



1411 S. POTOMAC ST, STE 290  
AURORA, CO 80012-4542



City of Aurora Building Division  
Project: **REMODEL**  
Address: **1411 S. POTOMAC STREET 290**  
Occupancy Group: **B**  
Construction Type: **UBC II 1 H.R. SPR**  
RSN: **1511868**  
Permit: **2021-1915533 LT**

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

This plan was reviewed for adopted codes and **NOT** for compliance with **ADA** or **FHA** accessibility requirements. Contact 800-949-4232 (**ADA**) and 303-894-7822 x 325 (**FHA**) for federal accessibility requirements that apply to your project.

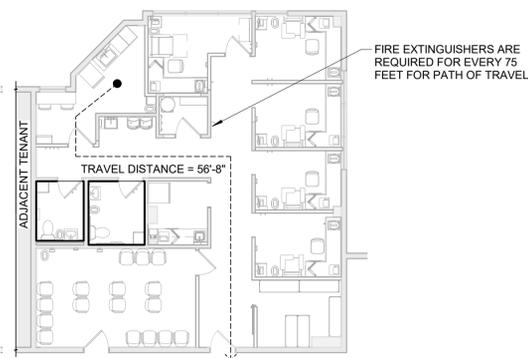
Provide U.L. Class **2A10BC** minimum rating fire extinguishers at a maximum 50'-0" travel distance prior to the Certificate of Occupancy issuance 2015 IFC Table 906.3[1] and 2013 NFPA 10

CHANGES TO EXISTING OR INSTALLATION OF NEW FIRE ALARM AND/OR FIRE SPRINKLER SYSTEMS REQUIRES SEPARATE PLAN AND PERMIT SUBMITTAL.



City of Aurora Building Division  
Reviewed for Code Compliance  
Approved as Noted: **cmcy**  
Date: **Jan 13, 2021**  
2015 INTERNATIONAL CODES & 2020 NEC

## SITE CODE:XXX



**PARTIAL TENANT EGRESS PLAN**  
N.T.S.

MECHANICAL INSPECTOR REFER TO PLAN SHEET **A111** FOR THE RELOCATED CEILING POSITIONS OF THE EXISTING SUPPLY AND RETURN OPENINGS.

### PROJECT CODE DATA

<b>GENERAL</b>	EXISTING BUILDING	4-STORY BUSINESS SPACE	
	CONSTRUCTION TYPE	TYPE II-B BUSINESS	
	OCCUPANCY GROUP	BUSINESS	
	FIRE PROTECTION	SPRINKLERED	
	BUILDING HEIGHT (TENANT SPACE)	1-STORY (2ND FLOOR)	
	GROSS SQ FT (TENANT SPACE)	1,600	
	PARKING	EXISTING	
	FINISHES: INTERIOR WALLS AND CEILINGS	CLASS 'A'	
	FLOOR FINISH	CLASS "1"	
<b>CODE REQUIREMENTS</b>	2015 INTERNATIONAL BUILDING CODE		
	2015 INTERNATIONAL RESIDENTIAL CODE		
	2015 INTERNATIONAL MECHANICAL CODE		
	2015 INTERNATIONAL FUEL GAS CODE		
	2015 INTERNATIONAL FIRE CODE		
	2015 INTERNATIONAL PLUMBING CODE		
	2015 INTERNATIONAL EXISTING BUILDING CODE		
	2015 INTERNATIONAL ENERGY CONSERVATION CODE		
	2009 ICC A117.1 ACCESSIBLE & USABLE BUILDINGS & FACILITIES CODE		
	2015 NFPA 101 LIFE SAFETY CODE		
	2020 NFPA 70 NATIONAL ELECTRIC CODE		
<b>OCCUPANCY LOAD CALCULATIONS</b>			
<b>OCC USE</b>	<b>AREA</b>	<b>FACTOR</b>	<b>LOAD</b>
BUSINESS	1,373 SF	100	14
STORAGE	115 SF	300	1
TOTAL	1,488 SF		15
<b>EGRESS WIDTH REQUIREMENTS</b>	0.2' x 15 = 3'	= 32" MINIMUM REQUIRED	72" PROVIDED
<b>EGRESS EXIT REQUIREMENTS</b> (<49 OCCUPANTS)	EXITS REQUIRED	= 1	
	EXITS PROVIDED	= 2	
<b>TRAVEL DISTANCE</b>	MAX DEAD END (SPRINKLERED)	= 50'-0"	
	MAX EGRESS TRAVEL (BUSINESS)	= 100'-0"	
<b>FIRE EXTINGUISHERS</b>	1. EXTINGUISHERS SHALL BE 10 LB. CAPACITY, UL LABELED, ENAMEL STEEL CONTAINER WITH PRESSURE INDICATING GAUGE FOR CLASS A, B, OR C FIRES. MAXIMUM SPACING TO BE 75 FEET APART ACCORDING TO IBC TABLE 906.3. TO BE WALL MOUNTED.		
	2. GENERAL CONTRACTOR TO COORDINATE FINAL LOCATIONS OF FIRE EXTINGUISHERS WITH LOCAL FIRE MARSHAL & SUBMIT DRAWING FOR BUILDING DEPARTMENT APPROVAL.		

### PLUMBING FIXTURE REQUIREMENTS

USE GROUP	WATER CLOSETS	LAVATORIES	DRINKING FOUNTAINS	SERVICE SINK
B - BUSINESS	1:25 (FIRST 50); 1:50 AFTER	1:40 (FIRST 80); 1:80...	1:100	NR 15 OR LESS OCC
15 OCC	15/25	15/40	15/100	15 OCC
TOTAL FIXTURES REQUIRED	1	1	1	0
TOTAL FIXTURES PROVIDED	(1) ADA COMPLIANT (1) NON-ADA COMPLIANT	3	2	1

### INDEX OF DRAWINGS

G001	COVER SHEET
G002	ACCESSIBILITY STANDARDS
G003	LIFE SAFETY PLAN
G004	COMCHECK
D101	DEMOLITION PLAN
A101	FLOOR PLAN
A111	REFLECTED CEILING PLAN
A131	FURNITURE AND FINISH PLAN
A210	INTERIOR ELEVATIONS
A601	SCHEDULES AND DETAILS
Q001	SPECIFICATIONS
Q002	SPECIFICATIONS
Q003	SPECIFICATIONS
FP101	FIRE PROTECTION PLAN
P001	PLUMBING GENERAL NOTES
P002	PLUMBING SPECIFICATIONS
P101	PLUMBING SANITARY PLAN
P102	PLUMBING SUPPLY PLAN
P601	PLUMBING SCHEDULES AND DETAILS
E001	ELECTRICAL SYMBOLS AND GENERAL NOTES
E002	ELECTRICAL SPECIFICATIONS
E101	ELECTRICAL POWER PLAN
E201	ELECTRICAL LIGHTING PLAN

### SCOPE OF WORK

TENANT FIT OUT IN EXISTING SPACE. NEW "REFRESH" PATIENT SERVICE CENTER FOR QUEST DIAGNOSTICS WILL BE CONSTRUCTED IN EXISTING QUEST SPACE.

THE PATIENT SERVICE CENTER IS AN OFFICE WHERE PATIENTS MAY COME TO HAVE BLOOD DRAWN OR TO LEAVE URINE SAMPLES. THERE IS NO LABORATORY WORK PERFORMED ON THE PREMISES. ALL SAMPLES ARE SAFELY STORED AND SENT TO QUEST DIAGNOSTICS LABORATORIES FOR PROCESSING. THE QUEST DIAGNOSTICS PATIENT SERVICE CENTER IS NOT A HEALTHCARE FACILITY SUCH AS A HOSPITAL OR OUTPATIENT CLINIC. QUEST DIAGNOSTICS CONTINUES TO EXPAND CONSUMER ACCESS TO HEALTHCARE SERVICES WHERE PEOPLE ALSO SHOP, MAKING IT EASIER FOR THEM TO GET THE QUALITY DIAGNOSTIC INSIGHTS THEY NEED IN CONVENIENT LOCATIONS. WHETHER USED FOR AN OCCASIONAL PHYSICAL EXAM, OR FOR DIAGNOSTIC PURPOSES, OR FOR MONITORING OF A PATIENT'S CONDITION DURING A SERIOUS ILLNESS, THE OFFICE'S LOCATION NEAR PEOPLE'S HOMES AND OFFICES WILL PROVIDE A GREAT CONVENIENCE AND WILL IMPROVE THE ACCESS OF THE COMMUNITY TO QUALITY HEALTHCARE SERVICES.



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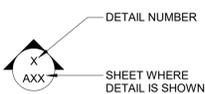


### GENERAL NOTES

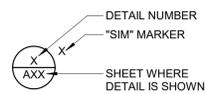
- CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY OF MATERIAL DISCREPANCIES FOUND IN THE DRAWINGS OR ANY EXISTING CONDITIONS FOUND ON THE SITE WHICH CONFLICT WITH CONDITIONS AS SHOWN IN THE CONTRACT DOCUMENTS.
- DRAWINGS ARE NOT TO BE SCALED. DIMENSIONS INDICATED ON DRAWINGS TAKE PRECEDENCE. LARGE SCALE DRAWINGS TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS. NOTIFY THE ARCHITECT FOR CLARIFICATIONS. ABBREVIATIONS THROUGHOUT THE DRAWINGS ARE THOSE IN COMMON USE. NOTIFY THE ARCHITECT OF ANY ABBREVIATIONS IN QUESTION.
- CONTRACTOR TO COORDINATE THE WORK OF ALL TRADES.
- PROVIDE SOLID WOOD BLOCKING IN STUD WALLS AS REQUIRED TO SUPPORT WALL MOUNTED CABINETRY, COUNTERS, AND ALL OTHER COMPONENTS.
- ALL CONCEALED INSULATION SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS AND A SMOKE DEVELOPED RATING OF 450 OR LESS IN ACCORDANCE WITH ASTM E84.
- EXIT HARDWARE SHALL ALLOW FOR EGRESS AT ALL TIMES WITHOUT THE USE OF SPECIAL KNOWLEDGE OR EFFORT.
- THE CONTRACTOR SHALL BRACE ENTIRE STRUCTURE AS REQUIRED DURING CONSTRUCTION TO MAINTAIN STABILITY UNTIL THE STRUCTURE IS COMPLETE AND FUNCTIONING AS THE DESIGNED UNIT.
- THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES OF CONSTRUCTION SELECTED AND UTILIZED BY CONTRACTOR.
- THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE ARCHITECT / ENGINEER HAVE NO RESPONSIBILITY FOR THE SAFETY OF PERSONNEL OR SAFE CONDITIONS AT THE SITE.
- CONTRACTOR TO VERIFY ALL DIMENSIONS AND INFORMATION IN THESE DRAWINGS. CONTRACTOR TO COMPLY WITH ALL EXISTING CONDITIONS, INCLUDING BUILDINGS, SITE CONDITIONS AND SOIL BEARINGS PRESSURE. ALL ERRORS, OMISSIONS AND INCONSISTENCIES ARE TO BE REPORTED TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. FAILURE TO DO SO WILL RELEASE THE ARCHITECT AND ENGINEERS OF ANY RESPONSIBILITY. ANY CHANGE FROM THESE DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THESE DRAWINGS ARE NOT TO BE SCALED. IF INSUFFICIENT INFORMATION EXISTS, CONTACT THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- CONTRACTOR IS TO COMPLY WITH ALL APPLICABLE CODES AND SAFETY REGULATIONS.
- EXTERIOR AND INTERIOR PLAN DIMENSIONS ARE TO FACE OF STUD FRAMING. PARTITIONS ARE 3/8" UNLESS NOTED OTHERWISE.
- NOTCHES IN WALL STUDS ARE NOT TO EXCEED 1/4" OF THE STUD WIDTH, AND NO HOLES ARE TO BE GREATER THAN 40% OF THE STUD WIDTH. NO HOLES OR NOTCHES ARE ALLOWED IN BEAMS OR COLUMNS UNLESS APPROVED BY ARCHITECT.
- FIRE STOPPING OF TWO INCH NOMINAL LUMBER SHALL BE PROVIDED TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN ALL CONCEALED DRAFT OPENINGS, BOTH VERTICAL AND HORIZONTAL.
- STRUCTURAL LUMBER EXPOSED TO THE EXTERIOR OR CONTACT WITH THE FOUNDATION TO BE PRESSURE TREATED.
- ALL FINISHES IN EXIT ACCESS CORRIDOR/EXIT WAYS TO BE CLASS B. ALL FINISHES IN ROOMS/ENCLOSED SPACES TO BE CLASS C.
- ALL WOOD BLOCKING TO BE FIRE RETARDANT TREATED.
- AIR MOISTURE BARRIER OVER CMU AND EXTERIOR SHEATHING. REFER TO SPECIFICATIONS AND MANUFACTURER AND PRODUCTION INFORMATION.

