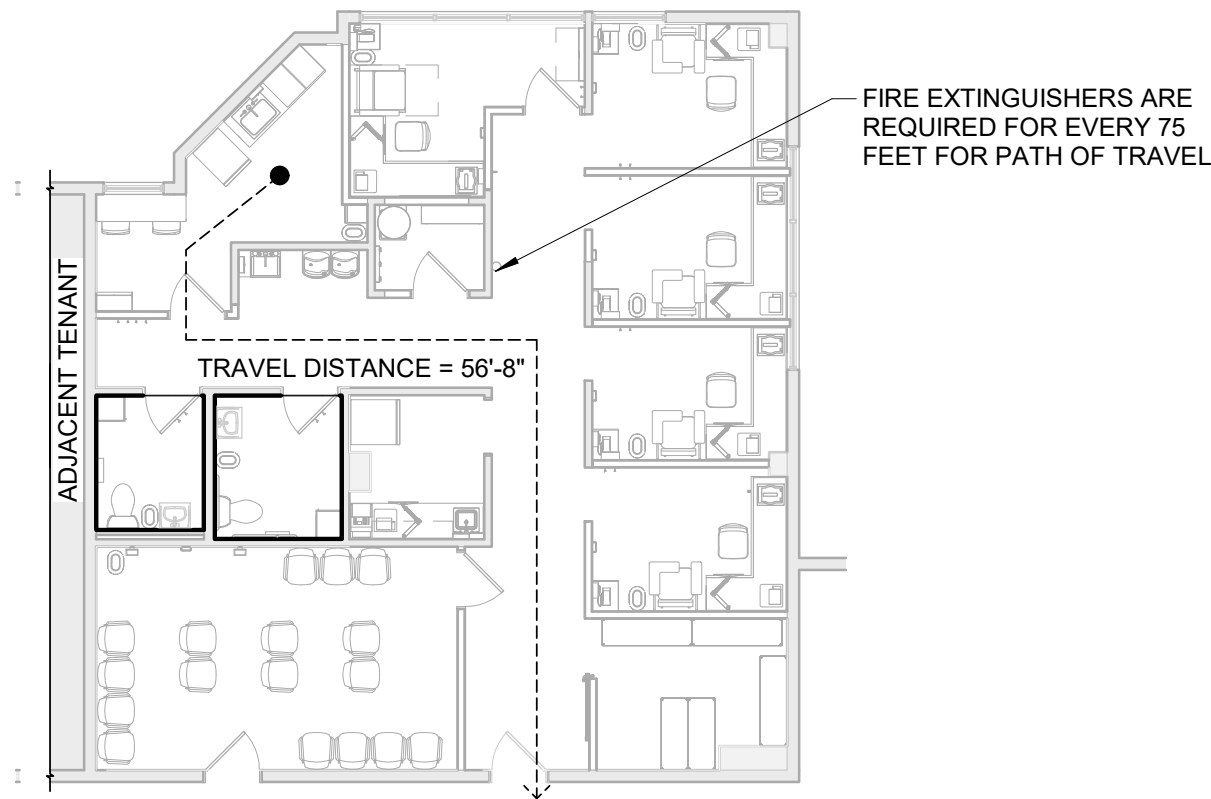




1411 S. POTOMAC ST, STE 290
AURORA, CO 80012-4542

SITE CODE:XXX



PARTIAL TENANT EGRESS PLAN
N.T.S.



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

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

PROJECT CODE DATA

GENERAL			
EXISTING BUILDING	4-STORY BUSINESS SPACE		
CONSTRUCTION TYPE	TYPE IIB		
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 "I"		
<hr/>			
<u>CODE REQUIREMENTS</u>			
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			
<hr/>			
<u>OCCUPANCY LOAD CALCULATIONS</u>			
OCC USE	AREA	FACTOR	LOAD
BUSINESS	1,373 SF	100	14
STORAGE	115 SF	300	1
TOTAL	1,488 SF		15
<hr/>			
<u>EGRESS WIDTH REQUIREMENTS</u>			
0.2' x 15 = 3"		= 32" MINIMUM REQUIRED	
		72" PROVIDED	

EGRESS EXIT REQUIREMENTS (<49 OCCUPANTS) EXITS REQUIRED EXITS PROVIDED	= 1 = 2
TRAVEL DISTANCE MAX DEAD END (SPRINKLERED) MAX EGRESS TRAVEL (BUSINESS)	= 50'-0" = 100'-0"
FIRE EXTINGUISHERS 1. EXTINGUISHERS SHALL BE 10 LB. CAPACITY, UL LABELED, ENAMEL STEEL CONTAINER WITH PRESSURE INDICATING GAUGE FOR CLASS A, B, OR C FIRES. BE WALL MOUNTED. 2. MAXIMUM SPACING TO BE 75 FEET APART ACCORDING TO IBC TABLE 906.3. TO 3. 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.

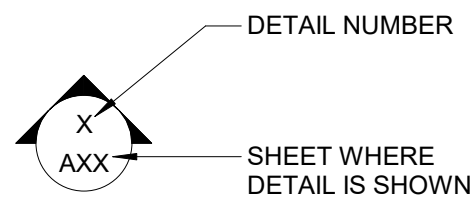
THE PATIENT SERVICE CENTER IS AN OFFICE WHERE PATIENTS MAY COME TO HAVE BLOOD DRAWN OR TO LEAVE URINE SAMPLES. THERE IS NO LABORATORY WORK PERFORMED ON THE PREMISES. ALL SAMPLES ARE SAFELY STORED AND SENT TO QUEST DIAGNOSTICS LABORATORIES FOR PROCESSING. THE QUEST DIAGNOSTICS PATIENT SERVICE CENTER IS 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 PROVE A GREAT CONVENIENCE AND WILL IMPROVE THE ACCESS OF THE COMMUNITY TO QUALITY HEALTHCARE SERVICES.

GENERAL NOTES

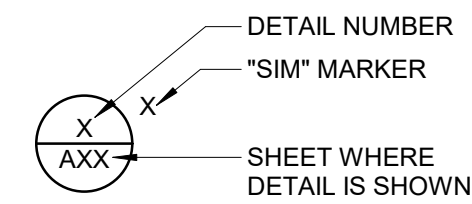
- CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY OF MATERIAL DISCREPANCIES FOUND IN THE DRAWINGS OR ANY EXISTING CONDITIONS FOUND ON THE SITE WHICH CONFLICT WITH CONDITIONS AS SHOWN IN THE CONTRACT DOCUMENTS.
- DRAWINGS ARE NOT TO BE SCALED. DIMENSIONS INDICATED ON DRAWINGS TAKE PRECEDENCE. LARGE SCALE 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 5/8" 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

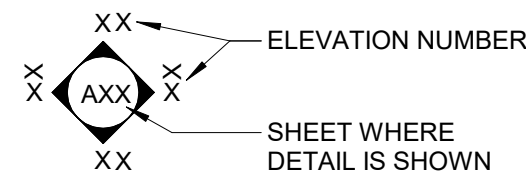
TYPICAL WALL SECTION



TYPICAL DETAIL

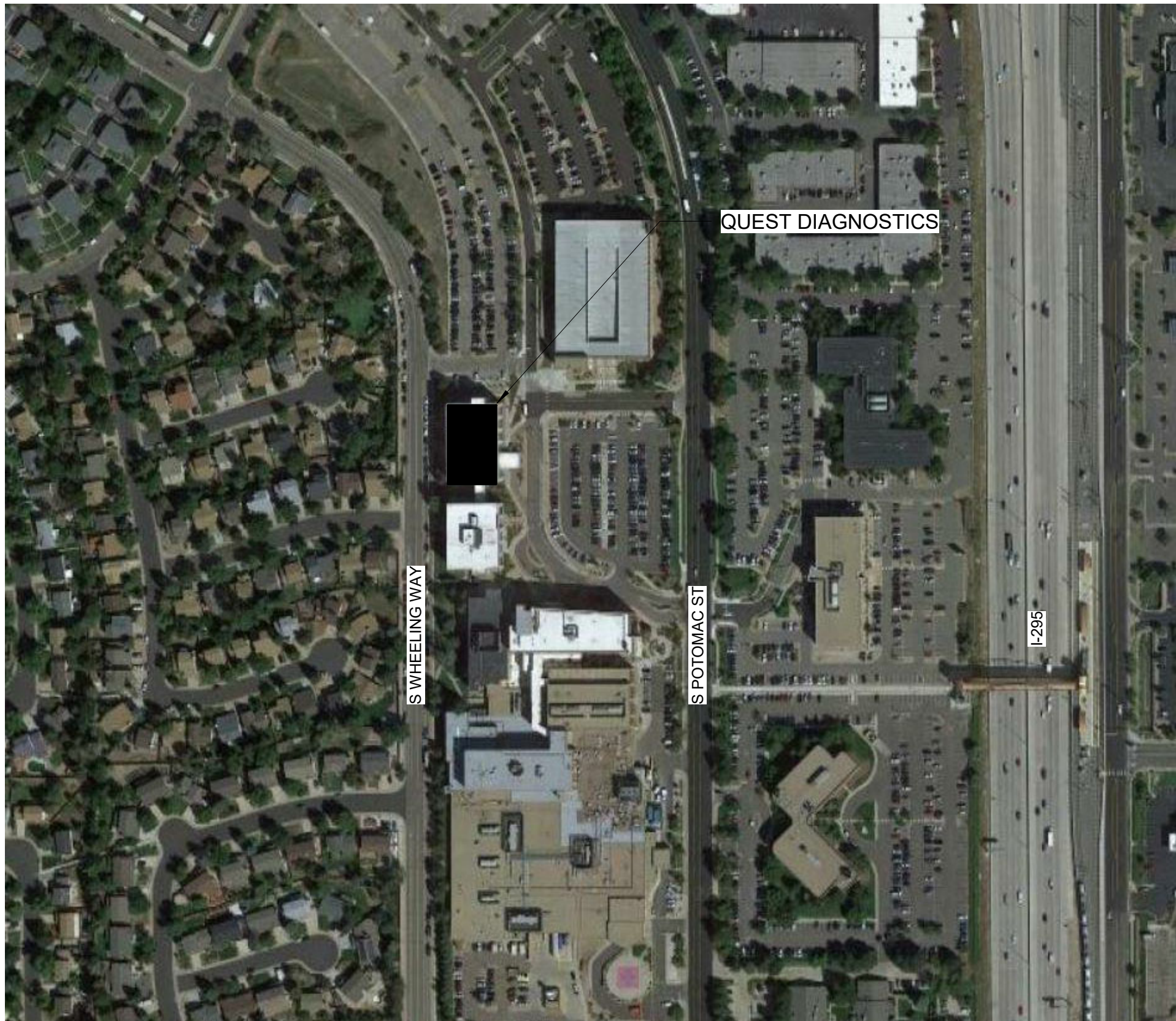


TYPICAL ELEVATION



(X)	DOOR TAG
(?)	MATERIAL TAG
(?)	KEY NOTE NUMBER
(X)	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:
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
CONTACT: CATHY RAMONDELLI
PHONE: 614-898-7100
EMAIL: CRAMONDELLI@MSCONSULTANTS.COM

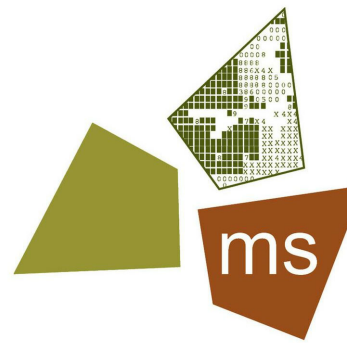
DRAWN BY JPJ

CHECKED BY CMB/CLR
APPROVED BY

ISSUE DATE 11/18/2020

REVISION

#	DATE	DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



PROJECT

QUEST DIAGNOSTICS

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



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

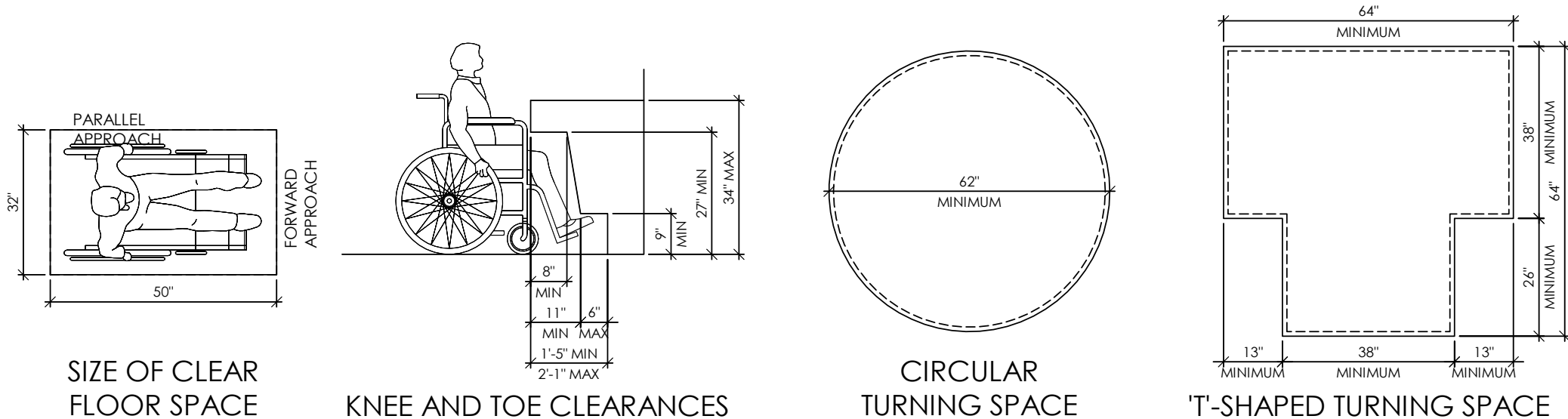
PROJECT NO. 62-40487-04

SHEET TITLE COVER SHEET

SHEET

G001

11/20/2020 4:39:46 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.

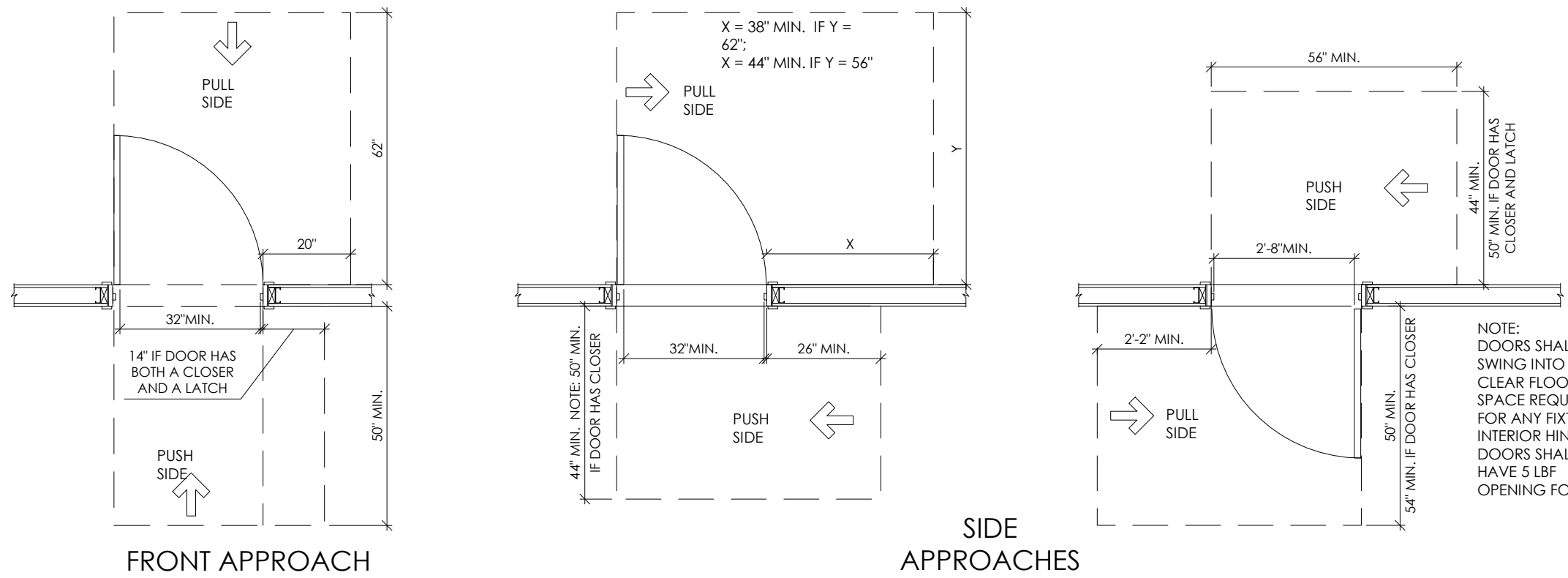


NOTE: CLEAR FLOOR WIDTH AT KNEE AND TOE CLEARANCE SPACE SHALL BE 2'-6" MINIMUM. ADDITIONAL SPACE BEYOND KNEE AND TOE CLEARANCES SHALL BE PERMITTED BENEATH ELEMENTS.

NOTE: AN UNOBSTRUCTED TURNING SPACE SHALL BE IN ALL ACCESSIBLE SPACES. THE CLEAR FLOOR SPACE AT FIXTURES AND CONTROLS, THE ACCESSIBLE ROUTE AND TURNING SPACE MAY OVERLAP

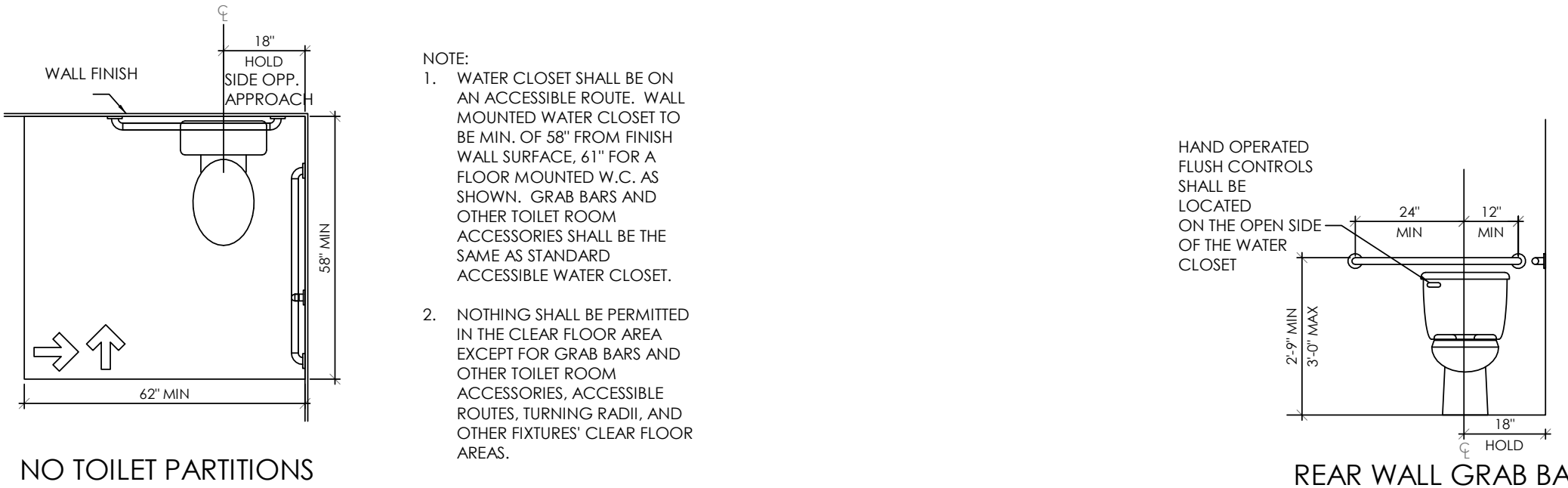
ACCESSIBLE CLEARANCES

SCALE: 3/8" = 1'



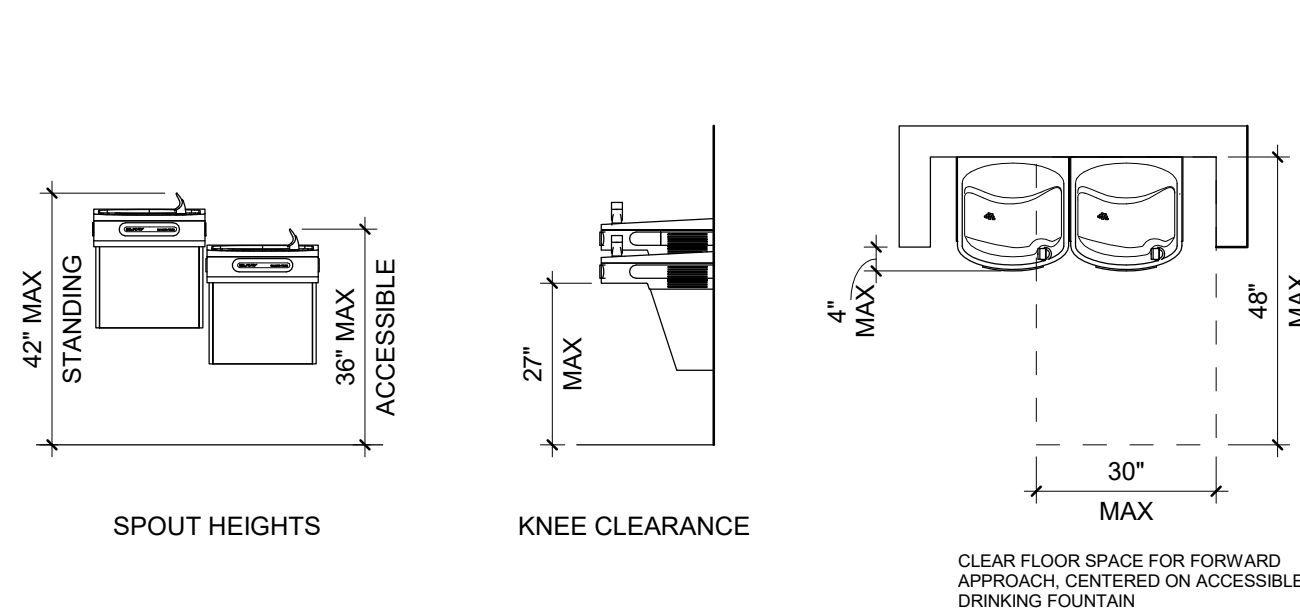
ACCESSIBLE DOOR MANEUVERING CLEARANCES

SCALE: 3/8" = 1'



ACCESSIBLE WATER CLOSET - PLAN

SCALE: 3/8" = 1'

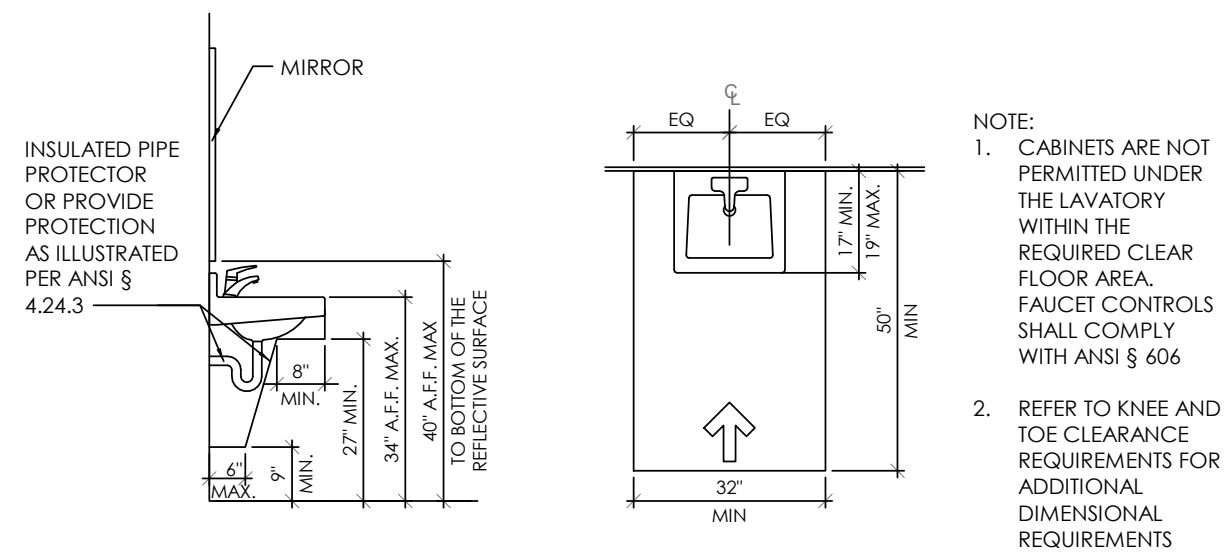


ACCESSIBLE DRINKING FOUNTAIN

SCALE: 3/8" = 1'

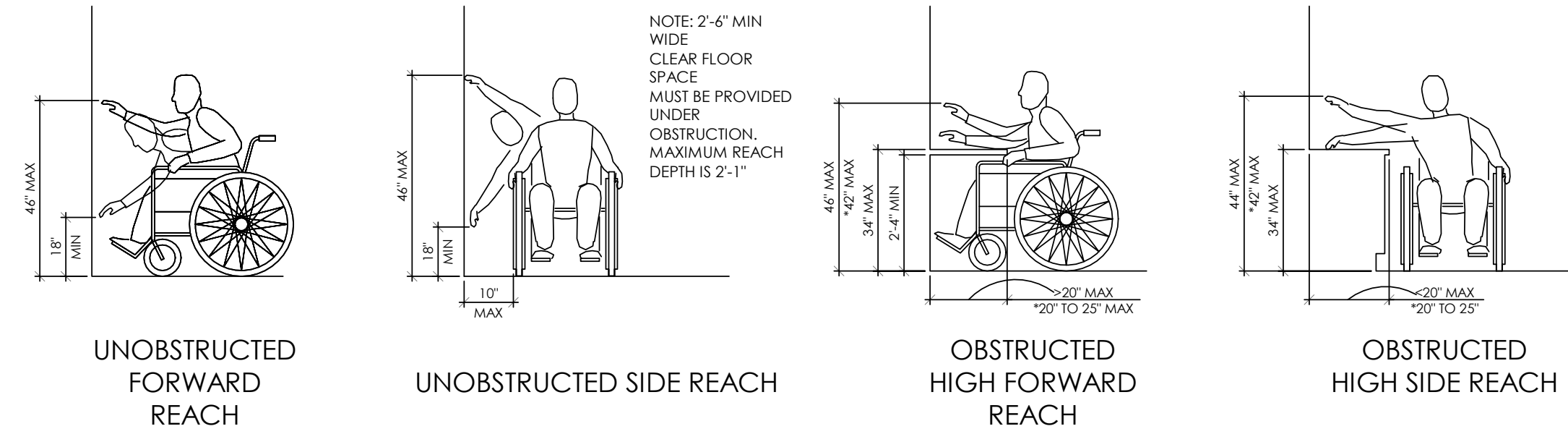
ACCESSIBLE WATER CLOSET - ELEVATION

SCALE: 3/8" = 1'



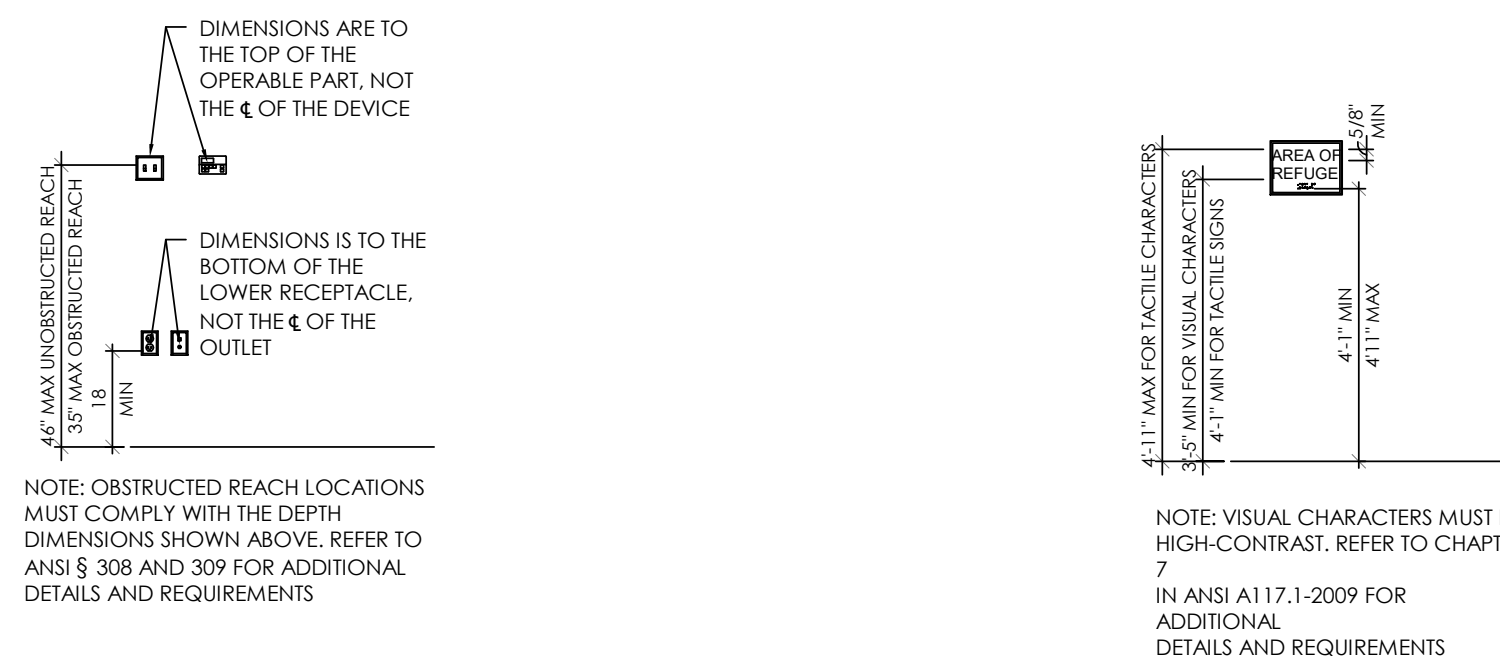
ACCESSIBLE LAVATORY

SCALE: 3/8" = 1'



ACCESSIBLE REACH RANGES

SCALE: 3/8" = 1'

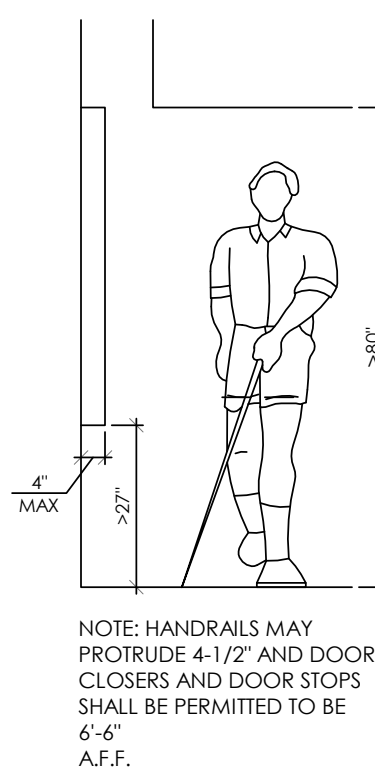


ACCESSIBLE OUTLETS, SWITCHES, & OPERABLE CONTROL

SCALE: 3/8" = 1'

ACCESSIBLE SIGNAGE

SCALE: 3/8" = 1'



PROTRUDING OBJECTS

SCALE: 3/8" = 1'

ACCESSIBILITY NOTES

- TURNING SPACE**
 - ALL ROOMS SHALL BE SERVICED BY AN ACCESSIBLE ROUTE, AND SHALL PROVIDE A TURNING RADIUS 60" MINIMUM DIAMETER CIRCULAR SPACE OR T-SHAPED SPACE WITH 60" MINIMUM SQUARE, WITH ARMS AND BASE 36" MINIMUM IN WIDTH.
- ACCESSIBLE ROUTES**
 - ACCESSIBLE ROUTES SHALL BE 3'-0" WIDE MINIMUM.
- OPERABLE PARTS**
 - THE ENTIRE OPERABLE PARTS SHALL FALL WITHIN THE REQUIRED REACH RANGES
 - OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRISTS. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5.0 POUNDS MAXIMUM.
- SIGNAGE**
 - REFER TO ANSI §703 FOR COMPLETE SIGNAGE REQUIREMENTS
 - VISUAL SIGNAGE MUST BE 3'-5" MIN A.F.F. AND LETTERING MUST BE 5/8" MIN AND HIGH CONTRAST
 - CHARACTERS IN TACTILE AND BRAILLE SIGNS MUST BE BETWEEN 4'-1" AND 4'-11" A.F.F.
- DOORS AND DOORWAYS**
 - PRIMARY ENTRANCES SHALL BE ACCESSIBLE AND LOCATED ON AN ACCESSIBLE ROUTE
 - A CLEAR OPENING OF 32" SHALL BE PROVIDED
- TOILET FACILITIES**
 - AT LEAST ONE LAVATORY, ONE WATER CLOSET SHALL MEET ALL ANSI AND 2010 ADA REQUIREMENTS
 - DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE OR CLEARANCE FOR ANY FIXTURE. EXCEPTION: WHERE A 30" X 48" CLEAR FLOOR SPACE IS PROVIDED WITHIN THE ROOM BEYOND THE SWING OF THE DOOR.
 - CLEAR FLOOR SPACES, CLEARANCES AT FIXTURES AND TURNING SPACES ARE PERMITTED TO OVERLAP
 - REINFORCEMENT SHALL BE PROVIDED FOR INSTALLATION OF GRAB BARS AT WATER CLOSETS AS REQUIRED.
- LAVATORY**
 - PROVIDE A 30" X 48" CLEAR FLOOR SPACE POSITIONED FOR FORWARD APPROACH.
 - THE FRONT OF LAVATORIES AND SINKS SHALL BE 33-1/2" MAXIMUM A.F.F. MEASURED TO THE HIGHER OF THE RIM OR COUNTER SURFACE.
 - THE DEPTH OF THE SINK BOWL SHALL BE 6 1/2" MAXIMUM. MULTIPLE-COMPARTMENT SINKS SHALL HAVE AT LEAST ONE COMPARTMENT COMPLYING WITH THIS REQUIREMENT.
 - EXPOSED PIPES AND SURFACES UNDER LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES AND SINKS.
- MIRRORS**
 - MIRRORS ABOVE LAVATORIES SHALL HAVE THE BOTTOM EDGE OF THE REFLECTING SURFACE 40" MAXIMUM A.F.F.
- WATER CLOSET**
 - THE REQUIRED CLEARANCE AROUND THE WATER CLOSET SHALL BE PERMITTED TO OVERLAP THE WATER CLOSET, ASSOCIATED GRAB BARS, PAPER DISPENSERS, COAT HOOKS, SHELVES, ACCESSIBLE ROUTES, CLEAR FLOOR SPACE REQUIRED AT OTHER FIXTURES AND THE WHEELCHAIR TURNING SPACE. NO OTHER FIXTURES OR OBSTRUCTIONS SHALL BE LOCATED WITHIN THE REQUIRED WATER CLOSET CLEARANCE.
 - THE TOP OF THE WATER CLOSET SEAT SHALL BE 15" MINIMUM AND 19" MAXIMUM A.F.F.
 - A WALL CAPABLE OF SUPPORTING GRAB BARS IN WEIGHT AND DIMENSION MUST BE PROVIDED AT THE SIDE OF THE WATER CLOSET, 18" FROM THE 4 OF THE WATER CLOSET TO FINISHED WALL SURFACE. SWING-DOWN GRAB BARS ARE NOT PERMITTED.
- SINK**
 - PROVIDE A 30" X 48" CLEAR FLOOR AREA POSITIONED FOR FORWARD APPROACH. THE CLEAR FLOOR SPACE SHALL BE CENTERED ON THE SINK BOWL.
 - THE REQUIREMENT FOR KNEE AND TOE CLEARANCE SHALL NOT APPLY TO MORE THAN ONE BOWL OF A MULTI-BOWL SINK.
 - THE FRONT OF LAVATORIES AND SINKS SHALL BE 33-1/2" MAXIMUM A.F.F. MEASURED TO THE HIGHER OF THE RIM OR COUNTER SURFACE.
 - THE DEPTH OF THE SINK BOWL SHALL BE 6 1/2" MAXIMUM.
 - ALL EXPOSED PIPES AND SURFACES UNDER LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT AND THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES AND SINKS.
- INFANT DRAW STATION**
 - REFER TO 2012 ADA REQUIREMENT 902 WORK SURFACES. WHEN IN THE OPEN POSITION, THE TABLE SURFACE SHOULD BE A MAX OF 30" A.F.F. SAME CLEAR FOR SPACE FOR FORWARD APPROACH COMPLYING WITH 305, WITH EXCEPTION OF KNEE CLEARANCE OF 24" MIN.

