South The Old Cannery Furniture Warehouse Lakewood Towne Center nopping plaza South Hill Project Location -SITE LOCATION PLAN NO SCALE

Approval of submitted plans is not an approval of omissions or oversights by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable codes and regulations of the local government.

DRAWING ABBREVIATIONS **ANGLE CENTER LINE** POUND OR NUMBER ABOVE FINISHED FLOOR ALUMINUM APPROXIMATE(LY) APPROX ARCHITECTURE(URAL) AIR CONDITIONING BRG BEARING CATCH BASIN CONTROL JOINT CLG CEILING CMU CONCRETE MASONRY UNIT COL COLUMN CONC CONCRETE CONTINUOUS CERAMIC TILE CU FT CUBIC FOOT CU YD CUBIC YARD DEPT. DEPARTMENT DET. DETAIL DRINKING FOUNTAIN DIA DIAMETER DIM DIMENSION DOWN SPOUT Drawing(s) EXT. INSULATION & FINISH SYSTEM **EXPANSION JOINT** ELECTRICAL **EMERGENCY** ELECTRIC WATER COOLER EXISTING **EXPANSION EXTERIOR** FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FIRE HOSE CABINET F.R.T. FIRE-RETARDENT TREATED FTG. GAUGE(GAGE) GALVANIZED GRAB BAR GC GENERAL CONTRACTOR GYP. GYPSUM WALLBOARD HOSE BIBB HANDICAPPED ACCESSIBLE **HOLLOW CORE** HOLLOW METAL HORIZONTAL HORIZ. HVAC HEATING VENTILATING AIR CONDITIONING INSULATION INTERIOR LAM LAMINATE LAV LAVATORY POUND WELDED WIRE FABRIC

APPLICABLE CODES: International Building Code (IBC), 2015 International Mechanical Code (IMC), 2015 Uniform Plumbing Code (UPC), 2015 International Fire Code (IFC), 2015 International Fuel Gas Code (IFGC), 2015 Washington State Energy Code (WSEC), 2015 Accessibility: ICC/ANSI A117.1, 2009 National Electric Code (NFPA 70) Unit #900 Round One - 52,034.00 S.F. Unit #990 Future Tenant – 45,327.00 S.F. Unit #999E Tenant Electric Room – 264.00 S.F. Unit #999\$ Sprinkler Room - 78.00 S.F. '2-B' (IBC T-601) – All steel column and beam framing system with metal roof decking. All wall, column, and roof materials are of non-combustible materials. New Unit 900 tenant will be an A-3 use within a Covered Mall Building, as per IBC 402.0. Per our Structural revisions for this project this building meets the requirements for a Risk Category III Building Existing Unit 900 is currently classified as an Anchor, this status with remain with all egress from new tenant spaces remaining independent of Mall egress. Tenant Spaces 900 and 990 to be determined on tenant interior build-out drawings, which will be submitted at a later date. Complete and comprehensive occupancy calculations will be performed on the tenant build-out drawing, which will be submitted at a later date. **EGRESS REQUIREMENTS** Complete and comprehensive occupancy calculations will be performed on the tenant interior build-out drawings, which will be submitted at a later date. There are existing 2 hour fire barrier walls between these new tenant spaces and existing Mall tenant spaces with a new 1 hour fire barrier demising wall separating Units 900, 990 and 999E. The existing tenant space is protected with an automatic sprinkler system in accordance with NFPA 12. If there are to be any modifications to this system, this contractor shall be responsible for obtaining the services of an Washington certified sprinkler contractor, who will provide certified sprinkler shop drawing and calculations for all modifications. PLUMBING REQUIREMENTS: Complete and comprehensive plumbing calculations will be performed on the tenant interior build-out drawings, which will be submitted at a later date. Special inspections shall be provided for this project by the The following items (as per IBC T-1704.3 and T-1704.4) require special inspections: Structural steel fabrication Field welding Fire Resistive Joint Systems Penetration fire Stopping Structural Concrete

GENERAL NOTES

THIS PROJECT CONSISTS OF DEMOLITION OF INTERIOR

REFERENCE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION ON ALL ASPECTS OF THE WORK. PROJECT

INDUSTRY STANDARDS. ALL CONSTRUCTION SHALL BE IN

PRIOR TO COMMENCEMENT OF THAT PORTION OF WORK.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE

OF THAT CONFLICTING PORTION OF THE WORK.

