CODE DATA

APPLICABLE CODES: CITY OF: LAKE CITY, FLORIDA

2020 FLORIDA BUILDIN CODE
2020 FLORIDA FIRE CODE
2020 FLORIDA ENER Y CONSERVATION CODE
2020 FLORIDA MECHANICAL CODE
2017 NATIONAL ELECTRICAL CODE
2020 FLORIDA PLUMBIN CODE
2010 ADAA ACCESSIBILITY

CHAPTER 3: USE OR OCCUPANCY

SECTION	303.1.2.1 / 503
USE ROUP/ CONSTRUCTION TYPE	B (BUSINESS)/ TYPE 5B RESTAURANT UNDER 50 OCCUPANTS
DESCRIPTION/PROPOSED S.F.	1 STORY RESTAURANT 1,227 S.F.

CHAPTER 5: GENERAL BUILDING LIMITATIONS

SECTION			
503	BASIC ALLOWABLE AREA	At	9,000
506	ALLOWABLE AREA INCREASES		
	(E UATION 5-2) If 100 F/P - 0.25 W/30	N/A	
	F BUILDIN PERIMETER WHICH FRONTS ON A PUBLIC WAY OR HAVIN 20 FEET OPEN MINIMUM WIDTH	F	159-6"
	P PERIMETER OF ENTIRE BUILDIN	P	159-6"
	W MINIMUM WIDTH OF PUBLIC WAY OR OPEN SPACE	W	30-0"
	If AREA INCREASE DUE TO FRONTA E	If	0.75
	(E UATION 5-1) Aa At At If/100 At Is/100		
	Is AREA INCREASE DUE TO SPRINKLER PROTECTION PER 506.3	NS	9,000
	Aa ALLOWABLE AREA PER FLOOR	Aa	15,750 S.F.
ALLOWABLE AREA ACTUAL AREA			9,000 S.F. 1,227 S.F.
ALLOWABLE HEI HT PROPOSED HEI HT			2 STORIES / 40-0" 1 STORY / 22-6"

CHAPTER 6: TYPES OF CONSTRUCTION TABLE 601

FIRE RESISTIVE RATIN S OF STRUCTURAL ELEMENTS		FIRE RESIST. RATIN
STRUCTURAL FRAME	COLUMNS, IRDERS, TRUSSES	0
BEARIN WALLS	EXTERIOR	0
	INTERIOR	0
NONBEARIN WALLS AND PARTITIONS ROOF CONSTRUCTION	EXTERIOR AND INTERIOR	0
	30	0
FLOOR CONSTRUCTION	SUPPORTIN BEAMS AND JOISTS	0
ROOF CONSTRUCTION	SUPPORTIN BEAMS AND JOISTS	0

CHAPTER 7: FIRE-RESISTANCE-RATED CONSTR.

TABLE 704.	MAX. AREA OF UNPROTECTED EXTERIOR WALL OPENIN S: FIRE SEPARATION DISTANCE 0 - 5 NOT PERMITTED REATER THAN 5 TO 10 10 REATER THAN 10 TO 15 15 REATER THAN 15 TO 20 25 REATER THAN 20 TO 25 45 REATER THAN 25 TO 30 70 REATER THAN 30 NO LIMIT
705.11 EXCEPT. 6:	WHERE THE WALL IS PERMITTED TO HAVE AT LEAST 25 OF THE EXTERIOR WALL AREA CONTAININ UNPROTECTED OPENIN S BASED ON FIRE SEPARATION DISTANCE AND TABLE 704.

CHAPTER : INTERIOR FINISHES (TABLE 03.9)

INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY

EXIT ENCLOSURES AND EXIT PASSA EWAYS	CLASS A
CORRIDORS	CLASS B
ROOMS AND ENCLOSED SPACES	CLASS C

CHAPTER 9: FIRE PROTECTION SYSTEMS

903	NFPA 13 SPRINKLER SYSTEM NOT RE UIRED

CHAPTER 10: ENERAL MEANS OF E RESS

OCCUPANCY	FLOOR AREA PER OCC.	AREA	OCC. LOAD
KITCHEN, COMMERCIAL	200 ROSS (1004.1.2)	1,013 S.F.	5
BUSINESS	100 ROSS (1004.1.2)	43 S.F.	1
RESTROOMS	ACCESSORY	171 S.F.	ACCESSORY
TOTAL OCCUPANT LOAD			6
TOTAL INTERIOR SEATIN			0

EXIT RE UIREMENTS

SECTION RE UIREMENT

1005.3 CAPACITY OF E RESS COMPONENTS

		FACTOR	OCC. LOAD	RE . WIDTH	PROPOSED WIDTH
1005.3.2	OTHER EGRESS COMPONENTS	0.2	6	1.2"	7 "

1010.1.1	MINIMUM CLEAR WIDTH OF DOORS: 32"		
1006.2.1	MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD	1 RE UIRED	2 PROPOSED
1017.2	EXIT ACCESS TRAVEL DISTANCE: 200 FEET W/O SPRINKLER SYSTEM		

2020 FLORIDA PLUMBIN CODE

MINIMUM NUMBER OF RE UIRED PLUMBIN FACILITIES

USE ROUP	PROPOSED OCC. LOAD	RE UIRED FIXTURES M	RE UIRED FIXTURES W	PROVIDED FIXTURES M	PROVIDED FIXTURES W	RE UIRED LAVATORIES M	RE UIRED LAVATORIES W	PROVIDED LAVATORIES M	PROVIDED LAVATORIES W	SERVICE SINK
B	6 (EMPLOYEES)	1	1	1	1	1	1	1	1	RE 1 PRO. 1

ACCESSIBLE TO THE PUBLIC
1. ONE MOP SINK WILL BE PROVIDED

NOTES

ENERAL

1.) ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL CODE ORDINANCES AND LAWS.

2.) THE CONTRACTOR SHALL VISIT THE JOB SITE, VERIFY EXISTIN CONDITIONS, AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO SUBMITTIN A BID AND/OR BE ININ ANY CONSTRUCTION WORK.

3.) ALL WORK, WHEN COMPLETED, SHALL CONFORM TO THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY UIDELINES.

4.) THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES FOUND BETWEEN THE DRAWIN S AND SPECIFICATIONS FOR RESOLUTION. DO NOT SCALE THE DRAWIN S.

5.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAININ A COMPLETE AS-BUILT SET OF CONSTRUCTION DRAWIN S AT THE JOB SITE AND TURNIN THE AS-BUILT DRAWIN S OVER TO THE OWNER UPON COMPLETION OF THE PROJECT.

6.) REFER TO INDIVIDUAL DRAWIN S WITHIN THIS SET OF CONSTRUCTION DOCUMENTS FOR ADDITIONAL ENERAL NOTES.

7.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THOROU HLY CLEANIN THE COMPLETED JOB SITE PRIOR TO TURNIN THE PROPERTY OVER TO THE OWNER FOR OCCUPANCY.

DETERMINES THAT SOME PORTION OF THE DRAWIN S, SPECIFICATIONS, OR OTHER CONTRACT DOCUMENTS RE UIRES CLARIFICATION OR INTERPRETATION BY THE ARCHITECT, THE CONTRACTOR SHALL SUBMIT A RE UEST FOR INFORMATION IN WRITIN TO THE ARCHITECT.

RE UESTS FOR INFORMATION MAY ONLY BE MADE BY THE ENERAL CONTRACTOR. THE CONTRACTOR SHALL CLEARLY AND CONCISELY SET FORTH THE ISSUE FOR WHICH CLARIFICATION IS SOU HT AND WHY A RESPONSE IS NEEDED FROM THE ARCHITECT AND/OR CONSULTANTS. IN THE RE UEST FOR INFORMATION, THE CONTRACTOR SHALL SET FORTH AN UNDERSTANDIN OF THE RE UIREMENT, ALON WITH A REASON WHY SUCH AN UNDERSTANDIN WAS REACHED. THE ARCHITECT WILL REVIEW THE RE UEST FOR INFORMATION TO DETERMINE IF IT IS A RE UEST FOR INFORMATION WITHIN THE MEANIN OF THIS TERM. IF THE ARCHITECT DETERMINES THAT IT IS NOT A RE UEST FOR INFORMATION, IT WILL BE RETURNED TO THE CONTRACTOR, UNREVIEWED AS TO CONTENT, FOR RESUBMITTAL IN THE PROPER FORM AND THE PROPER MANNER.

RESPONSES TO RE UESTS FOR INFORMATION SHALL BE ISSUED UPON RECEIPT, BUT NO LATER THAN FIVE WORKIN DAYS OF RECEIPT OF THE RE UEST, UNLESS THE ARCHITECT DETERMINES THAT A LON ER PERIOD OF TIME IS NEEDED IN ORDER TO PROVIDE AN ADE UATE RESPONSE. IF A LON ER PERIOD OF TIME IS DETERMINED NECESSARY BY THE ARCHITECT, THE ARCHITECT WILL, WITHIN FIVE WORKIN DAYS OF THE RECEIPT OF THE RE UEST FOR INFORMATION, NOTIFY THE CONTRACTOR OF THE ANTICIPATED RESPONSE TIME.

IF THE CONTRACTOR SUBMITS A RE UEST FOR INFORMATION WITH FIVE WORKIN DAYS OR LESS FLOAT ON THE CURRENT PROJECT SCHEDULE, THE CONTRACTOR SHALL NOT BE ENTITLED TO ANY TIME EXTENSION DUE TO THE TIME IT TAKES THE ARCHITECT TO RESPOND TO THE RE UEST FOR INFORMATION, PROVIDED A RESPONSE IS IVEN WITHIN FIVE WORKIN DAYS AS SET FORTH ABOVE.

RESPONSES FROM THE ARCHITECT WILL NOT CHAN E ANY RE UIREMENTS OF T THE CONTRACTOR DOCUMENTS. IN THE EVENT THAT THE CONTRACTOR BELIEVES A RESPONSE TO A RE UEST FOR INFORMATION WILL CAUSE A CHAN E TO RE UIREMENTS OF THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL IMMEDIATELY IVE WRITTEN NOTICE TO THE ARCHITECT AND THE OWNER STATIN THAT THE CONTRACTOR CONSIDERS THE RESPONSE TO BE A CHAN E ORDER. FAILURE TO IVE SUCH WRITTEN NOTICE IMMEDIATELY SHALL WAIVE THE CONTRACTOR S RI HT TO SEEK ADDITIONAL TIME OR COST.

9.) FOR THE PURPOSE OF THESE DRAWIN S AND THE ACCOMPANYIN SPECIFICATIONS THE TERM "BY .C." WILL REFER TO ITEMS PROVIDED AND INSTALLED BY THE ENERAL CONTRACTOR, THEIR SUBCONTRACTORS AND OR A ENTS. THE TERM "BY OWNER" WILL REFER TO ITEMS PROVIDED BY THE OWNER AND INSTALLED BY THE ENERAL CONTRACTOR. THE TERM N.I.C. WILL REFER TO ITEMS NOT IN CONTRACT OR PROVIDED AND INSTALLED BY THE OWNER AND OR THEIR A ENTS.

10.) UNLESS NOTED OTHERWISE, ALL ITEMS ARE ASSUMED TO BE BY " .C."

11.) ANY DEVIATION FROM THESE CONSTRUCTION DOCUMENTS ON THE PART OF THE ENERAL CONTRACTOR, ANY SUBCONTRACTOR, VENDOR, AND/OR SUPPLIER, OR USE OF THESE CONSTRUCTION DOCUMENTS AT ANY LOCATION OTHER THAN THAT FOR WHICH THEY WERE INTENDED, SHALL RELEASE SONIC INDUSTRIES, SONIC CORP., AND ITS SUBSIDIARIES, AND THEIR OFFICERS, DIRECTORS, SHAREHOLDERS A ENTS, EMPLOYEES, REPRESENTATIVES, SUCCESSORS AND ASSI NS, FROM ANY AND ALL LIABILITY INCURRED IN LITI ATION OR OTHERWISE WITH RESPECT TO THE CONSTRUCTION OF THIS DRIVE-IN.

12.) MOLD & MOISTURE MITI ATION NOT ENSURE THAT ANY AREA, BUILDIN MATERIAL OR ASSEMBLY WITHIN THE BUILDIN ENVELOPE IS THOROU HLY CLEANED AND DRY BEFORE BEIN COVERED BY CONSTRUCTION. ANY MOLD, MILDEW, OR OTHER MOISTURE CONDITION DEVELOPED WITHIN THE SCOPE OF WORK OF THIS CONTRACT (DEMOLITION OR NEW CONSTRUCTION) SHALL BE CORRECTED AND OR MITI ATED BY THE CONTRACTOR.

FIRE DEPARTMENT

1.) ALL LIFE-SAFETY SYSTEMS SHALL BE DESI NED PER APPLICABLE FIRE PREVENTION CODE.

2.) FIRE EXTIN UISHER RE UIREMENTS SHALL BE AS DETERMINED BY FIELD INSPECTION AND NFPA 10. THE CONTRACTOR SHALL SUPPLY ALL FIRE EXTIN UISHERS.

3.) BUILDIN ADDRESS NUMBERS SHALL BE PROVIDED ON THE FRONT OF THE BUILDIN AND SHALL BE VISIBLE AND LE IBLE FROM THE PUBLIC RI HT-OF-WAY, SAID NUMBERS SHALL CONTRAST VISUALLY WITH THEIR BACK ROUND. ADDRESS NUMBERS SHALL BE PROVIDED BY THE CONTRACTOR.

4.) POST "NO PARKIN - FIRE LANE" SI NS ALON VEHICULAR ACCESS ROADS.

HEALTH DEPARTMENT

1.) THIS FOOD SERVICE FACILITY IS SERVED BY MUNICIPAL WATER.

2.) THIS FOOD SERVICE FACILITY IS SERVED BY A MUNICIPAL SEWER DISTRICT.

3.) ALL E UIPMENT AND INSTALLATION SHALL MEET NATIONAL SANITATION FOUNDATION (NSF) STANDARDS

4.) PROVIDE WALL MOUNTED SIN LE SERVICE TOWEL, SOAP DISPENSER AND NAIL BRUSH AT ALL HAND WASHIN SINKS.

5.) ALL PLUMBIN , ELECTRICAL, AND AS LINES SHALL BE CONCEALED WITHIN THE BUILDIN STRUCTURE.

6.) ALL SHELVIN OVER WET AREAS (SINK, MOP SINKS, ETC.) SHALL BE METAL.

7.) PROVIDE A SPLASH BARRIER AT ALL HAND SINKS WHERE THERE IS LESS THAN 1 " HORIaONTAL DISTANCE FROM WORKTABLE OR DRAIN BOARDS.

NOTICE OF CONFIDENTIALITY AND COPYRI HT

THESE DRAWIN S AND ALL INFORMATION CONTAINED IN THEM (A) ARE THE PROPRIETARY AND CONFIDENTIAL PROPERTY OF SONIC CORPORATION AND SUBSIDIARIES, (B) ARE NOT TO BE REPRODUCED IN ANY MANNER, IN WHOLE OR IN PART, WITHOUT PRIOR WRITTEN CONSENT OF SONIC CORPORATION AND SUBSIDIARIES, (C) ARE NOT TO BE USED FOR ANY PURPOSE OTHER THAN BY THE DESI NATED SONIC DRIVE-IN FRANCHISEE FOR CONSTRUCTION OF THE DRAWN DRIVE-IN AT THE SPECIFIED LOCATION. THESE DRAWIN S ARE COPYRI HTED. UNAUTHORIaED COPYIN OR OTHER MISUSE OF THESE DRAWIN S MAY SUBJECT THE VIOLATOR TO CIVIL AND CRIMINAL FINES AND PENALTIES. UPON COMPLETION OF CONSTRUCTION OR AT THE RE UEST OF SONIC CORPORATION AND SUBSIDIARIES, WHICHEVER IS SOONER, ALL COPIES AND SETS OF THESE DRAWIN S MUST BE RETURNED TO SONIC CORPORATION AND SUBSIDIARIES.

SONIC

LAKE CITY, FL

LOT #3 ATEWAY CROSSIN CENTURION WAY
SONIC STORE #: -

SYMBOLS LE END

- STRUCTURAL RID BUBBLE
- ENLAR ED DRAWIN BUBBLE (00 / A101)
- ELEVATION MARKER (00 / A101)
- SECTION MARKER (00 / A101)
- WALL TYPE MARKER (00)
- REVISION MARKER (1)
- ELEMENT / ELEV. 000-00" — VERTICAL ELEVATION MARKER
- 00 — AND/OR — 47 — E UIPMENT MARKER
- ACCESSIBLE PATH OF TRAVEL
- 1 — KEYED NOTE MARKER
- X — BLOCKIN /WALL FINISH MARKER
- 0 — CHAN E OF ELEVATION MARKER
- ROOM NAME / 000 — ROOM NAME/NUMBER
- 000A — DOOR/WINDOW NUMBER

LOCATION MAP

PROJECT TEAM

OWNER
CENTURION E UITY PARTNERS, LLC
26 2 NW NOE EL ROAD
LAKE CITY, FL 32055
PHONE NO.: (704) 904-2366
CONTACT: PARKER NEELY

CIVIL EN INEER
JB PRO
4420 US-1 S, SUITE 1
ST. AU USTINE, FL 320 6
PHONE NO.: (904) 7 9- 999

ARCHITECT
NATIONAL RESTAURANT DESI NERS
720 ACC BLVD, 2ND FLOOR
RALEI H, NC 27617
PHONE NO.: (919) 544-00 7
CONTACT: LEN LEHMANN

STRUCTURAL EN INEER
BRITT, PETERS AND ASSOCIATES
999 WATERSIDE DRIVE SUITE 2202
NORFOLK, VA 23510
PHONE NO.: (757) 354-1604
CONTACT: ROB COLLIN S

MECHANICAL/ELECTRICAL EN INEER
NATIONAL RESTAURANT DESI NERS
720 ACC BLVD, 2ND FLOOR
RALEI H, NC 27617
PHONE NO.: (919) 544-00 7
CONTACT: RAY THORNTON JR.

PLUMBIN EN INEER
NATIONAL RESTAURANT DESI NERS
720 ACC BLVD, 2ND FLOOR
RALEI H, NC 27617
PHONE NO.: (919) 544-00 7
CONTACT: RAY THORNTON JR.

FLORIDA PRODUCT APPROVALS	
WINDOWS	FL16792-R3
DOORS	FL103 -R5
DURO-LAST ROOF MEMBRANE	FL16039-R11
ATTACHED WALL PANELS - NICHIHA PANELS	FL12 75
ALUMINUM ROOF TOP FAN	FL12316.1

LAIN :
ALL LASS MUST MEET THE RE UIREMENTS OF ASTM E1300. SYSTEM TO BE RATED FOR LAR E MISSLE IMPACT LEVEL D.

ENER Y CODE RE UIREMENTS: CLIMATE 2A

ROOF: RI ID ROOF INSULATION R-25 CONTINUOUS.

WALLS: 6" R-21 BATT. INSULATION

DOORS: SH C 0.25 U-VALUE . 3

WINDOWS: U-FACTOR 0.50

SHEET INDEX

			REVISIONS 1	2	3	4	5
T0.01	TITLE SHEET	X					
ARCHITECTURAL:							
B1.01	ACCESSIBILITY SHEET	X					
A1.01	ARCHITECTURAL SITE PLAN	X					
A1.02	SITE DETAILS / TRASH DETAILS	X					
A1.03	SITE DETAILS	X					
A2.01	CONSTRUCTION PLAN	X					
A2.01A	WALL TYPES / DOOR-WINDOW SCHEDULES	X					
A2.02	ROOF/CEILIN PLAN	X					
A2.03	FLOOR FINISH PLAN	X					
A3.01	EXTERIOR ELEVATIONS	X					
A3.02	EXTERIOR ELEVATIONS	X					
A4.01	BUILDIN SECTIONS	X					
A5.01	EXTERIOR & INTERIOR DETAILS	X					
A5.02	EXTERIOR & INTERIOR DETAILS	X					
A6.01	INTERIOR ELEVATIONS	X					
A6.02	INTERIOR ELEVATIONS	X					
A6.03	INTERIOR ELEVATIONS	X					
A7.01	ARCHITECTURAL CANOPY	X					
A7.02	ARCHITECTURAL CANOPY	X					
STRUCTURAL:							
S1.01	STRUCTURAL ENERAL NOTES & DESI N LOADS	X					
S2.01	FOUNDATION PLAN	X					
S2.02	ROOF FRAMIN PLAN	X					
S3.01	FOUNDATION & FRAMIN DETAILS	X					
S3.02	ROOF FRAMIN DETAILS	X					
S4.01	CANOPY FRAMIN PLAN	X					
S4.02	CANOPY FOUNDATION PLAN & DETAILS	X					
S5.01	CAR STALL CANOPY DETAILS	X					
S5.02	CAR STALL CANOPY DETAILS	X					
ELECTRICAL:							
E1.01	ELECTRICAL SITE PLAN	X					
E2.01	LI HTIN PLAN	X					
E2.02	POWER PLAN	X					
E2.03	POS POWER PLAN	X					
E3.01	RISER & PANEL SCHEDULE	X					
MECHANICAL:							
MEP1.01	MECHANICAL ROOF PLAN	X					
M1.01	MECHANICAL PLAN & SCHEDULES	X					
PLUMBIN :							
P1.01	PLUMBIN DRAIN, WASTE AND VENT PIPIN PLAN & SCHEDULES	X					
P1.02	PLUMBIN WATER AND AS PIPIN PLAN & DETAILS	X					
P2.01	PLUMBIN RISER DIA RAMS & DETAILS	X					
KITCHEN E UIPMENT:							
K1.01	KITCHEN E UIPMENT PLAN & SCHEDULE	X					
HOOD1	HOOD VENDOR SPECIFICATION SHEET	X					
HOOD2	HOOD VENDOR SPECIFICATION SHEET	X					
SPECIFICATIONS:							
SP1.01	SPECIFICATIONS	X					
SP2.01	SPECIFICATIONS	X					
SP3.01	SPECIFICATIONS	X					
SP4.01	SPECIFICATIONS	X					
SP5.01	SPECIFICATIONS	X					
SP6.01	SPECIFICATIONS	X					

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:
SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:
STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

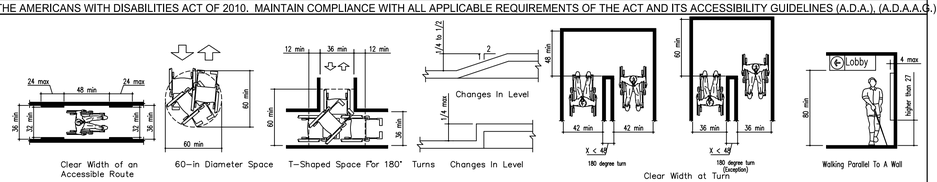
SHEET NUMBER / TITLE:
T0.01
TITLE SHEET

A.D.A.A.G. INTERIOR ACCESSIBILITY COMPONENTS

THIS SPACE IS REQUIRED TO BE ACCESSIBLE AS SET FORTH IN THE AMERICANS WITH DISABILITIES ACT OF 2010. MAINTAIN COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS OF THE ACT AND ITS ACCESSIBILITY GUIDELINES (A.D.A.), (A.D.A.A.G.).

PATH OF TRAVEL

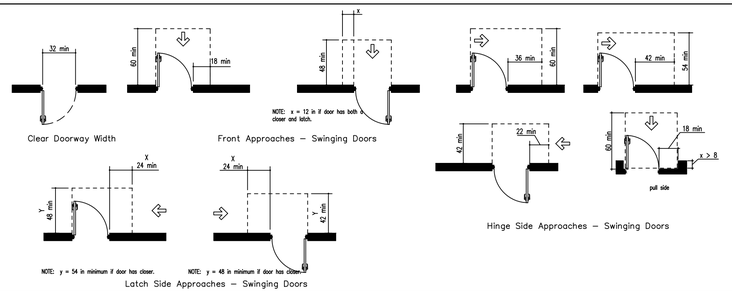
1.) In accordance with 206.2.4, at least one accessible route shall connect accessible building or facility entrances with all accessible spaces and elements within the building or facility, which are otherwise connected by a circulation path unless exempted by 206.2.4.
2.) The running slopes of walking surfaces that are part of an accessible route shall not be steeper than 1:20 with a cross slope that is not steeper than 1:48.
3.) Changes in level shall comply with 303.
4.) The clear width of walking surfaces on an accessible route shall comply with 403.5.1.
5.) The clear width at turns along an accessible route shall comply with 403.5.2.
6.) An accessible route with a clear width of less than 60 inches shall provide passing spaces at intervals of 200 feet in accordance with 403.5.3.



Clear Width of an Accessible Route | 60–in Diameter Space | T–Shaped Space For 180° Turns | Changes In Level | 180 degree turn | 180 degree turn (Exception) | Clear Width at Turn | Walking Parallel To A Wall

DOORS

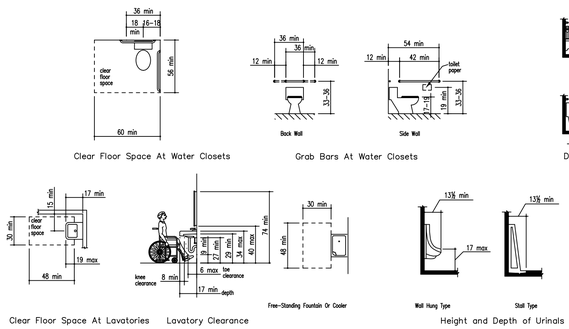
1.) Doors, doorways, and gates that are part of an accessible route shall comply with 404.
2.) Door openings shall provide a clear width of 32 inches, unless the opening is more than 24 inches deep, in which case the clear width of the opening shall be 36 inches. For swinging doors, the clear width shall be measured between the face of the door and the stop, with the door open 90 degrees.
3.) There shall be no projections into the clear opening lower than 34 inches. Projections into the clear opening between 34 inches and 80 inches shall not exceed 4 inches.
4.) Door closer's and stops shall be permitted to be a minimum of 78 inches above the floor or ground.
5.) Maneuvering clearances at doors and gates shall comply with 404.2.4.
6.) Fire doors shall have a minimum opening force allowable by the appropriate administrative authority.
7.) Hinged doors other than fire doors shall have an opening force of 5 pounds maximum.
8.) Sliding doors shall have an opening force of 5 pounds maximum.
9.) Door and gate surfaces shall comply with 404.2.10.



Clear Doorway Width | Front Approaches – Swinging Doors | Hinge Side Approaches – Swinging Doors | Latch Side Approaches – Swinging Doors

RESTROOMS

1.) Where toilet facilities are provided, they shall comply with 213. Where toilet rooms are provided, each toilet room shall comply with 603.
2.) Where toilet compartments are provided, at least one toilet compartment shall comply with 604.8.1. In addition to the compartment required to comply with 604.8.1, at least one compartment shall comply with 604.8.2 where six or more toilet compartments are provided, or where the combination of urinals and water closets totals six or more fixtures.
3.) Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches maximum above finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches maximum above the finish floor or ground.
4.) Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches minimum and 48 inches maximum above the finish floor.
5.) Water closets shall comply with 604.2 through 604.8.
6.) Toilet paper dispensers shall comply with 309.4 and shall be 7 inches minimum and 9 inches maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches minimum and 48 inches maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.
7.) Grab bars shall be provided at water closets and shall comply with 609.
8.) Urinals shall comply with 605 and shall be either wall-hung or stall type urinals.
9.) Lavatories shall comply with 606. Faucets for lavatories shall comply with 606.4. Exposed pipes under lavatories shall be insulated or otherwise protected to prevent against contact.



Clear Floor Space At Water Closets | Grab Bars At Water Closets | Dispenser Outlet Location | Clear Floor Space At Lavatories | Lavatory Clearance | Height and Depth of Urinals

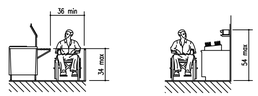
SIGNAGE

1.) Signs shall be provided in accordance with 216 and shall comply with 703.
2.) Signs identifying permanent rooms and spaces shall comply with 703.1, 703.2, and 703.5. Where pictograms are provided as designations of permanent rooms and spaces, the pictograms shall comply with 703.6 and shall have text descriptors complying with 703.2 and 703.5.
3.) Signs that provide direction to or information about spaces and facilities shall comply with 703.5.
4.) Signs for means of egress shall comply with 216.4.
5.) Where more than one check-out aisle is provided, check-out aisles complying with 904.3 shall be identified by the International Symbol of Accessibility complying with 703.7.2.1. Where check-out aisles are identified by numbers, letters, or functions, signs identifying check-out aisles complying with 904.3 shall be located in the same location as the check-out aisle identification.

International Symbol Of Accessibility

FOODSERVICE LINES, TABLEWARE AREAS, & CHECK-OUT AISLES

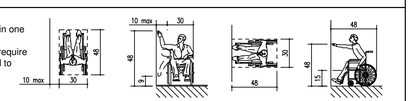
1.) Where check-out aisles are provided, check-out aisles complying with 904.3 shall be provided in accordance with Table 227.2 and shall be dispersed.
2.) Where provided, at least one of each type of sales counter and service counter shall comply with 904.4. Where counters are dispersed throughout the building or facility, counters complying with 904.4 also shall be dispersed.
3.) Food service lines shall comply with 904.5. Where self-service shelves are provided, at least 50 percent, but no fewer than one, of each type provided shall comply with 308.
4.) Queues and waiting lines servicing counters or check-out aisles required to comply with 904.3 or 904.4 shall comply with 403.
5.) Check-out aisles and sales and service counters shall comply with the applicable requirements of 904.
6.) All points of counters required to comply with 904 shall be located adjacent to a walking surface complying with 403.



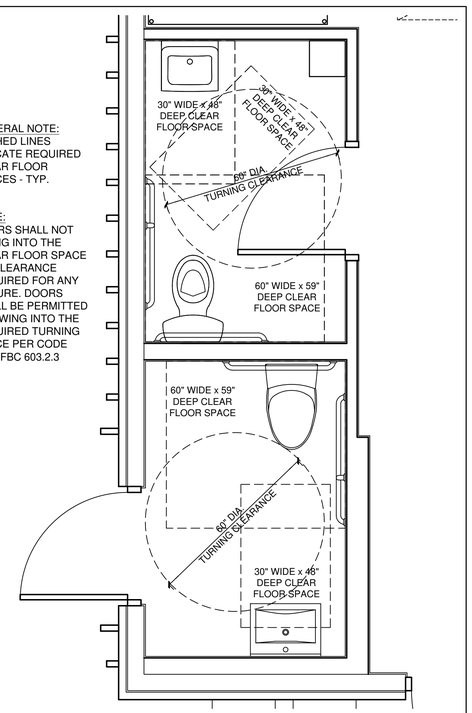
Food Service Lines | Tableware Areas

REACH RANGES, CONTROLS, & OPERATING MECHANISMS

1.) Reach ranges shall comply with 308.
2.) Operable parts shall comply with 309 and shall be placed within one or more of the reach ranges specified in 308.
3.) Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds maximum.

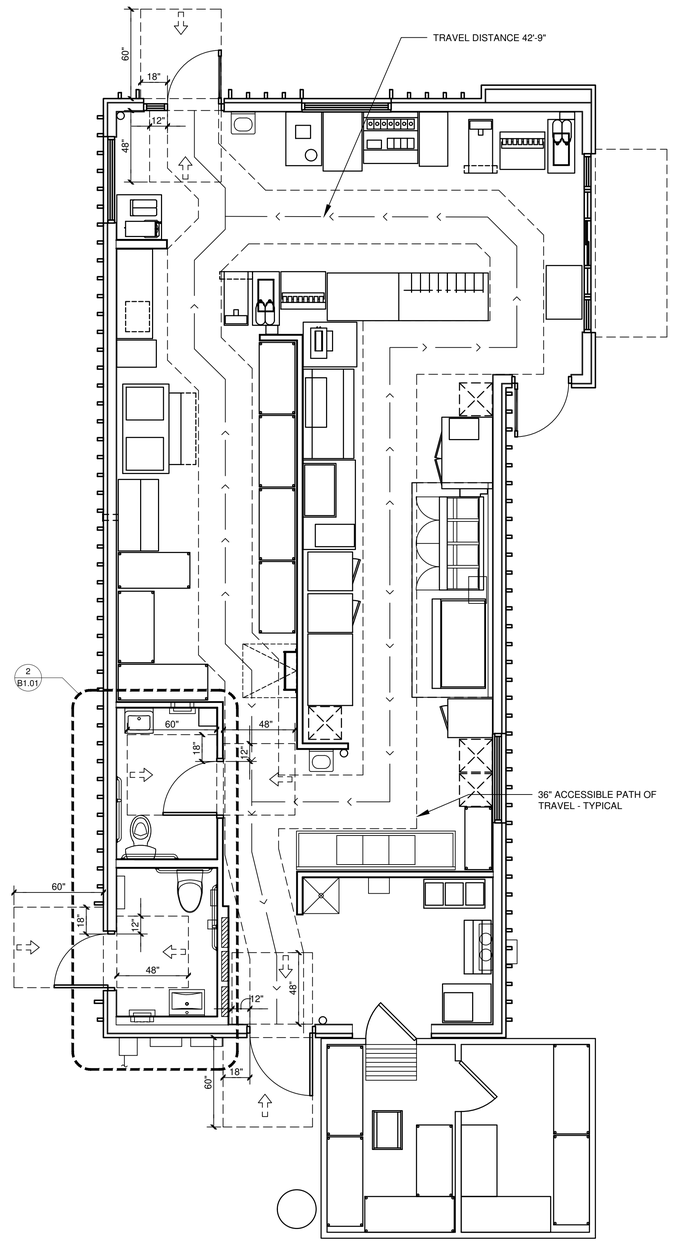


Side Reach | Forward Reach



2 B1.01 ENLARGED RESTROOM PLAN

1/2" = 1'-0"



NORTH

1 B1.01 ACCESSIBILITY PLAN

1/4" = 1'-0"

CONSULTANT:

national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LOT #3
LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

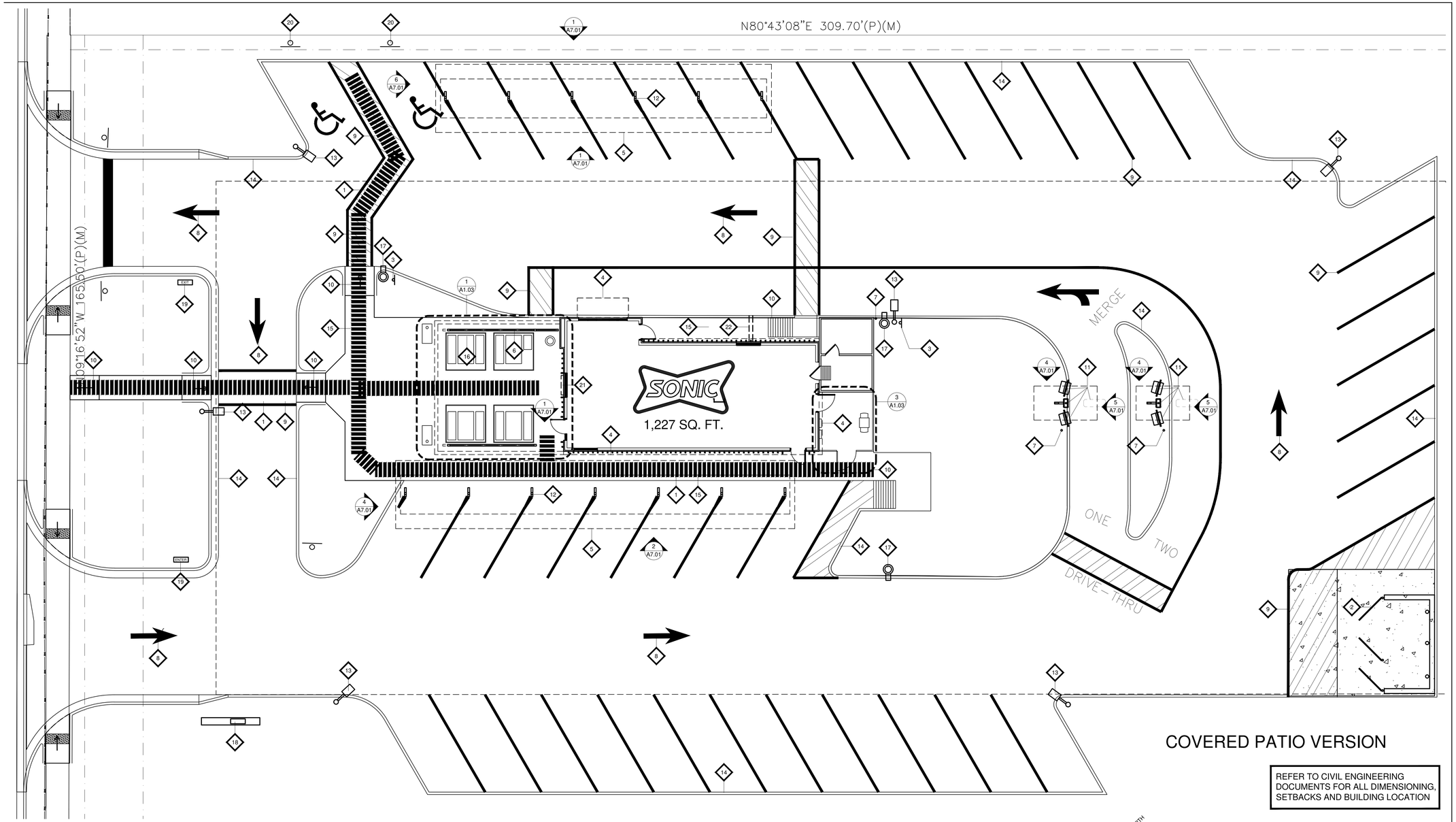
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
B1.01
ACCESSIBILITY SHEET



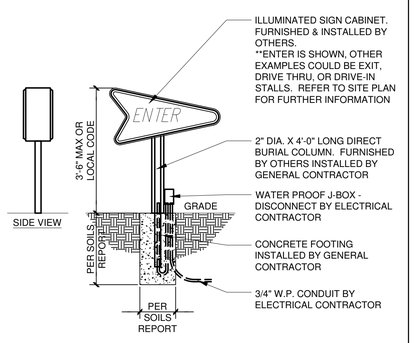
COVERED PATIO VERSION

REFER TO CIVIL ENGINEERING DOCUMENTS FOR ALL DIMENSIONING, SETBACKS AND BUILDING LOCATION

NORTH

1 A1.01 — ARCHITECTURAL SITE PLAN

1" = 10'-0"



2 A1.01 — DIRECTIONAL SIGN

1/2" = 1'-0"

DRAWING LEGEND

GENERAL NOTES

- THE CONTRACTOR SHALL NOT DISTURB ANY ADJACENT PROPERTIES

KEYED NOTES

1. DASHED LINE INDICATES 36" CLEAR PATH OF TRAVEL
2. TRASH ENCLOSURE - REFER TO 2/A1.02
3. CAR HOP CROSSING SIGN - REFER TO CIVIL DRAWINGS
4. DASHED LINE INDICATES SOFFIT OVERHANG
5. PREMANUFACTURED REMOTE CANOPY - SUPPLIED BY CANOPY VENDOR AND INSTALLED BY GENERAL CONTRACTOR
6. PATIO COLUMNS, RAILING AND FENCE - REFER TO 1/A1.03
7. BOLLARD - REFER TO CIVIL DRAWINGS
8. TRAFFIC FLOW ARROWS (TYPICAL) REFER TO CIVIL DRAWINGS
9. 4" PAINTED STRIPES (TYPICAL) UNLESS OTHERWISE NOTED BY CIVIL DRAWINGS
10. CURB RAMP (TYPICAL) REFER TO CIVIL DRAWINGS
11. DRIVE-THRU ORDERING EQUIPMENT - REFER TO 1/A1.02 AND CIVIL DRAWINGS FOR DIMENSIONS
12. STALL MENU / STALL CANOPY POST (TYPICAL) REFER TO SHEET A7.02
13. POLE MOUNTED FLOOD LIGHTS - VERIFY WITH E1.01 FOR LIGHT LOCATIONS AND INFORMATION. REFER TO STRUCTURAL FOR FOUNDATION DETAIL
14. CONCRETE CURB & GUTTER - REFER TO CIVIL DRAWINGS
15. CONCRETE WALKS AND PATIO - REFER TO CIVIL DRAWINGS
16. PATIO TABLES AND CHAIRS - OWNER SUPPLIED AND GC INSTALLED
17. TRASH CAN - OWNER SUPPLIED
18. PYLON / MONUMENT SIGN - UNDER SEPARATE PERMIT
19. ILLUMINATED DIRECTIONAL SIGN - REFER TO 2/A1.01. G.C. TO PROVIDE POWER.
20. HANDICAPPED PARKING SIGN - REFER TO CIVIL DRAWINGS
21. PATIO ORDER MENU TO BE WALL MOUNTED TO BUILDING - 39" A.F.F. TO PUSH/CALL BUTTON
22. SIDE WALK TRENCH DRAIN - REFER TO 2/A5.02

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

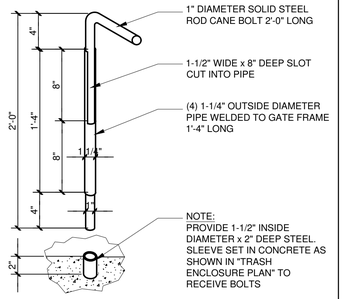
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

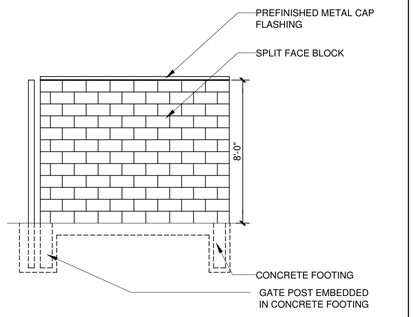
SHEET NUMBER / TITLE:
A1.01
ARCHITECTURAL SITE PLAN



CANE BOLT

8 / A1.02

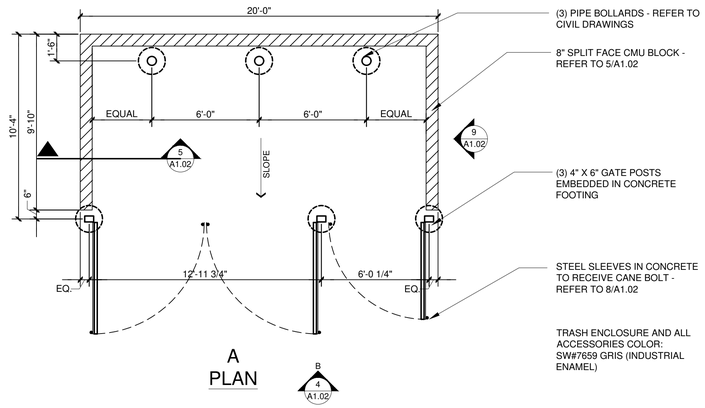
1-1/2" = 1'-0"



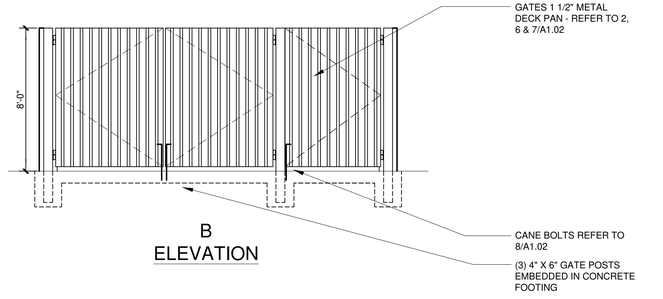
TRASH ENCLOSURE ELEVATION

9 / A1.02

1/4"=1'-0"



A
PLAN
B
4 A1.02



B
ELEVATION

TRASH ENCLOSURE

4 / A1.02

1/4"=1'-0"

INSTRUCTIONS:

1. THE LOOP INSTALLATION AREA MUST BE CHOSEN TO AVOID LOCATING THE LOOP WIRES DIRECTLY ON REINFORCING STEEL, ELECTRICAL CABLES, CONDUITS, OR WATER PIPES. LOOP WIRES SHOULD BE INSTALLED A MINIMUM OF 2 INCHES ABOVE, NEVER BELOW, REINFORCING BARS OR OTHER METALLIC OBJECTS. BARS AND OTHER METALLIC OBJECTS RUNNING AT RIGHT ANGLES TO HE LOOP WIRES HAVE LESS EFFECT THAN WHEN RUNNING PARALLEL. ELECTRICAL CABLES NEAR HE LOOP CAN POSSIBLY CAUSE FALSE IMPULSES TO THE MAGNETIC FIELD GENERATED BY THE LOOP, CAUSING ERRATIC OPERATION OF THE DETECTOR.

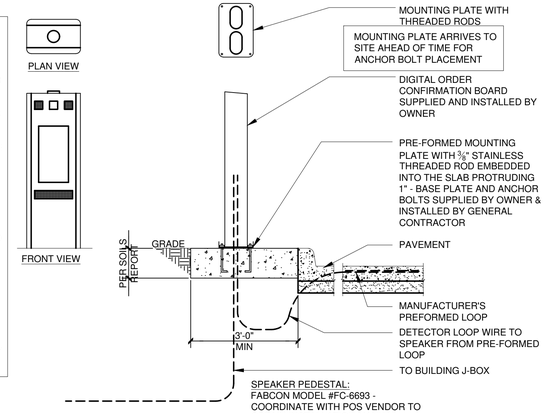
2. CONNECT LOOP TO 1/2" CONDUIT STUBBING UP IN SPEAKER POST

3. WIRE MESH OR REINFORCEMENT IN CONCRETE SHOULD BE CUT AWAY FROM PERIMETER OF LOOP A MIN. OF 6"

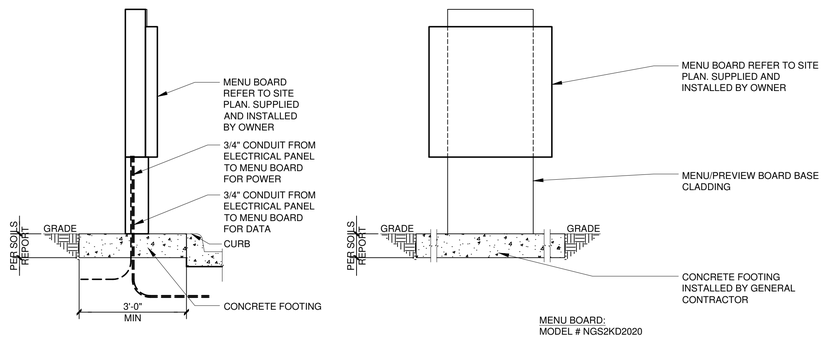
4. ALL CONNECTIONS AND SPLICES TO LOOP WIRES MUST BE SOLDERED.

5. SEE ELECTRICAL PLANS FOR CONDUIT AND WIRING LAYOUT AND DETAILS.

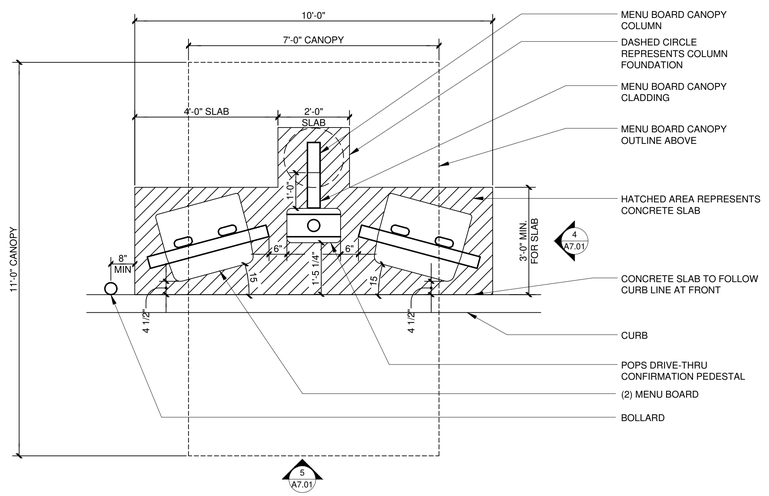
NOTE: LOOP AND CABLE FURNISHED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR, FINAL HOOK UP BY P.O.S. VENDOR



POPS DRIVE-THRU VIDEO CONFIRMATION PEDESTAL



DRIVE-THRU MENU BOARD

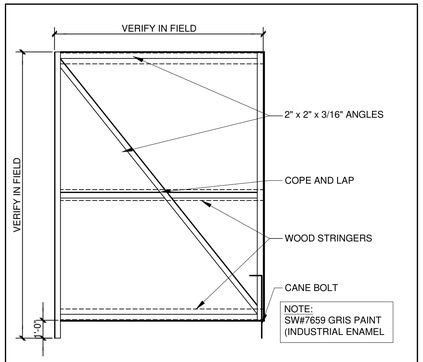


DRIVE-THRU MENU BOARD PLAN VIEW

DRIVE-THRU ACCESSORIES

1 / A1.02

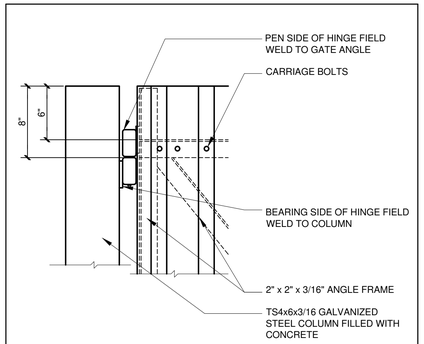
1/2" - 1'-0"



GATE FRAME

10 / A1.02

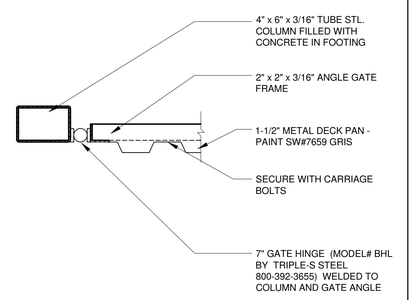
1/2" = 1'-0"



GATE HINGE ELEVATION

6 / A1.02

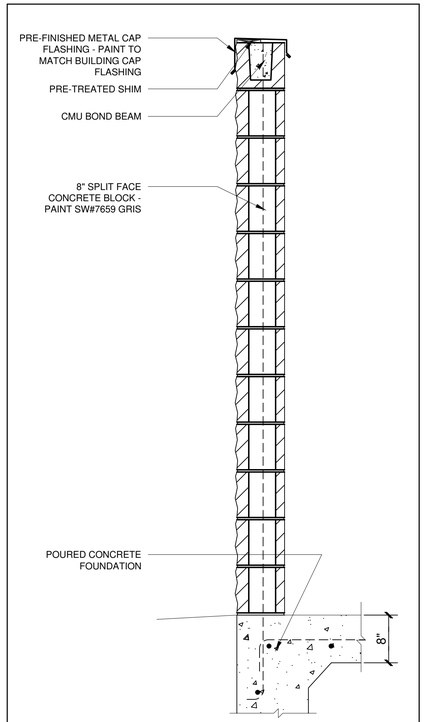
1-1/2" = 1'-0"



GATE HINGE PLAN

7 / A1.02

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



TRASH ENCLOSURE SECTION

5 / A1.02

1" = 1'-0"

CONSULTANT:
national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT

7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

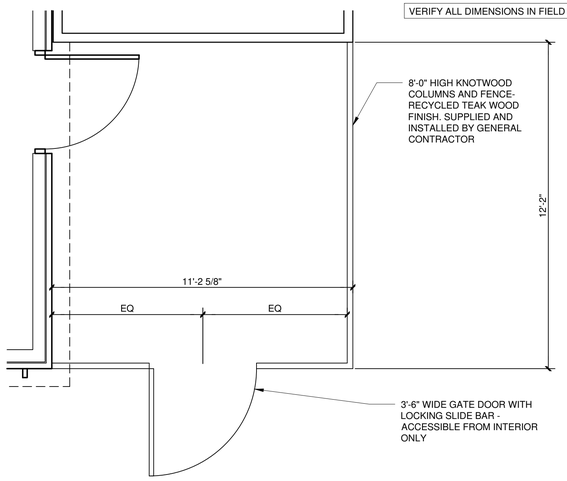
REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A1.02
SITE DETAILS

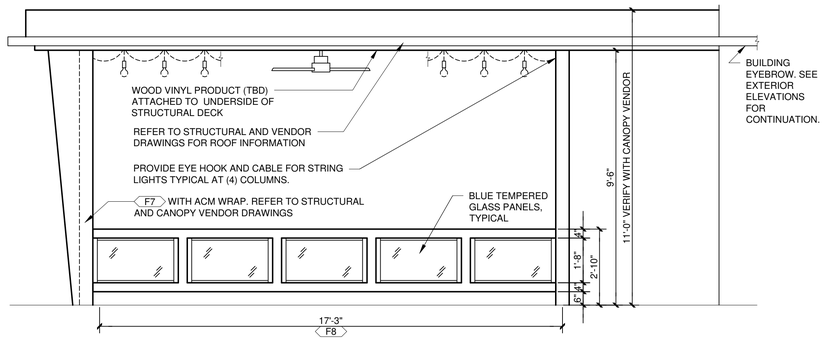
PATIO FURNITURE / ACCESSORY SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER/ COLOR	NOTES	QTY.
F1	ASTRO TURF	SYNLAWN SYN-AUGSTINE X47 COLOR: FIELD GREEN, OLIVE AND APPLE W/ STAINLESS STEEL THRESHOLD	INSTALL PER MANUFACTURER'S INSTRUCTIONS. SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR	4
F2	38 1/2" W. X 70" L. X 33" H. PICNIC TABLE	KRK PRODUCTS & STUDIO MERAKI LLC COLOR: WHITE & KNOTWOOD	SUPPLIED BY OWNER INSTALLED BY GENERAL CONTRACTOR	4
F3	20" W. X 70" L. X 20" H. BENCH	KRK PRODUCTS & STUDIO MERAKI LLC COLOR: WHITE & KNOTWOOD	SUPPLIED BY OWNER INSTALLED BY GENERAL CONTRACTOR	7
F4	20" W. X 30" L. X 20" H. ADA BENCH	KRK PRODUCTS & STUDIO MERAKI LLC COLOR: WHITE & KNOTWOOD	SUPPLIED BY OWNER INSTALLED BY GENERAL CONTRACTOR	1
F5	CORNHOLE BOARD	KRK PRODUCTS & STUDIO MERAKI LLC	SUPPLIED BY OWNER INSTALLED BY GENERAL CONTRACTOR	2
F6	NOT USED	-	-	-
F7	4"X6" STRUCTURAL COLUMN	PAINT SW#7005 PURE WHITE (INDUSTRIAL ENAMEL)	SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR SEE STRUCTURAL AND VENDOR DRAWINGS	5
F8	17'-3" RAILING SECTION	CANOPY VENDOR COLOR: WHITE W/BLUE TEMPERED GLASS	SUPPLIED BY OWNER INSTALLED BY GENERAL CONTRACTOR	2
F9	4'-6" RAILING SECTION	CANOPY VENDOR COLOR: WHITEW/BLUE TEMPERED GLASS	SUPPLIED BY OWNER INSTALLED BY GENERAL CONTRACTOR	1



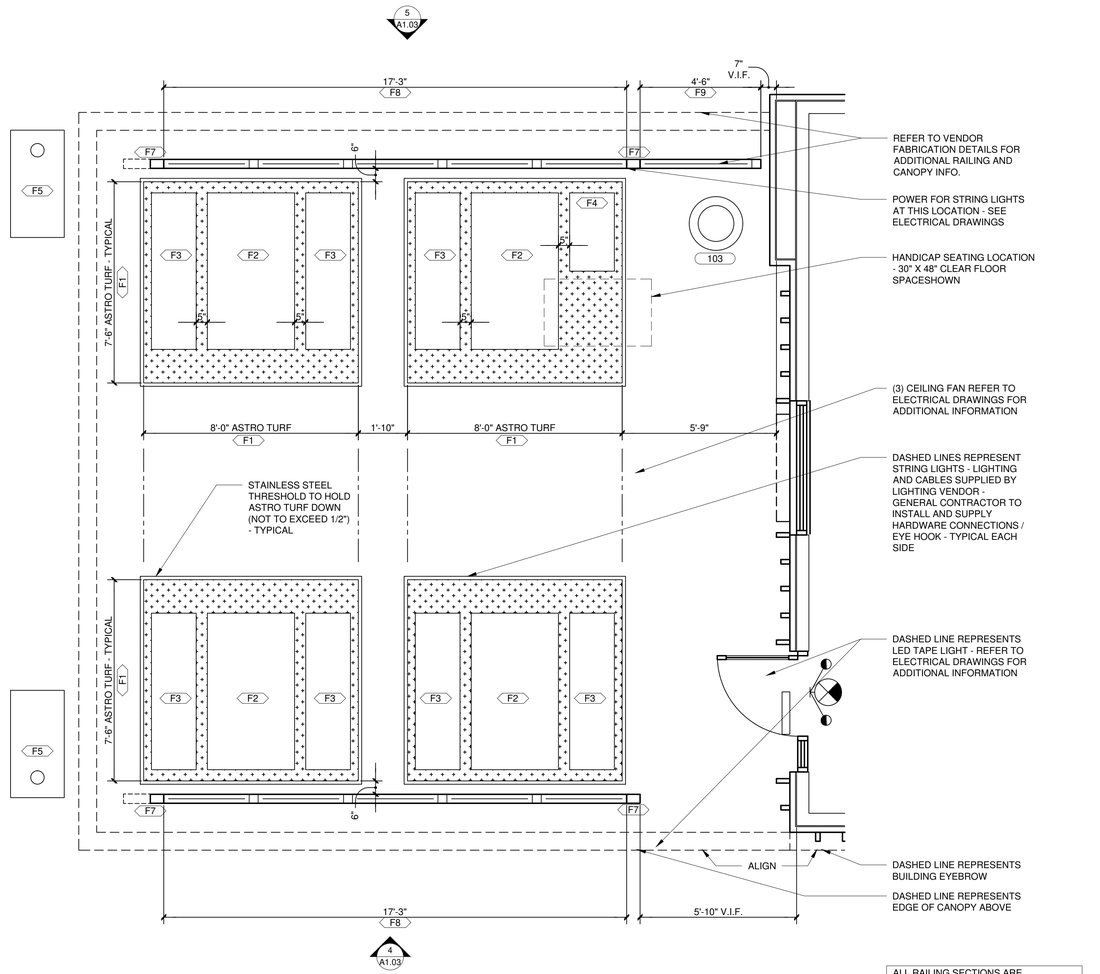
3 A1.03 REAR FENCE AREA

3/8" = 1'-0"



4 A1.03 IN-BOUND SIDE PATIO ELEVATION

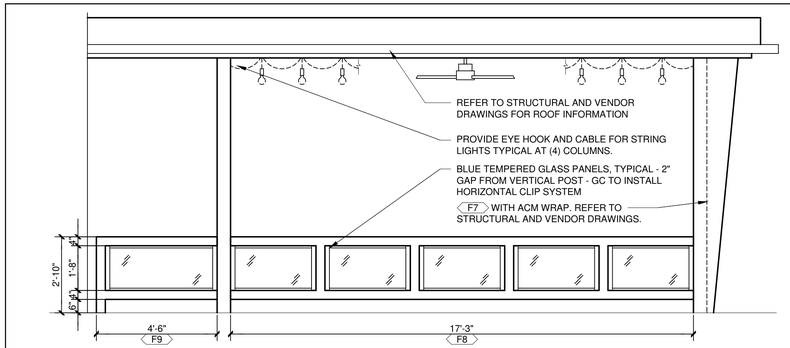
3/8" = 1'-0"



ALL RAILING SECTIONS ARE PREFABRICATED AND AN INTEGRAL PART OF THE COLUMN SYSTEM. THE GLASS PIECES ARE NOT WILL NEED TO BE INSTALLED BY GENERAL CONTRACTOR

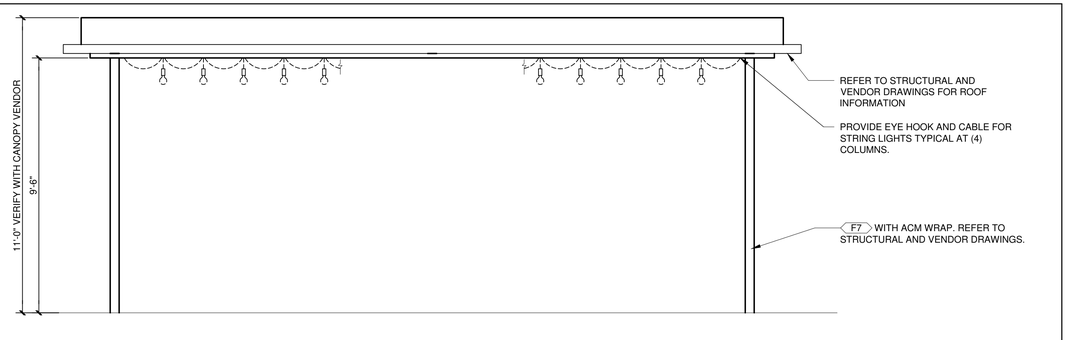
1 A1.03 COVERED PATIO PLAN

3/8" = 1'-0"



5 A1.03 DRIVE-THRU SIDE PATIO ELEVATION

3/8" = 1'-0"



2 A1.03 FRONT PATIO ELEVATION

3/8" = 1'-0"

CONSULTANT:

national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -
LOT #3

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT

7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

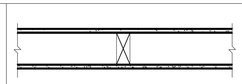
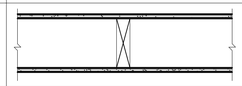
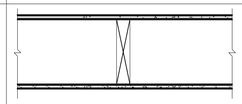
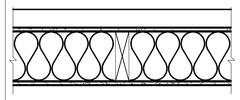
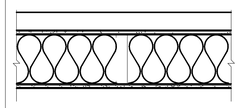
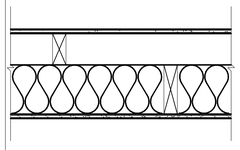
ISSUE:	DATE:

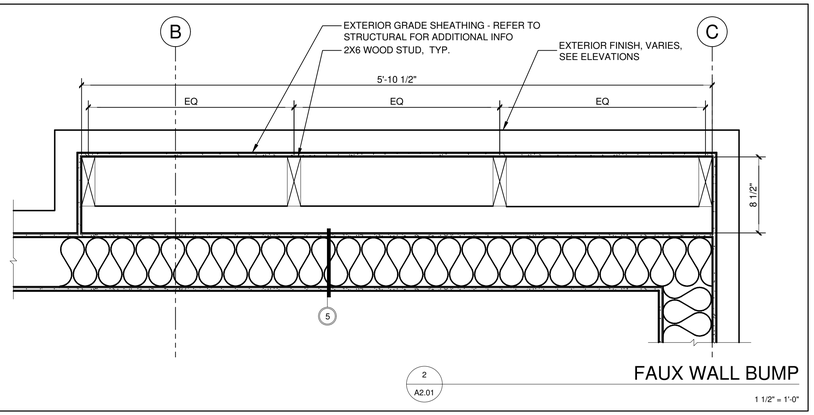
REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A1.03
SITE DETAILS (COVERED)

WALL TYPES

1		2X4 WOOD STUDS @ 16" O.C. TO 6" ABOVE CEILING (CEMENT BOARD TO 1'-0" A.F.F.) RESTROOM SIDE: 1/2" CEMENT BOARD FROM FLOOR TO 48" AND 1/2" GYP.BD. TO 6" ABOVE CEILING (PROVIDE WOOD BLOCKING IN WALLS FOR WALL HUNG ACCESSORIES) REMAINING SIDES: 1/2" PLYWOOD FROM FLOOR TO 6" ABOVE CEILING
2		2X6 WOOD STUDS @ 16" O.C. TO 6" ABOVE CEILING (CEMENT BOARD TO 1'-0" A.F.F.) RESTROOM SIDE: 1/2" CEMENT BOARD FROM FLOOR TO 48" AND 1/2" GYP.BD. TO 6" ABOVE CEILING (PROVIDE WOOD BLOCKING IN WALLS FOR WALL HUNG ACCESSORIES) REMAINING SIDES: 1/2" PLYWOOD FROM FLOOR TO 6" ABOVE CEILING
3		2X8 WOOD STUDS @ 16" O.C. TO 6" ABOVE CEILING (CEMENT BOARD TO 1'-0" A.F.F.) RESTROOM SIDE: 1/2" CEMENT BOARD FROM FLOOR TO 48" AND 1/2" GYP.BD. TO 6" ABOVE CEILING (PROVIDE WOOD BLOCKING IN WALLS FOR WALL HUNG ACCESSORIES) REMAINING SIDES: 1/2" PLYWOOD FROM FLOOR TO 6" ABOVE CEILING
4		NOT USED
5		EXTERIOR FINISH (VARIES), SHEATHING AND 2X6 WOOD STUDS @ 16" O.C. - REFER TO A4.01 AND STRUCTURAL DRAWINGS (CEMENT BOARD TO 1'-0" A.F.F.) RESTROOM SIDE: 1/2" CEMENT BOARD FROM FLOOR TO 48" AND 1/2" GYP.BD. TO 6" ABOVE CEILING (PROVIDE WOOD BLOCKING IN WALLS FOR WALL HUNG ACCESSORIES) REMAINING SIDES: 1/2" PLYWOOD FROM FLOOR TO 6" ABOVE CEILING
6		EXTERIOR FINISH (VARIES), SHEATHING AND 6"X 20 GA. METAL STUDS @ 16" O.C. - REFER TO A4.01 AND STRUCTURAL DRAWINGS (CEMENT BOARD TO 1'-0" A.F.F.) HOOD SIDE: 1/2" CEMENT BOARD TO 6" ABOVE CEILING
7		EXTERIOR FINISH (VARIES), SHEATHING, 2X6 AND 2X4 WOOD STUDS @ 16" O.C. TO 6" ABOVE CEILING (CEMENT BOARD TO 1'-0" A.F.F. - REFER TO A4.01 AND STRUCTURAL DRAWINGS RESTROOM SIDE: 1/2" CEMENT BOARD FROM FLOOR TO 48" AND 1/2" GYP.BD. TO 6" ABOVE CEILING (PROVIDE WOOD BLOCKING IN WALLS FOR WALL HUNG ACCESSORIES) REMAINING SIDES: 1/2" PLYWOOD FROM FLOOR TO 6" ABOVE CEILING



2 A2.01 FAUX WALL BUMP

1 1/2" = 1'-0"

DRAWING LEGEND

GENERAL NOTES

- DO NOT SCALE DRAWINGS. IF THERE ARE ANY DISCREPANCIES CONTACT THE ARCHITECT PRIOR TO COMMENCING WORK.

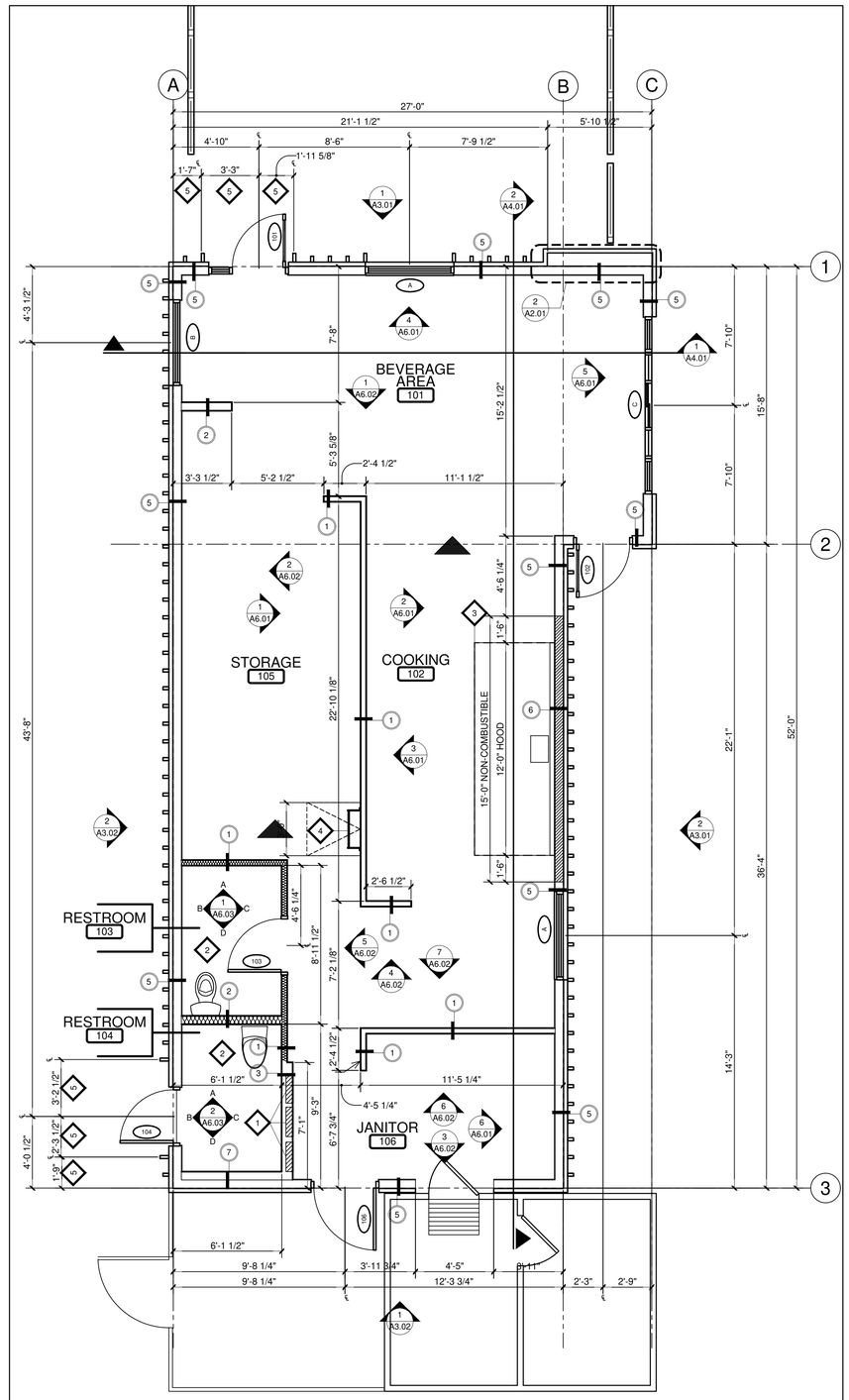
- REFER TO B1.01 FOR ACCESSIBLE BARRIER STANDARDS

- EXIT DOORS TO BE OPERABLE FROM INSIDE WITHOUT USE OF KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT - PROVIDE READILY VISIBLE SIGN ADJACENT TO THE DOORWAY STATING "THIS DOOR TO REMAIN UNLOCKED DURING BUSINESS HOURS".

- GENERAL CONTRACTOR TO PROVIDE ALL WALL BLOCKING AND BACKING. VERIFY LOCATION WITH OWNER.

KEYED NOTES

1. RECESSED ELECTRICAL PANELS IN 2X8 WALL. REFER TO ELECTRICAL DRAWINGS
2. PROVIDE BACKING IN RESTROOM WALLS FOR WALL HUNG ACCESSORIES
3. VERIFY HOOD WITH EQUIPMENT PLACEMENT
4. ROOF LADDER AND HATCH BY PRECISION LADDERS. LADDER: FIXED LADDER TO ROOF HATCH. ROOF HATCH: PH-A3636 -REFER TO 14/A5.02
5. LOCATION OF DOOR SURROUND, REFER TO 10/A5.01 FOR SIMILAR ATTACHMENT



ALL DIMENSIONS TO FACE OF STUD UNLESS OTHERWISE NOTED

NORTH

1 A2.01 ARCHITECTURAL FLOOR PLAN

1/4" = 1'-0"

CONSULTANT:

national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

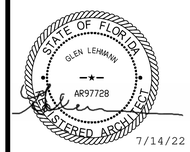
SONIC

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:



7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A2.01
CONSTRUCTION PLAN

DOOR TYPES & DOOR HARDWARE SCHEDULE

DR. #	DOOR	FRAME	DOOR DIMENSIONS		HARDWARE																DETAILS			REMARKS
			HEIGHT	WIDTH	CRL PR80DU CLOSER (CLEAR ANODIZED)	SENTINEL 4016 CLOSER (CLEAR ANODIZED)	PUSH BAR	PULL PLATE	KICK PLATE	THRESHOLD	SWEEP	DEADBOLT CYLINDER	THUMBTURNS	LEVER HANDLE	WEATHERSTRIP	WALL BUMPER	2" VIEWER	CRL 20083DU CONTINUOUS HINGE (CLEAR ANODIZED)	SL57 SELECT HINGES CONTINUOUS (CLEAR ANODIZED)	PRIVACY LOCK	DOOR BUMPER	DOOR HEAD	DOOR JAMB	DOOR THRESHOLD	
101	1	F3	7'-0"	3'-0"	●		●	●		●	●	●	●		●			●			●	4/A5.01	6/A5.01	8/A5.01	**DOOR SECURITY, SEE ABOVE
102	1	F2	7'-0"	3'-0"	●		●	●		●	●	●	●		●			●			●	4/A5.01	6/A5.01	8/A5.01	**DOOR SECURITY, SEE ABOVE
103	2	F1	7'-0"	3'-0"	●				●					●					●	●		2/A5.01	2/A5.01	3/A5.01	
104	3	F2	7'-0"	3'-0"	●				●	●	●	●		●	●				●	●		4/A5.01	6/A5.01	8/A5.01	
106	2	F1	7'-0"	3'-6"		●	●	●	●	●	●		●		●		●		●			1/A5.01	1/A5.01	3/A5.01	**DOOR SECURITY, SEE ABOVE

**DOOR SECURITY
- ADAMS RITE 8802ELD 36"
- ROSSLARE CONTROLLER ACG-44
- DOOR LOOP
- RIM CYLINDER KEYED TO OTHER CYLINDERS
- 12 VOLT POWER SUPPLY
- 25 EA. KEY FOBS MODEL ATR271GJ
- 25 EA. KEY COILS LUCKY LINE MODEL 41601

GENERAL NOTES

1.) ALL EXIT DOORS SHALL BE OPERABLE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT

2.) ALL THRESHOLDS SHALL NOT EXCEED 1/2" IN HEIGHT & SHALL HAVE BEVELED SIDES (1:2 SLOPE) WHEN THE HEIGHT IS GREATER THAN 1/4"

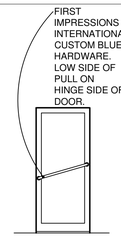
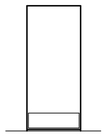
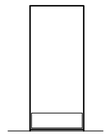
3.) THE BOTTOM 10" OF ALL DOORS SHALL HAVE SMOOTH, UNINTERRUPTED SURFACES

4.) REFER TO "BARRIER-FREE STANDARDS" ON B1.01 FOR ADDITIONAL INFORMATION

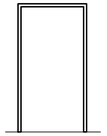
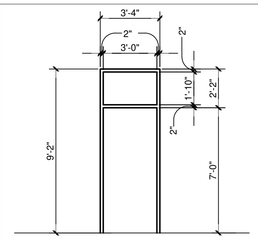
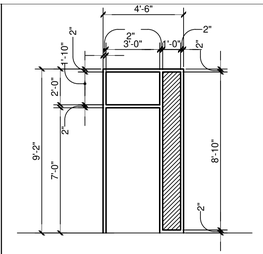
NOTE TO SITE ADAPT ARCHITECT:
IF FRANCHISEE WANTS TO DELETE THE PANIC HARDWARE AND REPLACE WITH PUSH BAR AND THUMB TURN, THIS IS APPROVED BY SONIC IF ALLOWED LOCALLY

DOOR TYPES & FRAME TYPES

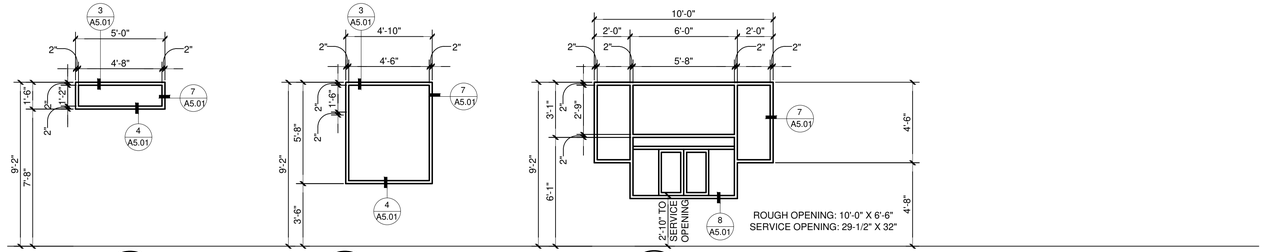
DOORS

	1	2	3
ELEVATION			
DESCRIPTION	1-3/4" KAWNEER MEDIUM STILE ALUMINUM DOOR WITH 1/4" TEMPERED GLASS, SINGLE PANE, CLEAR U FACTOR: PER IECC SHGC: PER IECC	1 3/4" HOLLOW METAL DOOR (EXTERIOR ONLY) U FACTOR: PER IECC	1 3/4" HOLLOW METAL DOOR U FACTOR: PER IECC

FRAMES

	F1	F2	F3
ELEVATION			
DESCRIPTION	WELDED HOLLOW METAL FRAME WITH 1/2" STOPS	ALUMINUM FRAME (GL-1) SINGLE PANE, CLEAR U FACTOR: PER IECC SHGC: PER IECC NOTE TO SITE ADAPT ARCHITECT: CHANGE U-FACTOR AND SHGC TO MEET LOCAL ENERGY CODE	ALUMINUM FRAME (GL-1) SINGLE PANE, CLEAR U FACTOR: PER IECC SHGC: PER IECC SAFETY GLAZING REQUIRED PER IBC 2406.4

WINDOWS



A — ALUMINUM FRAME (GL-1)
SINGLE PANE, CLEAR
U FACTOR: PER IECC
SHGC: PER IECC

B — ALUMINUM FRAME (GL-1)
SINGLE PANE, CLEAR
U FACTOR: PER IECC
SHGC: PER IECC

C — ALUMINUM FRAME (GL-1)
DRIVE-THRU WINDOW - COLOR MATCH STOREFRONT
QUIKSERV BPSC-7241 WITH ELECTRIC EYE
U FACTOR: PER IECC
SHGC: PER IECC
SAFETY GLAZING REQUIRED PER IBC 2406.4

ROUGH OPENING: 10'-0" X 6'-6"
SERVICE OPENING: 29-1/2" X 32"

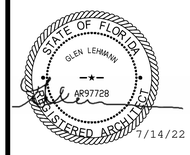
CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:



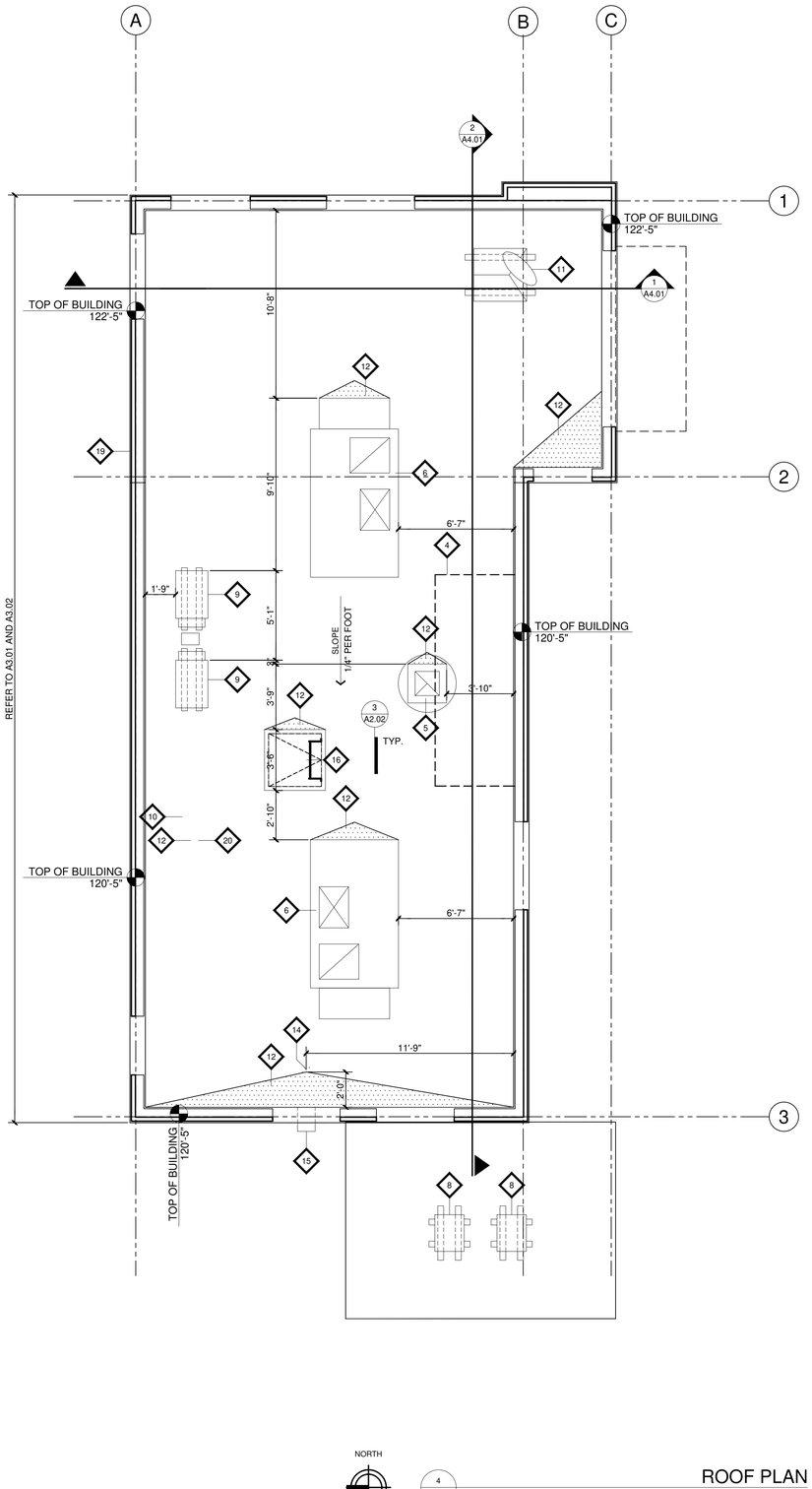
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A2.01A
WALL TYPES



NORTH

4 A2.02 ROOF PLAN

1/4" = 1'-0"

FINISH SCHEDULE

SYMBOL	NOT USED	DESCRIPTION	MANUFACTURER/ COLOR
C1		2'-0" X 4'-0" VINYL-FACED GYPSUM, LAY-IN PANELS	USG, SHEEETROCK, CLIMA PLUS, WHITE, MATCHING GRID
C2		GYP. BD. - PAINT	SW#7005 PURE WHITE, SHEEN: FLAT

DRAWING LEGEND

GENERAL NOTES

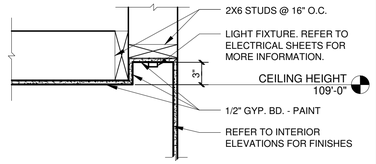
DO NOT SCALE THIS DRAWING - IF THERE ARE ANY DISCREPANCIES PLEASE CONTACT THE ARCHITECT - PRIOR TO COMMENCING WORK

REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL CEILING MOUNTED EQUIPMENT

VERIFY ALL ROOF-TOP UNIT SIZES AND LOCATIONS WITH MECHANICAL AND STRUCTURAL DRAWINGS

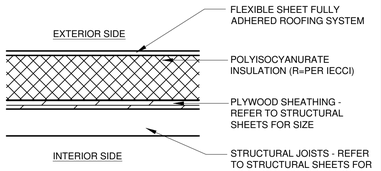
KEYED NOTES

1. OVERHANG SOFFIT - PROVIDED BY CANOPY VENDOR AND INSTALLED BY GENERAL CONTRACTOR
2. NOT USED
3. CEILING GRID START POINT
4. EXHAUST HOOD - REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION - REFER TO 15/A5.02
5. EXHAUST FAN - REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION - REFER TO 5/A5.02
6. ROOF TOP UNIT - REFER TO 8/A5.02 AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
7. NOT USED
8. COOLER/FREEZER CONDENSER - REFER TO 6/A5.02 AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
9. ICE MACHINE CONDENSER - REFER TO 6/A5.02 AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
10. RESTROOM EXHAUST FAN VENT - REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION
11. OWNER SUPPLIED MUSIC SYSTEM
12. PROVIDE CRICKET OF BUILT-UP RIGID INSULATION AT ALL ROOF-TOP MOUNTED EQUIPMENT LOCATIONS - SLOPE 1/2" PER 12" TO ENSURE POSITIVE DRAINAGE
13. ORDER MENU BOARD MOUNTED TO BUILDING
14. INTERIOR ROOF DRAIN - REFER TO 1/A5.02
15. OVERFLOW SCUPPER - REFER TO 11/A5.02
16. ROOF HATCH - REFER TO 14/A5.02
17. NOT USED
18. NOT USED
19. CAP FLASHING DETAIL - REFER TO 7/A5.02, 9/A5.01 & 16/A50.1
20. WATER HEATER VENT THROUGH ROOF - REFER TO 9/A5.02 (SIM.)
21. ALL SIDES OF BULKHEAD TO BE PAINTED TO MATCH PMS 2382C / SHEEN TO BE FLAT



2 A2.02 RESTROOM CEILING CONSTRUCTION

1 1/2" = 1'-0"



3 A2.02 ROOF CONSTRUCTION

3" = 1'-0"

LIGHTING KEY

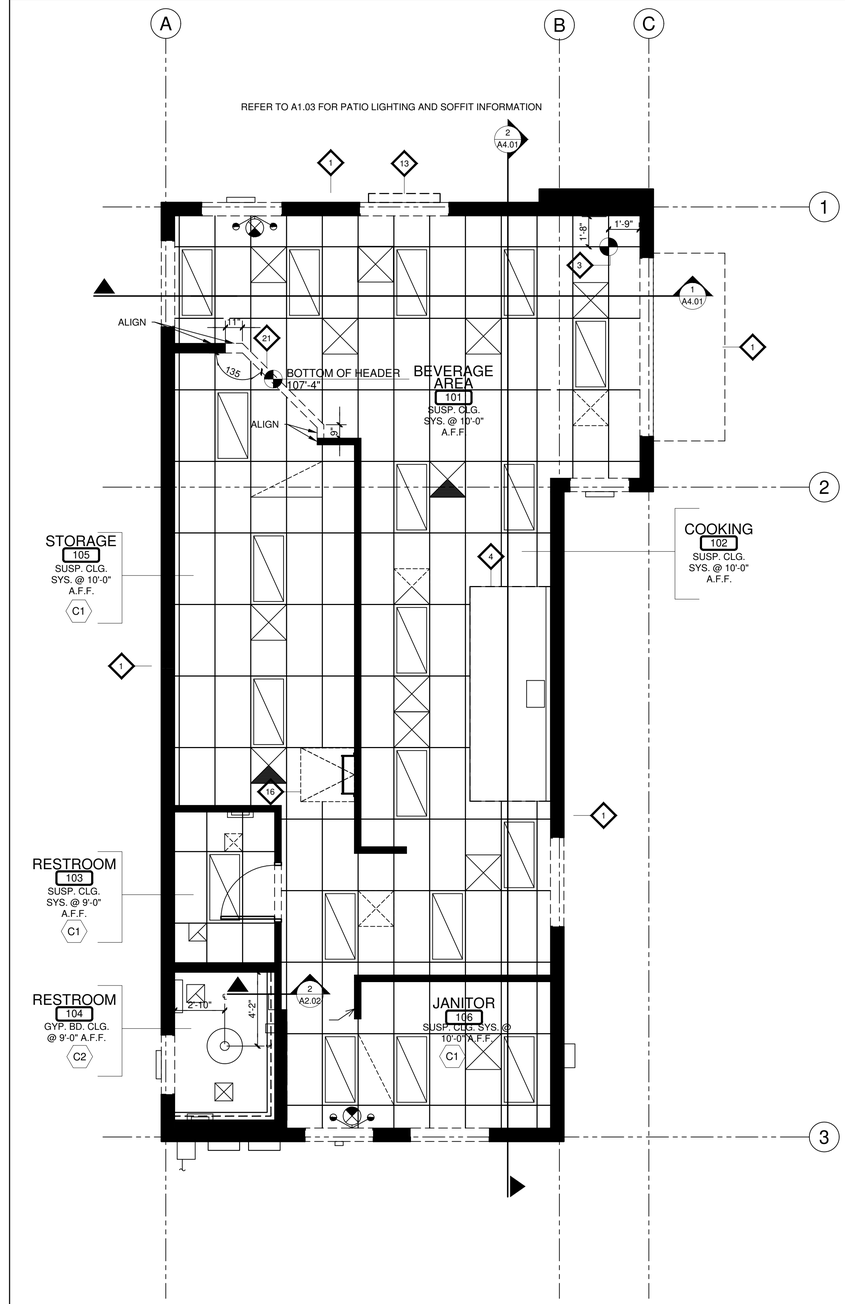
2X4 FLUORESCENT LAY-IN FIXTURE

STRIP LIGHTING - REFER TO ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION

EMERGENCY EXIT LIGHTING

EXTERIOR EGRESS LIGTHING

RESTROOM LIGHT FIXTURE



NORTH

1 A2.02 REFLECTIVE CEILING PLAN

1/4" = 1'-0"

CONSULTANT:

national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LOT #3
LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT

7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

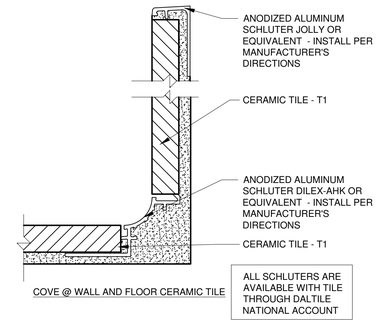
REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A2.02
ROOF / CEILING PLAN

FINISH SCHEDULE

SYMBOL	NOT USED	DESCRIPTION	MANUFACTURER/ COLOR
F2		EPOXY & URETHANE FLOOR	1/4" STONHARD UT W/ UT 7 SEALER , COLOR: PEWTER
T1		6"X36" COLORBODY PORCELAIN TILE	DAL-TILE FOREST PARK, COLOR: FP95 SUMMERTREE - 1/3 OFFET RUNNING BOND PATTERN GROUT: MAPEI - 44 PALE



3 A2.03 COVE BASE @ TILE

1" = 1"

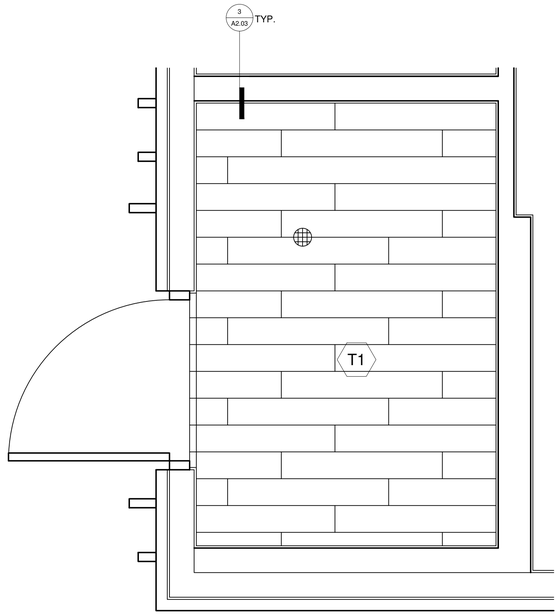
DRAWING LEGEND

GENERAL NOTES

- DO NOT SCALE DRAWINGS. IF THERE ARE ANY DISCREPANCIES CONTACT THE ARCHITECT PRIOR TO COMMENCING WORK.