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



DRAWN BY JPJ

CHECKED BY CMB/CLR
APPROVED BY

ISSUE DATE 11/18/2020

REVISION		
#	DATE	DESCRIPTION

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



PROJECT

QUEST DIAGNOSTICS

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



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

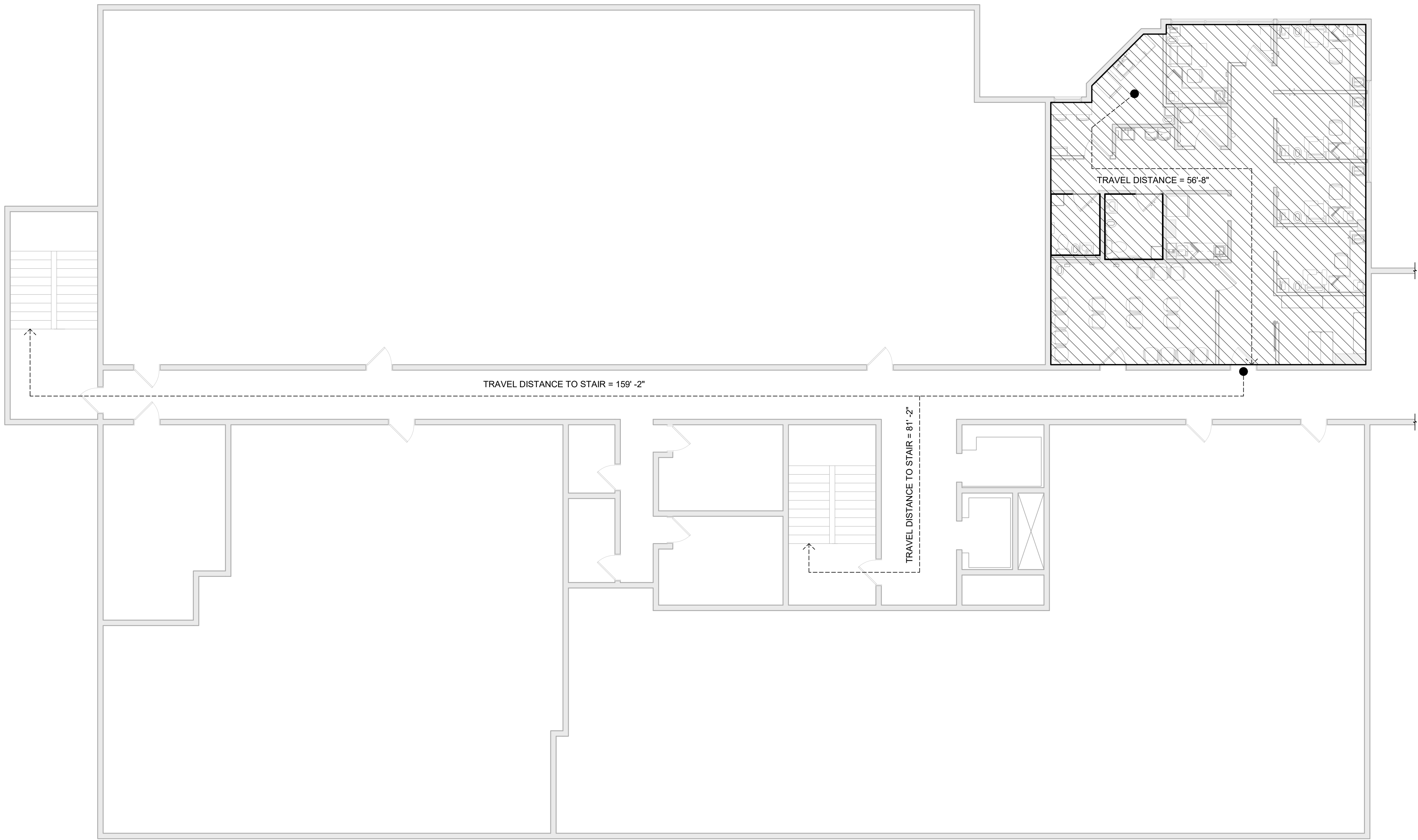
PROJECT NO. 62-40487-04

SHEET TITLE
ACCESSIBILITY STANDARDS

SHEET

G002

11/20/2020 4:39:51 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.



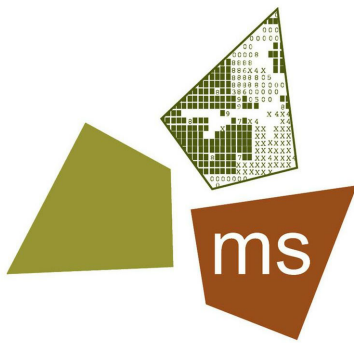
1 LIFE SAFETY PLAN

1/8" = 1'-0"



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

DRAWN BY		Author
CHECKED BY APPROVED BY		Checker
ISSUE DATE		11/18/2020
REVISION		
#	DATE	DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



PROJECT

QUEST
DIAGNOSTICS

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



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

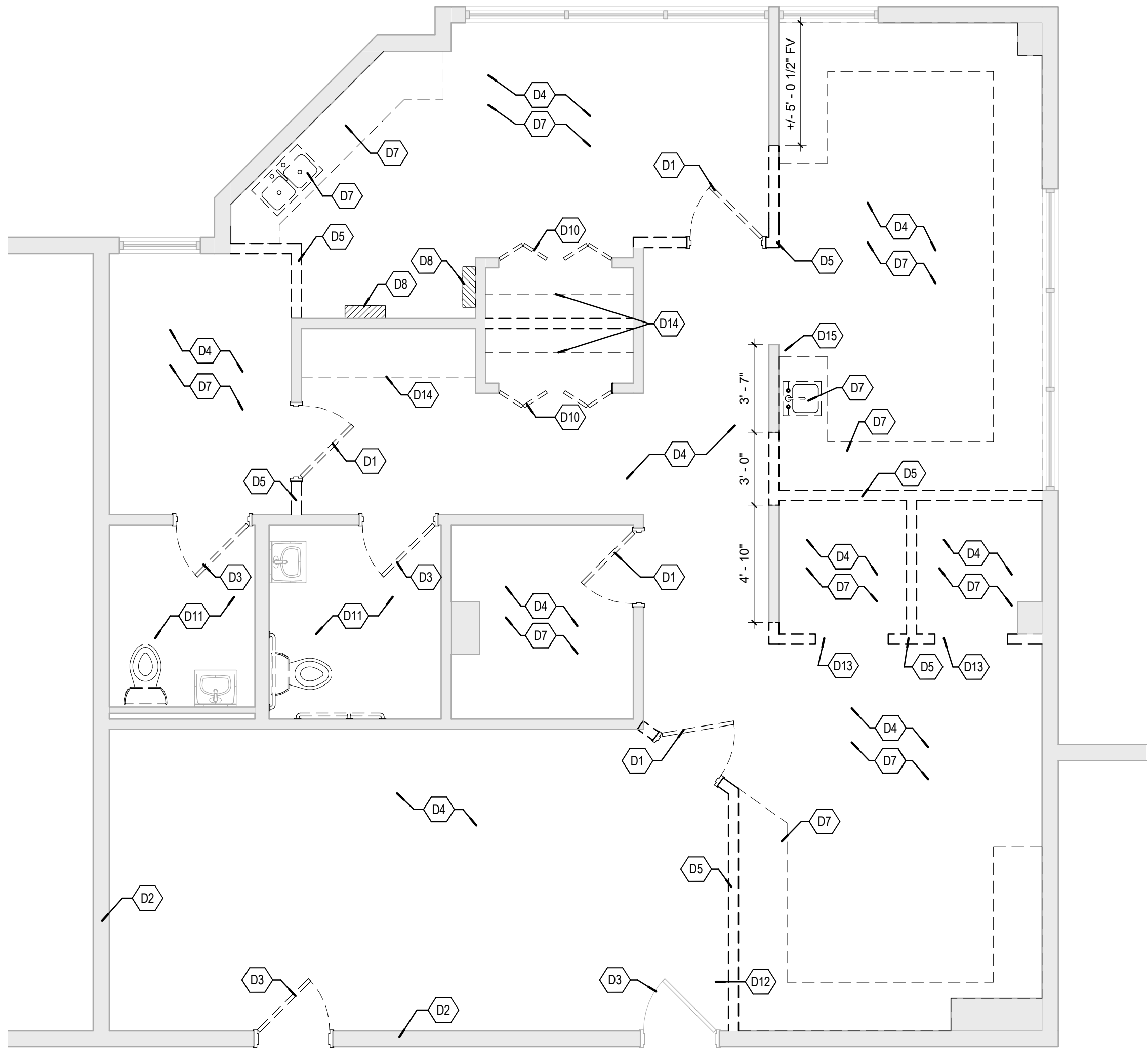
PROJECT NO. 62-40487-04

SHEET TITLE
LIFE SAFETY PLAN

SHEET

G003

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.



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

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

DRAWN BY
JPJ

CHECKED BY
APPROVED BY
CMB/CLR

ISSUE DATE
11/18/2020

REVISION

#	DATE	DESCRIPTION

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT

Quest
Diagnostics™

PROJECT

QUEST
DIAGNOSTICS

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

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

RSN: **1511868**
Permit #: **2021-1915533 LT**

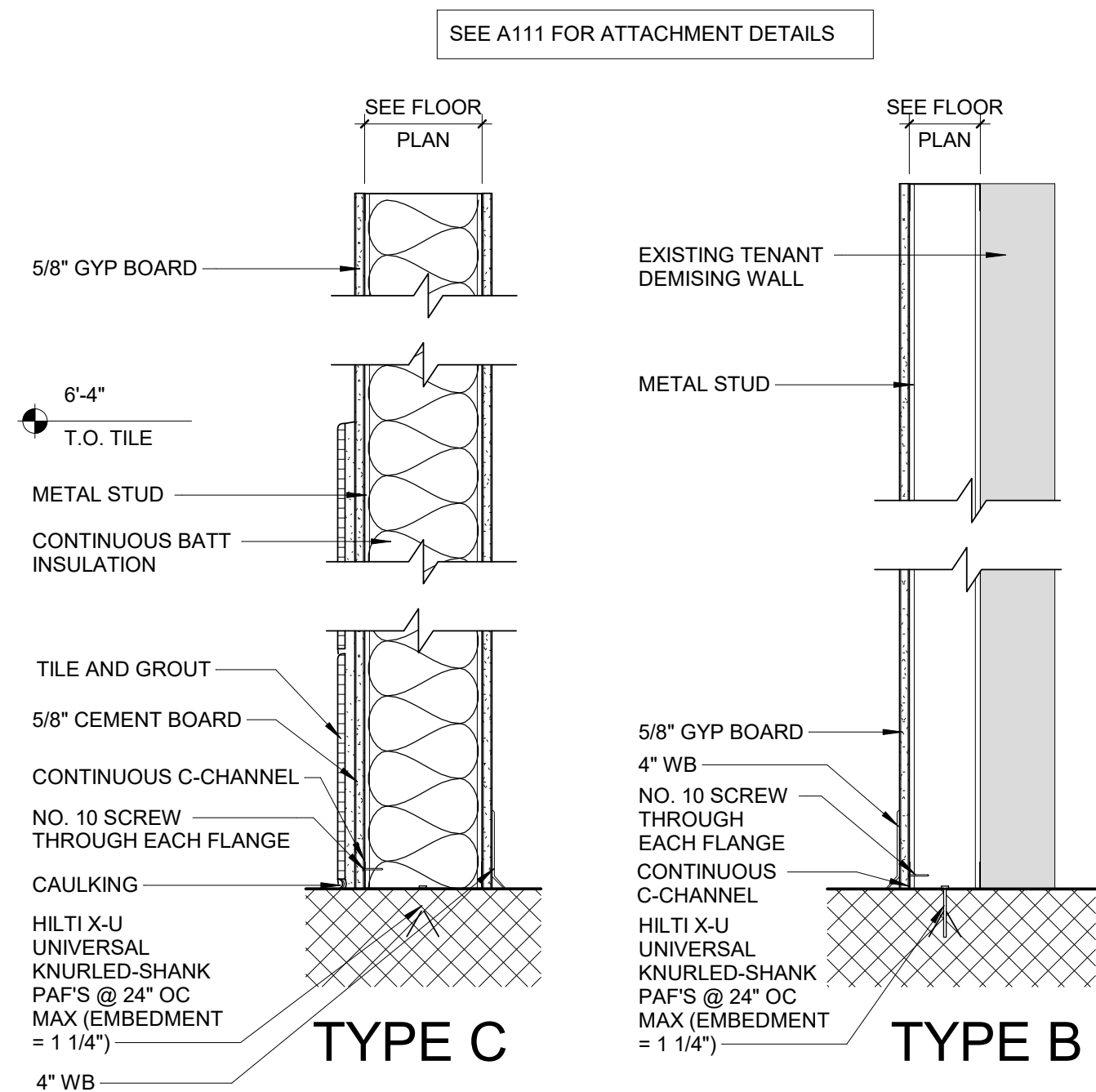
11/20/2020
PROFESSIONAL OF RECORD:
CHARLES M. BUSCH No. APC 00403518
EXP. DATE: 10/31/2021

PROJECT NO. 62-40487-04

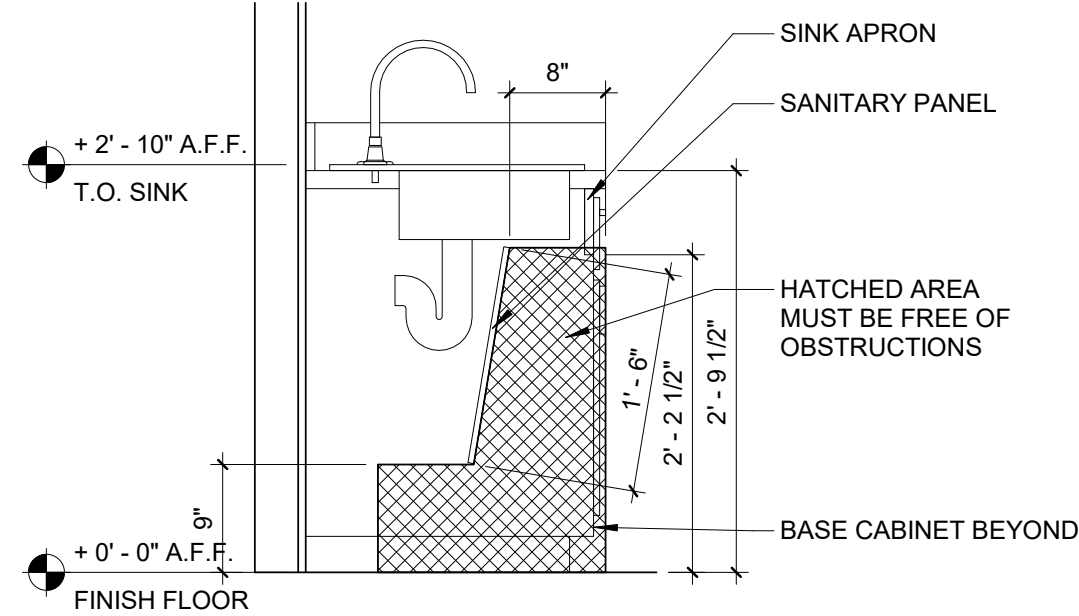
SHEET TITLE
DEMOLITION PLAN

SHEET
D101

11/20/2020 4:39:13 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.



- NOTES:
1. TYPICAL STUD FRAMING: 362PDS125-33 STUDS @ 16" OC TYP WHERE NOTED ON PLAN
 2. STUD BRIDGING REQUIRED @ 4'-0" OC IN STUD WALLS, EXCEPT WHERE EACH STUD FLANGE IS CONTINUOUSLY FASTENED TO STRUCTURAL SHEATHING OR GYPSUM BOARD
 3. TYPICAL TRACK: 1 1/4" FLANGE, MATCH STUD GA AND DEPTH. ATTACH TRACK FLANGES TO EACH STUD FLANGE W/ #10 SCREW

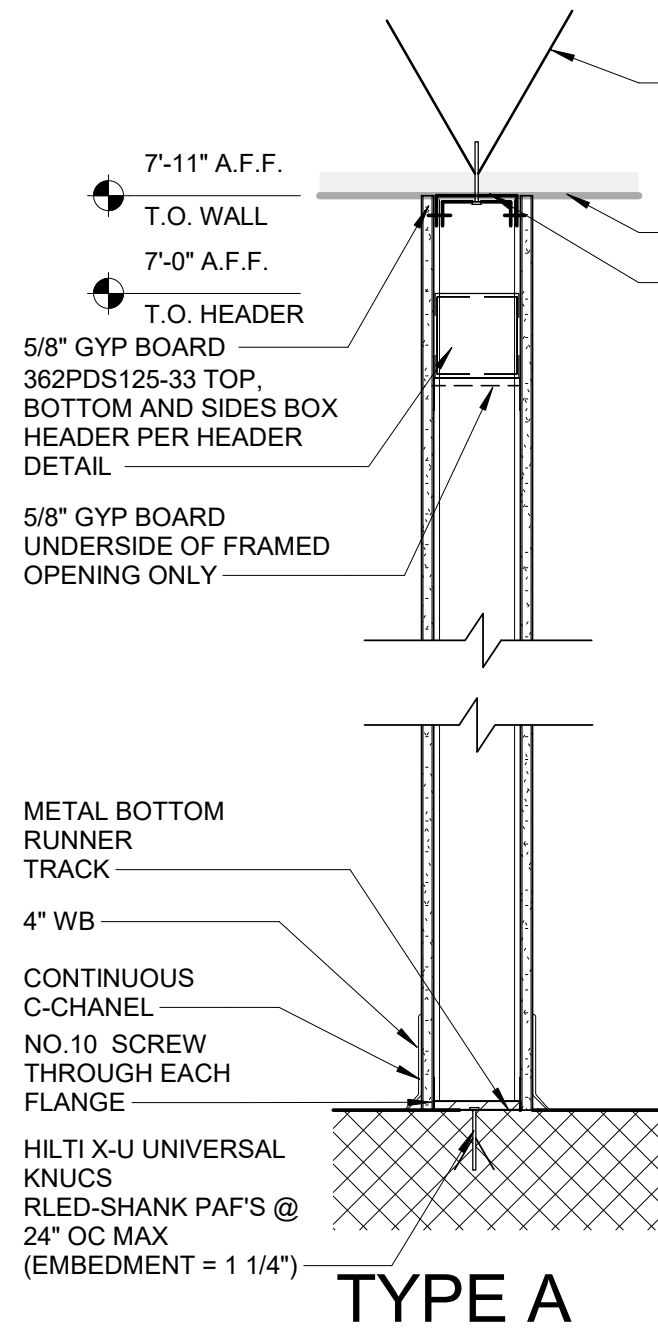
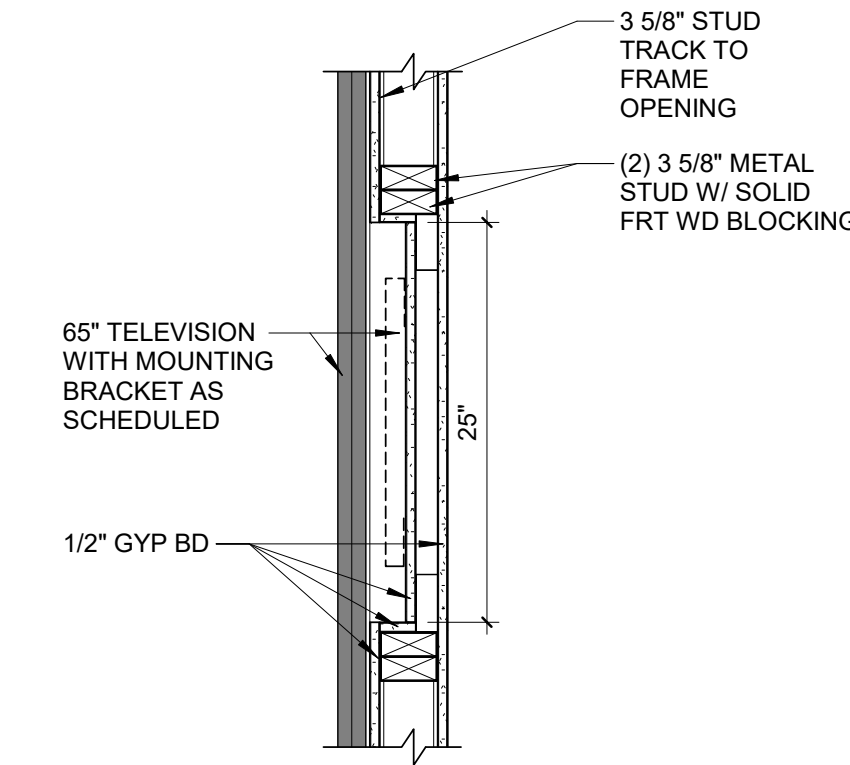


3 SINK SECTION

3/4" = 1'-0"

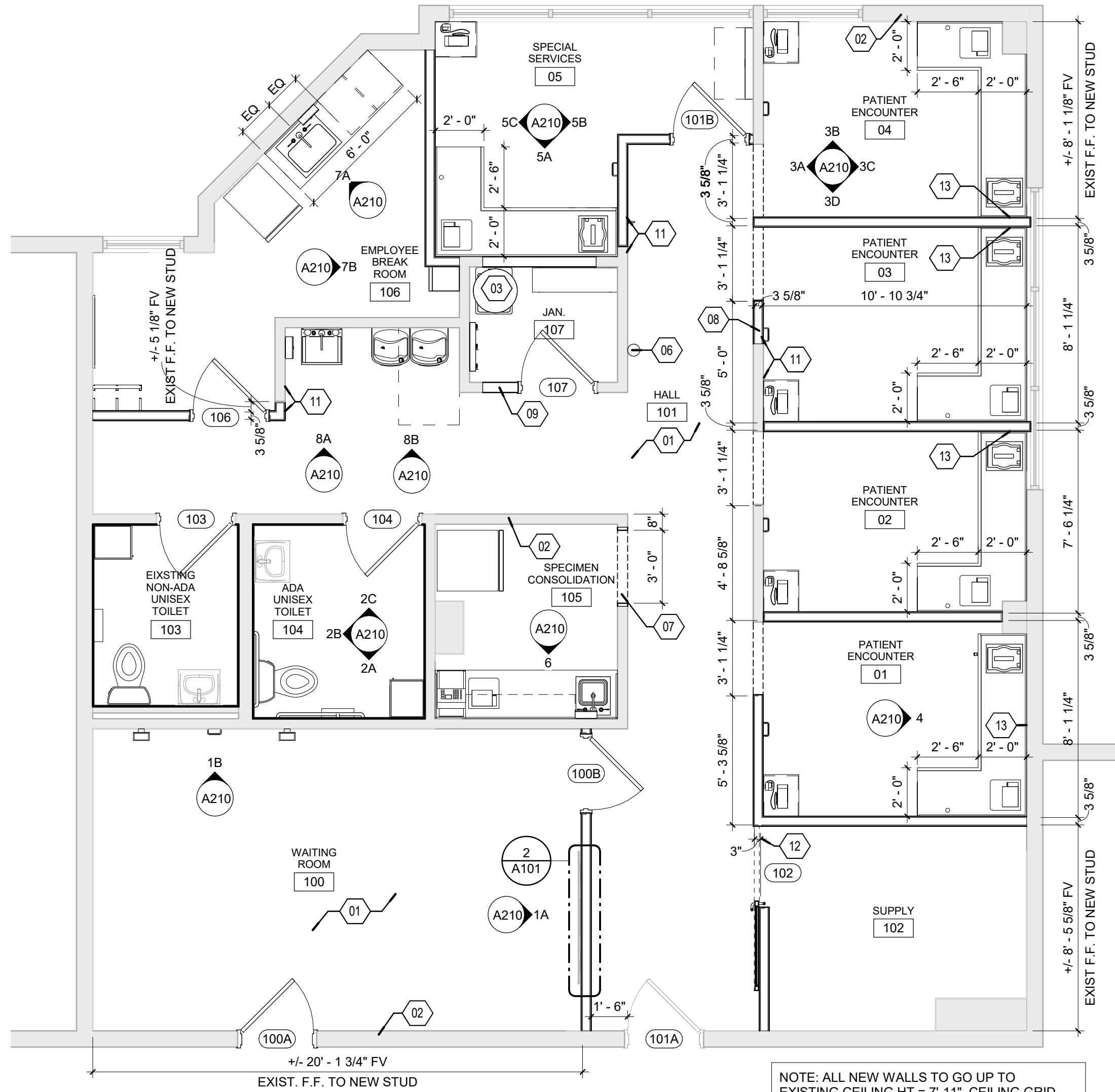
2 TELEVISION FRAMING DETAIL

1" = 1'-0"



ENLARGED PLAN - TOILET ROOMS

NOTE: DIMENSIONS TO FINISH FACE MARKED WITH AN ★



NOTE: ALL NEW WALLS TO GO UP TO EXISTING CEILING HT = 7'-11". CEILING GRID, TILES AND ASSOCIATED FIXTURES TO REMAIN U.N.O.

NOTE: DIMENSIONS TO FINISH FACE MARKED WITH AN ★

FLOOR PLAN KEYED NOTES

Key Value	Keynote Text
01	INSTALL CORNERS GUARDS UP TO 48" A.F.F. AT ALL WALL CORNERS
02	EXISTING WALL TO REMAIN - PREPARE ALL SURFACES AS REQUIRED TO RECEIVE NEW FINISHES
03	NEW UTILITY SINK AND WATER HEATER ABOVE - SEE PLUMB DWGS FOR ADDITIONAL INFORMATION.
05	DOOR SILL TRANSITION STRIP TO BE FLUSH ANE LEVEL AT VINYL TILE AND PORCELAIN TILE. PROVIDE MAX TRANSITION OF 1/2" WITH BEVEL TO COMPLY WITH ADA 303
06	RELOCATED TANK FIRE EXTINGUISHER
07	FINISH OPENING AS A FRAMED OPENING AFTER DOOR HAS BEEN REMOVED.
08	INFILL STUD WALL AND GYP BD FINISHES TO ALIGN WITH THE ADJACENT EXISTING GYP BD FOR A SMOOTH AND FLUSH TRANSITION.
09	INFILL EXISTING DOOR OPENING WITH FRAMING TO ALIGN WITH ADJACENT FINISHES FOR A FLUSH AND SMOOTH TRANSITION ON EACH SIDE.
11	ALIGN WITH ADJACENT FINISHES FOR A FLUSH AND SMOOTH TRANSITION ON EACH SIDE.
12	LEAVE APPROX. 3" TO ALLOW BARN DOOR TO TERMINATE INTO WALL.
13	ATTACH STUDS TO BLOCKING AND NOT TO STOREFRONT SILL.

GENERAL FLOOR PLAN NOTES

1. ALL MILLWORK AND CABINERY TO BE FURNISHED BY OWNER
2. REMOVE EXISTING FINISHES AND PATCH EXISTING WALL AS REQUIRED. PREP TO RECEIVE NEW FINISHES AS SHOWN ON THE FINISH SCHEDULE.
3. ALL DIMENSIONS ARE TO FACE OF STUD AND OPENING CENTERLINES U.N.O.
4. THE GC IS RESPONSIBLE FOR ALL COORDINATION BETWEEN ALL SUBCONTRACTORS BASED ON THE ENTIRE SET OF CONSTRUCTION DOCUMENTS. IN CASE OF INCONSISTENCIES OR DISCREPANCIES BETWEEN DRAWINGS, THE MOST STRINGENT NOTE OR CONDITION SHALL APPLY. AND THE GC SHALL NOTIFY THE ARCHITECT IN WRITING IMMEDIATELY IT IS THE RESPONSIBILITY OF THE GC TO FIELD VERIFY EXISTING SITE CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING WORK, AND TO IMMEDIATELY NOTIFY ARCHITECT IN WRITING IF DISCREPANCIES ARE DISCOVERED THAT WOULD IMPACT THE DESIGN INTENT
5. ALL CABINERY TO BE FABRICATED OFF-SITE, AND SHALL COMPLY WITH ALL APPLICABLE ACCESSIBILITY REQUIREMENTS. GC TO INSTALL. CABINET FABRICATOR TO SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL. GC TO PROVIDE ALL REQUIRED FIRE-RETARDANT-TREATED BLOCKING AND ANY ADDITIONAL CONSTRUCTION AS REQUIRED FOR FULL AND COMPLETE INSTALLATION
6. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER ANY SCALED DIMENSIONS
7. COORDINATE MILLWORK DRAWINGS WITH C2C REPRESENTATIVE. NOTIFY ARCHITECT IMMEDIATELY IN WRITING OF DISCREPANCIES WITH DESIGN INTENT IN REGARDS TO THESE DRAWINGS. THE MILLWORK DRAWINGS AND/OR EXISTING FIELD CONDITIONS
8. COORDINATE WITH SHEET A601 FOR FINISH PLAN AND SCHEDULE
9. ALL WOOD OR PLYWOOD BLOCKING/SHEATHING TO BE FIRE-RETARDANT-TREATED
10. DOORS INDICATED ON THE PLAN SHALL BE LOCATED A MINIMUM OF 4" FROM ADJACENT WALLS UNLESS NOTED OR DIMENSIONED OTHERWISE OR AS REQUIRED FOR HARDWARE INSTALLATION.
11. ALL PARTITIONS ARE TYP "A" U.N.O.
12. F.F. STANDS FOR FINISH FACE
- 13.

SYMBOL LEGEND

EXISTING WALL TO REMAIN



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



DRAWN BY JPJ

CHECKED BY CMB/CLR
APPROVED BY

ISSUE DATE 11/18/2020

REVISION

#	DATE	DESCRIPTION

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



PROJECT

QUEST DIAGNOSTICS

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



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

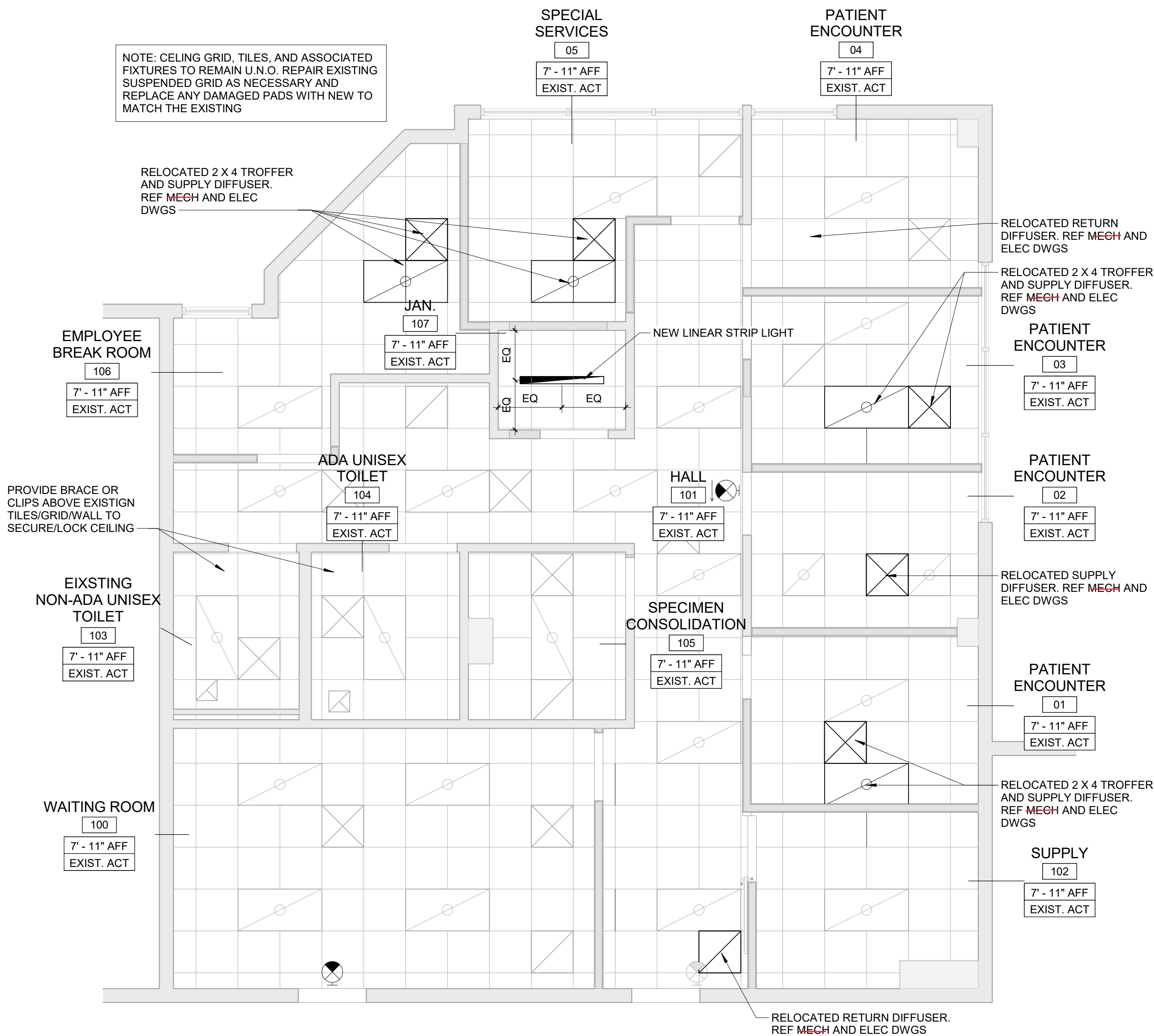
PROJECT NO. 62-40487-04

SHEET TITLE FLOOR PLAN

SHEET

A101

11/20/2020 4:39:14 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.