ITEM PERFORMED BY THIS CONTRACTOR.

B. FIRE SPRINKLER SYSTEMS

PROFESSIONAL DESIGNER.

D. STRUCTURAL STEEL

THE GENERAL CONTRACTOR SHALL USE THE LANDLORDS

FOR EXACT ACCURACY.

IMPROVEMENTS AND REDEMISE OF THE EXISTING ACHOR STORE FOR

A ROUND 1 ENTERTAINMENT VENU AND FURTURE TENANT SPACE.

SPECIFICATIONS ALSO REFERENCE MANY OTHER BUILDING AND

ACCORDANCE WITH THESE STANDARDS, IN CONJUNCTION WITH THESE DRAWINGS AND SPECIFICATIONS. IF MORE STRINGENT OF AN

ITEM IS LISTED IN THESE SPECIFICATIONS OR DRAWINGS, THEN THAT

OF A REFERENCE STANDARD, THEN THAT ITEM MUST BE PROVIDED PER

THE MORE STRINGENT REQUIREMENT. ANY DEVIATION OR OMISSION

OF ANY WORK ITEM MUST MEET THE APPROVAL OF THE ARCHITECT

ALL DIMENSIONS SHOWN ON THESE DRAWINGS ARE TO CENTERLINE

OF COLUMN OR TO OUTSIDE OF EXISTING BUILDING OR CANOPY

FACE. THESE DIMENSIONS HAVE BEEN TAKEN OFF FROM EXISTING

CONSTRUCTION DRAWINGS AND HAVE NOT BEEN FIELD VERIFIED

COORDINATION OF ALL WORK BY ALL TRADES FOR THIS PROJECT.

CONSTRUCTION MANAGER AS THEIR FIRST POINT OF CONTACT WITH

THE LANDLORD. DURING BIDDING, ALL INQUIRES MUST BE DIRECTED

TO THE CONSTRUCTION MANAGER. AFTER AWARD OF CONTRACT, THE GENERAL CONTRACTOR MAY CONTACT THE ARCHITECT WHEN

THE LANDLORD CONSTRUCTION MANAGER IS UNOBTAINABLE.

FOR CONFLICTS WITHIN THE DRAWINGS AND/OR SPECIFICATIONS, THE GENERAL CONTRACTOR SHALL INCLUDE IN THEIR BIDS, ALL ITEMS

INCLUDED WITHIN THESE DRAWINGS AND SPECIFICATIONS, EVEN IF IT

LANDLORDS CONSTRUCTION MANAGER FOR CLARIFICATION, EITHER

IF FOUND DURING THE BIDDING, OR PRIOR TO THE COMMENCEMENT

WHERE THERE IS A DISCREPANCY ON THE CONTRACT DOCUMENTS

HIS BID THE MOST STRINGENT OF THE ITEMS THAT ARE DISCREPANT.

ANY REFERENCE TO 'BY LANDLORD' SHALL CONSTITUTE THAT SUCH

ITEM IS TO BE BY THIS CONTRACTOR. ANY REFERENCE TO 'BY TENANT'

SHALL CONSTITUTE THAT SUCH ITEM IS TO BE BY A SEPARATE OTHER CONTRACTOR. ANY ITEM NOT LABELED AS 'EXISTING' OR 'EXG', SHALL

