K-BLACK - WATTS 10
E	EXIT/EMERGENCY COMBO - MODEL #: EMEXIT2H-90-6IN - WATTS 2.2
EM	EMERGENCY LIGHT - MODEL #: EM2H-90 - WATTS 2.2
F	BASKET WEAVE BAMBOO PENDANT FIXTURE - MODEL#: CST-101-002
CF	CEILING FAN - MODEL #: KBS-52K1121
SB	SURFBOARD TO BE PROVIDED BY THE OWNER AND INSTALLED BY THE CONTRACTOR



1 REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

GRA DESIGN STUDIO

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ARCHITECT
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DESIGN DEVELOPMENT	
PROGRESS PRINT	
FULL RELEASE	

ISSUED TO:

NO	DESCRIPTION	DATE

DESIGNED BY:	JG	DRAWN BY:	CM
CHECKED BY:	JG	APPROVED BY:	JG
PROJECT #		STQ-0994-0125	

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: As indicated

DRAWING TITLE:
REFLECTED CEILING PLAN / LIGHTING SCHEDULE

SHEET:
A-101

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FINISH SCHEDULE

TAG	DESCRIPTION	SOURCE	PRODUCT NO.	NAME	COLOR/ FINISH	GROUT	COMMENTS
FLOOR							
ET-1	EPOXY FLOORING	ELITE CRETE SYSTEMS	B-616	RESINOUS FLAKE FLOOR	WOMBAT		100% SOLIDS EXPOY BASE COAT - FULL FLAKE DISTRIBUTION - POLYASPARTIC TOP COAT- 4" INTERGRAL BASE - KITCHEN
FT-1	6"x36" CERAMIC TILE	GAYAFORES	GF-20099	TRIBECA	BLANCO, AQUA, & GRIS	LATICRETE | SPECTRALOCK #78 STERLING SILVER AT 1/8" SPACING	WORLDWIDE FLOORING DARRIN BRAUNSTEIN 908-285-1110, JOHN KLINA 678-575-7744TILE COLOR ALTERNATING IN HERRINGBONE PATTERN
WALL BASE							
WB-1	4" VINYL BASE	ROPPE	123	-	CHARCOAL		KITCHEN AREA
WB-2	1X3 ROUGH PINE WOOD WALL BASE	RECYCLING THE PAST	-	-	WHITE WASH		CUSTOMER AREA CONTACT: MATT WHITE - 609.618.7606
WALL							
WC-1	ROUGH PINE WOOD WAINSCOTTING	RECYCLING THE PAST	-	-	WHITE WASH		CUSTOMER AREA, 42" HIGH
WP-1	INTERIOR PAINT	BEHR PREMIUM PLUS	M460-3	-	BIG SURF		EGGSHELL FINISH, 2 COATS OVER PRIMER, COVERED WITH MURALS, UP TO 12'-0" CONTACT PLAYA CONSTRUCTION MANAGER
WP-2	INTERIOR PAINT	BEHR PREMIUM PLUS	-	-	BLACK		EGGSHELL FINISH, 2 COATS OVER PRIMER ABOVE 12'-0" (OPEN CEILING ONLY)
WP-3	INTERIOR PAINT	BEHR PREMIUM PLUS	P480-6	-	ARUBA BLUE		SEMI-GLOSS FINISH 2 COATS OVER OVER PRIMER. FRONT KITCHEN AREA ABOVE 6'-9" FDA CFR21 175.300 COMPLIANT | CONTACT PLAYA CONSTRUCTION MANAGER
WP-4	INTERIOR PAINT	BEHR PREMIUM PLUS	-	-	ULTRA PURE WHITE		DOOR TRIM, SEMI GLOSS FINISH, 2 COATS OVER PRIMER | CONTACT PLAYA CONSTRUCTION MANAGER
WP-5	INTERIOR PAINT	RUST-OLEUM SPECIALTY PAINT FLAT FINISH	-	-	BLACK CHALKBOARD		COATS & PRIMER PER MANUF. SPECS
WT-1	3"x6" GLAZED CERAMIC SUBWAY TILE	DAL-TILE	0190	CLASSIC COLOR WHEEL	ARTIC WHITE	LATICRETE | SPECTRALOCK #44 BRIGHT WHITE	RESTROOM TO 4'-0". TOP TRIM: WALL BULLNOSE S-4369MOD BASE: COVE BASE A-3361MOD
FRP-1	FIBER-REINFORCED PLASTIC PANEL	MARLITE	P199	STANDARD FRP	BRIGHT WHITE		REAR KITCHEN, FULL HEIGHT UP TO 4' FRONT SERVICE
COUNTERTOP							
CT-1	COUNTERTOP	RECYCLING THE PAST	B4510	ANTIQUE WOOD	GOLDEN OAK		KITCHEN AREA, G.C. TO STAIN AND SEAL BEFORE INSTALLATION W/ FOOD SAFE EXPOXY RESIN
BT-1	BARTOP	RECYCLING THE PAST	B4510	ANTIQUE WOOD	GOLDEN OAK		42" HIGH BARTOP, G.C. TO STAIN AND SEAL BEFORE INSTALLATION W/ FOOD SAFE EXPOXY RESIN - MATT WHITE 609-618-7606
BS-1	BANANA SHELVING	RECYCLING THE PAST	B4510	ANTIQUE WOOD	GOLDEN OAK		60" & 84" AFF, G.C. TO STAIN AND SEAL BEFORE INSTALLATION W/ FOOD SAFE EXPOXY RESIN
FURNITURE							
TT-1	2'X2' TABLE TOP	DOUG RELLA		RECLAIMED BOAT WOOD TABLE			CONTACT DOUG RELLA AT RELLA WOODWORKS (732) 948-8238
TT-2	PAINTED PINE SURFBOARD TABLE TOP	DOUG RELLA		SURF BOARD TABLE	CLEAR EPOXY		CONTACT DOUG RELLA AT RELLA WOODWORKS (732) 948-8238 84" L x 20 3/4" W, 2X PAINTED
TB-1	LOW TABLE BASE	DOUG RELLA		-			CONTACT DOUG RELLA AT RELLA WOODWORKS (732) 948-8238
TB-2	HIGH TABLE BASE	DOUG RELLA		-			CONTACT DOUG RELLA AT RELLA WOODWORKS (732) 948-8238
CH-1	LOW CHAIR	CONTACT CORPORATE		-			CONTACT CORPORATE
CH-2	HIGH STOOL	CONTACT CORPORATE		-	BLUE WHITE		CONTACT CORPORATE
TC-1	TRASH CAN	WINCO	PTC-23B	23 GALLON WALL HUGGER TRASH CAN	BROWN		CONTACT CORPORATE

NOTES:

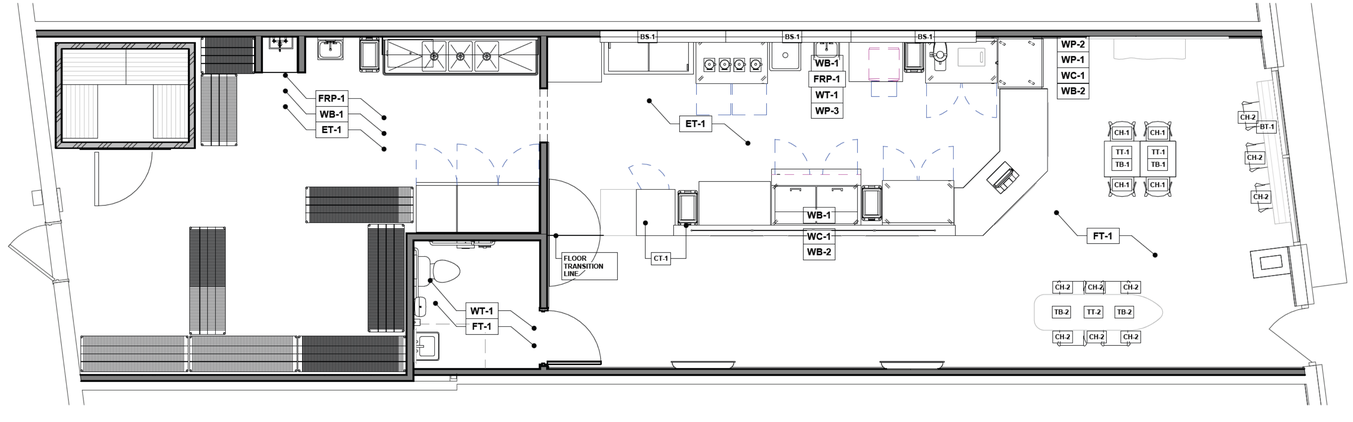
1. RECYCLING THE PAST CONTACT: MATT WHITE - 609.618.7606. PROVIDE SQ FT OF ALL NEEDED MATERIAL. ACCOUNT FOR 15-20% OF TOTAL SQ FT FOR WASTE AND EXTRAS WHEN ORDERING.
2. FLOORING TRANSITION STRIPS TO BE SCHULTER RENO-U
3. VERIFY ALL PAINT LOCATIONS WITH ROCK CANDY PAINT CREW, CONTACT: RAMONA SCHNATZER - 917.459.5086
4. FKG CONTACT: NICK SUCHEKI - 888.683.9111

FOR ROOM FINISH SCHEDULE:
REFER TO SHEET A-102

FOR CEILING FINISHES REFER TO REFLECTED CEILING PLANS

WALL FINISH MARKER	XXX ← WALL FINISH XXX ← WALL ACCENT(S) XXX ← WALL BASE
ROOM FINISH MARKER	XXX
FURNITURE MARKER	XXX ← TOP XXX ← BASE

IF WALL FINISH MARKER IS NOT USED, THEN ROOM FINISH MARKER GOVERN THE ENTIRE ROOM. REFER TO ELEVATIONS FOR ADDITIONAL INFORMATION



1 FINISH FLOOR PLAN
SCALE: 1/4" = 1'-0"

GRA DESIGN STUDIO

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PROJECT #	STQ-0994-0125		

PROJECT:
PLAYA BOWLS

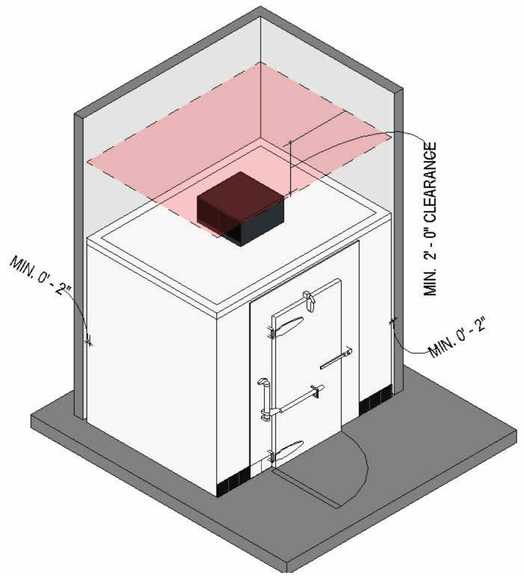
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GROSSE POINTE, MI 48236

SCALE: As indicated

DRAWING TITLE:
FINISH PLAN AND SCHEDULE

SHEET:
A-102

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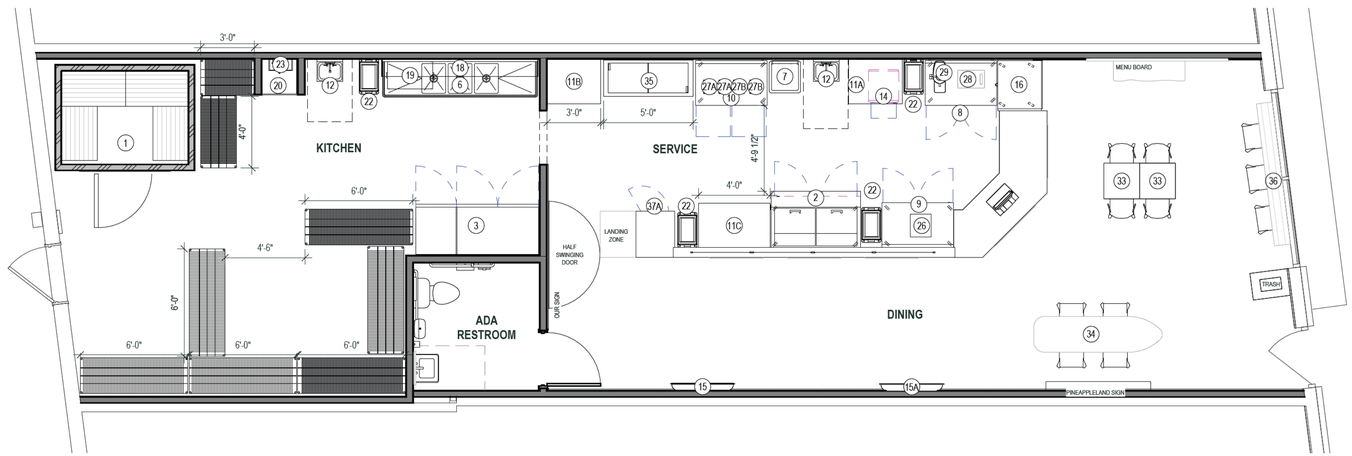


2 WALK-IN FREEZER CLEARANCE
SCALE: 3/4" = 1'-0"

EQUIPMENT SCHEDULE

PLAYA BOWLS - GROSSE POINTE WOODS, MI

ITEM NUMBER	QTY	ITEM	MANUFACTURER	MODEL	POWER REQUIRED VOLTAGE	POWER REQUIRED AMPS
1	1	6' X 8' WALK IN FREEZER	AMERIKOOLER	QF060877	208-230/60/1	TBD
2	1	MEGA TOP SANDWICH UNIT/ SALAD PREPERATION REFRIGERATOR	Blue Air FSE LLC	BLMT60-HC	115/60/1	4.9
3	1	REACH-IN REFRIGERATOR 3 DOOR	Blue Air FSE LLC	BSR72T-HC	115/60/1	6.3
3A	0	REACH-IN REFRIGERATOR 2 DOOR	Blue Air FSE LLC	BSR49T-HC	115/60/1	3.2
4	0	REACH IN FREEZER 2 DOOR	Blue Air FSE LLC	BSF49T-HC	115/60/1	6.8
4A	0	REACH IN FREEZER 3 DOOR	Blue Air FSE LLC	BSF72T-HC	115/60/1	8.4
4B	0	REACH IN FREEZER 1 DOOR	Blue Air FSE LLC	BSF23T-HC	115/60/1	4.9
5	0	NOT USED				
6	1	3 COMPARTMENT SINK	NBR Equipment	3SS-182414LR24		
7	1	1 COMPARTMENT SINK	NBR Equipment	1SG-181812		
8	1	REFRIGERATED WORK TOP	Blue Air FSE LLC	BLUR48-WT-HC	115/60/1	3.9
9	1	WORKTOP FREEZER 2 DOOR	Blue Air FSE LLC	BLUF48-WT-HC	115/60/1	6
10	1	4 DRAWER WORKTOP FREEZER	Beverage Air	WTFD48AHC-4	115/60/1	7
11A	1	WORK TABLE STAINLESS STELL (36WX30D)	NBR Equipment	TG-3630-X		
11B	1	WORK TABLE STAINLESS STEEL (36WX30D)	NBR Equipment	TG-F3630		
11C	2	WORK TABLE STAINLESS STEEL (48WX30D)	NBR Equipment	TG-F4830		
12	2	HAND SINK	NBR Equipment	HSZ-D2-S		
13	4	WALK IN SHELVING	QUANTUM	SHELVING		
14	1	ICE MAKER WITH BIN, CUBE STYLE	Blue Air FSE LLC	BLUI-100A	115/60/1	5.2
15	1	50" TV W/ SWING MOUNT FOR PLAY PROMOTIONS	SAMSUNG	SAMSUNG TV		
15A	1	50" TV W/ SWING MOUNT FOR ENTERTAINMENT	SAMSUNG	SAMSUNG TV		
16	1	OPEN DISPLAY MERCHANDISER	OJEDA U.S.A. INC	ALPA 77HC	120/60/1	11
17	0	NOT USED				
18	1	STORE SHELVING	Quantum	SHELVING		
19	1	GREASE INTERCEPTOR				
20	1	MOP SINK	Custom	63M		
21	0	NOT USED				
22	3	SLIM LINE TRASH CAN/ CONTAINER COMMERCIAL	Custom	8322		
23	1	WATER HEATER				
24	3	HIGH CHAIR, PLASTIC	Koala Kare Products	KB833-01		
25	0	MICROWAVE OVEN	Black+Decker	EM720CB7	110	
26	1	GRANOLA CRATE	Custom	CRATE		
27A	2	COMMERCIAL FOOD BLENDER	Vitamix	5201	120/60/1	15
27B	2	COMMERCIAL FOOD BLENDER (QUIET)	Vitamix	36019	120/60/1	15
28	1	CUTTING BOARD	Winco	CBRD-1218		
29	1	MULTI PURPOSE JUICER	Nutrifaster	N450	110/60	10.8
30	0	NOT USED				
31	0	NOT USED				
32	VARIES	SPEAKERS	One SL by Sonos	SONOS	110-240	1
33	2	24"X24" TABLE	BY VENDOR			
34	1	SURF BAORD TABLE	BY VENDOR			
35	1	ICE CREAM NOVELTY MERCHANDISER	Excellence Commercial Products	HB-17HCD	115/60/1	2
36	1	BAR TOP TABLE	BY VENDOR			
37A	1	UNDER COUNTER FREEZER MERCH	Blue Air FSE LLC	UCF20HC-25	115/60/1	1.3



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

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PROJECT #	STQ-0994-0125		

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: As indicated

DRAWING TITLE:
EQUIPMENT PLAN

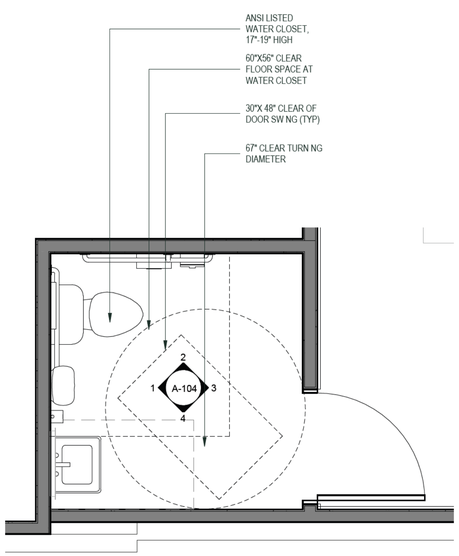
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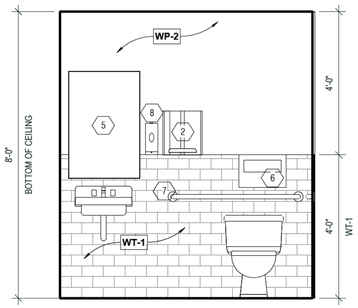
ACCESSORY SCHEDULE

	ITEM	DESCRIPTION	MANUF.	MODEL NO.	MOUNT. HGT.
1	TISSUE DISPENSER	SURFACE MOUNTED TOILET PAPER DISPENSER	SUMMIT	VERSATWIN R3670BKSS	SEE MOUNTING DETAILS SEE A-601
2	PAPER TOWELS	SURFACE MOUNTED PAPER TOWEL DISPENSER	TORK MATIC	#5510282 H1 BLACK	SEE MOUNTING DETAILS
3	18" GRAB BAR	1-1/2" DIA. GRAB BAR w/ CONCEALED MOUNTING PEENED NON-SUR GRIPPING SURFACE	AMERICAN SPECIALTIES	ASI 3800	SEE MOUNTING DETAILS
4	COAT HOOKS	COAT HOOK	AMERICAN SPECIALTIES	ASI 8425	SEE MOUNTING DETAILS
5	MIRROR	SURFACE MOUNTED M RROR	BOBRICK (18"x36")	B-165 W S.S. CHANNEL FRAME	
6	36" GRAB BARS	1-1/2" DIA. GRAB BAR w/ CONCEALED MOUNTING PEENED NON-SUR GRIPPING SURFACE	AMERICAN SPECIALTIES	ASI 3800	SEE MOUNTING DETAILS
7	42" GRAB BARS	1-1/2" DIA. GRAB BAR w/ CONCEALED MOUNTING PEENED NON-SUR GRIPPING SURFACE	AMERICAN SPECIALTIES	ASI 3800	SEE MOUNTING DETAILS
8	SOAP DISPENSER	SURFACE MOUNTED SOAP DISPENSER	GOJO	LTX-12 BLACK	SEE MOUNTING DETAILS

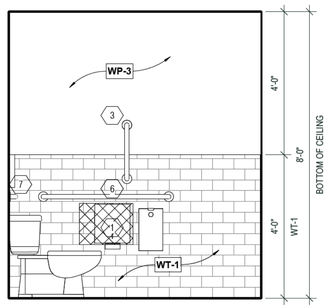
NOTES:
1. PROVIDE CONCEALED BLOCKING AND STRUCTURAL SUPPORT FOR ALL GRAB BARS, TOWEL BARS AND MIRRORS, FOR A M N MUM OF 250 LB. LOADING.
2. ALL EXPOSED PIPES UNDER S NKS TO BE PROTECTED MITH ADA COMPLIANT PIPE JACKETS.
3. MIRROR GLASS TO BE 1/4" TEMPERED.



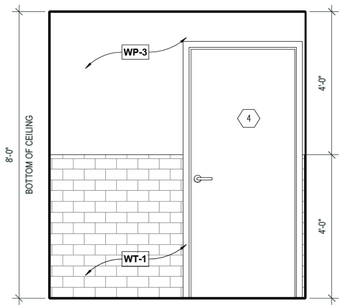
9 ENLARGED RESTROOM PLAN
SCALE: 1/2" = 1'-0"



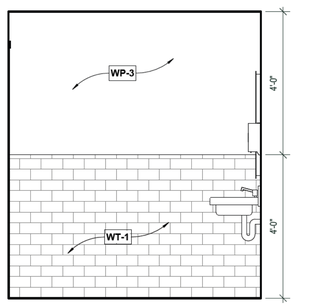
1 ELEVATION 1
SCALE: 1/2" = 1'-0"



2 ELEVATION 2
SCALE: 1/2" = 1'-0"



3 ELEVATION 3
SCALE: 1/2" = 1'-0"



4 ELEVATION 4
SCALE: 1/2" = 1'-0"

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20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: As indicated

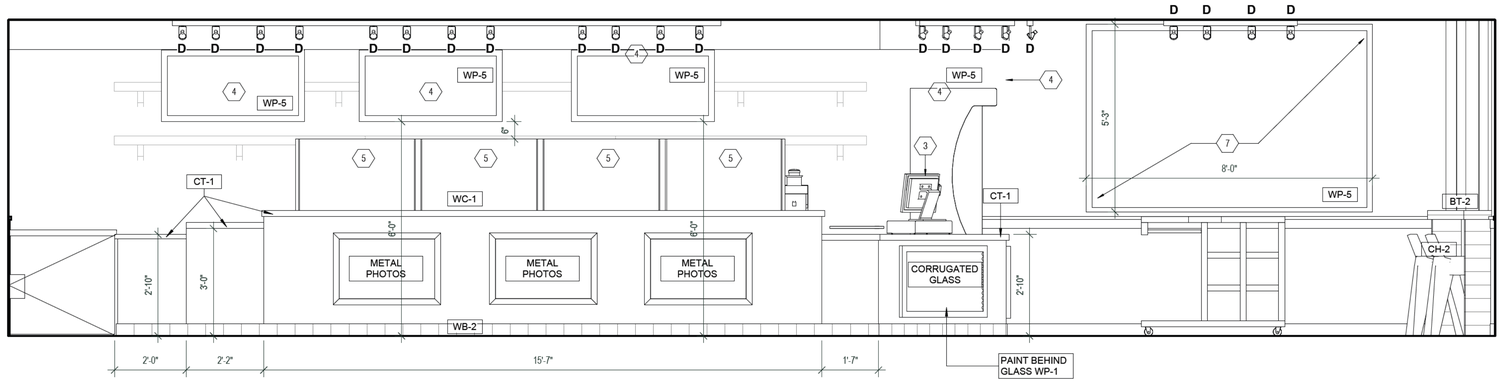
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SHEET:
A-104

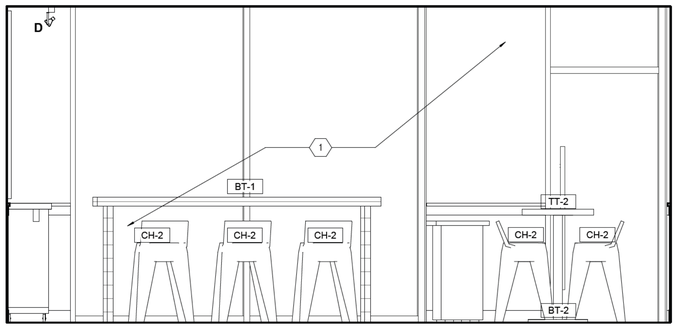
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KEY NOTES

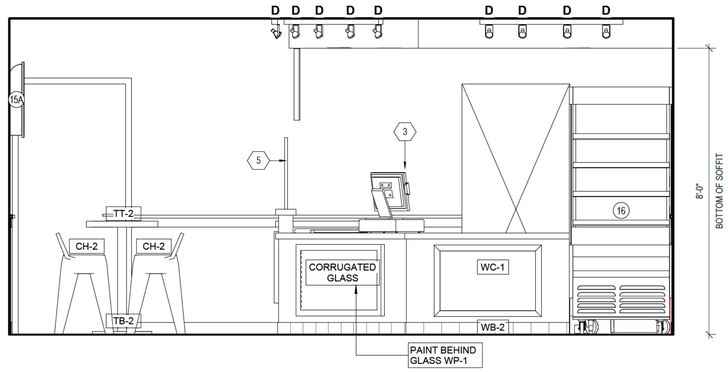
1. EXISTING STOREFRONT TO REMAIN
2. STAINLESS STEEL CORNER END WALL CHANNEL GUARD, 3'-8 1/2" HEIGHT
3. NEW CASH REGISTERS
4. HANGING CHALK BOARDS
5. SNEEZE GUARD
6. PROVIDE SOLID BLOCKING IN WALL BEHIND WALL SHELF, TYP. THROUGHOUT
6A. RECEIPT HOLDER
7. MENU BOARD



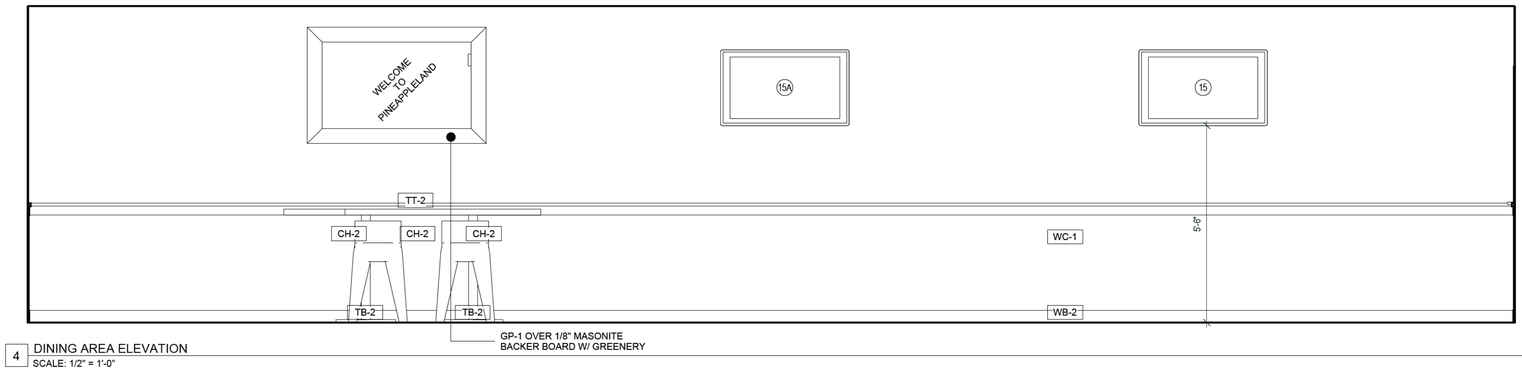
1 POS CUSTOMER SIDE ELEVATION
SCALE: 1/2" = 1'-0"



2 STOREFRONT ELEVATION
SCALE: 1/2" = 1'-0"



3 FRONT DESK ELEVATION
SCALE: 1/2" = 1'-0"



4 DINING AREA ELEVATION
SCALE: 1/2" = 1'-0"

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

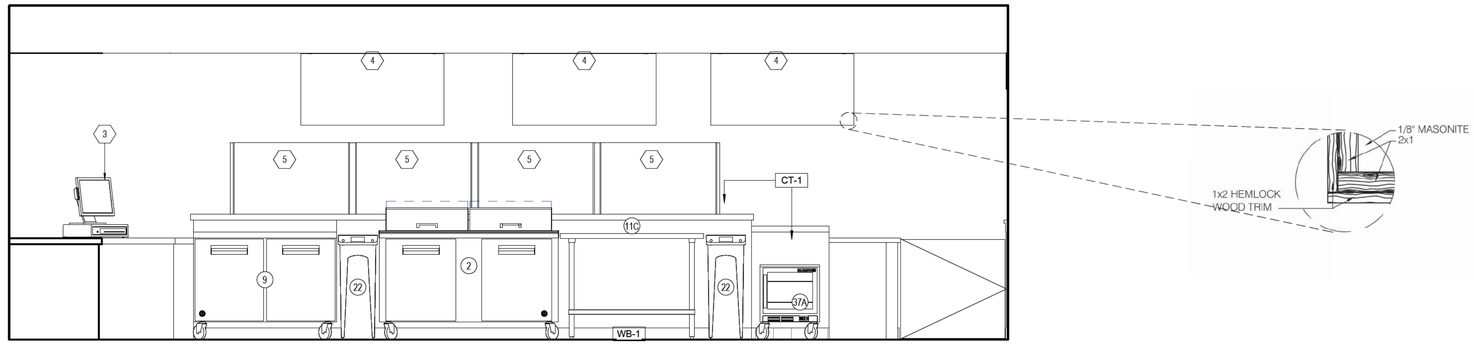
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SHEET:
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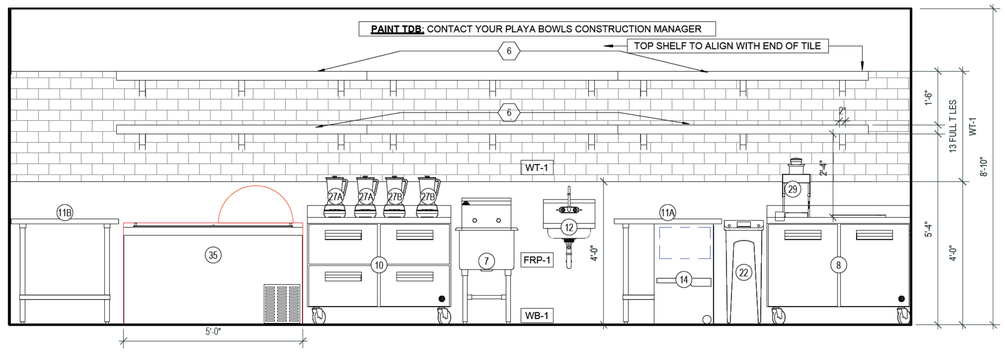
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KEY NOTES

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2. STAINLESS STEEL CORNER END WALL CHANNEL GUARD, 3'-8 1/2" HEIGHT
3. NEW CASH REGISTERS
4. HANGING CHALK BOARDS
5. SNEEZE GUARD
6. PROVIDE SOLID BLOCKING IN WALL BEHIND WALL SHELF, TYP. THROUGHOUT
6A. RECEIPT HOLDER
7. MENU BOARD



1 FRONT LINE EMPLOYEE SIDE ELEVATION
SCALE: 1/2" = 1'-0"



2 REAR LINE ELEVATION
SCALE: 1/2" = 1'-0"

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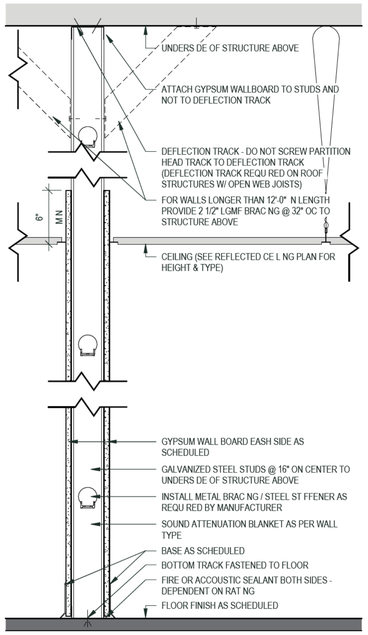
20647 MACK AVE
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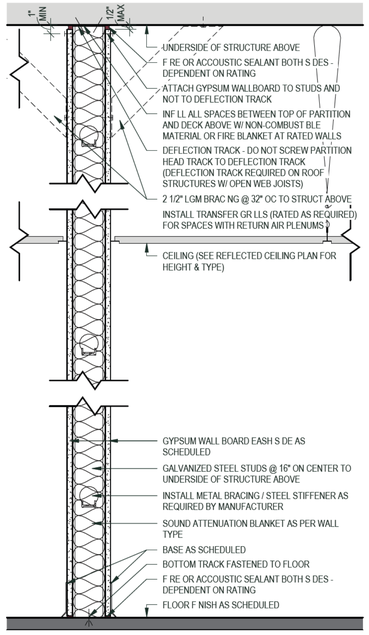
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SHEET:
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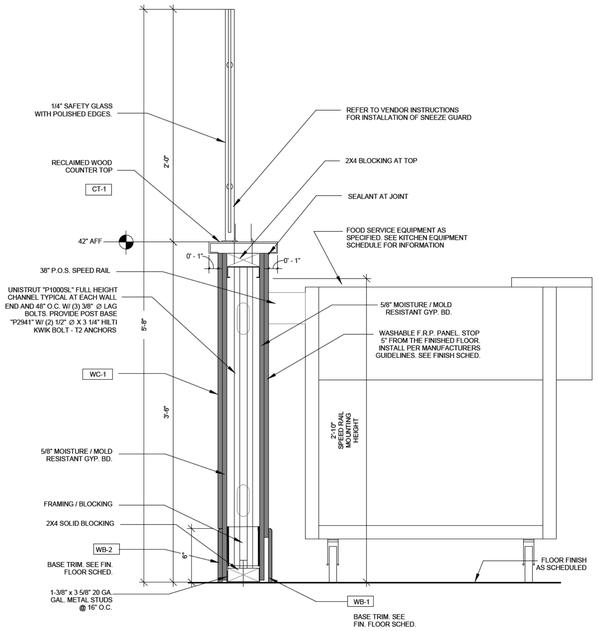
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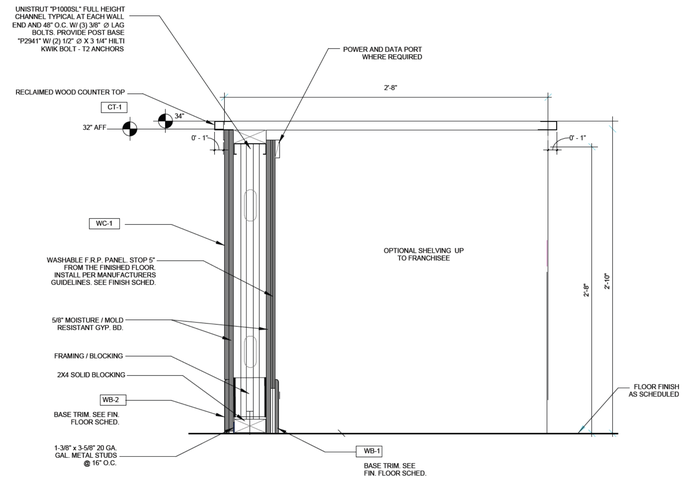
1 WALL TYPE 1
SCALE: 1 1/2" = 1'-0"



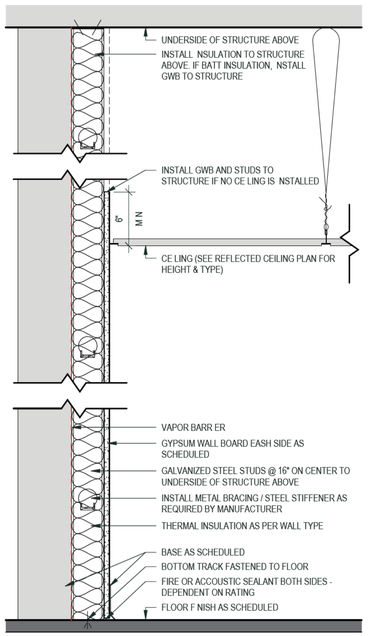
2 WALL TYPE 2
SCALE: 1 1/2" = 1'-0"



4 KNEE WALL AT SERVICE COUNTER.
SCALE: 1 1/2" = 1'-0"



5 COUNTER AT POS
SCALE: 1 1/2" = 1'-0"



3 PARTITION TYPE 5 (FURRED WALL)
SCALE: 1 1/2" = 1'-0"

PORTABLE FIRE EXTINGUISHES

1. PROVIDE PORTABLE FIRE EXTINGUISHERS AS SHOWN AND SPECIFIED.
2. MATERIALS AND INSTALLATION SHALL CONFORM TO NFPA 10 "STANDARD FOR PORTABLE FIRE EXTINGUISHERS.
3. PROVIDE MINIMUM 10 LB. CAPACITY FIRE EXTINGUISHERS IN QUANTITY AND TYPE COMPLYING WITH LOCAL CODE AND FIRE REGULATIONS REQUIREMENTS.REFER TO DRAWINGS FOR LOCATION SPECIFIC REQUIREMENTS.
4. PROVIDE NEW FIRE EXTINGUISHERS FULLY LOADED, TESTED, UL AND FM LABELED AND LISTED AND READY FOR USE.
5. PROVIDE MANUFACTURER'S RECOMMENDED MOUNTING BRACKETS AND HARDWARE.
6. INSTALL FIRE EXTINGUISHERS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS, AT HEIGHTS AND LOCATIONS ACCEPTABLE TO THE LOCAL FIRE REGULATIONS ENFORCEMENT AUTHORITY

GYPSUM BOARD SYSTEMS

1. PROVIDE GYPSUM BOARD SYSTEMS AS SHOWN AND SPECIFIED.
2. MATERIALS AND INSTALLATION SHALL CONFORM TO THE GA 214-90 "LEVELS OF GYPSUM BOARD FINISH.", GA-216 "SPECIFICATIONS FOR APPLICATION AND FINISHING OF GYPSUM BOARD.", USG "SA923 DRYWALL/STEEL FRAMED SYSTEMS."
3. METAL FRAMING SHALL COMPLY WITH ASTM C 754 AND ASTM C 645 FOR MATERIALS AND SIZES.
4. STUDS TO BE GALVANIZED STEEL, C-SHAPED, SIZES INDICATED, 20 GAGE "ST20"
5. RUNNERS TO MATCH STUDS, TYPE RECOMMENDED BY STUD MANUFACTURER FOR FLOOR AND CEILING SUPPORT OF STUDS. PROVIDE FLEXIBLE CEILING RUNNERS FOR FULL HEIGHT METAL STUD FRAMED PARTITIONS CONTINUOUS FROM FLOOR TO UNDERSIDE OF STRUCTURAL MEMBERS OR DECK ABOVE.
6. FOR CEILING AND SOFFIT METAL FRAMING/SUSPENSION SYSTEMS, PROVIDE EITHER METAL STUD FRAMING OF APPROPRIATE SIZE AND GAGE FOR SPANS INDICATED OR FURRING CHANNEL "GRILLAGE" OR "DIRECT SUSPENSION SYSTEM" DESIGNED FOR CONCEALED SUPPORT OF GYPSUM BOARD CEILINGS, OF PROPER TYPE FOR USE INDICATED.
7. FURRING MEMBERS TO BE 20 GAGE, GALVANIZED STEEL SCREW TYPE, HAT-SHAPED FURRING.
8. GYPSUM BOARD PANELS TO BE USG "SHEETROCK" COMPLYING WITH ASTM C1396 OR APPROVED EQUAL, TAPERED EDGE FACE PANELS, 48" WIDE, IN MAXIMUM LENGTHS AVAILABLE TO MINIMIZE END JOINT CONDITIONS, 5/8" THICK. FOR GENERAL USE PANELS: SHEETROCK REGULAR PANELS. FIRE RATED PANELS: SHEETROCK FIRECODE CORE PANELS. WATER-RESISTANT PANELS: MOISTURE RESISTANT PANELS.
9. FASTENERS TO BE USG TYPE "S" BUGLE HEAD SCREWS FOR METAL FRAMING, USG TYPE "W" BUGLE HEAD SCREWS FOR WOOD FRAMING, MANUFACTURER'S RECOMMENDED LENGTH FOR PANEL THICKNESS INDICATED.
10. TRIM TO BE GALVANIZED STEEL WITH KNURLED AND PERFORATED FLANGES. USG DUR-A-BEAD CORNER BEAD, NO. 200B CASING BEAD METAL TRIM, NO. 093 CONTROL JOINT.
11. JOINT TREATMENT TO BE USG JOINT TREATMENT SYSTEM, UTILIZING "SHEETROCK BRAND JOINT TAPE", AND "SHEETROCK BRAND SETTING-TYPE (DURABOND)" COMPOUND FOR TAPE BEDDING AND TOPPING.
12. ADHESIVES TO BE USG "SHEETROCK BRAND SETTING-TYPE (DURABOND) 210 OR 90" COMPOUND FOR TAPE BEDDING AND TOPPING.
13. INSTALL METAL WALL AND PARTITION FRAMING AND CEILING SUSPENSION/ SUPPORT SYSTEMS IN ACCORDANCE WITH USG BULLETIN SA 923 AND COMPLYING WITH ASTM C754.
14. INSTALL STEEL STUDS PER SCHEDULE OR AT SPACING INDICATED WITH BOTTOM AND TOP RUNNER TRACKS ANCHORED TO SUBSTRATES. PROVIDE FLEXIBLE CEILING RUNNER TRACKS AT FULL HEIGHT PARTITIONS. TERMINATE PARTITION STUD SYSTEM 4" ABOVE CEILINGS, EXCEPT WHERE INDICATED TO BE EXTENDED TO STRUCTURAL SUPPORT OR ROOF DECK ABOVE. BRACE TOPS OF PARTITION FRAMING TO STRUCTURE
OR ROOF DECK AT MAXIMUM 4'-0" ON CENTER SPACING.
15. FRAME OPENINGS MORE THAN 2'-0" WIDE WITH TWO 20 GAGE STUDS AT EACH JAMB.
16. COORDINATE THE INSTALLATION OF SUPPLEMENTARY BLOCKING AND NAILERS, TO SUPPORT SHELVING, MILLWORK, TOILET ACCESSORIES, AND SIMILAR WORK THAT CANNOT BE ADEQUATELY SUPPORTED BY GYPSUM BOARD ALONE.
17. APPLICATION AND FINISHING: INSTALL AND FINISH GYPSUM BOARD TO COMPLY WITH ASTM C 840 AND GYPSUM ASSOCIATION GA 216 "RECOMMENDED SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM BOARD."

FINISH CARPENTRY AND MILLWORK

1. MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE FOLLOWING: AWI "ARCHITECTURAL WOODWORK QUALITY STANDARDS - 1999."
2. MILLWORK MATERIALS AND CONSTRUCTION AS DETAILED ON THE DRAWINGS.
3. MILLWORK DESIGN AND FABRICATION DETAILS SHOWN ON THE DRAWINGS INDICATE DESIGN INTENT. UNLESS OTHERWISE INDICATED, PROVIDE MANUFACTURER'S STANDARD FABRICATION METHODS.
4. FABRICATE MILLWORK IN ACCORDANCE WITH AWI "CUSTOM GRADE" REQUIREMENTS. WHERE DETAILS ARE NOT SHOWN, COMPLY WITH APPLICABLE QUALITY STANDARDS OR WITH ALTERNATE DETAILS ACCEPTABLE TO ARCHITECT AS FABRICATOR'S OPTION.
5. FABRICATE FINISHED WORK PROPERLY FRAMED, CLOSELY FIT AND ACCURATELY SET TO REQUIRED LINES AND LEVELS AND RIGIDLY SECURED IN PLACE.
6. FABRICATE WORK STRAIGHT, PLUMB, LEVEL AND IN TRUE ALIGNMENT; NEATLY AND ACCURATELY FIT, SCRIBED AND THOROUGHLY SECURED. PLANE AND SAND MITERS AND OTHER JOINTS. EASE ALL SQUARE EDGES. PROVIDE MILLWORK CLEAN AND FREE FROM WARP, TWIST, OPEN JOINTS AND OTHER DEFECTS.
7. INSTALL FINISH CARPENTRY AND MILLWORK PRODUCTS PLUMB, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTION. SHIM AS REQUIRED USING CONCEALED SHIMS. INSTALL TO A TOLERANCE OF 1/8" IN 8'-0" FOR PLUMB AND LEVEL (INCLUDING COUNTERTOPS) AND WITH 1/16" MAXIMUM OFFSET IN FLUSH ADJOINING SURFACES, 1/8" MAXIMUM OFFSETS IN REVEALED ADJOINING SURFACES.
8. ANCHOR FINISH CARPENTRY AND MILLWORK ITEMS TO BUILT-IN PLACE BLOCKING, OR DIRECTLY ATTACH TO SUBSTRATE FRAMING. SECURE TO GROUNDS, BLOCKING AND NAILERS WITH COUNTERSUNK, CONCEALED FASTENERS AND BLIND NAILING AS REQUIRED FOR A COMPLETE INSTALLATION.
9. INSTALL CASEWORK WITHOUT DISTORTION SO THAT DOORS AND DRAWERS WILL FIT OPENINGS PROPERLY AND BE ACCURATELY ALIGNED. ADJUST HARDWARE TO CENTER DOORS AND DRAWERS IN OPENINGS AND TO PROVIDE UNENCUMBERED OPERATION.

DEMOLITION

1. IT IS NOT INTENDED TO SHOW ON DRAWINGS OR DESCRIBE HEREIN EACH AND EVERY ITEM TO BE REMOVED. THE CONTRACTOR SHALL CONSULT THE DRAWINGS AND DETAILS FOR NEW WORK TO ENSURE CONTINUING PROGRESS OF THE WORK WITHOUT INTERMITTENT DEMOLITION.
2. ALL DEBRIS SHALL BE REMOVED FROM THE PREMISES DAILY. DO NOT MAINTAIN A CONDITION OF THE WORK THAT REPRESENTS A THREAT TO LIFE SAFETY OR PROPERTY.
3. OBTAIN AND PAY FOR ALL PERMITS AND NOTICES REQUIRED FOR THE DEMOLITION WORK. NOTIFY THE LOCAL POLICE DEPARTMENT WHEN THERE IS A REQUIREMENT TO BLOCK TRAFFIC, EITHER PEDESTRIAN OR VEHICULAR.
4. COMPLY WITH ALL APPLICABLE NOISE AND DUST POLLUTION REGULATIONS
5. LOCATE FIRE EXTINGUISHERS AS DIRECTED BY THE LOCAL OFFICIAL, ONE PER EXIT DOOR MINIMUM.
6. ALL INTERIOR EXITS ARE TO BE MAINTAINED UNOBSTRUCTED.
7. COORDINATE UTILITY OUTAGES WITH THE OWNER.
8. OBTAIN THE SERVICES AND PAY FOR A LICENSED PROFESSIONAL ENGINEER TO DESIGN REQIURED SHORING AND UNDERPINNING.
9. STRUCTURAL DAMAGE CAUSED BY DEMOLITION WORK SHALL BE IMMEDIATELY REPORTED TO THE OWNER AND REPAIRED AT THE CONTRACTORS EXPENSE.
10. VERIFY LOCATION OF AND PROTECT EXISTING PIPING AND WIRING TO REMAIN.
11. CLOSE HEATING VENTS IN THE AREA OF WORK AND INSTALL ZIPPERED DUST DOORS, TO MINIMIZE THE AMOUNT OF CONSTRUCTION DEBRIS AFFECTING THE UNALTERED PORTIONS OF THE STRUCTURE.

SUSPENDED CEILING SYSTEMS

1. PROVIDE ACOUSTICAL CEILING SYSTEMS AS SHOWN AND SPECIFIED.
2. MATERIALS AND INSTALLATION SHALL CONFORM TO, CISCA "ACOUSTICAL CEILINGS - USE AND PRACTICE.", ASTM C635, AND ASTM C636.
3. MATERIALS AND FINISHES AS INDICATED ON DRAWINGS
4. PROVIDE INTERMEDIATE DUTY, STRUCTURAL CLASS, DIRECT HUNG SYSTEMS ADEQUATE TO SUPPORT LIGHT FIXTURES, CEILING DIFFUSERS AND OTHER NORMAL ACCESSORIES.
5. RE-USE EXISTING CEILING GRID AS INDICATED ON DRAWINGS, OR ORDER NEW "TEE" GRID SYSTEM TO MATCH EXISTING.
6. HANGER WIRE TO BE NO. 12 SWG GALVANIZED STEEL WIRE.
7. INSTALL ACOUSTICAL CEILING MATERIALS AND SUSPENSION SYSTEMS IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, COMPLYING WITH GOVERNING REGULATIONS AND INDUSTRY STANDARDS APPLICABLE TO THE WORK.
8. NEW SUSPENSION SYSTEM INSTALLATION SHALL BE LASER LEVELED WITH A MAXIMUM SURFACE LEVELING TOLERANCE OF 1/8" IN 12'-0". ADJUST EXISTING SUSPENSION SYSTEM A REQUIRED.
9. INSTALL EXPOSED TEE SUSPENSION SYSTEMS WITH MAIN TEES NOMINALLY 12 FEET LONG SPACED 48 INCHES O.C. AND CROSS TEES NOMINALLY 4 FEET LONG SPACED 24 INCHES O.C.
10. HANGER WIRE SHALL BE SPACED 48" O.C. ALONG MAIN TEES, AT ALL FOUR CORNERS OF LIGHT FIXTURES (WHERE APPLICABLE), AT MIDPOINT OF CROSS TEES ADJACENT TO LIGHT FIXTURES AND DUCT OUTLETS, AND
ADJACENT TO MAIN TEE SPLICES.
11. SECURE WIRE HANGERS BY LOOPING AND WIRE-TYING EITHER DIRECTLY TO BUILDING STRUCTURE
OR TO HANGERS THAT ARE SECURE AND APPROPRIATE FOR SUBSTRATE.
12. PROVIDE EDGE TRIM MOLDING AT PERIMETER OF ACOUSTICAL CEILING AT NEW INSTALLATION AND INTERMEDIATE VERTICAL SURFACES. USE MAXIMUM LENGTHS. MITER TRIM CORNERS TO PROVIDE TIGHT, ACCURATE JOINTS. CONNECT MOLDINGS SECURELY TO SUBSTRATE SURFACES.
13. INSTALL LAY-IN PANELS LEVEL, IN UNIFORM PLANE, WITH JOINTS SNUG AND SQUARE AND PANELS FREE FROM DAMAGE OR SOILING. FIT BORDER UNITS NEATLY AGAINST ABUTTING SURFACES. SCRIBE AND CUT PANELS TO FIT ACCURATELY AT BORDERS AND PENETRATIONS.

CERAMIC TILE

1. PROVIDE CERAMIC WALL TILE AS SHOWN AND SPECIFIED.
2. MATERIALS AND INSTALLATION SHALL CONFORM TO ANSI A137.1 "CERAMIC TILE." AND TCA "HANDBOOK FOR CERAMIC TILE INSTALLATION."
3. REFER TO SCHEDULES ON PLANS FOR MANUFACTURER AND FINISH INFORMATION.