SYMBOL LEGEND

	6" DIA DOWNLIGHT
	EXIT SIGN
	2'X2' RECESSED LIGHTING
	2'X4' RECESSED LIGHTING
	EMERGENCY EVACUATION LIGHTING
	LINEAR STRIP LIGHT
	GYP BOARD DROP CEILING
	ACOUSTIC CEILING TILE AND GRID
	SUPPLY DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE

GENERAL NOTES:
1. CENTER GRID WITHIN ROOM U.N.O.
2. CENTER EXIT SIGN OVER ADJACENT DOOR U.N.O.
3. REFER TO BRACING DETAILS FOR ADDITIONAL INFORMATION

DRAWN BYJPJ

CHECKED BYAPPROVED BYCMB/CLR

ISSUE DATE11/18/2020

REVISION

#	DATE	DESCRIPTION

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT

QUEST
DIAGNOSTICS

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

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

PROJECT NO.62-40487-04

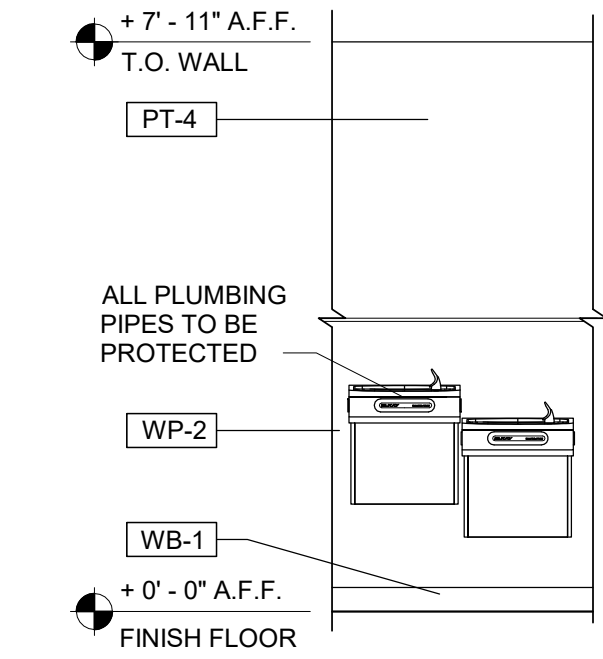
SHEET TITLEREFLECTED CEILING PLAN

SHEETA111

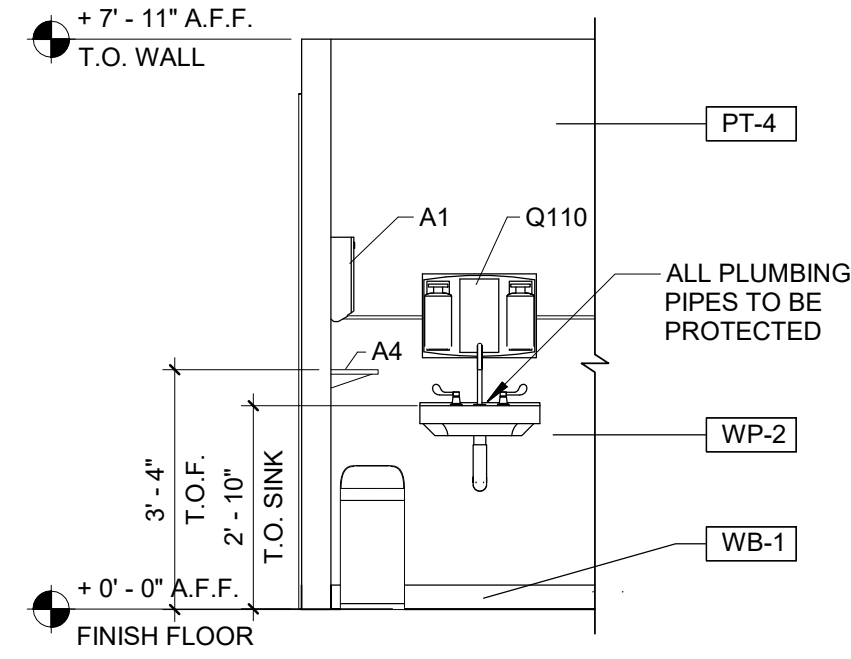
11/20/2020 4:39:28 PM NOTICE: THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.

ACCESSORY LIST		
ID #	DESCRIPTION	MANUF./MODEL NO.
A1	PAPER TOWEL DISPENSER	BOBRICK B-2620
A2	HAND DRYER	Q973A; VERDEDRI / ITEM#: T97B489340
A3	MICROWAVE	SHARP-ZSMC1441CB
A4	STAINLESS STEEL SHELF-4"x18"	BOBRICK - T97B489340
A5	MOP HOOK	UNGER-964770
A6	18" GRAB BAR	BOBRICK B-6806x18
A7	36" GRAB BAR	BOBRICK B-6806x36
A8	42" GRAB BAR	BOBRICK B-6806x42
A9	WIRE SHELVEING 12" x 42"	CLOSET MAID 4717 W/ CLOSET MAID BRACKETS #76606
A10	TOILET PAPER DISPENSER	BOBRICK B2840
A11	MIRROR	T97B489400 BY GLOBAL INDUSTRIES
A12	COPIER/FAX	TENANT PROVIDED / TENANT INSTALLED
A13	PRINTER	TENANT PROVIDED / TENANT INSTALLED
A14	COMPUTER, KEYBOARD, MOUSE, MONITOR	TENANT PROVIDED / TENANT INSTALLED
A15	REFRIGERATOR/FREEZER	PRN12160MS

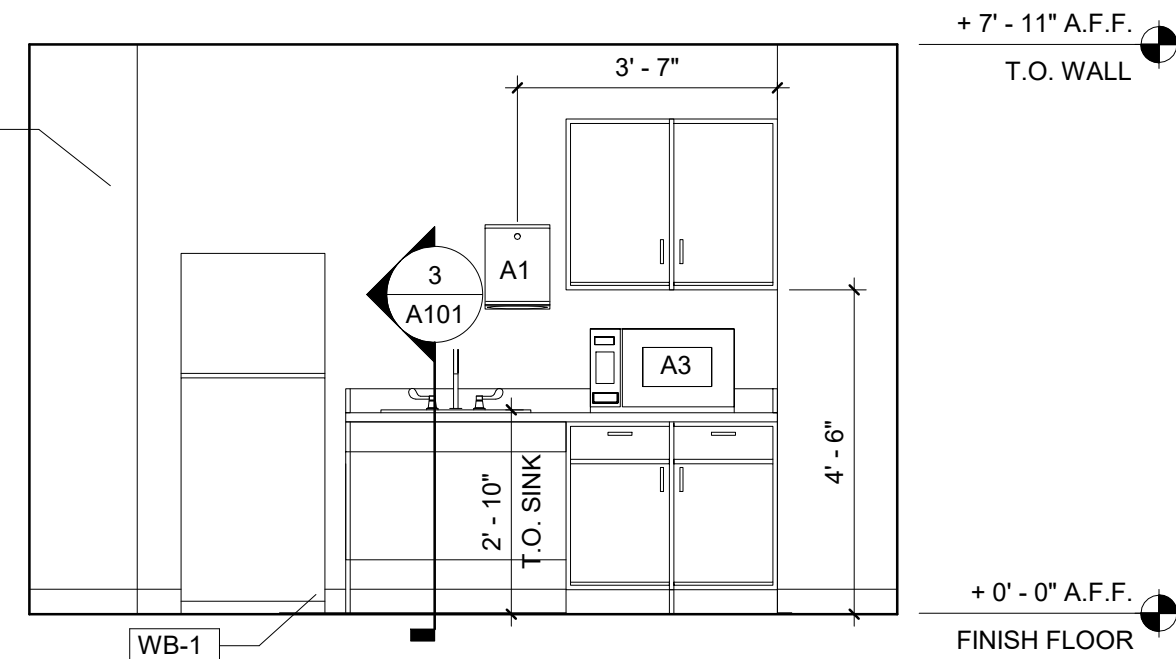
*ALL ITEMS LISTED ARE GC PROVIDED / GC INSTALLED (U.N.O.)
*ALL ITEMS SHALL BE MOUNTED AT 48" A.F.F. (U.N.O.) TO BOTTOM OF OPERABLE PART. REFER TO G002 FOR ALL MOUNTING HEIGHTS AND DIMENSIONS FOR FIXTURES AND RESTROOM ACCESSORIES.



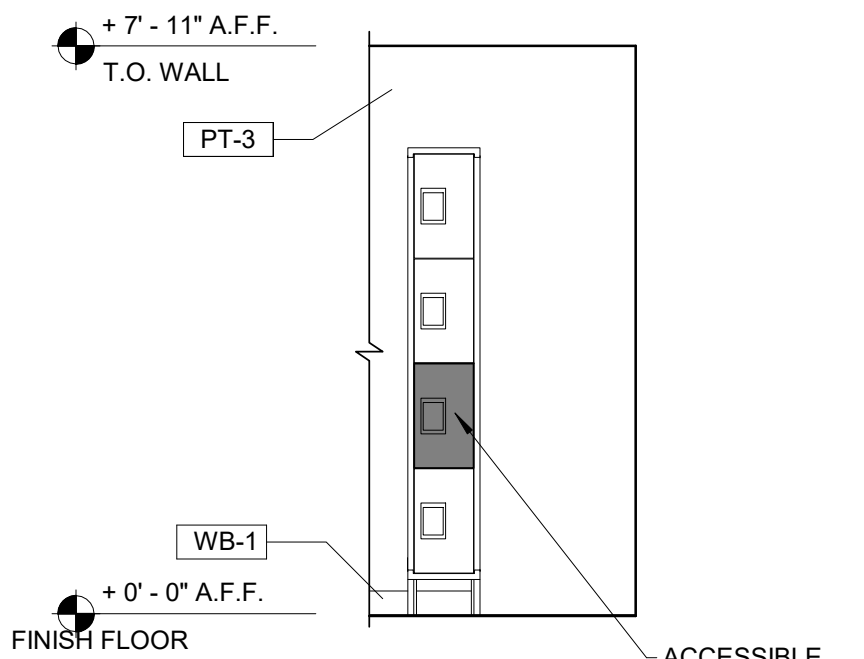
8B HALL ALCOVE
3/8" = 1'-0"



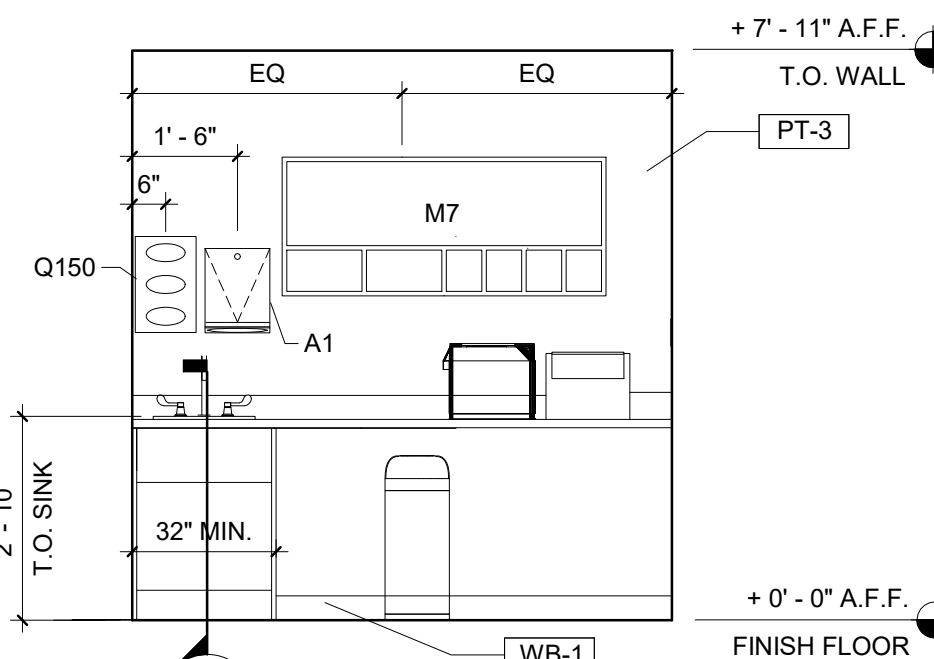
8A HALL ALCOVE
3/8" = 1'-0"



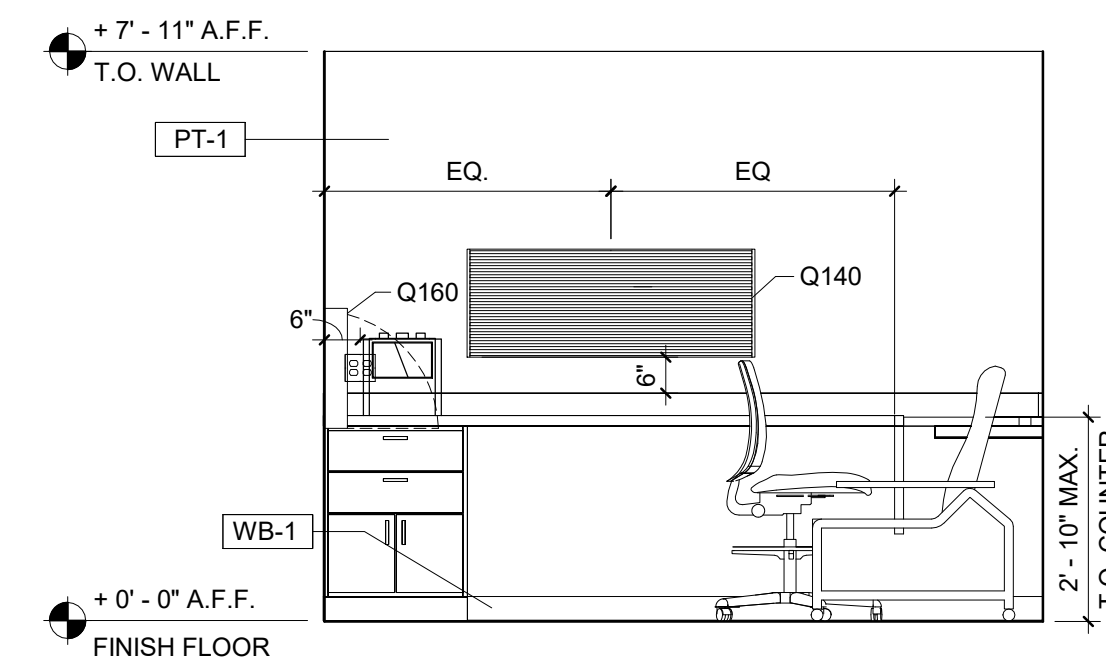
7A EMPLOYEE BREAKROOM
3/8" = 1'-0"



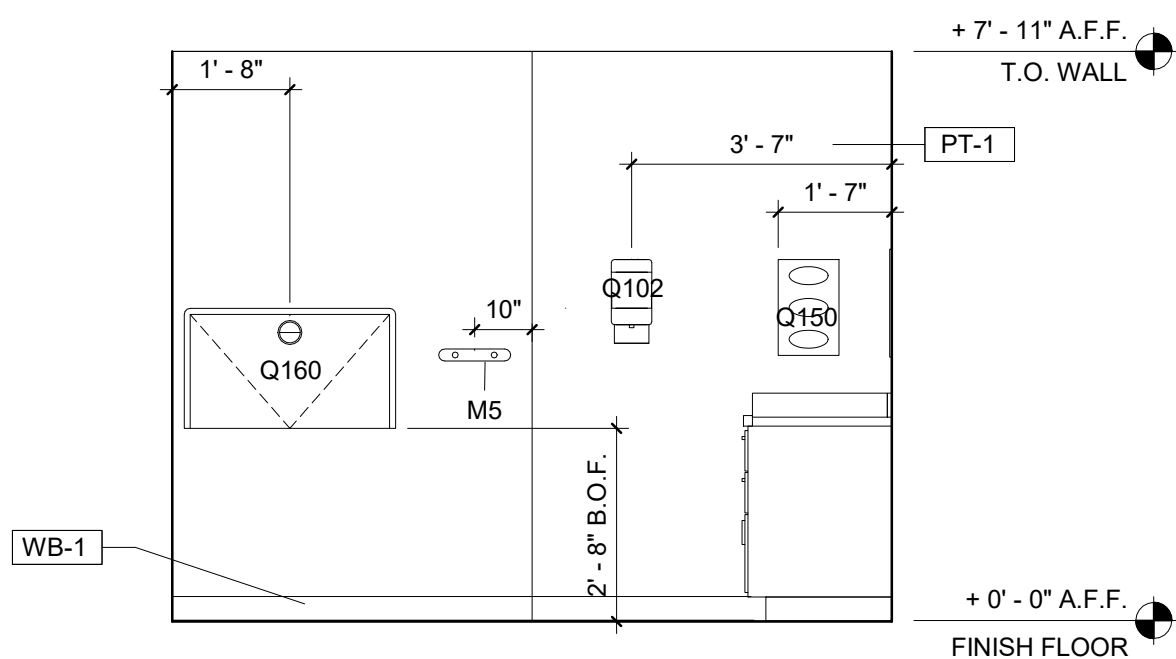
7B EMPLOYEE BREAKROOM
3/8" = 1'-0"



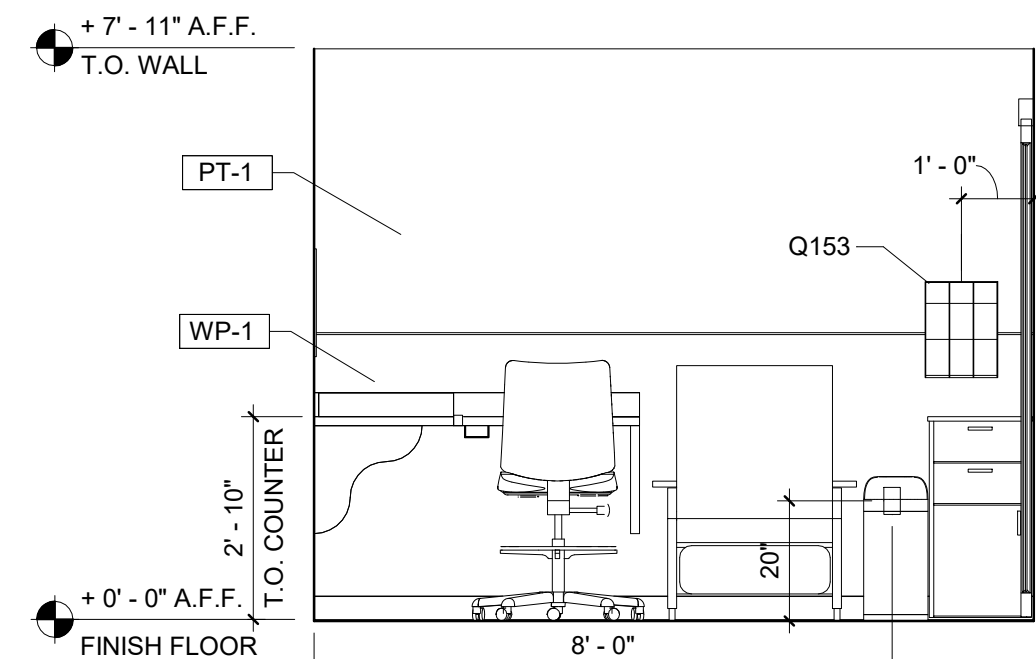
6 SPECIMEN CONSOLIDATION
3/8" = 1'-0"



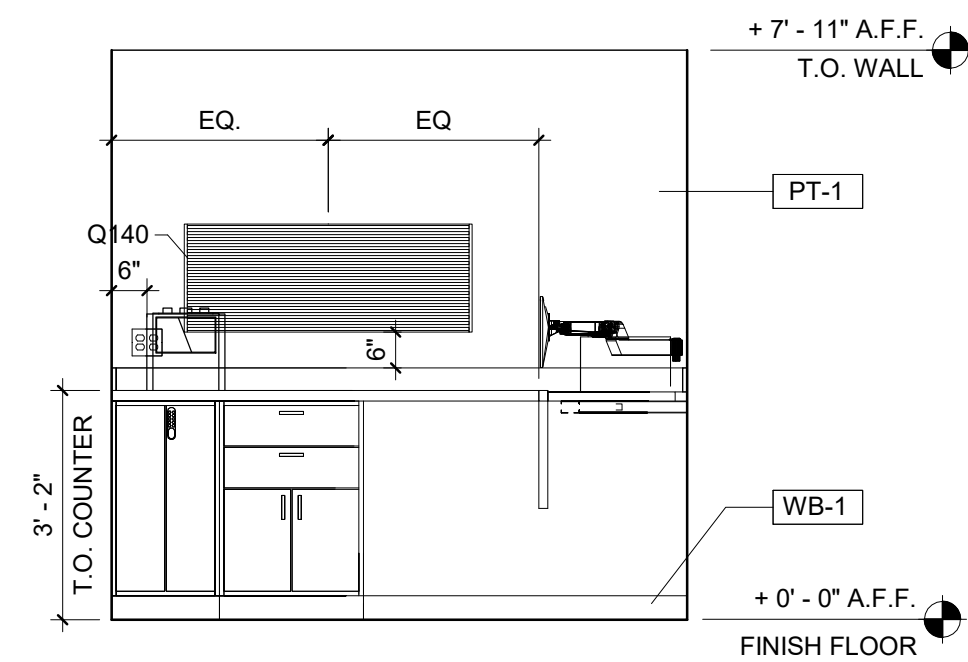
5A SPECIAL SERVICES
3/8" = 1'-0"



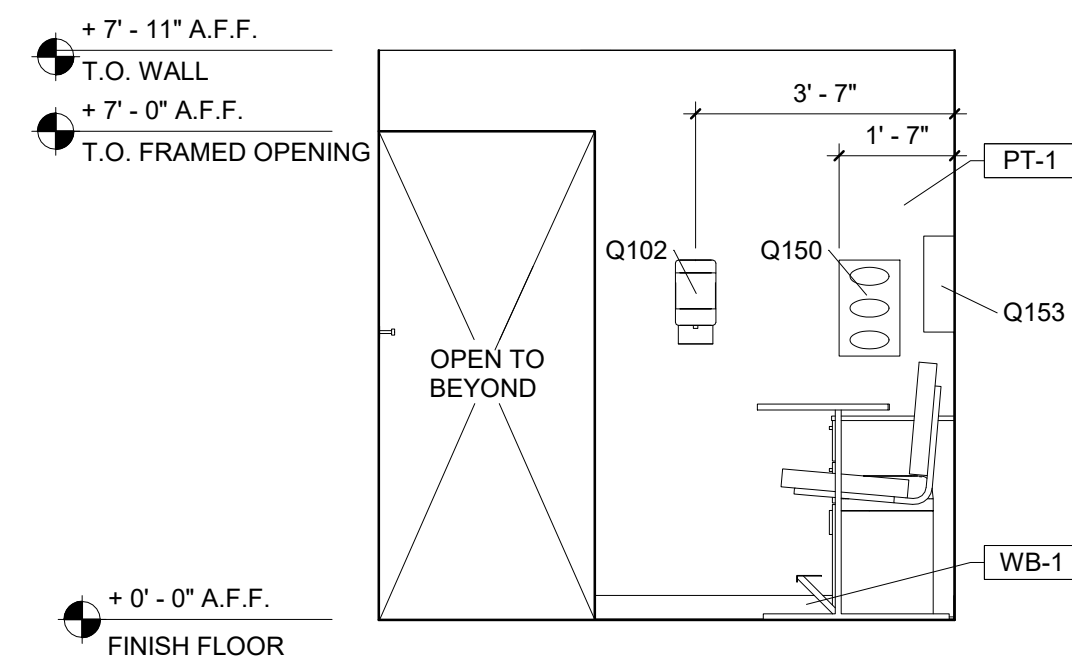
5B SPECIAL SERVICES
3/8" = 1'-0"



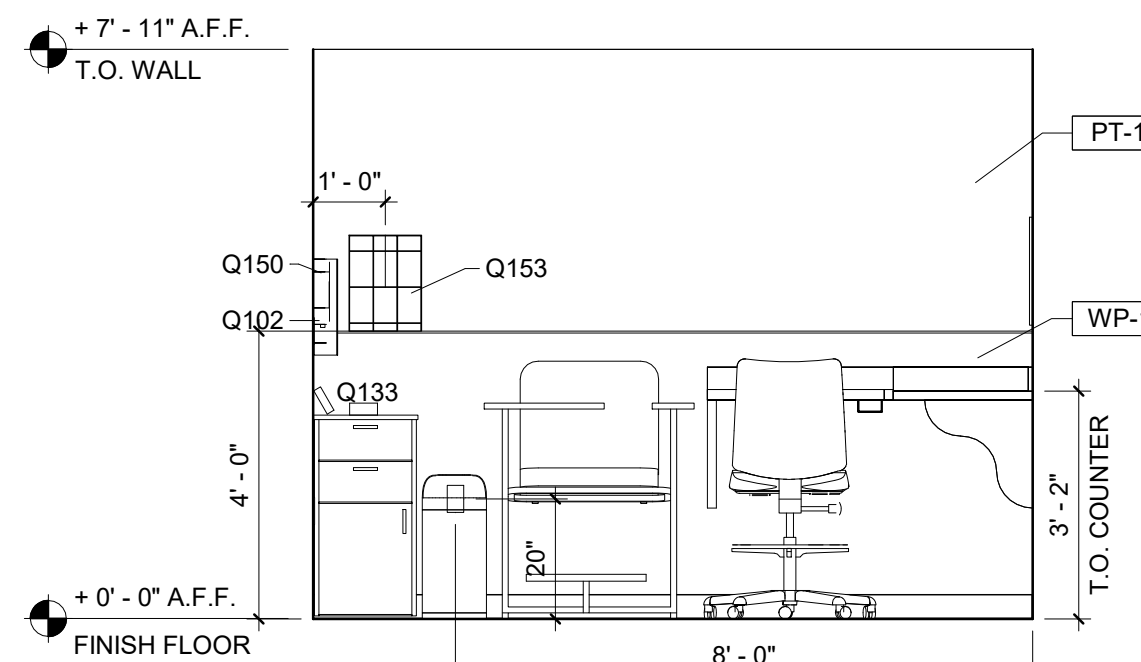
5C SPECIAL SERVICES
3/8" = 1'-0"



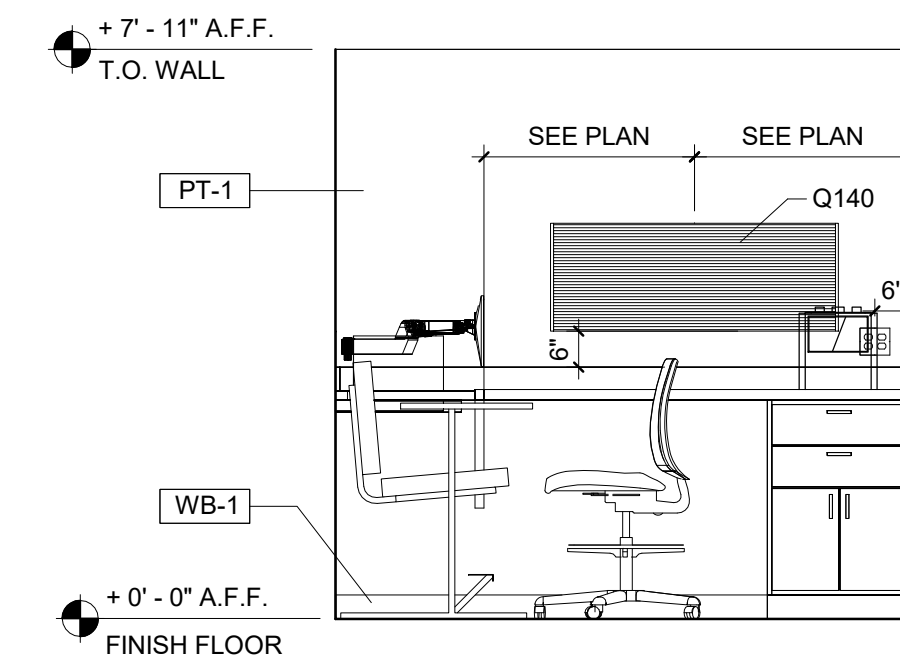
4 PATIENT ENCOUNTER ROOM IT CABINET
3/8" = 1'-0"



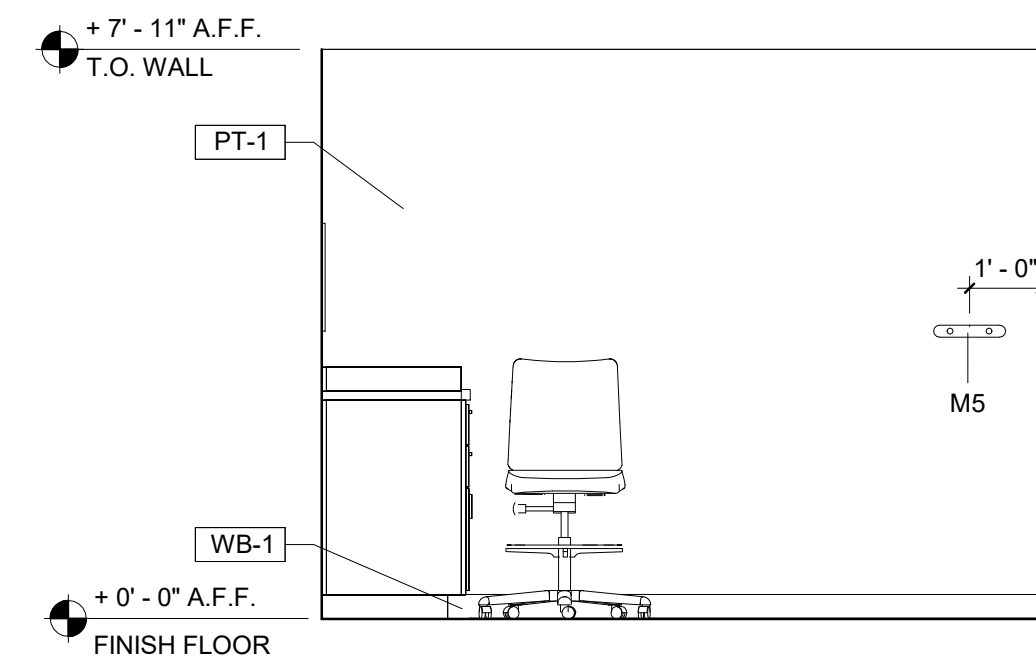
3A PATIENT ENCOUNTER ROOM
3/8" = 1'-0"



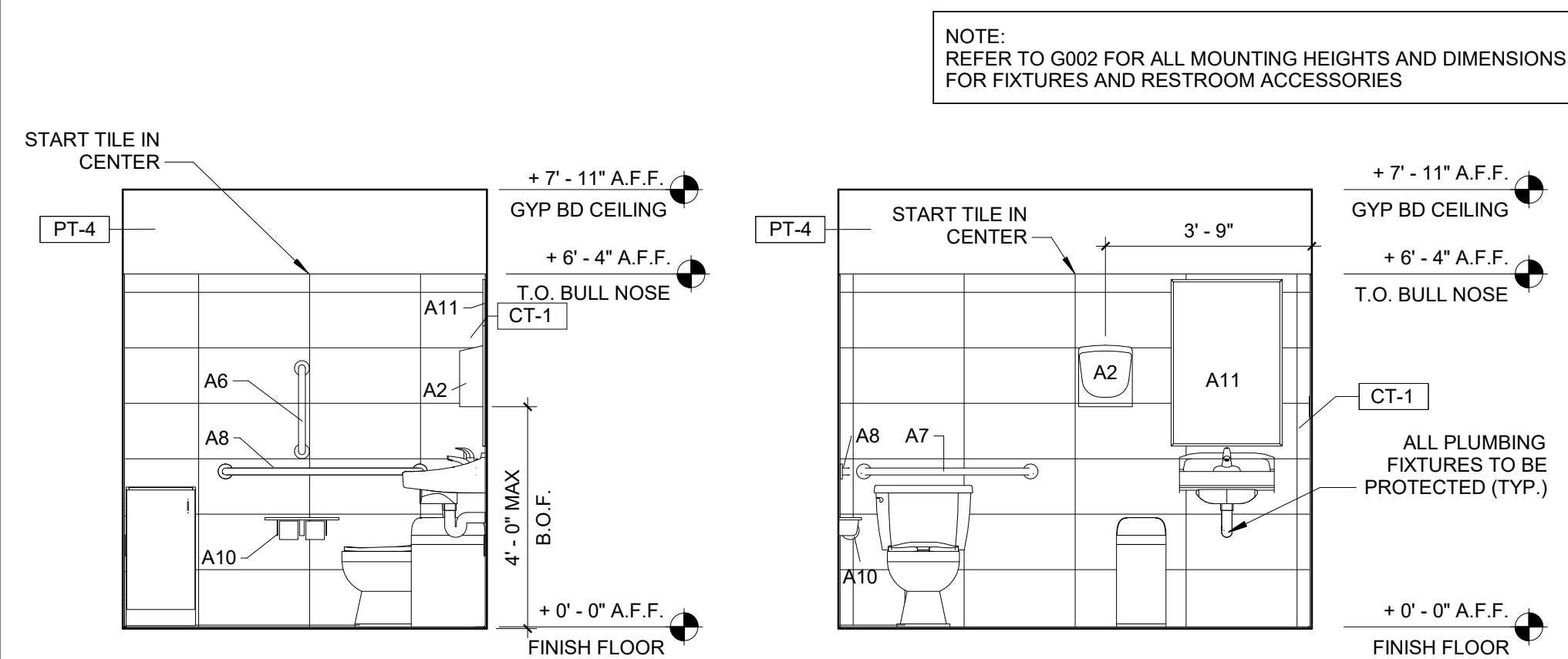
3B PATIENT ENCOUNTER ROOM
3/8" = 1'-0"



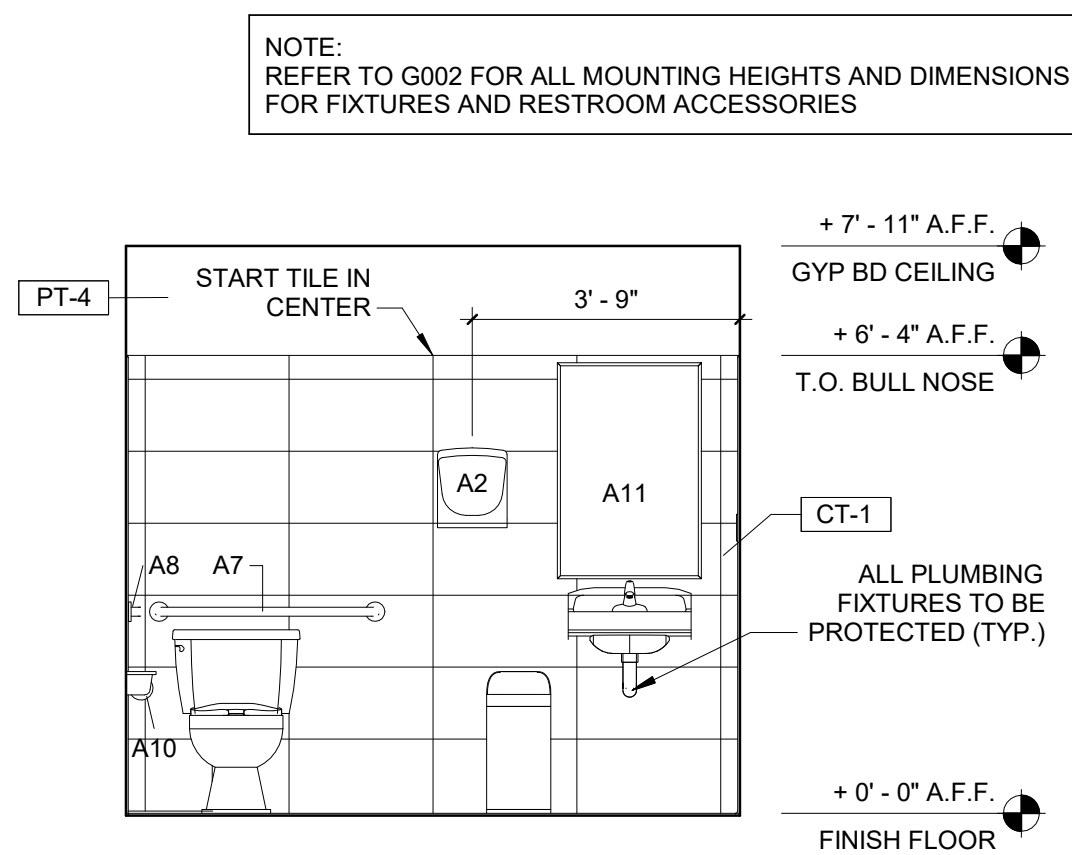
3C PATIENT ENCOUNTER ROOM
3/8" = 1'-0"