### SYMBOL LEGEND

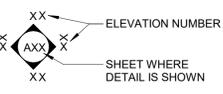
#### TYPICAL WALL SECTION



#### TYPICAL DETAIL

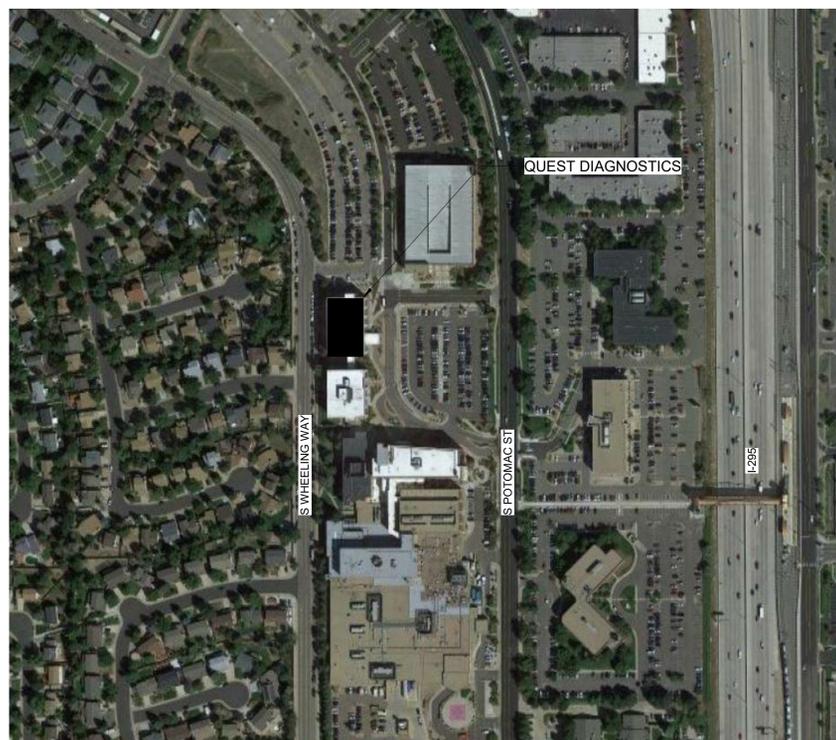


#### TYPICAL ELEVATION



- (X) DOOR TAG
- (?) MATERIAL TAG
- (7) KEY NOTE NUMBER
- (ELEVATION OR DATUM)
- (X) PARTITION TYPE
- (01) WINDOW NUMBER
- X-01 FURNITURE / EQUIPMENT NUMBER

### SITE KEY PLAN



### PROJECT DIRECTORY

**BUILDING DEPARTMENT:**  
CITY OF AURORA, BUILDING DIVISION  
15151 E ALAMEDA PARKWAY, 2ND FLOOR  
AURORA, CO 80012  
CONTACT: CARL HOLMES@CBRE.COM  
PHONE: 303-739-7420  
EMAIL: PERMITCOUNTER@AURORAGOV.ORG

**BUILDING OWNER:**  
HCP MOP  
1411 AURORA, CO, LP  
PHONE: 720-641-7581  
EMAIL: CARL.HOLMES@CBRE.COM

**TENANT:**  
QUEST DIAGNOSTICS  
NATIONAL PATIENT SERVICES  
500 PLAZA DRIVE  
SECAUCUS, NJ 07094  
CONTACT: BILL WILLIAMS  
PHONE: 813-927-9235  
EMAIL: BILL.WILLIAMS@QUESTDIAGNOSTICS.COM

**TENANT REPRESENTATIVE:**  
C2 CONSULTANTS  
9160 HIGHWAY 64, SUITE 12 #189  
LAKEWOOD, TN 38002  
CONTACT: RICHARD HOLLAND  
PHONE: 901-614-2300  
EMAIL: RICHARD@C2CONSULTANTSINC.COM

**ARCHITECT:**  
MS CONSULTANTS, INC.  
2221 SCHROCK ROAD  
COLUMBUS, OH 43229  
ARCHITECT OF RECORD: CHARLES M. BUSCH  
CONTACT: CATHY RAMONDELLI  
PHONE: 614-898-7100  
EMAIL: CRAMONDELLI@MSCONSULTANTS.COM

**MEP ENGINEER:**  
MS CONSULTANTS, INC.  
2221 SCHROCK ROAD  
COLUMBUS, OH 43229  
ENGINEER OF RECORD: JASON E. CHRISTOFF  
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PROJECT

### QUEST DIAGNOSTICS

1411 S. POTOMAC ST, STE 290  
AURORA, CO 80012-4542



11/20/2020  
PROFESSIONAL OF RECORD:  
CHARLES M. BUSCH No. ARC.00403518  
EXP. DATE: 10/31/2021

PROJECT NO. 62-40487-04

SHEET TITLE COVER SHEET

SHEET **G001**





11/20/2020 4:39:34 PM NOTICE: THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.

**DEMOLITION KEYNOTES**

D1	EXISTING DOOR AND FRAME TO BE REMOVED AND RELOCATED. PROTECT FROM DAMAGE DURING CONSTRUCTION. PREP TO RECEIVE NEW FINISHES AND HARDWARE AS REQUIRED. REPAIR WALLS AND FLOORING AS REQUIRED FOR NEW FINISHES.
D2	EXISTING TENANT DEMISING WALL TO REMAIN. PROTECT FROM DAMAGE DURING CONSTRUCTION AND PREP TO RECEIVE NEW FINISHES.
D3	EXISTING DOOR TO REMAIN - PROTECT FROM DAMAGE DURING CONSTRUCTION. PREP TO RECEIVE NEW FINISHES AND HARDWARE AS REQUIRED.
D4	REMOVE EXISTING FLOOR FINISHES AND BASE AND PREP SLAB AS REQUIRED TO RECEIVE NEW FINISHES UNLESS NOTED OTHERWISE.
D5	EXISTING STUD WALL AND GYP TO BE REMOVED. PATCH FLOOR AS REQUIRED AND PREP FOR NEW CONSTRUCTION. CAP ALL PLUMBING AND ELECTRICAL AS REQUIRED.
D7	REMOVE EXISTING EQUIPMENT, FIXTURES AND FURNITURE AS REQUIRED FOR NEW CONSTRUCTION - CONFIRM WITH OWNER'S REP. ON DISPOSAL. CAP ALL PLUMBING AND ELECTRICAL AS REQUIRED.
D8	EXISTING IT EQUIPMENT TO BE RELOCATED. REFER TO NEW WORK ELECTRICAL DWGS FOR MORE INFORMATION.
D10	EXISTING DOOR AND FRAME TO BE REMOVED AND DISPOSED OF AS DIRECTED BY OWNER'S REP.
D11	REMOVE EXISTING FLOORING, BASE, PLUMBING FIXTURES, AND ALL RESTROOM ACCESSORIES AND DISPOSE OF DIRECTED BY OWNER'S REP. PREPARE RESTROOM FLOOR AND WALLS FOR INSTALLATION OF NEW. ADD BLOCKING FOR ANY/ALL ACCESSORIES AS REQUIRED.
D12	REMOVE EXISTING WALL MOUNT AND TV AND SET ASIDE FOR POSSIBLE REUSE AS DIRECTED BY OWNER'S REP.
D13	REMOVE EXISTING TRACK AND CURTAIN FROM CEILING AND DISPOSE OF AS DIRECTED BY OWNER'S REP.
D14	REMOVE EXISTING SHELVING AND DISPOSE OF AS DIRECTED BY OWNER'S REP.
D15	RELOCATE EXISTING FIRE EXTINGUISHER TANK - REFER TO FLOOR PLAN FOR NEW LOCATION.

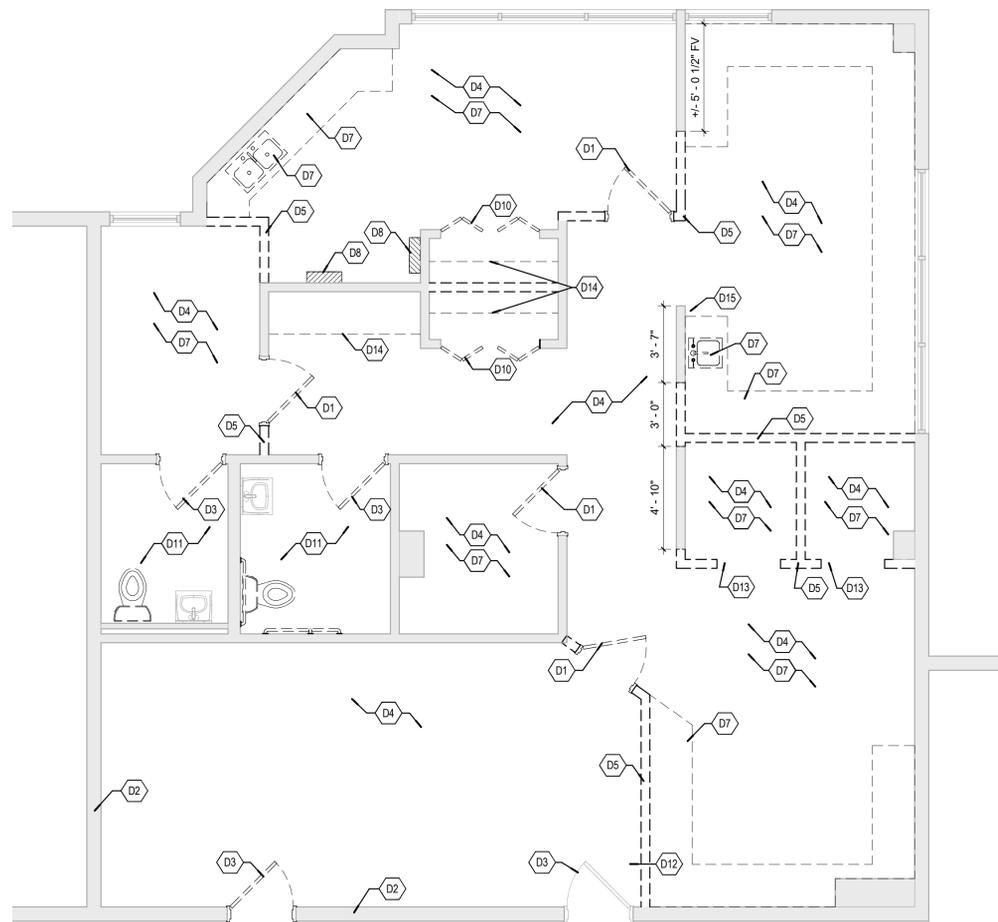
**GENERAL NOTES**

- OBTAIN DEMOLITION PERMITS AND INCLUDE ALL COSTS OF SAME IN CONTRACT PRICE, IF REQUIRED.
- PROVIDE ALL LABOR AND MATERIALS/EQUIPMENT AS REQUIRED TO COMPLETE DEMOLITION AND REMOVAL OF ALL ITEMS AS INDICATED.
- PROVIDE STRICT CONTROL OF JOB CLEANING AND PREVENT DUST AND DEBRIS FROM REMAINING FROM DEMOLITION/ CONSTRUCTION AREA. KEEP AREA CLEAN.
- IF ANY QUESTIONS ARISE AS TO THE REMOVAL OF ANY MATERIAL, CLARIFY THE POINT IN QUESTION WITH THE ARCHITECT BEFORE PROCEEDING.
- AT COMPLETION OF DEMOLITION WORK, THE CONSTRUCTION AREA(S) SHALL BE LEFT IN "BROOM CLEAN" CONDITION. ALL DEBRIS AND MISCELLANEOUS MATERIAL SHALL BE REMOVED. ALL DEBRIS REMOVAL SHALL BE PERFORMED IN ACCORDANCE WITH BUILDING MANAGEMENT REQUIREMENTS AND PROCEDURES.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH A SYSTEM OF TEMPORARY LIGHT & POWER IN THE SPACE DURING CONSTRUCTION.
- ALL DEMOLISHED ELECTRICAL DEVICES, PLUMBING LINES, VENTS, DRAINS, APPLIANCES, TO BE REMOVED AND TERMINATED AT THEIR SOURCE U.N.O.
- IN PARTITIONS TO BE REMOVED, REMOVE AND CAP ALL OUTLETS, SWITCHES, WIRES THERMOSTATS, ETC. TO THEIR SOURCE AS REQUIRED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING AND/OR REPAIRING ANY DAMAGE CAUSED BY THE CONTRACTOR OR CONTRACTOR'S SUBCONTRACTORS TO EXISTING CONSTRUCTION. REFINISH TO MATCH EXISTING ADJACENT FINISH, OR AS NOTED HEREIN.
- FIRE PROTECTION RENOVATIONS, BY OTHERS. PROTECT EXISTING DURING DEMOLITION WORK.
- ALL EXISTING FLOOR MOUNTED OUTLETS AND ASSOCIATED WIRING SHALL BE REMOVED AND CAPPED OFF AT THE NEAREST JUNCTION BOX. FILL AND LEVEL FLOOR TO ACCEPT NEW SCHEDULED FLOOR COVERING.
- RE-USE OR RELOCATE ALL ABOVE CEILING DUCTWORK AS CONTAINED HEREIN INCLUDING BUT NOT LIMITED TO, DIFFUSERS, GRILLES, OR OTHER EQUIPMENT, AS REQUIRED FOR PROPER DISTRIBUTION WITH NEW LAYOUT. CONFIRM WITH NEW WORK MECHANICAL DRAWINGS.
- REMOVAL OF ANY EQUIPMENT, CABLING SWITCHES, AND CONDUIT PERTAINING TO DATA/ COMMUNICATIONS AND TELEPHONE SHALL BE VERIFIED WITH TELEPHONE COMPANIES SERVICE OWNER OR TENANT DATA/COMMUNICATIONS REPRESENTATIVE AS REQUIRED TO PREVENT NEW CONSTRUCTION DELAYS.
- REMOVE ALL EXISTING IRREGULAR MATERIALS WHICH CAUSE RISES OR DEPRESSIONS IN FLOORING SURFACE, SUCH AS FASTENERS, OUTLET CORES, COVER PLATES, RESILIENT FLOOR COVERINGS, CARPET, CARPET PAD, FLASH PATCH, CONCRETE FILL, PLYWOOD, ETC.
- DEMOLITION IS NOT NECESSARILY LIMITED TO WHAT IS SHOWN ON DRAWINGS. THE INTENT IS TO INDICATE THE GENERAL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS. GENERAL CONTRACTOR SHALL VISIT SITE & FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS & NOTE ANY DISCREPANCIES IN WRITING TO PROJECT MANAGER & ARCHITECT.
- EXIT PATHS MUST REMAIN ACCESSIBLE AT ALL TIMES DURING DEMOLITION.
- REMOVE EXISTING SIGNAGE/GRAPHICS AND STORE FOR RE-USE, WHERE APPLICABLE.
- ALL CEILING AND LIGHTING TO BE REMOVED IN AREAS SHOWN IN CONTRACT.
- ALL FLOOR FINISHES AND WALL BASE TO BE REMOVED IN AREAS SHOWN IN CONTRACT.
- COORDINATE AREAS OF SLAB TO BE REMOVED WITH PLUMBING PLANS.

**SYMBOL LEGEND**

	EXISTING WALL TO REMAIN
	DEMOLISHED WALLS, DOORS, FRAMES, AND FIXTURES INDICATED AS DASHED

NOTE: COORDINATE ALL SLAB PENETRATIONS WITH LANDLORD AND ADJACENT TENANTS BELOW



**1 DEMOLITION PLAN**  
1/4" = 1'-0"

City of Aurora Building Division  
Reviewed for Code Compliance  
Approved as Noted: cmacy  
Date: Jan 13, 2021  
2015 INTERNATIONAL CODES & 2020 NEC



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SHEET TITLE DEMOLITION PLAN

SHEET **D101**













DRAWN BY JPJ

CHECKED BY CMB/CLR

ISSUE DATE 11/18/2020

REVISION table with columns: #, DATE, DESCRIPTION



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QUEST DIAGNOSTICS

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PROFESSIONAL OF RECORD: CHARLES M. BUSCH No. AEC 00403518 EXP. DATE: 10/31/2021

PROJECT NO. 62-40487-04

SHEET TITLE SPECIFICATIONS

SHEET Q002

08 71 00 - DOOR HARDWARE
1. PROVIDE COMMERCIAL DOOR HARDWARE FOR OPENINGS SHOWN.
2. COORDINATION: COORDINATE DOOR HARDWARE WITH OTHER WORK. FURNISH SHOP DRAWINGS OF OTHER WORK WHERE REQUIRED OR REQUESTED TO COORDINATE INSTALLATION.