MECHANICAL WORK

1. REFER TO MECHANICAL SPECIFICATIONS IN MECHANICAL DRAWING SET.

PLUMBING WORK

1. REFER TO PLUMBING SPECIFICATIONS IN PLUMBING DRAWING SET.

ELECTRICAL WORK

1. REFER TO ELECTRICAL SPECIFICATIONS IN ELECTRICAL DRAWING SET.

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CHECKED BY:	JG	APPROVED BY:	JG
PROJECT #		STQ-0994-0125	

PROJECT:
PLAYA BOWLS

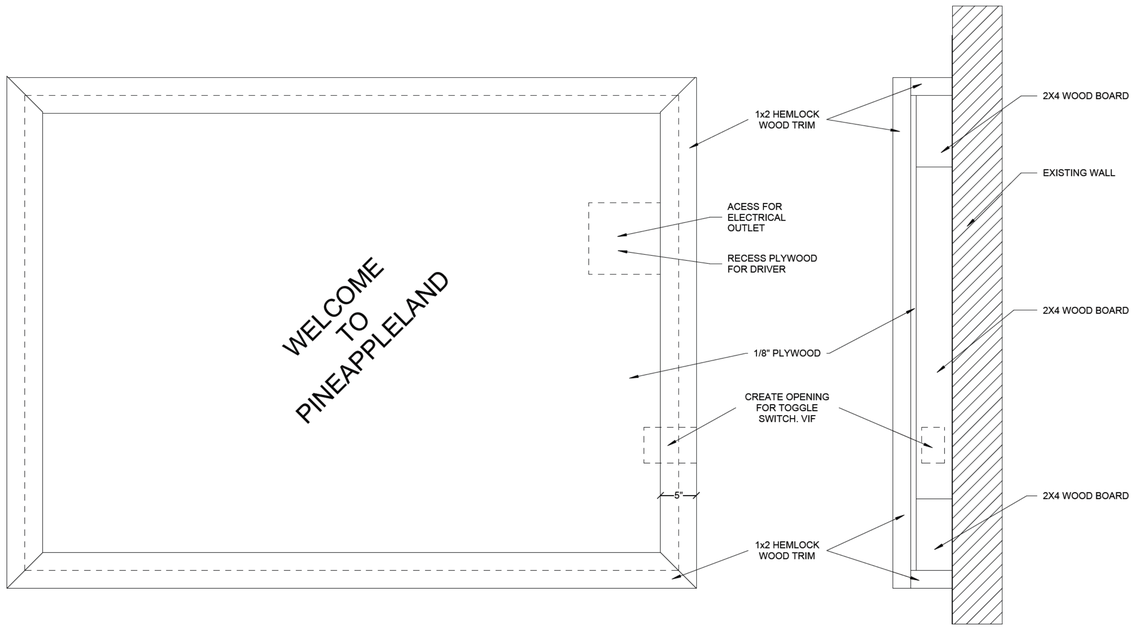
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SCALE: 1 1/2" = 1'-0"

DRAWING TITLE:
WALL AND MILLWORK DETAILS AND NOTES

SHEET:
A-400

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ELEVATION VIEW

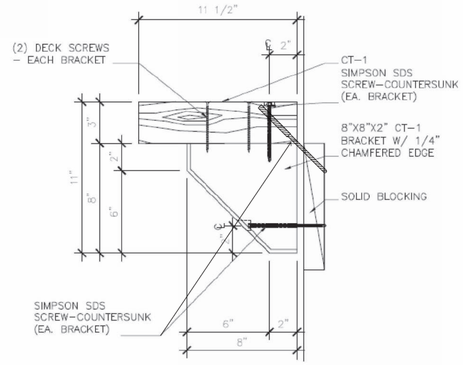
RIGHT SIDE VIEW

PINEAPPLELAND DETAIL

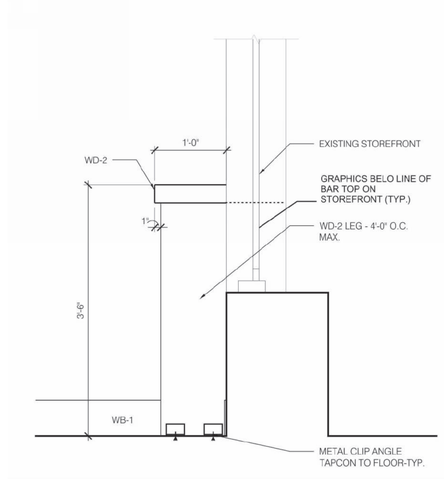
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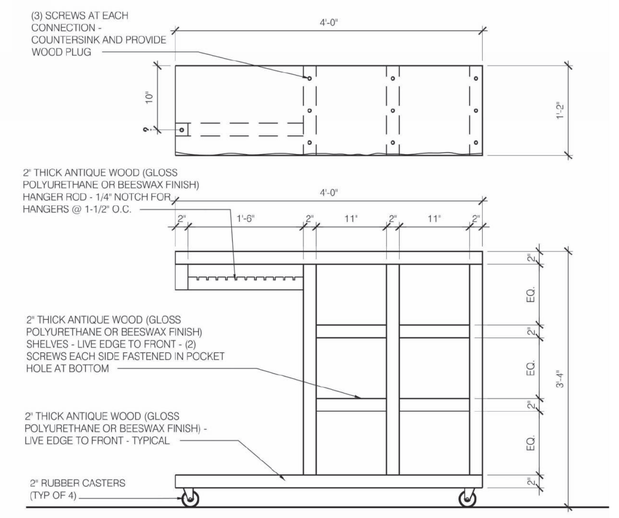
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BANANA SHELVES DETAIL



BAR TOP @ STOREFRONT DETAIL



MERCH CART DETAIL

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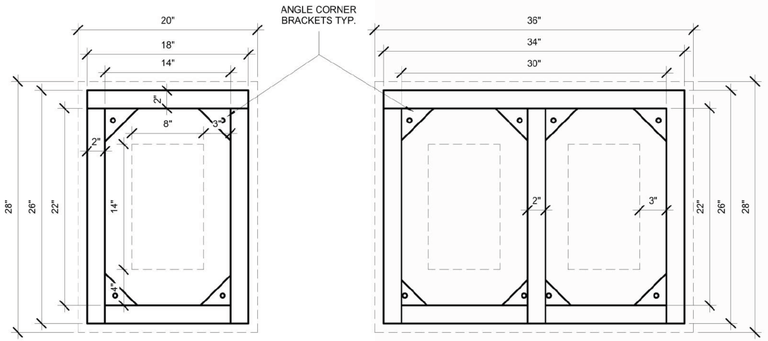
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TYPICAL DETAILS

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A-401

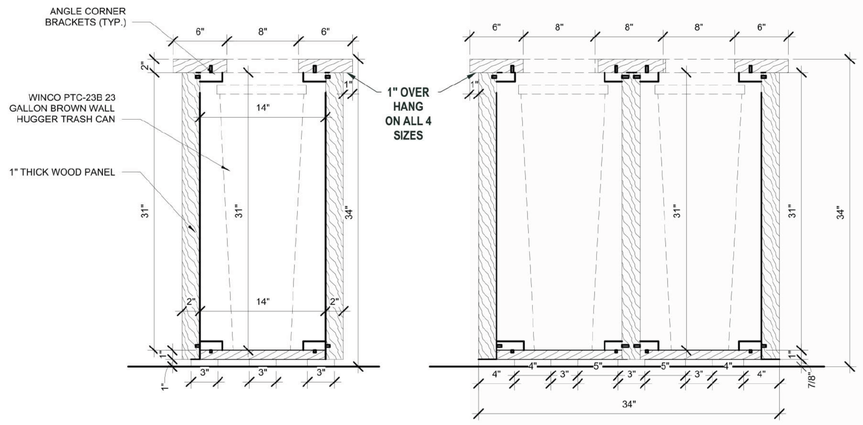
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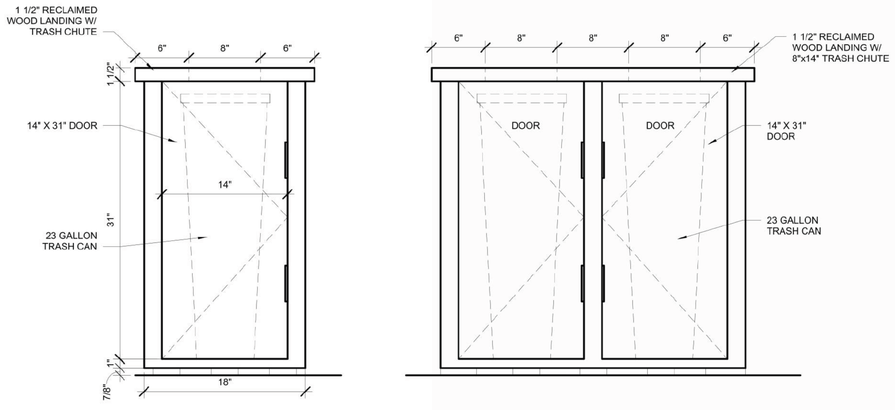
PLAN VIEW - SINGLE

PLAN VIEW - DOUBLE



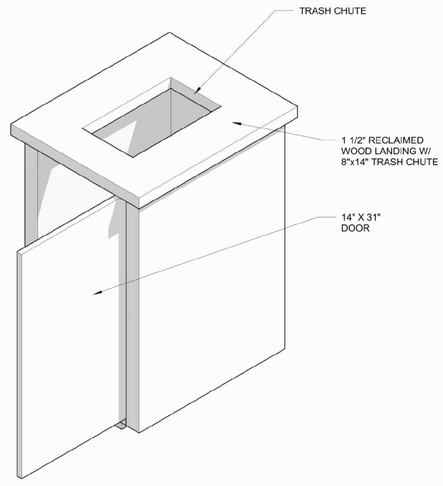
SECTION VIEW - SINGLE

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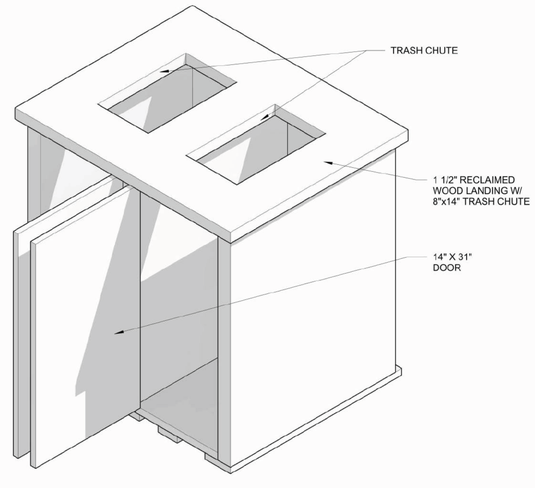


FRONT VIEW - SINGLE

FRONT VIEW - DOUBLE



1 3D VIEW - SINGLE
SCALE:



2 3D VIEW - DOUBLE
SCALE:

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PROJECT:
PLAYA BOWLS

20647 MACK AVE
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SCALE:

DRAWING TITLE:
TRASH CAN DETAILS

SHEET:
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DESIGN INTENT OF THESE DOCUMENTS ARE INTENDED TO COMPLY WITH UNIFORM CONSTRUCTION CODE IBC 2021, CHAPTER 11 OF THE INTERNATIONAL BUILDING CODE/2015 AND THE ICC/ANSI A117.1 - 2017.

THE TECHNICAL CRITERIA OF ICC A117.1-2017 SHALL BE PROVIDED TO ALLOW PERSONS WITH PHYSICAL DISABILITY TO INDEPENDENTLY ENTER AND USE SITE AND/OR FACILITY.

ALL PROVISIONS SHALL BE ADHERED TO. THE WORK INVOLVED WITH CONFORMANCE OF ALL TECHNICAL CRITERIA INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

1. SYMBOLS OF ACCESSIBILITY
IF ACCESSIBLE FACILITIES ARE IDENTIFIED, THEN THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE USED.

2. ACCESSIBILITY

(A) THE PRIMARY ENTRANCES TO COMMERCIAL FACILITIES SPACES SHALL BE ACCESSIBLE TO HANDICAPPED PERSONS FROM STREETS, SIDEWALKS, DRIVEWAYS AND PARKING AREAS.

(B) ALL FACILITIES WITHIN THIS BUILDING NORMALLY ACCESSIBLE TO THE PUBLIC OR EMPLOYEES SHALL BE ACCESSIBLE TO HANDICAPPED PERSONS, EXCEPT MECHANICAL OR ELECTRICAL EQUIPMENT ROOMS AND BOILER ROOMS.

3. ALARMS
A MANUAL FIRE ALARM SYSTEM SHALL BE INSTALLED IN GROUP B OCCUPANCIES WHERE ONE OF THE FOLLOWING CONDITIONS EXISTS:

1. THE COMBINED GROUP B OCCUPANT LOAD OF ALL FLOORS IS 500 OR MORE.

2. THE GROUP B OCCUPANT LOAD IS MORE THAN 100 PERSONS ABOVE OR BELOW THE LOWEST LEVEL OF EXIT DISCHARGE.

3. THE FIRE AREA CONTAINS AN AMBULATORY FACILITY.

(A) ALARMS - AUDIBLE AND VISUAL ALARMS SHALL COMPLY WITH SECTION 907.

(B) ACCESSIBLE AUDIBLE AND VISUAL ALARMS AND NOTIFICATION APPLICATIONS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72 LISTED IN SECTION 105.2.2 BE POWERED BY COMMERCIAL LIGHT AND POWER SOURCE, BE PERMANENTLY CONNECTED TO THE WIRING OF THE PREMISES ELECTRIC SYSTEM, AND BE PERMANENTLY INSTALLED.

(C) ACCESSIBLE AUDIBLE AND VISUAL ALARMS AND NOTIFICATION APPLICATIONS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72 LISTED IN SECTION 105.2.2 BE POWERED BY COMMERCIAL LIGHT AND POWER SOURCE, BE PERMANENTLY CONNECTED TO THE WIRING OF THE PREMISES ELECTRIC SYSTEM, AND BE PERMANENTLY INSTALLED.

GROUND AND FLOOR SURFACES

(A) SHALL BE FIRM, STABLE AND SLIP RESISTANT. IF CARPET IS USED IT SHALL BE SECURELY ATTACHED AND SHALL HAVE A 1/2" MAXIMUM PILE HEIGHT.

(B) RAMP: (1) THE CROSS SLOPE OF RAMP SURFACES SHALL BE NO GREATER THAN 1:48. RAMP SURFACES SHALL COMPLY WITH ICC A117.1. (2) RAMP RUNS SHALL HAVE A RUNNING SLOPE NOT STEEPER THAN 1:12. (3) CLEAR 36" MINIMUM WIDTH FOR RAMPS ARE BETWEEN HANDRAILS.

(C) LANDINGS: (1) RAMPS SHALL HAVE LEVEL LANDINGS AT BOTTOM AND TOP OF EACH RAMP AND EACH RAMP RUN. LANDINGS SHALL HAVE THE FOLLOWINGS FEATURES:

A. THE LANDING SHALL BE AT LEAST AS WIDE AS THE RAMP RUN LEADING TO IT.
B. THE LANDING LENGTH SHALL BE A MIN OF 60" CLEAR.
C. IF RAMPS CHANGE DIRECTION AT LANDINGS, THE MINIMUM LANDING SIZE SHALL BE 60" BY 60".

505 HANDRAILS
(A) IF A RAMP RUN HAS A RISE GREATER THAN 6" OR A HORIZONTAL PROJECTION GREATER THAN 72", THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS OR ADJACENT TO SEATING IN ASSEMBLY AREAS. HANDRAILS SHALL COMPLY WITH 505 A117.1 ADA AND SHALL HAVE THE FOLLOWING FEATURES:

(1) HANDRAILS SHALL BE PROVIDED ALONG BOTH SIDES OF RAMP SEGMENTS.THE INSIDE HANDRAIL ON SWITCH BACK OR DOGLEG RAMPS SHALL ALWAYS BE CONTINUOUS.
(2) IF HANDRAILS ARE NOT CONTINUOUS, THEY SHALL EXTEND AT LEAST 12" BEYOND THE TOP AND BOTTOM OF THE RAMP SEGMENT AND SHALL BE PARALLEL WITH THE FLOOR OR GROUND SURFACE.
(3) GRIPPING SURFACES SHALL BE CONTINUOUS.
(4) EXTENSION OF HANDRAILS TO RETURN TO WALL, GUARD, LANDING SURFACE OR BE CONTINUOUS TO ADJACENT HANDRAIL OF AN ADJACENT STAIR FLIGHT.
(5) ENDS OF HANDRAILS SHALL BE EITHER ROUNDED OR RETURNED SMOOTHLY TO FLOOR, WALL, OR POST.
(6) HANDRAILS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
(7) HANDRAILS WITH NON-CIRCULAR CROSS SECTIONS SHOULD FOLLOW SECTION 505.7.2.

303 CHANGES IN LEVEL
(B) CHANGES IN LEVEL UP TO 1/4" MAY BE MADE WITHOUT SPECIAL TREATMENT. CHANGES IN LEVEL BETWEEN 1/4" & 1/2" SHALL BE BEVELED WITH NO SLOPE GREATER THEN 1:2. CHANGES IN LEVEL GREATER THEN 1/2" SHALL BE ACCOMPLISHED BY MEANS OF A RAMP.

7. 404.2.6 DOOR HARDWARE
HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERATING DEVICES ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING, OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR. WHERE SLIDING DOORS ARE FULLY OPEN POSITION OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FORM BOTH SIDES. AUTOMATIC AND POWER-ASSISTED DOORS SHALL COMPLY WITH ANSI/BHMA A156.10 OR ANSI/BHMA A156.19 FOR LOW ENERGY. CLEARANCES SHALL COMPLY WITH 404.2.4 OF ADAAG 2010.

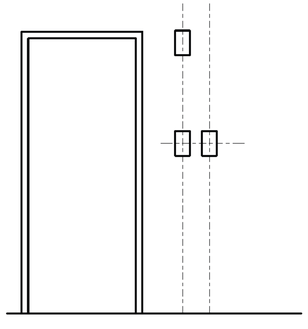
8. 404.2.9 DOORS
(A) THE BOTTOM 10 INCHES OF AN ACCESSIBLE FLOOR SURFACE MUST BE A SMOOOTH SURFACE.

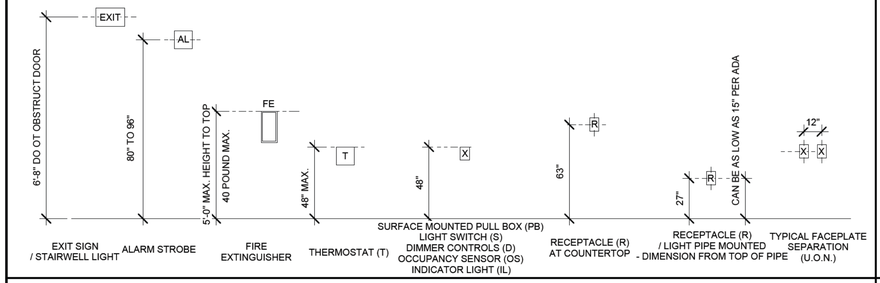
9. TOILET ROOMS
1. TOILET ROOMS SHALL COMPLY WITH SECTION 603 AS SHOWN ON THIS SHEET.
2. TOILET ROOM DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE OR CLEARANCE FOR ANY FIXTURE.
3. DOORS TO A TOILET ROOM FOR A SINGLE OCCUPANT, ACCESSED ONLY THROUGH A PRIVATE OFFICE AND NOT FOR COMMON USE OR PUBLIC USE SHALL BE PERMITTED TO SWING INTO THE CLEAR FLOOR SPACE, PROVIDED THE SWING OF THE DOOR CAN REVERSED TO COMPLY WITH SECTION 603.2.2.
4. WHERE THE ROOM IS FOR INDIVIDUAL USE AND THE CLEAR FLOOR SPACE COMPLYING WITH SECTION 305.3 IS PROVIDED WITHIN THE ROOM BEYOND THE ARC OF THE DOOR SWING, THE DOOR SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 603.2.2.
5. WATER SUPPLY AND DRAINPIPES UNDER LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES AND SINS AS PER SECTION 606.6.
6. WHERE MIRRORS ARE LOCATED ABOVE LAVATORIES, A MIRROR SHALL BE LOCATED OVER THE ACCESSIBLE LAVATORY AND SHALL BE MOUNTED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE 40" MAXIMUM ABOVE THE FLOOR.
7. URINALS SHALL HAVE A CLEAR FLOOR SPACE OF 30" X 48" FOR A FORWARD APPROACH PER SECTION 305. WHERE THE CLEAR FLOOR SPACE IS POSITIONED FOR A FORWARD APPROACH. THE ALCOVE SHALL BE 36" MINIMUM IN WIDTH WHERE THE PARTITION DEPTH EXCEEDS 24". URINALS SHALL BE OF THE STALL TYPE OR SHALL BE OF THE WALL HUNG TYPE WITH THE RIM AT 17" MAXIMUM ABOVE THE FLOOR. WALL HUNG URINALS SHALL BE 13 1/2" MINIMUM IN DEPTH MEASURED FORM THE OUTER FACE OF THE URINAL RIM TO THE WALL.
8. SHOWERS SHALL BE TRANSFER OR ROLL-IN TYPE FULLY COMPLYING WITH SECTION 608.

10. 602 DRINKING FOUNTAINS AND WATER COOLERS
DRINKING FOUNTAINS SHALL COMPLY WITH SECTIONS 602, 1109.5 AND THE NATIONAL STANDARD PLUMBING CODE/2015.

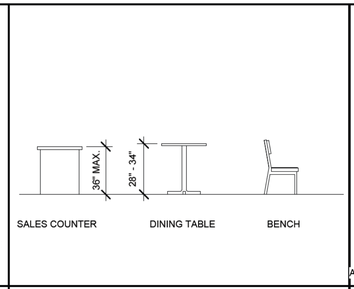
11. ELEVATORS (A) SHALL COMPLY WITH SECTION 407 OF THE ADAAG GUIDELINES AND ASME A17.1. (B) CALL BUTTONS SHALL BE RAISED OR FLUSH. (C) CALL BUTTONS SHALL BE 3/4 INCH MINIMUM IN THE SMALLEST DIMENSION. EXCEPTION: EXISTING ELEVATOR BUTTONS SHALL NOT BE REQUIRED TO COMPLY WITH 407.2.1.2. (D) FLOOR DESIGNATIONS ARE REQUIRED PER SECTION 407.2.3 OF ADAAG. (E) 407.4.4 LEVELING ELEVATOR OPERATION SHALL BE AUTOMATIC. EACH CAR SHALL BE EQUIPPED WITH A SELF LEVELING FEATURE THAT WILL AUTOMATICALLY BRING THE CAR TO FLOOR LANDINGS WITHIN A TOLERANCE OF 1/2" UNDER RATED LOADING TO ZERO TO LOADING CONDITIONS. THIS SELF-LEVELING FEATURE SHALL BE AUTOMATIC AND INDEPENDENT OF THE OPERATING DEVICE AND SHALL CORRECTTHE OVER TRAVEL OR UNDER TRAVEL. (F) 407.3.5 DOOR DELAY THE MINIMUM TIME FOR ELEVATOR DOORS TO REMAIN FULLY OPEN IN RESPONSE TO A CAR CALL SHALL BE 3 SECONDS. (G) NOTE: CAR DEPTHS CAN ALSO BE 60 INCHES DEEP IF 60 INCHES WIDE WITH A 36 OPENING OR 80 INCHES DEEP AND 54 INCHES WIDE WITH A 36 INCH OPENING

12. PARKING IF PARKING IS PROVIDED, SPACES SHALL BE RESERVED FOR HANDICAPPED PERSONS PER SECTION 1106 2015 IBC AND 502 ICC A117.1.-2009.

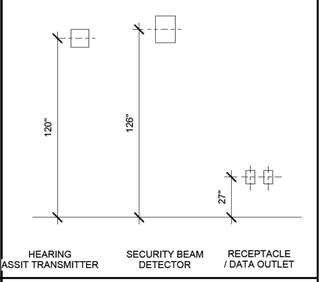




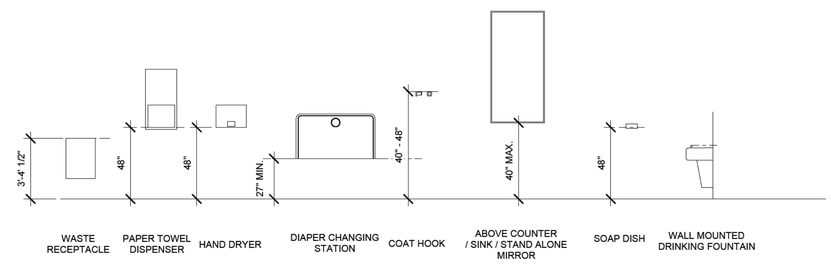
ELECTRICAL AND LIFE SAFETY



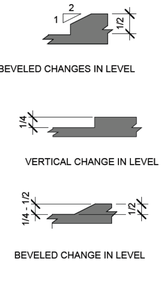
SALES / DINING



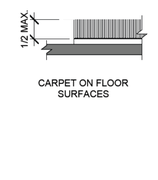
AV / SECURITY



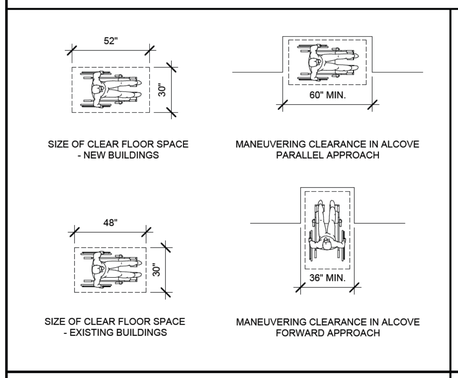
RESTROOM FIXTURE HEIGHTS



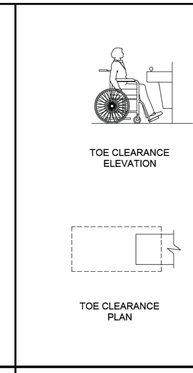
CHANGES IN LEVEL



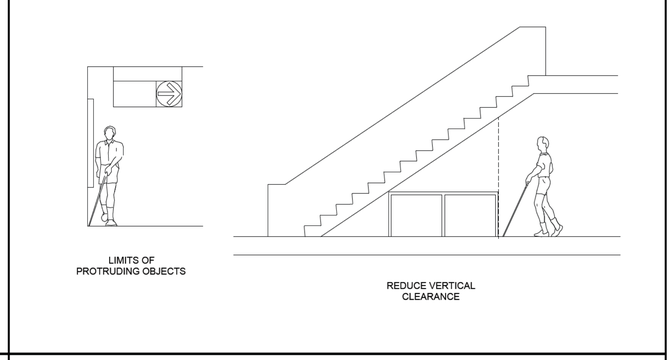
FLOOR SURFACES



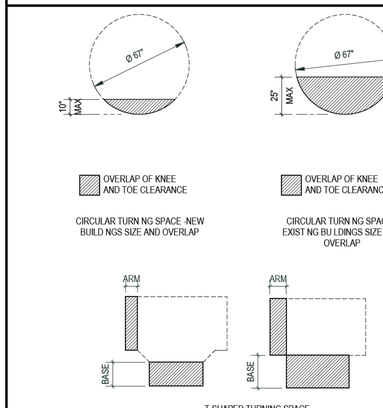
CLEAR FLOOR SPACE



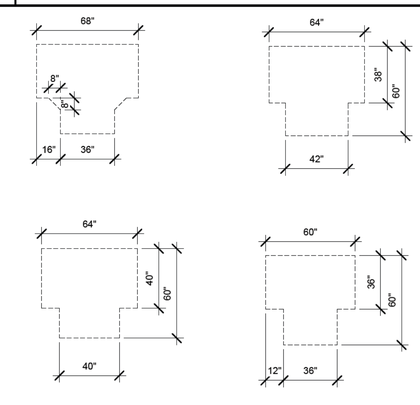
KNEE AND TOE CLEARANCE



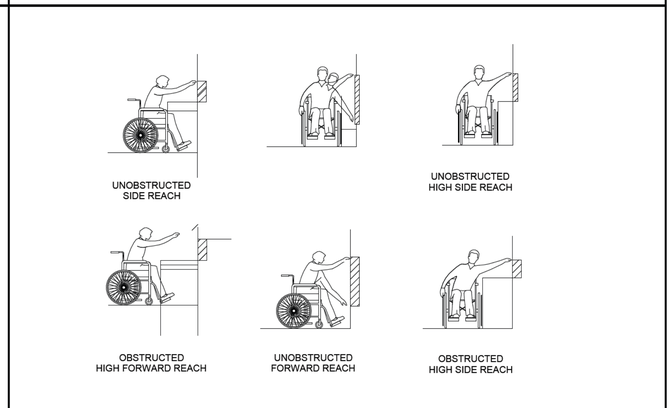
PROTRUDING OBJECTS



TURNING SPACE



REACH RANGES



GRA DESIGN STUDIO
GREGORY RALPH ARCHITECT
239 US HWY 22; SUITE 301
GREEN BROOK, NJ 08812
TEL: 908 731 1626
GREG@GRALPHARCHITECT.COM



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STATE OF MICHIGAN
GREGORY RALPH
ARCHITECT
No. 1301072639
LICENSED ARCHITECT

Gregory Ralph
MICHIGAN

LICENSE #	1301072639
EXPIRATION	3/08/2026

I HEARBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAW OF THE THIS STATE:

RELEASE TYPE:	
	EXISTING CONDITIONS
	SCHEMATIC DESIGN
	DESIGN DEVELOPMENT
	PROGRESS PRINT
	FULL RELEASE

ISSUED TO:

NO	DESCRIPTION	DATE

DESIGNED BY:	JG	DRAWN BY:	CM
CHECKED BY:	JG	APPROVED BY:	JG
PROJECT #			STQ-0994-0125

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

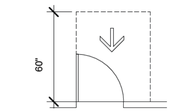
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ANSI A117.1 REFERENCES

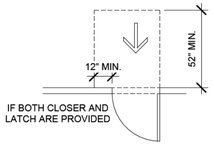
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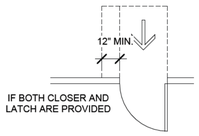


MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS FRONT APPROACH - PULL SIDE



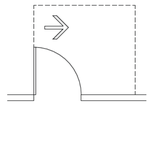
IF BOTH CLOSER AND LATCH ARE PROVIDED

MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS FRONT APPROACH - PUSH SIDE - NEW BUILDINGS

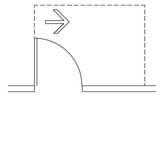


IF BOTH CLOSER AND LATCH ARE PROVIDED

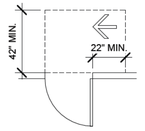
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS FRONT APPROACH - PUSH SIDE - EXISTING BUILDINGS



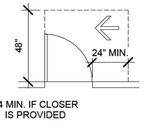
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS HINGE APPROACH - PULL SIDE



MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS HINGE APPROACH - PULL SIDE

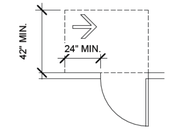


MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS HINGE APPROACH - PUSH SIDE

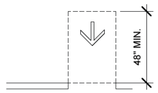


54 MIN. IF CLOSER IS PROVIDED

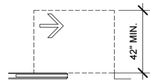
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS LATCH APPROACH - PULL SIDE



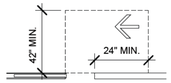
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS LATCH APPROACH - PUSH SIDE



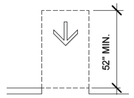
MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS - FRONT APPROACH - EXTG. BUILDING



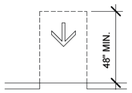
MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS - POCKET OR HINGE APPROACH



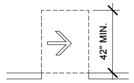
MANEUVERING CLEARANCE AT SLIDING AND FOLDING DOORS - STOP OR LATCH APPROACH



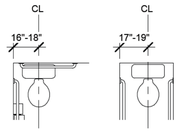
MANEUVERING CLEARANCE FOR DOORWAYS WITHOUT DOORS AND GATES - FRONT APPROACH - NEW BUILDINGS



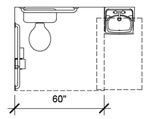
MANEUVERING CLEARANCE FOR DOORWAYS WITHOUT DOORS AND GATES - FRONT APPROACH - EXISTING BUILDINGS



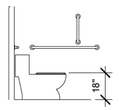
MANEUVERING CLEARANCE FOR DOORWAYS WITHOUT DOORS AND GATES - SIDE APPROACH



WATER CLOSET LOCATION



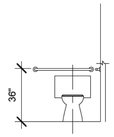
SIZE OF CLEARANCE FOR WATER CLOSET



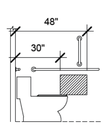
WATER CLOSET SEAT HEIGHT



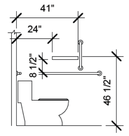
SIDE WALL GRAB BAR FOR WATER CLOSET



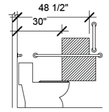
REAR WALL GRAB BAR FOR WATER CLOSET



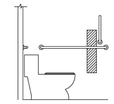
DISPENSER OUTLET LOCATION - PROTRUDING DISPENSER BELOW GRAB BAR



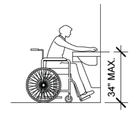
DISPENSER OUTLET LOCATION - PROTRUDING DISPENSER ABOVE GRAB BAR



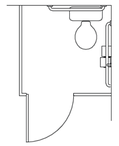
DISPENSER OUTLET LOCATION - RECESSED DISPENSER



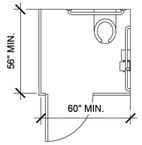
DISPENSER OUTLET LOCATION -RECESSED DISPENSER



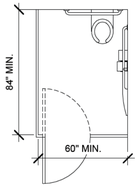
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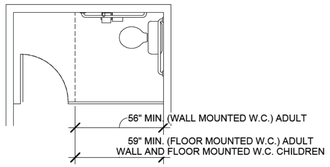
WHEELCHAIR TOILET COMPARTMENTS FLOOR MOUNTED WATER CLOSET, ADULT - WALL HUNG AND FLOOR MOUNTED WATER CLOSET CHILDREN



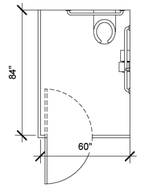
WHEELCHAIR TOILET COMPARTMENTS WALL HUNG CLOSET, ADULT



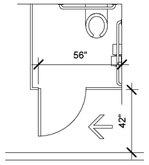
WHEEL CHAIR TOILET COMPARTMENTS ALTERNATIVE WHEEL CHAIR TOILET COMPARTMENT



WHEEL CHAIR TOILET COMPARTMENT DOOR SWINGING INTO THE WHEEL CHAIR TOILET COMPARTMENT

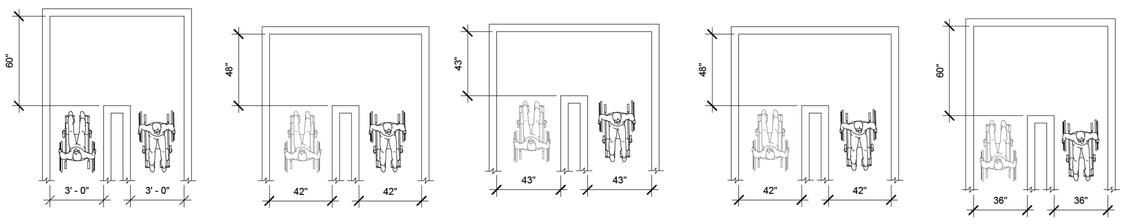


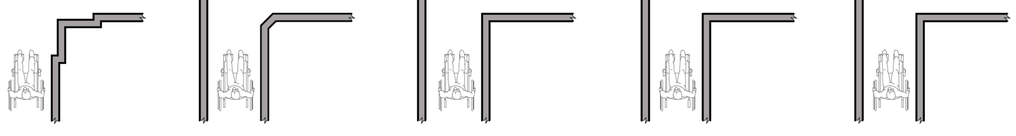
WHEEL CHAIR TOILET COMPARTMENTS ALTERNATIVE WHEEL CHAIR TOILET COMPARTMENT

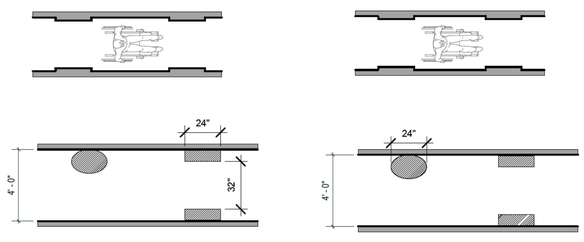


WHEELCHAIR TOILET COMPARTMENT DOOR OPENING LOCATION - DOOR SWINGING IN ON FRONT WALL OF PARTITION

WATER CLOSETS AND TOILET COMPARTMENTS







WALKING SURFACES

GRA DESIGN STUDIO

GREGORY RALPH ARCHITECT
239 US HWY 22; SUITE 301
GREEN BROOK, NJ 08812
TEL: 908 731 1626
GREG@GRALPHARCHITECT.COM



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STATE OF MICHIGAN
GREGORY RALPH
ARCHITECT
No. 1301072639
LICENSED ARCHITECT

Gregory Ralph
MICHIGAN

LICENSE # 1301072639
EXPIRATION 3/08/2026

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NO.	DESCRIPTION	DATE

DESIGNED BY:	JG	DRAWN BY:	CM
CHECKED BY:	JG	APPROVED BY:	JG
PROJECT #			STQ-0994-0125

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

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

DRAWING TITLE:
ANSI A117.1 REFERENCES

SHEET:
A-601

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SECTION 01300 - ADMINISTRATIVE REQUIREMENTS

1. COORDINATION:
   A. IMMEDIATELY INFORM THE ARCHITECT OF DISCREPANCIES BETWEEN THE INFORMATION INDICATED IN THE CONTRACT DOCUMENTS AND EXISTING PROJECT CONDITIONS, AND OF DISCREPANCIES BETWEEN INFORMATION INDICATED ON THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DOCUMENTS.
   B. PRIOR TO FABRICATION AND INSTALLATION OF NEW COMPONENTS, FIELD VERIFY ALL EXISTING AND NEW DIMENSIONS AND INSTALLATION CONDITIONS THAT MAY AFFECT THE WORK. DO NOT SCALE THE DRAWINGS TO ESTABLISH LOCATIONS OF ITEMS THAT ARE NOT LOCATED USING DIMENSIONS.
      1. ALL DIMENSIONS ARE TO ROUGH FACE OF STUD OR CENTERLINE OF STRUCTURE, UNLESS OTHERWISE INDICATED.
      2. VERIFY THAT ALL SUBCONTRACTORS HAVE REVIEWED AND COORDINATED LOCATIONS OF THEIR EQUIPMENT AND FURNISHINGS EXPOSED TO VIEW WITH THE ARCHITECTURAL DRAWINGS. REVIEW QUESTIONS WITH THE ARCHITECT.
   C. COORDINATE NEW WORK INDICATED ON THE CONTRACT DOCUMENTS WITH NEW WORK THAT MAY BE PROVIDED BY THE OWNER AND TENANT UNDER SEPARATE CONTRACTS.
   D. COORDINATE THE WORK OF VENDORS, CONTRACTORS AND SUBCONTRACTORS PROVIDING FIXTURES, FURNITURE AND EQUIPMENT IDENTIFIED AS "BY OWNER" IN THESE DRAWINGS AND SPECIFICATIONS.
      1. NOTIFY THE TENANT IN TIMELY FASHION IF ANY PROBLEMS DEVELOP WITH THE PERFORMANCE OF THESE VENDORS, CONTRACTORS OR SUBCONTRACTORS.
   E. COORDINATE THE SCHEDULING, SEQUENCING, AND THE WORK OF ALL TRADES AND SUBCONTRACTORS TO ASSURE EFFICIENT AND ORDERLY SEQUENCES OF INSTALLATION OF INTERDEPENDENT CONSTRUCTION ELEMENTS.
   F. VERIFY THAT THE UTILITY REQUIREMENT CHARACTERISTICS OF OPERATING EQUIPMENT ARE COMPATIBLE WITH THE BUILDING UTILITY SERVICES. COORDINATE WORK OF THE VARIOUS SPECIFICATION SECTIONS HAVING INTERDEPENDENT RESPONSIBILITIES FOR INSTALLING, CONNECTING TO, AND PLACING IN SERVICE SUCH EQUIPMENT.
   G. COORDINATE THE INSTALLATION AND PHYSICAL SPACE REQUIREMENTS OF PLUMBING, MECHANICAL AND ELECTRICAL WORK THAT ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS. FOLLOW ROUTING SHOWN FOR PIPING, DUCTS AND CONDUITS AS CLOSELY AS PRACTICAL. INSTALL RUNS PARALLEL WITH AND PERPENDICULAR TO THE LINE OF THE BUILDING. UTILIZE SPACES AS EFFICIENTLY AS POSSIBLE TO MAXIMIZE ACCESSIBILITY FOR OTHER WORK INSTALLATION AND FOR MAINTENANCE AND FOR REPAIR
      1. CONCEAL PIPING, DUCTS AND CONDUIT WITHIN THE CONSTRUCTION, EXCEPT AS OTHERWISE INDICATED.
      2. COORDINATE LOCATIONS OF REGISTERS, FIXTURES AND OUTLETS WITH FINISH ELEMENTS.
   H. COORDINATE COMPLETION AND CLEANUP WORK OF ALL TRADES AND SUBCONTRACTORS IN PREPARATION FOR SUBSTANTIAL COMPLETION.
   I. TO MINIMIZE DISRUPTION OF OWNER'S ACTIVITIES AFTER TENANT OCCUPANCY OF THE PROPERTY, COORDINATE ACCESS TO THE PROPERTY WITH THE TENANT'S CONSTRUCTION MANAGER FOR CORRECTION OF DEFECTIVE WORK AND WORK NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. SUBMITTALS:
   A. ONLY WHEN INDICATED IN THE SPECIFICATIONS OR DRAWINGS SUBMIT SHOP DRAWINGS, PRODUCT DATA, AND/OR SAMPLES TO THE ARCHITECT FOR REVIEW. ALL SUBMITTALS SHALL BE MADE DIRECTLY TO THE ARCHITECT BY THE GENERAL CONTRACTOR. ONLY SUBMITTALS FOR SPECIFIED PRODUCTS WILL BE ACCEPTED UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FOR A SUBSTITUTION (REFER TO SECTION 01630). SUBMITTALS SHALL BE MADE WITH RESPECT TO THE CONSTRUCTION SCHEDULE TO ALLOW FOR ADEQUATE REVIEW TIME: ALLOW (5) BUSINESS DAYS FOR REVIEW OF SUBMITTALS DIVISIONS 3 THROUGH 10 AND ALLOW (10) BUSINESS DAYS FOR REVIEW OF SUBMITTALS IN ALL OTHER DIVISIONS.
      1. SHOP DRAWINGS:
         a. SUBMIT ELECTRONIC COPIES OF EACH SHEET OF DRAWINGS. SHOP DRAWINGS ARE ORIGINAL DRAWINGS PREPARED BY THE SUBCONTRACTOR OR VENDOR FOR THE PURPOSE OF CONVEYING INFORMATION TO THE ARCHITECT AND/OR ENGINEER ON HOW A BUILDING ELEMENT OR PRODUCT WILL BE CONSTRUCTED IN SUFFICIENT DETAIL FOR THE ARCHITECT AND/OR ENGINEER TO DETERMINE COMPLIANCE WITH THE DESIGN INTENT.
   B. IN ALL CASES ONE COPY OF THE SUBMITTAL SHALL BE RETURNED TO THE GENERAL CONTRACTOR. ELECTRONIC SUBMITTALS FOR SHOP DRAWING OR PRODUCT DATA IN EITHER PDF OR DWF FORMAT ARE ACCEPTABLE FOR REVIEW. ALL SUBMITTALS, REGARDLESS OF FORMAT, MUST BEAR THE GENERAL CONTRACTOR'S STAMP INDICATING THE SUBMITTAL HAS BEEN REVIEWED AND APPROVED. ANY SUBMITTAL NOT MEETING THE REQUIREMENTS SET FORTH WILL BE REJECTED BY THE ARCHITECT.
3. REQUESTS FOR INFORMATION
   A. IN THE EVENT THAT THE GENERAL CONTRACTOR, OR A SUBCONTRACTOR, AT ANY TIER, DETERMINES THAT SOME PORTION OF THE DRAWINGS, SPECIFICATIONS, OR OTHER CONTRACT DOCUMENTS REQUIRES A CLARIFICATION OR INTERPRETATION BY THE ARCHITECT, THE GENERAL CONTRACTOR SHALL SUBMIT A REQUEST FOR INFORMATION IN WRITING TO THE ARCHITECT IN AN ELECTRONIC COPY.
   B. REQUESTS FOR INFORMATION MAY ONLY BE SUBMITTED BY THE GENERAL CONTRACTOR AND MAY ONLY BE SUBMITTED TO THE ARCHITECT. THE GENERAL CONTRACTOR SHALL CLEARLY AND CONCISELY SET FORTH THE ISSUE FOR WHICH CLARIFICATION OR INTERPRETATION IS SOUGHT AND WHY A RESPONSE IS NEEDED FROM THE ARCHITECT OR THE ARCHITECT'S CONSULTANTS. IN THE REQUEST FOR INFORMATION, THE GENERAL CONTRACTOR SHALL SET FORTH AN INTERPRETATION OR UNDERSTANDING OF THE REQUIREMENT ALONG WITH AN EXPLANATION OF WHY SUCH AN UNDERSTANDING WAS REACHED.
   C. RESPONSES TO REQUESTS FOR INFORMATION SHALL BE ISSUED UPON RECEIPT, BUT NO LATER THAN FIVE (5) WORKING DAYS OF RECEIPT OF THE REQUEST FROM THE GENERAL CONTRACTOR, UNLESS THE ARCHITECT DETERMINES THAT A LONGER AMOUNT OF TIME IS NECESSARY TO PROVIDE AN ADEQUATE RESPONSE. IF A LONGER AMOUNT OF TIME IS DETERMINED NECESSARY BY THE ARCHITECT, THE ARCHITECT WILL, WITHIN FIVE (5) WORKING DAYS OF RECEIPT OF THE REQUEST, NOTIFY THE GENERAL CONTRACTOR OF THE ANTICIPATED RESPONSE TIME.
   D. RESPONSES TO REQUESTS FOR INFORMATION FROM THE ARCHITECT WILL NOT CHANGE ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS. IN THE EVENT THAT THE GENERAL CONTRACTOR BELIEVES THAT A RESPONSE TO A REQUEST FOR INFORMATION WILL CAUSE A CHANGE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE GENERAL CONTRACTOR SHALL IMMEDIATELY GIVE WRITTEN NOTICE TO THE ARCHITECT AND THE OWNER STATING THAT THE GENERAL CONTRACTOR CONSIDERS THE RESPONSE TO BE A CHANGE ORDER. FAILURE TO GIVE SUCH WRITTEN NOTICE IMMEDIATELY SHALL WAIVE THE GENERAL CONTRACTOR'S (OR ANY SUBCONTRACTOR'S) RIGHT TO SEEK ADDITIONAL TIME OR COST UNDER THE ADMINISTRATIVE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.

SECTION 01400 - QUALITY REQUIREMENTS

1. REGULATORY REQUIREMENTS:
   A. PERFORM ALL WORK IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING CODES, PLUMBING CODES, MECHANICAL CODES, ELECTRICAL CODES, ORDINANCES AND RULES AND REGULATIONS GOVERNING FOOD SERVICE ESTABLISHMENTS.
   B. COMPLY WITH LOCAL, STATE AND FEDERAL REQUIREMENTS GOVERNING ACCESSIBILITY.
   C. OBTAIN ALL REQUIRED DEMOLITION AND EROSION CONTROL PERMITS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
2. QUALITY CONTROL:
   A. MAINTAIN QUALITY CONTROL OVER MANUFACTURERS, SUPPLIERS, PRODUCTS, SERVICES, SITE CONDITIONS AND WORKMANSHIP, TO PRODUCE WORK OF SPECIFIED QUALITY.
   B. COMPLY WITH MANUFACTURER'S INSTRUCTIONS AND APPLICABLE TRADE STANDARDS.
   C. HANDLE, INSTALL, CONNECT, CLEAN, CONDITION AND ADJUST PRODUCTS IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND COMPLYING WITH SPECIFIED REQUIREMENTS.
      1. REQUEST CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING, WHERE MANUFACTURER'S INSTRUCTIONS CONFLICT WITH THE CONTRACT DOCUMENTS.
   D. COMPLY WITH SPECIFIED STANDARDS AS A MINIMUM QUALITY FOR THE WORK, EXCEPT WHEN MORE STRINGENT TOLERANCES, CODES OR SPECIFIED REQUIREMENTS INDICATE HIGHER STANDARDS OR MORE PRECISE WORKMANSHIP.
   E. PERFORM WORK BY PERSONS QUALIFIED TO PRODUCE WORKMANSHIP OF THE SPECIFIED QUALITY. SECURE PRODUCTS IN PLACEWITH POSITIVE ANCHORAGE DEVICES DESIGNED, SIZED AND INSTALLED TO WITHSTAND STRESS, VIBRATION, PHYSICAL DISTORTION OR DISFIGUREMENT.
   F. ALL DIMENSIONS SHALL BE CONSIDERED "HOLD-TO" DIMENSIONS UNLESS INDICATED OTHERWISE (E.G. MINIMUM OR MAXIMUM DIMENSIONS.)
3. TESTING:
   A. EMPLOY AND PAY FOR THE SERVICES OF AN INDEPENDENT TESTING LABORATORY TO PERFORM INSPECTIONS, TESTS AND OTHER SERVICES WHEN REQUIRED.
   B. INCLUDE INSPECTION AND TESTS AS INDICATED IN THE SPECIFICATION SECTIONS, DRAWINGS, AND AS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
      a. TEST CONCRETE IN ACCORDANCE WITH SECTION 03300 AND DRAWING REQUIREMENTS.
      b. TEST STRUCTURAL STEEL IN ACCORDANCE WITH SECTION 05110 AND DRAWING REQUIREMENTS.

SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS

1. PROVIDE TEMPORARY FACILITIES AND CONTROLS AS SHOWN AND SPECIFIED:
   A. CODES AND STANDARDS: PROVIDE TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LOCAL LAWS, REGULATIONS AND CODES AND UTILITY COMPANY REQUIREMENTS.
   B. TEMPORARY HEATING, VENTILATING AND COOLING:
      1. PROVIDE, PAY FOR AND MAINTAIN ALL TEMPORARY HEATING, VENTILATING AND COOLING EQUIPMENT AND FACILITIES REQUIRED DURING THE PROGRESS OF THE WORK TO PROTECT MATERIALS, FINISHED WORK, AND EQUIPMENT AGAINST DAMAGE FROM LOW AND HIGH TEMPERATURES AND HUMIDITY.
      2. PROVIDE TEMPORARY HEATING, VENTILATING AND COOLING WHEN THE OUTSIDE TEMPERATURE AND HUMIDITY IS LOWHIGH ENOUGH TO DAMAGE OR AFFECT IN ANY WAY THE PERFORMANCE OR QUALITY OF MATERIAL AND PRODUCT STORED IN THE BUILDING, IN ANY TEMPORARY STORAGE AREA, OR ANY MATERIAL OR PRODUCT INCORPORATED INTO THE WORK.
      3. PROVIDE TEMPORARY HEATING, VENTILATING AND COOLING WHEN THE OUTSIDE TEMPERATURE AND HUMIDITY IS LOWHIGH ENOUGH TO SIGNIFICANTLY SLOW OR HAMPER EFFECTIVENESS OF WORKERS AND TO PROVIDE SUITABLE WORKING CONDITIONS.
   C. TEMPORARY ELECTRICAL LIGHTING AND POWER:
      1. PROVIDE, PAY FOR AND MAINTAIN ALL TEMPORARY ELECTRICAL SERVICE FOR LIGHTING AND POWER REQUIRED DURING THE PROGRESS OF THE WORK. INCLUDE ALL NECESSARY WIRING, FUSES, DISCONNECT SWITCHES, SAFETY DEVICES, JUNCTION BOXES, PANELS, GROUND FAULT PROTECTIONS, AND TRANSFORMER IF REQUIRED. INCLUDE COST FOR PROVIDING TEMPORARY ELECTRIC GENERATORS IN THE CONTRACT SUM, IF TEMPORARY ELECTRIC SERVICE IS NOT AVAILABLE FOR USE DURING PROGRESS OF THE WORK.
      2. TEMPORARY SERVICE AND LIGHTING AND POWER ITEMS AND INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE NFPA NATIONAL ELECTRIC CODE AND OSHA OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970.
   D. WATER: PROVIDE, PAY FOR AND MAINTAIN ALL TEMPORARY WATER REQUIRED DURING THE PROGRESS OF THE WORK. INCLUDE ALL NECESSARY STORAGE TANKS, PIPING, VALVES, FITTINGS, HOSE AND HOSE CONNECTIONS DURING CONSTRUCTION AND TESTING.
   E. TEMPORARY TOILETS: PROVIDE, PAY FOR AND MAINTAIN TEMPORARY TOILET FACILITIES FOR USE BY THE CONTRACTOR, CONTRACTOR'S EMPLOYEES AND ALL SUBCONTRACTORS AND SUBCONTRACTORS EMPLOYEES. WHEN REQUIRED, COMPLY WITH ALL LOCAL REQUIREMENTS FOR INSTALLATION, USE AND MAINTENANCE OF TEMPORARY TOILET FACILITIES.
   F. BARRIERS AND ENCLOSURES:
      1. PROVIDE TEMPORARY CONSTRUCTION BARRIERS IN ACCORDANCE WITH PROJECT REQUIREMENTS. EXERCISE ALL NECESSARY PRECAUTIONS TO PROTECT ADJACENT PROPERTIES, OUTSIDE PROJECT CONTACT LIMITS, DURING PROGRESS OF THE WORK. TAKE SPECIAL PRECAUTIONS TO AVOID DAMAGE TO EXISTING OVERHEAD AND UNDERGROUND UTILITIES AND SERVICES OWNED OR OPERATED BY THE OWNER OR BY PUBLIC OR PRIVATE UTILITY COMPANIES.
      2. PROVIDE TEMPORARY WEATHER TIGHT ENCLOSURES AT EXTERIOR OPENINGS TO PROVIDE ACCEPTABLE WORKING CONDITIONS AND PROTECTION OF MATERIAL AND TO ALLOW FOR TEMPORARY HEATING, VENTILATING AND COOLING.
   G. SAFETY AND SECURITY
      1. PROVIDE AND MAINTAIN ALL NECESSARY SAFETY PROVISIONS FOR PROTECTION AND SAFETY OF THE PROJECT WORK, WORKERS AND GENERAL PUBLIC.
      2. PROVIDE AND MAINTAIN OPERABLE FIRE EXTINGUISHING DEVICES IN WELL-MARKED, ACCESSIBLE LOCATIONS THROUGHOUT THE PROJECT. PROVIDE TYPES, QUANTITIES AND LOCATIONS IS IN COMPLIANCE WITH GOVERNING CODES AND ORDINANCES.
      3. PROVIDE ALL NECESSARY SECURITY BARRIERS AND ENCLOSURES TO PROTECT THE WORK AND OWNER'S OPERATIONS FROM UNAUTHORIZED ENTRY OF PERSONS, VANDALISM AND THEFT. PROVIDE DOORS, WHEN REQUIRED, WITH SELF-CLOSING HARDWARE AND LOCKS.
      4. PROVIDE WEEKLY PHOTOGRAPHIC DOCUMENTATION OF PROJECT PROGRESSION TO OWNER.
   H. SAFETY AND SECURITY
      1. PROVIDE AND MAINTAIN ALL NECESSARY SAFETY PROVISIONS FOR PROTECTION AND SAFETY OF THE PROJECT WORK, WORKERS AND GENERAL PUBLIC.
      2. PROVIDE AND MAINTAIN OPERABLE FIRE EXTINGUISHING DEVICES IN WELL-MARKED, ACCESSIBLE LOCATIONS THROUGHOUT THE PROJECT. PROVIDE TYPES, QUANTITIES AND LOCATIONS IN COMPLIANCE WITH GOVERNING CODES AND ORDINANCES.
      3. PROVIDE ALL NECESSARY SECURITY BARRIERS AND ENCLOSURES TO PROTECT THE WORK AND TENANT'S OPERATIONS FROM UNAUTHORIZED ENTRY OF PERSONS, VANDALISM AND THEFT. PROVIDE DOORS, WHEN REQUIRED, WITH SELF-CLOSING HARDWARE AND LOCKS.
   I. CLEANING
      1. DURING CONSTRUCTION: PROVIDE AN APPROVED ON-SITE CONTAINER FOR THE USE OF ALL CONTRACTORS AND SUBCONTRACTORS FOR THE COLLECTION OF WASTE MATERIALS, DEBRIS AND RUBBISH. EXECUTE PERIODIC CLEANING TO KEEP THE WORK, THE SITE AND ADJACENT PROPERTIES FREE FROM ACCUMULATIONS OF WASTE MATERIALS, RUBBISH AND WINDBLOWN DEBRIS, RESULTING FROM CONSTRUCTION OPERATIONS. REMOVE CRATES AND CARTONS IN WHICH MATERIALS, EQUIPMENT, OR FIXTURES ARE RECEIVED TO ON-SITE CONTAINERS DAILY.
         a. MAINTAIN THE PROPERTY IN A CLEAN AND ORDERLY CONDITION. REMOVE WASTE MATERIAL, DEBRIS AND RUBBISH FROM THE SITE ON A DAILY BASIS AND DISPOSE OF AT LEGAL DISPOSAL AREAS AWAY FROM THE SITE.
      2. DUST CONTROL:
         a. REMOVE DEBRIS AND RUBBISH FROM PIPE CHASES, PLENUMS AND OTHER SIMILAR CLOSED OR REMOTE SPACES PRIOR TO COVERING OR ENCLOSING THE SPACE.
         b. SWEEP AND VACUUM CLEAN INTERIOR SURFACES BEFORE START OF SURFACE FINISHING AND PAINTING. CONTINUE CLEANING ON AN AS-NEEDED BASIS UNTIL FINISHING AND PAINTING IS COMPLETED.

SECTION 01630 - SUBSTITUTIONS

1. 1.1 GENERAL
   A. PRODUCTS, INCLUDING MATERIALS, EQUIPMENT AND SYSTEMS DESCRIBED IN THE CONTRACT DOCUMENTS ESTABLISH THE STANDARDS OF REQUIRED FUNCTION, DIMENSION, APPEARANCE, QUALITY AND PERFORMANCE OF THE WORK. BASE ALL BIDS ON THE "STANDARDS" INDICATED.
   B. REQUESTS BY THE CONTRACTOR FOR CHANGES IN PRODUCTS, MANUFACTURERS, FABRICATORS, SUPPLIERS, INSTALLERS, AND METHODS OF CONSTRUCTION REQUIRED BY THE CONTRACT DOCUMENTS ARE CONSIDERED REQUESTS FOR "SUBSTITUTIONS." SUBSTITUTIONS WILL BE CONSIDERED ONLY UNDER THE FOLLOWING CONDITIONS:
      1. THE INDICATED "STANDARD" CANNOT BE PROVIDED WITHIN THE CONTRACT TIME
      2. THE INDICATED "STANDARD" CANNOT RECEIVE NECESSARY APPROVAL BY THE GOVERNING AUTHORITY.
      3. A SUBSTANTIAL ADVANTAGE IS OFFERED THE OWNER, IN TERMS OF COST, TIME, ENERGY CONSERVATION OR OTHER CONSIDERATIONS OF MERIT AS DETERMINED BY THE ARCHITECT.
   C. SUBMIT EACH REQUEST FOR SUBSTITUTION TO THE ARCHITECT. IDENTIFY THE PRODUCT, MANUFACTURER, FABRICATOR, SUPPLIER, INSTALLER OR THE FABRICATION OR INSTALLATION METHOD TO BE REPLACED IN EACH REQUEST. IDENTIFY RELATED SPECIFICATION SECTION AND DRAWING NUMBERS. PROVIDE DOCUMENTATION AS DIRECTED BY THE ARCHITECT.
   D. (OMITTED)
   E. SUBSTITUTE PRODUCTS, MANUFACTURERS, FABRICATORS, SUPPLIERS, AND INSTALLERS SHALL NOT BE USED FOR THE PROJECT WITHOUT TENANT AND ARCHITECT'S WRITTEN ACCEPTANCE.

