



# DUTCH BROS Coffee

# DUTCH BROS COFFEE NEW FREESTANDING STORE 500 NW CHIPMAN ROAD, LEE'S SUMMIT, MISSOURI 64086



ARCHITECT  
CORALIC, LLC  
EDIN CORALIC  
9700 MACKENZIE ROAD, STE. 222,  
ST. LOUIS, MO 63123  
p. 314.578.4953  
e. edin@coralicarchitecture.com  
STRUCTURAL ENGINEER  
JAMES C. KREHER  
JIM KREHER  
208 N. MAIN STREET,  
COLUMBIA, IL 62236  
p. 618.281.8505  
jimk@kreherengineering.com

MEP ENGINEER  
Case Engineering  
DARRELL R. CASE  
798 MERUS CT.,  
FENTON, MO 63026  
T. 636.349.1600 F. 636.349.1730  
dcase@caseengineeringinc.com

EDIN CORALIC ARCHITECT  
A-2013031004 - EXP. 12-31-2021



MISSOURI CERTIFICATE OF  
AUTHORITY NO. 2013041393

Project No: MO0102

Dutch Bros Coffee - New Freestanding Store  
500 NW Chipman Road, Lee's Summit, Missouri 64086  
for: Dutch Bros Coffee  
110 SW 4th St.  
Grants Pass, OR 97526

ISSUED FOR PERMIT:  
10.11.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:

COVER SHEET

SHEET NUMBER:

# G0.0

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## GENERAL REQUIREMENTS:

1. ANY DISCREPANCIES IN DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DUTCH BROS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION, AND IF NOT CLARIFIED, THE CONTRACTOR SHALL ASSUME THE MOST STRINGENT REQUIREMENTS INDICATED.
2. THE CONTRACTOR SHALL PROVIDE THE DUTCH BROS CONSTRUCTION MANAGER/ ARCHITECT WITH SCHEDULING INFORMATION PRIOR TO COMMENCEMENT OF CONSTRUCTION, AND WILL UPDATE THE SCHEDULE AS NECESSARY TO REFLECT ANY CHANGES IN ACTIVITIES AND MILESTONES.
3. ALL CONSTRUCTION AND MATERIALS SHALL COMPLY WITH ANY AND ALL APPLICABLE CODES, RULES AND LAWS, AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION. ALL DIMENSIONS SHALL BE FIELD VERIFIED, BEFORE PROCEEDING WITH ANY WORK. THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL DIMENSIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE DUTCH BROS CONSTRUCTION MANAGER/ ARCHITECT.
4. SUBMIT FOR APPROVAL, PRIOR TO FABRICATION OR PURCHASE, SHOP DRAWINGS AND/OR SAMPLES FOR ITEMS AS REQUESTED BY THE CONSTRUCTION MANAGER AND/OR ARCHITECT.
5. UNLESS NOTED, EXISTING CONSTRUCTION, MATERIALS AND FINISHES SHALL REMAIN. ANY DAMAGE DONE TO THESE ITEMS SHALL BE REPAIRED TO THE ORIGINAL CONDITION BY A MEANS APPROVED BY THE OWNER.
6. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH ALL GOVERNMENTAL CODES, LAWS AND REGULATIONS. ALL MATERIAL SHALL MEET FLAME SPREAD AND SMOKE CONTRIBUTION REQUIREMENTS OF THE LOCALLY ADOPTED BUILDING CODE, AND AS NOTED IN THE CONTRACT DOCUMENTS.
7. THE DRAWINGS SHALL SERVE AS WORKING DRAWINGS FOR THE GENERAL LAYOUT OF THE VARIOUS ITEMS OF EQUIPMENT. HOWEVER, LAYOUT OF EQUIPMENT, ACCESSORIES, SPECIALTIES (INCLUDING FURNITURE), AND CONDUIT SYSTEMS ARE DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. IF ADDITIONAL JUNCTION BOX, PULL-BOX, OR OTHER DEVICES ARE REQUIRED TO COMPLETE AN INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF THE ADDITIONAL WORK AND COST PRIOR TO PROCEEDING.
8. ALL SHOP DRAWINGS PREPARED BY THE MANUFACTURER MUST BE REVIEWED BY THE CONTRACTOR. THE CONTRACTOR'S STAMP OF APPROVAL AND DATE MUST BE INCLUDED ON ALL SUBMITTED MATERIALS ALONG WITH THE PROJECT NAME. SUBMITTALS NOT CONTAINING THE ABOVE INFORMATION WILL BE RETURNED WITHOUT ACTION. THE REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS, OMISSIONS OR DEVIATIONS FROM THE CONTRACT DOCUMENTS, UNLESS THEY ARE CALLED OUT IN WRITING AT THE TIME OF SUBMISSION AND WRITTEN ACCEPTANCE. THE ENGINEER IS RESPONSIBLE FOR DETAILS, SIZE OF MEMBERS AND QUANTITIES IN SHOP DRAWINGS, BASED ON INFORMATION PROVIDED ON THE ENGINEERED PLANS, OMISSIONS OF COMPONENTS OR FITTINGS; AND FOR COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS AND ADJACENT WORK. ERRORS AND OMISSIONS DISCOVERED AT A LATER TIME WILL BE CONSIDERED NON CONFORMING WORK.
9. THE CONTRACTOR SHALL MAINTAIN ON THE SITE AN UP-TO-DATE COMPLETE 'RECORD' SET OF PRINTS WHICH ARE CORRECTED DAILY WITH ALL CHANGES IN LAYOUT FROM THE ORIGINAL DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL DELIVER 'RECORD' SET TO CONSTRUCTION MANAGER PRIOR TO FINAL PAYMENT. 'RECORD' SET SHALL INCLUDE: ONE FULL PERMIT SET AND ONE SET OF CONSTRUCTION REDLINES.
10. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS, DUTCH BROS WILL BE RESPONSIBLE FOR FEES PAYMENT. CONTRACTOR SHALL PROVIDE THE OWNER A COPY OF THE BUILDING PERMIT PRIOR TO COMMENCING ANY WORK. CONTRACTOR WILL NOTIFY THE CONSTRUCTION MANAGER/ ARCHITECT OF ALL PERMIT AND CODE INSPECTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING BUILDING PAD CERTIFICATION PER THE AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL 3RD PARTY INSPECTIONS/ CERTIFICATIONS IN ORDER TO OBTAIN THE CERTIFICATE OF OCCUPANCY.
11. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THE WORK OF ALL SUBCONTRACTORS, AND WORK RELATED DIRECTLY TO THE PROJECT BEING PERFORMED UNDER SEPARATE CONTRACT. CONTRACTOR SHALL SUBMIT A LIST OF EACH SUBCONTRACTOR'S NAME, CONTACT, ADDRESS AND TELEPHONE NUMBER AS WELL AS EMERGENCY CONTACT INFORMATION TO CONSTRUCTION MANAGER PRIOR TO BEGINNING CONSTRUCTION.
12. CONTRACTOR SHALL MAKE EVERY EFFORT TO KEEP THE BUILDING AREAS CLEAN AND SAFE DURING THE CONSTRUCTION PERIOD. CONTRACTOR SHALL USE WALK-OFF MATS TO PROTECT FLOORING. CONTRACTOR AND ITS SUBCONTRACTORS SHALL PREVENT NOISE, DUST, SMOKE AND ODORS FROM INTERFERING WITH THE NORMAL OPERATIONS OF NEIGHBORING AREAS, INCLUDING WALKWAYS AND STREETS.
  - CONSTRUCTION DEBRIS WILL BE REMOVED FROM THE SITE. THE SITE AREA SHALL BE KEPT CLEAN AND ORGANIZED AT ALL TIMES.
  - ALL WALL, FLOOR OR CEILING PENETRATIONS SHALL BE SLEEVED AND ADEQUATELY SEALED TO PREVENT THE SPREAD OF SMOKE, FIRE AND RODENTS PER APPLICABLE CODES. THE CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION WHEN WORK CANNOT BE COMPLETED IN ONE WORK SHIFT.
  - THE CONTRACTOR SHALL PROVIDE AN ADEQUATE NUMBER OF FIRE EXTINGUISHERS IN THE WORK AREA THROUGHOUT THE CONSTRUCTION PERIOD.
  - THE CONTRACTOR SHALL NOTIFY THE OWNER 72 HOURS PRIOR TO ANY ELECTRICAL SHUTDOWNS WHICH MAY AFFECT EXISTING TENANTS OR NEIGHBORS.
  - THE CONTRACTOR SHALL PROHIBIT SMOKING ON AND WITHIN 25 FEET OF THE BUILDING AREA.
13. CLEAN-UP - THE PROJECT SITE SHALL BE SWEEPED UP AND TRASH SHALL BE REMOVED ON A DAILY BASIS. CARE SHALL BE TAKEN TO KEEP ADJACENT OCCUPIED TENANT AREAS CLEAN DURING CONSTRUCTION ON A DAILY BASIS WHERE WORK REQUIRED BY THIS PROJECT DISTURBS ADJACENT AREAS.
  - THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF CONSTRUCTION DEBRIS. LOCATION OF LARGE DUMPSTERS FOR CONTRACTORS MUST BE APPROVED AND PLACED AS DIRECTED BY THE CONSTRUCTION MANAGER. THE CONTRACTOR WILL OBTAIN THE PERMIT FOR THE DUMPSTER.
  - PRIOR TO OCCUPANCY, SPACE SHALL BE LEFT CLEAN OF ALL DEBRIS, WALL AND OTHER SURFACES SHALL BE WIPED DOWN, GLASS WASHED, BLINDS DUSTED, FLOORS SWEEP AND/OR VACUUMED, TILE CLEANED AND WOODWORK CLEANED.
  - CONTRACTOR IS RESPONSIBLE FOR DELIVERING THE PREMISES AT COMPLETION IN A 'MOVE-IN' CONDITION.
  - CONTRACTOR WILL BE REQUIRED TO LEAVE EXTRA MATERIALS IN THE WORKROOM: TWELVE TILES, ONE BOX OF VINYL FACED CEILING TILE, ONE BOX OF QUARRY TILES, MINIMUM 1/2 GALLON OF EACH PAINT AND BASE PAINT USED, TO BE LEFT IN BATHROOM OR MONOLITH ATTIC SPACE.

## PROJECT STATISTICS:

### SCOPE

NEW CONSTRUCTION FOR DUTCH BROS COFFEE LOCATED AT 500 NW CHIPMAN RD., LEE'S SUMMIT, MISSOURI 64086. THE BUILDING CONSISTS OF: (1) DRIVE-THRU SERVICE WINDOW AND (1) WALK-UP SERVICE WINDOW; NO INDOOR OR OUTDOOR SEATING IS PROVIDED. SITE DEVELOPMENT INCLUDES A SMALL PARKING AREA, (2) DRIVE AISLES, AND A TRASH ENCLOSURE AREA. THE PARCEL IS CURRENTLY VACANT.

### PARCEL DATA:

PARCEL ID # 52-900-03-42-00-0-00-000  
OVERALL SITE AREA: ±0.828 ACRES  
ZONING: PMIX (PLANNED MIXED USE)  
CURRENT LAND USE: VACANT COMMERCIAL PROPERTY  
PROPOSED LAND USE: COMMERCIAL

### CODE SUMMARY:

BUILDING CODE 2018 IBC  
MECHANICAL CODE 2018 IMC  
PLUMBING CODE 2018 IPC  
ENERGY CODE NOT ADOPTED  
FIRE CODE 2018 IFC  
ELECTRICAL CODE 2017 NEC  
ACCESSIBILITY CODE ANSI 117.1

### BUILDING CONSTRUCTION DATA:

CONSTRUCTION TYPE: V-B  
AUTOMATIC SPRINKLER SYSTEM: NO  
PROPOSED BUILDING HEIGHT: 24'-0"  
MAXIMUM ALLOWABLE HEIGHT: 40'-0"  
PROPOSED STORIES: 1  
MAXIMUM STORIES: 2  
BASEMENT: NO  
TOTAL FLOOR AREA: 950 S.F. GROSS  
MAXIMUM ALLOWABLE AREA: 9,000 S.F.  
FIRE-RESISTANCE RATING FOR STRUCTURAL ELEMENTS: 0 HOURS  
(PER IBC TABLE 601)

### BUILDING OCCUPANCY DATA:

OCCUPANCY CLASSIFICATION: GROUP B (BUSINESS)  
GROSS AREA: 950 S.F.  
LOAD FACTOR: 1/150  
OCCUPANT LOAD: 6.33  
TOTAL OCCUPANT LOAD: 7  
EXITS:  
TOTAL EXITS: 1  
7 (OCCUPANT LOAD) X 2' / PERSON: 1.40 INCHES  
EXIT WIDTH PROVIDED: 40 INCHES  
MAXIMUM EXIT ACCESS TRAVEL DISTANCE: 75 FEET  
TOILETS:  
TOTAL NUMBER OF TOILET FACILITIES: 1 PROVIDED

## SUBMITTALS BY OTHERS:

### EXTERIOR SIGNAGE

SIGN VENDOR SHALL BE RESPONSIBLE FOR PREPARING DRAWINGS AND OBTAINING SEPARATE SIGNAGE PERMITS AS REQUIRED BY LOCAL JURISDICTION.

NOTE: I/ WE UNDERSTAND THAT I/ WE WILL NOT BE AUTHORIZED FOR ANY INSPECTION OF THE DEFERRED ITEMS PROPOSED PRIOR TO THE SUBMITTAL AND APPROVAL OF PLANS AND/ OR CALCULATIONS FOR THOSE DEFERRED ITEMS.