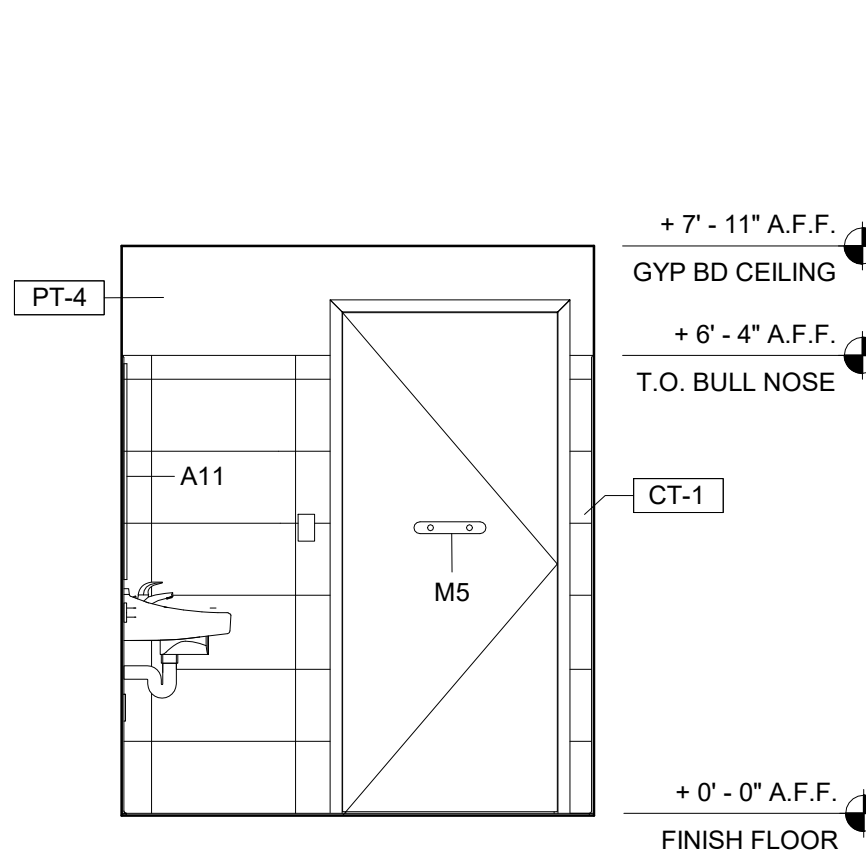
3D PATIENT ENCOUNTER ROOM
3/8" = 1'-0"



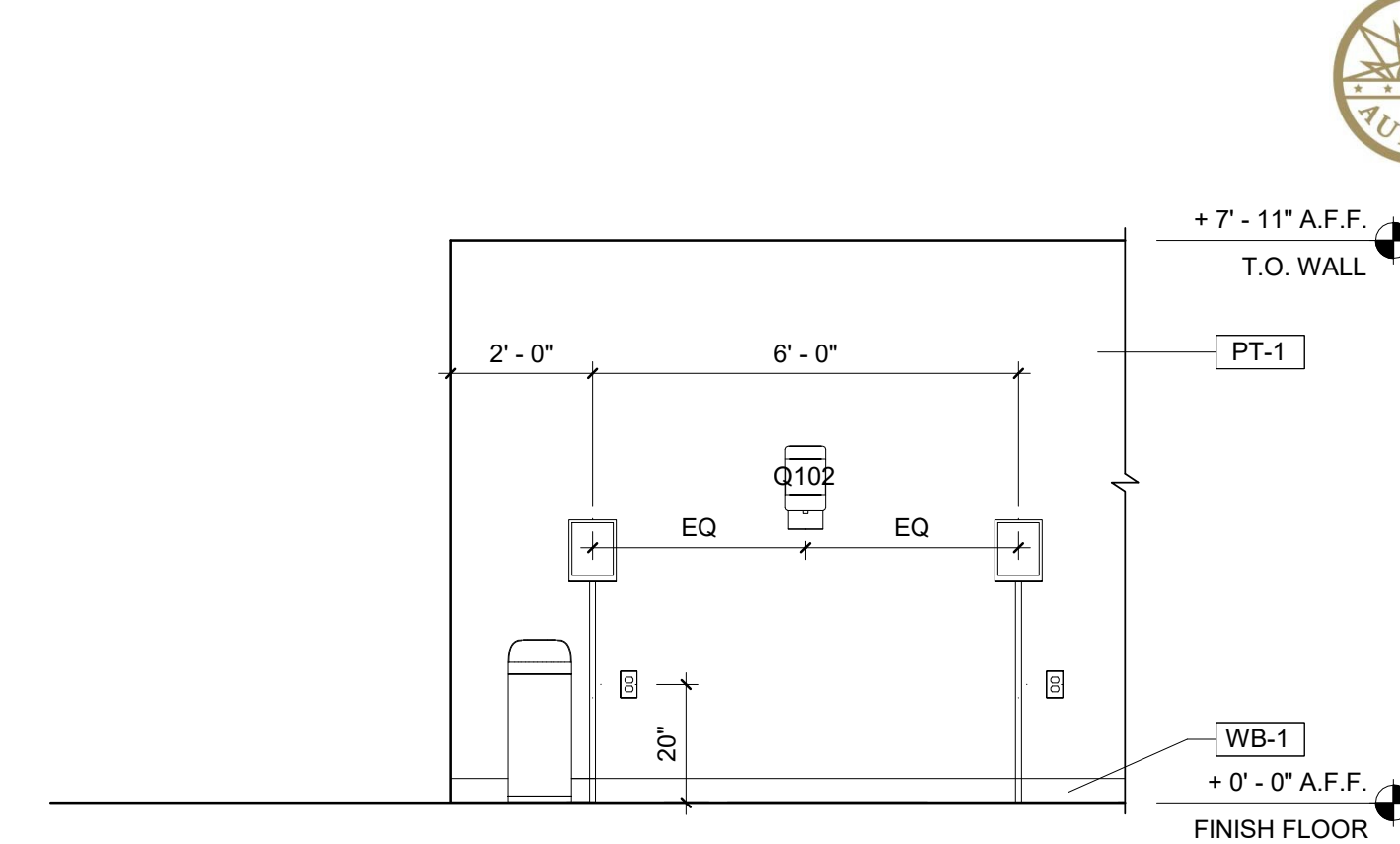
2A ADA TOILET ROOM
3/8" = 1'-0"



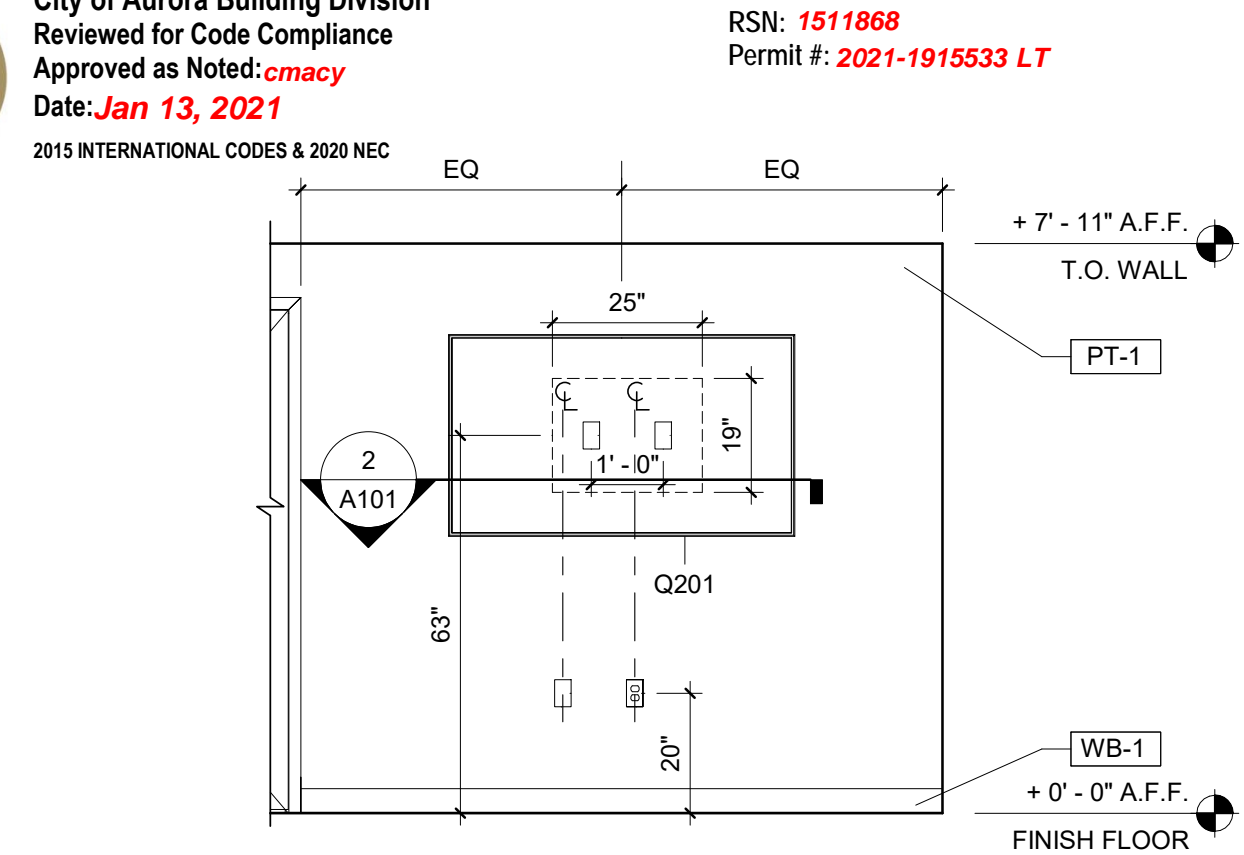
2B ADA TOILET ROOM
3/8" = 1'-0"



2C ADA TOILET ROOM
3/8" = 1'-0"



1B WAITING ROOM ELEVATION
3/8" = 1'-0"



1A WAITING ROOM ELEVATION
3/8" = 1'-0"

NOTE: REFER TO G002 FOR ALL MOUNTING HEIGHTS AND DIMENSIONS FOR FIXTURES AND RESTROOM ACCESSORIES

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

DRAWN BY JPJ

CHECKED BY CMB/CLR
APPROVED BY

ISSUE DATE 11/18/2020

REVISION		
#	DATE	DESCRIPTION

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT

Quest Diagnostics™

PROJECT

QUEST DIAGNOSTICS

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

COLORADO LICENSED
JAMES MICHAEL BUSH
403518
ARCHITECT

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

PROJECT NO. 62-40487-04

SHEET TITLE INTERIOR ELEVATIONS

SHEET A210

11/20/2020 4:39:33 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.

DOOR SCHEDULE

NO.	ROOM NAME	WIDTH	HEIGHT	DOOR MATERIAL	DOOR/ FRAME TYPE	FRAME MATERIAL	HEAD DETAIL	JAMB DETAIL	HARDWARE SET	REMARKS
100A	WAITING ROOM	3' - 0"	7' - 0"	ETR	D	ETR	--	--	1	
100B	WAITING ROOM	3' - 0"	7' - 0"	ETR	B	ETR	--	--	2	RELOCATED EXISTING WAITING ROOM DOOR. PROTECT DURING CONSTRUCTION. PROVIDE NEW DOOR HARDWARE AS SPECIFIED.
101A	HALL	3' - 0"	7' - 0"	ETR	B	ETR	--	--		
101B	SPECIAL SERVICES	3' - 0"	7' - 0"	ETR	B	ETR	--	--	3	RELOCATED EXISTING DOOR. REPLACE ALL DOOR HARDWARE AS SPECIFIED.
102	SUPPLY	3' - 4"	6' - 10"	ALUM/GLASS	A	ALUM	6/A601	--	5	ADJUST DOOR STOPS AT HEAD TRACK AS NECESSARY TO MAINTAIN 1 1/2" MIN BETWEEN DOOR HANDLE AND JAMB, AND FOR DOOR TO NOT STRIKE FAR JAMB SURFACE WHEN FULLY CLOSED
103	EXISTING NON-ADA UNISEX TOILET	3' - 0"	7' - 0"	ETR	B	ETR	--	--	4	COAT/PURSE HOOK MOUNTED TO TOILET SIDE OF DOOR. IF CANNOT RE-CORE FOR NEW HARDWARE INSTALL NEW 3070 WOOD DOOR
104	ADA UNISEX TOILET	3' - 0"	7' - 0"	ETR	B	ETR	--	--	4	COAT/PURSE HOOK MOUNTED TO TOILET SIDE OF DOOR. IF CANNOT RE-CORE FOR NEW HARDWARE INSTALL NEW 3070 WOOD DOOR
106	EMPLOYEE BREAK ROOM	3' - 0"	7' - 0"	ETR	B	ETR	--	--	3	RELOCATED EXISTING DOOR. REPLACE ALL DOOR HARDWARE AS SPECIFIED.
107	JAN.	3' - 0"	7' - 0"	ETR	B	ETR	--	--	3	RELOCATED EXISTING DOOR. REPLACE ALL DOOR HARDWARE AS SPECIFIED.

NOTE: *PAINT ALL HOLLOW METAL DOOR FRAMES PT-6
**GC TO VERIFY LAMINATE WOOD DOOR LEAD TIME PRIOR TO ORDERING. IF REQUIRED PROVIDE WOOD DOOR W/ STAIN PER FINISH LEGEND

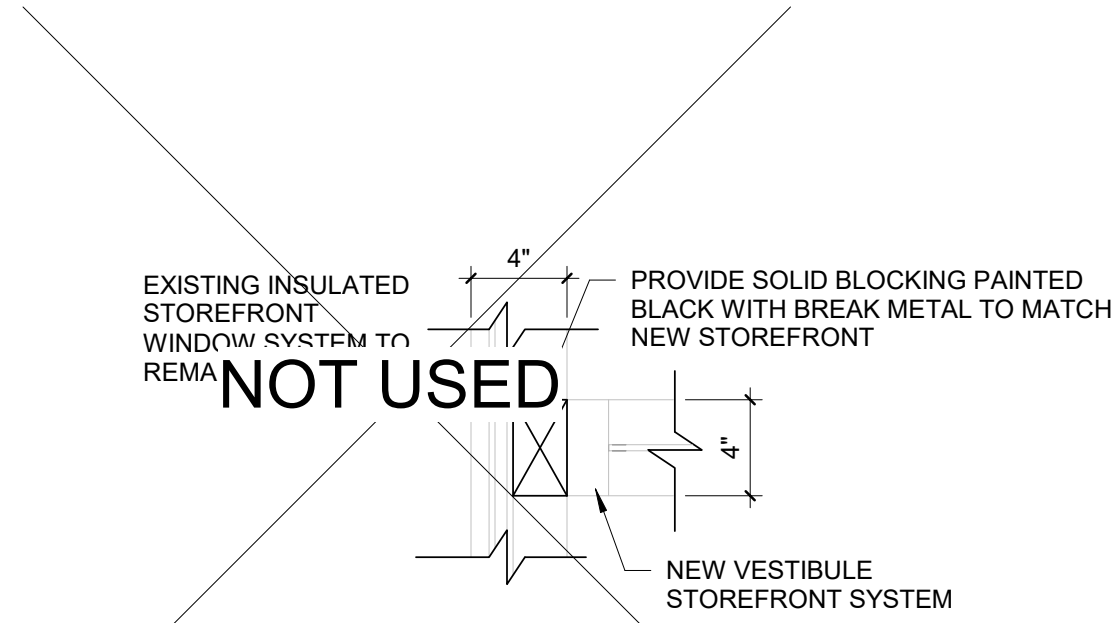
HARDWARE SCHEDULE

HARDWARE SET	DESCRIPTION	MANUFACTURER
NO. 1	STORE FRONT ENTRY	
	REPLACE INTERCHANGEABLE CORE FOR ENTRY DOOR. COORDINATE KEYING WITH OWNER - REPLACE ANY DAMAGED HARDWARE WITH COMPARABLE QUALITY	
NO. 2	HALL	
1 1/2 PAIR HINGES	5BB1 4 1/2" X 4 1/2" (SKNUCKLE BALL BEARING)	FINISH 651 IVE
1 ELEC LOCK	CO-100-CY-50-KP-RHO-625-PD-S123-RH-13-049 - 10-025-1 3/4" (BATTERY OPERATED)	SCHLAGE
1 DOOR CLOSER	1450 EDA (SURFACE- CORRIDOR SIDE) (AUX STOP MAX OF 135 DEG)	FINISH 689 LCN
NOTE: HALL SIDE TO HAVE A EGRESS LEVER AND FUNCTION WITHOUT KEY CONTROL		
NO. 3		
1 1/2 PAIR HINGES		FINISH 651 IVE
1 LEVER PASSAGE SET	AL10S, SATURN SERIES - ASA STRIKE OR EQUAL US26D	SCHLAGE
1 WALL STOP	409	ROCKWOOD
NO. 4	TOILET ROOMS	
1 1/2 PAIR HINGES	5BB1 4 1/2" X 4 1/2" (SKNUCKLE BALL BEARING)	FINISH 651 IVE
1 LEVER PRIVACY SET	L9040 06A L583-363-L283-722L9040 06A L583-363-L283-722 L SERIES SIEZ TURN AND OCCUPANCY INDICATOR W/ TRIM, EMERGENCY KEY	FINISH 625 SCHLAGE
1 DOOR CLOSER	1450 EDA (SURFACE- INTERIOR SIDE NOT HALL SIDE)	LCN
1 WALL STOP	409	ROCKWOOD
NO. 5		
1 PULL (EA. SIDE)	FLEXIBLE TRACK SYSTEM	BARN DOOR RE.A2/A601
1 WALL SEAL		
NOTE: INSTALL PER MANUFACTURER'S REQUIREMENTS.		
GENERAL NOTES: 1. VERIFY HARDWARE REQUIREMENTS, TYPES & FINISHES W/ OWNER REP PRIOR TO PURCHASE. PROVIDE CUT SHEETS FOR REVIEW. 2. ALL SELECTED HARDWARE, CLOSER PRESSURES, THRESHOLDS, AND CLEARANCES TO COMPLY WITH APPLICABLE NATIONAL, STATE, AND LOCAL ACCESSIBILITY CODES AND REQUIREMENTS. VERIFY ACCESSIBILITY COMPLIANCE WITH MANUFACTURER. 3. PROVIDE HC SIGNAGE PER CODE 4. ALL SEALS PROVIDED BY "THE SLIDING DOOR COMPANY". 5. WHERE APPLICABLE, VERIFY EXISTING HARDWARE TO REMAIN AND SUPPLEMENT WITH NEW HC HARDWARE AS REQUIRED.		

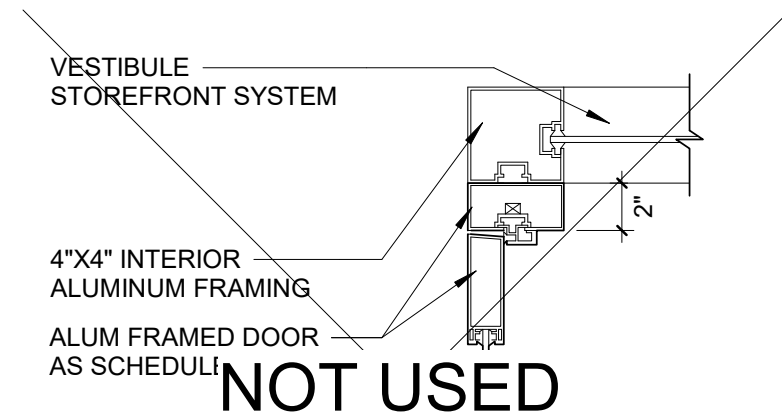
INTERIOR MTL. STUD SCHEDULE (U.N.O)

HEIGHT OF STUD	GAUGE	SPACING (IN U.N.O)
< 15'-0"	20	16
15'-0" - 20'-0"	18	16
> 20'-0"	16	16

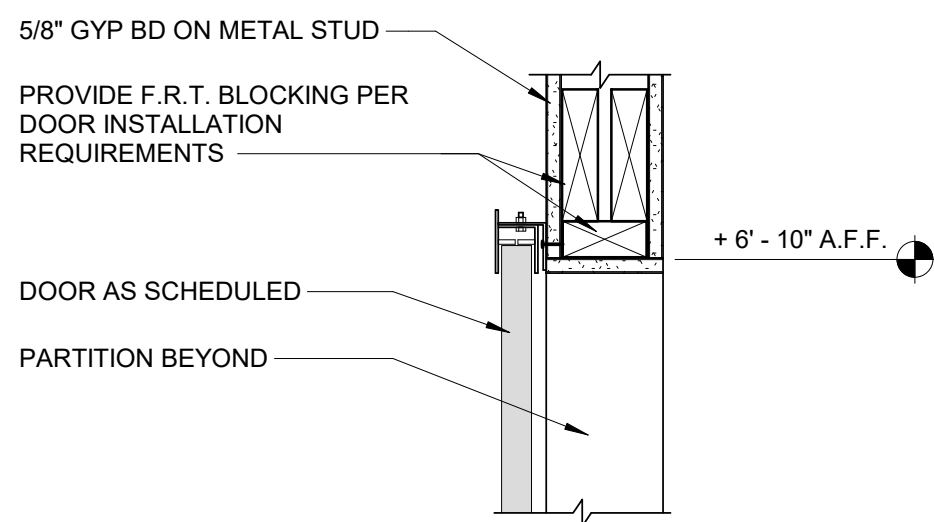
NOTES
STUD DEPTH INDICATED ON DRAWINGS
THIS TABLE IS FOR GENERAL REFERENCE ONLY. STUD MANUFACTURER'S SPAN TABLES SHOULD SUPERSEDE THIS TABLE BASED ON STUD DESIGNATION SELECTED AND SPAN REQUIREMENTS



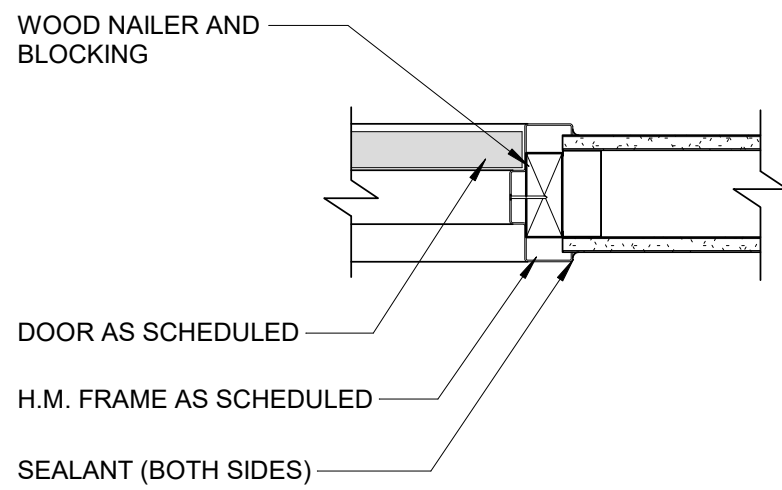
8 CONNECTION DETAIL
1 1/2" = 1'-0"



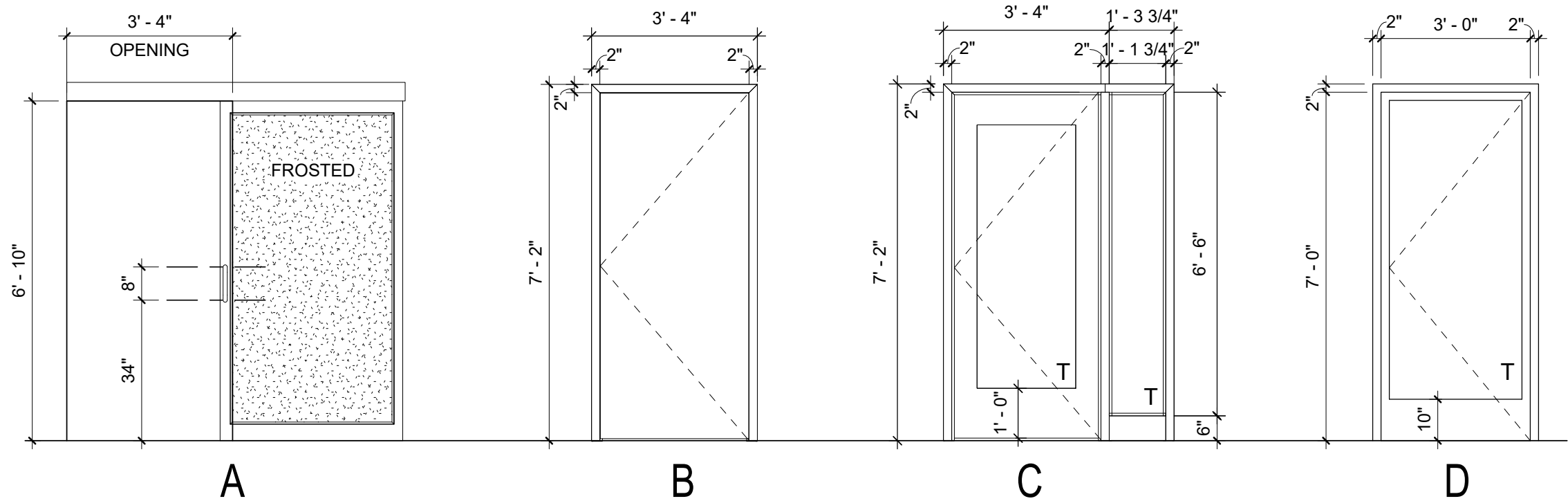
7 VESTIBULE DOOR JAMB DETAIL
1 1/2" = 1'-0"



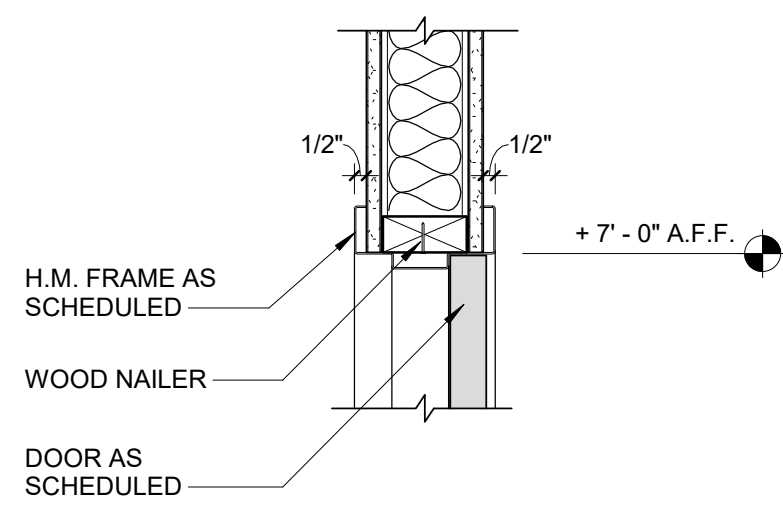
6 BARN DOOR HEAD DETAIL
1 1/2" = 1'-0"



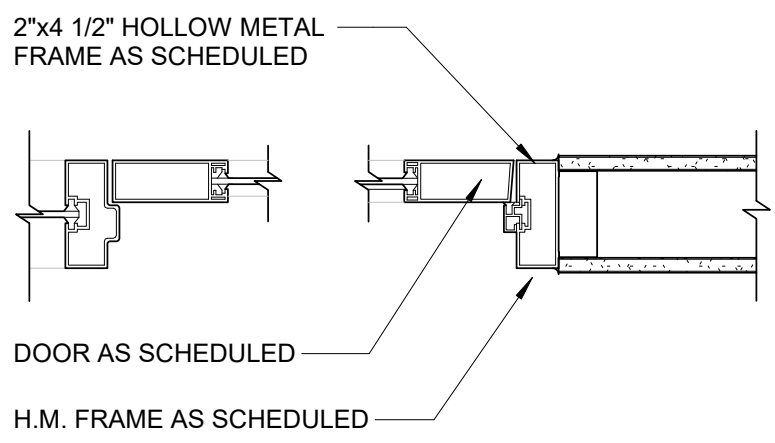
3 JAMB DETAIL
1 1/2" = 1'-0"



11 DOOR / FRAME ELEVATIONS
3/8" = 1'-0"

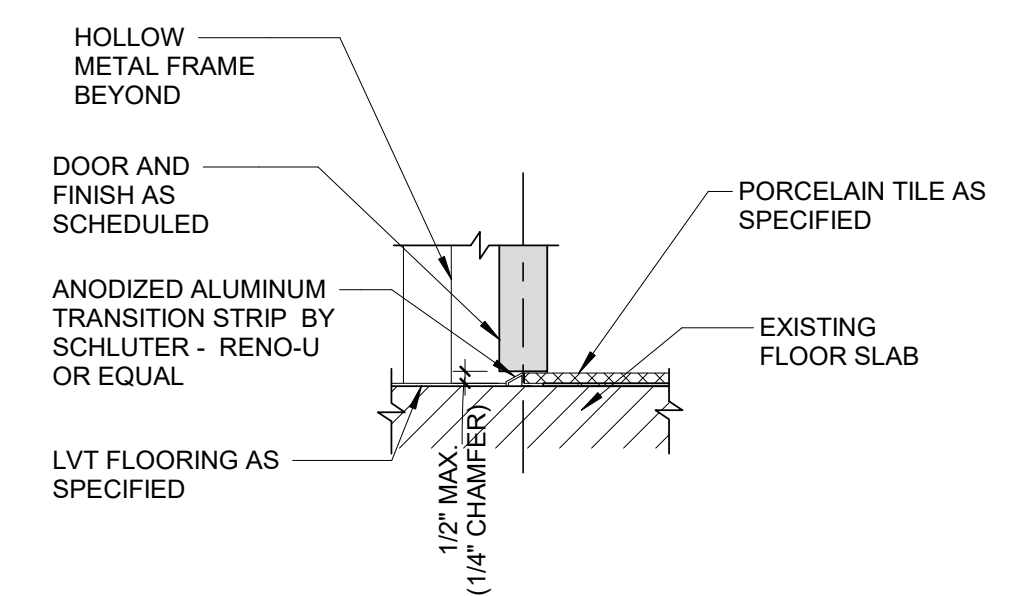


5 HEAD DETAIL
1 1/2" = 1'-0"

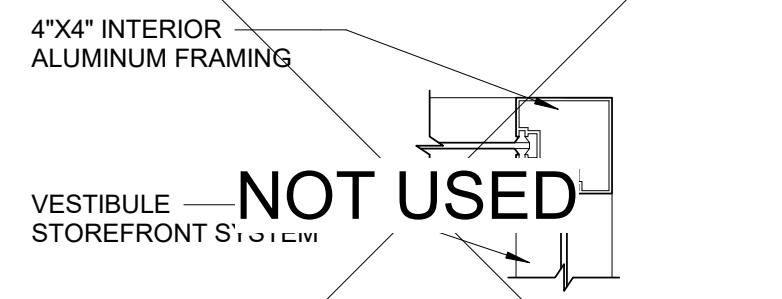


2 SIDELIGHT JAMB DETAIL
1 1/2" = 1'-0"

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



4 SILL DETAIL
1 1/2" = 1'-0"



1 VESTIBULE CORNER JAMB DETAIL
1 1/2" = 1'-0"

DRAWN BY	JPJ
CHECKED BY	CMB/CLR
APPROVED BY	
ISSUE DATE	11/18/2020
REVISION	
#	DATE DESCRIPTION

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



PROJECT

QUEST DIAGNOSTICS

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



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

PROJECT NO. 62-40487-04

SHEET TITLE
SCHEDULES AND DETAILS

SHEET
A601

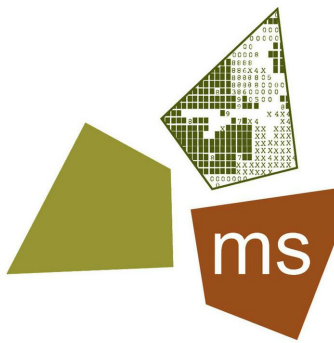
NOTICE: THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY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