SECTION 01700 - EXECUTION REQUIREMENTS

1. PREPARATION:
   A. PROTECTION OF EXISTING CONSTRUCTION: USE ALL NECESSARY CARE AND APPROPRIATE MEANS AND METHODS TO PROTECT AND PREVENT DAMAGE TO EXISTING CONSTRUCTION AND PROPERTY NOT PART OF THE CONTRACT WORK. REPAIR AND REFINISH OR REPLACE CONSTRUCTION AND PROPERTY DAMAGED DURING CONSTRUCTION WORK, AT CONTRACTOR'S EXPENSE.
2. SELECTIVE DEMOLITION: PROVIDE SELECTIVE DEMOLITION AS SHOWN AND SPECIFIED.
   A. PREPARATION:
      1. COORDINATE WORK OF THIS SECTION WITH WORK OF VARIOUS CONTRACTORS AND OWNER'S STAFF.
      2. MAINTAIN PROTECTED ACCESS AT ALL TIMES.
      3. ERECT AND MAINTAIN WEATHERPROOF CLOSURES AT EXTERIOR OPENINGS.
      4. ERECT AND MAINTAIN DUST-PROOF INTERIOR PARTITIONS TO PREVENT SPREAD OF DUST OR FUMES.
      5. ERECT AND MAINTAIN BARRICADES, ENCLOSURES, BRACING, SHORING, LIGHTS, WARNING SIGNS AND GUARDS NECESSARY FOR WORKER AND PUBLIC SAFETY AND PROTECTION OF PROPERTY.
      6. DISCONNECT, REMOVE AND CAP DESIGNATED UTILITY SERVICES. IDENTIFY AND MARK LOCATIONS OF DISCONNECTED AND CAPPED UTILITIES AT THE PROJECT SITE AND ON PROJECT RECORD DOCUMENTS.
      7. COORDINATE HOURS OF OPERATION AND CONSTRUCTION ACCESS WITH THE BUILDING OWNER.
   B. SELECTIVE DEMOLITION
      1. REMOVE EXISTING CONSTRUCTION TO ACCOMMODATE NEW CONSTRUCTION AS INDICATED.
      2. PERFORM SELECTIVE DEMOLITION IN AN ORDERLY, SYSTEMATIC AND CAREFUL MANNER WITH LEAST POSSIBLE DISTURBANCE TO PUBLIC AND ADJACENT PROPERTY.
      3. IMMEDIATELY REMOVE FROM THE SITE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS, EXCEPT AS INDICATED OTHERWISE. DO NOT BURN OR BURY MATERIALS ON THE PROJECT SITE.
3. CLEANING
   A. FINAL CLEANING: PERFORM FINAL CLEANING UPON COMPLETION OF PROJECT WORK.
      1. REMOVE WASTE AND SURPLUS MATERIALS, RUBBISH, TOOLS, EQUIPMENT AND TEMPORARY CONSTRUCTION FACILITIES FROM THE SITE.
      2. CLEAN EXTERIOR GROUNDS: REMOVE STAINS, SPILLS AND FOREIGN MATERIALS FROM PAVED AREAS. POWER WASH AND SWEEP CLEAN. RAKE CLEAN LANDSCAPED SURFACES OF THE GROUNDS.
      3. REMOVE TEMPORARY PROTECTION AND LABELS NOT REQUIRED TO REMAIN.
      4. CLEAN ALL FINISHED SURFACES. REMOVE GREASE, MASTIC, ADHESIVES, DUST, DIRT, STAINS, FINGERPRINTS, LABELS AND OTHER FOREIGN MATERIALS FROM EXPOSED INTERIOR AND EXTERIOR SURFACES.
         A. CLEAN ALL PLUMBING, FIRE PROTECTION AND ELECTRICAL FIXTURES AND EQUIPMENT INCLUDING CEILING AREA ELEVATED DUCTWORK AND LIGHTING FIXTURES.
         B. CLEAN PERMANENT EQUIPMENT FILTERS AND REPLACE TEMPORARY DISPOSABLE FILTERS IN MECHANICAL UNITS USED DURING CONSTRUCTION.
         C. CLEAN DUCTS, BLOWERS AND COILS IF MECHANICAL UNITS WERE OPERATED WITHOUT FILTERS DURING CONSTRUCTION.
      5. CLEAN INTERIOR AND EXTERIOR GLAZING AND MIRRORS, POLISH TRANSPARENT AND GLOSSY SURFACES AND CLEAN FLOORS WITH APPROPRIATE MATERIALS AND EQUIPMENT.
      6. REMOVE WASTE, FOREIGN MATERIAL AND DEBRIS FROM ROOFS, AREAWAYS AND DRAINAGE SYSTEMS.
      7. BEFORE TENANT OCCUPANCY, CONDUCT AN INSPECTION, WITH THE TENANT, OF EXPOSED INTERIOR AND EXTERIOR SURFACES AT ALL WORK AREAS, TO VERIFY THAT THE ENTIRE WORK IS CLEAN.
4. STARTING AND ADJUSTING:
   A. PRIOR TO SUBSTANTIAL COMPLETION, COORDINATE THE START-UP, TEST AND BALANCE, PLACEMENT IN OPERATION AND ADJUSTMENT ALL SYSTEMS, CONTROLS AND EQUIPMENT TO VERIFY PROPER OPERATION. ALL SYSTEMS SHALL BE COMPLETE AND OPERATING PRIOR TO FINAL INSPECTION.
5. CONTRACT CLOSEOUT
   A. (OMITTED)
   B. RECORDSAs BUILT DOCUMENTS:
      1. PREPARE AND MAINTAIN ON SITE ONE SET OF THE FOLLOWING RECORDAs BUILT DOCUMENTS:
         A. CONTRACT DOCUMENTS.
         B. CONSTRUCTION CHANGE DIRECTIVES.
         C. CHANGE ORDERS AND OTHER MODIFICATIONS TO THE CONTRACT.
         D. SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
         E. CONSTRUCTION SCHEDULE.
      2. STORE RECORDAs BUILT DOCUMENTS SEPARATE FROM DOCUMENTS USED FOR CONSTRUCTION.
      3. RECORD ACTUAL REVISIONS TO THE WORK, CONCURRENTLY WITH CONSTRUCTION PROGRESS.
      4. LEGIBLY MARK AND RECORD A DESCRIPTION OF ACTUAL PRODUCTS INSTALLED AT EACH SPECIFICATION SECTION, INCLUDING THE FOLLOWING:
         A. MANUFACTURER'S NAME AND PRODUCT MODEL AND NUMBER.
         B. APPROVED PRODUCT SUBSTITUTIONS OR ALTERNATES UTILIZED.
         C. CHANGES MADE BY ADDENDA, CHANGE ORDERS, AND OTHER MODIFICATIONS.
      5. LEGIBLY MARK EACH ITEM TO RECORD ACTUAL CONSTRUCTION, INCLUDING THE FOLLOWING:
         A. MEASURED DEPTHS OF FOUNDATIONS IN RELATION TO FINISH FIRST MAIN FLOOR DATUM.
         B. MEASURED HORIZONTAL AND VERTICAL LOCATIONS OF UNDERGROUND UTILITIES AND APPURTENANCES, REFERENCED TO PERMANENT SURFACE IMPROVEMENTS.
         C. MEASURED LOCATIONS OF INTERNAL UTILITIES AND APPURTENANCES CONCEALED IN CONSTRUCTION, REFERENCED TO VISIBLE AND ACCESSIBLE FEATURES OF THE WORK.
         D. FIELD CHANGES OF DIMENSION AND DETAIL.
         E. DETAILS NOT ON ORIGINAL CONTRACT DOCUMENT DRAWINGS.
      6. SUBMIT RECORDAs BUILT DOCUMENTS TO THE TENANT WITH FINAL APPLICATION FOR PAYMENT IN ACCORDANCE WITH EXHIBIT C OF THE CONSTRUCTION CONTRACT.
   C. WARRANTIES AND BONDS:
      1. COMPILE WARRANTIES AND BONDS REQUIRED BY THE CONTRACT DOCUMENTS.
      2. SUBMIT DUPLICATE COPIES OF WARRANTIES AND BONDS TO THE TENANT WITH FINAL APPLICATION FOR PAYMENT IN ACCORDANCE WITH EXHIBIT C OF THE CONSTRUCTION CONTRACT.
   D. MAINTENANCE MATERIALS AND SPARE PARTS.
      1. PROVIDE EXTRA MAINTENANCE MATERIALS AND SPARE PARTS IN QUANTITIES SPECIFIED IN THE SPECIFICATION SECTIONS.
      2. PLACE IN LOCATION AS DIRECTED BY THE TENANT'S CONSTRUCTION MANAGER.

SECTION 05400 - COLD-FORMED METAL FRAMING

1. GENERAL: PROVIDE COLD-FORMED METAL FRAMING IN ACCORDANCE WITH THE GENERAL STRUCTURAL NOTES AND STRUCTURAL DRAWINGS AND DETAILS.
   A. STANDARDS: MATERIALS AND CONSTRUCTION SHALL CONFORM TO FOLLOWING:
      1. AISI SG02 2-01 "DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."
      2. AWS "STRUCTURAL WELDING CODES, D1.3-SHEET STEEL."
2. MATERIALS:
   A. MATERIALS COMPLIANCE: WHEN REQUESTED, SUBMIT ACCEPTABLE DATA DOCUMENTING MATERIALS COMPLIANCE FOR EACH TYPE OF MATERIAL REQUIRED.
   B. LOAD-BEARING COLD-FORMED METAL FRAMING: ASTM A1003, GAGE, GRADE AND TYPE INDICATED.
      1. COMPONENTS: PROVIDE SIZES AND SHAPES INDICATED.
      2. FINISH: GALVANIZED COMPLYING WITH ASTM A653, MINIMUM G60 COATING.
   C. FABRICATION:
      1. COLD-FORMED METAL FRAMING MAY BE PREFABRICATED INTO PANELS BEFORE ERECTION. FABRICATE PANELS PLUMB,SQUARE, TRUE TO LINE AND BRACED AGAINST RACKING WITH JOINTS WELDED.
         A. PROVIDE ONE-PIECE FULL-LENGTH COLD-FORMED METAL FRAMING MEMBERS. SPLICING NOT PERMITTED.
      2. ATTACH AND JOIN OTHER COMPONENTS BY WELDING OR SCREW FASTENERS, AS INDICATED. WIRE TYING OF FRAMING COMPONENTS IS NOT PERMITTED.
      3. CUT FRAMING TO FIT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS OR AS REQUIRED FOR ANGULAR FIT AGAINST ABUTTING MEMBERS. HOLD MEMBERS SECURELY IN POSITION UNTIL PROPERLY FASTENED.
      4. SAW CUT FIELD CUT FRAMING. TORCH CUTTING NOT ACCEPTABLE.
   D. INSTALLATION:
      1. ERECTION: ERECT COLD-FORMED METAL FRAMING MEMBERS OF GAGE AND AT SPACING INDICATED ON THE STRUCTURAL DRAWINGS. ALIGN AND SECURE STUDS TO TOP AND BOTTOM RUNNER TRACKS BY WELDING OR SCREW FASTENERS AT BOTH INSIDE AND OUTSIDE FLANGES.
      2. TOLERANCE ACCEPTANCE: INSTALL COLD-FORMED METAL FRAMING MEMBER AS INDICATED ON THE PLANS. INSTALL TO 1/16" TOLERANCE.

SECTION 06100 - ROUGH CARPENTRY

1. GENERAL: PROVIDE ROUGH CARPENTRY WORK AS SHOWN AND SPECIFIED.
   A. STANDARDS: MATERIALS AND CONSTRUCTION SHALL CONFORM TO FOLLOWING:
      1. NIST PS-1-95 "CONSTRUCTION AND INDUSTRIAL PLYWOOD."
      2. NIST PS-2-95 "PERFORMANCE STANDARDS FOR WOOD-BASED STRUCTURAL-USE PANELS."
      3. NIST PS-20-99 "AMERICAN SOFTWOOD LUMBER STANDARD."
      4. NFPA NDS-97 "WOOD CONSTRUCTION AND SUPPLEMENT."
      5. AWPA "WOOD TREATMENT STANDARDS."
2. MATERIALS:
   A. LUMBER: FACTORY GRADE-MARKED, DRESSED, SEASONED DIMENSION LUMBER, S4S, AIR-DRIED, MAXIMUM 19% MOISTURE CONTENT COMPLYING WITH PS-20, DIMENSIONS INDICATED.
      1. BLOCKING, NAILERS AND SIMILAR MEMBERS: STANDARD GRADE WESTERN DIMENSION LUMBER OR SOUTHERN PINE SPECIES.
         a. PROVIDE PRESERVATIVE TREATED LUMBER, WHERE INDICATED.
   B. PLYWOOD: FACTORY GRADE-MARKED, COMPLYING WITH PS-1, SQUARE EDGE, 5/8" THICK.
      1. APA-RATED SHEATHING EXP1.
         a. PROVIDE EXTERIOR GRADE (EXT) PLYWOOD, WHERE INDICATED.
         b. PROVIDE FIRE-RETARDANT TREATED PLYWOOD, WHERE REQUIRED BY BUILDING CODE.
   C. ORIENTED STRAND BOARD (OSB): FACTORY GRADE-MARKED, COMPLYING WITH PS-2, SQUARE EDGE, 5/8" THICK.
3. WOOD TREATMENT:
   A. PRESERVATIVE TREATMENT: COMPLY WITH APPLICABLE REQUIREMENTS OF AWPA STANDARDS C2 (LUMBER)
      1. PRESSURE PRESERVATIVE TREAT LUMBER WITH WATER-BORNE PRESERVATIVES, ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, TO A MINIMUM RETENTION OF 0.25 PCF.
      2. TREAT WOOD BLOCKING, NAILERS AND SIMILAR MEMBERS IN CONNECTION WITH ROOFING AND FLASHING.
      3. TREAT WOOD PLATES, BLOCKING, FURRING AND SIMILAR CONCEALED MEMBERS IN CONTACT WITH MASONRY OR CONCRETE.
   B. FIRE-RETARDANT TREATMENT: COMPLY WITH APPLICABLE REQUIREMENTS OF AWPA STANDARDS

SECTION 08110 - STEEL DOORS AND FRAMES

1. GENERAL: TENANT TO PROVIDE STEEL DOORS AND FRAMES AS SHOWN AND SPECIFIED.
   A. STANDARDS: MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE FOLLOWING:
      1. ANSI A250.8-1998 "SPECIFICATIONS FOR STANDARD STEEL DOORS AND FRAMES."
      2. ANSI A250.11-01 "ERECTION INSTRUCTIONS FOR STEEL FRAMES."
      3. SDI 122-99 " INSTALLATION FOR STANDARD STEEL DOORS AND FRAMES.
   B. MANUFACTURER: A MEMBER OF THE STEEL DOOR INSTITUTE (SDI).
2. MATERIALS:
   A. STEEL DOORS:
      1. INTERIOR: HEAVY-DUTY LEVEL 2, PHYSICAL PERFORMANCE B, MODEL 2 SEAMLESS CONSTRUCTION, ASTM A1008, 18 GAGE COLD-ROLLED STEEL FACE SHEETS, MANUFACTURER'S STANDARD CORE.
      2. EXTERIOR: EXTRA HEAVY-DUTY LEVEL 3, PHYSICAL PERFORMANCE A, MODEL 2 SEAMLESS CONSTRUCTION, ASTM A1008, 16 GAGE COLD-ROLLED STEEL FACE SHEETS, TOPS AND BOTTOMS CLOSED WITH FLUSH GALVANIZED STEEL CAPS, MANUFACTURER'S STANDARD PLASTIC FOAM INSULATING CORE.
   B. STEEL FRAMES: ASTM A1008, 16 GAGE COLD-ROLLED STEEL
      1. PROVIDE COMBINATION BUCK, JAMB AND TRIM TYPE FRAMES FOR 1-3/4" THICK DOORS, UNLESS OTHERWISE INDICATED.
      2. INTERIOR AND EXTERIOR FRAMES: SET-UP WELDED TYPE WITH MITERED CORNERS, REINFORCED, FULLY SEAM WELDED WITH EXPOSED WELDS GROUND SMOOTH.
   C. DOOR AND FRAME FABRICATION:
      1. PROVIDE CUTOUTS FOR MORTISED HARDWARE, ACCURATELY LOCATED AND MADE TO FIT HARDWARE. PROVIDE CLOSER REINFORCEMENT FOR ALL DOORS WITH SURFACE MOUNTED DOOR CLOSERS.
      2. PUNCH FRAMES AND FACTORY INSTALL RUBBER DOOR SILENCERS.
      3. PROVIDE MINIMUM THREE ANCHORS OF SUITABLE DESIGN FOR EACH JAMB.
      4. PROVIDE FLOOR CLIP ON BOTTOM OF EACH JAMB. PROVIDE ANGLE SPREADERS AT BOTTOM OF EACH SET-UP FRAME.
   D. SHOP PAINTING: CLEAN AND PAINT EXPOSED SURFACES OF STEEL DOOR AND FRAME UNITS. APPLY ONE BAKED-ON SHOP COAT OF RUST-INHIBITIVE PRIME PAINT IN ACCORDANCE WITH ANSI A250.10, UNLESS DOORS AND FRAMES ARE USED AT THE RESTROOMS OR AS INDICATED ON DOOR HARDWARE AND FINISH SCHEDULE. PROVIDE A UNIFORMLY FINISHED SURFACE READY TO RECEIVE FINISH PAINT.
3. INSTALLATION:
   A. INSTALL FRAMES PLUMB, LEVEL, RIGID, AND IN TRUE ALIGNMENT AS RECOMMENDED IN ANSI A250.11.
   B. INSTALL DOORS PLUMB AND IN TRUE ALIGNMENT AND FASTENED TO ACHIEVE THE MAXIMUM OPERATIONAL EFFECTIVENESS AND APPEARANCE AS RECOMMENDED IN SDI 122.

SECTION 08710 - DOOR HARDWARE

1. GENERAL: PROVIDE DOOR HARDWARE AS SHOWN AND SPECIFIED.
   A. STANDARDS: MATERIALS AND INSTALLATION SHALL CONFORM TO THE FOLLOWING:
      1. ANSI A117.1-1998 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES.
      2. ANSI/BHMA A156 SERIES BUILDERS HARDWARE
   B. QUALITY ASSURANCE:
      1. CODES AND STANDARDS: PROVIDE HARDWARE COMPLYING WITH LOCAL BUILDING CODE REQUIREMENTS AND THE TENANT'S STANDARDS FOR KEYING AND SECURITY SYSTEMS.
      2. PROJECT SCHEDULING: PERFORMED BY AN ARCHITECTURAL HARDWARE CONSULTANT (AHC).
      3. PACKAGE EACH ITEM OF HARDWARE AND EACH LOCKSET, COMPLETE WITH ALL SCREWS, ANCHORS, INSTALLATION INSTRUCTIONS AND TEMPLATES. IDENTIFY PACKAGE INDEXING WITH CORRESPONDING ITEM NUMBER OF THE HARDWARE SCHEDULE.
      4. AFTER HARDWARE SCHEDULE ACCEPTANCE, PROVIDE NECESSARY TEMPLATES OR PHYSICAL HARDWARE TO REQUIRED TRADES FOR CUTTING, REINFORCING, OR PREPARING THEIR PRODUCTS TO RECEIVE HARDWARE. FURNISH TEMPLATES TO METAL DOOR MANUFACTURERS.
2. MATERIALS:
   A. NO SUBSTITUTIONS ALLOWED. REQUIREMENTS FOR MANUFACTURER, DESIGN, GRADE, FUNCTION, FINISH, SIZE AND OTHER DISTINCTIVE QUALITIES OF EACH TYPE OF DOOR HARDWARE ARE INDICATED ON THE DRAWINGS.
   B. REVIEW THE KEYING SYSTEM WITH THE TENANT AND PROVIDE THE TYPE REQUIRED.
3. INSTALLATION
   A. INSTALL EACH HARDWARE ITEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. SECURELY FASTEN ALL ATTACHED PARTS. FIT FACES OF MORTISED PARTS SNUG AND FLUSH. VERIFY OPERATING PARTS MOVE FREELY AND SMOOTHLY WITHOUT BINDING OR STICKING, WITHOUT EXCESSIVE CLEARANCE.
   B. SET UNITS LEVEL, PLUMB AND TRUE TO LINE AND LOCATION. ADJUST AND REINFORCE ATTACHMENT SUBSTRATE AS REQUIRED FOR PROPER INSTALLATION AND OPERATION. DRILL AND COUNTERSINK UNITS THAT ARE NOT FACTORY PREPARED FOR ANCHORAGE FASTENERS. SPACE FASTENERS AND ANCHORS IN ACCORDANCE WITH INDUSTRY STANDARDS.
   C. MOUNT HARDWARE UNITS AT HEIGHTS INDICATED IN DHI "RECOMMENDED LOCATIONS FOR BUILDERS HARDWARE", UNLESS OTHERWISE REQUIRED TO COMPLY WITH REQUIREMENTS OF GOVERNING CODES AND REGULATIONS. CONFORM TO ANSI A117.1 AND ADAGG GUIDELINES FOR ACCESSIBILITY.
      1. TOP BUTTS: 5 INCHES, TOP OF BUTT FROM HEAD OF FRAME.
      2. MIDDLE BUTTS: 3'-2", CENTERLINE FROM FINISH FLOOR.
      3. BOTTOM BUTTS: 5 INCHES, FINISH FLOOR TO BOTTOM OF BUTT.
      4. LOCKS: CENTERLINE FROM FINISH FLOOR PER HARDWARE SCHEDULE.
      5. KNOBS: 3'-2", CENTERLINE FROM FINISH FLOOR.
      6. PULLS: CENTERLINE FROM FINISH FLOOR PER HARDWARE SCHEDULE.
      7. PUSHES: CENTERLINE FROM FINISH FLOOR PER HARDWARE SCHEDULE.

SECTION 09260 - GYPSUM BOARD SYSTEMS

1. GENERAL: PROVIDE GYPSUM BOARD SYSTEMS AS SHOWN AND SPECIFIED.
   A. STANDARDS: MATERIALS AND INSTALLATION SHALL CONFORM TO THE FOLLOWING:
      1. GA 214-90 "LEVELS OF GYPSUM BOARD FINISH."
      2. GA-216 "SPECIFICATIONS FOR APPLICATION AND FINISHING OF GYPSUM BOARD."
      3. USG "SA923 DRYWALL/STEEL FRAMED SYSTEMS."
2. MATERIALS:
   A. MANUFACTURER: UNITED STATES GYPSUM CO. (USG), (800) 874-4968, INTERNET WWW.USG.COM.
   B. METAL FRAMING: COMPLY WITH ASTM C 754 AND ASTM C 645 FOR MATERIALS AND SIZES.
      1. PARTITION METAL FRAMING.
         A. STUDS: GALVANIZED STEEL, C-SHAPED, SIZES INDICATED, 20 GAGE "ST20"
         B. RUNNERS: MATCH STUDS, TYPE RECOMMENDED BY STUD MANUFACTURER FOR FLOOR AND CEILING SUPPORT OF STUDS. PROVIDE FLEXIBLE CEILING RUNNERS FOR FULL HEIGHT METAL STUD FRAMED PARTITIONS CONTINUOUS FROM FLOOR TO UNDERSIDE OF STRUCTURAL MEMBERS OR DECK ABOVE.
   C. CEILING AND SOFFIT METAL FRAMING/SUSPENSION SYSTEMS:
      1. SMALL AREAS: METAL STUD FRAMING OF APPROPRIATE SIZE AND GAGE FOR SPANS INDICATED.
      2. LARGE AREAS: FURRING CHANNEL "GRILLAGE" OR "DIRECT SUSPENSION SYSTEM" DESIGNED FOR CONCEALED SUPPORT OF GYPSUM BOARD CEILINGS, OF PROPER TYPE FOR USE INDICATED.
      3. FURRING MEMBERS: 20 GAGE, GALVANIZED STEEL SCREW TYPE, HAT-SHAPED FURRING.
   D. GYPSUM BOARD PANELS: USG "SHEETROCK" COMPLYING WITH ASTM C1396, TAPERED EDGE FACE PANELS, 48" WIDE, IN MAXIMUM LENGTHS AVAILABLE TO MINIMIZE END JOINT CONDITIONS, 5/8" THICK.
      1. GENERAL USE PANELS: SHEETROCK REGULAR PANELS.
      2. FIRE RATED PANELS: SHEETROCK FIRECODE CORE PANELS.
      3. WATER-RESISTANT: PANELS: SHEETROCK HUMITEK PANELS.
   E. CEMENT BOARD: USG DUROCK CEMENT BOARD, 5/8" THICK X MANUFACTURER'S STANDARD WIDTH, COMPLYING WITH ANSI A118.9, AND IN MAXIMUM LENGTHS AVAILABLE TO MINIMIZE END-TO-END BUTT JOINTS.
   F. FASTENERS: USG TYPE "S" BUGLE HEAD SCREWS FOR METAL FRAMING, USG TYPE "W" BUGLE HEAD SCREWS FOR WOOD FRAMING, MANUFACTURER'S RECOMMENDED LENGTH FOR PANEL THICKNESS INDICATED.
   G. TRIM: GALVANIZED STEEL WITH KNURLED AND PERFORATED FLANGES. USG DUR-A-BEAD CORNER BEAD, NO. 200B CASING BEAD METAL TRIM, NO. 093 CONTROL JOINT.
   H. JOINT TREATMENT: USG JOINT TREATMENT SYSTEM, UTILIZING "SHEETROCK BRAND JOINT TAPE", AND "SHEETROCK BRAND SETTING-TYPE (DURABOND)" COMPOUND FOR TAPE BEDDING AND TOPPING.
   I. ADHESIVES: USG "SHEETROCK BRAND SETTING-TYPE (DURABOND) 210 OR 90" COMPOUND FOR TAPE BEDDING AND TOPPING.
   J. ACOUSTICAL SEALANT: USG SHEETROCK ACOUSTICAL SEALANT, WATER-BASE TYPE, GUNNABLE SEALANT FOR SEALING SOUND-RATED GYPSUM BOARD SYSTEMS.
   K. SOUND ATTENUATION INSULATION: USG THERMAFIBER UNFACED 3-1/2" THICK, MINERAL FIBER INSULATING BATTS/BLANKETS, STANDARD LENGTHS AND WIDTHS REQUIRED TO COORDINATE WITH SPACES INSULATED.
3. INSTALLATION
   A. INSTALL METAL WALL AND PARTITION FRAMING AND CEILING SUSPENSION/ SUPPORT SYSTEMS IN ACCORDANCE WITH USG BULLETIN SA 923 AND COMPLYING WITH ASTM C754.
      1. CEILING SUSPENSION/ SUPPORT SYSTEMS: METAL FURRING SYSTEM/DIRECT SUSPENSION OR STEEL STUD FRAMING SYSTEM.
      2. WALL AND PARTITION FRAMING:
         A. INSTALL STEEL STUDS PER SCHEDULE OR AT SPACING INDICATED WITH BOTTOM AND TOP RUNNER TRACKS ANCHORED TO SUBSTRATES. PROVIDE FLEXIBLE CEILING RUNNER TRACKS AT FULL HEIGHT PARTITIONS.
         B. TERMINATE PARTITION STUD SYSTEM 4" ABOVE CEILINGS, EXCEPT WHERE INDICATED TO BE EXTENDED TO STRUCTURAL SUPPORT OR ROOF DECK ABOVE. BRACE TOPS OF PARTITION FRAMING TO STRUCTURE OR ROOF DECK AT MAXIMUM 4'-0" ON CENTER SPACING.
         C. FRAME OPENINGS MORE THAN 2'-0" WIDE WITH TWO 20 GAGE STUDS AT EACH JAMB.
         D. COORDINATE THE INSTALLATION OF SUPPLEMENTARY BLOCKING AND NAILERS, PROVIDED UNDER SECTION 05100 WORK, TO SUPPORT SHELVING, MILLWORK, TOILET ACCESSORIES, AND SIMILAR WORK THAT CANNOT BE ADEQUATELY SUPPORTED BY GYPSUM BOARD ALONE.
   B. APPLICATION AND FINISHING: INSTALL AND FINISH GYPSUM BOARD TO COMPLY WITH ASTM C 840 AND GYPSUM ASSOCIATION GA 216 "RECOMMENDED SPECIFICATIONS FOR THE APPLICATION AND FINISHING OF GYPSUM BOARD."
      1. SCREW FASTEN ALL GYPSUM BOARD PANELS.
      2. METAL TRIM: INSTALL ALL CORNER BEADS AT EXTERNAL CORNERS OF GYPSUM BOARD WORK AND METAL TRIM WHEREVER EDGE OF GYPSUM BOARD WOULD BE EXPOSED. USE LONGEST PRACTICAL LENGTHS.
      3. CONTROL JOINTS: LOCATE AND INSTALL CONTROL JOINTS IN ACCORDANCE WITH USG BULLETIN SA923 "GOOD DESIGN PRACTICE" RECOMMENDATIONS.
   C. ACOUSTICAL TREATMENT:
      1. WHERE SOUND-ATTENUATION INSULATION IS INDICATED, SEAL GYPSUM BOARD CONSTRUCTION AT PERIMETERS, CONTROL JOINTS, JUNCTION BOXES, OPENINGS AND PENETRATIONS WITH A CONTINUOUS BEAD OF ACOUSTICAL SEALANT INCLUDING A BEAD AT BOTH FACES OF PARTITIONS.
      2. INSTALL SOUND ATTENUATION INSULATION AT SCHEDULED PARTITIONS AND CEILINGS. INSTALL INSULATION IN SINGLE LAYER OF REQUIRED THICKNESS. EXTEND FULL THICKNESS OVER ENTIRE AREA TO BE INSULATED. CUT AND FIT TIGHT AROUND OBSTRUCTIONS. FILL ALL VOIDS.
      3. AT OPENINGS AND CUTOUTS, FILL OPEN SPACES BETWEEN EDGES OF GYPSUM BOARD AND FIXTURES, CABINETS, DUCTS, AND OTHER FLUSH OR PENETRATING ITEMS, WITH CONTINUOUS BEAD OF ACOUSTICAL SEALANT.
      4. SEAL SIDES AND BACKS OF ELECTRICAL BOXES TO COMPLETELY CLOSE UP OPENINGS AND JOINTS WITH A BEAD OF ACOUSTICAL TREATMENT.
   D. FINISHING:
      1. COMPLY WITH MANUFACTURER'S INSTRUCTIONS FOR MIXING, HANDLING, AND APPLICATION OF MATERIALS. APPLY TREATMENT AT JOINTS BOTH DIRECTIONS, AT FLANGES OF TRIM ACCESSORIES, PENETRATIONS OF GYPSUM BOARD (ELECTRICAL BOXES, PIPING, AND SIMILAR WORK), FASTENER HEADS, SURFACE DEFECTS, AND ELSEWHERE AS INDICATED. APPLY IN MANNER THAT WILL RESULT IN EACH OF THESE ITEMS BEING CONCEALED WHEN APPLIED DECORATION HAS BEEN COMPLETED.
      2. APPLY JOINT TAPE AT JOINTS BETWEEN GYPSUM BOARDS, EXCEPT WHERE TRIM ACCESSORIES ARE INDICATED.
      3. INTERIOR EXPOSED GYPSUM BOARD FINISH: LEVEL 5 FINISH.
         A. LOCATIONS: TYPICAL FOR ALL WALLS AND CEILINGS, UNLESS OTHERWISE INDICATED
         B. FINISH INTERIOR GYPSUM BOARD BY APPLYING THE FOLLOWING JOINT COMPOUNDS IN FOUR COATS (NOT INCLUDING PREFILL OF OPENINGS IN BASE), AND SAND BETWEEN COATS AND AFTER LAST COAT.
         C. EMBEDDING AND FIRST COAT: SETTING-TYPE JOINT OR TAPING COMPOUND.
         D. FILL (SECOND) COAT: SETTING-TYPE TOPPING COMPOUND.
         E. FILL (THIRD) COAT: SETTING-TYPE TOPPING COMPOUND.
         F. FINISH (FOURTH) COAT: SKIM COAT ENTIRE SURFACE.
      4. INTERIOR CONCEALED GYPSUM BOARD: LEVEL 3 PARTIAL FINISHING.
         A. FINISH CONCEALED GYPSUM BOARD CONSTRUCTION THAT REQUIRES FINISHING SAME AS EXPOSED GYPSUM BOARD CONSTRUCTION, EXCEPT THE THIRD COAT AND SANDING CAN BE OMITTED.
   E. CEMENT BOARD: INSTALL CEMENT BOARD AS A 16" HIGH BASE AT ALL KITCHEN AND KITCHEN COOK LINE WALL TYPES.

SECTION 09340 - CERAMIC TILE

1. GENERAL: PROVIDE CERAMIC WALL TILE AS SHOWN AND SPECIFIED
   A. STANDARDS: MATERIALS AND INSTALLATION SHALL CONFORM TO THE FOLLOWING:
      1. ANSI A137.1 "CERAMIC TILE."
      2. TCA "HANDBOOK FOR CERAMIC TILE INSTALLATION."
2. MATERIALS:
   A. MANUFACTURERS:
      1. CERAMIC TILE: DALTILE CORP., (800) 933-8453, INTERNET WWW.DALTILE.COM.
   B. CERAMIC TILE: BY OWNER
   C. SETTING ADHESIVE: BY OWNER
   D. GROUT: BY OWNER
3. INSTALLATION
   A. PREPARATION: CLEAN SUBSTRATE SURFACES SCHEDULED TO RECEIVE CERAMIC TILE THOROUGHLY AND REMOVE ALL COATINGS THAT MAY IMPAIR BOND.
      1. PROTECT SURROUNDING WORK FROM DAMAGE.
      2. REMOVE ANY CURING COMPOUNDS OR OTHER CONTAMINATES.
      3. VACUUM CLEAN SURFACES AND DAMP CLEAN.
      4. INSTALL CEMENTITIOUS BACKER BOARD IN ACCORDANCE WITH ANSI A108.11 AND BOARD MANUFACTURER'S INSTRUCTIONS. TAPE JOINTS AND CORNERS, COVER WITH SKIM COAT OF DRY-SET MORTAR TO A FEATHER EDGE.
      5. PREPARE SUBSTRATE SURFACES FOR ADHESIVE INSTALLATION IN ACCORDANCE WITH ADHESIVE MANUFACTURER'S INSTRUCTIONS.
   B. KITCHEN:
      1. LAY TILE IN HORIZONTAL STACK BOND, STARTING PATTERN WITH A FULL TILE AT THE CEILING PLANE.
      2. ARRANGE PATTERN SO THAT A FULL TILE OR JOINT IS CENTERED ON EACH WALL HORIZONTALLY AND THAT NO TILE LESS THAN 1/2 WIDTH IS USED AT THE ENDS OF THE WALL. EXCEPTION: WHEN ONE END OF THE WALL IS A TILE-TO-GYPSUM BOARD TRANSITION. DO NOT INTERRUPT TILE PATTERN THROUGH OPENINGS.
      3. USE CORNER BEAD OF 100% SILICONE SEALANT, COLOR TO MATCH GROUT, AT INSIDE CORNERS WHERE TILE MEETS TILE.
      4. CUT AND FIT TILE TO PENETRATIONS THROUGH TILE, LEAVING SEALANT JOINT SPACE. PLACE TILE JOINTS UNIFORM IN WIDTH, SUBJECT TO VARIANCE IN TOLERANCE ALLOWED IN TILE SIZE. MAKE JOINTS WATERTIGHT, WITHOUT VOIDS, CRACKS, EXCESS MORTAR, OR EXCESS GROUT.
      5. SOUND TILE AFTER SETTING. REPLACE HOLLOW SOUNDING UNITS.
      6. KEEP EXPANSION JOINTS FREE OF ADHESIVE OR GROUT. ALLOW TILE TO SET FOR A MINIMUM OF 48 HOURS PRIOR TO GROUTING. APPLY SEALANT TO JUNCTION OF TILE AND DISSIMILAR MATERIALS AND JUNCTION OF DISSIMILAR PLANES.
      7. CLEAN TILE AND GROUT SURFACES.
   C. RESTROOMS: INSTALL, GROUT AND CLEAN CERAMIC TILE IN ACCORDANCE WITH REFERENCED TCA INSTALLATION DETAILS AND ANSI STANDARD SPECIFICATIONS FOR SETTING METHODS SCHEDULED.
      1. LAY TILE IN HORIZONTAL STACK BOND, STARTING PATTERN WITH A FULL TILE AT THE TOP OF THE BASE.
      2. ARRANGE PATTERN SO THAT A FULL TILE OR JOINT IS CENTERED ON EACH WALL HORIZONTALLY AND THAT NO TILE LESS THAN 1/2 WIDTH IS USED AT THE ENDS OF THE WALL. EXCEPTION: WHEN ONE END OF WALL IS AN OUTSIDE CORNER. DO NOT INTERRUPT TILE PATTERN THROUGH OPENINGS.
      3. USE CORNER BEAD OF 100% SILICONE SEALANT, COLOR TO MATCH GROUT, AT INSIDE CORNERS WHERE TILE MEETS TILE.
      4. CUT AND FIT TILE TO PENETRATIONS THROUGH TILE, LEAVING SEALANT JOINT SPACE. PLACE TILE JOINTS UNIFORM IN WIDTH, SUBJECT TO VARIANCE IN TOLERANCE ALLOWED IN TILE SIZE. MAKE JOINTS WATERTIGHT, WITHOUT VOIDS, CRACKS, EXCESS MORTAR, OR EXCESS GROUT.
      5. SOUND TILE AFTER SETTING. REPLACE HOLLOW SOUNDING UNITS.
      6. KEEP EXPANSION JOINTS FREE OF ADHESIVE OR GROUT. ALLOW TILE TO SET FOR A MINIMUM OF 48 HOURS PRIOR TO GROUTING. APPLY SEALANT TO JUNCTION OF TILE AND DISSIMILAR MATERIALS AND JUNCTION OF DISSIMILAR PLANES.
      7. CLEAN TILE AND GROUT SURFACES.

SECTION 09510 - SUSPENDED CEILING SYSTEMS

1. GENERAL: PROVIDE ACOUSTICAL CEILING SYSTEMS AS SHOWN AND SPECIFIED.
   A. STANDARDS: MATERIALS AND INSTALLATION SHALL CONFORM TO THE FOLLOWING:
      1. CISCA "ACOUSTICAL CEILINGS - USE AND PRACTICE."
      2. ASTM C635.
      3. ASTM C636.
   B. RELATED SECTIONS:
      1. 09515 CEMENTITIOUS WOOD FIBER ACOUSTICAL PANELS: SUSPENSION SYSTEM.
2. MATERIALS:
   A. MANUFACTURER: USG INTERIORS, INC., (800) 950-3839, INTERNET WWW.USG.COM
   B. CEILING PANELS: USG "SHEETROCK LAY-IN CLIMAPLUS NO. 3270" CEILING PANELS WITH WHITE, STIPPLE TEXTURE, VINYL FACING, 24" X 48" X 1/2".
   C. SUSPENSION SYSTEM: PROVIDE INTERMEDIATE DUTY, STRUCTURAL CLASS, DIRECT HUNG SYSTEMS ADEQUATE TO SUPPORT LIGHT FIXTURES, CEILING DIFFUSERS AND OTHER NORMAL ACCESSORIES.
      1. EXPOSED "TEE" GRID SYSTEM FOR USE WITH LAY-IN CEILING PANELS: USG "DONN DX SYSTEM" NON-FIRE RATED WITH 15/16" EXPOSED FACE, COLD-ROLLED GALVANIZED STEEL WITH ALUMINUM FACE CAP, WHITE PAINT FINISH ON EXPOSED SURFACES. PROVIDE HEMMED EDGE ALUMINUM WALL ANGLES, 15/16" EXPOSED LEG, WHITE PAINT FINISH MATCHING EXPOSED GRID.
      2. CONCEALED "TEE" GRID SYSTEM FOR USE WITH PAINTED GYPSUM BOARD CEILINGS & SOFFITS OR WITH CEMENTITIOUS WOOD FIBER ACOUSTICAL PANELS (TECTUM): USG "DGLW" HEAVY DUTY DRYWALL SUSPENSION SYSTEM WITH 1 5/8" DEEP BY 1 1/2" WIDE MAIN TEES AND 1 1/2" DEEP BY 1 1/2" WIDE CROSS TEES.
      3. HANGER WIRE: NO. 12 SWG GALVANIZED STEEL WIRE.
3. INSTALLATION
   A. INSTALL ACOUSTICAL CEILING MATERIALS AND SUSPENSION SYSTEMS IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, COMPLYING WITH GOVERNING REGULATIONS AND INDUSTRY STANDARDS APPLICABLE TO THE WORK.
   B. SUSPENSION SYSTEM INSTALLATION SHALL BE LASER LEVELED WITH A MAXIMUM SURFACE LEVELING TOLERANCE OF 1/8" IN 12'-0".
   C. INSTALL EXPOSED TEE SUSPENSION SYSTEMS WITH MAIN TEES NOMINALLY 12 FEET LONG SPACED 48 INCHES O.C. AND CROSS TEES NOMINALLY 4 FEET LONG SPACED 24 INCHES O.C.
   D. INSTALL CONCEALED TEE SUSPENSION SYSTEMS WITH MAIN TEES NOMINALLY 12 FEET LONG SPACED 24 INCHES O.C. AND CROSS TEES NOMINALLY 2 FEET LONG SPACED 48 INCHES O.C.
   E. HANGER WIRE SHALL BE SPACED 48" O.C. ALONG MAIN TEES, AT ALL FOUR CORNERS OF LIGHT FIXTURES (WHERE APPLICABLE), AT MIDPOINT OF CROSS TEES ADJACENT TO LIGHT FIXTURES AND DUCT OUTLETS, AND ADJACENT TO MAIN TEE SPLICES.
   F. SECURE WIRE HANGERS BY LOOPING AND WIRE-TYING EITHER DIRECTLY TO BUILDING STRUCTURE OR TO HANGERS THAT ARE SECURE AND APPROPRIATE FOR SUBSTRATE.
   G. PROVIDE EDGE TRIM MOLDING AT PERIMETER OF ACOUSTICAL CEILING INSTALLATION AND INTERMEDIATE VERTICAL SURFACES. USE MAXIMUM LENGTHS. MITER TRIM CORNERS TO PROVIDE TIGHT, ACCURATE JOINTS. CONNECT MOLDINGS SECURELY TO SUBSTRATE SURFACES.
   H. INSTALL LAY-IN PANELS LEVEL, IN UNIFORM PLANE, WITH JOINTS SNUG AND SQUARE AND PANELS FREE FROM DAMAGE OR SOILING. FIT BORDER UNITS NEATLY AGAINST ABUTTING SURFACES. SCRIBE AND CUT PANELS TO FIT ACCURATELY AT BORDERS AND PENETRATIONS.

SECTION 09653 - RUBBER WALL BASE

1. GENERAL: PROVIDE RESILIENT RUBBER WALL BASE AS SHOWN AND SPECIFIED.
   A. STANDARDS: MATERIALS AND INSTALLATION SHALL CONFORM TO THE FOLLOWING:
      a. ASTM D 2240 RUBBER - 85 SHORE A
2. MATERIALS:
   A. MANUFACTURER:
      1. JOHNSONITE, INC., (800) 899-8916, INTERNET: WWW.JOHNSONITE.COM
   B. RESILIENT RUBBER:
      1. .125" (3.17 MM) THICKNESS
      2. "BLACK" COLOR
      3. STRAIGHT (TOELESS)
      4. INSIDE AND OUTSIDE CORNERS WITH 4" RETURNS.
   C. SETTING ADHESIVE: JOHNSONITE 960 ACRYLIC COVE BASE ADHESIVE
3. INSTALLATION.
   A. PREPARATION: CLEAN SUBSTRATE SURFACES SCHEDULED TO RECEIVE RESILIENT RUBBER AND VINYL WALL BASE THOROUGHLY AND REMOVE ALL COATINGS THAT MAY IMPAIR BOND. A UNIFORM TEMPERATURE OF AT LEAST 65 DEGREES FAHRENHEIT SHALL BE MAINTAINED FOR 24 HOURS BEFORE, DURING AND AFTER THE INSTALLATION IS COMPLETED. THE WALL BASE AND ADHESIVES SHALL BE CONDITIONED IN THE SAME MANNER. COILED WALL BASE SHALL BE UNCOILED AND LAY FLAT FOR AT LEAST 24 HOURS AT 65 DEGREES FAHRENHEIT PRIOR TO INSTALLATION. FLOOR AND WALLS SHALL BE CLEAN, DRY, AND FREE OF DUST, ALL PAINTS, WALLPAPER, AND ALL OTHER FOREIGN MATERIAL, WHICH MAY AFFECT PROPER ADHESIVE BONDING. WALL BASE MAY BE INSTALLED ON INTERIOR PLASTER, GYPSUM WALL BOARD, CONCRETE, MASONRY, MINERAL-REINFORCED CEMENT BOARD OR SIMILAR POROUS SURFACES. WALL BASE SHALL NOT BE INSTALLED ON SURFACES THAT WILL BE EXPOSED TO DRASTIC TEMPERATURE CHANGES OR MOISTURE.
   B. APPLICATION: USE A 1/8" SQUARE NOTCH TROWEL TO APPLY ADHESIVE. ALLOW ADHESIVE TO SET UP AND THEN APPLY WALL BASE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

SECTION 09900 - PAINTS AND COATINGS

1. GENERAL: PROVIDE PAINTS AND COATINGS AS SHOWN AND SPECIFIED.
   A. PROVIDE SURFACE PREPARATION, PRIME, INTERMEDIATE AND FINISH COATINGS FOR INTERIOR AND EXTERIOR AND EXISTING SCHEDULED SURFACES AND ITEMS.
   B. PROVIDE OWNER-SELECTED FINISHES AND COLORS FOR ALL EXPOSED SURFACES, UNLESS OTHERWISE INDICATED.
   C. QUALITY ASSURANCE:
      1. APPLICATION: PERFORMED ONLY BY SKILLED, EXPERIENCED PAINTERS.
      2. PROVIDE LEAD FREE PRIME AND FINISH COATINGS. ALL TOP COATINGS SHALL BE MOLD AND MILDEW RESISTANT.
   D. MAINTENANCE: FURNISH EXTRA PAINT MATERIALS FROM THE SAME PRODUCTION RUN AS THE MATERIALS APPLIED IN THE QUANTITIES DESCRIBED BELOW. PACKAGE PAINT MATERIALS IN UNOPENED, FACTORY-SEALED CONTAINERS FOR STORAGE AND IDENTIFY WITH LABELS DESCRIBING CONTENTS. DELIVER EXTRA MATERIALS TO THE TENANT.
      1. PROVIDE ONE GALLON OF PAINT AND WOOD STAIN OF EACH TYPE AND COLOR REQUIRED FOR MAINTENANCE PURPOSES. PROVIDE ORIGINAL, UNOPENED, LABELED CONTAINERS WITH COLOR SAMPLES AND A LIST OF PROJECT USE.
2. MATERIALS:
   A. MANUFACTURERS
      1. PAINT
   B. MATERIALS: NO SUBSTITUTIONS ALLOWED.
   C. INTERIOR COATINGS:
      - INTERIOR METALS: (DOORS, DOOR FRAMES, WHERE INDICATED)
        1. PREPARATION: CLEAN THOROUGHLY AND REMOVE ALL RUST, GREASE, OIL AND FOREIGN MATERIAL.
        2. PRIME: TBD
        3. FINISH: TBD
        4. APPLICATION: CONVENTIONAL SPRAY, HVLP OR AIRLESS SPRAY. TOUCH-UPS SHALL BE DONE WITH CONVENTIONAL SPRAY OR AIRLESS EQUIPMENT OR BRUSH OR ROLLER.
      - GYPSUM BOARD:
        1. PREPARATION: REMOVE DUST, DIRT, LOOSE AND OTHER FOREIGN MATERIAL. FILL HAIRLINE CRACKS, HOLES AND OTHER DEFECTS WITH FILLER COMPATIBLE WITH FINISH TREATMENT. SAND SMOOTH. ON SMOOTH DRYWALL APPLY WITH 3/8 TO 1/2 INCH ROLLER COVER OR NYLON/ POLYESTER BRUSH.
        2. ZERO VOC:
        3. PRIME: TBD
        4. FINISH: TBD
        5. LOW VOC (TO BE USED ONLY WHEN ZERO VOC IS UNAVAILABLE):
        6. PRIME: TBD
        7. FINISH: TBD
      - INTERIOR WOOD TRIM AND PLYWOOD - CLEAR POLYURETHANE FINISH: (PLYWOOD FINISHES SHALL BE SHOP APPLIED IN A CONTROLLED ENVIRONMENT)
        1. PREPARATION: FILL ANY VOIDS IN THE EXPOSED EDGES THEN SAND THE FACES AND EXPOSED EDGES WITH 100 GRIT SANDPAPER. ALL EDGE AREAS EASED WITH 100 GRIT BEFORE WIPING ON A SINGLE COAT OF THE CLEAR POLYURETHANE.
        2. ZERO VOC: TBD
        3. LOW VOC:
        4. 1ST COAT: TBD
        5. APPLICATION: APPLY WITH A SHORT NAP ROLLER.
        6. FINISH: THE PLYWOOD MUST SIT FOR 24 HOURS BEFORE A FINAL SCUFF SAND WITH 240 GRIT SANDPAPER AND A FINAL WIPE DOWN TO REMOVE THE FINE SANDING DUST.
      - INTERIOR WOOD TRIM AND PLYWOOD - CLEAR POLYURETHANE FINISH: (PLYWOOD FINISHES SHALL BE SHOP APPLIED IN A CONTROLLED ENVIRONMENT)
        1. SHOP PREPARATION: SCUFF SAND BETWEEN COATS.
        2. SHOP FINISH: TBD
        3. APPLICATION: SPRAY
        4. FIELD PREPARATION: TBD
        5. FIELD FINISH: (2) COAT, ML CAMPBELL HIGH PERFORMANCE PRE-CAT LACQUER, CLEAR DULL SHEEN
        6. APPLICATION: WIPE ON WITH T-SHIRT RAG.
3. INSTALLATION:
   A. PREPARATION:
      1. PROVIDE NECESSARY STAGING, LADDERS, SHIELDS, PROTECTIVE COVERINGS AND DROP CLOTHS. PROTECT FLOORS, WALLS AND ADJACENT WORK AND MATERIALS. REMOVE AND PROPERLY REPLACE TEMPORARY PROTECTION AND COVERINGS REMOVED FROM ANY PART OF THE WORK OR FINISH. REPAIR DAMAGE AT CONTRACTOR'S EXPENSE.
      2. CLEAN AND PREPARE SUBSTRATE SURFACES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR EACH PARTICULAR SUBSTRATE CONDITION. CLEAN AND CORRECT DEFECTS AND DEFICIENCIES IN SUBSTRATE SURFACES TO BE PAINTED BEFORE APPLYING PAINT OR FINISH TREATMENTS.
   B. APPLICATION:
      1. MIX, PREPARE AND APPLY PAINT AND FINISH TREATMENT MATERIALS IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS.
      2. APPLY PAINT AND FINISH TREATMENT MATERIALS WITH BRUSH OR ROLLER. SPRAY APPLICATION OF MATERIALS PERMITTED ONLY WHEN SPECIFICALLY INDICATED.
         A. APPLY MATERIALS AT NOT LESS THAN THE MANUFACTURER'S RECOMMENDED SPREADING RATE, TO PROVIDE A TOTAL DRY FILM THICKNESS AS RECOMMENDED BY PAINT MATERIAL MANUFACTURER. APPLY EACH COAT OF PROPER CONSISTENCY.
         B. KEEP BRUSHES AND ROLLERS CLEAN, FREE FROM CONTAMINATION AND SUITABLE FOR THE FINISH REQUIRED.
         C. UNLESS OTHERWISE INDICATED, ALLOW EXTERIOR PAINTS TO DRY FOR 48 HOURS AND INTERIOR PAINTS TO DRY FOR 24 HOURS BETWEEN COATS

GENERAL CONSTRUCTION SPECIFICATIONS

WOOD

A. LUMBER SHALL BE GRADE MARKED KILN DRIED, CONSTRUCTION GRADE, MOISTURE CONTENT NOT TO EXCEED 12 PERCENT. DOUGLASS FIR OR BETTER.
B. WOOD FOR CONTINUOUS TRIM BOARDS SHALL BE NOMINAL 1" X 4" CLEAR OR BETTER, WHITE SOUTHERN PINE WITH ALL JOINTS MITERED AND FINISHED SMOOTH UNLESS OTHERWISE NOTED.
C. ALL FURRING SHALL BE 7/8" METAL HAT SECTIONS SECURELY ANCHORED TO WALLS AT 24" O/C TYPICAL HORIZONTALLY WHERE SLATWALL IS TO BE INSTALLED.
D. PROVIDE FIRE TREATED/ FIRE RESISTANT PLYWOOD OR BLOCKING AS REQUIRED.

GYPSUM WALL SYSTEMS

A. SEE PLANS FOR WALL CONSTRUCTION AND PROVIDE METAL STUD SIZES AS SHOWN (20 GAUGE UNLESS OTHERWISE NOTED). PROVIDE TIE BACK BRACING. BOTH SIDES, WHERE EQUIPMENT IS ATTACHED OR WALL DOES NOT EXTEND TO DECK. EXTERIOR FACING TO BE 5/8" GYPSUM BOARD BOTH SIDES WITH FINISHES AS SHOWN ON PLANS. SECURELY FASTEN TRACK AT FLOOR AND AT CEILING OR DECK. DOUBLE UP STUDS AT ALL OPENINGS TYPICAL. PROVIDE CLOSURE STRIP AND FIRE-SAFING AT DECK FOR ALL RATED WALLS / ENCLOSURES.
B. GYPSUM BOARD WALL CONSTRUCTION SHALL BE LAID WITH JOINTS VERTICALLY AND FINISHED WITH A THREE-COAT SPACKLING METHOD. ALL WALL AND CEILING SURFACES SHALL BE SANDED SMOOTH AND UNIFORM, READY FOR A PAINTERS FINISH, PRIMED W/ 2 COATS OF PAINT, SATIN.PROVIDE 5/8" GYPSUM AT WALLS UNLESS OTHERWISE NOTED.
C. ALL OUTSIDE CORNERS AT DRY WALL PARTITIONS SHALL HAVE METAL CORNER BEADS. TAPE AND SPACKLE SMOOTH WHERE REQUIRED. J-BEADED REQUIRED ON EXPOSED EDGES.
D. ALL CONCRETE BLOCK EXTERIOR WALLS SHALL BE FURRED OUT WITH 1 5/8" METAL STUD CHANNELS (MIN), R-13 INSULATION AND 5/8" GYPSUM BOARD.
E. SOUND INSULATION SHALL BE 2" THERMAFIBER SOUND ATTENUATION BLANKETS TO THE UNDERSIDE OF ROOF DECK. FILL ALL SPACES BETWEEN ROUGH FRAME AND DOORS /WINDOWS- WITH SAME AT DEMISING PARTITIONS. PARTITIONS WHICH RUN FULL FULL HEIGHT TO UNDERSIDE OF ROOF OR FLOOR DECK, A SLIP HEAD SHALL BE PROVIDED AND FIRE-SAFING FOR RATED WALL CONSTRUCTION AS SHOWN ON PLANS.

DOORS

A. WOOD DOORS EQUAL TO 1-3/8" STANDARD PLYWOOD HOLLOW CORE, OR 1-3/4" SOLID CORE WHERE NOTED, BIRCH FACE FOR PAINTED FINISH. PREPARE AND TRIM DOORS FOR HARDWARE. UNDERCUT ALL BATHROOM DOORS. PROVIDE SADDLES WHERE FLOORING IS DISSIMILAR. ALL HARDWARE SHALL BE INCLUDED FOR A COMPLETE UNIT. (ADA COMPLIANT)
B. MINOR DEMOLITION WORK AND OTHER WORK REQUIRED TO INSTALL NEW DOORS, FINISHES, ETC., ENTIRE EXISTING WALL CONSTRUCTION, MAY NOT BE SPECIFICALLY INDICATED BUT REMAIN THE RESPONSIBILITY OF THE CONTRACTOR AS PART OF THE WORK
C. ALL "S" LABEL DOORS ARE TO BE EQUIPPED WITH AN AUTOMATIC SELF-CLOSER AND BE UL LABELED 1-1/2 HOUR RATED. SADDLE IS ALSO REQUIRED.
D. ALL EXTERIOR DOORS ARE TO HAVE WEATHERSTRIPPING/SILENCERS.
E. CONTRACTOR IS TO LOCATE AND COORDINATE EGRESS DOOR HARDWARE WITH ANY ALARM REQUIREMENTS.
F. PROVIDE DOOR BUMPERS WHERE APPLICABLE TO PREVENT DAMAGE TO FINISHES.
G. ALL NEW DOORS SHALL HAVE A FINISH AND HARDWARE UNLESS OTHERWISE NOTED. ALL HARDWARE ON DOORS IS LEVER / ADA COMPLIANT.
H. DOORS TO BE ANSI A117.1-2009, SECTION 404 COMPLIANT, INCLUDING BUT NOT LIMITED TO 5.0 POUNDS MAXIMUM OF DOOR OPENING FORCE (404.2.8) AND EASILY GRASPABLE (404.2.6).

HARDWARE

A. SEE DOOR SCHEDULE. PROVIDE 2 KEYS EACH LOCKSET MASTER KEYED AS DIRECTED BY LANDLORD/OWNER. HARDWARE FINISH TO BE BRUSHED ALUMINUM IF NOT NOTED ON SCHEDULE. INTEGRATE ALL ALARM DEVICES AS REQUIRED AND INSTALL LOCKSETS SO AS NOT TO DAMAGE FRAME/DOOR FINISHES. PROVIDE SILENCERS TYPICAL.

CAULKING AND SEALANTS

SEALANTS

A. ALL CONSTRUCTION ADHESIVE SHALL BE SOLVENT FREE, LOW-VOC AND MUST PASS ASTM-D 3498 AND AFG-01 TESTS. (TRITEBOND OR RED DEVIL) ONLY USE BETWEEN 40°F AND 100°F
B. PROVIDE FIRE SEALANT CONTINUOUS AT RATED WALL JUNCTURE WITH DECK OR COLUMNS.