## PROJECT DIRECTORY:

### OWNER / DEVELOPER

T.M. CROWLEY & ASSOCIATES  
501 PENNSYLVANIA PARKWAY, SUITE 160  
INDIANAPOLIS, IN 46280  
ATTN: ANDREW GLENSKI - DIRECTOR OF CONSTRUCTION  
AGLENSKI@TMCROWLEY.COM  
(913) 568-1998

### TENANT

DUTCH BROS COFFEE  
110 SW 4TH STREET  
GRANTS PASS, OR 97526

ATTN: DENNIS WILLIAMS, CONSTRUCTION MANAGER  
DWILLIAMS@NANSHEPARTNERS.COM  
(480) 213-9288

### ARCHITECT OF RECORD

CORALIC ARCHITECTURE  
A MISSOURI LIMITED LIABILITY COMPANY  
9700 MACKENZIE ROAD, SUITE 222,  
ST. LOUIS, MO 63123  
ATTN: EDIN CORALIC, PRINCIPAL  
EDIN@CORALICARCHITECTURE.COM  
(314) 578-4953

### CIVIL ENGINEER

PREMIER DESIGN GROUP  
100 MIDLAND PARK DRIVE  
WENTZVILLE, MO. 63385  
ATTN: MATT FOGARTY, PRINCIPAL ENGINEER  
MFOGARTY@PREMIERCIVIL.COM  
(314) 925-7452

### STRUCTURAL ENGINEER

KREHER ENGINEERING  
208 N. MAIN STREET,  
COLUMBIA, IL 62236

ATTN: JIM KREHER  
JKIM@KREHERENGINEERING.COM  
(618) 281-8505

### ELECTRICAL/ MECHANICAL/ PLUMBING ENGINEER

CASE ENGINEERING, INC.  
796 MERUS COURT  
ST. LOUIS, MO 63026

ATTN: DARRELL CASE, PE  
DCASE@CASEENGINEERINGINC.COM  
(636) 349-1600

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SEE PREFERRED VENDOR LIST ON SHEET G0.1					

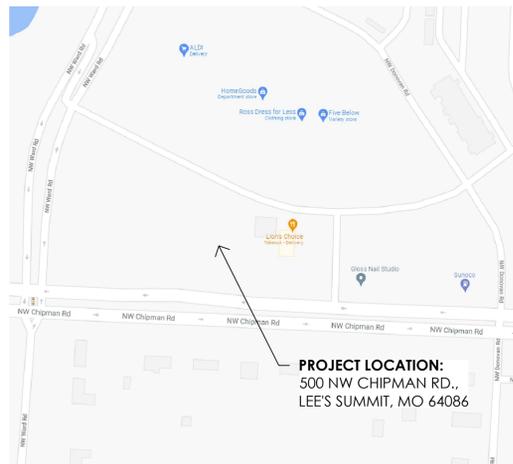
UTILITY REQUIREMENTS	
FULL ELECTRIC DESIGN (NO GAS)	600A, 120/208V, THREE PHASE, 4-WIRE, GROUNDING ELECTRICAL SERVICE
DOMESTIC WATER	3/4" MINIMUM, OR AS REQUIRED PER LOCAL CODE. 50-60 PSI MEASURED AFTER METER.
IRRIGATION WATER	3/4" MINIMUM, OR AS REQUIRED PER LOCAL CODE
SEWER	4" MINIMUM, OR AS REQUIRED PER LOCAL CODE
STORM WATER	AS REQUIRED PER LOCAL CODE
CABLE INTERNET	60 MBPS MINIMUM DOWNLOAD SPEED, 5 MBPS MINIMUM UPLOAD SPEED



IMAGE FOR GENERAL ILLUSTRATIVE PURPOSES ONLY - ACTUAL BUILDING DESIGN MAY DIFFER

## SYMBOL LEGEND

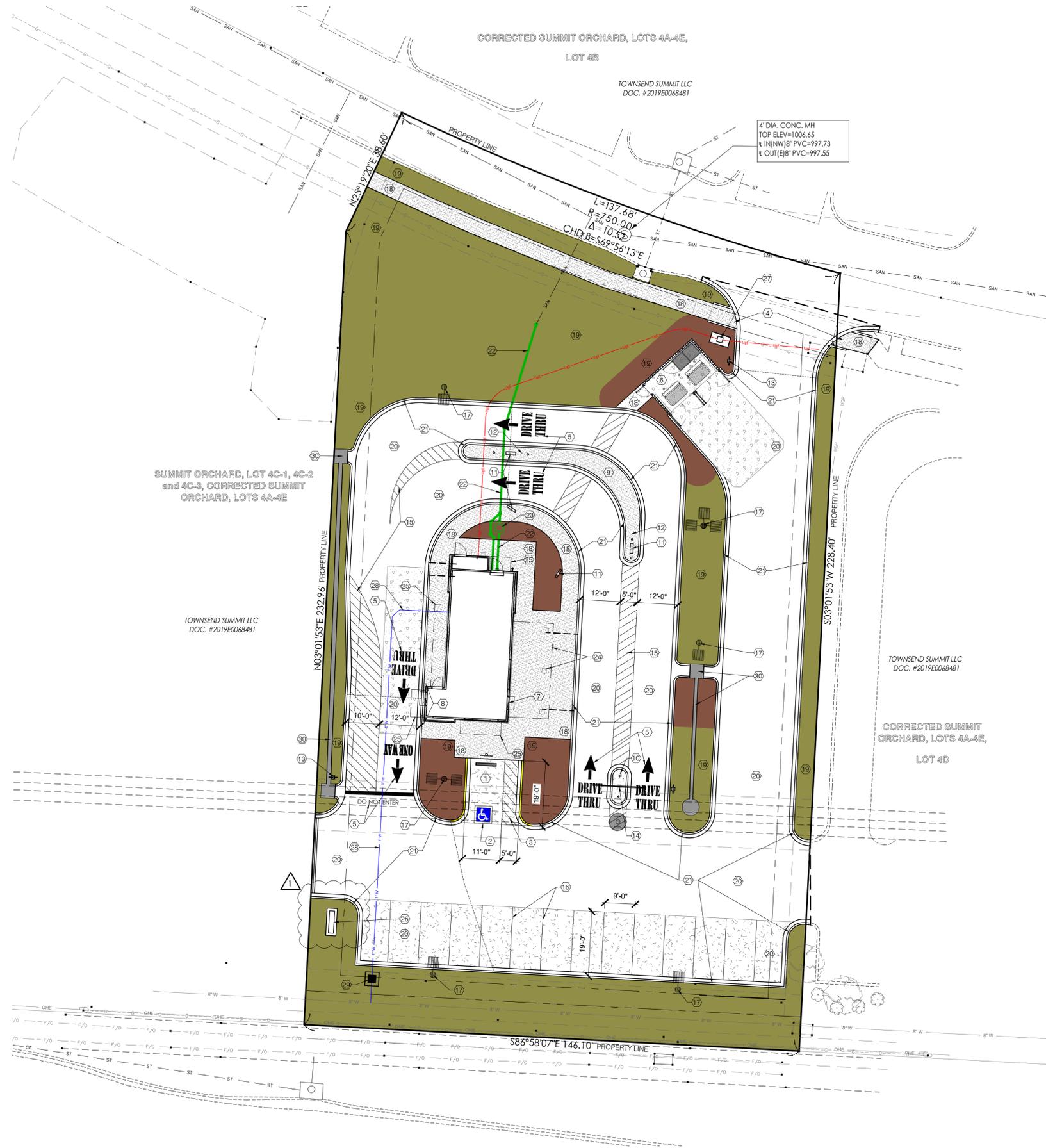
	SECTION REFERENCE		WALL ASSEMBLY TYPE REFERENCE
	DOOR SCHEDULE REFERENCE		ELEVATION MARKER
	CENTERLINE		ENLARGED DETAIL REFERENCE
	MASTER MATERIAL SCHEDULE REFERENCE		REVISION TAG
	EQUIPMENT SCHEDULE REFERENCE		REVISION CLOUD



PROJECT LOCATION:  
500 NW CHIPMAN RD.,  
LEE'S SUMMIT, MO 64086



NOT TO SCALE



4" DIA. CONC. MH  
 TOP ELEV=1006.65  
 † IN(NW)8" PVC=997.73  
 † OUT(E)8" PVC=997.55

**SITE PLAN KEYNOTES:** (X)

1. ACCESSIBLE PARKING STALL W/ ACCESSIBLE PARKING ONLY VERTICAL SIGN- RE: CIVIL PLANS.
2. INTERNATIONAL ACCESSIBLE SYMBOL ON PAVEMENT- RE: CIVIL PLANS.
3. PAINTED ACCESSIBLE AISLE- RE: CIVIL PLANS.
4. ACCESSIBLE CURB-CUT RAMP, TYP.- RE: CIVIL PLANS.
5. PAINTED DIRECTIONAL SIGNAGE- RE: CIVIL PLANS.
6. TRASH ENCLOSURE W/ LOCKING GATES. REFER TO SHEETS A9.0-A9.1 FOR DETAILS: COORD. W/ LOCAL REFUSE SERVICE PROVIDER FOR MIN. REQUIREMENTS AND CLEARANCES.
7. WALK-UP SERVICE WINDOW.
8. 6" BOLLARD W/ DB BOLLARD COVERS- SEE FLOOR PLANS.
9. CONC. MEDIAN-RUNNERS/ SIDEWALK- RE: CIVIL PLANS.
10. PROVIDE 2" CONDUIT W/ PULL STRING TO CHRISTY BOX FOR FUTURE DRIVE-THRU SENSORS.
11. POLE MOUNTED STATIC BACKLIT LED MENU BOARD, BY OTHERS, PROVIDE POWER AND DATA IN WEATHERPROOF J-BOX. REFERENCE SHEET SP1.1.
12. PROVIDE 2" CONDUIT W/ PULL STRING TO CHRISTY BOX, FOR FUTURE DIGITAL MENU BOARD UPGRADE.
13. POLE MOUNTED DIRECTIONAL SIGNAGE, BY OTHERS, REFERENCE SHEET SP1.2.
14. CLEARANCE BAR, BY OTHERS, REFERENCE SHEET SP1.2.
15. PAINT STRIPING, BEFORE AND AFTER CONCRETE MEDIAN AND ESCAPE LANE, STRIPES: 4" WIDE, 24" O.C., SAFETY WHITE- RE: CIVIL.
16. PARKING SPACE STRIPING- RE: CIVIL PLANS.
17. SITE LIGHT- RE: ELECTRICAL PLANS.
18. CONCRETE SIDEWALK- RE: CIVIL PLANS.
19. PROPOSED LANDSCAPING AREAS- RE: LANDSCAPE PLANS.
20. PROPOSED PAVEMENT- RE: CIVIL PLANS.
21. PROPOSED CONCRETE CURB- RE: CIVIL PLANS.
22. PROPOSED SANITARY SEWER- RE: CIVIL PLANS.
23. PROPOSED BELOW GROUND GREASE INTERCEPTOR- RE: PLUMBING PLANS.
24. PROPOSED FRAMED BUILDING CANOPY AND COLUMNS- RE: FLOOR PLANS, DETAILS, SECTIONS AND STRUCTURAL PLANS.
25. SHOWN DASHED, ALUMINUM PREFABRICATED CANOPY.
26. NEW MONUMENT SIGN- RE: CIVIL AND SIGNAGE PLANS- SHOWN FOR REFERENCE ONLY- PERMITTED UNDER A SEPARATE PERMIT.
27. PROPOSED ELECTRIC TRANSFORMER LOCATION- VERIFY WITH LOCAL ELECTRICAL COMPANY.
28. DOMESTIC WATER- RE: CIVIL PLANS.
29. DOMESTIC WATER METAR- RE: CIVIL PLANS.
30. STORM SEWER- RE: CIVIL PLANS.

ARCHITECTURAL SITE PLAN  
 SCALE: 1/16" = 1'-0"



**ARCHITECT**  
 CORALIC, LLC  
 EDIN CORALIC  
 9700 MACKENZIE ROAD, STE. 222,  
 ST. LOUIS, MO 63123  
 p. 314.578.4953  
 e. edin@coralicarchitecture.com

**STRUCTURAL ENGINEER**  
 JAMES C. KREHER  
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**Project No: MO0102**

Dutch Bros Coffee - New Freestanding Store  
 500 NW Chipman Road, Lee's Summit, Missouri 64086  
 for: Dutch Bros Coffee  
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 Grants Pass, OR 97526

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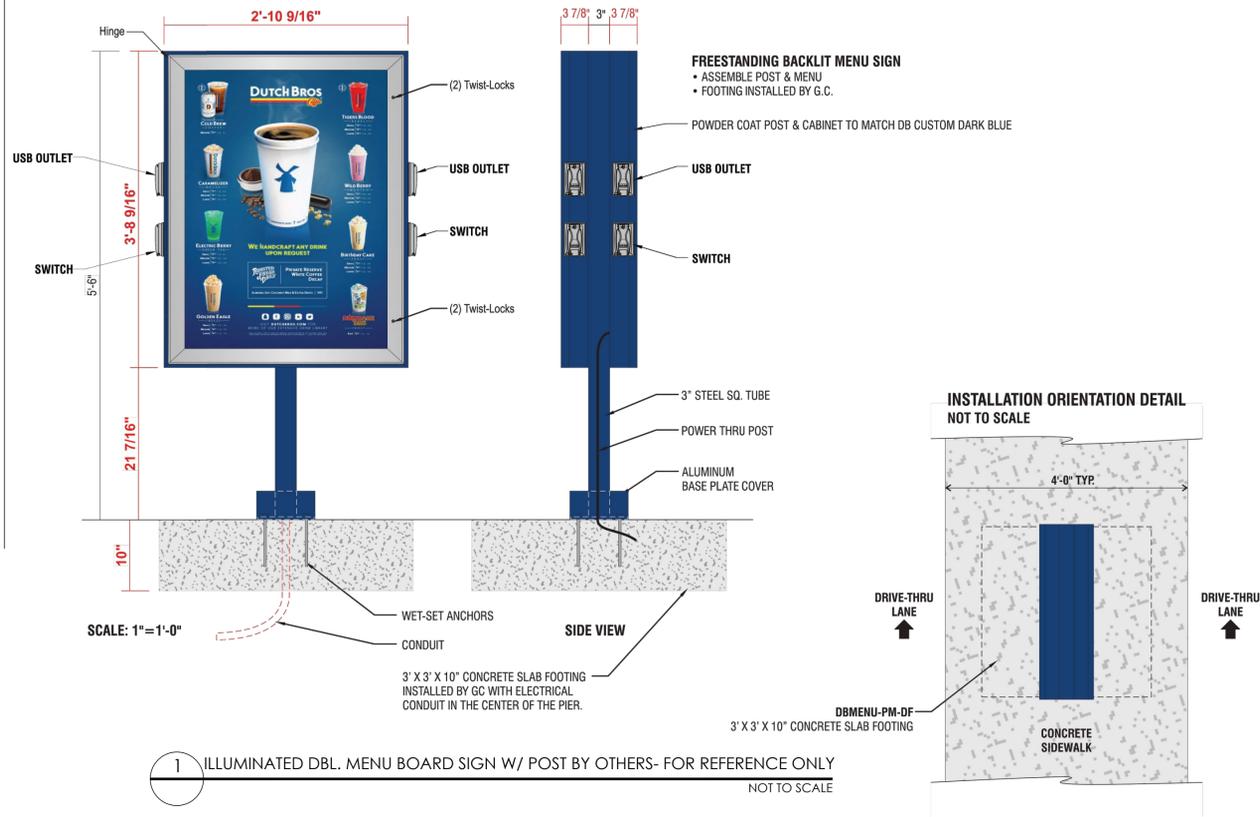
SHEET NAME:

ARCHITECTURAL SITE PLAN

SHEET NUMBER:

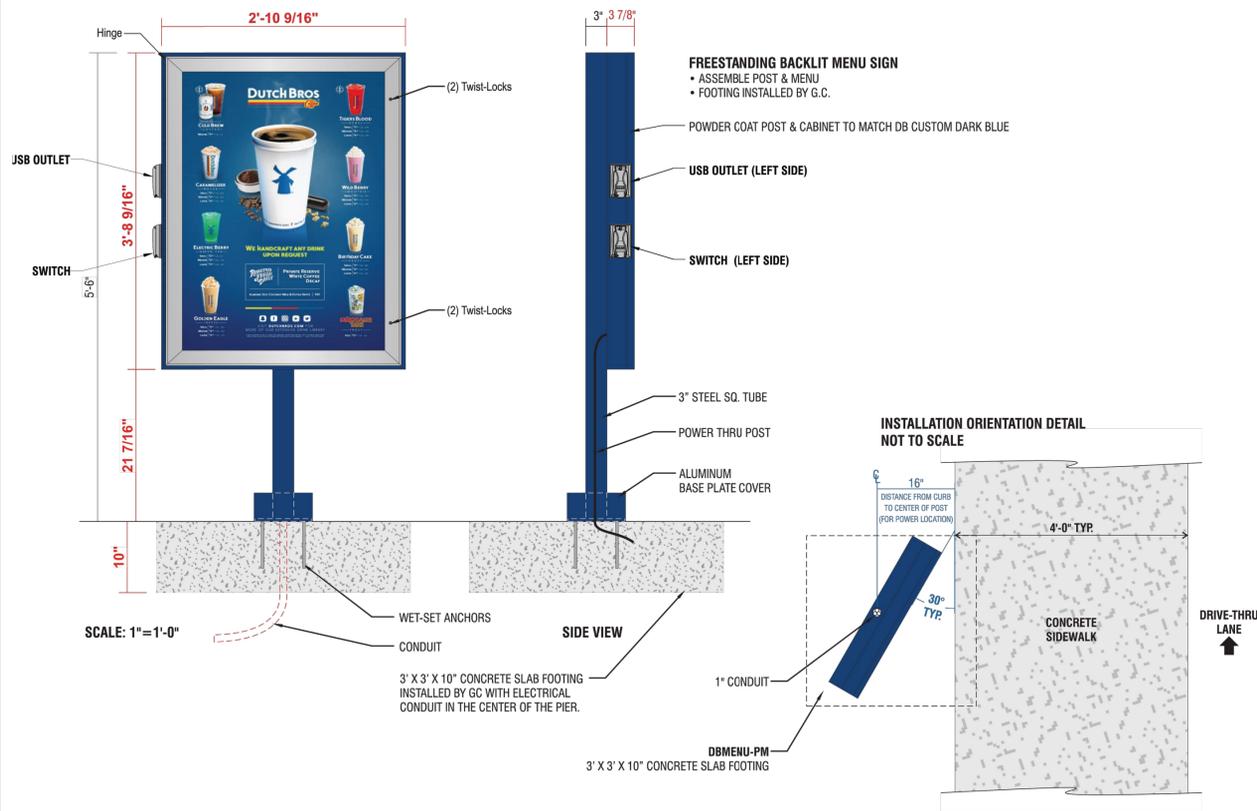
**SP1.0**

SCOPE OF WORK: PROVIDE (2) D/F ILLUMINATED MENU SIGNS V5 - PLATE-MOUNTED



1 ILLUMINATED DBL. MENU BOARD SIGN W/ POST BY OTHERS- FOR REFERENCE ONLY NOT TO SCALE

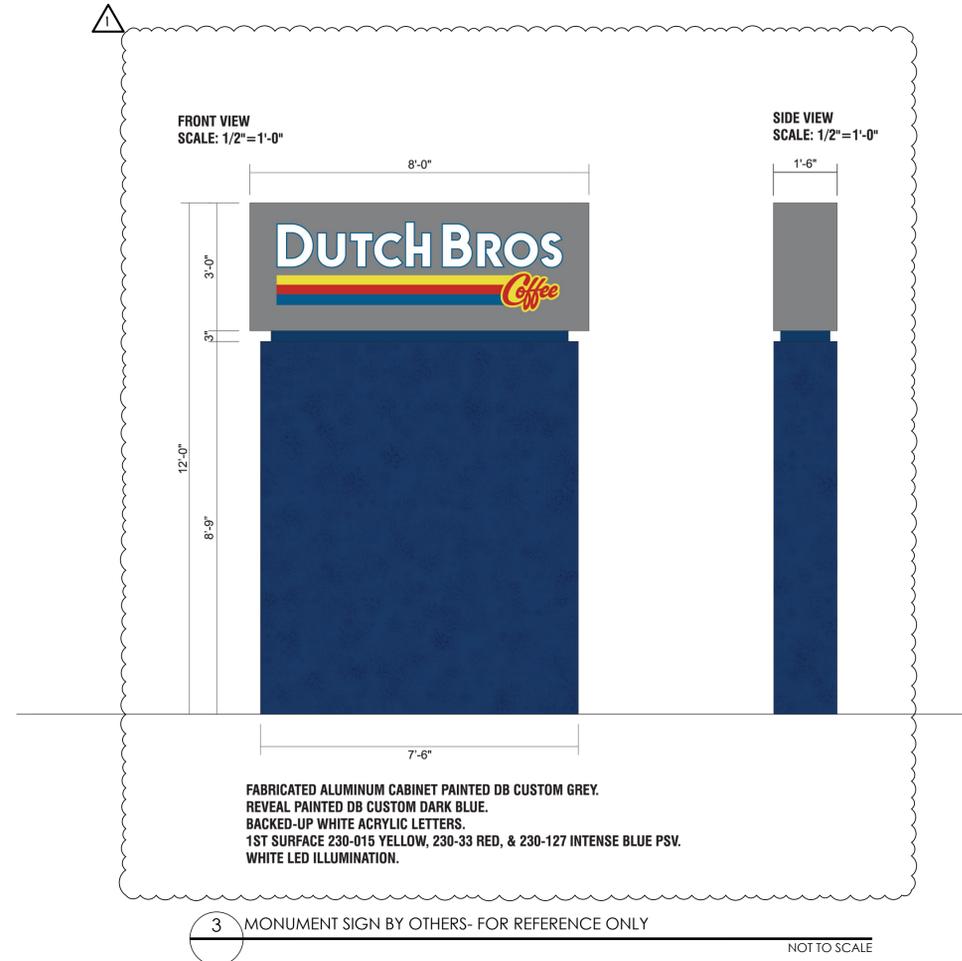
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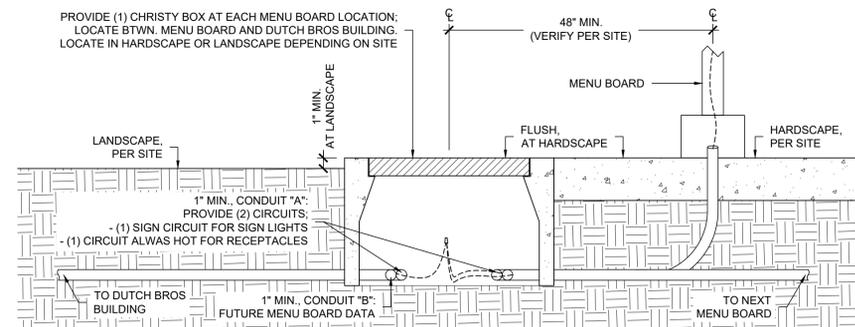
2 ILLUMINATED SINGLE MENU BOARD SIGN W/ POST BY OTHERS- FOR REFERENCE ONLY NOT TO SCALE

NOTES:

1. ALL SIGNAGE IS BY OTHERS/ SEPARATE SUBMITTAL; SHOWN HERE FOR REFERENCE ONLY.
2. REFER TO STRUCTURAL AND ELECTRICAL PLANS FOR ADDITIONAL INFO.



3 MONUMENT SIGN BY OTHERS- FOR REFERENCE ONLY NOT TO SCALE



4 MENU BOARD & CHRISTY BOX DETAIL - REFERENCE ONLY NOT TO SCALE



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EDIN CORALIC  
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**Project No: MO0102**  
Dutch Bros Coffee - New Freestanding Store  
500 NW Chipman Road, Lee's Summit, Missouri 64086  
for: Dutch Bros Coffee  
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SITE SIGNAGE DETAILS

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 EDIN CORALIC  
 9700 MACKENZIE ROAD, STE. 222,  
 ST. LOUIS, MO 63123  
 p. 314.578.4953  
 e. edin@coralicarchitecture.com  
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 T. 636.349.1600 F. 636.349.1730  
 dcase@caseengineeringinc.com

EDIN CORALIC ARCHITECT  
 A-2013031004 - EXP. 12-31-2021

10.11.2021  
 MISSOURI CERTIFICATE OF  
 AUTHORITY NO. 2013041393

**Project No: MO0102**  
 Dutch Bros Coffee - New Freestanding Store  
 500 NW Chipman Road, Lee's Summit, Missouri 64086  
 for: Dutch Bros Coffee  
 110 SW 4th St.  
 Grants Pass, OR 97526

ISSUED FOR PERMIT:  
 10.11.2021

REV.	DATE	DESCRIPTION
1	10/14/21	CITY COMMENTS

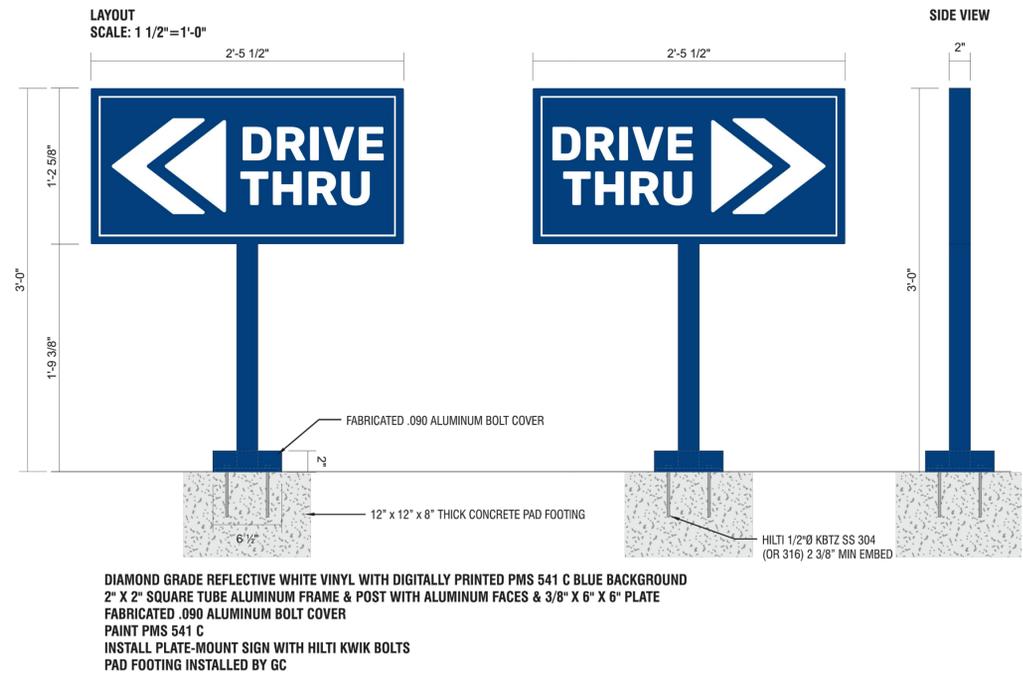
SHEET NAME:

SITE SIGNAGE  
 DETAILS

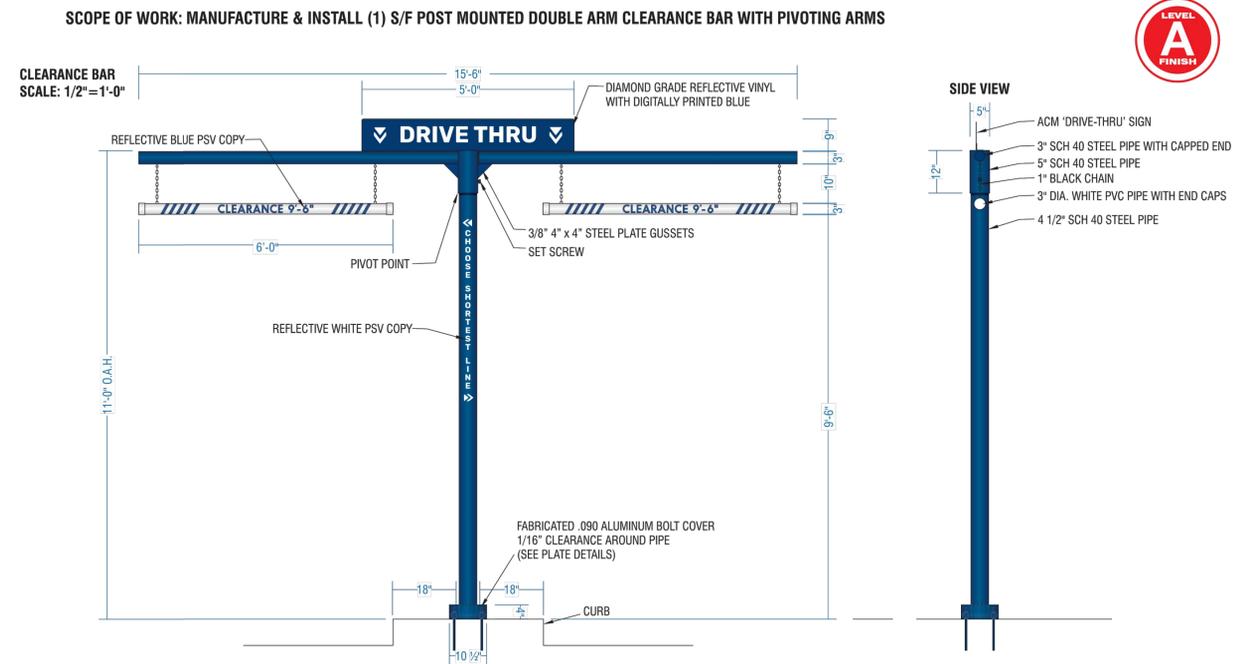
SHEET NUMBER:

SP1.2

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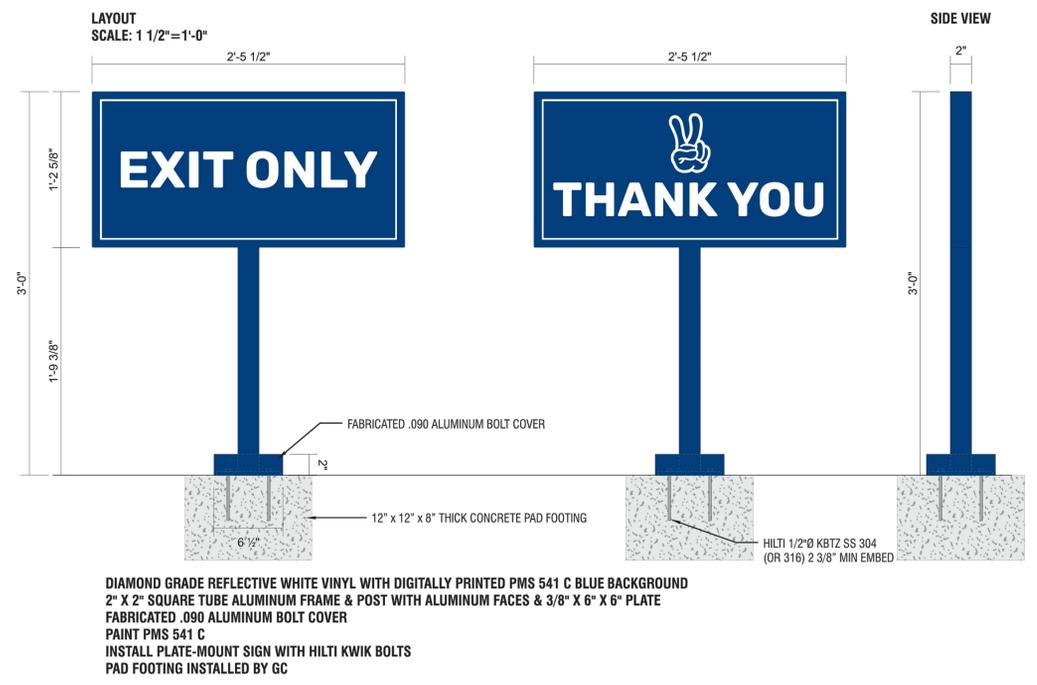
1 NON-ILLUMINATED DIRECTIONAL SIGN W/ POST BY OTHERS- FOR REFERENCE ONLY  
 NOT TO SCALE



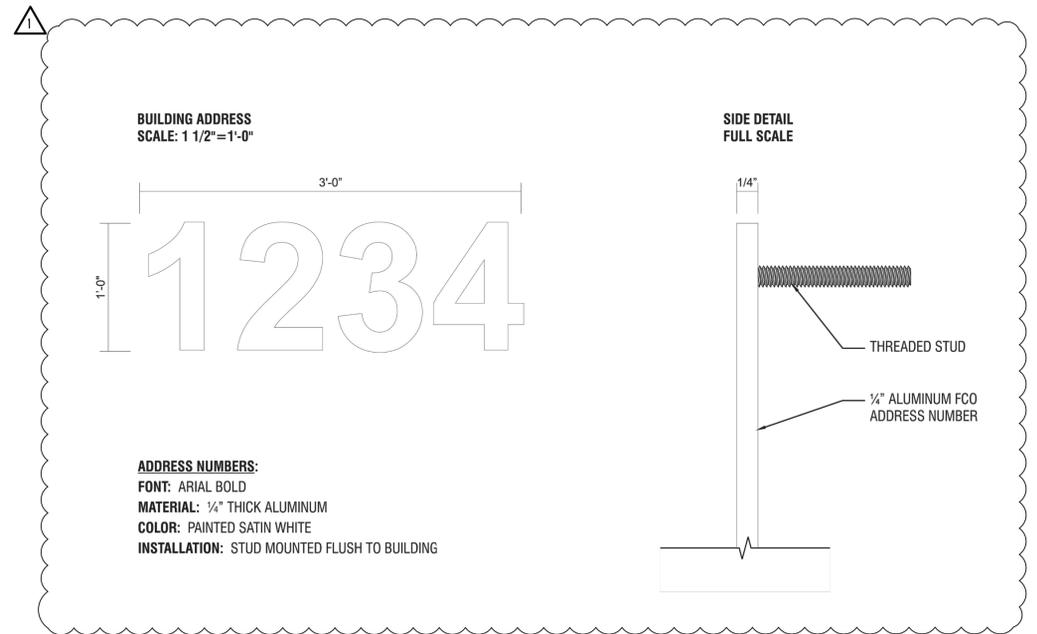
3 DOUBLE CLEARANCE BAR BY OTHERS - FOR REFERENCE ONLY  
 NOT TO SCALE

**NOTES:**

1. ALL SIGNAGE IS BY OTHERS/ SEPARATE SUBMITTAL; SHOWN HERE FOR REFERENCE ONLY.
2. REFER TO STRUCTURAL AND ELECTRICAL PLANS FOR ADDITIONAL INFO.



2 NON-ILLUMINATED DIRECTIONAL SIGN W/ POST BY OTHERS- FOR REFERENCE ONLY  
 NOT TO SCALE



4 BUILDING ADDRESS NUMBER - FOR REFERENCE ONLY  
 NOT TO SCALE



**ARCHITECT**  
CORALIC, LLC  
EDIN CORALIC  
9700 MACKENZIE ROAD, STE 222  
ST. LOUIS, MO 63123  
P: 314.578.4953  
edin@coralicarchitecture.com

**STRUCTURAL ENGINEER**  
JAMES C. KREHER  
JIM KREHER  
208 N. MAIN STREET,  
COLUMBIA, IL 62236  
P: 618.281.8505  
jimk@kreherengineering.com

**MEP ENGINEER**  
Case Engineering  
DARRELL R. CASE  
796 MERUS CT.,  
FENTON, MO 63026  
T: 636.349.1600 F: 636.349.1730  
dcase@caseengineeringinc.com

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LIGHTING PLAN

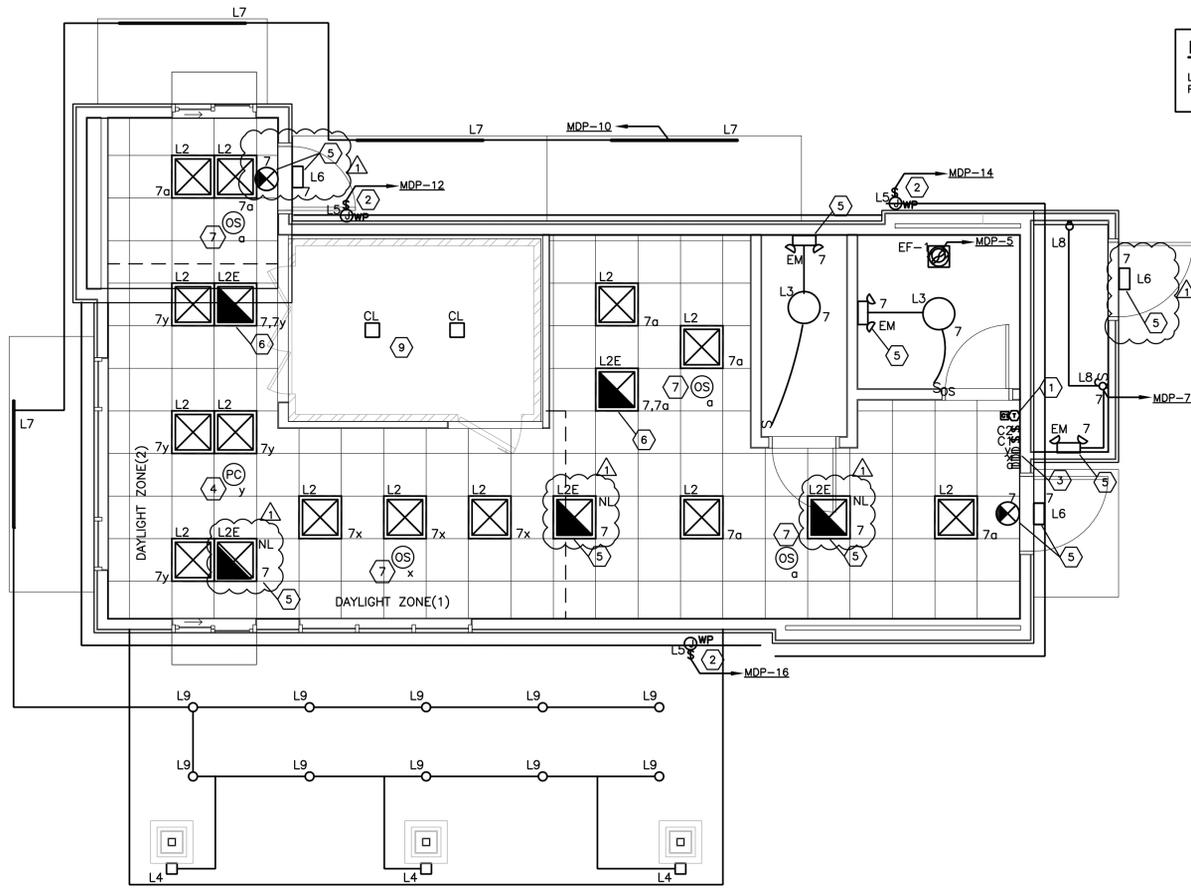
SHEET NUMBER:

E1.01

SYMBOL	DESCRIPTION
A-1	PARTIAL CIRCUIT
⎓	SINGLE POLE SWITCH, +3'-10" OR AS NOTED
⎓⎓	DOUBLE POLE, SINGLE THROW SWITCH, +3'-10" OR AS NOTED
⎓⎓⎓	THREE-WAY SWITCH, +3'-10" OR AS NOTED
D	DIMMER, +3'-10" OR AS NOTED
⎓OS	WALL MOUNTED OCCUPANCY SENSOR, +3'-10" OR AS NOTED
⎓RO	WALL MOUNTED OCCUPANCY SENSOR, +3'-10" OR AS NOTED, CONTROLLED BY ROOM CONTROLLER
⎓OS	CEILING MOUNTED OCCUPANCY SENSOR
⎓RO	CEILING MOUNTED OCCUPANCY SENSOR, CONTROLLED BY ROOM CONTROLLER
⎓PS	CEILING MOUNTED INTERIOR DAYLIGHT HARVESTING PHOTOCELL SENSOR CONTROLLED BY ROOM CONTROLLER
PP	POWER PACK, INSTALLED ABOVE ACCESSIBLE CEILING
⎓	DUPLEX RECEPTACLE, +18" OR AS NOTED
⎓	GFI DUPLEX RECEPTACLE +18" OR AS NOTED
⎓	QUADPLEX RECEPTACLE, +18" OR AS NOTED
⎓	GFI QUADPLEX RECEPTACLE, +18" OR AS NOTED
⎓	GROUND FAULT INTERRUPTING RECEPTACLE, +18" OR AS NOTED
⎓	WEATHERPROOF GROUND FAULT INTERRUPTING RECEPTACLE, +18" OR AS NOTED
⎓	SPECIAL RECEPTACLE, NEMA STYLE AS NOTED, +18" OR AS NOTED
⎓	USB CHARGING DUPLEX RECEPTACLE, +18" OR AS NOTED
⎓CLG	RECEPTACLE INSTALLED FLUSH IN CEILING
⎓SIGN	SWITCHED RECEPTACLE FOR INTERIOR SIGNAGE, +100" OR AS NOTED, LABEL RECEPTACLE ACCORDINGLY
⎓PTY	SWITCHED RECEPTACLE FOR PARTY LIGHTS, +100" OR AS NOTED, LABEL RECEPTACLE ACCORDINGLY
⎓	JUNCTION BOX
⎓	DISCONNECT SWITCH, TOP AT +6'-0" OR AS NOTED
⎓	DISCONNECT SWITCH PROVIDE WITH EQUIPMENT
⎓	LIGHTING CONTACTOR, INSTALLED AS NOTED
⎓	TIME CLOCK, +6'-2" OR AS NOTED
⎓	EXTERIOR PHOTOCELL, INSTALLED ON ROOF FACING NORTH
⎓RMC	ROOM CONTROLLER
⎓PLC	PLUG LOAD CONTROLLER
⎓	ELECTRICALLY OPERATED DAMPER, PROVIDED BY MECHANICAL CONTRACTOR, WIRE BY ELECTRICAL CONTRACTOR
⎓CCH	THERMOSTAT, TEMPERATURE SENSOR, CARBON DIOXIDE SENSOR AND HUMIDISTAT PROVIDED BY MECHANICAL CONTRACTOR, +3'-10" OR AS NOTED
⎓	PUSHBUTTON, TOP AT +4'-6" OR AS NOTED
⎓CH	DOOR BELL CHIME, +8'-0" OR AS NOTED
⎓	TELEPHONE/DATA OUTLET, +18" WITH 1" CONDUIT TO ABOVE CEILING
⎓	DATA OUTLET, +18" WITH 3/4" CONDUIT TO ABOVE CEILING
+48"	MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE
TYP.	TYPICAL
⎓FACB	FIRE ALARM CONTROL PANEL, FLUSH MOUNTED, TOP AT +6'-0"
⎓F	MANUAL FIRE ALARM PULL STATION, +3'-10" PER ADA
⎓F	FIRE ALARM HORN/STROBE, +80" TO BOTTOM OF DEVICE PER ADA
⎓F	EXTERIOR WEATHERPROOF FIRE ALARM HORN, +10'-0" AFG
⎓F	STROBE ONLY, +80" TO BOTTOM OF DEVICE PER ADA
⎓F	FIRE ALARM HORN/STROBE, CEILING MOUNTED
⎓F	STROBE ONLY, CEILING MOUNTED
⎓SD	AREA TYPE PHOTOELECTRIC SMOKE DETECTOR WITH SAMPLING TUBES AND REMOTE INDICATOR LIGHT MOUNTED FLUSH IN CEILING BELOW DETECTOR