BE CONSTRUED TO MEAN IT IS A NEW ITEM BY THIS CONTRACTOR. IN

MANY REFERENCES, MOST NEW ITEMS ARE LABELED NEITHER; 'BY LANDLORD', NOR 'BY TENANT', BUT SHALL BE ASSUMED TO BE A NEW

THE FOLLOWING DEFERED SUBMITTALS SHALL BE RENDERED BY A

A. FIRE ALARM SYSTEMS SEPARATE PERMITS

C. STRUCTURAL GAUGE METAL STUD ASSEMBLIES

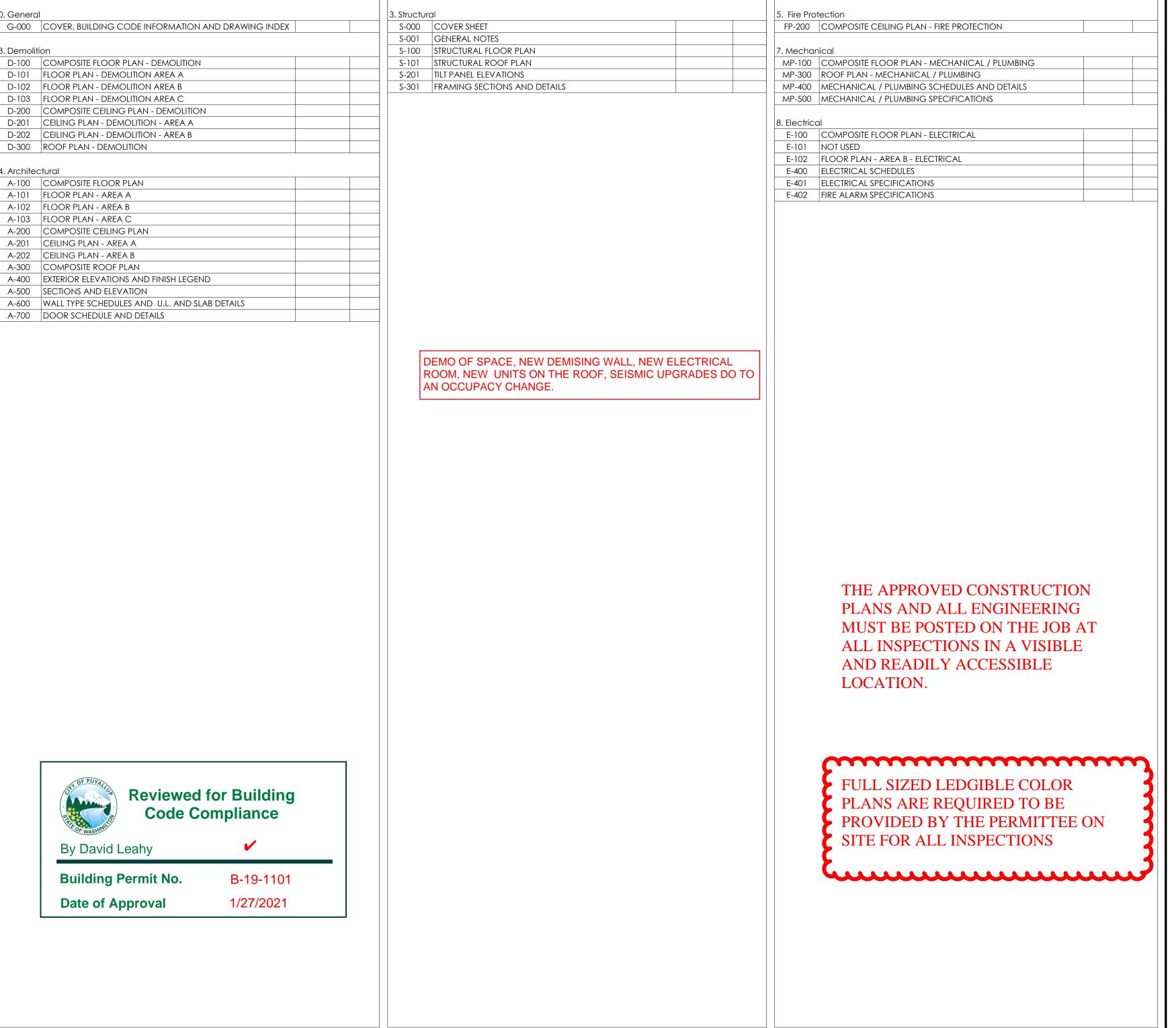
WITH THE WORK, AND CONTRACTOR FAILED TO GET CLARIFICATION DURING THE BID PROCESS, THEN THE CONTRACTOR SHALL ASSUME IN