CAULKING

A. CAULKING SHALL BE GENERAL PURPOSE ACRYLIC LATEX COMPOUND FOR INTERIOR USE. CAULKING SHALL BE THE PRODUCT OF ONE MANUFACTURER. CHECK WITH ARCHITECT ON COLOR.
B. APPLY BUTYL-BASED SELF ADHESIVE FLASHING AROUND ALL SIDES OF WINDOWS, DOORS, VENTS, ELECTRICAL OUTLETS AND OTHER VULNERABLE AREAS ON THE EXTERIOR OF THE BUILDING.

FINISHES

A. PLASTIC LAMINATE SHALL BE EQUAL IN QUALITY TO "NEVAMAR" AS MANUFACTURING BY EXKON, COLORS AS PER ARCHITECT COLOR SELECTION
B. VINYL COMPOSITION TILE: SEE REQUIREMENTS. COLOR SELECTION TO BE APPROVED BY LANDLORD / TENANT/OWNER. STATIC RESISTANT RATED VCT IN ALL DATA AND TRADING ROOMS.
C. ALL FINISHES TO MEET CODE REQUIREMENTS FOR FLAME SPREAD AND SMOKE CLASSIFICATIONS AND BE COMPATIBLE WITH CONSTRUCTION SHOWN.
   a. ACOUSTIC CEILINGS
      - CEILING PANELS SHALL BE 24" X 48" X 5/8" ACOUSTICAL "LAY-IN" PANELS BY ARMSTRONG OR EQUAL. AS PER LANDLORD'S STANDARD, UNLESS OTHERWISE NOTED. SEE SCHEDULE ON PLANS FOR TYPES. SUSPENSION GRID SYSTEM SHALL BE GALVANIZED MEETING ASTM C635 STANDARD UTILIZING 12 GAUGE GALVANIZED HANGER WIRE OR BLACK IRON AS ALLOWED BY LOCAL BUILDING AUTHORITY.
   b. PAINTING
      - AFTER INITIAL COAT OF PRIMER, 2 FINISH COATS SHALL BE APPLIED IN SUCCESSION ALLOWING PROPER DRYING BETWEEN. TEMPERATURE AND HUMIDITY CONDITIONS SHALL BE MAINTAINED DURING PAINTING AND CURING. REFER TO MANUFACTURERS DIRECTIONS. PAINTING SHALL BE AS PER TENANT STANDARD COLORS AND FINISHES AS PER SCHEDULE SHOWN ON PLANS. SUBJECT OF FINAL APPROVAL BY ARCHITECT, LANDLORD, TENANT OR OWNER.
D. CARPETING, IF PROVIDED, IS TO BE AS PER TENANT STANDARDS/SUBJECT TO FINAL SELECTIONS / APPROVED BY LANDLORD / TENANT / OWNER / ARCHITECT. PADDING AS REQUIRED. STRETCH OR GLUE AS REQUIRED.
E. ALL INTERIOR FINISHES ARE TO BE COORDINATED WITH THE TENANT PRIOR TO PROCEEDING WITH THE WORK. VERIFY WITH FINISH SCHEDULE MATERIAL TYPE AND FINISH. SEE PLANS FOR LOCATION/EXTENT OF FINISHES, IF NOTED ON PLANS. CHANGES FROM FINISHES SHOWN ARE TO BE BROUGHT TO THE CONTRACTORS/LANDLORDS ATTENTION BY THE TENANT OR WORK WILL PROCEED AS SHOWN.
F. THE CONTRACTOR IS TO NOTIFY THE LANDLORD/ARCHITECT OF ALL TENANT IMPOSED CHANGES. CHANGES WHICH AFFECT THE SCOPE OF WORK/DETAILS SHOWN ARE TO BE CLARIFIED PRIOR TO THEIR INCORPORATION INTO THE WORK.
G. AUTHORIZATION OF ALL ALLOWANCES SHALL BE SIGNED BY THE LANDLORD AND TENANT FIXING THE CONTRACTOR SUPPLIED COST OF ALL ALLOWANCE ITEMS, BEFORE THEY ARE INSTALLED, AND MAKING INCLUSION OR EXCLUSION ADJUSTMENTS TO TINE WORK AND TO THE CONTRACT SUM ACCORDINGLY. THE CONTRACTOR SHALL, UPON RECEIPT OF THE APPROVED LIST OF ALLOWANCE ITEMS IMPLEMENT THE WORK AS REQUIRED.
H. ALL INTERIOR WALL AND CEILING FINISHES SHALL BE IN COMPLIANCE WITH TABLE 803.11 OF IBC 2021 EDITION

GENERAL CONSTRUCTION SPECIFICATIONS

MECHANICAL / ELECTRICAL / PLUMBING

A. SEE EXISTING APPROVED BUILDING SET/MECHANICAL ENGINEERS DRAWINGS FOR HVAC, PLUMBING AND ELECTRICAL LAYOUTS/DESIGN. COORDINATE THE EQUIPMENT/RUNS NOTED WITH THE LAYOUTS / WORK INDICATED.
B. PROVIDE AND MAINTAIN AND/OR MECHANICAL VENTILATION AS REQUIRED BY CODE AND IN ACCORDANCE WITH THE DRAWINGS.
C. DUCTS, PIPES AND CONDUIT PASSING THROUGH RATED CONSTRUCTION SHALL HAVE SPACES NOT EXCEEDING 1/2" PACKED WITH MINERAL WOOL AND CLOSED OFF WITH CLOSED FITTING METAL ESCUTHEONS.
D. WHERE ALTERATION WORK IS SHOWN MODIFYING THE EXISTING BUILDING THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXTENDING ALL SERVICES TO THE SPACES SHOWN AND/OR ADDING TO THE PRESENT BUILDING SYSTEMS INCLUDING BUT NOT LIMITED TO SPRINKLERS, HEATING AND VENTILATING DUCTWORK SUPPLY AND RETURNS, FIRE ALARM, HEAT DETECTORS, AND EMERGENCY LIGHTING WHETHER SHOWN OR PART OF THE APPROVED DRAWINGS.
E. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL MINOR DEMOLITION WORK INCLUDING BUT NOT LIMITED TO: CUTTING AND PATCHING FOR TIE-IN OF THE NEW WASTE LINE TO EXISTING RUNS IN THE FLOOR, AND PATCHING ELECTRICAL CONNECTIONS THROUGH EXISTING WALLS, AND HVAC RUNS. THESE MAY OR MAY NOT BE SPECIFICALLY INDICATED ON THE ARCHITECTURAL DRAWINGS, BUT REMAIN THE RESPONSIBILITY OF THE GENERAL CONTRACTORS.
F. ALL HVAC, ELECTRICAL AND PLUMBING EQUIPMENT UNCOVERED DURING DEMOLITION THAT IS NOT SHOWN TIED INTO NEW ADDITION OR TO RELOCATED UNITS IS TO BE "CAPPED OFF", COVERED AND LOCATION NOTED FOR FUTURE USE.
G. INSTALL PUMPS, UNIT HEATERS AND MISCELLANEOUS EQUIPMENT. PROVIDE ALL NECESSARY CONNECTIONS TO VARIOUS SERVICES/ITEMS BY ALL TRADES INCLUSIVE IN THE SCOPE OF THE WORK.
H. ALL OTHER EQUIPMENT, WHETHER INDICATED ON THE PLANS OR REQUIRED FOR NEW LOADS, SHALL BE PROVIDED/INSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST. LIKEWISE, ANY ITEMS ADDED BY THE OWNER SHALL BE INCLUSIVE OF ALL WORK MODIFICATIONS REQUIRED FOR SUCH INSTALLATION.
I. THE ELECTRICAL OUTLETS AND PLUMBING SHOWN ON THE ARCHITECTURAL DRAWING ARE ONLY THOSE WHICH HELP TO CLARIFY THE SUGGESTED FUNCTIONAL PATTERNS OF THE ROOMS IN ALL CASES THE CONTRACTOR SHALL REFER TO THE MECHANICAL AND ELECTRICAL DRAWINGS FOR THE COMPLETE LAYOUT OF EACH RESPECTIVE SERVICE AS PROVIDED.
J. PROVIDE NEW ELECTRICAL WIRING/LIGHTING AS CLOSE AS POSSIBLE TO LAYOUTS SHOWN ON PLANS UNLESS OTHERWISE DIRECTED BY TENANT. VERIFY EXISTING CONDITIONS, SPRINKLER LINE ROUTING, MAIN RUNS AND HEIGHTS SO AS NOT TO INTERFERE WITH LAYOUT SHOWN IF CONFLICT EXISTS NOTIFY THE ARCHITECT AT ONCE.
K. ELECTRICAL WIRING AND DEVICES TO MEET ALL CODE REQUIREMENTS. CONTRACTOR TO PROVIDE ALL HOOKUPS TO EXISTING AS REQUIRED AFTER VERIFYING IF MAIN SERVICE IS SUFFICIENT TO CARRY INCREASED LOAD. REPLACE AS REQUIRED AND/OR UPGRADE IF NOT ADEQUATE.
L. COORDINATE NEW CONSTRUCTION WITH ALL REQUIRED MECHANICAL DUCTWORK AND PIPE PENETRATIONS. PROVIDE THROUGH WALL SLEEVES AS REQUIRED, TYPICAL ALL LOCATIONS.
M. ELECTRICAL SUBCONTRACTOR SHALL SUBMIT CATALOG CUTS OF ALL FIXTURES TO LANDLORD/TENANT/ARCHITECT FOR APPROVAL OF COLOR, STYLE, AND BULB TYPE.
N. PROVIDE ACCESS TO EXISTING ELECTRICAL AND TELEPHONE PANELS WHERE REQUIRED.
O. PHONE JACKS BY TELEPHONE CONTRACTOR. GENERAL CONTRACTOR TO COORDINATE WITH ALL TRADES. INCOMING SERVICE TO BE BY THE LOCAL OR THE REGIONAL TELEPHONE UTILITY COMPANY.
P. IF HVAC DRAWINGS ARE NOT PROVIDED UNDER THIS SCOPE OF WORK. HVAC SHALL BE DESIGN /BUILD BY THE G.C. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR GIVING ALL SUBCONTRACTORS A COPY OF THE ENTIRE SET OF CONSTRUCTION DOCUMENTS FOR BIDDING.
Q. DURING DEMOLITION ALL HEATING AND COOLING SYSTEMS, EXHAUST SYSTEMS OR AIR CIRCULATION DEVICES ARE TO BE TURNED OFF FROM START OF DEMOLITION TO TIME OF ADEQUATE DUST SETTLEMENT. TEMPERATURE OF SPACE TO BE MONITORED AS TO NOT ALLOW EXISTING OR NEW WATER AND SPRINKLER PIPING FROM BEING COMPROMISED. SYSTEMS TO BE RETURNED BACK TO NORMAL AFTER WORK IS COMPLETE- DAILY/ HOURLY ETC.
R. FRAMING OF ALL OPENINGS FOR DUCT WORK, RETURN AIR OPENINGS, AND GRILLE OPENINGS ABOVE AND BELOW HUNG OPENINGS SHALL BE COORDINATED WITH HVAC SHOP DRAWINGS. ALL OPENINGS SHALL BE PROPERLY SEALED FOR SOUNDPROOFING, FIRE STOP, AND VIBRATION.

GENERAL SPECIFICATIONSNOTES

1. THESE ARE STANDARD SPECIFICATIONS, LEGENDS & NOTES. SOME OF THE ITEMS AND/OR NOTES MAY NOT BE APPLICABLE TO THIS SPACE. USE JUDGMENT AND COORDINATE WITH MECHANICAL, ELECTRICAL & HVAC DRAWINGS AND REQUIREMENTS WITH CONDITIONS SHOWN ON THE ARCHITECTURAL. VERIFY AND INTERFACE BETWEEN THE RESPECTIVE TRADES PRIOR TO THE START OF CONSTRUCTION. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK OR ORDERING MATERIALS IN QUESTION. NOTE: THESE PLANS INDICATE THE DESIGN INTENT/SCOPE OF WORK TO BE PROVIDED. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS/LABOR TO PROVIDE A COMPLETE FINISHED PROJECT INCLUDING FIELD MODIFICATIONS AS REQUIRED. ALL GENERAL CONCEPTS, PROCEDURES, APPROVALS, RESPONSIBILITIES CHECKING AND REVIEWING NOTED HEREIN ARE REQUIRED FOR ALL PROJECTS AT ALL TIMES.
2. THE CONTRACTOR SHALL FULLY ACQUAINT HIMSELF WITH THE EXISTING CONDITIONS AND SHALL HAVE VISITED AND INSPECTED THE JOB SITE AND BE FULLY INFORMED AS TO THE NATURE OF EQUIPMENT AND FACILITIES NEEDED FOR THE PROPER EXECUTION OF THE WORK. CONTRACTORS DEMOLITION AND REMOVAL OPERATIONS WILL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS COMPLIED WITH THESE REQUIREMENTS AND LATER CLAIMS FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN WILL NOT BE RECOGNIZED.
3. VERIFY ALL EXISTING ELEVATIONS, CONDITIONS, AND DIMENSIONS AT THE SITE AGAINST THE DRAWINGS AND INFORM THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO COMMENCING WORK AND SUBMISSION OF ANY SHOP DRAWINGS.
4. ALL WORK, WHETHER SHOWN OR IMPLIED, UNLESS SPECIFICALLY QUESTIONED IN WRITING, SHALL BE CONSIDERED FULLY UNDERSTOOD IN ALL RESPECTS BY THE GENERAL CONTRACTOR AND HE WILL BE RESPONSIBLE FOR ANY MISINTERPRETATIONS OR CONSEQUENCES THEREOF FOR ALL WORK ON ALL DRAWINGS.
5. CONTRACTOR SHALL FOLLOW ACCEPTED TRADE PROCEDURES AND MANUFACTURER'S STANDARDS AND SHALL PRODUCE THE PROJECT IN A GOOD AND WORKMANLIKE MANNER. ALL MATERIALS ARE TO BE NEW AND CONTRACTOR SHALL NOT SUBSTITUTE ANY CONSTRUCTION MATERIALS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT.
6. CONTRACTOR SHALL SCHEDULE ALL WORK TO CONFORMS TO THE GENERAL CONSTRUCTION SCHEDULE AND SHALL COOPERATE WITH OTHER CONTRACTORS IN THE REQUIRED SEQUENTIAL INSTALLATION SCHEDULE AS APPROVED BY THE ARCHITECT. ALL WORK SHALL COMMENCE AND CONTINUE UNTIL COMPLETION WITHOUT UNDUE DELAY.
7. THE CONTRACTOR SHALL PROVIDE SUPERINTENDENCE TO THE WORK AND SHALL FURNISH ALL LABOR, MATERIALS, TRANSPORTATION, APPARATUS AND EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION. THE CONTRACTORS SHALL INSTALL ALL MATERIALS IN A MANNER SUBJECT TO APPROVAL OF THE TENANT, ARCHITECT AND THE LANDLORD/OWNER.
8. THE CONTRACTORS SHALL LEAVE THE PREMISES IN A NEAT, CLEAN AND SAFE CONDITION AT THE COMPLETION OF WORK EACH DAY. STORAGE OF MATERIALS SHALL NOT INTERFERE WITH THE MEANS OF EGRESS OF THE SPACE OR ANY OTHER SPACE.
9. THE CONTRACTORS SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF THE NATIONAL AND STATE BUILDING CODES, AND LOCAL REQUIREMENTS OF THE MUNICIPALITY, INCLUDING, BUT NOT LIMITED TO ALL CURRENT ADA HANDICAP REQUIREMENTS.
10. ALL CONDITIONS WHICH OCCUR AND WHICH ARE NOT IN CONFORMANCE WITH THESE SPECIFICATIONS AND ADJACENT DRAWINGS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT FOR PROMPT RESOLUTION. FAILURE TO DO SUCH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. TO RECTIFY OR MODIFY TO COMPLY WITH THE DRAWINGS OR BUILDING CODES.
11. NO MATERIAL SUBSTITUTIONS SHALL BE MADE. THE ARCHITECT WILL CONSIDER MATERIAL CHANGE REQUESTS ON AN INDIVIDUAL BASIS. CONTRACTOR SHALL SUBMIT SAMPLES AND CUTS FOR WRITTEN APPROVAL BY THE ARCHITECT PRIOR TO THE START OF ANY WORK.
12. PERMITS, APPROVALS AND C.O. THE CONTRACTOR SHALL FILE FOR, OBTAIN AND PAY FOR AS PART OF THE WORK, AT NO ADDITIONAL COST TO HIS/HER CONTRACT, ALL NECESSARY PERMITS, FEES, INSPECTIONS, APPROVALS AND ANY APPLICABLE SALES TAX. INDIVIDUAL SUBCONTRACTORS TO COORDINATE WITH GENERAL CONTRACTOR IN SECURING PERMITS, INSPECTIONS AND CERTIFICATES FOR THEIR RESPECTIVE WORK. NO WORK IS TO PROCEED UNTIL THE NECESSARY PERMITS ARE RECEIVED AND ISSUED BY THE LOCAL BUILDING OFFICIAL.
13. THE CONTRACTOR SHALL FILE FOR, OBTAIN AND FORWARD TO THE TENANT/LANDLORD/OWNER THE CERTIFICATE OF OCCUPANCY (ORIGINAL) AND ALL OTHER PERMITS AND CERTIFICATES OF INSPECTIONS AT THE COMPLETION OF THE PROJECT UNLESS OTHERWISE DIRECTED IN WRITING.
14. ALL MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT SHALL BE SUPPLIED, INSTALLED, CONNECTED, ERECTED, USED, CLEANED AND CONDITIONED AS DIRECTED BY THE MANUFACTURERS, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
15. **EACH SUBTRADE WILL BE RESPONSIBLE FOR REVIEWING THE ENTIRE SET OF DRAWINGS AND NOTING HIS/HER WORK AS APPLICABLE.** WORK INDICATED OR INFERRED ON THE DRAWINGS WITH REFERENCE TO THEIR TRADE/SCOPE OF WORK WILL BE DEEMED AND INCLUDED IN SUB-CONTRACTOR'S COSTS. **SAME SHALL APPLY TO THE GENERAL CONTRACTOR.**
16. THE GENERAL CONTRACTOR SHALL SUBMIT IN WRITING ALL PROPOSALS FOR ADDITIONAL WORK TO THE ARCHITECT OFFICE FOR REVIEW AND APPROVAL. **NO WORK WITH-REFERENCE TO THE ADDITIONAL WORK IS TO PROCEED UNTIL A SIGNED PROPOSAL/CHANGE ORDER IS RETURNED TO THE ARCHITECT/OWNER.**
17. PROVIDE FULL AND COMPLETE PROTECTION REQUIRED FOR ALL AREAS REMAINING OPERATIONAL DURING ALL PHASES OF THIS PROJECT. CONTRACTOR TO TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO ANY ADJACENT PROPERTY OR PERSONS. THE CONTRACTOR SHALL REPAIR AND PATCH ANY AREAS THAT ARE ALTERED OR DAMAGED DURING PROCESS OF ALTERATION.
18. ANY EXISTING WORK DAMAGED BY THE CONTRACTORS OR THEIR SUBCONTRACTORS SHALL BE RETURNED TO ITS ORIGINAL CONDITION AT THE CONCLUSION OF THE PROJECT AT NO ADDITIONAL COST TO THE LANDLORD / OWNER.
19. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO KEEP THE BUILDING WEATHER TIGHT, AND MAINTAIN ALL BARRICADES, SHORING, BRACING AND OTHER SAFETY MEASURES REQUIRED TO PROTECT THE BUILDING, WORKMEN AND THE PUBLIC DURING CONSTRUCTION AND AFTER WORK HOURS.
20. SHOP DRAWINGS: THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL FIELD MEASUREMENTS AND SUBMIT **WITH PROMPTNESS** SHOP DRAWINGS, SAMPLES, MANUALS, AND SCHEDULES REQUIRED FOR APPROVAL. THE ARCHITECT'S APPROVAL SHALL NOT RELIEVE THE GENERAL CONTRACTOR FROM RESPONSIBILITY FOR DEVIATIONS AT THE TIME OF SUBMISSION NOR SHALL IT RELIEVE HIM FROM RESPONSIBILITY FOR ERRORS IN SHOP DRAWINGS. THIS SHALL BE DONE PRIOR TO FABRICATION AND REVIEWED BY THE ARCHITECT. ALL SUB-CONTRACTOR'S SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL THROUGH THE GENERAL CONTRACTOR PRIOR TO WORK BEING PERFORMED UNLESS OTHERWISE NOTED.
21. APPROVALS: THE ARCHITECT WILL REVIEW SUBMITTALS WITH REASONABLE PROMPTNESS SO AS TO CAUSE NO DELAY, BUT ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS.
22. ALL COLOR SELECTIONS SHALL BE MADE AND COORDINATED THROUGH THE OFFICE OF THE ARCHITECT EXCEPT AS OTHERWISE DIRECTED BY THE LANDLORD/OWNER. COLORS: UNLESS THE PRECISE COLOR AND/OR PATTERN IS SPECIFICALLY DESCRIBED IN THE CONTRACT DOCUMENTS, WHENEVER A CHOICE OF COLOR OR PATTERN IS AVAILABLE IN A SPECIFIED PRODUCT, SUBMIT ACCURATE COLOR CHARTS AND PATTERN CHARTS TO THE ARCHITECT FOR HIS REVIEW AND SELECTION. COLORS WILL AND CAN ONLY BE APPROVED WITH ACTUAL COLOR SAMPLES SUBMITTED FOR APPROVAL. ANY COLOR SUBMITTED IN WRITING ONLY WITHOUT A COLOR SAMPLE IS SUBJECT TO REJECTION AFTER THE PRODUCT IS PURCHASED.
23. DETAILS SHOWN IN ANY SECTION APPLY TO ALL SIMILAR SECTIONS UNLESS OTHERWISE NOTED. THE GENERAL CONTRACTOR SHALL SUBMIT FINAL "AS BUILT' DRAWINGS - 6 PRINTS OF EACH TRADE AS PART OF THE CONTRACT FOR THE WORK INDICATED.
24. NO PORTION OF THE WORK REQUIRING A SUBMISSION SHALL BE COMMENCED BY THE CONTRACTOR, UNTIL THE SUBMISSION HAS BEEN REVIEWED AND NOTED BY THE ARCHITECT IN WRITING. ALL SUCH PORTIONS OF THE WORK SHALL BE IN ACCORDANCE WITH APPROVED SUBMITTAL, AND IF COMMENCED ARE AT THE CONTRACTORS OWN RISK.
25. WHEN CERTAIN ITEMS OF EQUIPMENT AND OTHER WORK ARE INDICATED AS "NIC" (NOT IN CONTRACT) OR TO BE FURNISHED AND INSTALLED UNDER OTHER CONTRACTS, ANY REQUIREMENTS FOR PREPARATION OF OPENINGS, PROVISION OF BACKING, ETC., FOR RECEIPT OF SUCH "NIC" WORK SHALL BE PROVIDED TO THE GENERAL CONTRACTOR BY THE TENANT FOR THE GENERAL CONTRACTOR TO PROPERLY FORM AND OTHERWISE PREPARE HIS WORK IN A SATISFACTORY MANNER TO RECEIVE SUCH "NIC" WORK.
26. UPON WRITTEN REQUEST BY THE CONTRACTOR, THE TENANT IS TO FURNISH TO THE GENERAL CONTRACTOR A SCHEDULE INDICATING DELIVERY DATES AND INSTALLATION REQUIREMENTS OF EQUIPMENT TO BE FURNISHED AND INSTALLED UNDER SEPARATE CONTRACTS.
27. IT WILL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO SEE THAT THE BUILDING AREAS ARE MADE READY TO RECEIVE AND INSTALL THE TENANT'S OR OWNER'S EQUIPMENT IN ACCORDANCE WITH THE DELIVERY SCHEDULE AND SPECIFIC REQUIREMENTS FURNISHED. FAILURE TO MEET THE SCHEDULE ON ITEMS OF THE TENANT-FURNISHED EQUIPMENT WILL BE CONSIDERED AS IMPORTANT TO THE COMPLETION SCHEDULE AS ANY OTHER PART OF THE WORK.
28. CONTRACTOR IS TO FURNISH AND INSTALL ALL ANGLES, STRUTS, BRACKETS, TOGGLES, EYE BOLTS, ETC., WHEREVER NECESSARY TO PROPERLY SUPPORT, BRACE OR REINFORCE ALL FINISHES, FRAMES, EQUIPMENT, AND ETC.
29. ALL BLOCK AND ADJACENT RATED WALL CONSTRUCTION SHALL MEET THE FIRE RESISTIVE RATINGS AND OTHER REQUIREMENTS OF BUILDING CODE AND REGULATIONS LOCAL LAWS, ORDINANCES, REGULATIONS, AND AUTHORITIES HAVING JURISDICTION.
30. ALL CUTTING AND PATCHING OF EXTERIOR OPENINGS SHALL BE POINTED UP AND REPAIRED FOR AN AIRTIGHT AND WEATHER TIGHT SEAL. INTERIOR FINISHES TO BE COMPLETED AS PER PLANS.
31. DEMISING PARTITIONS, INCLUDING COLUMN AND RATED WALL CONSTRUCTION SHALL EXTEND FROM FLOOR SLAB TO UNDERSIDE OF DECK CONSTRUCTION ABOVE. TYPICAL ROOM WALLS TO TERMINATE TO THE UNDERSIDE OF THE EXISTING CEILING GRID UNLESS OTHERWISE NOTED.
32. ALIGNMENT OF NEW CONSTRUCTION TO EXISTING WALLS AND COLUMNS SHALL BE DONE IN A MANNER AS TO VISIBLY ELIMINATE THE POINT OF CONTACT OR JOINT OF NEW AND EXISTING MATERIALS. NEW CONSTRUCTION SHALL BE FLUSHED WITH EXISTING UNLESS NOTED OTHERWISE ON THE DRAWINGS.
33. PARTITIONS SHALL BE CONTINUOUS OVER ALL BUILT-IN EQUIPMENT WHERE SHOWN ON PLANS AND DETAILS. FURNISH NECESSARY ANGLES, HANGERS, ETC., TO CARRY THESE PARTITIONS AND PROVIDE ACOUSTICAL CLOSURE STRIPS AND TRIM AS REQUIRED.
34. PATCH ALL FLOOR AND WALL CRACKS AND SURFACE IRREGULARITIES AS REQUIRED PRIOR TO FINISH INSTALLATION SHOWN. FLASH PATCH AREAS AS REQUIRED TO PROVIDE A SMOOTH FLUSH SURFACE FOR SAME. THIS IS TO INCLUDE ANY RAMPING OR LEVELING OF EXISTING SURFACES.
35. ALL NEW PIPING, DUCTWORK, AND ELECTRICAL CONDUITS SHALL BE CONCEALED WITHIN NEW PARTITIONS, OR THE GENERAL CONTRACTOR IS TO PROVIDE FURRING, SOFFITS, CHASES, ETC., FOR ALL DUCTWORK, PIPING, CONDUIT, ETC., UNLESS INDICATED TO BE EXPOSED.
36. THE GENERAL CONTRACTOR SHALL PATCH ALL CUTTING BY MECHANICAL AND ELECTRICAL TRADES AND ALL ADDITIONAL CUTTING BY OTHERS. COORDINATE THE WORK PRIOR TO THESE TRADES PROCEEDING. **NO EXTRAS WILL BE ALLOWED DUE TO FAILURE TO COORDINATE SUCH OR PROCEEDING WITH WORK THAT COULD HAVE BEEN AVOIDED BY SUCH PROPER PLANNING.**
37. ALL INTERIOR COLUMNS TO AFFORD THE SAME FIREPROOFING RATINGS AS SUBMITTED BY THE ARCHITECT OF RECORD FOR THE ENTIRE BUILDING PREVIOUSLY APPROVED OR AS EXISTING.
38. FIRE ALARM AND EMERGENCY LIGHTING ARE TO BE PROVIDED, MEETING ALL CODE REQUIREMENTS. ALL EXIT AREAS SHALL BE PROPERLY IDENTIFIED AND SUPPLIED WITH EMERGENCY EXIT LIGHTING TO MAINTAIN A MINIMUM OF ONE FOOT CANDLE IN ACCORDANCE WITH CURRENT CODES AS AMENDED BY THE ACCUMULATIVE SUPPLEMENTS. PROVIDE AND/OR MAINTAIN MECHANICAL VENTILATION AS REQUIRED BY CODE AS MODIFIED BY THESE DRAWINGS. ALL EXISTING FIRE ALARMS AND SAFETY RELATED EQUIPMENT/DEVICES TO REMAIN OPERATIONAL THROUGHOUT ENTIRE CONSTRUCTION/DEMOLITION PROCESS.
39. NEW WORK IS TO MEET OR EXCEED THE ENERGY CODE, NATIONAL ELECTRIC CODE NEC , NATIONAL STANDARD PLUMBING CODE (NSPC) , MECHANICAL CODES, OSHA (WHERE APPLICABLE), AND ALL UL REQUIREMENTS. THE MOST RECENT PUBLICATION DATE OF ALL AFOREMENTIONED CODES SHALL APPLY.
40. HANDICAP NOTE: THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" SHALL BE STRICTLY ADHERED TO. SEE HANDICAP NOTES.
41. GUARANTEES: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE UNLESS SPECIFIED OTHERWISE FOR A LONGER PERIOD OF TIME ON SPECIFIC ITEMS. EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCIDENTAL THERETO, INCLUDING DAMAGE TO OTHER WORK, FURNISHINGS OR EQUIPMENT. IF THE CONTRACTOR, AFTER NOTICE IN WRITING FROM THE ARCHITECT AND OWNER FAILS TO PROCEED PROMPTLY TO COMPLY WITH THE TERMS OF THE GUARANTEE, THE LANDLORD MAY HAVE THE DEFECTS CORRECTED, AND THE CONTRACTOR RESPONSIBLE AND IS SURETY SHALL BE LIABLE FOR ALL EXPENSES INCURRED.
42. THE CONTRACTOR SHALL OBTAIN AND PAY FOR COMPREHENSIVE LIABILITY INSURANCE COVERING THE ENTIRE WORK AND COMPENSATION INSURANCE IN ACCORDANCE WITH APPLICABLE CURRENT LAWS. PRIOR TO THE COMMENCEMENT OF THE WORK, THE CONTRACTOR SHAL

BUILDING CODES AND STANDARDS USED FOR DESIGN

1. MICHIGAN BUILDING CODE 2015 EDITION
   ASCE 7-10
   OCCUPANCY CATEGORY: II

DESIGN LOADS

1. DESIGN LOADS

ROOF LIVE LOAD:	20 psf
ROOF DEAD LOAD:	20 psf

2. WIND LOAD DESIGN CRITERIA

WIND IMPORTANCE FACTOR, I:	1.0
ULTIMATE WIND SPEED:	115 MPH (3 SEC GUST)
WIND EXPOSURE CATEGORY:	B
GCpi:	+/- 0.18

3. SNOW LOAD DESIGN CRITERIA

SNOW LOAD IMPORTANCE FACTOR, I:	1.0
GROUND SNOW LOAD, Pg:	20 psf
FLAT ROOF SNOW LOAD, Pf:	20 psf
THERMAL FACTOR, Ct:	1.0
EXPOSURE FACTOR, Ce:	1.0

4. SEISMIC LOAD DESIGN CRITERIA

SEISMIC IMPORTANCE FACTOR, I:	1.0
SITE CLASS:	D - ASSUMED
SPECTRAL RESPONSE ACCELERATION:	Ss=0.094g, S1=0.046g Sds=0.100g, Sd1=0.074g
SEISMIC DESIGN CATEGORY:	B

GENERAL STRUCTURAL NOTES

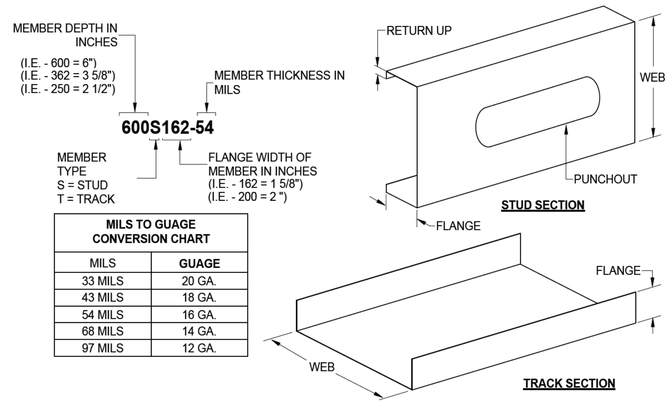
1. THIS DRAWING SET IS TO BE VIEWED AS A WHOLE AND COORDINATED WITH ARCHITECTURAL, MECHANICAL AND OTHER DISCIPLINES. ALL WORK PERTAINING TO A SPECIFIC CONTRACTOR MAY OR MAY NOT BE SHOWN ON SPECIFIC DRAWING SECTIONS. IT IS EACH SUBCONTRACTOR'S RESPONSIBILITY TO PREPARE HIS BID FROM A COMPLETE SET OF PLANS.
2. THE CONTRACTOR SHALL FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE DRAWINGS. DIMENSIONS NOT SHOWN ON PLAN TO BE COORDINATED WITH ARCHITECTURAL PLANS.
3. WHERE INFORMATION PROVIDED IN THESE STRUCTURAL DRAWINGS CONTRADICTS INFORMATION PROVIDED IN PROJECT SPECIFICATIONS, THE SPECIFICATIONS SHALL TAKE PRECEDENCE.
4. ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY AT ANY SIMILAR SITUATION ELSEWHERE ON THE JOB, EXCEPT WHERE A DIFFERENT DETAIL OR SECTION IS SHOWN.
5. THE STRUCTURE SHALL BE ADEQUATELY BRACED AND SHORED DURING ERECTION AGAINST WIND AND ERECTION LOADS. STRUCTURAL MEMBERS ARE DESIGNED FOR "IN-PLACE" LOADS ONLY.
6. THE GENERAL CONTRACTOR SHALL VERIFY ALL OPENING SIZES, PAD SIZES, AND LOCATIONS WITH THE RESPECTIVE CONTRACTORS.
7. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN CONSTRUCTION DOCUMENTS AND ACTUAL FIELD CONDITIONS.
8. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DETAILS AND INFORMATION.
9. WHERE GENERAL NOTES OR TYPICAL DETAILS CONTRADICT INFORMATION PROVIDED IN BUILDING SECTIONS, THE BUILDING SECTIONS TAKE PRECEDENCE.
10. ALL REINFORCEMENT AND SUBFRAMING INDICATED ON PLAN SHALL BE INSTALLED PRIOR TO PLACING EQUIPMENT.
11. EQUIPMENT WEIGHING LESS THAN 100LBS NOT SHOWN ON PLAN. SEE MECHANICAL DRAWINGS.
12. WEIGHTS SHOWN ON DRAWING INCLUDE WEIGHTS OF UNIT, CURB, AND ALL ACCESSORIES. DO NOT PLACE UNIT WHEN OPERATING WEIGHT EXCEEDS THAT INDICATED. NOTIFY STRUCTURAL ENGINEER.
13. VERIFY LOCATIONS OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS.
14. FV = FIELD VERIFY
    (E) = EXISTING

EXISTING CONSTRUCTION NOTES

1. ALL DIMENSIONS AND ELEVATIONS TO EXISTING CONSTRUCTION ARE FOR REFERENCE ONLY. FIELD VERIFY DIMENSIONS AND ELEVATIONS PRIOR TO PREPARING SHOP DRAWINGS, FABRICATING MEMBERS (STRUCTURAL ITEMS), AND INSTALLATION.
2. ALL HOLES THROUGH EXISTING CONSTRUCTION SHALL BE CORE-DRILLED OR SAWCUT. DO NOT CUT ANY REINFORCING STEEL WHILE DRILLING INTO EXISTING CONCRETE. DO NOT TORCH CUT.
3. PRIOR TO SUBMITTING SHOP DRAWINGS TO ARCHITECT AND ENGINEER OF RECORD FOR APPROVAL, CONTRACTOR SHALL VERIFY DIMENSIONS BETWEEN NEW CONSTRUCTION AND EXISTING CONSTRUCTION, AND FORWARD TO FABRICATOR FOR THEIR REFERENCE.
4. NOTIFY STRUCTURAL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND STRUCTURAL DRAWINGS.
5. FOR ALL EXISTING CONSTRUCTION: DUE TO LIMITED OBSERVATION, OR NOT BEING ABLE TO VISIT THE EXISTING BUILDING DURING THE PREPARATION OF THESE DOCUMENTS, CASE ENGINEERING HAS ASSUMED THE EXISTING STRUCTURE IS IN LIKE-NEW CONDITION WITH NO CORROSION, DETERIORATION, OR DAMAGE, AND WAS CONSTRUCTED PER ANY ORIGINAL CONSTRUCTION DOCUMENTS PROVIDED (IF ANY EXIST). CONTRACTOR SHALL VERIFY THESE ASSUMPTIONS TO THE BEST OF THEIR ABILITY AND NOTIFY THE ENGINEER OF ANY CONCERNS, ISSUES, OR DISCREPANCIES.
6. CONTRACTOR TO VERIFY TOP OF ROOF SLOPE IS AT LEAST ¼" PER FOOT AFTER PLACEMENT OF ANY NEW LOADS APPLIED TO ROOF OR HUNG FROM ROOF FRAMING. LOADS FROM NEW OR REPLACED ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO, ROOF TOP MECHANICAL UNITS (RTU'S) AND ASSOCIATED DUCTWORK, HUNG HOODS, MAKE-UP AIR UNITS, CONDENSERS, COMPRESSORS, EXHAUST FANS, HUNG TRANSFORMERS, ROOFTOP GENERATOR(S), RE-ROOF MATERIALS, NEW CEILINGS, HUNG SIGNAGE, HUNG SPRINKLER PIPING, ETC. ALSO VERIFY THAT ALL ROOF DRAINS INCLUDING INTERIOR PRIMARY AND SECONDARY EMERGENCY OVERFLOW DRAINS AND ANY WALL SCUPPERS ARE CLEAR AND FREE-DRAINING. REPORT RESULTS IN WRITING TO ARCHITECT AND STRUCTURAL ENGINEER AS SOON AS PRACTICAL DURING THE CONSTRUCTION PROCESS.

COLD-FORMED STEEL FRAMING NOTES

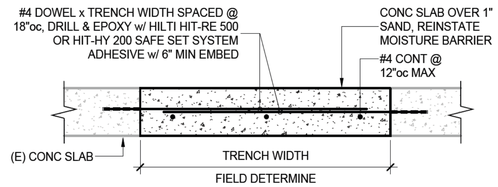
1. STEEL FOR COLD-FORMED SECTIONS, AND STEEL SHEET AND PLATE USED IN COLD-FORMED STEEL CONSTRUCTION SHALL CONFORM TO SECTION A2.1 OF AISI STANDARD: "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.
2. ALL 12, 14, AND 16 GAUGE MEMBERS SHALL MEET THE REQUIREMENTS OF ASTM A1003, GRADE ST50H (MINIMUM YIELD OF 50,000 psi). ALL 18 AND 20 GAUGE MEMBERS SHALL MEET THE REQUIREMENTS OF ASTM A1003 GRADE ST33H (MINIMUM YIELD OF 33,000 psi).
3. SCREWS FOR COLD-FORMED STEEL CONSTRUCTION SHALL BE ITW BUILDEX TEK SCREWS (ICC ESR-1976) OR APPROVED EQUAL.
4. ALL SCREWS SHALL BE INSTALLED SO THAT HEADS ARE FLUSH WITH OUTSIDE MATERIAL. DO NOT OVERDRIVE SCREWS. SCREWS WITH WING-TIPS ARE NOT PERMITTED IN SHEAR WALLS OR DIAPHRAGMS.
5. SCREW FASTENERS MUST BE INSTALLED PERPENDICULAR, FULLY SEATED AND WITH A MINIMUM (3) SCREW THREADS EXPOSED BACKSIDE OF CONNECTION (UNO).
6. SECTION PROPERTIES ARE ASSUMED TO BE IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" 2012 EDITION WITH SUPPLEMENTS. THE CONTRACTORS IS TO VERIFY THAT THE MATERIALS INSTALLED MEET OR EXCEED THESE DESIGN VALUES.
7. MECHANICAL BRIDGING SHALL BE USED IN ALL CASES WHERE INDICATED. INSTALLATION OF BRIDGING MUST BE COMPLETED BEFORE ANY LOADS ARE APPLIED TO THE SYSTEM. ALL BRIDGING SHALL BE TERMINATED AT JAMBS, CORNER STUDS OR COLUMNS. BRIDGING ENDS SHALL NOT HANG LOOSE. STUDS SHALL BE BRACED AGAINST ROTATION.
8. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS. STUD ENDS MUST SEAT TIGHTLY INTO TRACKS IN ALL BEARING APPLICATIONS.
9. NO SPLICES IN STUDS, JOISTS, HEADERS, OR OTHER LOAD CARRYING MEMBERS MAY BE MADE WITHOUT PRIOR ENGINEERING REVIEW AND SPECIFIC DETAILS FOR ANY SUCH REVISION TO THE ORIGINAL DESIGN.
10. ALL WELDING SHALL BE PERFORMED BY AWS WELDERS QUALIFIED FOR WELDING COLD-FORMED STEEL CONFORMANCE WITH AWS D1.3 USING E60 ELECTRODES, UNLESS OTHERWISE NOTED. STEEL REQUIRING WELDING SHALL BE 16ga MINIMUM.
11. ALL COLD-FORMED STUDS AND JOISTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS REGARDING MINIMUM INSTALLATION STANDARDS FOR BEARING, BRIDGING, AND BRACING.
12. BOTTOM TRACK TO MATCH STUD GAUGE WITH A MINIMUM 1-1/4" FLANGE UNLESS OTHERWISE NOTED.
13. ALL EXTERIOR WALLS TO HAVE HORIZONTAL BRIDGING @ 4'-0" MAXIMUM.



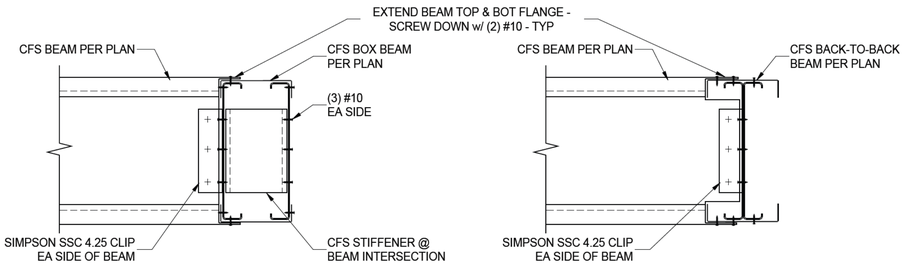
MILS TO GUAGE CONVERSION CHART	
MILS	GUAGE
33 MILS	20 GA.
43 MILS	18 GA.
54 MILS	16 GA.
68 MILS	14 GA.
97 MILS	12 GA.

A S1 TYP LT GAUGE STEEL CONVERSION CHART
N.T.S.

NOTES:
1. NEW SLAB TO BE 4,000 PSI MIN.
2. MATCH EXISTING SLAB DEPTH.
3. COORD w/ARCH & PLUMBING DRAWINGS.

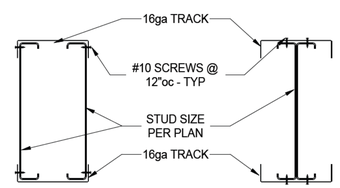


B S1 TYP SLAB REPAIR DETAIL
N.T.S.



BOX BEAM CONN **BACK-TO-BACK BEAM CONN**

C S1 TYPICAL CFS BEAM CONNECTION DETAIL
N.T.S.



BOX BEAM/BOX COLUMN **BACK-TO-BACK BEAM**

D S1 TYPICAL BUILT UP MEMBER CONSTRUCTION DETAIL
N.T.S.

GRA DESIGN STUDIO
GREGORY RALPH ARCHITECT
1924 ROUTE 22 EAST
BOUND BROOK, NJ 08805
TEL: 908 731 1626
GREG@GRALPHARCHITECT.COM



LICENSED IN 35 STATES AND COUNTING



07/10/25

LICENSE #
EXPIRATION: 09/29/25

I HEARBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAW OF THE THIS STATE.

RELEASE TYPE:

EXISTING CONDITIONS	
SCHEMATIC DESIGN	
DESIGN DEVELOPMENT	
PROGRESS PRINT	
FULL RELEASE	

ISSUED TO:

NO	DESCRIPTION	DATE

DESIGNED BY:	AG	DRAWN BY:	RRR
CHECKED BY:	AG	APPROVED BY:	KL
PROJECT #	STQ-0994-0125		

PROJECT:
PLAYA BOWLS GROSSE POINT

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: As indicated

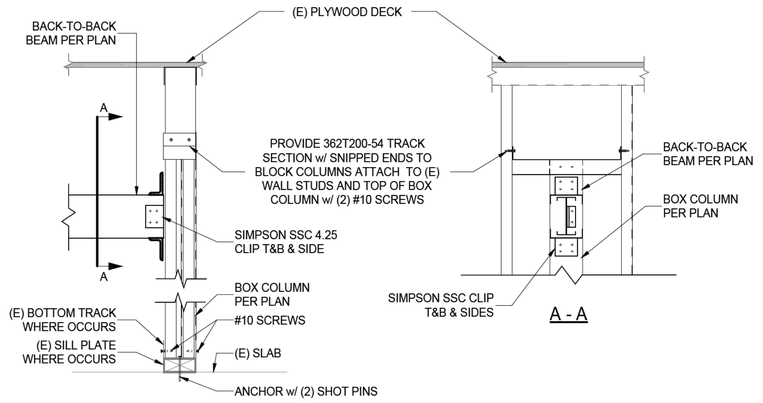
DRAWING TITLE:
GENERAL NOTES

SHEET:
S1

CASE Engineering Inc.
796 Merus Court
St. Louis, MO 63026
T 636.349.1600
F 636.349.1730
CERTIFICATE OF AUTHORITY NO. 802229007

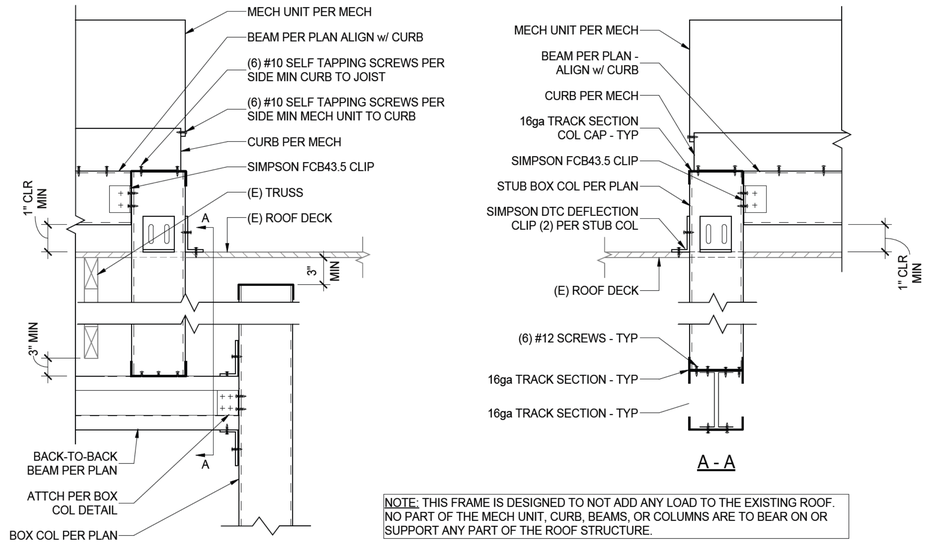
CASE PROJECT #: GRA-MI-04-25 R24

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A S2 **TYPICAL BOX COLUMN DETAIL**

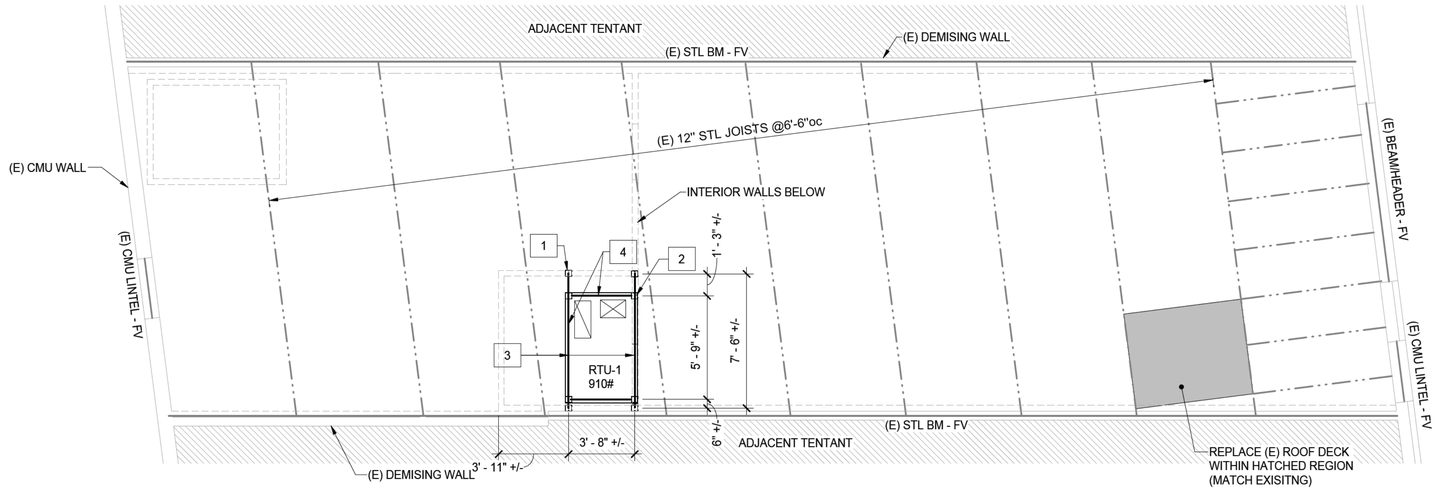
N.T.S.



NOTE: THIS FRAME IS DESIGNED TO NOT ADD ANY LOAD TO THE EXISTING ROOF. NO PART OF THE MECH UNIT, CURB, BEAMS, OR COLUMNS ARE TO BEAR ON OR SUPPORT ANY PART OF THE ROOF STRUCTURE.

B S2 **TYPICAL SELF SUPPORTING MECHANICAL UNIT DETAIL**

N.T.S.



SELF-SUPPORTING CALLOUT SCHEDULE		
MARK	DESCRIPTION	REMARKS:
1	(2) 362S200-54 BOXED COL (4 THUS)	N/A
2	(2) 600S200-54 BOXED STUB-COL (4 THUS)	N/A
3	(2) 600S200-54 BACK-TO-BACK BM UNDER ROOF DECK	N/A
4	(2) 600S200-54 BACK-TO-BACK BM UNDER EA EDGE OF UNIT CURB	N/A

PARTIAL EXISTING ROOF FRAMING PLAN

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

PLAN NOTES:

1. SEE SHEET S1 - S2 FOR GENERAL NOTES AND TYPICAL DETAILS.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO BEGINNING CONSTRUCTION.
3. REFERENCE MECHANICAL DRAWINGS FOR EXACT WEIGHTS AND LOCATIONS OF MECHANICAL EQUIPMENT.
4. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS, SECTIONS, AND ELEVATIONS NOT SHOWN HEREON.
5. ALL NEW AND EXISTING MECHANICAL EQUIPMENT MOUNTED TO OR HUNG FROM EXISTING STRUCTURE THAT HAS BEEN ACCOUNTED FOR IN STRUCTURAL CAPACITY ANALYSIS IS SHOWN ON FRAMING PLAN. GENERAL CONTRACTOR SHALL NOTIFY ARCHITECT AND ENGINEER OF RECORD IMMEDIATELY IF EQUIPMENT EXISTS THAT IS NOT SHOWN ON PLAN.

GRA DESIGN STUDIO

GREGORY RALPH ARCHITECT
1924 ROUTE 22 EAST
BOUND BROOK, NJ 08805
TEL: 908 731 1626
GREG@GRALPHARCHITECT.COM



LICENSED IN 35 STATES AND COUNTING



07/10/25

LICENSE #

EXPIRATION: 09/29/25

I HEARBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAW OF THE THIS STATE.

CASE Engineering Inc.
796 Merus Court
St. Louis, MO 63026
T 636.349.1600
F 636.349.1730
CERTIFICATE OF AUTHORITY NO. 802229007

CASE PROJECT #: GRA-MI-04-25 R24

RELEASE TYPE:

EXISTING CONDITIONS	
SCHEMATIC DESIGN	
DESIGN DEVELOPMENT	
PROGRESS PRINT	
FULL RELEASE	

ISSUED TO:

NO.	DESCRIPTION	DATE

DESIGNED BY:	AG	DRAWN BY:	RRR
CHECKED BY:	AG	APPROVED BY:	KL
PROJECT #:	STQ-0994-0125		

PROJECT:

PLAYA BOWLS
GROSSE POINTE

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: As indicated

DRAWING TITLE:

PARTIAL EXISTING
ROOF FRAMING PLAN

SHEET:

S2

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MECHANICAL SPECIFICATIONS

1. GENERAL
   A. THE GENERAL CONDITIONS OF THE GENERAL SPECIFICATIONS, AND ALL APPLICABLE INSTRUCTIONS TO BIDDERS SHALL BE PART OF THESE SPECIFICATIONS.
   B. "PROVIDE" AS USED HEREIN MEANS TO FURNISH AND INSTALL COMPLETE.
   C. "FURNISH" AS USED HEREIN MEANS TO PURCHASE AND DELIVER TO THE PROJECT SITE IN UNDAMAGED CONDITION. WHERE APPLICABLE, SUBMIT FOR REVIEW AND APPROVAL AND COORDINATE WITH THE CONTRACT DOCUMENTS.
   D. "INSTALL" AS USED HEREIN MEANS TO STORE AND PROTECT FROM DAMAGE, INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS, AND MAKE ALL CONNECTIONS COMPLETE.
   E. THE TERM "CONTRACTOR" AS USED HEREIN MEANS ANY CONTRACTOR OR SUBCONTRACTOR CONTRACTED TO PERFORM WORK INCLUDED IN AND DEFINED BY THIS SECTION.
   F. MECHANICAL WORK SHALL BE PROVIDED IN STRICT COMPLIANCE WITH THE FOLLOWING CODES AND ALL APPLICABLE LOCAL ORDINANCES, STATE LAWS AND FEDERAL LAWS.
      INTERNATIONAL MECHANICAL CODE (IMC) - 2021
      FIRE CODE (NFPA 1) - 2015
      INTERNATIONAL BUILDING CODE (IBC) - 2021
      INTERNATIONAL ENERGY CODE (IECC) - 2021

4. PRIOR TO BIDDING:
   A. THOROUGHLY REVIEW THE BID INSTRUCTIONS INCLUDING ALL CIVIL, ARCHITECTURAL, STRUCTURAL, AND MEP CONSTRUCTION DOCUMENTS. OBTAIN AND THOROUGHLY EXAMINE THE MANUFACTURERS' WRITTEN INSTALLATION INSTRUCTIONS, DETAILS, AND REQUIREMENTS FOR THE SCHEDULED AND SPECIFIED EQUIPMENT AND MATERIALS. FOR AMBIGUOUS, CONTRADICTORY, OR CONFLICTING ITEMS WITHIN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL REQUEST CLARIFICATION IN A WRITTEN "REQUEST FOR INFORMATION" (RFI), AT LEAST FIVE (5) WORKING DAYS PRIOR TO BID DATE. RFI-RELATED WORK NOT CLARIFIED PRIOR TO BID SHALL BE PROVIDED PER THE ARCHITECT (ENGINEER) IN STRICT ACCORDANCE WITH THE MOST STRINGENT MATERIALS, EQUIPMENT, AND SCOPE OF WORK.
   B. IF THE CONTRACTOR BELIEVES THE DRAWINGS AND SPECIFICATIONS CONFLICT WITH CODE REQUIREMENTS, IMMEDIATELY NOTIFY THE ARCHITECT (ENGINEER) IN WRITING.
   C. NO ALLOWANCES WILL BE MADE DUE TO CONTRACTOR'S UNFAMILIARITY WITH THE CONSTRUCTION DOCUMENTS OR FOR THE FAILURE OF THE CONTRACTOR TO OBTAIN CLARIFICATIONS PRIOR TO BID.
   D. VISIT THE JOB SITE AND THOROUGHLY INVESTIGATE CONDITIONS. THE LACK OF SPECIFIC INFORMATION ON THE DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY.
   E. REFER TO APPLICABLE CODES CITED IN CONSTRUCTION DOCUMENTS, EXAMINE GOVERNING STATE AND LOCAL CODES, AND LOCAL REGULATIONS AND ORDINANCES, AND PROVIDE ALL EQUIPMENT AND INSTALLATION IN STRICT ACCORDANCE WITH SAME.
   F. REFER TO CONSTRUCTION DOCUMENTS FOR SCHEDULED AND SPECIFIED MATERIALS AND EQUIPMENT. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS AND DETAILS.
   G. ALL WORK SHALL BE COMPLETED IN STRICT ACCORDANCE WITH THE LANDLORD'S CONSTRUCTION CRITERIA AND TENANT/LANDLORD AGREEMENT. THIS CONTRACTOR SHALL EXAMINE THE LANDLORD CRITERIA AND TENANT/LANDLORD AGREEMENT AND THEY SHALL BE PART OF THESE SPECIFICATIONS. NO ALLOWANCES WILL BE MADE DUE TO CONTRACTOR'S UNFAMILIARITY WITH THESE DOCUMENTS.