- KEYED NOTES**
- LIGHTING CONTACTORS AND TIMELOCK OVERRIDE SWITCH. REFER TO "LIGHTING CONTROL DIAGRAM" ON THIS SHEET. COORDINATE LOCATION WITH OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
  - POWER FOR PARAPET LIGHTING DRIVER. EC TO COORDINATE WITH LEKTRON FOR TRANSFORMER LOCATIONS.
  - LIGHTING CONTROL SWITCHBANK. LOCATION BY BACK DOOR.
  - PROVIDE "SENSOR SWITCH" CM ADC AUTOMATIC DAYLIGHTING PHOTOCELL AND PP-15 POWER PACK. SEE DETAIL #3 THIS SHEET.
  - EC TO CONNECT EMERGENCY BATTERY DRIVER, EXIT SIGNS, AND NL TO UNSWITCHED LEG OF LOCAL CIRCUIT INDICATED.
  - EC TO CONNECT FIXTURE LED DRIVER TO SWITCHED LEG OF CIRCUIT AND EMERGENCY BATTERY DRIVER TO UNSWITCHED LEG OF CIRCUIT. EMERGENCY BATTERY DRIVER ARE SHIPPED SEPARATELY AND ARE TO BE FIELD INSTALLED AND CONNECTED BY EC.
  - EC TO PROVIDE AQUITY BRANDS LOW VOLTAGE DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR SWITCH CM-PDT9 & PP-15 POWER PACK. SENSOR SHALL ENERGIZE SWITCH FOR LOCAL CONTROL WHERE REQUIRED.
  - EC TO PROVIDE EXTERIOR OCCUPANCY SENSOR LISTED FOR OUTDOOR USE. COMPATIBLE WITH CANOPY LUMINARIES FOR AUTOMATIC DIMMING CONTROLS PER C130.2(c)3. SENSOR SHALL BE CAPABLE OF AUTOMATICALLY REDUCING LIGHTING BY 40% WHEN AREA IS UNOCCUPIED AND NO MORE THAN 90% WHEN OCCUPIED.
  - SEE KEYED NOTE #5 ON SHEET E2.01 FOR WALK-IN COOLER LIGHTING REQUIREMENTS.

**PERIMETER LIGHT NOTE:**  
L5 - LED STRIP LIGHTING AT PERIMETER OF PARAPET 2, APPROX 118FT. RUN

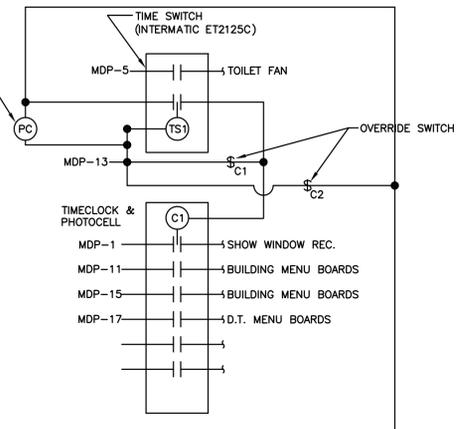


PLAN NORTH  
**1 ELECTRICAL LIGHTING PLAN**  
1/4" = 1'-0"  
0 2' 4' 8'

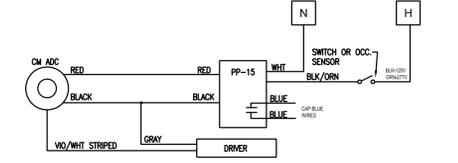
ID	MANUFACTURER	MODEL #	LAMPS	VOLTAGE	WATTAGE	REMARKS
L2	EIKO	SLM22-4CB-40K-U/09764 MV, 0-10V DIM	LED	120/277	30W	2x2 FLAT PANEL, LAYIN GRID CEILING, FROSTED LENS, LED 30W, 3750LM, 4000K, 0-10V DIM
L2E	EIKO	SLM22-4CB-40K-U/09764 MV, 0-10V DIM	LED	120/277	30W	2x2 FLAT PANEL, LAYIN GRID CEILING, FROSTED LENS, LED 30W, 3750LM, 4000K, 0-10V DIM, EMERGENCY BATTERY PACK
L3	NUVO	26W/LED/15/RND/FLUSH/3K/WH-62-1191SP MV, 120V ELV DIM	LED	120/277	26W	16" DIA SURFACE J-BOX MOUNTED LED MILK-WHITE DIFFUSER, ROUND WHITE TRIM, 26W, 2000LM, 3000K ELV DIM
L4	TECH LIGHTING	700 OWEX-9-3000K-4-H-UNV 120V NON-DIM	LED	120/277	19W	EXTERIOR LIGHT SCONCE, 5" SQUARE, 19W 600LM, 3000K, WET LOCATION, ADJUSTABLE UP/DOWN BEAM COLOR CHARCOAL
L5	LEKTRON	RIGID LED LASER/LEON LED SIMULATED NEON	LED	120/277	100W	RIGID SYSTEM BASED ON PHILIPS ADVANCED 100W, 24V OUTPUT LED DRIVER - LEDINTA024V41FO APPROX 118FT PER STORE, 24V, 1.5W/FT. LOCATED INSIDE OF BUILDING, ACCESSIBLE LOCATION. USE TRANSFORMER SIZES PER RUNS/WIRING GROUPS -DEFAULT 180W. COORDINATE WITH SIGN COMPANY. SEE CONTACTS ON COVER SHEET.
L6	RAB	WPLED-26-Y/ESP MV, NON-DIM	LED	120/277	40W	EXTERIOR DECORATIVE WALLPACK, APPROX 40W, 5000LM, 3000K, W/EMERGENCY BACK UP, NO MOTION SENSOR OR PHOTOCELL
L7	SELF	CROWN-70-40K-110-S-SSP	LED	120/277	60W	6" WET LOCATION LINKABLE BATTEN STRIP, LED, HIGH-OUTPUT, 60W, 6300LM, 4000K, INTEGRAL DRIVER
L8	NUVO	65-226 (CEILING MOUNT)	LED	120/277	13W	CEILING MOUNTED VAPOR PROOF FIXTURE, WITH GUARD WILVER, LED, 13W, 850LM, 500K, WET LOCATION LISTED, FOR ELECTRICAL OR MECHANICAL ROOM.
L9	DMF LTG	DRD5S-4-R	LED	120/277	12W	4" ROUND CANOPY DOWNLIGHT
P	IMPERIAL LTG	NV-1-T4-48L-1-40K-UNV-HSS WITH FSP-211 MOTION SENSOR & HOUSE SIDE SHIELD	LED	120/277	156W	SITE POLE HEAD, LED 156W, 9674LM, 4000K, DARK BRONZE TYPE II DISTRIBUTION, WITH 17" POLE. VERIFY PER LOCAL REQUIREMENTS PRIOR TO ORDERING - WATTS/LUMENS, KELVIN LIGHT TEMPERATURE, TYPE DIST. MOUNTING CONFIG. SINGLE OR DOUBLE, COLOR AND HEIGHT DRILL HOLES IN POLES FOR HEADS IF REQUIRED IN FIELD VERIFY COLOR/HEIGHT BEFORE ORDERING.
X	BEST	EZXTEU2RWEV MV,NON DIM, 4W	LED	120/277	30W	EXIT, SELF POWERED SINGLE/DOUBLE FACE UNIVERSAL MOUNT, LED, RED ON WHITE, VERIFY COLORS
EM	LITHONIA	ELM2-LED-W	LED	120/277	1.8W	BUG EYE LED UNIT WITH WHITE FINISH.
CL	--	--	LED	120/277	--	COOLER LIGHT FIXTURE

A. INSTALLATION OF LIGHT FIXTURES SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODE REQUIREMENTS.  
B. VERIFY THE EXACT MOUNTING HEIGHT AND FINISH OF ALL LIGHTING FIXTURES WITH ARCHITECT PRIOR TO PLACING ORDER OR COMMENCING ROUGH-IN.  
C. LIGHT FIXTURES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.  
D. ALL MEANS OF EGRESS LIGHTING AND EXIT SIGNS SHALL HAVE A MINIMUM OF 90 MINUTES BACKUP POWER.

- LIGHTING GENERAL NOTES**
- CONNECT EXIT SIGNS, EMERGENCY AND NIGHT LIGHTS TO AN UNSWITCHED LIGHTING CIRCUIT, NOT CONTROLLED BY AN Y OCCUPANCY SENSORS, SWITCHES OR CONTACTORS.
  - PROVIDE A DEDICATED NEUTRAL WITH ALL DIMMING SYSTEM CIRCUITS, NO COMMON NEUTRALS SHALL BE ALLOWED.
  - REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND DETAILS FOR THE EXACT LOCATION OF ALL LIGHTING FIXTURES AND ANY OTHER EQUIPMENT INSTALLED IN THE CEILING SYSTEM. VERIFY EXACT MOUNTING HEIGHTS AND FINISHES WITH ARCHITECT PRIOR TO ROUGH-IN.
  - REFER TO THE POWER PLANS FOR LOCATIONS OF ELECTRICAL EQUIPMENT.
  - PROVIDE (2)ADDITIONAL #12 CONDUCTORS FOR ALL 0-10V DIMMING CIRCUITS.
  - 15" MIN TO BOTTOM OF ALL ROUGH-IN BOXES FOR USER CONTROLLED SWITCHES, OUTLETS ETC. AND 48" MAX TO TOP OF ROUGH-IN BOX.
  - 48" TO TOP OF ROUGH-IN BOX.



**2 LIGHTING CONTROL DIAGRAM**  
E1.01 SCALE: N.T.S.



**3 DAYLIGHT ZONE WIRING DIAGRAM**  
E1.01 SCALE: N.T.S.

PLUMBING SYMBOLS LEGEND	
— G —	GAS PIPING
— CD —	CONDENSATE DRAIN PIPING
— — —	COLD WATER PIPING
— — — —	HOT WATER PIPING (140°)
— — — — —	HOT WATER RECIRCULATING PIPING
— SAN —	SANITARY WASTE PIPING
— FW —	FILTERED WATER PIPING
— 140° —	140° WATER PIPING
— GW —	GREASE WASTE PIPING
— — — — —	SANITARY VENT PIPING
VTR	VENT THROUGH ROOF
— 30 —	PLUMBING TRAP
— 3 —	PIPE TURNING DOWN
— 0 —	PIPE TURNING UP
— N —	CHECK VALVE
— U —	UNION
AFF	ABOVE FINISHED FLOOR
CO	CLEAN OUT
— P —	PRESSURE REGULATING VALVE (PRV) (50 PSI)
— B —	BALL VALVE
— BV —	BALANCE VALVE
— EWF —	ELECTRIC WATER FOUNTAIN
GCO	GRADE CLEAN OUT
— C —	CIRCUIT SETTER BALANCE VALVE
— P —	POINT OF CONNECTION
— F —	BELOW FLOOR
— C —	ABOVE CEILING
— PD —	PUMP DISCHARGE

- GENERAL NOTES:**
- EXACT LOCATION OF PLUMBING FIXTURES SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS.
  - BEFORE SUBMITTING BID, THE PLUMBING CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS AND INCLUDE IN HIS BID AN AMOUNT TO FURNISH AND INSTALL ANY FIXTURES WHICH ARE SHOWN IN ADDITION TO FIXTURES SHOWN ON THE PLUMBING DRAWINGS.
  - CONTRACTOR SHALL VERIFY INVERT ELEVATION OF SEWERS TO WHICH NEW WASTE LINES ARE TO BE CONNECTED BEFORE MAKING UP OR INSTALLATION OF NEW WASTE SYSTEM.
  - CONTRACTOR SHALL VERIFY AND COORDINATE LOCATION OF ALL PLUMBING LINES WITH DUCTWORK AND ELECTRICAL SERVICES.
  - THE INSTALLATION OF ALL VALVES, UNIONS, THERMOMETERS, GAUGES, OR OTHER INDICATING OR RECORDING EQUIPMENT OR SPECIALTIES REQUIRING FREQUENT READING, REPAIRS, ADJUSTMENT, INSPECTION, REMOVAL OR REPLACEMENT SHALL BE CONVENIENTLY AND ACCESSIBLY LOCATED WITH REFERENCE TO THE FINISHED BUILDING.
  - WHERE POSSIBLE, THE VENTS TOGETHER SO THAT A MINIMUM NUMBER TERMINATE THROUGH THE ROOF.
  - WATER CLOSETS IN PUBLIC TOILET ROOMS SHALL CENTER ON THE FINAL LAYOUT OF TOILET PARTITIONS.
  - ALL VENTS THROUGH ROOF SHALL BE AT LEAST 10' REMOVED FROM ALL AIR INTAKES, EVAP. COOLERS.
  - CONTRACTOR SHALL NOT CUT HOLES IN STRUCTURAL MEMBERS WITHOUT FIRST SECURING WRITTEN APPROVAL FROM ARCHITECT.
  - CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTION OF DISSIMILAR METALS.
  - CONTRACTOR SHALL ROUGH-IN ALL WASTE AND SUPPLIES TO SPECIAL EQUIP. ACCORDING TO MANUFACTURERS SHOP DRAWINGS AND MAKE FINAL CONNECTIONS ALL SUPPLIES SHALL BE VALVED.
  - ASSUMED WATER PRESSURE-CONTRACTOR SHALL VERIFY ACTUAL WATER PRESSURES PRIOR TO CONSTRUCTION. IF PRESSURE IS LESS THAN 80 PSI, CONTRACTOR SHALL CONTACT THE ENGINEER FOR PIPE SIZING EVALUATION. IF PRESSURE EXCEEDS 80 PSI, A PRESSURE REDUCING VALVE SHALL BE PROVIDED. PIPING VELOCITY SHALL NOT EXCEED 8 FPS AND HOT WATER VELOCITY SHALL NOT EXCEED 5FPS.