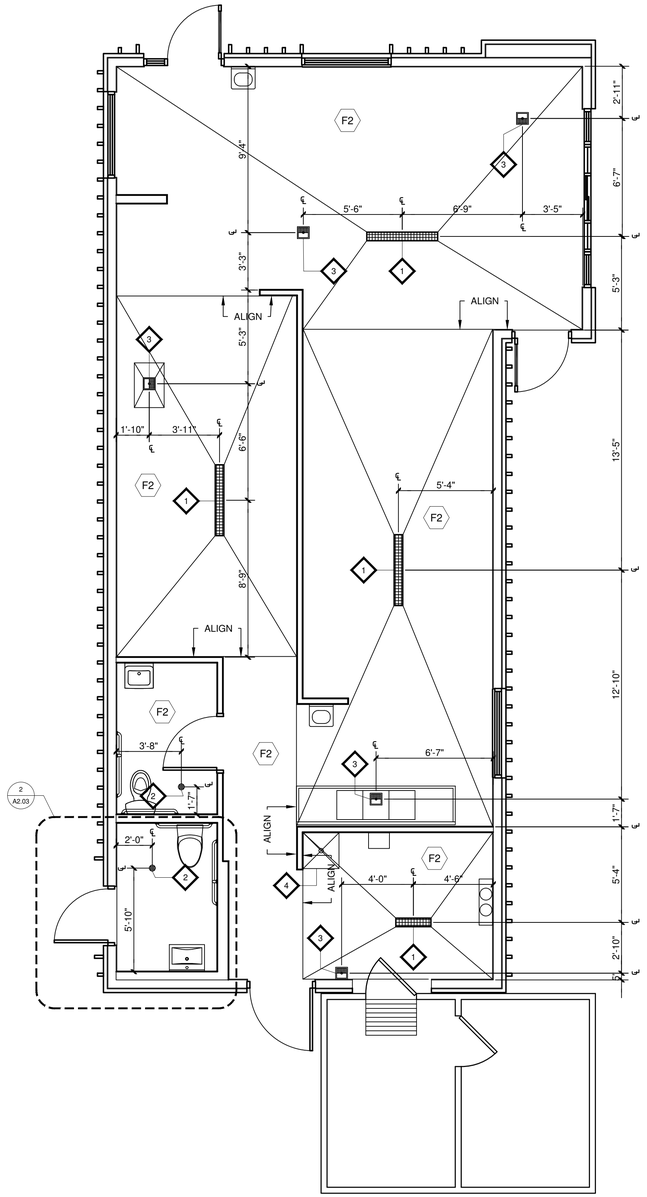
KEYED NOTES

1. TRENCH DRAIN - REFER TO S2.01
2. FLOOR DRAIN - REFER TO S2.01
3. FLOOR SINK - REFER TO S2.01
4. PREMANUFACTURED MOP SINK - DO NOT SLOPE FLOOR IN THIS AREA



2 A2.03 ENLARGED FLOOR FINISH

1/2"=1'-0"



NORTH

1 A2.03 FLOOR FINISH & DRAIN PLAN

1/4"=1'-0"

CONSULTANT:
INRD national restaurant designers
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMAN
AR97728
REGISTERED ARCHITECT

7/14/22

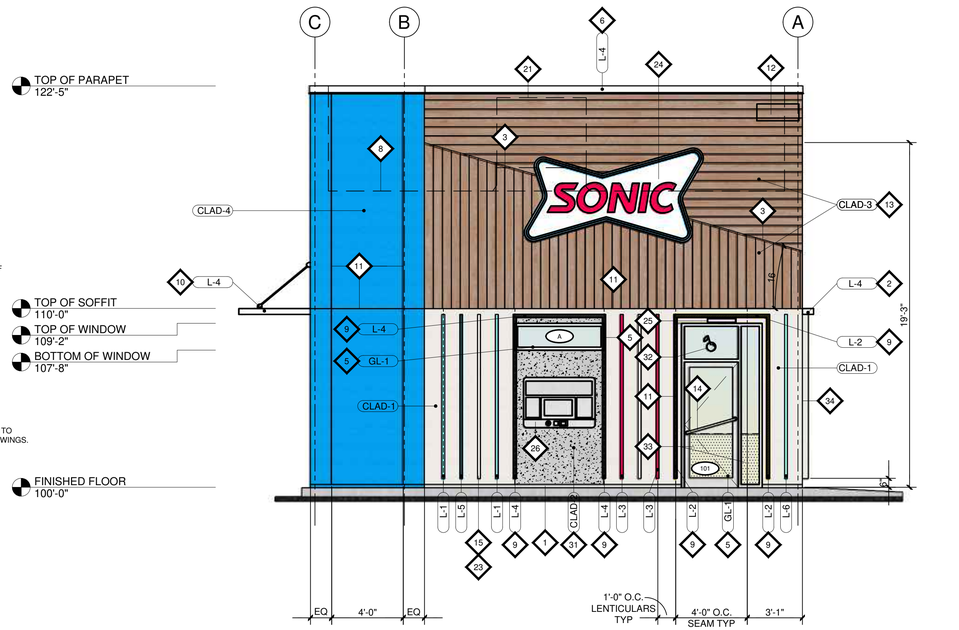
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A2.03
FLOOR FINISH PLAN



ELEVATION SHOW WITH FRONT CANOPY

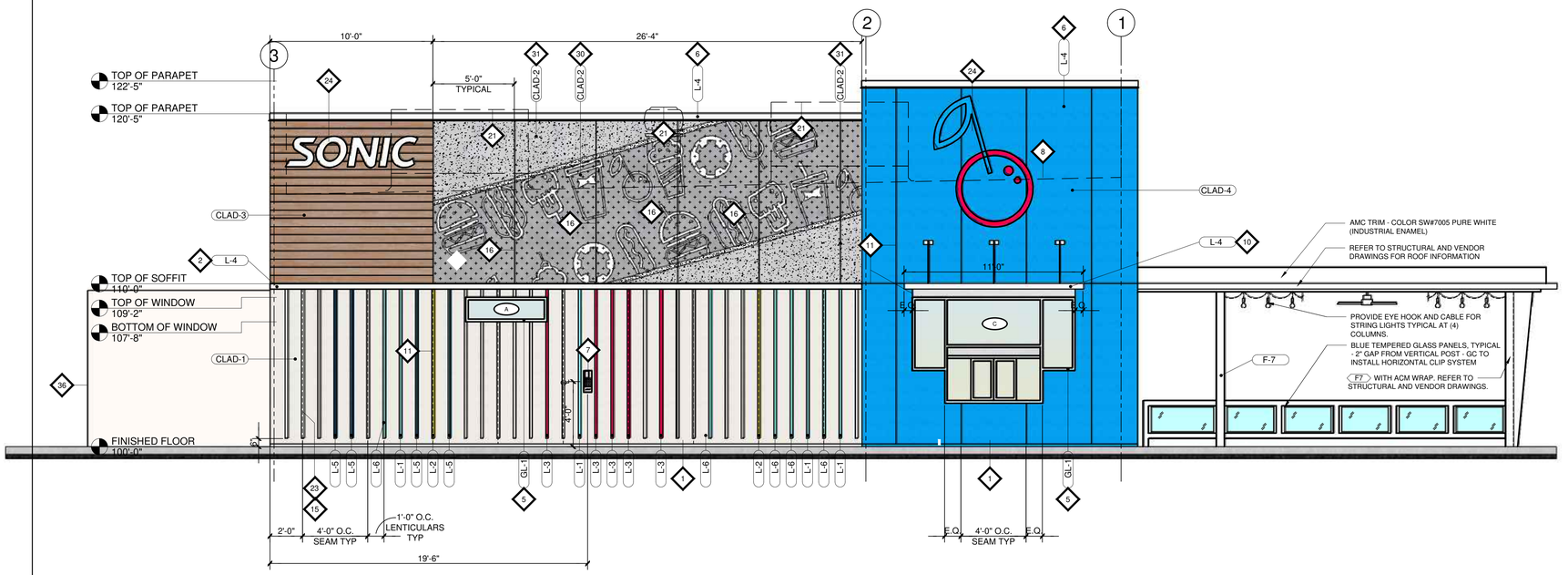
3 / A3.01 NORTH EXTERIOR ELEVATION

1/4" = 1'-0"

CANOPY NOT SHOWN FOR CLARITY FOR EXTERIOR FINISHES

1 / A3.01 NORTH EXTERIOR ELEVATION

1/4" = 1'-0"



2 / A3.01 EAST EXTERIOR ELEVATION

1/4" = 1'-0"

DRAWING LEGEND

GENERAL NOTES

- DIMENSIONS OF REVEALS ARE TO CENTERLINE
- VERIFY GRADE PRIOR TO CONSTRUCTION
- DO NOT SCALE DRAWINGS
- CONTACT ARCHITECT FOR ANY DISCREPANCIES ARE FOUND
- REFER TO CANOPY DRAWINGS FOR ADDITIONAL PREMANUFACTURED CANOPY INFORMATION

OWNER HAS SELECTED HAS SELECTED TO USE NICHIHA PRODUCTS ON EXTERIOR FINISHES. GENERAL CONTRACTOR SHALL MODIFY ALL DETAILS AS REQUIRED TO ACCOMODATE NICHIHA STANDARD DETAILS AND ATTCHMENT TO MEET FLORIDA PRODUCT REQUIREMENTS.
CONTACT NICHIHA REPRESENTATIVE:
MATT STEPHENSON (770) 789-8228
mstephenson@nichiha.com
PANEL LAYOUT SHALL BE PER MRF. SUBMITTED SHOP DRAWINGS

KEYED NOTES

1. 2" EXPOSED CONCRETE CURB, TYPICAL
2. 4"X8" PRE-MANUFACTURED ALUMINUM EYEBROW / SOFFIT
3. 3/4" "T" MOULDING
4. NOT USED
5. ALUMINUM STOREFRONT DOORS AND WINDOW FRAMES
6. CAP FLASHING - REFER TO 9/A5.01
7. ADDITIONAL PAY STATION - REFER TO ELECTRICAL FOR ADDITIONAL INFORMATION
8. DASHED LINE INDICATES ROOF LINE BEYOND
9. 2"X6" POWDER COATED ALUMINUM SURROUND
10. PRE-MANUFACTURED ALUMINUM CANOPY - REFER TO 13/A5.01
11. NICHIHA PANEL SEAM, TYPICAL
12. ADDRESS NUMBERS PER LOCAL FIRE DEPARTMENT / AUTHORITY - PROVIDED AND INSTALLED BY GENERAL CONTRACTOR
13. FINISHED FACES TO ALIGN
14. CUSTOM BLUE HARDWARE. LOW SIDE OF DOOR PULL ON HINGE SIDE OF DOOR
15. ALIGN BATTEN / LENTICULAR OVER NICHIHA PANEL SEAM
16. ACM PANEL SEAM, TYPICAL
17. GAS SERVICE
18. GREASE EXTRACTION SYSTEM CONNECTION 4'-4" TO CENTER (PLACE BETWEEN LENTICULARS)
19. ADA RESTROOM SIGNAGE - REFER TO B1.01 FOR ADDITIONAL INFORMATION
20. ELECTRICAL SERVICE
21. DASHED LINES INDICATE ROOF MOUNTED EQUIPMENT - BEYOND
22. NOT USED
23. 2"X4" BATTEN / LENTICULAR - PAINTED L-4 UNLESS OTHERWISE NOTED. REFER TO 10/A5.01
24. AVAILABLE SIGN LOCATION AS DETERMINED BY OWNER PER LOCAL SIGN ORDINANCES. SIGNS BY APPROVED SIGN COMPANY. GENERAL CONTRACTOR TO PROVIDE ELECTRICAL. SIGNAGE IS NOT APPROVED WITH THIS DEVELOPMENT PLAN. A SEPARATE COORDINATED SIGN PLAN (CSP) IS REQUIRED.
25. DOWN LIGHT FIXTURE
    - REFER TO ELECTRICAL DRAWINGS
    - PROVIDE BACKING AS NECESSARY
    - REFER TO DIMENSION FOR MOUNTING HEIGHT
26. PATIO ORDER MENU BOARD TO BE WALL MOUNTED - 39" A.F.F. TO PUSH/CALL BUTTON
27. HOLLOW METAL DOOR AND FRAME
28. NOT USED
29. RESTROOM SIGNAGE (YELLOW) - BY SIGN COMPANY - GENERAL CONTRACTOR TO INSTALL
30. HATCH REPRESENTS BURGER AND SHAKE PRINT ON CLAD-2
31. HATCH REPRESENTS CONCRETE PRINT ON CLAD-2
32. CHERRY GRAPHIC WINDOW FILM
33. DOT GRAPHIC WINDOW FILM
34. NOT USED
35. NOT USED
36. WALK-IN UNIT TO HAVE FACTORY FINISH
37. EYEBROW / SOFFIT TO STOP AT WALK-IN UNIT
38. HEAVY DASHED LINE INDICATES PARAMETER OF WALK-IN UNIT
39. EYEBROW AT COVERED PATIO TO ALIGN WITH BUILDING EYEBROW. SEE PATIO ELEVATIONS FOR CONTINUATION.

COLOR SCHEDULE

CLAD-1
NICHIHA COTTON PANEL
COLOR: CUSTOM

CLAD-2
ACM METAL PANEL CLADDING
CUSTOM PRINTED GRAPHIC

CLAD-3
NICHIHA SPRUCE 1818 AND 3030 PANELS

CLAD-4
NICHIHA SONIC BLUE PANEL
COLOR: CUSTOM

CLAD-5
NICHIHA ED680F PANELS
COLOR: PRIMED

GL-1
ALUMINUM GLAZING SYSTEM
MANUF.: KAWNEER
SIZE: CLEAR ANODIZED
HARDWARE COLOR: SATIN CHROME 626

PAINT VENDOR
THE SHERWIN-WILLIAMS COMPANY
PHONE NO.: (405) 409-2358
CONTACT: ERIC ACKERMAN
eric.m.ackerman@sherwin.com

P-1
SONIC LOGO MEDIUM BLUE PAINT
PRODUCT #: B66T01554
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG UD
GALLON FORMULA: W1-4y33, L1-4y11+1, R3-19+1

P-2
SONIC CONFIDENT YELLOW PAINT
PRODUCT #: B66Y01157
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI DTM SG VV YEL

P-3
SONIC ARCHITECTURAL RED PAINT
PRODUCT #: B66T01554
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG UD
GALLON FORMULA: R4-14y

P-4
SONIC PURE WHITE PAINT
PRODUCT #: B66W01551
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG EW
GALLON FORMULA: B1-+01,Y3-+1

P-5
SONIC DARK BLUE PAINT
PRODUCT #: B66T01554
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG UD
GALLON FORMULA: W1-2y61+1, L1-4y57+11, R3-2y53+1, Y-19

P-6
SONIC FROST BLUE PAINT
PRODUCT #: B66W01551
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG EW
GALLON FORMULA: L1-S2+01

P-7
7659 GRIS PAINT
PRODUCT #: B54T00104
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: INDUSTRIAL ENAMEL ULTRADEEP/ CLEAR TINT BASE

L-1
SONIC LOGO MEDIUM BLUE
PSS 4009

L-2
SONIC CONFIDENT YELLOW PSS 2834

L-3
SONIC ARCHITECTURAL RED
T.B.D.

L-4
SONIC PURE WHITE
PSS 4950

L-5
SONIC DARK BLUE
PMB 1710

L-6
SONIC FROST BLUE
PMS 2197C

F-7
4x6 STRUCTURAL COLUMN PAINTED SW#7005 PURE WHITE (INDUSTRIAL ENAMEL) SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR- SEE STRUCTURAL AND VENDOR DRAWINGS

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
LOT #3 STORE # -

SEAL:
STATE OF FLORIDA · GLEN LEHMAN · AR97728 · REGISTERED ARCHITECT
7/14/22

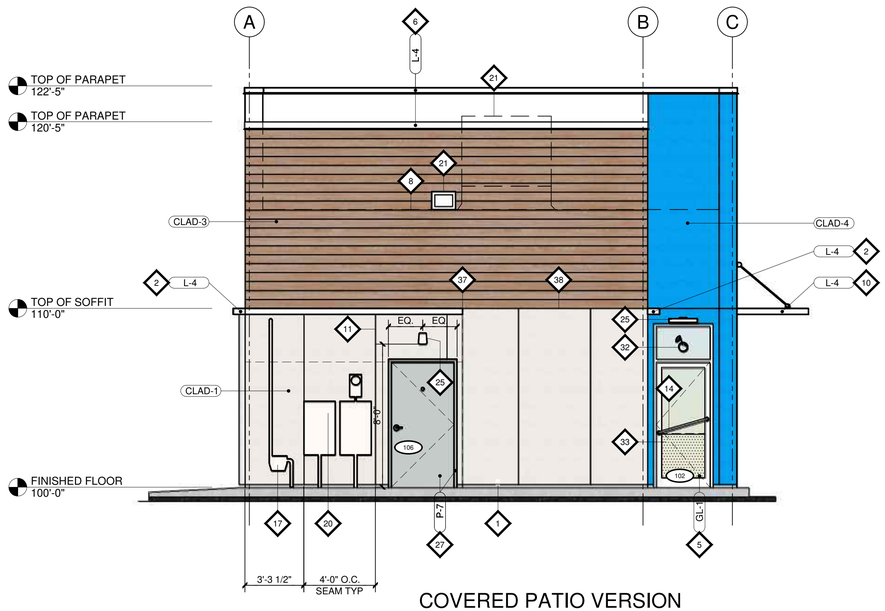
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

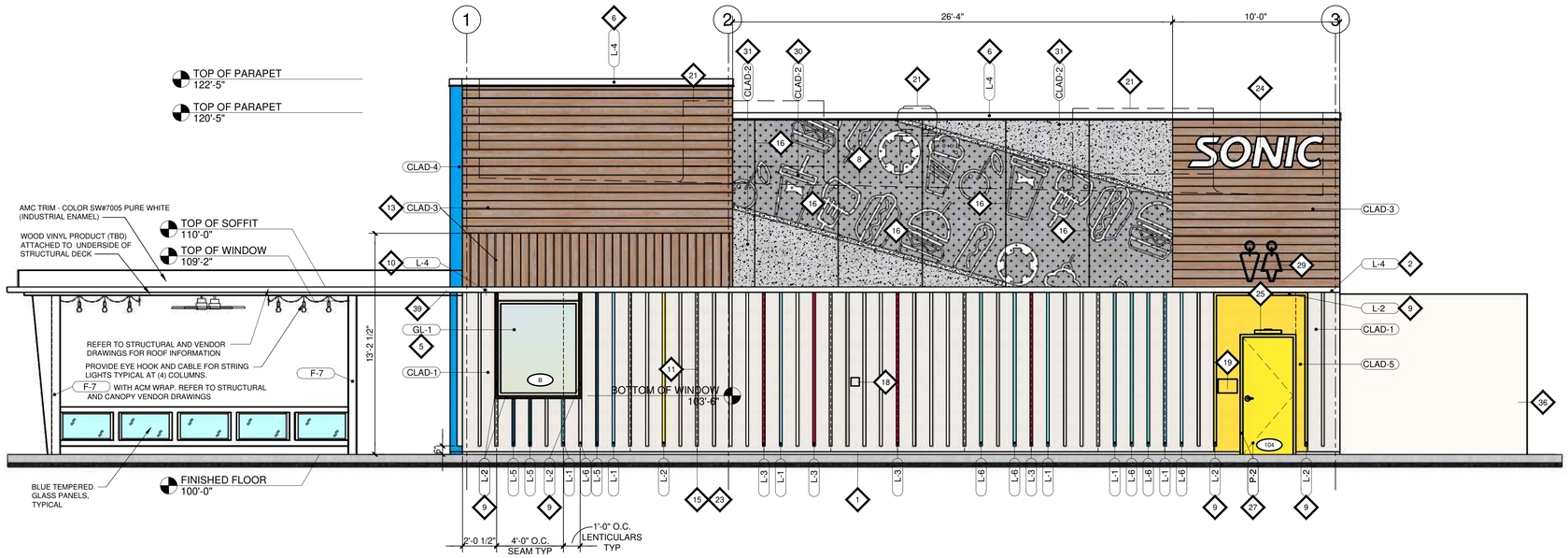
SHEET NUMBER / TITLE:
A3.01
EXTERIOR ELEVATIONS



COVERED PATIO VERSION

1 / A3.02 — SOUTH EXTERIOR ELEVATION

1/4" = 1'-0"



COVERED PATIO VERSION

2 / A3.02 — WEST EXTERIOR ELEVATION

1/4" = 1'-0"

DRAWING LEGEND

GENERAL NOTES

- DIMENSIONS OF REVEALS ARE TO CENTERLINE
- VERIFY GRADE PRIOR TO CONSTRUCTION
- DO NOT SCALE DRAWINGS
- CONTACT ARCHITECT FOR ANY DISCREPANCIES ARE FOUND
- REFER TO CANOPY DRAWINGS FOR ADDITIONAL PREMANUFACTURED CANOPY INFORMATION

OWNER HAS SELECTED HAS SELECTED TO USE NICHIHA PRODUCTS ON EXTERIOR FINISHES. GENERAL CONTRACTOR SHALL MODIFY ALL DETAILS AS REQUIRED TO ACCOMODATE NICHIHA STANDARD DETAILS AND ATTCHMENT TO MEET FLORIDA PRODUCT REQUIREMENTS.
CONTACT NICHIHA REPRESENTATIVE:
MATT STEPHENSON (770) 789-8228
mstephenson@nichiha.com
PANEL LAYOUT SHALL BE PER MRF. SUBMITTED SHOP DRAWINGS

KEYED NOTES

1. 2" EXPOSED CONCRETE CURB, TYPICAL
2. 4"X8" PRE-MANUFACTURED ALUMINUM EYEBROW / SOFFIT
3. 3/4" "T" MOULDING
4. NOT USED
5. ALUMINUM STOREFRONT DOORS AND WINDOW FRAMES
6. CAP FLASHING - REFER TO 9/A5.01
7. ADDITIONAL PAY STATION - REFER TO ELECTRICAL FOR ADDITIONAL INFORMATION
8. DASHED LINE INDICATES ROOF LINE BEYOND
9. 2"X6" POWDER COATED ALUMINUM SURROUND
10. PRE-MANUFACTURED ALUMINUM CANOPY - REFER TO 13/A5.01
11. NICHIHA PANEL SEAM, TYPICAL
12. ADDRESS NUMBERS PER LOCAL FIRE DEPARTMENT / AUTHORITY - PROVIDED AND INSTALLED BY GENERAL CONTRACTOR
13. FINISHED FACES TO ALIGN
14. CUSTOM BLUE HARDWARE. LOW SIDE OF DOOR PULL ON HINGE SIDE OF DOOR
15. ALIGN BATTEN / LENTICULAR OVER NICHIHA PANEL SEAM
16. ACM PANEL SEAM, TYPICAL
17. GAS SERVICE
18. GREASE EXTRACTION SYSTEM CONNECTION 4'-4" TO CENTER (PLACE BETWEEN LENTICULARS)
19. ADA RESTROOM SIGNAGE - REFER TO B1.01 FOR ADDITIONAL INFORMATION
20. ELECTRICAL SERVICE
21. DASHED LINES INDICATE ROOF MOUNTED EQUIPMENT - BEYOND
22. NOT USED
23. 2"X4" BATTEN / LENTICULAR - PAINTED L-4 UNLESS OTHERWISE NOTED. REFER TO 10/A5.01
24. AVAILABLE SIGN LOCATION AS DETERMINED BY OWNER PER LOCAL SIGN ORDINANCES. SIGNS BY APPROVED SIGN COMPANY. GENERAL CONTRACTOR TO PROVIDE ELECTRICAL. SIGNAGE IS NOT APPROVED WITH THIS DEVELOPMENT PLAN. A SEPARATE COORDINATED SIGN PLAN (CSP) IS REQUIRED.
25. DOWN LIGHT FIXTURE
    - REFER TO ELECTRICAL DRAWINGS
    - PROVIDE BACKING AS NECESSARY
    - REFER TO DIMENSION FOR MOUNTING HEIGHT
26. PATIO ORDER MENU BOARD TO BE WALL MOUNTED - 39" A.F.F. TO PUSH/CALL BUTTON
27. HOLLOW METAL DOOR AND FRAME
28. NOT USED
29. RESTROOM SIGNAGE (YELLOW) - BY SIGN COMPANY - GENERAL CONTRACTOR TO INSTALL
30. HATCH REPRESENTS BURGER AND SHAKE PRINT ON CLAD-2
31. HATCH REPRESENTS CONCRETE PRINT ON CLAD-2
32. CHERRY GRAPHIC WINDOW FILM
33. DOT GRAPHIC WINDOW FILM
34. NOT USED
35. NOT USED
36. WALK-IN UNIT TO HAVE FACTORY FINISH
37. EYEBROW / SOFFIT TO STOP AT WALK-IN UNIT
38. HEAVY DASHED LINE INDICATES PARAMETER OF WALK-IN UNIT
39. EYEBROW AT COVERED PATIO TO ALIGN WITH BUILDING EYEBROW. SEE PATIO ELEVATIONS FOR CONTINUATION.

COLOR SCHEDULE

CLAD-1
NICHIHA COTTON PANEL
COLOR: CUSTOM

CLAD-2
ACM METAL PANEL CLADDING
CUSTOM PRINTED GRAPHIC

CLAD-3
NICHIHA SPRUCE 1818 AND 3030 PANELS

CLAD-4
NICHIHA SONIC BLUE PANEL
COLOR: CUSTOM

CLAD-5
NICHIHA ED680F PANELS
COLOR: PRIMED

GL-1
ALUMINUM GLAZING SYSTEM
MANUF.: KAWNEER
SIZE: CLEAR ANODIZED
HARDWARE COLOR: SATIN CHROME 626

PAINT VENDOR
THE SHERWIN-WILLIAMS COMPANY
PHONE NO.: (405) 409-2358
CONTACT: ERIC ACKERMAN
eric.m.ackerman@sherwin.com

P-1
SONIC LOGO MEDIUM BLUE PAINT
PRODUCT #: B66T01554
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG UD
GALLON FORMULA: W1-4y33, L1-4y11+1, R3-19+1

P-2
SONIC CONFIDENT YELLOW PAINT
PRODUCT #: B66Y01157
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI DTM SG VV YEL

P-3
SONIC ARCHITECTURAL RED PAINT
PRODUCT #: B66T01554
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG UD
GALLON FORMULA: R4-14y

P-4
SONIC PURE WHITE PAINT
PRODUCT #: B66W01551
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG EW
GALLON FORMULA: B1-r01,Y3-+1

P-5
SONIC DARK BLUE PAINT
PRODUCT #: B66T01554
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG UD
GALLON FORMULA: W1-2y61+1, L1-4y57+11, R3-3y53+1, Y-19

P-6
SONIC FROST BLUE PAINT
PRODUCT #: B66W01551
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: PI MULTI ACR SG EW
GALLON FORMULA: L1-52+01

P-7
7659 GRIS PAINT
PRODUCT #: B54T00104
MANUF.: SHERWIN WILLIAMS
DESCRIPTION: INDUSTRIAL ENAMEL ULTRADEEP/ CLEAR TINT BASE

L-1
SONIC LOGO MEDIUM BLUE
PSS 4009

L-2
SONIC CONFIDENT YELLOW PSS 2834

L-3
SONIC ARCHITECTURAL RED
T.B.D.

L-4
SONIC PURE WHITE
PSS 4950

L-5
SONIC DARK BLUE
PMB 1710

L-6
SONIC FROST BLUE
PMS 2197C

F-7
4X6 STRUCTURAL COLUMN PAINTED SW#7005 PURE WHITE (INDUSTRIAL ENAMEL) SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR- SEE STRUCTURAL AND VENDOR DRAWINGS

CONSULTANT:
INRD national restaurant designers
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -
LOT #3

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

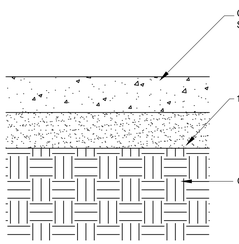
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

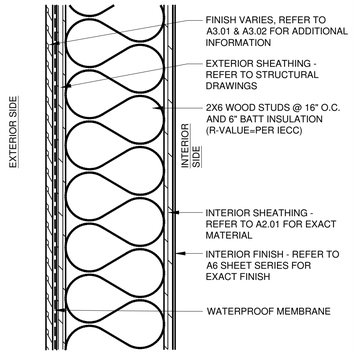
PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A3.02
EXTERIOR ELEVATIONS

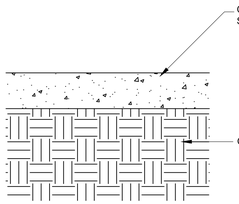


5 A4.01 — EXT SLAB CONSTRUCTION

3" = 1'-0"



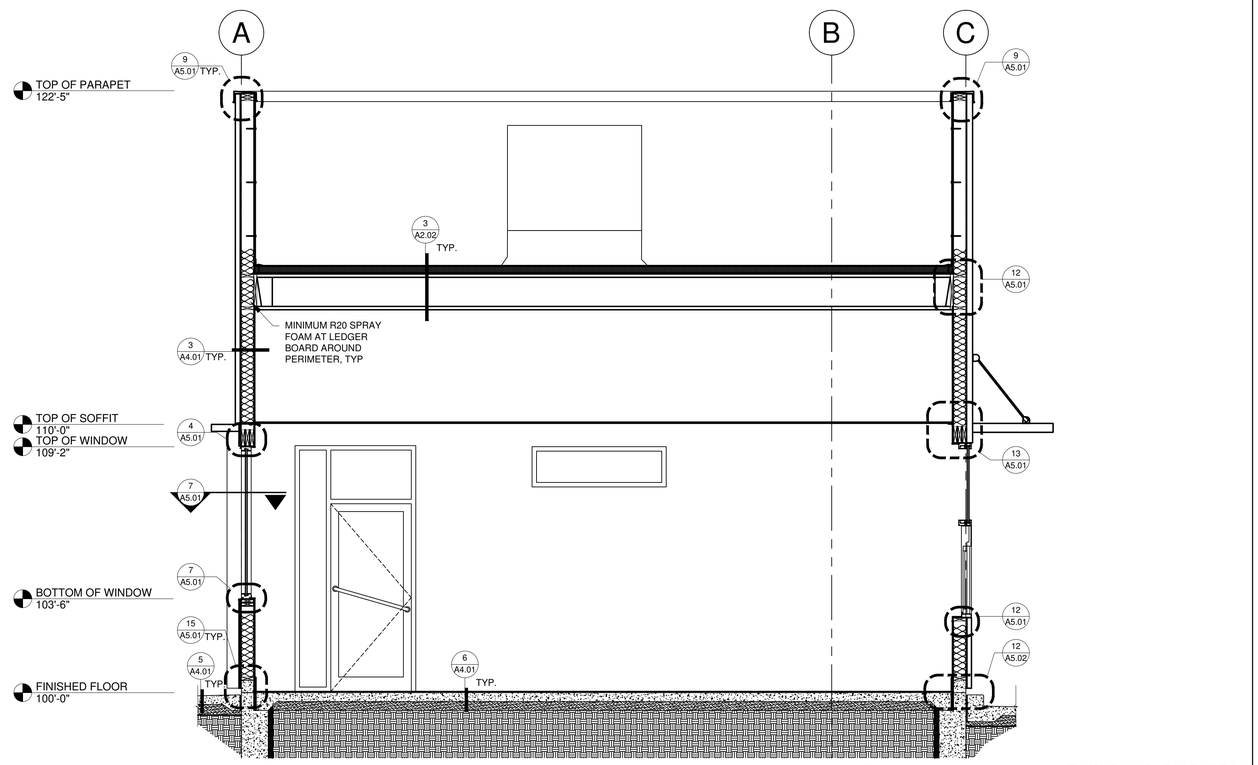
3 A4.01 — WALL CONSTRUCTION @ CLADDING



6 A4.01 — INT SLAB CONSTRUCTION

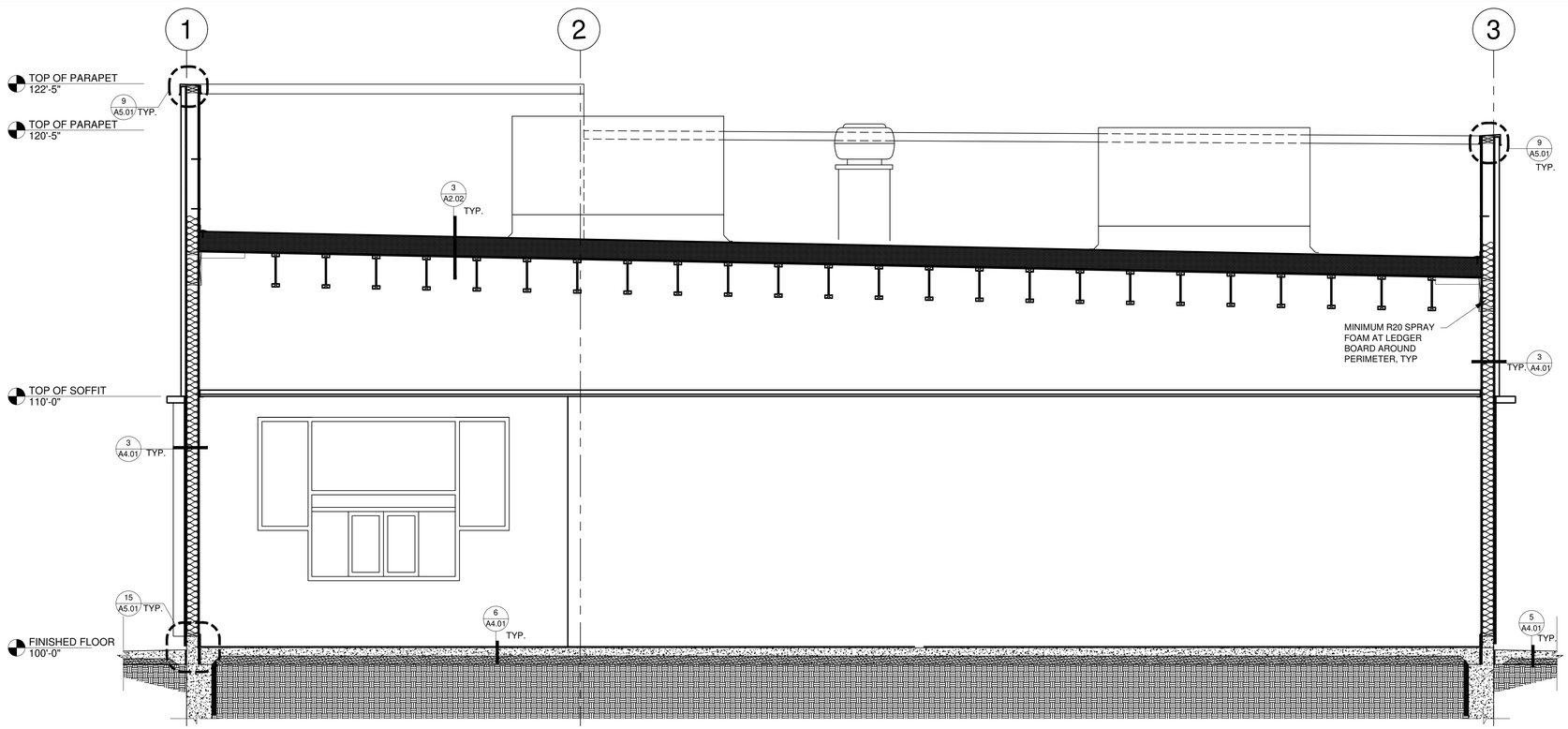
4 A4.01 — NOT USED

3" = 1'-0"



1 A4.01 — BUILDING SECTION

3/8" = 1'-0"



2 A4.01 — BUILDING SECTION

3/8" = 1'-0"

CONSULTANT:
national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -
LOT #3

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT

7/14/22

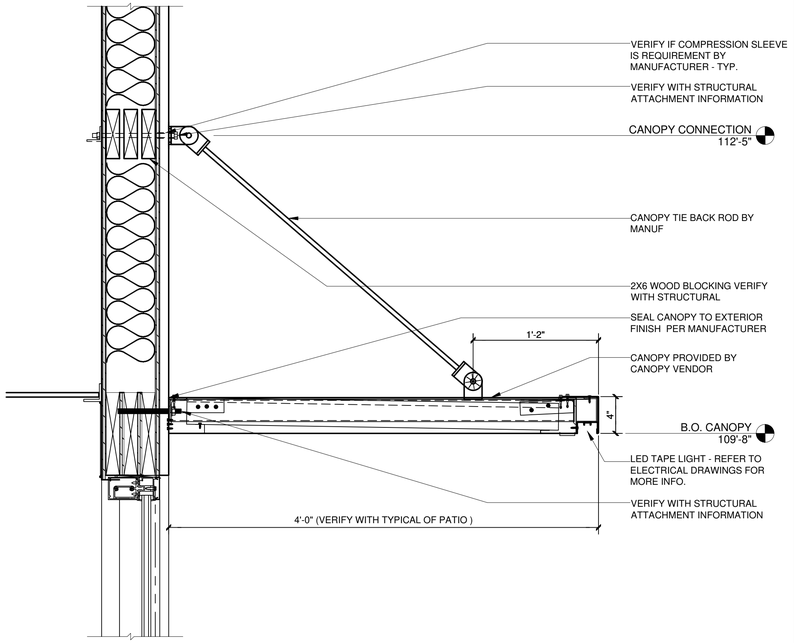
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

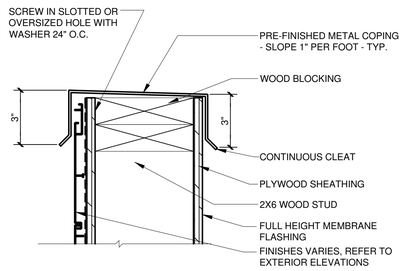
PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A4.01
BUILDING SECTIONS



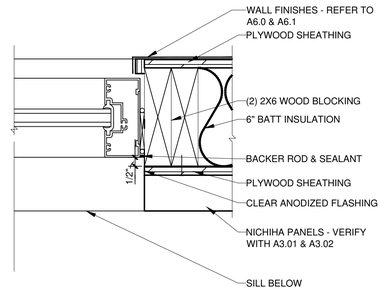
13 A5.01 — CANOPY

1 1/2 " = 1'-0"



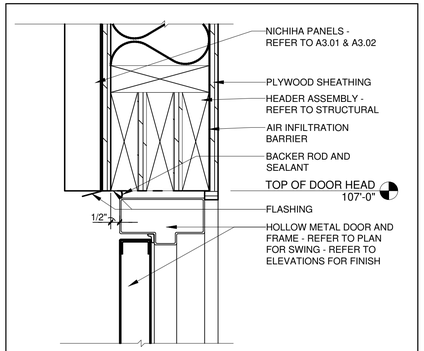
9 A5.01 — PARAPET (TYPICAL)

3" = 1'-0"



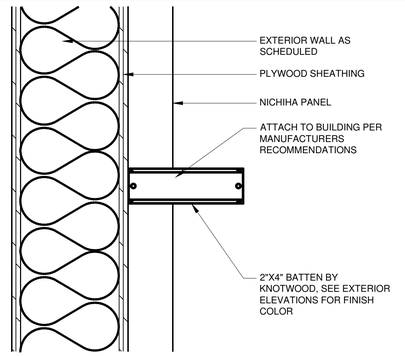
5 A5.01 — ALUMINUM WINDOW JAMB

3" = 1'-0"



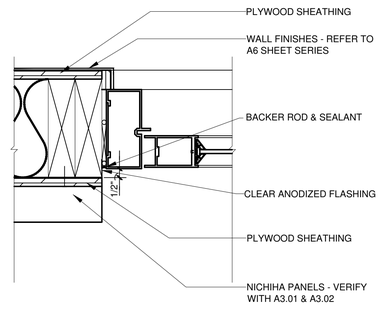
1 A5.01 — H.M. DOOR HEAD/JAMB (EXT.)

3" = 1'-0"



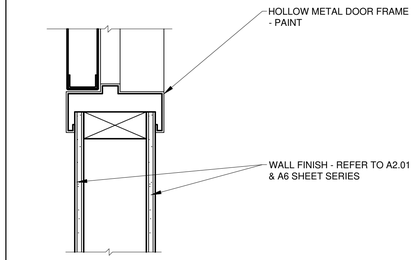
10 A5.01 — LENTICULAR ATTACHMENT

3" = 1'-0"



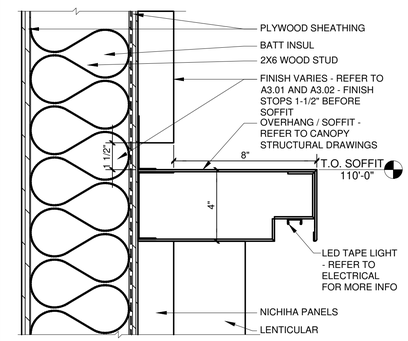
6 A5.01 — ALUMINUM DOOR JAMB

3" = 1'-0"



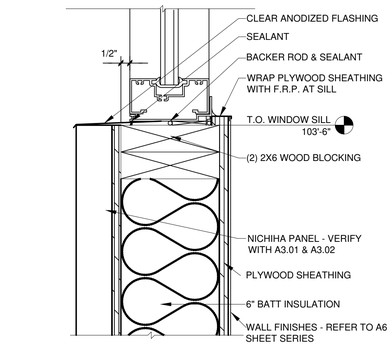
2 A5.01 — H.M. DOOR HEAD/JAMB (INT)

3" = 1'-0"



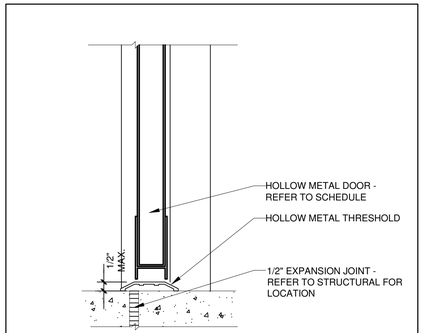
11 A5.01 — OVERHANG / SOFFITT

3" = 1'-0"



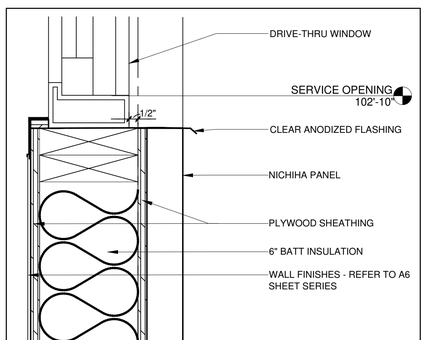
7 A5.01 — ALUMINUM WINDOW SILL

3" = 1'-0"



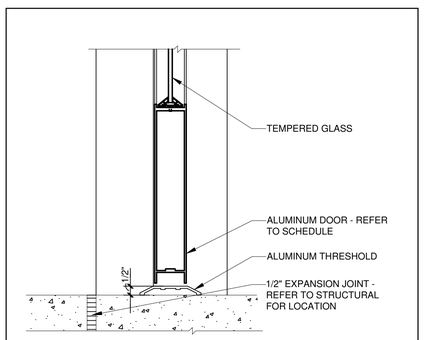
3 A5.01 — HOLLOW METAL THRESHOLD

3" = 1'-0"



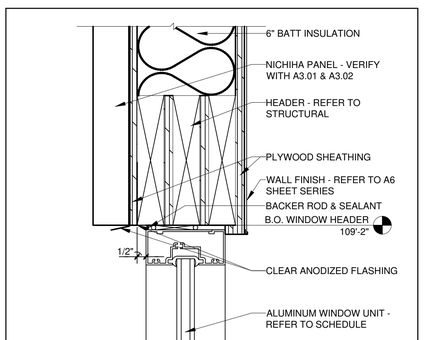
12 A5.01 — DRIVE-THRU WINDOW SILL

3" = 1'-0"



8 A5.01 — ALUMINUM DOOR THRESHOLD

3" = 1'-0"



4 A5.01 — ALUMINUM WINDOW HEAD

3" = 1'-0"

CONSULTANT:
national restaurant designers
NRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT

7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

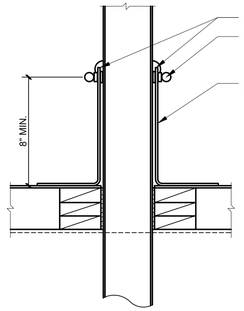
PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A5.01
ARCHITECTURAL DETAILS

NOT USED

13
A5.02

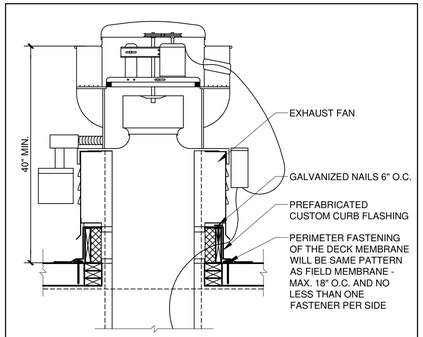
NOT USED



9
A5.02

ROOF PIPE PENETRATION

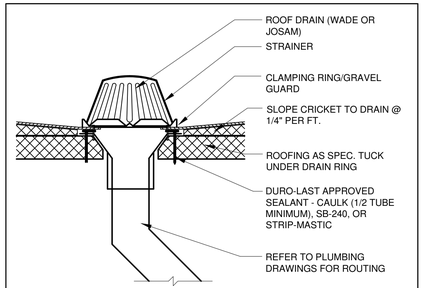
1 1/2" = 1'-0"



5
A5.02

EXHAUST FAN CURB

1 1/2" = 1'-0"

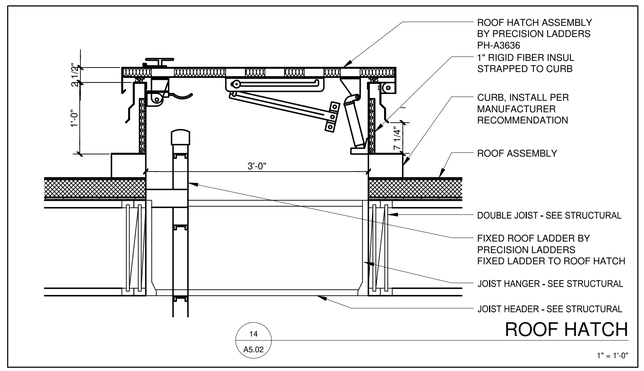


NOTE: DURO-LAST MEMBRANE MUST EXTEND BEYOND THE INSIDE OF THE CLAMPING RING. BE SURE THE OPENING WHERE WATER PASSES THROUGH THE MEMBRANE IS NOT SMALLER THAN THE OPENING OF THE DRAIN.

1
A5.02

ROOF DRAIN

N.T.S.



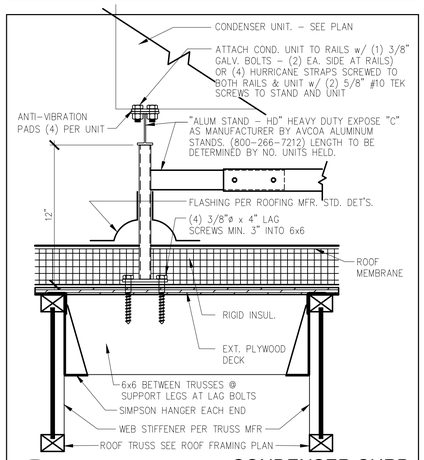
14
A5.02

ROOF HATCH

1" = 1'-0"

NOT USED

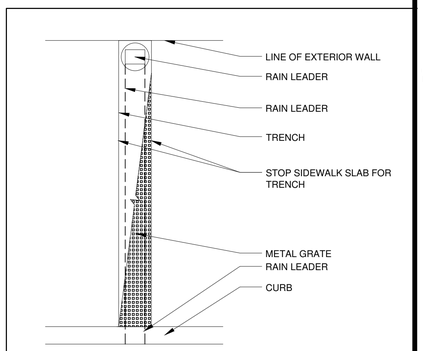
13
A5.02



6
A5.02

CONDENSER CURB

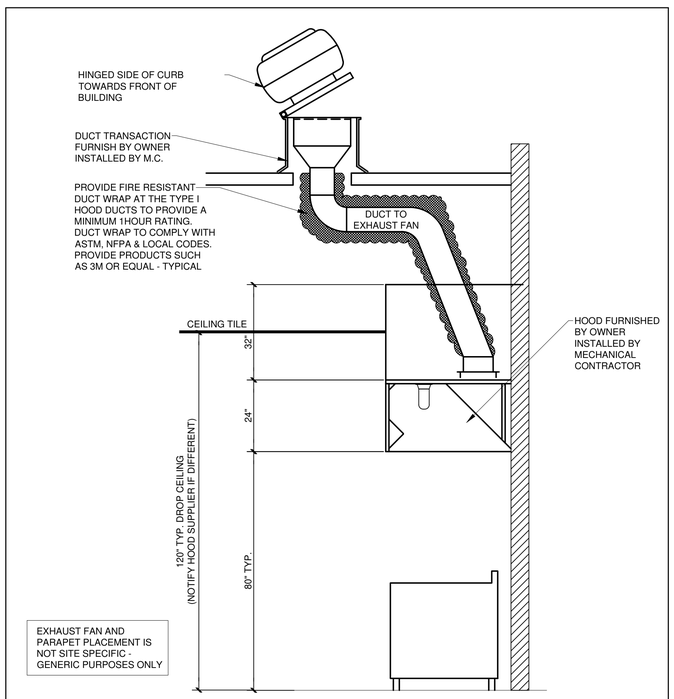
1 1/2" = 1'-0"



2
A5.02

SIDEWALK TRENCH DRAIN

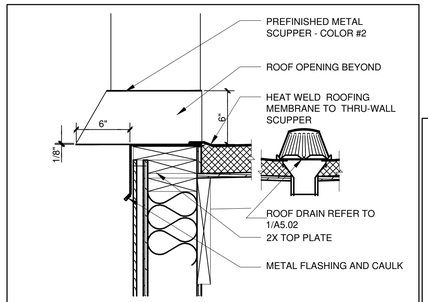
1" = 1'-0"



15
A5.02

EXHAUST DUCT/ HOOD SECTION

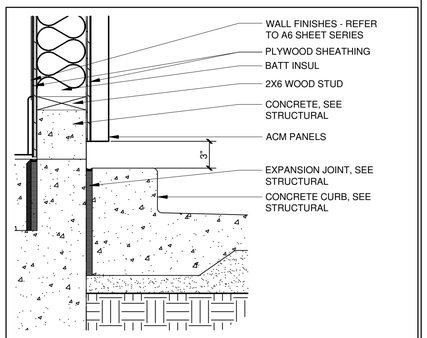
1/2" = 1'-0"



11
A5.02

OVERFLOW SCUPPER

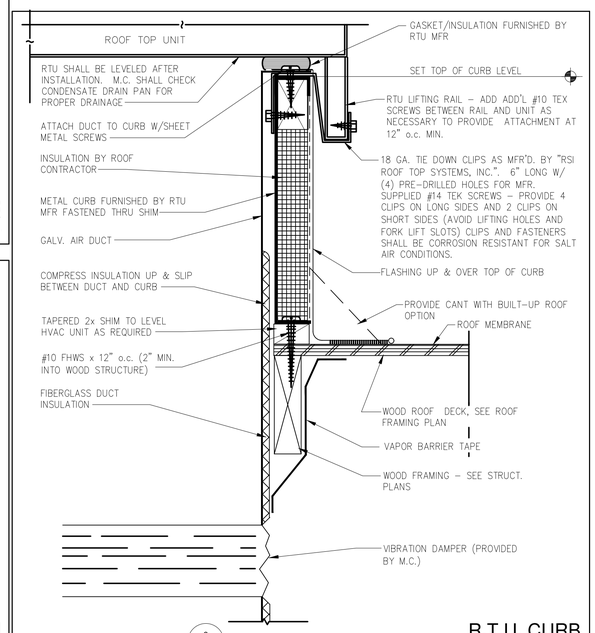
1-1/2" = 1'-0"



12
A5.02

CURB @ DRIVE THRU

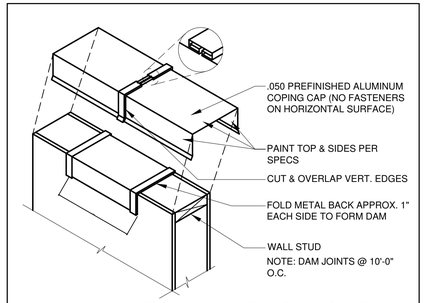
1-1/2" = 1'-0"



8
A5.02

R.T.U. CURB

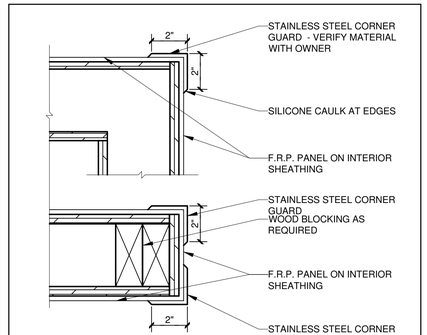
3" = 1'-0"



7
A5.02

ROOF CAP FLASHING DETAIL

N.T.S.



4
A5.02

CORNER GUARD

3" = 1'-0"

CONSULTANT:

INRD national restaurant designers
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LOT #3 LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

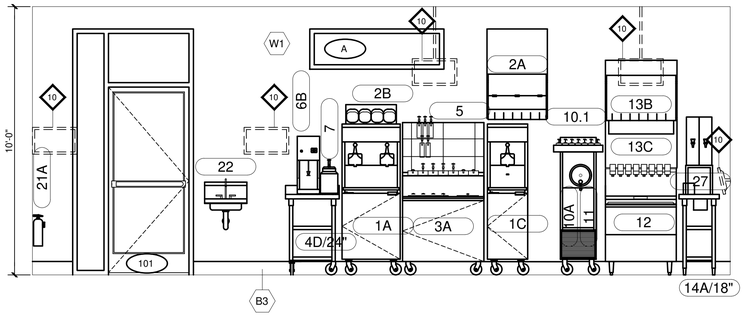
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE: DATE:

REVISION: DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A5.02
ARCHITECTURAL DETAILS



BEVERAGE ELEVATION

4 A6.01

3/8" = 1'-0"

WALL FINISH SCHEDULE

SYMBOL	NOT USED	DESCRIPTION	MANUFACTURER	MODEL NUMBER	REMARKS
W1		FIBERGLASS REINFORCED PANEL	MARLITE	S-100 - SMOOTH WHITE	
W2		PAINT	SHERWIN WILLIAMS, INC.	CUSTOM COLOR TO MATCH PMS 2197C	SHEEN: FLAT
W3		STAINLESS STEEL PANEL (NSF)			
W6		PAINT	SHERWIN WILLIAMS, INC.	GRIS SW#7659, SEMI-GLOSS	
W7	X	PAINT	SHERWIN WILLIAMS, INC.	FOLKSTONE SW#6005, SEMI-GLOSS	
W8		PAINT	SHERWIN WILLIAMS, INC.	SONIC CONFIDENCE YELLOW SW#6911, SEMI-GLOSS	PRODUCT #: B66Y01157
T1		6"X36" COLORBODY PORCELAIN TILE	DAL-TILE	FOREST PARK, COLOR: FP95 SUMMERTREE	GROUT: MAPEI - 44 PALE
T5		WALL MURAL / WALL COVERING	MDC INTERIOR SOLUTIONS - CUSTOM DIGITAL PRINT	G.C. TO APPLY PROTECTIVE TOP COAT TO WALLCOVERING AFTER INSTALLATION	PRINT 2" LARGER ALL SIDES. TRIM AS NEEDED DURING INSTALLATION. TOP COAT SOLD SEPARATELY.
B3		4" EPOXY BASE (TROWEL)	STONHARD INC.	UT WITH STONSEAL UT 7 SEALER, COLOR: PEWTER	JASON MACIULA: 214-680-2494

DRAWING LEGEND

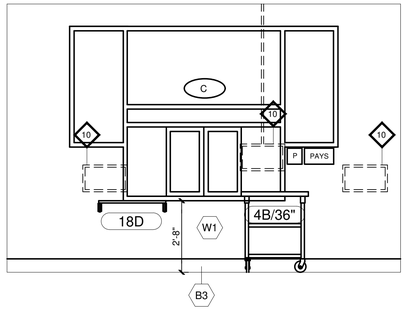
GENERAL NOTES

- DO NOT SCALE DRAWINGS
- REFER TO SHEET B1.01 FOR ACCESSIBLE EQUIPMENT DIMENSIONS AND LOCATIONS
- PER CHAPTER 8 & TABLE 803.9 INTERIOR FINISH OR ROOMS & ENCLOSED SPACES - TYPE 'C'

NATIONAL ACCOUNT PRICING
FRED DAVIS 469-964-3246

KEYED NOTES

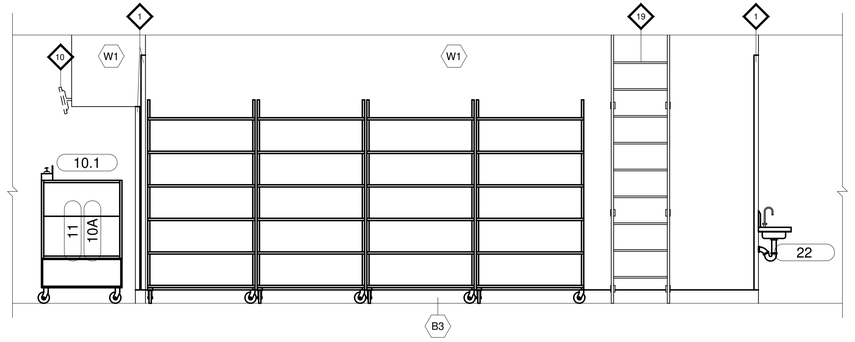
1. STAINLESS STEEL CORNER GUARD - REFER TO 4/A5.02
2. EXHAUST HOOD - REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION
3. 24 GA. STAINLESS STEEL WALL PANEL TO EXTEND FROM TOP OF BASE TO 6" ABOVE CEILING (BY GENERAL CONTRACTOR)
4. GRAB BAR (COLOR 304) REFER TO B1.01
5. SURFACE MOUNTED TOILET PAPER DISPENSER - BOBRICK B-4288
6. SHADES OF LIGHT MIRROR (MW17028 36" DIA.) REFER TO B1.01
7. 24"X36" MIRROR - BOBRICK B-290 REFER TO B1.01
8. LAVATORY - REFER TO B1.01 AND PLUMBING SHEETS
9. WATER CLOSET - REFER TO B1.01 AND PLUMBING SHEETS
10. DASHED LINE INDICATES POS EQUIPMENT - REFER TO E2.03 FOR ADDITIONAL INFORMATION. GC TO PROVIDE BLOCKING / BRACING FOR HANGING MONITORS.
11. SURFACE MOUNTED BABY CHANGER - KOALA KARE KB111-SSWM
12. NOT USED
13. RECESSED WASTE RECEPTACLE B-43644 (COLOR 304) - REFER TO B1.01
14. HOLLOW METAL DOOR AND FRAME - PAINT
15. RECESSED ELECTRICAL PANELS - REFER TO ELECTRICAL DRAWINGS
16. RECESSED HAND DRYER B-3725 (COLOR 304) - REFER TO B1.01
17. SURFACE MOUNTED SANITARY NAPKIN RECEPTACLE B-254 (COLOR 304) - REFER TO B1.01
18. COUNTER MOUNTED SOAP DISPENSER - BOBRICK B-85
19. FIXED ROOF LADDER BY MANUFACTURER
20. NOT USED
21. SURFACE MOUNTED TOILET PAPER DISPENSER - BOBRICK B-686



DRIVE-THRU ELEVATION

5 A6.01

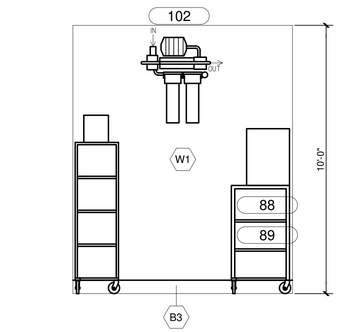
3/8" = 1'-0"



STORAGE ELEVATION

1 A6.01

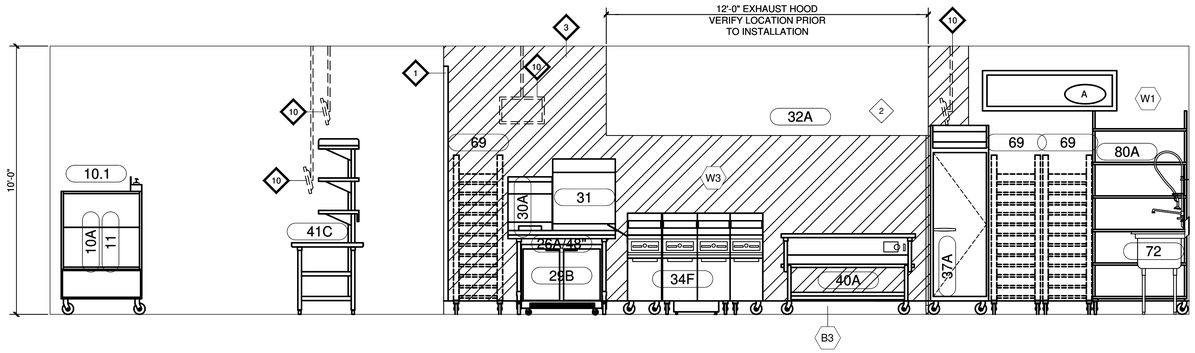
3/8" = 1'-0"



JANITORIAL ELEVATION

6 A6.01

3/8" = 1'-0"

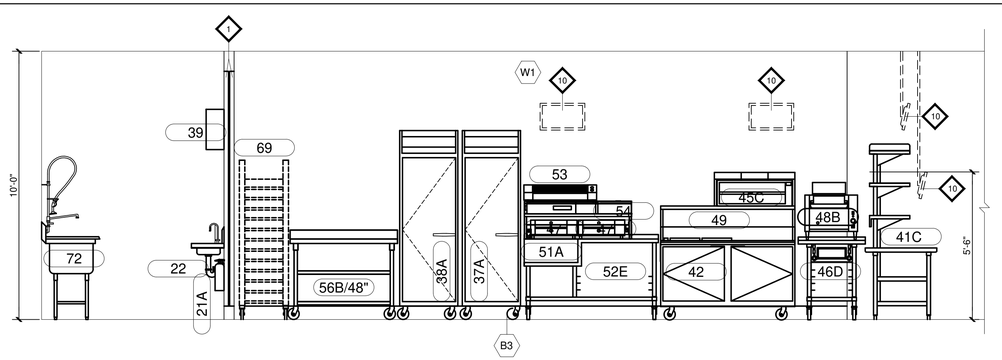


COOKING ELEVATION

2 A6.01

3/8" = 1'-0"

STAINLESS STEEL WALL PANELING CAN EXPAND BEYOND THE MINIMUM SHOWN



COOKING ELEVATION

3 A6.01

3/8" = 1'-0"

CONSULTANT:

national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

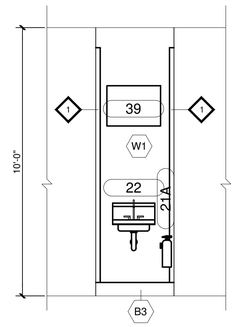
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A6.01
INTERIOR ELEVATIONS



4
A6.02

SINK ELEVATION

3/8" = 1'-0"

WALL FINISH SCHEDULE

SYMBOL	NOT USED	DESCRIPTION	MANUFACTURER	MODEL NUMBER	REMARKS
W1		FIBERGLASS REINFORCED PANEL	MARLITE	S-100 - SMOOTH WHITE	
W2		PAINT	SHERWIN WILLIAMS, INC.	CUSTOM COLOR TO MATCH PMS 2197C	SHEEN: FLAT
W3		STAINLESS STEEL PANEL (NSF)			
W6		PAINT	SHERWIN WILLIAMS, INC.	GRIS SW#7659, SEMI-GLOSS	
W7	X	PAINT	SHERWIN WILLIAMS, INC.	FOLKSTONE SW#6005, SEMI-GLOSS	
W8		PAINT	SHERWIN WILLIAMS, INC.	SONIC CONFIDENCE YELLOW SW#6911, SEMI-GLOSS	PRODUCT #: B66Y01157
T1		6"X36" COLORBODY PORCELAIN TILE	DAL-TILE	FOREST PARK, COLOR: FP95 SUMMERTREE	GROUT: MAPEI - 44 PALE
T5		WALL MURAL / WALL COVERING	MDC INTERIOR SOLUTIONS - CUSTOM DIGITAL PRINT	G.C. TO APPLY PROTECTIVE TOP COAT TO WALLCOVERING AFTER INSTALLATION	PRINT 2" LARGER ALL SIDES. TRIM AS NEEDED DURING INSTALLATION. TOP COAT SOLD SEPARATELY.
B3		4" EPOXY BASE (TROWEL)	STONHARD INC.	UT WITH STONSEAL UT 7 SEALER, COLOR: PEWTER	JASON MACIULA: 214-680-2494

DRAWING LEGEND

GENERAL NOTES

- DO NOT SCALE DRAWINGS

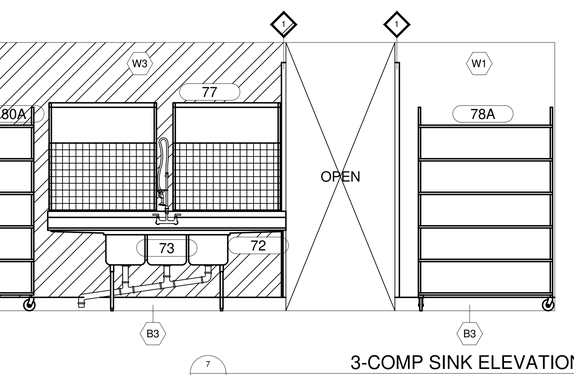
- REFER TO SHEET B1.01 FOR ACCESSIBLE EQUIPMENT DIMENSIONS AND LOCATIONS

- PER CHAPTER 8 & TABLE 803.9 INTERIOR FINISH OR ROOMS & ENCLOSED SPACES - TYPE 'C'

NATIONAL ACCOUNT PRICING
FRED DAVIS 469-964-3246

KEYED NOTES

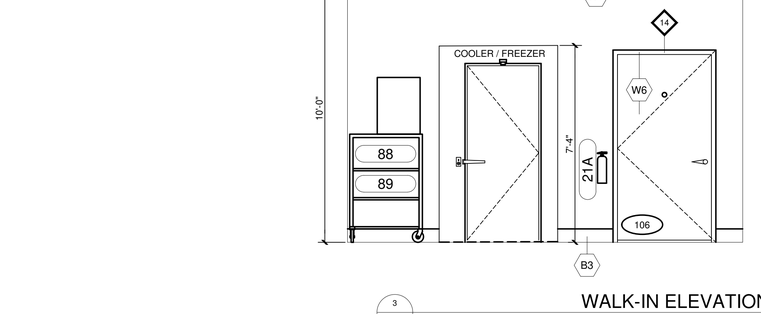
1. STAINLESS STEEL CORNER GUARD - REFER TO 4/A5.02
2. EXHAUST HOOD - REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION
3. 24 GA. STAINLESS STEEL WALL PANEL TO EXTEND FROM TOP OF BASE TO 6" ABOVE CEILING (BY GENERAL CONTRACTOR)
4. GRAB BAR (COLOR 304) REFER TO B1.01
5. SURFACE MOUNTED TOILET PAPER DISPENSER - BOBRICK B-4288
6. SHADES OF LIGHT MIRROR (MW17028 36" DIA.) REFER TO B1.01
7. 24"X36" MIRROR - BOBRICK B-290 REFER TO B1.01
8. LAVATORY - REFER TO B1.01 AND PLUMBING SHEETS
9. WATER CLOSET - REFER TO B1.01 AND PLUMBING SHEETS
10. DASHED LINE INDICATES POS EQUIPMENT - REFER TO E2.03 FOR ADDITIONAL INFORMATION. GC TO PROVIDE BLOCKING / BRACING FOR HANGING MONITORS.
11. SURFACE MOUNTED BABY CHANGER - KOALA KARE KB111-SSWM
12. NOT USED
13. RECESSED WASTE RECEPTACLE B-43644 (COLOR 304) - REFER TO B1.01
14. HOLLOW METAL DOOR AND FRAME - PAINT
15. RECESSED ELECTRICAL PANELS - REFER TO ELECTRICAL DRAWINGS
16. RECESSED HAND DRYER B-3725 (COLOR 304) - REFER TO B1.01
17. SURFACE MOUNTED SANITARY NAPKIN RECEPTACLE B-254 (COLOR 304) - REFER TO B1.01
18. COUNTER MOUNTED SOAP DISPENSER - BOBRICK B-85
19. FIXED ROOF LADDER BY MANUFACTURER
20. NOT USED
21. SURFACE MOUNTED TOILET PAPER DISPENSER - BOBRICK B-686



5
A6.03

ELECTRICAL PANEL ELEVATION

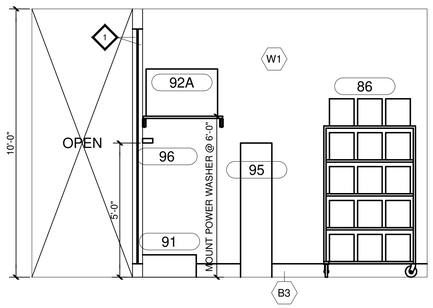
3/8" = 1'-0"



1
A6.02

EXPO / HOP ELEVATION

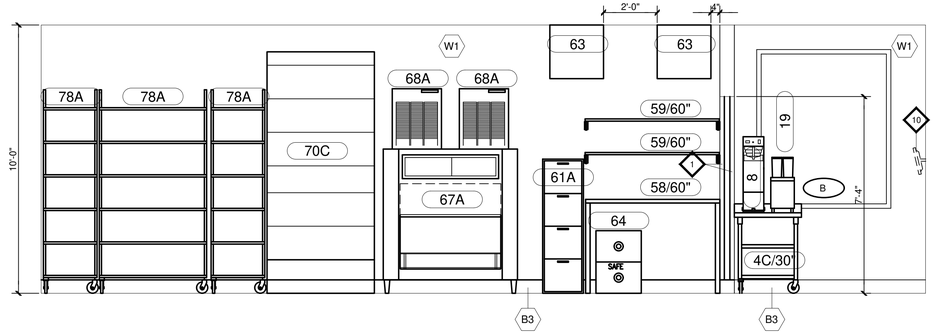
3/8" = 1'-0"



6
A6.02

JANITORIAL ELEVATION

3/8" = 1'-0"



2
A6.02

OFFICE / STORAGE ELEVATION

3/8" = 1'-0"

7
A6.02

3-COMP SINK ELEVATION

3/8" = 1'-0"

3
A6.02

WALK-IN ELEVATION

3/8" = 1'-0"

CONSULTANT:

national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
LOT #3 STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A6.02
INTERIOR ELEVATIONS

WALL FINISH SCHEDULE

SYMBOL	NOT USED	DESCRIPTION	MANUFACTURER	MODEL NUMBER	REMARKS
W1		FIBERGLASS REINFORCED PANEL	MARLITE	S-100 - SMOOTH WHITE	
W2		PAINT	SHERWIN WILLIAMS, INC.	CUSTOM COLOR TO MATCH PMS 2197C	SHEEN: FLAT
W3		STAINLESS STEEL PANEL (NSF)			
W6		PAINT	SHERWIN WILLIAMS, INC.	GRIS SW#7659, SEMI-GLOSS	
W7	X	PAINT	SHERWIN WILLIAMS, INC.	FOLKSTONE SW#6005, SEMI-GLOSS	
W8		PAINT	SHERWIN WILLIAMS, INC.	SONIC CONFIDENCE YELLOW SW#6911, SEMI-GLOSS	PRODUCT #: B66Y01157
T1		6"X36" COLORBODY PORCELAIN TILE	DAL-TILE	FOREST PARK, COLOR: FP95 SUMMERTREE	GROUT: MAPEI - 44 PALE
T5		WALL MURAL / WALL COVERING	MDC INTERIOR SOLUTIONS - CUSTOM DIGITAL PRINT	G.C. TO APPLY PROTECTIVE TOP COAT TO WALLCOVERING AFTER INSTALLATION	PRINT 2" LARGER ALL SIDES. TRIM AS NEEDED DURING INSTALLATION. TOP COAT SOLD SEPARATELY.
B3		4" EPOXY BASE (TROWEL)	STONHARD INC.	UT WITH STONSEAL UT 7 SEALER, COLOR: PEWTER	JASON MACIULA: 214-680-2494

DRAWING LEGEND

GENERAL NOTES

- DO NOT SCALE DRAWINGS

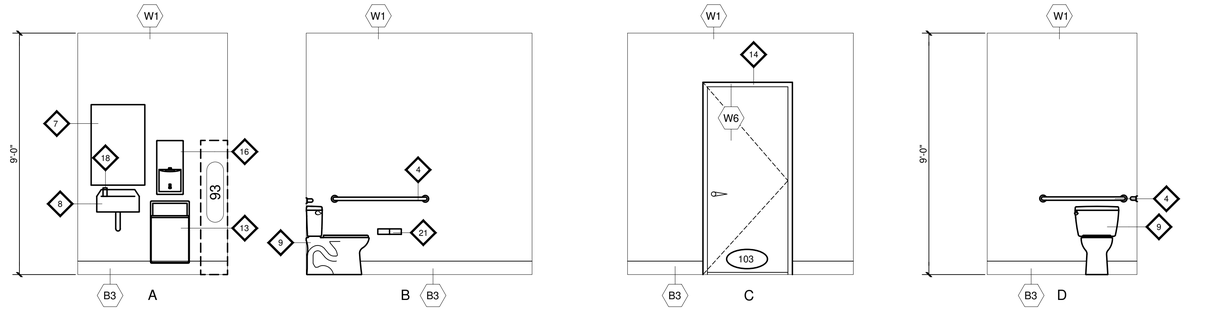
- REFER TO SHEET B1.01 FOR ACCESSIBLE EQUIPMENT DIMENSIONS AND LOCATIONS

- PER CHAPTER 8 & TABLE 803.9 INTERIOR FINISH OR ROOMS & ENCLOSED SPACES - TYPE 'C'

NATIONAL ACCOUNT PRICING
FRED DAVIS 469-964-3246

KEYED NOTES

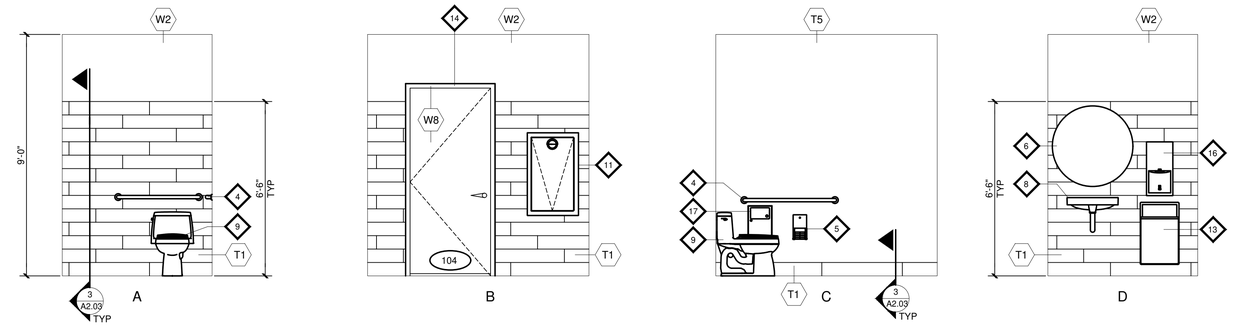
1. STAINLESS STEEL CORNER GUARD - REFER TO 4/A5.02
2. EXHAUST HOOD - REFER TO MECHANNICAL DRAWINGS FOR EXACT LOCATION
3. 24 GA. STAINLESS STEEL WALL PANEL TO EXTEND FROM TOP OF BASE TO 6" ABOVE CEILING (BY GENERAL CONTRACTOR)
4. GRAB BAR (COLOR 304) REFER TO B1.01
5. SURFACE MOUNTED TOILET PAPER DISPENSER - BOBRICK B-4288
6. SHADES OF LIGHT MIRROR (MW17028 36" DIA.) REFER TO B1.01
7. 24"X36" MIRROR - BOBRICK B-290 REFER TO B1.01
8. LAVATORY - REFER TO B1.01 AND PLUMBING SHEETS
9. WATER CLOSET - REFER TO B1.01 AND PLUMBING SHEETS
10. DASHED LINE INDICATES POS EQUIPMENT - REFER TO E2.03 FOR ADDITIONAL INFORMATION. GC TO PROVIDE BLOCKING / BRACING FOR HANGING MONITORS.
11. SURFACE MOUNTED BABY CHANGER - KOALA KARE KB111-SSWM
12. NOT USED
13. RECESSED WASTE RECEPTACLE B-43644 (COLOR 304) - REFER TO B1.01
14. HOLLOW METAL DOOR AND FRAME - PAINT
15. RECESSED ELECTRICAL PANELS - REFER TO ELECTRICAL DRAWINGS
16. RECESSED HAND DRYER B-3725 (COLOR 304) - REFER TO B1.01
17. SURFACE MOUNTED SANITARY NAPKIN RECEPTACLE B-254 (COLOR 304) - REFER TO B1.01
18. COUNTER MOUNTED SOAP DISPENSER - BOBRICK B-85
19. FIXED ROOF LADDER BY MANUFACTURER
20. NOT USED
21. SURFACE MOUNTED TOILET PAPER DISPENSER - BOBRICK B-686



RESTROOM ELEVATIONS

1 A6.03

3/8" = 1'-0"



RESTROOM ELEVATIONS

2 A6.03

3/8" = 1'-0"

CONSULTANT:

national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

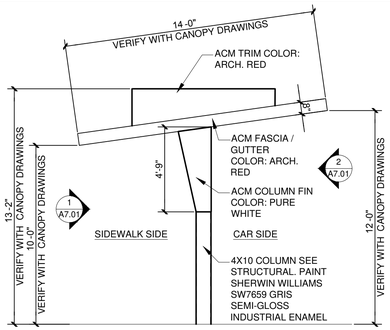
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

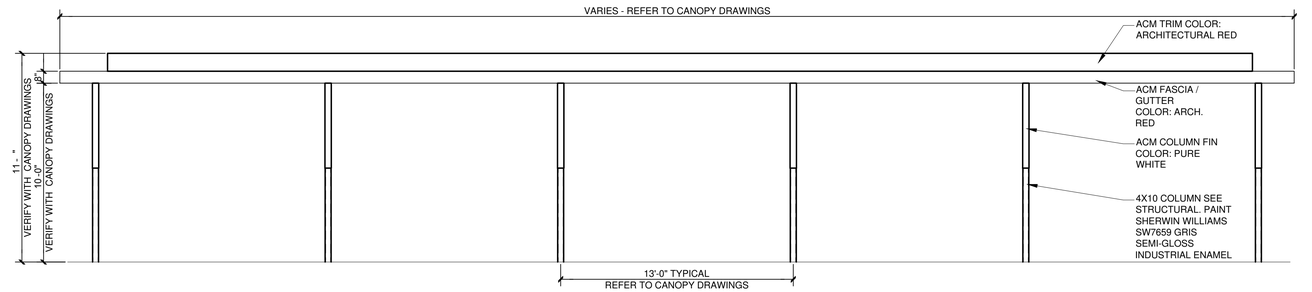
PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A6.03
INTERIOR ELEVATIONS



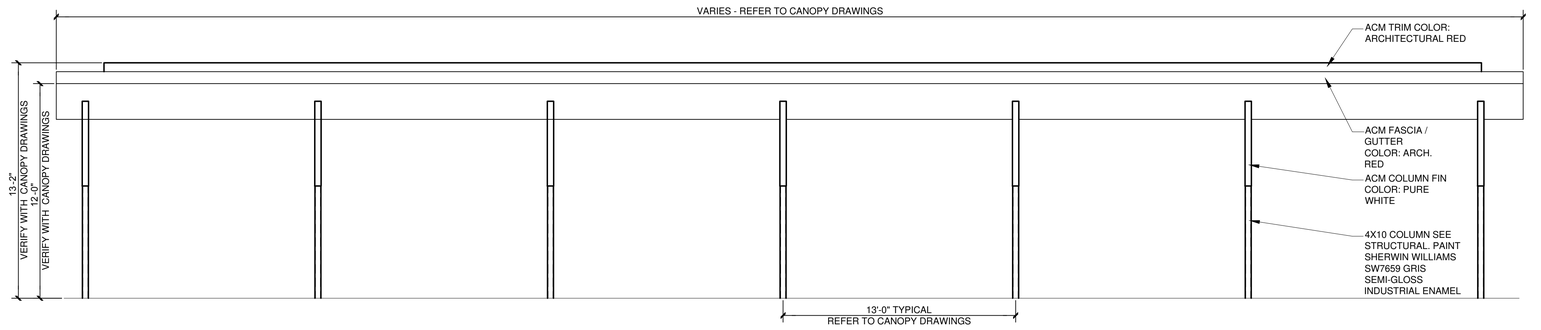
4 A7.01 ANG.REMOTE CANOPY SIDE ELEV.