3. BIDDING
   A. SUBMISSION OF A BID ACKNOWLEDGES THAT THE CONTRACTOR HAS REVIEWED THE BID INSTRUCTIONS, HAS VISITED THE SITE, EXAMINED ALL CONSTRUCTION DOCUMENTS, AND AGREES TO ALL ITEMS AND CONDITIONS WITHIN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR'S BID SHALL INCLUDE ALL MECHANICAL WORK IN THE CONSTRUCTION DOCUMENTS, INCLUDING MECHANICAL WORK RELATED TO EQUIPMENT FURNISHED/PROVIDED BY OTHERS.

4. PERMITS
   A. UNLESS OTHERWISE CONFIRMED IN WRITING WITH ARCHITECT AND PERMITTING EXPEDITERS, GC SHALL SECURE AND PAY FOR ALL PERMITS, LICENSES, AND INSPECTIONS REQUIRED BY THE AHJ FOR THIS WORK.

5. SUBSTITUTIONS
   A. MANUFACTURERS' EQUIPMENT, APPLIANCES, AND MATERIALS SCHEDULED, NOTED, AND SPECIFIED IN THE CONSTRUCTION DOCUMENTS ARE THE DESIGN STANDARD. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE ARCHITECT OR ENGINEER. IN BIDDING, CONTRACTOR SHALL NOT ASSUME ACCEPTANCE OF SUBSTITUTIONS. CONTRACTOR MUST STATE IN SUBSTITUTION REQUEST: "PROPOSED SUBSTITUTIONS ARE OF EQUAL OR HIGHER QUALITY , EFFICIENCY AND DEPENDABILITY COMPARED TO THE SPECIFIED EQUIPMENT AND MATERIAL. CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ADDITIONAL ENGINEERING COSTS AND COSTS TO OTHER CONTRACTORS DUE TO SUBSTITUTIONS." IF DEEMED NECESSARY BY THE ARCHITECT OR ENGINEER, SUBSTITUTIONS WHICH ARE NOT APPROVED OR NOT EQUAL TO DESIGN STANDARD SHALL BE REMOVED AND THE SCHEDULED, NOTED, AND SPECIFIED EQUIPMENT AND MATERIALS SHALL BE INSTALLED AT CONTRACTOR'S EXPENSE. SUBMITTING CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ADDITIONAL ENGINEERING COSTS AND COSTS TO OTHER CONTRACTORS DUE TO SUBSTITUTIONS.

6. UTILITIES
   A. THE UTILITY INFORMATION NOTED AND SPECIFIED IN THE CONSTRUCTION DOCUMENTS ARE THE DESIGN STANDARD AND AS ACCURATE AS COULD BE SECURED BUT IS NOT GUARANTEED. PRIOR TO INSTALLING ANY UTILITY-RELATED WORK, THIS CONTRACTOR SHALL CONTACT THE LOCAL UTILITY - IN WRITING - TO COORDINATE AND CONFIRM THE SERVICE AND CONNECTION REQUIREMENTS WITH THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL REQUEST THE UTILITY SERVICE AND CONNECTION IN AMPLE T ME TO MEET THE CONSTRUCTION SCHEDULE. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE ACTUAL UTILITY SERVICE CONNECTION SHALL BE SUBMITTED WITHOUT DELAY TO THE ARCHITECT (ENGINEER) IN WRITING, AS A "REQUEST FOR INFORMATION" (RFI). RFI-SUBJECT UTILITY WORK MUST BE RESOLVED WITH THE ARCHITECT (ENGINEER) PRIOR TO INSTALLATION. THE CONTRACTOR ASSUMES FULL RESPONSIBILITY AND ALL COSTS FOR WORK NOT COORDINATED WITH THE UTILITY AND NOT SUBMITTED TO THE ARCHITECT (ENGINEER) FOR RESOLUTION.

7. SCHEDULING
   A. ALL PERFORMANCE OF CONSTRUCTION SHALL BE AS REQUIRED BY THE PACE OF THE GENERAL CONSTRUCTION, AS SCHEDULED BY THE GC. PROVIDE COMPLETE INFORMATION AND FULL COOPERATION WITH OTHER CONTRACTORS AND TRADES, AS REQUIRED FOR THE TIMELY COMPLETION AND COORDINATION OF THE COMPLETE PROJECT.
   B. PROVIDE ALL TESTS AND INSPECTIONS REQUIRED BY AHJ.
   C. PROVIDE A SIGNED CERTIFICATE OF INSPECTION AT THE PROJECT COMPLETION.

8. SCOPE
   A. PROVIDE PERMIT(S), INSPECTIONS, FINAL CERTIFICATE(S) OF INSPECTION BY AHJ, PERMIT AND INSPECTION FEES, AND ALL MATERIALS, EQUIPMENT, RIGGING, AND LABOR NECESSARY FOR A COMPLETE AND FULLY OPERATING HVAC SYSTEM.
   B. STRUCTURAL ENGINEERING FOR THE SUPPORT AND MOUNTING OF THE SCHEDULED AND SPECIFIED MATERIALS AND EQUIPMENT IS THE RESPONSIBILITY OF OTHERS . THE MECHANICAL CONSTRUCTION DOCUMENTS DO NOT INCLUDE STRUCTURAL ENGINEERING FOR SUPPORT OF MECHANICAL EQUIPMENT, APPLIANCES, OR SYSTEMS.
   C. THROUGHOUT CONSTRUCTION, THIS CONTRACTOR'S WORK SHALL INCLUDE ONGOING COORDINATION OF THIS WORK WITH THE CONSTRUCTION DOCUMENTS, THE WORK OF ALL OTHER TRADES, AND WITH UTILITY SERVICE(S) AND UTILITY CONNECTION(S). FOR AMBIGUOUS, CONTRADICTORY, OR CONFLICTING ITEMS WITHIN THE CONSTRUCTION DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE ACTUAL UTILITY SERVICE AND CONNECTION REQUIREMENTS, THE CONTRACTOR SHALL REQUEST CLARIFICATION IN A WRITTEN "REQUEST FOR INFORMATION" (RFI). RFI SHALL BE ISSUED WITHOUT DELAY AND PRIOR TO PROCEEDING WITH ANY RFI-SUBJECT WORK. RFI NOT CLARIFIED PRIOR TO BID SHALL BE PROVIDED PER THE ARCHITECT (ENGINEER) IN STRICT ACCORDANCE WITH THE MOST STRINGENT MATERIALS, EQUIPMENT, AND SCOPE OF WORK. AT NO ADDITIONAL COST TO THE OWNER.
   D. PROVIDE HOISTING FOR ALL MATERIALS AND EQUIPMENT FURNISHED AND/OR INSTALLED, IN ACCORDANCE WITH ALL CITY, STATE AND FEDERAL RULES AND REGULATIONS.
   E. INSTALL ALL WORK AND EQUIPMENT RIGID, DEAD LEVEL, PLUMB, AND TRUE-TO-LINE. UNLESS NOTED OTHERWISE, SUPPORT AND MOUNTING OF EQUIPMENT, DUCT, PIPING, ETC., ARE THIS CONTRACTOR'S MEANS AND METHODS. THIS CONTRACTOR SHALL UNDERSTAND THE SPECIFIED AND SCHEDULED EQUIPMENT AND MATERIALS AND MEANS AND METHODS OF INSTALLATION. THIS CONTRACTOR SHALL PROVIDE ALL ACCESSORIES REQUIRED FOR PROPER SUPPORT WHETHER SHOWN ON THE DRAWINGS OR NOT. IF SUPPORTS ARE REQUIRED, CONTRACTOR SHALL SUBMIT DRAWINGS TO THE ARCHITECT FOR APPROVAL.
   F. PROVIDE ACCESSORY MOUNTING HARDWARE INCLUDING BUT NOT L MITED TO STRUCTURAL STEEL, STRUT SYSTEMS, ALL THREAD RODS, AND BRACES, AS REQUIRED TO MOUNT EQUIPMENT. PROVIDE STEEL SHAPES AND FRAMES TO SUPPORT EQUIPMENT WHERE NEEDED. ALL SYSTEMS SHALL BE SUPPORTED INDEPENDENT OF AND ISOLATED FROM EQUIPMENT VIBRATION.
   G. PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' PRINTED INSTALLATION AND MAINTENANCE LITERATURE. COMPONENTS REQUIRING PERIODIC MAINTENANCE OR ADJUSTMENTS SHALL BE INSTALLED AS TO PERMIT ACCESS WITHOUT DAMAGE TO STRUCTURE, FINISHES, OR OTHER EQUIPMENT.
   H. PROVIDE ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED FOR THE REINSTALLATION AND RE-SUPPORT OF EXISTING SERVICES (DUCTWORK, ELECTRICAL CONDUIT, PIPING, EXISTING EQUIPMENT, ETC.) DISTURBED BY THE INSTALLATION OF NEW WORK UNDER THIS CONTRACT, INCLUDING THE WORK OF OTHER TRADES.
   I. DEMOLITION: REFER TO THE ARCHITECTURAL DRAWINGS FOR THE GENERAL SCOPE OF DEMOLITION. THIS CONTRACTOR SHALL DISCONNECT AND CAREFULLY REMOVE ALL EXISTING HVAC EQUIPMENT LOCATED IN DEMOLISHED AREAS INCLUDING ROOF, PLENUMS, CEILINGS, WALLS, AND FLOORS. U.N.O., DISCONNECT AND REMOVE EXISTING HVAC SYSTEMS COMPLETE, INCLUDING EQUIPMENT, CURBS, DUCTS, INSULATION, AIR DEVICES, AND PIPING LOCATED IN THESE AREAS. ALL HVAC SYSTEM COMPONENTS INCLUDING AIR TERMINAL UNITS, FANS, MOTORS, CONTROL DEVICES AND SENSORS, DAMPERS, ACTUATORS, HANGERS, RESTRAINTS, MOUNTING HARDWARE, ETC., SHALL BE REMOVED AND LEGALLY DISPOSED OF BY THIS CONTRACTOR.
   J. UNLESS NOTED OTHERWISE, ABANDONMENT IN PLACE (AIP) IS NOT ACCEPTABLE. UNUSED EQUIPMENT, DUCT, PIPING, AND OTHER COMPONENTS WITHIN OR SERVING THIS SPACE MUST BE COMPLETELY REMOVED TO POINT OF ORIGIN. ENDS OF SYSTEMS BEYOND GENERAL SCOPE OF DEMOLITION MAY BE ABANDONED ONLY WITH WRITTEN APPROVAL OF ARCHITECT (ENGINEER). WHERE THESE ABANDONED ENDS TERMINATE, TRIM CLEANLY AND PROPERLY CAP OR SEAL IN AN APPROVED MANNER, LEAVING TERMINATION SAFE AND SECURE BEHIND NEW FINISHES. MAINTAIN SYSTEM CONTINUITY TO HVAC SYSTEMS SERVING AREAS BEYOND GENERAL DEMOLITION, AS NEEDED. THIS INCLUDES BUT IS NOT LIMITED TO REMOVAL, MODIFICATION AND/OR REINSTALLATION OF EQUIPMENT, AS NEEDED. COMPLETION OF THIS PROJECT SHALL INCLUDE RETURNING THESE ADJACENT AREAS TO FULLY FUNCTIONING OPERATION.
   K. CONTRACTOR SHALL PROVIDE DAILY CLEAN-UP, REMOVAL AND LEGAL DISPOSAL OF ALL RUBBISH GENERATED BY THIS WORK.
   L. AS-BUILT DRAWINGS: DURING CONSTRUCTION, AS WORK PROCEEDS, MAINTAIN AS-BUILT MARK-UPS OF ACTUAL INSTALLATION. AT CONSTRUCTION COMPLETION AND PRIOR TO TURNOVER TO OWNER , PROVIDE FINAL MARK-UPS IN PDF AND DWG FORMAT TO ARCHITECT AND ENGINEER.
   M. PROVIDE FINAL CONNECTIONS TO EQUIPMENT FURNISHED/PROVIDED BY OTHERS, AS NOTED (GAS FIRED EQUIPMENT, COMMERCIAL KITCHEN EQUIPMENT, LAUNDRY EQUIPMENT, ETC.).
   N. DO NOT ROUTE ANY PIPING OR DUCTWORK ABOVE ELECTRICAL PANELS.
   O. UNLESS NOTED OTHERWISE, ALL DUCT AND PIPE SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALLS, BEAMS, OR COLUMNS. PIPE SHALL BE RUN AS DIRECT AS POSSIBLE - AVOID UNNECESSARY OFFSETS AND MAXIMIZE HEADROOM.
   P. PRIOR TO ORDERING EQUIPMENT, THIS CONTRACTOR SHALL PROVIDE FINAL COORDINATION OF ELECTRICAL POWER REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR.
   Q. CONTRACTOR SHALL MAINTAIN ACTIVITIES WITHIN AREA APPROVED BY OWNER OR GC. CONTRACTOR'S ACTIVITIES SHALL NOT INTERFERE WITH THE OWNER'S OPERATIONS, EXCEPT AS APPROVED.
   R. EXCEPT THOSE COORDINATED AND APPROVED BY THE G.C., CONTINUITY OF ALL BUILDING SERVICES AND UTILITIES SERVING BUILDING FACILITIES SHALL BE MAINTAINED UNINTERRUPTED AT NO ADDITIONAL COST. PROVIDE ALL NECESSARY CROSS CONNECTIONS AND TEMPORARY CONNECTIONS REQUIRED TO PERFORM THE CONSTRUCTION, AS DETERMINED BY THE G.C., AND NEEDED TO MAINTAIN CONTINUITY OF THE BUILDING SERVICE(S). THIS CONTRACTOR SHALL SCHEDULE WORK SUCH THAT ANY AND ALL CONNECTIONS, AND/OR REARRANGEMENT OF EXISTING EQUIPMENT, PIPING, ETC., SHALL ASSURE FULL RESUMPTION OF SERVICE(S) AT THE G.C.'S DESIGNATED TIME.

9. CODE REQUIREMENTS
   A. ALL WORK SHALL COMPLY WITH THE CONSTRUCTION DOCUMENTS OR, AS DIRECTED BY THE ARCHITECT (ENGINEER), AND SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS OF THE AHJ, WHETHER OR NOT SHOWN OR NOT. CONTRACTOR SHALL BE FAMILIAR WITH PROVISIONS OF ALL APPLICABLE CODES AND SHALL ENSURE THE WORK COMPLIES WITH ALL LOCAL, STATE AND FEDERAL CODES, TRADE STANDARDS AND MANUFACTURER'S RECOMMENDATIONS. IF CONTRACTOR BELIEVES THE DRAWINGS AND/OR SPECIFICATIONS CONFLICT WITH CODE REQUIREMENTS, IMMEDIATELY NOTIFY THE G.C. IN WRITING. DO NOT INSTALL WORK NOT COMPLYING WITH CODE REQUIREMENTS. IN CASE OF CONFLICT BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY, AS A MINIMUM STANDARD, CONTRACTOR SHALL SATISFY CODE REQUIREMENTS. ALL MODIFICATIONS REQUIRED BY AHJ SHALL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. BEFORE COMMENCING WORK NOT SHOWN IN DOCUMENTS BUT REQUIRED TO ACHIEVE FULL COMPLIANCE WITH CODES, CONTRACTOR SHALL NOTIFY ARCHITECT (ENGINEER).

10. CUTTING & PATCHING
    A. CORE-DRILL OR SAW-CUT EXISTING FLOORS, WALLS, ROOF, ETC., AS REQUIRED FOR EQUIPMENT, PIPE, OR DUCTWORK. PRIOR TO CUTTING, PERFORM NON-DESTRUCTIVE TESTING TO VERIFY LOCATION OF PIPING, CONDUIT, AND STRUCTURAL COMPONENTS. NOTIFY ARCHITECT (ENGINEER) OF ANY DISCREPANCIES. PATCH SURROUNDING AREAS FLUSH WITH ADJACENT SURFACE AND READY TO RECEIVE FINISH. PATCH AND REPAIR ROOF TO MATCH EXISTING ROOFING.

11. FIRE STOPPING
    A. PROVIDE FIRE STOPPING FOR PENETRATIONS OF DUCT, PIPING, AND OTHER MECHANICAL EQUIPMENT THROUGH FIRE-RATED VERTICAL BARRIERS (WALLS AND PARTITIONS), HORIZONTAL BARRIERS (FLOOR/CEILING ASSEMBLIES), AND VERTICAL SERVICE SHAFT WALLS AND PARTITIONS. (WHERE THIS WORK IS BEING PERFORMED UNDER A GC, PRIOR TO INSTALLATION, THIS CONTRACTOR SHALL COORDINATE FIRESTOPPING WITH GC). FIRESTOP SYSTEM INSTALLATION MUST MEET REQUIREMENTS OF ASTM E 814 OR UL 1479 TESTED ASSEMBLIES THAT PROVIDE A FIRE RATING EQUAL TO OR GREATER THAN THAT OF CONSTRUCTION BEING PENETRATED. INSTALL IN STRICT ACCORDANCE WITH UL FIRE RESISTANCE DIRECTORY, AHJ, AND MANUFACTURER'S SPECIFIED REQUIREMENTS. ONLY TESTED FIRESTOP SYSTEMS BY "3M", "HILTI", OR EQUAL SHALL BE USED. REFER TO ARCHITECTURAL DRAWINGS FOR ASSEMBLY RATING.

12. MATERIALS AND WORKMANSHIP
    A. ALL MANUFACTURED ARTICLES, MATERIALS, AND EQUIPMENT SHALL BE NEW U.N.O., FREE OF DEFECTS, AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND DETAILS, AND INDEPENDENTLY TESTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY - UNDERWRITERS LABORATORIES (UL) OR INTERTEK (ETL). ALL LIKE MATERIALS USED SHALL BE OF THE SAME MANUFACTURE AND QUALITY U.N.O.
    B. ALL MATERIALS WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723. ALL MATERIALS INSTALLED IN PLENUM SPACES SHALL BE LISTED AND LABELED FOR SUCH APPLICATION.
    C. ALL WORK SHALL BE SUPERVISED BY THE INSTALLING CONTRACTOR'S COMPETENT AND SKILLED FOREMAN. ALL WORK SHALL BE PERFORMED BY COMPETENT AND SKILLED WORKERS, WITH ALL TRADE AND MANUFACTURER REQUIRED TRAINING, AND EXECUTED IN A NEAT AND WORKMANLIKE MANNER. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE BEST QUALITY STANDARDS OF THE TRADE AND IN CONFORMANCE WITH ALL FEDERAL, STATE, AND LOCAL CODES AND STANDARDS, INCLUDING APPLICABLE OSHA REGULATIONS. PROPERLY PROTECT WORK DURING CONSTRUCTION. AT CONSTRUCTION COMPLETION, THOROUGHLY CLEAN WORK AND REMOVE ALL DEBRIS FROM THE PREMISES.

13. PROTECTION OF WORK AND PROPERTY
    A. PROTECT ALL WORK FROM DAMAGE AND PROTECT THE OWNER'S PROPERTY FROM DIRT, DAMAGE, OR LOSS ARISING FROM CONTRACTOR WORK.
    B. COMPLY WITH OSHA REQUIREMENTS AND TAKE ALL NECESSARY PRECAUTIONS FOR EMPLOYEE SAFETY.
    C. PROTECT ALL OPEN PIPING, DUCT, AND EQUIPMENT, EXISTING AND NEW FROM CONSTRUCTION DIRT AND DUST. COVER, CAP, OR PLUG OPEN ENDS OF PIPING AND DUCT. KEEP EQUIPMENT CLOSED OR COVER AND SEAL EQUIPMENT OPENINGS. ANY MECHANICAL SYSTEMS, NEW AND/OR EXISTING OPERATED DURING CONSTRUCTION SHALL BE PROTECTED BY COVERING EACH RETURN AIR DUCT OPENING WITH MERV 8 FILTERS AND INSTALLING MERV 8 FILTER(S) IN EQUIPMENT FILTER RACK. PRIOR TO TESTING AND BALANCING, REMOVE FILTERS FROM FILTER RACKS AND INSTALL NEW MERV 8 FILTERS.
    D. AT COMPLETION OF WORK, PRIOR TO EQUIPMENT START-UP, REMOVE COVERS, CAPS, OR PLUGS ON DUCT AND PIPING.

14. DAMAGE BY LEAKS
    A. THIS CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL DAMAGES TO THE PROPERTY (GROUNDS, WALKS, ROADS, BUILDING COMPONENTS, FINISHES, PIPING SYSTEMS, ELECTRICAL SYSTEMS, HVAC SYSTEMS, AND THEIR EQUIPMENT AND CONTENT) CAUSED BY LEAKS IN THE SYSTEMS BEING INSTALLED OR HAVING BEEN INSTALLED AS PART OF THIS WORK. ALL REPAIRS WILL BE MADE AT THIS CONTRACTOR'S EXPENSE.

15. DRAWINGS AND SPECIFICATIONS
    A. DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW GENERAL LOCATIONS OF DUCTS, PIPES, AND EQUIPMENT AND THE METHODS OF CONNECTING AND CONTROL. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS AND THE WORK OF OTHER TRADES PERMIT. THE DRAWINGS ARE NOT INTENDED TO SHOW EVERY CONNECTION IN DETAIL OR ALL OFFSETS, TRANSITIONS, OR FITTINGS REQUIRED FOR A COMPLETE SYSTEM NOR IS IT IMPLIED THAT ALL CONFLICTS BETWEEN BUILDING ELEMENTS AND/OR OTHER TRADES ARE INDICATED. DO NOT SCALE DRAWINGS. EXAMINE FIELD CONDITIONS AND SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT LOCATION OF DOORS, WINDOWS, LIGHTS, ETC.
    B. THE DRAWINGS AND SPECIFICATIONS ARE MUTUALLY COMPLEMENTARY, AND ANY WORK REQUIRED BY ONE BUT NOT BY THE OTHER SHALL BE REQUIRED BY BOTH.
    C. PRIOR TO INSTALLING EQUIPMENT, DUCT, OR PIPE COORDINATE PROPOSED LOCATIONS WITH EACH TRADE/DISCIPLINE AND GC. EXAMINE EACH DISCIPLINE'S DRAWINGS FOR CONSTRUCTION DETAILS, CEILING HEIGHTS, REQUIRED CLEARANCES, AND SPACE CONSTRAINTS. PROVIDE SYSTEMS INSTALLATION BASED ON THIS EXAMINATION AND COORDINATION. IMMEDIATELY REPORT INSTALLATION CONFLICTS IN WRITING TO THE GC. RESOLVE ALL CONFLICTS WITH GC AND OTHER TRADES PRIOR TO PROCEEDING. INSTALLING CONTRACTOR IS FULLY RESPONSIBLE FOR CORRECT INTERPRETATION AND APPLICATION OF ALL SIZES AND DIMENSIONS.
    D. SIGNIFICANT DEVIATIONS OR CHANGES FROM THE DRAWINGS, WHICH ARE REQUIRED TO ACCOMPLISH THE INTENT OF THE CONTRACT DOCUMENTS MUST BE REVIEWED AND APPROVED BY THE ARCHITECT (ENGINEER) BEFORE PROCEEDING. IF THE CONTRACTOR BELIEVES CHANGES TO THE CONTRACT DRAWINGS ARE NECESSARY, SHOP DRAWINGS WITH WRITTEN DESCRIPTIONS OF THE PROPOSED CHANGES SHALL BE SUBMITTED TO THE ARCHITECT (ENGINEER) FOR APPROVAL.
    E. ALL PIPE, DUCTS, VENTS, ETC., EXTENDING THROUGH WALLS AND ROOF SHALL BE FLASHED WATERPROOF. PROVIDE ALL FLASHING FOR PIPE AND DUCTWORK PENETRATING BUILDING ENVELOPE. PROVIDE DUCT AND/OR PIPE SLEEVES AT WALL PENETRATIONS. SEAL ANNULAR SPACE WEATHER TIGHT.

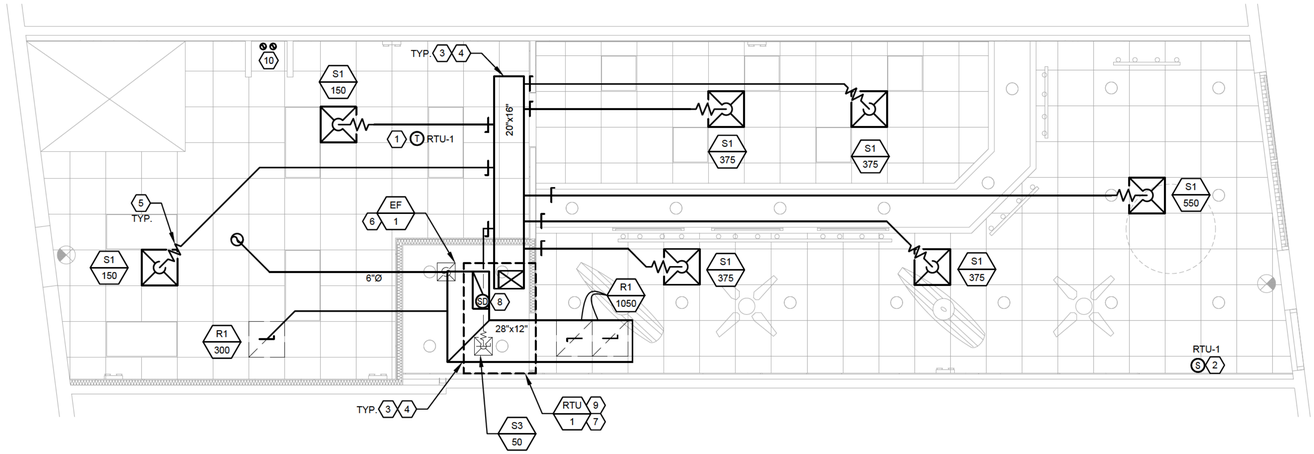
16. CONTROLS
    A. PROVIDE COMPLETE EQUIPMENT CONTROLS, INCLUSIVE OF ALL COMPONENTS, VOLTAGES, PROGRAMMING, WIRING ETC. FOR COMPLETE AND OPERATIONAL SYSTEMS. MOUNT THERMOSTATS AND SWITCHES 4'-0" ABOVE FINISHED FLOOR. MOUNT OTHER SENSORS (HUMIDITY, CO2, CO, NOX, ETC.) PER MANUFACTURER'S IOM. PRIOR TO MOUNTING, COORDINATE THERMOSTAT LOCATION(S) WITH FINAL FIXTURES AND EQUIPMENT. DO NOT MOUNT THERMOSTATS IN DIRECT SUNLIGHT, IN DISCHARGE OF SUPPLY GRILLE(S), NEAR HEAT PRODUCING APPLIANCES OR EQUIPMENT, ON WALLS WITH INTERNAL HEAT SOURCES (DUCT OR PIPING), OR ON EXTERIOR WALLS. IF EXTERIOR WALL MOUNTING IS NECESSARY, PROVIDE INSULATED MOUNTING BASE. WHERE THERMOSTAT LOCATION IS SUBJECT TO DAMAGE, PROVIDE LOCKABLE HIGH-IMPACT GUARD.

17. PIPING
    A. IN FINISHED AREAS, ALL PIPING SHALL BE CONCEALED UNLESS NOTED OTHERWISE.
    B. SEE PIPE SCHEDULE FOR PIPE MATERIALS AND PIPE INSULATION.
    C. DO NOT INSTALL PVC PIPING IN PLENUM AREAS.
    D. PAINT PIPE TO MATCH OWNER'S OR BUILDING STANDARD.
    E. PROVIDE PIPE LABELS AND FLOW DIRECTION PER BUILDING OR FACILITY'S STANDARD OR AS SCHEDULED. ORIENT ALL MARKERS SO AS TO BE VISIBLE FROM FLOOR LEVEL. AT A MINIMUM PIPE LABELS AND FLOW DIRECTION MARKERS SHALL BE LOCATED:
       - AT LEAST ONCE IN EACH ROOM
       - AT EQUIPMENT CONNECTIONS
       - AT ACCESS DOORS
       - AT BRANCH MAINS
       - ON ALL ACCESSIBLE PIPE A MAXIMUM OF 25' BETWEEN MARKERS.
    F. BRANCH TAKE-OFFS SHALL BE MADE WITH SWING CONNECTIONS AS REQUIRED TO AVOID STRESS AT THESE POINTS.
    G. DO NOT INSTALL ANY PIPING ABOVE ELECTRICAL PANELS AND/OR TRANSFORMERS.
    H. INSTALL AND SIZE REFRIGERANT PIPE IN STRICT ACCORDANCE WITH EQUIPMENT/APPLIANCE MANUFACTURER'S IOM. DO NOT INSTALL REFRIGERANT PIPE BELOW GROUND. REFRIGERANT PIPE INSTALLED ON BUILDING EXTERIOR SHALL BE ROUTED TO MINIMIZE EXTERIOR EXPOSURE. INSULATE REFRIGERANT PIPE PER MANUFACTURER'S IOM. PROVIDE INSULATION EXPOSED TO AMBIENT CONDITIONS WITH A CONTINUOUS 3O MIL PVC JACKET.
    I. ROUTE PIPE THROUGH ROOF WITH ALUMINUM PIPE HOOD, PATE CURB MODEL "PHA-2" WITH 14" TALL MODEL "PC-2" CURB. SEAL PIPE THROUGH CURB WEATHER-TIGHT.
    J. ON HYDRONIC PIPING, PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS TO ALLOW BLEEDING OF AIR FROM THE SYSTEM, AND BALL VALVES WITH HOSE END DRAIN FITTINGS AT ALL LOW POINTS TO ALLOW DRAINING THE SYSTEM.
    K. PRIOR TO INSTALLING EQUIPMENT/APPLIANCES, CAREFULLY CONSIDER FALL REQUIREMENTS OF CONDENSATE DRAIN PIPE. PROVIDE MINIMUM 1/8" / FOOT SLOPE. EXTEND CONDENSATE DRAIN PIPE TO AN APPROVED RECEPTOR AND TERMINATE VIA AN INDIRECT CONNECTION.
    L. ALL HOLES REQUIRED THROUGH EXISTING FLOORS AND MASONRY WALLS SHALL BE CORE DRILLED.

18. DUCT MOUNTED SMOKE DETECTORS
    A. DUCT MOUNTED SMOKE DETECTORS SHALL BE PROVIDED BY E.C. AND UPON DETECTING SMOKE, SHALL SHUT DOWN PROTECTED AIR SYSTEM.

19. SHOP DRAWINGS
    A. SUBMIT SHOP DRAWINGS ON SCHEDULED AND NOTED EQUIPMENT AND MATERIALS. PRIOR TO SUBMITTAL, EACH SHOP DRAWING SHALL BE REVIEWED BY THE CONTRACTOR TO ASSURE THAT THE PROPOSED EQUIPMENT IS CLEARLY MARKED, HIGHLIGHTED, AND NOTED. ALL DIMENSIONS, QUANTITIES, CONNECTIONS, CAPACITATES AND ACCESSORIES SHALL BE CLEARLY SHOWN IN CONFORMANCE WITH THE CONTRACT DOCUMENTS, AND SHALL BE MARKED OR STAMPED TO CONFIRM THAT SUCH REVIEW WAS MADE AND COMPLIANCE WAS CONFIRMED. SHOP DRAWING SUBMITTED WITHOUT BEING MARKED, HIGHLIGHTED, AND NOTED WILL BE REJECTED WITHOUT REVIEW.
    B. PROVIDE ADEQUATE TIME FOR SUBMITTAL REVIEW AND CORRECTIONS, IF ANY, TO PREVENT CONSTRUCTION DELAY. DO NOT PURCHASE ANY PORTION OF WORK WHICH REQUIRES APPROVED SUBMITTALS UNTIL THE RESPECTIVE SUBMITTALS HAVE BEEN APPROVED BY THE ENGINEER.
    C. REVIEW OF SHOP DRAWINGS BY THE OWNER, OWNER'S AGENT, ARCHITECT, OR ENGINEER IS FOR GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBILITY FOR COMPLYING WITH ALL TERMS OF THE CONTRACT DOCUMENTS AND FOR PERFORMANCE OF ALL EQUIPMENT AND MATERIALS PURCHASED, FOR QUANTITIES, PROPER FIT, AND OTHER DIMENSIONAL REQUIREMENTS.

20. DUCTWORK
    A. REFER TO KEYED NOTES FOR CLARIFICATION OF DUCT DIMENSIONS. PROVIDE ALL DUCTWORK IN STRICT ACCORDANCE WITH THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE", LATEST EDITION. U.N.O. ALL RIGID DUCTWORK SHALL BE GALVANIZED SHEET METAL. ALL EXPOSED DUCTWORK SHALL HAVE A MILL-PHOSPHATIZED FINISH FOR PAINT ADHESION. EXPOSED ROUND DUCT SHALL BE SPIRAL SEAM TYPE. NO FIBERGLASS DUCTBOARD WILL BE ALLOWED.
    B. PROVIDE TURNING VANES AT ALL CHANGES IN DIRECTION.
    C. UNLESS NOTED OTHERWISE, EACH DUCTED AIR DEVICE SHALL BE PROVIDED WITH A VOLUME DAMPER, WHETHER SHOWN ON THE PLANS OR NOT. PROVIDE A VOLUME DAMPER AT EACH BRANCH DUCT SERVING AN AIR D



PLAN NORTH

1 **MECHANICAL FLOOR PLAN**

1/4" = 1'-0"

0 2' 4' 8'

MECHANICAL SYMBOLS LEGEND

T	THERMOSTAT
	FLEXIBLE DUCT
	VOLUME DAMPER
FD	FIRE DAMPER
	CEILING SUPPLY AIR DIFFUSER
	CEILING RETURN AIR GRILLE
	SIDEWALL AIR DIFFUSER OR GRILLE
	NEW DUCTWORK
	EXISTING DUCTWORK
CD	CONDENSATE DRAIN
G	GAS PIPING
	PIPE TURNING DOWN
	PIPE TURNING UP
	BALL VALVE
	GATE VALVE
	CONNECTION OF NEW TO EXISTING
	CHECK VALVE
	GAS COCK
	UNION
	PRESSURE GAUGE
	STRAINER
AFF	ABOVE FINISHED FLOOR
S1 / 100	AIR DEVICE # / CFM — S - SUPPLY, R - RETURN, E - EXHAUST
	TURNING VANES
	RECTANGULAR TO ROUND TRANSITION
MD	MOTORIZED DAMPER

KEYED NOTES

1. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT AND RELATED WIRING. MOUNT 48" A.F.F.
2. PROVIDE WALL MOUNTED REMOTE ZONE TEMPERATURE SENSOR AT 60" AFF, AND WIRED BACK TO RESPECTIVE THERMOSTAT. COORDINATE PLACEMENT WITH WALL DECOR AND EQUIPMENT. FIELD VERIFY WITH THE OWNER'S REPRESENTATIVE FOR THE FINAL LOCATION PRIOR TO INSTALLATION. MULTIPLE SENSORS ARE TEMPERATURE AVERAGING.
3. PROVIDE GALVANIZED STEEL DUCTWORK, SIZES AS NOTED ON DRAWINGS. DUCTWORK SIZES ARE SHEET METAL SIZES. CONCEALED DUCTWORK TO BE INSULATED PER DUCTWORK INSULATION SCHEDULE ON THIS SHEET.
4. ROUTE DUCT TIGHT TO DECK.
5. MAXIMUM FIVE (5) FEET OF FLEXIBLE DUCT. ONLY ONE 90° ELBOW ALLOWED IN FLEXIBLE DUCTWORK.
6. PROVIDE NEW CEILING MOUNTED RESTROOM EXHAUST FAN (EF-1) PROVIDE 6"Ø EXHAUST DUCT UP THRU ROOF TO ROOF CAP. MAINTAIN MINIMUM 10'-0" DISTANCE FROM OUTSIDE AIR INTAKES.
7. PROVIDE GAS HEATING ELECTRIC COOLING PACKAGED ROOF TOP UNIT (RTU-1), AS SCHEDULED AND SPECIFIED. SHIM CURB AS NEEDED TO SET UNIT DEAD LEVEL. PROVIDE S.A. AND R.A. DUCT DROPS FULL SIZE FROM UNIT CONNECTIONS WITH FLEXIBLE CONNECTIONS BELOW ROOF DECK. PROVIDE GAS PIPING FULL SIZE OF UNIT CONNECTION AND AS DETAILED. COORDINATE EXACT LOCATION IN FIELD. ROOF CURB TO BE FULLY INSULATED AT INSIDE SURFACES OF PERIMETER, AND/OR WITH R19 BATT FILLING VOIDS.
8. PROVIDE 120V RETURN DUCT MOUNTED SMOKE DETECTOR. SMOKE DETECTOR SHALL BE INTERLOCKED TO DE-ENERGIZE UNIT UPON DETECTION OF SMOKE. POWER WIRING BY ELECTRICAL CONTRACTOR, COORDINATE WITH ELECTRICAL DRAWINGS/ CONTRACTOR.
9. ROUTE 1"Ø CONDENSATE LINE FROM NEW RTU TO NEAREST ROOF DRAIN.
10. 3" PVC/CPVC COMBUSTION AIR INTAKE AND FLUE EXHAUST FROM GAS TANKLESS WATER HEATER UNIT UP TO ROOF. COMBINE RIGHT BEFORE ROOF PENETRATION WITH CONCENTRIC VENT KIT. VERIFY EXACT LOCATION IN THE FIELD. MAINTAIN MINIMUM 10'-0" CLEARANCE FROM OUTSIDE AIR INTAKES.

ROOFTOP UNIT SCHEDULE

MARK	MFR	MODEL NO.	TONS	CFM	O.A. CFM	ESP	HP	COOLING				HEATING		ELECTRICAL		EER/ IEER	WEIGHT (LBS)	REMARKS
								MBH TTL/SEN	EDB/EWB (°F)	LDB/LWB (°F)	AMB (°F)	GAS MBH IN/OUT	LT (°F)	MCA/MOCP	V/PH			
RTU-1	DAIKIN	DSG072	6.0	2400	585	0.8	1.2	69/51.06	78.21/65.1	58.5/57.98	95	140/112	96	27.2/40	208/3	11.8/16.7	910	1,2,3

1. PROVIDE NEW ROOF CURB 14" TALL. FIELD VERIFY ACTUAL RTU LOCATION.
2. VERIFY ELECTRICAL VOLTAGE/PHASE WITH ELECTRICAL CONTRACTOR PRIOR TO ORDERING UNIT.
3. PROVIDE ROOFTOP UNIT IN FULL COMPLIANCE WITH LOCAL CODES. ACCESSORIES: DIFFERENTIAL ENTHALPY ECONOMIZER, ECONOMIZER CONTROLS, OUTDOOR AIR DAMPERS, HAIL GUARDS, NON-FUSED ELECTRICAL DISCONNECT, UNPOWERED CONVENIENCE OUTLET, 2" MERV - 8 THROWAWAY FILTERS, HOT-GAS REHEAT, AND BAROMETRIC RELIEF,.

FAN SCHEDULE

MANUFACTURER: GREENHECK				ESP	MOTOR				WEIGHT		
MARK	FAN TYPE	MODEL	CFM	IN.W.G.	SONES	DRIVE	WATTS	V/PH/HZ	LBS.	CONTROL	REMARKS
EF-1	CEILING MOUNTED	SP-A390-VG	75	0 375	3.0	DIRECT	17	115/1/60	28	A	1,2

1. PROVIDE WITH FACTORY SPEED CONTROLLER.
2. PROVIDE BACKDRAFT DAMPER, VIBRATION ISOLATION MOUNTING, NON-FUSED ELECTRICAL DISCONNECT, AND FLEXIBLE DUCT CONNECTION.

A. CONTROL THROUGH LIGHT SWITCH. FAN TO ENERGIZE WITH LIGHTS.

AIR DEVICE SCHEDULE

PLAN MARK	MANUFACTURER	MODEL	MATL	NECK SIZE	FRAME TYPE	PANEL SIZE	REMARKS
S1	TITUS	OMNI	ST	SCHED	LAY-IN	24"x24"	1,2
S3	TITUS	OMNI	ST	SCHED	FLANGED	12"x12"	1,2,3
R1	TITUS	PAR	ST	22"x22"	LAY-IN	24"x24"	2,4

1. BRANCH DUCT SAME DIAMETER AS GRILLE NECK SIZE.
2. DIFFUSER COLOR TO MATCH ARCHITECTURAL SHEETS.
3. PROVIDE WITH FACTORY BALANCING DAMPER IN GRILLE NECK.
4. BRANCH DUCT DIAMETER PER DIFFUSER NECK SIZE SCHEDULE.

DIFFUSER NECK SIZE SCHEDULE

NECK SIZE	CFM
6"Ø	0 - 100
8"Ø	110 - 250
10"Ø	260 - 400
12"Ø	410 - 600
14"Ø	610 - 1000
16"Ø	1010 - 1400

DUCT CONSTRUCTION SCHEDULE

DUCT SYSTEM	MATERIAL	PRESSURE CLASS W.C.	SEAL CLASS	INSULATION
LOW PRESSURE SUPPLY	STEEL	2"	A	TYPICAL: 2" FIBERGLASS DUCT WRAP @ 1 LBS DENSITY
RETURN/TRANSFER DUCTS	STEEL	2"	A	TYPICAL: 2" FIBERGLASS DUCT WRAP @ 1 LBS DENSITY

ALL DUCTWORK DIMENSIONS INDICATED ON THE PLANS ARE CLEAR, INSIDE DIMENSIONS. CONTRACTOR SHALL INCREASE SHEETMETAL SIZE AS REQUIRED TO ACCOMMODATE DUCT LINER.

GENERAL DUCTWORK NOTES

A. All rectangular ducts shall be "Pittsburgh Lock" longitudinal joints. Snaplock is not acceptable.
B. All round ducts and flat oval ducts shall have spiral seams or continuously welded longitudinal seams.
C. All transverse joints in rectangular ductwork 48" and larger shall be Ductmate, SMACNA T-25, or approved equivalent. All flanged ductwork, regardless of pressure class, shall use gaskets, corner closures, and be TEK screwed or riveted on 10" centers with a minimum of two (2) per side.
D. Transverse joints in rectangular ductwork smaller than 48" shall be made in accordance with SMACNA suitable with he pressure class.
E. All transverse joints in round and oval ductwork 24" and larger shall be Ductmate, or approved equivalent. Transverse joints in round and overall ductwork smaller than 24" shall be beaded sleeve joints.

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PROFESSIONAL ENGINEER

07/11/2025

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LICENSE # 6201310434
EXPIRATION: 09/30/2025

I HEARBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAW OF THE THIS STATE.

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CERTIFICATE OF AUTHORITY NO. 802229007

RELEASE TYPE:

EXISTING CONDITIONS	
SCHEMATIC DESIGN	
DESIGN DEVELOPMENT	
PROGRESS PRINT	
FULL RELEASE	

ISSUED TO:

NO.	DESCRIPTION	DATE

DESIGNED BY: EC DRAWN BY: EC
CHECKED BY: JT APPROVED BY: JT
PROJECT #: STQ-0994-0125

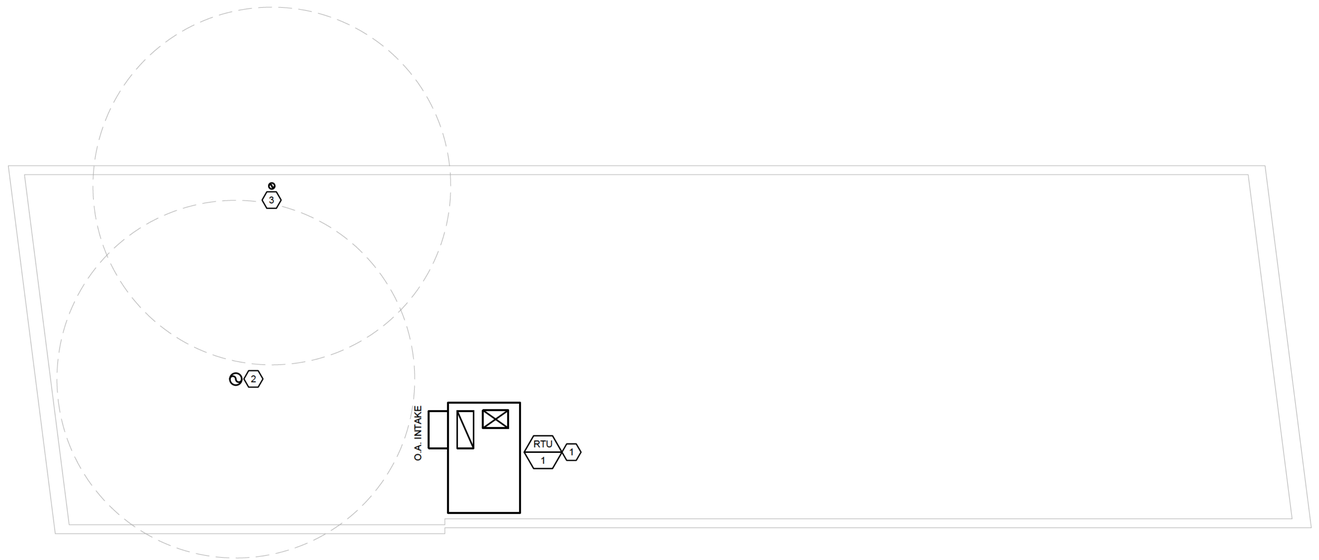
PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: AS INDICATED

DRAWING TITLE:
MECHANICAL PLAN & SCHEDULES

SHEET:
M200



PLAN NORTH

1 **MECHANICAL ROOF PLAN**

1/4" = 1'-0"

0 2' 4' 8'

MECHANICAL SYMBOLS LEGEND	
T	THERMOSTAT
	FLEXIBLE DUCT
	VOLUME DAMPER
FD	FIRE DAMPER
	CEILING SUPPLY AIR DIFFUSER
	CEILING RETURN AIR GRILLE
	SIDEWALL AIR DIFFUSER OR GRILLE
	NEW DUCTWORK
	EXISTING DUCTWORK
CD	CONDENSATE DRAIN
G	GAS PIPING
	PIPE TURNING DOWN
	PIPE TURNING UP
	BALL VALVE
	GATE VALVE
	CONNECTION OF NEW TO EXISTING
	CHECK VALVE
	GAS COCK
	UNION
	PRESSURE GAUGE
	STRAINER
AFF	ABOVE FINISHED FLOOR
S1 / 100	AIR DEVICE # / CFM — S - SUPPLY, R - RETURN, E - EXHAUST
	TURNING VANES
	RECTANGULAR TO ROUND TRANSITION
MD	MOTORIZED DAMPER

KEYED NOTES

1. PROVIDE ROOFTOP UNIT, (RTU-1) AT LOCATION SHOWN. VERIFY EXACT LOCATION WITH LANDLORD REPRESENTATIVE AND STRUCTURAL DRAWINGS. VERIFY THAT OUTSIDE AIR INTAKE IS AT LEAST 10'-0" AWAY FROM ALL EXHAUST/VENT DISCHARGES.
2. TERMINATE RESTROOM EXHAUST AIR DUCT UP THROUGH ROOF IN ACCORDANCE WITH LOCAL CODES. VERIFY EXACT LOCATION IN FIELD. MAINTAIN MINIMUM 10'-0" DISTANCE FROM ALL OUTSIDE AIR INTAKES.
3. ROUTE 3" WH COMBUSTION AIR AND VENT EXHAUST THROUGH ROOF WITH CONCENTRIC VENT KIT. TERMINATE AT MINIMUM 3'-0" ABOVE ANY BUILDING INTAKES AND 10'-0" HORIZONTALLY FROM ANY BUILDING INTAKES.

OUTDOOR AIR VENTILATION SCHEDULE

Room Name-Number	Served By:	Floor Number:	Occupancy Category	Area (sq.ft.)	People Outdoor Air Rate CFM/Person Table 403.3.1.1	Area Outdoor Airflow Rate CFM/Ft2 Table 403.3.1.1	Default Occupant Density Per Table 403.3.1.1 (People/ 1000 Ft2)	Area Outdoor Air	Zone Population 0* Az/1000	Occupant Outdoor Air	Breathing Zone Outdoor Air	Zone Air Distribution Effectiveness Table 403.3.1.1.1.2	Zone Outdoor Air Req'd	Zone Outdoor Air Provided	Supply Air Design
				Az	Rp	Ra	O	Ra*Az	Pz	Rp*Pz	Vbz=RpPz+RaAz	Ez	Voz=Vbz/Ez	Voz	Vpz
Dining/Ordering	RTU-1	1	DINING ROOMS	532	7.5	0.18	70	96	28	210	306	0.8	382	316.88	1300
Service	RTU-1	1	KITCHEN (NON-COOKING)	292	7.5	0.18	70	53	4	30	83	0.8	103	182.81	750
Restroom	RTU-1	1	RESTROOM	50	0	0	0	0	0	0	0	0.8	0	12.19	50
Storage	RTU-1	1	STORAGE	396	0	0.12	0	48	1	0	48	0.8	59	73.13	300
PER IMC 2021												TOTAL	545	585	2400

An entry of "0" indicates "not required per code"

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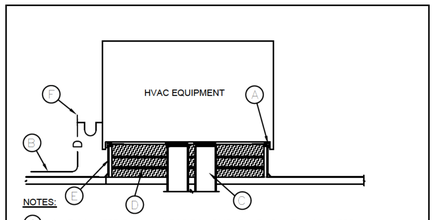
PROJECT:
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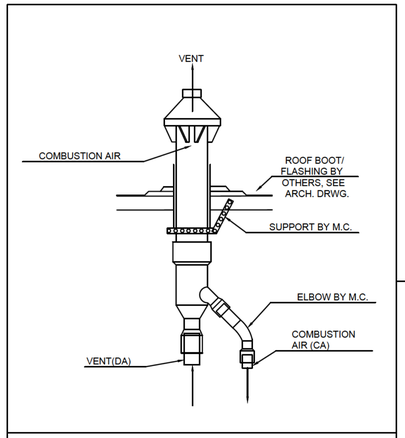
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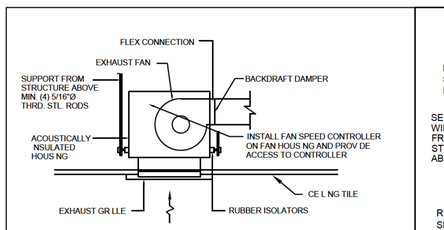
SHEET:
M201



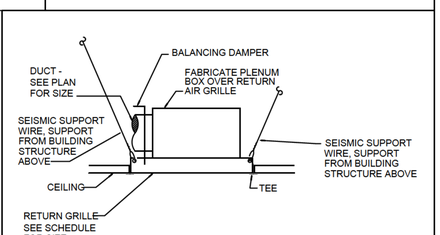
RTU CURB DETAIL
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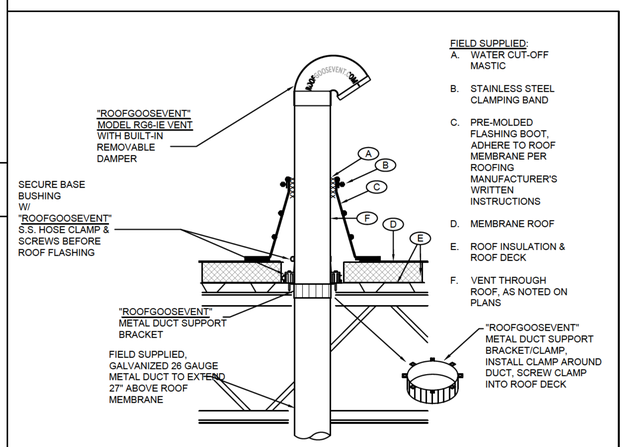
CONCENTRIC VENT KIT DETAIL
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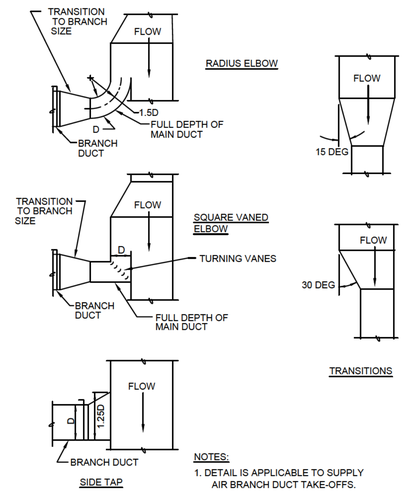
CEILING MTD. EXHAUST FAN
NO SCALE



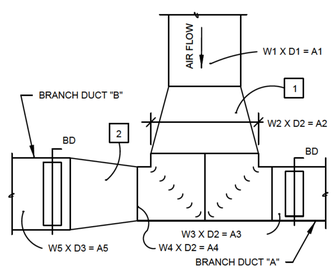
DUCTED RETURN GRILLE
NO SCALE



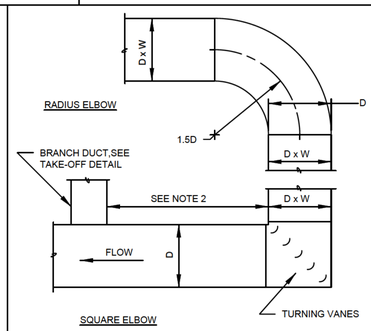
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NO SCALE



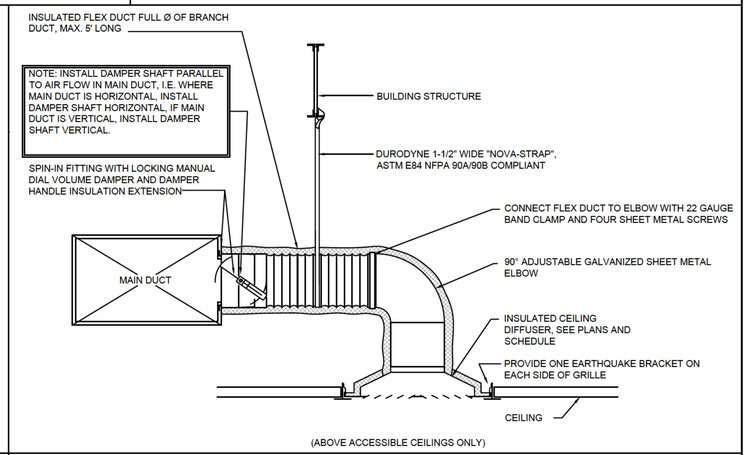
BRANCH DUCT TAKEOFFS AND TRANSITIONS
NO SCALE



DUCT TEE FITTING
NO SCALE



DUCT ELBOW
NO SCALE



BRANCH DUCT - AIR GRILLE DETAIL
NO SCALE

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CHECKED BY:	JT	APPROVED BY:	JT
PROJECT #		STQ-0994-0125	

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: AS INDICATED

DRAWING TITLE:
MECHANICAL DETAILS

SHEET:
M300

SUMMARY

A. GENERAL AND SUPPLEMENTARY CONDITIONS WITHIN THE SPECIFICATIONS ARE HEREBY INCORPORATED AND BECOME PART OF THESE SPECIFICATIONS AND AS SUCH SHALL BE APPLICABLE TO THE WORK OF THE ELECTRICAL CONTRACT.

B. PRIOR TO SUBMISSION OF A BID PROPOSAL, THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS AND LIMITATIONS THAT IMPACT THE WORK OF THIS CONTRACT. NO ADDITIONAL COSTS TO THE OWNER SHALL BE PERMITTED FOR CHANGES TO THE WORK AS A RESULT OF THE CONTRACTORS FAILURE TO VISIT THE SITE PRIOR TO BIDDING AND IDENTIFY ITEMS THAT WERE ABLE TO BE VERIFIED DURING A SITE VISIT PRIOR TO THE SUBMISSION OF A BID PROPOSAL.

C. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, EQUIPMENT, RIGGING, AND MISCELLANEOUS ITEMS AS REQUIRED FOR A COMPLETE, OPERATIONAL, FUNCTIONAL AND CODE COMPLIANT ELECTRICAL INSTALLATION AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN THESE SPECIFICATIONS.

LANDLORDS REQUIREMENTS

A. ALL WORK OF THIS CONTRACT SHALL BE COMPLETED IN STRICT ACCORDANCE WITH ALL APPLICABLE LANDLORD REQUIREMENTS INCLUDING BUT NOT NECESSARILY LIMITED TO; LANDLORD'S WORK LETTER, LANDLORD'S CONSTRUCTION CRITERIA AND/OR THE TENANT/LANDLORD AGREEMENT. THIS CONTRACTOR SHALL EXAMINE THESE DOCUMENTS PRIOR TO THE SUBMISSION OF A BID PROPOSAL.