- FIELD VERIFICATION NOTES:**
- THE PLUMBING CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO FIELD VERIFY ALL EXISTING CONDITIONS WHICH MAY AFFECT HIS BID. THE FOLLOWING ITEMS SHALL BE VERIFIED:
    - EXACT PLACEMENT SIZE CAPACITY MANUFACTURER AND CONDITION OF ALL EXISTING PLUMBING EQUIPMENT WITHIN SCOPE OF WORK, WHETHER SPECIFICALLY SHOWN OR NOT.
    - SIZE AND LOCATION OF ALL EXISTING WASTE, GREASE WASTE, VENT AND WATER PIPING.
  - ALL REFERENCES ON THESE DRAWINGS TO EXISTING EQUIPMENT, WATER IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL THESE ITEMS PRIOR TO BID AND INCLUDE IN HIS BID ANY AND ALL AMOUNTS REQUIRED TO ACCOMMODATE EXISTING CONDITIONS.
  - NO ALLOWANCES WILL BE MADE AFTER THE PROJECT HAS BEEN AWARDED FOR FAILURE TO VERIFY EXISTING CONDITIONS.
  - ANY DISCREPANCIES WHICH MAY AFFECT THE CONTRACTOR BID SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND ARCHITECT FOR DIRECTION.
  - PLUMBING ROUTINGS BASED ON OWNER'S SCHEMATICS OF LOCATION OF EXISTING FIXTURES AND SHELL DRAWINGS. CONTRACTOR RESPONSIBLE FOR VERIFICATION OF ACTUAL LOCATION OF SUPPLY LINES AND MAKING APPROPRIATE ADJUSTMENTS TO ACTUAL CONDITIONS IN THE FIELD.
  - PRIOR TO CONSTRUCTION, VERIFY THE LOCATION OF THE HVAC/WALK-IN CONDENSATE FLOOR SINK. IF SLOPE AND DISTANCE OR IF IT IS INFEASIBLE TO DISPOSE OF WALK-IN COOLER CONDENSATE, USE A CONDENSATE PUMP.

PLUMBING FIXTURE SCHEDULE							
DESIGNATION	MODEL NUMBER	MFR.	COLD WATER	HOT WATER	WASTE	VENT SIZE	REMARKS
P-1	WATER CLOSET K-3619 ADA COMPLIANT ELONGATED BOWL	KOHLER	½"	-	4"	2"	18" HIGH BOWL CSEAT AND CAP BOLTS. 1.28 GAL PER FLUSH INSTALL WITH ANGLE STOP. PROVIDE "WHITE" COLOR SELECTION FOR CHINA.
P-2	LAVATORY SINK K-2030 ADA COMPLIANT	KOHLER	½"	½"	2"	2"	DELTA FAUCET 501LF-HGMHDF SINGLE LEVER WITH 0.5 GPM VANDAL RESISTANT AERATOR. GRID STRAINER TAILPIECE. OFFSET WHEELCHAIR TRAP LOOSE KEY STOP. INSTALL HANDLE LIMIT STOP KIT WITHIN SINGLE LEVEL MIXING FAUCET TO LIMIT OUTLET HOT WATER SUPPLY TO 110°F.
P-3	WATER FILTER BY OWNER	EVERPURE	1½"	-	-	-	PLUMBING CONTRACTOR SHALL INSTALL WATER FILTER SUPPLIED BY OWNER. PROVIDE WITH BALL ISOLATION VALVE AND UNION ON BOTH ENDS OF ALL CONNECTIONS. PROVIDE RPZ WITH DRAIN CUP IF REQUIRED BY CODE.
P-6	WATER HEATER - TANK DEN-52	AO SMITH	1"	1"	-	-	ELECTRIC - 10KW/3PHASE
P-7	HAND SINK 7-PS-56	ADVANCE TABCO	½"	½"	2"	2"	PROVIDED BY DBC, INSTALLED BY GC.
P-8	3 COMPARTMENT SINK BY OWNER	-	½"	½"	(3)2"	-	PLUMBING CONTRACTOR TO PROVIDE ½" CW AND ½" HW SUPPLY LINES WITH ANGLE VALVE SHUTOFF AND SUPPLY STOPS TO SINK FAUCET. PLUMBING CONTRACTOR TO PROVIDE (3) 2" WASTE LINES FROM EACH BAY AND INDIRECT WASTE TO FLOOR SINK BELOW. PROVIDE FISHER 34271 FAUCET AND 24090 WASTE DRAIN WITH STRAINERS, INSTALLED BY PC.
P-9	PULL-OUT SPRAYER HANDLE MPZ-4DLN-06	T&S (T&SBRASS.COM)	-	-	-	-	TO BE INSTALLED IN DB PROVIDED STAINLESS STEEL TABLE BY PC.
P-10	MOP SINK Z1996-24	ZURN	¾"	¾"	3"	2"	MOP SERVICE BASIN WITH 10" HIGH WALLS 3" DRAIN , FIAT 830-AA SERVICE FAUCETS WITH VACUUM BREAKER. INTEGRAL STOPS AND HOSE WITH HOSE BRACKET.
P-11	FLOOR SINK Z1900	ZURN	-	-	4"	2"	12" X 12" X 6" DEEP CAST IRON BODY WITH WHITE PORCELAIN ENAMEL
P-12	FLOOR DRAIN EZ-5	ZURN	-	-	2"	2"	POLISHED BRASS STRAINER, AND TRAP PRIMER. LOCATE PRIMER WITH SHUT-OFF VALVE AND ACCESS PANEL IN WALL. COORDINATE WITH GENERAL CONTRACTOR.
P-13	GREASE INTERCEPTOR GB-50	SCHIER	-	-	4"	2"	SCHIER GB-50 50GPM BELOW-GRADE AT EXTERIOR VENTED THROUGH BUILDING. PROVIDE HI TRAFFIC COVER AND ACCESS. FINAL SIZE TO BE COORDINATED WITH LOCAL AUTHORITY.
P-14	ROOF DRAIN Z165	ZURN	-	-	3"	-	REFER TO ARCHITECTURAL SHEET AA.0 FOR ROOF DRAIN LOCATIONS AND DETAILS.
P-15	WALL HYDRANT HY-420-8	WATTS	1/2"	-	-	-	6" NON-FREEZE WALL HYDRANT. MOUNT AT 24" A.F.F. AT REAR ELEVATION.
P-16	YARD HYDRANT EVERBILT	WATTS	1/2"	-	-	-	FROST PROOF 2FT. BURY DEPTH
P-17	CIRCULATING PUMP 0010	TACO	-	-	-	-	115V, 3250 RPM, PROVIDE WITH AQUASTAT AND/OR TIMER AS REQUIRED.
P-18	BOOSTER PUMP AQUAVAR BAQUABII 1151AB25HM03	AQUAVAR	1-1/4"	-	-	-	1 HP VARIABLE SPEED CONTROLLER, 115V INPUT, 30 GPM @ 35 PSI BOOST. PROVIDE ALL NECESSARY VALVES AND ACCESSORIES RECOMMENDED BY MANUFACTURER FOR A COMPLETE SYSTEM.

SANITARY SIZING CALCULATION				
FIXTURE	DESIGNATION	DFU WASTE	QUANTITY	TOTAL
WATER CLOSET	P-1	4	1	4
LAVATORY	P-2	1	1	1
FLOOR DRAIN	P-12	5	1	5
3 COMP SINK	P-8	6	1	6
FLOOR SINK	P-11	6	5	30
HAND SINK	P-7	2	2	4
MOP SINK	P-10	3	1	3
			TOTAL (DFU)	53

KITCHEN FIXTURE SCHEDULE							
DESIGNATION	MFR. AND MODEL NUMBER	COLD WATER	FILTERED COLD WATER	HOT WATER	WASTE	VENT SIZE	REMARKS
P-4	DIPPERWELL FAUCET & SINK ASSEMBLY	½"	-	-	½"	-	SET INTO PRE-CUT HOLE IN COUNTER. CONNECT CW BRAIDED STAINLESS TO FAUCET AND PVC DRAIN TO WELL. PIPE DRAIN STRAIGHT BACK TO WALL, DOWN WALL, THEN FORWARD BETWEEN WHEELS OF ICE BIN BRACED TO FLOOR WITH UNISTRUT AND A 1" AIR GAP OVER FLOOR SINK
P-5	RAPID RINSE STATION BY OWNER	-	-	-	¾"	-	PLUMBING CONTRACTOR TO PROVIDE ½" HW LINE WITH BALL VALVE SHUT-OFF. PROVIDE FINAL COLD WATER CONNECTION TO RAPID RINSE STATION. PROVIDE ½" INDIRECT WASTE LINE TO FLOOR SINK BELOW. (PROVIDE RPZ IF REQUIRED BY LOCAL CODE)
EQ-1	ESPRESSO MACHINE (3 MACHINE GROUP+1 OPTIONAL) BY OWNER	-	(4)½"	-	(3)¾"	-	CONTRACTOR TO PROVIDE ½" FW LINE WITH BRAIDED FLEX HOSE AND BALL VALVE SHUT-OFF. PROVIDE ½" INDIRECT WASTE LINE TO FLOOR SINK BELOW. TYPICAL OF 3 MACHINES IN GROUP.
EQ-3	BUNN WATER DISPENSER BY OWNER	-	(4)½"	-	-	-	CONTRACTOR TO PROVIDE ½" FW WITH BALL VALVE SHUT-OFF. SUPPLIED WITH ASSE 1022 INLINE CARTRIDGE BACKFLOW.
EQ-4	GLASS FILLER BY OWNER	-	(4)½"	-	-	-	½" FILTER WATER SUPPLY - NO DRAIN REQUIRED
EQ-8	ICE MACHINE BY OWNER	1/2"	-	-	¾"	-	PROVIDE FINAL COLD WATER CONNECTION TO ICE MACHINE FILTER EQ-8B. PROVIDE ½" INDIRECT WASTE LINE TO FLOOR SINK BELOW. BACKFLOW ON FILTER ASSEMBLY IF REQUIRED. NOTE: PC AND EC TO PROVIDE ADDITIONAL OUTLET AND WATERLINE STOP FOR FUTURE 2ND ICE MACHINE.
EQ-8B	ICE MACHINE WATER FILTER PENTAIR EVERPURE EV9293-22	1/2"	-	-	-	-	PROVIDE 1/2" COLD WATER TO ICE MACHINE FILTER.
EQ-9	ICE STORAGE BIN BY OWNER	-	-	-	¾"	-	PROVIDE ½" INDIRECT WASTE LINE TO FLOOR SINK BELOW.

- GENERAL NOTES:**
- PLUMBING CONTRACTOR SHALL STRAP UP ALL SUPPLY LINES TIGHT TO STAINLESS TABLES WITH ZIPTIES SO THAT UNDER COUNTER EQUIPMENT CAN BE REMOVED WITHOUT GETTING CAUGHT IN THE BRAIDED STAINLESS SUPPLY LINES.
  - PLUMBING CONTRACTOR SHALL RUN DRAINS OFF OF STAINLESS TABLES AND DRINK EQUIPMENT IN RIGID COPPER PIPE. DRAINS ARE TO BE RUN TOWARD THE CENTER OF THE FLOOR SINK BENEATH EACH TABLE. DRAINS WILL FIT BETWEEN THE WHEELS OF THE ROLLING ICE BINS. PC TO STRAP DRAINS TO FLOOR WITH UNISTRUT OR SIMILAR.
  - ALL EXPOSED WATER LINES ARE TO BE RIGID COPPER.
  - ALL SHUT OFF VALVES ARE TO BE COLORED BALL VALVES (DOMESTIC-BLUE, HOT-RED, FILTERED-WHITE) AND LABELED FOR EACH PIECE OF EQUIPMENT THAT IT SUPPLIES. NO ANGLE STOPS.