1/4"=1'-0"



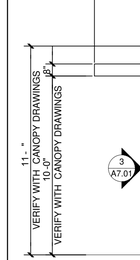
1 A7.01 FLAT REMOTE CANOPY ELEVATION

1/4"=1'-0"



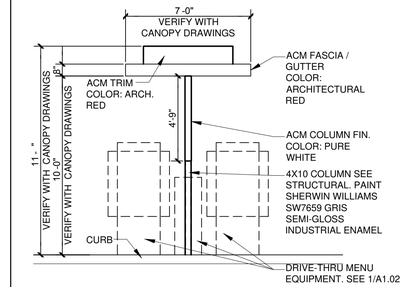
2 A7.01 ANG.REMOTE CANOPY FRONT ELEV.

1/4"=1'-0"



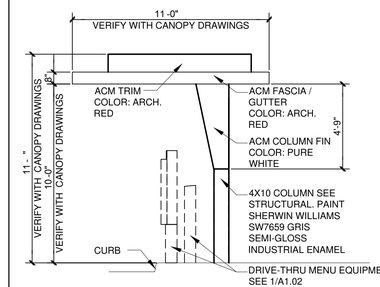
6 A7.01 FLAT REMOTE CANOPY ELEVATION

1/4"=1'-0"



5 A7.01 D.T. CANOPY FRONT ELEV.

1/4"=1'-0"



4 A7.01 DRIVE-THRU CANOPY SIDE ELEV.

1/4"=1'-0"

CONSULTANT:

national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

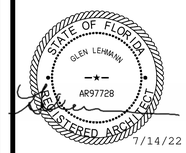
CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:



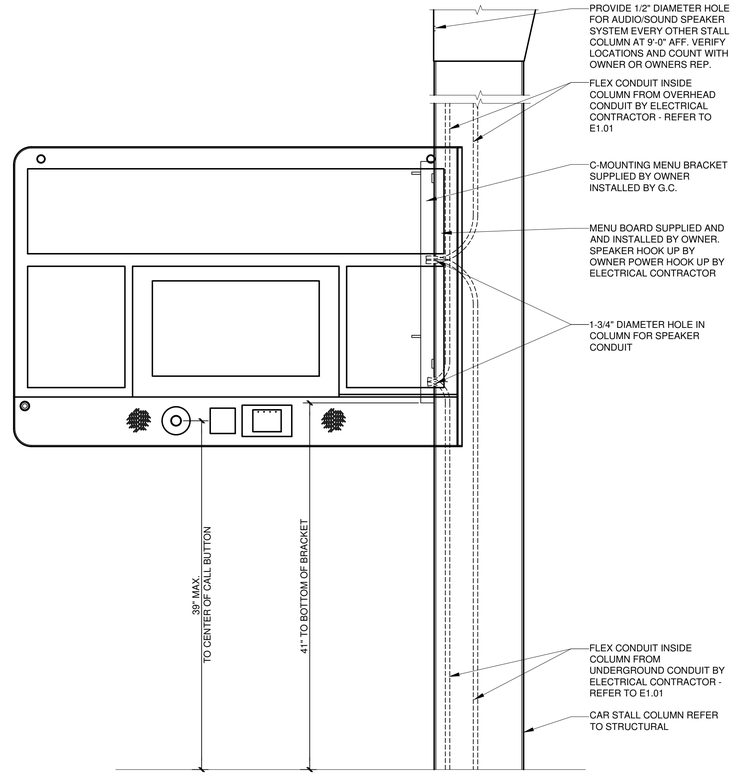
PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

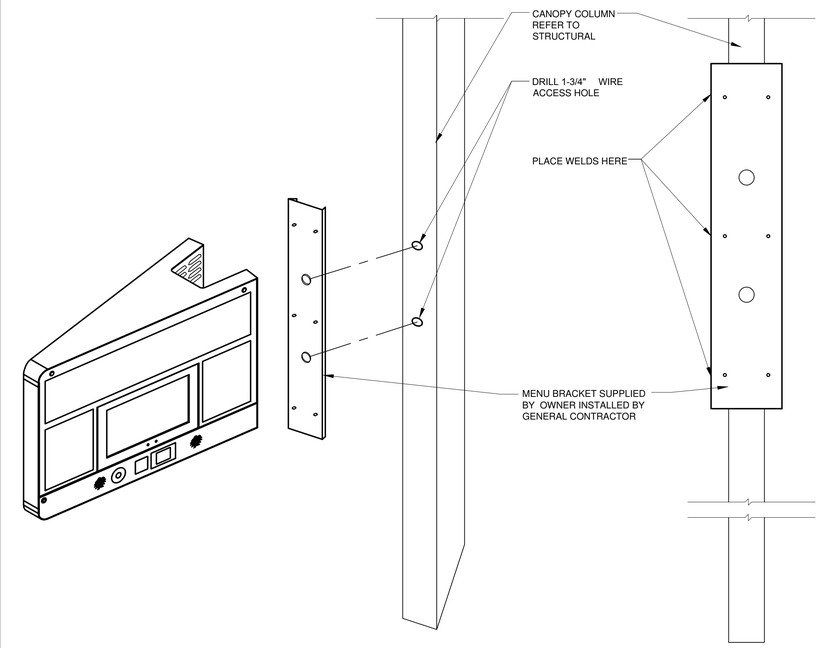
PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A7.01
ARCHITECTURAL CANOPY



1 A7.02 SINGLE MENU BOARD @ COLUMN

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



2 A7.02 MENU BOARD CONNECTION DETAIL

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

CONSULTANT:

national restaurant designers
NRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
A7.02
ARCHITECTURAL CANOPY

GENERAL NOTES

A. BUILDING AND DESIGN CODES:

1. 2020 FLORIDA BUILDING CODE (FBC).
2. ASCE 7-16 MINIMUM DESIGN LOADS BUILDING AND OTHER STRUCTURES.
3. AFPA NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, 2018 EDITION.
4. ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2014.

B. DESIGN LOADS:

ENGINEERING DATA

FLOOR LIVE LOADS: 50 PSF
ROOF LIVE LOAD: 20 PSF
LIVE LOAD REDUCTION ON SUPPORTING ELEMENTS IN ACCORDANCE WITH 2020 FBC.

LOADING FOR MECHANICAL AND ELECTRICAL ROOMS ARE BASED ON THE WEIGHTS OF ASSUMED EQUIPMENT, AS INDICATED ON THE MECHANICAL DRAWINGS (INCLUDING THE WEIGHT OF CONCRETE PADS WHERE INDICATED ON THE MECHANICAL DRAWINGS). ANY CHANGES IN TYPE, SIZE, LOCATION, OR NUMBER OF PIECES OF EQUIPMENT SHOULD BE REPORTED TO THE ENGINEER FOR VERIFICATION OF THE ADEQUACY OF SUPPORTING MEMBERS PRIOR TO PLACEMENT OF EQUIPMENT.

ROOF DEAD LOAD: 18 PSF
DESIGN DEAD LOADS INCLUDE THE WEIGHT OF STRUCTURAL COMPONENTS AND PERMANENT FIXTURES.

GROUND SNOW LOAD: Pg = 0 PSF
FLAT ROOF SNOW LOAD: Pf = 0 PSF
SNOW EXPOSURE FACTOR: Ce = 1.0
SNOW LOAD IMPORTANCE FACTOR: I = 1.0
THERMAL FACTOR: Ct = 1.1

WIND DESIGN DATA:
ULTIMATE DESIGN WIND SPEED (3 SECOND GUST): 120 MPH
WIND EXPOSURE CATEGORY: C
BUILDING CATEGORY: II – ENCLOSED BUILDING
INTERNAL PRESSURE COEFFICIENTS: ±0.18
ALL NEW COMPONENTS AND CLADDING NOT DESIGNED BY THE ENGINEER SHALL BE DESIGNED FOR ASCE 7-16 C&C DESIGN LOADS UNLESS OTHERWISE APPROVED BY THE ENGINEER

EARTHQUAKE DESIGN DATA:
SEISMIC IMPORTANCE FACTOR, I: 1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS: S_S = 0.086, S_1 = 0.081
SITE CLASS: C
SPECTRAL RESPONSE COEFFICIENTS – S_{DS} = 0.092, S_{D1} = 0.081
SEISMIC DESIGN CATEGORY: B
BASIC SEISMIC-FORCE-RESISTING SYSTEM: BEARING WALL SYSTEM, LIGHT FRAMED WALLS WITH SHEAR PANELS
DESIGN BASE SHEAR: V = 1.0 kip
SEISMIC RESPONSE COEFFICIENT: Cs = 0.01
RESPONSE MODIFICATION FACTOR: R = 6.5
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE METHOD

FLOOD HAZARD INFORMATION: THIS BUILDING IS NOT DESIGNED FOR FLOOD LOADS.

C. GENERAL REQUIREMENTS:

1. SPECIFICATIONS ARE PART OF THE CONSTRUCTION DOCUMENTS AND MUST BE USED IN CONJUNCTION WITH THE DRAWINGS.
2. VERIFY THE LOCATION OF CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS, PADS, AND WALL OPENINGS.
3. DO NOT SCALE DRAWINGS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.
4. DETAILS LABELED "TYPICAL DETAILS" ON DRAWINGS APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH DETAILS APPLY WHETHER OR NOT DETAILS ARE REFERENCED AT EACH LOCATION. NOTIFY ENGINEER OF CONFLICTS REGARDING APPLICABILITY OF "TYPICAL DETAILS".
5. DO NOT STORE OR STACK CONSTRUCTION MATERIALS ON POURED OR ERECTED FLOORS/ROOFS IN EXCESS OF 80 PERCENT OF LIVE LOAD. GENERAL CONTRACTOR WILL ENSURE THAT ALL SUB-CONTRACTORS ARE INFORMED OF LOADING RESTRICTIONS. AVOID IMPACT WHEN PLACING MATERIALS ON POURED OR ERECTED FLOORS OR ROOF.
6. THE CONTRACT STRUCTURAL DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION. PROVIDE ALL MEASURES REQUIRED TO PROTECT THE STRUCTURE, WORKMEN, AND OTHER PERSONS DURING CONSTRUCTION, INCLUDING BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR THE BUILDING, FORMS AND SCAFFOLDING, SHORING OF RETAINING WALLS AND OTHER TEMPORARY SUPPORTS AS REQUIRED.
7. PRINCIPAL OPENINGS THROUGH THE FRAMING ARE SHOWN ON DRAWINGS. EXAMINE THE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR THE REQUIRED OPENINGS AND PROVIDE FOR REQUIRED OPENINGS WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT, VERIFY SIZE AND LOCATION OF OPENINGS WITH THE MECHANICAL CONTRACTOR. DEVIATIONS FROM THE OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS MUST BE APPROVED PRIOR TO IMPLEMENTING THE CHANGES.

FOUNDATION NOTES

1. FLOOR DRAIN GRATES SHALL BE FLUSH WITH FINISHED FLOOR ALL FLOOR DRAINS TO BE 1/2" BELOW FINISHED FLOOR.
2. SLOPE FLOOR 1/16" PER FOOT MIN. AT ALL FLOOR DRAINS AND FLOOR SINKS AS SHOWN.
3. ALL SIMPSON HOLD DOWNS TO BE STAINLESS STEEL OR Z-MAX G185 HOT DIPPED GALVANIZED COATING.
4. UNLESS OTHEREMSE INDICATED BY SHEAR SCHEDULE, 1/2" X 10" SILL PLATE ANCHOR BOLTS WITH .229"x3"x3" PLATE WASHERS ARE TO PROVIDED AT 48" AT ALL SILL PLATES. ALL SILL PLATE ANCHOR BOLTS TO BE STAINLESS STEEL OR G185 HOT DIPPED GALVANIZED.
5. ALL STEEL IN CONTACT WITH TREATED WOOD TO BE STAINLESS STEEL OR G185 HOT DIPPED GALVANIZED.

SOIL PREPARATION NOTES

1. THE FOUNDATION DESIGN IS BASED ON AN ALLOWABLE BEARING PRESSURE OF 2,000 PSF AS PROVIDED WITHIN THE GEOTECHNICAL REPORT #1946178, DATED APRIL 20, 2022, BY UNIVERSAL ENGINEERING SERVICES, LLC, 4475 SW 35TH TERRACE, GAINESVILLE, FL, 32608, (352) 372-3392.
2. PROVIDE POSITIVE DRAINAGE FOR ALL TRENCHES DURING CONSTRUCTION. DO NOT ALLOW ANY PONDING OF WATER DURING CONSTRUCTION.
3. THE SOIL BENEATH THE BUILDING AND 5 FEET AROUND THE PERIMETER SHALL BE TREATED AS FOLLOWS:
   A. STRIP THE AREA OF ALL VEGETATION
   B. PERFORM ANY CUT OPERATIONS. OVER-EXCAVATE TO A MINIMUM OF 4 FEET BELOW BOTTOM OF SLAB AND 2 FEET BELOW BOTTOM OF FOOTING.
   C. THE NEXT 9 INCHES SHALL BE THOROUGHLY SCARIFIED, WITH WATER ADDED TO RAISE THE MOISTURE CONTENT TO WITHIN 2 PERCENTAGE POINTS OF OPTIMUM AND RE-COMPACTED TO A DENSITY IN THE RANGE OF 95% TO 100% OF STANDARD PROCTOR. THE FIRST LIFT SHALL BE PLACED ON THE COMPACTED SUBGRADE WITHIN 24 HOURS OF COMPLETING THE COMPACTION.
   D. THE FILL REQUIRED TO RAISE THE BUILDING TO BENEATH THE FLOOR SLAB SHALL BE STRUCTURAL FILL. THE FILL SHALL CONSIST OF EITHER APPROVED STRUCTURAL FILL MATERIAL OR APPROVED IMPORT/BORROW FILL MATERIAL WHICH IS FREE FROM ORGANIC MATTER AND DEBRIS. STRUCTURAL FILL SHOULD HAVE A PLASTICITY INDEX LESS THAN 10, A LIQUID LIMIT LESS THAN 30, LESS THAN 50 PERCENT FINES, AND A SWELL INDEX LESS THAN 1.5% AT AN INUNDATION PRESSURE OF 150 PSF. PLACE THE FILL IN 8 INCH LIFTS AND COMPACT TO AT LEAST 95% OF THE STANDARD PROCTOR.
   E. EACH LIFT SHALL BE TESTED FOR MOISTURE CONTENT AND IN PLACE DENSITY AT A RATE OF ONE TEST PER 3,000 SQUARE FEET (MIN OF THREE PER LIFT).

SLAB-ON-GRADE NOTES

A. SLAB ON GRADE PER 1/S2.01.

B. THE SLAB SHALL BE UNDERLAIN BY A MINIMUM 10-MIL "STEGO WRAP" CLASS A VAPOR RETARDER BY STEGO INDUSTRIES OR VAPOR BLOCK 10 BY RAVEN INDUSTRIES TO BE PLACED BELOW THE FLOOR SLAB WHERE REQUIRED TO PROTECT MOISTURE-SENSITIVE FLOOR COVERINGS (I.E. TILE, OR CARPET, ETC.). THE SHEETS OF THE VAPOR RETARDER MATERIAL SHALL BE EVALUATED FOR HOLES AND/OR PUNCTURES PRIOR TO PLACEMENT AND THE EDGES OVERLAPPED AND TAPED WITH STEGO OR RAVEN TAPE. IF MATERIALS UNDERLYING THE SYNTHETIC SHEET CONTAIN SHARP, ANGULAR PARTICLES, A LAYER OF SAND APPROXIMATELY TWO INCHES THICK OR A GEOTEXTILE SHALL BE PROVIDED TO PROTECT IT FROM PUNCTURE.

REINFORCING STEEL NOTES

A. PROVIDE DETAILING, FABRICATION, AND INSTALLATION OF REINFORCING AND ACCESSORIES IN ACCORDANCE WITH ACI 315 AND ACI 318.

B. PROVIDE NEW BILLET STEEL REINFORCING BARS IN ACCORDANCE WITH ASTM A 615, GRADE 60.

C. PROVIDE ANCHOR BOLTS CONFORMING TO THE STANDARDS OF ASTM F1554 GR 36 UNLESS OTHERWISE NOTED.

D. COORDINATE PLACEMENT OF CAST-IN-PLACE EMBEDMENTS AND ANCHOR BOLTS. SET ANCHOR BOLTS WITH A TEMPLATE. SECURELY ATTACH EMBEDDED ITEMS TO FORMWORK OR REINFORCING.

E. MINIMUM SPLICE LENGTH SHALL BE 30 BAR DIAMETERS UNLESS NOTED OTHERWISE ON THE PLANS OR STANDARD DETAILS. PROVIDE STANDARD 90-DEGREE HOOKS IN ACCORDANCE WITH ACI 318, UNLESS OTHERWISE NOTED. STAGGER SPLICES UNLESS SPECIFICALLY NOTED.

F. MAINTAIN THE FOLLOWING CONCRETE COVERAGE FOR REINFORCING STEEL UNLESS OTHERWISE NOTED:

1.	CONCRETE CAST AGAINST EARTH:	3"
2.	CONCRETE EXPOSED TO WEATHER:	
	a. NO. 6 AND LARGER	2"
	b. NO. 5 AND SMALLER	1 1/2"
3.	ABOVE SLAB ON GRADE REINFORCEMENT:	1 1/2"

G. DO NOT WELD OR BEND REINFORCEMENT IN THE FIELD UNLESS SPECIFICALLY SHOWN OR APPROVED BY STRUCTURAL ENGINEER.

H. WHERE REQUIRED, PROVIDE DOWELS TO MATCH SIZE AND SPACING OF MAIN REINFORCING.

I. PROVIDE CONTINUOUS HORIZONTAL WALL/GRADE BEAM REINFORCEMENT WITH 90-DEGREE BENDS AND EXTENSIONS AT CORNERS AND INTERSECTIONS AS SHOWN ON TYPICAL BAR PLACING DETAILS.

J. PROVIDE BAR SUPPORT ACCESSORIES IN ACCORDANCE WITH THE LATEST ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES. SUPPORT BEAM REINFORCING ON BEAM BOLSTERS SPACED NOT MORE THAN 4 FEET ON CENTER.

K. PROVIDE BAR SUPPORTS WITH PLASTIC COATED LEGS OR HOT DIP GALVANIZING AFTER FABRICATION FOR CONCRETE EXPOSED TO VIEW. PROVIDE STAINLESS STEEL BAR SUPPORTS FOR CONCRETE TO RECEIVE A SANDBLAST FINISH.

CONCRETE NOTES

A. PROVIDE DIFFERENT CLASSES OF CONCRETE AS SHOWN BELOW. PROVIDE BATCH MIXING, TRANSPORTATION, PLACING AND CURING OF CONCRETE IN ACCORDANCE WITH RECOMMENDATIONS OF ACI 301 AND ACI 318. USE TYPE I PORTLAND CEMENT (ASTM C150) UNLESS OTHERWISE NOTED. PROVIDE ADMIXTURES AND SPECIAL REQUIREMENTS AS SPECIFIED.

1. NORMAL WEIGHT(150 PCF), $f'c$ = 3,500 PSI CONCRETE AT 28 DAYS (MINIMUM OF 5 SACKS OF PORTLAND CONCRETE PER CUBIC YARD).
   a. ALL CONCRETE GRADE SUPPORTED SLABS: MID TO HIGH RANGE WATER REDUCING AGENT.
   b. GRADE BEAMS AND FOOTINGS: 3-5% AIR CONTENT USING AIR ENTRAINING AGENT AS REQUIRED.

B. UNLESS SPECIFIED BELOW, CONCRETE MUST REACH THE FOLLOWING PERCENTAGES OF ITS 28 DAY COMPRESSIVE STRENGTH ($f'c$) BEFORE FORMS MAY BE REMOVED:

C. REFERENCE THE APPROPRIATE DISCIPLINE DRAWINGS FOR SUBSLAB PIPING, FLOOR DRAINS AND SLAB AND WALL PENETRATIONS.

EPOXY ANCHORED DOWELS AND BOLTS

A. REFERENCE DRAWINGS FOR EPOXY ANCHORING SYSTEM.

B. INSTALL BOLTS AND DOWELS IN ACCORDANCE WITH CURRENT ICBO REPORT FOR THE BOLT, AND RECOMMENDATIONS OF THE MANUFACTURER. FOLLOW MANUFACTURER'S INSTRUCTIONS EXPLICITLY.

C. INSTALL BOLTS AND DOWELS PERPENDICULAR TO THE FACE OF CONCRETE, UNLESS OTHERWISE INDICATED IN THE DRAWINGS.

D. DIAMETER OF DRILLED HOLES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DO NOT REDIRECT HOLES ALONG LENGTH OF BOLT.

E. DRILL HOLES IN CONTINUOUS OPERATION. BLOW DUST FROM THE HOLE USING COMPRESSED AIR.

F. FILL ABANDONED HOLES WITH EPOXY GROUT.

G. INSTALLATION OF EPOXY ANCHORED DOWELS AND BOLTS SHALL BE CONTINUOUSLY INSPECTED BY THE TESTING LABORATORY TO ENSURE THAT HOLES ARE OF THE PROPER DIAMETER AND LENGTH, ARE PROPERLY CLEANED, AND THAT BOLTS ARE INSTALLED CORRECTLY.

H. UNLESS NOTED OTHERWISE EPOXY ANCHORS, REBAR, OR THREADED RODS, SHALL BE HILTI HIT-HY 200 ANCHORS. INSTALL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

STRUCTURAL WOOD NOTES

A. WOOD FRAMING:

1. ALL WOOD STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.
2. ALL DIMENSIONAL LUMBER SHALL BE EITHER DOUGLAS FIR OR SOUTHERN YELLOW PINE STAMPED BY A MEMBER OF THE WWPA AND KILN DRIED TO 19% MAXIMUM MOISTURE CONTENT. THE GRADES OF LUMBER TO BE USED ARE AS FOLLOWS:

   a. STUDS AND BLOCKING STUD, NO. 2
   b. JOISTS, RAFTERS AND HEADERS, NO. 1
   c. LEDGERS, NO. 2
   d. BEAMS AND STRINGERS, NO. 1
   e. COLUMNS AND POSTS, NO. 1

3. PRESSURE TREAT ALL WOOD PRODUCTS IN DIRECT CONTACT WITH THE FOUNDATION PER SPECIFICATION.
4. JOISTS, RAFTERS AND BEAMS SHALL NOT BE NOTCHED, EXCEPT WHERE SHOWN IN DETAILS. OBTAIN STRUCTURAL ENGINEER'S APPROVAL FOR ANY HOLES THROUGH OR NOTCHES IN THE TOP OF HORIZONTAL MEMBERS.
5. SILL PLATES SHALL BE 2x (STUD WIDTH) TREATED D.F., UNO. SILL PLATES AT ALL SHEAR WALLS SHALL BE FASTENED TO THE FOUNDATION AS SCHEDULED. SILL PLATES AT EXTERIOR WALLS SHALL BE FASTENED TO THE FOUNDATION WITH 5/8" DIAMETER x 10" LONG ANCHOR BOLTS SPACED AT 48" ON CENTER. LOCATE ANCHOR BOLTS A MAXIMUM OF 9" FROM EACH END OF PLATE. SILL PLATES AT INTERIOR WALLS SHALL BE FASTENED TO THE FOUNDATION WITH ONE 5/8" DIAMETER x 7" LONG ANCHOR BOLT AT 48" ON CENTER.
6. ALL HARDWARE USED IN THE WORK SHALL BE SIMPSON STRONG-TIE, KC METALS, SILVER OR OTHER HARDWARE OF EQUAL CAPACITY AND HAVING ICBO APPROVAL.
7. A DOUBLE PLATE MADE OF TWO MEMBERS OF THE SAME WIDTH AS THE STUDS SHALL BE PLACED AT THE TOP OF EVERY BEARING PARTITION OR EXTERIOR WALL. SUCH DOUBLE PLATES SHALL BE LAPPED AT CORNER, AND JOINTS IN UPPER AND LOWER MEMBERS SHALL BE AT LEAST 4 FEET APART, EXCEPT AT CORNERS.
8. EXTERIOR WALLS AND BEARING WALLS SHALL BE FRAMED, UNLESS NOTES OTHERWISE, AS FOLLOWS:

MEMBER SIZE AND SPACING	LOADING
a. 2x6 STUDS AT 16" ON CENTER W/ BLOCKING 8'-0" O.C. MIN.	ROOF.

9. ALL NAILING SHALL BE DONE IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS OF THE DESIGN BUILDING CODE, EXCEPT AS OTHERWISE SHOWN AND SHALL BE DONE WITH COMMON WIRE NAILS UNLESS ANOTHER TYPE OF NAIL IS ALLOWED BY THE DESIGN BUILDING CODE. (RE: NAILING SCHEDULE)
10. BOLTS SHALL BE UNFINISHED BOLTS CONFORMING TO ASTM A307. BOLTS HOLES THROUGH THE WOOD SHALL BE DRILLED NO MORE THAN 1/16" GREATER THAN BOLT DIAMETER.
11. ALL STRUCTURAL SHEATHING SHALL BE APA RATED SHEATHING. UNLESS NOTED OTHERWISE, EXTERIOR WALL CONSTRUCTION SHALL CONSIST OF 15/32" SHEATHING FULL HEIGHT. PROVIDE 8d COMMON NAILS AT 6" CENTER TO CENTER AT SUPPORT EDGES, AND AT 12" CENTER TO CENTER AT INTERMEDIATE STUDS, EXCEPT AT DESIGNATED SHEAR WALLS. PROVIDE SOLID BLOCKING AT ALL PANEL EDGES TO RECEIVE EDGE NAILING.
12. SOLID BLOCKING AT EDGES REQUIRED FOR ALL SHEARWALLS AND ROOF DIAPHRAMS.

B. GLUE LAMINATED MEMBERS:

1. ALL GLUE LAMINATED MEMBERS SHALL CONFORM TO THE APPLICABLE CURRENT REQUIREMENTS OF AITC 117 SPECIFICATION AND ALL APPROVED SUPPLEMENTS THEREOF. FABRICATION SHALL BE PERFORMED BY AN "APPROVED FABRICATOR" PER REQUIREMENTS OF GOVERNING CODE, WITH WORK AITC FACTORY INSPECTED, CERTIFIED AND GRADE STAMPED.
2. ALL MEMBERS SHALL MEET OR EXCEED THE FOLLOWING STRESS VALUES:

   24F-V4 DOUGLAS FIR
   a. F_{bxx} (TENSION ZONE IN TENSION) 2400 PSI
   b. F_{bxx} (COMPRESSION ZONE IN TENSION) 1450 PSI
   c. F_c perp. (TENSION FACE) 650 PSI
   d. F_c perp. (COMPRESSION FACE) 650 PSI
   e. F_{vxx} (HORIZONTAL SHEAR) 240 PSI
   f. E (MODULUS OF ELASTICITY) 1800000 PSI

3. LAMINATED MEMBERS SHALL BE SIZED TO DIMENSIONS SHOWN ON DRAWINGS WITH BEAMS CUT TO DEPTHS WITHIN AN APPROVED TOLERANCE ± 1/8". ENDS ARE TO BE SEALED AND INDIVIDUALLY WRAPPED.
4. ALL LAMINATED BEAMS SHALL BE DELIVERED WITH MOISTURE CONTENT WHICH IN IS IN COMPLIANCE WITH THE AITC SPECIFICATIONS CONCERNING THAT SPECIES.
5. ALL LAMINATED BEAMS SHALL BE CAPABLE OF DEVELOPING THE FULL SPECIFIED DESIGN STRESSES, I.D. BLEMISHES, IMPERFECTIONS, SPLITS, ETC., SHALL NOT EXCEED THAT WHICH HAS BEEN ACCOUNTED FOR IN ESTABLISHING THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION ALLOWABLE DESIGN STRESSES.
6. ANY GLUE LAMINATED MEMBER WHICH DOES NOT MEET THE ABOVE DESIGN REQUIREMENTS SHALL BE REJECTED. USE OF THE FEELER GAGE TEST METHOD OF MEASURING DEPTHS OF SPLITS, ETC., WILL NOT BE PERMITTED FOR THE PURPOSE OF DETERMINING MEMBERS ACCEPTABILITY, BY MAY BE UTILIZED FOR REJECTION.

TYPICAL LUMBER NAILING SCHEDULE

NAILING SHOWN IS TYPICAL EXCEPT AS NOTED ON PLANS. USE COMMON NAILS.

1.	JOIST TO SILL OR GIRDER, TOENAILS	3-8d
2.	BRIDGING TO JOIST, TOE NAIL EACH END	2-8d
3.	1"x6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8d
4.	WIDER THAN 1"x6" SUBFLOOR TO EACH JOIST, FACE NAIL	3-8d
5.	2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	2-16d
6.	SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d AT 16" O.C.
7.	TOP PLATE TO STUD, END NAIL	2-16d
8.	STUD TO SOLE PLATE	2-16d END NAILS OR 4-8d TOE NAILS
9.	DOUBLE STUDS, FACE NAIL	16d AT 12" STAGGERED
10.	DOUBLED TOP PLATES, FACE NAIL	16d AT 16" O.C.
11.	TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL	2-16d
12.	CONTINUOUS HEADER, TWO PIECES	16d AT 16" O.C. ALONG EA. EDGE
13.	CEILING JOISTS TO PLATE, TOE NAIL	3-8d
14.	CONTINUOUS HEADER TO STUD, TOE NAIL	4-8d
15.	CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	3-16d
16.	CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3-16d
17.	RAFTER TO PLATE, TOENAIL	3-8d
18.	1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d
19.	1"x8" SHEATHING OR LESS TO EACH BEARING, FACE NAIL	2-8d
20.	WIDER THAN 1"x8" SHEATHING TO EACH BEARING, FACE NAIL	3-8d
21.	BUILT-UP CORNER STUDS	16d AT 24" O.C.
22.	BUILT-UP GIRDER AND BEAMS	20d AT 32" O.C. AT TOP & BOTTOM 2-20d AT ENDS AND AT EA. SPLICE
23.	2" PLANKS	2-16d AT EACH BEARING

SPECIAL INSPECTIONS NOTES

A. THE OWNER WILL EMPLOY THE SERVICES OF ONE OR MORE SPECIAL INSPECTORS TO PROVIDE SPECIAL INSPECTIONS DURING CONSTRUCTION FOR THE ITEMS IN THE SPECIAL INSPECTION TABLE BELOW IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2015 EDITION. NOT APPLICABLE TO SLABS ON GROUND OR SITE CONCRETE FULLY SUPPORTED ON EARTH.

B. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

C. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

1. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED FOR CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE INSPECTOR MAY NOT ALTER, MODIFY, ENLARGE OR WAIVE ANY OF THE REQUIREMENTS OF THE DOCUMENTS.
2. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE PROFESSIONAL OF RECORD, AND THE CONTRACTOR. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
3. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

D. OBSERVATION BY STRUCTURAL ENGINEER OF RECORD IS NOT REQUIRED. IF STRUCTURAL OBSERVATION IS REQUIRED BY THE BUILDING AUTHORITY IT SHALL BE AS DIRECTED BY THE OWNER TO COMPLY WITH THE REQUIREMENTS OF THE GOVERNING BUILDING CODE.

E. THE FABRICATION OF TRUSSES AND OTHER ASSEMBLIES CONSTRUCTED USING WOOD AND METAL MEMBERS, OR USING LIGHT METAL PLATE CONNECTORS, SHALL BE CONTINUOUSLY INSPECTED BY A QUALIFIED INSPECTOR APPROVED BY THE ENFORCEMENT AGENCY AND PAID FOR BY THE CONTRACTOR. THE INSPECTOR SHALL FURNISH THE ARCHITECT, STRUCTURAL ENGINEER AND THE ENFORCEMENT AGENCY WITH A REPORT THAT THE LUMBER SPECIES, GRADES AND MOISTURE CONTENT, TYPE OF GLUE, TEMPERATURE AND CURING PROCESS, TYPE OF METAL MEMBERS AND METAL CONNECTORS, AND THE WORKMANSHIP, CONFORM IN EVERY MATERIAL RESPECT WITH THE DULY APPROVED PLANS AND SPECIFICATIONS. EACH INSPECTED TRUSS SHALL BE STAMPED BY THE INSPECTOR WITH AN IDENTIFYING MARK.

F. INSPECTION OF FABRICATORS IS NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS TO THE BUILDING OFFICIAL AND TO THE ENGINEER OF RECORD.

G. SPECIAL INSPECTIONS SHALL BE PROVIDED IN ACCORDANCE WITH THE TABLE BELOW:

SPECIAL INSPECTION	FREQ.	REFERENCED STANDARD
SOILS:		
1. PRIOR TO THE PLACEMENT OF PREPARED FILLS, VERIFY THAT THE SITE HAS BEEN PREPARED IN ACCORDANCE WITH THE FOUNDATION NOTES AND GEOTECHNICAL REPORT.	---	GEOTECHNICAL ENGINEERING REPORT; IBC 1704.7
2. FILL PLACEMENT 12" THICK OR GREATER – VERIFY THAT THE MATERIAL BEING USED AND MAXIMUM LIFT THICKNESS COMPLY WITH THE FOUNDATION NOTES AND GEOTECHNICAL REPORT.	CONTINUOUS	
3. VERIFY, AT THE FREQUENCY SPECIFIED IN THE FOUNDAITON NOTES AND GEOTECHNICAL REPORT, THAT THE IN-PLACE DRY DENSITY OF COMPACTEDFILL COMPLIES WITH THE FOUNDATION NOTES AND GEOTECHNICAL REPORT.	---	
CONCRETE:		
1. INSPECTION OF REINFORCING STEEL, SIZE AND PLACEMENT	PERIODIC	ACI 318: 3.5, 7.1–7.7
2. INSPECT BOLTS TO BE INSTALLED IN CONCRETE, PRIOR TO AND DURING PLACEMENT OF CONCRETE.	PERIODIC	IBC 1912.5
3. VERIFYING USE OF REQUIRED DESIGN MIX	PERIODIC	ACI 318: Ch. 4, 5.2–5.4
4. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP, TEMP, AND AIR CONTENT TESTS.	CONTINUOUS	ASTM C 172; ASTM C 31; ACI 318: 5.6, 5.8
5. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	CONTINUOUS	ACI 318: 5.9, 5.10
ADHESIVE ANCHORS/REINF.:		
1. DURING PLACEMENT OF ADHESIVE ANCHORS OR REINFORCEMENT EMBEDDED WITH ADHESIVE (AS SPECIFIED ON THE CONSTRUCTION DOCUMENTS) IN MASONRY AND CONCRETE: a. SIZE AND EMBEDMENT OF ANCHORS/REINF. b. ANCHORS/REINF. INSTALLED PER MANUFACTURERS RECOMMENDATIONS.	CONTINUOUS CONTINUOUS	MANUFACTURERS INSTALLATION INSTRUCTIONS
STRUCTURAL WOOD:		
1. INSPECTION OF NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE SEISMIC-FORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, SHEAR PANELS AND HOLD-DOWNS, WHERE THE FASTENERS SPACING OF THE SHEATHING IS MORE THAN 4" O.C.	PERIODIC	IBC 1707.3

BRITT PETERS AND ASSOCIATES INC
consulting engineers
999 Waterside Drive
Suite 2202
Norfolk, VA 23510
(757) 965-5710
BPA Job No. 220603
FL COA #27497

CONSULTANT:
national restaurant designers
NRD ARCHITECTS & ENGINEERS
7208 ACC Blvd. 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

07/13/22

PROJECT NO.: 22161
DRAWN BY: DS
CHECKED BY: RC

ISSUE:	DATE:
DISTRIBUTION SET	2022-06-24

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
S1.01
ENERAL NOTES

WOOD SHEARWALL SCHEDULE

MARK	PANEL GRADE	THICKNESS (in) MIN. NOMINAL PANEL	IN FRAMING (in) MIN. NAIL PENETRATION	NAIL SIZE	NAIL SPACING		ANCHOR BOLTS SILL PLATE	END POSTS	HOLDOWNS AT THE ENDS					NOTES
					PANEL EDGES	INTERMEDIATE FRAMING			TYPE	ANCHOR BOLT	ANCHOR BOLT VALUES (inches)			
											EMBED	EDGE DISTANCE	END DISTANCE	
SW1	C-C, C-D APA RATED SHEATHING ON INTERIOR AND EXTERIOR FACE OF WALL	15/32	1-1/2	10d	4	12	2x SILL 5/8" DIA. BOLT @ 12" OC	6x6	SIMPSON HDU19-SDS2.5 OR EQUIVALENT	1 1/4" DIA.	12	12	12	
SW2	C-C, C-D APA RATED SHEATHING ON EXTERIOR FACE OF WALL	15/32	1-1/2	10d	6	12	2x SILL 5/8" DIA. BOLT @ 32" OC	(3) 2x6	SIMPSON HDU8-SDS2.5 OR EQUIVALENT	7/8" DIA.	8	2 3/4	7	
SW3	C-C, C-D APA RATED SHEATHING ON EXTERIOR FACE OF WALL	15/32	1-3/8	10d	4	12	2x SILL 5/8" DIA. BOLT @ 32" OC	(3) 2x6	SIMPSON HDU11-SDS2.5 OR EQUIVALENT	1" DIA.	12	2 3/4	7	

SHEARWALL SCHEDULE NOTES

1. REFER TO 2/S2.01 FOR TYPICAL SHEARWALL ELEVATION.
2. ALL PANEL EDGES SHALL BE BACKED WITH 2 INCH NOMINAL OR WIDER FRAMING.
3. PANELS INSTALLED ON 2X6 STUDS SPACED 16 INCHES ON CENTER.
4. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6 INCHES ON CENTER ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3 INCHES NOMINAL OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED.
5. WHERE 10d NAILS ARE SPACED 3 INCHES OR LESS FRAMING AT ADJOINING PANEL EDGES SHALL BE 3 INCH NOMINAL OR WIDER AND STAGGERED.
6. WHERE SILL PLATE ANCHOR BOLTS ARE MISSING OR MISLOCATED, USE HILTI HIT-HY 200 OR EQUIVALENT WITH 5 INCHES MIN. EMBEDMENT WITH THREADED ROD OF THE SAME SIZE AND SPACING AS INDICATED.
7. IN ADDITION TO THE ON CENTER SPACING OF ANCHOR BOLTS, THERE SHALL BE AT LEAST (2) ANCHOR BOLTS PER PIECE OF SILL PLATE WITH A MINIMUM OF (1) ANCHOR BOLT LOCATED NOT GREATER THAN 7 INCHES, AND LESS THAN 4-1/2 INCHES OF EACH PIECE END.
8. MINIMUM CONCRETE SIDE EDGE DISTANCE FOR BOTH SILL PLATE AND HOLDOWN ANCHOR BOLTS IS 2½ INCHES AND MINIMUM CONCRETE END EDGE DISTANCE FOR HOLDOWN ANCHOR BOLTS IS 7 INCHES, UNO.
9. HOLDOWNS SHALL BE INSTALLED PER MANUFACTURER INSTALLATION REQUIREMENTS.
10. HOLES ARE NOT ALLOWED IN SHEARWALLS, UNLESS APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION. IF A HOLE IS APPROVED, IT IS TO BE ENTIRELY WITHIN ONE SHEET. PROVIDE BLOCKING AND EDGE NAILING AROUND OPENING.
11. MIN. WIDTH OF SHEATHING SHALL BE 2 FT.
12. NAILS SHALL BE COMMON NAILS.

PLAN NOTES

1. ▬ INDICATES 6" WOOD SHEAR WALLS.
2. REFER TO SHEET S1.01 FOR GENERAL NOTES.
3. REFER TO PLUMBING DRAWINGS FOR ALL FLOOR DRAIN, TRENCH DRAIN AND MOP SINK SIZES AND LOCATIONS.
4. FLOOR DRAIN GRATES SHALL BE FLUSH WITH FINISHED FLOOR.
5. SLOPE FLOOR 1/16" PER FOOT MIN. AT ALL FLOOR DRAINS AS SHOWN & NOT TO EXCEED 1/4" PER FT.
6. ALL SIMPSON HOLD DOWNS TO BE STAINLESS STEEL OR Z-MAX G185 HOT DIPPED GALVANIZED COATING.
7. ALL SILL PLATE ANCHOR BOLTS TO BE STAINLESS STEEL OR G185 HOT DIPPED GALVANIZED.
8. ALL STEEL IN CONTACT WITH TREATED WOOD TO BE STAINLESS STEEL OR G185 HOT DIPPED GALVANIZED.
9. REFER TO GENERAL NOTES FOR TYPICAL WALL FRAMING AND ATTACHMENT.
10. REFER TO GENERAL NOTES FOR TYPICAL SILL PLATE & ANCHOR BOLT REQUIREMENTS.
11. REFER TO 02/S3.01 FOR TYPICAL GRADE BEAM CONSTRUCTION JOINT DETAIL.
12. REFER TO 03/S3.01 AND 04/S3.01 FOR TYPICAL HOLD DOWN DETAILS.
13. ALL ANCHOR BOLTS TO BE F1554 GR 36 HEAVY HEX HEAD BOLTS.

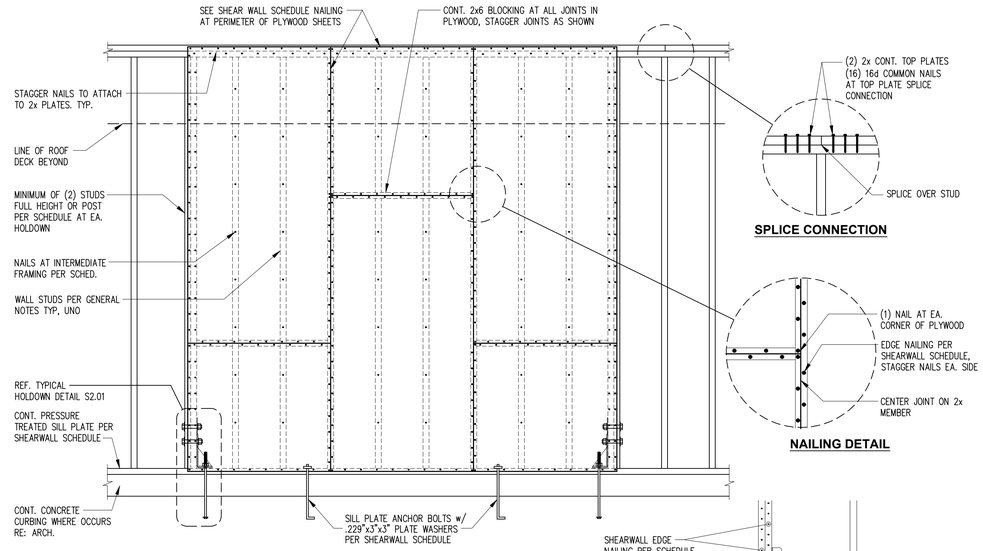
FOOTING SCHEDULE

MARK	FOOTING		
	WIDTH	HEIGHT	REINFORCING
F1	SEE PLAN	NOTE[1]	(3) #5 T&B & #3 STIRRUPS @ 36" OC
F2	SEE PLAN	NOTE[1]	#6 T&B, EA WAY @ 12" OC

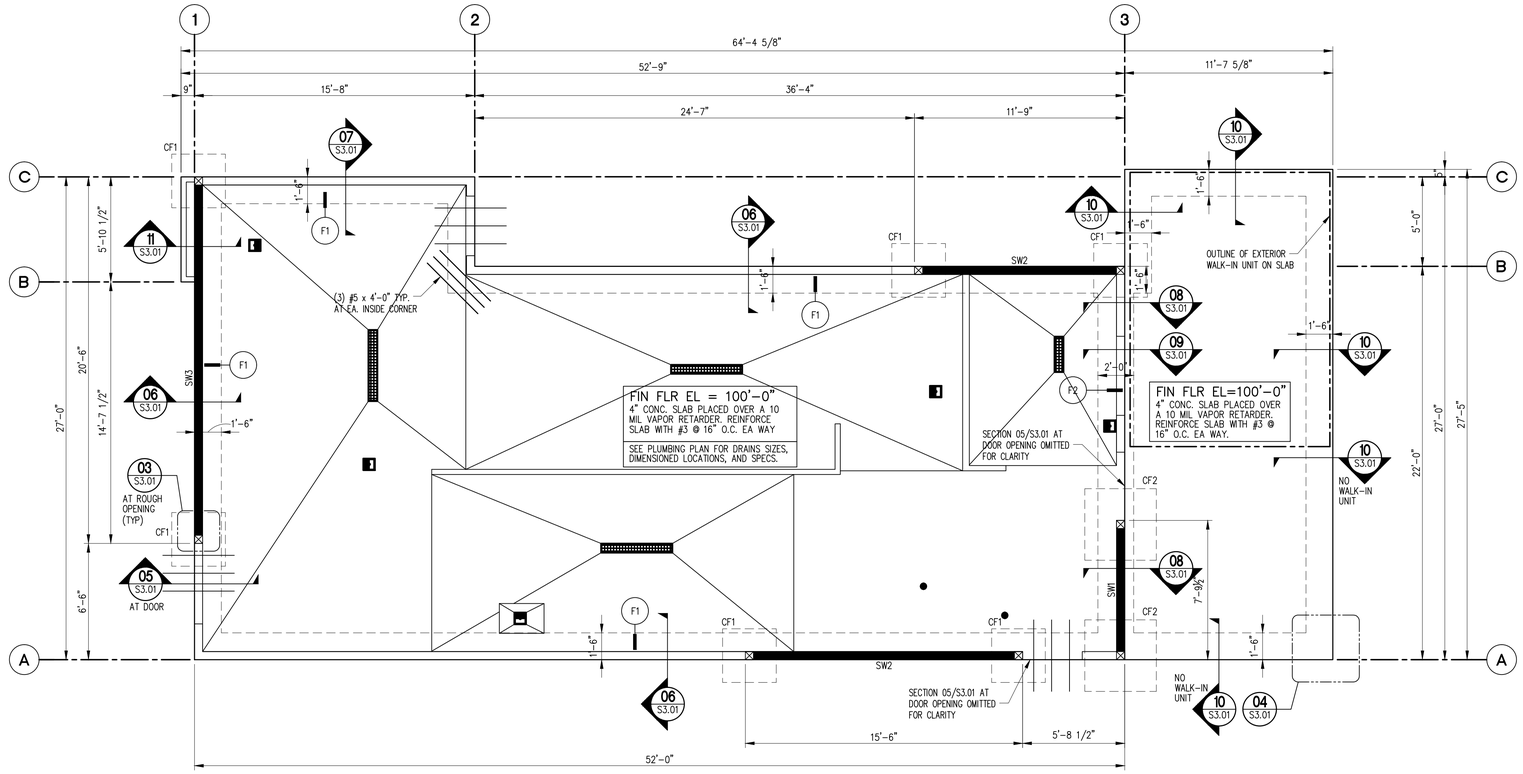
[1] BASED ON SOIL REPORT RECOMMENDATIONS OR LOCAL CONDITIONS.

COLUMN FOOTING SCHEDULE

MARK	LENGTH	WIDTH	HEIGHT	REINFORCING
CF1	3'-0"	3'-0"	1'-0"	(3) #4 CONT BOT. BARS
CF2	4'-0"	4'-0"	1'-0"	(4) #5 CONT BOT. BARS



2 S2.01 **SHEATHING ELEVATION** SCALE: 1/2"=1'-0"



1 S2.01 **FOUNDATION PLAN** SCALE: 1/4"=1'-0"

NOTE:
VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS.

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd. 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

WILLIAM B UNDERWOOD
LICENSED
No. 82583
STATE OF FLORIDA
PROFESSIONAL ENGINEER

07/13/22

PROJECT NO.:	22161
DRAWN BY:	DS
CHECKED BY:	RC

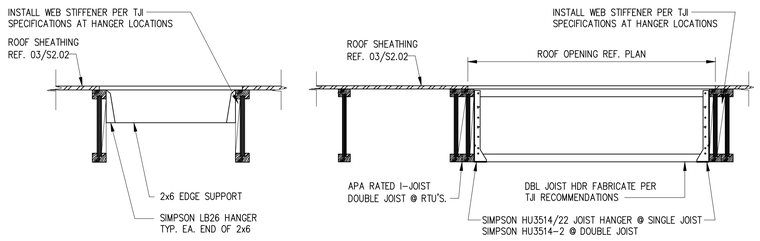
ISSUE:	DATE:
DISTRIBUTION SET	2022-06-24

REVISION:	DATE:

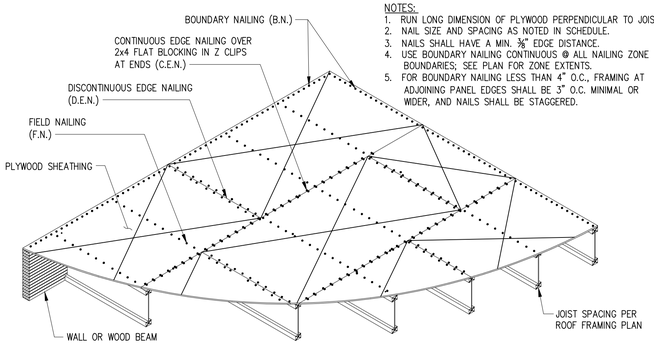
BRITT PETERS AND ASSOCIATES INC
consulting engineers
999 Waterside Drive
Suite 2202
Norfolk, VA 23510
(757) 965-5710
BPA Job No. 220603
FL COA #27497

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
S2.01
FOUNDATION PLAN



02 ROOF OPENING DETAILS
S2.02 SCALE: 1"=1'-0"



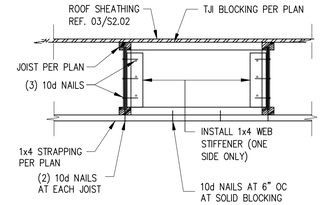
NOTES:
1. RUN LONG DIMENSION OF PLYWOOD PERPENDICULAR TO JOIST.
2. NAIL SIZE AND SPACING AS NOTED IN SCHEDULE.
3. NAILS SHALL HAVE A MIN. ⅜" EDGE DISTANCE.
4. USE BOUNDARY NAILING CONTINUOUS @ ALL NAILING ZONE BOUNDARIES; SEE PLAN FOR ZONE EXTENTS.
5. FOR BOUNDARY NAILING LESS THAN 4" O.C., FRAMING AT ADJOINING PANEL EDGES SHALL BE 3" O.C. MINIMAL OR WIDER, AND NAILS SHALL BE STAGGERED.

DIAPHRAGM ZONE	SHEATHING	NAILS	NAILING		
			EDGE (E.N.)	BOUNDARY (B.N.)	FIELD (F.N.)
BLOCKED	19/32" APA RATED	8d	4" O.C.	4" O.C.	12" O.C.

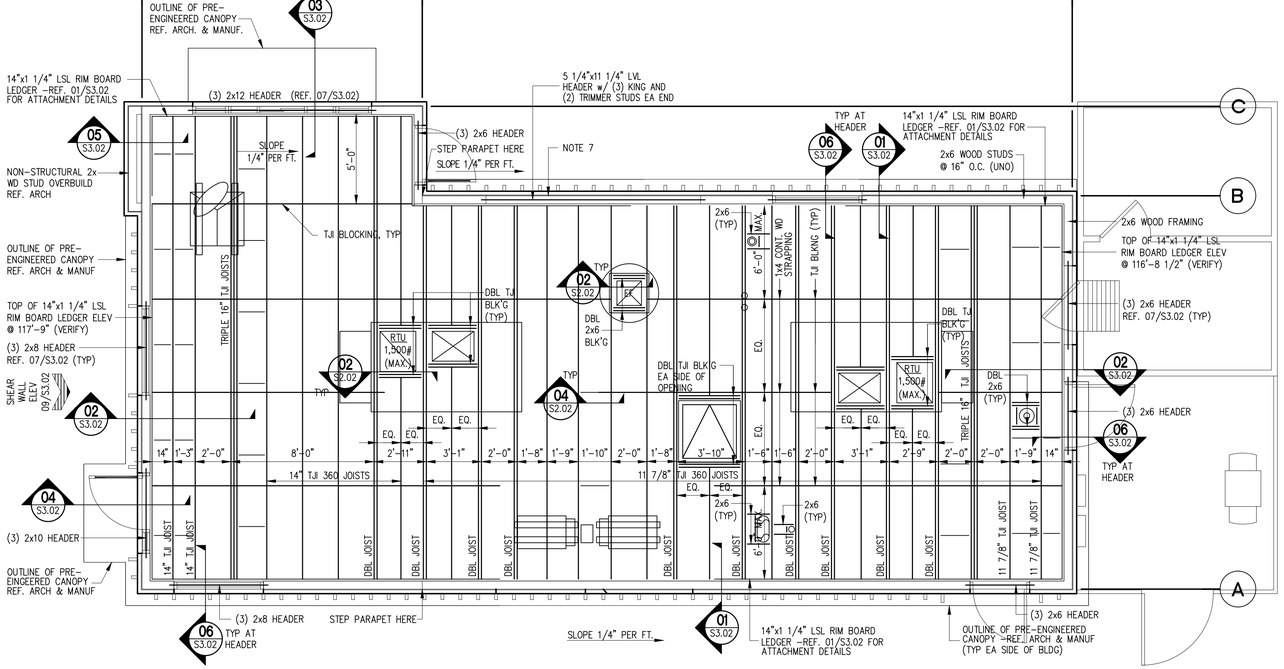
TYPICAL ROOF DIAPHRAGM TYPICAL NAILING DETAIL
03 S2.02 SCALE: 1/4"=1'-0"

PLAN NOTES

1. ——— INDICATES HEADER.
2. ▭ INDICATES PARAPET WALL ABOVE ROOF.
3. REFER TO 02/S2.02 FOR FRAMING AT ROOF OPENINGS.
4. EXHAUST HOODS: SHALL BE SUSPENDED FROM ROOF JOISTS W/4-1/2" DIA THREADED RODS. ALL HARDWARE AND BLOCKING PROVIDED FOR ROD SUPPORTS SHALL BE ATTACHED TO THE WEBS OF THE JOISTS. PROVIDE WEB STIFFENERS IN ACCORDANCE WITH THE JOIST MANUFACTURER'S RECOMMENDATIONS AT EACH ROD SUPPORT LOCATION. DO NOT ATTACH RODS OR ROD SUPPORTS TO JOIST FLANGES.
5. CLIPS, HOLDDOWNS, AND JOIST HANGERS SHALL BE SIMPSON CONNECTORS AND SHALL BE INSTALLED ACCORDING TO THE SPECIFICATIONS OF SIMPSON STRONG-TIE COMPANY, INC. (800-999-5099). ALL OPTIONAL HOLES (TRIANGLE, OBROUND, AND DIAMOND) SHALL BE FILLED PER SIMPSONS SPECIFICATIONS.
6. REFERENCE MECHANICAL DRAWINGS FOR ROOF TOP MECHANICAL EQUIPMENT LOCATIONS AND SIZE OF OPENINGS.
7. 600S162-43 STUDS @ 16" OC BENEATH HEADER BEHIND KITCHEN HOOD ONLY. TOP OF HEADER = 110'-0". ATTACH FIRE RETARDANT SHEATHING (1/2" CEMENT BOARD OR DENSGLASS) TO METAL STUDS USING MANUFACTURER SPECIFIED FASTENERS @ 12" OC EA STUD. AT HEADER ATTACH 43 MIL TRACK USING (2) #10 WOOD SCREWS AT EACH STUD AND ATTACH STUD TO TRACK USING #10 TEK SCREWS AT EACH FLANGE. AT BASE, ATTACH 43 MIL TRACK USING (2) 0.157" DIA PAFS AT EACH STUD AND ATTACH STUD TO TRACK USING #10 TEK SCREWS AT EACH FLANGE.



04 JOIST BLOCKING DETAILS
S2.02 SCALE: 1"=1'-0"



1 ROOF FRAMING PLAN
S2.02 SCALE: 1/4"=1'-0"

NOTE:
VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS.

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd. 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:
WILLIAM B UNDERWOOD LICENSED ARCHITECT No. 82583 STATE OF FLORIDA PROFESSIONAL ENGINEER
07/13/22

PROJECT NO.: 22161
DRAWN BY: DS
CHECKED BY: RC

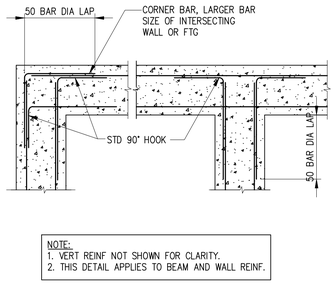
ISSUE:	DATE:
DISTRIBUTION SET	2022-06-24

REVISION: DATE:

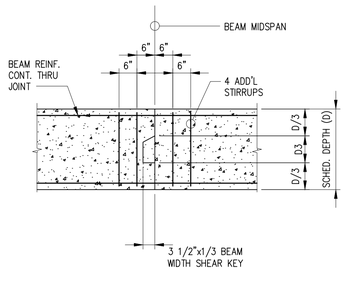
BRITT PETERS AND ASSOCIATES INC.
consulting engineers
999 Waterside Drive
Suite 2202
Norfolk, VA 23510
(757) 965-5710
BPA Job No. 220603
FL COA #27497

PROJECT LOCATION:
LAKE CITY, FLORIDA

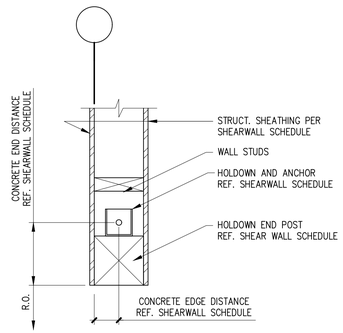
SHEET NUMBER / TITLE:
S2.02
ROOF FRAMIN PLAN



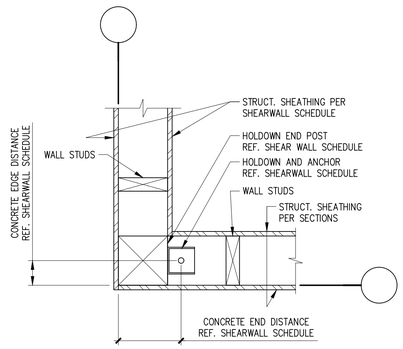
01 TYPICAL GRADE BEAM DETAIL
S3.01 SCALE: 3/4"=1'-0"



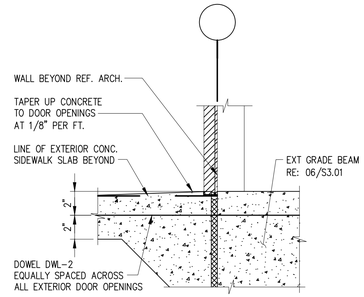
02 TYPICAL GRADE BEAM CONSTRUCTION JOINT DETAIL
S3.01 SCALE: 3/4"=1'-0"



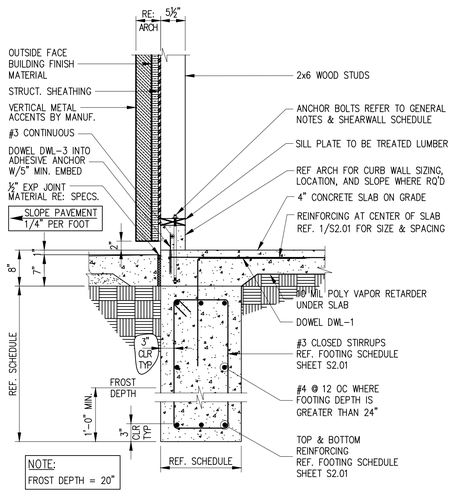
03 TYPICAL HOLDOWN DETAILS
S3.01 SCALE: 1 1/2"=1'-0"



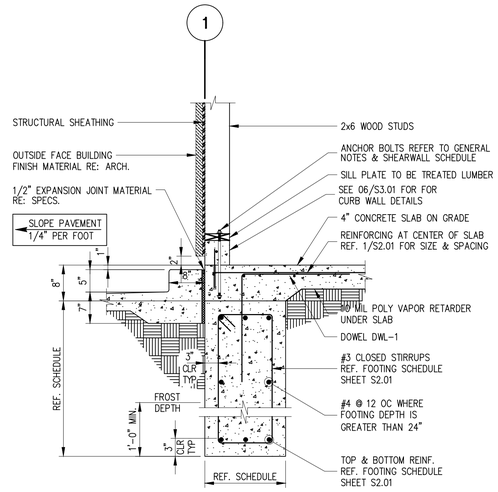
04 TYPICAL HOLDOWN DETAILS
S3.01 SCALE: 1 1/2"=1'-0"



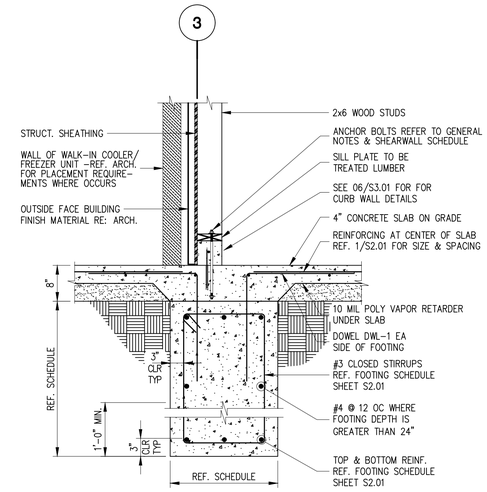
05 TYPICAL DOOR OPENING DETAIL
S3.01 SCALE: 1 1/2"=1'-0"



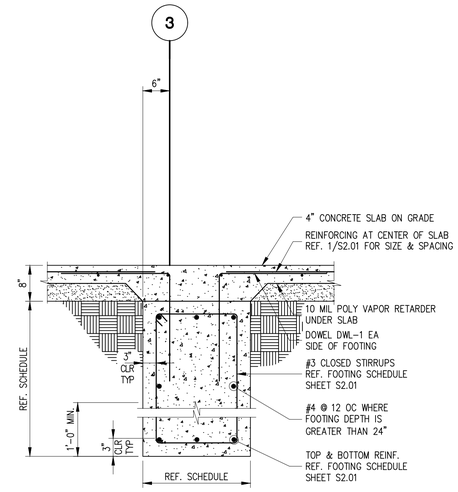
06 TYPICAL FOUNDATION SECTION
S3.01 SCALE: 3/4" = 1'-0"



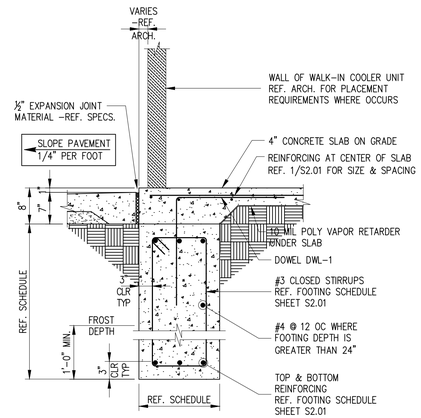
07 TYPICAL FOUNDATION SECTION AT DRIVE THRU
S3.01 SCALE: 3/4" = 1'-0"



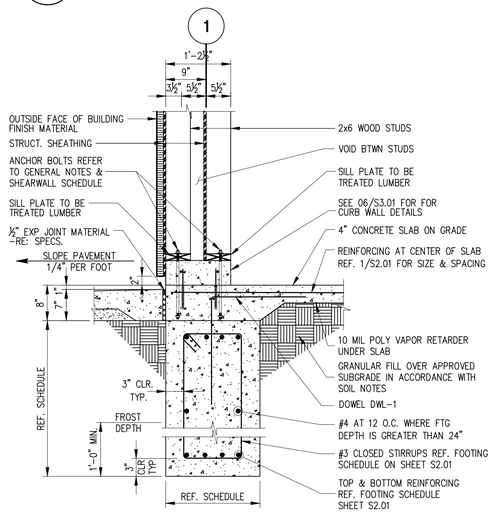
08 FOUNDATION SECTION AT WALK-IN FREEZER/COLLER
S3.01 SCALE: 3/4"=1'-0"



09 FOUNDATION SECTION AT OPENING TO WALK-IN FREEZER/COLLER
S3.01 SCALE: 3/4"=1'-0"

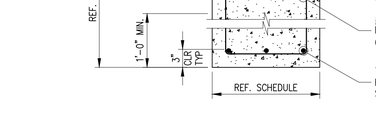


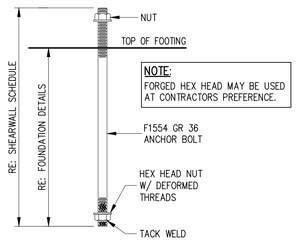
10 TYPICAL FOUNDATION SECTION AT WALK-IN COOLER EXTERIOR WALL
S3.01 SCALE: 3/4" = 1'-0"



11 FOUNDATION SECTION AT FRONT BUMP-OUT
S3.01 SCALE: 3/4"=1'-0"

DOWEL SCHEDULE					
MARK	SIZE	SPACING	TYPE	A	B
DWL-1	#4	16"	2	2'-0"	2'-0"
DWL-2	#4	12"	1	5'-0"	
DWL-3	#4	16"	1	8"	





12 TYP. HOLDOWN AND ANCHOR BOLT DETAIL
S3.01 SCALE: N.T.S.

CONSULTANT:
national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd. 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

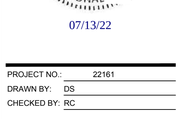
CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC

SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:



07/13/22

PROJECT NO.:	22161
DRAWN BY:	DS
CHECKED BY:	RC

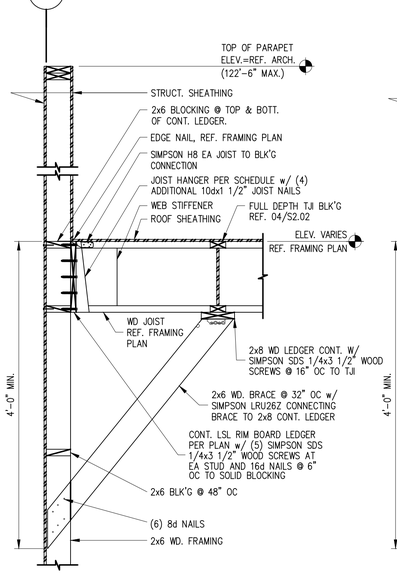
ISSUE:	DATE:
DISTRIBUTION SET	2022-06-24

REVISION:	DATE:

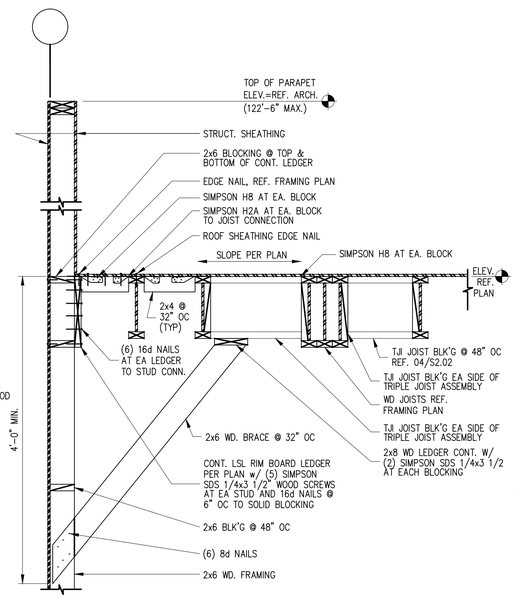
BRITT PETERS AND ASSOCIATES INC.
consulting engineers
999 Waterside Drive
Suite 2202
Norfolk, VA 23510
(757) 965-5710
BPA Job No. 220603
FL COA #27497

PROJECT LOCATION:
LAKE CITY, FLORIDA

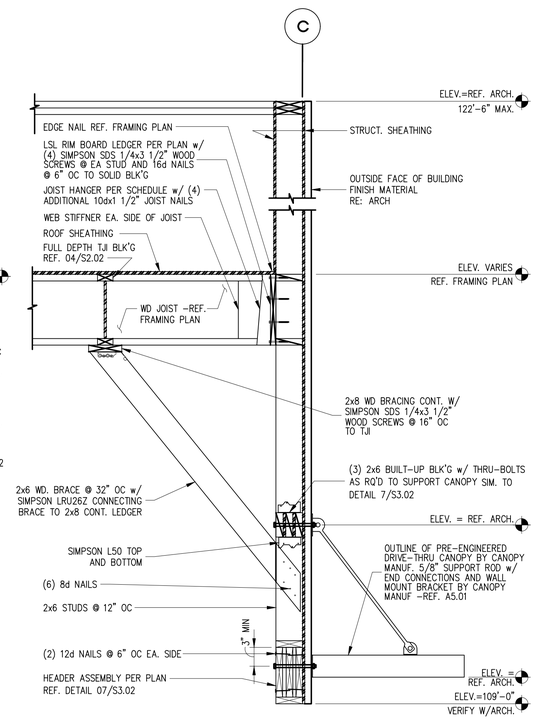
SHEET NUMBER / TITLE:
S3.01
FOUNDATION & FRAMIN DETAILS



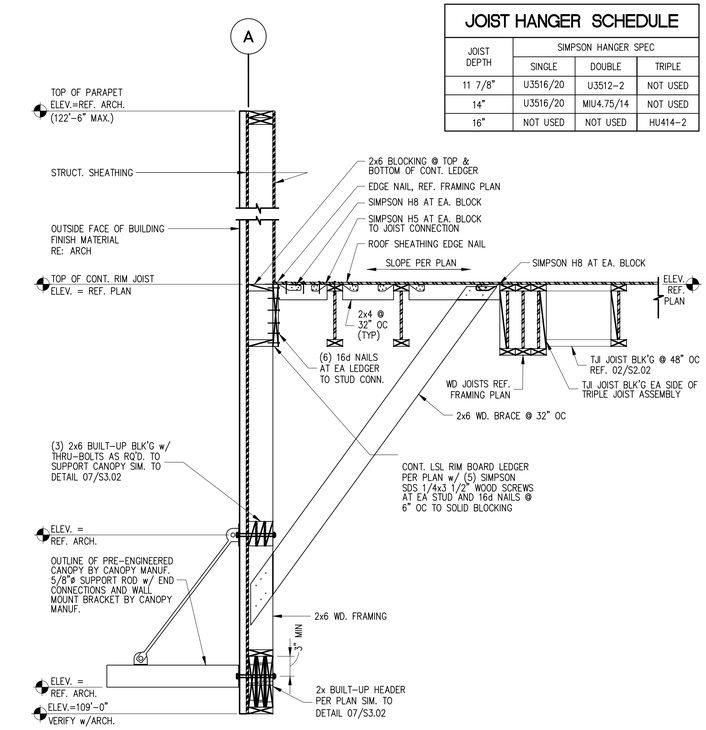
01 TYPICAL JOIST/WALL SECTION
S3.02 SCALE: 3/4"=1'-0"



02 TYPICAL END WALL SECTION
S3.02 SCALE: 3/4"=1'-0"

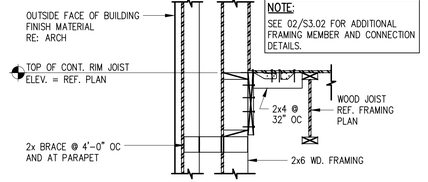


03 SECTION AT DRIVE-THRU
S3.02 SCALE: 3/4"=1'-0"

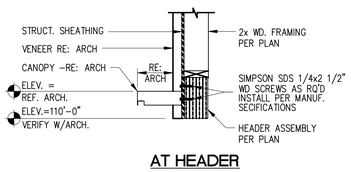


04 SECTION AT FRONT OF BLDG
S3.02 SCALE: 3/4"=1'-0"

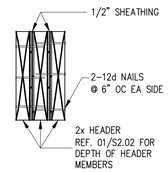
JOIST HANGER SCHEDULE			
JOIST DEPTH	SIMPSON HANGER SPEC		
	SINGLE	DOUBLE	TRIPLE
11 7/8"	U3516/20	U3512-2	NOT USED
14"	U3516/20	MIU4.75/14	NOT USED
16"	NOT USED	NOT USED	HU414-2



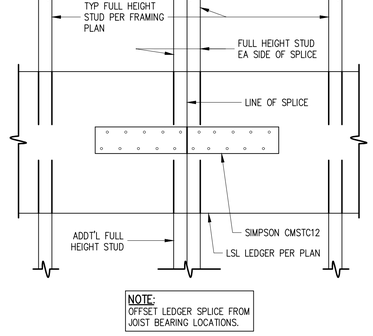
05 SECTION AT BUMP-OUT, FRONT OF BUILDING
S3.02 SCALE: 3/4"=1'-0"



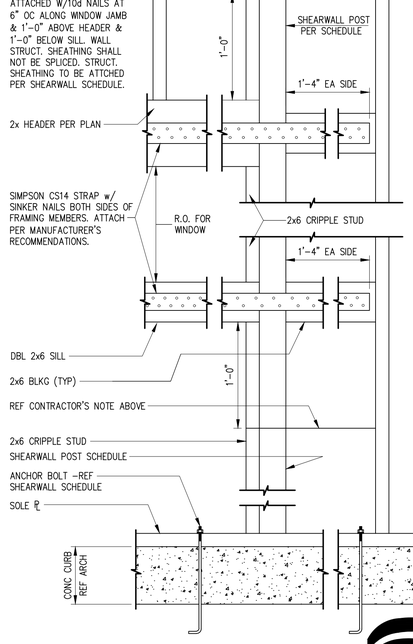
06 TYPICAL SECTION AT CANOPY ACCENT
S3.02 SCALE: 3/4"=1'-0"



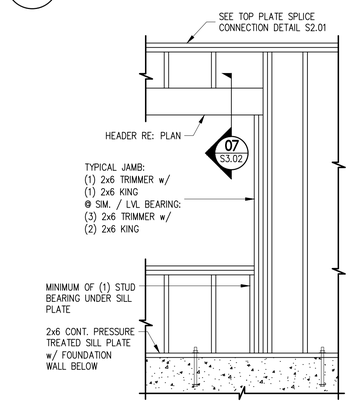
07 TYP. 2x BUILT-UP HEADER DETAIL
S3.02 SCALE: 1 1/2"=1'-0"



08 TYP. LEDGER SPLICE DETAIL
S3.02 SCALE: 1 1/2"=1'-0"



09 ELEVATION
S3.02 SCALE: 1 1/2"=1'-0"



10 TYPICAL JAMB CONSTRUCTION DETAIL
S3.02 SCALE: N.T.S.

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd. 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC

SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

07/13/22

PROJECT NO.:	22161
DRAWN BY:	DS
CHECKED BY:	RC

ISSUE:	DATE:
DISTRIBUTION SET	2022-06-24

REVISION:	DATE:

BRITT PETERS AND ASSOCIATES INC
consulting engineers
999 Waterside Drive
Suite 2202
Norfolk, VA 23510
(757) 965-5710
BPA Job No. 220603
FL COA #27497

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
S3.02
ROOF FRAMIN DETAILS

GENERAL NOTES:

1. ALL DIMENSIONS TO, OF, AND IN EXISTING STRUCTURES SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
2. DO NOT CHANGE THE SIZE NOR SPACING OF STRUCTURAL ELEMENTS WITHOUT THE APPROVAL OF THE ENGINEER.
3. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
4. THE DESIGN IS BASED ON THE FLORIDA BUILDING CODE, 2020 EDITION.
5. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND UTILITIES.
6. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER 'S APPROVAL.

GENERAL CANOPY NOTES:

1. CANOPIES ARE TO REMAIN LEVEL WITH BUILDING.
2. ALL WELDING ON ARCHED CANOPY IS TO BE PERFORMED BY THE CANOPY MANUFACTURER WITHIN THEIR FABRICATION FACILITY.
3. DO NOT SLOPE CANOPIES WITH GRADE.
4. SEE CIVIL OR SITE PLANS FOR LOCATION DIMENSIONS.

FOUNDATION AND SOIL PREPARATION NOTES:

1. THE FOUNDATION DESIGN IS BASED ON AN ALLOWABLE BEARING PRESSURE OF 2,000 PSF AS PROVIDED IN THE SOIL PREPARATION NOTES S1.01.
2. ALL PIERS SHALL BE EXCAVATED AND CONCRETE SHALL BE PLACED THE SAME DAY OR THE DRILLED SHAFT FOR THE PIER IS TO BE RE-EXCAVATED PER THE INSTRUCTIONS OF THIS OFFICE.

DRILLED SHAFT (PIER) NOTES:

1. THE BOTTOM OF THE SHAFT SHALL BE CLEAN AND FREE OF LOOSE SOIL PRIOR TO PLACING CONCRETE.
2. CONCRETE FOR DRILLED SHAFTS SHALL HAVE A 28 DAY DESIGN COMPRESSIVE STRENGTH OF 3,000 PSI, A MINIMUM OF 470 POUNDS OF PORTLAND CEMENT PER CUBIC YARD, MINIMUM 4-6% TOTAL AIR CONTENT (ENTRAINED), MID OR HIGH RANGE WATER REDUCING AGENT AND A 6-7" INCH SLUMP. AIR ENTRAINING AGENT OR FLYASH SHALL NOT BE USED WITHOUT THE APPROVAL OF THE ENGINEER PRIOR TO BIDDING.
3. NO SPLICING OF THE DRILLED SHAFT STEEL SHALL BE ALLOWED.

CONCRETE NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE STANDARDS "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301).
2. REINFORCING STEEL SHALL BE NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO A.S.T.M. A-615 GRADE 60.
3. REINFORCING BAR, BAR SUPPORTS, AND SPACERS SHALL BE DETAILED AND PROVIDED IN ACCORDANCE WITH A.C.I. DETAILING MANUAL. CHAIRS SHALL NOT BE PLACED FURTHER THAN 4 FEET APART.
4. EPOXY ANCHORS, REBAR, OR THREADED RODS SHALL BE EITHER HILTI HIT HY-200 MAX ANCHORS OR SIMPSON AT-XP ANCHORS. INSTALL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. THIS INCLUDES CLEANING THE HOLE WITH AIR.

STEEL NOTES:

1. STRUCTURAL STEEL FABRICATION AND ERECTION SHALL CONFORM TO THE A.I.S.C. MANUAL OF STEEL CONSTRUCTION.
2. WELDED CONNECTIONS SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY.
3. ANY CONNECTIONS WITHOUT WELD SYMBOLS SHALL BE AT A MINIMUM WELDED ALL AROUND WITH THE MINIMUM FILLET OR BUTT WELD SIZE.
4. STRUCTURAL STEEL ANGLES, PLATES, ETC. SHALL CONFORM TO A.S.T.M. A36 REQUIREMENTS (36 KSI). STRUCTURAL TUBING AND PIPES SHALL CONFORM TO THE A.S.T.M. A500 GRADE B REQUIREMENTS (46 KSI); STRUCTURAL STEEL CHANNELS SHALL CONFORM A.S.T.M. A992 REQUIREMENTS (50 KSI).
5. DO NOT PLACE HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. ALL BOLTED CONNECTIONS ARE TO BE A325 TYPE N BOLTS IN STANDARD HOLES UNLESS NOTED OTHERWISE AND SHALL BE MADE USING THE TURN OF THE NUT METHOD.

BEAM SCHEDULE

NO.	FRAMING MEMBER SIZE	
	STANDARD	ALTERNATE
B1	HSS6x4x5/16"	NOT USED
B2	HSS6x4x3/16"	NOT USED
B3	L2x2x3/16"	
D1	SEE CONNECTION DETAIL 3/S5.01	

COLUMN SCHEDULE

COLUMN NUMBER	COLUMN SIZE
C1	HSS10x4x1/4"
C2	HSS6x4x1/4"

ENGINEERING DATA

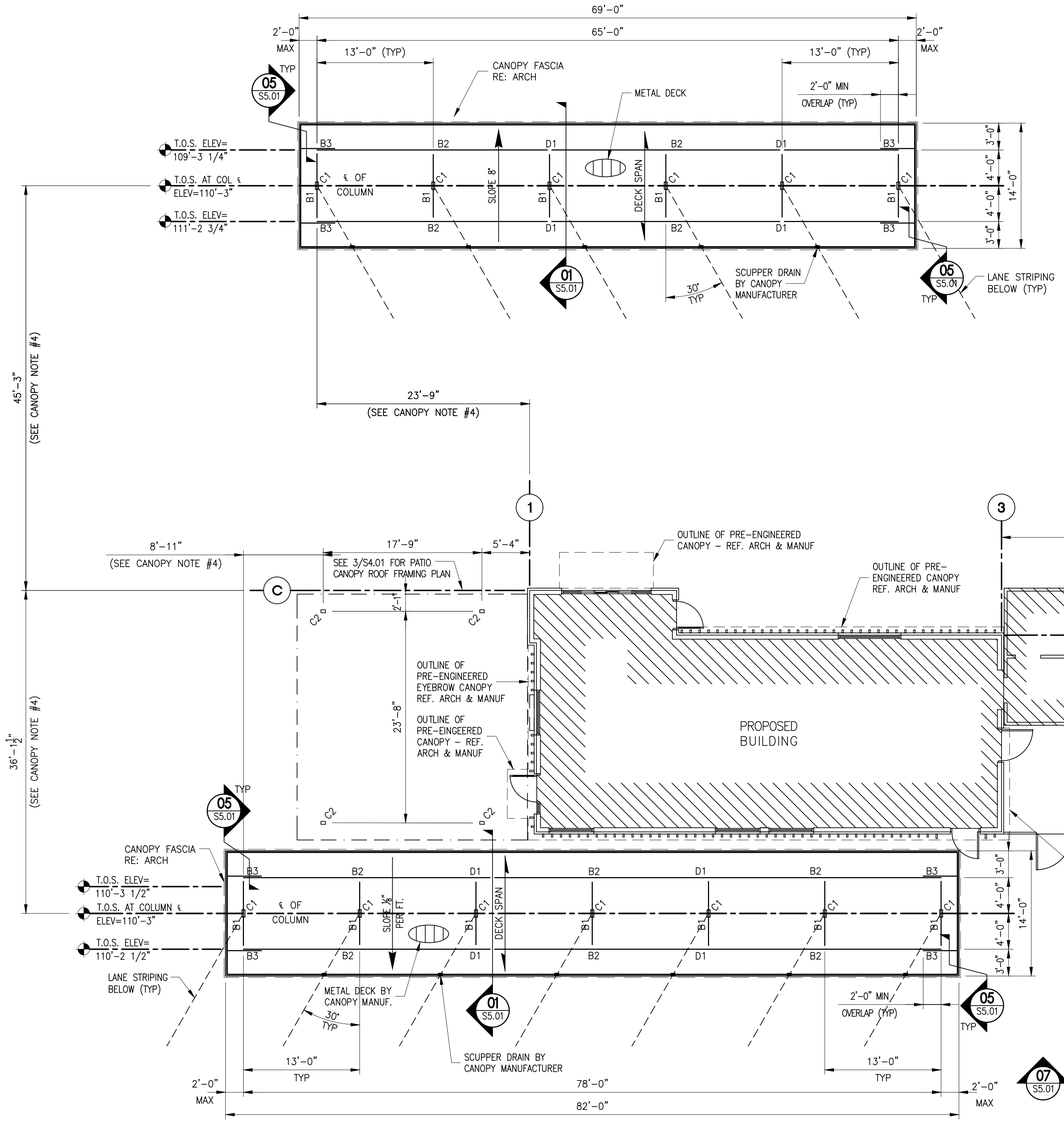
ROOF LIVE LOAD: 20 PSF
LIVE LOAD REDUCTION ON SUPPORTING ELEMENTS IN ACCORDANCE WITH 2020 IBC.
ROOF DEAD LOAD: 5 PSF
DESIGN DEAD LOADS INCLUDE THE WEIGHT OF STRUCTURAL COMPONENTS AND PERMANENT FIXTURES.