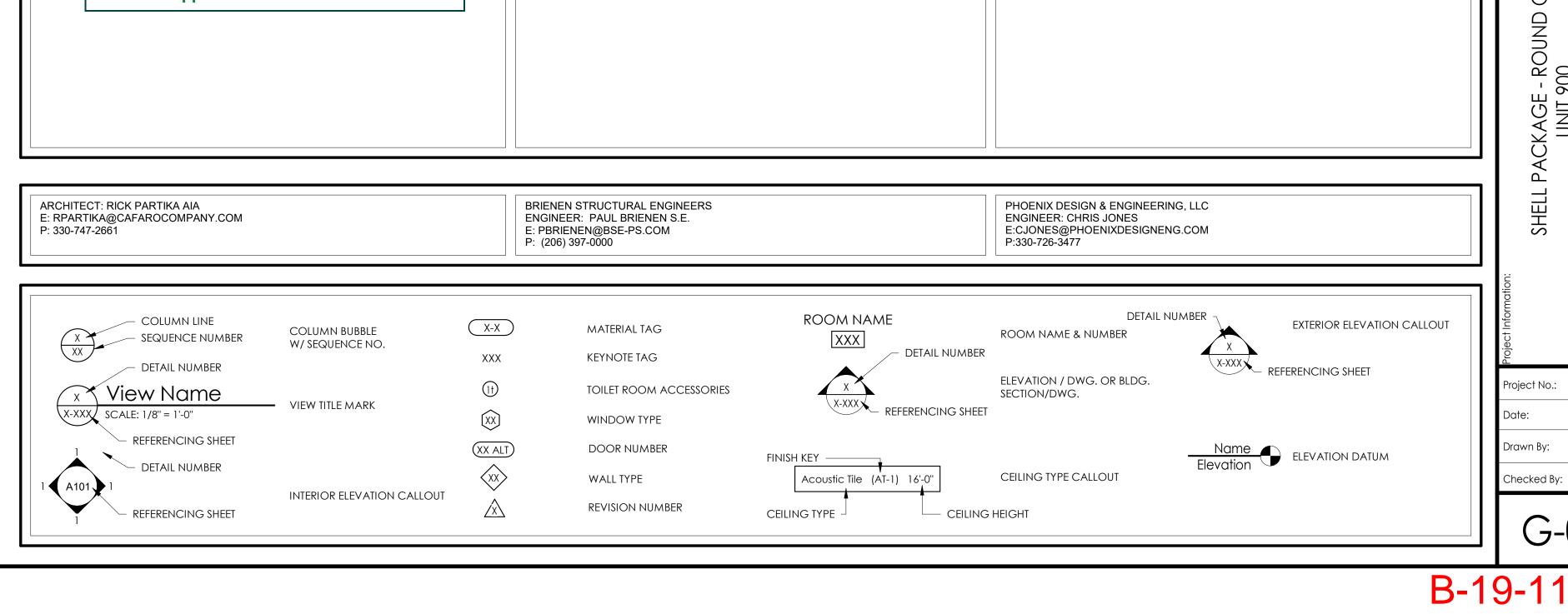
IS FOUND TO BE CONTRADICTORY IN ANOTHER LOCATION WITHIN THESE DOCUMENTS. IF A CONFLICT IS FOUND, CONSULT WITH THE

MAX	MAXIMUM	
MFR(S) MH MIN MISC	MARBLE MECHANICAL MANUFACTURER(S) MANHOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL	
N/A NIC NO. NOM. NTS	NOT APPLICABLE NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE	
O.C.	OVERALL ON CENTER OVER HEAD OPPOSITE HAND OPPOSITE	
PDT. PL. PLAM PNT	PAINTED PLATE PLASTIC LAMINATE PAINT	
R RD REINF REQD RL RO RTU	RADIUS ROOF DRAIN REINFORCE REQUIRED ROOF LEADER ROUGH OPENING HVAC UNIT	
STL STRUCT	SOLID CORE SOLID CORE WOOD STORM DRAIN SECTION SQUARE SQUARE FOOT SQUARE INCH SQUARE YARD STANDARD STEEL STRUCTURAL SUSPENDED	
T TC T&G T.G. THK. THRU T.I.G. GLASS TLT	TEMPERED TOP OF CURB TONGE AND GROOVE TEMPERED GLASS THICK THROUGH TEMPERED INSULATED	
TLT T.O.M. T.O.S. TP TS TV T.W. TYP.	TOILET TOP OF MASONRY TOP OF STEEL TOP OF PAVMENT TUBE STEEL TELEVISION TOP OF WALL TYPICAL	
U.G. U.N.O. OTHERWISE U.R.	underground unless noted urinal	
VCT VERT V.I.F. VT V.T.R. VWC	VINYL COMPOSIITE TILE VERTICAL VERIFY IN FIELD VINYL TILE VENT THROUGH ROOF VINYL WALL COVERIN	
WH WWF	WATER HEATER WELDED WIRE FABRIC	