11/20/2020 4:39:57 PM

<div><div>06 10 00 - ROUGH CARPENTRY</div><div><div><div>1. PROVIDE WOOD FOR SUPPORT OR ATTACHMENT OF OTHER WORK. PROVIDE LUMBER SIZES INDICATED, WORKED INTO SHAPES SHOWN.</div><div>2. MOISTURE CONTENT: 19 PERCENT MAXIMUM FOR LUMBER ITEMS, INCLUDING ITEMS TO RECEIVE WOOD PRESERVATIVE TREATMENT OR FIRE RETARDANT TREATMENT.</div><div>3. GRADE: STANDARD GRADE LIGHT FRAMING SIZE LUMBER OF ANY SPECIES OR BOARD SIZE LUMBER AS REQUIRED, NO. 3 COMMON OR STANDARD GRADE BOARDS PER SPIB. WCLIB OR WWPA RULES APPLICABLE TO AGENCY UNDER WHICH LUMBER IS GRADED.</div><div>4. PLYWOOD BACKING PANELS: FOR MOUNTING ELECTRICAL OR TELEPHONE EQUIPMENT, PROVIDE FIRE-RETARDANT TREATED PLYWOOD PANELS WITH GRADE DESIGNATION, APA-B-C PLUGGED INTERIOR WITH EXTERIOR GLUE, IN THICKNESS NOT LESS THAN 3/4" (19MM).</div><div>5. FIRE-RETARDANT TREATED LUMBER AND PLYWOOD BY PRESSURE PROCESS: PRODUCTS WITH A FLAME SPREAD INDEX OF 25 OR LESS WHEN TESTED ACCORDING TO ASTM E 84, PROVIDE FOR ALL NAILERS, BLOCKING, PLYWOOD AND SIMILAR MEMBERS WHICH ARE PERMANENTLY INSTALLED WITHIN THE INTERIOR PORTION OF THE BUILDING.</div></div></div><div><div>06 40 00 - ARCHITECTURAL WOODWORK</div><div><div><div>1. PROVIDE OWNER WITH ELECTRONIC COPY OF ALL ARCHITECTURAL WOODWORK SHOP DRAWINGS PRIOR TO FABRICATION.</div><div>2. QUALITY STANDARDS: COMPLY WITH ONE OF THE FOLLOWING:<div><div>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.</div><div>B. WI (FORMERLY WIC) 'MANUAL OF MILLWORK' FOR GRADES OF INTERIOR ARCHITECTURAL WOODWORK, CONSTRUCTION, FINISHES, AND OTHER REQUIREMENTS. PROVIDE WIC-CERTIFIED COMPLIANCE CERTIFICATE INDICATING THAT WOODWORK COMPLIES WITH REQUIREMENTS OF GRADES SPECIFIED. PROVIDE WIC-CERTIFIED COMPLIANCE CERTIFICATE FOR INSTALLATION.</div></div></div><div><div>3. PROVIDE MATERIALS THAT COMPLY WITH REQUIREMENTS OF THE REFERENCED PRODUCT STANDARDS FOR GRADE INDICATED.</div><div>4. HARDBOARD: ANSI/AIAA A135.4.</div><div>5. MEDIUM DENSITY FIBERBOARD (MDF) OR PLYWOOD: ANSI A208.2; FORMALDEHYDE FREE.</div><div>6. PARTICLEBOARD: NOT ALLOWED.</div><div>7. SOFTWOOD PLYWOOD: PS 1.</div><div>8. FORMALDEHYDE EMISSION LEVELS: PROVIDE FORMALDEHYDE FREE MATERIALS. REFERENCE SECTION 018113 FOR LEED REQUIREMENTS.</div><div>9. FABRICATION: COMPLY WITH DETAILS AND CONSTRUCTION TYPES INDICATED.</div><div>10. CABINET HARDWARE AND ACCESSORY MATERIALS: AS INDICATED ON DRAWINGS AND SCHEDULES.</div><div>11. EDGING: HPL UNLESS OTHERWISE INDICATED PER AWI</div><div>12. FACTORY FINISHING OF INTERIOR ARCHITECTURAL WOODWORK<div><div>A. AWI SECTION 1500, UNLESS OTHERWISE INDICATED.</div><div>B. WI SECTION 1, "GENERAL INFORMATION - TECHNICAL BULLETIN", REQUIREMENTS FOR "FACTORY FINISHING OF MILLWORK" GRADE: PREMIUM.</div><div>C. FINISH: AWI SYSTEM TR-4, CONVERSION VARNISH; WI SYSTEM #2, CONVERSION VARNISH.</div><div>E. STAINING, EFFECT, SHEEN: TO MATCH APPROVED SAMPLES.</div></div></div><div>13. INSTALL WOODWORK PLUMB, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS. INSTALL TO A TOLERANCE OF 1/8-INCH IN 6 FEET-0-INCHES FOR PLUMB AND LEVEL, INCLUDING TOPS; AND WITH NO VARIATIONS IN FLUSHNESS OF ADJOINING SURFACES. COMPLY WITH INSTALLATION REQUIREMENTS ESTABLISHED BY REFERENCED STANDARDS.</div><div>14. FINISH HARDWARE ITEMS DRAWER GLIDES: NO. 8400 BOX/FILE DRAWER SLID - FULL EXTENSION BY KNAPE & VOGT MFG. CO OR APPROVED EQUAL<div><div>A. SHELF STANDARDS AND SUPPORTS (RECESSED SHELVES IN ENCLOSED CABINETS): NO. 255 STANDARD AND NO. 256 SUPPORTS BY KNAPE & VOGT MFG. CO., NATURAL ALUMINUM FINISH OR APPROVED EQUAL</div><div>B. DOORS<div><div>a. CONCEALED HINGES: CONCEALED, SELF-CLOSING TYPE HINGES OF TYPE REQUIRED BY DOOR CONSTRUCTION AND STILE APPLICATIONS. THE SIZE AND NUMBER OF HINGES REQUIRED PER LEAF SHALL BE DETERMINED BY DOOR SIZE AND WEIGHT. HINGES SHALL COMPLY WITH THE ANSI/BHMA GRADE 1 REQUIREMENTS. FINISH: NICKEL CHROME OR STAINLESS STEEL, MANUFACTURERS: HAFELE, GRASS OR BLUM.</div><div>b. 1 CATCH, STANLEY 41 SERIES</div><div>c. 1 PULL, HAFELE 116.09.288 POLISHED CHROME FINISH</div><div>D. DRAWER PULLS: HAFELE 116.09.288 POLISHED CHROME FINISH</div><div>D. DRAWER LOCKS: SCHLAGE CL 2000 CABINET DRAWER LOCK, US26D COMPLETE WITH STRIKE PLATE</div><div>E. DOOR LOOKS: SCHLAGE CL1000 CABINET DOOR LOCK, US26D, COMPLETE WITH STRIKE PLATE. PROVIDE ONE ELBOW CATCH PER PAIR DOORS.</div></div></div></div></div></div><div><div>07 21 19 - THERMAL INSULATION</div><div><div>1. INSULATING MATERIALS:<div><div>A. BASIS OF DESIGN: PROVIDE THE FOLLOWING MATERIAL AND MANUFACTURER:<div><div>1. "HEATLOK SOY 200" BY DEMILEC (USA) LLC, ARLINGTON, TX</div></div></div><div><div>B. SPRAYED FOAM INSULATION: POLYURETHANE CLOSED-CELL INSULATION, CONFORMING TO THE FOLLOWING:<div><div>1. DENSITY, CORE: LBS/FT3: ASTM D-1622 @ 74 DEG F: 1.70-1.90 TO 2.2</div><div>2. COMPRESSIVE STRENGTH: ASTM D-1621 @ 74 DEG F PARALLEL TO RISE, MINIMUM, PSI 12-19</div><div>3. MOISTURE VAPOR TRANSMISSION: MAXIMUM 0.79 PERMS AT 1.5 INCH THICKNESS, TESTED TO ASTM E96</div><div>4. AGED THERMAL RESISTANCE, 1800 DAYS @ 23 DEG C (R-VALUE) ASTM C-177, R-7.4 @ 1 INCH</div></div></div></div></div><div>2. AUXILIARY INSULATING MATERIALS:<div><div>A. INTUMESCENT THERMAL BARRIER:<div><div>1. "BLAZE LOK TB" BY DEMILEC (USA) LLC, ARLINGTON, TX</div></div></div></div><div>3. INSTALLATION:<div><div>A. COMPLY WITH MANUFACTURER'S INSTRUCTIONS FOR PARTICULAR CONDITIONS OF INSTALLATION IN EACH CASE. IF PRINTED INSTRUCTIONS ARE NOT AVAILABLE OR DO NOT APPLY TO PROJECT CONDITIONS, CONSULT THE MANUFACTURER'S TECHNICAL REPRESENTATIVE FOR SPECIFIC RECOMMENDATIONS BEFORE PROCEEDING WITH THE WORK.</div><div>B. APPLY FOAM INSULATION AT NOT MORE THAN TWO INCHES IN A SINGLE PASS AND ALLOW ADEQUATE TIME FOR THE HEAT WITHIN THE FOAM TO ESCAPE. IN APPLICATIONS REQUIRING MULTIPLE PASSES THE TIME REQUIRED BETWEEN THE PASSES SHALL BE EXTENDED TO ALLOW THE HEAT TO ESCAPE.<div><div>1. APPLY INSULATION IN THICKNESS AS REQUIRED TO PRODUCE AN "R" VALUE OF (13).</div></div></div><div>C. APPLY THERMAL BARRIER IN ACCORDANCE WITH MANUFACTURER'S AND UL REQUIREMENTS.</div></div></div></div><div><div>07 81 05 - PATCHING DAMAGED FIREPROOFING</div><div><div>1. PROVIDE MATERIALS AND CONSTRUCTION THAT ARE IDENTICAL TO THOSE TESTED BY UNDERWRITER'S LABORATORY, INC., FOR FIRE RATED ASSEMBLY DESIGN NUMBERS INDICATED.</div><div>2. DO NOT REMOVE ANY SPRAYED OR 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.</div><div>3. SPRAYED FIRE RESISTIVE MATERIAL: CEMENTITIOUS SPRAYED FIRE RESISTIVE MATERIAL CONSISTING OF FACTORY MIXED, DRY FORMULATION OF GYPSUM OR PORTLAND CEMENT BINDERS AND LIGHTWEIGHT MINERAL OR SYNTHETIC AGGREGATES MIXED WITH WATER AT PROJECT SITE TO FORM A SLURRY OR MORTAR FOR CONVEYANCE AND APPLICATION AND AS REQUIRED FOR THE UL DESIGNS INDICATED.<div><div>A. CONCEALED APPLICATION: MATERIALS APPLIED TO SURFACES THAT ARE CONCEALED FROM VIEW BEHIND OTHER CONSTRUCTION WHEN THE WORK IS COMPLETED, INTENDED TO BE CONCEALED BY TENANT IMPROVEMENTS, AND WHICH HAVE NOT BEEN DEFINED AS EXPOSED.</div></div></div><div>4. BASIS OF DESIGN PRODUCTS: W. R. GRADE, "MONOKOTE TYPE MK-6" FULLY CONCEALED, "RETRO-GUARD" REPAIRS.</div><div>5. EXPOSED INTERIOR APPLICATION: MATERIALS ARE THOSE APPLIED TO SURFACES THAT ARE EXPOSED TO VIEW WHEN THE WORK IS COMPLETED, THAT ARE IN ELEVATOR SHAFTS AND MACHINE ROOMS, THAT ARE IN MECHANICAL ROOMS, AND THAT ARE IDENTIFIED AS EXPOSED ON DRAWINGS.</div><div>6. BASIS OF DESIGN PRODUCTS: "MONOKOTE TYPE Z106 & Z106/HY" EXPOSED INTERIOR; "MONOKOTE TYPE Z146" SUBJECT TO IMPACT.</div></div></div><div><div>07 84 13 - PENETRATION FIRESTOPPING</div><div><div>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.</div><div>2. SUBMIT SCHEDULE OF PENETRATION FIRESTOPPING INDICATING LOCATION AND SPECIFIC ASSEMBLY DESIGNATION OF QUALIFIED TESTING AND INSPECTING AGENCY.</div><div>3. PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS: RATING DETERMINED BY ASTM E 814 OR UL 1479, BASED ON TESTING AT A POSITIVE PRESSURE DIFFERENTIAL OF 0.01-INCH (2.49 PA), PROVIDE F-RATING NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED.</div><div>4. PENETRATIONS IN HORIZONTAL ASSEMBLIES: RATINGS DETERMINED BY ASTM E 814 OR UL 1479, BASED ON TESTING AT A POSITIVE PRESSURE DIFFERENTIAL OF 0.01-INCH WG (2.49 PA), PROVIDE F-RATING OF AT LEAST 1 HOUR, BUT NOT LESS THAN THE FIRE RESISTANCE RATING OF CONSTRUCTIONS PENETRATED. PROVIDE T-RATING OF AT LEAST 1 HOUR, BUT NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED EXCEPT FOR FLOOR PENETRATIONS WITHIN THE CAVITY OF A WALL.</div><div>5. PENETRATIONS IN SMOKE BARRIERS: PROVIDE PENETRATION FIRESTOPPING WITH RATINGS DETERMINED PER 7.149. PROVIDE L-RATING NOT EXCEEDING 5.0 CFMS/O.F.T. (0.025 CU. M/S PER SQ.M) OF PENETRATION OPENING AT 0.30-INCH WG (74.7 PA) AT BOTH AMBIENT AND ELEVATED TEMPERATURES.</div></div></div></div></div></div></div></div></div></div>	<div><div>07 84 46 - FIRE-RESISTIVE JOINT SYSTEMS</div><div><div>1. PROVIDE RATED SYSTEMS PER ASTM E 814 or UL 1479 AT PENETRATIONS OF RATED CONSTRUCTION.</div><div>2. PERFORMANCE REQUIREMENTS:<div><div>A. F-RATINGS: PROVIDE FIRESTOP SYSTEMS WITH F-RATINGS EQUALING OR EXCEEDING FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED AS DETERMINED PER ASTM E 814.</div><div>B. T-RATINGS: PROVIDE FIRESTOP SYSTEMS WITH T-RATINGS REQUIRED, AS WELL AS F-RATINGS, DETERMINED PER ASTM E 814, WHERE SYSTEMS PROTECT PENETRATING ITEMS WITH POTENTIAL TO CONTACT ADJACENT MATERIALS IN OCCUPABLE FLOOR AREAS INCLUDING, BUT NOT LIMITED, TO THE FOLLOWING:<div><div>1. PENETRATIONS LOCATED OUTSIDE WALL CAVITIES.</div><div>2. PENETRATIONS LOCATED OUTSIDE FIRE-RESISTIVE SHAFT ENCLOSURES.</div><div>3. PENETRATIONS LOCATED IN CONSTRUCTION CONTAINING FIRE-PROTECTION-RATED OPENINGS.</div><div>4. PENETRATING ITEMS LARGER THAN 4-INCH- (100-MM-) DIAMETER NOMINAL PIPE OR 16 SQ. IN. (100 SQ. CM) IN OVERALL CROSS-SECTIONAL AREA.</div></div></div></div><div>3. FOR FIRESTOP SYSTEMS EXPOSED TO VIEW, TRAFFIC, MOISTURE, AND PHYSICAL DAMAGE, PROVIDE PRODUCTS THAT AFTER CURING DO NOT DETERIORATE WHEN EXPOSED TO THESE CONDITIONS BOTH DURING AND AFTER CONSTRUCTION.</div><div>4. FOR THROUGH-PENETRATION FIRESTOP TO VIEW, PROVIDE PRODUCTS WITH FLAME-SPREAD INDICES OF LESS THAN 25 AND SMOKE DEVELOPED INDICES OF LESS THAN 450, WHEN TESTED PER ASTM E 84.</div><div>5. FIRE-TEST-RESPONSE CHARACTERISTICS: PROVIDE RATED SYSTEMS IDENTICAL TO THOSE TESTED PER ASTM E 814 AND WITH PRODUCTS BEARING THE CLASSIFICATION MARKING OF A QUALIFIED TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.</div><div>6. FIRESTOP SYSTEMS COMPATIBLE WITH THE SUBSTRATES FORMING OPENINGS, AND WITH THE ITEMS, IF ANY, PENETRATING FIRESTOP SYSTEMS, UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.</div><div>7. ACCESSORIES: PROVIDE ACCESSORIES REQUIRED TO INSTALL FILL MATERIALS THAT COMPLY WITH REQUIREMENTS OF TESTED ASSEMBLIES, ARE APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY THAT PERFORMED TESTING, AND ARE SPECIFIED BY MANUFACTURER OF TESTED ASSEMBLY.</div><div>8. INSTALL THROUGH-PENETRATION FIRESTOP SYSTEMS TO MEET RATINGS REQUIRED AND TO COMPLY WITH FIRESTOP SYSTEM MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PUBLISHED DRAWINGS FOR PRODUCTS AND APPLICATIONS INDICATED.</div></div></div><div><div>07 92 00 - JOINT SEALANTS - INTERIOR WORK</div><div><div>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.</div><div>2. GENERAL SEALANT (ACRYLIC-EMULSION): MANUFACTURER'S STANDARD, ONE-PART, NON-SAG, MILDEW-RESISTANT, ACRYLIC-EMULSION SEALANT COMPLYING WITH ASTM C 834, FORMULATED TO BE PAINTABLE AND RECOMMENDED FOR EXPOSED APPLICATIONS ON INTERIOR AND PROTECTED</div></div></div></div>
---	---

RSN: 1511868
Permit #: 2021-1915533 LT

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

[illegible]

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



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 SPECIFICATIONS

SHEET

Q002

- 09 30 00 - TILING**
1. TILE PRODUCTS: AS INDICATED ON DRAWINGS AND SCHEDULES.
 2. WATERPROOFING AND CRACK-SUPPRESSION MEMBRANE: MANUFACTURER'S STANDARD PRODUCT THAT COMPLIES WITH ANSI A118.10; NOBLE COMPANY (THE); NOBLESEAL TS, CHLORINATED-POLYETHYLENE-SHEET.
 3. PORTLAND CEMENT MORTAR (THICKSET) INSTALLATION MATERIALS: ANSI A108-1A.
 4. DRY-SET PORTLAND CEMENT MORTAR (THIN SET): ANSI A118.1.
 5. LATEX-PORTLAND CEMENT MORTAR (THIN SET): ANSI A118.4.
 6. TILE GROUT PER DRAWINGS
 7. ONE-PART, MILDEW-RESISTANT SILICONE: ASTM C 920; TYPE S; GRADE NS; CLASS 25; FORMULATED WITH FUNGICIDE, INTENDED FOR IN-SERVICE EXPOSURES OF HIGH HUMIDITY AND EXTREME TEMPERATURES.
 8. MEDIUM-BED, LATEX-PORTLAND CEMENT MORTAR: COMPLY WITH REQUIREMENTS IN ANSI A118.4. PROVIDE PRODUCT THAT IS APPROVED BY MANUFACTURER FOR APPLICATION THICKNESS OF 3/4 INCH.
 9. ANSI TILE INSTALLATION STANDARDS: COMPLY WITH PARTS OF ANSI A108 SERIES "SPECIFICATIONS FOR INSTALLATION OF CERAMIC TILE" THAT APPLY TO TYPES OF SETTING AND GROUTING MATERIALS AND TO METHODS INDICATED IN CERAMIC TILE INSTALLATION SCHEDULES.
 10. TCA INSTALLATION GUIDELINES: TCA'S "HANDBOOK FOR CERAMIC TILE INSTALLATION." COMPLY WITH TCA INSTALLATION METHODS INDICATED IN CERAMIC TILE INSTALLATION SCHEDULES.
 11. TRIMS, EDGES, AND TRANSITIONS TO BE SCHLUTER - SCHIENE
 - A. "L" SHAPED PROFILE
 - B. STRAIGHT ANCHORING LEG
 - C. RADIUS ANCHORING LEG FOR RADIUS APPLICATIONS
 - D. EB - BRUSHED STAINLESS STEEL TYPE 304=V2A
 - E. HEIGHT AS REQUIRED

- 09 51 10 - ACOUSTICAL PANEL CEILINGS**
1. ACCEPTABLE MANUFACTURERS FOR SUSPENSION SYSTEMS:
 - A. ARMSTRONG WORLD INDUSTRIES, INC.
 - B. CHICAGO METALLIC CORPORATION
 - C. USG INTERIORS INC.; DONN CEILING SUSPENSION SYSTEMS.
 - D. NATIONAL ROLLING MILLS, INC.
 2. ACCEPTABLE MANUFACTURERS FOR CEILING PANELS:
 - A. ARMSTRONG WORLD INDUSTRIES
 - B. CERTAINTED.
 - C. USG
 3. ACOUSTICAL CEILING PANEL: REFER TO THE "FINISH AND MATERIALS LEGEND" ON DRAWING "A131" FOR TYPE, SIZE, PATTERN AND MANUFACTURER.
 4. SUSPENSION SYSTEM: RUNNERS AND CROSS RUNNERS SHALL BE DOUBLE THICKNESS WEB, BULB, SECTION DESIGN OR ELECTRO-GALVANIZED STEEL CONFORMING TO ASTM A 366, WEB HEIGHT 1-1/2" WITH 9/16 EXPOSED FACE UNLESS OTHERWISE INDICATED.
 - A. CLASSIFICATION: ASTM C 635, HEAVY DUTY
 - B. COLOR: WHITE, LOW LUSTRE, FACTORY FINISHED.
 5. ATTACHMENT DEVICES: SIZED FOR 5 TIMES DESIGN LOAD INDICATED IN ASTM C 635, TABLE 1, DIRECT HUNG, UNLESS OTHERWISE INDICATED.
 6. HANGER WIRE: FOR SUPPORT OF SUSPENDED AND FURRED CEILINGS.
 - A. GALVANIZED STEEL WIRE COMPLYING WITH ASTM A641, SOFT TEMPER, PRESTRETCHED, WITH A YIELD STRESS LOAD OF NOT LESS THAN 3 TIMES DESIGN LOAD.
 - B. THICKNESS: NOT LESS THAN 12 GAUGE, 0.106 INCH DIAMETER.
 7. SEISMIC STABILIZER BARS: MANUFACTURER'S STANDARD PERIMETER STABILIZERS DESIGNED TO ACCOMMODATE SEISMIC FORCES.
 8. SEISMIC STRUTS: MANUFACTURER'S STANDARD COMPRESSION STRUTS DESIGNED TO ACCOMMODATE SEISMIC FORCES.
 9. SEISMIC CLIPS: MANUFACTURER'S STANDARD SEISMIC CLIPS DESIGNED AND SPACED TO SECURE ACOUSTICAL PANELS IN PLACE.
 10. WALL MOLDINGS:
 - A. ELECTRO-GALVANIZED STEEL WITH HEMMED EDGES; PAINTED FINISH; SUPPLIED BY THE MANUFACTURER OF THE SUSPENSION SYSTEM.
 - B. PROVIDE INSIDE AND OUTSIDE CORNER CAPS TO MATCH THE WALL ANGLE; OUTSIDE CAP TO HAVE APPROPRIATE RADIUS FOR WALL CORNER CONDITION
 - C. COLOR: MATCH ADJACENT SUSPENSION SYSTEM.
 11. MOLDINGS AND TRIM: PROVIDE "COMPASSO" BY USG OR "AXIOM" BY ARMSTRONG, OR APPROVED EQUAL, FINISH COLOR AS SELECTED BY THE ARCHITECT.
 12. INSTALLATION: COMPLY WITH ASTM C 636, ASTM E 580 AND SUSPENSION SYSTEM MANUFACTURER'S RECOMMENDATIONS. INSTALL SUSPENSION SYSTEM LEVEL, TRUE TO PLANE, AT INDICATED ELEVATIONS AND PATTERN WITH FINISHED SURFACED UNDAMAGED.

- 09 65 13 - RESILIENT BASE AND ACCESSORIES**
1. RESILIENT BASE STANDARD: ASTM F 1861.
 - A. MATERIAL REQUIREMENT: TYPE TV
 - B. MANUFACTURING METHOD: GROUP 1
 - C. STYLE: STANDARD TOP-SET COVE
 2. MINIMUM THICKNESS: 1/8"
 3. HEIGHT: 4"
 4. FINISH: MATTE
 5. INSTALLATION MATERIALS
 - A. TROWELABLE LEVELING AND PATCHING COMPOUNDS: LATEX-MODIFIED, PORTLAND CEMENT BASED OR BLENDED HYDRAULIC-CEMENT-BASED FORMULATION PROVIDED OR APPROVED BY MANUFACTURER FOR APPLICATIONS INDICATED.
 - B. ADHESIVES: WATER-RESISTANT TYPE RECOMMENDED BY MANUFACTURER TO SUIT RESILIENT PRODUCTS AND SUBSTRATE CONDITIONS INDICATED.
 6. RESILIENT BASE INSTALLATION
 - A. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLING RESILIENT BASE.
 - B. APPLY RESILIENT BASE TO WALLS, COLUMNS, PILASTERS, CASEWORK AND CABINETS IN TOE SPACES, AND OTHER PERMANENT FIXTURES IN ROOMS AND AREAS WHERE BASE IS REQUIRED.
 - C. INSTALL RESILIENT BASE IN LENGTHS AS LONG AS PRACTICABLE WITHOUT GAPS AT SEAMS AND WITH TOPS OF ADJACENT PIECES ALIGNED.
 - D. TIGHTLY ADHERE RESILIENT BASE TO SUBSTRATE THROUGHOUT LENGTH OF EACH PIECE, WITH BASE IN CONTINUOUS CONTACT WITH HORIZONTAL AND VERTICAL SUBSTRATES.
 - E. DO NOT STRETCH RESILIENT BASE DURING INSTALLATION.

- 09 65 19 - RESILIENT TILE FLOORING**
1. PRODUCTS
 - A. GENERAL:
 1. RESILIENT TILE FLOORING COMPLIES WITH FLOORSCORE STANDARD.
 2. LOW-VOC ADHESIVE AND SEALANT.
 - B. VINYL COMPOSITION FLOOR TILE:
 1. SIZE: 12 BY 12 INCHES (305 BY 305 MM).
 - C. SOLID VINYL FLOOR TILE:
 1. ASTM F 1700, CLASS III, TYPE B EMBOSSED SURFACE. THICKNESS: 0.125
 - D. INSTALLATION MATERIALS:
 1. TROWELABLE LEVELING AND PATCHING COMPOUNDS.
 2. ADHESIVES.
 3. SEAMLESS-INSTALLATION ACCESSORIES.
 4. FLOOR POLISH.
 2. FLOOR TILE INSTALLATION
 - A. LAY TILES SQUARE WITH ROOM AXIS
 - B. FOR STATIC DISSIPATIVE TILE, REFERENCE MANUFACTURER'S INSTALLATION REQUIREMENTS

- 09 68 00 - CARPETING**
1. SUBMIT SHOP DRAWINGS INDICATING CARPET LOCATIONS, DYE LOT LIMITATIONS, SEAMING PLAN, METHOD OF JOINING SEAMS, DIRECTION OF CARPET IN EACH ROOM OR AREA, AND TYPE AND LOCATION OF TRANSITION STRIPS. SUBMIT SAMPLES: 12X12 INCH SAMPLES IN EACH COLOR AND PATTERN. SUBMIT SAMPLE OF TRANSITION STRIPS, 4 INCHES LONG IN EACH COLOR.
 2. SEAMING MATERIALS: AS RECOMMENDED BY CARPET MANUFACTURER. ADHESIVE WATERPROOF LATEX BASED CEMENT FORMULATED SPECIFICALLY FOR INSTALLING CARPET; RECOMMENDED BY CARPET MANUFACTURER. LEVELING COMPOUND: WHITE, PREMEXED, LATEX BASED.
 3. INSTALL CARPET IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE "LOK DOTS" FOR ALL CARPET TILE.

- 09 72 00 - WALL COVERINGS**
1. SURFACE-BURNING CHARACTERISTICS: COMPLY WITH ASTM E 84; TESTING BY A QUALIFIED TESTING AGENCY. IDENTIFY PRODUCTS WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AGENCY.
 - A. FLAME-SPREAD INDEX: 25 OR LESS
 - B. SMOKE-DEVELOPED INDEX 450 OR LESS
 2. VINYL WALL COVERING: REFER TO THE "FINISH LEGEND" FOR TYPE, COLOR, PATTERN, AND MANUFACTURER.
 3. FABRIC WALL COVERING: TYPES, COLORS, PATTERNS, AND MANUFACTURERS OF WALL COVERING MATERIAL SHALL BE AS INDICATED IN "FINISH LEGEND". PROVIDE MANUFACTURER'S STANDARD BACKING ON FABRICS WHICH ARE ADHESIVE APPLIED. ALL FABRICS SHALL BE FLAME RETARDANT TREATED BY FABRIC MANUFACTURER.
 4. PRIMER/SEALER: MILDEW RESISTANT, RECOMMENDED IN WRITING BY WALLCOVERING MANUFACTURER FOR INTENDED SUBSTRATE.
 5. INSTALL SEAMS VERTICAL AND PLUMB AT LEAST 6 INCHES FROM OUTSIDE CORONERS AND 3 INCHES FROM INSIDE CORNERS UNLESS A CHANGE OF PATTERN OR COLOR EXISTS AT CORNER. NO HORIZONTAL SEAMS ARE PERMITTED.

- 09 90 00 - PAINTING AND COATING**
1. SUBMIT PRODUCT DATA FROM MANUFACTURER FOR PROPOSED USE. INCLUDE PRODUCT DESIGNATION AND GRADE OF EACH PAINT AND COATING TYPE, SURFACE PREPARATION MATERIALS AND PROCEDURES, AND PRODUCT ANALYSIS AND PERFORMANCE CHARACTERISTICS FOR EACH PAINT AND COATING TYPE.
 2. SUBMIT SAMPLES OF 8.5"X11" INCH FOR EACH TYPE PAINT SHOWING COLOR AND LUSTER, ON REPRESENTATIVE SUBSTRATE. SUBMIT 12X12 INCH TEXTURE SAMPLES ON GYPSUM BOARD BACKING.
 3. PROVIDE 1 GALLON CONTAINERS EXTRA STOCK OF EACH COLOR FINISH COAT TO THE OWNER.
 4. NO SUBSTITUTIONS UNLESS APPROVED BY ARCHITECT. FOR GYPSUM BOARD SURFACES USE
 - A. PROMAR 200 ZERO VOC INTERIOR LATEX
 - B. PROMAR 400 ZERO VOC INTERIOR LATEX
 5. DO NOT THIN PAINT IN EXCESS OF MANUFACTURER'S RECOMMENDATIONS.
 6. APPLY PAINTS AND COATINGS WITHIN MINIMUM DRY FILM THICKNESS RANGE RECOMMENDED BY MANUFACTURER. MATCH FINAL COAT OF PAINT TO APPROVED COLOR.
 7. THE NUMBER OF COATS AND FILM THICKNESS REQUIRED IS THE SAME REGARDLESS OF THE APPLICATION METHOD. DO NOT APPLY SUCCEEDING COATS UNTIL THE PREVIOUS COAT HAS CURED AS RECOMMENDED BY THE COATING MANUFACTURER. SAND BETWEEN APPLICATIONS WHERE SANDING IS REQUIRED TO PRODUCE AN EVEN SMOOTH SURFACE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS. SAND LIGHTLY BETWEEN EACH SUCCEEDING ENAMEL OR VARNISH COAT.
 8. APPLY ADDITIONAL COATS AND BARRIER COATS WHEN UNDERCOATS, STAINS, OR OTHER CONDITIONS SHOW THROUGH FINAL COAT OF PAINT UNTIL PAINT FILM IS OF UNIFORM SHEEN, FINISH, COLOR, AND APPEARANCE. GIVE SPECIAL ATTENTION TO ENSURE THAT SURFACES, INCLUDING EDGES, CORNERS, CREVICES, WELDS, AND EXPOSED FASTENERS, RECEIVE A DRY FILM THICKNESS EQUIVALENT TO THAT OF FLAT SURFACES.
 9. BEFORE APPLICATION OF FINISH COATS, APPLY A PRIME COAT OF MATERIAL AS RECOMMENDED BY THE MANUFACTURER TO MATERIAL THAT IS REQUIRED TO BE PAINTED OR FINISHED AND HAS NOT BEEN PRIME COATED BY OTHERS. CLEAN AND TOUCH-UP PRIME PAINT WELDS AND OTHER DAMAGED AREAS OF SHOP PRIMED ITEMS.
 10. COMPLETELY COVER TO PROVIDE AN OPAQUE, SMOOTH SURFACE OF UNIFORM FINISH, COLOR, APPEARANCE, AND COVERAGE. CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS WILL NOT BE ACCEPTABLE.
 11. PAINT INTERIOR SURFACES OF DUCTS, WHERE VISIBLE THROUGH REGISTERS OR GRILLES, WITH A FLAT, NONSPECULAR BLACK PAINT.
 12. PAINT BACK SIDES OF ACCESS PANELS AND REMOVABLE OR HINGED COVERS TO MATCH EXPOSED SURFACES.
 13. DRYWALL STIPPLE ENAMEL FINISH: ROLL AND REDISTRIBUTE PAINT TO AN EVEN AND FINE "ORANGE-PEEL" FINE NAP TEXTURE. LEAVE NO EVIDENCE OF ROLLING SUCH AS LAPS, IRREGULARITY IN TEXTURE, SKID MARKS, OR OTHER SURFACE IMPERFECTIONS.
 14. FINISH EXTERIOR DOORS ON TOPS, BOTTOMS, AND SIDE EDGES SAME AS EXTERIOR FACES.

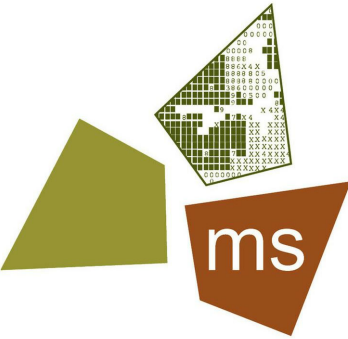
- 10 26 00 CORNER GUARDS**
1. HEAVY-DUTY CORNER TRIM: FABRICATE FROM EXTRUDED POLYESTER WITH CONTINUOUS INTEGRAL 7/8" WIDE TAPERED FIN WITH STAGGERED HOLE TO RECEIVE STANDARD FASTENERS, AND CONTINUOUS GROOVES INTO FACE OF FIN TO IMPROVE BONDING OF GYPSUM BOARD JOINT COMPOUND. HEAVY-DUTY CORNER TRIM SHALL PRIME PAINTED AFTER FABRICATION.
 - A. PRODUCT/MANUFACTURERS: INPRO - SEE FINISH SCHEDULE FOR COLOR/PATTERN
 - B. EXPOSED CORNER WIDTH: 1.25"

- 10 44 00 FIRE EXTINGUISHERS**
1. PROVIDE FIRE-RATED CABINETS THAT ARE LISTED AND LABELED TO COMPLY WITH REQUIREMENTS IN ASTM E 814 FOR FIRE-RESISTANCE RATING OF WALLS WHERE THEY ARE INSTALLED.
 2. CABINET CONSTRUCTION: RECESSED CABINET WITH STEEL SHEET BODY AND FULLY GLAZED ALUMINUM SHEET DOOR.
 3. IDENTIFICATION: LETTERING COMPLYING WITH AUTHORITIES HAVING JURISDICTION FOR LETTER STYLE, SIZE, SPACING, AND LOCATION. LOCATE ON DOOR ADJACENT TO HANDLE.
 4. FIRE EXTINGUISHERS: PROVIDE ONE OR BOTH OF THE FOLLOWING FIRE EXTINGUISHERS BASED ON THE RULES AND REGULATIONS OF THE AUTHORITY HAVING JURISDICTION:
 - A. MULTIPURPOSE DRY-CHEMICAL TYPE: UL-RATED 4-A-80-B-C, 10-LB (4.5-KG) NOMINAL CAPACITY
 5. MOUNTING BRACKETS: MANUFACTURER'S STANDARD GALVANIZED STEEL, DESIGNED TO SECURE FIRE EXTINGUISHER TO WALL OR STRUCTURE, OF SIZES REQUIRED FOR TYPES AND CAPACITIES OF FIRE EXTINGUISHERS INDICATED, WITH PLATED OR BLACK BAKED-ENAMEL FINISH.

RSN: 1511868
Permit #: 2021-1915533 LT

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

DRAWN BY		JPJ
CHECKED BY APPROVED BY		CMB/CLR
ISSUE DATE		11/18/2020
REVISION		
#	DATE	DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

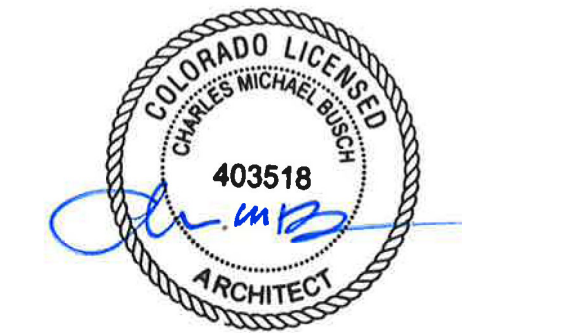
CLIENT



PROJECT

QUEST
DIAGNOSTICS

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



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

PROJECT NO. 62-40487-04

SHEET TITLE SPECIFICATIONS

SHEET Q003

NOTICE TO CONTRACTOR	
1.	THESE DOCUMENTS ARE INTENDED TO ILLUSTRATE CLIENT PREFERENCES AND MINIMUM ACCEPTABLE CRITERIA FOR THIS PROJECT. IN ADDITION, THESE DOCUMENTS ARE INTENDED TO FACILITATE A DEGREE OF PRELIMINARY COORDINATION AMONG THE TRADES. HOWEVER, NOTHING CONTAINED IN THESE DOCUMENTS SHALL DIMINISH OR NEGATE THE CONTRACTOR'S RESPONSIBILITIES OR OBLIGATIONS FOR COMPLETE, FUNCTIONAL, AND PROPERLY COORDINATED SYSTEMS.
2.	ALTHOUGH THE LOCATIONS AND TYPES OF SPRINKLER HEADS MAY BE SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT THE NUMBER, TYPE, AND LOCATIONS OF SPRINKLER HEADS COMPLIES WITH NFPA STANDARDS, ALL GOVERNING CODES, AND APPROVALS FROM AUTHORITIES HAVING JURISDICTION. WHEREVER POSSIBLE, FINAL SPRINKLER HEAD LOCATIONS SHALL FOLLOW THE PATTERNS, POSITIONS, AND CRITERIA AS SHOWN ON THE DRAWINGS, SUCH AS CENTERING ON LAY-IN CEILING TILES, SYMMETRY WITH RESPECT TO CORRIDORS AND OTHER BUILDING GEOMETRY, POSITIONING WITH RESPECT TO LIGHTING FIXTURES, AND OTHER PERTINENT AND RELATIVE CONDITIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ALL ROUGH-IN AND FINAL COORDINATION OF ALL SPRINKLER HEADS WITH ALL OTHER TRADES AND BUILDING FEATURES.
3.	PIPE SIZES WHEN SHOWN ON THE DRAWINGS SHALL BE CONSIDERED THE MINIMUM ACCEPTABLE FOR THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT THE CORRECT PIPE SIZES ARE INSTALLED FOR EACH APPLICATION.
4.	DETAILS SHOWN ON THE DRAWINGS ARE INTENDED TO ILLUSTRATE THE TYPES AND ARRANGEMENTS OF SPRINKLER SYSTEM SPECIALTIES, GENERAL LOCATIONS OF RISERS, AND THE MINIMUM ACCEPTABLE PROVISIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE THE NUMBER AND LOCATIONS OF SPRINKLER RISER, WATER SUPPLY ARRANGEMENTS, BACKFLOW PREVENTION REQUIREMENTS, ALL COORDINATION, AND ALL COMPONENTS ANCILLARY TO AND REQUIRED FOR PROPER AND COMPLETE SPRINKLER SYSTEM OPERATION, TESTING, AND MAINTENANCE.
5.	UNLESS OTHERWISE NOTED OR REQUIRED, ROUTING OF SPRINKLER SYSTEM PIPING SHOWN ON THE DRAWINGS IS DIAGRAMMATIC ONLY AND INTENDED TO ILLUSTRATE GENERAL SPACE PLANNING. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE FINAL ROUGH-IN AND PIPE ROUTING AS REQUIRED FOR PROPER SPRINKLER SYSTEM INSTALLATION AND COORDINATION WITH OTHER BUILDING SYSTEMS AND FEATURES.
6.	SPRINKLER CONTRACTOR SHALL OBTAIN THE MOST RECENT FLOW TEST FOR THE DESIGN AND HYDRAULIC CALCULATIONS ON THE PROJECT. FLOW TEST SHALL BE NO OLDER THAN 6 MONTHS FROM THE DATE OF SUBMITTAL FOR ENGINEERING REVIEW.