B. ALL APPLICABLE LANDLORD REQUIREMENTS INCLUDING BUT NOT NECESSARILY LIMITED TO THE LANDLORD'S WORK LETTER, LANDLORDS CONSTRUCTION CRITERIA AND/OR THE TENANT/LANDLORD AGREEMENT DOCUMENTS SHALL BE CONSIDERED PART OF THESE SPECIFICATIONS.

EXISTING CONDITIONS

A. THE CONTRACT DOCUMENTS ARE BASED ON INFORMATION PROVIDED TO THE CONSULTANT AT THE TIME OF DESIGN. THIS CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING A BID PROPOSAL.

BIDS AND SUBSTITUTIONS

A. PRIOR TO SUBMISSION OF A BID PROPOSAL, CONTRACTOR SHALL THOROUGHLY REVIEW THE BID INSTRUCTIONS AND ALL CIVIL, ARCHITECTURAL, STRUCTURAL, FOOD SERVICE AND MEPFP AND TELECOMMUNICATION CONSTRUCTION DOCUMENTS.

B. SHOULD THE CONTRACTOR WISH TO SUBMIT AN ALTERNATE PRODUCT TO THE MANUFACTURERS NAMED IN THESE SPECIFICATIONS OR ON THE DRAWINGS FOR ANY EQUIPMENT, THE CONTRACTOR SHALL SUBMIT A VOLUNTARY ALTERNATIVE A MINIMUM OF SEVEN (7) CALENDAR DAYS PRIOR TO BID, STATING THE MANUFACTURER'S NAME, MODEL NUMBER, WRITTEN, DETAILED PRODUCT DATA.

C. WORK PERFORMED OR CONSTRUCTED WITH UNAPPROVED EQUALS IS AT CONTRACTOR'S RISK AND ANY REQUIRED CORRECTION OF WORK INCORPORATING UNAPPROVED EQUALS SHALL BE AT CONTRACTOR'S SOLE COST AND EXPENSE.

D. NO SUBSTITUTIONS PERMITTED FOR LIGHTING FIXTURES.

QUALITY ASSURANCE

A. ALL MATERIALS AND EQUIPMENT SHALL BE NEW.

B. PROVIDE PERMITS, INSPECTIONS, FINAL CERTIFICATES OF INSPECTION BY THE AUTHORITY HAVING JURISDICTION, PERMIT AND INSPECTION FEES AND ALL MATERIALS, EQUIPMENT AND LABOR AS REQUIRED FOR A COMPLETE, FUNCTIONAL, FULLY OPERATIONAL AND CODE COMPLIANT ELECTRICAL SYSTEM.

C. THIS CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND ACCESSORIES FOR A COMPLETE FUNCTIONAL AND CODE COMPLIANT ELECTRICAL INSTALLATION, WHETHER OR NOT SHOWN ON THE DRAWINGS OR SPECIFIED IN THESE SPECIFICATIONS.

D. EC SHALL VERIFY THE VOLTAGE AND AMPERAGE REQUIREMENTS OF ALL EQUIPMENT DELIVERED TO THE SITE PRIOR TO CONNECTION. EC SHALL NOTIFY THE OWNER OF ANY DIFFERENCES

E. REQUIREMENTS OF REGULATORY AGENCIES:

1. PERMITS: ARRANGE AND PAY FOR ALL PERMITS, INSPECTIONS AND UTILITY CONNECTIONS REQUIRED.
2. PROVIDE ALL TESTS AND INSPECTIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
3. PROVIDE A SIGNED CERTIFICATE OF INSPECTION AT THE COMPLETION OF THE PROJECT. INCLUDE IN OPERATION AND MAINTENANCE MANUALS.

F. CODES AND STANDARDS

1. COMPLY WITH SPECIFIED CODES AND STANDARDS. IF CONFLICT EXISTS BETWEEN CODES OR STANDARDS AND DRAWINGS, PROJECT MANUAL OR ADDENDA REQUIREMENTS, REQUEST CLARIFICATION FROM ARCHITECT/ENGINEER.
2. CONFORM TO THE INSTALLATION RULES AND REGULATIONS OF THE CODES AND STANDARDS LISTED INCLUDING ALL SUBSEQUENTLY PUBLISHED AMENDMENTS THERETO ISSUED PRIOR TO THE DATE OF THE BIDDING DOCUMENTS.
3. CONFORM TO THE REQUIREMENTS OF ALL LOCAL, STATE AND FEDERAL AGENCIES WHICH HAVE AUTHORITY OVER THIS PROJECT.
4. COMPLY WITH THE APPLICABLE EDITION OF THE FOLLOWING CODES AND STANDARDS THAT HAVE BEEN ADOPTED BY AND ARE ENFORCED BY THE AUTHORITY HAVING JURISDICTION:
   a. INTERNATIONAL BUILDING CODE.
   b. INTERNATIONAL ENERGY CONSERVATION CODE
   c. INTERNATIONAL MECHANICAL CODE
   d. NATIONAL ELECTRICAL CODE
   e. INTERNATIONAL FIRE CODE
   f. LIFE SAFETY CODE, NFPA 101
   g. AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES
   h. ALL LOCAL CODES AND ORDINANCES ADOPTED AND ENFORCED BY THE AUTHORITY HAVING JURISDICTION.

G. REFERENCED STANDARDS:

1. ALL EQUIPMENT, APPARATUS, MATERIALS AND SYSTEMS SHALL BE RATED, TESTED, FABRICATED AND INSTALLED IN ACCORDANCE WITH THE APPLICABLE INDUSTRY STANDARDS.
2. ALL EQUIPMENT, APPARATUS, MATERIALS AND SYSTEMS SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (UL, ETL, ETC)

ELECTRICAL CONTRACT DOCUMENTS

A. THE ELECTRICAL DRAWINGS (DRAWINGS) AND THE SPECIFICATIONS SHALL TOGETHER FORM A SET OF CONTRACT DOCUMENTS FOR THE ELECTRICAL WORK. NEITHER THE DRAWINGS OR THE SPECIFICATIONS SHALL BE COMPLETE WITHOUT THE OTHER. ANY ITEM SHOWN ONLY ON THE DRAWINGS OR SPECIFIED ONLY IN THE SPECIFICATIONS SHALL BE CONSIDERED AS IF SHOWN AND SPECIFIED IN BOTH.

B. ELECTRICAL DRAWINGS AND SPECIFICATIONS: COMPLY WITH THE FOLLOWING REQUIREMENTS:

1. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL DRAWINGS AND SPECIFICATIONS WITHIN THE CONTRACT DOCUMENTS, INCLUDING, BUT NOT NECESSARILY LIMITED TO, GEOTECHNICAL, LANDSCAPE, CIVIL, ARCHITECTURAL, STRUCTURAL, FOOD SERVICE, MECHANICAL, PLUMBING, TELECOMMUNICATION AND FIRE PROTECTION DRAWINGS AND SPECIFICATIONS.
2. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE INTENDED TO INDICATE APPROXIMATE LOCATION ONLY OF ELECTRICAL WORK. THE ACTUAL LOCATION OF ANY ELECTRICAL WORK SHALL NOT INTERFERE WITH THE LOCATION, CLEARANCES, ETC. REQUIRED BY THE WORK OF OTHER TRADES.
3. PRIOR TO ROUGH-IN, CONTRACTOR SHALL COORDINATE ALL DEVICE LOCATIONS WITH THE ARCHITECTURAL WALL ELEVATIONS, CASEWORK/CABINETRY ELEVATIONS AND DETAILS AND THE FINAL, APPROVED FOOD SERVICE SHOP DRAWINGS.

C. DEFINITIONS: THE FOLLOWING TERMS ARE USED ON THE ELECTRICAL DRAWINGS AND IN THE SPECIFICATIONS AND SHALL BE DEFINED AS FOLLOWS:

1. CONTRACTOR - THE ELECTRICAL CONTRACTOR OR ANY OF THEIR SUB-CONTRACTORS.
2. WORK - ALL MATERIAL, LABOR, TRANSPORTATION OF THE ELECTRICAL CONTRACTOR OR ANY OF THEIR SUB-CONTRACTORS.
3. FURNISH - PURCHASE, SUBMIT FOR REVIEW AND APPROVAL, COORDINATE WITH THE CONTRACT DOCUMENTS AND DELIVER TO THE PROJECT SITE IN NEW, UNDAMAGED CONDITION, STORE AS DIRECTED, PROTECT FROM DAMAGE DURING STORAGE.
4. INSTALL - INSTALL IN PLACE, MAKE READY FOR CONNECTION TO THE REQUIRED SERVICE.
5. CONNECT - CONNECT TO THE REQUIRED SERVICE AS REQUIRED FOR PROPER OPERATION, TEST FOR PROPER OPERATION AND FUNCTIONALITY IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND REQUIREMENTS SPECIFIED WITHIN THESE SPECIFICATIONS AND TURN OVER TO THE OWNER IN FULL OPERATING CONDITION.
6. PROVIDE - FURNISH, INSTALL AND CONNECT AS DEFINED HEREIN FOR A COMPLETE, FUNCTIONAL AND CODE COMPLIANT INSTALLATION READY FOR INTENDED USE.
7. FINISHED SPACE - SPACES HAVING WALLS PAINTED OR FINISHED WITH WALL COVERING, LAY-IN OR DRYWALL CEILINGS, AND FINISHED FLOORING MATERIALS. EXAMPLES OF FINISHED SPACES INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, ALL SPACES IN A DWELLING UNIT, OFFICES, LOBBIES, CORRIDORS, TOILET ROOMS, ETC.
8. UNFINISHED SPACES - SPACES WITH UNFINISHED WALLS AND FLOORS AND TYPICALLY ARE NOT EQUIPPED WITH A CEILING. EXAMPLES INCLUDE, BUT ARE NOT NECESSARILY LIMITED TO, MECHANICAL ROOMS, ELECTRICAL ROOMS, SERVICE AREAS, ETC.
9. SHALL - ACTION THAT IS REQUIRED WITHOUT OPTION OR QUALIFICATION.
10. REMOVE - DETACH ITEMS FROM EXISTING CONSTRUCTION AND LEGALLY DISPOSE OF THEM OFF SITE UNLESS INDICATED TO BE REMOVED AND SALVAGED OR REMOVED AND RE-INSTALLED.
11. REMOVE AND SALVAGE - CAREFULLY DETACH FROM EXISTING CONSTRUCTION IN A MANNER TO PREVENT DAMAGE AND DELIVER TO OWNER READY FOR RE-USE.
12. REMOVE AND REINSTALL - DETACH ITEMS FROM EXISTING CONSTRUCTION, PREPARE FOR RE-USE, RE-INSTALL AND RECONNECT WHERE INDICATED SUCH THAT THE RE-INSTALLED ITEM IS FULLY OPERATIONAL.
13. EXISTING TO REMAIN - EXISTING ITEMS OF CONSTRUCTION THAT ARE NOT TO BE PERMANENTLY REMOVED AND THAT ARE NOT OTHERWISE INDICATED TO BE REMOVED, REMOVED AND SALVAGED OR REMOVED AND RE-INSTALLED.

SUBMITTALS

A. REVIEW OF THE SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY AND SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR OF BUILDING CONDITIONS; NOR SHALL IT BE CONSTRUED AS RELIEVING THE CONTRACTOR'S OF BASIC RESPONSIBILITIES UNDER HIS CONTRACT. ARCHITECT/ENGINEER WILL REVIEW SHOP DRAWINGS ONLY FOR CONFORMANCE WITH DESIGN CONCEPT OF THE PROJECT. REVIEW BY THE ARCHITECT/ENGINEER SHALL NOT BE CONSTRUED:

1. AS PERMITTING ANY DEPARTURE FROM THE CONTRACT REQUIREMENTS.
2. AS RELIEVING THE CONTRACTOR OF THE RESPONSIBILITY FOR ANY ERROR IN DETAILS, DIMENSIONS OR OTHERWISE THAT MAY EXIST.
3. AS APPROVED DEPARTURES FROM ADDITIONAL DETAILS OR INSTRUCTIONS PREVIOUSLY FURNISHED BY THE ARCHITECT/ENGINEER.

B. SHOP DRAWINGS:

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DESCRIPTIVE LITERATURE OF EQUIPMENT TO BE FURNISHED UNDER THIS CONTRACT. DRAWINGS SHALL STATE CAPACITIES, SIZES, ETC., OF ALL EQUIPMENT AND SHALL BE CERTIFIED. SEE GENERAL CONDITIONS AND SUPPLEMENTARY CONDITIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE SUBMITTALS FOR LIGHTING FIXTURES, PANELBOARDS, LIGHTING CONTROL DEVICES, CONTACTORS, WIRING DEVICES, DISCONNECT SWITCHES, POWER SYSTEM STUDY.

C. THE CONTRACTOR SHALL PERFORM NO PORTION OF THE WORK REQUIRING SUBMITTAL AND REVIEW OF SHOP DRAWINGS, PRODUCT DATA, SAMPLES OR SIMILAR SUBMITTALS UNTIL THE RESPECTIVE SUBMITTALS HAS BEEN APPROVED BY THE ENGINEER.

ELECTRICAL COORDINATION DRAWINGS

A. PREPARE ELECTRICAL COORDINATION DRAWINGS AS REQUIRED BY THE WORK AND AS DIRECTED BY THE GENERAL CONTRACTOR

B. MEET WITH REPRESENTATIVES OF THE OTHER DISCIPLINES/TRADES TO COORDINATE THE ELECTRICAL WORK WITH THE WORK OF EACH DISCIPLINE AND TO OBTAIN INFORMATION REGARDING THEIR WORK THAT IS TO BE INDICATED ON THE COORDINATION DRAWINGS.

POWER SYSTEM STUDIES - GENERAL

A. PROVIDE COMPUTER-BASED, POWER SYSTEM STUDIES THAT INCLUDES:

1. A SHORT CIRCUIT STUDY TO DETERMINE THE MINIMUM INTERRUPTING CAPACITY OF CIRCUIT PROTECTIVE DEVICES;
2. AN ARC-FLASH STUDY TO DETERMINE THE ARC-FLASH HAZARD DISTANCE AND THE INCIDENT ENERGY TO WHICH PERSONNEL COULD BE EXPOSED DURING WORK ON OR NEAR ELECTRICAL EQUIPMENT.

B. STUDIES SHALL BE PERFORMED UTILIZING COMPUTER PROGRAMS THAT ARE DISTRIBUTED NATIONALLY AND ARE IN WIDE USE. SOFTWARE ALGORITHMS SHALL COMPLY WITH REQUIREMENTS OF STANDARDS AND GUIDES SPECIFIED IN THIS SECTION. MANUAL CALCULATIONS ARE UNACCEPTABLE.

C. SOFTWARE DEVELOPERS: SUBJECT TO COMPLIANCE WITH SPECIFIED REQUIREMENTS, PERFORM STUDIES UTILIZING SOFTWARE PRODUCTS BY ONE OF THE FOLLOWING:

1. EASY POWER
2. POWER ANALYTICS CORPORATION
3. SKM SYSTEMS ANALYSIS

D. ALL STUDIES SHALL BE BASED ON THE DEVICE CHARACTERISTICS OF ACTUAL EXISTING COMPONENTS AND THE NEW COMPONENTS BEING INSTALLED.

E. PROVIDE ALL FIELD LABOR AS REQUIRED TO OBTAIN ALL DATA NECESSARY TO CONDUCT THE STUDIES SPECIFIED HEREIN.

F. SUBMIT STUDIES FOR REVIEW BEFORE SUBMITTING THE SYSTEM OVERCURRENT PROTECTIVE DEVICE AND POWER DISTRIBUTION EQUIPMENT SUBMITTALS. SUBMIT STUDY REPORT FOR REVIEW PRIOR TO RECEIVING FINAL APPROVAL OF THE OVERCURRENT PROTECTIVE DEVICE AND DISTRIBUTION EQUIPMENT SUBMITTALS.

G. WHERE FORMAL COMPLETION OF STUDIES WILL CAUSE A DELAY IN THE ORDERING AND MANUFACTURING OF OVERCURRENT PROTECTIVE DEVICES AND POWER DISTRIBUTION EQUIPMENT, OBTAIN APPROVAL FROM ENGINEER FOR PRELIMINARY SUBMITTAL OF SUFFICIENT STUDY DATA TO ENSURE THAT THE SELECTION OF DEVICES AND ASSOCIATED CHARACTERISTICS IS SATISFACTORY AND IN COMPLIANCE WITH THE RESULTS OF THE STUDIES BEING PERFORMED.

H. STUDY SHALL BE SIGNED AND SEALED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR PROVIDING THE STUDY.

SHORT CIRCUIT STUDY

A. PROVIDE A COMPUTER-BASED, SHORT CIRCUIT STUDY TO DETERMINE THE MINIMUM INTERRUPTING CAPACITY OF CIRCUIT PROTECTIVE DEVICES.

B. FOR NEW EQUIPMENT, USE CHARACTERISTICS SUBMITTED UNDER THE PROVISIONS OF ACTION SUBMITTALS AND INFORMATION SUBMITTALS FOR THIS PROJECT.

C. FOR EXISTING RELOCATED EQUIPMENT AND EXISTING EQUIPMENT THAT IS EXISTING TO REMAIN, OBTAIN REQUIRED ELECTRICAL DISTRIBUTION SYSTEM DATA BY FIELD INVESTIGATION AND SURVEYS, CONDUCTED BY QUALIFIED TECHNICIANS AND ENGINEERS. THE QUALIFICATIONS OF TECHNICIANS AND ENGINEERS SHALL BE QUALIFIED AS DEFINED BY NFPA 70E.

D. GATHER AND TABULATE ALL REQUIRED DATA TO SUPPORT THE SHORT-CIRCUIT STUDY. COMPLY WITH RECOMMENDATIONS IN IEEE 551 AS TO THE AMOUNT OF DETAIL THAT IS REQUIRED TO BE ACQUIRED IN THE FIELD.

E. BEGIN SHORT-CIRCUIT CURRENT ANALYSIS AT THE SERVICE, EXTENDING DOWN TO THE SYSTEM OVERCURRENT PROTECTIVE DEVICES AS FOLLOWS:

1. TO NORMAL SYSTEM LOW-VOLTAGE LOAD BUSES WHERE FAULT CURRENT IS 10 KA OR LESS.

ARC FLASH HAZARD STUDY

A. PROVIDE A COMPUTER-BASED, ARC-FLASH HAZARD STUDY TO DETERMINE THE ARC-FLASH HAZARD DISTANCE AND THE INCIDENT ENERGY TO WHICH PERSONNEL COULD BE EXPOSED DURING WORK ON OR NEAR EXISTING AND NEW ELECTRICAL EQUIPMENT.

B. ELECTRICAL SURVEY DATA: GATHER AND TABULATE ALL REQUIRED INPUT DATA TO SUPPORT STUDY. COMPLY WITH RECOMMENDATIONS IN IEEE 1584 AND NFPA 70E AS TO THE AMOUNT OF DETAIL THAT IS REQUIRED TO BE ACQUIRED IN THE FIELD.

C. FOR NEW EQUIPMENT, USE CHARACTERISTICS SUBMITTED UNDER THE PROVISIONS OF ACTION SUBMITTALS AND INFORMATION SUBMITTALS FOR THIS PROJECT.

D. FOR EXISTING EQUIPMENT, WHETHER OR NOT RELOCATED, OBTAIN REQUIRED ELECTRICAL DISTRIBUTION SYSTEM DATA BY FIELD INVESTIGATION AND SURVEYS, CONDUCTED BY QUALIFIED TECHNICIANS AND ENGINEERS.

E. HAZARD LABELS SHALL HAVE AN ORANGE HEADER WITH THE WORDING, "WARNING, ARC-FLASH HAZARD," AND SHALL INCLUDE THE FOLLOWING INFORMATION TAKEN DIRECTLY FROM THE ARC-FLASH HAZARD ANALYSIS:

1. LOCATION DESIGNATION.
2. NOMINAL VOLTAGE.
3. FLASH PROTECTION BOUNDARY.
4. HAZARD RISK CATEGORY.
5. INCIDENT ENERGY.
6. WORKING DISTANCE.
7. ENGINEERING REPORT NUMBER, REVISION NUMBER, AND ISSUE DATE.

F. ARC FLASH HAZARD WARNING LABELS SHALL BE A 3.5-BY-5-INCH THERMAL TRANSFER LABEL OF HIGH-ADHESION POLYESTER FOR EACH WORK LOCATION INCLUDED IN THE ANALYSIS.

G. LABELS SHALL BE MACHINE PRINTED, WITH NO FIELD-APPLIED MARKINGS.

RECORD DOCUMENTS

A. DURING THE PROGRESS OF THE WORK, CONTRACTOR SHALL MAINTAIN A CURRENT (DAILY) AS-BUILT SET OF THE DRAWINGS AND SPECIFICATIONS, INDICATING THEREON ALL WORK INSTALLED AT VARIANCE WITH SUCH CONTRACT DOCUMENTS INCLUDING, WITHOUT LIMITATION, WORK COVERED BY ADDENDA, FIELD WORK ORDERS, CHANGE ORDERS, AND ENGINEERS

B. CONTRACTOR SHALL PROVIDE THE TENANT WITH THE FINAL AS-BUILT SET OF DRAWINGS AT THE COMPLETION OF THE WORK.

COORDINATION WITH LANDLORD AND UTILITY COMPANIES

A. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL COORDINATE THE WORK OF THIS CONTRACT WITH THE LANDLORD'S AUTHORIZED REPRESENTATIVE AND AUTHORIZED REPRESENTATIVES OF EACH SERVING UTILITY THAT WILL PROVIDE SERVICE TO THIS SITE, INCLUDING BUT NOT NECESSARILY LIMITED TO, ELECTRIC, TELEPHONE AND CABLE/SATELLITE TV SERVICE PROVIDERS.

B. CONTRACTOR SHALL MEET WITH AUTHORIZED REPRESENTATIVES OF THE LANDLORD AND EACH UTILITY TO DISCUSS LANDLORD UTILITY COMPANY SCOPE OF WORK, CONTRACTOR SCOPE OF WORK, POINT OF SERVICE PICK-UP, DETAILS REGARDING SYSTEM INTERFACE, UTILITY COMPANY STANDARDS TO BE COMPLIED WITH, ETC.

COORDINATION WITH OTHER TRADES

A. ELECTRICAL WORK SHALL BE INSTALLED SO AS TO NOT CONFLICT WITH THE WORK OF OTHER TRADES.

B. SET ALL SLEEVES AND CUT AND PATCH ALL MISCELLANEOUS HOLES NECESSARY FOR THE CONVENIENT AND PROPER INSTALLATION OF THE WORK.

C. CONFER WITH THE OTHER CONTRACTORS REGARDING THE LOCATION AND SIZE OF PIPES, EQUIPMENT, DUCTS, OPENINGS AND SPECIAL ARCHITECTURAL TREATMENTS IN ORDER THAT THERE MAY BE NO INTERFERENCES BETWEEN THE INSTALLATION OR THE PROGRESS OF THE WORK OF ANY CONTRACTOR ON THE PROJECT.

D. ALL LINE VOLTAGE WIRING AND FINAL CONNECTIONS TO COMPLETE MECHANICAL SYSTEMS SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

E. PROVIDE FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT FURNISHED/PROVIDED BY OTHERS, (HVAC EQUIPMENT, PLUMBING EQUIPMENT, COMMERCIAL KITCHEN EQUIPMENT, ETC.

F. COORDINATE THE NEMA CONFIGURATION OF THE RECEPTACLE TO BE PROVIDED WITH THE NEMA PLUG CONFIGURATION OF THE CORD/PLUG ASSEMBLY FURNISHED WITH THE EQUIPMENT TO BE INSTALLED. PROVIDE RECEPTACLES HAVING A NEMA CONFIGURATION THAT MATCHES THE NEMA CONFIGURATION OF THE PLUG ON THE EQUIPMENT.

G. PROVIDE FINAL COORDINATION OF AVAILABLE POWER (VOLTAGE/PHASE) WITH OTHER TRADES PRIOR TO THEIR ORDERING OF EQUIPMENT.

H. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING ELECTRICAL WORK TO BE PROVIDED ASSOCIATED WITH MECHANICAL EQUIPMENT.

I. WHERE ELECTRICAL WORK (CONDUIT BOXES, RECEPTACLES, DISCONNECT SWITCHES, ETC.) ARE SECURED DIRECTLY TO THE HOUSING OF MECHANICAL EQUIPMENT, THEY SHALL BE INSTALLED ON A PORTION OF THE EQUIPMENT HOUSING NOT REQUIRED TO BE REMOVED FOR ROUTINE MAINTENANCE. PRIOR TO INSTALLATION, COORDINATE ALL ELECTRICAL WORK AT MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR.

TEMPORARY POWER

A. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED TEMPORARY CONSTRUCTION POWER AND LIGHTING TO ALLOW ALL CONTRACTORS AND SUB-CONTRACTORS TO PERFORM THE WORK OF THEIR CONTRACTS.

B. PRIOR TO THE SUBMISSION OF A BID PROPOSAL, THE CONTRACTOR SHALL CONTACT THE GENERAL CONTRACTOR TO COORDINATE THE TYPE OF EQUIPMENT TO BE UTILIZED DURING THE WORK OF THIS CONTRACT

SEQUENCING AND SCHEDULING

A. COORDINATE ELECTRICAL EQUIPMENT INSTALLATION WITH OTHER BUILDING COMPONENTS AND THE PROJECT PHASING PLAN.

UTILITY COMPANY METERING EQUIPMENT

A. PROVIDE ALL EQUIPMENT REQUIRED FOR ELECTRICITY METERING BY UTILITY COMPANY. ALL METERING EQUIPMENT AND THE INSTALLATION OF THE EQUIPMENT SHALL BE IN COMPLIANCE WITH ALL UTILITY COMPANY REQUIREMENTS.

B. ELECTRICAL SERVICE CONNECTIONS: COORDINATE WITH UTILITY COMPANIES AND COMPONENTS THEY FURNISH AS FOLLOWS:

1. COMPLY WITH REQUIREMENTS OF UTILITIES PROVIDING ELECTRICAL POWER SERVICES.
2. COORDINATE INSTALLATION AND CONNECTION OF UTILITIES AND SERVICES, INCLUDING PROVISION FOR ELECTRICITY-METERING COMPONENTS.

C. METERS SHALL BE FURNISHED BY UTILITY COMPANY; INSTALLED BY ELECTRICAL CONTRACTOR.

D. METER SOCKETS: COMPLY WITH REQUIREMENTS OF ELECTRICAL-POWER UTILITY COMPANY.

E. INSTALL ALL CONDUITS AND EQUIPMENT ACCORDING TO UTILITY COMPANY'S WRITTEN REQUIREMENTS. PROVIDE EMPTY CONDUITS FOR METERING LEADS AND EXTEND GROUNDING CONNECTIONS AS REQUIRED BY UTILITY COMPANY.

FIRE STOPPING

A. PROVIDE FIRE STOPPING FOR PENETRATIONS BY CONDUIT OR CABLES AND OTHER EQUIPMENT THROUGH FIRE-RATED VERTICAL BARRIERS (WALLS AND PARTITIONS), HORIZONTAL BARRIERS (FLOOR/CEILING ASSEMBLIES) AND VERTICAL SHAFT WALLS AND PARTITIONS.

B. FIRESTOP SYSTEM INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF ATME E 814 OR UL 1479 TESTED ASSEMBLIES THAT PROVIDE A FIRE RATING EQUAL TO OR GREATER THAN THAT OF THE CONSTRUCTION BEING PENETRATED.

SEISMIC RESTRAINT

A. PROVIDE SEISMIC RESTRAINT FOR ELECTRICAL WORK AND SYSTEMS AND EQUIPMENT IN STRICT ACCORDANCE WITH THE APPLICABLE BUILDING CODE AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

B. SUBMIT ALL REQUIRED DETAILS TO THE AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL.

CUTTING & PATCHING

A. PRIOR TO CORE DRILLING OR SAW CUTTING OPERATIONS, CONTRACTOR SHALL X-RAY OR GROUND PENETRATING RADAR (GPR) THE EXISTING SLAB TO DETERMINE THE LOCATION OF ANY EXISTING UTILITIES, STRUCTURAL MEMBERS, ETC. COORDINATE ALL SCANNING, CUTTING AND CORE DRILLING OPERATIONS WITH GC AND LANDLORD PRIOR TO COMMENCEMENT OF WORK.

B. CORE-DRILL OR SAW-CUT EXISTING FLOORS, WALLS, ROOF, ETC., AS REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL WORK. EXISTING UTILITIES AND STRUCTURAL COMPONENTS, INCLUDING BUT NOT NECESSARILY LIMITED TO, COLUMNS, BEAMS, GIRDERS, PLATES OR JOISTS SHALL NOT BE CUT.

C. PATCH SURROUNDING AREAS FLUSH WITH ADJACENT SURFACES AND PREPARE TO RECEIVE SPECIFIED FINISHES.

D. PATCH AND REPAIR ROOF TO MATCH EXISTING ROOFING SYSTEM. ALL ROOF WORK SHALL BE PERFORMED TO MEET THE WARRANTY REQUIREMENTS OF THE EXISTING ROOFING SYSTEM.

GROUNDING

A. PROVIDE ELECTRICAL SYSTEM AND EQUIPMENT GROUNDING IN ACCORDANCE WITH APPLICABLE N.E.C. REQUIREMENTS.

B. THE METALLIC CONDUIT SYSTEM SHALL BE GROUNDED AND BONDED TO FORM AN EQUIPMENT GROUNDING CONDUCTOR.

C. PROVIDE AN INSULATED EQUIPMENT GROUND CONDUCTOR WITHIN ALL FEEDERS AND BRANCH CIRCUITS. THIS EQUIPMENT GROUND CONDUCTOR SHALL BE IN ADDITION TO THE EQUIPMENT GROUND CONDUCTOR FORMED BY THE METALLIC CONDUIT SYSTEM.

D. PROVIDE AN ISOLATED GROUND CONDUCTOR IN ADDITION TO THE EQUIPMENT GROUNDING CONDUCTOR IN SELECT BRANCH CIRCUITS AS NOTED ON THE DRAWINGS.

E. PROVIDE A #6 AWG GREEN INSULATED GROUNDING CONDUCTOR FROM THE GROUND BAR AT TELEPHONE TERMINAL BOARD TO THE ELECTRICAL SERVICE GROUND.

F. PROVIDE A COPPER GROUNDING BAR AT THE TELEPHONE TERMINAL BACKBOARD. GROUNDING BAR SHALL BE ¼ INCH X 4 INCHES X 12 INCHES, PRE-DRILLED FOR CONDUCTOR TERMINATIONS, WITH NON-METALLIC STAND-OFF BRACKETS WITH INSULATORS. CHATSWORTH PRODUCTS 10622-012 OR APPROVED EQUAL.

EQUIPMENT IDENTIFICATION

A. PROVIDE EQUIPMENT LABELS ON PANELBOARDS, DISCONNECT SWITCHES, CONTACTORS, CONTROLS, ETC. EQUIPMENT LABELS SHALL BE ENGRAVED PHENOLIC RESIN NAMEPLATES ATTACHED TO ENCLOSURE WITH MECHANICAL FASTENERS. SELF-ADHESIVE NAMEPLATES ARE NOT ACCEPTABLE. LETTERING SHALL BE 1/2" HIGH, BLACK TEXT ON WHITE BACKGROUND.

B. ENGRAVED NAMEPLATES ATTACHED TO COMPONENTS SHALL IDENTIFY THE EQUIPMENT DESIGNATION, NAME OF THE "UPSTREAM" POWER SOURCE (AS APPLICABLE), VOLTAGE AND PHASE.

C. THE COVERS OF ALL OUTLET AND JUNCTION BOXES INSTALLED ABOVE CEILINGS AND INSTALLED EXPOSED IN UNFINISHED SPACES SHALL BE LABELED TO IDENTIFY THE SERVING PANEL, VOLTAGE, PHASE AND CIRCUIT NUMBERS CONTAINED WITHIN THE BOX. LABEL SHALL BE LEGIBLY HANDWRITTEN WITH BLACK, FELT TIP PERMANENT MARKER.

D. THE COVER PLATES OF ALL WIRING DEVICES SHALL BE LABELED TO IDENTIFY THE SERVING PANEL AND THE CIRCUITS SERVING THE DEVICE. LABELS SHALL BE MACHINE PRINTED, BLACK TEXT ON A CLEAR, SELF ADHESIVE LABEL.

CONDUIT AND FITTINGS

A. ALL INTERIOR AND EXTERIOR CONDUITS SHALL BE INSTALLED AND SUPPORTED IN ACCORDANCE WITH N.E.C. REQUIREMENTS.

B. MINIMUM CONDUIT SIZE SHALL BE ¾" TRADE SIZE. SWITCH LEGS SHALL BE ½" TRADE SIZE.

C. WITHIN INTERIOR FINISHED SPACES, ALL CONDUIT SHALL BE INSTALLED CONCEALED WITHIN NEW AND EXISTING WALLS AND ABOVE NEW AND EXISTING CEILINGS.

D. CONDUIT INSTALLED WITHIN THE INTERIOR OF THE BUILDING SHALL BE GALVANIZED ELECTRICAL METALLIC TUBING (EMT). CONDUIT FITTINGS FOR INDOOR EMT CONDUITS SHALL BE CAST METAL, COMPRESSION TYPE.

E. EMT SHALL BE USED FOR INTERIOR FEEDERS AND BRANCH CIRCUITS INSTALLED EXPOSED IN UNFINISHED SPACES, CONCEALED ABOVE NEW OR EXISTING CEILINGS OR CONCEALED WITHIN EXISTING AND NEW INTERIOR PARTITIONS.

F. CONDUITS INSTALLED EXPOSED ON THE EXTERIOR OF THE BUILDING SHALL BE GALVANIZED RIGID STEEL. FITTINGS SHALL BE THREADED TYPE.

G. CONDUITS INSTALLED UNDER SLAB ON GRADE CONSTRUCTION SHALL BE RIGID NON-METALLIC (RNC), SCHEDULE 40 PVC. RNC COMPLYING WITH NEMA TC 2 AND UL 651 UNLESS OTHERWISE INDICATED. FITTINGS FOR RIGID NON-METALLIC CONDUIT SHALL COMPLY WITH NEMA TC 3; MATCH TO CONDUIT TYPE AND MATERIAL.

H PROVIDE CONDUIT EXPANSION FITTINGS IN ALL CONDUIT RUNS THAT EXTEND ACROSS BUILDING EXPANSION JOINTS AND WHERE MOVEMENT MAY BE ENCOUNTERED.

I. CONDUIT SHALL BE SUPPORTED FROM STRUCTURE ONLY.

J. PVC CONDUIT SHALL ONLY BE USED BELOW GRADE.

K. PROVIDE FLEXIBLE METAL CONDUI

CONDUCTORS

A. ALL CONDUCTORS SHALL BE SOFT DRAWN, ANNEALED COPPER, #12 AWG MINIMUM.

B. CONDUCTORS #12 AND #10 AWG SHALL BE SOLID; #8 AWG AND LARGER SHALL BE STRANDED.

C. THE USE OF ALUMINUM CONDUCTORS IS NOT ACCEPTABLE.

D. EXPOSED, INTERIOR FEEDERS: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.

E. FEEDERS INSTALLED CONCEALED IN CEILINGS, WALLS, PARTITIONS: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.

F. FEEDERS INSTALLED CONCEALED IN CONCRETE, BELOW SLABS-ON-GRADE AND UNDERGROUND: TYPE THHN-THWN, SINGLE CONDUCTORS IN PVC CONDUIT.

G. EXPOSED, INTERIOR, BRANCH CIRCUITS: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.

H. BRANCH CIRCUITS CONCEALED IN EXISTING AND NEW CEILINGS, WALLS, AND PARTITIONS: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.

I. BRANCH CIRCUITS CONCEALED BELOW SLABS-ON-GRADE, AND UNDERGROUND: TYPE THHN-THWN, SINGLE CONDUCTORS IN CONDUIT.

J. ACCEPTABLE MANUFACTURERS FOR CONDUCTORS: GENERAL CABLE COMPANY, CAROL, ANACONDA, ROME, SOUTHWIRE.

K. CLASS 1 CONTROL CIRCUITS: TYPE THHN-THWN, IN CONDUIT.

L. CLASS 2 CONTROL CIRCUITS: POWER-LIMITED PLENUM RATED CABLE, CONCEALED IN BUILDING FINISHES.

M. THE USE OF NON-METALLIC-SHEATHED CABLE (TYPE NM) AND ARMORED CABLE (TYPE AC OR BX) IS NOT ACCEPTABLE

N. WIRE CONNECTORS SHALL BE EQUAL TO SCOTCH LOCK FOR #8 AWG AND SMALLER, THOMAS AND BETTS LOCK-TITE FOR #6 AND LARGER.

O. PROVIDE #10 AWG CONDUCTORS FOR BRANCH CIRCUITS HAVING A CONDUCTOR LENGTH LONGER THAN 75 FEET.

P. SIZE OF CONDUCTORS AND CABLES INDICATED OR SPECIFIED ARE IN AMERICAN WIRE GAGE (AWG - BROWN AND SHARPE).

Q. INSTALL ALL WIRING IN APPROVED RACEWAY AND ENCLOSURES, EXCEPT WHERE SPECIFIED OR INDICATED, FOR LOW-VOLTAGE WIRING OR, WHERE TYPE MC CABLE IS INDICATED, SPECIFIED AS ACCEPTABLE, OR BOTH.

R. SUPPORT ALL CONDUCTORS AND CABLES IN VERTICAL INSTALLATIONS, AS REQUIRED BY NFPA-70, BY INSTALLING CABLE SUPPORTS OR PLUG-TYPE CONDUIT RISER SUPPORTS, OR WIRE-MESH SAFETY GRIPS.

S. INSTALL ALL CONDUCTORS AND CABLE IN RACEWAYS CONTINUOUS WITHOUT TAPS OR SPLICES. SPLICE OR TAP ONLY IN APPROVED BOXES AND ENCLOSURES WITH APPROVED SOLDERLESS CONNECTORS, OR CRIMP CONNECTORS AND TERMINAL BLOCKS FOR CONTROL WIRING, AND KEEP TO THE MINIMUM REQUIRED. INSULATE ALL SPLICES, TAPS, AND JOINTS AS REQUIRED BY CODE.

T. ALL MATERIALS USED TO TERMINATE, SPLICE OR TAP CONDUCTORS: DESIGNED, PROPERLY SIZED, AND UL LISTED FOR THE SPECIFIC APPLICATION AND CONDUCTORS INVOLVED, AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, USING THE MANUFACTURER'S RECOMMENDED TOOLS.

U. WHERE WIRING IS INDICATED AS INSTALLED, BUT THE CONNECTION IS INDICATED "FUTURE" OR "BY OTHER DIVISION, TRADES, OR CONTRACTS", LEAVE A MINIMUM OF 3' FOOT "PIGTAIL" AT THE BOX, TAPE THE ENDS OF CONDUCTORS, AND COVER THE BOX.

V. VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 3 PERCENT.

W. WHEN NEW CONDUCTORS ARE CONNECTED TO EXISTING CONDUCTORS, THE NEW CONDUCTORS SHALL BE OF THE SAME AWG, CONDUCTOR MATERIAL, INSULATION TYPE TEMPERATURE RATING,. ETC. AS THE EXISTING CONDUCTORS TO WHICH BEING CONNECTED.

TYPE MC CABLE

A. A.TYPE MC CABLE: 600V, UNJACKETED: ANSI E119 AND E814, UL STANDARDS 44 OR 83 (AS APPLICABLE), AND 1569, NFPA 70 ARTICLE 330; ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR; THHM- OR XHHW-INSULATED CONDUCTORS; COLOR CODE: ICEA METHOD 1, WITH GREEN INSULATED GROUNDING CONDUCTOR.

B. USES PERMITTED

B.1. IN LIEU OF FLEXIBLE CONDUIT AND WIRING FROM LIGHT FIXTURES IN ACCESSIBLE CEILINGS TO JUNCTION BOXES (ATTACHED TO BUILDING STRUCTURE) ABOVE THE CEILING. PROVIDE CABLE WHIPS OF SUFFICIENT LENGTHS TO ALLOW FOR RELOCATING EACH LIGHT FIXTURE WITHIN A 5' FOOT RADIUS OF ITS INSTALLED LOCATION, BUT NOT EXCEEDING 6' FEET IN UNSUPPORTED LENGTHS.

B.2. FOR VERTICAL DROPS IN STUD WALLS.

C. USES NOT PERMITTED:

C.1. HOMERUNS TO PANELSBOARDS.

C.2. WHERE EXPOSED TO VIEW.

C.3. WHERE EXPOSED TO DAMAGE.

C.4. HAZARDOUS LOCATIONS.

C.5. WET LOCATIONS

C.6. INSTALLED HORIZONTALLY WITHIN STUD WALL

C.7. WHEN RESTRICTED OTHERWISE ABOVE, AND WHEN SPECIFICALLY DISALLOWED BY THE LOCAL AHJ, OWNER OR BOTH.

D. PRIOR TO THE SUBMISSION OF A BID PROPOSAL, EC SHALL VERIFY THE PERMISSIBLE USE OF MC CABLE WITH THE AHJ.

CONDUCTOR COLOR CODING

A. PROVIDE COLOR CODING SYSTEM AS LISTED BELOW FOR ALL FEEDERS AND BRANCH CIRCUITS AND USED AS A BASIS FOR BALANCING LOAD ON PANELS, AND TO BE PHASE IDENTIFICATION.

B. COLOR CODING FOR CONDUCTOR #12 AWG THROUGH #10 AWG SHALL CONSIST OF COLOR CODED THERMOPLASTIC INSULATION OF THE COLORS SPECIFIED HEREIN.

C. COLOR CODING FOR CONDUCTORS #8 AWG AND LARGER SHALL BE FIELD APPLIED SELF ADHESIVE TAPE OF THE COLOR SPECIFIED HEREIN FOR THE PARTICULAR PHASE.

D. 120/240V DELTA: PHASE A--BLACK, PHASE B(HIGH LEG)--ORANGE, PHASE C--BLUE, NEUTRAL--WHITE, EQUIPMENT GROUND--GREEN, ISOLATED GROUND--GREEN WITH DISTINCTIVE WHITE OR YELLOW MARKINGS.

BOXES AND FITTINGS

A. ALL OUTLET BOXES SHALL BE UL LISTED AND LABELED FOR USE IN THE SPACE THEY OCCUPY AND THE PURPOSE THEY SERVE.

B. SHEET METAL OUTLET AND DEVICE BOXES FOR DRY, INTERIOR APPLICATIONS: COMPLY WITH NEMA OS 1 AND UL 514A.

C. CAST-METAL OUTLET AND DEVICE BOXES FOR EXTERIOR APPLICATIONS: COMPLY WITH NEMA FB 1, FERROUS ALLOY, TYPE FS OR FD, WITH GASKETED COVER.

D. OUTLET BOXES INSTALLED WITHIN FIRE RATED ASSEMBLIES SHALL HAVE A FIRE RATING EQUAL TO OR GREATER THAN THE RATING OF THE WALL IN WHICH IT IS INSTALLED.

E. OUTLET BOXES SHALL BE 4 INCHES SQUARE BY 2 1/8 INCHES DEEP , EXCEPT FOR 2" PARTITIONS SHALL BE AT LEAST 1-1/2" DEEP.

F. OUTLET BOXES FOR VOICE AND DATA DEVICES SHALL BE 4 11/16 INCHES SQUARE BY 2 1/8 INCHES DEEP.

G. ALL PULLBOXES SHALL BE CONSTRUCTED OF GALVANIZED STEEL, OF METAL GAUGE AND PHYSICAL SIZE AS REQUIRED BY THE N.E.C. FOR THE NUMBER AND SIZE OF CONDUITS AND CONDUCTORS ASSOCIATED WITH THE PULLBOX.

H. FIXTURE OUTLET BOXES IN/OR ON CEILINGS SHALL NOT BE LESS THAN 1-1/2" DEEP OR LESS THAN 4" SQUARE. ALL OUTLET BOXES INTENDED TO SUPPORT FIXTURES SHALL BE EQUIPPED WITH 3/8" FIXTURE STUDS FASTENED THROUGH THE BOTTOM OF THE BOX WITH FOUR BOLTS.

I. PULLBOXES AND JUNCTION BOXES THAT ARE CUSTOM FABRICATED FOR THE APPLICATION SHALL BE FABRICATED BY A SHOP/FACILITY THAT IS CERTIFIED BY A NRTL FOR THE FABRICATION OF SUCH ENCLOSURES.

J. NEW OUTLET BOXES INSTALLED WITHIN NEW OR EXISTING STUD WALL CONSTRUCTION SHALL BE MOUNTED TO A STUD OR MOUNTED IN A BRACKET THAT SPANS STUD-TO-STUD, CADDY TSGB BRACKET OR APPROVED EQUAL. THE USE OF "OLD WORK" TYPE BOXES THAT. SECURE ONLY TO THE DRYWALL ARE NOT ACCEPTABLE.

K. ACCEPTABLE MANUFACTURERS FOR BOXES: APPLETON, STEEL CITY, RACO.

PANELBOARDS

A. PANELBOARDS SHALL BE LIGHTING AND APPLIANCE TYPE, DEAD FRONT, SAFETY TYPE, FURNISHED WITH BRANCH CIRCUIT BREAKER OVERCURRENT PROTECTIVE DEVICES, COPPER PHASE, NEUTRAL AND EQUIPMENT GROUNDING BUS BARS, MAIN CIRCUIT BREAKER OR MAIN LUG ONLY AS NOTED ON THE DRAWINGS. MAIN BUSES AND CONNECTORS SHALL BE HARD DRAWN COPPER OF 98% CONDUCTIVITY. LOAD CENTERS ARE NOT ACCEPTABLE FOR USE.

B. CIRCUIT BREAKERS SHALL BE MOLDED CASE, BOLT-ON TYPE SUITABLE FOR VOLTAGE AND AMPERE RATINGS INDICATED ON DRAWINGS AND IN PANEL SCHEDULES. REFER TO THE PANEL SCHEDULES ON THE DRAWINGS FOR ADDITIONAL ACCESSORIES TO BE PROVIDED AT SELECT CIRCUIT BREAKERS.

C. CIRCUIT BREAKERS SHALL HAVE A MINIMUM AMPERE INTERRUPTING CAPACITY (AIC) OF 10,000 AMPERES FOR 120/208V SYSTEMS, 14,000 FOR 277/480V SYSTEMS

D. WHERE THE POWER SYSTEM STUDY IDENTIFIES AVAILABLE FAULT CURRENT VALUES AT EXISTING AND NEW PANELS THAT ARE HIGHER THAN THE MINIMUM AIC RATINGS SPECIFIED HEREIN, PROVIDE CIRCUIT BREAKERS IN THE PANELS THAT HAVE AIC RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT AT THE PANEL AS DETERMINED BY THE POWER SYSTEM STUDY.

E. PROVIDE NEMA 1 ENCLOSURES FOR INTERIOR PANELS.

F. PANELBOARDS SHALL BE EQUIPPED WITH FLUSH TYPE LOCK AND CATCH. ALL LOCKS SHALL BE KEYED ALIKE, WITH TWO KEYS SUPPLIED WITH EACH LOCK.

G. CIRCUIT BREAKERS SERVING LIGHTING CIRCUITS SHALL BE RATED FOR SWITCH DUTY.

H. CIRCUIT BREAKERS SERVING HVAC EQUIPMENT SHALL BE HACR RATED.

I. ALL LUGS SHALL BE OF THE SOLDERLESS TYPE AND RATED AT A MINIMUM OF 75°C.

J. PROVIDE NEW CIRCUIT DIRECTORIES WITHIN NEW AND EXISTING PANELS TO REFLECT THE WORK OF THIS CONTRACT. DIRECTORY SHALL BE TYPEWRITTEN OR COMPUTER GENERATED. HANDWRITTEN CIRCUIT DIRECTORIES ARE NOT ACCEPTABLE.

K. UTILIZE FINAL, OWNER ASSIGNED ROOM NAMES AND NUMBERS TO IDENTIFY SPACES WITHIN THE CIRCUIT DIRECTORIES. COMPLY WITH NEC 408.4 WHEN IDENTIFYING CIRCUITS IN CIRCUIT DIRECTORIES.

L. PANEL CIRCUITS SHALL BE CONFIGURED SUCH THAT THE LOAD IS DISTRIBUTED EVENLY ACROSS ALL THREE PHASES TO WITHIN 10%.

M. ALL NEW AND EXISTING PANELBOARDS SHALL BE LABELED TO IDENTIFY THE AMOUNT OF FAULT CURRENT AVAILABLE AT THE PANEL AS DETERMINED BY THE POWER SYSTEM STUDY TO BE PERFORMED. LABEL SHALL BE MACHINE PRINTED, BLACK TEXT ON CLEAR, SELF ADHESIVE TAPE. INSTALL LABEL ADJACENT TO PANELBOARDS ENGRAVED NAMEPLATE.

N. ALL NEW AND EXISTING PANELBOARDS SHALL BE LABELED TO IDENTIFY THE ARC FLASH HAZARD CHARACTERISTICS AT THE PANEL AS DETERMINED BY THE POWER SYSTEM STUDY TO BE PERFORMED.

O. ALL "SPARE" CIRCUIT BREAKERS SHALL BE SET TO THE "OFF" POSITION.

P. PROVIDE HANDLE TIES ON ALL MULTI-WIRE BRANCH CIRCUITS IN ACCORDANCE WITH NEC 210.4(B)

Q. WHEN NEW CIRCUIT BREAKERS ARE ADDED TO AN EXISTING PANEL, THE NEW CIRCUIT BREAKERS SHALL BE OF THE SAME MANUFACTURE AS THE EXISTING PANEL, SHALL BE OF A 'LETTER TYPE' COMPATIBLE WITH THE EXISTING PANEL SUCH THAT THE UL LISTING OF THE EXISTING PANEL IS MAINTAINED AND SHALL HAVE AN AIC RATING EQUAL TO OR GREATER THAN THE AIC RATING OF THE EXISTING OVERCURRENT PROTECTIVE DEVICES WITHIN THE EXISTING PANEL.

R. ACCEPTABLE MANUFACTURERS FOR PANELBOARDS BY SCHNEIDER, ABB, SIEMENS OR EATON.

SWITCHES

A. TOGGLE SWITCHES SHALL BE SINGLE POLE, 3-WAY OR 4-WAY AS NOTED ON THE DRAWINGS, 20 AMPERES, 120/277 VOLT AC TYPE, SPECIFICATION GRADE WITH SCREW TERMINALS. HUBBELL 1221-X, 1223-X OR 1224-X OR APPROVED EQUIVALENT BY ONE OF THE ADDITIONAL MANUFACTURERS SPECIFIED HEREIN.

B. TOGGLE SWITCHES SHALL BE MOUNTED AT DOORS, INSTALLED ADJACENT TO THE TRIM ON THE STRIKING SIDE OF THE DOOR, REGARDLESS OF THE LOCATION INDICATED ON THE DRAWINGS. VERIFY ALL DOOR SWINGS PRIOR TO INSTALLATION OF OUTLET BOXES FOR SWITCHES.

C. DEVICE COLOR SHALL BE AS SELECTED BY THE OWNER/ARCHITECT.

D. PROVIDE A NEUTRAL CONDUCTOR TO ALL SWITCH LOCATIONS

E. SWITCHES SHALL BE INSTALLED SURFACE MOUNTED IN UNFINISHED AREA. FLUSH MOUNTED IN FINISHED SPACES.

F. ADDITIONAL ACCEPTABLE MANUFACTURERS FOR SWITCHES: LEGRAND, LEVITON.

RECEPTACLES

A. RECEPTACLES SHALL BE 20 AMP, 125 VOLT, 2-POLE, 3-WIRE, GROUNDING TYPE, NEMA 5-20R WITH SCREW TERMINALS. HUBBELL 5362-W OR APPROVED EQUAL BY ONE OF THE ADDITIONAL MANUFACTURERS SPECIFIED HEREIN.

B. GFCI RECEPTACLES SHALL BE 20 AMP, 125 VOLT, 2-POLE, 3-WIRE, GROUNDING TYPE, NEMA 5-20R FEED THROUGH TYPE CAPABLE OF PROTECTING DOWNSTREAM RECEPTACLES ON A SINGLE CIRCUIT, SOLID STATE GROUND FAULT SENSING AND SIGNALING, 5 MILLIAMP TRIP LEVEL, NEMA 5-20R WITH SCREW TERMINALS. HUBBELL GF5362-X OR APPROVED EQUAL BY ONE OF THE ADDITIONAL MANUFACTURERS SPECIFIED HEREIN.

C. ISOLATED GROUND RECEPTACLES SHALL BE ORANGE, 20 AMP, 125 VOLT, 2-POLE, 3-WIRE, GROUNDING TYPE, NEMA 5-20R WITH SCREW TERMINALS. HUBBELL IG-5362-W OR APPROVED EQUAL BY ONE OF THE ADDITIONAL MANUFACTURERS SPECIFIED HEREIN.

D. PROVIDE SPECIAL PURPOSE RECEPTACLES HAVING NEMA CONFIGURATIONS THAT MATE AND MATCH THE NEMA PLUG CONFIGURATION PROVIDED WITH THE EQUIPMENT TO BE CONNECTED.

E. COVER PLATES FOR EXTERIOR RECEPTACLES SHALL BE RATED FOR "WEATHERPROOF WHILE IN USE".

F. DEVICE COLOR SHALL BE AS SELECTED BY THE OWNER/ARCHITECT.

G. QUAD RECEPTACLES SHALL CONSIST OF (2) DUPLE3X RECEPTACLES INSTALLED IN A SINGLE BOX UNDER A SINGLE COVER PLATE.

H. RECEPTACLES SHALL BE INSTALLED SURFACE MOUNTED IN UNFINISHED SPACES, FLUSH MOUNTED IN FINISHED SPACES.

I. ADDITIONAL ACCEPTABLE MANUFACTURERS FOR SWITCHES AND RECEPTACLES: LEGRAND, LEVITON.

GFCI PROTECTION:

A. ALL KITCHEN SINGLE PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 50 AMPS OR LESS AND THREE PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 100 AMPS OR LESS SHALL HAVE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION FOR PERSONNEL IN ACCORDANCE WITH NEC 210.8, (B), (1) - (10), OR THE EQUIVALENT REQUIREMENT WITHIN THE APPLICABLE ELECTRICAL CODE.

B. THE "GFCI" NOTATION AT A DEVICE OR CIRCUIT BREAKER INDICATES THAT GFCI PROTECTION SHALL BE PROVIDED FOR THE CIRCUIT OR CIRCUITS INDICATED. GFCI PROTECTION SHALL BE PROVIDED BY ONE OF THE FOLLOWING MEANS:

- INTEGRAL GFCI PROTECTION WITHIN THE DEVICE (NEMA 5-20R RECEPTACLES), WHEN THE DEVICE IS ABLE TO BE INSTALLED IN A READILY ACCESSIBLE LOCATION AS DEFINED BY THE APPLICABLE ELECTRICAL CODE.
- GFCI CIRCUIT BREAKER INSTALLED WITHIN THE PANEL FOR SERVICE TO THE CIRCUIT OR CIRCUITS.
- GFCI CIRCUIT BREAKER INSTALLED WITHIN AN INDIVIDUAL ENCLOSURE EXTERNAL TO THE PANEL FOR SERVICE TO THE CIRCUIT.
- DEAD-FRONT GFCI DEVICE INSTALLED IN A READILY ACCESSIBLE LOCATION AS DEFINED BY THE NEC (APPLICABLE TO 20 AMP, 120 VOLT CIRCUITS).
- AN INDIVIDUALLY MOUNTED EXTERNAL SPECIAL PURPOSE GROUND FAULT CIRCUIT INTERRUPTER (SPGFCI) DEVICE SIMILAR TO "SHOCK BLOCK" PRODUCTS AS MANUFACTURED BY LITTLEFUSE, OR APPROVED EQUAL.
- DEAD FRONT DEVICES SHALL BE BE LABELED TO IDENTIFY THE CIRCUIT AND THE LOAD SERVED BY THE DEVICE.

COVER PLATES FOR TOGGLE SWITCHES AND RECEPTACLES

A. COVER PLATES WITHIN NON-FOOD SERVICE AREAS SHALL BE NYLON, OF CONFIGURATION TO MATCH THE WIRING DEVICE.

B. COVER PLATES WITHIN THE FOOD SERVICE AREA SHALL BE STAINLESS STEEL WITH STAINLESS STEEL HARDWARE, UNLESS OTHERWISE NOTED.