08 80 00 - GLAZING
1. MATERIALS: AS SCHEDULED ON THE DRAWINGS.
2. GLAZING FOR FIRE-RATED ASSEMBLIES: GLAZING FOR ASSEMBLIES THAT COMPLY WITH NFPA 80 AND THAT ARE LISTED AND LABELED BY A TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, FOR FIRE RATINGS INDICATED, BASED ON TESTING ACCORDING TO NFPA 257.

09 00 00 - FINISHES - COMMON WORK RESULTS
1. ADHESIVES: USE WATER-RESISTANT, LOW ODOR, LOW VOLATILE, NON-TOXIC AND EMIT LESS THAN EPA MAXIMUM EMISSION RATE GUIDELINE OF 0.6 MG/M2 HR. FOR VOLATILES; VOC CONTENT OF 65 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59.

09 22 16 - NON-STRUCTURAL METAL FRAMING
1. QUALITY ASSURANCE:
A. FIRE-TEST-RESPONSE CHARACTERISTICS: FOR FIRE-RESISTANCE-RATED ASSEMBLIES THAT INCORPORATE NON-LOAD-BEARING STEEL FRAMING, PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM E 119 BY AN INDEPENDENT TESTING AGENCY.

09 29 00 - GYPSUM BOARD
1. FIRE-TEST-RESPONSE CHARACTERISTICS: PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM E 119 BY AN INDEPENDENT TESTING AND INSPECTING AGENCY.
2. SOUND TRANSMISSION CHARACTERISTICS: PROVIDE MATERIALS AND CONSTRUCTION IDENTICAL TO THOSE TESTED IN ASSEMBLY INDICATED ACCORDING TO ASTM E 90 AND CLASSIFIED ACCORDING TO ASTM E 413 BY A QUALIFIED INDEPENDENT TESTING AGENCY.

07 84 46 - FIRE-RESISTIVE JOINT SYSTEMS
1. PROVIDE RATED SYSTEMS PER ASTM E 814 OR UL 1479 AT PENETRATIONS OF RATED CONSTRUCTION.
2. PERFORMANCE REQUIREMENTS:
A. F-RATINGS: PROVIDE FIRESTOP SYSTEMS WITH F-RATINGS EQUALING OR EXCEEDING FIRE-RESISTANCE RATING OF CONSTRUCTION PENETRATED AS DETERMINED PER ASTM E 814.

07 92 00 - JOINT SEALANTS - INTERIOR WORK
1. VOC CONTENT OF INTERIOR SEALANTS: PROVIDE INTERIOR SEALANTS AND SEALANT PRIMERS THAT COMPLY WITH THE FOLLOWING LIMITS FOR VOC CONTENT WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24), 250 G/L FOR SEALANTS AND SEALANT PRIMERS FOR NONPOROUS SUBSTRATES; 775 G/L FOR SEALANT PRIMERS FOR POROUS SUBSTRATES.

11 13 - HOLLOW METAL FRAMES
1. MINIMUM THICKNESS: MINIMUM THICKNESS OF BASE METAL WITHOUT COATINGS ACCORDING TO NAAMM- HMMA 803 OR SDI A250.8.
2. COORDINATE ANCHORS AND INSTALLATION FOR HOLLOW METAL FRAMES, FURNISH SETTING DRAWINGS, TEMPLATES, AND DIRECTIONS FOR INSTALLING ANCHORAGES, INCLUDING SLEEVES, CONCRETE INSERTS, ANCHOR BOLTS, AND ITEMS WITH INTEGRAL ANCHORS.

08 12 16 - INTERIOR ALUMINUM FRAMES
1. BASIS OF DESIGN: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE "SOLUTION II" INTERIOR ALUMINUM FRAMES BY RACO INTERIOR PRODUCTS, INC. OR COMPARABLE PRODUCT.
2. FIRE-RATED FRAMES: FRAMES FOR FIRE-RATED DOOR ASSEMBLIES COMPLYING WITH NFPA 80 THAT ARE LISTED AND LABELED BY A QUALIFIED TESTING AGENCY, FOR FIRE-PROTECTION RATINGS INDICATED, BASED ON TESTING AT POSITIVE PRESSURE ACCORDING TO NFPA 252 OR UL 10C.

08 14 10 - FLUSH WOOD DOORS
1. QUALITY STANDARD: COMPLY WITH NWWDA I.S.1-A, "ARCHITECTURAL WOOD FLUSH DOORS."
2. FIRE-RATED WOOD DOORS: DOORS THAT ARE LISTED AND LABELED BY A TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, FOR FIRE RATINGS INDICATED.

08 31 00 - ACCESS DOORS AND PANELS
1. PROVIDE ACCESS DOORS AND PANELS AS SHOWN ON THE DRAWINGS AND AS REQUIRED FOR ACCESS TO UTILITIES AND EQUIPMENT. FURNISH EACH ACCESS DOOR AND PANEL MANUFACTURED AS AN INTEGRAL UNIT, COMPLETE WITH ALL PARTS, AND READY FOR INSTALLATION.
A. FIRE-RATED ACCESS DOORS AND FRAMES: UNITS COMPLYING WITH NFPA 80 THAT ARE IDENTICAL TO ACCESS DOOR AND FRAME ASSEMBLIES TESTED FOR FIRE-TEST-RESPONSE CHARACTERISTICS PER THE FOLLOWING TEST METHOD AND THAT ARE LISTED AND LABELED BY UL.

06 10 00 - ROUGH CARPENTRY
1. PROVIDE OWNER WITH ELECTRONIC COPY OF ALL ARCHITECTURAL WOODWORK SHOP DRAWINGS PRIOR TO FABRICATION.
2. MOISTURE CONTENT: 19 PERCENT MAXIMUM FOR LUMBER ITEMS, INCLUDING ITEMS TO RECEIVE WOOD PRESERVATIVE TREATMENT OR FIRE-RETARDANT TREATMENT.

06 40 00 - ARCHITECTURAL WOODWORK
1. FABRICATION: COMPLY WITH DETAILS AND CONSTRUCTION TYPES INDICATED.
2. QUALITY STANDARDS: COMPLY WITH ONE OF THE FOLLOWING:
A. AWIS "ARCHITECTURAL WOODWORK QUALITY STANDARDS" FOR GRADES OF INTERIOR ARCHITECTURAL WOODWORK, CONSTRUCTION, FINISHES, AND OTHER REQUIREMENTS. PROVIDE AWI CERTIFICATION LABELS OR COMPLIANCE CERTIFICATE INDICATING THAT WOODWORK COMPLIES WITH REQUIREMENTS OF GRADES SPECIFIED.

07 21 19 - THERMAL INSULATION
1. INSULATING MATERIALS:
A. BASIS OF DESIGN: PROVIDE THE FOLLOWING MATERIAL AND MANUFACTURER:
1. "HEATLOK SOY 200" BY DEMILEC (USA) LLC, ARLINGTON, TX

07 81 05 - PATCHING DAMAGED FIREPROOFING
1. PROVIDE MATERIALS AND CONSTRUCTION THAT ARE IDENTICAL TO THOSE TESTED BY UNDERWRITER'S LABORATORY, INC., FOR FIRE RATED ASSEMBLY DESIGN NUMBERS INDICATED.
2. DO NOT REMOVE ANY SPRAYED-ON FIRE RESISTIVE MATERIAL WITHOUT PRIOR APPROVAL. RE-COAT FIRE RESISTIVE MATERIALS DAMAGED BY OTHER TRADES AND SURFACES WHERE FIRE RESISTIVE MATERIAL HAS BEEN REMOVED FOR INSTALLATION OF RELATED WORK; COST OF REPAIRS TO BE BORNE BY RESPECTIVE TRADES.

07 84 13 - PENETRATION FIRESTOPPING
1. PROVIDE PENETRATION FIRESTOPPING THAT IS PRODUCED AND INSTALLED TO RESIST SPREAD OF FIRE ACCORDING TO REQUIREMENTS INDICATED, RESIST PASSAGE OF SMOKE AND OTHER GASES, AND MAINTAIN ORIGINAL FIRE-RESISTANCE RATING OF CONSTRUCTION PENETRATED. PENETRATION FIRESTOPPING SYSTEMS SHALL BE COMPATIBLE WITH ONE ANOTHER, WITH THE SUBSTRATES FORMING OPENINGS, AND WITH PENETRATING ITEMS IF ANY.

08 31 00 - ACCESS DOORS AND PANELS
1. PROVIDE ACCESS DOORS AND PANELS AS SHOWN ON THE DRAWINGS AND AS REQUIRED FOR ACCESS TO UTILITIES AND EQUIPMENT. FURNISH EACH ACCESS DOOR AND PANEL MANUFACTURED AS AN INTEGRAL UNIT, COMPLETE WITH ALL PARTS, AND READY FOR INSTALLATION.
A. FIRE-RATED ACCESS DOORS AND FRAMES: UNITS COMPLYING WITH NFPA 80 THAT ARE IDENTICAL TO ACCESS DOOR AND FRAME ASSEMBLIES TESTED FOR FIRE-TEST-RESPONSE CHARACTERISTICS PER THE FOLLOWING TEST METHOD AND THAT ARE LISTED AND LABELED BY UL.

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RSN: 1511868
Permit #: 2021-1915533 LT

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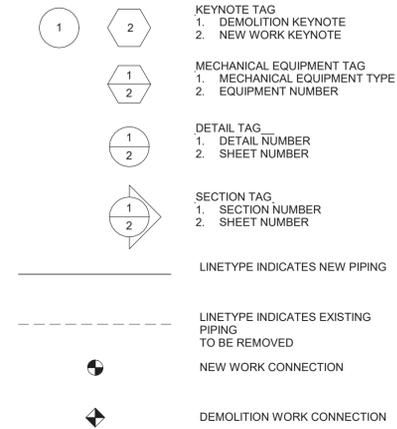




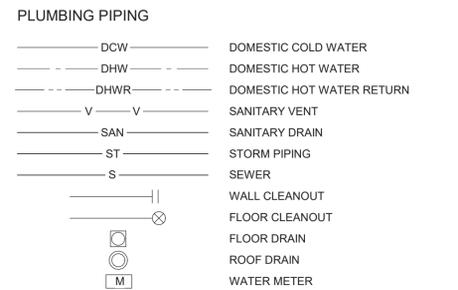
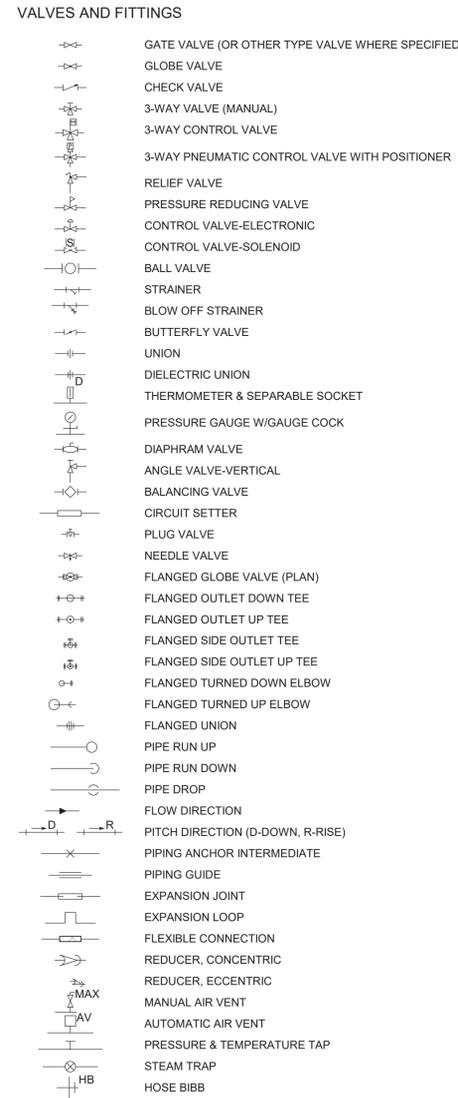
### PLUMBING ABBREVIATIONS

AD	AREA DRAIN	M	METER
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AP	ACCESS PANEL	MBH	BRITISH THERMAL UNITS (THOUSANDS)
ARCH	ARCHITECT (-URAL, -URE)	MIN	MINUTES, MINIMUM
ATM	ATMOSPHERE	MP	MEDIUM PRESSURE
AUX	AUXILIARY	MPC	MEDIUM PRESSURE CONDENSATE
		MPS	MEDIUM PRESSURE STEAM
BFP	BACKFLOW PREVENTER	MWP	MAXIMUM WORKING PRESSURE
BHP	BRAKE HORSEPOWER, BOILER HORSEPOWER		
BOP	BOTTOM OF PIPE	N/A	NOT APPLICABLE
BTU	BRITISH THERMAL UNIT	NC	NORMALLY CLOSED
BTUH	BRITISH THERMAL UNITS PER HOUR	NG	NATURAL GAS
		NIC	NOT IN CONTRACT
CA	COMPRESSED AIR	NO	NORMALLY OPEN
CB	CATCH BASIN	NPW	NON POTABLE WATER
CI	CAST IRON		
CO	CLEANOUT, CARBON MONOXIDE	OD	OUTSIDE DIAMETER
COL	COLUMN	OS&Y	OUTSIDE SCREW & YOKE (VALVE)
COMP	COMPRESSOR		
COND	CONDENSATE	PCF	POUNDS PER CUBIC FOOT
CONT	CONTINU (-ATION, -OUS)	PC	PUMPED CONDENSATE
CP	CONDENSATE PUMP	PD	PRESSURE DROP
CS	CIRCUIT SETTER	PPM	PARTS PER MILLION
CV	CONTROL VALVE	PRESS	PRESSURE
Cv	COEFFICIENT, VALVE FLOW	PRV	PRESSURE REDUCING VALVE
CWR	COLD WATER RETURN	PSI	POUNDS PER SQUARE INCH
CWS	COLD WATER SUPPLY	PSIG	PRESSURE PER SQUARE INCH GAUGE
		PSV	PILOT SOLENOID VALVE
		QTY	QUANTITY
DB	DRY-BULB		
DCW	DOMESTIC COLD WATER	RD	ROOF DRAIN
DHW	DOMESTIC HOT WATER	RECIRC	RECIRCULATE
DHWR	DOMESTIC HOT WATER RETURN	REFRIG	REFRIGERANT
DIA	DIAMETER	RL	REFRIGERANT LIQUID
DN	DOWN	RBPB	REDUCED PRESSURE BACKFLOW PREVENTER
DS	DOWNSPOUT	RPM	REVOLUTIONS PER MINUTE
DWG	DRAWING	RPS	REVOLUTIONS PER SECOND
		RR	REFRIGERANT RELIEF
EQUIP	EQUIPMENT	RS	REFRIGERANT SUCTION
ET	EXPANSION TANK		
EW	EYE WASH	SCFM	CFM, STANDARD CONDITIONS
EWC	ELECTRIC WATER COOLER	SF	SQUARE FEET
EXP	EXPANSION	SHT	SHEET
		SP	STATIC PRESSURE
F	FAUCET	SPGR	SPECIFIC GRAVITY
FCO	FLOOR CLEANOUT	SPKLR	SPRINKLER
FD	FLOOR DRAIN	SS	SERVICE SINK
FD	FIRE DEPARTMENT CONNECTION	STD	STANDARD
FH	FIRE HOSE		
FHC	FIRE HOSE CABINET	TAB	TESTING, ADJUSTING AND BALANCING
FHR	FIRE HOSE RACK	TCC	TEMPERATURE CONTROL CONTRACTOR
FHYR	FIRE HYDRANT	TD	TEMPERATURE DIFFERENCE
FIXT	FIXTURE	TI	TEMPERATURE INDICATOR
FOR	FUEL OIL RETURN	TSP	TOTAL STATIC PRESSURE
FOS	FUEL OIL SUPPLY	TT	TEMPERATURE TRANSMITTER
FPM	FEET PER MINUTE	TYP	TYPICAL
FPS	FEET PER SECOND		
FS	FLOW SWITCH	UNO	UNLESS NOTED OTHERWISE
FT	FEET	UR	URINAL
		US	UTILITY SINK
GC	GENERAL CONTRACTOR	UT	UTILITY REEL
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE	V	VENT
		VAC	VACUUM
HB	HOSE BIB	VEL	VELOCITY
HD	HEAD	VTR	VENT THRU ROOF
HP	HORSEPOWER		
HT	HEIGHT	W	WASTE
		W/	WITH
IN	INCHES	WC	WATER CLOSET
		W/O	WITHOUT
KS	KITCHEN SINK	WC	WATER COLUMN
		WH	WATER HEATER
LAV	LAVATORY		
LBS	POUNDS		
LF	LINEAR FEET		
LPS	LOW PRESSURE STEAM		