GROUND SNOW LOAD: P_g = 0 PSF
FLAT ROOF SNOW LOAD: Pf = 0 PSF
SNOW EXPOSURE FACTOR: Ce = 1.0
SNOW LOAD IMPORTANCE FACTOR: I = 1.0
THERMAL FACTOR: Ct = 1.1

WIND DESIGN DATA:
ULTIMATE DESIGN WIND SPEED (3 SECOND GUST): 120 MPH
WIND EXPOSURE CATEGORY: C
BUILDING CATEGORY: II - OPEN BUILDING
INTERNAL PRESSURE COEFFICIENTS: 0
ALL NEW COMPONENTS AND CLADDING NOT DESIGNED BY THE ENGINEER SHALL BE DESIGNED BASED ON CORRESPONDING ASCE 7-16 DESIGN LOADS UNLESS OTHERWISE APPROVED BY THE ENGINEER
DESIGN UPLIFT - 25.0 PSF

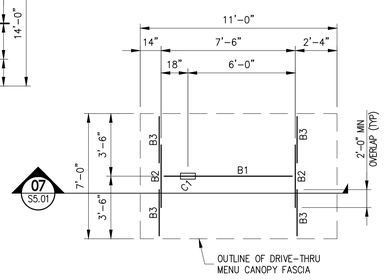
EARTHQUAKE DESIGN DATA:
SEISMIC IMPORTANCE FACTOR, I: 1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS: S_s 0.086 S_1 = 0.081
SITE CLASS: C
SPECTRAL RESPONSE COEFFICIENTS - S_{ds} = 0.092, S_{D1} = 0.081
SEISMIC DESIGN CATEGORY: B
BASIC SEISMIC-FORCE-RESISTING SYSTEM: STEEL ORDINARY CANTILEVER COLUMN
DESIGN BASE SHEAR: V = 2.204 kips
SEISMIC RESPONSE COEFFICIENT: C_s = 0.143
RESPONSE MODIFICATION FACTOR: R = 1.25
ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE METHOD

FLOOD HAZARD INFORMATION: THIS BUILDING IS NOT DESIGNED FOR FLOOD LOADS.

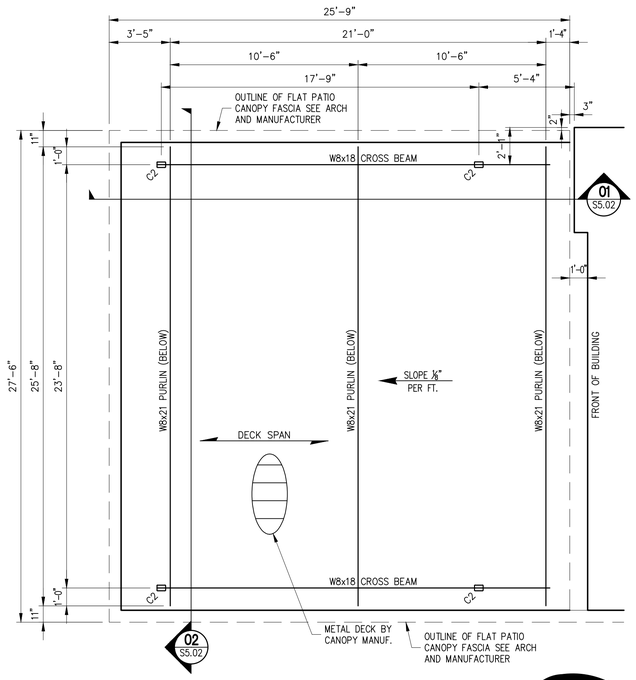


1 CANOPY FRAMING PLAN
SCALE: 1/8"=1'-0"

NOTE:
VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS.



2 DRIVE-THRU MENU CANOPY FRAMING PLAN
SCALE: 1/4"=1'-0"



3 PATIO CANOPY FRAMING PLAN
SCALE: 1/4"=1'-0"

BRITT PETERS AND ASSOCIATES INC
consulting engineers
999 Waterside Drive
Suite 2202
Norfolk, VA 23510
(757) 965-5710
BPA Job No. 220603
FL COA #27497

CONSULTANT:
national restaurant designers
NRD ARCHITECTS & ENGINEERS
7208 ACC Blvd. 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC DRIVE-IN RESTAURANT
#3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:
2583
STATE OF FLORIDA REGISTERED PROFESSIONAL ENGINEER
07/13/22

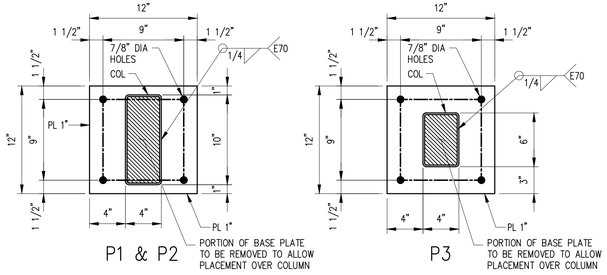
PROJECT NO.:	22161
DRAWN BY:	DS
CHECKED BY:	RC

ISSUE:	DATE:
DISTRIBUTION SET	2022-06-24

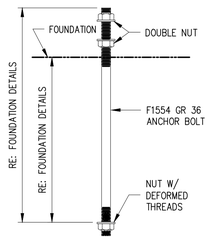
REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA
COVERED PATIO

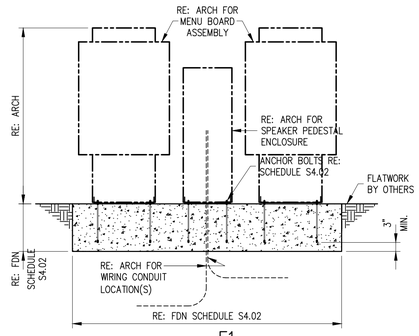
SHEET NUMBER / TITLE:
S4.01
CANOPY FRAMIN PLAN



02 COLUMN BASE PLATE DETAILS
S4.02 SCALE: 1 1/2"=1'-0"



03 TYP. ANCHOR BOLT DETAIL
S4.02 SCALE: N.T.S.



04 DRIVE-THRU MENU BOARD AND POPS ASSEMBLY FDN DETAIL
S4.02 SCALE: 1/2"=1'-0"

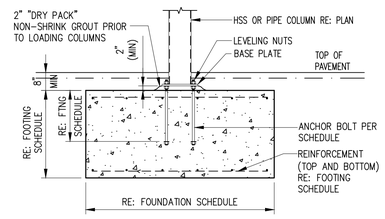
SPREAD FOOTINGS		
FOOTING NUMBER	VERTICAL REBAR	HORIZONTAL REBAR
P1	NOT USED	#5 @ 6" C/C EW T&B
P2	NOT USED	#5 @ 6" C/C EW T&B
CONCRETE PAD FOOTING		
F1	NOT USED	#5 @ 9" C/C EW T&B

FOUNDATION SCHEDULE

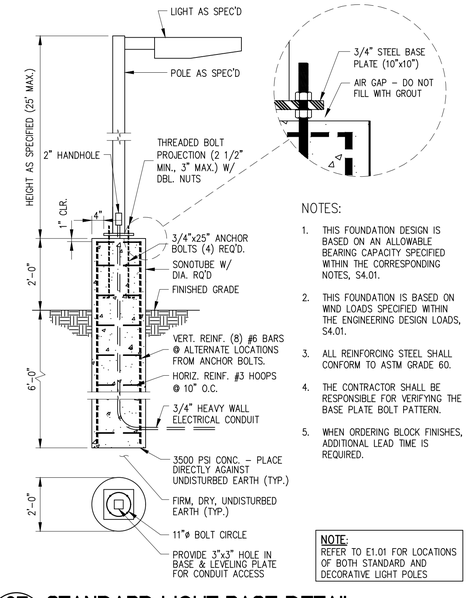
SPREAD FOOTINGS			
FOOTING NUMBER	WIDTH	LENGTH	DEPTH
P1	5'-6"	5'-6"	3'-0"
P2	2'-6"	2'-6"	3'-0"
CONCRETE PAD FOOTING			
F1	SEE PLAN	SEE PLAN	16"

ANCHOR BOLT SCHEDULE

FOOTING NUMBER	ANCHOR BOLT
P1	3/4" DIA.x24" W/MIN. 18" EMBED
P2	3/4" DIA.x24" W/MIN. 18" EMBED
F1	3/8" DIA. x 6" STAINLESS STEEL BOLT W/MIN. 5" EMBED



06 P1 / P2 FOUNDATION DETAIL
S4.02 SCALE: 3/8"=1'-0"

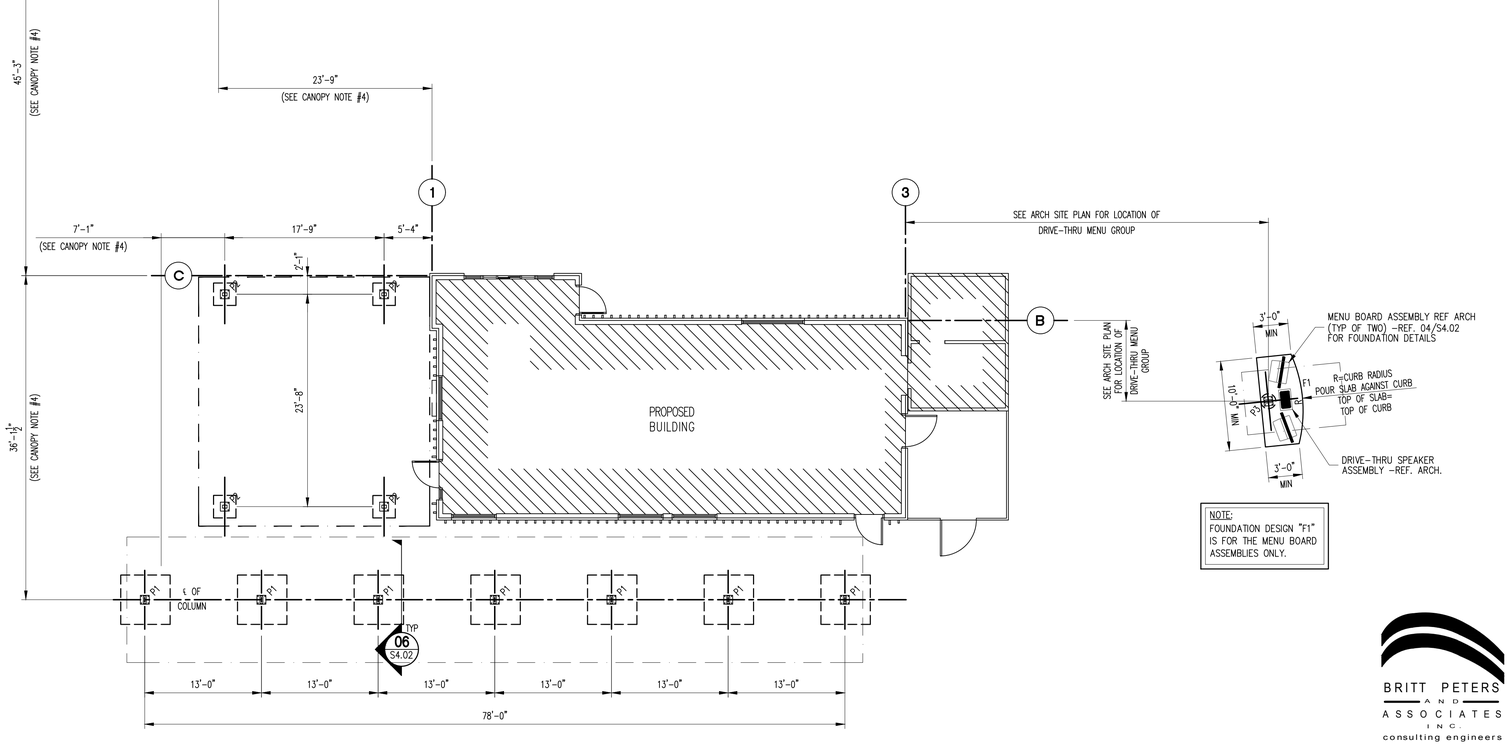


NOTES:

1. THIS FOUNDATION DESIGN IS BASED ON AN ALLOWABLE BEARING CAPACITY SPECIFIED WITHIN THE CORRESPONDING NOTES, S4.01.
2. THIS FOUNDATION IS BASED ON WIND LOADS SPECIFIED WITHIN THE ENGINEERING DESIGN LOADS, S4.01.
3. ALL REINFORCING STEEL SHALL CONFORM TO ASTM GRADE 60.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE BASE PLATE BOLT PATTERN.
5. WHEN ORDERING BLOCK FINISHES, ADDITIONAL LEAD TIME IS REQUIRED.

NOTE:
REFER TO E1.01 FOR LOCATIONS OF BOTH STANDARD AND DECORATIVE LIGHT POLES

07 STANDARD LIGHT BASE DETAIL
S4.02 SCALE: 1/2"=1'-0"



NOTE:
FOUNDATION DESIGN "F1" IS FOR THE MENU BOARD ASSEMBLIES ONLY.

1 CANOPY FOUNDATION PLAN
SCALE: 1/8"=1'-0"

NOTE:
VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS.

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd. 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:
WILLIAM B. UNDE... STATE OF FLORIDA PROFESSIONAL ENGINEER
07/13/22

PROJECT NO.:	22161
DRAWN BY:	DS
CHECKED BY:	RC

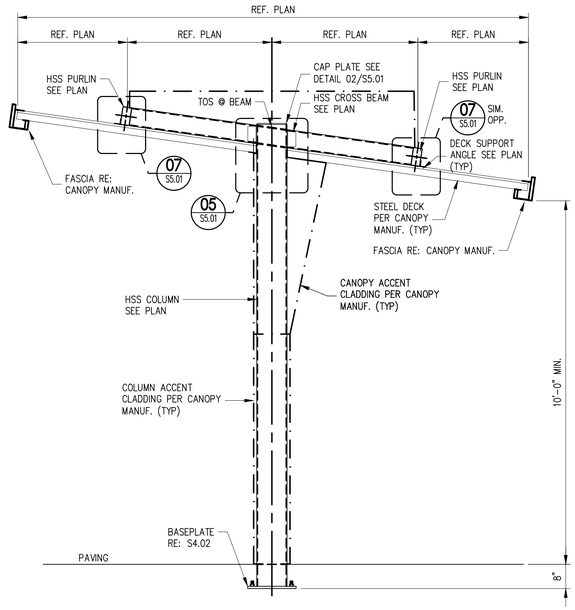
ISSUE:	DATE:
DISTRIBUTION SET	2022-06-24

REVISION:	DATE:

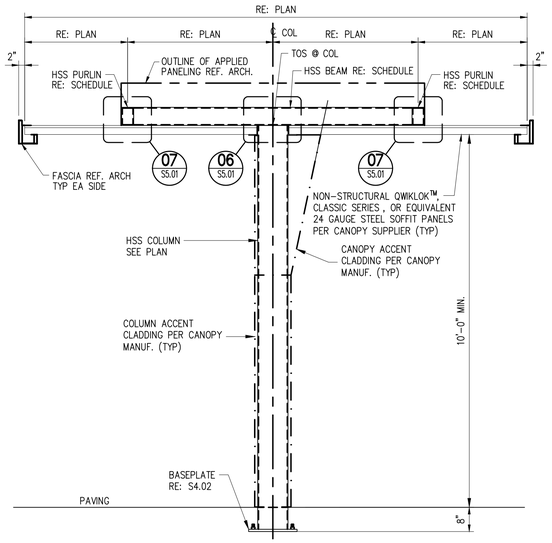
BRITT PETERS AND ASSOCIATES INC.
consulting engineers
999 Waterside Drive
Suite 2202
Norfolk, VA 23510
(757) 965-5710
BPA Job No. 220603
FL COA #27497

PROJECT LOCATION:
LAKE CITY, FLORIDA
COVERED PATIO

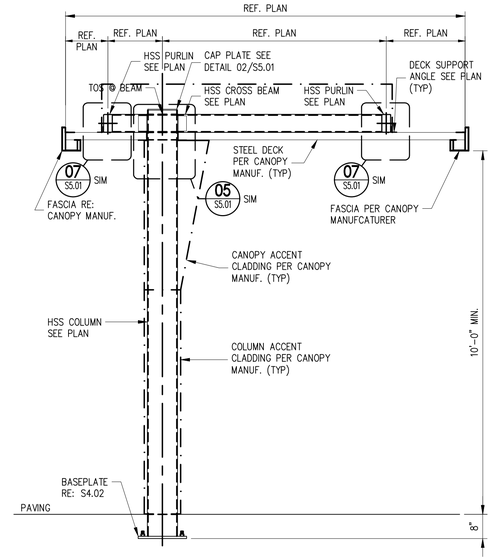
SHEET NUMBER / TITLE:
S4.02
CANOPY FOUNDATION PLAN & DETAILS



01 SECTION AT CAR CANOPY
S5.01 SCALE: 1/2"=1'-0"

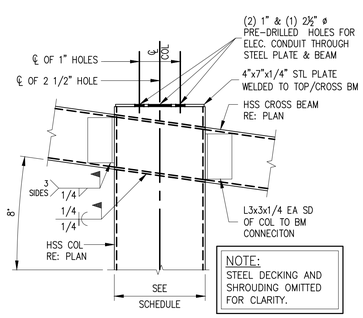


02 SECTION AT CAR CANOPY
S5.01 SCALE: 1/2"=1'-0"

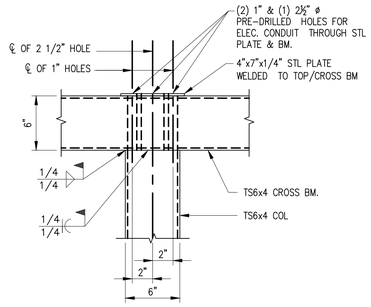


03 SECTION AT DRIVE THRU MENU CANOPY
S5.01 SCALE: 1/2"=1'-0"

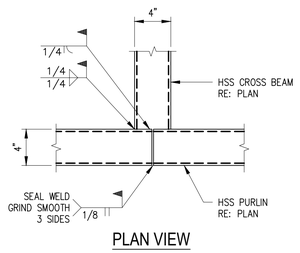
04 NOT USED
S5.01 SCALE: NONE



05 CONNECTION DETAIL
S5.01 SCALE: 1 1/2"=1'-0"

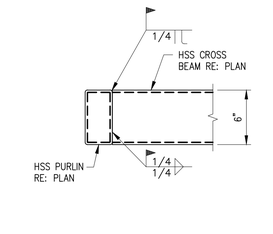


06 CONNECTION DETAIL
S5.01 SCALE: 1 1/2"=1'-0"

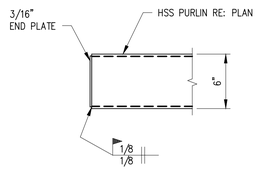


PLAN VIEW

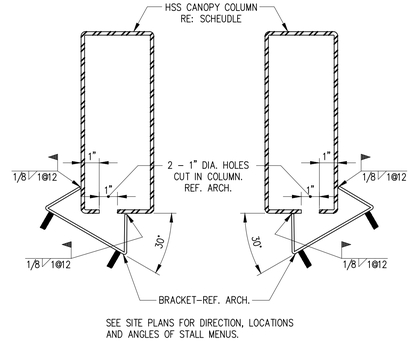
07 CONNECTION DETAIL
S5.01 SCALE: 1 1/2"=1'-0"



08 CONNECTION DETAIL
S5.01 SCALE: 1 1/2"=1'-0"



09 CONNECTION DETAIL
S5.01 SCALE: 1 1/2"=1'-0"



SEE SITE PLANS FOR DIRECTION, LOCATIONS AND ANGLES OF STALL MENUS.

10 CONNECTION DETAIL
S5.01 SCALE: 3"=1'-0"

BRITT PETERS AND ASSOCIATES INC
consulting engineers
999 Waterside Drive
Suite 2202
Norfolk, VA 23510
(757) 965-5710
BPA Job No. 220603
FL COA #27497

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd. 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

WILLIAM B. DERRICK JR. LICENSED No. 82583 STATE OF FLORIDA PROFESSIONAL ENGINEER

07/13/22

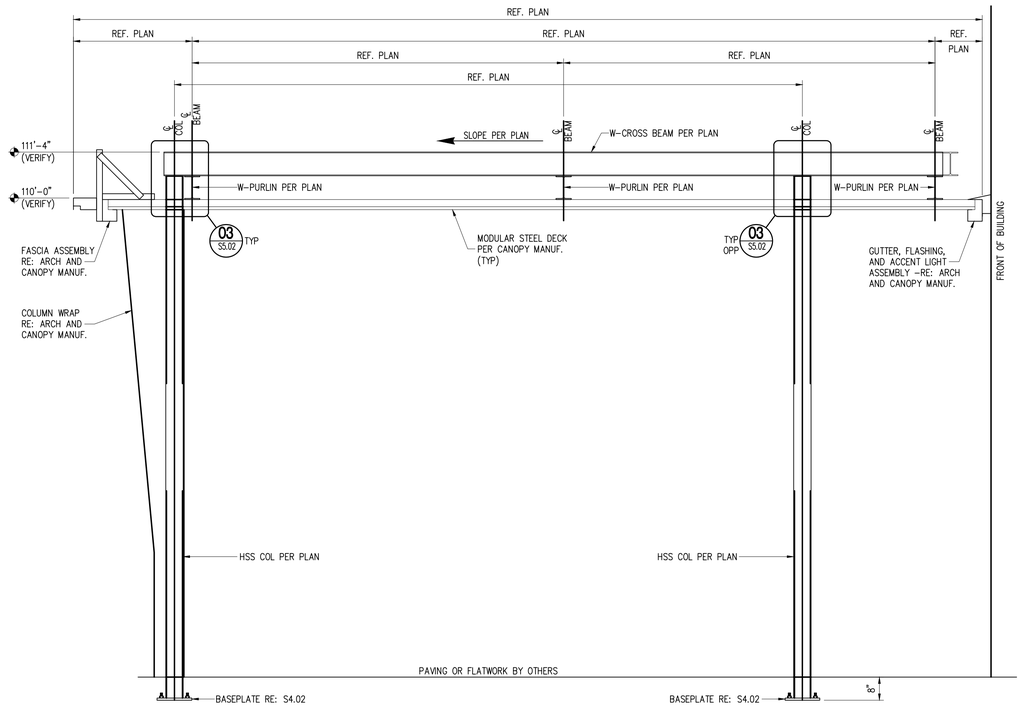
PROJECT NO.:	22161
DRAWN BY:	DS
CHECKED BY:	RC

ISSUE:	DATE:
DISTRIBUTION SET	2022-06-24

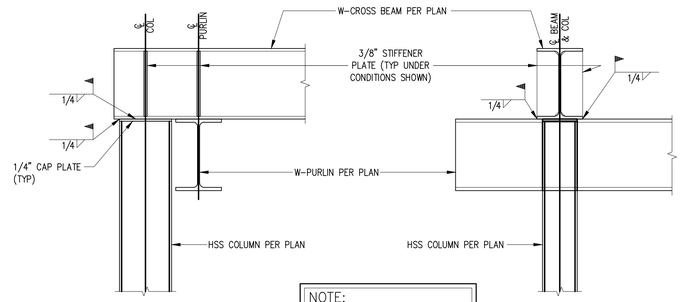
REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA
COVERED PATIO

SHEET NUMBER / TITLE:
S5.01
CAR STALL / MENU CANOPY DETAILS



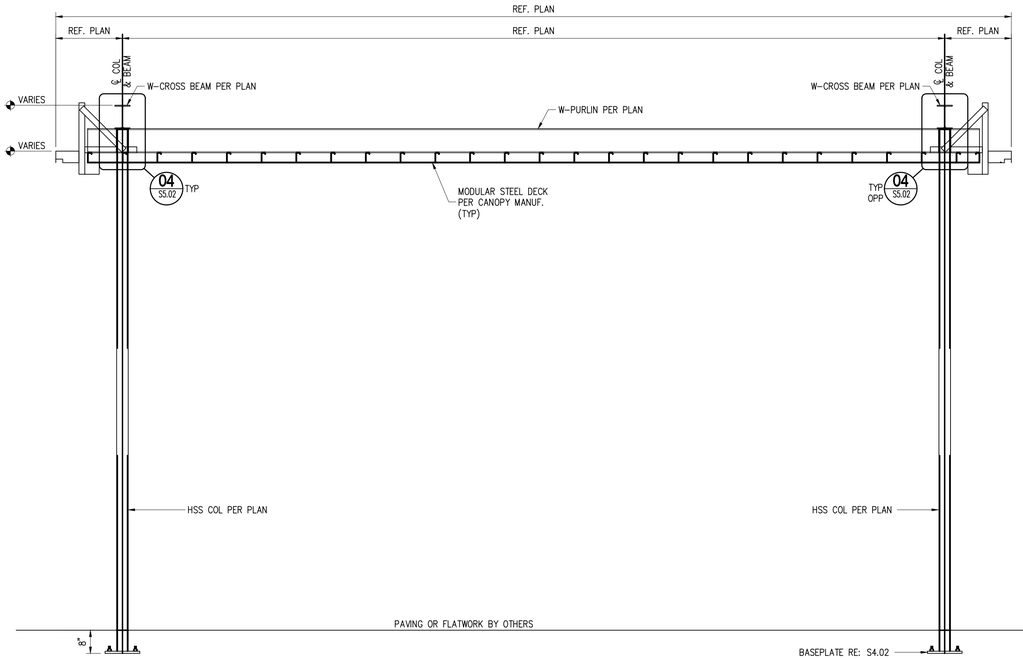
01 SECTION AT PATIO CANOPY
S5.02 SCALE: 3/4"=1'-0"



NOTE:
FASCIA ASSEMBLY, LIGHTING, AND DECK PANS OMITTED FOR CLARITY.

03 CONNECTION DETAIL
S5.02 SCALE: 1 1/2"=1'-0"

04 CONNECTION DETAIL
S5.02 SCALE: 1 1/2"=1'-0"



02 SECTION AT PATIO CANOPY
S5.02 SCALE: 3/4"=1'-0"

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd. 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

07/13/22

PROJECT NO.: 22161
DRAWN BY: DS
CHECKED BY: RC

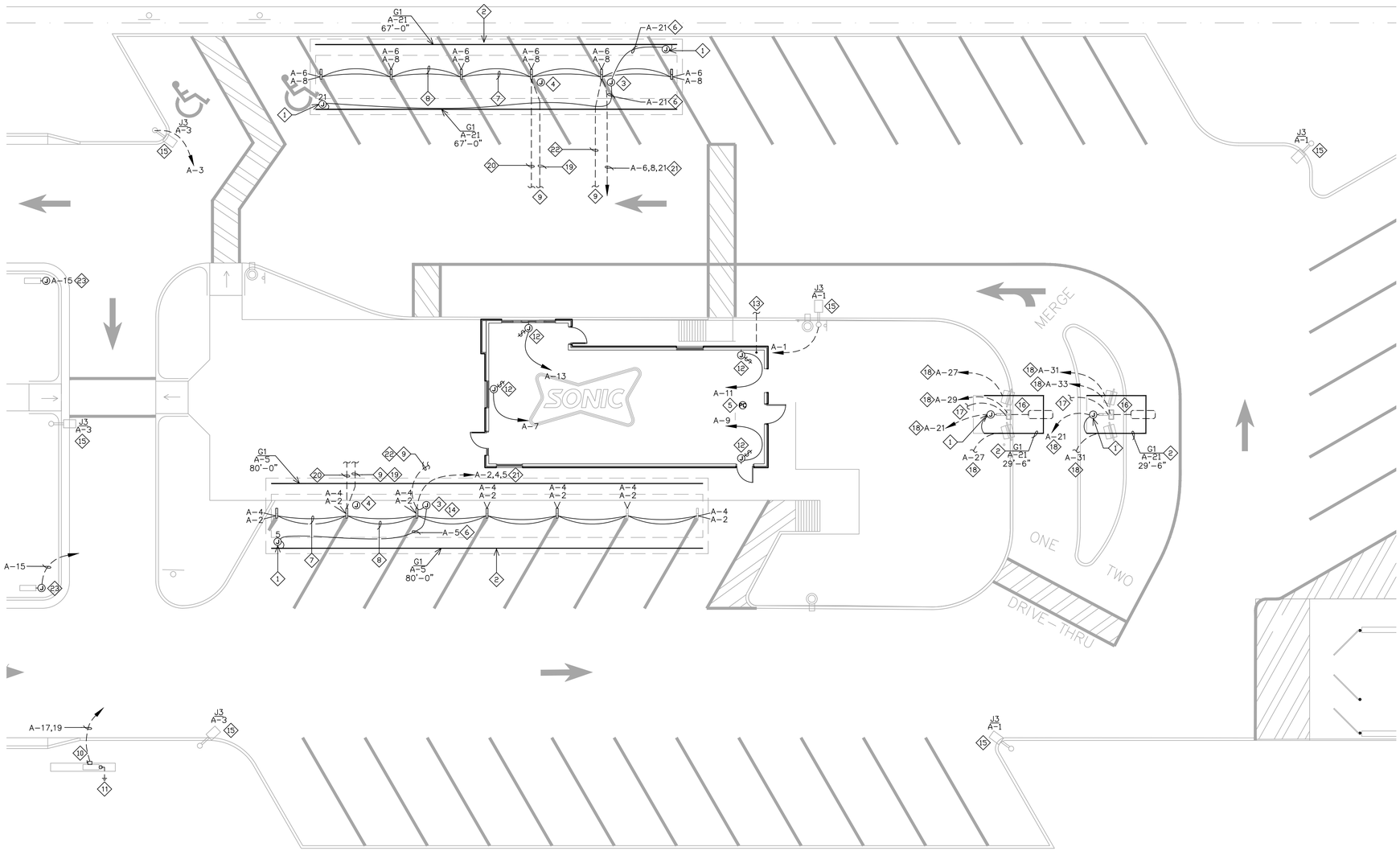
ISSUE:	DATE:
DISTRIBUTION SET	2022-06-24

REVISION:	DATE:

BRITT PETERS AND ASSOCIATES INC
consulting engineers
999 Waterside Drive
Suite 2202
Norfolk, VA 23510
(757) 965-5710
BPA Job No. 220603
FL COA #27497

PROJECT LOCATION:
LAKE CITY, FLORIDA
COVERED PATIO

SHEET NUMBER / TITLE:
S5.02
PATIO CANOPY DETAILS



1 CANOPY / MENU WIRING PLAN

E1.01 SCALE: N.T.S.

GENERAL NOTES:

A. ALL BRANCH CIRCUITS UP TO 75'-0" SHALL UTILIZE #12 CONDUCTORS MINIMUM. ALL BRANCH CIRCUITS FROM 76'-0" TO 130'-0" IN LENGTH SHALL UTILIZE #10 CONDUCTORS MINIMUM. ALL BRANCH CIRCUITS 131'-0" UP TO 200'-0" IN LENGTH SHALL UTILIZE #8 CONDUCTORS MINIMUM. CIRCUITS ABOVE 201'-0" SHALL UTILIZE #6 CONDUCTORS MINIMUM.

B. THIS PLAN IS FOR WIRING AND SCHEMATIC PURPOSES. DO NOT SCALE THIS PLAN. REFER TO CIVIL SITE PLAN.

C. ALL LOW VOLTAGE WIRING INCLUDING WIRING FOR MUSIC, PAYS AND SPEAKERS SHALL BE RATED FOR 600 VOLTS MINIMUM IF IN A CONDUIT WITH 120V WIRING.

KEY NOTES:

1. PROVIDE WEATHERPROOF JUNCTION BOX MOUNTED TO TOP OF CANOPY FOR HARDWIRED CONNECTION TO LED TAPE LIGHT TYPE "G1". CIRCUITRY SHALL BE ROUTED VIA THE SHARED 3/4" CONDUIT UNDERGROUND FROM PANEL "A" AS INDICATED AND UP INTERIOR OF PERLINS/COLUMN TO TOP OF THE CANOPY.
2. CONTINUOUS STRAIGHT RUN OF LED TAPE LIGHT, STOP 5" SHORT OF THE GUTTER AND NEEDS TO BE CENTERED FROM BOTH DIRECTIONS. MOUNT CANOPY LED TAPE LIGHT TO UNDERSIDE OF CANOPY DECK. PROVIDE ALL REQUIRED MOUNTING CHANNELS, MOUNTING CLIPS, LENSES, ETC. FOR A COMPLETE INSTALLATION. SEE ARCHITECTURAL SHEETS FOR MORE INFORMATION. COORDINATE WITH SONIC CONSTRUCTION MANAGER PRIOR TO ROUGH-IN.
3. PROVIDE WEATHERPROOF JUNCTION BOX WITH COVER MOUNTED ON TOP OF THE CANOPY ROOF FOR CONNECTION / EXTENSION OF WIRING FOR CANOPY LED TAPE LIGHT, MENU LIGHTS, AND PAYS STATIONS. NO EXPOSED CONDUITS ARE ALLOWED AT CANOPIES. USE CANOPY PERLINS / COLUMNS AS CHASE FOR INCOMING UNDERGROUND CONDUCTORS FROM PANEL "A" WITH A SEPARATE GROUND WIRE.
4. PROVIDE WEATHERPROOF JUNCTION BOX WITH COVER MOUNTED ON TOP OF THE CANOPY ROOF FOR FUTURE CONNECTION / EXTENSION OF CONDUIT & WIRING.
5. PROVIDE PHOTOCELL ON ROOF FOR CONTROL OF EXTERIOR LIGHTS AND SIGNS. FIELD COORDINATE AND MOUNT 8" HIGHER THAN ANY POTENTIAL OBSTRUCTION. AIM SENSING WINDOW TOWARDS THE NORTH.
6. CANOPY LIGHTING CIRCUITRY SHALL BE ROUTED OVERHEAD ON TOP OF CANOPY.
7. 1-1/2" CONDUIT LOOPED OVERHEAD FOR MENU SPEAKER WIRING.
8. 1" CONDUIT LOOPED OVERHEAD FOR MENU LIGHTING AND PAYS.
9. CONDUIT U.G. TO JUNCTION BOX AT DESK AREA IN BUILDING FOR SPEAKER AND MUSIC WIRING. SEE DETAIL 2/E2.03.
10. PROVIDE 250V, 30A/2P, NEMA 3R, NON-FUSED DISCONNECT AT BASE OF MAIN SIGN FOR OPTEC SIGNAGE. CONTRACTOR MUST FIELD VERIFY LOCATION ON CIVIL SITE PLAN. EXTEND 1" CONDUIT W/(4) #10 CU THWN AND (1) #10 THWN CU GROUND FROM PANEL A. IF LENGTH EXCEEDS 150', BRACH CIRCUITRY SHALL BE UP-SIZED TO (4) #8 CU, (1) #8 CU GROUND IN 1" CONDUIT.
11. PROVIDE (1) 5/8" X 8' GALVANIZED GROUND ROD AT BASE OF MAIN SIGN WITH (1) #6 CU GROUND WIRE IN CONDUIT UP THE POLE TO A HEIGHT OF 12' ABOVE GRADE. LEAVE 15' OF EXCESS GROUND WIRE FOR BONDING TO INCOMING EQUIPMENT GROUND WIRE.
12. PROVIDE WEATHERPROOF JUNCTION BOX WITH WEATHERPROOF 120V, 20A/1P DISCONNECT SWITCH IN AN ACCESSIBLE LOCATION ON THE ROOF FOR EACH SIGN. PROVIDE CONDUIT, WIRING, AND FINAL CONNECTION. COORDINATE WITH SIGN VENDOR PRIOR TO ROUGH-IN.
13. COORDINATE WITH OWNER IF IRRIGATION SYSTEM IS APPLICABLE AND PROVIDE 1-1/2" CONDUIT UNDERGROUND TO NEAREST LANDSCAPE AREA IF NEEDED. WIRING TO LANDSCAPE AREA BY OTHERS. REFER TO LANDSCAPE PLAN, IF PROVIDED.
14. MOUNT MUSIC SPEAKERS AT CAR STALL CANOPY TO COLUMN AND NOT TO DECK PAN.
15. POLE MOUNTED SITE LIGHTING. EXTEND 1" CONDUIT W/(2) #8 CU THWN & (1) #8 CU GROUND FROM EACH POLE LOCATION TO PANEL "A". SEE CIVIL PLANS FOR SITE DETAILS.
16. UNDERGROUND DETECTOR LOOP, SPEAKER PEDESTAL, & MENU BOARD. SEE CIVIL PLANS FOR SITE DETAILS AND ARCHITECTURAL SHEET A1.02 FOR ADDITIONAL INFORMATION.
17. PROVIDE 2" CONDUIT UNDERGROUND FOR CONFIRMATION PEDESTAL.
18. PROVIDE 3/4" CONDUIT UNDERGROUND FOR CONFIRMATION PEDESTAL, MENU BOARDS, AND DRIVE-THRU CANOPY.
19. PROVIDE 2" CONDUIT U.G. TO JUNCTION BOX WITH PULL STRING FOR FUTURE POS TO COLUMN AS SHOWN FROM JUNCTION BOX AT DESK AREA IN BUILDING.
20. PROVIDE 3/4" CONDUIT U.G. TO JUNCTION BOX WITH PULL STRING FOR FUTURE POWER TO COLUMN AS SHOWN FROM PANEL A.
21. PROVIDE 3/4" CONDUIT UNDERGROUND TO JUNCTION BOX FOR POWER AND LIGHTING CIRCUITRY PER EVERY 15 STALLS.
22. PROVIDE 2" LV CONDUIT UNDERGROUND FOR EVERY 8 STALLS WITH PULL STRING FOR PAYS, MUSIC, & SPEAKER WIRING.
23. PROVIDE WEATHERPROOF, NEMA 3R, J-BOX AT DIRECTIONAL SIGN WITH LOCAL DISCONNECTING MEANS OR LOCK-OFF DEVICE AT THE BREAKER PER NEC 600. SEE CIVIL PLANS FOR SITE DETAILS & LOCATIONS.

CONSULTANT:

national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

NELSON RAY THORNTON JR. LICENSE 50383 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/14/2022

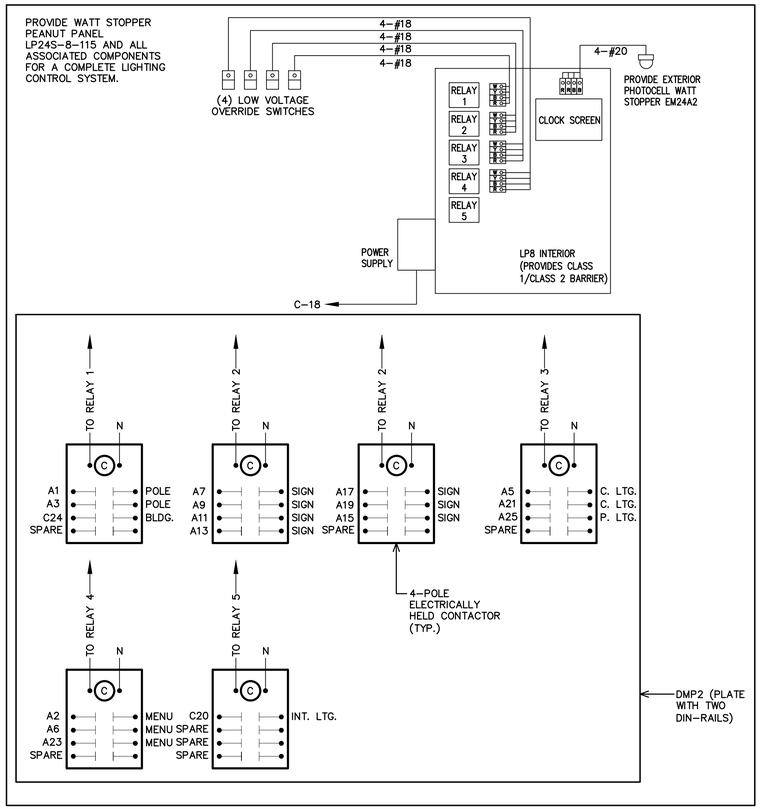
PROJECT NO.: 22161
DRAWN BY: JP
CHECKED BY: JP

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

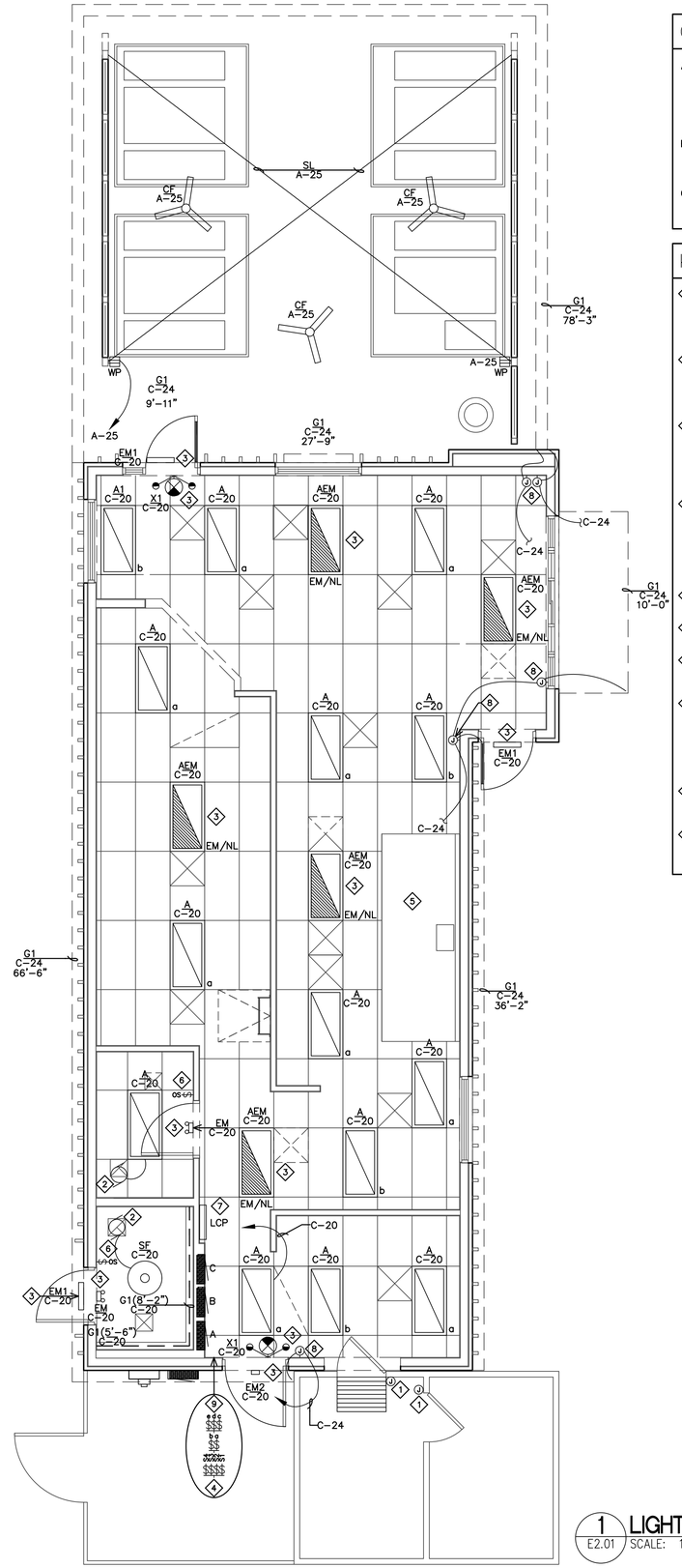
SHEET NUMBER / TITLE:
E1.01
ELECTRICAL SITE PLAN



2 LIGHTING CONTROL DETAIL
E2.01 SCALE: N.T.S.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS	WATTAGE	TYPE	DESCRIPTION	LAMPS	WATTAGE
A	RECESSED 2X4 TROFFER WITH ACRYLIC LENS ELITE LIGHTING #24-0T-LED-4000L-DIM10-MVOLT-40K-85 (OPTEC)	LED	38	J3	TYPE 3 HEAD ON (1) 25' POLE NATURAL ALUMINUM POLE w/2' BASE OPTEC #OLA1-230-UNV-50-3-SQ-NA (OPTEC)	LED	230
AEM	RECESSED 2X4 TROFFER WITH ACRYLIC LENS ELITE LIGHTING #24-0T-LED-4000L-DIM10-MVOLT-40K-85-0EMG-LED (OPTEC)	LED	38	J4	TYPE 4 HEAD ON (1) 25' POLE NATURAL ALUMINUM POLE w/2' BASE OPTEC #OLA1-230-UNV-50-4-SQ-NA (OPTEC)	LED	230
C	SURFACE MOUNT VAPOR PROOF LIGHT BY OWNER PROVIDED W/ WALK-IN BOX	13W CFL	13	SF	BISTRO FLUSH MOUNT LIGHTOLOGY #ACC614058 (OPTEC)	LED	12
CF	CEILING FAN (COVERED PATIO) minkaAIRE #F786-WHF	13W CFL	13	SL	STRING LIGHTS W/END CAP AND SUPPORT CABLE AMERICAN LIGHTING #LS-MS-24-BK, END CAP LS-M/MS-BK (1 PER RUN) (OPTEC)	LED	5
EM	2 HEAD EMERGENCY LIGHT LITHONIA #ELM2-LED (OPTEC)	LED	3	X	2 HEAD EMERGENCY LIGHT LITHONIA #WLTU MR GY (OPTEC)	LED	14
EM1	EXTERIOR EMERGENCY LIGHT W/ REMOTE POWER SUPPLY MULE LIGHTING, INC. #EUE-BB-10-W-W-DG (OPTEC)	LED	3	X1	UNIVERSAL MOUNT SINGLE FACE EXIT/EMERGENCY COMBO SIGN W/BATTERY COMPASS #CCRRC (OPTEC)	LED	3.6
EM2	EXTERIOR EMERGENCY LIGHT MULE LIGHTING, INC. #EOE-BB-10L3-W-W-DG (OPTEC)	LED	3	L.F.S. NOTES: 1. "EM" DENOTES FIXTURE FURNISHED WITH FACTORY INSTALLED EMERGENCY LIGHTING BATTERY PACK. 2. REFER TO ELECTRICAL SPECIFICATIONS FOR FURTHER INFORMATION REGARDING LIGHTING FIXTURES & LAMPS. 3. LIGHTING FIXTURES SHALL BE AS SPECIFIED ABOVE OR AN APPROVED EQUAL. SUBSTITUTIONS MUST BE SUBMITTED FOR REVIEW BY OWNER.		
G1	LED TAPE LIGHT - 4 W/ L.F. - PROVIDE WITH MOUNTING CHANNEL, CLIPS, CONNECTORS & LENS GMLIGHTING #V120-HO-40-XXX-X - (OPTEC)	LED	4/LF				



1 LIGHTING PLAN
E2.01 SCALE: 1/4"=1'-0"

GENERAL NOTES:

A. ALL BRANCH CIRCUITS UP TO 100'-0" SHALL UTILIZE #12 CONDUCTORS MINIMUM. ALL BRANCH CIRCUITS FROM 101'-0" TO 150'-0" IN LENGTH SHALL UTILIZE #10 CONDUCTORS MINIMUM. ALL BRANCH CIRCUITS 151'-0" UP TO 250'-0" IN LENGTH SHALL UTILIZE #8 CONDUCTORS MINIMUM. CIRCUITS ABOVE 251'-0" SHALL UTILIZE #6 CONDUCTORS MINIMUM.

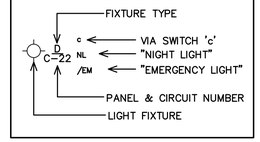
B. G.C. SHALL BE RESPONSIBLE FOR FUNCTIONAL TESTING OF LIGHTING CONTROL SYSTEMS TO ENSURE PROPER CALIBRATION, ADJUSTMENT, AND OPERATION PER SECTION C408.3 OF THE 2020 FLORIDA ENERGY CONSERVATION CODE.

C. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, LOCATIONS AND ELEVATIONS OF ALL INTERIOR AND EXTERIOR LIGHTING.

KEY NOTES:

1. JUNCTION BOX FOR COOLER AND FREEZER LIGHT CONNECTION. CONTRACTOR MUST FIELD VERIFY CONNECTION REQUIREMENTS. TYPE "C" FIXTURE IS PROVIDED WITH COOLER/FREEZER AND WIRED BY ELECTRICAL CONTRACTOR. SEE DRAWING SHEET E2.02 FOR ADDITIONAL INFORMATION.
2. CEILING MOUNTED EXHAUST FAN. CIRCUIT AND SWITCH WITH LOCAL LIGHT FIXTURE. SEE EXHAUST FAN SCHEDULE ON SHEET M1.01. FAN TO BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. FINAL CONNECTION BY ELECTRICAL CONTRACTOR.
3. LIGHT FIXTURE TYPE "AEM", "EM" AND EXIT LIGHT TYPE "E" MUST BE CIRCUITED ON UNSWITCHED LEG OF LOCAL LIGHT CIRCUIT. "AEM" FIXTURES SHALL OPERATE CONTINUOUSLY AS NIGHT LIGHT. CIRCUIT EMERGENCY BATTERY PACK IN BALLAST HOUSING ON THE SAME UNSWITCHED CIRCUIT. PROVIDE LOCK ON BREAKER.
4. PROVIDE (4) LOW VOLTAGE WALL OVERRIDE SWITCHES DESIGNATED "S1", "S2", "S3", AND "S4" FOR CONTROL OF EXTERIOR LIGHTING, SIGNAGE, AND "PAYS" CIRCUITS. SEE DETAIL 2/E2.01 AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION. PERMANENTLY LABEL EACH SWITCH WITH ITS RESPECTIVE NUMBER DESIGNATION. MOUNT SWITCHES IN 4 GANG BOX AT 48" A.F.F.
5. INTEGRAL HOOD LIGHTS. PROVIDE CONNECTION FROM HOOD CONTROL PANEL TO LIGHTS.
6. PROVIDE LUTRON MAESTRO MS-A102-O WALL MOUNTED OCCUPANCY SENSOR FOR RESTROOM LIGHTS.
7. PROVIDE WATTSTOPPER PEANUT PANEL LP24S-8-G-115 AND ASSOCIATED COMPONENTS. SEE DETAIL THIS SHEET FOR MORE INFORMATION.
8. PROVIDE JUNCTION BOX ON INTERIOR AND THEN PROVIDE WHIP WITH FINAL CONNECTION TO EXTERIOR TYPE G1 LED TAPE LIGHT. TAPE LIGHT TO MOUNT IN 1-3/4"W X 3/4"H CHANNEL AT EXTERIOR PERIMETER OF THE BUILDING. PROVIDE ALL CHANNELS, CONNECTORS, MOUNTING CLIPS, ETC. FOR A COMPLETE AND OPERABLE LIGHTING SYSTEM. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
9. LOCATE FAN CONTROLLERS FOR PATIO CEILING FANS AS SHOWN. SEE SHEET E1.01 FOR ADDITIONAL INFORMATION ON CONTROLLERS.
10. PROVIDE SURFACE MOUNTED GFCI RECEPTACLE WITH WEATHERPROOF IN-USE COVER AT 10'-0" A.F.F. FOR STRING LIGHTS. CONCEAL AS MUCH AS POSSIBLE FROM VIEW.

KEY



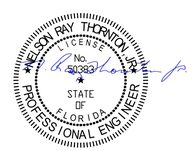
CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:



7/14/2022

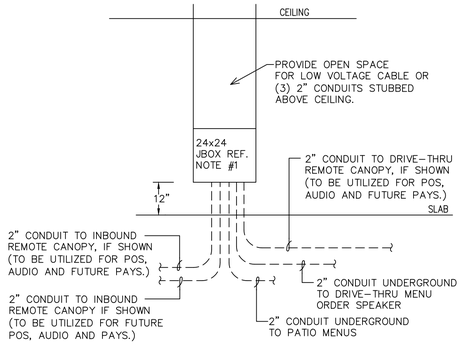
PROJECT NO.: 22161
DRAWN BY: JP
CHECKED BY: JP

ISSUE: DATE:

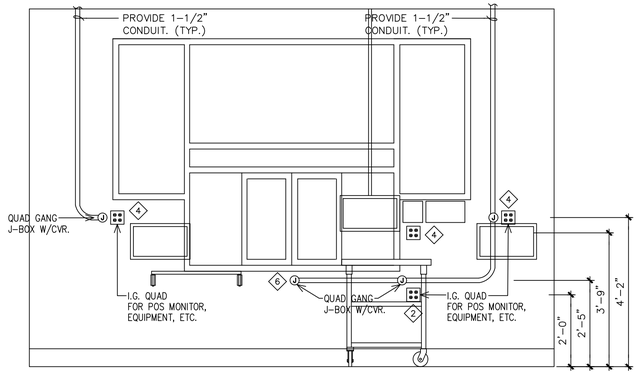
REVISION: DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

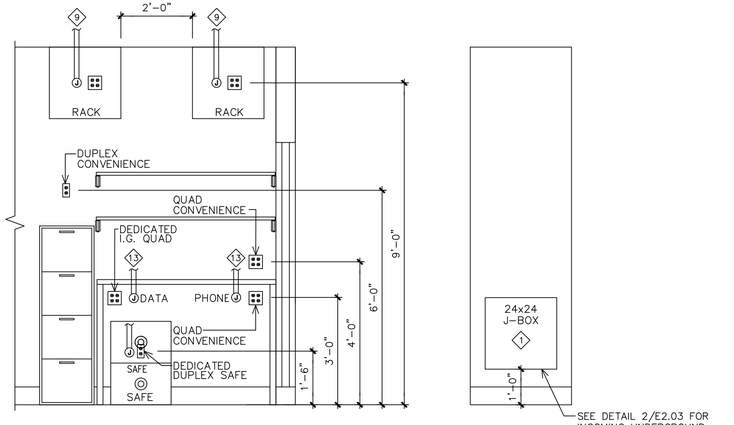
SHEET NUMBER / TITLE:
E2.01
LIGHTING PLAN



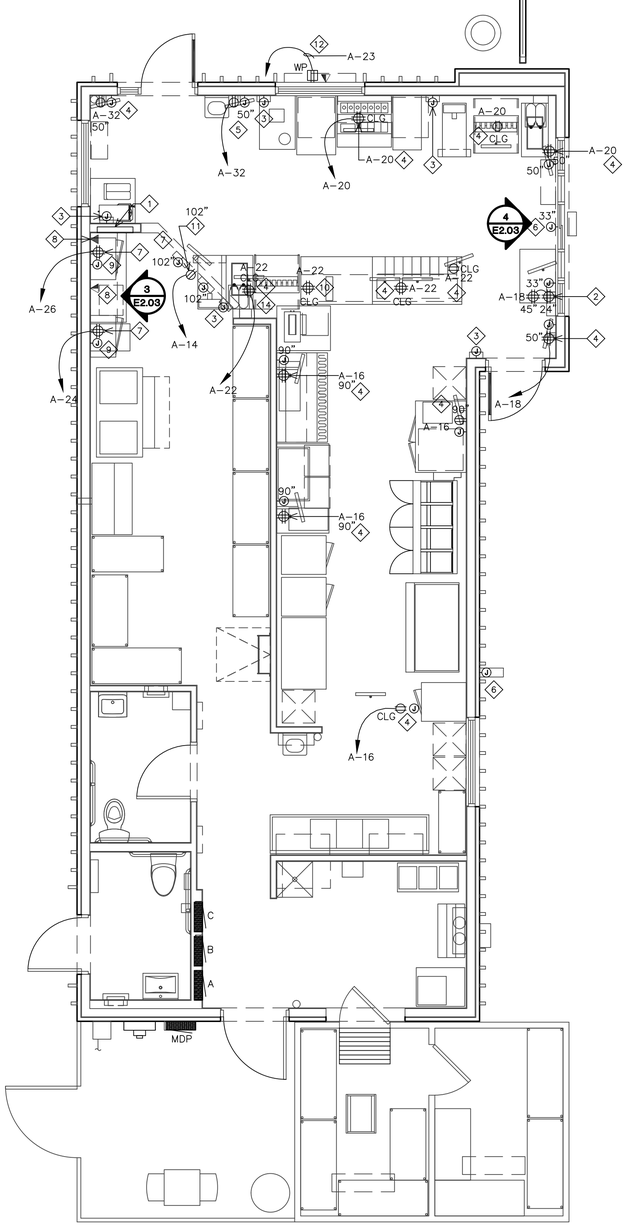
2 E2.03 POS JBOX DIAGRAM
SCALE: NONE



4 2.03 POS ELEVATION AT DRIVE THRU
SCALE: 1/2"=1'-0"



3 E2.03 POS ELEVATION AT OFFICE
SCALE: 1/2"=1'-0"



1 E2.03 POS POWER PLAN
SCALE: 1/4"=1'-0"

POS SITE READY CRITERIA

INSIDE STORE:

*CEILING GRID FINISHED.
*CEILING TILE IN GRID WHERE MONITORS AND POWER IS LOCATED.
*POWER IN PLACE IN WALLS AND CEILING (OPERATING).
*KITCHEN EQUIPMENT/FURNITURE IN PLACE AND SET.
*SONIC MANEGEMNT AUTHORITY AT STORE TO CONFIRM PLACEMENT OF ALL EQUIPMENT.
*TELEPHONE SERVICE OPERATIONAL.

OUTSIDE STORE:

*UNDERGROUND CONDUIT IN PLACE AND CORRECT SIZE.
*CANOPY CONDUIT IN PLACE AND CORRECT SIZE.
*CANOPY STRUCTURE PAINTED.
*MENU HOUSINGS BRACKET WELDED WITH A/C POWER FLEX CONDUIT IN PLACE & OPERATIONAL.
*ALL CONCRETE FOR CANOPIES, PATIO & DRIVE-THRU COMPLETE.
*LABEL PULL-STRINGS (EACH END) ON ALL UNDERGROUND PVC CONDUIT.

GENERAL NOTES:

A. ALL BRANCH CIRCUITS UP TO 100'-0" SHALL UTILIZE #12 CONDUCTORS MINIMUM. ALL BRANCH CIRCUITS FROM 101'-0" TO 150'-0" IN LENGTH SHALL UTILIZE #10 CONDUCTORS MINIMUM. ALL BRANCH CIRCUITS 151'-0" UP TO 250'-0" IN LENGTH SHALL UTILIZE #8 CONDUCTORS MINIMUM. CIRCUITS ABOVE 251'-0" SHALL UTILIZE #6 CONDUCTORS MINIMUM.

B. G.C. TO PROVIDE BLOCKING/BRACING FOR HANGING MONITORS WHERE REQUIRED BY POS INSTALLER. COORDINATE WITH G.C. AND POS INSTALLER.

KEY NOTES:

1. PROVIDE 24"H x 24"W x 4"D JUNCTION BOX AT 12" A.F.F. TO THE BOTTOM WITH ACCESSIBLE COVER FOR LOW VOLTAGE CONDUITS FOR SITE POS EQUIPMENT. SEE SHEET E1.01 AND DETAIL 2/E2.03 FOR ADDITIONAL INFORMATION ON CONDUIT QUANTITIES AND SIZING.
2. PROVIDE ISOLATED GROUND QUAD RECEPTACLE AT 24" A.F.F. FOR POS EQUIPMENT AT THE DRIVE THRU. THERE IS NO CASH DRAWER AT THE DRIVE THRU WINDOW. SEE DETAIL 4/2.03.
3. PROVIDE JUNCTION BOX AT 110" A.F.F. WITH 1" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING WITH PULL STRING FOR WIRELESS BASE STATION.
4. PROVIDE POWER TO MONITORS – ISOLATED GROUND TYPE ORANGE DUPLEX OR QUAD RECEPTACLES (AS SHOWN) MOUNTED IN FACE OF CEILING PANELS OR IN WALL AT HEIGHT INDICATED. CIRCUIT SHALL HAVE ISOLATED GROUND WIRE. PROVIDE 4' TO 6' SLACK OF MC CABLE ABOVE CEILING.
5. PROVIDE POWER FOR SWITCHBOARD – ISOLATED GROUND TYPE ORANGE DUPLEX QUAD RECEPTACLES (AS SHOWN) MOUNTED IN FACE IN WALL AT HEIGHT INDICATED. CIRCUIT SHALL HAVE ISOLATED GROUND WIRE. PROVIDE 4' TO 6' SLACK OF MC CABLE ABOVE CEILING.
6. PROVIDE RECESSED WEATHERPROOF JUNCTION BOX AT 36" A.F.F. WITH 3/4" CONDUIT STUBBED THROUGH WALL AND ROUTED ABOVE ACCESSIBLE CEILING FOR P.O.E. CONNECTION TO PAY STATION. COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN. WHERE LOCATED AT DRIVE THRU, CENTER ON DRIVE THRU WINDOW AND VERIFY WITH POS VENDOR PRIOR TO STUBBING CONDUIT THROUGH WALL. SEE DETAIL 4/E2.03.
7. PROVIDE POWER TO POS RACK – ISOLATED GROUND TYPE ORANGE QUAD RECEPTACLES. CIRCUIT SHALL HAVE ISOLATED GROUND WIRE. SEE DETAIL 3/E2.02 FOR ELEVATIONS.
8. DEDICATED PHONE LINE FOR COMPUTER MODEM WITH RED COVER PLATE LABELED "COMPUTERS ONLY"AND A STANDARD PHONE OUTLET. SEE DETAIL 3/E2.03 FOR MOUNTING HEIGHTS.
9. PROVIDE JUNCTION BOX SIZED TO ACCEPT 2" CONDUIT WITH 2" CONDUIT STUBBED 8" ABOVE CEILING.
10. PROVIDE POWER TO PRINTER – ISOLATED GROUND TYPE ORANGE DUPLEX RECEPTACLE WITH 1-1/2" CONDUIT FOR DATA STUBBED INTO ACCESSIBLE CEILING SPACE. CIRCUIT SHALL HAVE ISOLATED GROUND WIRE. PROVIDE 4' TO 6' SLACK IN MC CABLE.
11. PROVIDE POWER FOR ROUTERS – ISOLATED GROUND TYPE ORANGE RECEPTACLE. CIRCUIT SHALL HAVE ISOLATED GROUND WIRE – PLACE OUTLET AT 102" A.F.F.
12. PROVIDE RECESSED WEATHERPROOF GFI RECEPTACLE AND WEATHERPROOF RECESSED DATA FOR MENU BOARD ON EXTERIOR WALL AT 60" A.F.F. CONDUITS SHALL BE ROUTED FROM NEAREST WALL AND RAN BELOW HIGH WINDOW. COORDINATE EXACT ROUTING IN FIELD PRIOR TO ROUGH-IN.
13. STUB 1" CONDUIT 8" ABOVE ACCESSIBLE CEILING.
14. SECURE HANGING MONITOR TO HEADER.

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:
SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:
NELSON RAY THORNTON LICENSE 50383 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/14/2022

PROJECT NO.: 22161
DRAWN BY: JP
CHECKED BY: JP

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
E2.03
POS POWER PLAN

ELECTRICAL EQUIPMENT SCHEDULE

ITEM NO	QTY	DESCRIPTION	AMPS	VOLTS	PHASE	DISCONNECT	NEMA	HEIGHT (AFF)	PANEL-CIRCUIT	CONDUIT-WIRE-BRKR	GROUND	EQUIPMENT NOTES
1A	1	ICE CREAM MACHINE	(2) 20	208	3	J-BOX	-	78"	B-1,3,5/B-7,9,11	3/4"C.-3 #10-25A/3P	1 #10	
1C	1	ICE CREAM MACHINE	17.5	208	3	J-BOX	-	72"	B-13,15,17	3/4"C.-3 #10-25A/3P	1 #10	
3A	1	REFRIGERATED FOUNTAINETTE	3.4	120	1	C&P	5-20R	24"	B-23	1/2"C.-2 #12-20A/1P	1 #12	
6B	1	TABLETOP MIXER	10	120	1	C&P	5-20R	24"	B-25	1/2"C.-2 #12-20A/1P	1 #12	
7	1	HOT FUDGE WARMER/SERVER	4.2	120	1	C&P	5-20R	24"	B-23	1/2"C.-2 #12-20A/1P	1 #12	
8	1	COFFEE AND TEA BREWER	14	120	1	C&P	5-20R	24"	B-27	1/2"C.-2 #12-20A/1P	1 #12	
10A	2	SLUSH DRINK MACHINE	25.5	208	1	C&P	6-50R	64"	B-2,4/B-6,8	3/4"C.-2 #8-35A/2P	1 #10	PROVIDE CORD AND PLUG
11	2	SLUSH FILL STATION	1	120	1	C&P	5-20R	64"	B-10	1/2"C.-2 #12-20A/1P	1 #12	
12	2	DRINK MACHINE WITH ICE BIN	13.3	120	1	C&P	(2) 5-20R	24"	B-12/B-14	1/2"C.-2 #12-20A/1P	1 #12	
19	1	LEMONADE DISPENSER	3.6	120	1	C&P	5-20R	24"	B-29	1/2"C.-2 #12-20A/1P	1 #12	
29B	1	36" DOUBLE DOOR UNDER. FREEZER	5.7	120	1	C&P	5-20R	24"	B-47	1/2"C.-2 #12-20A/1P	1 #12	
30A	1	VERTICAL HOLDING UNIT	13.3	120	1	C&P	5-20R	45"	B-33	1/2"C.-2 #12-20A/1P	1 #12	
31	1	SALT & BAG HOLD UNIT	14.4	208	1	C&P	6-20R	45"	B-35,37	1/2"C.-2 #12-20A/1P	1 #12	
33	1	HOOD CONTROL PANEL	10.83	120	1	J-BOX	-	VERIFY	C-19	1/2"C.-2 #12-15A/1P	1 #12	
34F	1	FRYERS	12.2	120	1	C&P	5-20R	24"	B-16 ST	1/2"C.-2 #12-20A/1P ST	1 #12	
37A	2	REACH-IN FREEZER	7.8	120	1	C&P	5-20R	80"	B-24/B-26	1/2"C.-2 #12-20A/1P	1 #12	
38A	1	REACH-IN REFRIGERATOR	5.8	120	1	C&P	5-20R	80"	B-28	1/2"C.-2 #12-20A/1P	1 #12	
40A	1	GRILL/GRIDDLE	1	120	1	C&P	5-20R	24"	B-20 ST	1/2"C.-2 #12-20A/1P ST	1 #12	
41C	1	EXPEDITE TABLE WITH WARMERS AND SACK RACK	18.32	120	1	C&P	5-30R	24"	B-39	3/4"C.-2 #10-30A/1P	1 #10	
	1		9.1	120	1	C&P	5-20R	24"	B-41	1/2"C.-2 #12-20A/1P	1 #12	
42A	1	REF. TABLE (DRESSER) - SINGLE SIDED	9.6	120	1	C&P	5-20R	24"	B-40	1/2"C.-2 #12-20A/1P	1 #12	
42A.1	1	HEATED WORK TOP	10	120	1	C&P	5-20R	24"	B-42	1/2"C.-2 #12-20A/1P	1 #12	
45C	1	HORIZONTAL HOLDING UNIT	10.8	208	1	C&P	6-15R	48"	B-36,38	1/2"C.-2 #12-20A/1P	1 #12	
46E	1	TOASTER AND WARMER TABLE	12	120	1	C&P	5-20R	24"	B-30	1/2"C.-2 #12-20A/1P	1 #12	
47	2	STEAMER	15.9	208	1	C&P	6-20R	45"	B-19,21/B-44,46	1/2"C.-2 #12-20A/2P	1 #12	
48B	1	BUN TOASTER	15.9	208	1	C&P	6-20R	48"	B-32,34	1/2"C.-2 #12-20A/2P	1 #12	
51A	1	COUNTERTOP WARMERS	12.5	120	1	C&P	5-20R	24"	B-48	1/2"C.-2 #12-20A/1P	1 #12	
52E	1	HOT/COLD COMBO CONEY TABLE	15	120	1	C&P	5-20R	24"	B-50	1/2"C.-2 #12-20A/1P	1 #12	
53	1	HOT DOG WARMER/HOLDING DRAWER	11.7	120	1	C&P	5-20R	45"	B-52	1/2"C.-2 #12-20A/1P	1 #12	
54	1	HOT DOG CAROUSEL	14.6	120	1	C&P	5-20R	45"	B-54	1/2"C.-2 #12-20A/1P	1 #12	
66A	2	ICE MACHINES REMOTE CONDENSERS	2.7	208	1	30A/2P NFS	-	ON ROOF	SEE NOTE			POWERED VIA ICE MACHINE
68A	2	ICE MACHINES	20.3	208	1	C&P	6-30R	75"	C-45,47;C-51,53	3/4"C.-2 #10-30A/2P	1 #10	
70C	1	GREASE REMOVAL TANK	5	120	1	C&P	5-20R	84"	C-2	1/2"C.-2 #12-20A/1P	1 #12	
87	1	CABONATOR TANK	4.16	120	1	C&P	5-20R	48"	C-6	1/2"C.-2 #12-20A/1P	1 #12	
88	1	SLUSHI PRECHILLER	4.4	120	1	C&P	5-20R	VERIFY	C-4	1/2"C.-2 #12-20A/1P	1 #12	
92A	1	PRESSURE WASHER	24	208	1	C&P	6-30R	72"	C-38,40	3/4"C.-2 #10-30A/2P	1 #10	PROVIDE 5' CORD AND PLUG
95	1	WATER HEATER	2	120	1	C&P	5-20R	COORIDNATE	C-8	1/2"C.-2 #12-20A/1P	1 #12	
99A	1	COOLER COIL/FAN AND REMOTE CONDENSER	7.2	208	1	30A/2P NFS	-	ON ROOF	C-23,25	3/4"C.-2 #12-15A/2P	1 #12	
	1	EVAPORATOR	1.8	120	1	30A/1P NFS	-	COOLER	C-27	1/2"C.-2 #12-20A/1P	1 #12	
100A	1	FREEZER COIL/FAN AND REMOTE CONDENSOR	21.4	208	1	60A/2P NFS	-	ON ROOF	C-31,33	3/4"C.-2 #8-40A/2P	1 #10	
	1	EVAPORATOR	8.7	208	1	30A/2P NFS	-	FREEZER	C-35,37	3/4"C.-2 #12-20A/2P	1 #12	
102A	1	WATER FILTRATION SYSTEM	0.08	120	1	C&P	5-20R	84"	C-8	1/2"C.-2 #12-20A/1P	1 #12	
RTU-1	1	ROOF TOP UNIT	59	208	3	100A/3P FS	-	ON ROOF	SEE MDP	1-1/4"C.-3#3-80A/3P	1 #8	
RTU-2	1	ROOF TOP UNIT	59	208	3	100A/3P FS	-	ON ROOF	SEE MDP	1-1/4"C.-3#3-80A/3P	1 #8	
EF-1	1	HOOD EXHAUST FAN	4.4	208	3	30A/3P NFS	-	ON ROOF	C-1,3,5	3/4"C.-3 #12-15A/1P	1 #12	
EF-2	1	RESTROOM EXHAUST FAN	1.1	120	1	J-BOX	-	IN CEILING	C-20	1/2"C.-2 #12-20A/1P	1 #12	CONTROL VIA RESTROOM LIGHT SWITCH
EF-3	1	RESTROOM EXHAUST FAN	1.1	120	1	J-BOX	-	IN CEILING	C-20	1/2"C.-2 #12-20A/1P	1 #12	CONTROL VIA RESTROOM LIGHT SWITCH
EWH-1	1	ELECTRIC WALL HEATER	14.4	208	1	30A/2P NFS		IN WALL	C-7,9	3/4"C.-2 #12-20A/1P	1 #12	CONTROL VIA INTEGRAL THERMOSTAT

GENERAL NOTES

A. DIVISION 16 CONTRACTOR SHALL PROVIDE RECEPTACLES AND DISCONNECT SWITCHES AS CALLED FOR IN THE SCHEDULE ABOVE UNLESS OTHERWISE NOTES.
B. VERIFY ALL EQUIPMENT RATINGS AND REQUIREMENTS WITH APPROVED SHOP DRAWINGS/OWNER SUPPLIER PRIOR TO ROUGH-IN.
C. ALL EQUIPMENT AND MOTORS SHALL BE CONNECTED BY DIVISION 16 CONTRACTOR UNLESS STATED OTHERWISE.
D. ALL 120V 15A & 20A RECEPTACLES, 208V SINGLE PHASE RECEPTACLES UNDER 50A, AND 208V 3 PH. RECPEPTACLES UNDER 100A IN KITCHEN AND PREP AREAS SHALL BE GFCI PROTECTED AT THE BREAKER UNLESS NOTED DIFFERENTLY ON THE PLANS.
E. EF-1 HAS A CONNECTION FROM PANEL "C" TO THE CONTROL BOX ON HOOD AND THEN FROM THE CONTROL BOX TO UNITS ON THE ROOF. SEE HOOD DRAWINGS FOR ALL IN FIELD CONNECTIONS.
F. ALL EQUIPMENT SHALL BE CONNECTED WITH SEPARATE #12 GROUND WIRE UNLESS NOTED OTHERWISE.
G. M.R.S. IS AN ABBREVIATION FOR MOTOR RATED SWITCH.

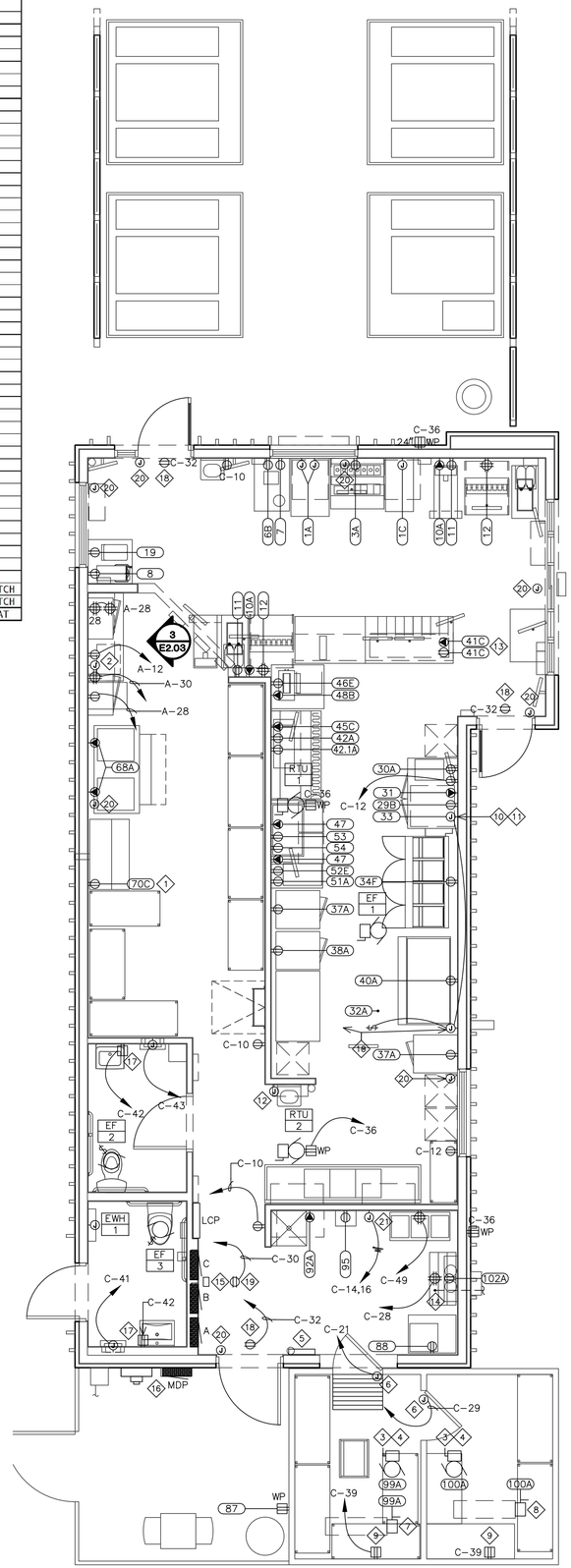
ELECTRICAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	2x4 LED LIGHTING FIXTURE
	RECESSED LED DOWNLIGHT
	LED POLE LIGHT FIXTURE (SEE E1.01)
	SURFACE LIGHTING FIXTURE
	EXIT/EMERGENCY COMBO SIGN, DIRECTIONAL ARROWS INDICATED.
	EXIT SIGN, DIRECTIONAL ARROWS INDICATED.
	LED STRIP LIGHT SURFACE OR SUSPENDED.
	PENDANT LIGHT FIXTURE
J	JUNCTION OR PULL BOX.
	DUPLEX RECEPTACLE, MOUNTED 24" UP UNLESS NOTED OTHERWISE.
	QUAD RECEPTACLE. TWO DUPLEX RECEPTACLES GANG MOUNTED.
	ISOLATED GROUND DUPLEX RECEPTACLE.
	GROUND FAULT INTERRUPTING RECEPTACLE.
WP	WEATHER PROOF GROUND FAULT INTERRUPTING RECEPTACLE.
	CEILING MOUNTED DUPLEX RECEPTACLE
CLG	CEILING MOUNTED QUAD RECEPTACLE. TWO DUPLEX GANG MOUNTED
$	SINGLE POLE SWITCH MOUNTED 48" UP UNLESS NOTED OTHERWISE.
$2 $3 $4	TWO POLE, THREE WAY, FOUR WAY SWITCHES MTD. 48" UP.
$K $	KEY OPERATED SWITCH, PILOT LIGHT SWITCH, MTD. 48" UP.
$$$	SINGLE POLE SWITCHES GANG MOUNTED.
$OS	SINGLE POLE WALL MOUNTED OCCUPANCY/VACANY SENSOR SWITCH.
T	TELEPHONE OUTLET
TV	DATA OUTLET FOR P.O.S. SYSTEM. EMPTY 4x4 BOX W/ 1-1/2" CONDUIT TO ABOVE CEILING,WIRING BY OTHERS. SUPPLY S.S. COVER PLATE W/2" DIA. GROMIT HOLE
TC	TIME CLOCK, PHOTOCELL.
SM	MANUAL MOTOR STARTER-DISCONNECT SWITCH.
	MOTOR DISCONNECT OR FUSED SAFETY SWITCH.
M	MOTOR.
	ELECTRICAL PANELBOARDS, SURFACE OR FLUSH MOUNTED.
#10	120 OR 277V CIRCUIT HOME RUN TO PANEL. LINE, NEUT., GND.
	480, 240, 208V CKT HOME RUN TO PANEL, WIRE SIZE NOTED.
	CONDUIT CONCEALED IN WALLS OR ABOVE CEILING.
	CONDUIT CONCEALED IN OR UNDER FLOOR.
WP	DENOTES "WEATHER PROOF".
EM	DENOTES LIGHTING FIXTURE ON EMERGENCY POWER CIRCUIT.
*1.	PLAN NOTE. REFER TO NOTATION ON PLANS.
F	FIRE ALARM MANUAL PULL STATION.
F	DUCT SMOKE DETECTOR.
TV	CCTV OUTLET

NOTE: ALL SYMBOLS MAY NOT APPEAR ON THE DRAWINGS.

ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE:

PRESCRIPTIVE ✓ PERFORMANCE___
LIGHTING SCHEDULE
LAMP TYPE REQUIRED IN FIXTURE: SEE "E" DRAWINGS
NUMBER OF LAMPS IN FIXTURE: SEE "E" DRAWINGS
BALLAST TYPE USED IN THE FIXTURE: SEE "E" DRAWINGS
NUMBER OF BALLASTS IN FIXTURE: SEE "E" DRAWINGS
TOTAL WATTAGE PER FIXTURE: SEE "E" DRAWINGS
TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED: 728 W VS. 1171 W
TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED: 992 W VS. 1,109 W
EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS):
NONE
MOTOR HORSEPOWER:
NUMBER OF PHASES:
MINIMUM EFFICIENCY:
MOTOR TYPE: BY OTHERS
OF POLES:



1 POWER PLAN
E2.02 SCALE: 1/4"=1'-0"

GENERAL NOTES:

A. ALL RECEPTACLES MOUNTED AT 24" A.F.F. UNLESS NOTED OTHERWISE.
B. SEE K-SHEETS FOR EQUIPMENT PLAN & EQUIPMENT SCHEDULE.
C. OWNER TO WALK THROUGH WITH GENERAL CONTRACTOR / ELECTRICAL ENGINEER FOR APPROVAL OF OUTLET PLACEMENT.
D. ROUGH-INS AND FINAL CONNECTIONS FOR ALL OWNER FURNISHED EQUIP. BY E.C. UNLESS NOTED OTHERWISE.
E. ALL EMPTY CONDUIT SHALL HAVE A PULL WIRE.
F. E.C. SHALL COORDINATE DEVICE MOUNTING HEIGHTS, RECEPTACLE NEMA CONFIGURATIONS AND EXACT ELECTRICAL REQUIREMENTS WITH THE KITCHEN EQUIPMENT SUPPLIER, EQUIPMENT SPECIFICATION SHEETS AND K-SHEETS.
G. E.C. SHALL PROVIDE AND INSTALL CORD AND PLUG KITS FOR ANY KITCHEN EQUIPMENT AS NEEDED.
H. ALL BRANCH CIRCUITS UP TO 100'-0" SHALL UTILIZE #12 CONDUCTORS MINIMUM. ALL BRANCH CIRCUITS FROM 101'-0" TO 150'-0" IN LENGTH SHALL UTILIZE #10 CONDUCTORS MINIMUM. ALL BRANCH CIRCUITS 151'-0" UP TO 250'-0" IN LENGTH SHALL UTILIZE #8 CONDUCTORS MINIMUM. CIRCUITS ABOVE 251'-0" SHALL UTILIZE #6 CONDUCTORS MINIMUM.