C. CONFIGURATION AND COLOR OF COVER PLATE SHALL MATCH THAT OF THE WIRING DEVICE THAT THE PLATE WILL BE INSTALLED ON.

D. COVER PLATE COLOR SHALL BE AS SELECTED BY THE OWNER/ARCHITECT.

E. ADDITIONAL ACCEPTABLE MANUFACTURERS FOR COVER PLATES: LEGRAND, LEVITON.

MOUNTING HEIGHTS FOR ELECTRICAL DEVICES AND EQUIPMENT

A. DEVICES AND EQUIPMENT SHALL BE INSTALLED AT THE MOUNTING HEIGHTS NOTED BELOW UNLESS NOTED OTHERWISE ON THE DRAWINGS OR REQUIRED BY APPLICABLE CODES AND STANDARDS:

1. TOGGLE SWITCHES, WALL SWITCH OCCUPANCY SENSORS, VACANCY SENSORS AND DIMMERS FOR LIGHTING CONTROL - TOP OF DEVICE 48" AFF
2. CONVENIENCE RECEPTACLES -TOP OF DEVICE 18" AFF
3. CONVENIENCE RECEPTACLES AT COUNTERTOPS - BOTTOM OF DEVICE 44" AFF OR AS NOTED ON THE DRAWINGS
4. RECEPTACLES AT FOOD SERVICE EQUIPMENT - AS INDICATED ON THE FINAL, APPROVED FOOD SERVICE SHOP DRAWINGS.
5. TELEPHONE AND DATA OUTLETS - TOP OF DEVICE 18" AFF, 44" AFF WHEN INSTALLED AT COUNTER TOPS.
6. DISCONNECT SWITCHES - TOP OF ENCLOSURE 66" AFF
7. PANELBOARDS - TOP OF ENCLOSURE 72" AFF

DISCONNECT SWITCHES

A. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, UL LISTED AND LABELED, EQUIPPED WITH A LUG FOR TERMINATION OF THE EQUIPMENT GROUNDING CONDUCTOR.

B. DISCONNECT SWITCHES SHALL BE LOCKABLE WITH NEMA 1 ENCLOSURES FOR DRY, INDOOR APPLICATIONS; NEMA 3R ENCLOSURES FOR OUTDOOR OR WET LOCATION APPLICATIONS.

C. DISCONNECT SWITCHES INSTALLED EXPOSED IN FOOD SERVICE AREAS SHALL BE NEMA 4X STAINLESS STEEL, LOCKABLE.

D. TOGGLE DISCONNECTS SHALL BE 20A OR 30A AS REQUIRED. SINGLE POLE, 2-POLE OR 3-POLE AS REQUIRED, SINGLE THROW, MOTOR RATED SWITCH WITHOUT OVERLOAD PROTECTION. NEMA 1, 3R OR 4X STAINLESS STEEL ENCLOSURE AS REQUIRED BY APPLICATION, PADLOCK ATTACHMENT

E. ALL DISCONNECT SWITCHES SHALL BE EQUIPPED WITH AN ENGRAVED NAMEPLATE TO IDENTIFY THE SERVING PANEL, CIRCUIT NUMBERS AND THE LOAD SERVED BY THE SWITCH.

F. ACCEPTABLE MANUFACTURERS FOR DISCONNECT SWITCHES: SCHNEIDER, ABB, SIEMENS OR EATON.

MOTOR CONTROLLERS

A. PROVIDE ENCLOSED MOTOR CONTROLLERS AS SPECIFIED HEREIN FOR CONTROL OF MOTORS RATED FOR 600 VOLTS AND LESS.

B. FRACTIONAL HORSEPOWER MANUAL CONTROLLERS: "QUICK-MAKE, QUICK-BREAK" TOGGLE OR PUSH-BUTTON ACTION; PILOT LIGHT TO INDICATE "MOTOR RUNNING", MARKED TO SHOW WHETHER UNIT IS OFF, ON, OR TRIPPED.

1. CONFIGURATION: NON-REVERSING.
2. OVERLOAD RELAYS: INVERSE-TIME-CURRENT CHARACTERISTICS; NEMA ICS 2, CLASS 10 TRIPPING CHARACTERISTICS; HEATERS MATCHED TO NAMEPLATE FULL-LOAD CURRENT OF ACTUAL PROTECTED MOTOR; EXTERNAL RESET PUSH BUTTON.
3. FLUSH MOUNTED WITHIN FINISHED SPACES; SURFACE MOUNTED WITHIN UNFINISHED SPACES.
4. ACCEPTABLE MANUFACTURERS: SCHNEIDER, ABB, SIEMENS, EATON.

FUSES

A. PROVIDE CARTRIDGE FUSES RATED FOR 250 VAC AND 600 VAC AND LESS FOR USE AS SPECIFIED HEREIN.

B. COORDINATE FUSE RATINGS WITH UTILIZATION EQUIPMENT NAMEPLATE LIMITATIONS OF MAXIMUM FUSE SIZE AND WITH SYSTEM SHORT-CIRCUIT CURRENT LEVELS.

C. CARTRIDGE FUSE APPLICATIONS:

1. CIRCUITS, UP TO AND INCLUDING 600 AMPS: CLASS J, BUSSMANN LPJ.
2. CONTROL POWER TRANSFORMER (CPT) CIRCUITS: CLASS CC, TIME DELAY, CONTROL TRANSFORMER DUTY.
3. BASIS OF DESIGN FOR FUSES SHALL BE BUSSMANN. ADDITIONAL ACCEPTABLE MANUFACTURERS FOR SPECIFIED FUSES SHALL BE LITTLEFUSE AND MERSEN.

LIGHTING FIXTURES

A. ALL LIGHTING FIXTURES AND LIGHT SOURCES SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE ELECTRICAL CONTRACTOR, UNLESS NOTED OTHERWISE.

B. THIS CONTRACTOR SHALL INSTALL LIGHTING FIXTURES AND LIGHT SOURCES AS INDICATED ON THE DRAWINGS AND AS SPECIFIED BELOW. PROVIDE LIGHTING FIXTURES COMPLETE WITH HANGERS, PLASTER FRAMES, AND ALL OTHER NECESSARY ACCESSORIES

C. LED DRIVERS SHALL BE SOLID STATE AND ACCEPT 120 THROUGH 277 VAC AT 60 HZ INPUT.

D. THE LED LIGHT SOURCE SHALL BE FULLY DIMMABLE WITH USE OF COMPATIBLE DIMMER SWITCH DESIGNATED FOR LOW VOLTAGE LOADS.

E. THE CONTRACTOR SHALL PROVIDE LIGHTING CONTROL DEVICES (DIMMERS) THAT ARE COMPATIBLE WITH LED DRIVER BEING PROVIDED WITH THE FIXTURE.

F. EXIT SIGNS INDICATED AS PROVIDING POWER TO REMOTE EXTERIOR EGRESS LIGHTS SHALL BE EQUIPPED WITH THE INCREASED BATTERY CAPACITY TO SERVE THE REMOTE EMERGENCY LIGHT. REMOTE EMERGENCY LIGHT SHALL BE A STANDARD ACCESSORY OF THE INTERIOR EXIT SIGN TO WHICH CONNECTED.

LIGHTING CONTROLS

A. TIME SWITCHES, PHOTOCELLS AND CONTACTORS SHALL BE AS DETAILED ON DRAWINGS.

B. WALL SWITCH OCCUPANCY SENSORS SHALL BE WATT STOPPER WS-250 OR APPROVED EQUAL.

C. CEILING MOUNTED OCCUPANCY SENSORS SHALL BE DUAL TECHNOLOGY TYPE WITH POWER PACK. WATT STOPPER DT-300 WITH BZ-200 POWER PACK, OR APPROVED EQUAL.

D. PROVIDE A NEUTRAL CONDUCTOR TO ALL SWITCH LOCATIONS

ROUGH-IN SYSTEM FOR VOICE AND DATA

A. PROVIDE A ROUGH-IN SYSTEM AS SPECIFIED HEREIN FOR SERVICE TO THE OWNER'S VOICE AND DATA NETWORK.

B. PROVIDE A PLYWOOD BACKBOARD FOR TERMINATION OF TELEPHONE SERVICE AND DISTRIBUTION COMPONENTS. PLYWOOD BACKBOARD SHALL BE 2' X 3' X 3/4"', FIRE RATED, PAINTED WITH TWO (2) COATS OF LIGHT GRAY ENAMEL PAINT. MASK FIRE RATED LABEL TO PREVENT THE LABEL FROM BEING PAINTED OVER.

C. OUTLET BOXES FOR TELEPHONE AND DATA DEVICES SHALL CONSIST OF 4 11/16 IN SQUARE BY 2 1/8 INCH DEEP OUTLET BOXES WITH SINGLE DEVICE COVER.

D. PROVIDE A 3" EMPTY CONDUIT WITH PULLSTRING FROM THE WALL MOUNTED PLYWOOD TELEPHONE TERMINAL BOARD IN THE TENANT SPACE TO THE LANDLORDS TELEPHONE DISTRIBUTION OR POINT OF SERVICE DELIVERY. PROVIDE A NYLON BUSHING ON EACH END OF CONDUIT FOR CABLE PROTECTION.

E. ROUGH-IN FOR WIRING DROPS TO WALL MOUNTED VOICE AND DATA DEVICES SHALL BE INSTALLED WITHIN EMT CONDUIT, 1". PROVIDE A CONDUIT STUB FROM THE DEVICE BOX TO ABOVE ACCESSIBLE CEILING. PROVIDE A PLENUM RATED NYLON BUSHING ON THE END OF THE CONDUIT STUB FOR PROTECTION OF THE WIRING.

F. PRIOR TO BEGINNING WORK, THIS CONTRACTOR SHALL FULLY COORDINATE HIS CONSTRUCTION OPERATIONS AND ALL TERMINATION LOCATIONS WITH AUTHORIZED REPRESENTATIVE OF THE TELEPHONE UTILITY COMPANY AND THE OWNER'S DATA NETWORK PROVIDER BY TIMELY NOTICE OR SCHEDULING OF SERVICE EQUIPMENT DATES, SERVICE MODIFICATION DATES AND NOTIFICATION OF REQUIRED OWNER AUTHORIZATIONS INVOLVING THE UTILITY COMPANY.

DUCT MOUNTED SMOKE DETECTORS

A. PROVIDE A 120 VOLT POWER SOURCE TO ALL DUCT MOUNTED SMOKE DETECTORS INSTALLED WITHIN NEW AND EXISTING MECHANICAL EQUIPMENT

B. PROVIDE A DUCT MOUNTED SMOKE DETECTORS WITHIN NEW AND EXISTING MECHANICAL EQUIPMENT AS REQUIRED BY APPLICABLE CODES. FINAL ELECTRICAL CONNECTION AND ALL INTERLOCK WIRING BY THE ELECTRICAL CONTRACTOR.

C. PROVIDE ALL INTERLOCK WIRING IN CONDUIT BETWEEN ALL DUCT DETECTORS SUCH THAT UPON DETECTING SMOKE IN ANY ONE DETECTOR, ALL ROOF TOP UNITS SHALL BE SHUT DOWN.

D. PROVIDE TEST/RESET SWITCH AND PIEZO ALERT SOUNDER AND REMOTE ANNUNCIATOR ALARM LED MOUNTED AS DIRECTED BY LOCAL AHJ. EC TO PROVIDE ALL REQUIRED INTERLOCK WIRING BETWEEN DUCT DETECTOR AND REMOTE SWITCH.

E. REFER TO DETAILS ON MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

TESTING

A. PROVIDE ALL TESTS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

B. PROVIDE THE TESTS AS OUTLINED HEREINAFTER AND OTHER TESTS REQUIRED TO ESTABLISH THE ADEQUACY, QUALITY, SAFETY, COMPLETED STATUS AND SUITABLE OPERATION OF EACH SYSTEM.

C. PROMPTLY CORRECT ANY FAILURES, DEFICIENCIES AND/OR DEFECTS REVEALED BY THESE TESTS. AFTER CORRECTING FAILURES, DEFICIENCIES OF DEFECTS, CONDUCT NEW TESTING TO VERIFY THAT THE DEFICIENCY HAS BEEN RECTIFIED AND THE SYSTEM IS FUNCTIONING PROPERLY.

D. NEW AND EXISTING PANELBOARDS SHALL HAVE PHASE CURRENTS BALANCED TO WITHIN +/- 10% VARIATION BETWEEN AVERAGE PHASE CURRENT AND MEASURED INDIVIDUAL PHASE.

E. AN OPERATIONAL TEST OF THE EMERGENCY LIGHTING/EXIT SIGNAGE SYSTEM SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER AND THE AUTHORITY HAVING JURISDICTION TO DEMONSTRATE PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND SPECIFIED REQUIREMENTS.

OPERATION AND MAINTENANCE MANUALS

A. THIRTY (30) DAYS PRIOR TO SUBSTANTIAL COMPLETION, SUBMIT OPERATING AND MAINTENANCE MANUALS FOR EQUIPMENT TO ENGINEER FOR APPROVAL. INCLUDE ONE COPY OF EACH F NAL APPROVED SUBMITTAL FOR RECORD PURPOSES, INDICATING THE ACTUAL PRODUCT INSTALLED. INCLUDE SIGNIFICANT CHANGES IN THE PRODUCT DELIVERED TO PROJECT SITE AND CHANGES IN MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLATION.

B. PROVIDE COMPREHENSIVE CONTACT LIST INCLUDING CONTRACTOR AND SUBCONTRACTOR'S NAMES, ADDRESSES, TELEPHONE AND CONTACT PERSON FOR OWNER'S USE.

TRAINING OF OWNER'S DESIGNATED PERSONNEL

A. PREPARE AND SUBMIT OPERATING INSTRUCTIONS AND PROVIDE ON-SITE TRAINING OF OWNER'S PERSONNEL IN USE AND MAINTENANCE OF OPERATING EQUIPMENT.

WARRANTY

A. THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND THE INSTALLATION TO BE FREE OF DEFECTS THAT MAY DEVELOP IN ANY PART OF THEIR WORK CAUSED BY FAULTY WORKMANSHIP, MATERIAL OR EQUIPMENT FAILURES, FOR A MINIMUM OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OR FOR AS LONG AS NORMAL EQUIPMENT MANUFACTURER WARRANTIES ARE IN EFFECT FROM THE DATE OF OWNER ACCEPTANCE OF THE PROJECT, WHICHEVER IS LATER.

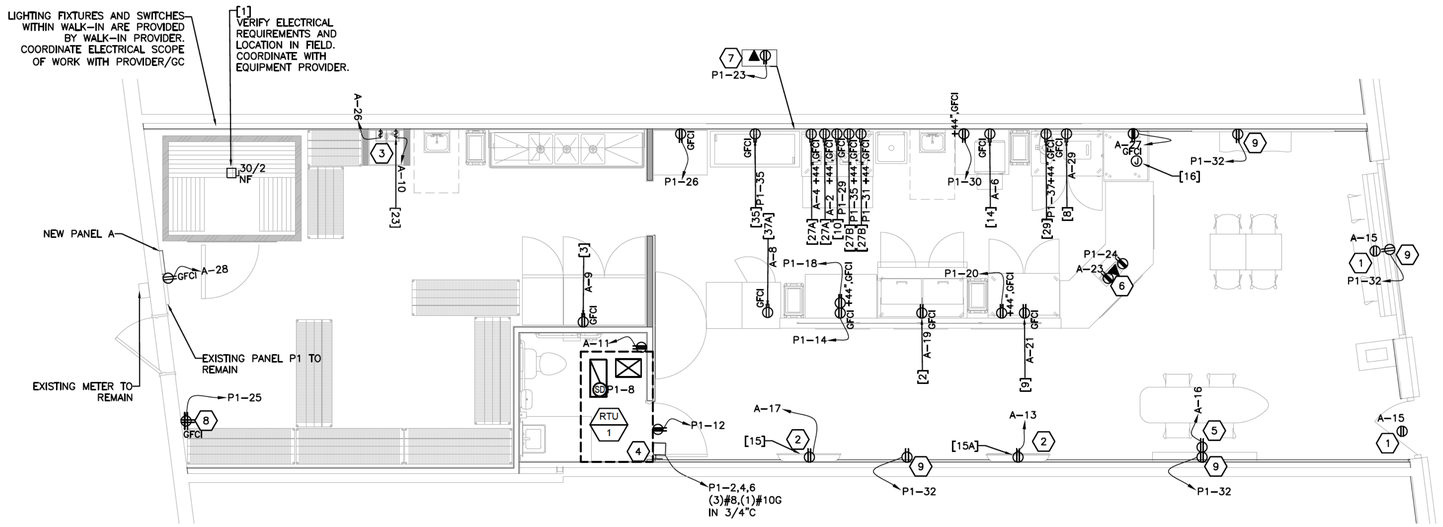
B. DURING THE ONE (1) YEAR WARRANTY PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR DEFECTS IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED UNDER THE WORK OF THE ELECTRICAL CONTRACT.

FIRE ALARM SYSTEM

A. FIRE ALARM SYSTEM WORK IS A DELEGATED DESIGN AND IS NOT INCLUDED AS PART OF THE ELECTRICAL SCOPE OF WORK.

B. FIRE ALARM SYSTEM WORK SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AS A DELEGATED DESIGN.

C. GENERAL CONTRACTOR (GC) SHALL BE RESPONSIBLE FOR RETAINING THE SERVICES OF A FIRE ALARM SYSTEM



1 ELECTRICAL POWER PLAN

E-3

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

KITCHEN EQUIPMENT SCHEDULE XX

ITEM NUMBER	DESCRIPTION	VOLTAGE	PHASE	KW	H.P.	AMPS	CIRCUIT BREAKER SIZE	CIRCUIT BREAKER POLES	WIRE SIZE	GND SIZE	CONDUIT SIZE	REMARKS
1	6X8 WALK IN FRZR	208	1	–	–	–	–	–	–	–	–	LOAD TBD COORDINATE WITH MANUFACTURER/PROVIDER FOR ELECTRICAL REQUIREMENT
2	MEGA TOP SANDWICH UNIT/SALAD PREPARATION REFRIGERATION	115	1	–	–	4.9	20	1	(2)#12	12	3/4"	–
3	REACH IN REFRIGERATOR 3 DOOR	115	1	–	–	6.3	20	1	(2)#12	12	3/4"	–
8	REFRIGERATED WORK TOP	115	1	–	–	3.9	20	1	(2)#12	12	3/4"	–
9	WORKTOP FREEZER 2 DOOR	115	1	–	–	6	20	1	(2)#12	12	3/4"	–
10	4 DRAWER WORKTOP FREEZER	115	1	–	–	7	20	1	(2)#12	12	3/4"	–
14	ICE MAKER WITH BIN, CUBE STYLE	115	1	–	–	5.2	20	1	(2)#12	12	3/4"	–
15	50" TV W/ SWING MOUNT FOR PLAY PROMOTIONS	115	1	–	–	–	20	1	(2)#12	12	3/4"	–
15A	50" TV W/ SWING MOUNT FOR PLAY ENTERTAINMENT	115	1	–	–	–	20	1	(2)#12	12	3/4"	–
16	OPEN DISPLAY MERCHANDISER	115	1	–	–	11	20	1	(2)#12	12	3/4"	–
23	GAS WATER HEATER	115	1	.2	–	–	20	1	(2)#12	12	3/4"	–
27A	COMMERCIAL FOOD BLENDER	120	1	–	–	15	20	1	(2)#12	12	3/4"	–
27B	COMMERCIAL FOOD BLENDER (QUIET)	120	1	–	–	15	20	1	(2)#12	12	3/4"	–
29	MULTI PURPOSE JUICER	110	1	–	–	10.8	20	1	(2)#12	12	3/4"	–
35	ICE CREAM NOVELTY MERCHANDISER	115	1	–	–	2	20	1	(2)#12	12	3/4"	–
37A	UNDER COUNTER FREEZER MERCHANDISER	115	1	–	–	1.3	20	1	(2)#12	12	3/4"	–

POWER PLAN KEYED NOTES NOTES XX

1. PROVIDE HORIZONTALLY MOUNTED SHOW WINDOW RECEPTACLES WITHIN 18" OF SHOW WINDOW AS REQUIRED BY NEC. ART. 210.62. PROVIDE CONDUIT AND CONDUCTORS TO EXTEND CIRCUIT THROUGH TIME CLOCK, SEE DETAIL #2 ON SHEET E-4.
2. PRIOR TO ROUGH IN, COORDINATE MOUNTING HEIGHT WITH TV PROVIDER AND OWNER REP.
3. LOCATION OF NEW WATER HEATER AND CIRCULATION PUMP. COORDINATE LOCATION OF DISCONNECTS AND ALL ELECTRICAL WORK WITH PLUMBING CONTRACTOR.
4. NEW RTU-1 LOCATED ON ROOF. DISCONNECT AND RECEPTACLE PROVIDED BY MECHANICAL CONTRACTOR. VERIFY EXACT LOCATION AND ALL ELECTRICAL WORK WITH MECHANICAL CONTRACTOR. CONVENIENCE RECEPTACLE PROVIDED BY MECHANICAL CONTRACTOR.
5. PINEAPPLE LAND SIGN OUTLET TO BE 5'-6" A.F.F. VERIFY LOCATION PRIOR TO ROUGH IN WITH ARCHITECT.
6. PROVIDE (2) DEDICATED POWER RECEPTACLES AND PROVIDE (3) CAT 6 DATA DROPS AT LOCATION SHOWN. (1) DEDICATED RECEPTACLE TO BE USB CHARGING CAPABLE. PRIOR TO ROUGH-IN COORDINATE ACTUAL DEVICE LOCATIONS AND ALL ELECTRICAL WORK WITH CASEWORK INSTALLER.
7. PROVIDE DEDICATED POWER RECEPTACLE AND (3) CAT 6 DATA DROPS ABOVE BANANA SHELF. PRIOR TO ROUGH-IN COORDINATE ACTUAL DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT DRAWINGS AND GC.
8. RECEPTACLE FOR SERVICE TO DATA CABINET. PRIOR TO ROUGH IN, COORDINATE MOUNTING HEIGHT AND POWER REQUIREMENTS WITH DATA CABINET EQUIPMENT PROVIDER.
9. RECEPTACLE TO BE USB CHARGING CAPABLE.

KITCHEN RECEPTACLE NOTES

1. ALL KITCHEN SINGLE PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 50 AMPERES OR LESS AND THREE PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 100 AMPERES OR LESS SHALL HAVE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL PER NEC SECTION 210.8 (B) (1)-(10).
2. ALL GFCI RECEPTACLES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION OR A GFCI CIRCUIT BREAKER OR A DEAD FRONT GFI DEVICE INSTALLED IN A READILY ACCESSBILE LOCATION SHALL USED TO FEED THE CIRCUIT NOTED.
3. ALL 125V, 15A AND 20A CIRCUITS TO KITCHEN EQUIPMENT SHALL BE FED WITH A DEDICATED NEUTRAL WIRE.

POWER PLAN GENERAL ELECTRICAL NOTES

1. EXACT LOCATION, CUT-OUTS AND MOUNTING HEIGHTS FOR WIRING DEVICES IN CASEWORK SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
2. VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO BID. NOTIFY OWNER OF ANY DISCREPANCIES. IF ACCEPTABLE TO OWNER'S REPRESENTATIVE, EXISTING EQUIPMENT MAY BE RE-USED. IF NOT ACCEPTABLE, FURNISH AND INSTALL NEW.
3. ALL RECEPTACLES, DATA AND TELEPHONE OUTLETS ARE TO BE MOUNTED AT +18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
4. PRIOR TO CONNECTION EC SHALL VERIFY THE VOLTAGE AND AMPERAGE REQUIREMENTS OF ALL EQUIPMENT DELIVERED TO THE SITE. EC SHALL NOTIFY OWNER OF ANY DIFFERENCE.
5. EC TO VERIFY PLUG TYPE, AMPERAGE, VOLTAGE, AND LOCATION PRIOR TO BID AND ROUGH IN.
6. EC TO VERIFY ALL POWER REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE HACR BREAKERS AS REQUIRED.
7. WHEN POSSIBLE, OUTLETS TO BE MOUNTED ABOVE BACKSPLASH FOR COUNTER TOP EQUIPMENT AND BELOW COUNTER FOR UNDER COUNTER EQUIPMENT. PROVIDE POWER BELOW COUNTER FOR FRONT SERVING LINE COUNTER TOP EQUIPMENT. SEE ARCHITECTURAL DRAWINGS FOR COUNTER TOP HEIGHTS.

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MATTHEW R CASE
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PROFESSIONAL ENGINEER

07/11/2025

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LICENSE # 6201310434
EXPIRATION: 09/30/2025

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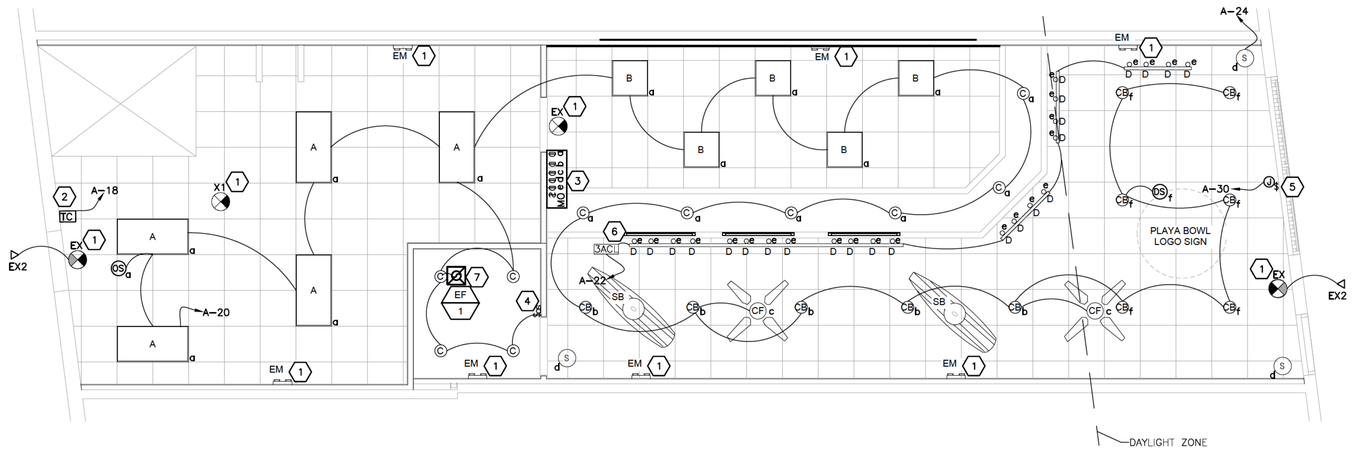
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PROJECT #: STQ-0994-0125

PROJECT:
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20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: AS INDICATED

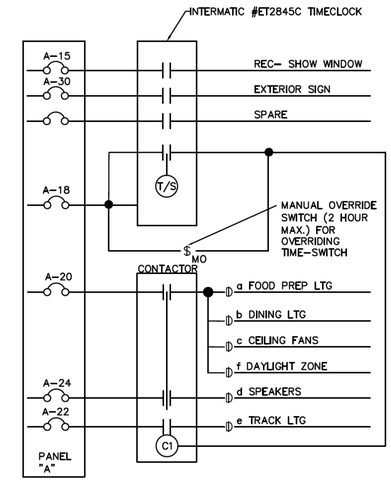
DRAWING TITLE:
ELECTRICAL POWER PLAN

SHEET:
E-3



1 LIGHTING POWER PLAN
E-4

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



2 LIGHTING CONTROL DIAGRAM
NO SCALE

LIGHT FIXTURE SCHEDULE

TYPE	MODEL NUMBER	LAMP DATA			DESCRIPTION	NOTES
		TYPE	VA	VOLTAGE		
A	MIC-24FP-CCTS-50W	LED	50	120	2X4	
B	MIC-22F-CCTS-45W	LED	45	120	2X2	
C	MIC-HH-CCTS-WS-6IN	LED	22	120	RECESSED CAN	
D	TH-10W-3K-BLACK	LED	10	120	TRACK LIGHTING MOUNT 36" AWAY FROM FACE OF MENUBOARD 10'-0" AFF	
CB	MIC-HH-CCTS-WS-6IN	LED	22	120	RECESSED CAN COLOR:BLACK	
CF	KBS-52K1121	LED	24	120	CEILING FAN W/ LIGHT	
SB	N/A	LED	16	120	SURFBOARD PROVIDED BY OWNER AND INSTLLED BY THE CONT	
EM	CST-EM2H-90	LED	3.4	120	EMERGENCY LIGHTS	
EX2	ERHR12	LED	2	120	MFG: ATLAS REMOTE HEAD	
EX	EMEXIT2H-90-6IN	LED	3.4	120	EXIT SIGN W/ DUAL HEAD, REMOTE CAPABLE	

LIGHTING PLAN KEYED NOTES NOTES ⟨XX⟩

1. EXIT/EGRESS, EMERGENCY LIGHTS, CIRCUIT AS SHOWN ON PLAN AND CONNECTED TO UNSWITCHED LEG OF LOCAL LIGHTING CIRCUIT. VERIFY LOCATION, MAKE AND MODEL WITH TENANT BEFORE ROUGH-IN AND BID
2. NEW TIMECLOCK. PROVIDE LIGHTING CONTACTORS AS REQUIRED. REFER TO LIGHTING CONTROL DIAGRAM ON THIS SHEET. SET TIME AS DIRECTED BY TENANT/LANDLORD. VERIFY LOCATION WITH TENANT/LAND LORD PRIOR TO BID AND ROUGH-IN.
3. PROVIDE NEW SWITCHBANK. WHEN FIXTURES ARE CONTROLLED BY SWITCHED WITH NO LINE OF SIGHT TO FIXTURES, PROVIDE A ILLUMINATED PILOT LIGHT INDICATOR TO SHOW STATUS OF FIXTURES. EC TO COORDINATE LOCATION OF SWITCHBANK AND MANUAL OVERRIDE SWITCH WITH OWNER REPRESENTATIVE PRIOR TO ROUGH-IN.
4. EC TO PROVIDE WALL-MOUNTED DUAL TECHNOLOGY TYPE OCCUPANCY SENSOR WITH INTEGRAL MANUAL SWITCH
5. PROVIDE 120V CIRCUIT WITH JUNCTION BOX AND LOCAL DISCONNECT SWITCH ABOVE CEILING FOR EXTERIOR SIGN. COORDINATE CONNECTION REQUIREMENTS AND EXACT LOCATION WITH ARCHITECT AND SIGN PROVIDER.
6. PROVIDE TRACK LIGHT CURRENT LIMITER OF AMPACITY SHOWN, AND OF TYPE COMPATIBLE WITH TRACK.
7. EC TO CONNECT NEW EXHAUST FAN TO NEW BATHROOM LIGHTING POWER AND CONTROLS SHOWN.

GENERAL ELECTRICAL NOTES

1. PLACEMENT OF LIGHT FIXTURES SHALL BE SET AS DIMENSIONED & AS SCHEDULED.
2. LIGHT FIXTURES SHALL BE SUPPLIED AS SCHEDULED WITH NO EXCEPTIONS.
3. ALL EMERGENCY AND EXIT LIGHTING SHALL BE WIRED AHEAD OF THE SWITCHING. EMERGENCY LIGHTING SHALL BE ON THE SAME CIRCUITRY AS THE GENERAL LIGHTING IN THE AREA THEY SERVE. EMERGENCY LIGHTING WIRING SHALL BE IDENTIFIED (MARKED) PER N.E.C. 700.9. PROVIDE GENERAL LIGHTING CIRCUITS, WHICH HAVE EMERGENCY LIGHTING CONNECTIONS, WITH LOCK-OUT ON BREAKER.
4. EC TO TEST ALL LIGHTING SYSTEMS TO ENSURE PROPER CALIBRATIONS, ADJUSTMENT, PROGRAMING, AND OPERATION.
5. ALL EMERGENCY, EXIT LIGHTS IN SUPPORT AREAS SHALL BE CIRCUITED TO LIGHTING CIRCUIT SERVICING SAME AREA WITH A LOCK ON DEVICE AT THE BREAKER PER N.E.C. 700.12.

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ELECTRICAL LIGHTING PLAN

SHEET:
E-4

NOTES	MOUNT: SURFACE				120/240		3-PHASE, 4W HIGH LEG DELTA	PANEL		P1		CAPACITY: 200A			INT CAP: EXISTING				NOTES
	LOCATION: BOH							LUGS:		200A	MCB	DEMAND LOAD: 157A			AV. FAULT: 9.0KA				
	CKT	LTG	REC	HVAC	MISC	KIT	DESCRIPTION	AMP	POLE	Φ	AMP	POLE	DESCRIPTION	LTG	REC	HVAC	MISC	KIT	CKT	
B	1						SPARE	20	1	A						3.77			2	
B	3						HIGH LEG		1	B	40	3	RTU-1			3.77			4	C
C	5	1.50	1.00		0.60	4.00	PANEL A	100	2	C						3.77			6	
	7	1.40	1.40			4.70				A	20	1	SMOKE DETECTOR			0.20			8	C
B	9						HIGH LEG		1	B		1	HIGH LEG						10	B
B	11						SPARE	20	1	C	20	1	RTU REC	0.18					12	A
B	13						SPARE	20	1	A	20	1	FUTURE KITCHEN EQUIPMENT				1.00		14	A
B	15						HIGH LEG		1	B		1	HIGH LEG						16	B
B	17						SPARE	20	1	C	20	1	FUTURE KITCHEN EQUIPMENT				1.00		18	A
B	19						SPARE	20	1	A	20	1	FUTURE KITCHEN EQUIPMENT				1.00		20	A
B	21						HIGH LEG		1	B		1	HIGH LEG						22	B
A	23		0.18				BANANA SHELF REC	20	1	C	20	1	POS		0.18				24	A
A	25		0.50				DATA CABINET	20	1	A	20	1	FUTURE KITCHEN EQUIPMENT				1.00		26	A
B	27						HIGH LEG		1	B		1	HIGH LEG						28	B
A	29					0.81	4 DRAWER WORKTOP FREEZER [10]	20	1	C	20	1	FUTURE KITCHEN EQUIPMENT				1.00		30	A
A	31					1.80	COMMERCIAL FOOD BLENDER [27B]	20	1	A	20	1	LOBBY RECS		0.72				32	C
B	33						HIGH LEG		1	B		1	HIGH LEG						34	B
A	35					1.80	COMMERCIAL FOOD BLENDER [27B]	20	1	C	20	1	SPARE						36	B
A	37					1.19	MULTI PURPOSE JUICER [29]	20	1	A	20	1	SPARE						38	B
B	39						HIGH LEG		1	B		1	HIGH LEG						40	B
A	41					0.23	ICE CREAM NOVELTY MERCHANDISER [35]	20	1	C	20	1	SPARE						42	B

PHASE BALANCE			LOAD TYPE	CONNECTED	DEMAND	DEMAND FORMULA	TOTAL LOAD	
			LIGHTING	3.1 KVA	3.9 KVA	LOAD X 125% NEC 210.19 CONTINUOUS	CONNECTED	DEMAND
Φ	LOAD	%	RECEPTACLE	4.0 KVA	4.0 KVA	10KVA + 50% REMAINDER NEC 220.44	38.7 KVA	32.6KVA
A	18.7 KVA	48%	HVAC	11.5 KVA	11.5 KVA	LOAD X 100% (USED MCA IN CALCULATION)	186.0A	156.9A
B	3.8 KVA	10%	MISC	0.6 KVA	0.6 KVA	LOAD X 100% NEC 210.19 NON-CONT.		
C	16.2 KVA	42%	KIT	19.5 KVA	12.7 KVA	65% PER NEC TABLE 220.56		

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NOTES:
A. PROVIDE NEW 5mA TRIP GFCI TYPE CIRCUIT BREAKER.
B. EXISTING SPACE/SPARE BREAKER TO REMAIN
C. NEW BREAKER FOR NEW LOAD

NOTES	MOUNT: SURFACE				120/240		1-PHASE, 3W	PANEL		A		CAPACITY: 100A			INT CAP: 10KA				NOTES
	LOCATION: BOH							LUGS:		100A	MLO	DEMAND LOAD: 51A			AV. FAULT: 8.0KA				
	CKT	LTG	REC	HVAC	MISC	KIT	DESCRIPTION	AMP	POLE	Φ	AMP	POLE	DESCRIPTION	LTG	REC	HVAC	MISC	KIT	CKT	
A	1						RESERVED FOR WALK-IN	20	1	A	20	1	COMMERCIAL FOOD BLENDER [27A]					1.8	2	A
A	3						RESERVED FOR WALK-IN	20	2	B	20	1	COMMERCIAL FOOD BLENDER [27A]					1.8	4	A
	5									A	20	1	ICE MAKER WITH BIN, CUBE STYLE [14]					0.6	6	A
	7						SPARE	20	1	B	20	1	FREEZER MERCHANDISER [37A]					0.7	8	A
A	9					0.7	REACH IN REFRIGERATOR 3 DOOR [3]	20	1	A	20	1	GAS WATER HEATER [23]			0.2			10	A
A	11		0.2				BATHROOM REC	20	1	B	20	1	SPARE						12	
	13		0.5				50" TV W/ SWING MOUNT FOR PLAY ENTETAINMENT [15A]	20	1	A	20	1	SPARE						14	
	15		0.4				SHOW WINDOW RECS	20	1	B	20	1	PINEAPPLE LAND SIGN		0.5				16	
	17		0.5				50" TV W/ SWING MOUNT FOR PLAY PROMOTIONS [15]	20	1	A	20	1	TIMECLOCK				0.2		18	
A	19					0.6	MEGA TOP SANDWICH UNIT/SALAD PREPARATION REFRIGERATION [2]	20	1	B	20	1	DINING/FOOD PREP LTG	0.9					20	
A	21					0.7	WORKTOP FREEZER 2 DOOR [9]	20	1	A	20	1	TRACK LTG	0.3					22	
A	23		0.2				POS	20	1	B	20	1	SPEAKERS	0.5					24	
	25						SPARE	20	1	A	20	1	CP-1				0.2		26	A
A	27					1.3	OPEN DISPLAY MERCHANDISER [16]	20	1	B	20	1	PANEL REC		0.2				28	A
A	29					0.4	REFRIGERATED WORK TOP [8]	20	1	A	20	1	EXTERIOR SIGN	1.2					30	

PHASE BALANCE			LOAD TYPE	CONNECTED	DEMAND	DEMAND FORMULA	TOTAL LOAD	
			LIGHTING	2.9 KVA	3.6 KVA	LOAD X 125% NEC 210.19 CONTINUOUS	CONNECTED	DEMAND
Φ	LOAD	%	RECEPTACLE	2.4 KVA	2.4 KVA	10KVA + 50% REMAINDER NEC 220.44	14.6 KVA	12.3KVA
A	7.4 KVA	50%	HVAC	0.0 KVA	0.0 KVA	LOAD X 100% (USED MCA IN CALCULATION)	60.7A	51.1A
B	7.2 KVA	50%	MISC	0.6 KVA	0.6 KVA	LOAD X 100% NEC 210.19 NON-CONT.		
			KIT	8.7 KVA	5.6 KVA	65% PER NEC TABLE 220.56		

CASE Engineering Inc.

NOTES:
A. PROVIDE NEW 5mA TRIP GFCI TYPE CIRCUIT BREAKER.
B.
C.

UTILITY TRANSFORMER FAULT CALCULATION

SERVICE ENTRANCE		CALCULATION
VOLTAGE (L-L):	240V	I-FLA=[RATED KVA * 1000]/
PHASE (PH):	3	[V-LL*SQRT(PHASE)]
AMPS:	200A	I-FLA= 241A
FULL LOAD KVA:	83KVA	
TRANSFORMER:	100KVA	M=100%2= 62.5
IMPEDANCE (%Z):	1.6%Z	I-SC=I-FLA*M= 15 KA

CALCULATION IS BASED ON ESTIMATED TRANSFORMER SIZE WITH %Z FROM BUSSMANN SPD. CONTRACTOR SHALL CONTACT UTILITY AND VERIFY I-SC AVAILABLE AT SECONDARY OF TRANSFORMER. CONTACT ENGINEER FOR RE-CALCULATION IF LARGER THAN CALCULATED.

METER FAULT CALC

STARTING I-SC:	15 KA	IMPEDANCE BASED ON 3 SINGLE
VOLTAGE (L-L):	240V	CONDUCTORS IN NON-MAGNETIC
PHASE (PH):	3	CONDUIT
FEEDER SIZE:	3/0	CALCULATION
FEEDER MATERIAL:	CU	*I=[SQRT(PHASE)*L*1S-C]/
PARALLEL SETS (Q):	1	[Q*C*V-LL]
FEEDER LENGTH (L):	70FT	f= 0.546
FEET PER OHMS (C):	13,923 FT/OHMS	M=1/(1+f)= 0.647
		I-SC=I-SC*M= 10 KA

NOTE: CALCULATION BASED ON BUSSMANN SPD

PANEL P1 FEEDER FAULT CALCULATION

STARTING I-SC:	10 KA	IMPEDANCE BASED ON 3 SINGLE
VOLTAGE (L-L):	240V	CONDUCTORS IN NON-MAGNETIC
PHASE (PH):	3	CONDUIT
FEEDER SIZE:	3/0	CALCULATION
FEEDER MATERIAL:	CU	*I=[SQRT(PHASE)*L*1S-C]/
PARALLEL SETS (Q):	1	[Q*C*V-LL]
FEEDER LENGTH (L):	10FT	f= 0.050
FEET PER OHMS (C):	13,923 FT/OHMS	M=1/(1+f)= 0.952
		I-SC=I-SC*M= 9 KA

NOTE: CALCULATION BASED ON BUSSMANN SPD

PANEL A FEEDER FAULT CALCULATION

STARTING I-SC:	9 KA	IMPEDANCE BASED ON 3 SINGLE
VOLTAGE (L-L):	208V	CONDUCTORS IN NON-MAGNETIC
PHASE (PH):	3PHASE	CONDUIT
FEEDER SIZE:	3	CALCULATION
FEEDER MATERIAL:	CU	*I=[SQRT(PHASE)*L*1S-C]/
PARALLEL SETS (Q):	1	[Q*C*V-LL]
FEEDER LENGTH (L):	10FT	f= 0.160
FEET PER OHMS (C):	4,811 FT/OHMS	M=1/(1+f)= 0.862
		I-SC=I-SC*M= 8.0 KA

NOTE: CALCULATION BASED ON BUSSMANN SPD

RTU-1 FEEDER FAULT CALCULATION

STARTING I-SC:	9 KA	IMPEDANCE BASED ON 3 SINGLE
VOLTAGE (L-L):	240V	CONDUCTORS IN NON-MAGNETIC
PHASE (PH):	3PHASE	CONDUIT
FEEDER SIZE:	8	CALCULATION
FEEDER MATERIAL:	CU	*I=[SQRT(PHASE)*L*1S-C]/
PARALLEL SETS (Q):	1	[Q*C*V-LL]
FEEDER LENGTH (L):	25FT	f= 1.072
FEET PER OHMS (C):	1,559 FT/OHMS	M=1/(1+f)= 0.483
		I-SC=I-SC*M= 4 KA

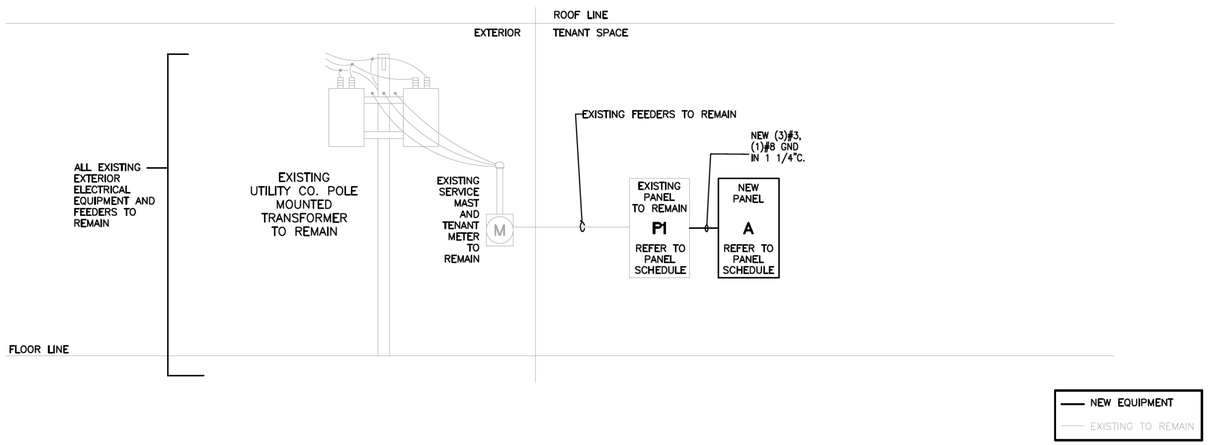
NOTE: CALCULATION BASED ON BUSSMANN SPD

PANEL GENERAL NOTES

1. EC TO PROVIDE HANDLE TIE ON ALL MULTIWIRE BRANCH CIRCUITS PER NEC 210.4(B).
2. ALL SPARE CIRCUIT BREAKERS AND DISCONNECT SWITCHES SHALL BE LEFT IN THE OFF POSITION.
3. EC SHALL VERIFY THE VOLTAGE AND AMPERAGE REQUIREMENTS OF ALL EQUIPMENT DELIVERED TO THE SITE PRIOR TO CONNECTION. EC SHALL NOTIFY OWNER OF ANY DIFFERENCE.
4. EC SHALL PROVIDE ARC FLASH LABELS FOR EXISTING SWITCHBOARDS AND PANELBOARDS AS PER N.E.C. REQUIREMENTS.
5. EC SHALL PROVIDE AVAILABLE FAULT CURRENT LABELS FOR EXISTING SWITCHBOARDS AND PANELBOARDS AS PER N.E.C. REQUIREMENTS.

EC IS RESPONSIBLE FOR FIELD VERIFICATION OF SITE CONDITIONS AND REPORTING ANY DIFFERENCES OR DISCREPANCIES TO ELECTRICAL ENGINEER PRIOR TO BID. NO EXTRAS OR CHANGE ORDERS SHALL BE GIVEN FOR CONTRACTOR'S FAILURE TO VERIFY SITE CONDITIONS PRIOR TO BIDDING. UNLESS SPECIFICALLY DETERMINED IN THE LEASE.

WHEN NEW CIRCUIT BREAKERS ARE ADDED TO AN EXISTING PANEL, THEY SHALL BE OF THE SAME MANUFACTURER AS THE EXISTING PANEL; SHALL BE OF A "LETTER TYPE" COMPATIBLE WITH THE EXISTING PANEL SUCH THAT THE UL LISTING OF THE EXISTING PANEL IS MAINTAINED AND SHALL HAVE AN AIC RATING EQUAL TO OR GREATER THAN THE AIC RATING OF THE EXISTING OVERCURRENT PROTECTIVE DEVICES WITHIN THE EXISTING PANEL.



1 **ONE-LINE DIAGRAM**
NO SCALE

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
AC	ABOVE COUNTER
CLG	CEILING MOUNTED
GC	GENERAL CONTRACTOR
EC	ELECTRICAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
WP	WEATHERPROOF
NL	NIGHT LIGHT (CONNECT TO UNSWITCHED LEG OF CIRCUIT NOTED)
GFI	GROUND FAULT CURRENT INTERRUPTER PROTECTED DEVICE
ST	SHUNT TRIP CIRCUIT
AFF	ABOVE FINISHED FLOOR
UNO	UNLESS NOTED OTHERWISE
TTB	TELEPHONE TERMINAL BOARD
PROVIDE	FURNISH AND INSTALL COMPLETE
J	JUNCTION BOX, MOUNTING HEIGHT
	20A, 1P, 125V, GROUNDING TYPE DUPLEX RECEPTACLE (+18" AFF UNO)
	20A, 1P, 125V, GROUNDING TYPE DOUBLE DUPLEX RECEPTACLE
	20A, 1P, 125V, GFCI TYPE DUPLEX RECEPTACLE
	SPECIAL USE RECEPTACLE, COORDINATE WITH EQUIPMENT SUPPLIER
fan	CEILING MOUNTED EXHAUST FAN WITH MANUAL DISCONNECT
30/NF/3	DISCONNECT SWITCH: 30 AMP, NON-FUSED, 3 POLE
$	LIGHT SWITCH
$3	LIGHT SWITCH (3 WAY)
$4	LIGHT SWITCH (4 WAY)
$OS	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH AT 3'-6" AFF TO CENTERLINE (WATT STOPPER #DW100-WH OR EQUAL)
OS	CEILING MOUNTED DAYLIGHT SENSOR SWITCH
OS	(WATT STOPPER #DT-355 OR EQUAL)
SD	SMOKE/DUCT DETECTOR - COORDINATE WITH MECHANICAL CONTRACTOR/PLANS
S	WALL MOUNTED SPEAKERS.
	DIMMER SWITCH: LUTRON NOVA SERIES DIMMERS COMPATIBLE WITH LOW VOLTAGE LIGHTING FIXTURES AND RATED FOR LOAD NOTED IN PANEL SCHEDULE. REFER TO LOADS AT PANELBOARD SCHEDULE. MOUNTING HEIGHT AS INDICATED PER PLAN.
	COMMUNICATIONS JUNCTION BOX FOR DATA/COMM. DEVICE PLATE. EC TO ROUTE 3/4" CONDUIT WITH PULL STRING TO 6" ABOVE ACCESSIBLE CEILING AND BEND AT 90° TOWARDS TTB. EC TO PROVIDE PLASTIC BUSHING ON END OF CONDUIT.
	CONDUIT RUN CONCEALED IN CEILING OR WALL. NUMBER OF HASH MARKS INDICATE NUMBER OF #12 WIRES WHEN MORE THAN TWO ARE REQUIRED UNLESS NOTED OTHERWISE. ALL CIRCUITS SHALL INCLUDE EQUIPMENT GROUND SIZED PER NEC. HASH MARK AHEAD OF NEUTRAL INDICATES UNSWITCHED LEG. CURLED HASH MARK INDICATES DEDICATED GROUND WIRE REQUIRED.
+12"	12" ABOVE FINISHED FLOOR TO CENTERLINE
	PANELBOARD
F 5a	LIGHTING FIXTURE SWITCHING DESIGNATION - LETTER 'F' INDICATES THE FIXTURE TYPE (SEE FIXTURE SCHEDULE) THE NUMBER '5' INDICATES THE CIRCUIT IN THE PANEL NOTED AND THE LOWER CASE LETTER 'a' INDICATES THE SWITCH LEG TO CONNECT THE FIXTURE TO.
	PANELBOARD
	MULTI-COMPARTMENT FLOOR BOX - BOX SHALL BE STEEL, FULLY ADJUSTABLE AFTER THE POUR.
	CONDUIT INSTALLED BELOW FLOOR SLAB

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DRAWING TITLE:
RISER & PANEL SCHEDULE

SHEET:
E-5

PLUMBING GENERAL NOTES

1. PLUMBING CONTRACTOR SHALL ABIDE BY THE LOCAL CODES AND ORDINANCES.

2. PLUMBING CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATIONS AND SIZES OF ALL UTILITIES, INCLUDING THE DEPTHS OF ALL BELOW GRADE SANITARY SEWERS, PRIOR TO START OF WORK. THIS DRAWING IS NOT INTENDED TO INDICATE ALL EXISTING UTILITIES.

3. CONTRACTOR SHALL BE FAMILIAR WITH LANDLORD'S STANDARDS, RULES AND REGULATIONS. ALL LANDLORD'S CRITERIA SHALL BE COMPILED WITH AND INCLUDED IN THIS BID.

4. CONTRACTOR SHALL VISIT SITE PRIOR TO SUBMITTING BID AND FIELD VERIFY EXISTING CONDITIONS TO ENSURE THAT THE WORK REPRESENTED ON THE DRAWINGS AND IN THESE SPECIFICATIONS CAN BE INSTALLED AS INDICATED. CONTRACTOR SHALL TAKE ALL INTERFERENCES INTO CONSIDERATION. PROVIDE ALL NECESSARY OFFSETS TO SUIT FIELD CONDITIONS AS REQUIRED.

5. CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY CONNECTION POINTS, INCLUDING SIZES AND INVERTS WITH EXISTING FIELD CONDITIONS PRIOR TO START OF WORK.

6. MAKE ALL UTILITY CONNECTIONS AND INSTALLATIONS IN FULL ACCORDANCE WITH ALL UTILITY REGULATIONS. PROVIDE ALL ADDITIONAL APPURTENANCES AS REQUIRED BY UTILITY COMPANY. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY, AND THE MANUFACTURER'S STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.

7. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS RELATED TO THE INSTALLATION OF THE WORK.

8. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ACTS AND ALL AUTHORITIES HAVING JURISDICTION AND LANDLORD'S CRITERIA.

9. MAINTAIN ALL MANUFACTURER'S RECOMMENDED SERVICE CLEARANCES FOR ALL FIXTURES AND EQUIPMENT. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS OF PLUMBING FIXTURES.

10. CUTTING OF ROOF AND FLASHING OF PIPE CURBS, SANITARY VENT THROUGH ROOF, ETC. SHALL BE COORDINATED WITH AND PERFORMED BY LANDLORD'S ROOFING CONTRACTOR, AT THIS CONTRACTOR'S EXPENSE, TO MAINTAIN ROOF WARRANTY. ALL VENT OUTLETS SHALL BE A MINIMUM OF 10'-0" AWAY FROM OR 3'-0" ABOVE ANY AIR INTAKES ON HVAC EQUIPMENT.

11. CONTRACTOR SHALL COORDINATE TIMES TO WORK IN SPECIFIC AREA OF THE EXISTING BUILDING WITH THE BUILDING MANAGER AND WITH THE OCCUPANTS OF THE AREA AFFECTED BY THE WORK.

12. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES WITH THE CONTRACT DOCUMENTS BEFORE COMMENCING ANY WORK.

13. SLEEVE AND SEAL ALL PIPE PENETRATIONS OF WALLS AND FLOORS. APPLY INTUMESCENT FIRE SAFING COMPOUND AT PENETRATIONS AT FIRE RATED WALLS AND FLOORS, MAINTAINING INTEGRITY AND RATING OF FIRE SEPARATION. SLEEVES THROUGH FLOORS SHALL EXTEND 2" ABOVE FLOOR, BE GROUTED INTO PLACE AND WATERPROOFED. PIPING THROUGH EXTERIOR WALLS SHALL BE SLEEVED AND SEALED WEATHER TIGHT WITH SILICONE CAULK.

14. THE P.C. IS TO INSPECT THE EXISTING SANITARY DRAIN TO VERIFY THAT IT HAS SUFFICIENT DEPTH FOR THE NEW WORK AND TO VERIFY THE DIRECTION OF FLOW. PRESSURE TEST THE EXISTING SANITARY DRAIN PRIOR TO THE START OF WORK. VERIFY THAT SEWER IS ACTIVE BY FLUSHING WITH WATER, A MINIMUM OF FIVE GALLONS PER MINUTE FOR FOUR HOURS PRIOR TO START OF WORK.

TABLE TO CALCULATE SUPPLY FIXTURE UNITS

PLUMBING FIXTURE	SUPPLY FIXTURE UNITS	NUMBER OF FIXTURES	TOTAL SUPPLY FIXTURE UNITS
WATER CLOSET FLUSH TANK	5.0	1	5.0
LAVATORIES	1.0	1	1.0
MOP SINK	3.0	1	3.0
3-COMPARTMENT SINK	3.0	1	3.0
BLENDER SINK	3.0	1	3.0
HAND SINK	1.0	2	2.0
ICE MACHINE	0.5	1	0.5
	TOTAL SUPPLY FIXTURE UNITS		17.500
	GPM		17
PIPE SIZE = 1"			

TABLE TO CALCULATE DRAINAGE FIXTURE UNITS

PLUMBING FIXTURE	DRAINAGE FIXTURE UNITS	NUMBER OF FIXTURES	TOTAL DRAINAGE FIXTURE UNITS
WATER CLOSET FLUSH TANK	4.0	1	4.0
LAVATORIES	1.0	1	1.0
MOP SINK	3.0	1	3.0
FLOOR SINK	6.0	3	18.0
HAND SINK	1.0	2	2.0
EMERGENCY FLOOR DRAIN	0.0	2	0.0
	TOTAL DRAINAGE FIXTURE UNITS		28.0
SANITARY WASTE SIZE= 4"			

BACK FLOW PREVENTER ASSEMBLY REQUIREMENTS

MARK	TYPE OF EQUIP. ON SYSTEM	METHOD OF CROSS CONNECTION CONTROL	MANUFACTURE AND MODEL NUMBER	REMARKS
RPBFP	WATER SERVICE	REDUCED PRESSURE ZONE ASSEMBLY	ZURN 975XL2	LEAD FREE CAST COPPER WITH QUATER TURN
RPZ	ICE MACHINE	DUAL CHECK WITH ATMOSPHERIC PORT	WATTS SD-3	STAINLESS STEEL BODY WITH QUARTER TURN VALVE SS STRAINER.