### GENERAL SYMBOLS



### PLUMBING PIPING SYMBOLS



### GENERAL NOTES - PLUMBING

- PRIOR TO BID, PLUMBING CONTRACTOR AND GENERAL CONTRACTOR SHALL VERIFY SANITARY SEWER SYSTEM LOCATION, ROUTING, FITCHES, INVERTS, SIZES AND TIE-IN POINT. ALL SEWER SYSTEM INFORMATION SHALL BE COORDINATED WITH GC AND OWNER REPRESENTATIVE AT TIME OF BID WALK-THROUGH. INFORM PLUMBING ENGINEER OF ANY AND ALL DISCREPANCIES FROM WORK SHOWN ON PLUMBING DRAWINGS PRIOR TO BID DATE.
- ALL PIPING AND EQUIPMENT SHOWN IN LIGHT LINEWORK IS EXISTING AND TO REMAIN OR AS INDICATED BY KEYNOTES.
- ALL PIPING AND EQUIPMENT SHOWN IN DARK LINEWORK IS NEW OR AS INDICATED BY KEYNOTES.
- ALL PIPING, DUCTWORK OR MECHANICAL EQUIPMENT SHOWN ON DEMOLITION DRAWINGS IN DASHED LINE WORK IS TO BE REMOVED OR AS INDICATED ON KEYNOTES.
- THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF NEW AND EXISTING PIPING AND EQUIPMENT. THE CONTRACTOR SHALL FOLLOW THIS ARRANGEMENT WHEREVER FEASIBLE. HOWEVER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS TO VERIFY EXISTING FIELD CONDITIONS AND TO MAKE MINOR MODIFICATIONS TO LOCATIONS, ELEVATIONS ETC., AS MAY BE REQUIRED. IF A DIFFERENT ARRANGEMENT THAN THAT SHOWN OR A MINOR OFFSET, RISE OR DROP IS REQUIRED TO CLEAR AN OBSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND INSTALL SUCH WORK AS MAY BE REQUIRED WITHOUT ADDITIONAL COST TO THE OWNER.
- INSTALL ALL EQUIPMENT AND COMPONENTS IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS WITH RECOMMENDED LOCATIONS TO ENSURE THAT THE SPECIFIED PRODUCTS SERVE THE INTENDED FUNCTION. MAINTAIN PROPER CLEARANCES FOR SERVICE, INSPECTION AND MAINTENANCE OF EQUIPMENT.
- ALL CONTRACTORS SHALL COORDINATE AND SCHEDULE THEIR WORK WITH OWNER AND ALL OTHER TRADES TO MINIMIZE THE INTERFERENCE WITH THE OPERATION OF THE BUILDING. ALL CONTRACTORS SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE OWNER BUILDING AND EQUIPMENT AT ALL TIMES DURING CONSTRUCTION.
- THE WORD "PROVIDE" MEANS TO FURNISH AND INSTALL.
- THE WORD "FURNISH" MEANS TO SUPPLY TO JOB SITE ONLY.
- WHEN INSTALLING PIPING OR EQUIPMENT UNDER THIS CONTRACT, THE CONTRACTOR SHALL CONFER WITH OTHER CONTRACTORS TO AVOID ANY CONFLICTS BETWEEN THE TRADES. THE CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND RE-INSTALLATION OF ANY PART OF THEIR WORK IF IT WAS INSTALLED WITHOUT CONSULTING THE OTHER TRADES.
- SEAL ALL EDGES OF INSULATION ON PIPING. REPAIR AND PATCH ALL INSULATION TO MATCH EXISTING AT AREAS WHERE NEW CONNECTIONS HAVE BEEN MADE TO EXISTING PIPING OR EQUIPMENT.
- SEE CIVIL, ELECTRICAL AND ARCHITECTURAL DRAWINGS FOR ADDITIONAL WORK TO BE COORDINATED WITH THESE DRAWINGS. COORDINATE PIPING INSTALLATION WITH NEW CABLE TRAY SUSPENSION SYSTEM INCLUDING THREADED RODS, CABLE TRAYS, ETC.
- UNDER NO CONDITION SHOULD ELECTRICAL CONDUITS, FEEDERS AND/OR ANY ON-LINE SERVICE BE DISTURBED, MOVED OR INTERRUPTED UNLESS SPECIFICALLY REQUIRED TO INSTALL NEW PIPING AND EQUIPMENT. IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO COORDINATE THE RELOCATION OF EXISTING CONDUITS WHERE REQUIRED, WITH THE ELECTRICAL CONTRACTOR. TEMPERATURE CONTROLS CONTRACTOR AND THE OWNER'S REPRESENTATIVE. IF RELOCATION IS REQUIRED, IT SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- SHOP DRAWINGS TO BE PROVIDED FOR ALL EQUIPMENT AND PIPING LAYOUTS.
- THE CONTRACTOR SHALL CLEAN-UP ALL DEBRIS CAUSED BY THEIR WORK AS IT ACCUMULATES. CONTRACTOR SHALL CLEAN AND DAMP MOP ALL WORK AREAS AND WORK TRAFFIC AREAS AT THE END OF EACH WORK DAY. CONTRACTORS ARE TO CONFINE CONSTRUCTION TRAFFIC TO THE CONSTRUCTION AREA AS MUCH AS POSSIBLE TO MINIMIZE DUST.
- ASBESTOS CONTAINING MATERIALS (ACM) IS STRICTLY PROHIBITED FROM BEING INSTALLED. SHOULD ACM BE INADVERTENTLY INSTALLED ON PROJECTS, PROPER REMOVAL, DISPOSAL AND REPLACEMENT WITH APPROVED PRODUCT SHALL BE THE SOLE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AT NO COST TO THE OWNER.
- ALL WORK SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT VERSIONS OF APPLICABLE LOCAL, STATE, AND NATIONAL CODES AS DETERMINED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
- PENETRATIONS THROUGH FIRE/SMOKE RATED CONSTRUCTION SHALL BE PROTECTED WITH A PRODUCT LISTED AND LABELED TO MAINTAIN THE FIRE/SMOKE RATING.
- MINIMUM PARALLEL DISTANCE FROM EXTERIOR OR LOAD BEARING WALLS TO THE CENTERLINE OF AN UNDERGROUND PIPE SHALL BE THREE FEET FOR REPAIR ACCESS. PIPING SHALL NOT BE INSTALLED DIRECTLY UNDER EXTERIOR OR LOAD BEARING WALLS.
- INCLUDE ALLOWANCES IN BID FOR MODIFICATIONS OF ALL FIXTURES AND EQUIPMENT CONNECTIONS TO MATCH REQUIREMENTS OF ACTUAL INSTALLATION WITHOUT ADDITIONAL COSTS TO OWNER.
- FOR HOT AND COLD DOMESTIC SUPPLY PIPING CONNECTIONS(S) AT NEW FIXTURE(S), PROVIDE ANGLE STOP VALVE WITH ESCUTCHEON WASHER AND REMOVABLE KEY.
- ALL GAS PIPING SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF INTERNATIONAL FUEL GAS CODE SECTION 406.1.
- CAULK ALL CLEANOUT GRATINGS FLUSH TO AVOID TRAPPING OF DIRT.
- ALL PLUMBING PIPING SHALL BE ROUTED AROUND ELECTRICAL AREAS WHERE POSSIBLE. IF ROOF DRAINS ARE OVER THE AREA, DRIP PAN SHALL BE INSTALLED UNDER THE ENTIRE LENGTH OF EACH PIPE OVER THE SENSITIVE AREA OVER THE ROOF, CHANNELING WATER AWAY SO AS TO PREVENT ANY LEAKS IN THE AREA. AT THE LOWER SEGMENT OF DRIP PAN, ROUTE DRAIN TO NEAREST APPROVED RECEPTACLE WITH AN APPROVED AIR GAP PER CODE. CONTRACTOR SHALL REVIEW ALL DRAWING PRIOR TO CONSTRUCTION, AND REPORT IF THIS CONDITION EXISTS.

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**Quest Diagnostics**

PROJECT

**QUEST DIAGNOSTICS**

1411 S. POTOMAC ST, STE 290  
AURORA, CO 80012-4542

COLORADO LICENSED PROFESSIONAL ENGINEER  
JASON E. CHRISTOFF  
60074

PROFESSIONAL OF RECORD:  
JASON E. CHRISTOFF No. 0056074  
EXP DATE: 10/31/2021

PROJECT NO. 62-40487-04

SHEET TITLE  
PLUMBING GENERAL NOTES

SHEET **P001**

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Permit #: 2021-1915533 L T

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DIVISION 22 - PLUMBING  
SECTION 22 00 00 - PLUMBING

PART 1 - GENERAL

- 1.1 SCOPE
A. Furnish all materials, labor, tools, transportation, incidentals and appurtenances to complete in every detail and leave in working order all items of work called for herein or shown on the accompanying drawings.
B. Include any minor items of work necessary to provide a complete and fully operative plumbing system.
C. All questions relating to this Section of Plans and Specifications should be addressed to the Construction Manager.
1.2 WORK DESCRIBED ELSEWHERE
A. The Contractor for this work is referred to Bidding Requirements, General Conditions, Special Conditions, Temporary Services and other pertinent Sections of Division I. These Sections describe work which is a part of this Contract.
1.3 GENERAL REQUIREMENTS
A. Contractor must read the entire Specifications covering other branches or work. He is responsible for coordination of his work with work performed by other trades.
1.4 PERMITS, INSPECTIONS AND CODES
A. File all Drawings, pay all fees, and obtain permits and certificates of inspection relative to this work.
1.5 DRAWINGS
A. Drawings are schematic and show approximate locations of piping and equipment.
1.6 ELECTRICAL MOTORS
A. All motors shall comply with Energy Policy Act of 1992 (EPACT).
1.7 OPERATING AND MAINTENANCE INSTRUCTIONS
A. Instruct the Construction Manager in all matters pertaining to the proper operation and maintenance of equipment furnished under this contract.
1.8 INSPECTION
A. Contractor to arrange for and include in his bid, inspection of this work by one of the following:
1.9 GUARANTEE
A. Contractor is responsible for defects, repairs and replacements in materials and workmanship for a period of one (1) year after final payment is approved by the Construction Manager.
1.10 MATERIALS
A. Furnish new and un-deteriorated materials and of a quality not less than what is specified.
1.11 EQUIPMENT SELECTION AND APPROVAL
A. The selection of materials and equipment to be furnished shall be governed by the following:
1.12 SUBSTITUTIONS
A. Contractor must base his bid on furnishing the brands of material and equipment listed in the Specifications.
1.13 PROTECTION AND CLEANING
A. Protect all fixtures against damage from leaks or abuse and pay the cost of repair or replacement of fixtures, piping or equipment made necessary by failure to provide suitable safeguards or protection.
1.14 CUTTING AND PATCHING
A. Plan work ahead and place sleeves in walls, floors and ceiling and anticipate during initial stages of construction such openings as will be required to accommodate equipment and ducts.
1.15 EXCAVATION AND BACKFILL
A. Provide any trenching required to install underground plumbing items and piping.
1.16 FOUNDATIONS & SUPPORTS
A. Contractor is fully responsible for the proper installation of all concrete pads and related work.
1.17 SLEEVES AND COLLARS
A. Pipe sleeves shall be installed in all ceilings where pipes are to pass through.
B. Sleeves through fire rated construction shall be packed with 3M Brand Firestop caulk or tape, Fyre Putty Brand caulk.