KEY NOTES:

1. PROVIDE DUPLEX RECEPTACLE WITH LOW VOLTAGE CONNECTIONS TO CONTROLLER AND/OR ALARMS AS REQUIRED FOR GREASE RECOVERY UNIT WHEN CADDY REQUIRED.
2. PROVIDE 1" CONDUIT FROM JUNCTION BOX TO 8" ABOVE CEILING FOR SAFE.
3. CONDENSER FOR COOLER/FREEZER LOCATED ON ROOF. SEE MEP1.01 AND EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
4. PROVIDE SEAL-OFF FITTINGS AND FOAM SEALANT AT ALL ELECTRICAL PENETRATIONS INTO FREEZER & COOLER BOX.
5. LOCATE DEFROST TIMER ADJACENT TO WALK-IN FREEZER. PROVIDE INTERCONNECTION WIRING BETWEEN ROOF MOUNTED CONDENSER AND EVAPORATOR. COORDINATE WITH EQUIPMENT SUPPLIER.
6. PROVIDE JUNCTION BOX ABOVE COOLER/FREEZER FOR COOLER/FREEZER LIGHTS AND DOOR HEATER CONNECTION. CONTRACTOR MUST FIELD VERIFY POINT OF CONNECTION ON FREEZER/COOLER UNIT IN FIELD.
7. PROVIDE 120V, 1 POLE, 30AP NEMA 3R NON-FUSED DISCONNECT IN COOLER FOR EVAPORATOR FAN CONNECTION.
8. PROVIDE 240V, 2 POLE, 30A NEMA 3R NON-FUSED DISCONNECT IN FREEZER FOR EVAPORATOR FAN CONNECTION.
9. 120V, 1P, 20 AMP WP GFI RECEPTACLE WITH WHILE IN-USE COVER FOR CONDENSATE HEAT TAPE. COORDINATE LOCATION PRIOR TO ROUGH-IN.
10. CONNECT TO EXHAUST SYSTEM INTERLOCK BOX. SEE MANUFACTURER'S CONTROL WIRING DIAGRAM. JUNCTION BOX & FAN SWITCH FURNISHED WITH HOOD.
11. EXHAUST SYSTEM WIRE INTERLOCK BOX. MOUNT ON WALL ABOVE CEILING. REFER TO MANUFACTURERS CONTROL WIRING DIAGRAM. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
12. FIRE SUPPRESSION SYSTEM CONTROL BOX. FIELD VERIFY EXACT LOCATION.
13. PROVIDE CEILING MOUNTED RECEPTACLES FOR EXPO UNIT. SEE EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION AND VERIFY FINAL LOCATION WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN.
14. PROVIDE QUAD RECEPTACLE FOR AUTOMATIC LAWN SPRINKLER CONTROLLER AND ASSOCIATED HEAT TAPE. MOUNT AT 60" A.F.F. AND PROVIDE 1-1/2" CONDUIT UNDERGROUND TO NEAREST LANDSCAPE AREA. WIRING TO LANDSCAPE AREA BY OTHERS. REFER TO LANDSCAPE PLAN, IF PROVIDED. COORDINATE WITH OWNER PRIOR TO ROUGH-IN TO VERIFY IF AN IRRIGATION SYSTEM WILL BE PROVIDED.
15. TELEPHONE INTERFACE BOX. MOUNT ON WALL BELOW CEILING ABOVE PANELS.
16. ELECTRICAL SERVICE ENTRANCE AND METERING EQUIPMENT. SEE ELECTRICAL SERVICE RISER FOR ADDITIONAL INFORMATION.
17. PROVIDE GFI RECEPTACLE UNDER THE LAVATORY FOR FAUCET SENSOR.
18. PROVIDE CEILING MOUNTED RECEPTACLE FOR DOOR SECURITY TRANSFORMER.
19. PROVIDE CEILING MOUNTED DUPLEX OUTLET FOR FUTURE SECURITY SYSTEM. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
20. PROVIDE JUNCTION BOX WITH LOW VOLTAGE WIRING TO EXTERIOR DOORS & WINDOWS FOR FUTURE SECURITY SYSTEM BY OTHERS. TERMINATE IN JUNCTION BOX ADJACENT TO TELEPHONE INTERFACE BOX AT 80" A.F.F. WITH 2" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING. LEAVE 24" WHIP ON EACH WIRE.
21. PROVIDE CONNECTION TO HEAT TRACE AND HEAT TRACE CONTROLLER FOR HOT WATER LINE. COORDINATE WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:
NELSON RAY THORNTON LICENSE No. 50383 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/14/2022

PROJECT NO.: 22161
DRAWN BY: JP
CHECKED BY: JP

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
E2.02
POWER PLAN

GENERAL NOTES

1. ALL WIRING AND EQUIPMENT BY EC UNLESS NOTED OTHERWISE.
2. PANELBOARDS "MDP","A", "B", AND "C" SHALL BE U.L. LISTED.
3. ALL INTERIOR METAL PIPING (WATER AND GAS) SHALL BE BONDED TO THE SERVICE ENTRANCE ENCLOSURE, THE GROUNDED CONDUCTOR AT THE SERVICE, THE GROUNDING ELECTRODE CONDUCTOR OF SUFFICIENT SIZE OR TO ONE OR MORE GROUNDING ELECTRODES USED. THE BONDING JUMPER SHALL BE SIZED IN ACCORDANCE WITH TABLE 250.66 (FOR WATER). THE GAS PIPING SHALL BE BONDED WITH A JUMPER SIZED PER TABLE 250.122 USING THE RATING OF THE CIRCUIT THAT MAY ENERGIZE THE PIPING, PER NEC 250.104(B).
4. ELECTRICAL CONTRACTOR SHALL PROVIDE A DIRECTORY, COMPLETELY TYPED TO IDENTIFY CIRCUITS, WITH TRANSPARENT PROTECTOR FOR EACH PANEL.
5. EC SHALL VERIFY ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT W/ NAMEPLATE DATA PRIOR TO INSTALLATION. MATCH RECEPTACLES, PLUGS AND CORD EXTENSIONS AS REQUIRED. PROVIDE DISCONNECT TO MATCH EQUIPMENT WHERE REQUIRED.
6. EC SHALL PROVIDE ALL ELECTRICAL PANELS WITH ARC-FLASH WARNING LABELS PER NEC.
7. EC TO PROVIDE AND INSTALL PLACARDS ON EACH PANEL INDICATING PANEL'S SOURCE, INCLUDING PANEL NAME AND FEEDER CIRCUIT NUMBER AND THE AVAILABLE FAULT CURRENT AND THE DATED CALCULATED.
8. CIRCUIT BREAKERS FOR MULTI-CONDUCTOR CIRCUITS SHALL HAVE A COMMON TRIP FOR ALL CONDUCTORS.
9. PANEL PLACARDS ARE TO BE MADE FROM LAMINATED PLASTIC PROVIDING A BLACK BACKGROUND TO WHITE ENGRAVED LETTERING.
10. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL "AVAILABLE FAULT CURRENT" PHENOLIC LABEL ON SERVICE EQUIPMENT PER NEC 110.24(A).

FAULT CURRENT CALCULATIONS

Basic Assumptions:

Transformer	Utility Xfmr
Rating	225 KVA
Secondary	208 V
Impedance	3.0%
SCA-end	20,819 A

Short circuit current through each cable segment:

From	To	Parallel	Length	Voltage	Wire Size	Wire Type	Conduit Type	C*	SCA-beg	SCA-end
Utility Xfmr	CT CABINET	2 Sets	75 ft	208 V	#350	Cu	NonMetallic	22737	20,819 A	16,190 A
CT CABINET	MDP	2 Sets	10 ft	208 V	#350	Cu	NonMetallic	22737	16,190 A	15,723 A
MDP	Panel A	1 Sets	8.0 ft	208 V	#1/0	Cu	Metallic	8925	15,723 A	14,072 A
MDP	Panel B	1 Sets	11.0 ft	208 V	#3/0	Cu	Metallic	12844	15,723 A	14,138 A
MDP	Panel C	1 Sets	13.0 ft	208 V	#1/0	Cu	Metallic	8925	15,723 A	13,205 A

* Constant is calculated as: 1 divided by square root of impedance times 1,000 (Impedance values from IEEE Std 241-1990 page 420)

FAULT CURRENT CALCULATION NOTES:

EC SHALL PROVIDE A TESTED SERIES RATED DISTRIBUTION SYSTEM CAPABLE OF WITHSTANDING THE ACTUAL AVAILABLE FAULT CURRENT. AT THE TIME OF DESIGN THE TRANSFORMER SPECIFICATIONS AND LOCATION WERE NOT KNOWN. THESE CALCULATIONS REPRESENT A WORST CASE ESTIMATE BASED ON AN INFINITE BUS DESIGN. EC SHALL ONLY USE THESE CALCULATIONS AS A GUIDELINE FOR THE PROPER SELECTION AND COORDINATION OF BREAKERS. ACTUAL VALUES WILL VARY ACCORDING TO NUMEROUS VARIABLES. VALUES ARE VALID ONLY FOR A 225kVA TRANSFORMER WITH AN IMPEDANCE OF 3.00% OR GREATER AND SERVICE LATERALS NOT LESS THAN 85 FEET IN TOTAL LENGTH. EC SHALL FIELD VERIFY TRANSFORMER RATINGS AND LOCATION AND ALL CONDUCTOR VARIABLES PRIOR TO PURCHASING BREAKERS. ADJUST AS REQUIRED. CONSULT DESIGN ENGINEER AS NEEDED.

PANEL "A"

CKT. #	DESCRIPTION	NOTE	BREAKER POLE	BREAKER AMP.	LOAD (KVA)	A	B	C	LOAD (KVA)	BREAKER AMP.	BREAKER POLE	NOTE	DESCRIPTION	CKT. #
1	POLE LIGHTS	3	1	20	0.69	1.3			0.60	20	1	3	CANOPY MENU	2
3	POLE LIGHTS	3	1	20	0.69		1.3		0.60	20	1		CANOPY PAYS	4
5	CANOPY LIGHTING (SOUTH)	3	1	20	0.63			1.4	0.80	20	1	3	CANOPY MENU	6
7	"SONIC" SIGN STORE FRONT	3	1	20	0.60	1.4			0.80	20	1		CANOPY PAYS	8
9	"SONIC" SIGN SOUTH SIDE REAR	3	1	20	0.60		0.6			20	1	1	SPARE	10
11	"SONIC" SIGN NORTH SIDE REAR	3	1	20	0.60			0.8	0.18	20	1	1	SAFE	12
13	NEON "CHERRY" SIGN DRIVE THRU	3	1	20	0.12	0.5			0.36	20	1	1,4	ROUTERS	14
15	DIRECTIONAL SIGN	3	1	20	0.20		1.3		1.08	20	1	1,4	POS MONITORS/EQUIPMENT	16
17	POLE SIGN	3	2	30	1.20			2.3	1.08	20	1	1,4	DT POS MONITORS/EQUIPMENT	18
19					1.20	1.7			0.54	20	1	1,4	POS MONITORS/EQUIPMENT	20
21	CANOPY LIGHTING (NORTH)	3	1	20	0.65		1.9		1.26	20	1	1,4	POS MONITORS/EQUIPMENT	22
23	PATIO SPARE		1	20				1.1	1.08	20	1	1,4	POS RACK MANAGER OFFICE	24
25	PATIO STRING LIGHTS & FAN	3	1	20	0.36	1.4			1.08	20	1	1,4	POS RACK MANAGER OFFICE	26
27	DT MENU BOARDS #1		1	20	0.29		1.2		0.90	20	1	1	OFFICE CONVENIENCE RECEPTS	28
29	DT ORDER PEDESTAL #1		1	20	0.30			0.7	0.36	20	1	1	DEDICATED OFFICE QUAD	30
31	DT MENU BOARDS #2		1	20	0.29	0.7			0.36	20	1	1,4	POS MONITORS/EQUIPMENT	32
33	DT ORDER PEDESTAL #2		1	20	0.30		0.3			20	1	1	SPARE	34
35	SPARE		1	20				0.0		20	1	1	SPARE	36
37	SPARE		1	20		0.0				20	1		SPARE	38
39	SPARE		1	20			0.0			20	1		SPARE	40
41	SPARE		1	20				0.0		20	1		SPARE	42
						7.0	6.6	6.2	TOTAL KVA PER PHASE					
						58	55	52	AMPS PER PHASE					

VOLTAGE 208Y/120V
PHASE 3
WIRE 4
MAINS MLO
RATING 225 (AMPS)
WITH I.G. BAR YES

LOCATION SEE PLAN
MOUNTING RECESSED
FEEDER SEE "MDP"
MIN AIC 65k SERIES RATED

ITEMS	CON.	%	DEM.
RECEPTACLES	8.3	code	8.3
KITCHEN	0.3	65%	0.2
HVAC	0.0	100%	0.0
LIGHTS (INT.)	0.0	125%	0.0
LIGHTS (EXT.)	3.0	125%	3.8
MISC.	8.2	100%	8.2
TOTAL KVA	19.8		20.4
TOTAL AMPS	55		57

NOTES:
1) PROVIDE GFI BREAKER.
2) PROVIDE LOCKABLE BREAKER PER CEC 422.31
3) VIA LCP SEE DETAIL 2/E2.01.
4) I.G. CIRCUIT- PROVIDE ADDITIONAL ISOLATED GROUND.
5)
6)
7)
8)

PANEL "MDP"

CKT. #	DESCRIPTION	NOTE	BREAKER POLE	BREAKER AMP.	LOAD (KVA)	A	B	C	LOAD (KVA)	BREAKER AMP.	BREAKER POLE	NOTE	DESCRIPTION	CKT. #
1	PANEL "A"		3	150	7.00	32.4			25.35	200	3		PANEL "B"	2
3	4#1/0, #6 G. in (1) 2" C. EA				6.57		31.5		24.94				4#3/0, #6 G. in (1) 2-1/2" C.	4
5	#6 ISO. G.				6.23			29.9	23.64					6
7	PANEL "C"		3	150	13.96	21.0			7.08	80	3	1	RTU-1 FLA: 59.0 MCA: 65.0	8
9	4#1/0, #6 G. in (1) 2"C.EA				13.16		20.2		7.08				3#3, #8 G. in (1) 1-1/4" C. EA	10
11					10.46			17.5	7.08					12
13	SPACE		3			7.1			7.08	80	3	1	RTU-2 FLA: 59 MCA: 65.0	14
15							7.1		7.08				3#3, #8 G. in (1) 1-1/4" C. EA	16
17								7.1	7.08					18
						60	59	54	TOTAL KVA PER PHASE					
						504	490	454	AMPS PER PHASE					

VOLTAGE 208Y/120V
PHASE 3
WIRE 4
MAINS 600 MCB
RATING 600 (AMPS)
WITH I.G. BAR YES

LOCATION SEE PLAN
MOUNTING SURFACE
FEEDER SEE RISER
MIN AIC 65k FULLY RATED

SEE SERVICE CALCULATION TOTAL DEMAND AMPERES

NOTES:
1) PROVIDE HACR BREAKER.

POWER LOAD SUMMARY (KVA)

PANEL	RECEPTACLE LOAD	KITCHEN LOAD	HVAC LOAD	INTERIOR LIGHTING LOAD	EXTERIOR LIGHTING LOAD	MISCELLANEOUS LOADS	TOTAL CONNECTED LOAD
PANEL "MDP"	0.00	0.00	46.48	0.00	0.00	0.00	46.48
PANEL "A"	8.28	0.30	0.00	0.00	3.02	8.20	19.80
PANEL "B"	0.00	73.94	0.00	0.00	0.00	0.00	73.94
PANEL "C"	13.60	1.03	1.58	0.18	0.00	21.18	37.58
TOTAL CONNECTED LOAD BY EQUIPMENT TYPE	21.88	75.27	48.06	0.18	3.02	29.38	177.79

SERVICE CALCULATION PER CEC 220.88	
TOTAL CONNECTED KVA:	177.79
A: TOTAL CONNECTED KVA OVER 200KVA =	177.79 KVA
B: 50% OF THE AMOUNT OVER 200KVA =	
DEMAND KVA:	177.79 KVA
TOTAL DEMAND AMPERES:	493.50 Amps

TOTAL CONNECTED KVA	177.79
TOTAL CONNECTED AMPS	493.51

PANEL "B"

CKT. #	DESCRIPTION	NOTE	BREAKER POLE	BREAKER AMP.	LOAD (KVA)	A	B	C	LOAD (KVA)	BREAKER AMP.	BREAKER POLE	NOTE	DESCRIPTION	CKT. #
1	1A-ICE CREAM MACHINE (LEFT SIDE)	2	3	25	2.40	5.1			2.65	35	2	1	10A-SLUSH MACHINE	2
3	3#10, #10 G. in (1) 3/4" C. EA				2.40		5.1		2.65				2#8, #10 G. in (1) 3/4" C. EA	4
5					2.40			5.1	2.65	35	2	1	10A-SLUSH MACHINE	6
7	1A-ICE CREAM MACHINE (RIGHT SIDE)	2	3	25	2.40	5.1			2.65				2#8, #10 G. in (1) 3/4" C. EA	8
9	3#10, #10 G. in (1) 3/4" C. EA				2.40		2.6		0.24	20	1	1	11-SLUSH FILL STATION	10
11					2.40			4.0	1.60	20	1	1	12-ULTIMATE DRINK MACHINE	12
13	1C-ICE CREAM MACHINE	2	3	25	2.10	3.7			1.60	20	1	1	12-ULTIMATE DRINK MACHINE	14
15	3#10, #10 G. in (1) 3/4" C. EA				2.10		3.6		1.46	20	1	1	34F-FRYER	16
17					2.10			2.1				1	SHUNT TRIP FOR 34F-FRYER	18
19	47-STEAMER	1	2	20	1.65	1.8			0.12	20	1	1	40A-GAS GRIDDLE	20
21	2#12, #12 G. in (1) 3/4" C. EA				1.65		1.7					1	SHUNT TRIP FOR 40A-GAS GRIDDLE	22
23	3A & 7 FOUNTAIN/HOT FUDGE	1	1	20	0.91			1.8	0.85	20	1	1	37A-REACH IN FREEZER	24
25	6B-TABLE TOP MIXER	1	1	20	1.20	2.1			0.85	20	1	1	37A-REACH IN FREEZER	26
27	8-COFFEE MACHINE	1	1	20	1.68		2.4		0.70	20	1	1	38A-REACH IN REFRIGERATOR	28
29	19-LEMONADE DISPENSER	1	1	20	0.43			1.9	1.44	20	1	1	46E-TOASTER & WARMER TABLE	30
31	SPARE	1	1	20		1.7			1.65	20	2	1	48B-BUN TOASTER	32
33	30A-VERTICAL HOLDING UNIT	1	1	20	1.60		3.3		1.65				2#12, #12 G. in (1) 3/4" C. EA	34
35	31-SALT AND BAG UNIT	1	2	20	1.50			2.6	1.12	20	2	1	45C-HOLDING UNIT	36
37	2#12, #12 G. in (1) 3/4" C. EA				1.50	2.6			1.12				3#12, #12 G. in (1) 3/4" C. EA	38
39	41C-EXPO TABLE	1	1	25	2.20		3.4		1.15	20	1	1	42A-REFRIGERATED TABLE	40
41	41C-EXPO TABLE	1	1	20	1.10			2.3	1.20	20	1	1	42.1A-HEATED WORK TOP	42
43	SPARE		1	20		1.7			1.65	20	2	1	47-STEAMER	44
45	SPARE		1	20			1.7		1.65				2#12, #12 G. in (1) 3/4" C. EA	46
47	29B-U.C. FREEZER	1	1	20	0.68			2.2	1.50	20	1	1	51A-WARMERS	48
49	SPARE		1	20		1.8			1.80	20	1	1	52E-HOT/COLD CONEY TABLE	50
51	SPARE		1	20			1.4		1.40	20	1	1	53-HOT DOG WARMER	52
53	SPARE		1	20				1.8	1.75	20	1	1	54-HOT DOG CAROUSEL	54
						25.4	24.9	23.6	TOTAL KVA PER PHASE					
						211	208	197	AMPS PER PHASE					

VOLTAGE 208Y/120V
PHASE 3
WIRE 4
MAINS MLO
RATING 225 (AMPS)
WITH I.G. BAR NO

LOCATION SEE PLAN
MOUNTING RECESSED
FEEDER SEE "MDP"
MIN AIC 65k SERIES RATED

ITEMS	CON.	%	DEM.
RECEPTACLES	0.0	code	0.0
KITCHEN	73.9	65%	48.1
HVAC	0.0	100%	0.0
LIGHTS (INT.)	0.0	125%	0.0
LIGHTS (EXT.)	0.0	125%	0.0
MISC.	0.0	100%	0.0
TOTAL KVA	73.9		48.1
TOTAL AMPS	205		133

NOTES:
1) PROVIDE GFI BREAKER.
2) PROVIDE LOCKABLE BREAKER PER CEC 422.31
3)
4)
5)
6)

PANEL "C"

CKT. #	DESCRIPTION	NOTE	BREAKER POLE	BREAKER AMP.	LOAD (KVA)	A	B	C	LOAD (KVA)	BREAKER AMP.	BREAKER POLE	NOTE	DESCRIPTION	CKT. #
1	HOOD EF-1	6	3	15	0.53	1.1			0.60	20	1	1	70C-GREASE TANK	2
3	3#12, #12 G. in (1) 3/4" C. EA				0.53		1.1		0.53	20	1	1	88-SLUSH PRECHILLER	4
5					0.53			1.0	0.50	20	1	1	87-DRINK CARBONATOR	6
7	EWH-1		2	20	1.50	1.8			0.34	20	1	1	95/102 HOT WATER/FILT. SYS.	8
9	2#12, #12 G. in (1) 3/4" C. EA				1.50		2.0		0.54	20	1	1	KITCHEN GENERAL RECEPTACLES	10
11	SPARE		1	20				0.2	0.18	20	1	1	KITCHEN COUNTER RECEPTACLE	12
13	SPARE		1	20		0.3			0.25	15	2	2,5	HEAT TAPE (HOT WATER LINES)	14
15	SPARE		1	20				0.3	0.25				2#12, #12 G. in (1) 3/4" C. EA	16
17	SPARE		1	20				0.2	0.20	20	1		LIGHTING CONTROL PANEL	18
19	33-EXHAUST HOOD CONTROLS		1	15	1.30	2.5			1.24	20	1	3	INTERIOR LIGHTS & EF-2 & EF-3	20
21	COOLER WALK-IN LIGHTS/HEATER	2	1	20	0.11		0.1			20	1		SPARE	22
23	99A-COOLER CONDENSER	6	2	15	0.75			1.7	1.00	20	1	3	EXTERIOR BUILDING LIGHTS	24
25	2#12, #12 G. in (1) 3/4" C. EA				0.75	0.7				20	1		SPARE	26
27	99A-COOLER EVAPORATOR	6	1	20	0.22		0.6		0.36	20	1	1	SPRINKLER SYSTEM	28
29	FREEZER WALK-IN LIGHTS/HEATER	2	1	20	0.18			0.4	0.18	20	1	1	FUTURE SECURITY RECEPTACLE	30
31	100A-FREEZER CONDENSER	6	2	40	2.23	2.9			0.72	20	1	1	DOOR SECURITY XFMR RECEPTACLES	32
33	2#8, #10 G. in (1) 3/4" C. EA				2.21		2.2			20	1		SPARE	34
35	100A-FREEZER EVAPORATOR	6	2	20	0.90			1.6	0.72	20	1		EXTERIOR & RTU GFI RECEPTACLES	36
37	2#12, #12 G. in (1) 3/4" C. EA				0.90	3.4			2.50	30	2	1	92A-POWER WASH SYSTEM	38
39	HEAT TAPE (FREEZER/COOLER)		1	20	0.20		2.7		2.50				2#10, #10 G. in (1) 3/4" C. EA	40
41	HAND DRYER PUBLIC RESTROOM	2	1	20	0.74			1.1	0.36	20	1		SENSOR FAUCET RECEPTACLES	42
43	HAND DRYER EMPLOYEE RESTROOM	2	1	20	0.74	0.7				20	1		SPARE	44
45	68A-ICE MACHINE	1,6	2	30	2.11		2.1			20	1		SPARE	46
47	2#10, #10 G. in (1) 3/4" C. EA				2.11			2.1		20	1		SPARE	48
49	BAG B BOX QUAD	1	1	20	0.36	0.4				20	1		SPARE	50
51	68A-ICE MACHINE	1,6	2	30	2.11		2.1			20	1		SPARE	52
53	2#10, #10 G. in (1) 3/4" C. EA				2.11			2.1		20	1		SPARE	54
						14.0	13.2	10.5	TOTAL KVA PER PHASE					
						116	110	87	AMPS PER PHASE					

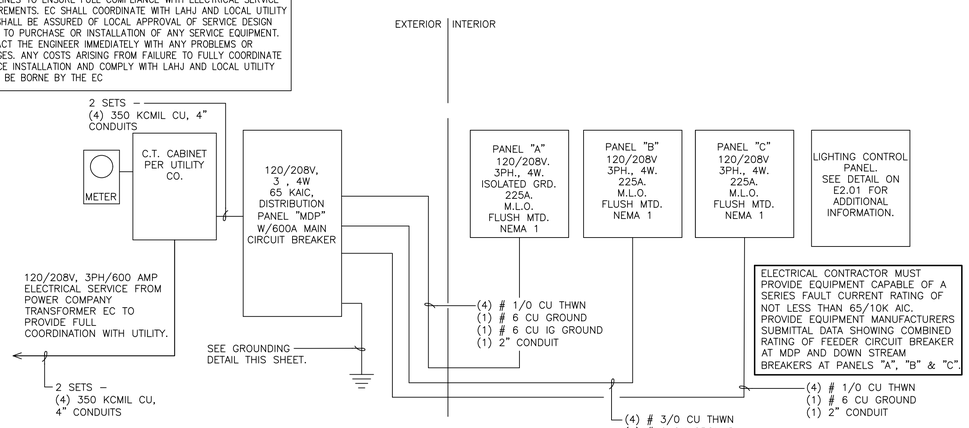
VOLTAGE 208Y/120V
PHASE 3
WIRE 4
MAINS MLO
RATING 225 (AMPS)
WITH I.G. BAR NO

LOCATION SEE PLAN
MOUNTING RECESSED
FEEDER SEE "MDP"
MIN AIC 65K SERIES RATED

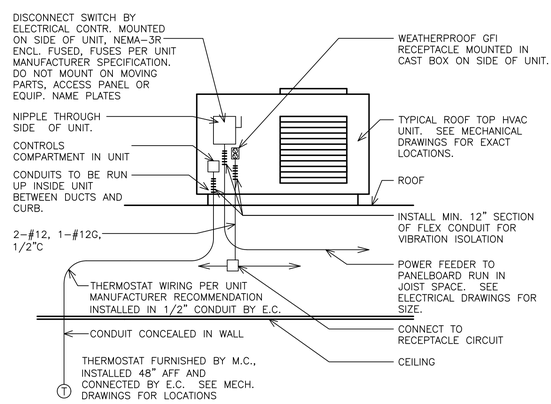
ITEMS	CON.	%	DEM.
RECEPTACLES	0.7	code	0.7
KITCHEN	0.0	65%	0.0
HVAC	0.0	100%	0.0
LIGHTS (INT.	0.0	125%	0.0
LIGHTS (EXT.	0.0	125%	0.0
MISC.	0.0	100%	0.0
TOTAL KVA	0.7		0.7
TOTAL AMPS	2		2

NOTES:
1) PROVIDE GFI BREAKER.
2) PROVIDE LOCKABLE BREAKER PER CEC 422.31
3) VIA LCP SEE DETAIL 2/E2.01.
4) PROVIDE LOCK ON DEVICE.
5) PROVIDE GFEP BREAKER.
6) PROVIDE HACR BREAKER.

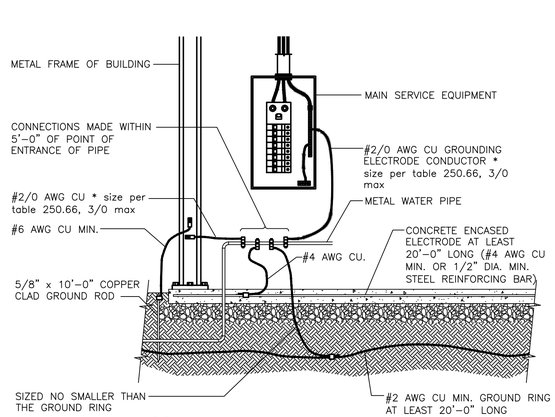
EC SHALL VERIFY WITH LAHJ AND LOCAL UTILITY CONSTRUCTION GUIDELINES TO ENSURE FULL COMPLIANCE WITH ELECTRICAL SERVICE REQUIREMENTS. EC SHALL COORDINATE WITH LAHJ AND LOCAL UTILITY AND SHALL BE ASSURED OF LOCAL APPROVAL OF SERVICE DESIGN PRIOR TO PURCHASE OR INSTALLATION OF ANY SERVICE EQUIPMENT. CONTACT THE ENGINEER IMMEDIATELY WITH ANY PROBLEMS OR CHANGES. ANY COSTS ARISING FROM FAILURE TO FULLY COORDINATE SERVICE INSTALLATION AND COMPLY WITH LAHJ AND LOCAL UTILITY SHALL BE BORNE BY THE EC



1 E3.01 **600A ELECTRICAL RISER DIAGRAM**
SCALE: N.T.S.



2 E3.01 **HVAC UNIT ELEC. CONN. DETAIL**
SCALE: N.T.S.



3 E3.01 **GROUNDING ELECTRODE DETAIL**
SCALE: N.T.S.

CONSULTANT:
INRD national restaurant designers
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:
NELSON RAY THORNTON LICENSE 50383 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/14/2022

PROJECT NO.: 22161
DRAWN BY: JP
CHECKED BY: JP

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
E3.01
RISER & PANEL SCHEDULE

MECHANICAL SYMBOL LEGEND

	SUPPLY AIR
	RETURN AIR
	EXHAUST AIR
	STANDARD BRANCH, NO SPLITTER – SUPPLY FLOW TO RIGHT – RETURN/EXHAUST FLOW TO LEFT
	BELLMOUTH WITH BALANCING DAMPER
	FLEXIBLE DUCT
	TURNING VANES
MD	MANUAL VOLUME DAMPER
MD	MOTORIZED DAMPER
FD	FIRE DAMPER & ACCESS PANEL
	SUPPLY DUCT UP, POSITIVE PRESSURE
	RETURN DUCT UP, NEGATIVE PRESSURE
	EXHAUST DUCT UP, NEGATIVE PRESSURE
	SUPPLY DUCT DOWN, POSITIVE PRESSURE
	RETURN DUCT DOWN, NEGATIVE PRESSURE
	EXHAUST DUCT DOWN, NEGATIVE PRESSURE
	FLEXIBLE DUCTWORK CONNECTION TO UNIT
	SUPPLY DIFFUSER/REGISTER BLANKOFF INDICATED SHADED
X–10 / 375	SUPPLY DIFFUSER TYPE – NECK SIZE / DIFFUSER AIRFLOW (CFM)
X–10 / 200	RETURN GRILLE/REGISTER TYPE – NECK SIZE / RETURN AIRFLOW (CFM)
X–8 / 150	EXHAUST GRILLE/REGISTER TYPE – NECK SIZE / EXHAUST AIRFLOW (CFM)
	CONCENTRIC DUCT TRANSITION
	ECCENTRIC DUCT TRANSITION
SD	SMOKE DETECTOR
T	THERMOSTAT
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
	POINT OF CONNECTION, NEW TO EXISTING
	POINT OF DISCONNECTION

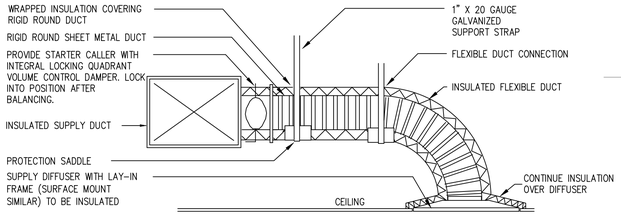
DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.

AIR BALANCE

MARK	OUTSIDE AIR CFM	EXHAUST AIR CFM
RTU–1	1300	–
RTU–2	1300	–
EF–1	–	–2280
EF–2	–	–100
EF–3	–	–100
TOTALS	2600	–2480

SPACE IS +120 CFM POSITIVE AIRFLOW. THE BALANCING CONTRACTOR SHALL VERIFY THAT THE BUILDING PRESSURE IS BETWEEN POSITIVE 0.02" WC AND POSITIVE 0.05" WC WITH RESPECT TO OUTDOORS. NOTIFY PROJECT MANAGER WITH ANY DISCREPANCIES, OR IF POSITIVE BUILDING PRESSURE CANNOT BE ACHIEVED WITH +120 CFM POSITIVE AIRFLOW

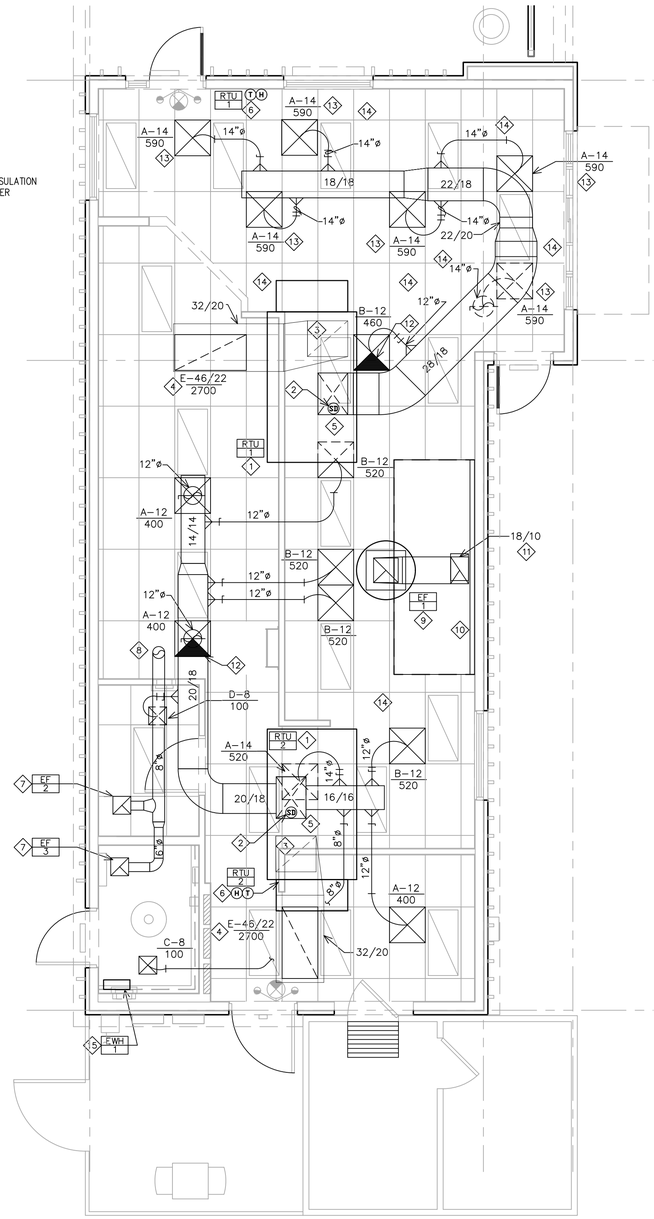


NOTES:
1. PROVIDE AT FLEXIBLE DUCT CONNECTION, METAL OR "PANDUIT" DRAWBAND ON THE INTERIOR FLEXIBLE DUCT HELIX. SECURE THE INSULATION OVER THE DRAW BAND WITH AN ADDITIONAL DRAWBAND.
2. PROVIDE BEADING ON ROUND METAL DUCT 12" AND LARGER .
3. PROVIDE MINIMUM 4" COLLARS FOR ATTACHMENT OF THE FLEXIBLE DUCT TO THE ROUND DUCT, DAMPERS AND DIFFUSERS.
4. BAND RIGID ROUND DUCT INSULATION TO DUCT AND PROVIDE TAPE FOR INSULATION OVERLAP.

2 / M1.01 DIFFUSER CONNECTION DETAIL
SCALE: N.T.S.

KEY NOTES:

1. ROOF MOUNTED HVAC UNITS AND FACTORY FABRICATED ROOF CURB TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. SEE MECHANICAL EQUIPMENT SCHEDULE FOR ADDITIONAL INFORMATION.
2. PROVIDE SMOKE DETECTOR IN SUPPLY AIR DUCT FOR AUTOMATIC FAN SHUTDOWN. CONTRACTOR SHALL CONFIGURE DETECTOR CONTROL WIRING TO INTERRUPT LOW VOLTAGE SIGNAL.
3. RETURN AIR DUCT/PLENUM DROP FROM UNIT ABOVE. CONTRACTOR SHALL PROVIDE TRANSITION FROM DUCT DROP TO RETURN AIR DUCT. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR. SEE SPECIFICATION SHEET SP6 FOR ADDITIONAL INFORMATION AND INSULATION REQUIREMENTS.
4. FILTERED RETURN AIR GRILL IN LAY–IN CEILING. USE EXTERNALLY INSULATED CANVAS OR NEOPRENE CONNECTION AT RETURN AIR DUCT ABOVE IF NECESSARY FOR ALIGNMENT.
5. SUPPLY AIR DUCT/PLENUM DROP FROM UNIT ABOVE. CONTRACTOR SHALL PROVIDE TRANSITION FROM DUCT DROP TO SUPPLY AIR DUCTS AS SHOWN ON PLAN. SEE SPECIFICATION SHEET SP6 FOR ADDITIONAL INFORMATION AND INSULATION REQUIREMENTS.
6. THERMOSTATS AND HUMIDITY SENSORS MOUNTED AT 48" A.F.F. – SEE RTU SCHEDULE FOR ADDITIONAL THERMOSTAT REQUIREMENTS.
7. CEILING MOUNTED EXHAUST FAN TO BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR, AND WIRED BY ELECTRICAL CONTRACTOR. FAN CONTROL TO BE VIA LOCAL LIGHT SWITCH AND CIRCUIT. PROVIDE 4"ø TO 6"ø TRANSITION FROM FAN CONNECTION TO EXHAUST DUCT. SEE EXHAUST FAN SCHEDULE AND LIGHTING PLAN 01/E2.01 FOR ADDITIONAL INFORMATION.
8. EXTEND 8"ø GALVANIZED STEEL EXHAUST DUCT FROM FAN CONNECTION TO 8"ø DUCT THROUGH ROOF. TERMINATE WITH WEATHER PROOF GOOSENECK AND BIRDSCREEN. DO NOT TERMINATE EXHAUST LESS THAN 10'–0" FROM ANY OUTSIDE AIR INTAKE.
9. EXHAUST FAN ON ROOF TO BE FURNISHED BY THE OWNER AND INSTALLED BY THE MECHANICAL CONTRACTOR. FAN IS TO BE SET LEVEL ON FACTORY CURB FURNISHED WITH HOOD PACKAGE. SEE EXHAUST FAN SCHEDULE FOR ADDITIONAL INFORMATION.
10. KITCHEN EXHAUST HOOD TO BE FURNISHED BY OWNER AND INSTALLED BY THE MECHANICAL CONTRACTOR. SEE HOOD PLANS FOR ADDITIONAL INFORMATION.
11. EXTEND MIN. 16–GAUGE BLACK IRON GREASE EXHAUST DUCT, WELDED LIQUID TIGHT, FROM HOOD UP TO FAN AS SHOWN. PROVIDE TRANSITIONS AS REQUIRED FOR CONNECTIONS AT HOOD AND FAN. PROVIDE CLEARANCE REDUCING DUCT WRAP (FYREMASTER FAST WRAP XL OR EQUAL) INSTALLED PER MANUFACTURERS INSTRUCTIONS TO COMPLY WITH ASTM E2336. PROVIDE APPROVED ACCESS PANELS AS REQUIRED FOR DUCT CLEANING ACCESS PER CODE REQUIREMENTS AND LOCAL AHJ – VERIFY REQUIREMENTS.
12. BLANK–OFF SHADED QUADRANT OF DIFFUSER.
13. ADJUST VANES ON DIFFUSER INDICATED FOR FULL VERTICAL THROW.
14. POS SYSTEM MONITOR TO BE CEILING MOUNTED IN THIS AREA – AVOID ROUTING DUCTWORK ABOVE MONITOR MOUNTING LOCATION. COORDINATE WITH ELECTRICAL PLANS.
15. INSTALL ELECTRIC WALL HEATER ACCORDING TO MANUFACTURES REQUIREMENTS.



1 / M1.01 MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'–0"

EXHAUST FAN SCHEDULE

EQUIP NO	MANUF.	MODEL NO	TYPE	CFM	EXT SP	HP (WATTS)	RPM	TIP SPEED	DRIVE	VOLT/ PHASE	ACCESSORIES
EF–1	STRATOVENT	SVDU180HFA	UPBLAST	2280	1.6	1.5	1279	–	DIRECT	208/3/60	1,2,3
EF–2	BROAN	L100	CEILING	100	0.125	(130)	–	–	DIRECT	115/1/60	4,5
EF–3	BROAN	L100	CEILING	100	0.125	(130)	–	–	DIRECT	115/1/60	4,5

ACCESSORIES:
1. SEE HOOD DRAWINGS BY STRATOVENT FOR FURTHER SPECIFICATIONS – FURNISHED BY OTHERS, INSTALLED BY M.C.
2. FAN SHALL BEAR UL–762 "POWER VENT. FOR RESTAURANT EXHAUST APPLIANCES" LISTING.
3. WEATHERPROOF DISCONNECT AND FACTORY SUPPLIED ROOF CURB WITH HINGES FURNISHED WITH HOOD PACKAGE, BY OTHERS – INSTALLED BY M.C. SEE A2.02 FOR LOCATION OF HINGE SIDE.
4. FACTORY INSTALLED GRAVITY BACKDRAFT DAMPER.
5. ACCEPTED ALTERNATE MANUFACTURERS: GREENHECK, PENN VENTILATOR AND ACME. ALTERNATE MANUFACTURERS MATCH MATERIALS AND PERFORMANCE ABOVE LISTED EQUIPMENT.

ELECTRIC WALL UNIT HEATER SCHEDULE

MARK	MFG/MODEL	HEATING CAPACITY KW	HEATING CAPACITY MBH	MCA	ELECTRICAL VOLT / PH / HZ	ACCESSORIES
EWH–1	BROAN 198	3	10.24	14.4	208V / 1/ 60	1

ACCESSORIES: 1. INTEGRAL THERMOSTAT

ROOFTOP UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	NOMINAL TONS	AIRFLOW (CFM)	OUTSIDE AIR (CFM)	AMBIENT (OAT)	EXT. SP (IN. W.C.)	DX COOLING COIL EAT (DB/WB)	DX COOLING COIL TOTAL (MBH)	DX COOLING COIL SENSIBLE (MBH)	GAS HEAT FUEL	GAS HEAT INPUT (MBH)	GAS HEAT OUTPUT (MBH)	GAS HEAT AFUE	ELECTRICAL V, PH, HZ HP	ELECTRICAL MCA (AMPS)	ELECTRICAL MOCP	ELECTRICAL EER	APPROX. WEIGHT	REMARKS
RTU–1	LENNOX HIGH EFFICIENCY	LGH150H4M	12.5	4000	1300	99	1.12	83.2/69.6	142.7	95.0	NATURAL GAS	180	144	80%	208/230–3–60	65	80	10.8	1428	1–11
RTU–2	LENNOX HIGH EFFICIENCY	LGH150H4M	12.5	4000	1300	99	1.3	83.2/69.6	142.7	95.0	NATURAL GAS	180	144	80%	208/230–3–60	65	80	10.8	1428	1–11

NOTES:
1. MAKE SURE YOU ASK FOR SONIC'S NEGOTIATED PRICE. ENSURE OUTDOOR AIR INTAKE MAINTAINS MIN. 10'–0" FROM ANY EXHAUST, FLUE, PLUMBING VENT, ETC.
2. PROVIDE PROGRAMMABLE THERMOSTATS WITH HEAT/COOL T'STAT WITH NIGHT SETBACK FEATURE. T'STAT SHALL HAVE READILY ACCESSIBLE MANUAL OVERRIDE THAT WILL RETURN TO THE PRESETBACK OR SHUTDOWN SCHEDULE WITHOUT REPROGRAMMING. PROVIDE LOCKING LEXAN PLASTIC COVER. THERMOSTAT TO BE PROGRAMMED SO SUPPLY FAN RUNS CONTINUOUSLY AND OUTDOOR AIR DAMPER SHALL BE OPEN TO MINIMUM POSITION (UNLESS ECONOMIZER FUNCTION MODULATED DAMPER FURTHER OPEN) DURING OCCUPIED HOURS TO PROVIDE MAKE–UP AIR. DURING UNOCCUPIED HOURS, OUTDOOR AIR DAMPER SHALL BE CLOSED, AND FAN SHALL CYCLE AS NECESSARY TO MAINTAIN THERMOSTAT SETPOINT.
3. PROVIDE WITH DUAL ENTHALPY ECONOMIZER AND BAROMETRIC RELIEF. PROVIDE WITH FAULT DETECTION AND DIAGNOSTIC CAPABILITY.
4. RTU HEIGHTS VARY ACCORDING TO MODEL. CONSULT LOCAL OFFICIALS TO DETERMINE IF ROOFTOP EQUIPMENT SCREENING CONSTRAINTS EXIST, AND CONTACT RTU MANUFACTURERS TO DETERMINE APPROPRIATE MODEL TO MEET YOUR NEEDS.
5. RTU'S SHOWN (REF. A2.03) ON STANDARD 14" CURB. TO REDUCE HT. OF RTU, LOWER CURB MAY BE USED WHERE ALLOWABLE BY LOCAL CODE. CONSULT YOUR RTU MANUFACTURER FOR AVAILABLE CURB HTS. AND DELIVERY INFORMATION.
6. ALL FILTERS SHALL BE 2" MERV 8 THROWAWAY (OR EQUAL) FILTERS FOR RETURN AND METAL MESH SCREENS FOR OUTSIDE AIR INTAKES.
7. PROVIDE HAIL GUARD TO ROOFTOP UNITS IN THE STATE OF ARIZONA, COLORADO, ILLINOIS, KANSAS, MISSOURI, NEBRASKA, OKLAHOMA AND TEXAS.
8. PROVIDE LOW AMBIENT CONTROL KIT DOWN TO 25°F.
9. MECHANICAL CONTRACTOR RESPONSIBLE FOR DETAIL ROOF OPENING LOCATIONS PER MANUFACTURER'S REQUIREMENTS.
10. PROVIDE ALL RTU'S WITH MULTI–SPEED DRIVES (WHEN POSSIBLE) AND FIELD SUPPLIED DRIVES (AS NEEDED)
11. UNITS SHALL HAVE STAINLESS STEEL HEAT EXCHANGERS
12. PROVIDE ALL RTU'S WITH REHEAT AND REMOTE HUMIDITY SENSORS.

AIR DISTRIBUTION DEVICES SCHEDULE

MARK	DESCRIPTION	DESCRIPTION	MFGR./MODEL No.	NOTES
A	SUPPLY	24"x24" LOUVERED FACE, ADJUSTABLE, LAY–IN, ROUND NECK SIZE AS SHOWN ON PLANS.	TITUS MODEL TMSA (* TMSA–AA) ALTERNATE: KRUEGER 1400A (*51400A)	1
B	SUPPLY	24"x24" PERFORATED FACE, LAY–IN, ROUND NECK SIZE AS SHOWN ON PLANS.	STRATOVENT (CAPTIVE AIRE) DI–PSP STAINLESS STEEL	
C	SUPPLY	12"x12" PLAQUE FACE, SURFACE MOUNT, ROUND NECK SIZE AS SHOWN ON PLANS.	TITUS MODEL OMNI ALTERNATE: KRUEGER PLQ	1, 2
D	SUPPLY	12"x12" LOUVERED FACE, LAY–IN, ROUND NECK SIZE AS SHOWN ON PLANS.	TITUS MODEL TMS (* TMS–AA) ALTERNATE: KRUEGER 1400 (* 51400)	1, 2
E	RETURN	24" x 48" FACE, LAY–IN, FILTER FRAME 20"x44" FILTER SPACE, W/ MERV 6 FILTER	TITUS MODEL 350RLF1 (* 350FF1) ALTERNATE: KRUEGER S580H–5FF (* S580H–5FF)	1

NOTES:
1. DIFFUSER MODEL NUMBERS ENCLOSED IN PARENTHESIS i.e. (* XXXX) ARE FOR ALUMINUM DIFFUSERS. COORDINATE THE USE OF ALUMINUM WITH OWNER.
2. PROVIDE PLASTER FRAME WHEN INSTALLED IN GYP. CEILING.

CONSULTANT:
NRD national restaurant designers
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:
NELSON RAY THORNTON JR. LICENSE No. 50383 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/14/2022

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
M1.01
MECH. PLAN & SCHEDULES

PLUMBING SYMBOL LEGEND

	ELBOW DOWN
	WALL CLEANOUT
	PIPE CAP
	ELBOW UP
	TEE, OUTLET UP
	TEE, OUTLET DOWN
	CHECK VALVE
	SHUTOFF VALVE
	PRESSURE REDUCING VALVE (SETTING AS NOTED, PSI)
	BALL VALVE
	BUTTERFLY VALVE
	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	SOLENOID VALVE
	GAS PRESSURE REGULATOR VALVE
	PIPE UNION
	SHOCK ABSORBER
	ELBOW
	FLOOR DRAIN
	TRENCH DRAIN
	FLOOR SINK
WH	WALL HYDRANT
HB	HOSE BIBB
	FLOOR CLEANOUT
	GAS COCK VALVE
	POINT OF CONNECTION, NEW TO EXISTING
	POINT OF DISCONNECTION

PLUMBING LINETYPE LEGEND

——GW——	NEW GREASE WASTE
	NEW SANITARY WASTE
	NEW STORM
	NEW VENT
	NEW HVAC CONDENSATE
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
——G——	GAS

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE PLUMBING, MECHANICAL, ELECTRICAL, AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.

GENERAL NOTES:

A. ALL CONTRACTORS SHALL COORDINATE THEIR RESPECTIVE SCOPES OF WORK WITH OTHER TRADES FOR THE COMPLETION OF THE PROJECT.

B. PROVIDE PIPE SUPPORTS FOR ROOF MOUNTED GAS AND CONDENSATE PIPING. SUPPORTS SHALL BE INSTALLED AT 8'–0" O.C. AND AT EVERY CHANGE OF DIRECTION.

C. THE INSTALLATION OF THE PLUMBING SYSTEMS SHALL BE COORDINATED WITH ALL ELECTRICAL AND MECHANICAL EQUIPMENT, AND STRUCTURAL SLAB AND FRAMING.

D. REFER TO PLUMBING SHEET P1.01 FOR PLUMBING FIXTURE AND EQUIPMENT SCHEDULES INCLUDING SPECIFICATIONS AND ROUGH–IN SIZES.

E. EXTERIOR CONDENSATE PIPING SHALL BE 1" PVC AND PITCHED A MINIMUM OF 1/4" PER 1'–0" IN THE DIRECTION OF FLOW.

F. ALL EXHAUST FAN AND PLUMBING VENT TERMINATIONS SHALL BE A MINIMUM OF 10'–0" HORIZONTAL FROM ALL OUTDOOR AIR INTAKES OF MECHANICAL EQUIPMENT.

G. THE PLUMBING CONTRACTOR SHALL FIELD PAINT THE ROOF MOUNTED GAS PIPING WITH ZINC RICH GALVANIZING PAINT FOR CORROSION PROTECTION.

H. ALL PLUMBING ON ROOF MUST BE PERMANENTLY SECURED AND ABLE TO WITH STAND 140 MPH WIND LOADS.

MECHANICAL SYMBOL LEGEND

	SUPPLY AIR
	RETURN AIR
	EXHAUST AIR
	STANDARD BRANCH, NO SPLITTER – SUPPLY FLOW TO RIGHT – RETURN/EXHAUST FLOW TO LEFT
	BELLMOUTH WITH BALANCING DAMPER
	FLEXIBLE DUCT
	TURNING VANES
	MANUAL VOLUME DAMPER
MD	MOTORIZED DAMPER
FD	FIRE DAMPER & ACCESS PANEL
	SUPPLY DUCT UP, POSITIVE PRESSURE
	RETURN DUCT UP, NEGATIVE PRESSURE
	EXHAUST DUCT UP, NEGATIVE PRESSURE
	SUPPLY DUCT DOWN, POSITIVE PRESSURE
	RETURN DUCT DOWN, NEGATIVE PRESSURE
	EXHAUST DUCT DOWN, NEGATIVE PRESSURE
	FLEXIBLE DUCTWORK CONNECTION TO UNIT
	SUPPLY DIFFUSER/REGISTER BLANKOFF INDICATED SHADED
X–10 / 375	SUPPLY DIFFUSER — TYPE – NECK SIZE / DIFFUSER AIRFLOW (CFM)
X–10 / 200	RETURN GRILLE/REGISTER — TYPE – NECK SIZE / RETURN AIRFLOW (CFM)
X–8 / 150	EXHAUST GRILLE/REGISTER — TYPE – NECK SIZE / EXHAUST AIRFLOW (CFM)
	CONCENTRIC DUCT TRANSITION
	ECCENTRIC DUCT TRANSITION
SD	SMOKE DETECTOR
T	THERMOSTAT
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
	POINT OF CONNECTION, NEW TO EXISTING
	POINT OF DISCONNECTION

KEY NOTES:

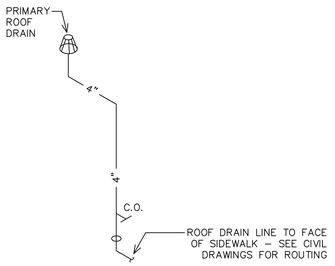
1. DISCONNECT ON ROOF FOR EXHAUST FAN. CIRCUIT EXHAUST FAN "THROUGH" STARTER IN EXHAUST HOOD CONTROL SYSTEM INTERLOCK BOX, FURNISHED BY EXHAUST HOOD SUPPLIER.
2. POWER TO REMOTE CONDENSING UNITS ARE FED FROM ICE MACHINE BELOW. CONTRACTOR MUST COORDINATE THIS IN FIELD. PROVIDE 208V, 2P/30 AMP NEMA 3R DISCONNECT AT EACH CONDENSING UNIT.
3. SMOKE DETECTORS FOR AUTOMATIC FAN SHUTDOWN MOUNTED IN SUPPLY AIR DUCT TO BE FURNISHED & INSTALLED BY M.C. – WIRING & CONNECTIONS BY E.C.
4. DISCONNECT ON ROOF FOR RTU CONNECTION. SEE DETAIL 2/E3.01 AND THE EQUIPMENT SCHEDULE ON E2.02 FOR ADDITIONAL INFORMATION.
5. PROVIDE 120V, 1P/20 AMP GFI RECEPTACLE IN WEATHER PROOF ENCLOSURE FOR EQUIPMENT MAINTENANCE. SEE DETAIL 2/E3.01 FOR ADDITIONAL INFORMATION.
6. PROVIDE 208V, 2P/60 AMP NEMA 3R NON FUSED DISCONNECT ON ROOF FOR FREEZER CONDENSING UNIT CONNECTION.
7. PROVIDE 208V, 2P/30 AMP NEMA 3R NON FUSED DISCONNECT ON ROOF FOR COOLER CONDENSING UNIT CONNECTION.
8. WATER HEATER CONCENTRIC VENT UP THROUGH ROOF. VERIFY ROUTING IN FIELD – MAINTAIN MIN. 10'–0" FROM ALL FRESH AIR INTAKES. INSTALL PER MANUFACTURERS RECOMMENDATIONS. SEE DETAIL ON P1.02.
9. ALL PENETRATIONS INTO COOLER/FREEZER BOXES TO BE WEATHER TIGHT (FOAM, SILICONE CAULK). INSURE DOOR SEALS ARE TIGHT TO THRESHOLD. CHECK FOR LEAKS AROUND SUCTION LINES ONCE INSTALLED. INSURE DEFROST CYCLE IS SET FOR 4 TO 6 PER DAY FOR A MIN. OF 30 MINUTES.
10. PROVIDE P–TRAP FOR CONDENSATE LINE. ROUTE DOWN THRU ROOF WHERE SHOWN ON PLAN. SEE P1.01 FOR CONTINUATION.
11. GAS DOWN TO KITCHEN EQUIPMENT – SEE P–1.02 FOR CONTINUATION. PROVIDE PRESSURE REGULATOR AS REQUIRED.
12. 4"X4"X6" REDWOOD PIPE SUPPORTS, 8'–0" O.C., PIPE LOOSELY SECURED TO BLOCK PLACE DOUBLE LAYER ROOFING UNDER BLOCKS (TYPICAL)
13. PROVIDE SHUT–OFF VALVE, DIRT LEG AND UNION FOR EACH PIECE OF EQUIPMENT. PROVIDE PRESSURE REGULATOR IF NECESSARY PER CONDITIONS, AND MANUFACTURER REQUIREMENTS.
14. GAS DOWN TO WATER HEATER – PROVIDE PRESSURE REGULATOR AS REQUIRED.
15. GOOSENECK WITH BIRDSCREEN FOR EXHAUST FAN – MAINTAIN MIN. DISTANCE OF 10'–0" FROM ALL FRESH AIR INTAKES.
16. VTR – MAINTAIN MIN. DISTANCE OF 10'–0" FROM ALL FRESH AIR INTAKES.
17. GREASE EXHAUST FAN – MAINTAIN MIN. DISTANCE OF 10'–0" FROM ALL FRESH AIR INTAKES.
18. GAS METER AND REGULATOR BY GAS SERVICE COMPANY – SEE 4/P2.01 FOR CONNECTED LOAD.

ROOF DRAIN CALCULATIONS

SONIC ROOF AREA = 1,140 SQ. FT.
AT 4.3" OF RAIN PER HOUR, MAXIMUM FLOW IS 50.0 GPM

4" RAIN LEADER AT 1/4" SLOPE BASED ON TABLE 1106.2 OF THE 2020 FPC IS CAPABLE OF 163 GPM.

SECONDARY 6" OVERFLOW SCUPPER DRAIN UTILIZED. SEE 11/A5.02 FOR DETAIL.



2 MEP1.01 ROOF DRAIN RISER
SCALE: NOT TO SCALE

MECHANICAL SYSTEMS AND EQUIPMENT:

METHOD OF COMPLIANCE: PRESCRIPTIVE ✔ ENERGY COST BUDGET____

MECHANICAL SPACE CONDITIONING SYSTEM

UNITARY:	RTU #1&2
DESCRIPTION OF UNIT:	12.5 TON COOLING W/ GAS HEAT
HEATING EFFICIENCY:	80%
COOLING EFFICIENCY:	10.8 EER
HEAT OUTPUT OF UNIT:	142.7 MBH
COOLING OUTPUT OF UNIT:	150.0 MBH

BOILER: NONE CHILLER: NONE

THERMAL ZONE : 2A

EXTERIOR DESIGN CONDITIONS
WINTER DRY BULB: 29.6°F
SUMMER DRY BULB: 94.0°F

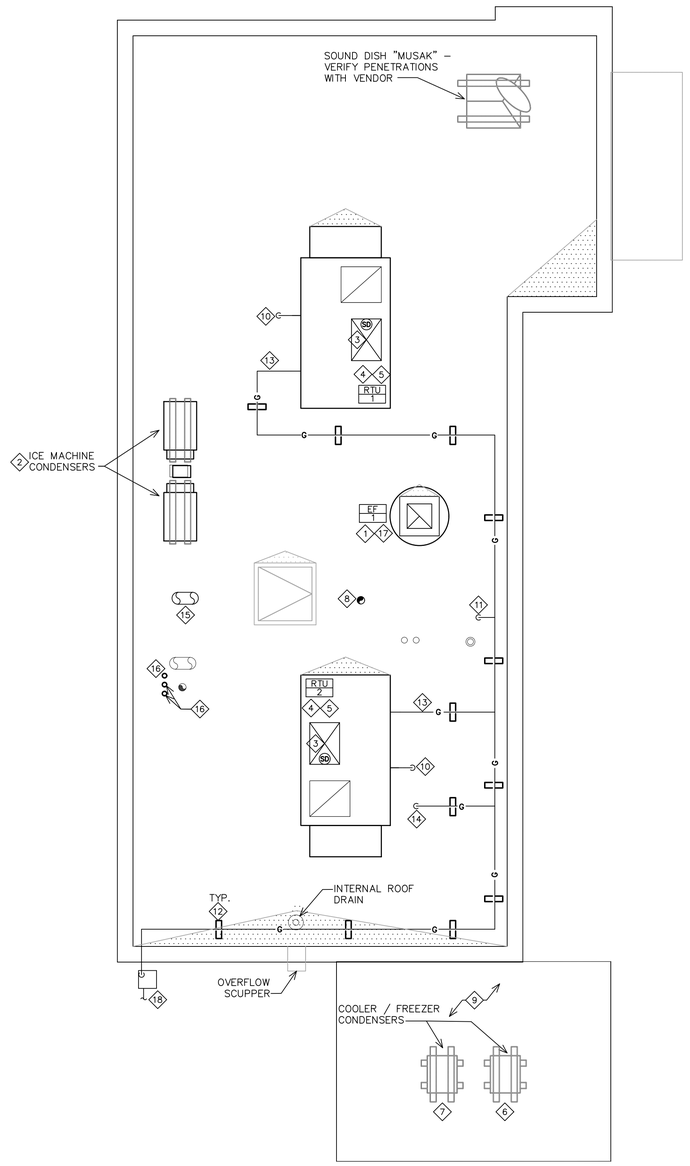
INTERIOR DESIGN CONDITIONS:	RTU #1	RTU #2
WINTER DRY BULB:	68°F	68°F
SUMMER DRY BULB:	78°F	78°F
RELATIVE HUMIDITY:	N/A	N/A

BUILDING HEATING LOAD: 107.8 MBH

BUILDING COOLING LOAD: 262.4 MBH

EQUIPMENT SCHEDULES WITH MOTORS (MECHANICAL SYSTEMS): BY OTHERS

MOTOR HORSEPOWER: SEE SHEET M1.01
NUMBER OF PHASES: SEE SHEET M1.01
MINIMUM EFFICIENCY: SEE SHEET M1.01
MOTOR TYPE: SEE SHEET M1.01
OF POLES: SEE SHEET M1.01



1 MEP1.01 MECHANICAL, PLUMBING AND ELECTRICAL ROOF PLAN
SCALE: 1/4" = 1'–0"

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
LOT #3 STORE # -

SEAL:

NELSON RAY THORNTON LICENSE No. 50383 STATE OF FLORIDA PROFESSIONAL ENGINEER

7/14/2022

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
MEP1.01
MECHANICAL ROOF PLAN

ABBREVIATIONS

FD	FLOOR DRAIN
FS	FLOOR SINK
FCO	FLOOR CLEAN–OUT
CO	CLEAN–OUT
VTR	VENT THROUGH ROOF
BFP	BACK FLOW PREVENTER
WH	WALL HYDRANT
HB	HOSE BIBB
SS	SANITARY SEWER
GW	GREASE WASTE

GENERAL PLUMBING NOTES

A. ALL HOSE BIBS TO CONTAIN VACUUM BREAKERS.

B. INSTALL CONTROL VALVES TO ALL APPLIANCES, INCLUDING SILL COCKS.

WATER HEATER SCHEDULE

EQUIP NO	STORAGE CAPACITY (GALLONS)	RECOVERY (GPM)	TEMP RISE (°F)	GAS INPUT (MBH)	MANUFACTURER	MODEL NUMBER	REMARKS
WH–1	–	3.9	100	199	RINNAI	C199i (REU–KBD3237FFUDC–US)	PROVIDE WITH FLUSH KIT, USER MANUAL, AND CONTROLER. ALTERNATE: NORITZ MODEL: NCC199

KITCHEN EQUIPMENT SCHEDULE (FURNISHED BY OWNER/FSEC, INSTALLED BY CONTRACTOR)

EQUIP NO	QTY	DESCRIPTION	INDIRECT WASTE	WASTE	VENT	CW	HW	FCW	GAS	MBH	NOTES
(8)	1	COFFEE AND TEA BREWER	–	–	–	–	–	1/2"	–	–	PROVIDE WATTS SD–3 BACKFLOW PREVENTER OR CODE APPROVED EQUAL WITH ASSE 1022 LISTING
(12A)	2	DRINK MACHINE	3/4"	–	–	–	–	–	–	–	INDIRECT WASTE TO FLOOR SINK/DRAIN
(12B)	1	SODA DISPENSER	3/4"	–	–	–	–	–	–	–	INDIRECT WASTE TO FLOOR SINK/DRAIN
(14)	2	DRINK TABLE	3/4"			–	–	–	–	–	INDIRECT WASTE TO FLOOR SINK/DRAIN
(20)	1	HOP TABLE	3/4"			–	–	–	–	–	INDIRECT WASTE TO FLOOR SINK/DRAIN
(22)	2	HAND SINK	–	2"	1–1/2"	1/2"	1/2"	–	–	–	HAND SINKS HAVE FOOT PEDAL OPERATION – COORDINATE ROUGH–IN LOCATIONS IN FIELD
(34)	1	FRYERS	–	–	–	–	–	–	1"	300	––
(40)	1	GRIDDLE	–	–	–	–	–	–	3/4"	150	––
(47)	2	STEAMER	–	–	–	–	–	1/2"	–	–	PROVIDE WATTS LF009 RPZ BACKFLOW PREVENTER OR CODE APPROVED EQUAL WITH ASSE 1013 LISTING. PROVIDE PRESSURE REGULATOR PER MANUFACTURER.
(67)	1	ICE STORAGE BIN	1"	–	–	–	–	–	–	–	INDIRECT WASTE TO FLOOR SINK/DRAIN
(68)	2	ICE MACHINE	1"	–	–	–	–	1/2"	–	–	PROVIDE WATTS SD–3 BACKFLOW PREVENTER OR CODE APPROVED EQUAL WITH ASSE 1022 LISTING
(72)	1	3–COMP SINK	2"	–	–	–	–	–	–	–	INDIRECT WASTE TO FLOOR SINK/DRAIN
(73)	1	3–COMP SINK FAUCET	–	–	–	3/4"	3/4"	–	–	–	––
(86)	1	CARBONATOR	–	–	–	–	–	(4) 3/4"	–	–	PROVIDE WATTS SS009, STAINLESS STEEL RPZ BACKFLOW PREVENTER OR CODE APPROVED EQUAL WITH ASSE 1013 LISTING
(89)	1	SLUSH RACK	–	–	–	–	–	3/4"	–	–	PROVIDE WATTS SD–3 BACKFLOW PREVENTER OR CODE APPROVED EQUAL WITH ASSE 1022 LISTING
(102)	1	WATER FILTER	–	–	–	3/4"	–	3/4"	–	–	––
(103)	1	WALK–IN COOLER/FREEZER	(2) 3/4"	–	–	–	–	–	–	–	INDIRECT WASTE TO FLOOR SINK/DRAIN

GENERAL NOTES:
A. ROUTE DRAIN PIPE FROM BACKFLOW PREVENTER TO NEAREST FLOOR DRAIN AND TERMINATE WITH 2" AIR GAP. VERIFY NEAREST FLOOR DRAIN IN FIELD
B. REFER TO MECHANICAL SPECIFICATIONS ON THE SPECIFICATION ("SP") SHEETS FOR ADDITIONAL INFORMATION.

PLUMBING FIXTURE SCHEDULE (FURNISHED AND INSTALLED BY CONTRACTOR)

MARK	TYPE	MANUFACTURE AND MODEL NUMBER	W	V	CW	HW	REMARKS
WC–1	WATER CLOSET	KOHLER SANTA ROSA MODEL: K–3881	3"	2"	1/2"	–	WHITE, ONE PIECE, COMPACT ELONGATED, COMFORT HEIGHT, AQUAPISTON FLUSHING SYSTEM. PROVIDE WITH BOLT CAPS, AND WHITE, OPEN–FRONT BENEKE SEAT. ADA 1.6 GPF
WC–2	WATER CLOSET	AMERICAN STANDARD CADET FLOWISE MODEL: 2467.100 ALTERNATES: KOHLER K–3999	3"	2"	1/2"	–	PROVIDE WITH BOLT CAPS, AND WHITE, OPEN–FRONT BENEKE SEAT. ADA 1.1 GPF
LAV–1	RECESSED LAVATORY	BASIN: KRION MODEL BC C831 FAUCET: KOHLER MODEL K–13475–VS	2"	1–1/2"	1/2"	1/2"	RECTANGULAR RECESSED SINK MADE OF CAST KRION LUX (SOLID SURFACE). GOOSENECK SINGLE HOLE TOUCHLESS SENSOR FAUCET – AC POWERED. COORDINATE OUTLET LOCATION WITH ELECTRICAL CONTRACTOR.
LAV–2	WALL HUNG LAVATORY	AMERICAN STANDARD LUCERNE MODEL: 0355.012 ALTERNATES: KOHLER K–1729	2"	1–1/2"	1/2"	1/2"	PROVIDE 7490.172H FAUCET WITH WRIST BLADE HANDELS, 0.5 GPM NON–AERATED SPRAY OUTLET, GRID DRAIN, "TRUEBRO" #102 INSULATION KIT AT SUPPLY & DRAIN. PROVIDE WITH 0.5 GPM NON–AERATED SPRAY
MS–1	MOP SINK AND FAUCET	BASIN: ZURN MODEL: Z1996–24 FAUCET: T&S BRASS MODEL:B–0666–RGH	3"	2"	3/4"	3/4"	ALTERNATE FAUCET: ZURN Z841M1 OR CHICAGO FAUCETS 897–CP MOUNT FAUCET AT 30" A.F.F. FAUCET SHALL HAVE INTEGRAL VACUUM BREAKER
FD–1	FLOOR DRAIN	SIOUX CHIEF: MODEL 832 EQUAL BY ZURN, WADE, OR JOSAM ARE ACCEPTABLE	AS SHOWN	AS SHOWN	–	–	PROVIDE WITH SQUARE NICKEL BRONZE GRATE AND TRAP PRIMER CONNECTION. FLOOR DRAIN SHALL BE ADJUSTABLE HEIGHT TO MATCH FINNISH FLOOR ELEVATION.
FS–1	FLOOR SINK	WADE MODEL: W–9113–15–27 ALTERNATES: JOSAM MODEL: 49000 ZURN MODEL: Z1910	AS SHOWN	AS SHOWN	–	–	8"X8" SQUARE CAST IRON FLOOR SINK, 6" DEEP WITH SEDIMENT BUCKET, AND 1/2 GRATE
FS–1	FLOOR SINK (PVC)	JONES STEPHENS CORP. MODEL: S59	AS SHOWN	AS SHOWN	–	–	12"X12" SQUARE PVC FLOOR SINK, 8" DEEP WITH SEDIMENT BUCKET, AND 1/2 GRATE ACCEPTABLE FOR USE IF APPROVED BY AUTHORITY HAVING JURISDICTION AND OWNER.
TD–1	TRENCH DRAIN	WATTS MODEL: DEAD LEVEL P	AS SHOWN	AS SHOWN	–	–	PROVIDE WITH CENTER OUTLET IN LENGTHS SHOWN, INCLUDE EXTENSIONS AS REQUIRED. DRAIN BODY SHALL BE GLASS–FILLED POLYPROPYLENE, WITH FRAME CONNECTORS, GRATE LOCKDOWNS, AND CONSTRUCTION COVERS. GRATE SHALL BE STAINLESS STEEL.
WCO	WALL CLEANOUT	ZURN MODEL: Z1443	AS SHOWN	–	–	–	EPOXY COATED CAST IRON BODY, GAS AND WATER TIGHT TAPERED THREAD PLUG, AND NICKEL BRONZE SECURED SQUARE, SMOOTH WALL ACCESS COVER WITH FRAME.
FCO	FLOOR CLEANOUT	WADE MODEL: 6004–NH–1 ALTERNATES: JOSAM MODEL: 56040 ZURN MODEL: Z1400	AS SHOWN	–	–	–	PROVIDE WITH SATIN BRONZE TOP
HB–1	HOSE BIBB	WOODFORD MODEL: 21 ALTERNATES: PRIER MODEL: 44 NIBCO MODEL: 73CL	–	–	3/4"	–	PROVIDE VACUUM BREAKER
HB–2	NON–FREEZE WALL HYDRANT	WOODFORD MODEL: B65 ALTERNATES: WATTS MODEL: HY–725 ZURN MODEL: Z1306	–	–	3/4"	–	CHROME PLATED FINISH. PROVIDE WITH VACUUM BREAKER. COORDINATE WITH OWNER IF CYLINDER KEY LOCK IS DESIRED PRIOR TO ORDERING.

NOTES: REFER TO MECHANICAL SPECIFICATIONS ON THE SPECIFICATION ("SP") SHEETS FOR ADDITIONAL INFORMATION

GREASE INTERCEPTOR SIZING PROCEDURE FOR KITCHEN FIXTURES

FIXTURE TYPE	QUANTITY	PIPE DIAMETER	GPM/FIXTURE	FIXTURE RATING	GPM
Pot sink	1	2	33	1.00	33
Meat & Vegetable prep sink					0
Dump Sink					0
Wok					0
Production Line Floor Sink					
Dishwasher					0
Can wash / Mop sink					7
Total					**40**
Grease Interceptor Size = flow rate x 30 minutes =					**1200**

Please round up to the next available size to determine the required grease interceptor.

SI ING PROCEDURE FOR FOOD SERVICE ESTA LISHMENTS FSE S

MINIMUM OF 1,000 GALLONS
VOLUME OF GREASE INTERCEPTOR (GALLONS) = [(A X B) + C + D] X F

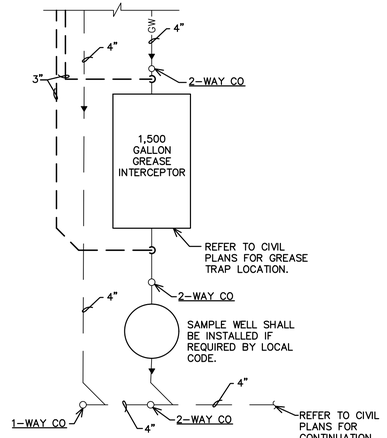
A. GPM/FIXTURE THESE VALUES ARE DERIVED FROM THE MANNING FORMULA. THE MANNING FORMULA TAKES INTO ACCOUNT THE SLOPE, ROUGHNESS OF THE PIPE, AND PIPE DIAMETER SIZE. LISTED BELOW ARE THE DRAINAGE RATES OF VARIOUS PIPE DIAMETERS USING THE MANNING FORMULA
0.5 INCH PIPE DIAMETER = 0.8 GPM/FIXTURE — 1.0 INCH PIPE DIAMETER = 5.0 GPM/FIXTURE
1.5 INCH PIPE DIAMETER = 15 GPM/FIXTURE — 2.0 INCH PIPE DIAMETER = 33 GPM/FIXTURE
2.5 INCH PIPE DIAMETER = 59 GPM/FIXTURE — 3.0 INCH PIPE DIAMETER = 93 GPM/FIXTURE

B. FIXTURE RATINGS OF GREASY WASTE STREAMS **FIXTURES THAT HAVE MORE GREASE IN THEIR WASTE STREAM RECEIVED** HIGHER VALUES WHILE LESS GREASE CORRESPONDS TO A LOWER RATING.
THE TABLE IS SHOWN BELOW:TABLE OF COMMON COMMERCIAL KITCHEN FIXTURES AND THEIR CORRESPONDING RATING:
POT SINK = 1.0 — MEAT AND VEGETABLE PREP SINK = 0.10
PRE-RINSE SINK = 0.75 — WOK = 1.0
TILT KETTLE = 0.00 — FLOOR DRAIN = 0.00

C. DIRECT FLOW FROM DISHWASHERS, SANITIZERS, GARBAGE DISPOSAL, FOOD WASTE GRINDERS OR GLASS WASHERS THESE FLOWS MUST BE ADDED DIRECTLY TO THE PM FLOW. THE MANUFACTURER S PEAK DISCHAR E RATE FOR FLOW IN PM MUST BE USED.

D. FLOW FROM CAN WASHES OR MOP SINK SCAN WASHES AND MOP SINKS ARE TYPICALLY USED INTERMITTENTLY. FOR THE PURPOSE OF SIZING, 7 GPM WILL BE USED FOR CAN WASHES AND MOP SINKS.

F. THIRTY (30) MINUTE RETENTION TIME PLEASE NOTE THAT ADDITIONAL FIXTURES ARE ALSO CONNECTED TO THE GREASE WASTE LINE BUT ASSUMED TO HAVE INTERMITTENT FLOW AND ARE NOT ASSUMED TO ADD TO THE PEAK FLOW OF THE GREASE INTERCEPTOR.



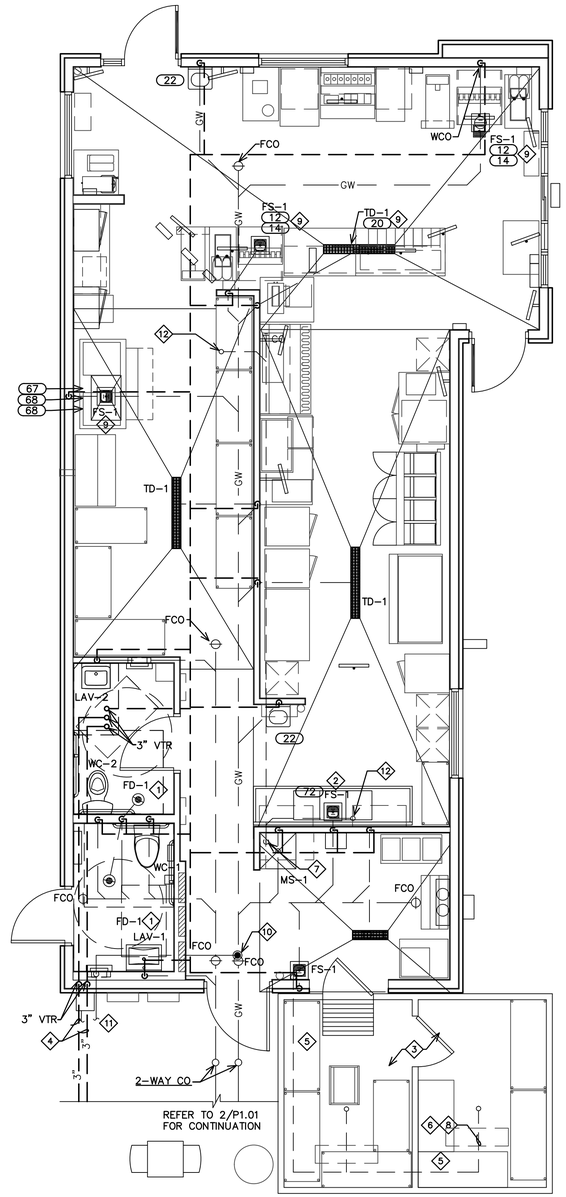
2 P1.01 GREASE TRAP PLAN
SCALE: N.T.S.

PLUMBING LINETYPE LEGEND

GW	NEW GREASE WASTE
	NEW SANITARY WASTE
	NEW STORM
	NEW VENT
	NEW HVAC CONDENSATE
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
G	GAS

KEY NOTES:

1. PROVIDE FLOOR DRAIN INDICATED WITH TRAP PRIMER.
2. WASTE PIPING FROM 3–COMP SINK TO FLOOR SINK TO BE HARD COPPER WITH SWEATED JOINTS. PLUMBER TO ANCHOR DRAIN PIPE FOR 3–COMP SINK TO WALL (WHERE POSSIBLE) W/ ALL THREAD. EACH COMPARTMENT OF THE 3–COMP SINK SHALL BE PIPED INDEPENDENTLY TO FLOOR SINK AND TERMINATE WITH AIR GAP.
3. PROVIDE VAPOR SEALS AT ALL FREEZER/COOLER PENETRATIONS.
4. 3" VENT LINES TO GREASE TRAP ROUTED BELOW GRADE – COORDINATE ROUTING IN FIELD.
5. HOLD CONDENSATE LINE TIGHT TO BACK OF FREEZER/COOLER WALL.
6. 3/4" COPPER CONDENSATE LINE FROM WALK–IN COOLER AND FREEZER TO FLOOR SINK – TERMINATE WITH AIR GAP.
7. 1" INSULATED CONDENSATE PIPE FROM RTU'S ON ROOF, ROUTED IN CEILING SPACE. DISCHARGE AT MOP SINK – TERMINATE WITH AIR GAP.
8. PROVIDE HEAT TAPE, HEAT TAPE CONTROLLER, AND CLOSED CELL INSULATION FOR FREEZE PROTECTION OF ALL FREEZER CONDENSATE PIPING. HEAT TAPE SHALL BE EQUAL TO RAYCHEM WINTER GUARD, WITH DIGITRACE AMC–F5 THERMOSTAT CONTROLLER. COORDINATE ELECTRICAL REQUIREMENTS IN FIELD WITH E.C.
9. ROUTE THE KITCHEN EQUIPMENT INDIRECT WASTE PIPE TO THE NEAREST FLOOR SINK/TRENCH DRAIN INDICATED. VERIFY EQUIPMENT INDIRECT WASTE SIZE WITH THE EQUIPMENT PROVIDER. TERMINATE INDIRECT WASTE PIPING WITH CODE APPROVED AIR GAP.
10. UP TO ROOF DRAIN.
11. ROOF DRAIN SHALL BE ROUTED TO FACE OF SIDEWALK LINES. VERIFY LOCATION CONNECTION WITH CIVIL PLANS.
12. 1" CONDENSATE UP THRU ROOF, SEE MEP1.01 FOR CONTINUATION.



1 P1.01 PLUMBING, DRAIN, WASTE VENT PIPING PLAN
SCALE: 1/4" = 1'–0"

DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE PLUMBING, MECHANICAL, ELECTRICAL, AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.

CONSULTANT:
NRD national restaurant designers
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LOT #3
LAKE CITY, FLORIDA
STORE # -

SEAL:
NELSON RAY THORNTON LICENSE 50383 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/14/2022

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
P1.01
WASTE AND VENT PLAN

KEY NOTES:

1. (4) 1/2" FCW, WITH SHUT-OFF VALVE STUBBED OUT FOR CONTINUATION TO SLUSH BAG IN BOX BY SYRUP VENDOR.
2. 1/2" CW, WITH SHUT-OFF VALVE AND STAINLESS STEEL WITH RPZ BACKFLOW PREVENTER LISTED TO ASSE 1013 STUBBED OUT FOR CONTINUATION BY SYRUP VENDOR.
3. WATER FILTER – REFER TO DETAIL 4/P1.02 FOR ADDITIONAL INFORMATION.
4. FCW LINES TO ICE MACHINE ROUTED IN WALL. PROVIDE S.S. ESCUTCHEON AT PENETRATIONS.
5. SYRUP LINES FURNISHED AND INSTALLED BY COCA-COLA – REEFER TO SHEET K1.01.
6. EXTEND 1/2" FILTERED WATER TO STEAMER. PROVIDE WALL STOP @ 12" A.F.F. WITH RPZ BACKFLOW PREVENTER LISTED TO ASSE 1013. PROVIDE PRESSURE REGULATOR PER MANUFACTURER.
7. EXTEND 1/2" FILTERED WATER TO COFFEE MAKER/TEA BREWER. PROVIDE WALL STOP @ 48" A.F.F.
8. 1/2"CW & HW DOWN WALL TO HAND SINK. PROVIDE THERMOSTATIC MIXING VALVE WATTS MODEL #LFUSG-B OR EQUAL WITH ASSE 1070 LISTING.
9. 1/2" CW & HW DOWN TO LAVATORY BELOW. PROVIDE THERMOSTATIC MIXING VALVE WATTS MODEL # LFUSG-B OR EQUAL WITH ASSE 1070 LISTING.
10. CW DOWN TO WATER CLOSET BELOW – SEE RISER DIAGRAM FOR PIPE SIZE. PROVIDE SHOCK ABSORBERS IN CW PIPING.
11. SYRUP LINES THROUGH STAINLESS STEEL CHASE PROVIDED WITH EQUIPMENT.
12. 3/4" CW & HW DOWN IN WALL TO 3-COMP SINK.
13. 1" GAS SUPPLY LINE TO FRYER – FLEXIBLE GAS HOSE PROVIDED WITH EQUIPMENT, INSTALLED BY CONTRACTOR.
14. 3/4" GAS SUPPLY LINE TO **GRIDDLE** – FLEXIBLE GAS HOSE PROVIDED WITH EQUIPMENT, INSTALLED BY CONTRACTOR.
15. GAS SUPPLY LINE FROM ROOF – SEE MEP1.01 FOR CONTINUATION.
16. ROUTE 1-1/2" CW LINE TO WATER CONNECTION SHOWN ON CIVIL PLANS. CONTRACTOR TO VERIFY AND INSTALL WATER METER AND BACKFLOW PREVENTOR PER UTILITY AND LOCAL CODE REQUIREMENTS AS REQUIRED.
17. GAS SHUT-OFF VALVE FURNISHED WITH HOOD PACKAGE – INSTALLED BY CONTRACTOR. LOCATE VALVE ABOVE OR BELOW CEILING AS REQUIRED PER THE LOCAL CODES, AND INSURE THE VALVE IS INTERLOCKED WITH HOOD FIRE SUPPRESSION SYSTEM. COORDINATE SIZE OF VALVE AND INSTALLATION/CONNECTION TO FIRE SUPPRESSION SYSTEM WITH HOOD SUPPLIER.
18. ROUTE WATER HEATER FLUE AND COMBUSTION AIR INTAKE IN CEILING SPACE AND TERMINATE ABOVE ROOF – ALL FLUE AND COMBUSTION AIR PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. MAINTAIN MIN. DISTANCE OF 10' FROM ALL FRESH AIR INTAKES.
19. PROVIDE SEPARATE HW AND CW HOSE BIBBS ABOVE MOP SINK FOR CONNECTION OF POWER WASH SYSTEM. PROVIDE WITH APPROVED VACUUM BREAKERS.
20. PROVIDE 2" SCH. 40, PVC CONDUIT FOR POWER WASH SYSTEM IN WALL. EXTEND TO 6" ABOVE ACCESSIBLE CEILING. ALL BENDS SHALL BE 90 DEGREE 22" WIDE SWEEP FACTORY ELBOWS. COORDINATE INSTALLATION WITH ARCHITECTURAL DETAIL ON SHEET A4.1.
21. COORDINATE WALL HYDRANT LOCATION WITH LENTICULARS/BATTENS. SEE ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION ON LENTICULARS.