HAZARD CLASSIFICATION...			
NO.	NAME	HAZARD CLASSIFICATION	DESCRIPTION
01	PATIENT ENCOUNTER	LH	LIGHT HAZARD
02	PATIENT ENCOUNTER	LH	LIGHT HAZARD
03	PATIENT ENCOUNTER	LH	LIGHT HAZARD
04	PATIENT ENCOUNTER	LH	LIGHT HAZARD
05	SPECIAL SERVICES	LH	LIGHT HAZARD
100	WAITING ROOM	LH	LIGHT HAZARD
101	HALL	LH	LIGHT HAZARD
102	SUPPLY	LH	LIGHT HAZARD
103	EIXSTING NON-ADA UNISEX TOILET	EX	EXISTING TO REMAIN
104	ADA UNISEX TOILET	EX	EXISTING TO REMAIN
105	SPECIMEN CONSOLIDATION	EX	EXISTING TO REMAIN
106	EMPLOYEE BREAK ROOM	LH	LIGHT HAZARD
107	JAN.	LH	LIGHT HAZARD

GENERAL NOTES	
A	PROVIDE ALL WORK IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL CODES. COORDINATE ALL WORK WITH LOCAL FIRE MARSHAL.
B	SPRINKLER CONTRACTOR SHALL OBTAIN AND PAY FOR ALL STATE AND LOCAL PERMITS REQUIRED FOR THIS WORK, AND SCHEDULE ANY INSPECTIONS REQUIRED BY GOVERNING RULES AND REGULATIONS.
C	PROVIDE FULL SPRINKLER COVERAGE FOR ALL SPACES IN COMPLIANCE WITH LOCAL, STATE AND FEDERAL CODES, NFPA-13 AND OWNER'S INSURANCE CARRIER/UNDERWRITER.
D	COORDINATE FIRE PROTECTION SYSTEMS WITH ALL OTHER TRADES, BUILDING CONDITIONS, ETC.
E	ALL PIPING SHALL BE ROUTED AND PITCHED BELOW BUILDING STEEL WITH SPRINKLER HEADS AS HIGH AS POSSIBLE IN SPACES WITH NO CEILINGS (EXPOSED ROOF STRUCTURE).
F	FOR ALL AREAS WITH CEILING GRIDS, PROVIDE SPRINKLERS IN THE CENTER TILES AND SHALL BE WHITE FINISH. REFER TO ARCHITECTURAL PLAN FOR CEILING GRID LAYOUT.
G	THE SPRINKLER/FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR MODIFYING AND HYDRAULICALLY CALCULATING EXISTING SPRINKLER SYSTEM.
H	FIRE PROTECTION CONTRACTOR SHALL TEST AND FLUSH PIPING.
I	NOTE THAT THIS PLAN IS FOR REFERENCE ONLY. THE FIRE PROTECTION CONTRACTOR SHALL DESIGN THE ENTIRE FIRE PROTECTION SYSTEM PER NFPA-13, INCLUDING ALL HEAD LOCATIONS, BRANCH PIPING, MAIN RUNS AND ASSOCIATED PIPING SIZES.

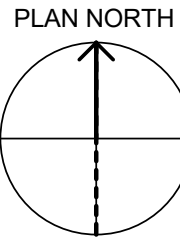


RSN: 1511868
Permit #: 2021-1915533 LT

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

1 FIRE PROTECTION PLAN

1/4" = 1'-0"



DRAWN BY		JMM
CHECKED BY		MRM
APPROVED BY		
ISSUE DATE		11/18/2020
REVISION		
#	DATE	DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



PROJECT

QUEST
DIAGNOSTICS

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

FOR
REFERENCE
ONLY

PROJECT NO. 62-40487-04

SHEET TITLE
FIRE PROTECTION PLAN

SHEET

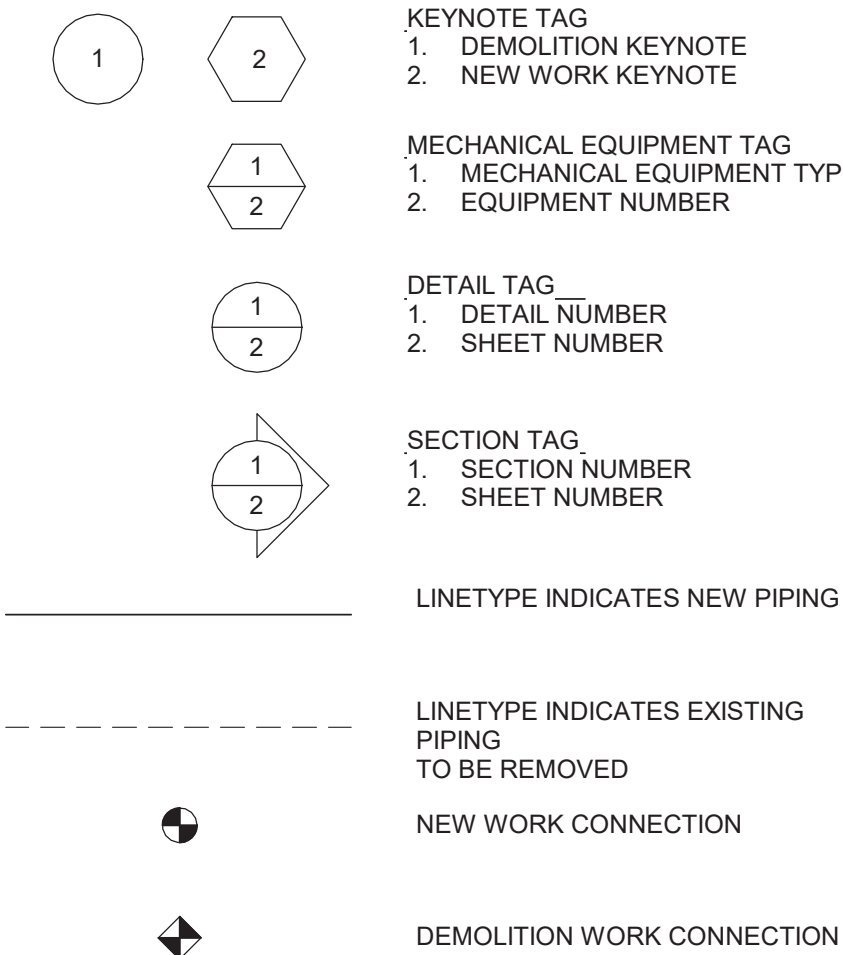
FP101

11/20/2020 3:51:33 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.

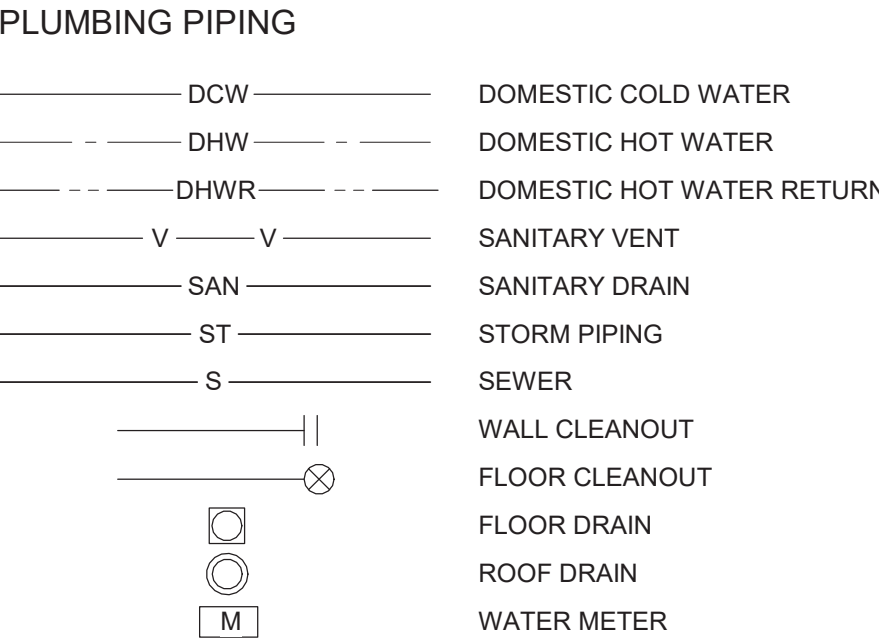
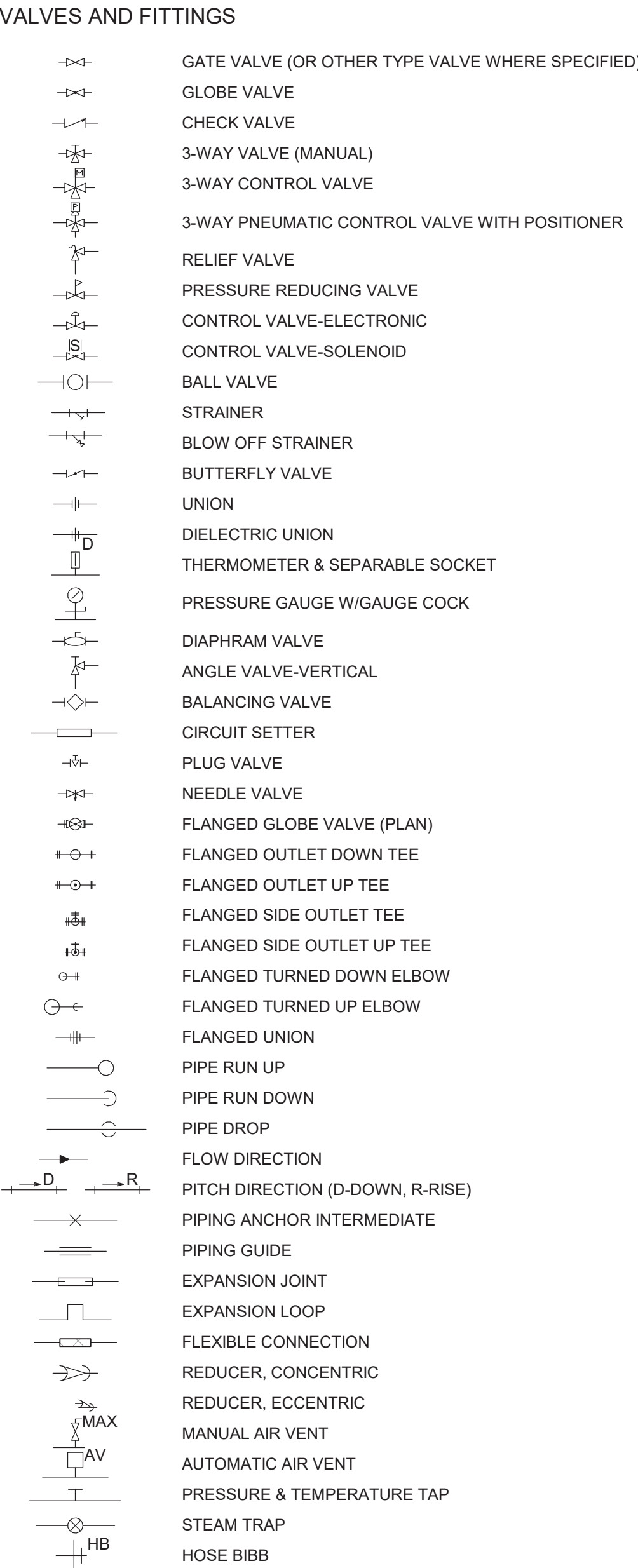
PLUMBING ABBREVIATIONS

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
		NO	NORMALLY OPEN
		NPW	NON POTABLE WATER
CA	COMPRESSED AIR		
CB	CATCH BASIN	OD	OUTSIDE DIAMETER
CI	CAST IRON	OS&Y	OUTSIDE SCREW & YOKE (VALVE)
CO	CLEANOUT, CARBON MONOXIDE		
COL	COLUMN	PCF	POUNDS PER CUBIC FOOT
COMP	COMPRESSOR	PC	PUMPED CONDENSATE
COND	CONDENSATE	PD	PRESSURE DROP
CONT	CONTINU (-ATION, -OUS)	PPM	PARTS PER MILLION
CP	CONDENSATE PUMP	PRESS	PRESSURE
CR	CONDENSATE RETURN	PRV	PRESSURE REDUCING VALVE
CS	CIRCUIT SETTER	PSI	POUNDS PER SQUARE INCH
CV	CONTROL VALVE	PSIG	PRESSURE PER SQUARE INCH GAUGE
Cv	COEFFICIENT, VALVE FLOW	PSV	PILOT SOLENOID VALVE
CWR	COLD WATER RETURN		
CWS	COLD WATER SUPPLY	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	RPBP	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
EWG	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
FDC	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



RSN: 1511868
Permit #: 2021-1915533 LT

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

GENERAL NOTES - PLUMBING

- A. PRIOR TO BID, PLUMBING CONTRACTOR AND GENERAL CONTRACTOR SHALL VERIFY SANITARY SEWER SYSTEM LOCATION, ROUTING, PITCHES, 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.
- B. ALL PIPING AND EQUIPMENT SHOWN IN LIGHT LINEWORK IS EXISTING AND TO REMAIN OR AS INDICATED BY KEYNOTES.
- C. ALL PIPING AND EQUIPMENT SHOWN IN DARK LINEWORK IS NEW OR AS INDICATED BY KEYNOTES.
- D. ALL PIPING, DUCTWORK OR MECHANICAL EQUIPMENT SHOWN ON DEMOLITION DRAWINGS IN DASHED LINE WORK IS TO BE REMOVED OR AS INDICATED ON KEYNOTES.
- E. 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.
- F. 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.
- G. 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.
- H. THE WORD "PROVIDE" MEANS TO FURNISH AND INSTALL.
- I. THE WORD "FURNISH" MEANS TO SUPPLY TO JOB SITE ONLY.
- J. WHEN INSTALLING PIPING OR EQUIPMENT UNDER THIS CONTRACT, THE CONTRACTOR SHALL CONFER WITH OTHER CONTRACTORS TO AVOID ANY CONFLICTS BETWEEN THE 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.
- K. 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.
- L. 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.
- M. 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.
- N. SHOP DRAWINGS TO BE PROVIDED FOR ALL EQUIPMENT AND PIPING LAYOUTS.
- O. 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.
- P. 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.
- Q. 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).
- R. PENETRATIONS THROUGH FIRE/SMOKE RATED CONSTRUCTION SHALL BE PROTECTED WITH A PRODUCT LISTED AND LABELED TO MAINTAIN THE FIRE/SMOKE RATING.
- S. 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.
- T. INCLUDE ALLOWANCES IN BID FOR MODIFICATIONS OF ALL FIXTURES AND EQUIPMENT CONNECTIONS TO MATCH REQUIREMENTS OF ACTUAL INSTALLATION WITHOUT ADDITIONAL COSTS TO OWNER.
- U. FOR HOT AND COLD DOMESTIC SUPPLY PIPING CONNECTIONS(S) AT NEW FIXTURE(S), PROVIDE ANGLE STOP VALVE WITH ESCUTCHEON WASHER AND REMOVABLE KEY.
- V. ALL GAS PIPING SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF INTERNATIONAL FUEL GAS CODE SECTION 406.1.
- W. CAULK ALL CLEANOUT GRATINGS FLUSH TO AVOID TRAPPING OF DIRT.
- X. 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 ROOM, 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 EXIST.

DRAWN BY JMM

CHECKED BY MRM
APPROVED BY

ISSUE DATE 11/18/2020

REVISION		
#	DATE	DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



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 GENERAL NOTES

SHEET

P001

11/20/2020 3:51:35 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.

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. The following General Provisions amplify and supplement these Sections of Division I. In cases of conflicting requirements, the stipulations set forth in Divisions I supercede and must be satisfied by the Contractor.
- B. Related work described elsewhere:
1. High voltage wiring and disconnects by electrician.
 2. Roof openings framed by General Contractor. General Contractor to furnish and install roof flashing.
 3. Motor starter and interlock wiring by Electrical Contractor.
- 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.
- B. Consult all contract drawings and shop drawings which may affect the location of any equipment or apparatus furnished under this work and make minor adjustments in location as necessary to secure coordination.
- C. The layout shown on the Drawings is based on a particular make of equipment. If another make of equipment is used which requires modification or changes of any description from the drawings or specifications, Contractor shall be responsible as a part of this work, for making all such modifications and changes, including those involving other trades with the cost thereof included in his bid. In such case, Contractor shall submit drawings and specifications prior to starting work showing all such modifications and changes. His proposal shall be subject to the approval of the Construction Manager.
- D. System layout, schematic and exact locations shall be determined by structural and other conditions. This shall not be construed to mean that the design of the system may be arbitrarily changed. The equipment layout is to fit into the building as constructed and to coordinate with equipment installed under other Divisions of work.
- E. Contact the Construction Manager immediately if noticing discrepancies or omissions in either the drawings, or the specifications, or if there are any questions regarding their meaning or intent.
- F. Submit all changes, other than minor adjustments, to the Construction Manager for approval before proceeding with the work.
- G. Architect or Construction Manager reserves the right to make minor changes in location of piping and equipment, up to the time of roughing-in, without additional cost.
- H. The Contractor is required to visit the site and fully inform himself concerning all conditions affecting the scope of work. Failure to visit the site shall not relieve the Contractor from any responsibility in the performance of his work.
- I. All workmanship to be of the highest quality in accordance with the best practices of the trade by craftsmen skilled in this particular work. All work shall be done in a timely manner as to not disrupt coordination with other trades.
- J. Contractor to have a competent superintendent in charge of the work installed under this Contract. Superintendent to be experienced in this type of work.
- 1.4 PERMITS, INSPECTIONS AND CODES
- A. File all Drawings, pay all fees, and obtain permits and certificates of inspection relative to this work.
- B. Completed installation shall conform with all applicable Federal, State and Local Laws, Codes and Ordinances, including, but not limited to the latest editions of the following:
1. State Building Code.
 2. Specific Construction Safety Requirements, State Industrial Commission.
 3. State Pressure Piping Systems Rules.
 4. A.S.M.E. Pressure Piping Code.
 5. Standards for Welding Requirements, State Industrial Commission.
 6. Occupational Safety and Health Act (OSHA) of 1971 and all amendments and revisions thereto.
- C. Nothing contained in the drawings and specifications shall be construed to conflict with these laws, codes and ordinances and they are hereby included in these Specifications.
- 1.5 DRAWINGS
- A. Drawings are schematic and show approximate locations of piping and equipment. Exact locations shall be coordinated by Contractor.
- B. Significant deviations from drawings must be approved by the Construction Manager.
- 1.6 ELECTRICAL MOTORS
- A. All motors shall comply with Energy Policy Act of 1992 (EPACT). Motors shall be provided by contractor unless they are factory installed on the unit. All wiring, safety switches and motor starters shall be provided by the Electrical Contractor.
- B. This Contractor shall furnish the Electrical Contractor with all wiring diagrams necessary to connect and control plumbing equipment.
- 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.
- B. Submit three (3) sets of instructions to the Owner in the hard-bound three-ring notebooks, including installation, maintenance and operating instructions, pamphlets or brochures obtained from each manufacturer of principal items of equipment.
- C. Copies of warranties on all equipment shall be included with this data.
- D. A copy of final inspection certificate shall also be turned over to the Owner before final payment will be made.
- 1.8 INSPECTION
- A. Contractor to arrange for and include in his bid, inspection of this work by one of the following:
1. Local Code Authority
 2. State Code Authority
 3. Certified Private Inspection Agency
- 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. Contractor to furnish and install only those brands of equipment mentioned specifically or accepted as substitutes.
- 1.11 EQUIPMENT SELECTION AND APPROVAL
- A. The selection of materials and equipment to be furnished shall be governed by the following:
1. Where trade names, brands, or manufacturer of equipment or materials are listed in the Schedules, the exact equipment listed shall be used in the bid. Where more than one name is listed, Contractor may select any one of the several brands specified.
 2. Any additional approved optional material may be listed by Addendum only. In order to be considered, Contractor must request approval of optional manufacturer in writing no later than one (1) week prior to the bid date.
- B. Within ten (10) days after the Award of Contract, Contractor must submit a list to the Construction Manager showing the names of manufacturers and sub-contractors he intends to use.
- 1.12 SUBSTITUTIONS
- A. Contractor must base his bid on furnishing the brands of material and equipment listed in the Specifications.
- B. He is entitled to bid on any other equal or similar brands of material and equipment he may desire to substitute. The substitute must be listed on the substitution sheet, with the difference in cost from base bid clearly stated.
- C. Substitutions which are accepted shall be written into the Contract and no changes of brands shall be made after the Contract is signed unless approved in writing.
- 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.
- B. After all piping and equipment has been inspected and approved, thoroughly clean all equipment, bare piping and insulation provided under this work.
- C. After all fixtures have been set, thoroughly clean all fixtures, removing stickers and other foreign matter and leave every part in acceptable condition, clean and ready for use.
- D. Repair all dents and scratches in factory prime or finish coats on all equipment. If damage is excessive, replacement shall be required.
- 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. Coordinate work closely with the Construction Manager so as to conceal plumbing work in the finished portions of the building.
- B. If as necessary to install new fixtures and equipment piping, Avoid cutting of concrete, masonry and other work by inserts and sleeves.
- C. Give the Construction Manager locations and sizes of all openings required for the installation of equipment before construction and walls are started. If it becomes necessary to cut into new work because of the failure of Contractor to notify the Construction Manager, then the Construction Manager shall do any necessary cutting and patching at this Contractor's expense.
- D. Patching must match existing surfaces in kind and finish, and shall be done by the Construction Manager at this Contractor's expense.
- 1.15 EXCAVATION AND BACKFILL
- A. Provide any trenching required to install underground plumbing items and piping. Remove forms and debris before backfilling. Tamp and compact backfill in 6 inch layers to bring level with existing grade. Replace and patch surface to match existing sod, gravel, blacktop or concrete.
- 1.16 FOUNDATIONS & SUPPORTS
- A. Contractor is fully responsible for the proper installation of all concrete pads and related work. Coordinate the installation of foundations, curbs and bases for plumbing equipment with the Construction Manager. Concrete work to be performed by the Construction Manager.
- B. Install welded steel frames for equipment and auxiliary steel supports for piping. Use black steel supports for piping. Use black steel or channel iron all coated with primer and finish coat; weatherproof with coating of bitumastic where supports are exposed to elements.
- 1.17 SLEEVES AND COLLARS
- A. Pipe sleeves shall be installed in all ceilings where pipes are to pass through. Sleeves shall be galvanized sheet metal of such size as to allow pipe and insulation to pass through with a minimum clearance of 1/4" on all sides. Install chrome-plated collars where piping is exposed in "finished" areas.
- 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. Use no plastic less than Schedule 40, minimum. ABS plastic not allowed.
- 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. Size to suit cleanout.
- 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. Use 4" (max.).
- C. All other cleanouts shall be similar to Zurn ZARB-1470 and be flush with floor or wall and have countersunk brass heads. Use 4" (max.).
- D. Zurn, Wade, J.R. Smith, or Josam.
- 2.4 TRAPS
- A. Trap each fixture drain and piece of equipment that connects to soil and waste system. Bell and spigot pipe shall be trapped with service weight cast iron. Traps on threaded pipe shall be recess drainage pattern. Trap primers to be provided where required by code.
- B. Furnish trap constructed and sized as indicated on the drawings.
- 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 work 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 61 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 1/2" 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. Crane, Flat, or Kohler.
 2. All exterior hose bibbs are to be freezeless. Woodford 65C.
- E. Unions:
1. For copper pipe, use 150 lbs., all bronze, solder end type. Chase, Crane, Flagg, 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, Grinnell, 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. Lead free thermostatic valves shall comply with state codes and standards, where applicable, requiring reduced lead content. The valve shall include integral filter washers and check valves and an adjustment cap with locking feature. The valve shall be provided with solder, threaded, CPVC, Quick Connect, PEX or w/press union connections. The valve shall be a Watts WLFGSMB2C, or equal.
 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. Screwed malleable iron fittings may be used on piping 2 1/2" and smaller. 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". Prime fittings and welds with Royston A-36 gray primer and wrap with Scot-Wrap No. 40 protective tape. Overlap the spiral turn a minimum of 1/4". "X-Tru-Coat" factory coating and plastic shrink sleeves may be used at the Contractor's option. Provide adequate protection on gas lines.
- E. Valves:
1. 1" and smaller; 125 lbs. iron body with bronze plug washer. Crane #320 or Homestead #601.
 2. 1 1/4" and larger; Lubricated plug cock. Nordstrum #142 or Homestead #602
 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. Galvanized hangers and strap hangers will not be permitted for supporting copper lines.
- 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. Unplated clevis may be used if lead sleeves 2" wider than the clevis are secured to the pipe at each hanger.
- 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. R-value must be 3.7 or larger as tested per ASTM C177 or C518. Piping insulation shall be Armaflex, Rubetex or equal.
 3. Branch runs shall be insulated with 1/2" thick Armstrong "AP Armaflex SS". Piping insulation shall be by Armaflex, Rubetex or equal.
 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 45V43 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 requirements: All defects disclosed as the result of the tests shall be remedied at this Contractor's expense. All materials and equipment used for tests shall be provided by the contractor.
 2. Water piping: Shall be subjected to hydrostatic test of 200 pounds per square inch. All potable water piping shall be disinfected by a mixture containing not less than 0.6 pound of high-test calcium hypochlorite, or an equivalent amount of chlorinated lime (about 2 pounds) to each 100 gallons of water, which provides not less than 50 ppm of available chlorine. The mixture shall be injected into the system and retained for not less than 12 hours. The system shall then be drained thoroughly, flushed until all traces of chlorine and foreign materials are removed.
 3. Sanitary piping: 1st test: Underground piping shall be pressure tested before backfilling. 2nd test: Before the installation of any fixtures, the ends of the system shall be capped and all lines filled with water to the highest vent and allowed to stand for at least 24 hours without leakage. This test shall be made with piping exposed. 3rd test: This shall be an in-service test performed after all equipment is installed. The entire vent and sewer system shall be tested. Final test shall be either smoke or peppermint test, using an approved apparatus. Before proceeding with either test, all traps shall be filled with water. Smoke test shall be accomplished by filling entire sewer system with a pungent thick smoke produced by one or more smoke machines. When smoke appears at stack openings on the roof, they shall be closed and a pressure equivalent to a 1 inch water column shall be exerted and maintained for 15 minutes before inspection starts. An alternate peppermint test shall be accomplished by introducing a minimum of 2 ounces of oil of peppermint into each stack. All stacks and line openings shall be closed during test for a minimum period of 1/2 hour.
- 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. Fitting shall be welded as according to ANSI-16.9 or screwed as specified.
- B. This Contractor shall run all supplies as shown by the drawings. Final connections to mechanical equipment shall be by this contractor. All equipment furnished under this contract not having "off-on" gas cocks furnished shall have gas cocks furnished and installed by this contractor.
- C. Test interior gas piping at a pressure of 100 psig for a period of 24 hours without a drop in pressure. Any leaks shall be repaired by this contractor and the lines retested. All tests shall be in accordance with the local utility and shall be witnessed by that utility and Owner's Representative. Replace Ansul Valve with a filler piece during testing and replace after testing.
- D. Electrically isolate service piping from the building gas piping with insulator at building entrance.
- E. Provide building shut-off valve immediately after entering building.
- 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. All vent and branch vent piping shall be self-draining.
- D. Trap all floor drains.
- E. Exposed fixture traps shall be chrome-plated brass.
- F. 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. Provide drain valves at all drainage points on pipes. Pipe shall be cut accurately to measurements established at the building by the Contractor and worked into place without springing or forcing. After cutting and reaming and before assembling, all lengths of pipe shall be set vertically and tapped with a hammer to remove scale and dust and inspected to insure that no foreign matter is lodged therein. Pipe shall follow building lines clearing all windows, doors, and other openings and no diagonal piping will be allowed. Keep pipe a sufficient distance apart to allow installation of pipe insulation covering. Allowance and provisions to be made for expansion and contraction of pipe.
- B. Pipe to be run concealed wherever possible. Location of pipe in interior partitions shall be carefully coordinated with the Construction Manager who will construct the partitions after the piping is in place. Where exposed risers occur they shall be kept as close to walls as 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. Provide access panels if installed in walls or above gypsum board ceilings.
- G. Install 1" thick Armaflex insulation on all copper piping passing through concrete or masonry.
- H. 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. After testing, purge system completely.
- 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 1/4" - 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. Install stop valves on all fixture supply lines.
- B. Carriers to be securely anchored to structure. Bolt feet to the floor. Install chrome plated brass escutcheons on exposed lines entering walls.
- C. Provide rough-in waste, vent, hot and cold water piping to equipment. Coordinate exact location and rough-in requirements with Equipment Contractor, or installer. Install cast brass P-traps, chrome plated, only where exposed.
- 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. All insulation to be finished smooth, ready for painting.
- D. Install all insulation in strict accordance with the manufacturer's recommendations.
- E. Insulate exposed drains and traps for public lavatories. Install according to manufacturer's recommendations.
- 3.9 PIPING SPECIALTIES INSTALLATION
- A. Install all items per Manufacturer's recommendation and/or where shown on Plans.

RSN: 1511868
Permit #: 2021-1915533 LT

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

DRAWN BY JMM

CHECKED BY MRM
APPROVED BY

ISSUE DATE 11/18/2020

REVISION		
#	DATE	DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



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

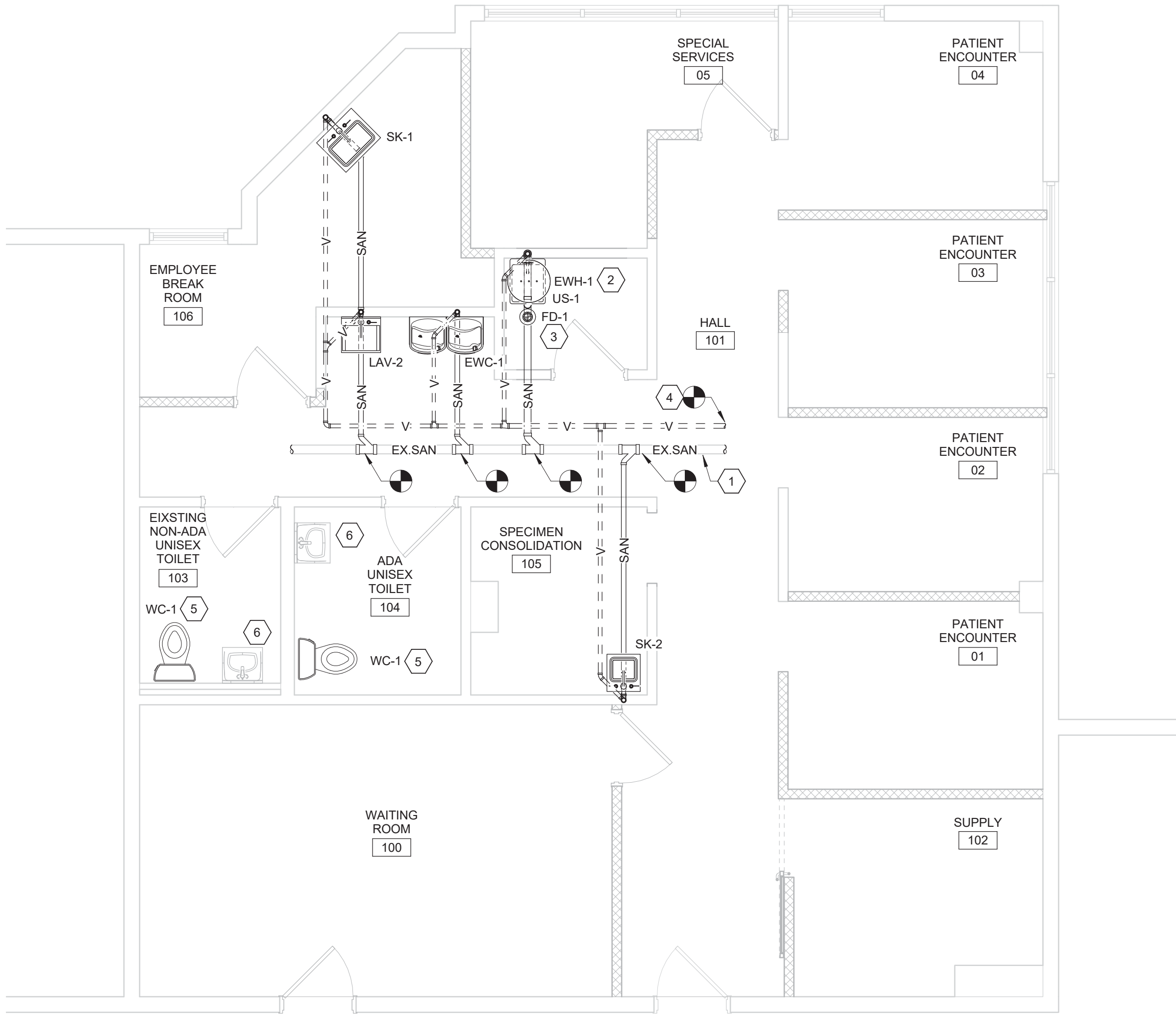
SHEET

P002

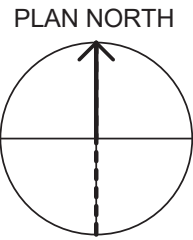
11/20/2020 3:51:40 PM
NOTICE: THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



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



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



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.

DRAWN BY	JMM
CHECKED BY	MRM
APPROVED BY	
ISSUE DATE	11/18/2020
REVISION	
#	DATE DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



PROJECT

**QUEST
DIAGNOSTICS**

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



PROJECT NO. 62-40487-04

SHEET TITLE
PLUMBING SANITARY PLAN

SHEET
P101

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.