1.18 SHOP DRAWINGS

- A. Shop drawings, wiring diagrams, pump curves or other data shall be submitted for review.
B. Shop drawing will not be reviewed unless they are clearly stamped by the Construction Manager.
C. Review of shop drawings or schedules shall not relieve the Contractor from responsibility for errors, omissions or other deficiencies or deviations from the contract drawings or specifications.
D. Furnish detailed drawings of the following:
1. Plumbing Fixtures and All Trim
2. Drains and Cleanouts
3. Carriers
4. Hose Bibbs
5. Water Heater
6. House Water Pumps (if required)
7. Grease Trap (if required)
8. Backflow Preventers (if required)

PART 2 - PRODUCTS

- 2.1 SOIL, WASTE, & VENT PIPING
A. Provide fully functional sanitary piping system including sewer and sewer connection to city sewer if shown on plans.
B. Piping and fittings: Any type allowed by Building and Health Codes and as approved by Owner.
C. Contractor must comply with Local Building and Health Codes with respect to usage of these materials.
D. Joints:
1. Cast Iron:
a. Compression type plastic seal.
b. Neoprene gaskets with approved neoprene-based lubricant sealer.
2. No-Hub: Neoprene sealing sleeve and stainless steel shield and clamp.
3. Other Materials: As recommended by manufacturer in accordance with governing Building and Health Codes.
2.2 DRAINS - SEE PLANS
2.3 CLEANOUTS
A. In walls of finished areas, use cleanout tee and provide cleanout and access cover similar to Zurn Series No. ZANB-1468 with round stainless steel cover and threaded plug.
B. In floors of finished areas, provide Jonespec Co. #2450-PV4 cast iron, round screwdown access cover box with polished scoriated Bronze top and anchor lugs.
C. All other cleanouts shall be similar to Zurn ZARB-1470 and be flush with floor or wall and have countersunk brass heads.
2.4 TRAPS
A. Trap each fixture drain and piece of equipment that connects to soil and waste system.
2.5 DOMESTIC HOT & COLD WATER PIPING
A. Furnish and install the following:
1. Complete hot, cold, and make-up water piping system for fixtures and equipment.
B. Piping:
1. Above Grade: Water piping shall be one of the following:
a. Type "L" hard tempered copper tubing (ASTM B-88) with wrought copper, bronze or brass fittings, polished joints and soldered with 95/5 solder to tap at 150 lbs. S.W.P.
b. CPVC only, no PVC
c. PEX
d. Aquatherm fittings as an alternative to copper.
2. Below Grade, Interior and Exterior: Water Piping shall be NSF #1 rated SDR-9 Polyethylene pipe ASTM D-2239 or as required by local code.
3. Galvanized steel piping may be used for line sizes 2 1/2" and larger.
C. Valves:
1. 125 lbs. S.W.P., gate, ball, globe and check valves:
a. Gate (2" and larger) - Iron body, bronze mounted O.S. and Y, flanged, taper solid wedge disc.
b. Ball (2" and smaller) - All bronze, screwed or sweat, two piece, full port design.
c. Check (3" and larger) - Iron body, bronze mounted, flanged horizontal swing with bronze disc.
d. Check (2 1/2" and smaller) - All bronze, screwed or sweat, horizontal swing check with bronze disc.
e. Fixture shutoff cocks on hot or cold water to be straight or angle stop type, 1/2" size, chrome plated brass, rigid supply and stop.
2. Crane, Fairbanks, Powell, Walkworth, Hammond, Lunkenheimer or Stockham.
D. Hose Bibbs:
1. Interior hose bibbs to include gate valves and vacuum breaker.
2. All exterior hose bibbs are to be freezeless.
E. Unions:
1. For copper pipe, use 150 lbs., all bronze, solder end type, Chase, Crane, Flange, Mueller or Northern Indiana Brass Company.
2. For steel pipe, use 300 lbs. galvanized malleable iron, ground seat, bronze to stub, non-shock Fairbanks type PIC or equal by Rockwell, Grinnel, or Crane.
3. Dielectric unions between ferrous and copper shall be insulated to prevent metal-to-metal contact and be manufactured by Capital Manufacturing Company of Columbus, Ohio, Patrol or PECO Sales Company.
F. Thermostatic and Point-of-Use Tempering Valves:
1. Point-of-use tempering valve shall be installed on the hot water supply to each lavatory and hand sink.
2. It shall have a lead free cast copper silicon alloy body.
3. Approvals: ASSE 1017, ASSE 1069, ASSE 1070 and IAPMO cUPC listed.
2.6 GAS PIPING
A. Furnish and install complete system of low pressure gas piping to all items of equipment, including shutoff valve, union and dirt leg at each final connection as required by drawings and plans.
B. Verify special installation and metering requirements with Utility Company.
C. If propane is required, all gas piping should be sized for natural gas and necessary hook up to propane tank must be coordinated with propane supplier.
D. Piping:
1. Schedule 40 black steel pipe (ASTM A53). Welded joints.
2. Underground gas pipe shall be standard weight black steel and shall be welded and wrapped with factory coated Minnesota Mining & Manufacturing Company's "Scot-Cote 202".
E. Valves:
1. 1" and smaller; 125 lbs. iron body with bronze plug washer.
2. 1 1/2" and larger; Lubricated plug cock.
3. Equal valves by Nibco, Lunkenheimer, Stockham or Powell are acceptable.
2.7 HANGERS
A. Hangers for copper lines, 2" and smaller, shall be similar to Grinnell Fig. CT-99, adjustable carbon steel pipe ring, copper plated, with 3/8" hanger rods.
B. Hangers for copper lines 2 1/2" and larger shall be similar to Grinnell Fig. CT-65, adjustable carbon steel clevis, copper plated, with proper size rods.
C. Hangers for steel and plastic lines 2 1/2" and smaller, similar to Grinnell Fig. 97, adjustable pipe ring, galvanized steel band.
D. Hangers for steel and plastic lines 3" and larger shall be similar to Grinnell Fig. 260, adjustable carbon steel clevis, heavy duty, with proper size rods.
E. Horizontal soil pipe to be supported at hub of each 5'-0" joint, base of each riser, at each floor and elsewhere as required, using Grinnell Fig. 260, adjustable carbon steel clevis with proper size rods.
F. Plastic pipe shall be supported in accordance with prevailing Codes and manufacturer's recommendations.
G. Grinnell, Elcan, Penn, Fee-Mason, Modern, Michigan Hanger Co.
H. Corrosion resistant factory finish. Support, Unistrut No. P-1000 or Kindorf.
2.8 FIXTURES
A. Refer to Drawing Fixture Schedules for specific catalog numbers.
B. Carriers where applicable, to be three-point supported by Wade, Zurn, or Josam.
2.9 PIPING INSULATION
A. Furnish and install insulation as follows:
1. All insulations, jackets, cements, adhesives, and vapor barriers shall have a U.L. listing not to exceed a flame spread rating of 25 and smoke developed rating of 50 (NFPA 90A).
2. Insulation shall be Armstrong "AP Armaflex SS" or equal, self-sealing, flexible, closed-cell elastomeric insulation, 1" thickness.
3. Branch runs shall be insulated with 1/2" thick Armstrong "AP Armaflex SS".
4. Exposed lavatory piping, drain and trap under lavatories and sinks shall be insulated with Handi Lav-Guard insulation kit as manufactured by Truebro Inc. Model #101, color white.

2.10 PLUMBING PIPING SPECIALTIES

- A. Install piping specialties as indicated on the Drawings and as described therein.
B. Design capacities and ratings shown on Drawings.
C. Thermometers (4 1/2") (Package)
1. Weiss 45VAs3 piping thermometers, direct mounting, or remote reading as required, with adjustable 4 1/2" diameter face, black steel case, and brass separable sockets.
D. Pressure Gauges: (Package)
1. Weiss PG-1 Series cast aluminum, black case, 4 1/2" diameter with phosphor bronze Bourdon tube and brass socket 1/4" N.P.T.
E. Strainers:
1. V.D. Anderson style AMF (flanged) or BGC (threaded), 125 lbs. S.W.P. Y-pattern, cast iron body with perforated brass screen for water. Threaded for 2 1/2" and smaller, flanged for 3" and larger, Trane or Sarco.
F. Shock Absorbers:
1. Wade, Josam, or Zurn shockstops sized as recommended by Plumbing and Drainage Institute and Manufacturer.
G. Vacuum Breakers:
1. Watts No. 288A with bronze body and trim, disc float, full size orifice, 125 lbs. S.W.P.
H. Backflow Preventer Valves: (Package)
1. Watts Series 009, Install in accordance with local codes.
I. Meters - Furnished by Owner and installed by P.C.
1. Master Meter multi-jet water meter with pulse outlet communication.
2. RCM flow transmitter for natural gas with pulse outlet communication.
J. Access Doors:
1. Milcor Style M with gauge steel frame, 14 gauge steel panel, (factory prime coat), spring-type concealed hinges and screwdriver-operated, metal cam lock, wall access panels only.

PART 3 - EXECUTION

- 3.1 PLUMBING TESTING
A. Piping systems to be tested as follows and be proven tight:
1. General requirement: All defects disclosed as the result of the tests shall be remedied at this Contractor's expense.
2. Water piping: Shall be subjected to hydrostatic test of 200 pounds per square inch.
3. Sanitary piping: 1st test: Underground piping shall be pressure tested before backfilling.
B. Changes in ambient temperature will be taken into account when testing piping, however, the various systems shall be thoroughly inspected for leaks before hydrostatic pressure tests are concluded.
C. Furnish all pumps for air and water pressure, gauges, and all required test equipment.
D. Remove all air from lines before beginning of tests.
E. Flush scale and dirt from piping until clean.
3.2 GAS PIPING TESTING
A. Gas piping shall be black steel, schedule 40, conforming to ANSI Z21-30 and AGA industrial and commercial gas requirements.
B. This Contractor shall run all supplies as shown by the drawings.
C. Test interior gas piping at a pressure of 100 psig for a period of 24 hours without a drop in pressure.
D. Electrically isolate service piping from the building gas piping with insulator at building entrance.
3.3 SOIL, WASTE, VENT AND CONDENSATE PIPING INSTALLATION
A. Coordinate locations of cleanouts with General Contractor and with equipment location.
B. Pitch all soil, waste, and condensate piping a minimum of 1/8" per foot except as noted on Plans or as required by Local Codes.
C. Trap all floor drains.
D. Exposed fixture traps shall be chrome-plated brass.
E. Tops of drains and cleanouts shall be installed flush with the finished floor.
3.4 WATER PIPING INSTALLATION
A. Install piping to provide complete drainage of the system toward the source wherever possible.
B. Pipe to be run concealed wherever possible.
C. Piping to be run as close to underside of roof structure as physically possible.
D. All copper pipe joints to be made with 95/5 solder unless threaded.
E. Install shut-off valves on hot and cold water branch lines serving more than one fixture.
F. Install shock absorbers where shown on Plans and where recommended by the Plumbing and Drainage Institute.
G. All underslab copper piping shall have a minimum of 2" thick gravel cover.
3.5 GAS PIPING INSTALLATION
A. Use backing rings on welded piping.
B. Provide lubricated plug cock immediately inside building and at each unit.
C. Line to have minimum of 24 inches cover to finish grade.
D. Test piping in accordance with Utility Company's requirement.
3.6 PIPE HANGERS INSTALLATION
A. Hangers for steel or copper pipe shall be as follows:
PIPE SIZE MAX. SPAN
1/2" - 1" 6 ft.
1 1/2" - 2 1/2" 10 ft.
3"-4" 12 ft.
5"-8" 16 ft.
B. Hanger spacing for plastic pipe shall be in accordance with prevailing Codes and manufacturer's recommendations.
C. Isolate copper piping from steel pipe and conduits with lead sheet or electrical tape.
D. Install pipe anchors and guides to control expansion of piping.
3.7 PLUMBING FIXTURES INSTALLATION
A. Fixtures to be installed in accordance with Manufacturer's recommendations at mounting heights indicated in the Fixture Schedule or per Handicap Code.
B. Carriers to be securely anchored to structure.
C. Provide rough-in waste, vent, hot and cold water piping to equipment.
D. Make final connections to each piece of equipment whether or not furnished under this Contract.
3.8 PIPING INSULATION INSTALLATION
A. Insulate domestic cold water lines, hot water lines (1/2" size and over), and horizontal runs of interior condensate lines.
B. Insulation shall not be applied unless, or until:
1. Surfaces are clean and dry.
2. System has been thoroughly tested.
3. Hanger rods are perpendicular to building lines.
C. Taper pipe insulation ends with insulating cement.
D. Install all insulation in strict accordance with the manufacturer's recommendations.
E. Insulate exposed drains and traps for public lavatories.
3.9 PIPING SPECIALTIES INSTALLATION
A. Install all items per Manufacturer's recommendation and/or where shown on Plans.

Table with columns: DRAWN BY (JMM), CHECKED BY / APPROVED BY (MRM), ISSUE DATE (11/18/2020), REVISION (Table with #, DATE, DESCRIPTION)



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PROJECT

QUEST DIAGNOSTICS

1411 S. POTOMAC ST, STE 290
AURORA, CO 80012-4542



11/20/2020
PROFESSIONAL OF RECORD:
JASON E. CHRISTOFF No. 0056074
EXP DATE: 10/31/2021

PROJECT NO. 62-40487-04

SHEET TITLE PLUMBING SPECIFICATIONS

SHEET P002

RSN: 1511868
Permit #: 2021-1915533 LT

This sheet of drawings has not been reviewed for code compliance.

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NOTICE: THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON-LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.

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### GENERAL NOTES

- A ROUTE SANITARY PIPING BELOW FLOOR. ALL EXISTING SANITARY PIPING BELOW FLOOR IS TO REMAIN FOR FUTURE USE UNLESS NOTED OTHERWISE. ANY PIPING THAT EXTENDS UP ABOVE FLOOR SHALL BE CUT AND CAPPED. SAW CUT EXISTING SLAB AS REQUIRED TO INSTALL NEW UNDERFLOOR SANITARY PIPING BELOW FLOOR. IF EXISTING SANITARY PIPING BELOW FLOOR PRESENTS ANY OBSTRUCTIONS, THAT PIPING SHALL BE REMOVED TO THE EXTENT NEEDED TO COMPLETE NEW WORK.
- B ROUTE VENT PIPING ABOVE CEILING. CONTRACTOR TO FIELD COORDINATE EXACT ROUTING WITH DUCTWORK, SUPPLY PIPING AND EQUIPMENT FOR COMPLETE SYSTEM. CONTRACTOR TO NOTIFY ENGINEER OF ALL CONFLICTS PRIOR TO INSTALLATION.
- C REFER TO ISOMETRIC DIAGRAM ON SHEET P-601 FOR PIPE SIZES.

### PLUMBING KEYNOTES

- 1 APPROXIMATE LOCATION OF EXISTING SANITARY LINE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO COORDINATE AND FIELD VERIFY EXACT LOCATION, ROUTING, DEPTH AND DIRECTION OF FLOW WITH LANDLORD REPRESENTATIVE PRIOR TO PIPING ROUGH IN. CONTRACTOR TO COORDINATE AND FIELD VERIFY EXACT CONNECTION POINT OF NEW PIPING WITH LANDLORD REPRESENTATIVE.
- 2 ROUTE WATER HEATER T&P RELIEF AND DRAIN LINE DOWN TO UTILITY SINK BELOW.
- 3 CONTRACTOR TO PROVIDE TRAP PRIMER TO FLOOR DRAIN.
- 4 CONNECT TO EXISTING VENT SYSTEM. CONTRACTOR TO COORDINATE AND FIELD VERIFY EXACT CONNECTION POINT OF NEW PIPING WITH LANDLORD REPRESENTATIVE.
- 5 EXISTING FIXTURE TO BE REPLACED AS SCHEDULED. CONNECT TO EXISTING SUPPLY AND DRAINAGE LINES.
- 6 EXISTING FIXTURE TO REMAIN. CLEAN, INSPECT AND REPAIR AS REQUIRED TO ENSURE PROPER OPERATION.