### WATER PRESSURE CALCULATION

STATIC PRESSURE	60.0		
PRESSURE DROP THRU FRICTION LOSS FROM MAIN TO METER (12" WATER LINE)	0.0		
PRESSURE DROP THRU METER	5.0		
PRESSURE DROP THRU FRICTION LOSS FROM METER TO BACKFLOW	5.2		
PRESSURE DROP THRU BACKFLOW AND STRAINER	15.0		
PRESSURE DROP DUE TO ELEVATION TO PUMP	4.3		
PRESSURE AVAILABLE @ PUMP	22.5		
PRESSURE AVAILABLE AFTER PUMP	57.5		
PRESSURE NEEDED AT FIXTURES	35.0		
PRESSURE DROP DUE TO ELEVATION	4.0		
REMAINING PRESSURE	26.5		
SYSTEM LENGTH	150		
EQUIVALENT PIPE LENGTH	187.50 FT		
ALLOWABLE LOSS PER 100FT OF PIPE: 26.5PSI X 100FT / 187.50 FT	14.1		
FIXTURE UNITS DOMESTIC WATER			
FIXTURES	QUANTITY	COLD WATER	HOT WATER
HAND SINK	2	2	2
LAVATORY	1	1	1
WATER CLOSET	1	3	0
3-COMP	1	3	3
MOP SINK	1	3	3
WATER DISPENSER	4	4	0
ESPRESSO MACHINE (3 MACHINE GROUP)	4	12	0
ICE MAKER	1	1	0
RAPID RINSE	5	5	0
TOTAL		34	9
GPM		20	9

FORMULA FOR SIZING GREASE INTERCEPTORS				
INTERIOR/EXTERIOR IN-FLOOR GREASE INTERCEPTORS				
Length X Width X Depth/231= Gallons X .75 Fill Factor X Number of Compartments= Size of Grease Interceptor (GPM)				
Discharge from 3-Compartment Sink				
Compartment Dimensions:				
16" X 14" X 14" / 231 =	20	X .75 Fill Factor	X 3 Compartments	= 31 Gal
Total GPM / Retention Time				
31 Gal / 1 Min	=	31 GPM	GREASE WASTE SIZE: 4"	
FIXTURE	x	NUMBER OF FIXTURES	x	FIXTURE VALUE UNIT
= TOTAL FIXTURES UNITS / 2 DFU PER GPM = FLOW RATING GPM				
* FLOOR FIXTURES	x	6	x	3 = 18 / 2 = 9
HAND SINKS	x	2	x	2 = 4 / 2 = 2.0
SERVICE BASIN	x	1	x	3 = 3 / 2 = 1.5
TOTAL REQUIRED FLOW RATING GPM = 43.5				

\* FLOOR SINKS RECEIVING DISCHARGE FROM COMPARTMENT SINK(S), NOT COUNTED. REFER TO VOLUME CALCULATION FOR SINKS IN THIS TABLE.



ARCHITECT  
CORALIC, LLC  
9700 MACKENZIE ROAD, STE 222  
ST. LOUIS, MO 63123  
p. 314.578.4953  
edin@coralicarchitecture.com

STRUCTURAL ENGINEER  
JAMES C. KREHER  
JIM KREHER  
208 N. MAIN STREET,  
COLUMBIA, IL 62236  
p. 618.281.8505  
jimk@kreherengineering.com

MEP ENGINEER  
Case Engineering  
DARRELL R. CASE  
796 MERUS CT.,  
FENTON, MO 63026  
T. 636.349.1600 F. 636.349.1730  
dcase@caseengineeringinc.com

10.14.2021

Project No: MO0102  
Dutch Bros Coffee - New Freestanding Store  
500 NW Chipman Road, Lee's Summit, Missouri 64086  
for: Dutch Bros Coffee  
110 SW 4th St.  
Grants Pass, OR 97526

ISSUED FOR PERMIT:  
10.11.2021

REV:	DATE:	DESCRIPTION:
01	10.14.21	CITY COMMENTS

SHEET NAME:

PLUMBING SPECIFICATIONS & SCHEDULES

SHEET NUMBER:

P1.0

10.14.2021



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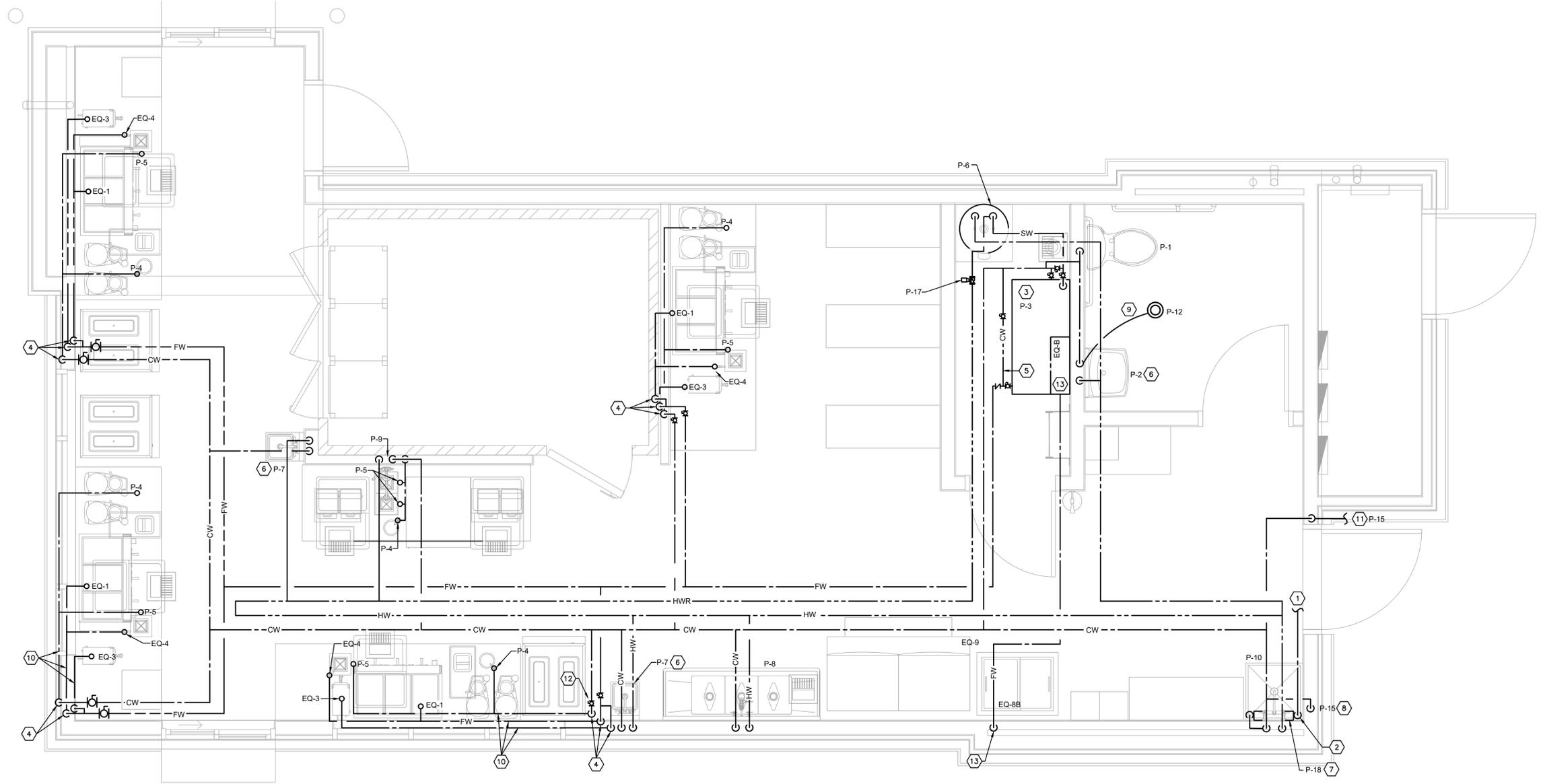
REV:	DATE:	DESCRIPTION:
01	10.14.21	CITY COMMENTS

SHEET NAME:

**PLUMBING SUPPLY  
FLOOR PLAN AND  
DETAILS**

SHEET NUMBER:

**P3.0**

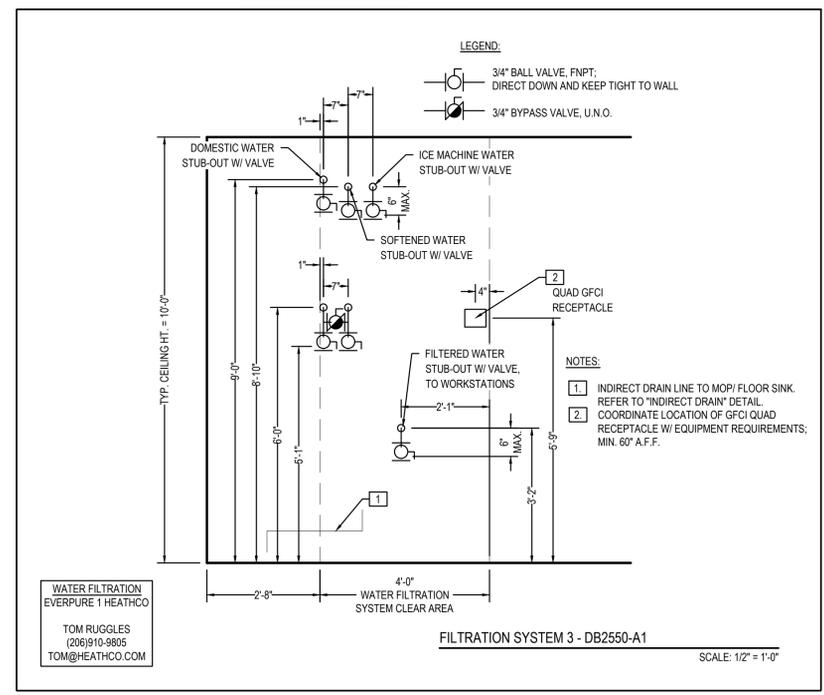


**1 WATER FLOOR PLAN**  
SCALE: 1/2" = 1'-0"

**NOTE:**  
AN APPROVED BACKFLOW PREVENTION DEVICE IS REQUIRED FOR BEVERAGE MACHINES CONNECTED TO THE WATER SUPPLY PER 2018 IPC.  
TANK-LESS WATER HEATERS SHALL BE NATIONALLY LISTED AND BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS THAT WERE APPROVED AS PART OF THEIR LISTING. THE GAS PIPING SERVING THIS APPLIANCE MUST BE SIZED IN COMPLIANCE WITH THE WATER HEATER'S LISTED INSTALLATION INSTRUCTIONS PER 2018 IPC.  
STUB-OUTS FOR COFFEE EQUIPMENT AT TABLE SHALL BE 24" A.F.F.

**PLUMBING KEYED NOTES**

- 1 ROUTE NEW 1" WATER PIPING TO CONNECT TO WATER METER AND MAIN. VERIFY EXACT SIZE AND LOCATION IN FIELD. VERIFY WITH WATER COMPANY AND LANDLORD EXACT CONNECTION, DELIVERY PRESSURE AND METER REQUIREMENTS PRIOR TO WORK. WATER PIPING SIZE BASED ON 52 PSI INCOMING STATIC WATER PRESSURE. PROVIDE PRESSURE REDUCING VALVE IF PRESSURE IS OVER 60 PSI. CONTACT ENGINEER IMMEDIATELY IF LOW PRESSURE (BELOW 60 PSI) OR DISCREPANCIES ARE FOUND FOR PIPING CHANGES.
- 2 PROVIDE WATTS LF009 BACKFLOW PREVENTER ABOVE MOP SINK. ROUTE RELIEF PIPES TO DISCHARGE INDIRECTLY TO MOP SINK.
- 3 WATER FILTRATION SYSTEM TO BE PROVIDED AND INSTALLED BY SELECTED WATER FILTRATION MANUFACTURER. PLUMBING CONTRACTOR TO INSTALL BYPASS PIPING TO WATER FILTRATION SYSTEM.
- 4 DROP 1/2" CW AND 1/2" FW LINES DOWN IN WALL ON WARM SIDE OF INSULATION TO BE RAN UNDER COUNTER TO SERVE FIXTURES.
- 5 PROVIDE FULL SIZED BYPASS VALVES FOR THE MAIN CW LINE SERVING THE WATER FILTRATION SYSTEM.
- 6 PROVIDE WATTS LFMV MIXING VALVE FOR LAVATORY. SET OUTLET TEMPERATURE TO 110°.
- 7 INSTALL BOOSTER PUMP SYSTEM AS REQUIRED ON PLATFORM ABOVE MOP SINK. INSTALL PER MANUFACTURERS GUIDELINES. PROVIDE WITH ALL NECESSARY VALVES AND ACCESSORIES FOR A COMPLETE SYSTEM. COORDINATE EXACT INSTALLATION OF ALL SYSTEM COMPONENTS IN FIELD PRIOR TO ANY WORK AS DRAWING IS SHOWN DIAGRAMMATICALLY ONLY.
- 8 1/2" COLD WATER DOWN TO FREEZE PROOF WALL HYDRANT.
- 9 COLD WATER DOWN FROM TRAP PRIMER TO FLOOR DRAIN. SEE DETAIL ON DRAWING P5.0 FOR MORE INFORMATION.
- 10 PIPING TO BE RAN LOW IN WALL BELOW WINDOW.
- 11 1/2" COLD WATER LINE TO WALL HYDRANT (P-15) IN TRASH ENCLOSURE. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE PIPE/DISTANCE FOR FINAL CONNECTION.
- 12 PROVIDE NIBCO SERIES 585-70 BALL VALVE. (TYP.)
- 13 PROVIDE COLD WATER STUBOUT AT 72" AFF ABOVE FREEZER FOR ICE MAKER WATER FILTER.





ARCHITECT  
CORALIC, LLC  
EDIN CORALIC  
9700 MACKENZIE ROAD, STE 222  
ST. LOUIS, MO 63123  
p. 314.578.4953  
edin@coralicarchitecture.com

STRUCTURAL ENGINEER  
JAMES C. KREHER  
JIM KREHER  
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COLUMBIA, IL 62236  
p. 618.281.8505  
jimk@kreherengineering.com

MEP ENGINEER  
Case Engineering  
DARRELL R. CASE  
796 MERUS CT.,  
FENTON, MO 63026  
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PLUMBING  
SPECIFICATIONS

SHEET NUMBER:

P6.0

**A. GENERAL NOTES**

- DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS, APPLY TO ALL SECTIONS OF DIVISION 15000.
- THE CONTRACTOR FOR THIS DIVISION OF WORK IS REQUIRED TO READ THE SPECIFICATIONS AND REVIEW THE DRAWINGS FOR ALL DIVISIONS OF WORK PRIOR TO BEGINNING WORK AND IS RESPONSIBLE FOR THE COORDINATION OF HIS/HER WORK AND THE WORK OF HIS/HER SUBCONTRACTORS WITH ALL DIVISIONS OF WORK TO AVOID INTERFERENCE AND CONFLICTS. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO PROVIDE HIS/HER SUBCONTRACTORS WITH COMPLETE SETS OF BID DOCUMENTS.
- THIS CONTRACTOR IS RESPONSIBLE FOR SCHEDULING THE COMPLETION AND INSPECTION OF HIS/HER WORK AND THE WORK OF HIS/HER SUBCONTRACTORS TO COMPLY WITH THE SCHEDULE.
- THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUALIFIED IN THE CONTRACTORS BID. SUBMITTAL OF A BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS SHALL BE INCLUDED. FAILURE TO VISIT THE SITE DOES NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY IN PERFORMANCE OF WORK

**B. GENERAL REQUIREMENTS:**

- THIS CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, AND FACILITIES NECESSARY TO PROVIDE A COMPLETE HVAC, PLUMBING, FIRE PROTECTION SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NECESSARY AND NOT SPECIFICALLY NOTED TO BE PROVIDED BY OTHERS SHALL BE PROVIDED BY THIS CONTRACTOR.
- ALL WORK SHALL BE PERFORMED IN A NEAT, PROFESSIONAL MANNER USING GOOD CONSTRUCTION PRACTICES.
- UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, TESTED, LISTED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.
- ALL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.
- FIELD MEASURE AND VERIFY REQUIREMENTS FOR EXACT DIMENSIONS, OFFSETS AND ADDITIONAL ELBOWS REQUIRED TO SUIT SITE CONDITIONS ARE CONSIDERED PART OF THE SCOPE.