PLUMBING SYMBOL LEGEND

	ELBOW DOWN
	WALL CLEANOUT
	PIPE CAP
	ELBOW UP
	TEE, OUTLET UP
	TEE, OUTLET DOWN
	CHECK VALVE
	SHUTOFF VALVE
	PRESSURE REDUCING VALVE (SETTING AS NOTED, PSI)
	BALL VALVE
	BUTTERFLY VALVE
	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	SOLENOID VALVE
	GAS PRESSURE REGULATOR VALVE
	PIPE UNION
	SHOCK ABSORBER
	ELBOW
	FLOOR DRAIN
	TRENCH DRAIN
	FLOOR SINK
WH	WALL HYDRANT
HB	HOSE BIBB
	FLOOR CLEANOUT
	GAS COCK VALVE
	POINT OF CONNECTION, NEW TO EXISTING
	POINT OF DISCONNECTION

FIXTURE AND WATER CALCULATION

NAME: SONIC
BASED ON 2015 IPC

MARK	DESCRIPTION	HOT AND COLD WATER: No OF FIXTURES	F.U. PER FIXTURE	TOTAL F.U. PER FIXTURE CW	TOTAL F.U. PER FIXTURE HW	COMBINED	WASTE: TRAP SIZE	No OF FIXTURES	F.U. PER FIXTURE	TOTAL FIXTURE UNITS
WC	WATER CLOSET (FT)	2	5	10		10	3"	2	3	6
LAV	LAVATORY	2	2	3.0	3.0	4	1-1/4"	2	1	2
73	KITCHEN SINK	1	4	3.0	3.0	4	1-1/2"	1	2	2
HB	HOSE BIBB	3	3	9	0	6				
FD/FS	FLOOR DRAIN/SINK	11					3"	11	5	55
MS-1	MOP SINK	1	3	2.25	2.25	3	3"	1	2	2
22	HAND SINK	2	0.7	1.0	1.0	1.4	1-1/4"	2	2	4
FW	FILTERED WATER	10	0.5	5		5				
	TOTAL F.U.	32		33.25	9.25	33.4		19		71

G.P.M 24
STREET STATIC PRESSURE RANGE ASSUMED 60 P.S.I.

LOSSES

MAIN TAP LOSS	1.92	PSI
WATER METER	10.0	PSI
BACKFLOW PREVENTER	9.0	PSI
STATIC HEIGHT 15 FT.x.43	6.45	PSI
PIPE LOSS	9.0	PSI
HIGHEST PRESSURE FIXTURE	15.0	PSI
TOTAL LOSSES	51.37	PSI

PROVIDE HEAT TRACE TEMPERATURE MAINTENANCE SYSTEM FROM WATER HEATER TO EACH PUBLIC LAVATORY FOR COMPLIANCE WITH IECC 2015, SECTION C404.5.2 & C404.6.2.

CONTRACTOR TO PROVIDE COMPONENTS AND ACCESSORIES FOR A COMPLETE FUNCTIONING HEAT TRACE TEMPERATURE MAINTENANCE SYSTEM. COORDINATE POWER SUPPLY WITH ELECTRICAL CONTRACTOR

HEAT TRACE TEMPERATURE MAINTENANCE SHALL BE EQUAL TO:
NVENT TYPE HWAT-R2 SELF-REGULATING HEAT TRACE/TAPE. PROVIDE WITH ELECTRONIC CONTROLLER NVENT HWAT-ECO. LOCATE REMOTE HEAT TRACE THERMOSTAT PROBE/SENSOR INCLUDED WITH CONTROLLER AT MOST REMOTE PUBLIC LAVATORY HOT WATER PIPING. CONTRACTOR TO PROVIDE OPTIONAL REMOVE TEMPERATURE SENSOR PT100 RTD AS REQUIRED FOR ADDITIONAL LENGTH. SET HEAT TRACE THERMOSTAT FOR 110°F.

MATERIAL SCHEDULE

A. ABOVE GROUND WATER PIPE: PEX PIPING ACCEPTABLE IF ALLOWED BY AUTHORITY HAVING JURISDICTION. OTHERWISE, TYPE 'L' HARD DRAWN COPPER WITH WROUGHT COPPER FITTINGS AND "NO-LEAD" SOLDER.

B. BELOW GROUND WATER PIPE: PEX PIPING ACCEPTABLE IF ALLOWED BY AUTHORITY HAVING JURISDICTION. PEX PIPING JOINTS ARE NOT ALLOWED BELOW SLAB. OTHERWISE, TYPE 'K' COPPER WITH WROUGHT COPPER FITTINGS AND "NO-LEAD" SOLDER. JOINTS ONLY PERMITTED BELOW SLAB IF SILVER SOLDER IS USED IN THE JOINT. PROTECT FITTING AND COPPER PIPING FROM CONTACT WITH CONCRETE.

C. ALL WATER PIPING SHALL BE INSULATED WITH 1" CLOSED CELL INSULATION WITH SELF CLOSING ADHESIVE STRIP HAVING AN R-VALUE OF 4.0.

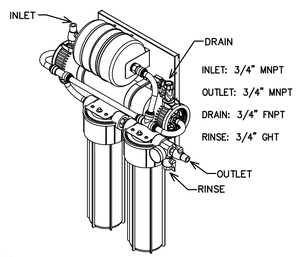
D. SEWER AND VENT PIPE: PVC SCHEDULE 40 DWV PIPING IS ACCEPTABLE IF ALLOWED BY AUTHORITY HAVING JURISDICTION. OTHERWISE, BELOW AND ABOVE GRADE INSIDE BUILDING – SERVICE WEIGHT (HUBLESS) CAST IRON SOIL PIPE AND STAINLESS STEEL NO HUB COUPLINGS.

E. INDOOR CONDENSATE DRAIN PIPE: TYPE 'M' COPPER WITH "NO-LEAD" SOLDER. INSULATE INTERIOR CONDENSATE PIPE WITH 1/2" ARMAFLEX PIPE INSULATION OR EQUIVALENT.

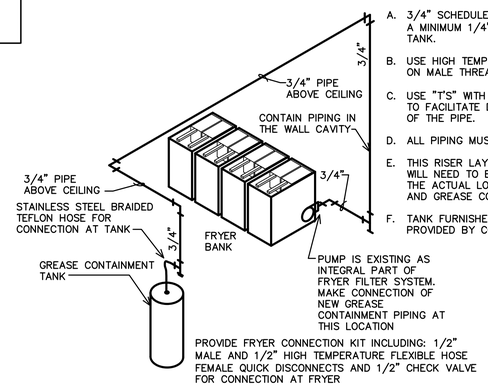
F. SUPPORT PIPING WITH CLEVIS OR SPLIT RING TYPE PIPE HANGERS 3/8" ALL THREAD ROD AND BEAM CLAMPS PER CODE REQUIREMENTS. "PLUMBERS TAPE" AND/OR WIRE ARE NOT PERMITTED.

G. GAS PIPE: SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON FITTINGS.

H. INDIRECT DRAIN PIPE: PVC PIPING IS ACCEPTABLE IF ALLOWED BY AUTHORITY HAVING JURISDICTION. OTHERWISE, TYPE 'M' COPPER WITH "NO-LEAD" SOLDER.



4 P1.02 WATER FILTER DETAIL
SCALE: N.T.S.



NOTES:

A. 3/4" SCHEDULE 40 BLACK IRON PIPE AT A MINIMUM 1/4" PER FOOT SLOPE TO TANK.

B. USE HIGH TEMPERATURE PIPE SEALANT ON MALE THREADS.

C. USE "T'S" WITH PLUGS WHERE INDICATED TO FACILITATE DRAINING AND CLEANING OF THE PIPE.

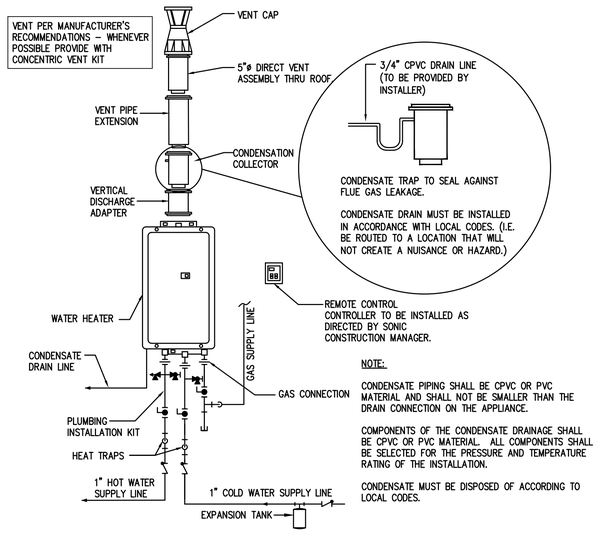
D. ALL PIPING MUST BE INSULATED.

E. THIS RISER LAYOUT IS DIAGRAMMATIC AND WILL NEED TO BE ADJUSTED RELATIVE TO THE ACTUAL LOCATION OF THE FRYER AND GREASE CONTAINMENT TANK.

F. TANK FURNISHED BY VENDOR – PIPING PROVIDED BY CONTRACTOR.

PROVIDE FRYER CONNECTION KIT INCLUDING: 1/2" MALE AND 1/2" HIGH TEMPERATURE FLEXIBLE HOSE FEMALE QUICK DISCONNECTS AND 1/2" CHECK VALVE FOR CONNECTION AT FRYER

2 P1.02 GREASE CONTAINMENT PIPING
SCALE: N.T.S.



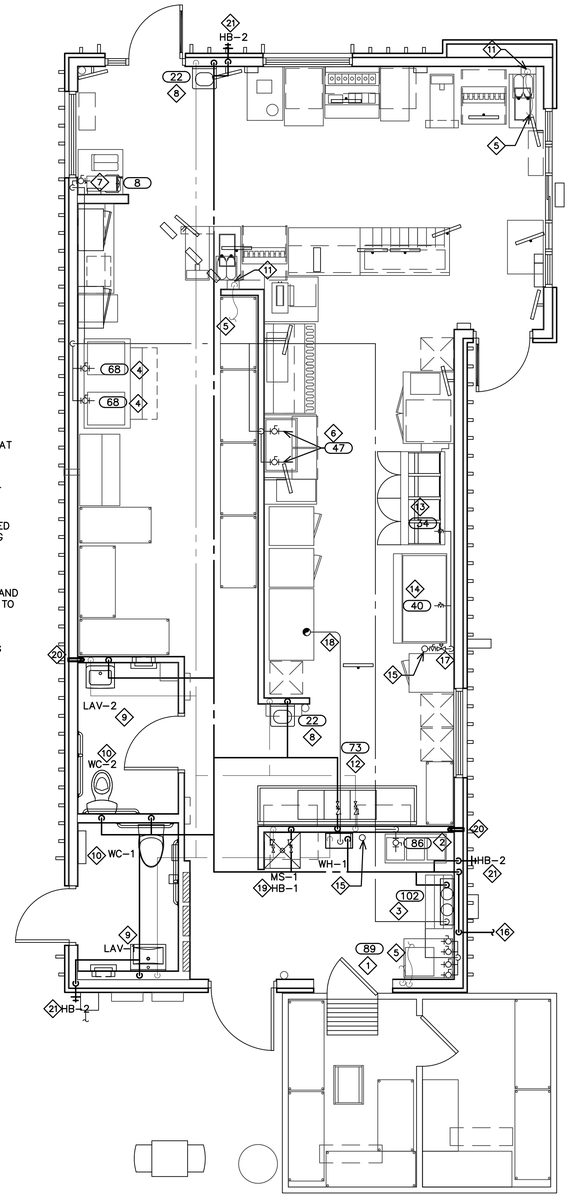
NOTE:

CONDENSATE PIPING SHALL BE CPVC OR PVC MATERIAL AND SHALL NOT BE SMALLER THAN THE DRAIN CONNECTION ON THE APPLIANCE.

COMPONENTS OF THE CONDENSATE DRAINAGE SHALL BE CPVC OR PVC MATERIAL. ALL COMPONENTS SHALL BE SELECTED FOR THE PRESSURE AND TEMPERATURE RATING OF THE INSTALLATION.

CONDENSATE MUST BE DISPOSED OF ACCORDING TO LOCAL CODES.

3 P1.02 TANKLESS WATER HEATER DETAIL
SCALE: N.T.S.



1 P1.02 PLUMBING WATER & GAS PLAN
SCALE: 1/4" = 1'-0"

CONSULTANT:
NRD national restaurant designers
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:
SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LOT #3 LAKE CITY, FLORIDA
STORE # -

SEAL:
NELSON RAY THORNTON LICENSE No. 50383 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/14/2022

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
P1.02
WATER AND GAS PLAN

GAS SERVICE REQUIREMENTS:

FRYERS (4)	300,000 BTUH
GRIDDLE	150,000 BTUH
WATER HEATER	199,000 BTUH
RTU-1	180,000 BTUH
RTU-2	180,000 BTUH
TOTAL	1,009,000 BTUH INPUT

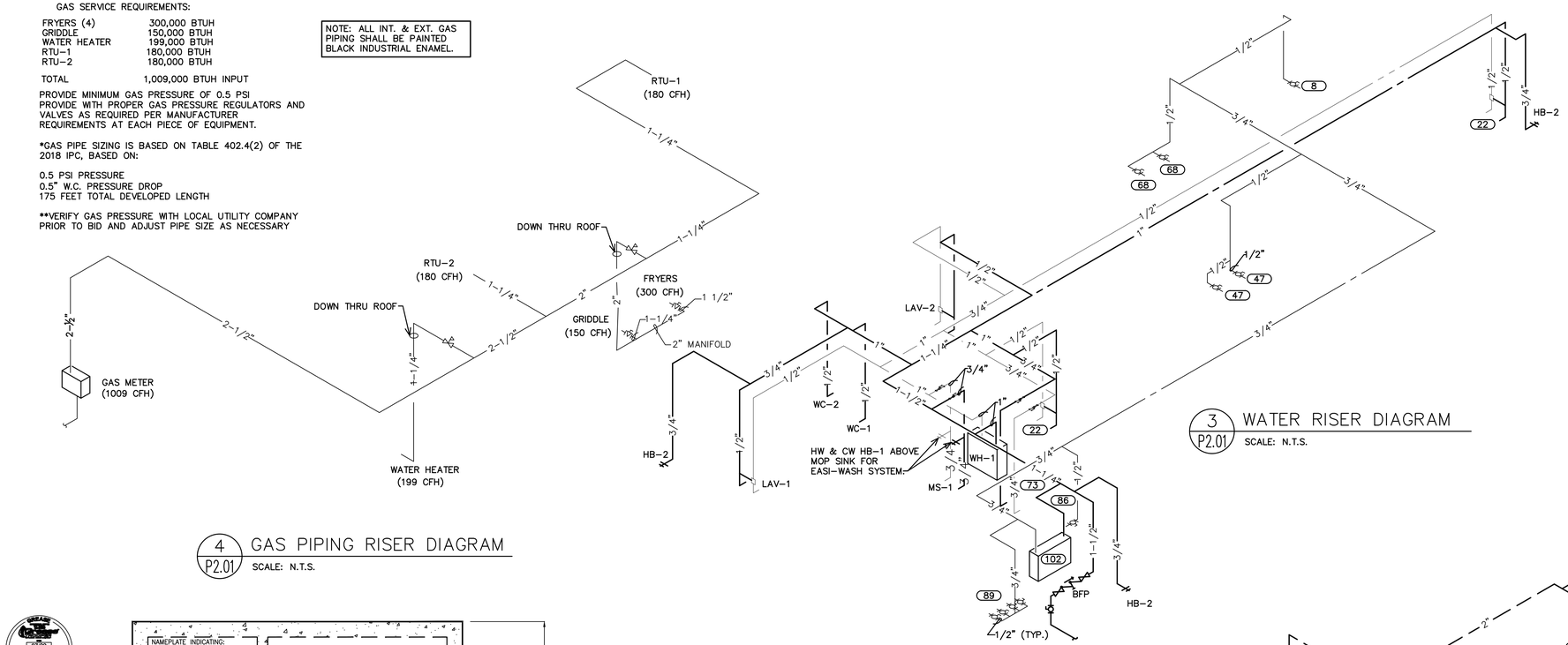
PROVIDE MINIMUM GAS PRESSURE OF 0.5 PSI
PROVIDE WITH PROPER GAS PRESSURE REGULATORS AND VALVES AS REQUIRED PER MANUFACTURER REQUIREMENTS AT EACH PIECE OF EQUIPMENT.

*GAS PIPE SIZING IS BASED ON TABLE 402.4(2) OF THE 2018 IPC, BASED ON:

0.5 PSI PRESSURE
0.5" W.C. PRESSURE DROP
175 FEET TOTAL DEVELOPED LENGTH

**VERIFY GAS PRESSURE WITH LOCAL UTILITY COMPANY PRIOR TO BID AND ADJUST PIPE SIZE AS NECESSARY

NOTE: ALL INT. & EXT. GAS PIPING SHALL BE PAINTED BLACK INDUSTRIAL ENAMEL.

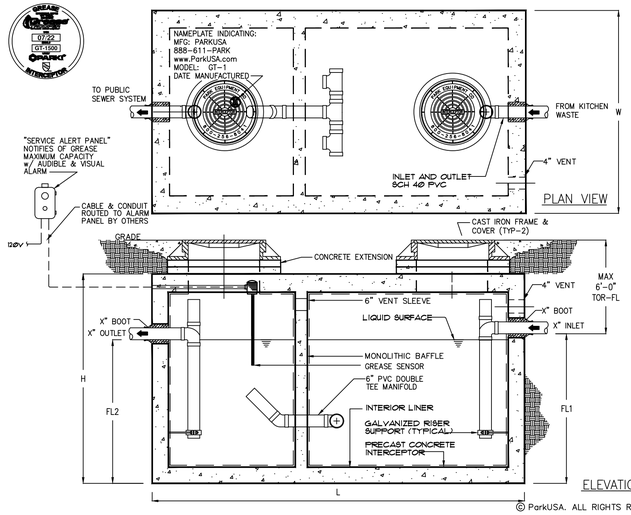


4 P2.01 GAS PIPING RISER DIAGRAM
SCALE: N.T.S.

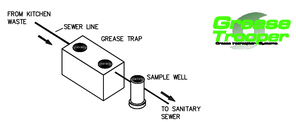
3 P2.01 WATER RISER DIAGRAM
SCALE: N.T.S.

GENERAL NOTES:

1. ALL HOT AND COLD WATER LINES TO BE INSULATED.
2. TO PROVIDE S.S EXCUTCHIONS AT ALL EXPOSED WALL PENETRATIONS.



© ParkUSA. ALL RIGHTS RESERVED.



TYPICAL APPLICATIONS INCLUDE COMMERCIAL AND INDUSTRIAL FOOD SERVICE KITCHENS WHERE EXCESSIVE GREASE MAY INTERFERE WITH THE PROPER DRAINAGE OF THE SEWER SYSTEM. THE GREASE INTERCEPTOR IS GENERALLY BURIED BELOW GRADE FOR GRAVITY FLOW SEWER SYSTEMS. A SAMPLE WELL IS UTILIZED ON THE OUTLET SIDE FOR SAMPLING BY THE LOCAL WATER AUTHORITY.

GREASE INTERCEPTOR SCHEDULE

MODEL NO.	CAPACITY USGal	GREASE CAP. (LBS)	EMPTY WT (LBS)	LENGTH L	WIDTH W	HEIGHT H	INLET FL1	OUTLET FL2
GT-500	500	1,200	9,500	7'-10"	4'-4"	4'-6"	3'-3"	3'-0"
GT-750	750	1,700	9,900	7'-10"	4'-4"	6'-0"	4'-5"	4'-2"
GT-1000	1,000	2,300	13,350	8'-6"	5'-0"	6'-0"	4'-9"	4'-6"
GT-1250	1,250	2,900	14,650	9'-2"	5'-8"	6'-0"	4'-9"	4'-6"
GT-1500	1,500	3,500	16,050	9'-2"	5'-8"	7'-0"	5'-9"	5'-6"
GT-2000	2,000	4,600	21,250	9'-0"	6'-0"	8'-0"	6'-9"	6'-6"
GT-2500	2,500	5,700	27,050	13'-0"	7'-0"	7'-0"	5'-9"	5'-6"
GT-3000	3,000	6,900	33,150	13'-0"	7'-0"	8'-0"	6'-9"	6'-6"
GT-3500	3,500	8,000	38,550	13'-0"	7'-0"	8'-6"	7'-3"	7'-0"
GT-4000	4,000	9,300	38,100	16'-0"	8'-6"	7'-0"	5'-9"	5'-6"

OTHER SIZES ARE AVAILABLE. CONTACT US FOR MORE INFORMATION

SPECIFICATIONS

CONCRETE : CLASS 1/1 CONCRETE WITH DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION AT FLOOR, FIRST STAGE OF WALL AND BAFFLE WITH SECTIONAL RISER TO REQUIRED DEPTH. (MONOLITHIC BAFFLE REQUIRED, SLIDE-IN TYPE IS NOT ACCEPTABLE)

REINFORCEMENT: GRADE 60 REINFORCED WITH STEEL REBAR CONFORMING TO ASTM A615 ON REQUIRED CENTERS OR EQUAL.

C.I. CASTINGS: MANHOLE FRAMES, COVERS OR GRATES ARE MANUFACTURED OF GREY CAST IRON CONFORMING TO ASTM A48 CLASS 30. MANHOLE SHALL BE NOMINAL 24 INCH DIAMETER AND BE TRAFFIC DUTY.

ENGINEERING DATA

THE GREASE INTERCEPTOR IS STRUCTURALLY & HYDRAULICALLY ENGINEERED TO CONFORM TO UPC/IPC AND REGIONAL PLUMBING CODES RECOMMENDED IN MOST CITIES. CONSULT WITH LOCAL AUTHORITIES FOR SPECIFIC APPLICATION REQUIREMENTS.

SHOP DRAWINGS SHALL INCLUDE COMPLETE STRUCTURAL & BOUYANCY CALCULATIONS CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER UPON REQUEST.

CONSULT WITH PARKUSA COMPANY FOR EXACT EXCAVATION DIMENSIONS & SHIPPING INFORMATION.

2 P2.01 GREASE TRAP DETAIL
SCALE: N.T.S.

1 P2.01 WASTE AND VENT RISER DIAGRAM
SCALE: N.T.S.

5 P2.01 CLEANOUT DETAIL
SCALE: N.T.S.

FLOOR SINK
SCALE: NOT TO SCALE

AREA FLOOR DRAIN
SCALE: NOT TO SCALE

6 P2.01 FLOOR DRAIN DETAILS
SCALE: N.T.S.

CONSULTANT:
national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
LOT #3 GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -

SEAL:

NELSON RAY THORNTON JR. LICENSE No. 50383 STATE OF FLORIDA PROFESSIONAL ENGINEER
7/14/2022

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

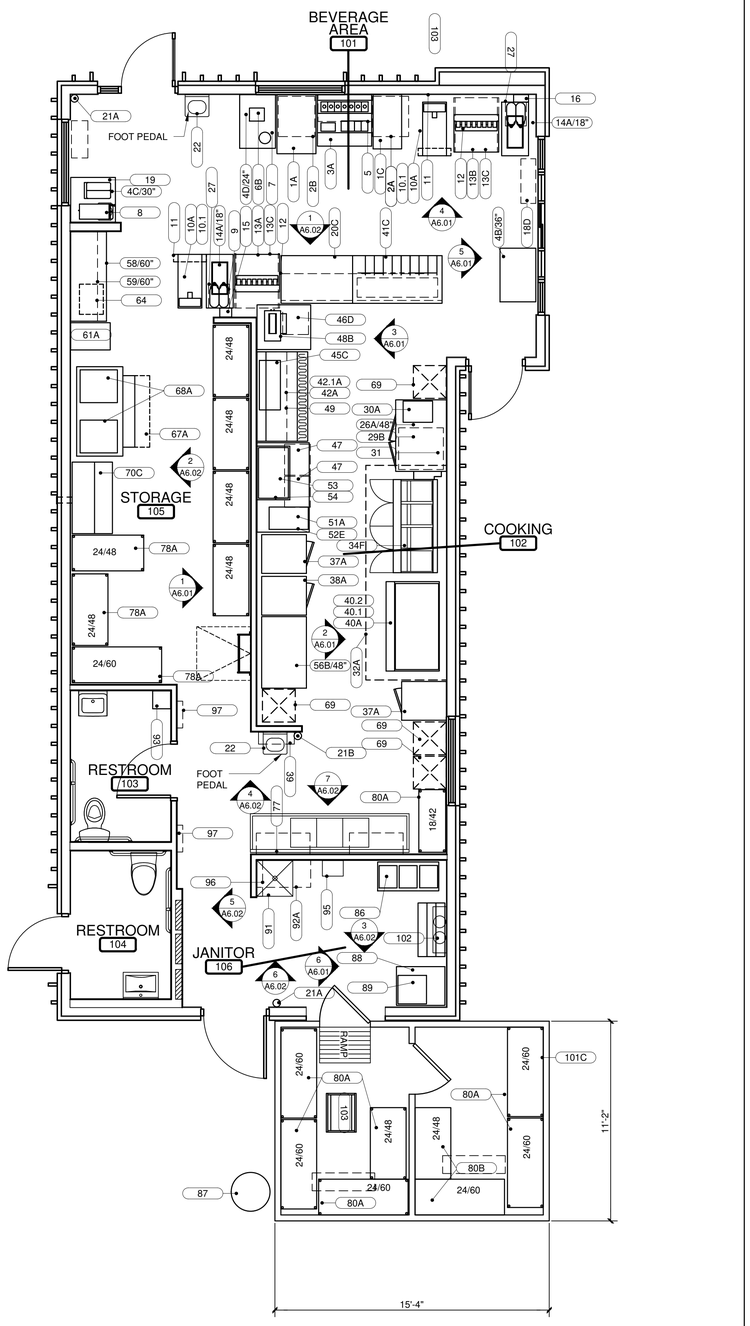
SHEET NUMBER / TITLE:
P2.01
PLUMBING RISERS AND DETAILS

BUILDING 15 2020 EQUIPMENT SCHEDULE

EQ #	DESCRIPTION	QTY	ALT	MANUFACTURER	MODEL	REMARKS	NOTES:	ELECTRICAL: SUPPLIED & INSTALLED BY EQ. VENDOR	ELECTRICAL: SUPPLIED BY NOVENDOR INSTALLED BY G.C.	ELECTRICAL: SUPPLIED & INSTALLED BY G.C.	ELECTRICAL: VOLT	ELECTRICAL: PHASE	ELECTRICAL: HORSEPOWER	ELECTRICAL: NEMA	ELECTRICAL: KILOWATTS	ELECTRICAL: AMP	PLUMBING: HOT WATER	PLUMBING: COLD WATER	PLUMBING: WASTE	PLUMBING: GAS CONNECTION	PLUMBING: GAS MBTUH
1	ICE CREAM MACHINE (AIR COOLED)	1	A	ELECTRO FREEZE	GEN-5420 (DUAL HEAD ICE CREAM)		1		o		208	3	(2) 2.0	VERIFY		VERIFY					
			A	STOELTING	U421-I2 A/C (DUAL HEAD ICE CREAM)		1		o		208	3	(2) 2.0	VERIFY		VERIFY					
		1	C	ELECTRO FREEZE	GEN-8D (SINGLE SHAKE)		1		o		208	3	1 1/2	VERIFY		VERIFY					
			C	STOELTING	SU412 (SINGLE SHAKE)		1		o		208	1	3/4	VERIFY		VERIFY					
2	ICE CREAM CUP AND CONE DISPENSER	1	A	CUSTOM STAINLESS STEEL FAB. (NSF)	OVERHEAD HANGING DISPENSER	TO BE USED WHEN PLACED ABOVE SINGLE SHAKE OR ICE CREAM			o												
		1	B	CUSTOM STAINLESS STEEL FAB. (NSF)	MACHINE MOUNTED	TO BE USED WHEN PLACED ABOVE DUAL OR COMBO UNITS			o												
3	REFRIGERATED FOUNTAINETTE	1	A	36" SILVER KING	SKF3				o		115	1	1/4	5-15		3.4					
4	STAINLESS STEEL TABLE	1	B	CUSTOM STAINLESS STEEL FAB. (NSF)	14" DEPTH X LENGTH SHOWN WITH TAG #	INCLUDES DOUBLE UNDERSHELF			o												
		1	C	CUSTOM STAINLESS STEEL FAB. (NSF)	30" DEPTH X LENGTH SHOWN WITH TAG #	INCLUDES DOUBLE UNDERSHELF			o												
		1	D	CUSTOM STAINLESS STEEL FAB. (NSF)	36" DEPTH X LENGTH SHOWN WITH TAG #	INCLUDES DOUBLE UNDERSHELF			o												
5	FOUNTAIN ORGANIZER	1		CUSTOM STAINLESS STEEL FAB. (NSF)	36" RACK WHEN 36" FOUNTAINETTE IS SELECTED				o												
6	TABLETOP MIXER	0	A	HAMILTON BEACH	94950				o		120	1	3/4			5.2					
		1	B	ELECTRO FREEZE	HMD75A				o		115	1	3/4			10.0					
7	HOT FUDGE WARMER/SERVER	1		SERVER PRODUCTS	FSP 82060	PART OF SMALLWARES PACKAGE USED ON TABLE #4 OR #3	3		o		120	1		5-15P		4.2					
8	COFFEE AND TEA BREWER	1		BUNN	ITCB-DV DBC WITH INTEGRATED FLIP TRAY	PROVIDE POWER AND FILTERED WATER CONNECTION	3	o			120	1	VERIFY	5-15P		14.0	1/2		1/2		
9	COFFEE AND TEA DISPENSERS	1 SET		BUNN	TDO-N-3-5, RSVR		3	o													
10	SLUSH DRINK MACHINE (AIR COOLED)	2	A	ELECTRO FREEZE	812H		1		o		208	1	1/2	6-50		25.5					
			B	STOELTING	5D 218B		1		o		208	1	1/2	6-20P		12.0					
10.1	SLUSH RACK	2		CUSTOM STAINLESS STEEL FAB. (NSF)					o												
11	SLUSH FILL STATION (PROVIDED BY COKE)	2		LANCER	85-0084-01		4	o			V	V	VERIFY	VERIFY		VERIFY		V	V		
12	ULTIMATE DRINK MACHINE WITH ICE BIN	2		COCA-COLA	85-2406C-122V, IC 45866		4	o			120	1	VERIFY	VERIFY		13.3		V	V		
13	DRINK CUP AND LID DISPENSER	1	A	45° CUSTOM STAINLESS STEEL FAB. (NSF)		OVERHEAD HANGING DISPENSER - HOP TABLE				o											
		1	B	30" CUSTOM STAINLESS STEEL FAB. (NSF)		OVERHEAD HANGING DISPENSER - DT AREA				o											
		2	C	SODA MACHINE MOUNTED CUSTOM STAINLESS STEEL RACK (NSF)		MACHINE MOUNT FOR ABOVE				o											
14	DRINK CONDIMENT TABLE	2	A	CUSTOM STAINLESS STEEL FAB. (NSF)	36" DEPTH X LENGTH SHOWN WITH TAG #	SINGLE TABLE INCLUDES COLDWELL & DOUBLE UNDERSHELF				o										1/2	
15	STAINLESS STEEL CHASE (U-SHAPED @ WALL)	2		5' X 12" X 120" STAINLESS STEEL FAB (NSF)		MOUNT TIGHT TO CEILING				o											
18	DRIVE THRU STATION	1	C	18" X 24" ROLLING CART						o											
		1	D	8" X 30" DRINK RAIL						o											
19	LEMONADE DISPENSER	1		CRATHCO BY GMCW	SIMPLICITY BUBBLER MINI-TWIN CS-2E-16				o		115	1	1/10			3.6					
20	HOP TABLE	1	C	48" CUSTOM STAINLESS STEEL FAB. (NSF)					o										1/2		
21	WALL MOUNTED FIRE EXTINGUISHER	2	A	SUPPLY LOCALLY	2A:10-BC		5			o											
		1	B	SUPPLY LOCALLY	2A:C:K		5			o											
22	WALL MOUNTED HAND SINK	2		ELKAY	EHS-18-SSX	SPLASH GUARD BOTH SIDES OF SINK			o								1/2	1/2	2		
25	COMBINATION EXPO / HOP TABLE	1		CUSTOM STAINLESS STEEL FAB. (NSF)	32" DEPTH X 96" LENGTH	TABLE W/ WARMERS AND SACK RACK			o		120	1		5-15P		(2) VERIFY					
26	STAINLESS STEEL TABLE (SALT & BAG)	1	A	CUSTOM STAINLESS STEEL FAB. (NSF)	35" DEPTH X 48" LENGTH	SINGLE UNDERSHELF - FREEZER			o												
27	TEA URN SHELF	2		CUSTOM STAINLESS STEEL FAB. (NSF)					o												
29	36" DOUBLE DOOR UNDERCOUNTER FREEZER	1	B	TBD	TBD				o		115	1	1/4	5-15P		5.7					
30	VERTICAL HOLDING UNIT	1	A	PRINCE CASTLE - FRYER	DHB4PT-20A 8 UNIT				o		120	1		5-20P		13.3					
31	SALT & BAG HOLD UNIT	1		CUSTOM STAINLESS STEEL (NSF)					o		208	1		6-20		14.4					
31.2	FRY TIMER	1		AJ ANTUNES EST-3					o												
32	GRILL/FRYER EXHAUST HOOD SYSTEM	1	A	STRATOVENT MODEL#SVND2 (NSF)	12'-0" LENGTH - CANOPY STYLE	NO MAKEUP AIR			o												
33	EXHAUST HOOD INTERLOCK BOX	1		HOOD MANUFACTURER					o												
34	FRYERS	1	F	HENNY PENNY (GAS 4 BANK) WITH GREASE TRANSFER SYSTEM	EEG244.01	COMES WITH GAS CONNECTION	1		o		120	1				12.2				1	
37	REACH IN FREEZER	2	A	BEVERAGE AIR	HF1-1HS				o		115	1	1/2	5-20R		7.8					
			B	TRAULSEN	5NG12000				o		115	1	1/2	5-15P		9.7					
38	REACH IN REFRIGERATOR	1	A	BEVERAGE AIR	HR1-1HS				o		115	1	1/2	5-20R		5.8					
			B	TRAULSEN	G10001				o		115	1	1/2	5-15P		6.1					
39	FIRE SUPPRESSION SYSTEM CONTROL BOX	1		ANSUL	R-102		5			o											
40	GRILL / GRIDDLE	1	A	FLAT GRILL - GARLAND (GAS) WITH STAND	60" CG-60F	INCLUDE GAS CONNECTION KIT #40.2			o		120	1		VERIFY		1				3/4	
40.1	COOKING TIMER	1		AJ ANTUNES TTS-8					o												
40.2	GAS HOSE	1		DORMONT - 3/4"					o												
41	EXPEDITE TABLE WITH WARMERS AND SACK RACK	1	C	60" CUSTOM STAINLESS STEEL WITH PASS SHELF/WARMER (NSF)					o		120	1		5-15P		(3) VERIFY					
42	REFRIGERATED TABLE (DRESSER) - SINGLE SIDED	1	A	BEVERAGE AIR (60")	SPE60-24M				o		115	1	1/3	5-15P		9.6					
45	HORIZONTAL HOLDING UNIT	1	C	PRINCE CASTLE	DHB2SS-33SNCGR 8 UNIT				o		208	1		6-15P		10.8					
46	TOASTER AND WARMER TABLE	1	E	CUSTOM STAINLESS STEEL (NSF)	30" X 38" SINGLE SIDED				o		120					20					
47	STEAMER	2		ROUNDUP	MS-255 / 7000314	PROVIDE POWER AND FILTERED WATER CONNECTION			o		208	1		6-20P		15.9		1/4			
48	BUN TOASTER	1	B	ROUNDUP	QST-3V (SMALLER UNIT)				o		208	1		6-20P		20.0					
49	WARMER SHELF / BAG RACK (SINGLE SIDED)	1		CUSTOM STAINLESS STEEL (NSF)		TRADITIONAL KITCHEN ONLY			o												
51	COUNTERTOP WARMERS	1	A	ROUNDUP	CW100				o		120	1		5-15P		12.5					
52	HOT / COLD COMBO CONEY TABLE	1	E	CUSTOM STAINLESS STEEL (NSF)	35" X 48" CONEY COMBO				o		120	1				15.0					
53	HOT DOG WARMER/HOLDING DRAWER	1		ROUNDUP	WD-50				o		120	1		5-15P		11.7					
54	HOT DOG CAROUSEL	1		ROUNDUP	HDC-50A				o		120	1		5-15P		14.6					
56	PREP TABLE (ROLLING)	1	B	CUSTOM STAINLESS STEEL (NSF)	30" DEPTH X LENGTH SHOWN WITH TAG #				o												
58	MANAGER'S DESK	1		CUSTOM STAINLESS STEEL (NSF)	24" DEPTH X LENGTH SHOWN WITH TAG #				o												
59	MANAGER'S UPPER SHELVING	2		METRO	18" DEPTH X LENGTH SHOWN WITH TAG #				o												
61	FILE CABINET	1	A	VERTICAL FOUR DRAWER ON CASTERS	SUPPLY LOCALLY					o											
63	POS AND VIDEO RACK	2	A	VARIES - REFER TO ELECTRICAL		REFER TO ELEVATIONS ON ELECTRICAL SHEETS			o												
64	SAFE	1		SMART SAFE	CS8820 DROP SAFE	28"H X 20.2"W X 16"D			o												
66	ICE MACHINES REMOTE CONDENSERS	2	A	SCOTSMAN	ERC311-32A		2		o		208	1		VERIFY		2.7		V	3/4		
67	ICE STORAGE BIN	1	A	FOLLETT	SG1650S-60				o									1			
68	ICE MACHINES	2	A	SCOTSMAN	N1322R-32 / RTE-25 - 1300 LB. NUGGET		2		o		208	1		VERIFY		18.9		3/8	3/4		
69	BREAD RACK	9		SUPPLY LOCALLY		FROM BAKERY VENDOR		o													
70	GREASE REMOVAL TANK	1	C	DARLING - GRIFFIN	B.O.S.S. STORAGE	DARPRO LEASE UNIT		o			110	1									
72	3-COMPARTMENT SINK W/24" DRAINBOARDS	1		ELKAY	FSP2047?1				o											3	
73	PRE-RINSE UNIT (FOR 3-COMP SINK)	1		T&S BRASS	B-133, B-109, B-155LN, 63X				o									3/4	3/4		
74	EPOXY MODULAR WALL SHELF SYSTEM (SMARTWALL)	1		METRO	BEHIND 3 COMP SINK				o												
78	CHROME WIRE STORAGE SHELVING	5	A	METRO	DEPTH X LENGTH SHOWN WITH TAG #	LOWER DUNNAGE AND 4 TIER WITH CASTERS			o												
		1	B	METRO	DEPTH X LENGTH SHOWN WITH TAG #	LOWER DUNNAGE AND 5 TIER WITH CASTERS			o												
		1	C			(4) DUNNAGE TIER			o												
79	CHROME WIRE DUNNAGE SHELVING	0		METRO	DEPTH X LENGTH SHOWN WITH TAG #	4 TIER			o												
80	EPOXY COATED WIRE STORAGE SHELVING	7	A	METRO	DEPTH X LENGTH SHOWN WITH TAG #	BOTTOM DUNNAGE AND 3 TIER			o												
		2	B	METRO	DEPTH X LENGTH SHOWN WITH TAG #	(2) DUNNAGE TIER			o												
81	ALUMINUM DUNNAGE RACK	1		NEWAGE	DEPTH X LENGTH SHOWN WITH TAG #	4 TIER			o												
86	BAG-IN-BOX STORAGE UNIT	1		COCA-COLA	43142		3	o													
87	DRINK CARBONATOR TANK WITH 6" SS LEGS	1		LOCAL CO2 VENDOR		750 POUND TANK WITH SMALL TANK HOOK-UP	4	o													
88	SLUSH PRECHILLER (SUPPLIED BY COKE)	1		LANCER	1500		4	o			115	1	1/3	VERIFY		4.4					
89	SLUSH RACK (SUPPLIED BY COKE)	1		LANCER	51-1408		4	o													
91	MOP SINK	1		BY GENERAL CONTRACTOR	24" X 24" PREFORMED	REFER TO PLUMBING FOR FAUCET SPECIFICATIONS				o											
92	PRESSURE WASHER	1	A	EASIWASH	25200 - 14" X 36" SHELF		6		o		208	1	5.0			30.0		1/2	1/2		
93	EMPLOYEE LOCKERS	1		LOCAL SUPPLIER					o												
95	WATER HEATER	1				REFER TO PLUMBING SHEETS FOR SPECIFICATIONS			o												
96	MOP/BROOM HANGER RACK	1		RUBBERMAID	199300 (36")				o												
97	COAT RACK	1		LOCAL VENDOR	1HEZ5 (20")				o												
99	COOLER COIL/FAN UNIT AND REMOTE CONDENSER	0	A	KOLPAK			2		o												
100	FREEZER COIL/FAN UNIT AND REMOTE CONDENSER	0	A	KOLPAK			2		o												
101	WALKIN COOLER/FREEZER	1	A	KOLPAK			2		o												
102	WATER FILTRATION SYSTEM	1	A	ALTUNES	VZN-421H-T5				o		110	1				0.08			3/4	3/4	
103	MOBILE ONION RING TRAY RACK	1	A	WIN-HOLT	ADE 1620BKDA				o												
104	EXTERIOR TRASH	3		MAX R	GRAY				o												
105	INTERIOR TRASH	2	C	GLOBAL INDUSTRIES	ALUMINUM 20 GALLON - OPEN TOP (WB240716)				o												

NOTES:

1. GENERAL CONTRACTOR INSTALL AND OWNER/EQUIPMENT VENDOR TO STARTUP
2. GENERAL CONTRACTOR INSTALL AND START UP
3. OWNER SCHEDULE INSTALL. REFER TO NEW STORE OPENING KIT
4. EQUIPMENT VENDOR IS COCA COLA
5. GENERAL CONTRACTOR HIRES FIRE PROTECTION SYSTEM CONTRACTOR
6. EQUIPMENT VENDOR IS EASI-WASH - CONTACT DAVE SOLBERG (641) 357-9274



NORTH

1 K1.01

EQUIPMENT FLOOR PLAN

1/4" = 1'-0"

CONSULTANT:

national restaurant designers
INRD ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LAKE CITY, FLORIDA
STORE # -
LOT #3

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT

7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

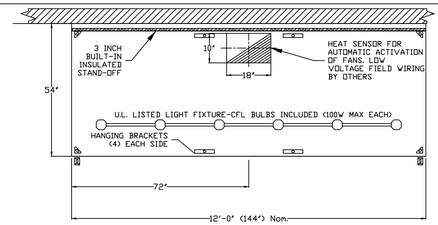
ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
K1.01
EQUIPMENT PLAN & SCHEDULE

STRATOVENT HOODS
BUILT IN COMPLIANCE WITH
NFPA #96
NSF STANDARD #2
UL STANDARD 710
ETL FILE NO. 3054804-001
- MAX TEMP: 450F
- OVERHANG: 6" MIN.
ON OPEN ENDS ONLY

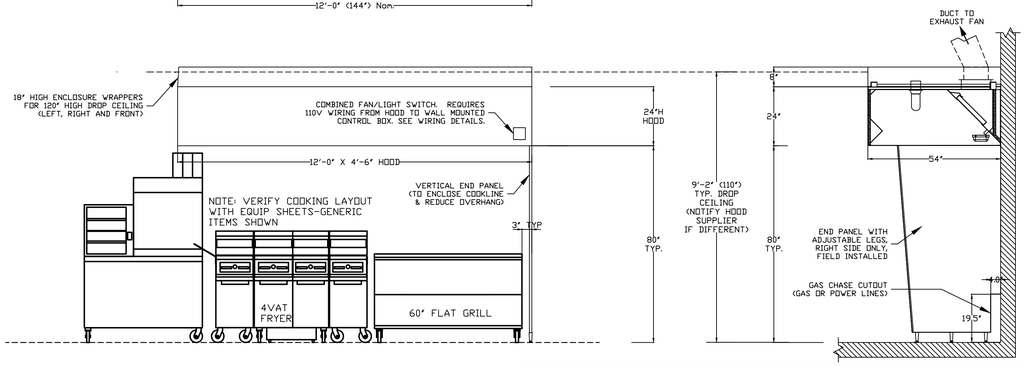


HOOD INFORMATION – WWW.STRATOVENT.COM

HOOD NO	STRATOVENT MODEL	SIZE	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/Ft	TOTAL EXH CFM
1	SVND2	12' 0"L 54"W X 24"H	600 Deg	I	Heavy	190	2280

EXHAUST PLENUM RISER(S)					HOOD	SWITCHES	
WIDTH	LENG	HEIGHT	VEL	SP	CONSTRUCTION	QUANTITY	LOCATION
10"	18"	4"	1824	-1.106"	430 SS Where Exposed	1 FAN	FRONT RIGHT FACE

FILTER(S)					LIGHT(S)		FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE		
Captrate Solo Filter	9	16"	16"	85% See Filter Spec	6	Screw In Compact	YES	631 LBS



FACTORY CONTACT INFORMATION:
WWW.STRATOVENT.COM, JEFF.JOHNSON@STRATOVENT.COM

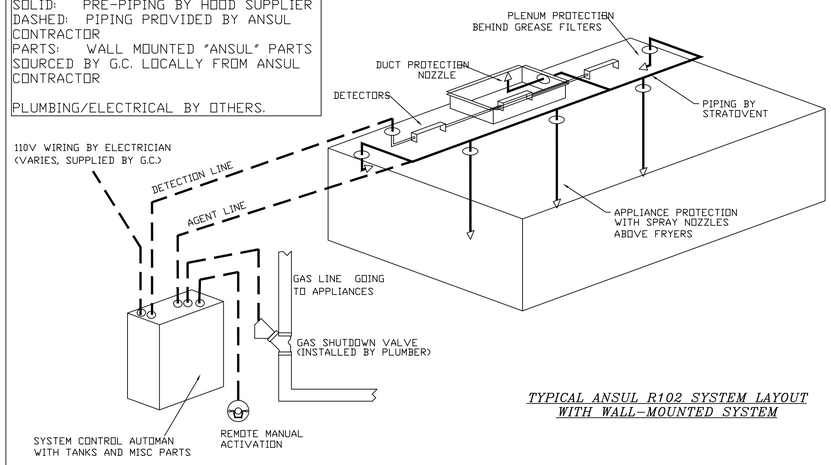
STRATOVENT 919.573.4250 www.stratovent.com

JOB	SONIC-12FT LONG HOOD
LOCATION	ANYTOWN
DATE	06/03/2020
JOB #	TBD
DWG #	1
DRAWN BY	JJ
REV.	0
SCALE	NTS

FIRE SUPPRESSION SYSTEM

SCOPE OF WORK:
SOLID: PRE-PIPING BY HOOD SUPPLIER
DASHED: PIPING PROVIDED BY ANSUL CONTRACTOR
PARTS: WALL MOUNTED "ANSUL" PARTS SOURCED BY G.C. LOCALLY FROM ANSUL CONTRACTOR

PLUMBING/ELECTRICAL BY OTHERS.



TYPICAL ANSUL R102 SYSTEM LAYOUT WITH WALL-MOUNTED SYSTEM

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-BAFFLE DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN, TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

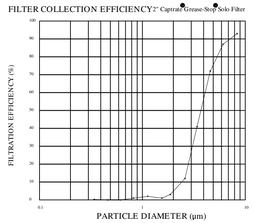
FILTER IS STAINLESS STEEL CONSTRUCTION, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

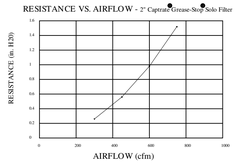
GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 85% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

THE CAPTRATE GREASE-STOP SOLO WAS TESTED TO ASTM STANDARD ASTM F2519-05.

FILTER COLLECTION EFFICIENCY 2" Captrate Grease-Stop Solo Filter



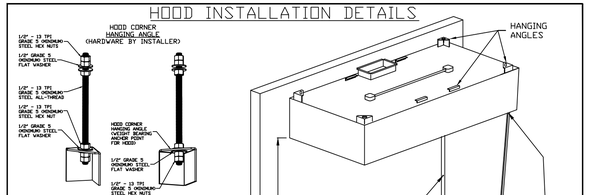
RESISTANCE VS. AIRFLOW - 2" Captrate Grease-Stop Solo Filter



CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH:
NFPA #96
NSF STANDARD #2
UL STANDARD #1046
INT. MECH. CODE (IMC)

CAPTRATE SOLO FILTER SIZES		
SIZE (H X W)	DIMENSIONS (H X W X D)	AREA (SQ FT)
~~20 X 16~~	~~19.625" X 15.625" X 1.875"~~	~~1.780~~
16 X 16	15.625" X 15.625" X 1.875"	1.390

HOOD INSTALLATION DETAILS



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

INSTALLATION NOTES:
-SEE HOOD DRAWING FOR JOB SPECIFIC DETAILS.
-HOODS 12 FT OR LONGER HAVE ADDITIONAL HANGING ANGLES.
-END PANEL MAY BE ON LEFT OR RIGHT END DEPENDING ON SITE SPECIFIC PLANS.

REVISED: 06/03/2020

STRATOVENT-BRAND HOODS AND FANS ARE CERTIFIED BY ETL-INTERTEC TO NATIONALLY RECOGNIZED STANDARDS.

STRATOVENT

CONTACT US:
WWW.STRATOVENT.COM
919-573-4250 OR 251-490-6114
JEFF.JOHNSON@STRATOVENT.COM

REVISIONS

	DESCRIPTION	DATE:
△		
△		
△		
△		

STRATOVENT 919.573.4250 www.stratovent.com
Stratovent
4641 Paragon Park, Raleigh, NC, 27616 PHONE: (919) 573-4250 FAX: (919) 573-4251 EMAIL: jeff.johnson@stratovent.com

12'+L SONIC HOOD
B15 2020 PROTOTYPE

DATE: 10/09/2020

DWG.#:

DRAWN BY: JJ-REG24

SCALE: NOT TO SCALE

MASTER DRAWING

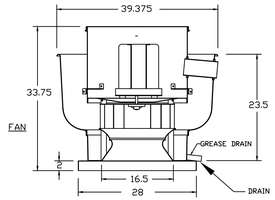
SHEET NO.
HOOD1

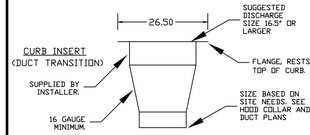
STRATOVENT MODEL# SVDU180HFA

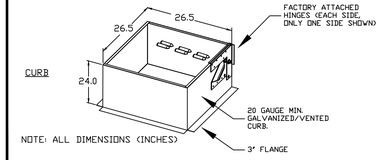
TAG	STRATOVENT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	ø	VOLT	FLA	MCA/MOP	WEIGHT (LBS.)	SONES
KEF-1	SVDU180HFA	2280	1.600	1279	1.50	0.95	3	208	4.4	5.5/15.0	210	17

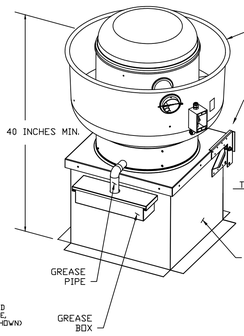
STRATOVENT

CALIFORNIA-OKLAHOMA-NORTH CAROLINA
PH: 919-573-4250
FEEDBACK@STRATOVENT.COM

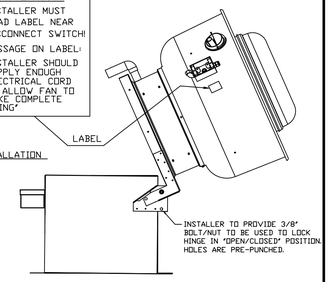








ATTENTION!
INSTALLER MUST READ LABEL NEAR DISCONNECT SWITCH!
MESSAGE ON LABEL:
"INSTALLER SHOULD SUPPLY ENOUGH ELECTRICAL CORD TO ALLOW FAN TO MAKE COMPLETE SWING"



TYPICAL INSTALLATION

amca CERTIFIED RATINGS PROGRAM — SOUND and AIR PERFORMANCE — AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL INC.

ETL LISTED

WEIGHTS
160 LBS (FAN)
50 LBS (CURB)

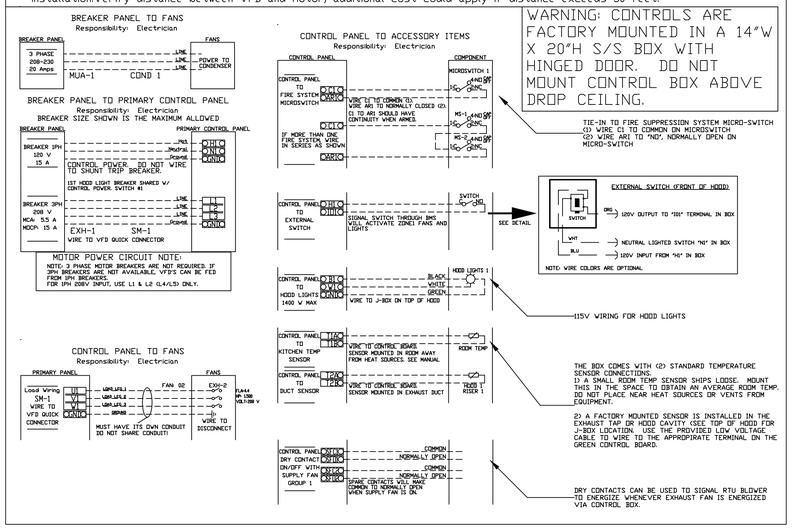
SELECTED OPTIONS
- RESTAURANT MODEL
- UL762, GREASE RATED
- DIRECT DRIVEN
- SPEED ADJUSTMENT VIA VFD
- WEATHERPROOF DISCONNECT
- FLAT CURB, VENTED
- FACTORY ATTACHED HINGES

REVISED: 06/03/2020

STRATOVENT PROVIDED ELECTRICAL PACKAGES : CONTACT 919.573.4250 WWW.STRATOVENT.COM — *UPDATED 06/03/2020*

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		FAN TAG	TYPE	ø	H.P.	VOLT	FLA
1		DCV-1011	Wall Mount In SS Box	Face Mount Left Side of Hood	1 Light 1 Fan	Smart Controls DCV	EF-1 HOOD	Exhaust	3	1.500	208	4.4

DESCRIPTION OF OPERATION:
Demand Control Ventilation, w/ 1 Exhaust Fan, Exhaust on in Fire, Lights out in Fire, Fans modulate based on duct temperature. INVERTER DUTY THREE PHASE MOTOR REQUIRED! Room temperature sensor shipped loose for field installation.Verify distance between VFD and Motor; additional cost could apply if distance exceeds 50 feet.



WARNING: CONTROLS ARE FACTORY MOUNTED IN A 14"W X 20"H S/S BOX WITH HINGED DOOR. DO NOT MOUNT CONTROL BOX ABOVE DROP CEILING.

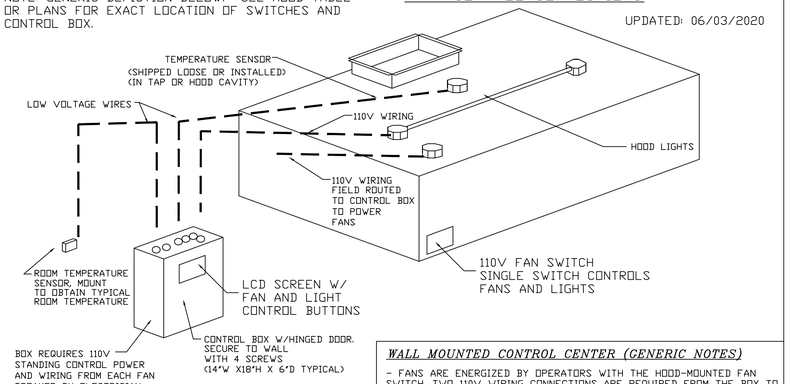
TIE-IN TO FIRE SUPPRESSION SYSTEM MICRO-SWITCH
(1) WIRE C1 TO COMMON ON MICROSWITCH
(2) WIRE #81 TO "NO", NORMALLY OPEN ON MICRO-SWITCH

CONTROL BOX SHOULD NOT BE MOUNTED ABOVE THE DROP CEILING. IT MUST BE INSTALLED BELOW THE CEILING TO ALLOW ACCESS FOR FUTURE SERVICING.

NOTE: GENERIC DEPICTION BELOW. SEE HOOD TABLE OR PLANS FOR EXACT LOCATION OF SWITCHES AND CONTROL BOX.

FAN CONTROL CONNECTIONS

UPDATED: 06/03/2020



STRATOVENT 919.573.4250 www.stratovent.com

INSTALLATION NOTE: (1) WALL-MOUNTED CONTROL BOX SHOULD BE MOUNTED JUST BELOW THE DROP CEILING FOR ACCESSIBILITY. (2) FIELD WIRING BY ELECTRICIAN

WALL MOUNTED CONTROL CENTER (GENERIC NOTES)

- FANS ARE ENERGIZED BY OPERATORS WITH THE HOOD-MOUNTED FAN SWITCH. TWO 110V WIRING CONNECTIONS ARE REQUIRED FROM THE BOX TO THE HOOD. ONE FOR LIGHTS, ONE FOR THE FAN SWITCH.
- (3) METHODS FOR FAN/LIGHT ACTIVATION, (#1) ON/OFF MANUALLY VIA USER INTERFACE ON BOX, (#2) REMOTE SIGNAL FROM THE HOOD MOUNTED SWITCH (#3) AUTOMATIC ACTIVATION BASED ON DUCT HEAT SENSOR. TEMPERATURE ACTIVATION POINT IS ADJUSTABLE. INSTALLER TO ADJUST PER MANUAL AS NEEDED TO SUIT COOKING LOAD. THIS MUST BE ADJUSTED AT STARTUP.
- LOW VOLTAGE HEAT SENSOR CABLE PROVIDED, INSTALLATION/FIELD WIRING BY OTHERS. MOUNT ROOM TEMPERATURE SENSOR AWAY FROM HEAT SOURCES OR VENTS. ROOM SENSOR PROVIDES AN OFF-SET REFERENCE FOR DUCT SENSOR. CONTROL BOX MUST BE MOUNTED BELOW THE DROP CEILING.
- BOX FEATURES: EXHAUST "ON" AND SUPPY FAN "OFF" IN FIRE MODE. IF EQUIPPED WITH A VARIABLE SPEED SYSTEM, AIRFLOW ADJUSTS BASED ON HEAT LOAD UNDER THE HOOD. SEE MANUAL FOR FULL FEATURES.

REVISIONS

	DESCRIPTION	DATE:
1		
2		
3		
4		

STRATOVENT 919.573.4250 www.stratovent.com
Stratovent
4641 Paragon Park, Raleigh, NC. 27616 PHONE: (919) 573-4250 FAX: (919) 573-4251 EMAIL: jeff.johnson@stratovent.com

12ft LONG SONIC EXHAUST ONLY HOOD
B15 2020 PROTOTYPE

DATE: 10/09/2020

DWG.#:

DRAWN BY: JJ-REG24

SCALE: NOT TO SCALE

MASTER DRAWING

SHEET NO.
HOOD2

SECTION 01340 – SUBMITTALS AND SUBSTITUTIONS

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Make submittals only as follows unless otherwise noted in the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.
1. Required Submittals to the Owner's Representative include:
a. Concrete Mix Design
b. Reinforcing Steel
c. Structural Steel
d. Electrical Equipment – disconnects, panels, fixtures, etc.
e. Miscellaneous Steel
f. Aluminum Doors and Windows
g. Hardware
h. Roofing
i. HVAC Equipment and ductwork
j. Hollow metal frames, doors and hardware
B. Owner's Representative: The Owner may designate a Representative to work on his behalf throughout the construction process. The General Contractor should verify who this representative shall be for purposes of these specifications.
C. No other submittals will be reviewed by the Owner's Representative unless the contractor is requesting a substitution as described in these specifications.

1.2 QUALITY ASSURANCE
A. Coordination of submittals:
1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
3. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.
B. Substitutions:
1. Proprietary names specified herein are used to establish and indicate minimum required quality of materials, appearance, workmanship, and function, and are not intended to discriminate against any unnamed manufacturers of products which meet or exceed the characteristics of those products specifically named.
2. Proposed substitutions will not be considered without submittal of manufacturer's data, specifications, instructions, and samples, if requested by the Owner's Representative.
3. Submit a typed list of proposed substitutions containing the following information:
a. Name of specified product;
b. Name of proposed substitute;
c. Name and address of manufacturer, local supplier, and local representative (if any).
4. Substitutions will be considered only when listed at time of bidding, and when substantiated by the Contractor's submittal of required data within 35 calendar days after award of the Contract.
5. The following products do not require further approval except for interface within the Work:
a. Products specified by reference to standard specifications such as ASTM and similar standards.
b. Products specified by manufacturer's name and catalog model number.
6. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved in writing by the Owner's Representative.
C. "Or equal":
1. Where the phrase "or equal", or "or equal as approved by the Owner's Representative", occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Owner's Representative.
2. The decision of the Owner's Representative shall be final.

1.3 SUBMITTALS
A. Provide Submittal Log to the Owner's Representative for review within the first 30 calendar days of Contract outlining all submittals to be submitted.
B. Make submittals of Shop Drawings, samples, substitution requests, and other items in accordance with the provisions of this Section to the Owner's Representative.

PART 2 – PRODUCTS

2.1 SHOP DRAWINGS
A. Scale and measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.
B. Types of prints required:
1. Submit Shop Drawings in the form of one sepia transparency of each sheet plus two blueline or blackline prints of each sheet.
2. Blueprints only will not be acceptable.
C. Review comments of the Owner's Representative will be shown on the sepia transparency when it is returned to the Contractor. The contractor may make and distribute such copies as are required for his purpose.
D. If supplied item matches specs only a letter of confirmation is required from supplier unless drawings are required.

2.2 MANUFACTURER'S LITERATURE
A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portions of the contents is being submitted for review.
B. Submit the number of copies which are required to be returned, plus two copies which will be retained by the Owner's Representative.

PART 3 – EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS
A. Consecutively number all submittals.
1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
2. On resubmittals, cite the original submittal number for reference.
B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.
D. Maintain an accurate submittal log at the job site for the duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Owner's Representative for his review upon request.

3.2 GROUPING OF SUBMITTALS
A. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
1. Partial submittals may be rejected as not complying with the provisions of the Contract. The Contractor may be held liable for delays so occasioned.

3.3 TIMING OF SUBMITTALS
A. Make submittals for enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.
B. In scheduling, allow at least ten working days for review by the Owner's Representative following his receipt of the submittal.

3.4 OWNER'S REPRESENTATIVE'S REVIEW
A. Review by the Owner's Representative does not relieve the Contractor from responsibility for errors, which may exist in the submitted data.
B. Revisions:
1. Make revisions required by the Owner's Representative.
2. If the Contractor considers any required revision to be a change, he shall so notify the Owners Representative.
3. Make only those revisions directed or approved by the Owner's Representative.

SECTION 01410 – TESTING LABORATORY SERVICES

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: The Owner is to provide testing and inspecting, complete, as described in this Section and elsewhere in the Contract Documents.
B. Related work:
1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Requirements for testing may be described in various Sections of these Specifications.

1.2 QUALITY ASSURANCE
A. Provide the services of a soil engineer and testing laboratory approved by the Owner's Representative.
B. Laboratory shall comply with requirements of ANSI/ASTM E 329 and ANSI/ASTM D 3740 and provide certifications to this effect.
C. Laboratory shall maintain a full-time registered Engineer on staff to review specific tests required by this specification.
D. Laboratory shall be authorized to operate in State in which Project is located.
E. Testing equipment shall be calibrated to ensure accurate results and values in order to ensure that test results are true and valid, and at intervals as directed by Owner.
Accuracy traceable to either NBS Standards or accepted values of natural physical constants.

1.3 SELECTION AND PAYMENT
A. The Owner will employ and pay for the services of an independent testing laboratory to perform specified inspection and testing.
B. Employment of testing laboratory shall in no way relieve Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.4 SPECIFIC TESTS AND INSPECTIONS
A. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of the Contract Documents, and as specified in such other tests and inspections as are directed by the Owner's Representative.
B. Tests include, but are not necessarily limited to, those described in detail in Part 3 of this Section.

1.5 REFERENCES
A. American Society for Testing and Materials (ASTM):
1. ASTM C 29 – Test Method for Unit Weight and Voids in Aggregate.
2. ASTM C 31 – Test Methods of Making and Curing Concrete Test Specimens in the Field.
3. ASTM C 39 – Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. ASTM C127 – Test Method for Specific Gravity and Absorption of Course Aggregate.
5. ASTM C 128 – Test Method for Specific Gravity and Absorption of Fine Aggregate.
6. ASTM C 136 – Method for Sieve Analysis of Fine and Course Aggregates.
7. ASTM C 138 – Test Method for Unit Weight, Yield, and Air Content (Gravimetric) of Concrete.
8. ASTM C 143 – Test Method for Slump of Hydraulic Cement Concrete.
9. ASTM C 172 – Practice for Sampling Freshly Mixed Concrete.
10. ASTM C 231 – Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
11. ASTM C 496 – Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens.
12. ASTM D 698 – Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft--lbf/ft3) (600 kN-m/m3 sq).
13. ASTM D 1188 – Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens.
14. ASTM D 1560 – Test Method for Resistance to Deformation and Cohesion of Bituminous Mixtures by Means of Hveem Apparatus.
15. ASTM D 2167 – Test Method for Density and Unit Weight of Soil In-Place by the Rubber Balloon Method.
16. ASTM D 2172 – Test Method for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures.
17. ASTM D 2922 – Test Methods for Density of Soil and Soil–Aggregate in Place by Nuclear Methods (Shallow Depth).
18. ASTM D 3017 – Test Method for Moisture Content of Soil and Soil–Aggregate in Place by Nuclear Methods (Shallow Depth).
19. ASTM D 4318 – Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
B. American National Standards Institute (ANSI)/American Society for Testing and Materials (ASTM):
1. ANSI/ASTM D 3740 – Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
2. ANSI/ASTM E 329 – Practice for Use in the Evaluation of Testing and Inspection Agencies as Used in Construction.
C. American Welding Society (AWS):
1. Document D1.1, Structural Welding Codes.
2. Document D1.3, Structural Welding Codes.
D. American Concrete Institute (ACI):
1. Document 315 (Details and Detailing of Concrete Reinforcement).
2. Document 347 (Recommended Practice for Concrete Formwork).

1.6 LABORATORY RESPONSIBILITIES
A. Provide qualified personnel at site after due notice from the contractor; cooperate with Owner's Representative, Contractor, and appropriate public authorities having jurisdiction in performance of services.
B. Perform specified inspection, sampling, and testing of products in accordance with latest, up–to–date standards.
C. Ascertain compliance of materials and mixes with requirements of Contract Documents.
D. Promptly notify Owner's Representative, appropriate consultants, Contractor, Owner, and authority having jurisdiction of observed irregularities or non–conformance of Work or products.
E. Perform additional inspections and tests required by Owner's Representative, Owner, Contractor, or authority having jurisdiction.

1.7 LABORATORY REPORTS
A. After each inspection and test, promptly submit two copies of laboratory report to Owner's Representative, one to applicable consultant, one to Owner, one to Contractor, and one to City (if required). Include: Date issued, Project title and number, name of inspector, date and time of sampling or inspection, weather conditions, identification of product and Specifications section, location in the Project, type of inspection or test, date of test, results of tests, and specific indication of nonperformance, or lack of such, with Contract Documents. When requested by Owner's Representative/Engineer, provide interpretation of test results.

1.8 LIMITS ON TESTING LABORATORY AUTHORITY
A. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
B. Laboratory may not approve or accept any portion of the Work.
C. Laboratory may not assume any duties of Contractor.
D. Laboratory has no authority to stop Work.

1.9 CONTRACTOR RESPONSIBILITIES
A. Deliver to laboratory at designated location adequate samples of materials proposed to be used which require testing, together with proposed mix designs.
B. Cooperate with laboratory personnel, and ensure ready access to Work and to manufacturer's facilities, if requested by testing lab.
C. Provide incidental labor and facilities for access to work to be tested, to obtain and handle samples at the site, or at source of products to be tested, in order to facilitate tests and inspections, and for storage and curing of test samples.
D. Notify laboratory of material sources and furnish lab–determined necessary quantities of representative samples of materials proposed for use which are required to be tested.
E. Notify Owner's Representative and laboratory 24–hours prior to expected time for operations requiring inspection and testing services. Cancel notifications in a timely manner if items or systems are not ready for inspection as intended. Reimburse Owner for trip charges when cancellation notifications are not made in a timely fashion.
F. Advise laboratory in a timely fashion to complete required inspection and testing prior to subsequent work being performed.
G. Reimburse Owner for all subsequent re–testing of products or systems found to be defective or otherwise not in accordance with specification requirements, and for any overtime pay required as a result of any inspection requirements that may fall outside of normal jobsite weekday work schedule. Remove rejected products or Work and replace with products or Work of specified quality.
H. Notification of Source Change: The Contractor shall be responsible for notifying the Owner, Owner's Representative, Engineer, and Testing Laboratory when the source of any material is changed after the original tests or inspections have been made.

PART 2 – PRODUCTS

Not Applicable.

PART 3 – EXECUTION

3.1 EARTHWORK (SITE GENERAL)
A. Make necessary soil tests (Atterberg Limit Series ASTM D 4318 and ASTM D 698 Standard Proctor) to determine moisture content and density of existing subgrade. Perform necessary soil tests (Atterberg Limit Series and STM D 698 Standard Proctor for each type of imported fill) to determine the moisture content and to inspect and test the placement of additional fill lifts to verify that the fill material used and placed are in accordance with the specifications for that use. Perform one field density test (ASTM D 2922 and ASTM D 3017 per 5,000 S.F. of site area in the area affected on each lift prior to placement of additional fill material.
B. Imported Topsoil Tests: Testing for topsoil quality compliance shall be performed by the Testing Laboratory.

3.2 PAVING OR SPECIAL SURFACE SUBGRADE PREPARATION
A. Perform one sample-in–place density test per 7,500 S.F. of subgrade, after subgrade preparation, in accordance with ASTM D 2922 and ASTM D 3017. Perform tests within 48–hours of pavement construction.
B. Pulverization tests on lime subgrade. TEX 101E, Part III, at same frequency as density tests.

3.3 BUILDING SUBGRADE PREPARATION
A. Make necessary soil tests (Atterberg Limit Series and ASTM D698 Standard Proctor for each type of filler to determine the moisture content and density of existing subgrade and inspect and test the placement of additional fill lifts to verify that all fill materials used are in accordance with the specifications for that use. Perform one field density test (ASTM D2922 and ASTM D3017) for each 5,000 S.F. of area within the building footprint on each lift prior to placement of additional fill material.

3.4 DRILLED PIERS
A. The Independent Testing Laboratory shall provide the services of their registered Geotechnical engineer at the initiation of the on–site pier drilling operations to determine the appropriate bearing material into which the piers are to be founded. Written documentation of the determination shall be prepared and forwarded to the Owner, Owner's Representative, and Contractor.
B. Make on–site full time inspections of pier drilling for each pier drilled and placed.
C. Verify that the excavation is of the proper size and adequately clean and dry.
D. Verify that the bearing material at depth in accordance with the Geotechnical report, existing on–site conditions that may be encountered, and at the proper bearing strata.
E. Verify that the reinforcing steel and concrete are properly placed in accordance with other testing provisions specified herein.
F. Inspection reports of pier drilling shall contain the following:
1. Pier mark
2. Pier Depth
3. Depth of penetration into bearing strata
4. Plumb ness deviation
5. Description of unusual conditions encountered, including ground water.

3.5 FORMWORK, REINFORCING STEEL AND INSERTS
A. Make general inspections of formwork.
B. Prior to each concrete pour, inspect fabrication and bending of bars, bar sizes, spacing, placement and tying in accordance with ACI 315.
3 Prior to each concrete pour, inspect positioning of steel inserts and assemblies, sizes, and spacing, and inspect fusion–welded anchors and sheer connectors.

3.6 CAST–IN–PLACE CONCRETE
A. Design Mixes:
1. At the beginning of the work, Contractor shall submit proposed concrete mixes for review by the Owner's Representative, structural engineering consultant, and testing laboratory, including the sieve analysis of fine and course aggregate ASTM C–136, dry rodded weight of course aggregate – ASTM C–29, and the specific gravity (bulk saturated surface dry), of fine and coarse aggregates ASTM C127 and C128.
2. Contractor shall not mix concrete for placing in the work until confirmation laboratory reports are supplied to reflect that each proposed mix will develop the strength required. Successful past history in accordance with ACI 318 will be satisfactory.
B. Test Cylinders: Make at least one (1) test of each day's pouring of concrete or each 100 cubic yards, whichever is the least, on each different portion or section of the work. Mold and cure specimens in accordance with ASTM C31, and test in accordance with ASTM C39. Test cylinders shall be made and tested by the laboratory. Footings, walls, and floor systems constitute different sections. Each test shall consist of four (4) specimens, one of which shall be broken at seven (7) days, two (2) at twenty–eight (28) days and one held in reserve. Maintain temperature and air content for each set of test cylinders in accordance with ASTM C231.
C. Field Quality Control:
1. Determine slump for each concrete strength test and whenever consistency of concrete varies, in accordance with ASTM C143.
2. Monitor and record addition of water to concrete and length of time concrete is allowed to remain in truck.
3. Verify delivery tickets indicating class of concrete, amount of water added during initial batching, and time initial batching occurred.
4. Monitor work being performed in accordance with ACI (American Concrete Institute) recommendations as a standard of quality.
5. Reference SECTION 03300–CAST–IN–PLACE CONCRETE for additional requirements.
D. Source Quality Control: An independent testing laboratory representative shall periodically inspect and control concrete mixing and loading of mixer truck trucks at batch plant at intervals appropriate to monitor quality of material issued on job.

3.7 STRUCTURAL STEEL
A. Fabrication of, erection of, and connections between, structural steel members, including welding and tension in high–strength bolts, will be accomplished under and subject to the inspection of an independent testing agency. The general contractor, structural steel fabricator, and erector shall afford full cooperation to the laboratory.
B. Perform the following testing and inspection: (Prior to placement of steel deck).
1. Check location of condition of anchor bolts.
2. Check plumbness and tolerance of steel frame.
3. Qualification of welders and welding techniques (at contractor's expense).
3. Visually inspect common bolts.
5. Inspection of high–strength bolting:
a. Visually inspect connections.
b. Check tightness of at least 33% of connections.
c. Check at least two bolts of each grade in column connection.
6. Visually inspect field and shop welds.
7. Ultrasonic or X–ray testing of full penetration welds.
8. Re–inspect corrective measures required at expense of Contractor.
9. Verify that no welding over primer occurs.
10. Verify that materials and installation are according to Contract Documents and industry standards.
C. Gas Cutting: Do not use gas cutting torches for correcting fabrication errors in the structural framing. Cutting will not be permitted on any member, unless specifically approved by the Structural Engineer. Finish gas–cut sections equal to a sheared appearance when gas finish cutting is permitted. Do not flame cut holes or enlarge holes by burning.
D. Corrections: The fabricator or erector shall correct deficiencies in structural steel work which inspection and test reports have indicated to be not in compliance with the specified requirements. Perform all additional tests required to reconfirm non–compliance of the original work and to show compliance of corrected work. Retesting of non–conforming work shall be at the Contractor's expense.
E. All welders employed during erection of structural steel must be certified by The American Welding Society (AWS) for type of base materials and positions encountered. Certification having to be performed at Contractor's expense and copies of Certifications shall be submitted for review upon request and maintained at the project site by the Contractor.

3.8 STEEL JOISTS
A. All steel joists and connections to structural steel members shall be inspected.
B. Quality Assurance: All welding performed during the manufacture and erection of steel joists shall comply with the requirements of AWS D1.1.
C. Inspect condition of joists after erection; check method of attachment to structures and details of bridging and accessories to verify compliance with required standards.

3.9 METAL DECKING
A. Qualification of Welders: Qualify the welding process and all welders (at Contractor expense), and periodically monitor the work in accordance with the requirements of AWS D1.3
3 Testing Laboratory shall inspect steel decking to ensure the material and installation is in accordance with the specifications and shop drawings.

3.10 ROOFING TESTING AND INSPECTION
A. Make periodic inspections while roofing installation is underway basing frequency on status of work being done and quality control problems being encountered.
B. Verify type asphalt being used and temperature of asphalt at kettle and at point of discharge on the roof. Verify proper spreading.
C. Verify that type and manufacturer of roofing felts conforms with Contract Document requirements. Verify that felts have been properly stored and protected and are dry at time of installation.
D. Verify that type and manufacturer of insulation and installation conforms with Contract document requirements. Verify proper storage of insulation and dryness at time of installation.
E. Verify status and conditions of metal deck prior to roof insulation installation.
F. Verify that installation of asphalt and roofing felts are according to the contract documents and roofing manufacturer's recommendations.
G. Inspect roofing installation prior to flood coating and mark and report fishmouths, felt–to–felt conditions and other departures from good roofing practices.
H. Verify that size, cleanliness and moisture content of aggregate is according to specifications.
I. Verify installation of flashings, water cut–offs and other methods to protect in–place roofing from the elements has been accomplished in accordance with Contract Document requirements.
J. Document the results of all inspection and tests and distribute copies to Roofing Contractor, Roofing Manufacturer, General Contractor, Owner's Representative, and Owner.
K. Immediately notify all parties of those portions of tests or inspections which do not comply with Contract Document requirements.

3.11 OTHER WORK REQUIRING TESTS
A. Refer to individual sections covered under Division 15 and 16 for other work requiring tests by independent testing laboratory.

SECTION 01700 – PROJECT CLOSEOUT

PART 1 – GENERAL

1.1 COMPLETION OF CONSTRUCTION, TESTS:
A. Before completion of construction project, the Mechanical and Electrical Sub–Contractors shall test all materials, equipment and systems which normally require testing. All piping, etc., shall be tested to meet the specification requirements. All equipment systems shall be operated sufficiently long to prove to the Owner that the equipment and systems perform satisfactorily and meet the requirements set forth on the plans or these specifications. Refer to Divisions 15 and 16 of these Specifications.
B. In addition to the above portions of these specification, all sub–contractors proposing to do work under these specifications shall comply with the following additional requirements. Mechanical Contractor shall instruct the Owner in the proper care, including preventative maintenance, and operation of the systems and equipment. Two copies of bound manual shall be furnished which shall include a resumee of the instructions given, complete preventative maintenance instructions, operating procedures, normal operations and a simple description of the systems and their intended operating condition, all spare parts list and guarantees and warranties. Final payment will not be made until the Owner has received a letter from the Contractor stating that the operating personnel have been properly instructed and, in fact, understand the installation and further, indicating receipt of the bound manuals.

1.2 RECORD DRAWINGS
A. The Contractor shall keep a set of drawings on the job, noting daily all changes made in these drawings in connection with the final installation including exact dimensioned locations of all new and uncovered existing utility piping outside the building, and shall, with his request for final payment, turn in to the Owner's Representative a set of reproducible mylar or sepia drawings indicated as "Record Drawings As Installed" to the Owner.

1.3 SUBMITTAL INFORMATION
A. The Contractor shall accumulate during the job's progress, the following data, in duplicate, prepared in a neat brochure or packet folder and turned over to the Owner.
1. All warranties and guarantees and manufacturer's directions on equipment and material covered by the contract.
2. Approved fixture brochures, wiring diagrams and control diagrams.
3. Any and all other data and/or drawings required by the specifications.
4. Repair parts lists of all major items and equipment including name, address and telephone number of each supplier or agent.
5. Valve tag charts and diagrams.
B. All of the above data shall be submitted to the Owner for approval at such time as the Contractor asks for his next to last application for payment prior to his final application for payment, but in no case, less than two weeks before final inspection.

1.4 FINAL INSPECTION
A. It shall be the duty of the Contractor to personally make a careful inspection trip of the entire project, assuring himself that the work on the project is ready for final acceptance, before calling for the final inspection by the Owner's Representative.
B. In order not to delay final acceptance of the work, the Contractor shall have all necessary guarantees, maintenance contracts, and certificate of occupancy, etc., called for in the various articles of these specification, prepared and signed in advance, together with a letter of transmittal including each paper included, and shall deliver the same to the Owner at or before the time of said Final Inspection. The Contractor is cautioned to check over each bond, receipt, letter, before preparing same for submission to see that the terms meet the requirements of these specifications.

PART 2 – OCCUPANCY

2.1 OWNER OCCUPANCY
A. Contractor shall provide access for Owner.
B. Prior to occupancy, execute Certificate of Substantial Completion.
C. Upon occupancy of new building, Owner will provide:
1. Custodial services.
2. Security
3. Maintenance
4. Utilities
5. Operation of HVAC and electrical systems.

SECTION 01730 – OPERATION AND MAINTENANCE DATA

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: To aid the continued instruction of operating and maintenance personnel, and to provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data described in this Section and in pertinent other Sections of these Specifications.

1.2 SUBMITTALS
A. Comply with pertinent provisions of Section 01340.
B. Submit two copies of a preliminary draft of the proposed Manual or Manuals to the Owner's Representative for review and comments. This submittal shall be made prior to project being 50% complete.
C. Unless otherwise directed in other Sections, or in writing by the Owner's Representative, submit Manuals in completed form at the time of Manual to the Owner's Representative prior to indoctrination of operation and maintenance personnel.
D. The following subcontractors are to provide Manuals explaining the respective building systems to the Store Manager:
1. Electrical Contractor – electrical panels, breakers, time clocks and photo cells.
2. Mechanical Contractor – HVAC equipment, thermostat setting and functions, filter location and size and warranties.
3. Landscape Contractor – irrigation controls, maintenance and warranty.

PART 2 – PRODUCTS

2.1 INSTRUCTION MANUALS
A. Where instruction Manuals are required to be submitted under other Sections of these Specifications, prepare in accordance with the provisions of this Section.
B. Format:
1. Size: 8–1/2" x 11"
2. Paper: Minimum 20 pound, at least 20 lb weight
3. Text: Neatly written or printed
4. Drawings: 11" x 17" where necessary; bind in with text; foldout acceptable; larger drawings acceptable but fold to fit within the Manual and provide a drawing packet inside rear cover or bind in with text.
5. Flysheets: Separate each portion of the Manual with neatly prepared flysheets briefly describing contents and their relationship to the entire project.
6. Binding: Use heavy–duty plastic or fiberboard covers with binding mechanism concealed inside the Manual; 3–ring binders will be acceptable; all binding is subject to the Owner's Representative's approval.
7. Measurements: Provide all measurements in U.S. standard units such as feet–and–inches, lbs, and gallons. Where metric units may be expected to be measured within ten years in accordance with metric formula, provide additional measurements in the "International System of Units" (SI).
C. Provide front and back covers for each Manual, using durable material approved by the Owner's Representative, and clearly identified on or through the cover with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS
name and address of Work
name of contractor
general subject of this Manual
name and telephone number of Owner's Representative
and approval date

D. Contents: Include at least the following:
1. Neatly typewritten index near the front of the Manual, giving information as to location within the Manual of each item of operating information regarding the installation.
2. Complete instructions regarding operation and maintenance of all equipment involved including lubrication, disassembly, and reassembly.
3. Complete nomenclature of all parts of all equipment.
4. Complete nomenclature and part number of all replaceable parts, name and address of nearest vendor, and all other data pertinent to procurement procedures.
5. All guarantees and warranties issued and fully executed by respective companies.
6. Manufacturers' bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in the installation and deleting or otherwise clearly indicating, all manufacturers' data with which this installation is not concerned.
7. Such other data as required in pertinent Sections of these Specifications.
8. All control charts the Contractor may represent, address, and phone number to be included in respective manuals.