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PROJECT

**QUEST DIAGNOSTICS**

1411 S. POTOMAC ST, STE 290  
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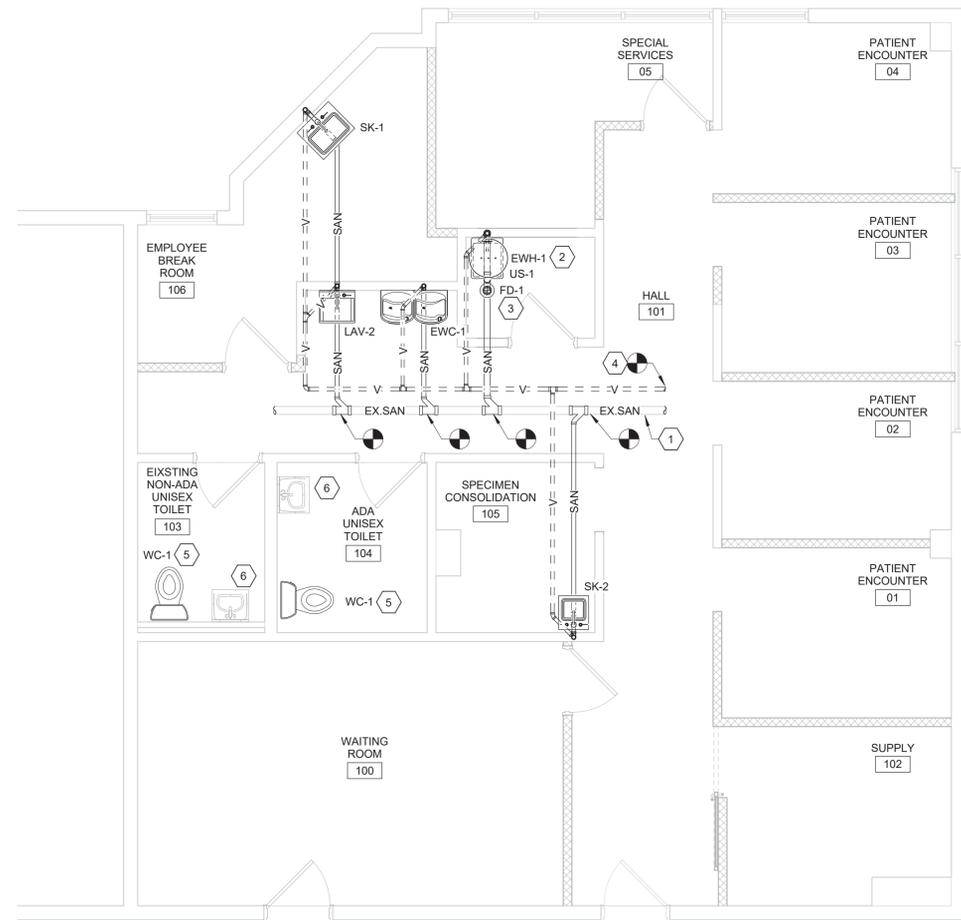


Designed by Jason E. Christoff  
11/20/2020  
PROFESSIONAL OF RECORD:  
JASON E. CHRISTOFF No. 0056074  
EXP DATE: 10/31/2021

PROJECT NO. 62-40487-04

SHEET TITLE  
PLUMBING SANITARY PLAN

SHEET **P101**



**1 SANITARY PLAN**  
1/4" = 1'-0"



RSN: 1511868  
Permit #: 2021-1915533 LT

City of Aurora Building Division  
Reviewed for Code Compliance  
Approved as Noted: cmacy  
Date: Jan 13, 2021  
2015 INTERNATIONAL CODES & 2020 NEC

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### GENERAL NOTES

A	ROUTE DOMESTIC SUPPLY PIPING ABOVE CEILING. CONTRACTOR TO FIELD COORDINATE EXACT ROUTING WITH OTHER DISCIPLINES. CONTRACTOR TO NOTIFY ENGINEER OF ALL CONFLICTS PRIOR TO INSTALLATION.
---	--

### PLUMBING KEYNOTES

1	APPROXIMATE ROUTING OF EXISTING DOMESTIC WATER LINE SERVING EXISTING FIXTURES TO REMAIN. CONNECT NEW FIXTURES TO EXISTING PIPING. EXISTING PIPING SHOWN FOR REFERENCE ONLY. CONTRACTOR TO COORDINATE AND FIELD VERIFY EXISTING PIPING LOCATIONS AND CONNECTION TO NEW PIPING PRIOR TO ROUGH IN.
2	EXISTING FIXTURE TO BE REPLACED AS SCHEDULED. CONNECT TO EXISTING SUPPLY AND DRAINAGE LINES.
3	ELECTRIC WATER HEATER LOCATED ON SHELF ABOVE UTILITY SINK. REFER TO WATER HEATER DETAIL ON P601.
4	RECIRCULATION PUMP LOCATED ADJACENT TO WATER HEATER. REFER TO WATER HEATER DETAIL ON P601.
5	UTILITY SINK - PROVIDE 1/2" DCW LINE WITH SHUTOFF VALVE AND 1/2" DHW LINE WITH SHUTOFF VALVE TO PLUMBING FIXTURE. ROUTE 1/2" DCW AND 1/2" DHW DOWN IN WALL TO THERMOSTATIC MIXING VALVE AND FAUCET. SHUTOFF VALVES TO BE LOCATED IN ACCESSIBLE LOCATIONS.
6	SINK/LAVATORY - PROVIDE 1/2" DCW LINE WITH SHUTOFF VALVE, 1/2" DHW LINE WITH SHUTOFF VALVE, AND 1/2" DHWR LINE WITH CIRCUIT SETTER TO PLUMBING FIXTURE. ROUTE 1/2" DCW, 1/2" DHW, AND 1/2" DHWR DOWN IN WALL TO THERMOSTATIC MIXING VALVE AND FAUCET. SHUTOFF VALVES AND CIRCUIT SETTERS TO BE LOCATED ABOVE CEILING IN ACCESSIBLE LOCATIONS.
7	ELECTRIC WATER COOLER - PROVIDE 1/2" DCW LINE WITH SHUTOFF VALVE RAN DOWN IN WALL TO ELECTRIC WATER COOLER. ALL VALVES TO BE LOCATED IN AN ACCESSIBLE LOCATION ABOVE CEILING.
8	EXISTING FIXTURE TO REMAIN. CLEAN, INSPECT AND REPAIR AS REQUIRED TO ENSURE PROPER OPERATION.



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PROJECT

**QUEST DIAGNOSTICS**

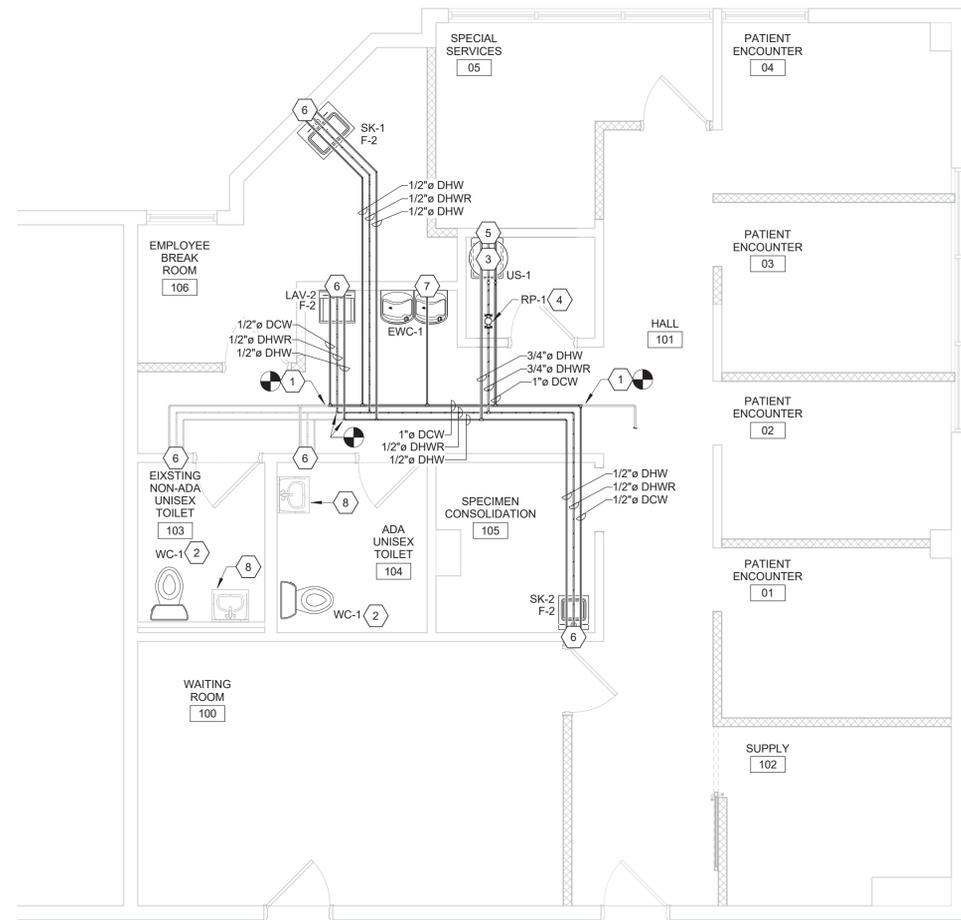
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AURORA, CO 80012-4542



11/20/2020  
PROFESSIONAL OF RECORD:  
JASON E. CHRISTOFF No. 0056074  
EXP DATE: 10/31/2021

PROJECT NO. 62-40487-04  
SHEET TITLE PLUMBING SUPPLY PLAN  
SHEET

**P102**



**1 SUPPLY PLAN**  
1/4" = 1'-0"



RSN: 1511868  
Permit #: 2021-1915533 LT  
City of Aurora Building Division  
Reviewed for Code Compliance  
Approved as Noted: cmacy  
Date: Jan 13, 2021  
2015 INTERNATIONAL CODES & 2020 NEC





DIVISION 26 - ELECTRICAL  
SECTION 26 00 00 - ELECTRICAL

PART 1 - GENERAL  
1.1 SCOPE OF WORK  
A. Furnish and install all materials and equipment and provide all labor, tools, transportation, superintendence and services required and necessary to complete the work shown on the drawings and/or specified herein. Also are included all other work and miscellaneous items, not specifically mentioned, but reasonably inferred for a complete installation including all accessories and appurtenances required for testing the system. It is the intent of the drawings and specifications that all systems be complete, and ready for operation.  
1.2 REGULATORY REQUIREMENTS  
A. Code compliance is mandatory. Nothing in these Drawings and Specifications permits work not conforming to these codes. Where work is shown to exceed minimum code requirements, comply with the drawings and specifications. All work and materials shall comply with the latest rules, codes and regulations, including, but not limited to the following:  
1. Occupational Safety and Health Act Standards (OSHA).  
2. STATE Electric Code.  
3. NFPA #101: Life Safety Code.  
4. State Fire Marshal.  
5. Local Utilities Companies.  
1.3 LICENSE, FEES AND PERMITS  
A. Electrical contractor shall pay for all licenses, permits and inspections fees required by the authority having jurisdiction and shall arrange for all required inspections.  
1.4 SAFETY AND INDEMNITY  
A. The contractor shall be solely responsible for conditions of the job site, including safety of all persons and property during performance of work. This requirement will apply continuously and not be limited to normal working hours.  
B. No act, service, drawing review or construction review by the Owner, the Engineers or the Consultants, is intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.  
1.5 DRAWINGS AND SPECIFICATIONS  
A. All drawings and all Divisions of the specifications shall be considered as a whole and work of this Division shown anywhere therein shall be furnished under this Division.  
B. Drawings are diagrammatic and indicate the general arrangement of equipment and wiring. Most direct routing of conduits and wiring is not assured. Exact requirements shall be governed by conditions of the job. Consult all other drawings in preparation of the bid. Extra lengths of wiring or addition of pull or junction boxes, etc. necessitated by such conditions shall be included in the bid.  
1.6 CONDITIONS AT SITE  
A. The electrical contractor shall have examined the site and familiarized themselves with all discernable existing conditions. No extra payment will be allowed for work required because of these conditions, whether specifically mentioned or not.  
1.7 WORKMANSHIP AND CONTRACTOR'S QUALIFICATIONS  
A. Only quality workmanship will be accepted. Haphazard or poor installation will be cause for rejection of work.  
1.8 SHOP DRAWINGS AND MATERIALS LISTS  
A. Submit to Owner in a single package six (6) copies of complete shop drawings and materials list, as noted below, for review within fifteen (15) days after award of contract. Submittals required as follows:  
1. Wiring devices: switches, receptacles, device plates.  
2. Enclosures for utility company metering.  
3. Main fused disconnect switch.  
4. Panelboards.  
5. Disconnect switches.  
6. Lighting fixtures, lamps and lighting control equipment.  
1.9 SUBSTITUTIONS  
A. One or more makes of materials or methods may have been specified to establish the standard of quality, workmanship, finish and design required, but other materials or methods equal in quality, workmanship, finish, design, and guaranteed performance, will be accepted. However, all changes and substitutions shall be requested in letter form and shall be accompanied with a statement of the amount of money to be returned to the contract if the substitution is permitted.  
B. No work involving materials submitted for substitution shall proceed until written acceptance is received from the Owner. The Owner is the sole judge of acceptability of preferred substitutions. If a substitution item is permitted, and any re-design effort is thereby necessitated, the required re-design shall be at the Contractor's expense.  
1.10 COORDINATION  
A. Coordinate work with other trades to avoid conflict and to provide correct rough-in and connection for equipment furnished under other trades that require electrical connections. Inform Contractors of other trades of the required access to and clearances around electrical equipment to maintain serviceability and code requirements.  
B. Verify equipment dimensions and requirements with provisions specified under this Section. Check actual job conditions before fabricating work. Report necessary changes in time to prevent needless work. Changes or additions, subject to additional compensation, which are made without written authorization and an agreed price, shall be at the Contractor's risk and expense.  
1.11 CUTTING AND PATCHING  
A. All cutting and patching required for work of this Division is included herein. Coordination with General Contractor and other trades is imperative. Contractor shall bear the responsibility for and the added expense of adjusting for improper holes, supports, etc.  
1.12 ACCEPTANCE DEMONSTRATION  
A. Upon completion of work, at a time to be designated by the Owner, the Contractor shall demonstrate for the Owner the operation of the electrical installation, including any and all special items installed by him or installed under his supervision. Properly set automatic time switches to perform switching operations in accordance with schedules provided by the Owner's representative, and demonstrate (using the manufacturer's operating instructions) how to override and/or test time switches programming.  
1.13 RECORD DRAWINGS, EQUIPMENT DATA  
A. Maintain one set of clean working drawings at the job site and enter daily such "as-built" information as feeder and services routes, pull box locations and changes in layout or arrangement which occur during construction. Deliver completed drawings to the Owner.  
B. Deliver to the Owner's representative three (3) copies of data sheets or other current manufacturer's publications for each item of electrical equipment furnished for the project including at least these data:  
1. Technical description and replaceable parts list.  
2. Physical description and installation instructions.  
3. User's manual and operating instructions.  
4. Manufacturer's Warranty.  
1.14 CLEAN-UP  
A. Rid the premises of scrap materials, trash and debris both during construction and at the completion of the project. Leave the building and surrounding area in a clean and orderly condition.  
1.15 GUARANTEE  
A. Guarantee the installation free from defects of workmanship and material for a period of one year after Date of Certification of final payment and promptly remedy any defects developing during this period, without charge.  
1.16 TEMPORARY SERVICES  
A. Provide adequate and safe temporary electrical power and lighting throughout the construction and finishing of the premises. In addition to special or unusual requirements, provide at least these items:

PART 2 - PRODUCTS

2.1 MATERIAL APPROVAL  
A. All materials must be new and bear Underwriter's Laboratories label. Materials that are not covered by UL testing standards shall be tested and approved by an independent testing laboratory or a governmental agency. Material not in accordance with these specifications may be rejected either before or after installation.  
2.2 CONDUITS AND OTHER RACEWAYS  
A. Rigid Steel: Hot-dipped galvanized.  
B. Intermediate Metal Conduit (IMC): Hot-dipped galvanized.  
C. Electrical Metallic Tubing (EMT): Electro-galvanized.  
D. Wireway: Code gauge steel, with knockouts and hinged cover, corrosion resistant gray baked enamel finish.  
E. Provide fittings and accessories approved for the purpose equal in all respects to the conduit or raceway. EMT connectors and couplings shall be steel setscrew type indoors and steel compression type in wet locations and outdoors.  
2.3 WIRES AND CABLES  
A. For power and lighting system 600V or less:  
1. Conductor: minimum size #12 AWG.  
a. #12 and #10 AWG solid copper.  
b. #8 AWG and larger shall be stranded copper.  
2. Insulation type:  
a. #12 to #1 AWG: THWN for wet or underground and THHN for dry locations.  
b. #1/0 through #4/0 AWG: XHHW (55 mils).  
c. #250 MCM and larger: XHHW (65 mils).  
d. Grounding wire: TW.  
B. For signal and communications circuit:  
1. Special cables shall be as specified on drawings.  
2. Conductors for general use shall be stranded copper conductor, #16 AWG minimum, with THWN insulation for underground or wet locations and THHN insulation for dry locations.  
C. Acceptable Products: General Electric, Anaconda, Okonite, Parantite or Triangle products conforming or exceeding applicable IPCEA standards.  
2.4 OUTLET BOXES, JUNCTION AND PULL BOXES  
A. Outlet boxes: 4" square x 1-1/2" deep (or larger) galvanized sheet steel KO-type with plaster ring and cover for general interior use and cast metal type FS or FD with matching screw covers for exterior and exposed interior locations (gasketed in damp or wet locations).  
B. Junction boxes shall be same as outlet boxes up to 42 cu. In. and code-gauge steel in larger sizes with surface or flush-type screw-mounted trim covers, both boxes and covers inhibitor-primed and painted inside out.  
C. Pull boxes shall be same as junction boxes unless indicated otherwise on the drawings, with covers.  
D. Telephone outlet boxes shall be the type and size required by the serving telephone company but not smaller than 4-1/16" square x 2-1/8" deep with single gang-ring and Sierra #S-754N split plate bushing.  
2.5 WIRING DEVICES AND PLATES  
A. Wiring devices and plates shall be by Pass and Seymour or approved equal.  
1. Standard design:  
a. Switch and receptacles devices shall be plastic bodies, color shall be white unless noted otherwise  
b. Wall plates shall be white plastic type, color shall be white unless noted otherwise.  
2.6 CONDUIT HANGERS  
A. For individual conduit runs not directly fastened to the structure, use rod hangers manufactured by Caddy, Unistrut, or Powerstrut.  
B. For multiple conduit runs, use Unistrut or Powerstrut trapeze type conduit support designed for maximum deflection not greater than 1/8".  
2.7 WIRE CONNECTORS  
A. For wire sizes #8 AWG and smaller: Insulated pressure type (with live spring) rated 105°C, 600V, for building wiring and 1000V in signs or fixtures. Scotchlok or Ideal.  
B. For wire size #6 AWG and larger: T&B or equivalent compression type with 3M #33+ or Plymouth "Slipknot Grey" tape insulation.  
2.8 PANELBOARDS  
A. Construction: Cabinets shall be of code gauge, galvanized steel, surface or flush mounted as indicated. Doors shall be cold-rolled steel with concealed hinges and flush catch and lock. All panels shall be keyed alike. Panels located adjacent to each other shall have identically sized enclosures and trims. Minimum panel width shall be 20". Finish exposed part with one coat of primer and one coat of light grey enamel suitable for overpainting in field if desired.  
B. Bus Bars: Provide ground block with full complement of terminals in addition to insulated neutral bus. Future breaker spaces shall have complete provision including buses and connecting hardware.  
C. Manufacturers: Panelboards shall be General Electric Type "AQ" or type "AE" or equivalent products of Westinghouse, Square-D or Siemens-ITE.  
D. Circuit Breakers: Shall be quick-make, quick-break, molded case type:  
1. 120/240 Volt Panels: Shall be General Electric Type "Q" line, bolt-on type, with minimum symmetrical interrupting capacity as shown.  
2. Provide multi-pole units with common trip element.  
3. Circuit breakers used on "ON-OFF" control of fluorescent lighting (panelboard switching) shall be Underwriters' Laboratories listed and marked "SWD" to indicate their suitability.  
E. Identification: Provide screwed-on (no adhesives) Bakelite or photo-etched metallic nameplate identification on outside of each panel designation, voltage and phase in minimum 1/8" high letters. Each panel shall contain a metal-framed circuit directory inside cover, with plastic protector.  
F. Complete shop drawings are required. See article 1.8.  
2.9 INDIVIDUALLY MOUNTED MOTOR CONTROLLERS  
A. For Polyphase Motors: Combination motor circuit protector and magnetic starter, with 3-leg overload protection. Provide two interlock contacts of the interchangeable open-close type. Provide hand-off-automatic selector switch, motor running pilot light and reset button in cover. Circuits 300V and over shall be provided with 120V control transformers.  
B. Starters for fractional horsepower 120V motors shall be manual type unless shown otherwise, equipped with built-in overload protection.  
C. Acceptable manufacturers: General Electric, Siemens, Square D, Westinghouse, and Allen Bradley.  
2.10 LIGHTING  
A. Furnish and install all fixtures complete, including lamps and ballast ready for service.  
B. Supports: Proper supports and mounting accessories, such as hangers, stems, yokes, plaster frames, etc. shall be provided as required by the type of ceiling installed. Where swivel canopies or ball aligners are specified, they shall cause fixture to hang plumb regardless of ceiling slope.  
C. Fixture Designation: Fixture types are designated on drawings. Where only one fixture designation is shown, it applies to all fixtures in that room or area. For exact fixture count and location refer to reflected ceiling plan.  
D. Wire 1-lamp and 3-lamp fluorescent fixtures in tandem where required by code.  
E. Ballasts: Advance, GE, or Approved high frequency electronic, full light output, energy saving, Class "P", high power factor, ETL certified, sound rating "A" or as indicated on drawings.  
2.11 MISCELLANEOUS MATERIALS  
A. Safety Switches: Heavy duty type, 600V, horsepower rated for motors, fused or non-fused as required. Mount in enclosure with NEMA rating as required for the specific application General Electric, Square D or Westinghouse.

PART 3 - EXECUTION

3.1 GENERAL  
A. Electric system layouts indicated on the drawings are generally diagrammatic and shall be followed as closely as actual construction and work of other trades will permit. Govern exact routing of cable and wiring and the locations of outlets by the structure and equipment served. Take all dimensions from architectural drawings.  
B. Consult all other drawings, verify scales and report and dimensional discrepancies or other conflicts with Owner before submitting bid.  
C. All home runs to panelboards are indicated as starting from the outlet nearest the panel and continuing in the general direction of that panel. Continue such circuits to the panel as though the routes were completely indicated. Terminate homeruns of signal, alarm, and communication systems in a similar manner.  
D. Avoid cutting and boring holes through structure or structural members wherever possible. Obtain prior approval of Owner and conform to all structural requirements when cutting or boring the structure is necessary and permitted.  
E. Furnish and install all necessary hardware, hangers, blocking, brackets, bracing, runners, etc. required for equipment specified under this Section.  
F. Provide necessary backing required to insure rigid mounting of outlet boxes.  
3.2 WIRING METHODS  
A. The use of non-metallic (NM) cabling is not acceptable in any application.  
B. The use of metal-clad (MC) cabling is not acceptable for branch circuit home runs to panel boards and dedicated branch circuits.  
C. Minimum Raceway Size: 1/2-inch trade size.  
D. Outdoor - Apply raceway products as specified below, unless otherwise noted or indicated.  
a. Exposed Conduit: Rigid steel conduit.  
b. Concealed Conduit, Aboveground: RNC, Type EPC-40-PVC.  
c. Underground Conduit: RNC, Type EPC-40-PVC, direct buried.  
d. Connection to Vibrating Equipment (Including Transformers and Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.  
E. Indoor - Apply raceway products as specified below, unless otherwise noted or indicated.  
a. Exposed, Not Subject to Physical Damage: Surface Metal Raceway in finished spaces and EMT in unfinished spaces.  
b. Exposed and Subject to Severe Physical Damage: IMC.  
c. Concealed in Ceilings and Interior Walls and Partitions: EMTor Metal-clad cable, Type MC.  
d. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMIC, except use LFMC in damp or wet locations.  
e. Damp or Wet Locations: IMC.  
f. Raceways for Communications Cable in Spaces Used for Environmental Air: Plenum-type, communications cable raceway.  
g. Raceways for Communications Cable Risers in Vertical Shafts: Riser-type, communications cable raceway.  
h. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, nonmetallic in damp or wet locations.  
F. Apply conductor product as specified below, unless otherwise noted or indicated.  
a. Service Entrance: Type XHHW, single conductors in raceway.  
b. Exterior Feeders: Type XHHW, single conductors in raceway.  
c. Exposed, Interior, Feeders: Type THHN-THWN, single conductors in raceway.  
d. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspace: Type THHN-THWN, single conductors in raceway or Metal-clad cable, Type MC.  
e. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.  
f. Exposed, Interior, Branch Circuits, Including in Crawlspace: Type THHN-THWN, single conductors in raceway.  
g. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway or Metal-clad cable, Type MC.  
h. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.  
i. Exterior Branch Circuits: Type XHHW, single conductors in raceway.  
j. Class 1 Control Circuits: Type THHN-THWN, in raceway.  
k. Class 2 Control Circuits: Power-limited cable, concealed in building finishes.  
3.3 INSTALLATION OF CONDUITS  
A. General  
1. Run all conduit unless otherwise noted or shown.  
2. Run all conduit parallel to or at right angles to center lines of columns and beams.  
3. Conduits above ceilings shall not obstruct removal of ceiling tiles.  
4. Conduits shall not cross and duct shaft or area designated as future duct shaft horizontally. Conduit risers when allowed in duct shaft must be coordinated with Mechanical work to avoid any conflict.  
5. Conduits in exposed ceiling shall be kept tight to metal deck.  
B. Conduit Supports  
1. Support conduits with Underwriter's Laboratories listed steel conduit metal strips are not acceptable for conduit support. Use conduit hangers for supports at intervals required by the NEC or applicable local code. Wires or sheet all conduits not fastened to structure and for all multiple conduit runs. Do not attach any conduit to mechanical ducts or pipes.  
2. Individual conduits 1/2" and 3/4" size for lighting may be supported from ceiling support wires with Caddy clips only if acceptable to local code. Only one conduit is permitted to be attached to any ceiling support wire. Hang such conduit so as not to affect level of ceiling.  
3. Avoid attaching conduit to fan plenums. When it is necessary to support conduit from fan plenum, provide a length of flexible conduit between portion attached to the fan plenum and portion attached to the building to minimize transmission of vibration to the building structure.  
C. Conduit Penetration  
1. Penetrating fire rated floor or wall: Install conduit in conduit sleeve or framed opening. Seal penetration with fire retardant sealant specified herein.  
2. Penetrating roof or exterior wall: Avoid penetrating roof or exterior wall where possible. Where penetrations are necessary, building weatherproof integrity must be preserved.  
3. Penetrating sound insulated or air plenum wall: Install conduit in conduit sleeve and seal penetration as detailed on the drawings.  
4. Penetrating non-fire rated dry wall: Conduit sleeves are not required. Penetrations must be sealed with plaster prior to painting.  
5. Penetrations made after wall finish is applied must be as small as possible and provided with escutcheons, one on each side of wall.  
6. Penetrating suspended ceiling: Cut hole as small as possible to permit conduit penetration. Provide escutcheon for each conduit below ceiling.  
3.4 CONNECTIONS TO EQUIPMENT  
A. General  
1. Furnish and install required power supply conduit and wiring to all equipment. See below for other wiring required.  
2. Furnish and install a disconnect switch immediately ahead of and adjacent to each magnetic motor starter or appliance unless the motor appliance is located adjacent and within sight of the serving panelboard, circuit breaker or switch. Verify all equipment nameplate current ratings prior to installation.  
3. Install all rough-in work for equipment from approved shop drawings to suit the specific requirements of the equipment.  
4. Furnish and install manual thermal protection for all motors not integrally equipped with thermal protection.  
5. Furnish 120 Volt power to each control panel and time switch requiring a source of power to operate.  
3.5 INSTALLATION OF WIRES  
A. Pull no wire into any portion of the conduit system until all construction work which might damage the wire has been completed.  
B. Install all wire continuous from outlet to outlet or terminal to terminal. Splices in cables when required shall be made in handholes, pull boxes or junction boxes. Make branch circuit splices in outlet boxes with 9" of correctly color-coded tails left in the box.  
C. Splices in wires and cables shall be made utilizing materials and methods described herein before.  
D. Make all ground, neutral, and line connections to receptacle and wiring device terminals as recommended by manufacturer. Provide ground jumper from outlet box to ground terminal of devices when the device is not approved for grounding through the mounting screws.  
E. Provide Brady wire markers where number of conductors in a box exceeds four (4).  
F. Megger and record insulation resistance of all 600 Volt insulated conductors size #10 and larger using 500 Volt megger for one minute. Make tests with circuits isolated from source and load.  
3.6 WIRE COLOR CODE  
A. Color coding shall be continuous for wire #12 through #10 AWG. Phase conductors #8 and larger and conductors of any size in cable assemblies may have colored phasing tape at terminations. Color code wires as follows:  
Voltage 120/208V Phase A Black Phase B Red Phase C Blue Neutral White Ground Green  
3.7 IDENTIFICATION  
A. Provide nameplates for switchgears, panelboards, and all similar devices. Nameplates shall be screwed (no adhesives) engraved Bakelite or photo-etched metallic nameplate identification showing panel designation, voltage and phase in minimum 1/4" high letters.  
B. Provide dymo labels on all lighting switches and convenience and special purpose receptacles to show panel and circuit number to which the device is connected.  
C. Each panelboard shall contain a metal-framed circuit directory inside cover, with plastic protector.  
D. Panelboard Schedule: After completion of work, provide typewritten updated panelboard schedules for all panelboards.  
3.8 REMODELLING WORK  
A. Existing electrical wiring which will not be made obsolete and which will be disturbed due to construction changes required by this contract shall be restored to operating condition. Where construction changes require, outlets and conduit runs shall be relocated. Extend conduits and pull all new wiring or install junction boxes and splice in new wiring.  
B. Outlets from which fixtures, switches, receptacles, and/or other electrical devices are moved and which are not replaced or reused shall be removed, where outlet boxes, etc. are completely removed, the contractor shall cut off conduits and remove wiring.  
C. Where conduits extending through floors are to be abandoned, the contractor shall cut and cap or plug conduit, and the conduit shall not protrude above floor.  
D. Where existing conduit is to be abandoned, the conduit shall be removed if it is exposed, in a crawl space or in accessible ceiling. Where it is impossible to remove the conduit, it shall be cut off and capped or plugged.  
E. Remove all existing wiring not reused or required to maintain continuity to circuits to remain.  
F. The contractor shall be held fully responsible for the proper restoration of all existing surfaces requiring patching, plastering, painting and/or other repairs due to the installation of electrical work under the terms of this specification. Close all openings, repair all surfaces, etc. as required.  
G. Maintain circuit continuity to areas outside of this work, provide new conduit and conductors as required to maintain continuity and maintain area as existing.  
3.9 GROUNDING  
A. Electrical service and separately derived alternating current system shall be grounded in accordance with NEC or applicable local code, inclusive.  
B. Ground non-current carrying metal parts of electrical equipment enclosures, frames, conductor raceways or cable trays to provide a low impedance path for line-to-ground fault current and to band all non-current carrying metal parts together. Provide ground conductor in each raceway system in addition to conductors shown. Equipment ground conductor shall be electrically and mechanically continuous from the electrical circuit source to the equipment to be grounded. Size conductors per NEC or applicable local code unless larger conductors are shown on drawings.  
C. Grounding conductors shall be identified with green insulation. Where green insulation is not available on larger sizes, black insulation shall be used and suitably identified with green tape at each junction box or device enclosure.