1. CONTRACTOR SHALL PROVIDE INDIVIDUAL BACKFLOW PREVENTERS FOR EACH PIECE OF EQUIPMENT.
2. EACH BACKFLOW PREVENTER MUST HAVE TESTING PORTS.
3. BRONZE BODIED BACKFLOW PREVENTERS ARE PERMISSABLE IF ALLOWED BY LOCAL CODES.

EQUIPMENT SCHEDULE

ITEM NO.	QTY.	ITEM	MANUFACTURER	MODEL	VOLTAGE	AMPS
6	1	3 COMPARTMENT SINK	NBR Equipment	3SS-182414LR24		
7	1	1 COMPARTMENT SINK	NBR Equipment	1BSG-1818		
12	2	HAND SINK	NBR Equipment	HS2-D2-S		
14	1	ICE MAKER WITH BIN, CUBE STYLE	Blue Air FSE LLC	BLUI-100A	115/60/1	5.2
19	1	GREASE INTERCEPTOR (GI-1)	SCHIER	GB-2		
20	1	MOP SINK	Custom	63M		
23	1	WATER HEATER	RINNAI	RU 199iN		
30	1	BLENDER CONTAINER RINSER	Vitamix	1442		

PLUMBING SYMBOLS LEGEND

CA	COMPRESSED AIR PIPING
G	NATURAL GAS PIPING
CD	CONDENSATE DRAIN PIPING
	COLD WATER PIPING
	HOT WATER PIPING (140°F)
	HOT WATER RETURN PIPING
	SANITARY DRAIN PIPING
	UNDERGROUND SANITARY PIPING
	SANITARY VENT PIPING
VTR	VENT THROUGH ROOF
	PIPE TURNING DOWN
	PIPE TURNING UP
	CHECK VALVE
	UNION
AFF	ABOVE FINISHED FLOOR
CO	CLEAN OUT
	PRESSURE REGULATING VALVE (PRV)
	BALL VALVE
GCO	GRADE CLEAN OUT
	POINT OF CONNECTION
	BALANCE VALVE

PIPE MATERIAL SCHEDULE

PIPE	MATERIALS
WASTE PIPING	BELOW GRADE: PIPING SHALL BE TYLER, AB&I OR CHARLOTTE NO-HUB CAST IRON DRAIN, WASTE, SEWER, AND STORM SHALL COMPLY TO CISPI 301 AND/OR ASTM A888 AND BE LINED WITH A SUITABLE EPOXY COATING. PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF ABOVE GRADE: PIPING SHALL BE TYLER, AB&I OR CHARLOTTE NO-HUB CAST IRON DRAIN, WASTE, VENT, SEWER, AND STORM LINES SHALL CONFORM TO THE REQUIREMENTS OF CISPI 301 AND/OR ASTM A888. PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF. JOINTS: ALL JOINTS SHALL BE HUSKY OR EQUIVALENT HEAVY DUTY COUPLINGS TESTED AND CERTIFIED TO THE REQUIREMENTS ASTM C1540. GASKET MATERIAL SHALL BE TESTED AND CERTIFIED TO ASTM C564 AND HAVE A SHIELD MADE OF 316 AISI STAINLESS STEEL WITH A .015MIL THICKNESS. SCHEDULE 40 PVC/CPVC MAY BE CONSIDERED AS A VALUE ENGINEERED ALTERNATE WHERE ALLOWED BY LOCAL AHJ, NOT TO BE INSTALLED WITHIN PLENUM AREAS OR RECEIVING DISCHARGE TEMPERATURES OF OVER THE MANUFACTURERS LISTED TEMPERATURES. PIPING SUBMITTAL MUST BE SUBMITTED TO ENGINEER FOR APPROVAL. INSULATION: INSULATION FOR STORM PIPING SHALL BE 1/2" THICK ARMAFLEX UL LABELED OR FIBERGLASS 25 WITH ASJ/SSL FOIL/VINYL JACKET OR EQUAL. INSULATE ALL PIPING AND FITTINGS.
WATER PIPING	UNDERGROUND: CERRO TYPE "K" COPPER TUBE, SOFT TEMPER OR EQUIVALENT. PLUMBER HAS THE OPTION TO USE PEX, CPVC, OR COPPER. AS LONG AS THEY FOLLOW THE LOCAL JURISDICTION ABOVEGROUND: CERRO TYPE "L" COPPER TUBE, HARD DRAWN OR EQUIVALENT. PLUMBER HAS THE OPTION TO USE PEX, CPVC, OR COPPER. AS LONG AS THEY FOLLOW THE LOCAL JURISDICTION INSULATION: INSULATION FOR COLD WATER PIPING SHALL BE 1/2" (1" ON 1ST 8 FT. FROM TANK) THICK ARMAFLEX UL LABELED OR FIBERGLASS 25 WITH ASJ/SSL FOIL/VINYL JACKET OR EQUAL. INSULATE ALL PIPING AND FITTINGS. INSULATION: INSULATION FOR HOT WATER PIPING SHALL BE 1" ON PIPING 1-1/2" AND SMALLER AND INSUALTION SHALL BE SAME THICKNESS AS PIPE DIAMETER ON 2" AND ABOVE THICK ARMAFLEX UL LABELED OR FIBERGLASS 25 WITH ASJ/SSL FOIL/VINYL JACKET OR EQUAL. INSULATE ALL PIPING AND FITTINGS.

PIPE SUPPORT SCHEDULE

NOMINAL PIPE DIAMETER NPS (IN)	MAXIMUM SUPPORT SPACING (FEET)							
	CAST IRON	COPPER	STEEL	SCH 40 PVC	SCH 40 CPVC			
				60°F	73°F	100°F	120°F	140°F
1/2		8		-	5	4.5	4.5	4
3/4		9		5	5	5	4.5	4
1	5	9		5.5	5.5	5.5	5	4.5
1 1/4	5	12	7	5.5	5.5	5.5	5.5	5
1 1/2	5	12	9	6	6	5.5	5.5	5
2	5	13	10	6	6	6	5.5	5
2 1/2	5	14	11	7	7	6.5	6.5	6
3	5	15	12	7	7	7	7	6
4	5	17	12	7.5	7.5	7.5	7	6.5
6	5	21	12	8.5	8.5	8	7.5	7
8	5	24	12	9	9.5	9.5	8.5	7.5
10	5	26	12	10	10.5	10.5	9.5	8
12	5	30	12	11.5	11.5	10.5	10	8.5

1. SUPPORT SPACING ABOVE IS FOR STRAIGHT HORIZONTAL PIPE. PROVIDE SUPPORTS ON EACH SIDE OF ELBOWS, FLANGES, VALVES, SPECIALTIES, ETC.
2. ALL PIPING SUPPORTS, THREADED ROD SIZES AND HANGERS SHALL BE PER MSS SP-69

NOTE:
REFER TO FOOD SERVICE DRAWINGS FOR KITCHEN EQUIPMENT SPECIFICATIONS AND ADDITIONAL INFORMATION.

NOTE:
PLUMBER HAS THE OPTION TO USE PEX, CPVC, OR COPPER. AS LONG AS ALLOWED BY THE LOCAL JURISDICTION

GREASE INTERCEPTOR CALCULATIONS

Quote: 73241CBD

Reference No. 80321 — Project Name: Playa Bowls Grosse Pointe, MI

Step 1: Flow rate to grease interceptor

Fixture flow rate: (cu in / 231) = gal x 0.75 / 2 min = 2 min flow rate

NAME	TYPE	DIMENSIONS	QTY	CU IN	FLOW RATE
3 Compartment Sink	3 Compartment Sink	18" x 18" x 12" (3)	1	11,664	18.94 GPM
Total					**18.94 GPM**

Step 2: Grease Production

Servings per day x Grease production value x Days between pump-outs = Grease output

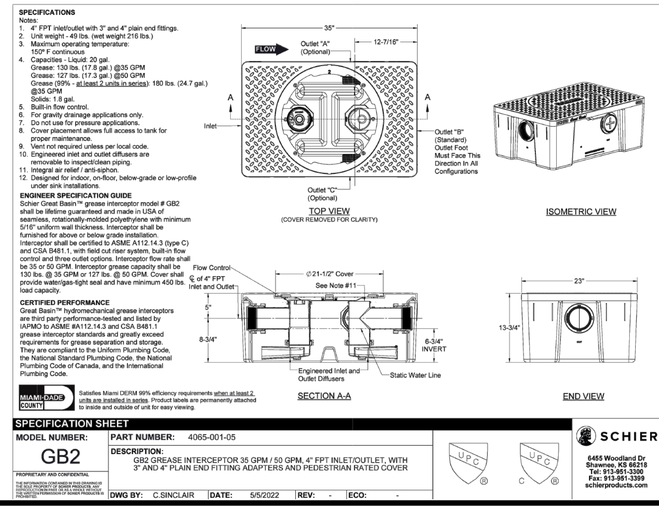
Servings per day: 250
Grease production value: 0.005 lbs per serving (Ice Cream / Yogurt / Smoothies: Low / No flatware)
Days between pump-outs: 90 days

250 x 0.005 x 90 = 112.5 lbs of FOG

SCHIER MODEL	
GB2	**Description:** GREASE INTERCEPTOR 35 GPM / 50 GPM, 4" FPT CONNECTIONS W/ 3" AND 4" PLAIN END ADAPTERS, PEDESTRIAN RATED POLYPROPYLENE COVER **Dimensions:** Length: 35", Width: 23", Height: 13.75" **Flow Rate/Grease Capacity:** 35 GPM / 130 lbs **Liquid Capacity:** 20 gal

Specification Note: This Great Basin model has been sized to the flow rate and grease production requirements of the application and may not be substituted by liquid capacity alone. Any substitution requests must be approved by the specifying engineer and the authority having jurisdiction.

Please contact support@schierproducts.com for technical and procurement support for the specified Great Basin model.



SPECIFICATION SHEET

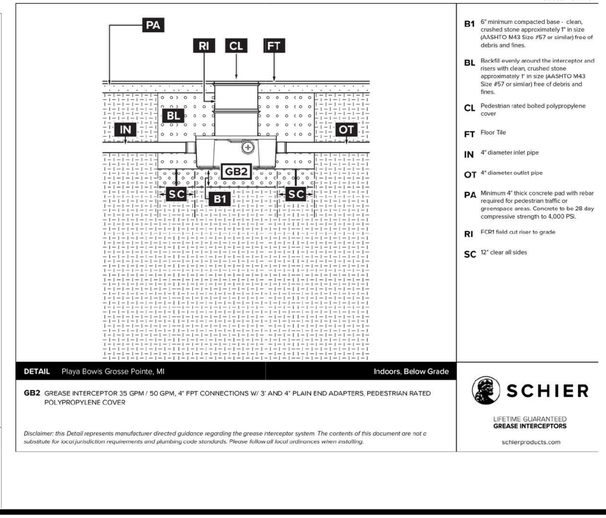
MODEL NUMBER:	PART NUMBER: 4065-001-05
GB2	DESCRIPTION: GB2 GREASE INTERCEPTOR 35 GPM / 50 GPM, 4" FPT INLET/OUTLET, WITH 3" AND 4" PLAIN END FITTING ADAPTERS AND PEDESTRIAN RATED COVER

DWG BY: C.SINCLAIR | DATE: 5/5/2022 | REV: - | ECO: -

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SCHIER
6455 Woodland Dr
Shawnee, KS 66218
Tel: 913-951-3300
Fax: 913-951-3399
schierproducts.com

Quote: 73241CBD



B1 6" minimum compacted base - clean, crushed stone approximately 1" in size (AASHTO M43 Size #57 or similar) free of debris and fines.
BL Backfill evenly around the interceptor and risers with clean, crushed stone approximately 1" in size (AASHTO M43 Size #57 or similar) free of debris and fines.
CL Pedestrian rated bolted polypropylene cover
FT Floor Tile
IN 4" diameter inlet pipe
OT 4" diameter outlet pipe
PA Minimum 4" thick concrete pad with rebar required for pedestrian traffic or greenspace areas. Concrete to be 28 day compressive strength to 4,000 PSI.
RI FCRI field cut riser to grade
SC 12" clear all sides

DETAIL Playa Bowls Grosse Pointe, MI — Indoors, Below Grade

GB2 GREASE INTERCEPTOR 35 GPM / 50 GPM, 4" FPT CONNECTIONS W/ 3" AND 4" PLAIN END ADAPTERS, PEDESTRIAN RATED POLYPROPYLENE COVER

Disclaimer: this Detail represents manufacturer directed guidance regarding the grease interceptor system. The contents of this document are not a substitute for local jurisdiction requirements and plumbing code standards. Please follow all local ordinances when installing.

SCHIER
LIFETIME GUARANTEED GREASE INTERCEPTORS
schierproducts.com

GRA DESIGN STUDIO
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LICENSED IN 35 STATES AND COUNTING

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STATE OF MICHIGAN — MATTHEW R CASE — License No. 6201310434 — PROFESSIONAL ENGINEER
07/11/2025
MICHIGAN

LICENSE #: 6201310434
EXPIRATION: 09/30/2025

I HEARBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAW OF THE THIS STATE.

CASE Engineering Inc.
796 Meras Court | T 636.349.1600
St. Louis, MO 63026 | F 636.349.1730
CERTIFICATE OF AUTHORITY NO. 802229007

RELEASE TYPE:

EXISTING CONDITIONS	
SCHEMATIC DESIGN	
DESIGN DEVELOPMENT	
PROGRESS PRINT	
FULL RELEASE	

ISSUED TO:

NO.	DESCRIPTION	DATE

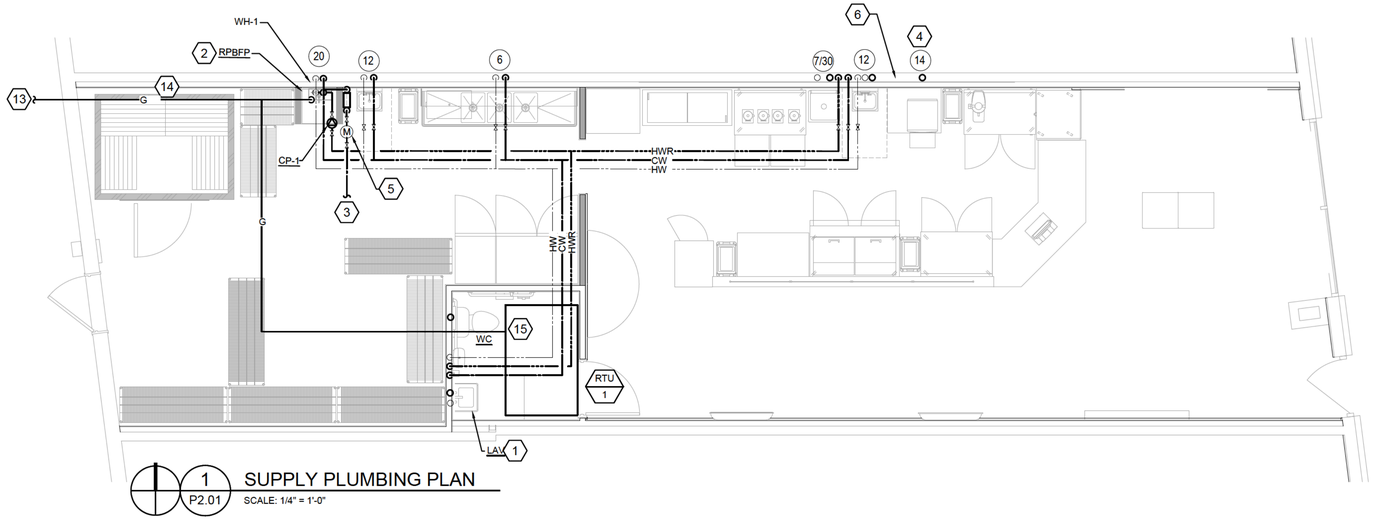
DESIGNED BY: | DRAWN BY:
CHECKED BY: | APPROVED BY:
PROJECT #: STQ-0994-0125

PROJECT:
PLAYA BOWLS
20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: AS INDICATED

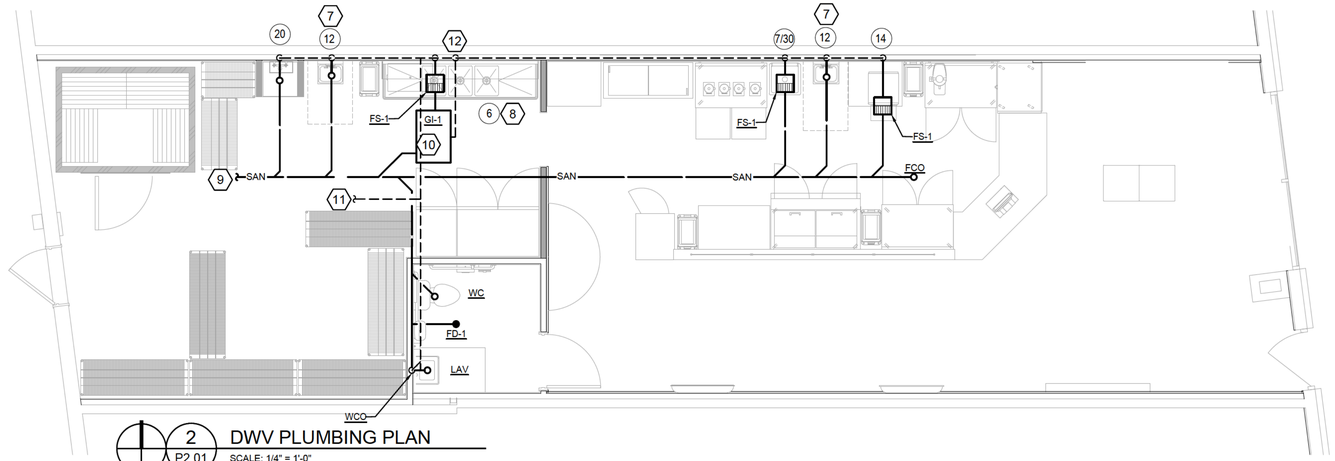
DRAWING TITLE:
PLUMBING NOTES

SHEET: P1-01



1 P2.01 SUPPLY PLUMBING PLAN

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



2 P2.01 DWV PLUMBING PLAN

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

HOT WATER BALANCING NOTE:

PLUMBING CONTRACTOR SHALL PROVIDE JOMAR VALVE RECIRCSETTER™AUTOMATIC VARIABLE SET POINT BALANCING VALVE OR EQUIVALENT AT EACH HOT WATER CIRCULATION CONNECTION TO THE HOT WATER SYSTEM. ENSURE VALVES ARE INSTALLED IN AN ACCESSIBLE LOCATION FOR ADJUSTMENT AND SERVICE. SYSTEM SHALL BE SET FOR A 5 DEGREE TEMPERATURE DIFFERENCE FROM WATER HEATER SET POINT. CONSULT WITH THE CIRCULATING PUMP MANUFACTURER FOR ADDITIONAL CONTROLS AND BALANCING INSTRUCTION.

EXISTING SANITARY SEWER CONDITIONS NOTE:

SANITARY SEWER PIPING SHOWN ON DRAWINGS IS DIAGRAMMATIC AND MAY DIFFER SLIGHTLY FROM ACTUAL FIELD CONDITIONS. PLUMBING CONTRACTOR (PC) SHALL COORDINATE WITH EXISTING FIELD CONDITIONS VIA A SANITARY VIDEO SURVEY/SCOPE TO DETERMINE THE EXACT SIZE, LOCATION, INVERT ELEVATIONS AT THE PROPOSED CONNECTIONS TO EXISTING PLUMBING SERVICES PRIOR TO BID/CONSTRUCTION. IF ACTUAL FIELD FINDINGS VARY SIGNIFICANTLY FROM THOSE AS INDICATED ON PLANS, PC SHALL NOTIFY GENERAL CONTRACTOR (GC) IMMEDIATELY PRIOR TO STARTING ANY WORK. THE OWNER SHALL NOT BE RESPONSIBLE FOR ADDITIONAL COSTS INCURRED BY FAILED COORDINATION AFTER CONSTRUCTION HAS BEGUN. PC SHALL BE RESPONSIBLE FOR UTILIZING A REPUTABLE UTILITY LOCATING SERVICE PRIOR TO ANY EXCAVATION.

EXISTING WATER SERVICE CONDITIONS NOTE:

WATER PRESSURE IS SHOWN AS DIAGRAMMATIC ONLY. CONTRACTOR SHALL VERIFY EXISTING WATER PRESSURE IN FIELD PRIOR TO ANY WORK AND PIPING ROUGH IN. IF DISCOVERED ON SITE THAT EXISTING WATER PRESSURE IS LESS THAN 68 PSI, CONTACT ENGINEER IMMEDIATELY FOR PIPING DESIGN CHANGES. IF PRESSURE IS GREATER THAN 80 PSI PROVIDE PRESSURE REDUCING VALVE AND REDUCE DOWN TO 77 PSI.

PRIOR TO WORK VERIFY INCOMING WATER QUALITY TO SPACE. WHEN INCOMING WATER IS ABOVE 3.5 GRAINS PER GALLON (60 PARTS PER MILLION) SCALE BUILD-UP WILL FORM INSIDE THE PLUMBING SYSTEM CAUSING DAMAGE TO SYSTEM COMPONENTS AND COPPER PIPE. TO AVOID DAMAGE DUE TO SCALE BUILD-UP, EITHER A WATER SOFTENER OR ANTI-SCALE DEVICE SHOULD BE INSTALLED AT POINT-OF-ENTRY. APPLICATIONS WHERE THERE IS A CONCERN FOR WATER SPOTS ON GLASS SHOWER DOORS, GLASS DISHES, VEHICLES IN CARWASHES, ETC., AND/OR THE EFFECTS OF HARD WATER ON HUMAN SKIN, A WATER SOFTENER SHOULD BE USED INSTEAD OF AN ANTI-SCALE DEVICE. ANTI-SCALE DEVICES REDUCE THE FORMATION OF SCALE IN A PLUMBING SYSTEM BUT DO NOT REMOVE THE CALCIUM AND MAGNESIUM FROM THE WATER, WHICH WILL REMAIN ONCE THE WATER HAS EVAPORATE LEAVING WATER SPOTS AND/OR DRYING OUT HUMAN SKIN. WATER SOFTENERS REMOVE CALCIUM AND MAGNESIUM FROM THE WATER BUT REQUIRE ROUTINE REFILLING OF SALT LEVELS IN THE BRINE TANK.

PLUMBING KEYED NOTES

1. PROVIDE ASSE 1070 POINT OF USE THERMOSTATIC MIXING VALVE TMV-1 AT THIS FIXTURE TO PROVIDE 110°F MAX TEMPERATURE. IF NOT PROVIDED ALREADY
2. IF BUILDING DOMESTIC WATER SERVICE IS NOT ALREADY PROTECTED BY A MAIN BACKFLOW PREVENTER THEN, PROVIDE REDUCED PRESSURE BACKFLOW PREVENTOR AT AN ACCESSIBLE LOCATION. ABOVE THE MOP SINK WITH RELIEF VALVE DRANING INDIRECTLY INTO MOP SINK WITH CODE APPROVED AIR GAP. VERIFY IN FIELD PRIOR TO EQUIPMENT PURCHASE.
3. ROUTE DOMESTIC COLD WATER SERVICE TO CONNECT TO EXISTING DOMESTIC COLD WATER SERVING THE SPACE. VERIFY EXACT SIZE, ROUTING, DELIVERY PRESSURE, AND WATER METER INSTALLATION REQUIREMENTS WITH LANDLORD AND LOCAL WATER UTILITY COMPANY PRIOR TO ANY WORK.
4. 1/2" CW TO ICE MACHINE FURNISH WITH REQUIRED BACK FLOW DEVICE AND SHUT OF VALVE. WATER FILTER BY VENDOR.
5. PROVIDE WATER SUB METER WITH SHUT OFF VALVES FIELD VERIFY LOCATION PRIOR TO ANY WORK
6. ROUTE PIPING LOW IN WALL COORDINATE WITH ELECTRICAL CONTRACTOR.
7. 2" WASTE FROM HAND SINK.
8. ROUTE WASTE FROM 3 COMPARTMENT SINK TO INDIRECTLY DISCHARGE INTO FLOOR SINK, EACH COMPARTMENT SHALL BE ROUTED SEPARATELY. WITH CODE APPROVED AIR GAP.
9. ROUTE TO CONNECT TO EXISTING SANITARY WASTE PIPING. PLUMBING CONTRACTOR SHALL VERIFY EXACT SIZE, INVERT ELEVATION, LOCATION, ROUTING AND CONNECTION REQUIREMENTS WITH LANDLORD AND UTILITY COMPANY PRIOR TO BIDDING AND PERFORMING ANY EXCAVATION WORK. PROVIDE ALTERNATE BID FOR A SEWAGE LIFT STATION IF EXISTING TIE IN CONNECTION IS FOUND TO NOT BE DEEP ENOUGH TO RECEIVE THE DISCHARGE FROM THE NEW SANITARY SYSTEM.
10. PROVIDE NEW GREASE INTERCEPTOR BELOW GRADE WITH PEDESTRIAN RATTED COVER. COORDINATE WITH LANDLORD AND LOCAL AUTHORITIES FOR EXACT LOCATION. INSTALL PER MANUFACTURES MANUALS. VERIFY LOCATION, INVERT ELEVATION AND DIRECTION OF FLOW PRIOR TO ANY WORK.
11. SANITARY VENT PIPING TO CONNECT TO EXISTING FIELD VERIFY LOCATION PRIOR TO ANY WORK.
12. VENT PIPING BELOW GRADE TO SERVE GREASE INTERCEPTOR. COORDINATE EXACT ROUTING IN FIELD, VERIFY ALL EXISTING UTILITIES PRIOR TO ANY WORK.
13. NEW GAS PIPING TO CONNECT TO METER'S DEMAND=199MBH, (FIELD VERIFY ACTUAL LOCATION APPROXIMATE LENGTH FROM FURTHEST FIXTURE TO METER BANK 20 FEET CONTRACTOR TO VERIFY EXACT LENGTH, AVAILABLE PRESSURE AND INSTALLATION LOCATION IN FIELD. VERIFY WITH GAS COMPANY FOR EXACT CONNECTION AND METER INSTALLATION GUIDELINES AND REQUIREMENTS PRIOR TO ANY WORK.
14. NEW GAS PIPING ON ROOF. CONTRACTOR TO PROVIDE PROPER SUPPORTS FOR PIPING AND ALL CONNECTION TO ROOF TOP UNITS.
15. CONNECT 1" LOW PRESSURE GAS TO RTU'S. PROVIDE 6" DIRTLEG AND SHUTOFF PLUG VALVE PRIOR TO FINAL CONNECTION.

PUMP SCHEDULE

MARK	MFR	MODEL	GPM	TDH	OUTLET	VOLT/PHASE	REMARKS
CP-1	GRUNDFOS	ALPHA-15-55 HWR SF/T	1	10	3/4	120V/1PH	1,2

1. CONSULT MANUFACTURER PRIOR TO PURCHASE FOR EXACT MODEL AND ALL ACCESSORIES FOR A COMPLETE SYSTEM.
2. COORDINATE EXACT VOLTAGE/PHASE WITH EC PRIOR TO PURCHASE AND ROUGH IN

PLUMBING FIXTURE SCHEDULE

TAG	NAME	COLD WATER	HOT WATER	WASTE	VENT SIZE	REMARKS
FS-1	FLOOR SINK 12"x12"x8"	-	-	4"	2"	Z1751 WITH DRAIN STRAINER AND HALF GRATE
GI-1	GREASE INTERCEPTOR	-	-	4"	2"	SCHIER GB-2 50GPM RATED, 130LBS GREASE CAPACITY, INTEGRAL FLOW CONTROL
TMV-1	THERMOSTATIC MIXING VALVE ZURN 38-ZW2870XLT	1/2"	1/2 "	-	-	PLUMBER TO FURNISH AND INSTALL: SET TEMPERATURE TO 110°F.
FD-1	FLOOR DRAIN	-	-	3"	2"	ZURN ZB415-XNH-7B-P-VP-Y

ADDITIONAL REMARKS

REFER TO KITCHEN EQUIPMENT DRAWINGS FOR EXACT FIXTURE SELECTIONS, PLUMBING REQUIREMENTS, AND REMARKS FOR ALL NUMBERED EQUIPMENT (EG. 6, XS1, ETC.)

ANGLE STOPS SHALL BE LOOSE KEYED WITH INTEGRAL CHECK VALVE. MCGUIRE LFCK SERIES OR EQUIVALENT.

ALL ADA ACCESSIBLE SINKS PTRAP AND DRAIN PIPING SHALL BE PROVIDED WITH MCGUIRE PREWRAPPED PW2125 SERIES OR EQUIVALENT. ALL SUPPLIES SHALL BE TRUEBRO LAVGUARDS OR EQUIVALENT. WATCO IDEALLAV LAV DRAIN GRID DRAIN WITH INTERNAL STOPPER WITH P-TRAP WRAPPED IN TRUEBRO LAV GAURD IS ACCEPTABLE ALTERNATE.

NOT ALL COMPONENTS AND ACCESSORIES FOR FIXTURES ARE LISTED IN THE SCHEDULE. PLUMBING CONTRACTOR SHALL PROVIDE ALL ACCESSORIES RECOMMENDED BY THE MANUFACTURER TO PROVIDE A COMPLETE SYSTEM. PLUMBING CONTRACTOR SHALL REVIEW AND INSTALL ALL FIXTURES, COMPONENTS, AND ACCESSORIES AS DIRECTED BY THE MANUFACTURERS INSTALLATION MANUALS.

GAS LOAD SUMMARY

SYSTEM	DESIGNATION	EQUIPMENT	MBH
WH-1	WH-1	WATER HEATER	199
RTU-1	RTU-1	ROOF TOP UNIT	140
TOTAL NATURAL GAS CONNECTED LOAD			339
GAS METER REQUIREMENTS	MBH CAPACITY		339
	TOTAL DEVELOPED LENGTH INCLUDING EQUIVALENT PIPE LENGTH FOR FITTING AND VALVE FRICTION LOSSES TO GAS METER		56FT X 1.2 = 68FT
	CONSULT GAS UTILITY COMPANY FOR REGULATOR RATING		
SITE ELEVATION/ ALTITUDE	<1000' AMSL		

WATER HEATER SCHEDULE

QTY	MARK	MFR	MODEL	STORAGE	GPM	°F. RISE	VOLT/PHASE	REMARKS
2	WH-1	R NNAI	RU199iN	INSTANTANEOUS	4	90	120V	1,2,3

1: SET WATER HEATER TEMPERATURE TO 140°f.
2: CONSULT MANUFACTURER PRIOR TO PURCHASE FOR EXACT MODEL AND ALL ACCESSORIES FOR A COMPLETE SYSTEM.
3: CONFIRM VOLTAGE WITH ELECTRICAL CONTRACTOR PRIOR TO PURCHASE AND ROUGH IN.

INCOMING WATER TEMPERATURE (AVERAGE GROUND WATER TEMP) =	60°
HOT WATER TEMPERATURE =	140°
TEMPERATURE RISE =	80°

PLUMBING FIXTURE	TOTAL FIXTURE OR FAUCET GPM	MIXED TEMPERATURE	HOT WATER GPM PER FIXTURE OR FAUCET	NO. OF FIXTURES OR FAUCETS	FULL HOT WATER FLOW (GPM)	ESTIMATED PERCENT USAGE	DESIGNED HOT WATER FLOW (GPM)
3-COMP SINK	2.0	140°	2.00	1	2.00	100%	2.00
HAND SINK	1.5	110°	0.94	2	1.88	50%	0.94
MOP SINK	3.0	140°	3.00	1	3.00	50%	1.50
PREP SINK	1.5	140°	1.50	1	1.50	100%	1.50
LAVS	1.0	110°	0.63	1	0.63	100%	0.63
FULL HOT WATER FLOW FOR ALL FIXTURES RUNNING =					8.38 GPM		
DESIGNED HOT WATER GALLONS PER MINUTE =							5.9 GPM

GRA DESIGN STUDIO
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GREG@GRALPHARCHITECT.COM

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MATTHEW R CASE
License No. 6201310434
LICENSED PROFESSIONAL ENGINEER

07/11/2025

MICHIGAN

LICENSE #: 6201310434
EXPIRATION: 09/30/2025

I HEARBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAW OF THE THIS STATE.

CASE Engineering Inc.
796 Merus Court
St. Louis, MO 63026
T 636.349.1600
F 636.349.1730
CERTIFICATE OF AUTHORITY NO. 802229007

RELEASE TYPE:
- EXISTING CONDITIONS
- SCHEMATIC DESIGN
- DESIGN DEVELOPMENT
- PROGRESS PRINT
- FULL RELEASE

ISSUED TO:

NO.	DESCRIPTION	DATE

DESIGNED BY: | DRAWN BY:
CHECKED BY: | APPROVED BY:
PROJECT #: STQ-0994-0125

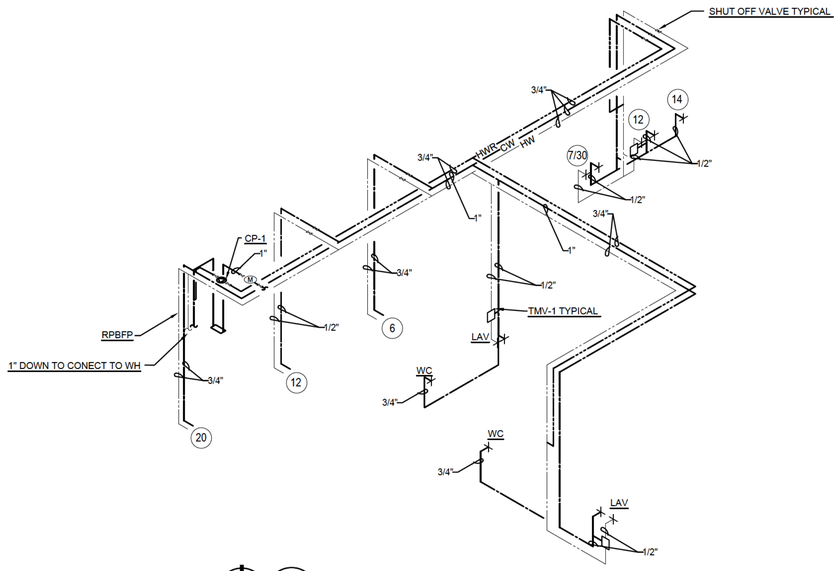
PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: AS INDICATED

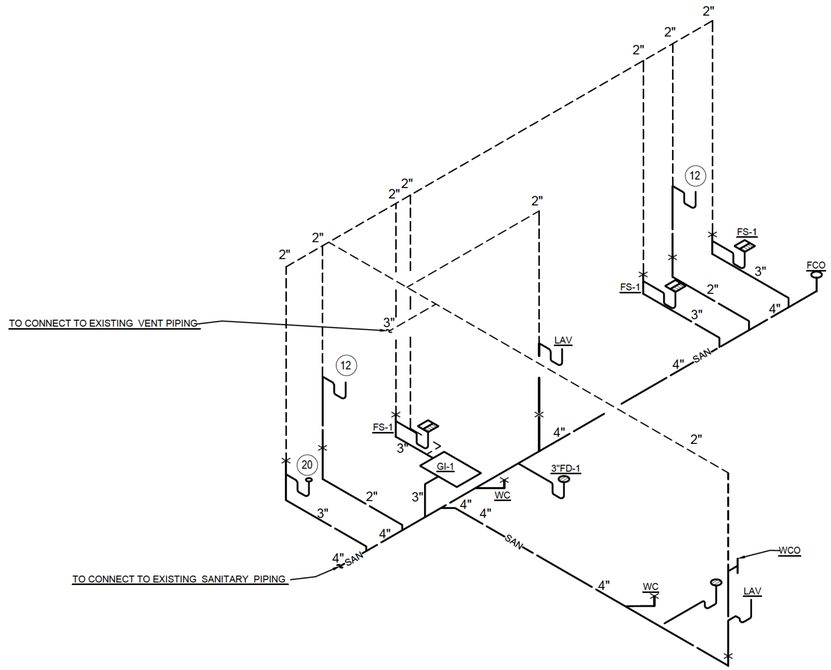
DRAWING TITLE:
PLUMBING PLAN

SHEET:
P2-01



1 P3-01 SUPPLY RISER PLAN

SCALE: NONE



2 P3-01 DWV RISER PLAN

SCALE: NONE

GRA
DESIGN STUDIO

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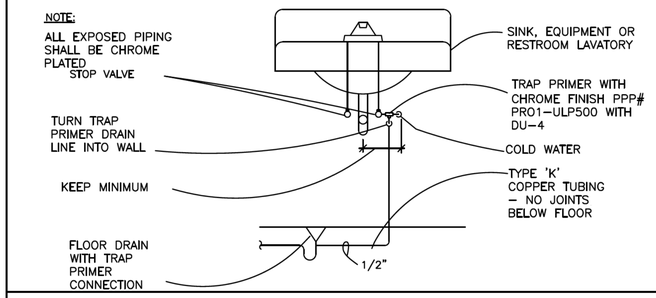
PROJECT:
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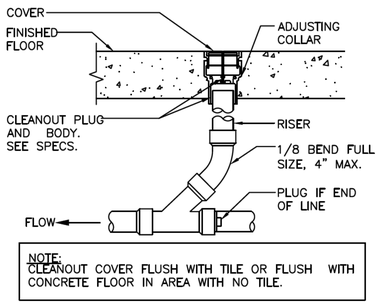
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PLUMBING RISERS

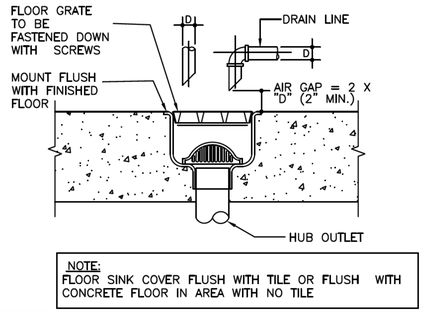
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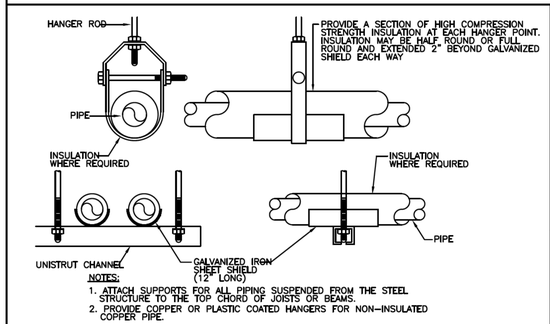
TRAP PRIMER PIPING DETAIL
SCALE: NO SCALE



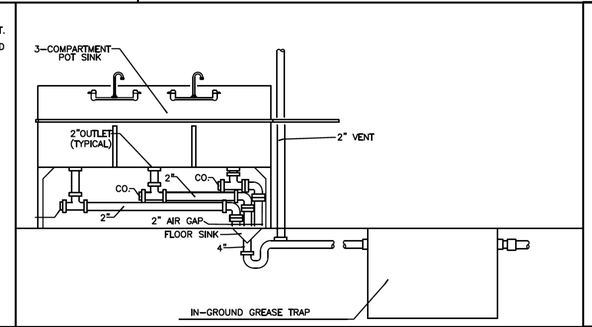
FLOOR CLEAN-OUT DETAIL
SCALE: NO SCALE



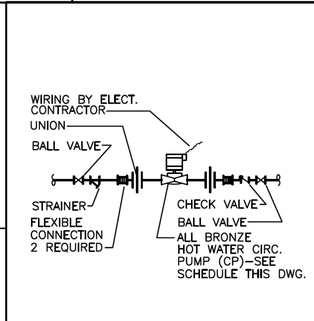
FLOOR SINK DETAIL
SCALE: NO SCALE



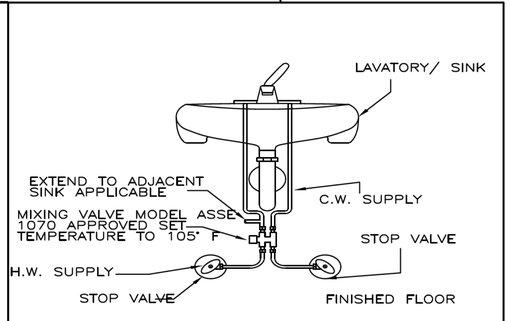
PIPE HANGER DETAIL
SCALE: NO SCALE



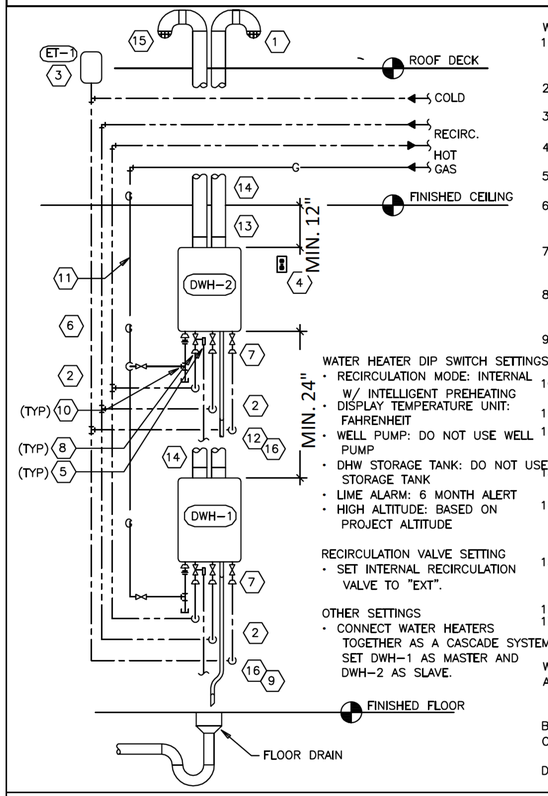
3-COMP SINK IN-DIREXT CONNECT DETAIL
SCALE: NO SCALE



RECIRCULATING PUMP DETAIL
SCALE: NO SCALE



POINT OF USE MIXING VALVE DETAIL
SCALE: NO SCALE



WATER HEATER DIP SWITCH SETTINGS
- RECIRCULATION MODE: INTERNAL W/ INTELLIGENT PREHEATING
- DISPLAY TEMPERATURE UNIT: FAHRENHEIT
- WELL PUMP: DO NOT USE WELL PUMP
- DHW STORAGE TANK: DO NOT USE STORAGE TANK
- LIME ALARM: 6 MONTH ALERT
- HIGH ALTITUDE: BASED ON PROJECT ALTITUDE

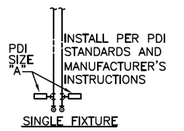
RECIRCULATION VALVE SETTING
- SET INTERNAL RECIRCULATION VALVE TO "EXT".

OTHER SETTINGS
- CONNECT WATER HEATERS TOGETHER AS A CASCADE SYSTEM. SET DWH-1 AS MASTER AND DWH-2 AS SLAVE.

WATER HEATER DETAIL NOTES
1. PROVIDE TWO 90° ELBOWS AND A SCREEN FOR THE FLUE TERMINATION THROUGH THE ROOF PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. ROUGH-IN COLD, HOT, AND RECIRC PIPES AT 64" AND GAS PIPE AT 61" BELOW THE FINISHED CEILING.
3. PROVIDE EXPANSION TANK ET-1 AS SHOWN. SUPPORT TANK FROM WALL OR STRUCTURE ABOVE.
4. PROVIDE WATER HEATER RECEPTACLE WITHIN 12" OF THE FINISHED CEILING. FASTEN CORD TIGHT TO THE WALL.
5. PROVIDE PRESSURE RELIEF VALVE. PIPE PRESSURE RELIEF VALVE TO POINT OF DISCHARGE.
6. CONCEAL WATER PIPING WITHIN THE WALL AS SHOWN. INSULATE EXPOSED AND CONCEALED WATER PIPING TO WITHIN 3" OF THE WATER HEATER.
7. INSTALL "PLUMB EASY VALVE SET" EXPOSED AT THE COLD AND HOT WATER CONNECTIONS TO THE WATER HEATER AS SHOWN.
8. IF THE PIPE SIZES AS SHOWN ON THE PLUMBING PLANS IS LARGER THAN THE WATER HEATER CONNECTIONS SIZES, PROVIDE REDUCERS WITHIN 6" OF THE WATER HEATER.
9. PIPE PRESSURE RELIEF VALVE DISCHARGE AND FLUE CONDENSATE DRAIN TO THE POINT OF DISCHARGE. DRAIN THROUGH AN AIR GAP.
10. PROVIDE AN EXPOSED DRIP LEG AND LINE-SIZE GAS VALVE ON THE GAS SERVICE TO THE WATER HEATER.
11. CONCEAL GAS PIPING IN THE WALL AS SHOWN.
12. PROVIDE 1/2" PVC PIPE FROM THE FLUE CONDENSATE CONNECTION TO THE FLOOR DRAIN OR MOP BASIN. DRAIN THROUGH AN AIR GAP.
13. INSTALL THE TANKLESS WATER HEATER WITH THE TOP OF THE WATER HEATER WITHIN 12" OF THE FINISHED CEILING.
14. PROVIDE A 3"Ø PVC PIPE FROM THE TANKLESS WATER HEATER TO THE POINT OF DISCHARGE. SLOPE HORIZONTAL SECTION OF THE FLUE 1/4" PER FOOT TOWARDS THE WATER HEATER.
15. PROVIDE A SCREENED AIR INTAKE WITH TWO 90° ELBOWS ABOVE THE ROOF PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
16. CONCEAL DRAIN LINES IN WALL PER DETAIL 9/THIS SHEET.
17. PROVIDE COMMUNICATION CABLE CONCEALED IN WALL BETWEEN WATER HEATERS.

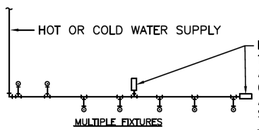
WATER HEATER GENERAL NOTES
A. CLEAN INLET STRAINERS AFTER CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO TURNOVER OF THE BUILDING TO THE TENANT.
B. INSTALL PIPING WITH AS FEW ELBOWS AS POSSIBLE.
C. MAINTAIN REQUIRED CLEARANCE TO COMBUSTIBLE MATERIALS.
D. ADJUST WATER HEATER TO A SETPOINT OF 120° F.

WATER HEATER DETAIL
SCALE: NO SCALE



SINGLE FIXTURE

PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	



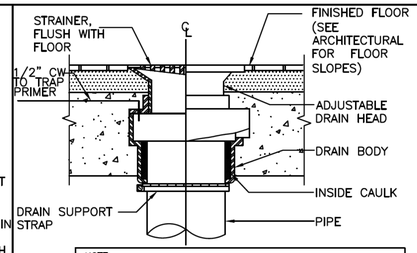
MULTIPLE FIXTURES

FIXTURE UNIT TABULATION		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	--
TANK WATER CLOSET	5	--
URINAL	5	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2

IF HORIZONTAL BRANCH IS LESS THAN 20' LONG, PROVIDE ONE WHA AT END OF LINE IF BRANCH IS GREATER THAN 20' LONG, PROVIDE ANOTHER WHA IN MIDDLE, EACH SIZED FOR HALF THE FIXTURE UNITS

PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH- 201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE. PROVIDE ACCESS PANEL FOR SERVICING OR REPLACEMENT, WHERE REQUIRED.

HAMMER ARRESTER DETAIL
SCALE: NO SCALE



NOTE: THE GENERAL CONTRACTOR SHALL PROVIDE A ONE PIECE WATER PROOF MEMBRANE FLOOR AND BASE IN THE TOILET ROOM(S).

FLOOR DRAIN DETAIL
SCALE: NO SCALE

GRA DESIGN STUDIO
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ISSUED TO:

NO.	DESCRIPTION	DATE

DESIGNED BY:	DRAWN BY:
CHECKED BY:	APPROVED BY:
PROJECT #:	STQ-0994-0125

PROJECT:
PLAYA BOWLS

20647 MACK AVE
GROSSE POINTE, MI 48236

SCALE: AS INDICATED

DRAWING TITLE:
PLUMBING DETAILS

SHEET: P4-01

Real Estate Summary Sheet

Information herein deemed reliable but not guaranteed

08/28/2025 1:07 PM

Parcel:	007 01 1763 000	**Current Class:**	201.COMMERCIAL-IMPROVED
Owner's Name:	JUPITER PROPERTIES LLC	**Previous Class:**	201.COMMERCIAL-IMPROVED
Property Address:	20641 MACK AVE GROSSE POINTE WOODS, MI 48236	**Taxable Status**	TAXABLE
		Prev. Taxable Stat	TAXABLE
Liber/Page:	35360/22 **Created:** / /	**Gov. Unit:**	40 GROSSE POINTE WOODS
Split:	/ / **Active:** Active	**MAP PAGE**	007
		School:	82055 GROSSE POINTE PUBLIC SCHS
		Neighborhood:	C-RET COMM - RETAIL, RESTAURANTS, SHOPPING
Public Impr.:	Paved Road, Storm Sewer, Sidewalk, Water, Sewer, Electric, Gas, Curb, Street Lights, Standard Utilities		
Topography:	Level, Landscaped		

Mailing Address:

JUPITER PROPERTIES LLC
C/O: MANNINO CHRISTOPHER
318 TOURAINE CT
GROSSE POINTE FARMS MI 48236

Description:

WDU1763 TO 1766 LOTS 1763 TO 1766 INCL ARTHUR J SCULLYS EASTERN SUPER HWY SUB NO 2 PC156 L61 P44 WCR K 139.61

Most Recent Sale Information

Sold on 12/18/2001 for 0 by MANNINO LLC.

Terms of Sale: 21-NOT USED/OTHER **Liber/Page:** 35360/22

Most Recent Permit Information

Permit PB220914 on 10/07/2022 for $27,850 category Commercial, Add/Alter/Repair.

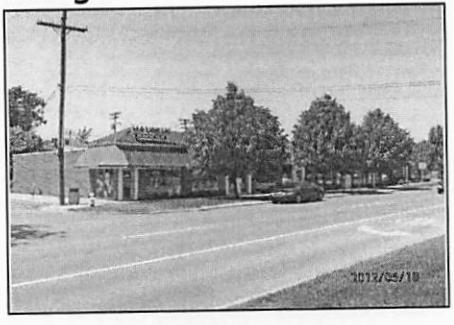
Physical Property Characteristics

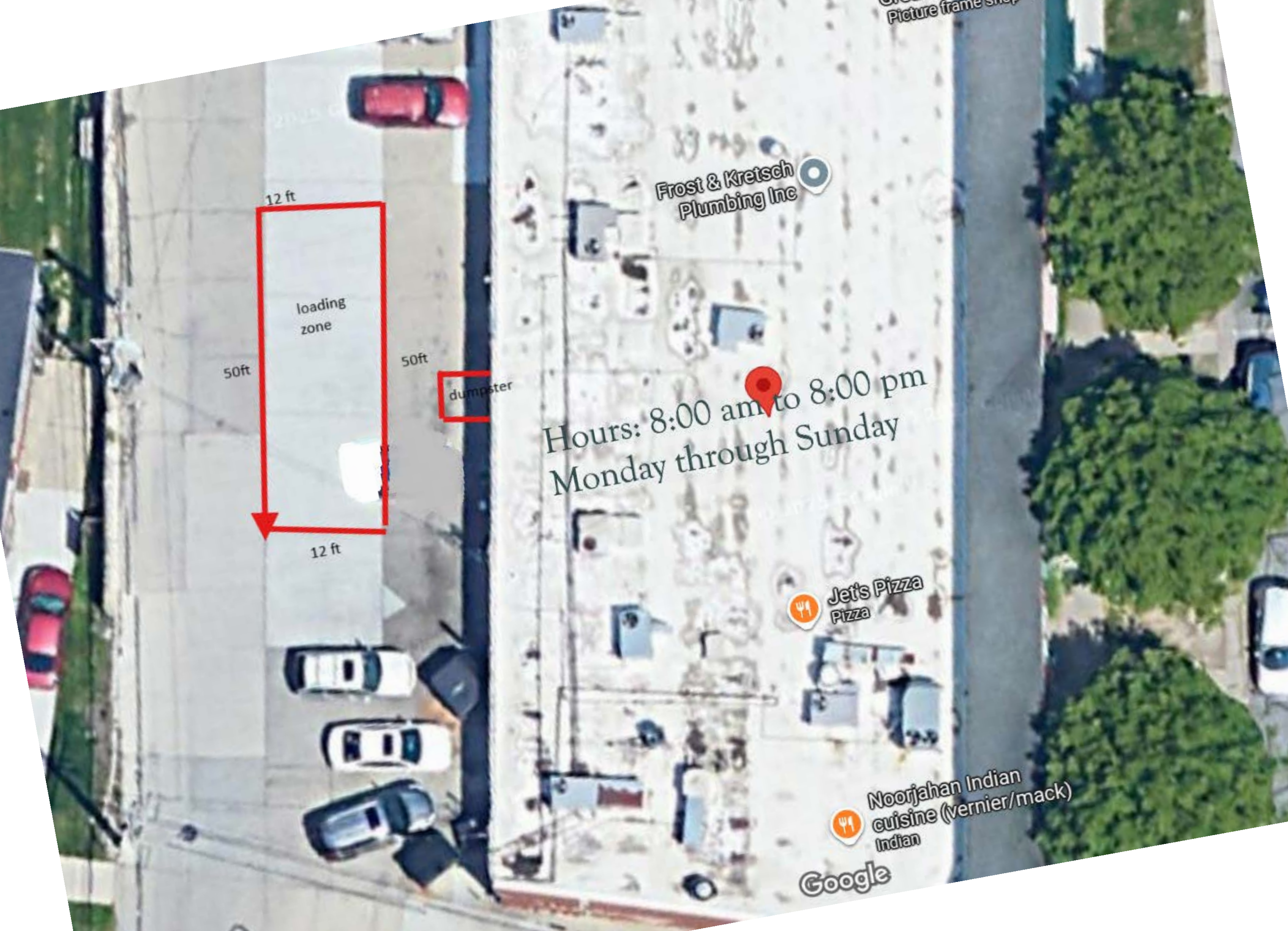
2026 S.E.V.:	615,600	**2026 Taxable:**	445,263	**Lot Dimensions:**	
2025 S.E.V.:	625,300	**2025 Taxable:**	445,263	**Acreage:**	0.32
Zoning:	C	**Land Value:**	281,740	**Frontage:**	0.0
PRE:	0.000	**Land Impr. Value:**	11,848	**Average Depth:**	0.0

Improvement Data

of Commercial Buildings: 1
Type: Shopping Centers - Neighborhood
Desc:
Class: C
Quality: Average
Built: 1965 Remodeled: 0
Overall Building Height: 10
Floor Area: 9,800
Sale Price/Floor Area: 0.00
Estimated TCV: 937,570
Cmts: 2 PARKING SPACES

Image




12 ft
loading
zone
50ft
50ft
dumpster
12 ft
Frost & Kretsch
Plumbing Inc
Hours: 8:00 am to 8:00 pm
Monday through Sunday
Jet's Pizza
Pizza
Noorjahan Indian
cuisine (vernier/mack)
Indian
Google

DIY Layout of Various Use









CITY OF GROSSE POINTE WOODS
20025 Mack Plaza Drive
Grosse Pointe Woods, Michigan 48236-2397

September 29th, 2025

City Council
City of Grosse Pointe Woods
20025 Mack Plaza
Grosse Pointe Woods, MI, 48236

RE: Playa Bowls - 20647 Mack Ave, Grosse Pointe Woods, MI, 48236

Dear Council Members,

I have reviewed the Special Land Use application for the proposed Playa Bowls to be located at 20647 Mack Ave. I am recommending Council approve the Special Land Use application. Upon approval, a building permit application shall be submitted and all associated fees paid. No work is to begin until a full building plan review has been completed and approved.

Respectfully,

Jeremy Collins
Building Official
City of Grosse Pointe Woods

CITY OF GROSSE POINTE WOODS
DEPARTMENT OF PUBLIC SAFETY

Date: September 30, 2025

To: Grosse Pointe Woods Planning Commission

From: John G. Kosanke, Public Safety Director

Subject: 20647 Mack Avenue-Playa Bowls-Site Review for Special land Use

I have reviewed the proposed site plan request for the project at 20647 Mack Avenue. The site plan as presented does not have a negative impact on Public Safety Operations.

Please contact me with any questions.

CITY OF GROSSE POINTE WOODS
20025 Mack Plaza Drive
Grosse Pointe Woods, Michigan 48236-2397

September 25, 2025
To: McKenna / Ashley Jankowski
From: James Kowalski Director of Public Services
Re: Special Land Use Request 20647 Mack Ave

To Whom this may concern,

I have reviewed the plans for 20647 Mack Avenue regarding the special land use request. Based on the scope of the project and with no exterior renovations planned, I have no concerns, as the proposal does not infringe upon city utilities or the public right-of-way.

Please contact me with any questions or concerns in this matter.