PART 3 – EXECUTION

3.1 INSTRUCTION MANUALS
A. Preliminary:
1. Prepare a preliminary draft of each proposed Manual.
2. Show arrangement, nature of contents in each portion, probable number of drawings and their size, and proposed method of binding and covering.
3. Secure the Owner's Representative's review of the preliminary draft.
B. Final: Complete the Manuals in strict accordance with the approved preliminary drafts and the Owner's Representative's review comments.
C. Revisions:
1. Following the indoctrination and instruction of operation and maintenance personnel, review all pertinent revisions of the Manual with the Owner's Representative.
2. If the Contractor is required by the Owner's Representative to revise previously approved Manuals, compensation will be made as provided for under "Changes" in the General Conditions.
D. Instruction:
1. All subcontractors submitting manuals should schedule an appointment with the Store Manager to review such Manuals and instruct the Manager on the operation and maintenance of equipment involved. This should be conducted by an employee of the subcontractor who is completely familiar with the subject equipment within 30 days of turning over the store to the Owners Representative.

SECTION 02210 – SITE WORK

PART 1 – GENERAL

1.1 DESCRIPTION
A. The site work outlined in these drawings and specifications are general in nature and provided for general site guidelines and pricing only. The architect strongly advises the Owner to solicit the services of a Licensed Civil Engineer and to conduct Soils Testing and Evaluations. Full civil engineering drawings should be provided and reviewed for specific requirements. The documents provided by the Civil Engineer shall be used for the construction of the site related aspects of the project. All installation and related work should comply with all local and national codes and standards of practice.

PART 2 – PRODUCTS

2.1 GENERAL
A. Provide all necessary products to complete the requirements of this section.

PART 3 – EXECUTION

3.1 SITE WORK
A. Site Preparation: Establish extent of excavation and fill by area and elevation; Set required lines and levels. Remove all grass, weeds, roots, and other vegetation from areas to be excavated, filled or graded. Layout and grade staking shall provide for positive drainage away from building, and avoid creation of ponding areas.
B. Grading: Cut or fill and machine grade site as shown on the drawings, to drain as indicated, allowing for the thickness of paving sub–base and paving. Place in horizontal lifts not in excess of 8" thick after compaction by rolling and/or tamping to 95% of maximum density at optimum moisture content.
C. Backfilling: Ensure excavated area is free of water, ice, snow or debris, and ground is not frozen. Back fill and fill material may consist of on–site or off–site inorganic soils, which are free of debris, waste, frozen materials, vegetation matter, or rocks larger than 2" in any direction. Fill to be placed systematically and in 8" lifts, compacted to 95% of maximum density at optimum moisture content. Remove surplus fill from site.

3.2 STRUCTURE EXCAVATION AND BACKFILL
A. Soils Report: The Owner shall provide a soils test report for review by the Sonic A&E department for foundation design or acceptance as detailed on the drawings.
B. Spread footings shall bear on undisturbed soil. Stilted piers, when used, shall extend a minimum of 1'–6" into bearing material. Ref. Structural for soil under grade beams.

3.3 TRENCHING, BACKFILLING, AND COMPACTING
A. Follow trenching and required bracing and shoring of all trenching operations.
B. Cut and excavate for underground services from building to utilities as indicated on the drawings.
C. Protect active utility services uncovered by excavation.
D. Cut trenches sufficiently wide to enable proper installation of services and to allow for inspection. Excavate, shore and brace as required to prevent cave–ins and in accordance with OSHA requirements.
E. Keep trenches free. Provide necessary equipment including pumps, piping, and temporary drains.
F. Place and compact granular beds and fills over services to within two feet of subgrade elevations. Fill remainder of trenches with a low P.I. select fill, compacted to 90% standard proctor density.

SECTION 02281 – TERMITE CONTROL

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Provide soil poisoning to control subterranean termites as specified herein and needed for a complete and proper treatment.

1.3 WARRANTY
A. Upon completion of the Work, and as a condition of its acceptance, deliver to the Owner two copies of a Warranty signed by an authorized representative of the installing subcontractor, and co–signed by the Contractor, agreeing:
1. To make an inspection of the Work once each year for a total period of five years following Date of Substantial Completion for the purpose of detecting termite infestation;
2. If termite infestation is found during that five year period, to retreat in accordance with prevailing practices of the trade and within ten calendar days after such infestation is discovered.
3. To repair damage to the Work caused by subterranean termites during that five year period;
4. To make such inspections, retreatment, and repairs at no additional cost to the Owner.

PART 2 – PRODUCTS

2.1 MATERIALS
A. To the extent approved by governmental agencies having jurisdiction, use working solutions containing any one of the following chemicals at the listed minimum concentration:
1. Chlorpyrifos (Dursban)
2. Permethrin (Dragnet SFR or Dragnet)
3. Cypermethrin (Demon)
4. Isofenphos (Pryfon 6 or Oftanol 6)
B. Use only emulsible concentrate insecticide for dilution in water. Fuel oil will not be permitted as a diluter. Only use solutions which are not injurious to planting.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS
A. Examine ground and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 APPLICATION
A. Begin soil poisoning only after all preparation for slab placement is complete.
B. Slabs on grade:
1. Apply termiticant as an overall treatment at the minimum rate of one gallon of toxicant to each 10 sq ft of area under slabs on grade within building lines.
C. Utility openings:
1. Apply toxicant at the rate of two gallons of toxicant per five lin. ft. at critical locations such as where utilities pass through exterior walls and through floor slabs.
2. Extend treatment not less than 48" from wall into trench.
D. Walls:
1. Apply toxicant at the rate of two gallons of toxicant per five linear ft along both sides of all foundations walls, cross walls, and grade beams, after all nearby excavation has been completed.
2. Apply toxicant at the rate of one gallon of toxicant per five linear ft to voids in masonry walls.
E. Miscellaneous: Apply toxicant at the rate of two gallons of toxicant per five linear ft at the following locations:
1. Immediately below expansion joints, control joints, and all areas where slab will be penetrated by construction features.
2. Where exterior facings or veneers extend below grade level along the exterior side of all foundation walls.
3. Where unit masonry foundation construction is used.
F. If soil is disturbed after treatment, retreat disturbed areas.

SECTION 02466 – DRILLED PIERS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY
A. This Section includes the following:
1. Cast–in–place piers.
2. Temporary–cased drilled piers.
B. Related Sections include the following:
1. Division 3 Section "Cast–in–Place Concrete" for general structural and building applications of concrete.

1.3 QUALITY ASSURANCE
A. Drilled–Pier Standard: Comply with provisions in ACI 336.1, "Reference Specifications for the Construction of Drilled Piers," unless modified in this Section.
B. Survey Work: Engage a qualified land surveyor or professional engineer to perform surveys, layouts, and measurements for drilled piers. Before excavating, lay out each drilled pier to lines and levels required. Record actual measurements of each drilled pier's location, shaft diameter, bottom and top elevations, deviations from specified tolerances, and other specified data.
1. Record and maintain information pertinent to each drilled pier and cooperate with Owner's testing and inspecting agency to provide data for required reports.
C. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 to perform material evaluation tests and to design concrete mixes, as documented according to ASTM E 548.

1.4 PROJECT CONDITIONS
A. Existing Utilities: Locate existing underground utilities before excavating drilled piers. If utilities are to remain in place, provide protection from damage during drilled–pier operations. If utilities must be relocated, notify Owner's Representative before moving or otherwise disturbing utilities. Cooperate with Owner and utility company in relocating services and facilities in operation without interruption. Repair damaged utilities to satisfaction of utility owner.
B. Site Information: A geotechnical report should be prepared for this Project.

PART 2 – PRODUCTS

2.1 STEEL REINFORCEMENT
A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
B. Plain–Steel Wire: ASTM A 82, as drawn.
C. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain. Cut bars true to length with ends square and free of burrs.

2.2 CONCRETE MATERIALS
A. Portland Cement: ASTM C 150, Type I, or II.
1. Fly Ash Admixture: ASTM C 618, Class C or F.
2. Ground Granulated Blast–Furnace Slag: ASTM C 989, Grade 100 or 120.
B. Normal–Weight Aggregate: ASTM C 33, uniformly graded, 1inch (25mm) maximum aggregate size.
C. Water: Potable, complying with ASTM C 94/C 94M requirements.
D. Admixtures: Certified by manufacturer to contain not more than 0.1 percent water–soluble chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials. Do not use admixtures containing calcium chloride.
1. Water–Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Water–Reducing and Retarding Admixture: ASTM C 494, Type D.
3. High–Range, Water–Reducing Admixture: ASTM C 494, Type G.
4. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.3 CONCRETE MIX
A. Prepare design mixes according to ACI 211.1 and ACI 301 for each type and strength of concrete determined by either laboratory trial mix or field test data bases.
1. Use a qualified testing agency for preparing and reporting proposed mix designs for laboratory trial mix basis.
B. Proportion mixes according to ACI 211.1 and ACI 301 to provide normal–weight concrete with the properties specified in this Section.
C. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 limits as if concrete were exposed to deicing chemicals.
D. Concrete–mix design adjustments may be considered if characteristics of materials, Project conditions, weather, test results, or other circumstances warrant. Resubmit and obtain approval of proposed changes to concrete–mix proportions.

2.4 CONCRETE MIXING
A. Ready–Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
1. Do not add water to concrete mix after mixing.
2. Maintain concrete temperature to not exceed 90 deg F (32 deg C).

PART 3 – EXECUTION

3.1 PREPARATION
A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, vibration, and other hazards created by drilled–pier operations.

3.2 EXCAVATION
A. Unclassified Excavation: Excavation is unclassified and includes excavation to bearing elevations regardless of character of materials or obstructions encountered.
1. Obstructions: Unclassified excavation includes removal of unanticipated boulders, concrete, masonry, or other subsurface obstructions.
2. Obstructions: Removal of unanticipated boulders, concrete, masonry, or other unforeseen obstructions that cannot be removed by conventional augers fitted with soil or rock teeth, drilling buckets, or underreaming tools attached to drilling equipment of size, power, torque, and downthrust necessary for the Work, will be paid according to Contract provisions for changes in

2.8 RELATED MATERIALS
A. Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.
B. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
C. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:
1. Types I or II, for non-load bearing and Types IV and V, for load bearing, for bonding hardened or freshly mixed concrete to concrete.

2.9 REPAIR MATERIALS
A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.
1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by underlayment manufacturer.
4. Compressive Strength: Not less than 4100 psi (29 MPa) at 28 days when tested according to ASTM C 109/C 109M.
B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.
1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi (34.5 MPa) at 28 days when tested according to ASTM C 109/C 109M.

2.10 CONCRETE MIXTURES, GENERAL
A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
1. Fly Ash: 10 percent.
2. Combined Fly Ash and Pozzolan: 10 percent.
3. Ground Granulated Blast-Furnace Slag: 10 percent.
4. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 10 percent portland cement minimum, with fly ash or pozzolan not exceeding 10 percent.
C. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Use water-reducing and/or high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.45.
D. Color Pigment: (arch verify if Pigment is required.) Add color pigment to concrete mixture according to manufacturer's written instructions and to result in hardened concrete color consistent with approved mockup.

2.11 CONCRETE MIXTURES FOR BUILDING ELEMENTS
A. Piers: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.50.
3. Slump Limit, before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch:
a. 6 inches (150 mm) for dry hole methods.
b. 8 inches (200 mm) for temporary-casing drilling methods.
4. Do not air entrain concrete for drilled piers.
5. Aggregates: Normal weight ASTM C 33, size 467, as follows:
a. Coarse Aggregate : Size No. 57 (1" to No. 4).
B. Footings: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.45.
3. Slump Limit: 5 inches (125 mm) before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch (25 mm).
4. Air Content: 5-1/2 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch (38-mm) nominal maximum aggregate size.
5. Aggregate: Normal weight ASTM C33,
a. Coarse Aggregate : Size No. 57 (1" to No. 4).
C. Slabs-on-Ground: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 3000 psi (20.7 MPa) at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.45
3. Slump Limit: 4 inches (125 mm) plus or minus 1 inch (25 mm).
4. Air Content: Do not allow air content of troweled finished floors to exceed 3 percent.
5. Aggregate: Normal weight ASTM D448,
a. Coarse Aggregate : Size No. 57 (1" to No. 4).

2.12 FABRICATING REINFORCEMENT
A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.13 CONCRETE MIXING
A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116, and furnish batch ticket information.
1. When air temperature is between 85 and 90 F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 – EXECUTION

3.1 EMBEDDED ITEMS
A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
1. Install anchor rods, anchor bolts, seismic holdowns; accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.2 VAPOR RETARDERS
A. Plastic Vapor Retarders: Place, protect, and repair vapor retarders according to ASTM E 1643 and manufacturer's written instructions.
1. Lap joints 6 inches. Install the manufacturer's recommended two-sided pressure-sensitive tape 4" from each side of the seam. Install 4" tape on single sided, 4" wide tape over the top. Use the same double tape method to repair tears and for sealed penetrations. At pipe penetrations, install vapor barrier material boots which overlap the vapor barrier 6" minimum. At the base of the slab, install tape to the pipe and to the slab and secure the boot with a hose clamp centered on the two-sided tape.
B. Bituminous Vapor Retarders: Place, protect, and repair vapor retarders according to manufacturer's written instructions.

3.3 STEEL REINFORCEMENT
A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.4 JOINTS
A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip placements of slab on grade.
2. Form keyed joints as required for construction joints. Embed keys at least 1-1/2 inches (38 mm) into concrete.
3. Space vertical joints in footings as required. Locate joints beside piers, near corners, and in concealed locations where possible.
4. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas less than 500 sq. ft. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness.
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
D. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.5 CONCRETE PLACEMENT
A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
D. Deposit and consolidate concrete for slabs in a continuous operation, within limits of construction joints, until placement of a section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
F. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
G. Hot-Weather Placement: Comply with ACI 301 and as follows:
1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.6 FINISHING FLOORS AND SLABS
A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch (6 mm) in 1 direction.
1. Apply scratch finish to surfaces to receive mortar setting beds for bonded cementitious floor finishes.
C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces to receive trowel finish.
D. Trowel Finish: After applying float finish, apply first trowel finishing and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
1. Apply a second trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile.
2. Finish and measure surface so gap at any point between concrete surface and an unleveled, freestanding, 10-foot- (3.05-m-) long straightedge resting on 2 high spots and placed anywhere on the surface does not exceed 1/8 inch (3.2 mm).
E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scratch surface with a fine broom.
1. Comply with flatness and levelness tolerances for trowel finished floor surfaces.
Delete paragraph and subparagraph below if not applicable. Broom finish is generally used on exterior concrete steps and platforms, ramps, and other surfaces subject to light foot traffic.
F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps and ramps, and elsewhere as indicated.
1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

3.7 MISCELLANEOUS CONCRETE ITEMS
A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing machines and equipment.

3.8 CONCRETE PROTECTING AND CURING
A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approximately 0.2 lb/ sq. ft. x h (1 kg/ sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
C. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
a. Water.
b. Continuous water-fog spray.
c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive cover.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.9 FIELD QUALITY CONTROL
A. Testing and Inspecting: The Contractor will engage a special inspector and qualified testing and inspecting agency to perform field tests, inspections, and Special Inspections and prepare test reports.
B. Special Inspections:
1. Steel reinforcement placement.
2. Headed bolts and studs.
3. Verification of use of required design mixture.
4. Concrete placement, including conveying and depositing.
5. Curing procedures and maintenance of curing temperature.
6. Concrete strength, slump, and temperature.
C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. (76 cu. m) or fraction thereof of each concrete mixture placed each day.
a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five batches of concrete, or from each batch if fewer than five are used.
2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31/C 31M.
a. Cast and laboratory cure two sets of six standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days. Retaining the remaining two sets for testing at 56 days if required
a. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
7. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
8. Test results shall be reported in writing to Owner, Architect, Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
9. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
10. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
11. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
12. Correct deficiencies in the Work that test reports and inspections indicate dos not comply with the Contract Documents.

SECTION 04001 – MASONRY WORK

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work Included: Provide all masonry, grout, mortar, related reinforcing, and installation as shown on the drawings and described here-in.

PART 2 – PRODUCTS

2.1 BRICK
A. Acceptable manufacturers / Product:
1. Acme Brick Co., (817) 332-4101, Color: Ref. Exterior Finish Schedule
2. The Denver Brick Co., (303) 688-6952, Color: Ref. Exterior Finish Schedule
3. Belden Brick Co., (330) 456-0031, Color: Ref. Exterior Finish Schedule
B. Face Brick: Provide brick as follows:
1. Type: Meet ASTM standards, Grade MW above grade, Grade SW when brick is in contact with earth.
2. Size: King Size (9-5/8" x 2-3/4" x 3-5/8")

2.2 CONCRETE MASONRY UNITS
A. Acceptable manufacturers:
1. Featherlite Corporation, (512) 255-2573.
2. Equal manufacturers when approved in advance.
B. Concrete Masonry Units (CMU): Provide as follows:
1. Split-face veneer and smooth face concrete masonry units (cmu), load bearing 8x8x16 and/or non-load bearing veneer blocks, 4" nominal thickness, with 8"x16" face dimensions, to comply with ASTM C-90, Grade N, Type I, fabricated using ASTM C-331 lightweight aggregate.
2. Color: Ref. Exterior Finish schedule
3. Units shall have a minimum compressive strength (fm') of 2000 psi at 28 days.
Testing procedure shall conform to ASTM E447.
4. Masonry and mortar shall have an integral waterproofing agent as determined by the manufacturer.

2.3 OTHER MATERIALS
A. Portland Cement: Comply with ASTM C150, Type I or II, low alkali. "Masonry" cement will not be acceptable.
B. Aggregate:
1. Sand for Mortar: Comply with ASTM C144.
2. Aggregate for Grout: Comply with ASTM C404.
C. Lime:
1. Quick Lime: Comply with ASTM C5.
2. Hydrated Lime: Comply with ASTM C207, Type "S.B."
D. Coloring Pigment: Provide pure ground mineral oxides, non-fading and alkali proof.
E. Water: Provide potable water free from injurious amounts of acids, alkalis, oil, and organic matter.
F. Reinforcement:
1. Bars: Comply with ASTM A615, grade 40, unless otherwise shown on the drawings, using deformed bars for number 3 and larger.
2. Bending: Comply with ACI 318.
3. Do not use reinforcement having any of the following defects:
a. Bar length, depths, or bends exceeding the specified tolerances;
b. Bends or kinks not indicated on the Drawings or required for the Work;
c. Bars with cross-section reduced due to excessive rust or other causes.
4. Masonry Ties: Adjustable two-piece wall ties, galvanized steel construction of 3/16" wire, ASTM A-82, (Corrugated formed sheet style metal ties are expressly prohibited). Install at each wall stud and 16"o.c. vertically (6 courses at brick), max. wall area per anchor 2.67 sq. ft. Provide one of the following:
a. DA 803, by Dur-o-wall, (630) 851-8400.
b. No. 316 & 315D, by Heckmann Building Products, (800) 621-4140.
c. No. 1100-2803-2102, by Masonry Reinforcing of America, (800) 849-6722.
G. Preformed Control Joints: Neoprene Material – Provide with corner and tee accessories cement fused joints.
H. Joint Filler: Closed cell polyurethane; oversized 50 percent to joint width; self expanding; width ¼ inch less than masonry thickness by maximum lengths.
I. Flashing: At all sill bottoms and shelf angles. Provide one of the following:
1. Fiberweb 200, Dur-o-wal, (630) 851-8400.
2. No. 80, by Heckmann Building Products, (800) 621-4140.
3. No. 410, by Masonry Reinforcing of America, (800) 849-6722.
J. Weeps: Preformed clear plastic tubes, 3/8" O.D. x 3-1/2", hollow; 20"o.c. at wall locations (16"o.c. at cmu) and control joints. Provide one of the following:
1. DA-1005, by Dur-O-Wall, (630) 851-8400.
2. No. 330, by Heckmann Building Products, (800) 621-4140.
3. No. 3600, by Masonry Reinforcing of America, (800) 849-6722.

2.4 MORTAR AND GROUT MIXES
A. Mortar:
1. Unless otherwise directed or by governmental agencies having jurisdiction, provide type "N" mortar consisting of:
a. One part portland Cement; to
b. One-half part Lime; to
c. Six parts sand measured damp and loose.
2. Measure the proportions by volume.
3. Mix in a mechanically operate mortar mixer for at least three minutes after all ingredients are in the mixer. Add water to mixer to make a thorough, complete intimate mix of the materials.
4. Re-temper mortar with water as required to maintain high plasticity.
a. On mortar boards, re-temper only by adding water within the basin formed with mortar, and by working the mortar into the water.
b. Discard and do not use mortar which is unused after 1½ hours following the initial mixing.
B. Grout:
1. Where compressive strengths exceeding 2000 psi are called for on the Drawings or required by governmental agencies having jurisdiction, provide a laboratory designed mix to the approval.
C. Admixtures:
1. Use only such admixture as are specifically approved in advance and by governmental agencies having jurisdiction.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS
A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
B. Foundations:
1. Do not commence installation until foundations are clean, rough, and level.
2. Sandblast the foundation topes, if necessary, and remove all laitance and foreign material.
3. Verify that the foundation elevation is such that the bed joint thickness will be between ¼" and ½" and that the foundation edge is true to line with masonry not projecting over more than ¼".
4. Clean projecting dowels free from loose scale, dirt, concrete, and other material that will inhibit bond.
5. Verify that dowels are in proper location.

3.2 INSTALLATION
A. Laying of masonry units:
1. When being laid, provide brick suction sufficient to hold the mortar and to absorb water from the mortar and grout.
2. Provide masonry units sufficiently damp so that mortar will remain plastic enough to permit the masonry unit to be leveled and plumbed immediately after being laid without destroying the bond.
B. Laying:
1. Unless otherwise indicated on the Drawings, make the masonry work plumb, level, and true to line, with accurately fitted joints.
2. Use line blocks wherever possible. When it is absolutely necessary to use a line pin, fit the hole made by the pin and straighten.
3. Use only masonry units that are clean and free from dust and other foreign matter.
4. Lay in running bond unless otherwise shown on the Drawings.
5. Do not install masonry units which are chipped masonry unless specifically so directed.
6. Bed joints:
a. Bevel all bed joints, sloping toward the center of the wall in such a manner that the bed joints will be filled when the masonry units are finally placed.
b. Do not slush bed joints.
c. Avoid fins of bed joints protruding into grout space.
(1) If they occur, remove by tapping before inspecting more than the bed joint thickness.
(2) Do not, in any case, cut off and drag into the grout space.
7. Head joints: Solidly fill vertical joints of masonry units.
8. Where masonry units are moved or shifted, remove and lay again in fresh mortar.
9. Except at the finishing course, stop grout.
10. At the finishing course, bring the last grout pour flush with the top of the masonry unit.
11. Grouting:
a. Whenever possible, grout from the inside face of the masonry.
b. Take precaution to prevent grout or mortar staining the face of masonry to be left exposed or unpainted.
c. Protect adjacent work from grout or mortar splashing and similar points from damage and from collecting mortar or grout.
d. Immediately remove mortar and grout from areas where they are not scheduled to be placed.
12. Do not permit mortar to drop or accumulate into cavity air space or to plug weep holes.

3.4 JOINERY
A. General:
1. Cut out and repoint defective joints.
2. On all joints exposed to the weather, tool and make smooth, solid, and watertight.
B. Joint Patterns:
1. All joints: Provide "concave tooled" joints.

3.5 POINTING AND CLEANING
A. At the completion of this portion of the Work, visually inspect the work of this Section and point, or cut out and repoint if necessary, all holes and defective joints.
B. Thoroughly clean all masonry surfaces to be left exposed in the finished Work, removing all traces of mortar, grout, and foreign matter. In the event ordinary cleaning is not adequate, provide light sandblasting when so directed, and at no additional cost to the Owner.

SECTION 05120 – STRUCTURAL STEEL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY
A. This Section includes the following:
1. Structural steel.
2. Architecturally exposed structural steel.
3. Grout.
B. Related Sections include the following:
1. Division 1 Section "Quality Requirements" for independent testing agency procedures and administrative requirements.
2. Division 5 Section "Steel Deck" for field installation of shear connectors.
3. Division 5 Section "Metal Fabrications" for steel lintels not attached to structural-steel frame and other metal items not defined as structural steel.
4. Division 9 Painting Section and Division 9 Section "High-Performance Coatings" for surface preparation and priming requirements.
5. Division 5 Section "Metal Canopies" for canopy decking and fascia.

1.3 DEFINITIONS
A. Structural Steel: Elements of structural-steel frame, as classified by AISC's "Code of Standard Practice for Steel Buildings and Bridges," that support design loads.
B. Architecturally Exposed Structural Steel: Structural steel designated as architecturally exposed structural steel in the Contract Documents, i.e. the canopy columns and framing

1.4 QUALITY ASSURANCE
A. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.
B. Fabricator Qualifications: A qualified fabricator who participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category SBD.
C. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel."
D. Comply with applicable provisions of the following specifications and documents:
1. AISC's "Code of Standard Practice for Steel Buildings and Bridges."
2. AISC's "Seismic Provisions for Structural Steel Buildings" and "Supplement No. 2."
3. AISC's "Specification for Structural Steel Buildings;Allowable Stress Design and Plastic Design."
4. AISC's "Specification for the Design of Steel Hollow Structural Sections."

1.5 DELIVERY, STORAGE, AND HANDLING
A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from erosion and deterioration.
1. Store fasteners in a protected place. Clean and relubricate bolts and nuts that become dry or rusty before use.
B. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

1.6 COORDINATION
A. Furnish anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 – PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS
A. Angle Shapes: ASTM A 36/A 36M
B. Plate and Bar: ASTM A 36/A 36M
C. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B structural tubing.
D. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS
A. Unheaded Anchor Rods: ASTM A 36/A 36M.
1. Configuration: Straight.
2. Nuts: ASTM A 563 (ASTM A 563M) hex head carbon steel.
3. Plate Washers: Match at A 36/A 36M carbon steel.
4. Finish:
a. Hot-dip zinc coating, ASTM A 153/A 153M, Class C at locations where in contact with pressure treated wood.
b. Plain, at all other locations
B. Threaded Rods: ASTM A 36/A 36M
1. Nuts: ASTM A 563 (ASTM A 563M) hex carbon steel.
2. Washers: ASTM A 36/A 36M carbon steel.
3. Finish:
a. Hot-dip zinc coating, ASTM A 153/A 153M, Class C at locations where in contact with pressure treated wood.
b. Plain, at all other locations

2.3 GROUT
A. Cement Grout: Portland cement, ASTM C 150, Type I; and clean, natural sand, ASTM C 404, Size No. 2. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.
B. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.4 FABRICATION
A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."
B. Architecturally Exposed Structural Steel: Comply with fabrication requirements, including tolerance limits, of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for structural steel designated as architecturally exposed structural steel.
1. Fabricate with exposed surfaces smooth, square, and free of surface blemishes including pitting, rust, and scale before finishing.
2. Remove blemishes by filling or grinding or by welding and grinding, before cleaning, treating, and finishing.
C. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.
D. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.
E. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
F. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC--SP 1, "Solvent Cleaning."
G. Holes: Provide holes required for securing other work to structural steel and for passage of other work through steel framing members.
1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
2. Base-Plate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.

2.5 SHOP CONNECTIONS
A. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION
A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place, unless otherwise indicated.

3.3 ERECTION
A. Set structural steel accurately in locations and to elevations indicated and according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."
B. Base Plates: Clean concrete-bearing surfaces and bottom surfaces of base plates. Position and shim to achieve required bearing surfaces. Clean bottom surface of base plates.
1. Set base plates for structural members on setting nuts as required.
2. Weld plate washers to top of base plate.
3. Snug-tighten anchor rods after supported members have been positioned and plumbed.
4. Promptly pack grout solidly between bearing surfaces and base plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.
C. Maintain erection tolerances of structural steel and architecturally exposed structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
D. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies between abutting members.
1. Level and plumb individual members of structure.
2. Make allowance for difference between temperature at time of erection and mean temperature when structure is completed and in service.
E. Splice members only where indicated.
F. Remove erection bolts on welded, architecturally exposed structural steel; fill holes with plug welds; and grind smooth at exposed surfaces.
G. Do not use welded connections unless welding is indicated on the Drawings.
H. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged.
I. Correct fabrication errors in structural steel promptly so parts will fit as shown on the Drawings.

3.4 FIELD CONNECTIONS
A. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
1. Comply with AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design" for bearing, alignment of members, and joint preparation. Do not remove backing bars or runoff tabs, back gouge, and grind steel smooth.
2. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.
3. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances.
a. Grind butt welds flush.
b. Grind or fill exposed fillet welds to smooth profile. Dress exposed welds.

3.5 FIELD QUALITY CONTROL
A. Testing Agency: Contractor will engage a qualified independent testing and inspecting agency to inspect field welds.
B. Welded Connections: Field welds will be visually inspected according to AWS D1.1.
1. In addition to visual inspection, field welds will be tested according to AWS D1.1 and the following inspection procedures, at testing agency's option:
a. Liquid Penetrant Inspection: ASTM E 165.
b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
c. Ultrasonic Inspection: ASTM E 164.
d. Radiographic Inspection: ASTM E 94.
C. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.6 REPAIRS AND PROTECTION
A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
B. Touchup Painting: Cleaning and touchup painting are specified in Division 9 painting Sections.

SECTION 05310 – STEEL DECK

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY
A. This Section includes the following:
1. Roof deck.
B. Related Sections include the following:
1. Division 9 Section "Painting" for repair painting of painted deck.
2. Division 9 Section "Special Coatings" for repair of deck special coatings.

1.3 QUALITY ASSURANCE
A. Installer Qualifications: An experienced installer who has completed steel deck similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance

3.7 GYPSUM SHEATHING INSTALLATION
A. General: Install gypsum sheathing to comply with GA-253 and manufacturer's written instructions.
B. Cut boards at penetrations, edges, and other obstructions of the work; fit tightly against abutting construction, except provide a 3/8-inch (9-mm) setback where non-load-bearing construction abuts structural elements.
C. Coordinate sheathing installation with flashing and joint sealant installation so these materials are installed in the sequence and manner that prevent exterior moisture from passing through completed exterior wall assembly.
D. Apply fasteners so screw heads bear tightly against face of sheathing boards but do not cut into facing.
E. Do not bridge building expansion joints with sheathing; cut and space edges to match spacing of structural support elements.
F. Vertical installation: Install 48-inch wide gypsum sheathing boards vertically with vertical edges centered over flanges of steel studs. Do not place boards with edges over open studs or between flanges of adjacent boards. Screw-attach boards at perimeter and within field of board to each steel stud at approximately 8 inches (200 mm) o.c. and set back a minimum of 3/8 inch (9 mm) from edges and ends of boards.
G. Air-Infiltration Barrier Application: Cover sheathing with air-infiltration barrier as follows:
1. Cut back air-infiltration barrier 2 inch (51 mm) on each side of break in supporting members at expansion- or control-joint locations.
2. Apply asphalt-saturated organic felt horizontally with 2-inch (50-mm) overlap and 6-inch (150-mm) end lap; fasten to sheathing with corrosion-resistant staples.
3. Apply proprietary building wrap to comply with manufacturer's written installation instructions.
4. Apply air-infiltration barrier to cover vertical flashing with 4-inch (100-mm) overlap.
H. Sealing Sheathing Joints: Seal joints according to sheathing manufacturer's written recommendations and as follows:
1. Apply elastomeric sealant on joints and fasteners and trowel flat. Apply sufficient quantity of sealant to completely cover joints and fasteners after troweling. Seal other penetrations and openings.
2. Apply glass-fiber sheathing tape to glass-mat gypsum sheathing board joints, and apply and trowel silicone emulsion sealant to embed sealant in entire face of tape. Apply sealant to exposed fastener heads with a trowel so fasteners are completely covered. Seal other penetrations and openings.

3.8 FIELD QUALITY CONTROL
A. Testing: Contractor will engage a qualified independent testing agency to perform field quality-control testing.
B. Field and shop welds will be subject to inspection and testing.
C. Shear wall and roof decking attachments will be subject to inspection and testing.
D. Testing agency will report results promptly and in writing to Contractor and Owner.
E. Remove and replace Work that does not comply with specified requirements.
F. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.

3.9 REPAIRS AND PROTECTION
A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing that are damaged with galvanized paint according to ASTM A 780 and manufacturer's written instructions.
B. Touchup Painting: Wire brush, clean, and paint scarred areas, welds, and rust spots on fabricated and installed prime-painted, cold-formed metal framing. Paint framing surfaces with same type of shop paint used on adjacent surfaces.
C. Protect paper-surfaced gypsum sheathing that will be exposed to weather for more than 30 days by covering exposed exterior surface of sheathing with a securely fastened air-infiltration barrier. Apply covering immediately after sheathing is installed.
D. Protect cutouts, corners, and joints in sheathing by filling with a flexible sealant or by applying tape recommended by the sheathing manufacturer at time sheathing is applied.
E. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, that ensure cold-formed metal framing is without damage or deterioration at time of Substantial Completion.

SECTION 05500 – MISCELLANEOUS METALS

PART 1 – GENERAL

1.1 DESCRIPTION
A. Description of Work:
1. Miscellaneous metal work includes items fabricated from iron and steel shapes, plates, bars, strips, tubes, pipes and castings which are not a part of the structural steel of other metal systems in other Sections of the Specifications, except as specified herein.
2. The types of miscellaneous metal items include, but are not limited to the following:
a. Support Angles and Braces
b. Angle and Channel Frames
c. Roof Access Ladder
d. Pipe Bollards

1.2 QUALITY ASSURANCE:
A. Qualifications for Welding Work: Qualify welding processes and welding operators in accordance with the AWS D1.1 – "Standard Qualification Procedure". All welders shall be certified in accordance with AWS D1.1.
B. Shop Assembly: Preassemble items in shop to greatest extent possible, so as to minimize field splicing and assembly of units at project site. Disassemble units only to extent necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

PART 2 – PRODUCTS

2.1 MATERIALS:
A. Metal Primer Paint: Use "10-99 Tnemec Primer," "Rustoleum No. 5769 Primer," or equal approved in advance by the Architect. Primer paint selected must be compatible with the required finish paint of project. Coordinate selection of metal primer with finish paint requirements.

2.2 FABRICATION, GENERAL:
A. Workmanship:
1. Use materials of size and thicknesses shown or if not shown of required size and thickness to produce adequate strength and durability in finished product for intended use. Work to dimensions shown or accepted on shop drawings, using proven details of fabrication and support. Use type of materials shown or specified for various components of work.
2. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise shown. Form bent metal corners to smallest radius possible without causing grain separation or otherwise impairing the work.
3. Form exposed connections with hairline joints which are flush and smooth. Use Phillips flathead (countersunk) screws or bolts for field connections and for bolting.
4. Weld corners and seams continuously and in accordance with recommendations of AWS D1.1. Grind exposed welds smooth and flush, to match and blend with adjoining surfaces.
5. Provide for anchorage of type shown coordinated with structure. Fabricate and space anchoring devices as shown and as required to provide adequate support for intended use of work.
6. Cut, reinforce, drill and tap miscellaneous metal work as may be required to receive finish hardware and similar items of work.
7. Use hot rolled steel bars for work fabricated from bar stock, unless work is shown or specified to be fabricated from cold-finish or cold-rolled stock.
8. Connections: All connections shall be welded, unless otherwise shown on drawings or specified herein.
B. Shop Painting:
1. Shop paint all miscellaneous metal work except those members or portions of members to be embedded in concrete or encased in concrete surfaces and edges to be field welded, unless otherwise specified.
2. Remove scale, rust and other deleterious materials before the shop coat of paint is applied. Clean off heavy rust and loose mill scale in accordance with SSPC SP-2 "Hand Tool Cleaning" or SSPC SP-3 "Power Tool Cleaning" or SSPC SP-7 "Brush-Off Blast Cleaning". Remove oil, grease and similar contaminants in accordance with SSPC SP-1, "Solvent Cleaning".
3. Apply one shop coat of metal primer paint to fabricated metal items, except apply 2 coats of paint to surfaces not accessible after erection or erection. Change color of second coat to distinguish it from the first.
4. Immediately after surface preparation, brush or spray on metal primer paint, applied in accordance with the manufacturer's instructions and at a rate to provide a uniform dry film thickness of 2.0 mils for each coat. Use painting methods which will result in full coverage of joints, corner, edges and all exposed surfaces.

2.3 MISCELLANEOUS METAL ITEMS:

A. Carpenter's Iron Work:
1. Furnish bent or otherwise custom fabricated bolts, plates, anchors, hangers, dowels and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete or other structures.
2. Manufacture miscellaneous items of sizes, shapes and dimensions required. Furnish malleable iron washers for heads and nuts which have countersunk taper without biscuits or connections; elsewhere furnish steel washers.
B. Miscellaneous Framing and Supports:
1. Provide miscellaneous steel framing and supports which are not a part of structural steel framework as required to complete work.
2. Fabricate miscellaneous units to sizes, shapes and profiles shown or, if not shown, of required dimensions to receive adjacent work to be retained by the framing. Except as otherwise shown, fabricate from structural steel shapes and plates and steel bars of all welded construction using mitered corners, welded brackets and splice plates and a minimum number of joints for field connection. Cut, drill and tap units to receive hardware and similar items to be connected to work.

PART 3 – EXECUTION

3.1 INSTALLATION:
A. Anchorages: Furnish setting drawings, diagrams, templates, instructions and directions for installation of anchorages, such as concrete inserts, anchor bolts and miscellaneous items having integral anchors, which are to be given to the responsible parties for coordination. Coordinate delivery of such items to project site.
B. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal items to in-place construction; including, threaded fasteners for concrete and masonry inserts, toggle bolts and other connectors as required.
C. Cutting, Fitting and Placement: Perform cutting, drilling and fitting required for installation of miscellaneous metal items. Set work accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels. Provide temporary bracing or anchors in formwork for items which are to be built into concrete, masonry or similar construction.
D. Connections: Shop welded connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind joints smooth and touch-up shop coat. Do not weld, cut or abrade surfaces of units which are galvanized and are intended for bolted or screwed field connections.
E. Field Welding: Comply with AWS Code for procedures of manual shielded metal arc welding, appearance and quality of welds made, and methods used in correcting welding work.

3.2 FIELD PAINTING:
A. Immediately after erection, clean field welds, bolted connections and abraded areas of shop paint. Wire brush and sand as necessary to obtain a smooth surface. Apply paint by brush or spray to provide a minimum dry film thickness of 2.0 mils.

SECTION 05600 – METAL CANOPIES

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Metal canopy decking, gutters, half-round fascia, LED Stall Stars, fabric patio canopy cover and frames, patio structure, and tower element.

PART 2 – PRODUCTS

2.1 METAL CANOPY AND COMPONENTS
A. Canopy decking shall be C12 – 12" x 2-1/2" or 3" deep, roll formed panel. Panel shall be accurately roll formed from 26 ga. (embossed) carbon steel with baked polyester painted finish.
B. Gutters:hall be 3.5" deep by 4" wide. Product shall be accurately formed from .040 (embossed) aluminum with baked polyester painted finish.
C. Half-Round Fascia components shall be accurately formed from .050 aluminum with a baked polyester painted finish.
D. LED Stall Stars (red and yellow) shall be supplied as part of the half-round fascia system through the canopy vendors and shall be as manufactured by Sonic–Sylvania or 3M.
E. Fabric Patio Covering: Seaman Corporation's High Performance 8028 Architectural Fabric. Fabric Restraint System: Commercial.
F. Tower Arch components shall be accurately formed from 18 ga. steel with a baked polyester painted finish.
G. Colors shall be:
1. Decking: Gloss White
2. Gutter: Sherwin–Williams "Gray Area", SW7052
3. Half-Round Fascia & Tower Arch: Nichols Aluminum, Silver Metallic, DEV 5010, polyester, SEPT 02.05, contact Larry Kistler, 563–324–2121
4. Tower: Sherwin–Williams "Forsythia", SW6907
H. All trim pieces, channels, brackets, etc., shall be the same type and finish as adjacent material, unless specifically described in the drawings, and furnished by the same supplier of the other canopy materials to insure quality and consistency.

2.2 MANUFACTURERS
A. Approved Vendors are:
1. Ventaire Corporation, 909 North Wheeling, Tulsa, OK, 74111, (405) 819–2359
Contact: Mike Kennedy. mkennedy@ventairecorp.com
2. Superior–Mason Corporation, 451 Industrial Lane, Birmingham, AL 35211, (205) 945–7333. Contact: Mark Adams. madams@superior–mason.com
3. Arning Canopy Systems, Inc., 201 Industrial Park Pl., Cassville, MO 65625, (205) 915–6657. Contact: Tim Tennyson, tennysonb@gmail.com
4. The above listed four (3) manufacturers are the only manufactures approved by Sonic Corporation for providing the arched patio structure, car stall system, and tower.

PART 3 – EXECUTION

3.1 COORDINATION
A. Coordinate as required with other trades to assure proper and adequate provision in the work of those items requiring cooperation with other trades.
B. Make measurements as required in the field to assure proper fit.
C. Reference Section 05120 for canopy structural tube and angle steel.

3.2 INSTALLATION
A. Approved vendors must provide an installation guideline to the contractor.
B. The contractor must install metal canopy and components in accordance with the vendors installation guidelines.
C. Fastening of all decking components shall be with self–drilling plated screws. Screws shall be of sufficient size to insure the strength of the connection as per the drawings. Exposed screws and rivets shall be colored to match adjacent material.
D. Contractor shall clean canopy prior to completion of project. All shavings from drilling and cutting are to be blown off, not washed, to prevent premature rust.

SECTION 06100 – ROUGH CARPENTRY

PART 1 – GENERAL

1.1 DESCRIPTION:
A. Work Included: Provide wood, nails, bolts, screws, framing anchors and other rough hardware, and other items needed, and perform rough carpentry for the construction shown.

1.2 QUALITY ASSURANCE:
A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
B. Codes and standards:
1. Comply with the pertinent codes and regulations of governmental agencies having jurisdiction.
2. Lumber and plywood shall bear the grademark, stamp or other identifying marks indicating grades of material and rules or standards under which lumber was produced. Such identifying marks shall be in accordance with the rule or standard the material is produced.
3. Lumber Standard: Comply with PS 20 for indicated use.
4. Lumber shall be in dimension type in accordance with ASTM–D245.
5. Plywood Standard: Comply with PS 1, except as otherwise indicated, for each use.
6. Size references are nominal sizes and the actual sizes shall be within the manufacturing tolerances allowed by the standards. Moisture content shall be 19% maximum.

PART 2 – PRODUCTS

2.1 ROUGH CARPENTRY MATERIALS:
A. Studs shall be Stud Grade Southern Pine, or greater, in accordance with dimension lumber equal or greater than 2" in its least dimension.
B. Structural light framing in dimension lumber which is equal to or less than 4" shall be Southern Pine or Douglas Fir Larch No. 2 or better.
C. Fabricated wood joists: Shall be equal to APA rated joists as shown on the plan. Joist depths shall be as shown on the drawings, provided with 1 1/2" thick inner–seal rim some depth of joist as shown, or No. 2 Southern–Pine 2x12. Provide joists from one of the following:
1. Louisiana Pacific, (503) 221–0800.
2. Truss Joist, (800) 338–0515.
3. Williamette Wood Products, (541) 926–7771.
D. Roof Sheathing: Shall have an APA span rating of 32/16 for structural 1 rated sheathing, with a minimum thickness of 5/8" and exposure I rating: 5/8" exterior plywood, or OSB. Use common or galvanized box nails as noted on plan.
E. Exterior Wall Sheathing: Shall be equal to ½" CDX exterior plywood or OSB as shown. Other plywood shall be as noted on the drawings. Use common or galvanized box nails as noted on plan. Provide from one of the following:
1. Louisiana Pacific, (503) 221–0800.
2. Hoover Treated Wood Products, (706) 595–5058.
3. Hickson, (404) 362–3970.
F. Non–Structural wood Rough Bucks, Nailers, Blocking and Furring: Any species, standard grade, unless noted otherwise:
1. Preservative Treated Wood:
a. Use C.C.A. (.4% concentration) preservatives for all construction: AWPB LP–4 above ground.
b. Field treat surface cuts and holes in accordance with AWPA M4.
G. Rough Hardware: Provide rough hardware and fastenings as shown on Drawings, specified herein, or required for proper installation of carpentry. Nails, spikes, screws, bolts, and similar items shall be of sizes and types to rigidly secure members in place. Hot dip galvanized items exposed to "wet areas" and treated wood.
1. Steel Items:
a. Comply with ASTM A7 or ASTM A36.
b. Use galvanized at exterior locations.
2. Machine bolts: Comply with ASTM A307.
3. Lag bolts: Comply with Fed Spec FF–B–561.
4. Nails:
a. Use common except as otherwise noted.
b. Comply with Fed Spec FF–N–1.
c. Use galvanized at exterior locations.
H. Wood Framing Connectors: Shall be equal to the following as manufactured by Simpson Strong–Tie Connectors, (800) 839–2588:
1. I–Joist Hangers: 18 ga as noted on plans
2. Bridging: TB36, 20 ga
3. Plywood Clips: PSCL, 15/32, 20 ga
4. Holddowns: As noted on plans
5. Acceptable Alternate Manufacturers:
a. Cleveland Steel, (800) 251–8351.
b. USP Lumber Connectors, (800) 328–5934.

2.2 OTHER MATERIALS:
A. Provide other material, not specifically described but required for a complete and proper installation.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS:
A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
B. General
1. Provide cutting, fitting, fabricating, erecting, wedging, bracing, blocking, nailing and securing of items or rough carpentry throughout, including miscellaneous items of framing, furring, grounds, blocking, screeds, and nailers. Such items shall be built in where and as indicated on Drawings or required for attachment of finish and other work.
2. Blocking, Bucks, Nailers: Install plumb, level, and true with joints flush, fastened securely in place.
3. Framing, Furring and Stripping: Expertly install, using skilled craftsmen, in accordance with architectural details and standard practices. Shim as required.
4. Blocking, Curbs, Nailers, Cants: Install plumb, level and true in accordance with details on Drawings. Fasten securely.

3.2 TYPICAL NAILING SCHEDULE:
A. Typical nailing schedule shall be as follows, unless noted otherwise:
1. Top Plate to Stud: 2–16d End Nail 2–16d Face Nail
2. Stud to Sole Plate: 4–8d Toe Nail 2–16d End Nail
3. Double Stud, Face Nail: 16d at 24"o.c.
4. Built–up Corner Studs: 16d at 24"o.c.
5. Double Top Plate, Typ Face Nail: 16d at 24"o.c.
6. Double Top Plate, Lap Splice: 8–16d
7. Header, Two Pieces: 16d at 16"o.c. top and bottom, staggered. 2–16d at ends.
8. Header to stud, toenail: 4–8d
B. Common or Box nails unless noted otherwise.

SECTION 06112 – FRAMING AND SHEATHING

PART 1 – GENERAL

1.1 SECTION INCLUDES
A. Structural wall and roof framing.
B. Built–up structural columns.
C. Wall and roof sheathing.
D. Miscellaneous framing and sheathing.
E. Concealed wood blocking for support of toilet and bath accessories, wall cabinets, wood trim, etc.

1.2 REFERENCES
A. ALSC (American Lumber Standards Committee) – Softwood Lumber Standards.
B. APA (American Plywood Association).
C. AWPA (American Wood Preservers Association) C1 – All Timber Products – Preservative Treatment by Pressure Processes.
D. AWPA (American Wood Preservers Association) C20 – Structural Lumber Fire Retardant by Pressure Process.
E. NFPA (National Forest Products Association).
F. SPIB (Southern Pine Inspection Bureau).
G. WCLIB (West Coast Lumber Inspection Bureau).
H. WWPA (Western Wood Products Association).

1.3 QUALITY ASSURANCE
A. Perform Work in accordance with the following agencies:
1. Lumber Grading Agency: Certified by ALSC.
2. Plywood Grading Agency: Certified by APA.

1.4 DELIVERY, STORAGE, AND PROTECTION
A. Protect I–joists from warping or other distortion by stacking in vertical position, braced to resist movement.

PART 2 – PRODUCTS

2.1 LUMBER MATERIALS
A. Lumber Grading Rules: SPIB.
B. Joist Framing: Stress Group APA rated, as indicated on the structural drawings, 19 percent maximum moisture content.
C. Studding: Southern Pine or Douglas Fir species, stud grade, 2x6 size classification or as shown in drawings, 19 percent moisture content.
D. Miscellaneous Framing: Southern Pine or Douglas Fir species, No. 2 grade or better,19 percent moisture conte

2.2 SHEATHING MATERIALS
A. Plywood Wall Sheathing: APA Rated Sheathing, Structural I.
B. Particleboard Roof Sheathing: ANSI A208.1 APA Rated Oriented Strand Board (OSB); wood chips, flakes, and wafers; phenol formaldehyde resin binder; structural grade.
C. Plywood Wall Sheathing: APA Rated Sheathing, Structural I.
D. Particleboard Wall Sheathing: APA Rated Oriented Strand Board (OSB), Structural I; wood chips or flakes, set with waterproof resin binder.

2.3 SHEATHING AND UNDERLAYMENT LOCATIONS
A. Flat Roof Sheathing: As indicated on the structural drawings.
B. Above Grade Sheathing: As indicated on the structural drawings.

2.4 ACCESSORIES
A. Fasteners and Anchors:
1. Fasteners: Hot dipped, electro–galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.

PART 3 – EXECUTION

3.1 FRAMING
A. Set structural members level and plumb, in correct position.
B. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.
C. Place horizontal members, crown side up.
D. Construct load bearing members in full length without splices.
E. Double members at openings over 36 inches wide. Space short studs over and under openings to stud spacing.
F. Bridge joists as indicated on the structural drawings. Fit solid blocking at ends of members.
G. Curb roof openings except where prefabricated curbs are provided. Form corners by alternating lapping side members.
H. Coordinate curb installation with installation of decking and support of deck openings, roofing vapor retardant, and parapet.

3.2 SHEATHING
A. Secure roof sheathing with longer edge parallel to framing members and with ends staggered and sheet ends over bearing.
B. Leave spacing 1/8" between panels, between roof framing members. Provide solid edge blocking between sheets.
C. Secure wall sheathing with long dimension parallel or perpendicular to wall studs, with ends over firm bearing and staggered.
D. Place building paper horizontally over wall sheathing; weather lap edges and ends and tape.
E. Install telephone and electrical panel back boards where indicated on drawings.

3.3 TOLERANCES
A. Framing Members: ¼ inch (6 mm) from true position, maximum.

SECTION 06125 – WOOD DECKING

PART 1 – GENERAL

1.1 SECTION INCLUDES
A. Plywood and Glue laminated structural wood decking.
B. Preservative treatment of wood.

1.2 RELATED SECTIONS
A. Section 03300 – Cast–In Place Concrete
B. Section 09900 – Painting: Field finishing.

1.3 REFERENCES
A. AITC (American Institute of Timber Construction) 108 – Standard for Heavy Timber Construction.
B. ALSC (American Lumber Standards Committee) – Softwood Lumber Standards.
C. APA (American Plywood Association)
D. AWPA (American Wood Preservatives Association) C1 – All Timber Products Preservative treatment by Pressure Process.
E. AWPA (American Wood Preservatives Association) C20 – Structural Lumber Fire Retardant Treatment by Pressure Process.
F. SPIB (Southern Pine Inspection Bureau).

1.4 QUALITY ASSURANCE
A. Perform work in accordance with the following agencies:
1. Lumber Grading Agency: Certified by ALSC and AITC 108.
2. Plywood Grading Agency: Certified by APA.
B. Glue Laminated Decking: AITC 110 and AITC 113.
C. Perform work in accordance with ANSI A190.1.
D. In lieu of grade stamping exposed to view lumber and plywood, submit manufacturer's certificate certifying that products conform to specified requirements.
E. Manufacturers: Company specializing in manufacturing the Products specified in this section with a minimum of 10 years documented experience and certified by AITC.
F. Installer: Company specializing in manufacturing the Products specified in this section with a minimum of 10 years documented experience.

1.5 REGULATORY REQUIREMENTS
A. Conform to applicable code for fire retardant requirements.

1.6 DELIVERY, STORAGE, AND PROTECTION
A. Protect I–joists from warping or other distortion by stacking in vertical position, braced to resist movement.

PART 2 – PRODUCTS

2.1 MATERIALS
A. Lumber Grading Rules: AITC 110, AITC 112, SPIB.
B. Plywood: APA Rated Sheathing Structural I.

2.2 ACCESSORIES
A. Fasteners and Anchors:
1. Fasteners: Hot dipped galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
B. Adhesive: APA AFG–01, waterproof, air cure type, cartridge dispensed.

PART 3 – EXECUTION

3.1 EXAMINATION
A. Verify that support framing is ready to receive decking.

3.2 PREPARATION
A. Coordinate placement of bearing support items.

3.3 INSTALLATION – PLYWOOD DECKING
A. Install decking parallel to framing members, with ends staggered over firm bearing.
B. Allow expansion space at edges and ends.
C. Attach decking as indicated on the structural drawings.
D. Use sheathing clips at unsupported edges of plywood between supporting framing members.
E. Cut decking to accommodate roof drain and flange.

3.4 TOLERANCES
A. Surface Flatness of Decking Without Load: ¼ inch in 10 feet maximum and ½ inch in 30 feet maximum.

SECTION 06150 – PLYWOOD WEB JOISTS

PART 1 – GENERAL

1.1 SECTION INCLUDES
A. Wood Chord and Plywood or Oriented Strand Board (OSB) web joists for framing.
B. Bridging, bracing, and hangers.
C. Framing for openings.
D. Preservative treatment of wood.

1.2 REFERENCES
A. ALSC (American Lumber Standards Committee) – Softwood Lumber Standards.
B. ANSI A208.1 – Mat–Formed Wood Particleboard.
C. APA (American Plywood Association).
D. AWPA (American Wood Preservers Association) C2 – Timber, Timbers, Bridge Ties, and Mine Ties – Preservative Treatment by Pressure Process.
E. AWPA (American Wood Preservers Association) C20 – Structural Lumber Fire Retardant by Pressure Process.
F. SPIB (Southern Pine Inspection Bureau).

1.3 QUALITY ASSURANCE
A. Perform Work in accordance with the following agencies:
1. Lumber Grading Agency: Certified by ALSC.
2. Plywood Grading Agency: Certified by APA and SPIB.
B. Manufacturers: Company specializing in manufacturing the Products specified in this section with minimum 10 years documented experience.

1.4 REGULATORY REQUIREMENTS
A. Conform to applicable code for loads, seismic zoning, other governing load criteria, and fire retardant requirements.

PART 2 – PRODUCTS

2.1 MATERIALS
A. Lumber Grading Rules: NFPA, SPIB.
B. Wood Chord Members: Single top and bottom chord, species, grade, size classification and 19 percent maximum moisture content. Finger scarfing not permitted.
C. Plywood Web: APA Rated Sheathing Structural I.
D. Oriented Strand Board (OSB) Web: ANSI A208.1 APA Oriented Strand Board; wood chips, flakes, set with waterproof resin binder.
E. Joist Bridging: Type, size and spacing recommended by joist manufacturer, as indicated on the structural drawings.

2.2 ACCESSORIES
A. Adhesive: Manufacturer's standard.
B. Wood Blocking Support Members and Framing for Openings: In accordance with Section 06114.
C. Fasteners and Anchors:
1. Fasteners: Hot dipped Electro–galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.

2.3 FABRICATION
A. Fabricate joists to achieve structural requirements specified.
B. Brace members for support during transit.

PART 3 – EXECUTION

3.1 EXAMINATION
A. Verify that supports and openings are ready to receive joists.

3.2 PREPARATION
A. Coordinate placement of support items.

3.3 ERECTION
A. Install joists in accordance with manufacturer's instructions.
B. Set structural members level and plumb, in correct position.
C. Make provisions for erection loads, and for sufficient temporary bracing to maintain structure plumb, and in true alignment until completion of erection and installation of permanent bracing.
D. Don not field cut or alter structural members without approval of Architect/Engineer.
E. Place headers and supports to frame openings.
F. Frame openings between joists with lumber as indicated on the structural drawings.
G. Coordinate placement of decking and sheathing with work of this section.

3.4 ERECTION TOLERANCES
A. Framing Members: ½ inch (12 mm) maximum, from true position.

SECTION 07190 – AIR INFILTRATION BARRIER

PART 1 – GENERAL

1.1 DESCRIPTION
A. This section includes: Providing envelop moisture protection and sill plate sealer.

PART 2 – PRODUCTS

2.1 MANUFACTURERS / PRODUCTS
A. Envelop Moisture/Vapor Projection: Provide an envelop type air infiltration barrier installed over the exterior sheathing. Provide GreenGuard "Raindrop" House Wrap, as manufactured by Pactiv, 800–227–7339.
1. Additional acceptable manufactures:
a. "Tyvek Commercial Wrap D", manufactured by Dupont, (800) 44–TYVEK.
b. "Typar Metro Wrap", distributed by Wall Distributing Co., (877) 315–6669.
B. Sill Plate Sealer: Provide a sill plate sealer between the slab and sill plate at all exterior walls. Provide "Sonneborn" NP1 as manufactured by Chemrex, Inc., (800)433–9517.
1. Additional acceptable manufactures:
a. "Fill'n Silicone Building Sealant", by Row Consulting, (571) 496–6000
b. "Elast–o–thane 227 type R", by Pacific Polymers International, (714) 898–0025.

PART 3 – EXECUTION

3.1 INSTALLATION
A. Install barriers in accordance with manufacturers recommendations. Provide adequate lap joints and seal all joints with manufacturer's recommended tape.
B. Install sill plate sealer in two continuous beads between sills plates and one continuous bead along joint between slab and outside bottom edge of sill plate after sill plate installation.

3.2 CLEANING
A. Clean exposed surfaces of work promptly after completion of installation.

SECTION 07210 – BUILDING INSULATION

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Provide thermal insulation in stud cavities at exterior walls, at roof, and as otherwise shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.2 QUALITY ASSURANCE
A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
B. Upon completion of this portion of the Work, complete and post a certificate of insulation compliance in accordance with pertinent requirements of governmental agencies having jurisdiction.

PART 2 – PRODUCTS

2.1 MATERIALS
A. Acceptable Manufacturers: For each of those specifications, products by Owens–Corning–Fiberglass are listed; however, the following manufacturers are accepted equals:
1. Owens–Corning, (419) 248–8000.
2. Johns–Manville, (800) 654–3103.
3. The Celotex Corporation, (800) 523–4684.
4. United States Gypsum, (877) 874–6655.
B. Thermal Batt Insulation (Exterior Walls): Kraft paper faced blankets as manufactured by Owens–Corning–Fiberglass Corporation. Provide standard sizes to fit stud spacing and length.
1. ASTM C 665–latest edition, Type II, Class C.
C Thermal Batt Insulation (Ext. Walls above gyp. board) : FSK faced blankets as manufactured by
Owens–Corning–Fiberglass Corporation. Provide standard sizes to fit stud spacing and length. ASTM C 665–latest edition, Type II, Class A
D. Rigid Under–slab Perimeter Insulation: (if shown on drawings) Foamular 150 extruded polystyrene foam panels as manufactured by Owens–Corning–Fiberglass Corporation. Provide sizes to fit requirements of installation.
E. Rigid Roof Insulation (MODIFIED BITUMEN ROOFING):
1. The first layer shall be polyisocyanurate board, 2–1/2" thick, with an R–value of 15.6 or
greater. Installation shall be with mechanical fasteners in conformance with the manufacturer's recommendations and Factory Mutual 1–60 requirements (unless otherwise required).
2. The second layer shall be 3/4" thick, perlite insulation board, with an R–value of 2.0, installed with staggered joints with the first layer of asphalt bitumen.
3. Tapered insulation for crickets and slopes to drain shall be perlite, minimum 3/4" thick, with 1/4" per 12" slope, installed as indicated on the drawings.
F. Rigid Roof Insulation ("DURO–LAST" FLEXIBLE SHEET ROOFING):
1. The first layer shall be polyisocyanurate board, 3" thick, with an R–value of 20.0 or greater.
Installation shall be with mechanical fasteners in conformance with the manufacturer's recommendations and Factory Mutual 1–60 requirements (unless otherwise required).
2. Tapered insulation for crickets and slopes to drain shall be polyisocyanurate board, minimum
3/4" thick, with 1/4" per 12" slope, installed as indicated on the drawings.
G. Tape and Sealer: Provide standard as recommended by manufacturer of insulation with fire
resistive and perm rating equal to the insulation.

2.2 OTHER MATERIALS
A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Owner's Representative.

PART 3 – EXECUTION

3.1 INSTALLATION
A. Install the work of the Section in strict accordance with the original design, requirements of
governmental agencies having jurisdiction, and the manufacturer's recommendations.
B. Thermal Batt Insulation (Exterior Walls):
1. Install continuously in exterior walls where shown, with no gaps between adjacent batts.
2. Secure flanges of insulation to metal or wood studs as applicable.
3. Secure insulation in place using wire to prevent displacement or sagging where required.
4. Carefully cut and fit insulation around pipes, conduits, and other obstructions; insulate
small
areas between closely spaced framing members.
5. Close all gaps at joints and adjoining materials with tape and/or sealer.
6. Install with vapor barrier (kraft paper face) facing warm side of wall.
C. Rigid Roof Insulation (on roof deck):
1. Install rigid roof insulation per the manufacturers requirements for the specific substrate
on
the drawings and as recommended by the selected roofing manufacturer. Verify
compliance
of rigid roofing with the roofing manufacturer.

SECTION 07240 – EXTERIOR INSULATION AND FINISH SYSTEMS

PART 1 GENERAL

1.1 SUMMARY
A. Section Includes: Exterior Insulation and Finish System (EIFS) consisting of the following.
1.Thermal insulation board secured to supporting structural system.
2.Reinforcing mesh set into a polymer base coat and fully adhesive base coat.
3.Acrylic–based trowel–applied weatherproof and textured finish with integral white coloring and field applied paint finish.
4.Primers, backer rods, bond breakers, and sealants for all EIFS to EIFS, and EIFS to dissimilar product joints.
1.2 REFERENCES
A. American Society for Testing and Materials (ASTM):
1.ASTM E84 – Test Method for Surface Burning Characteristics of Building Materials.
2.ASTM D1682 – Test Method for Breaking Load and Elongation of Textile Fabrics.
1.3 SUBMITTALS
A. Submit product data in accordance with Section 01340.
B. Product Data: Submit name of manufacturer, systems, and texture proposed.
1.4 QUALITY ASSURANCE
A. Applicator: Single firm, approved in writing by system manufacturer, employing trained workers familiar with current installation methods and materials.
B. Standards: Current model code approved by BOCA, ICBO, and SBCC.
1.Base approval on full scale diversified Fire Testing, and use configuration by independent agencies whose classifications and requirements have general acceptance as regulatory.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Subject to compliance with requirements, provide exterior insulation and finish system of one of the following:
1.Dryvit Systems, Inc. (800) 556–7752.
B. Substitutions: Not permitted.
2.2 MATERIALS
A. Insulation Board: Insulation board shall be produced by manufacturer approved by EIFS manufacturer meeting the following requirements.
1.Type: Extruded Polystyrene Insulation Board
2.Nominal Density: 1.0 pcf.
3.Maximum Flame–Spread and Smoke Development: ASTM E–84, 25 and 450 respectively.
4.Thickness: As indicated on Drawings but not less than 3/4 inch at any point.
B. Reinforcing Mesh: Balanced weave type glass fiber fabric complying with ASTM D1682 as supplied by system manufacturer:
1.Standard Mesh: Minimum 4.2 ounces per square yard plus or minus 10 percent.
2.Heavy Weight: Minimum 20 ounces per square yard plus or minus 10 percent.
C. Coating Systems:
1.Base Coat: Acrylic based, modified portland cement (Type I or II) and silica sand to function as base coat for coating application and mixed with base coat liquid admixture as supplied by system manufacturer.
2.Finish Coat: Acrylic based, modified portland cement (Type I or II) and silica sand; compatible with base coat and mixed with finish coat liquid admixture as supplied by system manufacturer.
a.Integral Color: Dryvit standard #111 "Prairie Clay."
b.Paint Finish: Field applied paint finish as specified in Section 09900. Color as shown on the drawings and as defined within Section 09900.
c.Texture: Dryvit standard "Quarzputz ".
D. EIFS Cornice: Expanded polystyrene (EPS) as specified above. Cut and form to profile as indicated on drawings.
1.Adhesive: As recommended by the molding manufacturer.
E. Mastic: Polyether.
F. Joint Sealant: Specified in Section 07920.

PART 3 EXECUTION

3.1 EXAMINATION
A. Examine surfaces and adjacent areas in which Work under this Section is to be performed. Report in writing to Owner's Construction Manager prevailing conditions that may adversely affect satisfactory execution of Work. Do not proceed with Work until unsatisfactory conditions have been corrected. Starting Work constitutes acceptance of existing conditions and this Contractor shall then, at his expense, be responsible for correcting unsatisfactory and defective Work encountered.
3.2 INSTALLATION – GENERAL
A. Follow manufacturer's printed instructions for installation of exterior insulation and finish system.
3.3 INSULATION BOARD INSTALLATION
A. Install rigid insulation board to conform to insulation manufacturer's printed recommendations except as otherwise specified and modified by system manufacturer.
B. Apply insulation to substrate providing firm butt joints. Tamp entire surface with even pressure to ensure complete contact with adhesive. Test installation of each board with the use of a 6 foot straight edge.
1.Allow adhesive a minimum of 24 hours to dry.
2.Sand surfaces which are high and out of plane until flush. Do not fill low areas.
3.4 REINFORCING MESH
A. Place reinforcing mesh over insulation and secure in place with base coating.
B. Apply heavy weight mesh in conjunction with standard weight mesh in areas below 8 feet above ground level.

3.5 FINISH SYSTEM
A. Base Coat:
1.Mix in accordance with manufacturer's instructions and apply to insulation surfaces.
2.Trowel material into reinforcing mesh in tight

SECTION 07600 – FLASHING AND SHEET METAL

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Provide flashing and sheet metal not specifically described in other Sections of these Specifications but required to prevent penetration of water through the exterior shell of the building.

1.2 QUALITY ASSURANCE
A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
B. In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in current edition of "Architectural Sheet Metal Manual" published by the Sheet Metal and Air Conditioning Contractors National Association (SMACNA).
C. Standard commercial items may be used for flashing, trim, reglets, and similar purposes provided such items meet or exceed the quality standards specified.

PART 2 – PRODUCTS

2.1 MATERIALS AND GAGES
A. Where sheet metal is required, and no material or gage is indicated on the Drawings, provide the highest quality and gage commensurate with the referenced standards.
B. Metal Roof Flashing: Shall be galvanized metal, 26 ga., in sizes and shapes indicated on the drawings.
C. Cap Flashing: Shall be aluminum, .050 thickness, prefinished, preformed, formed true and accurate, in 8 to 10 foot lengths. All seams to be flat lock type, except at corners. Corners to be fabricated to minimum 18" x 18", mitered, soldered, and sealed in one piece.
1. Cap flashing finish to match metal canopy finish and siding color.

2.2 GALVANIZED IRON
A. Provide sheet metal or sheet iron of a standard brand of open-hearth copper-bearing sheet, copper-molybdenum iron, or pure iron sheets.
B. Zinc coating:
1. Where galvanizing is required, provide zinc coating by hot-dip galvanize to all surfaces.
2. Weight:
a. Provide not less than 1–1/4 oz per sq ft, nor more than 1–1/2 oz per sq. ft., to surfaces required to be galvanized.
3. Comply with ASTM A93.

2.3 NAILS, RIVETS, AND FASTENERS
A. Use only soft iron rivets having rust-resistive coating, galvanized nails, and cadmium plated screws and washers in connection with galvanized iron and steel.

2.4 FLUX
A. Where flux is required, use raw muriatic acid.

2.5 SOLDER
A. Where solder is required, comply with ASTM B32.

2.6 OTHER MATERIALS
A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Owner's Representative.
flashing and sheet metal are completely watertight.

PART 3 – EXECUTION

3.1 WORKMANSHIP
A. General:
1. Form sheet metal accurately and to the dimensions and shapes required, finishing molded and broken surfaces with true, sharp, and straight lines and angles and, where intercepting other members, coping to an accurate fit and soldering securely.
2. Unless otherwise specifically permitted by the Owner's Representative, turn exposed edges back 1/2".
B. Form, fabricate, and install sheet metal so as to adequately provide for expansion and contraction in the finished Work.
C. Weatherproofing:
1. Finish watertight and weathertight where so required.
2. Make lock seam work flat and true to line, sweating full of solder.
3. Make lock seams and lap seams, when soldered, at least 1/2" wide.
4. Where lap seams are not soldered, lap according to pitch, but in no case less than 3".
5. Make flat and lap seams in the direction of flow.
D. Joints:
1. Join parts with rivets or sheet metal screws where necessary for strength and stiffness.
2. Provide suitable watertight expansion joints for runs of more than 40'–0", except where closer spacing is indicated on the Drawings or required for proper installation.
E. Nailing:
1. Wherever possible, secure metal by means of clips or cleats, without nailing through the exterior metal.
2. In general, space nails, rivets, and screws not more than 8" apart and, where exposed to the weather, use neoprene washers.
3. For nailing into wood, use barbed roofing nails 1–1/4" long by 11 gage.
4. For nailing into concrete, use drilled plugholes and plugs.

3.3 EMBEDMENT
A. Embed metal in connection with roofs in a solid bed of sealant, using materials and methods described in Section 07920 of these Specifications or other materials and methods approved in advance.

3.4 SOLDERING
A. General:
1. Thoroughly clean and tin the joint materials prior to soldering.
2. Perform soldering slowly, with a well heated copper, in order to heat the seams thoroughly and to completely fill them with solder.
3. Perform soldering with a heavy soldering copper of blunt design, properly tinned for use.
4. Make exposed soldered joints neat, full flowing, and smooth.
B. After soldering, thoroughly wash acid flux with a soda solution.

3.5 TESTS
A. Upon request of the Owner's Representative, demonstrate by hose or standing water that the flashing and sheet metal are completely watertight.

SECTION 07610 – PREFORMED METAL ROOFING

PART 1 – GENERAL

1.1 DESCRIPTION
A. This section includes: The metal roofing over the drive-thru bump out on buildings with this feature and all flashings and accessories.

1.2 REFERENCES
A. ASTM A361 – Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process for Roofing and Siding.
B. ASTM A446 – Steel Sheet, Zinc Coated, (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality.
C. ASTM D2178 – Asphalt Impregnated Glass Mat for Roofing and Waterproofing.
D. ASTM D4586 – Asphalt Roof Cement, Asbestos-Free.
E. NRCA (National Roofing Contractors Association) – Roofing Manual.
F. SMACNA – Architectural Sheet Metal Manual. Fourth Edition.

1.3 SYSTEM DESCRIPTION
A. Design Requirements:
1. Provide UL 90 rated roofing system that has been tested in accordance with UL 580 test procedure.
2. Provide factory performed panel system that has been pre-tested and certified by manufacturer to comply with specified requirements under installed conditions.
B. Environmental Requirements: (Actual independent laboratory certified test results must be submitted).
1. Resistance to air infiltration: 0.059 cfm per lineal foot of l\joint when tested in accordance with ASTM E283 at static test pressure differential of 6.24 psf.
2. Resistance to water infiltration: No leakage through panel joints when tested in accordance with ASTM E331 at static test pressure differential of 6.24 psf.

1.5 QUALITY ASSURANCE
A. Perform work in accordance with SMACNA and NRCA standard details and requirements.
B. Regulatory Requirements: Comply with requirements of applicable building codes and other agencies having jurisdiction for wind uplift rating of standing seam roofs.

1.6 WARRANTY
A. Paint Finish
1. Furnish manufacturer's standard 20–year warranty under provisions of Section 01700 stating architectural fluorocarbon finish will be:
a. Free of fading or color change in excess of 5 NBS units as measured per ASTM D2244–68;
b. Will not chalk in excess of numerical rating of 7 when measured in accordance with standard procedures specified in ASTM D659–74;
c. Will not peel, crack, chip or delaminate.
B. Installation
1. Provide two–year warranty under provisions of Section 01700.
2. Warranty: Include coverage for water tightness integrity of seals.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Acceptable Manufacturers: Provide one of the following:
1. "Lokseam", by MBCI Corp., (281) 445–8555.
2. "Snap–Lock", by Imetco, (770) 908–1030.
3. "Z–lock Panel", by Berridge Manufacturing Co., (800) 231–8127.

2.2 MATERIALS
A. Panels
1. 24 gauge prefinished galvalume sheet made up of 55% aluminum, 1.6% silicon and the balance zinc, as described in ASTM specification A792.
2. Fabricate panels with sufficient thickness to meet specified UL 90 wind uplift requirements.
3. Factory fabricate panel with integral continuous interlocking standing seam.
4. Provide factory installed, high–grade, hot–melt elastomeric sealant at standing seams.
B. Clip/Fastener Assemblies:
1. Standard Clip: 18 gauge galvanized steel, 33 ksi yield strength, 2" long single fastener type.
2. Nailable substrate fasteners: #10 –12 x 1" long A–Point fastener, pancake head Phillips drive screws for plywood; noncorrosive base material.
C. Accessories:
1. Provide manufacturer's standard accessories and other items essential to completeness of standing seam roof installation.
2. Provide nylon seam end plugs for clean termination of panel.
3. Provide factory fabricated rib covers at roof slope transitions.
4. Provide transition rib covers where roofing changes directions.
D. Field Sealant:
1. Color coordinated primerless silicone or high grade, non–drying butyl as recommended by panel manufacturer.
2. Do not use sealant containing asphalt.

2.3 FABRICATION
A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
B. Apply stripbacote coating to the top side of metal to protect finish during fabrication, shipping and field handling.
C. Hem exposed edges on underside ½ inch; miter and seam corners.
D. Fabricate vertical faces with bottom edge formed outward ¼ inch and hemmed to form drip.
E. Fabricate flashings to allow toe to extend 2 inches over roofing fascia. Return and brake edges.
F. Panels:
1. Provide factory–formed panel width of 18 inch with 1¾" high standing seam.
2. Provide panels in full length from ridge to eave.
3. Where single length panels are not practical provide mated swaged panels for positive joint end laps, fabricated with overlap in direction of water flow.
G. Seams:
1. Panel seams shall interlock entire length of seam without use of field seaming machines.
2. Engineer standing seam to lock–up and resist joint disengagement during design wind uplift conditions.
3. Fabricate female leg with pressure equalized capillary break to prevent water siphoning through joints.
4. Provide factory sealant at standing seams to aid in resistance of leaks and to provide panel–to–panel seal while allowing expansion and contraction movement.
H. Clips:
1. Provide UL listed (standard) clip designed to allow panels to thermally expand and contract.
2. Fabricate clips with embossments that raise underside of panels above substrate to allow underside/ventilation.
3. Fabricate clips with structurally embossed outstanding legs to prevent distortion due to wind uplift forces.
I. Engineer panels to use concealed anchors that permit expansion and contraction. Exposed fasteners in roofing panels will not be permitted.
J. Provide factory eave panel notch for eave termination.
K. Match existing seams, clips and panels.

2.4 FINISH
A. Fluorocarbon Coating:
1. Full–strength 70% Kynar 500®coating baked on for 15 minutes at 450 degrees F to dry film thickness of 1.0 mil.
2. 15% reflective gloss (ASTM D523). (Low Gloss)
3. 0.3 mil baked–on epoxy primer.
B. Color: Ref. Exterior Finish Schedule

PART 3 EXECUTION

3.1 EXAMINATION
A. Inspect roof deck to verify deck is clean and smooth, free of depressions, waves, or projections, properly sloped to eave.
B. Verify deck is dry. Verify joints in wood deck are solidly supported and fastened.

3.2 PREPARATION
A. Felt Underlayment (solid substrate):
1. Provide one layer of No. 30 felt with horizontal overlaps and end laps staggered between layers.
2. Lay parallel to ridge line with 2–½" horizontal lape and 6" vertical laps.
B. Remove strippable coating before installing.

3.3 INSTALLATION
A. Comply with manufacturer's instructions for assembly, installation and erection. Install in accordance with approved shop drawings.
B. Anchor panels securely in place using clips and fasteners space in accordance with manufacturer's recommendations for design wind load criteria.
C. Fully seal adjacent panel to achieve continuous engagement of standing seam joint.
D. Dissimilar Metals:
1. Where sheet metal is in contact with dissimilar metals, execute juncture to facilitate drainage and minimize possibility of galvanic action.
2. At point of contact with dissimilar metal, coat metal with protective paint.
E. Flashings
1. Conform to SMACNA details, Plates 61.
2. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
3. Clean and seam all joints.
4. Apply plastic cement compound between metal flashings and felt flashings. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
5. Solder metal joints for full metal surface contact. After soldering, wash metal clean with neutralizing agent and rinse with water.
F. Field apply sealant to penetrations, transitions, and other locations necessary (not standing seam) for airtight, waterproof installation.

3.4 CLEANING
A. Clean exposed surfaces of work promptly after completion of installation.

3.5 FIELD QUALITY CONTROL
A. Field inspection will be performed under provisions of Section 01400.

3.6 PROTECTION OF FINISHED WORK
A. Protect finished Work under provisions of Section 01500.
B. Do not permit traffic over unprotected roof surface.

SECTION 07920 – SEALANTS AND CAULKING

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Throughout the Work, seal and caulk joints where shown on the Drawings and elsewhere as required to provide a positive barrier against passage of moisture and passage of air.

PART 2 – PRODUCTS

2.1 SEALANTS
A. Except as specifically otherwise approved by the Owner's Representative, use only the types of sealants described in this Article.
B. Provide non–staining, polyurethane based compound complying with Fed Spec TT–S–00227c, with each color of sealant and each class of sealant the product of a single manufacturer selected from the following, or equal products approved in advance by the Owner's Representative.
1. Interior Caulking and Sealant material for the building joints shall be equal to one of the following:
a. No. 864 Architectural Silicone Sealant, by Pecora, (215) 723–6051.
b. No. 790 Silicone Building Sealant, by Dow Corning, (517) 496–6000.
c. No. SCS 1000 Contractor's Silicone Sealant, by General Electric, (800) 332–3390.
2. Exterior Caulking and Sealant material for the building joints shall be equal to one of the following:
a. Temco Vulkem 116 Gun Grade Polyurethane Sealant (800) 321–7906.
b. Sonneborn NP 1 Gun Grade Polyurethane Sealant (800) 433–9517.
c. No. SCS 1000 Contractor's Silicone Sealant, by General Electric, (800) 332–3390.
3. Primer, where required shall be used as recommended by manufacturer of sealant, having been tested for staining and durability on samples of actual surfaces to be sealed.
4. For other services, provide products especially formulated for the proposed use and approved in advance by the Owner's Representative.
C. Colors:
1. Colors of sealant shall match adjacent wall material finish color.
2. Should such standard color not be available from the approved manufacturer except at additional charge, provide such colors at no additional cost to the Owner.
D. In concealed installations, and in partially or fully exposed installations where so approved by the Owner's Representative, use standard gray or black sealant.

2.2 PRIMERS
A. Use only those primers which are non–staining, have been tested for durability on the surfaces to be sealed, and are specifically recommended for this installation by the manufacturer of the sealant used.

2.3 BACKUP MATERIALS
A. Use only those backup materials which are specifically recommended for this installation by the manufacturer of the sealant used, which are non–absorbent, and which are non–staining.
B. Acceptable types include:
1. Denver Foam or equal.
C. Preformed support strips for ceramic tile control joint and expansion joint work: Use polyisobutylene or polychloroprene rubber.

2.4 BOND–PREVENTATIVE MATERIALS
A. Use only one of the following as best suited for the application, and as recommended by the manufacturer of the sealant used:
1. Polyethylene tape, pressure–sensitive adhesive, with the adhesive required only to hold tape to the construction materials as indicated;

2.5 MASKING TAPE
A. For masking around joints, provide masking tape complying with Fed Spec UU–T–106c.

2.6 OTHER MATERIALS
A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Owner's Representative.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS
A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION
A. Concrete surfaces:
1. Install only on surfaces which are dry, sound, and well brushed, wiping free from dust.
2. At open joints, remove dust by mechanically blown compressed air if so required.
3. Use solvent to remove oil and grease, wiping the surfaces with clean rags.
4. Where surfaces have been treated, remove the surface treatment by sandblasting or wire brushing.
5. Remove laitance and mortar from joint cavities.
6. Where backstop is required, insert the approved backup into the joint cavity to the depth recommended by sealant manufacturer.
B. Steel surfaces:
1. Steel surfaces in contact with sealant:
a. Sandblast as required to achieve acceptable surface for bond.
b. If sandblasting is not practical, or would damage adjacent finish, scrape the metal or wire brush to remove mill scale.
c. Use solvent to remove oil and grease, wiping the surfaces with clean rags.
2. Remove protective coatings on steel by sandblasting or by using a solvent which leaves no residue.
C. Aluminum surfaces:
1. Aluminum surfaces in contact with sealant:
a. Remove temporary protective coatings, dirt, oil, and grease.
b. When masking tape is used for protective cover, remove the tape prior to applying the sealant.
2. Use only such solvents to remove protective coatings as are recommended for that purpose by the manufacturer of the aluminum work, and which are non–staining.

3.3 INSTALLATION OF BACKUP MATERIAL
A. Use only the backup material recommended by the manufacturer of the sealant used, and approved for the particular installation, compressing the backup material 25% to 50% to achieve a positive and secure fit.
B. When using backup of tube or rod stock, avoid lengthwise stretching of the material. Do not twist or braid hose or rod backup stock.

3.4 PRIMING
A. Use only the primer recommended by the manufacturer of the sealant, and approved for the particular installation, applying in strict accordance with the manufacturer's recommendations as approved by the Owner's Representative.

3.5 BOND–BREAKER INSTALLATION
A. Provide an approved bond–breaker where recommended by the manufacturer of the sealant, adhering strictly to the installation recommendations as approved by the Owner's Representative.

3.6 INSTALLATION OF SEALANTS
A. Prior to start of installation in each joint, verify the joint type according to details on the Drawings, or as otherwise directed by the Owner's Representative, and verify that the required proportion of width of joint to depth of joint has been secured.
B. Equipment:
1. Apply sealant under pressure with power–actuated or hand gun, or by other appropriate means.
2. Use guns with nozzle of proper size, and providing sufficient pressure to completely fill the joints as designed.
C. Thoroughly and completely mask joints where the appearance of sealant on adjacent surfaces would be objectionable.
D. Install the sealant in strict accordance with the manufacturer's recommendations, thoroughly filling joints to the recommended depth.
E. Tool joints to the profile shown on the Drawings, or as otherwise required if such profiles are not shown on the Drawings.
F. Precautions:
1. Install the sealant in strict accordance with the manufactures printed instructions and warnings.
2. Provide proper and adequate ventilation during the application, during installation, and until properly cured or dry.
3. Provide proper and adequate application, storage, and disposal of the sealant to prevent potential of an environmental hazard.
G. Cleaning up:
1. Remove masking tape immediately after joints have been tooled.
2. Clean adjacent surfaces free from sealant as the installation progresses, using solvent or cleaning agent recommended by the manufacture of the sealant used.

SECTION 08100 – METAL DOORS AND FRAMES

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Provide metal doors and frames, which are not specifically described in other Sections of these Specifications, where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
apply touch–up of compatible air–drying primer.

PART 2 – PRODUCTS

2.1 METAL DOORS
A. Type and design:
1. Provide full–flush design, in dimensions and types shown on the Drawings, labeled or non–labeled as indicated on the Door Schedule in the Drawings, in 18 gauge for interior doors and 16 gage for exterior doors, properly reinforced for the finish hardware described in Section 08710 of these Specifications.
a. Provide (09) galvanization on all exterior doors and frames.
2. Doors shall be flush type, Heavy Duty, Grade II, 1–3/4" thick.
B. Finish:
1. Pre–clean and shop prime (with baked–on zinc chromate paint) each door for finish painting which will be performed at the job site under Section 09900 of these Specifications.
C. Acceptable products:
1. Comply with applicable requirements of Steel Door Institute "Recommended Specifications for Standard Steel Doors and Frames" (SDI–100), except as otherwise indicated by specific requirements on Drawings or these Specifications.
2. Underwriter's Laboratories Inc. (UL) and Factory Mutual (FM) as required for fire rated assemblies.
3. Cold rolled stretcher leveled steel face sheets full flush construction, conforming with ASTM A366.
4. Face sheets connected together with continuous vertical steel stiffeners spaced 6" maximum on center.
5. Face sheets to meet at both edges of door and weld to internal 14 gage continuous strip. Exposed joint filled and ground smooth.
6. Close and reinforce top and bottom of door with channels, full width of door.
7. Exterior doors shall have top closed (waterproof) by 14 gauge continuous channel welded, filled, and ground smooth. Tops must not collect water.
8. Provide door with polystyrene core, laminated to inside faces for insulation and sound deadening.
9. Concealed reinforcement for hardware (same as for frames).
D. Acceptable manufacturers: Provide doors by one of the following acceptable manufacturers:
1. D–Series doors by Fleming, (800) 263–7515.
2. H.M. w/polystyrene core, by Northern American Door Corp., (800) 660–3550.
3. F–Series doors, by CECO Door Products, (615) 661–5030.