**C. CODES**

- ALL WORK SHALL COMPLY WITH 2018 INTERNATIONAL PLUMBING CODE ORDINANCES AND OTHER STATE, COUNTY, CITY AND LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NFPA CODES, ENERGY CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. THIS CONTRACTOR SHALL INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THIS CONTRACTOR SHALL INCLUDE IN THE BID ANY CHANGES REQUIRED BY CODES AND IF THESE CHANGES ARE NOT INCLUDED IN THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REIMBURSED TO THE CONTRACTOR.

**D. LICENSES, PERMITS AND INSPECTION FEES**

- THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS AND FEES REQUIRED OR RELATED TO DIVISION 15000 WORK.
- FURNISH TO THE (OWNER) ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

**E. GUARANTEE**

- THIS CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORK PROVIDED UNDER HIS/HER CONTRACT AND SHALL MAKE GOOD, REPAIR OR REPLACE AT HIS/HER OWN EXPENSE, ANY DEFECTIVE WORK, MATERIAL OR EQUIPMENT DISCOVERED WITHIN A PERIOD OF 12 MONTHS FROM THE DATE OF ACCEPTANCE (IN WRITING) OF THE INSTALLATION. EXTENDED WARRANTIES ARE AS SPECIFIED WITH INDIVIDUAL EQUIPMENT.
- THE HOT WATER HEATERS SHALL BE FURNISHED WITH A 5 YEAR HEAT EXCHANGER WARRANTY.

**F. PHASING REQUIREMENTS (IF APPLICABLE)**

- THIS CONTRACTOR SHALL INCLUDE IN THE BID ALL NECESSARY SERVICE REQUIRED TO KEEP THE OPERATING PORTION OF THE BUILDING'S (HVAC, PLUMBING AND SPRINKLER) SERVICES IN OPERATION. CONTRACTOR MUST SCHEDULE IN WRITING ONE WEEK PRIOR TO ANY SHUT DOWN OF (THE HVAC, PLUMBING OR FIRE PROTECTION) SYSTEMS
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DEMOLITION OF EXISTING WORK AND THE RENOVATION WORK. COORDINATE WITH THE OTHER CONTRACTORS ANY EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT. THIS CONTRACTOR SHALL INCLUDE AND WILL BE HELD RESPONSIBLE FOR, THE REMOVAL OF ALL EXISTING (FIRE PROTECTION SYSTEMS, PLUMBING FIXTURES, PIPING SYSTEMS, HVAC UNITS, REFRIGERANT RECAPTURE, EXHAUST FANS), AND ASSOCIATED ROOF CURBS OR RAILS NOT TO BE REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE. CONTRACTOR SHALL VERIFY ALL PRESUMED ABANDONED (EQUIPMENT, PIPES, DUCTWORK AND EQUIPMENT) PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED. ALL EXTRANEOUS ITEMS IN THE SPACE, ASSOCIATED WITH THE SPACE, OR ON THE ROOF NOT APPLICABLE TO THE NEW WORK MUST BE REMOVED AND ROOF/WALL/FLOOR PATCHED/REPAIRED TO MATCH EXISTING SURROUNDINGS. EXISTING ABANDONED (PIPES, DUCTS OR EQUIPMENT) IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR WITHIN THE FLOOR OR WALL WHEN THEY ARE NOT TO BE REUSED IN THIS PROJECT. IF REQUIRED BY CODES, ABANDONED (PIPING AND/OR DUCTWORK) MUST BE REMOVED TO POINT OF ORIGIN. CONFIRM THE EXTENT OF DEMOLITION PRIOR TO BID AND INCLUDE IN BID PROPOSAL.

**G. SLEEVE**

- THIS CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR.
- CONTRACTOR SHALL COORDINATE ANY CORE DRILLING OR CUTTING OF OPENINGS IN MASONRY FLOORS OR WALLS.
- ALL SLEEVES AND OPENINGS THROUGH FIRE-RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING SLEEVES IN BEARING AND MASONRY WALLS, FLOORS, AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL PIPING, SLEEVES SHALL BE NO. 22 U.S.G. GALVANIZED STEEL MINIMUM.

**H. HANGERS**

- PROVIDE HANGERS AND SUPPORTS FOR ALL PIPING, DUCTWORK, AND EQUIPMENT IN ACCORDANCE WITH SMACNA, MSS, ASME, AND ASHRAE STANDARDS.
- HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, BANDS, C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.

- HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE OR MASONRY. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORDS OF BAR JOISTS, WHERE INTERFERENCES OCCUR, AND IN ORDER TO SUPPORT (DUCTWORK OR PIPING) THE CONTRACTOR SHALL INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT.
- HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL 6" LONG SPLIT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION. PROVIDE HIGH DENSITY INSULATION INSERT BETWEEN THE SADDLE AND THE PIPE.
- HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY SEPARATED.

**I. DIRT AND DUST CONTROL**

- SCREEN OFF ALL AREAS WHERE CONSTRUCTION IS TO TAKE PLACE FROM THE AREAS TO REMAIN INHABITED. INHABITED AREAS SHALL REMAIN DUST AND DEBRIS FREE DURING CONSTRUCTION.
- CLEAN ANY AREAS OUTSIDE DESIGNATED CONSTRUCTION AREA WHICH MAY HAVE BECOME SOILED DUE TO CONSTRUCTION.

**J. EQUIPMENT, PIPING AND INSTALLATION**

- REFER TO PLANS FOR SCHEDULES OF EQUIPMENT AND FIXTURES. AMERICAN STANDARD, KOHLER AND CRANE ARE CONSIDERED ACCEPTABLE AS EQUALS.
- MAINTAIN A MINIMUM CLEARANCE OF 6" BETWEEN PLUMBING PIPING AND EQUIPMENT AND ALL FIRE/SMOKE RATED WALLS.
- INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALL UNITS LEVEL AND PLUMB, FIRMLY ANCHORED IN LOCATIONS INDICATED.
- POTABLE WATER PIPING SHALL BE AS FOLLOWS:
  - BELOW GRADE: TYPE 'K', ANNEALED TYPE TEMPERED COPPER TUBE FOR PIPE SIZES 2 INCHES AND SMALLER. BRAZE ALL JOINTS.
  - ALL OTHER: TYPE 'L' DRAWN COPPER TUBE WITH WROUGHT COPPER FITTINGS AND 95-5 TIN-ANTIMONY SOLDER.
- PIPING OF DISSIMILAR METALS SHALL BE DI-ELECTRICALLY SEPARATED.
- FIELD VERIFY EXACT CONNECTION POINTS PRIOR TO SUBMITTING BID AND NOTIFY ENGINEER IF CONDITIONS ARE NOT AS SHOWN ON THE PLANS OR AS STATED IN THE SPECIFICATIONS. CONTRACTOR SHALL VERIFY THE OPERABILITY OF ENTIRE SYSTEM PRIOR TO TIE-IN AS FOLLOWS:
  - SNAKE SANITARY FOR A DISTANCE OF 100 FEET AND REPORT ANY BLOCKAGE.
  - TEST WATER PRESSURE TO INSURE MINIMUM PSI MATCHES MOST DEMANDING EQUIPMENT SUPPLIED.
- INSULATE ALL HOT AND COLD WATER PIPING WITH 1" THICK (K=0.23 @ 75°F) FIBERGLASS PIPE INSULATION WITH AN ALL SERVICE JACKET TO MEET LOCAL CODES AND UL FLAME SPREAD AND SMOKE DEVELOPED RATING. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- INSULATE THE "TRAP", SANITARY AND SUPPLY PIPES UNDER LAVATORIES WITH TRUEBRO MODEL 102W "HAND LAY GUARD" INSULATION KIT OR EQUAL.
- INSTALL ALL NECESSARY PIPE HANGERS, SADDLES, AND CARRIERS TO PROPERLY SUPPORT ALL PIPING AND FIXTURES. HANGERS SHALL SUIT TYPE OF PIPING PROVIDED AND BE SPACED AT A MAXIMUM SPAN OF 5 FEET.
- FLUSH STERILIZE WATER SYSTEM IN ACCORDANCE WITH LOCAL CODES.
- TEST ENTIRE PLUMBING SYSTEM IN ACCORDANCE WITH 2018 INTERNATIONAL PLUMBING CODE
- PROVIDE WATER METER AND REMOTE READER PER LOCAL UTILITIES REQUIREMENT IF APPLICABLE.
- CONDENSATE DRAIN: PROVIDE POLYVINYL CHLORINE (PVC) SCHEDULE 40 PLASTIC PIPE (TYPE (DWV) IN CONFORMANCE WITH STANDARD ASTM D2665.
- VALVES: PROVIDE BALL VALVE NIBCO SERIES 585-70 FOR SHUT-OFF
- PROVIDE ACCESS PANELS WHERE REQUIRED FOR OPERATION, MAINTENANCE AND BALANCING OR PLUMBING EQUIPMENT.
- PROVIDE WATER HAMMER ARRESTORS AT EACH BRANCH LINE.

**H. GAS PIPING**

- FURNISH AND INSTALL A COMPLETE GAS PIPING SYSTEM.
- GAS LINES SHALL BE BLACK STEEL, SCHEDULE 40, ASTM A-53, WITH MALLEABLE THREADED FITTINGS FOR 2" AND SMALLER, AND WITH WELDED JOINTS FOR 2-1/2" AND LARGER.
- FURNISH AND INSTALL A GAS COCK, DIRT LEG, AND UNION CONNECTION AT EACH PIECE OF EQUIPMENT.
- PITCH PIPING AT A UNIFORM GRADE OF 1/4" IN 15 FEET UPWARD IN DIRECTION OF FLOW. SUPPORT PIPING EVERY 5 FEET, AS DETAILED ON DRAWINGS, OR BY STANDARD INDUSTRY PRACTICE, WHICHEVER IS MORE STRINGENT.
- GAS PIPING EXPOSED ON ROOF SHALL BE PAINTED WITH RUST-INHIBITING PAINT.
- GAS PIPING INSTALLED IN RETURN AIR PLENUMS SHALL BE SLEEVED AND VENTED OR WELDED IN ACCORDANCE WITH THE LOCAL GAS COMPANY, LOCAL CODE AND APPLICABLE NFPA 54 CODES.
- TESTING AND PURGING OF GAS PIPING SHALL BE DONE PER THE REQUIREMENTS OF THE LOCAL GAS COMPANY, LOCAL CODES AND APPLICABLE NFPA CODES.
- CONTACT AND COORDINATE GAS SERVICE, METER AND REGULATOR REQUIREMENTS WITH THE LOCAL GAS COMPANY PRIOR TO BID. INCLUDE INSTALLATION COST OF GAS METER AND REGULATOR IN BID.

**I. LABEL PIPE MARKERS**

- FURNISH AND INSTALL PIPE IDENTIFICATION MARKERS EVERY 5 FEET ON ALL PIPES INSTALLED UNDER THIS CONTRACT. MARKERS SHALL BE A MINIMUM OF 1-1/2" X 8" AND IDENTIFIED IN ACCORDANCE WITH THE BACKGROUND AND LETTER COLORS ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI). MARKERS SHALL BE MANUFACTURED BY CHAMPION AMERICA INC., BRADY, SETON, OR EQUAL.
- PIPING SHALL BE IDENTIFIED AS FOLLOWS: CONDENSATE, REFRIGERANT LIQUID, REFRIGERANT SUCTION, AND DIRECTIONAL ARROWS. ALL IDENTIFICATIONS MUST BE VISIBLE AT EQUIPMENT.
- VALVES SHALL BE TAGGED IN ACCORDANCE TO VALVE OPERATION SCHEMATIC.
- LABEL ALL FILTERED SUPPLY STOPS.

**J. STEEL FRAMING FOR SUPPORT**

- PROVIDE ALL NECESSARY STEEL FRAMING REQUIRED TO INSTALL ALL HVAC EQUIPMENT AS DESCRIBED OR IMPLIED ON THE DRAWINGS. ALL PENETRATIONS OF EXISTING STRUCTURE SHALL BE DONE AT THIS CONTRACTOR'S EXPENSE

**K. SYSTEM START-UP**

- THIS CONTRACTOR SHALL INCLUDE AS A BASE, 2-HOURS OF START-UP TIME PLUS AN ADDITIONAL 2-HOURS OF START-UP TIME PER HVAC UNIT SHOWN ON DRAWINGS.

**L. FINAL INSPECTIONS**

- ASIDE FROM NORMAL INTERIM INSPECTIONS OF WORK IN PLACE, THE ENGINEER SHALL BE NOTIFIED (IN WRITING) TO INSPECT THE FINISHED INSTALLATION UPON COMPLETION FOR COMPLIANCE WITH THE PLANS, SPECIFICATIONS AND CODES. THE INSTALLING CONTRACTOR SHALL BE RESPONSIBLE TO BRING ALL ITEMS REPORTED BY THE ENGINEER INTO COMPLIANCE.

**M. MATERIALS**

- WASTE PIPING: PVC SCH. 40