THIS SHEET OF DRAWINGS  
HAS NOT BEEN REVIEWED  
FOR CODE COMPLIANCE.

RSN: 1511868  
Permit #: 2021-1915533 LT

DRAWN BY JMM

CHECKED BY MRM  
APPROVED BY

ISSUE DATE 11/18/2020

REVISION table with columns #, DATE, DESCRIPTION



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PROJECT

QUEST DIAGNOSTICS

1411 S. POTOMAC ST, STE 290 AURORA, CO 80012-4542



PROFESSIONAL OF RECORD: JASON E. CHRISTOFF No. 0056074 EXP DATE: 10/31/2021

PROJECT NO. 62-40487-04

SHEET TITLE ELECTRICAL SPECIFICATIONS

SHEET E002

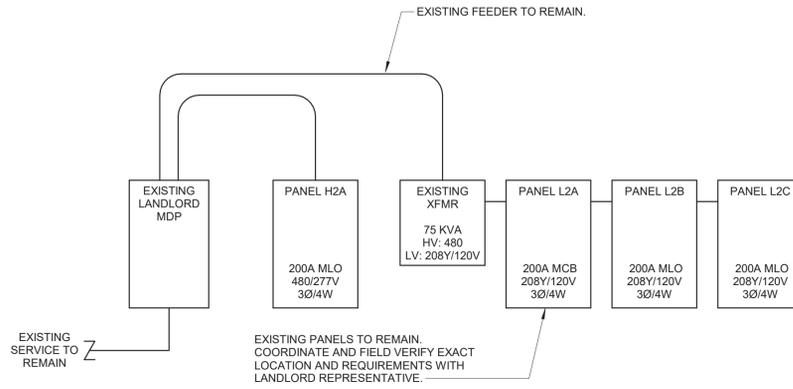
11/20/2020 3:51:20 PM NOTICE: THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON-LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.





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1/7/2021 11:44:56 AM



**1 PARTIAL EXISTING ONE LINE DIAGRAM**  
N.T.S.

Legibly identify each breaker or switch for its use or purpose on the circuit directory in the panel/switchboard per 2020 NEC 408.4

Every circuit and circuit modification shall be legibly identified as to its clear, evident and specific purpose or use. The identification shall include an approved degree of detail that allows each circuit to be distinguished from all others. 2020 NEC 408.4

**City of Aurora Building Division**  
Reviewed for Code Compliance  
Approved as Noted: *Bobby McKinzie*  
Date: **Jan 19, 2021**  
2015 INTERNATIONAL CODES & 2020 NEC

Panel: L2A															
Location:			Volts: 208Y/120V			A.L.C. Rating: 10 KAIC (EXISTING)			2						
Supply From: XFMR			Phases: 3			Frame Rating: 200 A			Main Type: MCB						
Mounting: SURFACE			Wires: 4			MCB Rating: 200 A									
Enclosure: TYPE 1															
CK	Circuit Description	Wire Size	CB	P	N	A	B	C	N	P	CB	Wire Size	Circuit Description	CK	
1	EXISTING LOAD	--	20	A	1	0.000	0.000				1	20 A	EXISTING LOAD	2	
3	EXISTING LOAD	--	20	A	1		0.000	0.000			1	20 A	EXISTING LOAD	4	
5	EXISTING LOAD	--	20	A	1			0.000	0.000		1	20 A	EXISTING LOAD	6	
7	EXISTING LOAD	--	20	A	1	0.000	0.000				1	20 A	EXISTING LOAD	8	
9	EXISTING LOAD	--	20	A	1		0.000	0.000			1	20 A	EXISTING LOAD	10	
11	EXISTING LOAD	--	20	A	1			0.000	0.000		1	20 A	EXISTING LOAD	12	
13	EXISTING LOAD	--	20	A	1	0.000	0.000				1	20 A	EXISTING LOAD	14	
15	EXISTING LOAD	--	20	A	1		0.000	0.000			1	20 A	EXISTING LOAD	16	
17	EXISTING LOAD	--	20	A	1			0.000	0.000		1	20 A	EXISTING LOAD	18	
19	EXISTING LOAD	--	20	A	1	0.000	0.000				1	20 A	EXISTING LOAD	20	
21	EXISTING LOAD	--	20	A	1		0.000	0.000			1	20 A	EXISTING LOAD	22	
23	EXISTING LOAD	--	20	A	1			0.000	0.000		1	20 A	EXISTING LOAD	24	
25	EXISTING LOAD	--	20	A	1	0.000	0.000				1	20 A	EXISTING LOAD	26	
27	EXISTING LOAD	--	20	A	1		0.000	0.000			1	20 A	EXISTING LOAD	28	
29	EXISTING LOAD	--	20	A	1			0.000	0.000		1	20 A	EXISTING LOAD	30	
31	EXISTING LOAD	--	20	A	1	0.000	0.000				1	20 A	EXISTING LOAD	32	
33	HAND DYER 103	1-#12, 1-#12, 1-#12	20	A	1	N		0.950	0.000			1	20 A	EXISTING LOAD	34
35	HAND DYER 104	1-#12, 1-#12, 1-#12	20	A	1	N			0.950	0.000		1	20 A	EXISTING LOAD	36
37	RCPT - SPEC.CON. FRIDGE	1-#12, 1-#12, 1-#12	20	A	1	N	0.500	0.000				1	20 A	EXISTING LOAD	38
39	RCPT - SPEC.CON. 105	1-#12, 1-#12, 1-#12	20	A	1	N		0.540	0.000			1	20 A	EXISTING LOAD	40
41	EXISTING LOAD	--	20	A	1				0.000	0.000		1	20 A	EXISTING LOAD	42
<b>Total Load:</b>						0.500 kVA	1.490 kVA	0.950 kVA							
Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals										
Equipment		2400 VA	100.00%	2400 VA	<b>Total Conn. Load:</b> 2.940 kVA										
Receptacle		540 VA	100.00%	540 VA	<b>Total Est. Demand:</b> 2.940 kVA										
					<b>Total Conn.:</b> 8.16 A										
					<b>Total Est. Demand:</b> 8.16 A										

Panel: L2B														
Location:			Volts: 208Y/120V			A.L.C. Rating: 10 KAIC (EXISTING)			2					
Supply From: L2A			Phases: 3			Frame Rating: 200 A			Main Type: MCB					
Mounting: SURFACE			Wires: 4			MCB Rating: 200 A								
Enclosure: TYPE 1														
CK	Circuit Description	Wire Size	CB	P	N	A	B	C	N	P	CB	Wire Size	Circuit Description	CK
1	RCPT - WAITING ROOM 100	1-#12, 1-#12, 1-#12	20	A	1	0.720	0.000				1	20 A	EXISTING LOAD	2
3	RCPT - WAITING ROOM 100	1-#12, 1-#12, 1-#12	20	A	1		0.900	0.000			1	20 A	EXISTING LOAD	4
5	RCPT - ROUTER CABINET	1-#12, 1-#12, 1-#12	20	A	1			0.360	0.000		1	20 A	EXISTING LOAD	6
7	RCPT - PATIENT ENCOUNTER 01	1-#12, 1-#12, 1-#12	20	A	1	0.900	0.000				1	20 A	EXISTING LOAD	8
9	RCPT - PATIENT ENCOUNTER 02	1-#12, 1-#12, 1-#12	20	A	1		0.900	0.000			1	20 A	EXISTING LOAD	10
11	RCPT - SPECIAL SERVICES 05	1-#12, 1-#12, 1-#12	20	A	1			0.900	0.000		1	20 A	EXISTING LOAD	12
13	RCPT - PATIENT ENCOUNTER 03	1-#12, 1-#12, 1-#12	20	A	1	0.900	0.000				1	20 A	EXISTING LOAD	14
15	RCPT - PATIENT ENCOUNTER 04	1-#12, 1-#12, 1-#12	20	A	1		0.900	0.000			1	20 A	EXISTING LOAD	16
17	RCPT - BREAK MICROWAVE	1-#12, 1-#12, 1-#12	20	A	1			1.000	0.000		1	20 A	EXISTING LOAD	18
19	RCPT - BREAK FRIDGE	1-#12, 1-#12, 1-#12	20	A	1	0.500	0.000				1	20 A	EXISTING LOAD	20
21	RCPT - BREAK/JAN	1-#12, 1-#12, 1-#12	20	A	1		0.540	0.000			1	20 A	EXISTING LOAD	22
23	EW-1	1-#12, 1-#12, 1-#12	20	A	1			0.300	0.000		1	20 A	EXISTING LOAD	24
25	EXISTING LOAD	--	20	A	1	0.000	0.000				1	20 A	EXISTING LOAD	26
27	EXISTING LOAD	--	20	A	1		0.000	0.000			1	20 A	EXISTING LOAD	28
29	EXISTING LOAD	--	20	A	1			0.000	0.000		1	20 A	EXISTING LOAD	30
31	EXISTING LOAD	--	20	A	1	0.000	0.000				1	20 A	EXISTING LOAD	32
33	EXISTING LOAD	--	20	A	1		0.000	0.000			1	20 A	EXISTING LOAD	34
35	EXISTING LOAD	--	20	A	1			0.000	0.000		1	20 A	EXISTING LOAD	36
37	EXISTING LOAD	--	20	A	1	0.000	0.000				2	20 A	EXISTING LOAD	38
39	EXISTING LOAD	--	20	A	1		0.000	0.000			1	20 A	EXISTING LOAD	40
41	EXISTING LOAD	--	20	A	1			0.000	0.000		1	20 A	EXISTING LOAD	42
<b>Total Load:</b>						3.020 kVA	3.240 kVA	2.560 kVA						
Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals									
Equipment		1800 VA	100.00%	1800 VA	<b>Total Conn. Load:</b> 8.820 kVA									
Receptacle		7020 VA	100.00%	7020 VA	<b>Total Est. Demand:</b> 8.820 kVA									
					<b>Total Conn.:</b> 24.48 A									
					<b>Total Est. Demand:</b> 24.48 A									

**Notes:**  
ALL BREAKERS ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. EXISTING CIRCUIT INFORMATION FROM BEST SOURCE AVAILABLE. CONTRACTOR TO COORDINATE AND FIELD VERIFY EXISTING CIRCUITS TO REMAIN AND CIRCUIT AVAILABILITY PRIOR TO ELECTRICAL ROUGH-IN. REUSE EXISTING CIRCUITS/SPARES TO EXTENT POSSIBLE. PROVIDE ADDITIONAL BREAKERS IN PANEL AS REQUIRED. REVISE PANEL SCHEDULES TO AS-BUILT CONDITIONS AT COMPLETION OF WORK.  
E = EXISTING EQUIPMENT AND ASSOCIATED CIRCUIT TO REMAIN. REUSE EXISTING CONDUIT AND WIRE TO EXTENT POSSIBLE. EXTEND CIRCUIT AS REQUIRED TO NEW EQUIPMENT OR PANEL LOCATION.  
N = PROVIDE NEW CIRCUIT BREAKER AS INDICATED IN EXISTING SPACE MATCH EXISTING TYPE AND RATING.  
T = CIRCUIT CONTROLLED BY TIMECLOCK.

RSN: 1511868  
Permit #: 2021-1915533 LT

DRAWN BY	JMM	
CHECKED BY	MRM	
APPROVED BY		
ISSUE DATE	11/18/2020	
REVISION		
#	DATE	DESCRIPTION
1	12/22/20	PERMIT RESPONSE
2	01/07/21	PERMIT RESPONSE



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PROJECT

**QUEST DIAGNOSTICS**

1411 S. POTOMAC ST, STE 290  
AURORA, CO 80012-4542



PROFESSIONAL OF RECORD:  
JASON E. CHRISTOFF No. 0056074  
EXP DATE: 10/31/2021

PROJECT NO. 62-40487-04

SHEET TITLE  
ELECTRICAL SCHEDULES

SHEET  
**E601**