2.2 METAL FRAMES
A. Type and design:
1. Provide frames of the types and dimensions shown on the Drawings, labeled or non–labeled as indicated on the Door Schedule in the Drawings, in 18 gage for interior doors and 16 gages for exterior doors.
2. Shop assembled, full mitered welded joints. All edges closed to hairline fit.
3. Mitered face weldedand ground smooth.
4. Adjustable floor knees, and 3 anchors minimum each jamb (max. 24" o.c. spacing).
5. Ship frames with spreader angles at bottom.
6. Frames shall fit wall thickness as specified with a 1/2" lap for 5/8" gypsum board walls.
7. Frame returns shall be 2".
8. Door frame jambs shall be prepared to receive 4–1/2" template hinges (for 13/4" doors) and 4–7/8" A.S.A. strike plates unless specified otherwise. Obtain templates from hardware supplier.
9. Reinforcement for hardware and silencers, 3 for single doors, 2 for double doors, and drill frames for same.
B. Finish:
1. Pre–clean and shop prime (with baked–on zinc chromate paint) each frame for finish painting which will be performed at the job site under Section 09900 of these Specifications.
C. Acceptable manufacturers: Provide HM 16 Series frames by Fleming or equal products by one of the acceptable manufacturers listed in Paragraph 2.1–D above.

2.3 FINISH HARDWARE
A. Secure templates from the finish hardware supplier, and accurately install, or make provision for, all finish hardware at the factory.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS
A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION
A. Placing frames:
1. Where practicable, place frames prior to construction of enclosing walls and ceilings.
2. Set frames accurately into position, plumbed, aligned, and braced securely until permanent anchors are set.
3. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.
4. At in–place construction, set frames and secure to adjacent construction with machine screws and suitable anchorage devices. Provide "Z" filers at each screw location.
5. Install doors with 1/16" clearance at head and jamb, 3/8" clearance at floors, and 1/8" clearance at thresholds with no binding. Install labeled doors in accordance with local codes and NFPA Pamphlet No. 80..
6. Doors shall not bind, stick, scratch or be mounted as to cause future hardware difficulties.
7. Fit all hardware, weatherstripping, thresholds and seals, in accordance with manufacturer's printed instruction. Adjust door closing devices prior to final inspection.
B. Install fire–rated frames in accordance with NFPA Standard No. 80.

3.3 ADJUST AND CLEAN
A. Final adjustments:
1. Check and readjust operating finish hardware items in hollow metal work just prior to final inspection.
2. Leave work in complete and proper operating condition.
3. Remove defective work and replace with work complying with the specified requirements.
B. Immediately after erection, sand smooth all rusted and damaged areas of prime coat, and apply touch–up of compatible air–drying primer.

SECTION 08410 – ALUMINUM ENTRANCE DOORS

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Provide aluminum doors and frames where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

PART 2 – PRODUCTS

2.1 ALUMINUM ENTRANCES
A. Acceptable Manufacturers: For purposes of these specifications, provide products by United States Aluminum Corp., (800) 627–6440. Equal products by the following manufacturers shall be acceptable:
1. No. 190 Narrow Stile, by Kawneer Corp., (770) 449–5555.
2. NS 72, Amalite Narrow Style, by Arch. Aluminum & Glass Co., Inc., (800) 432–8132.
B. Materials:
1. ENTRANCES:
a. Aluminum entrances shall be United States Aluminum No. 250, narrow stile doors.
b. Vertical stiles shall be 2", top rail shall be 2⅜", and bottom rail 9½".
c. Corner construction shall consist of both sigma deep penetration weld and bottom fastening.
d. Glazing stops shall be snap–in type with neoprene bulb type glazing. No exposed screws shall be required to secure stops. Stops on exterior side shall be lock–in tamper proof type.
e. Door leaf shall be equipped with adjustable mechanism located in top rail near lock stile, which will provide for minor clearance adjustments after installation.
f. Provide with nylon pad setting blocks for glazing bead with offset levelizer to allow adjustment of glazing.
g. Hardware for all doors shall be match entrance finish. Refer to Hardware Schedule for requirements.
3. GLAZING: To be ¼" thick, tempered clear glass.
4. STOREFRONT: Aluminum door frames shall have 1⅝" x 4½" profile and 0.125" wall thickness as manufactured by United States Aluminum.
5. FINISHES: Door and frame aluminum finish: Ref. Exterior Finish Schedule.

2.2 FINISH HARDWARE
A. Prepare for, receive, and install the finish hardware furnished under Section 08710 of these Specifications. Provide any other hardware not specifically listed, but required for proper door operation.
B. Procedures:
1. Perform all fitting of finish hardware to doors and frames at the factory, except do not drill or tap for surface mounted items until time of installation at the site.
2. Comply with finish hardware manufacturer's instructions and template requirements.
3. Use concealed fasteners to the maximum extent practicable.

2.3 FABRICATION
A. Fabricate anodized aluminum frame to allow for clearance and shim space around perimeter of assemblies, to enable installation. Provide for thermal movement.
B. Fabricate in strict accordance with the manufacturer's specifications and Shop Drawings as approved by the Owner's Representative, prefabricating in the shop to the maximum extent practicable.
C. Provide hairline fit at joints, with smooth continuity of line and accurate relation of planes and angles. Securely fasten.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS
A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 COORDINATION
A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
B. Make measurements as required in the field to assure proper fit.

3.3 INSTALLATION
A. Install the work of this Section in strict accordance with the original design, the approved Shop Drawings, pertinent requirements of governmental agencies having jurisdiction, and the manufacturer's recommended installation procedures as approved by the Owner's Representative, anchoring all components firmly into position for long life.
B. Remove protective coating completely from exposed surfaces as soon as progress of the Work will permit with safety.
C. When glazing is performed under this Section, provide the types of glass required and glaze in accordance with pertinent provisions of Section 08800 of these Specifications.
D. Anchors and Bracing: Properly locate and fasten anchoring devices into structure.
E. Dissimilar materials: Isolate aluminum surfaces contacting steel or other ferrous metals using EC–1202 tape or chromate paint. Isolate aluminum surfaces contacting concrete or masonry using asphalt mastic. Apply isolation materials to dissimilar surfaces.

SECTION 08520 – ALUMINUM WINDOWS

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Provide aluminum windows where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

PART 2 – PRODUCTS

2.1 ALUMINUM WINDOWS
A. Acceptable Manufacturers: For purposes of these specifications, provide products by United States Aluminum Corp., (800) 627–6440. Series 7200–Fixed. Equal products by the following manufacturers shall be acceptable:
1. Tri–fab, by Kawneer Corp., (770) 449–5555.
2. NRS Thermal, by Arch. Alum & Glass, Co., (800) 433–8132.
B. Materials:
1. ALUMINUM WINDOWS: Types 1, 2, 3, and 4, shall be approximately 1–1/4" x 2–1/2" sash, profile no. A–221.
2. GLAZING: Fixed lites shall be 5/8" thick, double pane, sealed insulating glass, both lites clear.
3. FINISHES: Ref. Exterior Finish Schedule
2.2 FABRICATION
A. Fabricate in strict accordance with the manufacturer's specifications and Shop Drawings as approved by the Owner's Representative.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS
A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 COORDINATION
A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
B. Make measurements as required in the field to assure proper fit.

3.3 INSTALLATION
A. Install the work of this Section in strict accordance with the original design, the approved Shop Drawings, pertinent requirements of governmental agencies having jurisdiction, and the manufacturer's recommended installation procedures as approved by the Owner's Representative, anchoring all components firmly into position for long life.

SECTION 08710 – FINISH HARDWARE

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included:
1. Furnish finish hardware required to complete the Work as shown on the Drawings and as specified herein;
2. Furnish trim attachments and fastenings, specified or otherwise required, for proper and complete installation;
3. Deliver to the job site those items of finish hardware scheduled to be installed at the job site; and deliver to other points of installation those items of finish hardware scheduled to be factory installed.
4. Comply with requirements of Americans with Disabilities Act (ADA) and any applicable state or local code.

1.2 QUALITY ASSURANCE
A. Manufacturer: Obtain each kind of hardware (latch and locksets, hinges, closers, etc.) from only one manufacturer, even though several are indicated as acceptable manufacturers.

1.3 TEMPLATES
A. Furnish the necessary templates and template data to manufacturers of items that will be fitted with finish hardware in ample time to avoid delay in the work.
B. Furnish hardware and reinforcing bolts and fasteners necessary for installation, packaged in same packages with hardware, including instructions (no keys).
C. Legibly mark and adequately label each package indicating part of work for which hardware is intended. Markings shall correspond to numbers on approved hardware schedule.
D. Deliver hardware for shop application to factories of respective manufacturers in ample time in order not to impede progress of their work.

PART 2 – PRODUCTS

2.1 ADDITIONAL ACCEPTABLE MANUFACTURERS
A. The hardware schedule in the drawings is based on several manufacturers. Additional acceptable Manufacturers/Products are as follows:
1. Thresholds:
a. 4325 x length, by Reggar, (314) 772–4440.
b. No. 2270 x length, Pemko, (800) 283–9988.
2. Panic Device:
a. 700, by Alarm Lock, (800) ALA–LOCK.
b. 9300, by Dorma, (800) 523–8483.
3. Closures:
a. No. 4041, by LCN, (800) 526–2400.
4. Weatherstripping:
a. 303_PK, by Pemko, (800) 283–9988.
5. Door Bottom:
a. No. 3450, by Pemko, (800) 283–9988.
6. Drip Cap:
a. No. 346, by Pemko, (800) 283–9988.
7. Hinges:
a. 881279, by Hager, (314) 772–4440.
8. Stops:
a. 236K by Hager (314) 772–4440
Silencers:
a. 3070, by Hager, (314) 772–4440.
B. Cylinders and I/C cores to be provided as manufactured by Schlage. No Substitutions.
2.2 MATERIALS
A. Butt Hinges: Full mortise template hinges, 5–knuckle type, plain–bearing and ball–bearing as noted on schedule.
B. Locksets and Latchsets: Schlage AL Series cylindrical lockset levers; Saturn design, function as listed on schedule. Backsets and strike types as required by conditions.
C. Furnish silencers for door frames at the rate of three for each single door and two for each door or pair of doors; except weather–stripped doors and doors with light seals or sound seals.
D. Weatherstripping: Provide weatherstrips at all exterior hollow metal door jambs and heads.

2.3 OTHER MATERIALS
A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Owner's Representative.

2.4 FINISHES
A. US 626 on all hardware, unless noted otherwise.

2.5 KEYING
A. Keying system shall be a Schlage grand–master key system (No Substitutions). Final keying shall be in accordance with Owner's requirements and approved keying schedule. Supplier shall meet with the Owner or his representative in order to finalize keying requirements.
B. Lock keys, knock–out keys and master and grand–master keys shall be delivered directly to the Owner's Representative by the Hardware Supplier.
C. Keys shall be tagged with Lund C 1507 tags indicating the door number shown on the architectural drawings.
D. Furnish three (3) keys for each lock and deliver to Owner's Representative.

2.6 TOOLS AND MANUALS
A. With the delivery of permanent keys, deliver to the Owner one complete set of adjustment tools and one set of maintenance manuals for locksets, latchsets, closers, and panic devices.

2.7 HARDWARE SCHEDULE– Refer to Hardware schedule, sheet A1.0

PART 3 – EXECUTION

3.1 INSTALLATION; HARDWARE
A. Mount hardware units at heights recommended in "Recommended locations for Builder's Hardware by NBHA except as required to comply with governing regulations.
B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, install each item completely and then remove and store in a secure place during the finished application. After completion of the finishes, re–install each item. Do not install surface–mounted items until finishes have been completed on the substrate.
C. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Lubricate moving parts with type lubrication recommended by manufacturer (graphite–type if no other recommended). Replace units which cannot be adjusted and lubricated to operate freely and smoothly as intended for the application made.
D. Instruct Owner's personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.

3.2 INSTALLATION; WEATHERSTRIPPING AND THRESHOLDS
A. Weatherstrip all exterior doors at heads, jambs and sills in a manner to completely seal the openings.
B. Install an extruded aluminum threshold at all exterior wood doors unless noted otherwise by the details on the Drawings.
C. Neatly cut and accurately fit thresholds to door openings. Set thresholds in full bed of mastic and anchor with non–ferrous screws and expansion shields at 1'–0" o.c.
D. Scribe ends of thresholds to door frames.
E. At completion of job, adjust all weatherstripping for ease of operation. Shim as required.

3.3 CLEANING
A. Clean up material, carton, packages, and other debris for the job site. Replace any damaged material.

SECTION 09220 – LATH AND PLASTER

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work Included: Provide all Portland cement plaster, metal lath, trim, accessories, and installation.

PART 2 – PRODUCTS

2.1 MATERIALS
A. Building Paper: 15# asphalt impregnated paper.
B. Metal Lath: Galvanized metal, self–furred, expanded or woven wire with backing, (ASTM 847 or ASTM C1032)
C. Corner and Casing Beads: Zinc alloy expanded flange, or plastic components (polyvinyl–chloride).
D. Mechanical Fasteners: Non–corrosive, self taping, with head or washer added so that fastener head holds the lath.
E. Tie Wire: Galvanized steel, 16 gauge, soft annealed.
F. Aggregates: Natural or manufactured sand conforming to ASTM C897.
G. Water: Shall be clean, clean and potable without foreign matter.
H. Cement: Type I or II Portland cement, meeting ASTM C150.
I. Additive for Portland Cement: Acryl 60 as manufactured by Thoro System Products.
J. Finishing Coat: Thoroseal Plaster for Color Ref. Exterior Finish schedule, waterproof coating by Thoro.
K. Color Coat: Thorocoat, 100% Acrylic, color Ref. Exterior finish schedule, texture shall be fine, as manufactured by Thoro System Products.
L. Contact Thoro System Products, a division of Chemrex for any additional information or for local suppliers at (800) 433–9517.

2.2 MIXES
A. Proportions:
1. Scratch coat: 94 pounds portland cement, 40 to 50 pounds lime and 5 to 6 cubic feet sand.
2. Brown coat: 94 pounds portland cement, 50 pounds lime, and 6 to 7 cubic feet sand.
B. Finish Coat: Mix in accordance with manufacturer's instructions.
C. Mixing:
1. Mechanically mix materials. Thoroughly mix materials dry before adding water.
2. Clean equipment after each batch.
3. Discard frozen, caked, and hardened mixes; do not retemper.

PART 3 – EXECUTION

3.1 INSTALLATION OF METAL LATH
A. Install over building paper attached with nails to plywood substrate.
B. Apply with long dimension parallel to supports, with end joints staggered. Secure end laps with tie wire where they occur between supports.
C. Lap ends minimum 1" and sides minimum 1–1/2 inches.
D. Secure to metal framing with wire ties at maximum 6 inches on center.
E. Cut and secure lath at each side of control joints.
F. Reinforce corners of openings with 6 x 12 inch lath strip installed diagonally at each corner, wire tied to lath.
G. If lath is not continued minimum 3 inches on each side of internal corners, reinforce with 12 inch wide lath strip bent at 90 degrees and wire tied to lath.

3.2 INSTALLATION OF ACCESSORIES
A. Set level and true to line; securely wire tie to lath.
B. Casing Beads: Install where plaster abuts dissimilar material or stops with edge exposed. Install around door, window, and louvered openings so that a ¾" wide joint for caulking is created between wall finish and framing. Install casing beads at all areas where wall panels end against concrete floors leaving a ¾" wide joint for caulking.
C. Corner Beads: Install at external corners.
D. Control Joints:
1. Run vertical joints continuous; butt horizontal joints into vertical joints.
2. Apply sealant to form material behind joints at intersections.
3. Install joints with flange under self–furring lath. See drawings for specific control joint locations.
E. All joints and casing beads at intersections and terminations should be embedded in and weather–sealed with caulking.

3.3 APPLICATION OF PLASTER
A. Apply plaster by hand or machine in accordance with ASTM C 926.
B. Apply scratch, brown, and finish coats to minimum 5/8 inch thickness from face of lath.
C. Dampen each coat prior to applying succeeding coats.
D. Scratch Coat:
1. Apply to nominal 3/8 inch thickness.
2. Form full keys on

SECTION 09306 – QUARRY TILE

PART 1 – GENERAL

1.1 SECTION INCLUDES
A. Quarry tile floor finish using the Latex–Portland Cement mortar application method.

1.2 REFERENCES
A. ANSI A108.5 – Installation of Quarry Tile with Portland Cement Mortar.
B. ANSI A108.10 – Installation of Grout in Tilework.
C. ANSI A118.4 – Latex–Portland Cement Mortar.
D. ANSI A118.6 – Ceramic Tile Grouts.
F. ANSI A137.1 – Standard Specifications for Ceramic Tile.
G. TCA (Tile Council of America) – Current Edition Handbook for Ceramic Tile Installation.

1.3 QUALIFICATIONS
A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience
B. Installer: Company specializing in performing the work of this Section with minimum three years documented experience, and approved by tile manufacturer.

1.4 ENVIRONMENTAL REQUIREMENTS
A. Do not install adhesives in an unventilated environment.
B. Maintain 50 degrees F (10 degrees C) during installation of mortar materials.

PART 2 PRODUCTS

2.1 TILE MANUFACTURERS
A. Quarry tile shall be 6"x6" with abrasive grain and cove base trims to match.
B. Color: "Ashen Grey', 0703
C. Provide Quarry Textures tile as manufactured by Dal–Tile Corp. or equal.

2.2 MORTAR MATERIALS
A. Mortar Materials: ANSI A118.4 Latex Modified, Portland cement, sand and latex additive.

2.3 GROUT MATERIALS
A. Grout: ANSI A118.6, tile grout.
B. Color: No. 47, "Charcoal"
C. Provide grout from the Classic Collection as manufactured by Mapei, equal to Mapei–Kerapoxy.

2.4 ACCESSORIES
A. Thresholds: Extruded aluminum

2.5 MORTAR MIX AND GROUT MIX
A. Mix and proportion cementitious materials for site made mortar bed and bond coat.

2.6 ANTIFRACTURE MEMBRANE
A. Mix and proportion cementitious materials for site made mortar bed and bond coat.

PART 3– EXECUTION

3.1 EXAMINATION
A. Verify that surfaces are ready to receive work.

3.2 PREPARATION
A. Protect surrounding work from damage or disfiguration.
B. Vacuum clean surfaces and damp clean.

3.3 INSTALLATION
A. Install tile and grout in accordance with TCA Handbook, F113–03 installation method.
B. Install smooth and non–slip floor tile as scheduled on the drawings.
C. Lay tile to pattern indicated. Do not interrupt tile pattern through openings. Place thresholds at locations scheduled
D. Cut and fit tile tight to penetrations through tile. Form corners and bases neatly. Align floor and base joints.
E. 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.
F. Sound tile after setting. Replace hollow sounding units.
G. Keep control joints free of adhesive or grout. Apply sealant to joints
H. Allow tile to set for a minimum of 48 hours prior to grouting.
I. Grout tile joints.
J. Apply sealant to junction of tile and dissimilar materials, junction of dissimilar planes and in control joints.

3.4 CLEANING
A. Clean work under provisions of 01710.
B. Clean tile and grout surfaces.

3.5 PROTECTION OF FINISHED WORK
A. Protect finished Work under provisions of Section 01640.
B. Do not permit traffic over finished floor surface for 4 days after installation.

SECTION 09510 – ACOUSTICAL CEILINGS

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Provide acoustical ceilings where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.2 QUALITY ASSURANCE
A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
B. Qualification of Installer: Minimum of 3 previous projects of comparable size.
C. Fire Hazard Classification:
1. Maximum Flame Spread: UL (ASTM E84): 25.
2. Smoke Developed: 0

PART 2 – PRODUCTS

2.1 "T" GRID SYSTEM
A. Provide a complete system of supporting members, anchors, wall cornices, adapters for light fixtures and grilles, and accessories of every type required for a complete suspended "T" grid system of the arrangements shown on the Drawings, and complying with pertinent requirements of Underwriters Laboratories, Inc., and the governmental agencies having jurisdiction. (Non–fire rated).
B. Provide a "T" grid system, aluminum capped, 15/16", white color.
C. Hanger Wire: Minimum 12 gauge, galvanized, soft–annealed, mild steel wire.
D. Acceptable Manufacturers:
1. For the purpose of these specifications, the following are acceptable manufacturers and products:
a. Prelude 7300 series, by Armstrong World Industries, (717) 397–0611.
b. 1830 Series, by Chicago Metallic Corp, (708) 563–4600.
c. ZXA System, by U.S.G. Interiors, Inc. (888) 834–2371.

2.2 ACOUSTICAL CEILING PANELS
A. Vinyl Faced:
1. Vinyl Faced Ceiling tiles shall be Stipple pattern, vinyl–faced gypsum lay–in panels, white color, nominal ⅝" thick, 24"x48", square edge.
2. For the purpose of these specifications, the following are acceptable manufacturers and products.
a. No. 3270, by U.S.G. Interiors, Inc. (888) 834–2371.
b. Clean Room VL, by Armstrong World Industries, (717) 397–0611.
c. Endure Vinyl Panels, by Chicago Metallic Corp, (708) 563–4600.
B. Decorative Ceiling Tiles:
1. Ceiling tiles shall be mineral fiber lay–in panels, color per finish schedule, nominal ¾" thick, 24"x48", $^{15}/_{16}$" angled tegular edge, scored 24"x24" nominal.
2. For the purpose of these specifications, the following is the acceptable manufacturer.
a. Fine Fissured, Second Look III No. 1761, color per finish schedule, by Armstrong.
2.3 OTHER MATERIALS
2. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Owner's Representative.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS
A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION, GENERAL
A. Except as modified by requirements of governmental agencies having jurisdiction, recommendations of the manufacturer as approved by the Owner's Representative, or specific directions of the Owner's Representative, install in accordance with ASTM C636.
B. Lateral bracing:
1. Provide lateral bracing as required by pertinent codes and regulations.
2. Secure lateral bracing to structural members. Secure at right angles to the direction of the partition and four ways in large ceiling areas.
C. Provide hold–down clips for ceiling broads in stockroom and elsewhere so required by the governmental agencies having jurisdiction.
D. Make all grid level within a tolerance of one in 1000 and straight within tolerance of one in 1000.
E. Space main tees at 48" o.c., suspend from structure with hanger wire spaces at 48" o.c. Install additional hanger wires at ends of each suspension member and at light fixture corners.
F. Space cross tees at 24" o.c., connect to main tees. Space sub cross tees to cross tees at 24" o.c. Rest main and cross tees on wall moldings.

3.3 CLEANING UP
A. In addition to other stipulated requirements for cleaning, completely remove finger prints and traces of soil from surfaces of grid and acoustical materials, using only those cleaning materials recommended for the purpose by the manufacture of the material being cleaned.

SECTION 09310 – CERAMIC TILE

PART 1 GENERAL

1.1 SUMMARY
A. This Section includes the following:
1. Floor tile.
2. Glazed wall tile.
1.2 SUBMITTALS
A. Product Data: For each product indicated.
B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints.
C. Samples:
1. Each type, composition, color, and finish of tile.
2. Assembled samples with grouted joints for each type, composition, color, finish of tile.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified in the Construction Documents.
2.4 SETTING AND GROUTING MATERIALS
A. Manufacturers:
1. Altas Minerals & Chemicals, Inc.
2. Bolardi Products Corporation
3. Bonsal, W.R., Company
4. Bostik
5. C–Cure
6. Custom Building Products
7. DAP, Inc.
8. Jamo Inc.
9. LATICRETE INTERNATIONAL INC.
10. MAPEI Corporation
11. Southern Grouts & Mortars, Inc.
12. Summitville Tiles, Inc.
13. TEC Specialty Products Inc.
B. Dry–Set Portland Cement Mortar (Thin Set): ANSI A118.1.
1. For wall applications, provide nonsagging mortar.
C. Water–Cleanable, Tile–Setting Epoxy Adhesive: ANSI A118.3.
D. Organic Adhesive: ANSI A136.1, Type 1.
E. Standard Sanded Cement Grout: ANSI A118.6, color as indicated.

PART 3 EXECUTION

3.1 PREPARATION
A. Remove coatings, including curing compounds and other substances that contain soap, wax, oil, or silicone, that are incompatible with tile–setting materials.
B. Fill cracks, holes, and depressions with trowelable leveling and patching compound according to tile–setting material manufacturer's written instructions.
C. Remove protrusions, bumps, and ridges by sanding or grinding.

3.2 INSTALLATION, GENERAL
A. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
B. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Grind cut edges of tile abutting rim, finish, or built–in items. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
C. Jointing Pattern: Lay tile in grid pattern as indicated on Construction Documents. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.
D. Install tile on floors with the following joint widths:
1. Floor Tile: 1/4 inch (5.35 mm).
E. Install tile on walls with the following joint widths:
1. Glazed Wall Tile: 1/16 inch (1.6mm).

SECTION 096723 – RESINOUS FLOORING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This section includes the following:
1. Resinous seamless flooring system as shown on the drawings and in schedules.
B. Related sections include the following:
1. Cast–in–Place Concrete, section 03 30 00
2. Concrete Curing, section 03 39 00

1.3 SYSTEM DESCRIPTION

A. The work shall consist of preparation of the substrate, the furnishing and application of a cementitious underlayment and a seamless slurry seamless flooring system with colored quartz aggregate broadcast and a pigmented chemical resistant epoxy topcoat.
B. The system shall have the color and texture as specified by the Owner with a nominal thickness of ¼". It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.
C. Cove base (if required) to be applied where noted on plans and per manufacturers standard details unless otherwise noted

1.4 SUBMITTALS

A. System Data: Latest edition of Manufacturer's literature including performance data.
B. Manufacturer's Material Safety Data Sheet (MSDS) for each product being used.
C. Samples: A 2.5"x 6"sample of the proposed system. Color, texture, and thickness shall be representative of appearance of finished system.

1.5 QUALITY ASSURANCE

A. The Manufacturer shall have a minimum of 5 years experience in the, technical support of cementitious urethane, industrial flooring and related materials.
B. The Applicator shall have been approved by the flooring system manufacturer in all phases of surface preparation and application of the specified system and have a minimum of 5 years relevant experience.
C. No requests for substitutions shall be considered that would change the generic type of the specified system.
D. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food, Drug Administration (FDA), and local Health Department.
E. A pre–installation conference shall be held between Applicator, General Contractor and the Owner to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and application schedule.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping
1. All components of the system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the product name and batch number.
B. Storage and Protection
1. The Applicator shall be provided with a dry storage area for all components. The area shall be between 50o F and 90o F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
2. Copies of Material Safety Data Sheets (MSDS) for all components shall be kept on site for review by the Engineer or other personnel.
C. Waste Disposal
1. The Applicator shall be provided with adequate disposal facilities for non–hazardous waste generated during installation of the system.

1.7 PROJECT CONDITIONS

A. Site Requirements
1. Application may proceed while air, material and substrate temperatures are between 50o F and 90oF providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
2. The relative humidity in the specific location of the application shall be less than 90 % and the surface temperature shall be at least 50F above the dew point.
3. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.
B. Conditions of new concrete to be coated with cementitious urethane material.
1. Concrete shall be cured for a minimum of 7 days prior to the application of the coating system meeting moisture tests.
2. Concrete shall have a flat rubbed finish, float or light steel trowel finish (a hard steel trowel finish is neither necessary nor desirable).
3. Sealers, release agents and curing membranes should not to be used.
4. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission.
C. Safety Requirements
1. The Owner shall be responsible for the removal of foodstuffs from the work area.
2. Non–related personnel in the work area shall be kept to a minimum.

1.8 WARRANTY

A. U.S. Flooring, Inc. warrants that its products are free from defects. U.S. Flooring, Inc. shall provide a materials warranty to the Owner for a period of one year from date of manufacture. Liability, if any, is limited to product replacement.

PART 2 –PRODUCTS
2.1 FLOORING
A. U.S. Flooring, Inc. Coverclad SF (slurry with BCM broadcast quartz), chemical resistant topcoat seamless flooring system.
1. System Materials:
a. Topping: U.S. Flooring, Inc, Coverclad S Base A, Hardener B, pigment pack and Coverclad SF Filler C. Coverclad SF is supplied with an anti–microbial additive.
b. The broadcast aggregate shall be Estes BCM quartz in a blend of the owner's choice.
c. Topcoat: Coverclad Chemical Resistant Epoxy
2. Patch Materials
a. Shallow Fill and Patching: Use Coverclad SF (up to ¼ inch).
b. Deep Fill and Sloping Material (over ¼ inch): Coverclad HF.

2.2 MANUFACTURER
A. U.S. Flooring Inc., 1550 Katherine Ave. Joplin, MO 64801 866–529–3566
B. Manufacturer of Approved System shall be single source and made in the USA.

2.3 PRODUCT REQUIREMENTS
A. Topping Coverclad SF

1.	Percent Solids	100 %
2.	VOC	<10 g/L
3.	Bond Strength to Concrete ASTM D 4541	> 400 psi
4.	Compressive Strength, ASTM C 579	8,128 psi
5.	Tensile Strength, ASTM C 307	1,450 psi
6.	Flexural Strength, ASTM C 580	2,900 psi
7.	Impact Resistance @ 125 mils, MIL D–3134, No visible damage or deterioration	160 inch lbs

B. Topcoat Coverclad CRE

1.	Percent Solids	100%
2.	VOC	<50 g/L
3.	Compressive Strength, ASTM C 579	9,000 psi
4.	Tensile Strength, ASTM C307	1,700 psi
5.	Flexural Strength, ASTM C580	4,000 psi

PART 3 –EXECUTION
3.1 EXAMINATION
A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

3.2 PREPARATION
A. General
1. All concrete surfaces shall be free of laitance, oil, grease, curing compounds, loose particles, mortar, dirt, bituminous products and all other contaminants.
2. Moisture Testing: Perform moisture vapor emission (calcium chloride) test in accordance with ASTM F 1869–10.
a. Perform three tests for the first 1,000 sqft and then one test per subsequent 1,000 sqft.
b. The vapor drive should be within range acceptable to manufacturer.
3. Mechanical surface preparation
a. Dust blast all surfaces to receive flooring system with a mobile steel shot, dust recycling machine (Blastrac or equal). All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 5–6 as described by the International Concrete Repair Institute.
b. Floor areas inaccessible to the mobile blast machines shall be mechanically abraded to the same standard of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, or other suitable equipment.
c. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/4"key cut shall be made to properly seat the system, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.
d. Cracks and joints (non–moving) greater than 1/8"wide are to be chiseled or chipped–out and repaired per manufacturer's recommendations.
4. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufacturers recommendations.

3.3 APPLICATION
A. General
1. The system shall be applied in three distinct steps as listed below:
a. Substrate preparation
b. Topping application with quartz aggregate broadcast.
c. Topcoat application
2. Immediately prior to the application of any component of the system, the surface shall be dry and any remaining dust or loose particles shall be removed using a vacuum or clean, dry, oil–free compressed air.
3. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
4. The system shall follow the contour of the substrate unless pitching or other leveling work has been specified by the Architect.
B. Topping
1. The topping shall be applied as a self–leveling system as specified by the Architect. The topping shall be applied in one lift with a nominal thickness of 3/16".
2. The topping shall be comprised of four components, Base A, Hardener B, pigment pack and Filler C as supplied by the Manufacturer.
3. The pigment pack shall be added to the Base and thoroughly dispersed then the Hardener shall be added to the Base and pigment and be thoroughly mixed by suitably approved mechanical means. Coverclad SF Filler C shall then be added to the mixing vessel and mixed in a manner to achieve a homogenous blend.
4. The topping shall be applied over horizontal surfaces using a pin/gauge rake, trowels or other systems approved by the Manufacturer.
5. Immediately upon placing, the topping shall be rolled with a loop roller.
6. Quartz aggregate shall be broadcast to excess into the wet material 0.6 lbs./sqft
7. Allow material to cure. Vacuum, sweep and/or blow to remove all loose aggregate.
C. Topcoat
1. The topcoat shall be mixed and applied per manufacturer recommended procedure.
2. The topcoat shall be comprised of 2 components, Base A and Hardener B as supplied
3. The topcoat will be applied at the rate of 90 sq ft per gallon.
4. The finish floor will have a nominal thickness of 1/4".

3.4 FIELD QUALITY CONTROL
A. Tests, Inspection
1. The following tests shall be conducted by the Applicator:
a. Temperature
1. Air, substrate temperatures and, if applicable, dew point.
b. Coverage Rates
1. Rates for all layers shall be monitored by checking quantity of material used against the area covered.

3.5 CLEANING AND PROTECTION
A. Cure flooring material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.
B. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.

SECTION 09900 – PAINTING

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work included: Paint and finish the exterior and interior exposed surfaces listed on the Painting Schedule in Part 3 of this Section, as specified herein, and as needed for a complete and proper installation.
1. Listed below are areas required for painting although not necessarily all inclusive. This listing, however, does not relieve this contractor of verifying all other sections of these specifications for provisions regarding painting.
a. EXTERIOR:
Galvanized metal
Hollow metal door and frame
Structural steel shapes
Mechanical piping and equipment (except roof mounted items)
Electrical conduits, panels, etc. (except roof mounted items)
b. INTERIOR:
Galvanized sheet metal
Miscellaneous metal items
Hollow metal doors and frames
Exposed Mechanical piping and equipment.
Exposed Electrical conduits, panels, etc.
c. PAINTING DOES NOT INCLUDE:
Painting roof mounted mechanical and electrical work.
2. This subcontractor shall thoroughly examine the other sections of these specifications for provisions regarding painting. He shall understand that all surfaces that are left unfinished by the requirements of other sections shall be painted or finished under this section of the Work. Notify Owner's Representative of discrepancies.
3. "Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, varnishes, sealers, fillers, and other applied materials whether used as prime, intermediate or finish coats.
B. Related work specified elsewhere:
Hollow Metal Doors and Frames – Section 08100
Gypsum Wallboard System – Section 09620
Miscellaneous Metals – Section 05500
C. Work not included:
1. Unless otherwise indicated, painting is not required on surfaces in concealed areas and inaccessible areas such as furred spaces, foundation spaces, utility tunnels, pipe spaces, and duct shafts.
2. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze, and similar finished materials will not require painting under this Section except as may be so specified.
3. Do not paint moving parts such as valve operators; linkages; sensing devices; and motor shafts, unless otherwise indicated.
4. Do not paint over required labels or equipment identification, performance rating, name, or nomenclature plates.
5. Do not paint concrete which has been sandblasted.

PART 2 – PRODUCTS

2.1 MANUFACTURERS
A. The specified painting formulas are based on the top line products of Sherwin Williams, Inc. (216) 566–2000. Other acceptable manufacturers are:
1. Glidden, (216) 344–8222.
2. Devoe, (216) 344–8532.
3. Benjamin Moore, (201) 573–9600.
B. Touch–up paint for the canopy fascia, deck pans, etc. to be furnished by the canopy materials manufacturer to insure color match.

2.2 PAINTING SCHEDULE
A. All paint formulations are based on products of Sherwin Williams, Inc. The surfaces listed in the painting schedule shall receive the surface preparation, paints and number of coats necessary to achieve accurate full color coverage. Exposed piping shall not be painted until the piping has been tested and approved.
B. Primer and undercoat paint to be by same manufacturer as the finish costs. Use only approved thinners and within recommended quantities.
C. Refer to the end of this Section for painting schedule. All paints specified are for brush or roller application. Dripless spraying is acceptable for large areas using comparable materials. Caution shall be taken to not spray adjacent surfaces.

PART 3 – EXECUTION

3.1 CLEANING AND PREPARATION OF SURFACES
A. Hardware, hardware accessories, machine surfaces, plates, lighting fixtures, and similar items in contact with painted surfaces and not to be painted shall be removed, masked, or otherwise protected prior to surface preparation and painting operations. Remove door silencers from hollow metal door frames and replace after painting. Surfaces to be painted shall be clean before applying paint or surface treatments.

3.2 PAINT APPLICATION
A. Prepare all surfaces in accordance with requirements of paint manufacturer. All paint shall be applied under strict controls as established by manufacturer.
B. If spraying is elected to be used by this Contractor, care shall be taken to not damage adjacent finish areas. If damage does occur, Contractor shall correct or replace surfaces at no cost to Owner.
C. The finished surfaces shall be free from runs, drips, ridges, waves, laps, brush marks, and variations in color, texture, and finish. The hiding shall be complete, and each coat shall be so applied to produce film of uniform thickness. Special attention shall be given to insure that all surfaces including edges, corners, crevices, welds, and rivets receive a film thickness equivalent to that of adjacent painted surfaces. Adjacent areas and installations shall be protected by the use of drop cloths and other approved precautionary measures. Sufficient time shall elapse between successive coats to permit proper drying.

3.3 CLEANING
A. Cloth and cotton waste that might constitute a fire hazard shall be placed in closed metal containers and destroyed at the end of each day. Upon completion of the work, staging, scaffolding, and containers shall be removed from the site. Paint spots, oil, or stains upon adjacent surfaces shall be removed and the entire job left clean and acceptable.
B. Provide a minimum of one gallon each of all paints for the Owner's use.

3.4 PAINTING SCHEDULE
A. Colors: Refer to finish schedule, sheet A2.0.
B. The following exterior coating applications are to be addition to those specified elsewhere.
1. Ferrous Metal: (Canopy Steel and including mechanical and electrical items of ferrous metal not factory finished painted):
a. 1st coat Kem Kromik Metal Primer B50W21; (Touch–up Prime Coat)
b. 2nd coat Industrial Enamel, (light colors: B54W2101), (dark colors: B54T2104)
c. 3rd coat Industrial Enamel, (light colors: B54W2101), (dark colors: B54T2104)
2. Galvanized Steel and Iron: (including mechanical and electrical items of galvanized iron and steel not factory finish painted).
a. solvent clean
b. 1st coat: B66 W1 DTM acrylic primer/finish, 3 mils DFT
c. 2nd coat: Pro–Mar 200 Latex, Egg–shell, B20W201
3. Wood Trim: (Exterior)
a. 1st coat: A–100 Alkyd Wood Primer, Y24W20
b. 2nd coat: Industrial Enamel, B54W2101
c. 3rd coat: Industrial Enamel, B54W2101
4. Plywood: (Exterior)
a. 1st coat: A–100 Exterior Latex Wood Primer, B42W41
b. 2nd coat: A–100 Exterior Latex Gloss, A8W525
c. 3rd coat: A–100 Exterior Latex Gloss, A8W525
C. The following interior coating applications are to be in addition to those specified elsewhere.
1. Galvanized Metals
d. solvent clean
e. 1st coat: B66 W1 DTM acrylic primer/finish, 3 mils DFT
f. 2nd coat: Pro–Mar 200 Latex, Egg–shell, B20W201
2. Gypsum Board
a. Texture: Light Stipple Texture
b. 1st coat: Pro–Mar 200 Latex, Egg–shell, B20W201
c. 2nd coat: Pro–Mar 200 Latex, Egg–shell, B20W201
3. Wood Trim
a. 1st coat: Pro–Mar 200 Alkyd Enamel Undercoater B49W22
b. 2nd coat: Pro–Mar 200 Alkyd Semi–gloss, A40W25
c. 3rd coat: Pro–Mar 200 Alkyd Semi–gloss, A40W25
4. Misc. Metals (Hollow metal doors, frames, access doors, equipment)
a. 1st coat: B66 W1 DTM acrylic primer/finish, 3 mils DFT
b. 2nd coat: Pro–Mar 200 Latex, Egg–shell, B20W201
D. See Section 02580 for Traffic Paint.
E. Any other exposed surfaces and areas not specifically mentioned above and which are not covered in "Related Work", or items listed in "Do not paint" paragraph, shall be painted with not less than two coats of an appropriate type of paint as directed by the Owner's Representative unless otherwise noted on the Drawings.

SECTION 10105 – BLUE DISK POP DISPLAY BOARDS

PART 1 – GENERAL

1.1. DESCRIPTION
A. Section Includes:
1. Blue Disk POP Display Boards

PART 2 – PRODUCTS

2.1 MANUFACTURER
A. Provide products as manufactured by:
1. MDI, 918–388–4996, fax 918–663–4738
2. Ordermatic, Inc., 405–672–1487, fax 405–670–1740

SECTION 10106 – MENU BOARDS & ORDER STATIONS

PART 1 – GENERAL

1.1. DESCRIPTION
A. Section Includes:
1. Menu Order Stations
2. Drive–Thru Boards

PART 2 – PRODUCTS

2.1 MANUFACTURER
A. Provide products as manufactured or supplied by:
1. Ordermatic, Inc., 405–672–1487, fax 405–670–1740

SECTION 10426 – SIGNAGE AND GRAPHICS

PART 1 – GENERAL

1.1. DESCRIPTION
A. Section Includes:
1. Plastic interior signs.

PART 2 – PRODUCTS

2.1 MATERIALS
A. Signs:
1. Type: Matte finish melamine plastic laminate with contrasting color core; non static, fire retardant, and self extinguishing
2. Thickness: 1/8 inch.
3. Restroom and other accessible area signs shall comply with the ADA and other state and local accessibility codes.

2.2 MANUFACTURER
A. Provide products as manufactured by Cook Neon, 800–488–0944, or equal.
1. Other manufacturers:
a. Federal Heath, 800–888–1327 ext: 2071.

2.2 ACCESSORIES
A. Fasteners: Chrome plated brass screws.

2.3 FABRICATION
A. Fabricate signs by reverse engraving process to produce characters and graphics in contrasting color, raised 1/16 inch.
B. Characters:
1. Height: 5/8 inch.
2. Style: Sans serif, upper case.
3. Width to height ratio: Between 3:5 and 1:1.
4. Stroke width to height ratio: Between 1:5 and 1:10.
C. Graphics: Universal handicapped symbols, 6 inches high.
D. Provide Grade 2 Braille indications for each character and graphic.
E. Corners: 1/2 inch radius.
F. Edges: Square.

PART 3 – EXECUTION

3.1 PREPARATION
A. Clean surfaces of loose and foreign matter.

3.2 INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. Locate signs on wall adjacent to scheduled doors or as noted on the drawings.
C. Conform to applicable accessibility code for mounting height.

SECTION 10800 – TOILET ROOM ACCESSORIES

PART 1 – GENERAL

1.1 DESCRIPTION
A. Work Included: Provide toilet room accessories where indicated on the Drawings, as specified herein, and as needed for a complete and proper installation.

PART 2 – PRODUCTS

2.1 TOILET ROOM ACCESSORIES
A. Anchors and fasteners:
1. Provide anchors and fasteners capable of developing a retaining force commensurate with the strength of the accessory to be mounted, and well suited for use with the supporting construction.
2. Where exposed fasteners are permitted, provide oval head fasteners with finish matching the accessory.
3. Provide 2 X wood blocking as called for on drawings and as required for proper anchorage.
B. Acceptable manufacturers:
1. Acceptable Manufacturers:
a. Bradley Washroom Accessories, (414) 251–6000.
b. Bobrick Washroom Equipment, Inc., (818) 764–1000.
c. American Specialties, Inc., (914) 476–9000.
2. A model number for each item from each of the three acceptable manufacturers is provided below. Provide all accessories from one manufacturer.
C. Accessory items:
1. Mounting Devices: Manufacturer's standard devices and concealed plates, suitable for each mounting surface.
2. Toilet Tissue Dispenser: Install one by each wc. (Supplied by Owner)
a. Bradley, No. 5126
b. Bobrick, Series 6999.
c. American Specialties, No. 74022–HSM.
3. Sanitary Napkin Disposal: Install one in Women's toilet.
a. Bradley, No. 4722–15.
b. Bobrick, No. 254.
c. American Specialties, No. 0473–1A.
4. Mirror: 18" x 36" framed mirror. Install one above each lavatory.
a. Bradley, No. 780.
b. Bobrick, Series 290.
c. American Specialties, No. 0600.
5. Paper Towel Dispenser: Install one beside each lavatory, except where hand dryers occur. (Supplied by Owner)
a. Bradley, No. 250–15.
b. Bobrick, No. 262.
c. American Specialties, No. 0210.
6. Grab Bar: 36"
a. Bradley, No. 8320–001–3600
b. Bobrick, Series 5806, 36"
c. American Specialties, No. 3700, 36".
7. Grab Bar: 42"
a. Bradley, No. 8320–001–4200
b. Bobrick, Series 5806, 42"
c. American Specialties, No. 3700, 42".
8. Soap Dispensers: one per lavatory. (Supplied by Owner)
a. Bradley, No. 657.
b. Bobrick, No. 170.
c. American Specialties, No. 0351.
9. Baby Changing station:
a. Koala Kare, KB 100–01 Grey
b. Diaper Desk
c. Foundations, Model 100–EH
10. Grab bar: 18" vertical, if required by code
a. Bradley, no. 8320–001–1800
b. Bobrick, Series 5806, 18"
c. American Specialties, No. 3700, 18".

2.2 MATERIAL
A. Stainless Steel: Type 304, ASTM A167, finish satin.
B. Steel:
1. Cold Rolled Sheet: ASTM A366, commercial quality.
2. Zinc Coated: ASTM A123.
3. Chromium Plating: ASTM B456, Type SC2.
C. Aluminum:
1. Extruded: 6463–T5 alloy, anodized satin finish.
2. Sheet Stock: 5005–H14.
D. Mounting Devices: Galvanized Steel, ASTM A386.

2.3 OTHER MATERIALS
A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS
A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION
A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
B. Install each item in its proper location, firmly anchored into position, level and plumb, and in accordance with the manufacturer's recommendations.
C. Locate accessories as indicated on the Drawings and in accordance with mounting heights as recommended by the manufacturer. Mounting heights shall conform to state & local handicap codes and ADA.
D. Securely anchor grab bars with manufacturer's recommended mounting kit for this type of construction to support loads in excess of 900 pounds. Provide one 36" and one 42" grab bar (and one 18" if required by code) at each toilet where indicated on the Drawings.
E. Securely anchor Baby Changing Station with manufacturer's recommended mounting kit for this type of construction to support static loads up to 400 pounds. Provide one at each restroom where indicated on drawings.
F. After inspection of the installation and approval, remove all labels and clean accessories. Adjacent work of other trades soiled by work under this Section shall also be cleaned.
G. Defective accessories shall be replaced with matching accessories at the expense of the Contractor.

SECTION 11400 – FOOD SERVICE EQUIPMENT

PART 1 – GENERAL

1.1. DESCRIPTION
A. Section Includes:
1. Food service equipment as indicated on the drawings.
2. Patio furnishings.
3. Inside seating/booths.
4. Patio LED window signage
5. Vestibule poster – graphics panel

PART 2 – PRODUCTS

2.1 MANUFACTURER
A. Provide products as manufactured or supplied by:
1. Wasserstrom, 800–569–5333, ext. 725, fax 405–947–7311
2. Concept Services, 512–344–1743, fax 512–977–9914

CONSULTANT:

national restaurant designers
INRD
ARCHITECTS & ENGINEERS
7208 ACC Blvd, 2nd Floor, Raleigh, NC 27617
ph: 919 544 0087 fax: 919 544 9399
A Division of LMHT Associates

CLIENT:

SONIC

SONIC CORP.
300 JOHNNY BENCH DR
OKLAHOMA CITY, OK 73104
OFFICES: 405-225-5000
FAX: 405-225-5991

PROJECT INFORMATION:

SONIC
B15 PROTOTYPE ALTERNATE
SONIC DRIVE-IN RESTAURANT
GATEWAY CROSSING CENTURION WAY
LOT #3 LAKE CITY, FLORIDA
STORE # -

SEAL:

STATE OF FLORIDA
GLEN LEHMANN
AR97728
REGISTERED ARCHITECT
7/14/22

PROJECT NO.: 22161
DRAWN BY:
CHECKED BY:

ISSUE:	DATE:

REVISION:	DATE:

PROJECT LOCATION:
LAKE CITY, FLORIDA

SHEET NUMBER / TITLE:
SP5.01
SPECIFICATIONS

DIVISION 15 – MECHANICAL SPECIFICATIONS

PART 1 GENERAL

1.1 THIS CONTRACTOR SHALL FURNISH ALL MATERIALS AND LABOR FOR A COMPLETE INSTALLATION OF THE MECHANICAL SYSTEM TO THE FULL EXTENT SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

1.2 ALL FEES, PERMITS, TAXES, ETC. SHALL BE PAID BY THIS CONTRACTOR.

1.3 THIS CONTRACTOR SHALL FURNISH AND INSTALL THE EQUIPMENT AS SPECIFIED, OR SUBMIT HIS PROPOSED SUBSTITUTIONS FOR APPROVAL BEFORE INSTALLATION. SUBMIT SIX (6) COPIES OF A BOUND BROCHURE CONTAINING CATALOG SHEETS OF ALL PROPOSED PRODUCTS.

1.4 THIS CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS BEFORE SUBMITTING HIS BID ON THE PROJECT. ANY DISCREPANCIES WITH THE PLANS AND SPECIFICATIONS SHALL BE IMMEDIATELY BROUGHT TO THE OWNER'S REPRESENTATIVE'S ATTENTION FOR CLARIFICATION OR RESOLUTION PRIOR TO BIDDING.

1.5 THIS CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.

1.6 FOR A COMPLETE LIST OF OWNER FURNISHED EQUIPMENT, CONTACT OWNER'S REPRESENTATIVE.

PART 2 PRODUCTS

2.1 PIPING: ALL PIPING SHALL BE RUN SUBSTANTIALLY AS SHOWN ON THE DRAWINGS.

A. DOMESTIC HOT AND COLD WATER PIPING: SHALL BE TYPE "L" HARD DRAWN COPPER TUBING INSIDE THE BUILDING AND TYPE "K" SOFT COPPER BELOW SLAB. JOINTS PERMITTED BELOW SLAB IF SILVER SOLDER IS USED IN THE JOINTS. PROTECT FITTINGS ON COPPER PIPING FROM CONTACT WITH CONCRETE.

B. SANITARY SOIL AND WASTE PIPING: ALL SANITARY SOIL AND WASTE PIPING AND FITTINGS SHALL BE SCHEDULE 40 PVC WHERE ALLOWED BY CODE. WHERE PVC IS NOT ALLOWED BY CODE, PROVIDE STANDARD WEIGHT CAST IRON SOIL PIPE AND FITTINGS.

C. VENT PIPING: ALL VENT PIPING AND FITTINGS SHALL BE SCHEDULE 40 PVC WHERE ALLOWED BY CODE. WHERE PVC IS NOT ALLOWED BY CODE, PROVIDE STANDARD WEIGHT CAST IRON SOIL PIPE AND FITTINGS.

D. GAS PIPING: GAS PIPING ABOVE GRADE SHALL BE BLACK STEEL PIPE SCHEDULE 40. PIPE INSIDE BUILDING SHALL BE WELDED OR MALLEABLE IRON SCREWED AT THE CONTRACTOR'S OPTION. PROVIDE A FLANGED LUBRICATED PLUG GAS COCK WITH INSULATING FLANGE AND BOLTS, ABOVE GRADE WHERE GAS LINE ENTERS THE BUILDING. INSTALL A GAS COCK FOR EACH INDIVIDUAL APPLIANCE OR PIECE OF EQUIPMENT INSTALLED. A UNION SHALL BE INSTALLED BETWEEN THE GAS COCK AND THE EQUIPMENT INSTALLED.

E. GAS PIPING BELOW GRADE: SHALL BE BLACK STEEL SCHEDULE 40 WITH ALL WELDED FITTINGS. ALL BELOW GRADE GAS PIPING SHALL BE SHOP COATED AND WRAPPED. JOINTS SHALL BE COATED AND WRAPPED IN THE FIELD. PROVIDE INSULATING UNIONS AT ALL LOCATIONS WHERE THE PIPING COMES OUT OF THE GROUND TO ENTER THE BUILDING. INSTALL A 17# ANODE BETWEEN THE METER AND THE BUILDING WHERE SHOWN ON THE PLANS. AT THE CONTRACTOR'S OPTION, WHERE PERMITTED BY CODE, GAS QUALITY POLYETHYLENE PIPE MAY BE USED.

F. ROOF DRAINAGE PIPING: ALL ROOF DRAIN PIPING AND FITTINGS SHALL BE SCHEDULE 40 PVC WHERE ALLOWED BY CODE. WHERE PVC IS NOT ALLOWED BY CODE, PROVIDE BLACK STEEL PIPE SCHEDULE 40. FITTINGS SHALL BE FOR EQUAL WEIGHT AND QUALITY. ALL ELLS SHALL BE OF THE LONG RADIUS TYPE.

2.2 INSULATION: FURNISH AND INSTALL PIPE AND EQUIPMENT INSULATION AS SPECIFIED BELOW.

A. DOMESTIC COLD WATER: ALL COLD WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH GLASS FIBER PIPE INSULATION IN MOLDED SECTIONS ONE INCH THICK WITH VAPOR BARRIER JACKET.

B. DOMESTIC HOT WATER: SHALL BE INSULATED AS DESCRIBED FOR DOMESTIC COLD WATER WHEN ABOVE SLABS AND WITH 1/2" FOAM RUBBER WHEN BELOW SLABS.

C. ROOF DRAINAGE PIPING: ALL HORIZONTAL RUNS OF ROOF DRAINAGE PIPING, ABOVE GRADE, SHALL BE INSULATED AS DESCRIBED FOR DOMESTIC COLD WATER.

2.3 PLUMBING FIXTURES: SHALL HAVE STOP VALVES ON ALL WATER CONNECTIONS. THEY SHALL HAVE C.P. ESCUTCHEONS WHERE PIPES PASS THROUGH WALLS. THEY SHALL BE PROVIDED WITH ALL NECESSARY TRIM, WHETHER SPECIFICALLY SPECIFIED HEREIN OR NOT. ALL WATER SUPPLIES SHALL HAVE 10" LONG CAPPED AIR CHAMBERS. FIXTURES SHALL BE AS NOTED UNLESS SPECIFIED OTHERWISE.

2.4 ROOFTOP UNITS: PROVIDE AND INSTALL ROOFTOP UNITS AS SPECIFIED. THE COOLING SECTION SHALL CONSIST OF COMPRESSORS HAVING CRANKCASE HEATERS, REFRIGERANT VALVES, AND MOTOR WINDING THERMOSTATS. UNITS SHALL BE SUITABLE FOR OPERATION BETWEEN TEMPERATURE OF 120 DEGREES F.- TO 0 DEGREES. COOLING CAPACITY SHALL BE AS SCHEDULED. SEE SCHEDULE FOR ELECTRICAL REQUIREMENTS. EVAPORATOR FANS SHALL HAVE PERMANENTLY LUBRICATED BALL BEARING MOTORS. MOTORS SHALL HAVE THERMAL OVERLOAD PROTECTION. FANS SHALL HAVE AS SCHEDULED. GAS-FIRED HEATING SECTION SHALL BE COMPLETELY ASSEMBLED, WIRED AND PIPED, CERTIFIED BY AGA FOR OUTDOOR APPLICATION. SECTION SHALL CONTAIN FACTORY TESTED HEAT EXCHANGER BURNERS, AND COMBUSTION BLOWER OF STANDARD CONSTRUCTION FOR THE SIZE UNIT SPECIFIED AND ELECTRONIC IGNITION SYSTEM. CONDENSER FANS SHALL BE DIRECT DRIVE WITH PERMANENTLY LUBRICATED BALL BEARING MOTORS HAVING THERMAL OVERLOAD PROTECTION. FAN MOTORS SHALL BE U.L. LISTED FOR OUTDOOR SERVICE. UNITS SHALL BE PROVIDED WITH MANUAL CONTROL OUTSIDE AIR VOLUME DAMPERS.
THE UNIT SHALL COME EQUIPPED WITH 1" THICK THROW AWAY FILTERS HAVING A MAXIMUM VELOCITY OF 350'/MIN. WITH THE DFM SPECIFIED. THEY SHALL COME WITH COMPLETE ROOF CURBS. CONTROLS SHALL INCLUDE CONDENSER FAN, EVAPORATOR FAN AND, COMPRESSOR CONTACTORS AND 24-VOLT TRANSFORMER. PROVIDE AN ADJUSTABLE LOW VOLTAGE THERMOSTAT WITH "HEAT-OFF- COOL" AND "FAN-AUTO" SWITCHES. THE THERMOSTAT SHALL BE LOCATED WHERE SHOWN ON THE DRAWING. WIRING WILL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UP TO THE EXTENT SHOWN ON THE ELECTRICAL PLANS. ALL OTHER WIRING SHALL BE BY THIS CONTRACTOR. CAPACITIES AND FURTHER SPECIFICATIONS SHALL BE AS SHOWN ON PLANS.

2.5 DUCTWORK: DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE ASHRAE GUIDE, RECTANGULAR SUPPLY AND RETURN DUCTWORK SHALL HAVE 1/2" THICK DUCT LINER INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR THE FIRST 5'-0" OF DUCT FROM THE UNIT SUPPLY AND RETURN AIR DUCT CONNECTION. RECTANGULAR SIZES SHOWN ARE SHEET METAL SIZES. ALL RECTANGULAR AND ROUND SUPPLY AND RETURN DUCTWORK SHALL HAVE 2" THICK VAPOR SEAL EXTERIOR INSULATION WITH A MINIMUM VALUE OF R-5 (INSTALLED). WHERE ROUND DUCTWORK IS SHOWN, RECTANGULAR MAY BE USED PROVIDED THE INSIDE FREE AREA IS NOT REDUCED.ROUND DUCTWORK MAY BE INSULATED FLEXIBLE DUCT AT CONNECTION TO AIR DEVICES IN LENGTHS NOT GREATER THAN 6'-0".

2.6 AIR DISTRIBUTION DEVICES: SHALL BE FURNISHED AND INSTALLED AS SHOWN. FINISH SHALL BE WHITE ENAMEL UNLESS SPECIFIED OTHERWISE. MODEL NUMBERS ARE FOR DEVICES MANUFACTURED BY KRUEGER.

2.7 HOOD EXHAUST & MAKE-UP AIR SYSTEM: FANS, ROOF CURBS, AND EXHAUST DUCT TRANSITIONS ARE FURNISHED BY THE OWNER, AND INSTALLED BY THE CONTRACTOR. COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR DELIVERY AND INSTALLATION REQUIREMENTS. EXHAUST DUCTWORK SHALL BE 16 GAUGE STEEL, WITH WELDED JOINTS. MAKE-UP AIR DUCTWORK SHALL BE AS DESCRIBED ABOVE IN PARAGRAPH 2.5 FOR RECTANGULAR SUPPLY AIR DUCTWORK. THE ENTIRE EXHAUST AND MAKE-UP SYSTEM SHALL BE BALANCED BY AN INDEPENDENT AABC OR NEBB CERTIFIED BALANCING CONTRACTOR. THE BALANCE CONTRACTOR SHALL PROVIDE WRITTEN REFERENCES TO THE OWNER AND SHALL PROVIDE A REPORT OF THE BALANCED SYSTEM ON STANDARD NEBB FORMS.

2.8 EXHAUST HOOD FIRE SUPPRESSION: EXHAUST HOOD WILL BE FURNISHED BY OWNER, PRE-PIPED WITH ANSUL FIRE EXTINGUISHING NOZZLES AND PIPING, FOR INSTALLATION BY THE G.C. CONTRACTOR SHALL PROVIDE AND INSTALL WET CHEMICAL FIRE SUPPRESSION SYSTEM EQUAL TO ANSUL R-102 WITH ALL RELATED ITEMS REQUIRED FOR A COMPLETE INSTALLATION. SYSTEM SHALL BE DESIGNED TO CONFORM WITH NFPA, & ALL APPLICABLE CODES AND REGULATIONS.

PART 3 EXECUTION

3.1 ALL WORK SHALL BE IN STRICT ACCORDANCE WITH ALL EXISTING CODES, ORDINANCES, AND REGULATIONS.

3.2 ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

3.3 THIS CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE MECHANICAL EQUIPMENT WITH THE OTHER TRADES.

3.4 EQUIPMENT SHALL BE TESTED FOR PROPER OPERATION TO INCLUDE THE BALANCING AND ADJUSTMENT OF THE SYSTEM TO THE COMPLETE SATISFACTION OF THE OWNER'S REPRESENTATIVE AND OWNER.

DIVISION 16 – ELECTRICAL SPECIFICATIONS

SECTION 16010 – BASIC ELECTRICAL REQUIREMENTS

PART 1 – GENERAL

1.1 ELECTRICAL CONTRACTOR QUALIFICATIONS
A. THE ELECTRICAL CONTRACTOR SHALL BE A COMPANY OR FIRM ENGAGED IN THE BUSINESS OF ELECTRICAL CONTRACTING ON A FULL–TIME BASIS AND HAVE HAD A MINIMUM OF THREE (3) YEARS EXPERIENCE IN THE BUSINESS OF ELECTRICAL CONTRACTING. THE FIRM SHALL HAVE COMPLETED A MINIMUM OF FIVE (5) PROJECTS SIMILAR IN SIZE AND SCOPE TO THIS PROJECT.

1.2 DESCRIPTION OF THE ELECTRICAL WORK
A. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, APPLIANCES, EQUIPMENT, TOOLS, TRANSPORTATION, SUPERINTENDENCE AND SERVICE REQUIRED TO CONSTRUCT AND INSTALL COMPLETE AND OPERATIVE IN ACCORDANCE WITH THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS, THE ELECTRICAL SYSTEM AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS.
B. INSTALL ALL THE ELECTRICAL SYSTEMS FOR POWER AND LIGHTING, WITH CONDUIT AND OUTLETS ONLY FOR TELEPHONE, COMPUTERS AND MONITORS. LOCATIONS AS SHOWN ON PLANS. TELEPHONE CONDUIT TO BUILDING INCLUDED IF REQUIRED BY TELEPHONE COMPANY.
C. MAKE THE ROUGH–IN AND FINAL CONNECTIONS TO REFRIGERATION, EXHAUST AND INTAKE FANS, AND MENU LIGHTS. REF. "SPECIALTY ITEMS".
D. INSTALL THE CONDUITS FOR MUSIC SYSTEM AT LOCATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY OWNER.
E. THE SPEAKERS AND MENU ASSEMBLIES SHALL BE FURNISHED BY THE OWNERS. THE ELECTRICAL CONTRACTOR SHALL BE REQUIRED TO PULL WIRES AND HOOK UP THE MENU LIGHTS. ONE MENU UNIT WILL BE LOCATED AT EACH STALL AND SHALL BE COMPLETE WITH LAMP HOLDER AND LAMP SUPPLIED BY THE OWNER. THE CANOPY CONTRACTOR WILL PROVIDE ALL INSPECTION HOLES AND PLATES IN THE TUBING NECESSARY FOR THE ELECTRICAL HOOK UPS. CONDUIT FOR THE MENU LIGHTS SHALL BE ELECTRICAL CONDUIT FURNISHED AND INSTALLED BY E.C., AND RUN INTO STRUCTURE TUBING FURNISHED BY THE CANOPY CONTRACTOR.
F. THE ELECTRICAL CONTRACTOR WILL BE REQUIRED TO FURNISH CONDUIT, CIRCUITS, WIRING, AND HOOK UP THE FRONT SIGN, AND THE ENTRANCE – EXIT SIGNS. SIGNS FURNISHED BY THE OWNER.
G. ELECTRICAL CONTRACTOR SHALL PROVIDE THE ROUGH AND HOOK UPS FOR THE WALK–IN COOL/FREEZER BOX, COILS AND FANS. SWITCHES AND FIXTURES FOR W/I UNITS ARE FURNISHED BY THE OWNERS. (SEE "AREA OF RESPONSIBILITIES FOR SPECIALTY ITEMS" FOR VERIFICATIONS).
H. FOR ELECTRIC COOKING THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SHUNT TRIP BREAKERS, OR CONTACTORS, FOR FOUR PIECES OF EQUIPMENT. (3 FRYERS & 1 GRIDDLE), WHICH ARE UNDER THE EXHAUST HOODS. LOCATIONS AND SIZES OF THE BREAKERS, CONTACTORS, AS PER LOCAL ELECTRICAL REQUIREMENT. N.F.C., NFPA 96–7–3.1.3; AND THE FIRE MARSHALL.
MERCHANDISE TO BE FURNISHED BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL HOOK UP THE MICROSWITCH WITH SHUNT BREAKERS, OR CONTACTORS. SHUNTS TO BE SAME AMPERE SIZE AS THE REPLACED BREAKER. CONTACTORS ACCEPTABLE ONLY IF OWNERS APPROVED) REF.SECTION 15, PART 3.
I. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE "PIGTAIL" WIRE FOR THE REACH IN REFRIGERATOR. REF. "SPECIALTY ITEMS" AT END OF THESE SPECIFICATIONS.
J. OWNER SHALL FURNISH AND INSTALL MUSIC SPEAKER AND WIRE TO SPEAKER LOCATIONS AND SHALL ALSO FURNISH WIRING TO ALL MENU SPEAKERS. REF. "SPECIALTY ITEMS" IN FRONT OF SPECIFICATIONS.

1.3 DRAWINGS AND SPECIFICATIONS
A. THE FOLLOWING SPECIFICATIONS AND ATTACHED DRAWINGS HAVE BEEN MADE TO FORM THE BASIS FOR THE INSTALLATION OF THIS CONTRACTOR'S WORK. THE DRAWINGS AND SPECIFICATIONS SHALL BE CONSIDERED AS MUTUALLY EXPLANATORY, AND ANY WORK REQUIRED BY ONE, BUT NOT BY THE OTHER, WILL BE PERFORMED AS THOUGH REQUIRED BY BOTH.
B. THESE DRAWINGS AND SPECIFICATIONS ARE PRESUMED TO BE ACCURATE, BUT EXTREME ACCURACY IS NOT GUARANTEED. ANY ERRORS OR AMBIGUITIES IN THE DRAWINGS AND SPECIFICATIONS THAT ARE DISCOVERED BY THE CONTRACTOR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE BEFORE THE WORK IS STARTED. OMISSION OF PARTICULAR REFERENCE TO ANY ITEM NECESSARY FOR COMPLETE INSTALLATION AND PROPER OPERATION THEREOF SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY OF FURNISHING THE SAME AT NO EXTRA COST.
C. IN CASE OF A DISPUTE CONCERNING THE TRUE INTENT AND MEANING OF THESE DRAWINGS AND SPECIFICATIONS, THE OWNER'S REPRESENTATIVE SHALL INTERPRET THE SAME, AND HIS INTERPRETATION SHALL BE ACCEPTED BY THE CONTRACTOR AS FINAL.
D. ANY CHANGES TO THE WORK UNDER THIS CONTRACT FROM THAT SHOWN ON THE DRAWINGS TO MAKE THE WORK CONFORM TO THE STRUCTURE, TO FIT THE WORK OF OTHER TRADES, OR ALTERNATE METHODS OF INSTALLATION PREFERRED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR HIS APPROVAL BEFORE ANY DEVIATIONS ARE MADE.

1.4 EXAMINATION OF THE SITE AND EXISTING FACILITIES
A. ALL CONTRACTORS SUBMITTING PROPOSALS FOR THIS WORK SHALL, BEFORE SUBMITTAL OF PROPOSALS, EXAMINE THE SITE AND THOROUGHLY FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS. ALL BIDS SHALL TAKE INTO CONSIDERATION ALL SUCH CONDITIONS THAT MAY AFFECT THE WORK UNDER THIS CONTRACT AND THE BIDDERS SHALL SATISFY THEMSELVES AS TO THE EXISTING CONDITIONS. NO INFORMATION GIVEN ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR OF THIS RESPONSIBILITY. FAILURE OF THE CONTRACTOR TO EXAMINE THE SITE AND/OR EXISTING FACILITIES WILL NOT BE CAUSE FOR EXTRAS BY REASON OF UNFORESEEN CONDITIONS.

1.5 ELECTRICAL STANDARDS, REGULATIONS, AND CODES
A. ALL ORDINANCES, LAWS, AND CODES OF THE CITY, COUNTY, STATE, AND NATIONAL GOVERNMENTS, AND THE LOCAL UTILITY COMPANY STANDARDS SHALL BE OBSERVED, AND NO WORK SHALL BE ACCEPTABLE THAT DOES NOT COMPLY. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND SHALL MAKE ANY OF THE WORK NECESSARY TO HAM CONFORM TO THESE REGULATIONS AND CODES WITH NO ADDITIONAL EXPENSE TO THE OWNER.

1.6 PERMITS, FEES, LICENSES, AND TAXES
A. ALL NECESSARY LICENSES OR PERMITS FOR THE CARRYING OUT OF THIS WORK SHALL BE SECURED AND PAID FOR BY THIS CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES SUSTAINED DUE TO HIS FAILURE TO SECURE SUCH LICENSES OR PERMITS. THIS CONTRACTOR SHALL PAY ALL TAXES APPLICABLE TO HIS WORK.

1.7 COOPERATION
A. THIS CONTRACTOR SHALL COOPERATE FULLY WITH ALL OTHER CONTRACTORS ON THIS PROJECT. IF ANY PART OF THIS CONTRACTOR'S EXECUTION DEPENDS FOR PROPER RESULTS UPON THE WORK OF ANY OTHER CONTRACTOR, THIS CONTRACTOR SHALL INSPECT AND PROMPTLY REPORT TO THE OWNER'S REPRESENTATIVE ANY DEFECTS IN SUCH WORK THAT RENDER IT UNSUITABLE FOR SUCH EXECUTION AND RESULTS. HIS FAILURE TO SO INSPECT AND REPORT SHALL CONSTITUTE AN ACCEPTANCE OF THE OTHER CONTRACTOR'S WORK AS FIT AND PROPER FOR THE RECEPTION OF THIS WORK.

1.8 COORDINATION OF ELECTRICAL INSTALLATION
A. SEQUENCE, COORDINATE AND INTEGRATE THE VARIOUS ELEMENTS OF ELECTRICAL WORK SO THAT THE ELECTRICAL SYSTEM WILL PERFORM AS INDICATED AND BE IN HARMONY WITH THE OTHER WORK OF THE BUILDING. THE OWNER'S REPRESENTATIVE WILL NOT SUPERVISE THE COORDINATION, WHICH IS THE EXCLUSIVE RESPONSIBILITY OF THE CONTRACTOR.
B. LOCATIONS, HORSE POWER, AND ELECTRICAL RATINGS OF MOTORS AND OTHER ELECTRICAL EQUIPMENT INDICATED ON THE DRAWINGS ARE FOR GUIDANCE ONLY AND SHALL BE CHECKED WITH THE OWNER'S REPRESENTATIVE. WHEN ANY ROOM IN THE BUILDING IS USED AS A SHOP, STOREROOM, ETC., THE ONE MAKING USE OF SUCH ROOM WILL BE HELD RESPONSIBLE FOR ANY REPAIRS, PATCHING OR CLEANING ARISING FROM SUCH USE.

1.4 DAMAGE
A. THIS CONTRACTOR SHALL PROTECT AND BE RESPONSIBLE FOR ANY DAMAGE TO HIS WORK OR MATERIAL, FROM THE DATE OF AGREEMENT UNTIL THE FINAL ACCEPTANCE BY THE OWNER. ANY DAMAGE OCCURRING WITHOUT COST TO THE OWNER ANY DAMAGE OR LOSS THAT MAY OCCUR DURING THIS PERIOD. CONTRACTOR SHALL HANDLE ALL MATERIAL AS DIRECTED, SO THAT IT MAY BE INSPECTED BY THE OWNER'S REPRESENTATIVE.

1.5 ELECTRICAL SYSTEM PERFORMANCE
A. PERFORM REQUIRED TESTS AND PROCURE REQUIRED APPROVALS OF ALL AUTHORITIES, PRIOR TO THE OWNERS ACCEPTANCE AND OCCUPANCY.
B. THE SYSTEM WILL NOT BE CONSIDERED FOR ACCEPTANCE UNTIL ALL THE SWITCHES, PANELS, BREAKERS, SAFETY SWITCHES, MOTORS, LIGHT FIXTURES, RECEPTACLES, DEVISES AND ITEMS OF EQUIPMENT ARE OPERATED UNDER LOAD CONDITIONS AND FOUND TO CONFORM TO THE CONTRACT DOCUMENTS BY THE OWNER.

1.6 EXCAVATION AND BACKFILL
A. THIS CONTRACTOR SHALL PERFORM ALL NECESSARY TRENCH EXCAVATING AND BACKFILL FOR THE VARIOUS UNDERGROUND PORTIONS OF CONDUIT NECESSARY FOR THE COMPLETION OF THE WORK. MATERIAL SUITABLE FOR BACKFILL IS TO BE PILED SO AS NOT TO INTERFERE WITH SAND OR OTHER SUITABLE MATERIAL CONTAINING NO WOOD OR OTHER ORGANIC MATTER SHOVELED TO BOTTOM. BACK FILLS SHALL BE PLACED IN LAYERS NOT OVER SIX INCHES, AND EACH LAYER THOROUGHLY TAMPED AND COMPACTED. WHERE TRENCHES ARE UNDER BUILDING, PAVED AREAS, ETC., SAND BACKFILL SHALL BE BROUGHT TO THE ELEVATION OF THE ADJACENT GRADES.

1.7 CLEANING AND TOUCH–UP
A. PRIOR TO FINAL INSPECTION THE CONTRACTOR SHALL CLEAN THE CONSTRUCTION DUST FROM ALL LIGHTING FIXTURES AND LAMPS, CLEAN AND PAINT OR TOUCH–UP MATERIAL FROM ALL PANELBOARDS AND DEVICES, AND TOUCH–UP PAINT ON ALL ELECTRICAL EQUIPMENT.

1.8 ELECTRICAL SERVICE
A. PRIOR TO SUBMITTING A PROPOSAL FOR THE WORK, THE CONTRACTOR SHALL CONTACT THE LOCAL ELECTRICAL UTILITY COMPANY AND DETERMINE THE REQUIREMENTS FOR ELECTRICAL SERVICE TO THE BUILDING. THE CONTRACTOR SHALL INCLUDE ALL CHARGES BY THE UTILITY COMPANY FOR SERVICE IN HIS BID PROPOSAL.
B. AFTER THE NOTICE TO PROCEED IS ISSUED, THE ELECTRICAL CONTRACTOR SHALL CONTACT THE LOCAL ELECTRICAL UTILITY COMPANY REPRESENTATIVE AND COORDINATE THE INSTALLATION OF THE ELECTRICAL SERVICE WITH THE UTILITY COMPANY.

1.9 TELEPHONE SERVICE
A. TELEPHONE SERVICE CABLES TO THE BUILDING WILL BE FURNISHED AND INSTALLED BY THE TELEPHONE UTILITY COMPANY. THE CONTRACTOR SHALL FURNISH AND INSTALL RACEWAYS FOR THE TELEPHONE SERVICE CABLES AS REQUIRED BY THE TELEPHONE COMPANY.
B. INTERIOR TELEPHONE WIRING WILL BE FURNISHED AND INSTALLED BY OTHERS.

SECTION 16110 – RACEWAYS

PART 1 – GENERAL

1.1 MATERIALS
A. MATERIALS SHALL BE NEW AND A STANDARD CATALOGED PRODUCT OF THE MANUFACTURER. EXPERIMENTAL OR UNPROVEN DESIGNS WILL NOT BE ACCEPTABLE.

PART 2 – PRODUCTS

2.1 GENERAL
A. ALL WIRING SHALL BE INSTALLED IN NEW, 1/2" MINIMUM, GALVANIZED OR SHERARDIZED, STEEL CONDUITS SIZED AS INDICATED ON THE DRAWINGS OR ACCORDING TO TABLE IV OF THE NEC IF NOT SPECIFICALLY SHOWN. CONDUITS INSTALLED IN OR UNDER THE FLOOR SLAB SHALL BE 3/4" MINIMUM SIZE.
B. REFER TO SECTION 16120 FOR MC CABLE OPTIONS.

2.2 RIGID GALVANIZED STEEL (RGS) CONDUITS AND FITTINGS
A. CONDUITS SHALL BE HOT–DIP GALVANIZED WITH UNDERWRITERS' APPROVAL AND LABEL. RGS CONDUITS SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:
1. ALL CONDUITS 2" AND LARGER.
2. CONDUITS EXPOSED TO THE OUTDOOR WEATHER.
3. CONDUITS EXPOSED IN MECHANICAL AND ELECTRICAL ROOMS WERE PHYSICAL DAMAGE MAY OCCUR.
4. CONDUITS INSTALLED IN CONCRETE OR MASONRY.
B. COATED RGS CONDUITS SHALL BE PROVIDED FOR ALL CONDUITS IN CONTACT WITH THE EARTH, BOTH UNDER THE BUILDING AND OUTSIDE THE BUILDING. PROVIDE CORROSION PROTECTION EQUIVALENT TO BEING WRAPPED WITH TEN MIL VINYL PLASTIC TAPE MANUFACTURED FOR THIS PURPOSE. THREADED COUPLINGS SHALL BE USED ON ALL RGS CONDUITS.

2.3 ELECTRICAL METALLIC TUBING (EMT)
A. EMT AND FITTINGS SHALL BE ELECTROGALVANIZED, HAVE LIQUID TIGHT CONNECTORS, AND SHALL HAVE UL APPROVAL AND LABEL. EMT CONDUITS SHALL BE PROVIDED FOR CONDUITS 1 1/2" OR SMALLER THAT WILL BE CONCEALED ABOVE CEILINGS AND IN WALL SPACES. EMT MAY BE RUN EXPOSED IN SMALL CLOSETS, AND IN THE VOID IN AN EXPOSED STRUCTURE WHERE THE EMT IS WELL PROTECTED FROM PHYSICAL DAMAGE.
EMT COUPLINGS SHALL BE COMPRESSION TYPE COUPLINGS.

2.4 FLEXIBLE METAL CONDUITS
A. FLEXIBLE METAL CONDUITS FOR INDOOR AND DRY LOCATIONS SHALL BE HEAVY WALL ZINC COATED STEEL WITH UL LABEL: "REDUCED WALL" FLEXIBLE STEEL CONDUITS ARE NOT ACCEPTABLE.
B. FOR OUTDOOR OR WET LOCATIONS, PROVIDE FLEXIBLE CONDUIT WITH A PVC LIQUID–TIGHT JACKET AND LIQUID–TIGHT FITTINGS EQUAL TO "SEAL–TIGHT".

2.5 CONDUIT FITTINGS
A. CONDUIT FITTINGS SHALL CONFORM TO UL 467 AND UL 514 AS APPLICABLE FOR RIGID METAL CONDUIT, FLEXIBLE METAL CONDUIT, EMT, AND MC CABLE. FITTINGS FOR EMT SHALL BE COMPRESSION TYPE. FITTINGS FOR RIGID METAL CONDUITS SHALL BE THREADED. FITTINGS FOR ALL TYPES OF CONDUITS SHALL BE OF THE SAME MATERIAL AS THE CONDUIT AND WHEN INSTALLED UNDERGROUND OR IN WET LOCATIONS, THEY SHALL PROVIDE A WATERTIGHT JOINT.
B. EXPANSION JOINT FITTINGS SHALL BE PROVIDED WHERE CONDUITS PASS THROUGH BUILDING EXPANSION JOINTS. FITTINGS SHALL BE TELESCOPIC AND WATERPROOF AND PERMIT A MOVEMENT OF TO 4 INCHES. FITTINGS SHALL BE EQUIPPED WITH APPROVED BONDING JUMPERS AROUND OR THROUGH EACH FITTING.

2.6 WIREWAYS
A. WIREWAYS SHALL BE ZINC COATED RIGID STEEL SHEETS, FORMED INTO RECTANGULAR OR SQUARE SHAPES, TOTALLY ENCLOSED WITH HINGED COVER OR SCREW FASTENED COVER, AND SIZED AS INDICATED ON THE DRAWINGS OR AS REQUIRED BY THE NEC. WIREWAYS SHALL BE FURNISHED COMPLETE WITH ALL NECESSARY ACCESSORIES AND FITTINGS.

2.7 CONDUIT SUPPORTS
A. CONDUIT SUPPORTS, CLAMPS, AND FASTENERS SHALL BE "CADDY" OR EQUAL.

2.8 PLASTIC CONDUIT (PVC) SUBSTITUTE FOR METAL CONDUITS
A. PVC CONDUITS MAY BE SUBSTITUTED FOR RIGID STEEL GALVANIZED CONDUITS AS FOLLOWS:
1. CARLON PLUS 40, TYPE 40, 90 DEG. C, UL RATED POLYVINYL CHLORIDE MAY BE SUBSTITUTED FOR THE RIGID STEEL CONDUIT SYSTEMS LISTED ABOVE AND ONLY FOR INSTALLATION IN CONCRETE, MASONRY, DIRECT BURIED IN EARTH, OR IMBEDDED IN OR UNDER THE FLOOR SLABS. REQUIREMENTS FOR SUBSTITUTION ARE:
A. PULL A PROPERLY SIZED GREEN GROUNDING CONDUCTOR AND CONNECT TO GROUND TERMINALS IN THE BOXES.
B. SOLVENT WELD ALL FITTINGS AND MAKE WATERTIGHT.
C. FITTINGS, COUPLINGS, AND CEMENT TO BE AS MANUFACTURED BY CARLON OR EQUAL.
D. MAKE ALL BENDS WITH LONG RADIUS BENDS WITH A MINIMUM OF 6 TIMES THE REQUIREMENTS OF N.E.C.
E. USE FUSELESS SAFETY SWITCHES FOR ISOLATION SWITCHES FOR ALL MOTORS EXCEPT MOTORS 1/3 H.P. OR LESS MAY BE ISOLATED BY TOGGLE SWITCHES, RATED AT LEAST TWICE THE AMPERE RATING OF THE MOTOR, OR BY FRACTIONAL HORSEPOWER MANUAL STARTERS AT THE MOTOR LOCATION.

PART 3 – EXECUTION

3.1 RACEWAY INSTALLATION AND WIRING METHODS
A. CONDUITS IN GENERAL SHALL BE CONCEALED THROUGHOUT, EXCEPT IN MECHANICAL ROOMS, ETC., OR WHERE SPECIFICALLY SHOWN TO BE EXPOSED ON THE DRAWINGS.
B. INSTALL CONDUITS STRAIGHT AND TRUE WITH OTHER WORK, CLOSE TO WALLS AND OVERHEAD STRUCTURE, CONCEALED WHERE POSSIBLE IN OCCUPIED SPACES, AND OUT–OF–WAY WITH MAXIMUM PASSAGEWAY AND HEADROOM REMAINING IN EACH SPACE. EXCEPT AS OTHERWISE INDICATED, ARRANGE ELECTRICAL SERVICES AND OVERHEAD EQUIPMENT WITH A MINIMUM OF 7'–0" HEADROOM IN STORAGE SPACES, AND 8'–6" HEADROOM IN OTHER SPACES. ARRANGE WORK TO FACILITATE MAINTENANCE AND REPAIR OR REPLACEMENT OF EQUIPMENT. LOCATE SERVICES REQUIRING MAINTENANCE ON WIRING DEVICES AND SIMILAR UNITS IN FRONT OF SERVICES REQUIRING LESS MAINTENANCE. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH LUMINARIES, WITH CEILING FINISH, SUSPENSION, DUCTWORK, AIR DIFFUSERS AND OTHER WORK, SO THAT REQUIRED PERFORMANCES OF EACH WILL BE ACHIEVED.
C. SUPPORT CONDUITS FROM STRUCTURE WITH STRAPS ON SMALL CONDUITS, AND CONDUIT HANGERS ON LARGE CONDUITS. MAINTAIN ELECTRICAL CONTINUITY THROUGHOUT THE SYSTEM. PLUG ENDS AND KEEP CONDUIT CLEAN DURING CONSTRUCTION. INSTALL REMOVABLE COVER PULL BOXES ON LONG RUNS. INSTALL EXPANSION FITTINGS AT BUILDING EXPANSION JOINTS AND RUNS OVER 150 FEET LONG. INSTALL #16 PULL WIRE IN EMPTY CONDUITS. ALLOW FOR NATURAL DRAIN OF CONDENSATE. INSTALL CONDUIT BUSHINGS AT ALL BOXES, CABINETS, ETC. AND AT THE TERMINATION ENDS OF CONDUIT STUB–OUTS.
D. ALL CON