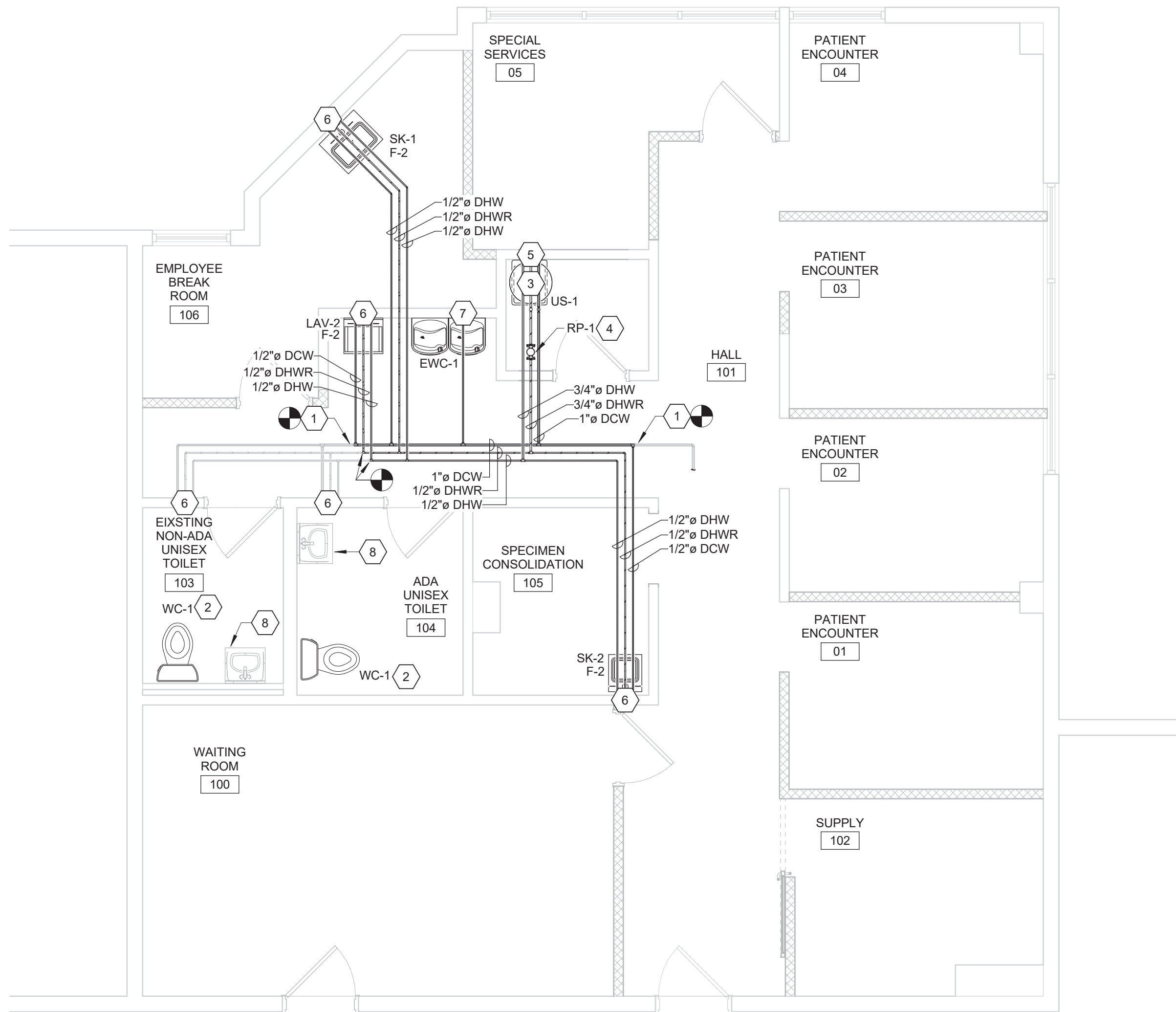
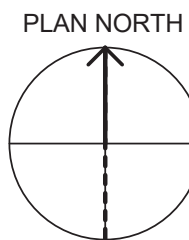
11/20/2020 3:51:46 PM



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

SUPPLY PLAN

1/4" = 1'-0"



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.



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



PROJECT

QUEST DIAGNOSTICS

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



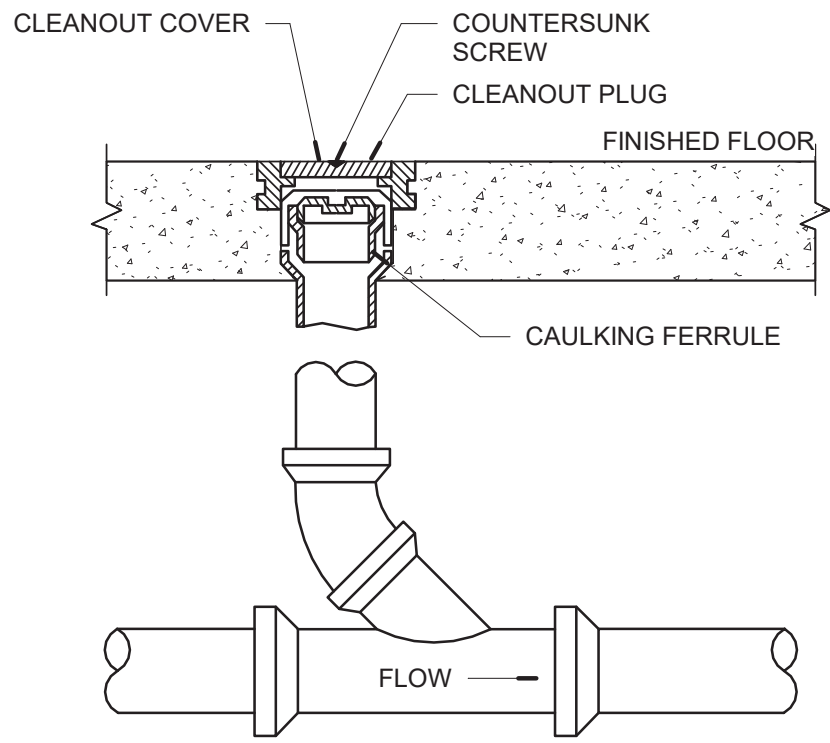
11/20/2020
PROFESSIONAL OF RECORD:
JASON E. CHRISTOFF No. 0056074
EXP DATE: 10/31/2021

PROJECT NO. 62-40487-04

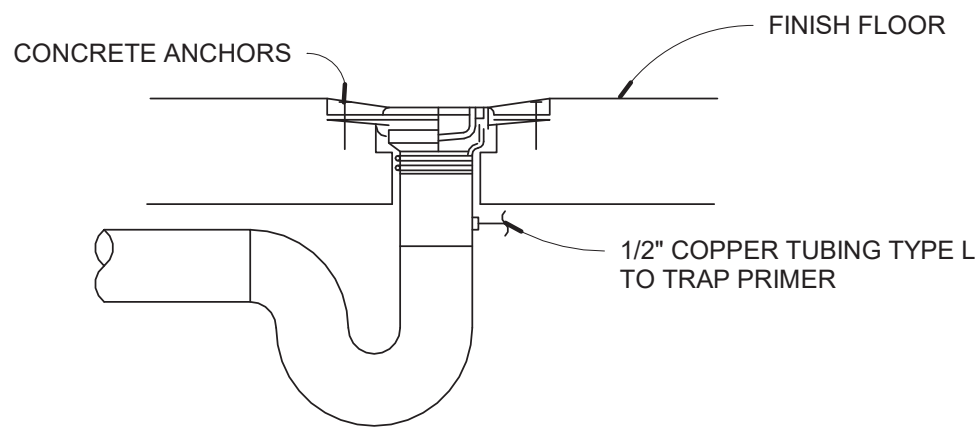
SHEET TITLE
PLUMBING SUPPLY PLAN

SHEET
P102

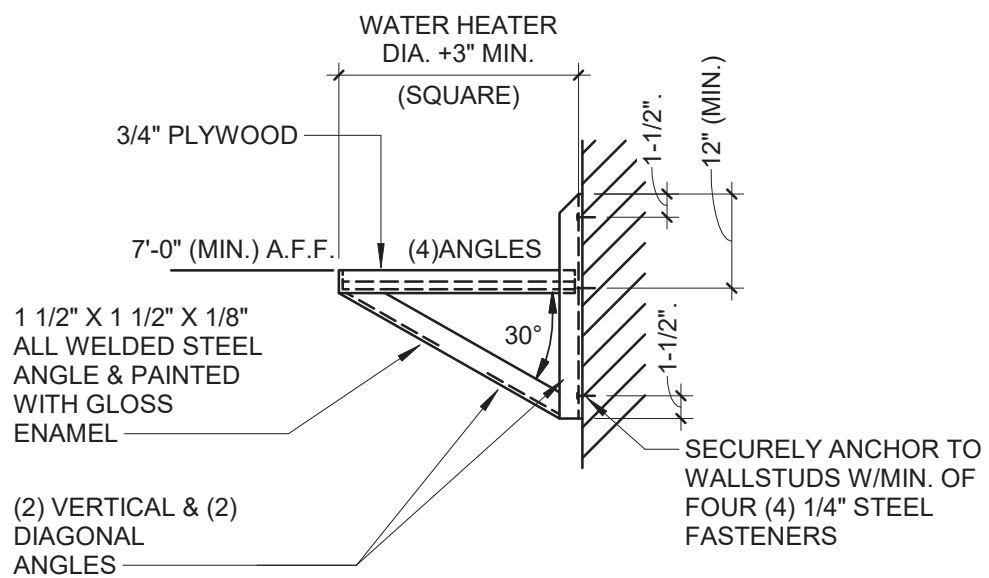
11/20/2020 3:52:01 PM NOTICE: THIS ARCHITECTURAL AND ENGINEERING DRAWING IS GIVEN IN CONFIDENCE AND SHALL BE USED ONLY PURSUANT TO THE AGREEMENT WITH THE ARCHITECT. NO OTHER USE, DISSEMINATION, OR DUPLICATION MAY BE MADE WITHOUT PRIOR WRITTEN CONSENT OF THE ARCHITECT. ALL COMMON LAW RIGHTS OF COPYRIGHT AND OTHERWISE ARE HEREBY SPECIFICALLY RESERVED.



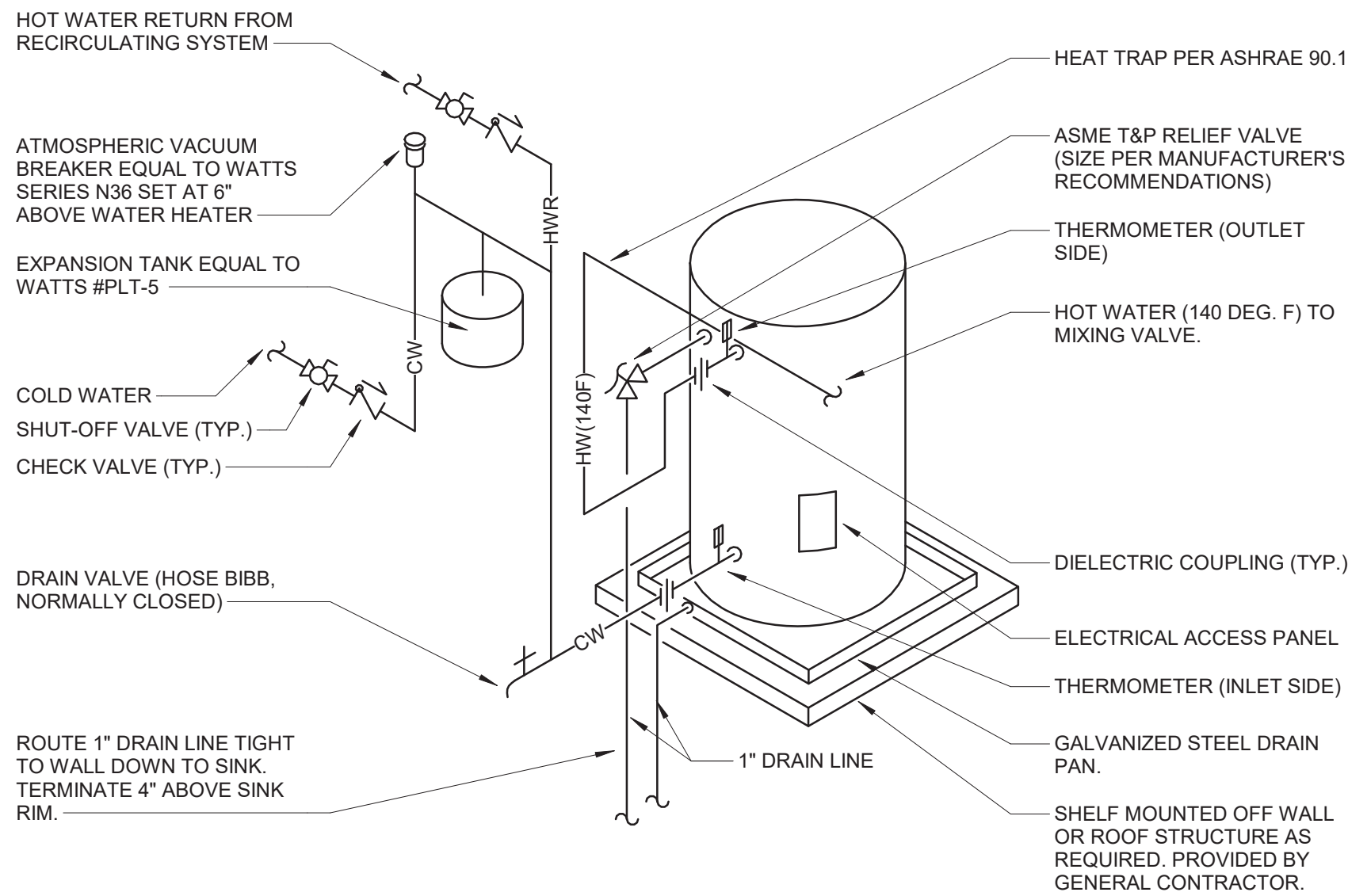
4 FLOOR CLEANOUT DETAIL
N.T.S.



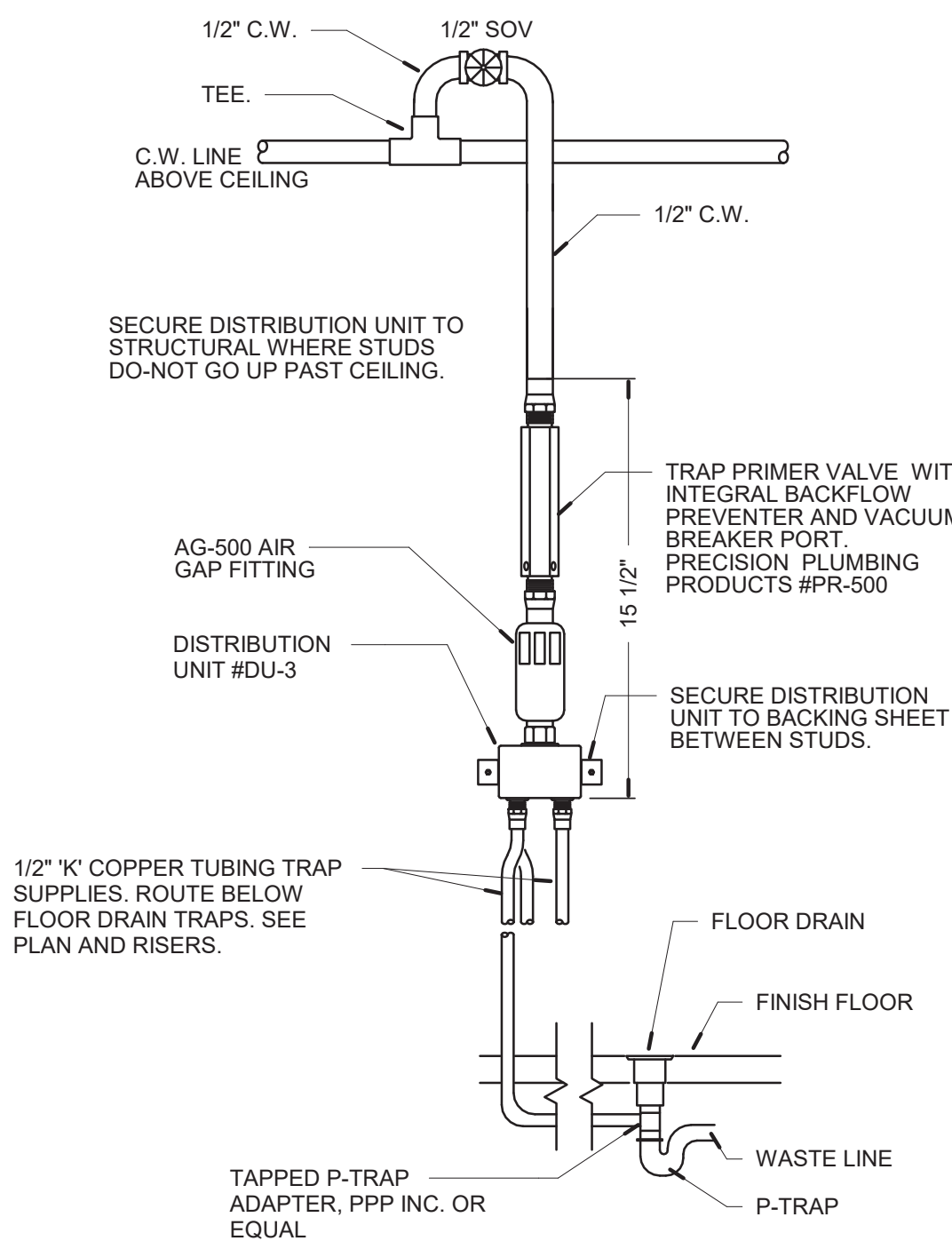
3 FLOOR DRAIN DETAIL
N.T.S.



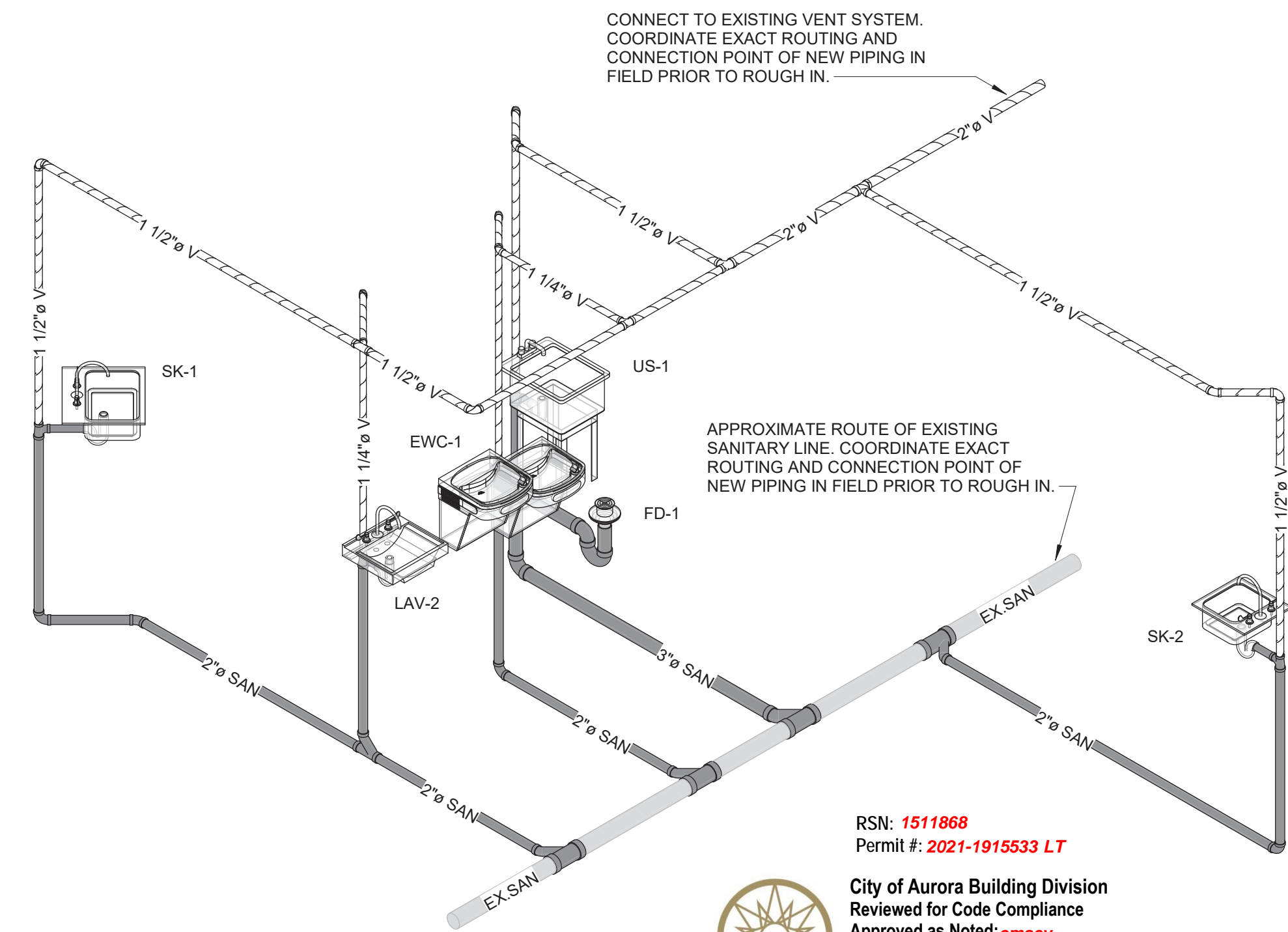
2 WATER HEATER SUPPORT DETAIL
N.T.S.



1 WATER HEATER DETAIL
N.T.S.



5 TRAP PRIMER DETAIL
N.T.S.



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

6 SANITARY ISOMETRIC
N.T.S.

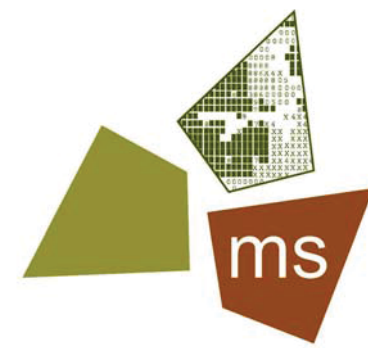
PLUMBING FIXTURE SCHEDULE												
MARK	DESCRIPTION	MINIMUM PIPING CONNECTIONS					FLOW RATE		MFR. CATALOG NUMBER		PLUMBING REMARKS	
		WASTE	TRAP	VENT	HW	CW	WATER	FLUSH RATE	MANUFACTURER	MODEL		
EWC-1	COOLER WALL MOUNT BI-LEVEL ADA NON-FILTERED	1 1/2"	1 1/2"	1 1/2"		3/8"	0.13 GPM		ELKAY	EZSTL8LC		
EW-1	ELECTRIC WATER HEATER, 30GAL, DUAL 1.5 KW ELEMENTS				3/4"	3/4"			A.O. SMITH	DEL-30	PROVIDE WITH WATER RECIRCULATION PUMP RP-1 (BELL & GOSSETT #NFB-12F) AND PUMP TEMPERATURE CONTROL (BELL & GOSSETT #AQUASTAT AGS-3/4).	
FD-1	MEDIUM-DUTY ADJUSTABLE FLOOR DRAIN	3"	3"	1 1/2"					ZURN	FD-2340	PROVIDE WITH TRAP PRIMER CONNECTION	
LAV-2	TWO-HANDLE WIDESPREAD LAVATORY FAUCET				1/2"	1/2"	0.50 GPM		AMERICAN STANDARD	6540.278.002		
LAV-2	WALL-HUNG LAVATORY	1 1/4"	1 1/4"	1 1/4"					AMERICAN STANDARD	DECORUM 9024.008EC		
SK-1	TWO-HANDLE WIDESPREAD LAVATORY FAUCET				1/2"	1/2"	0.50 GPM		AMERICAN STANDARD	6540.278.002	FURNISHED BY OWNER. INSTALLED BY PLUMBING CONTRACTOR.	
SK-1	STAINLESS STEEL SINGLE BOWL SINK	1 1/2"	1 1/2"	1 1/2"					PROFLO	PFSR2521553C	FURNISHED BY OWNER. INSTALLED BY PLUMBING CONTRACTOR.	
SK-2	TWO-HANDLE WIDESPREAD LAVATORY FAUCET				1/2"	1/2"	0.50 GPM		AMERICAN STANDARD	6540.278.002	FURNISHED BY OWNER. INSTALLED BY PLUMBING CONTRACTOR.	
SK-2	STAINLESS STEEL SINGLE BOWL SINK	1 1/2"	1 1/2"	1 1/2"					PROFLO	PFSR17196	FURNISHED BY OWNER. INSTALLED BY PLUMBING CONTRACTOR.	
US-1	LAUNDRY/UTILITY TUB	1 1/2"	1 1/2"	1 1/2"	1/2"	1/2"	3.00 GPM		MUSTEE	12C	FAUCET, AERATOR AND HOSE END CONNECTION PROVIDED WITH UTILITY SINK 12C.	
WC-1	PRESSURE-ASSISTED TOILET W/ LOCKABLE TANK (ADA)	4"		2"		1/2"		1.6	AMERICAN STANDARD	2467.016	PROVIDE WITH SEAT (AMERICAN STANDARD #5324.019)	

DRAWN BY JMM

CHECKED BY APPROVED BY MRM

ISSUE DATE 11/18/2020

REVISION		
#	DATE	DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



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 SCHEDULES AND
DETAILS

SHEET P601

11/20/2020 3:51:18 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.

ELECTRICAL AND COMMUNICATIONS SYMBOLS AND LINETYPES LEGEND

ELECTRICAL LINETYPES

	RC	RIGID CONDUIT
	DC	DIRECT CURRENT ABOVEGROUND
	DC	DIRECT CURRENT UNDERGROUND

COMMUNICATIONS LINETYPES

	ASI	DIGITAL VIDEO
	AUD	ANALOG AUDIO
	COMM	COMMUNICATIONS
	CTRL	CONTROL
	IP	DATA INTERNET PROTOCOL (IP)
	DGA	DIGITAL AUDIO
	AES	DIGITAL AES AUDIO
	FO	FIBEROPTICS
	I	INTERCOM
	HDMI	DIGITAL VIDEO HIGH DEFINITION HDMI
	SDI	DIGITAL VIDEO STANDARD DEFINITION SDI
	MIC	MICROPHONE AUDIO
	RF	RADIO FREQUENCY (RF), CCTV, MATV, IF
	RGBHV	COMPONENT RGBHV VIDEO
	SYNC	SYNC VIDEO
	VID	VIDEO, COMPOSITE ANALOG
	SPKR	SPEAKER AUDIO
	T	TELEPHONE
	NC	NURSE CALL
		4" TELECOM CONDUIT

TYPICAL MOUNTING SYMBOLS

	WALL MOUNTING
	CEILING MOUNTING
	FLOOR MOUNTING

TYPICAL MOUNTING SYMBOLS

	WALL MOUNTING
	CEILING MOUNTING
	FLOOR MOUNTING

GENERAL ELECTRICAL

	ELECTRICAL MOTOR, SINGLE PHASE
	ELECTRICAL MOTOR, THREE PHASE
	TRANSFORMER ONE-LINE
	TRANSFORMER PLAN

COMMON WORK RESULTS FOR ELECTRICAL

	EARTH GROUND
	JUNCTION BOX MOUNTING: WALL
	HOME RUN ARROWHEADS INDICATE THE NUMBER OF CIRCUITS

INSTRUMENTATION AND CONTROL FOR ELECTRICAL SYSTEMS

	ELECTRICAL METER
--	------------------

LOW-VOLTAGE ELECTRICAL TRANSMISSION

	FUSE WITH RATING
	NORMALLY CLOSED RELAY CONTACT
	NORMALLY OPEN RELAY CONTACT
	ELECTRICAL PUSH BUTTON

SWITCHBOARDS AND PANELBOARDS

	PANELBOARD CABINET MOUNTING: RECESSED
	PANELBOARD CABINET MOUNTING: SURFACE

LOW-VOLTAGE DISTRIBUTION EQUIPMENT

	ELECTRICAL RECEPTACLE DUPLEX MOUNT VERTICALLY, 18" AFF UNLESS OTHERWISE NOTED (TYPICAL)
	ELECTRICAL RECEPTACLE DUPLEX WITH GROUND FAULT INTERRUPTER
	ELECTRICAL RECEPTACLE DUPLEX WITH ISOLATED GROUND
	ELECTRICAL RECEPTACLE DUPLEX WITH USB CHARGING OUTLET
	ELECTRICAL RECEPTACLE DUPLEX ON GENERATOR POWER
	ELECTRICAL RECEPTACLE QUADRAPLEX
	ELECTRICAL RECEPTACLE SINGLE
	ELECTRICAL RECEPTACLE SPECIAL PURPOSE
	SWITCH SINGLE POLE
	SWITCH THREE-WAY
	SWITCH WITH PILOT LIGHT
	SWITCH TIMER OPERATED
	SWITCH OCCUPANCY SENSOR

LOW-VOLTAGE CIRCUIT PROTECTIVE DEVICES

	CIRCUIT BREAKER DUPLEX
	DISCONNECT SWITCH FUSED
	DISCONNECT SWITCH UNFUSED

LOW-VOLTAGE CONTROLLERS

	STARTER COMBINATION WITH DISCONNECT SWITCH
	STARTER OR MOTOR CONTROLLER
	TIME CLOCK

PACKAGED GENERATOR ASSEMBLIES

	GENERATOR
--	-----------

BATTERY EQUIPMENT

	BATTERY
--	---------

POWER FILTERS AND CONDITIONERS

	CAPACITOR
	UNINTERRUPTIBLE POWER SUPPLY M: MOUNT C = CEILING D = DESK/TABLE F = FLUSH FL = FLOOR G = GROUND H = HIDDEN M = MULLION O = OUTDOOR P = PEDESTAL RK = RACK S = SURFACE W = WALL T: TECHNOLOGY OL = OFF-LINE ONL = ON-LINE LNI = LINE INTERACTIVE UPS = UNINTERRUPTIBLE POWER SUPPLY T2: SECONDARY TECHNOLOGY X: LEGEND REF

LIGHTING

	LIGHT FIXTURE MOUNT: CEILING
--	---------------------------------

INTERIOR LIGHTING

	LIGHT FIXTURE (TYPICAL) MOUNT: RECESSED
	LIGHT FIXTURE (TYPICAL) MOUNT: SUSPENDED
	LIGHT FIXTURE (TYPICAL) MOUNT: SURFACE
	LIGHT FIXTURE (TYPICAL) MOUNT: WALL

EMERGENCY LIGHTING

	EXIT SIGN MOUNT: WALL
	EXIT SIGN MOUNT: CEILING
	EMERGENCY LIGHT FIXTURE
	EMERGENCY BATTERY LIGHT SINGLE HEAD
	DUAL HEAD
	TRIPLE HEAD
	REMOTE EGRESS HEAD SINGLE HEAD
	DUAL HEAD

EXTERIOR LIGHTING

	LIGHT POST ONE ARM, ONE POST
	LIGHT POST TWO ARMS, TWO HEADS
	EXTERIOR WALL PACK

COMMON WORK RESULTS FOR COMMUNICATIONS

	BASE BLOCK COMMUNICATIONS SYMBOL M: MOUNT T: TECHNOLOGY X: LEGEND REF T2: SECONDARY TECHNOLOGY
	BASE CIRCLE COMMUNICATIONS SYMBOL M: MOUNT T: TECHNOLOGY X: LEGEND REF T2: SECONDARY TECHNOLOGY
	DATA/TELEPHONE OUTLET BOX PROVIDE 3/4" CONDUIT TURNED OUT ABOVE CEILING OR IN JOIST SPACE WITH BUSHING AND PULLWIRE.
	TELEPHONE OUTLET BOX PROVIDE 3/4" CONDUIT TURNED OUT ABOVE CEILING OR IN JOIST SPACE WITH BUSHING AND PULLWIRE.
	HANDHOLE/PULL BOX
	BASE PORT SYMBOL M: MOUNT T: TECHNOLOGY X: LEGEND REF T2: SECONDARY TECHNOLOGY
BASE SYMBOL ANNOTATIONS M: MOUNT C = CEILING D = DESK/TABLE F = FLUSH FL = FLOOR G = GROUND H = HIDDEN M = MULLION O = OUTDOOR P = PEDESTAL RK = RACK R = ROOF REC = RECESSED S = SURFACE W = WALL T: TECHNOLOGY UPS = UNINTERRUPTIBLE POWER SUPPLY CCT = CHARGE CONTROLLER AV = AUDIO VIDEO CT = CURRENT TRANSFORMER D = DATA G = GENERATOR J = JUNCTION BOX S = SPEAKER (OLD FORMAT) WP = WEATHER PROOF T2: SECONDARY TECHNOLOGY X: LEGEND REF	

ABBREVIATION	TERM
1PH	SINGLE-PHASE
1P	SINGLE POLE
1WAY	ONE-WAY
2/C	TWO-CONDUCTOR
2WAY	TWO-WAY
3/C	THREE-CONDUCTOR
3PH	THREE-PHASE
3WAY	THREE-WAY
4/C	FOUR-CONDUCTOR
4PDT	FOUR-POLE DOUBLE THROW
4PST	FOUR-POLE SINGLE THROW
4W	FOUR-WIRE
4WAY	FOUR-WAY
AIC	AMPERE INTERRUPTING CAPACITY
ASC	AMPS SHORT CIRCUIT
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BIL	BASIC INSULATION LEVEL
CB	CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CT	CURRENT TRANSFORMER
dB	DECIBEL
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DS	DISCONNECT SWITCH
EPO	EMERGENCY POWER OFF
FC	FOOTCANDLE
FLA	FULL LOAD AMPS
F	FRAME/FUSE
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
GR/GFCI	GROUND FAULT INTERRUPTER
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
IC	INTERRUPTING CAPACITY
J-BOX	JUNCTION BOX
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED
NF	NONFUSED
NL	NIGHT LIGHT
NO	NORMALLY OPEN
OCB	OIL CIRCUIT BREAKER
OCR	OIL CIRCUIT RECLOSER
OGA	OIL GAGE
OL	OVERLOAD
OLVL	OIL LEVEL
PB	PUSHBUTTON
PE	PHOTOELECTRIC
RCPT	RECEPTACLE
SCC	SHORT CIRCUIT CAPACITY
SPDT	SINGLE POLE, DOUBLE THROW
SPST	SINGLE POLE, SINGLE THROW
ST	SINGLE THROW
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
T	TRIP RATING
TL	TWIST LOCK
TP	TWISTED PAIR
TPS	TWISTED PAIR SHIELDED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNTWISTED PAIR
VFD	VARIABLE FREQUENCY DRIVE
XFMR	TRANSFORMER

ELECTRICAL GENERAL NOTES

A. GENERAL REQUIREMENTS

- BEFORE SUBMITTING THE BID PROPOSAL THE ELECTRICAL CONTRACTOR SHALL MAKE SITE VISITS AS NECESSARY TO FULLY ACQUAINT HIMSELF WITH THE JOB CONDITIONS.
- VERIFY EXACT DIMENSIONS AND LOCATIONS OF EXISTING CONSTRUCTION, BUILDING STRUCTURES, AND WORK OF OTHER TRADES AND COORDINATE WITH NEW WORK. WIRING AND CONDUIT SHALL BE INSTALLED ONLY AFTER COORDINATION WITH OTHER TRADES.
- LAYOUTS ARE SCHEMATIC AND SHOWN FOR GENERAL REFERENCE. MAKE MINOR CHANGES AS NECESSARY FOR EASE OF CONSTRUCTION FOR EXACT LOCATION LIGHTING, POWER, AND DATA EQUIPMENT REFER TO ARCHITECTURAL DRAWINGS AND COORDINATE WITH FURNISHINGS AND EQUIPMENT IN FIELD.
- CONDUIT, ELBOWS, OFFSETS, ACCESSORIES, AND OTHER MISCELLANEOUS HARDWARE AND APPURTENANCES ARE NOT SHOWN BUT SHALL BE INCLUDED AT NO ADDITIONAL COST WHERE REQUIRED TO COMPLETE THE SYSTEM.
- MAKE MINOR CHANGES AS NECESSARY FOR EASE OF CONSTRUCTION. MAJOR DEVIATIONS OR CHANGES FROM THE DESIGN SHALL BE APPROVED BY THE ARCHITECT/ENGINEER BEFORE ORDERING SUPPLIES OR STARTING WORK.
- DASHED AREAS SHOWN IN FRONT OF AND AROUND EQUIPMENT ARE AREAS REQUIRED FOR SERVICE AND INSPECTION. THESE AREAS SHALL BE MAINTAINED CLEAR OF OBSTRUCTIONS TO 7'-0" AFF OR TO THE HEIGHT OF THE EQUIPMENT, WHICHEVER IS HIGHER.
- ALL INTERIOR CIRCUITS SHALL BE CONCEALED IN WALLS OR CEILING SPACES. CIRCUITS IN CEILING SPACES SHALL BE RUN TIGHT TO STRUCTURE AND HORIZONTAL TO OR PERPENDICULAR WITH STRUCTURAL MEMBERS.

B. INSPECTION

- ALL WORK SHALL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION.
- UPON COMPLETION OF THE WORK, THIS CONTRACTOR SHALL FURNISH TO THE ARCHITECT A CERTIFICATE OF INSPECTION AND APPROVAL FROM SAID AUTHORITY BEFORE FINAL PAYMENT ON THE CONTRACT WILL BE ALLOWED.
- FEE FOR THE INSPECTION SHALL BE A PART OF THE CONTRACT, THE COST OF WHICH SHALL BE INCLUDED IN THIS CONTRACTOR'S BID.

C. CODES

- PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE, AND ANY STATE AND LOCAL CODES OR ORDINANCES.
- CONTRACTOR SHALL INSTALL AT EACH SERVICE ENTRANCE A PERMANENT DIRECTORY ACCORDING TO ARTICLE 230.2(E), OF THE NATIONAL ELECTRICAL CODE.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FLASH WARNING LABELS FOR ALL DISCONNECTS PER NFPA AND OSHA STANDARDS.

D. SHOP DRAWINGS

- THE CONTRACTOR SHALL SUBMIT COMPLETE DETAILED SHOP DRAWINGS COVERING ALL ITEMS OF EQUIPMENT. NO EQUIPMENT SHALL BE PUT INTO MANUFACTURE OR ORDERED UNTIL THESE SHOP DRAWINGS OR BROCHURES HAVE BEEN APPROVED BY THE ARCHITECT/ENGINEER.

E. MATERIALS & EQUIPMENT

- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND OF THE TYPE LISTED BY UNDERWRITERS LABORATORIES, INC. AND SHALL BE IN STRICT CONFORMITY WITH THE LATEST STANDARDS OF THE FOLLOWING WHERE SUCH STANDARDS NORMALLY APPLY:
 - UNDERWRITERS LABORATORIES, INC.
 - NATIONAL FIRE PROTECTION ASSOCIATION
- WHERE MATERIALS, EQUIPMENT, APPARATUS OR OTHER PRODUCTS ARE SPECIFIED BY BRAND NAME, TYPE OR CATALOG NUMBER, SUCH DESIGNATION IS TO ESTABLISH STANDARDS OF DESIRED QUALITY AND STYLE AND SHALL BE THE BASIS OF THE BID. MATERIALS SO SPECIFIED SHALL BE FURNISHED UNDER THE CONTRACT. WHERE TWO OR MORE DESIGNATIONS ARE LISTED, CHOICE SHALL BE OPTIONAL TO THE CONTRACTOR.
- PROVIDE MEANS TO FURNISH AND INSTALL ALL EQUIPMENT INDICATED. FURNISH MEANS TO PURCHASE, ARRANGE FOR DELIVERY TO SITE, AND TO TAKE DELIVERY AT THE SITE. INSTALL MEANS TO PLACE IN POSITION FOR USE.

F. CUTTING AND REPAIRING

- THE ELECTRICAL CONTRACTOR SHALL DO ALL CUTTING AND PATCHING TO MATCH EXISTING ADJACENT CONSTRUCTION REQUIRED TO PERFORM THEIR WORK, AND WARRANTY ALL REPAIRS FOR A MINIMUM OF ONE YEAR. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS.
- ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR.
- ALL CONDUIT PENETRATIONS THROUGH BUILDING WALLS SHALL BE GROUTED OR SEALED CLOSED. WHERE CONDUIT PENETRATES WALLS AND FLOORS SEAL WITH A U.L. LISTED SEALANT. SEAL PENETRATIONS WITH INTUMESCENT CAULK, PUTTY, OR SHEET INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OR THROUGH-PENETRATION FIRESTOPS AS MANUFACTURED BY 3M, THOMAS & BETTS, OR DUPONT.

G. GUARANTEE

- THIS CONTRACTOR SHALL GUARANTEE THEIR WORKMANSHIP AND MATERIAL (FLUORESCENT LAMPS EXCEPTED) FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE AND LEAVE THEIR WORK IN PERFECT ORDER AT COMPLETION. SHOULD DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD, THIS CONTRACTOR SHALL, UPON NOTICE OF DEFECTS, REMEDY THE DEFECTS AND HAVE ALL DAMAGES TO OTHER WORK OR FURNISHINGS CAUSED BY THE DEFECTS OR THE WORK OF CORRECTING SAME, REPAIRED AND/OR REPLACED AT THEIR EXPENSE, TO THE CONDITION BEFORE SUCH DAMAGE.

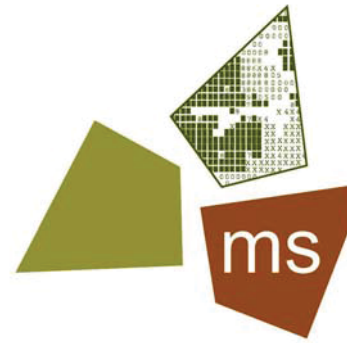
RSN: 1511868
Permit #: 2021-1915533 LT

DRAWN BY JMM

CHECKED BY
APPROVED BY MRM

ISSUE DATE 11/18/2020

REVISION		
#	DATE	DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

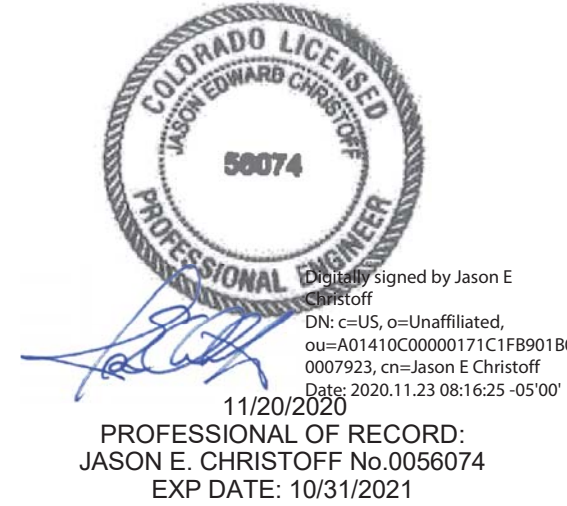
CLIENT



PROJECT

**QUEST
DIAGNOSTICS**

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



PROJECT NO. 62-40487-04

SHEET TITLE
ELECTRICAL SYMBOLS AND
GENERAL NOTES

SHEET

E001

SECTION 26 00 00 – ELECTRICAL

PART 1 - GENERAL

1.1 SCOPE OF WORK

- 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 appliances 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

- 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. #10 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-primer 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. Scotchlock 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 installation. 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

- 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 homeruns 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): LFMC, 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 in sheet all conduits not fastened to structure and for all multiple conduits and runs shall 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 conduits 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 specifying 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. Penetrations made after wall finish is applied must be as small as possible and provided with escutcheons, one on each side of wall.
 5. 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 the conductors 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 8" 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 #4/0 and larger using 500 Volt megger for one minute. Make tests with circuits isolated from source and load.

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

RSN: 1511868
Permit #: 2021-1915533 LT

DRAWN BY JMM

CHECKED BY _____
APPROVED BY _____ MRM

ISSUE DATE 11/18/2020

REVISION

[illegible]

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



PROJECT

QUEST DIAGNOSTICS

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


Not a U.S. citizen/inflated,
on:007410;C00000171C1F891B0
0007023, on:Jason E. Christoff
Date:2020/1/23 08:57:07 -0707

Jason E. Christoff

11/20/2020
PROFESSIONAL OF RECORD:
JASON E. CHRISTOFF No.0050674
EXP DATE: 10/31/2021

PROJECT NO. 62-40487-04

SHEET TITLE
ELECTRICAL SPECIFICATIONS

SHEET

E002

12/22/2020 3:20:01 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.

OUTLET MOUNTING SCHEDULE

MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF FIXTURE. MOUNT OUTLETS AT 18" AFF UNLESS OTHERWISE NOTED BELOW OR ON PLAN. REFER TO ARCHITECTURAL ELEVATION FOR ADDITIONAL DETAILS. NOTE: NOT ALL ROOMS MAY BE PRESENT ON SPECIFIC PROJECT.

WAITING ROOM

- USB OUTLETS - 38" AFF
- TV AREA - 18" and 63" AFF

PATIENT ENCOUNTER ROOM

- COMPUTER OUTLETS/COUNTER RETURN - MOUNT BELOW COUNTER, 28" AFF
- COUNTER CENTRIFUGE - MOUNT ABOVE COUNTER, 46" AFF, MOUNT 6" OFF WALL

SPECIAL SERVICES

- COMPUTER OUTLETS/COUNTER RETURN - MOUNT BELOW COUNTER, 20" AFF
- COUNTER CENTRIFUGE - MOUNT ABOVE COUNTER, 42" AFF, MOUNT 6" OFF WALL

SPECIMEN CONSOLIDATION

- HIGH COUNTER - MOUNT BELOW COUNTER, 28" AFF
- LOW COUNTER - MOUNT ABOVE COUNTER, 42" AFF

EMPLOYEE CONSULT

- COMPUTER OUTLETS/COUNTER - MOUNT ABOVE COUNTER, 42" AFF, MOUNT 12" OFF WALL

BREAKROOM

- COUNTER - MOUNT ABOVE COUNTER, 42" AFF

PATIENT HOLD ROOM

- USB OUTLET - 38" AFF
- TV AREA - 63" AFF

ELECTRICAL KEYNOTES

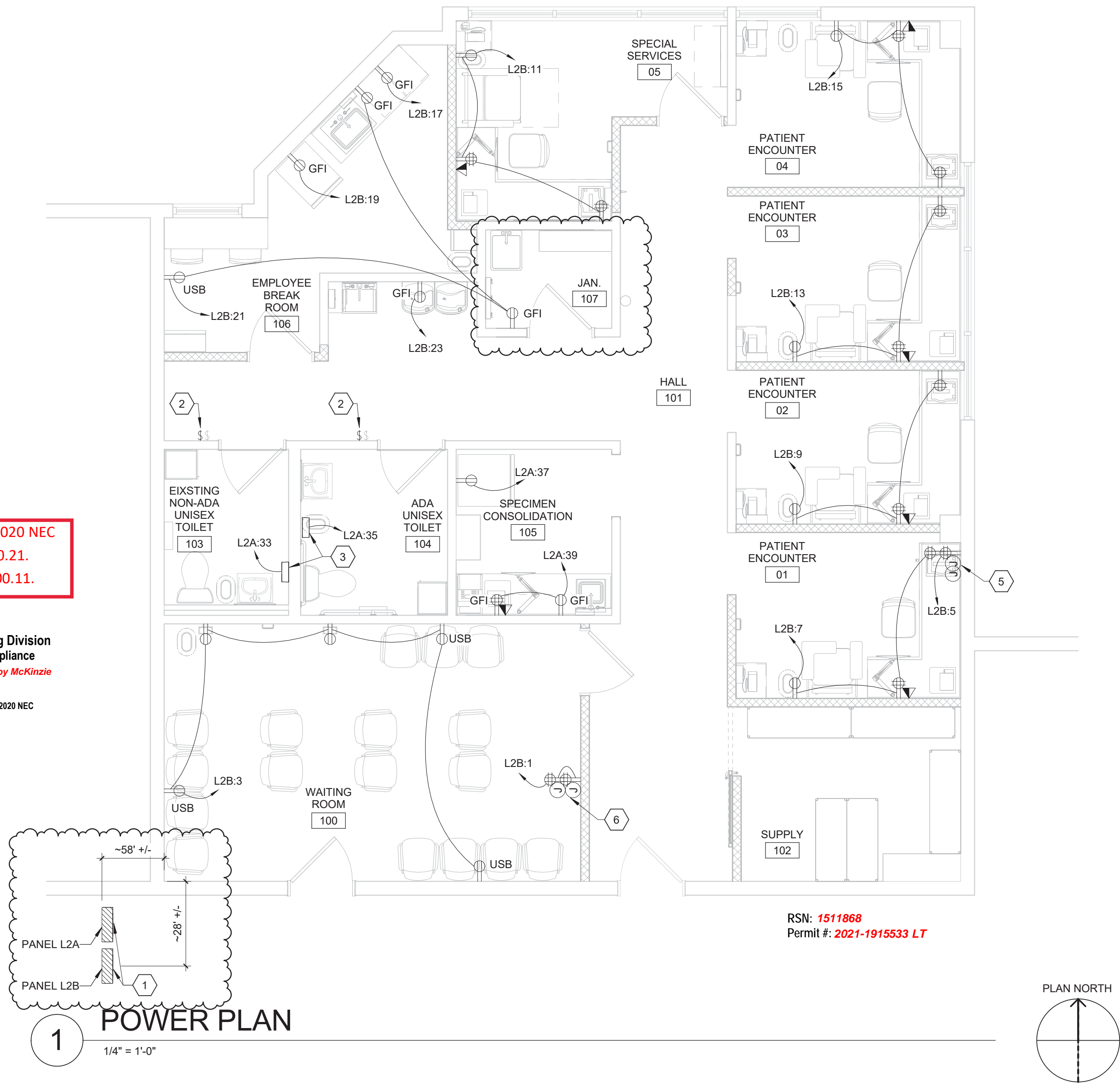
- 1 APPROXIMATE LOCATION OF EXISTING PANELS IN LANDLORD ELECTRICAL ROOM. CONTRACTOR TO VERIFY EXACT LOCATION AND CIRCUIT AVAILABILITY PRIOR TO ELECTRICAL ROUGH-IN. FURNISH AND INSTALL NEW CIRCUIT BREAKER (##A/#P) IN AVAILABLE SPACE AS REQUIRED. MATCH EXISTING TYPE AND RATING OF EXISTING BREAKERS. CONTRACTOR TO VERIFY PRIOR TO ROUGH IN THAT PANEL HAS SPARE CAPACITY FOR ADDITIONAL LOAD AND BREAKERS.
- 2 PROVIDE SWITCH FOR CONTROL OF HAND DRYER ADJACENT TO EXISTING TESTING ROOM SWITCH.
- 3 HAND DRYER PROVIDED BY ELECTRICAL CONTRACTOR (WORLD DRYER # VERDEDRI Q-973A). REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION AND MOUNTING HEIGHT.
- 4 NOTE NOT USED.
- 5 PROVIDE TWO SETS OF DUPLEX RECEPTACLE AND TWO JUNCTION BOXES AT COUNTER FOR OWNER PROVIDED IT EQUIPMENT. PROVIDE 1" EMT STUBBED UP ABOVE CEILING FROM JUNCTION BOXES FOR LOW VOLTAGE CABLING. PROVIDE WITH BUSHING AND PULLCORD. COORDINATE EXACT LOCATION AND REQUIREMENTS IN FIELD WITH OWNER REPRESENTATIVE PRIOR TO ELECTRICAL ROUGH IN.
- 6 PROVIDE TWO SETS OF DUPLEX RECEPTACLE AND DATA OUTLETS. MOUNT ONE SET AT 63" AFF AND ONE SET AT 18" AFF. OUTLETS MOUNTED AT 63" TO BE LOCATED IN TV MOUNT RECESS. REFER TO ARCHITECTURAL ELEVATIONS AND DETAILS FOR ADDITIONAL INFORMATION.
- 7 NOTE NOT USED.
- 8 NOTE NOT USED.

GENERAL NOTES

- A LINE VOLTAGE WIRING SHALL BE RUN IN CONDUIT. INTERIOR CIRCUITS SHALL BE CONCEALED IN WALLS OR CEILING SPACES. CIRCUITS IN CEILING SPACES SHALL BE RUN TIGHT TO STRUCTURE AND HORIZONTAL TO OR PERPENDICULAR WITH STRUCTURAL MEMBERS.
- B LOW VOLTAGE WIRING SHALL BE CONCEALED IN WALLS OR CEILING SPACES AND SHALL BE RUN PERPENDICULAR WITH AND HORIZONTAL TO STRUCTURAL MEMBERS. CIRCUITS WITHIN PLENUM CEILINGS SHALL BE PLENUM RATED OR RUN IN METALLIC CONDUIT (COORDINATE IN FIELD). LOW VOLTAGE WIRING SHALL BE RUN IN CONDUIT WHERE NON-ACCESSIBLE AND WHERE SUBJECT TO PHYSICAL DAMAGE.
- C VERIFY VOLTAGE DROPS DO NOT EXCEED 3 PERCENT FOR BRANCH CIRCUITS, AND 5 PERCENT TOTAL. OTHERWISE, INCREASE 120 VOLT BRANCH CONDUCTORS BY ONE WIRE SIZE FOR EACH 75' OF CONDUCTOR LENGTH.
- D PROVIDE DISCONNECT SWITCHES AT ALL ELECTRICALLY POWERED EQUIPMENT AND FIXTURES (EVEN IF NOT SHOWN ON PLAN) UNLESS EQUIPMENT IS FURNISHED BY MANUFACTURER WITH INTEGRAL SWITCH, OR UNLESS CIRCUIT BREAKER IS LOCKABLE IN THE OFF POSITION AND APPROVED BY THE AHJ. PROVIDE FINAL CONNECTION FOR ALL ELECTRICALLY POWERED EQUIPMENT.
- E VERIFY VOLTAGE AND AMPACITY OF EXISTING ELECTRICAL EQUIPMENT TO REMAIN. VERIFY ADDITIONAL LOADS DO NOT OVERLOAD EXISTING PANELS, DISTRIBUTION SYSTEMS OR SERVICE. NOTIFY ENGINEER OF ALL CONFLICTS WITH THE PLANS.
- F COORDINATE FINAL LOCATION OF ALL OWNER PROVIDED EQUIPMENT IN FIELD PRIOR TO FINAL ELECTRICAL ROUGH IN. COORDINATE EXACT ELECTRICAL AND LOW VOLTAGE REQUIREMENTS.

Wiring in air handling space must comply with 2020 NEC 300.22. Firestop penetrations per 2020 NEC 300.21. Secure and support equipment per 2020 NEC 300.11.

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



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

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT

PROJECT

QUEST DIAGNOSTICS

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

DESIGNED BY Jason E. Christoff
CEN: cn=US, cn=unaffiliated,
ou=A01410C00000171C1F89018
00007923, cn=Jason E Christoff
Date: 2020.12.23 10:28:37 -05'00'

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

PROJECT NO. 62-40487-04

SHEET TITLE ELECTRICAL POWER PLAN

SHEET **E101**

11/20/2020 3:51:26 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.

LIGHTING FIXTURE SCHEDULE									
CONTRACTOR TO VERIFY CORRECT MODEL NUMBER PRIOR TO ORDERING									
MOUNTING LEGEND: C - CEILING R - RECESSED G - GRID S - SUSPENDED W - WALL MOUNTED WR - WALL RECESSED CV - COVE UC - UNDER COUNTER RF - ROOF MOUNTED									
TYPE MARK		BASE OF DESIGN			FIXTURE			REMARKS	
MNT	#	DESCRIPTION	MANUFACTURER	MODEL	TYPE	WATTAGE	VOLTAGE		
S	1	CHAIN HUNG LINEAR STRIP LIGHT	LITHONIA	CLX L48 4000LM SEF FDL MVOLT GZ10 35K 80CRI	LED	28	120		
XW	1	WALL MOUNTED EXIT SIGN COMBO	LITHONIA	LQM S 3 R 120/277 EL N	LED	3	120		

LIGHTING CONTROL NARRATIVE – 2015 IECC

OCCUPANT SENSOR CONTROL – OCCUPANCY SENSOR SHALL TURN LIGHTS ON TO 50%. MANUAL SWITCH SHALL TURN LIGHTS ON TO 100%. 30 MINUTES OF NO ACTIVITY TURNS LIGHTS OFF. REACTIVATION OF MANUAL SWITCH TURNS LIGHTS OFF.

OCCUPANT SENSOR CONTROL (TOILET ROOMS) – OCCUPANCY SENSOR SHALL TURN LIGHTS ON TO 100%. MANUAL SWITCH SHALL TURN LIGHTS ON TO 100%. 30 MINUTES OF NO ACTIVITY TURNS LIGHTS OFF. REACTIVATION OF MANUAL SWITCH TURNS LIGHTS OFF.

GENERAL NOTES

- A EMERGENCY FIXTURES SHALL BE SERVED WITH ADDITIONAL HOT CONDUCTOR TO EMERGENCY BATTERY SUCH THAT EMERGENCY BATTERY REMAINS ENERGIZED WHEN LIGHTS ARE SWITCHED OFF. FIXTURE SHALL BE NORMALLY CONTROLLED VIA LOCAL CONTROL. FOR CODE REQUIRED EMERGENCY OPERATION THE FIXTURES SHALL BE WIRED SUCH THAT THE LOSS OF POWER INITIATES EMERGENCY OPERATION.
- B LINE VOLTAGE WIRING SHALL BE RUN IN CONDUIT. USE OF NONMETALLIC "NM" CABLE IS STRICTLY PROHIBITED. INTERIOR CIRCUITS SHALL BE CONCEALED IN WALLS OR CEILING SPACES. CIRCUITS IN CEILING SPACES SHALL BE RUN TIGHT TO STRUCTURE AND HORIZONTAL TO OR PERPENDICULAR WITH STRUCTURAL MEMBERS.
- C WIRE ALL EXIT, EGRESS, REMOTE EMERGENCY AND NIGHT LIGHTS TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY SWITCHING AND TIME CLOCK.
- D REFER TO SHEET E601 FOR LIGHTING FIXTURE SCHEDULE

LIGHTING KEYNOTES

- 1 PROVIDE MECHANICAL, 7-DAY TIMECLOCK (INTERMATIC # T7401B OR EQUAL) FOR CONTROL OF GENERAL LIGHTING. REFER TO PANEL SCHEDULE ON E601 FOR MORE INFORMATION.
- 2 EXISTING LIGHTING IN THIS AREA TO REMAIN. EXISTING SWITCHING TO BE REPLACED AS TO CONTROL EXISTING LIGHTING BY NEW SWITCHING AS SHOWN ON PLAN. PROVIDE ADDITIONAL CONDUIT AND WIRE AS REQUIRED TO MAKE FINAL CONNECTION TO EXISTING CIRCUIT. RELAMP EXISTING FLUORESCENT FIXTURES TO REMAIN AT COMPLETION OF WORK. MATCH EXISTING TYPE. COORDINATE EXACT REQUIREMENTS IN FIELD.
- 3 EXISTING LIGHT TO BE RELOCATED TO NEW LOCATION AS SHOWN ON PLAN. PROVIDE ADDITIONAL CONDUIT AND WIRE AS REQUIRED TO MAKE FINAL CONNECTION TO EXISTING CIRCUIT.
- 4 EXISTING AIR DEVICE TO BE RELOCATED TO NEW LOCATION AS SHOWN ON PLAN. COORDINATE EXACT REQUIREMENTS IN FIELD WITH GC.
- 5 PROVIDE NEW LIGHT AS SCHEDULED. CONNECT TO EXISTING LIGHT CIRCUIT SERVING LIGHTS IN THIS AREA.

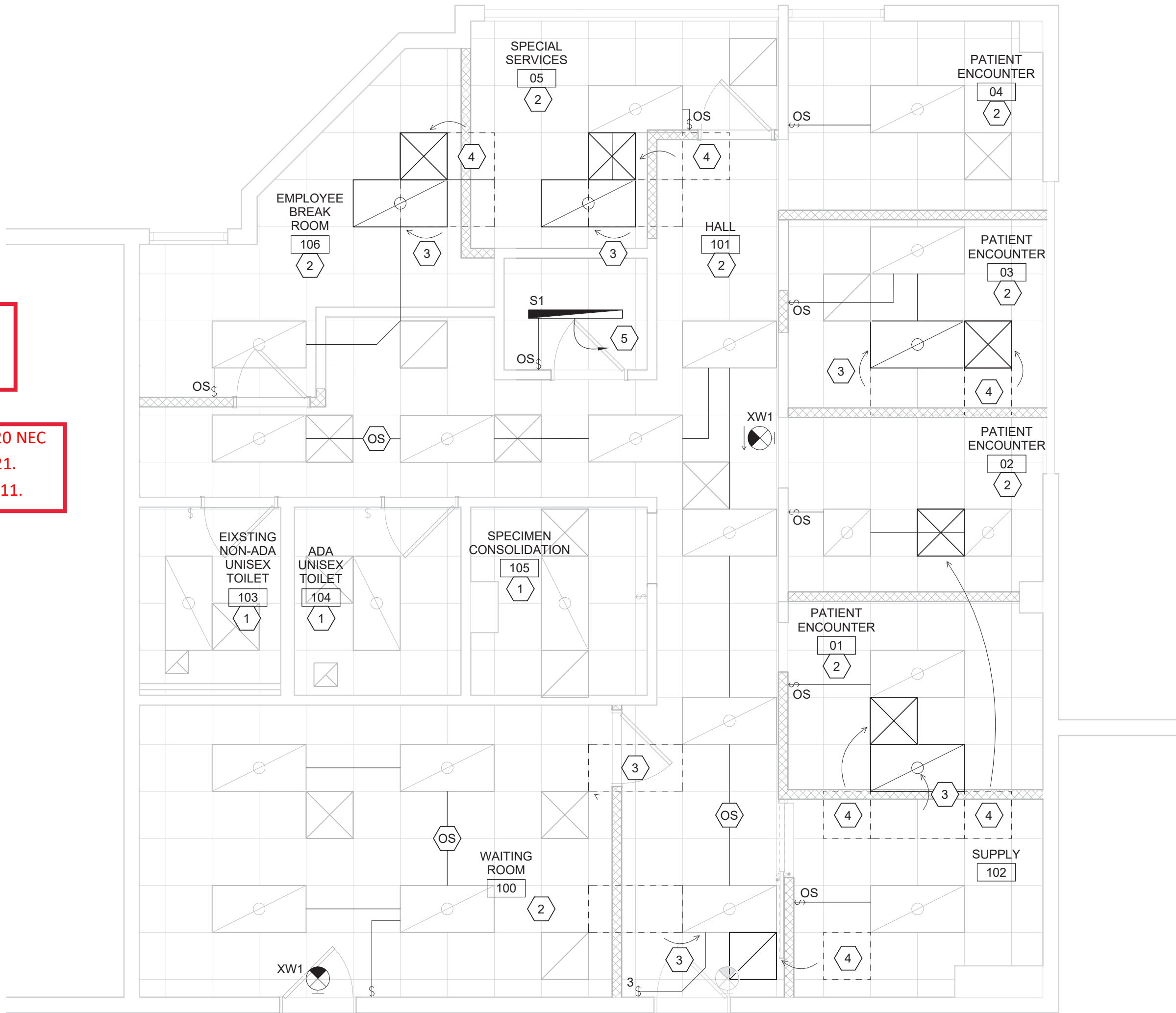
Suspended Ceiling Systems and the Luminaires
They support shall meet the requirements of
410.36(B) 2020 NEC

Wiring in air handling space must comply with 2020 NEC
300.22. Firestop penetrations per 2020 NEC 300.21.
Secure and support equipment per 2020 NEC 300.11.

Provide Emergency Illumination Equipment
That complies with 2020 NEC 700.12(F) or
NEC 700.

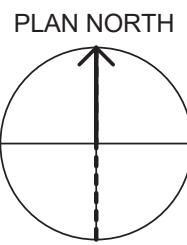


City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Bobby McKinzie*
Date: **Jan 19, 2021**
2015 INTERNATIONAL CODES & 2020 NEC



RSN: 1511868
Permit #: 2021-1915533 LT

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

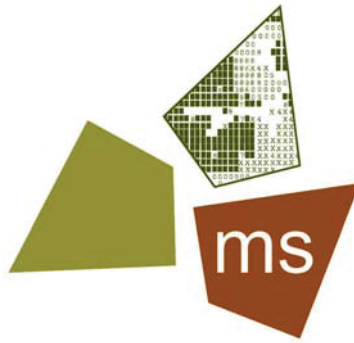


DRAWN BY JMM

CHECKED BY MRM
APPROVED BY

ISSUE DATE 11/18/2020

REVISION		
#	DATE	DESCRIPTION



ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT



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

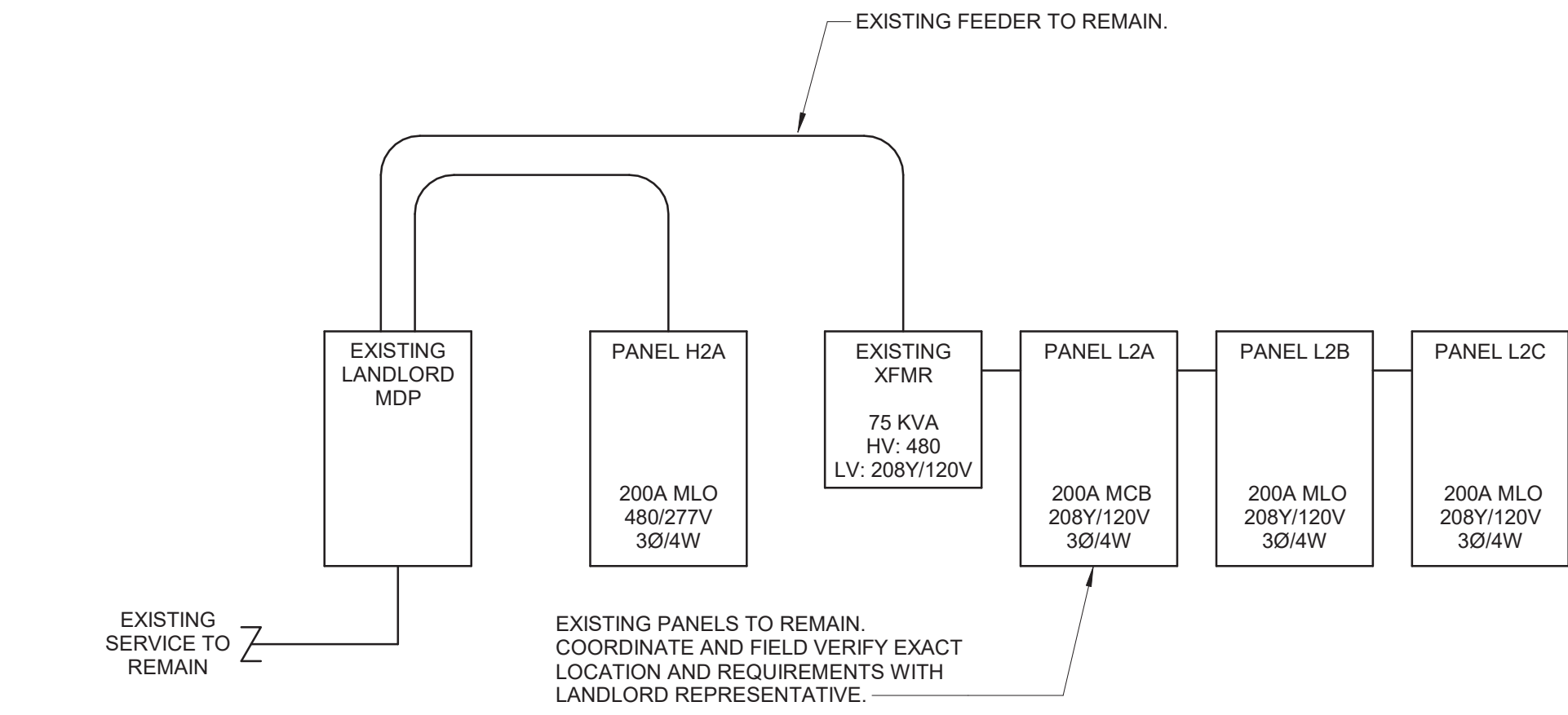
PROJECT NO. 62-40487-04

SHEET TITLE
ELECTRICAL LIGHTING PLAN

SHEET

E201

1/7/2021 11:44:56 AM 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.



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

Legibly identify each breaker or switch for it's 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 it's 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.I.C. Rating: 10 KAIC (EXISTING)							
Supply From: XFMR					Phases: 3					Frame Rating: 200 A							
Mounting: SURFACE					Wires: 4					Main Type: MCB							
Enclosure: TYPE 1										MCB Rating: 200 A							
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
Total Load:						0.500 kVA		1.490 kVA		0.950 kVA							
Load Classification																	
Equipment			2400 VA			100.00%			2400 VA			Panel Totals					
Receptacle			540 VA			100.00%			540 VA			Total Conn. Load: 2.940 kVA					
												Total Est. Demand: 2.940 kVA					
												Total Conn.: 8.16 A					
												Total Est. Demand: 8.16 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.																	

Panel: L2B																	
Location:					Volts: 208Y/120V					A.I.C. Rating: 10 KAIC (EXISTING)							
Supply From: L2A					Phases: 3					Frame Rating: 200 A							
Mounting: SURFACE					Wires: 4					Main Type: MCB							
Enclosure: TYPE 1										MCB Rating: 200 A							
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
Total Load:						3.020 kVA		3.240 kVA		2.560 kVA							
Load Classification																	
Equipment			1800 VA			100.00%			1800 VA			Panel Totals					
Receptacle			7020 VA			100.00%			7020 VA			Total Conn. Load: 8.820 kVA					
												Total Est. Demand: 8.820 kVA					
												Total Conn.: 24.48 A					
												Total Est. Demand: 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.																	
T = CIRCUIT CONTROLLED BY TIMECLOCK.																	

RSN: 1511868
Permit #: 2021-1915533 LT

DRAWN BYJMM

CHECKED BYAPPROVED BYMRM

ISSUE DATE11/18/2020

REVISION

#	DATE	DESCRIPTION
1	12/22/20	PERMIT RESPONSE
2	01/07/21	PERMIT RESPONSE

ms consultants, inc.
engineers, architects, planners
2221 Schrock Road
Columbus, Ohio 43229-1547
p 614.898.7100
f 614.898.7570
www.msconsultants.com

CLIENT

PROJECT

QUEST
DIAGNOSTICS

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

PROFESSIONAL OF RECORD:
JASON E. CHRISTOFF No.0058074
EXP DATE: 10/31/2021

PROJECT NO.62-40487-04

SHEET TITLEELECTRICAL SCHEDULES

SHEETE601