WEIGHT

CODE INFORMATION ROUND ONE - SHELL PACKAGE Development Services January 14, 2021 CITY OF PUYALLUP South Hill Mall - UNIT 900 3500 S. Meridian St. Puyallup, WA 98373 MECHANICAL/ ELECTRICAL / PLUMBING ARCHITECTURAL STRUCTURAL Revision Revision Date 3. Structural G-000 COVER, BUILDING CODE INFORMATION AND DRAWING INDEX S-000 COVER SHEET S-001 GENERAL NOTES S-100 STRUCTURAL FLOOR PLAN D-100 COMPOSITE FLOOR PLAN - DEMOLITION S-101 STRUCTURAL ROOF PLAN D-101 FLOOR PLAN - DEMOLITION AREA A S-201 TILT PANEL ELEVATIONS S-301 FRAMING SECTIONS AND DETAILS D-102 FLOOR PLAN - DEMOLITION AREA B D-103 FLOOR PLAN - DEMOLITION AREA C D-200 COMPOSITE CEILING PLAN - DEMOLITION

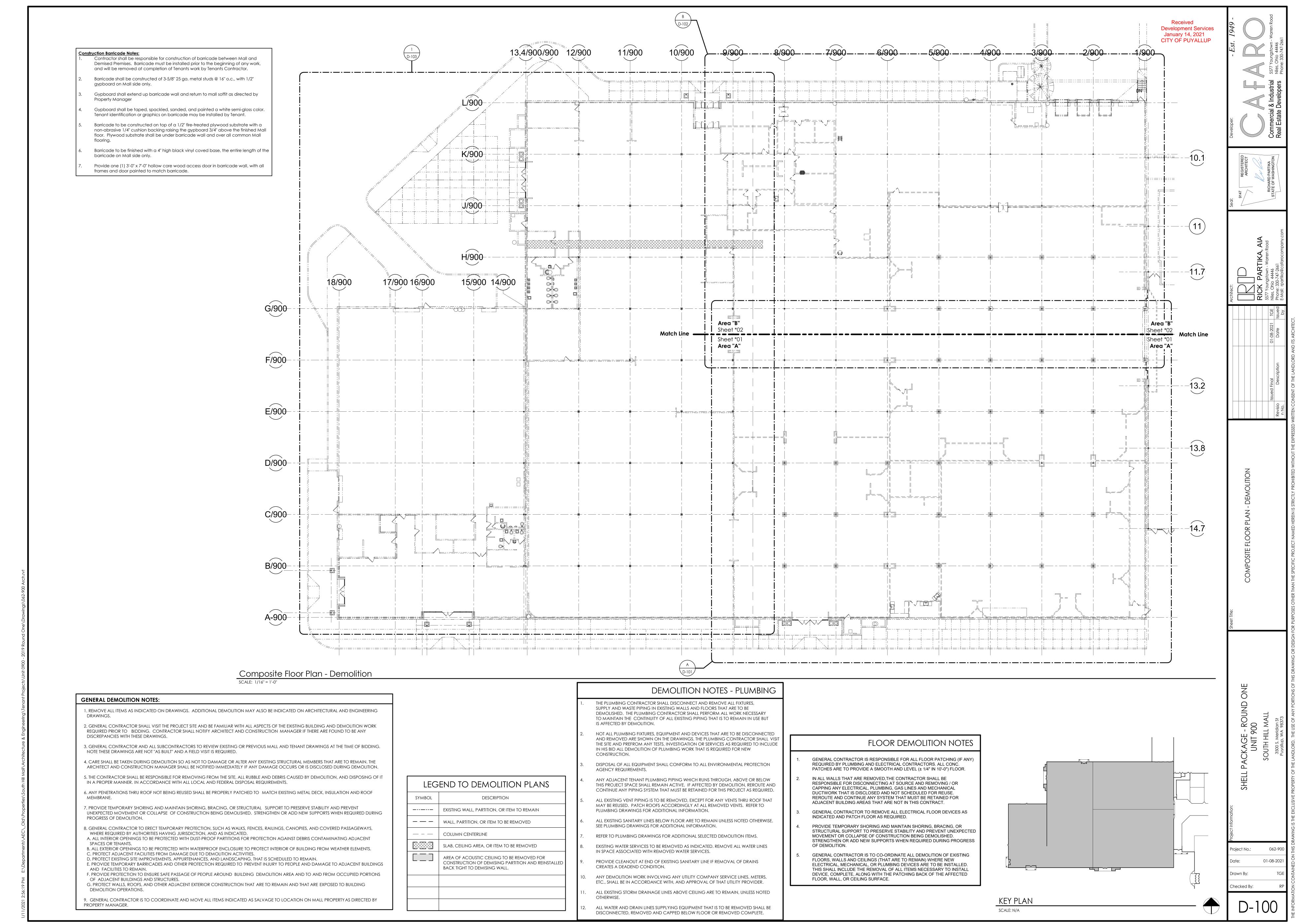


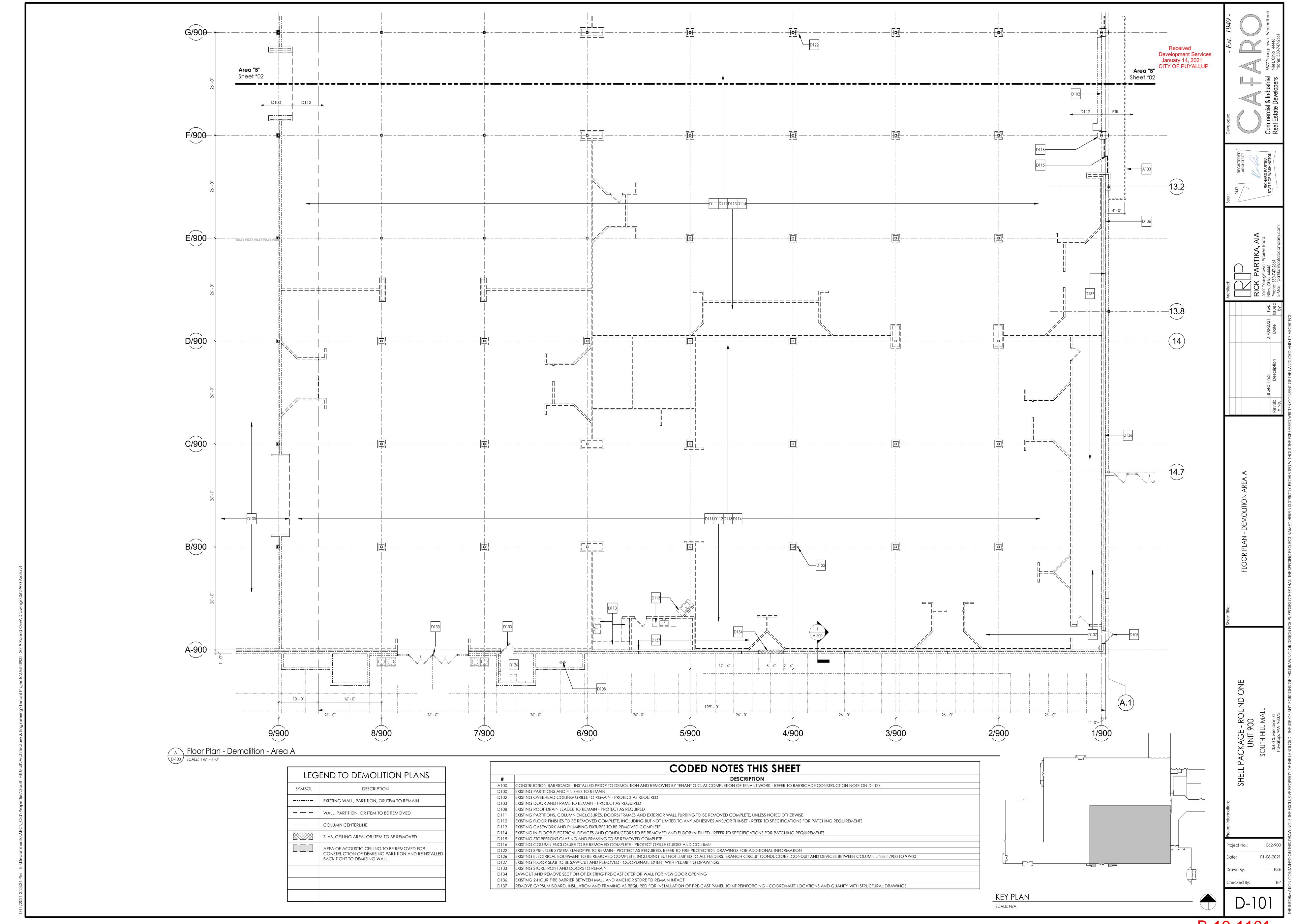


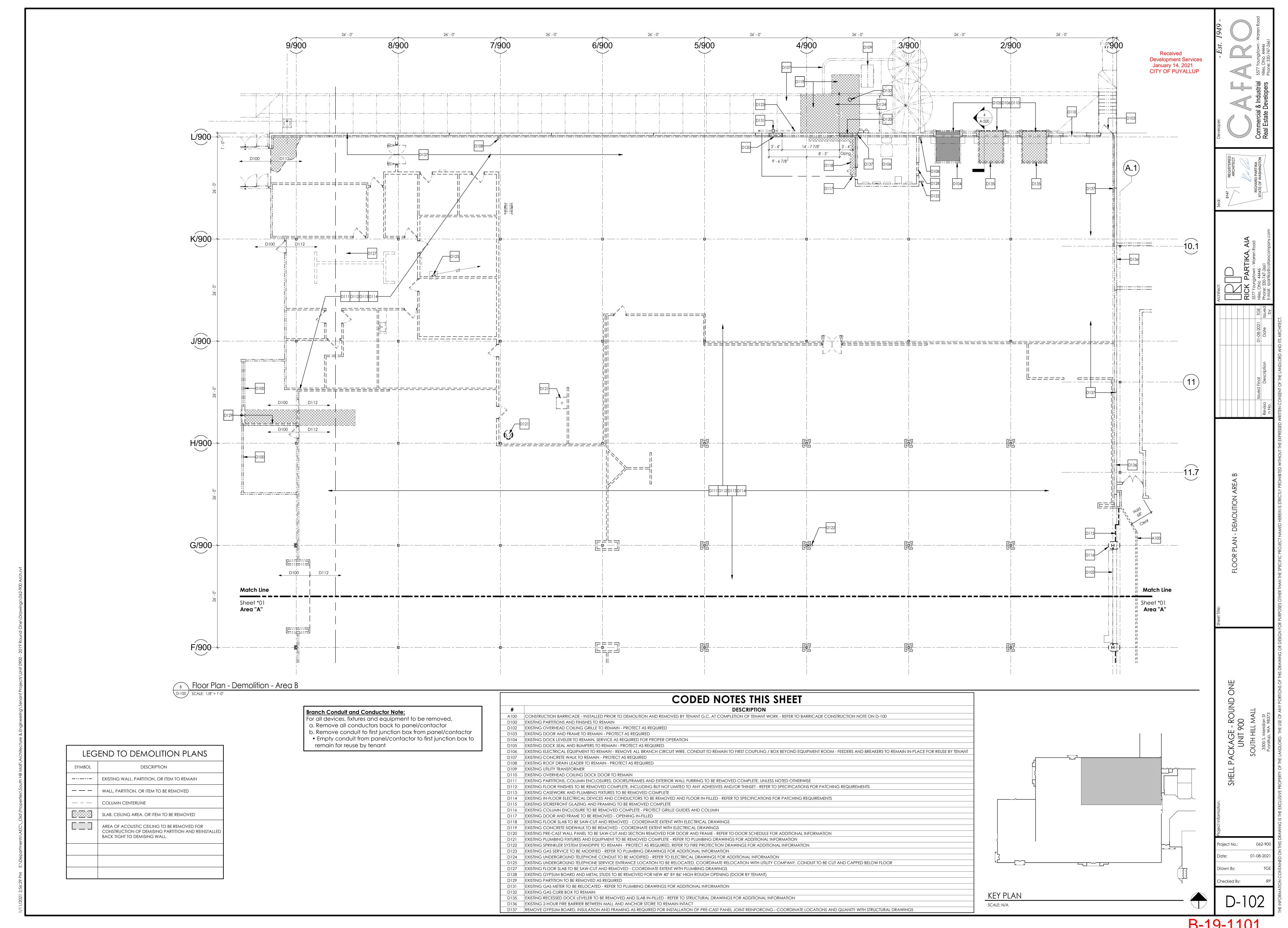
Revision

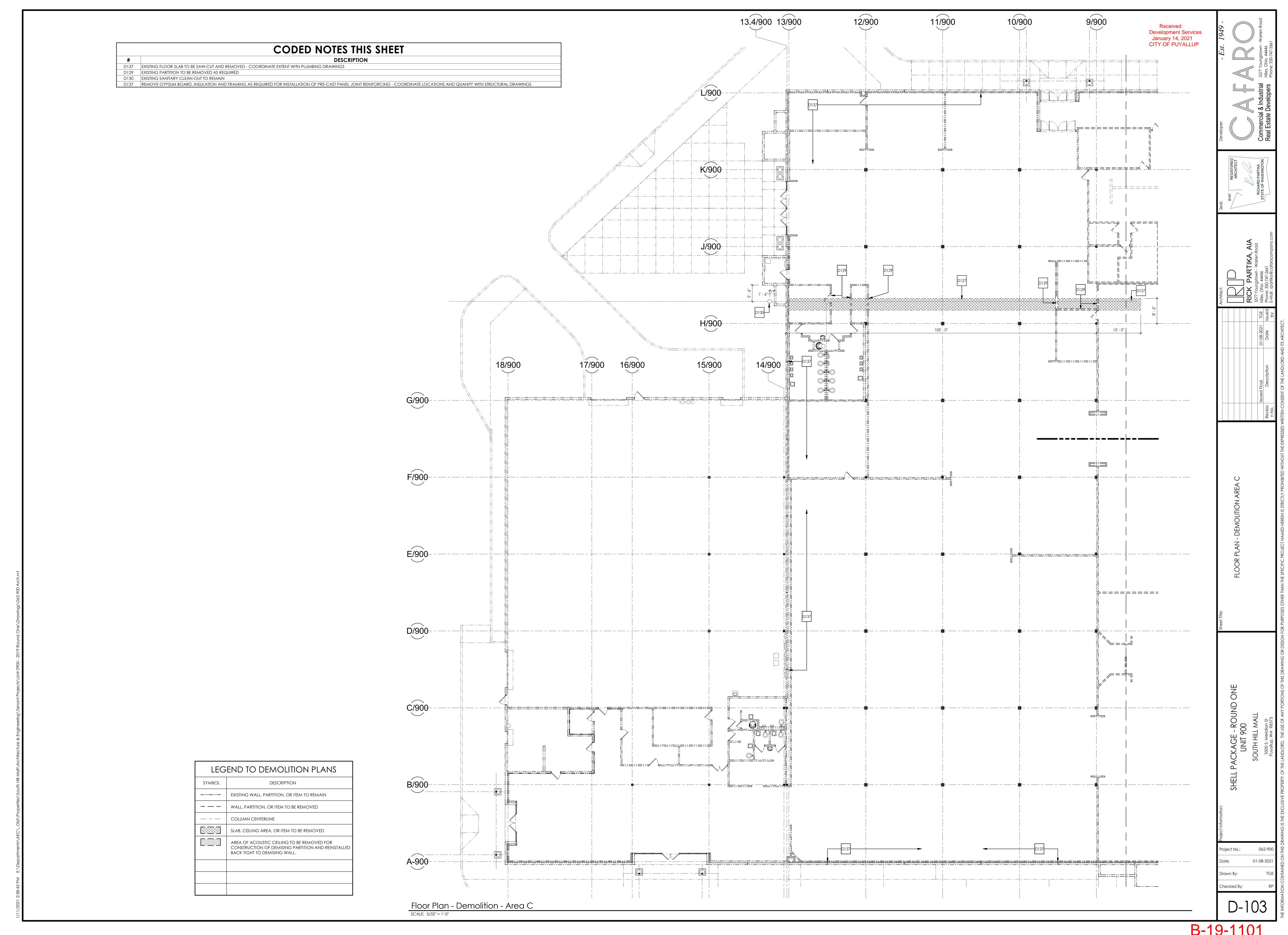
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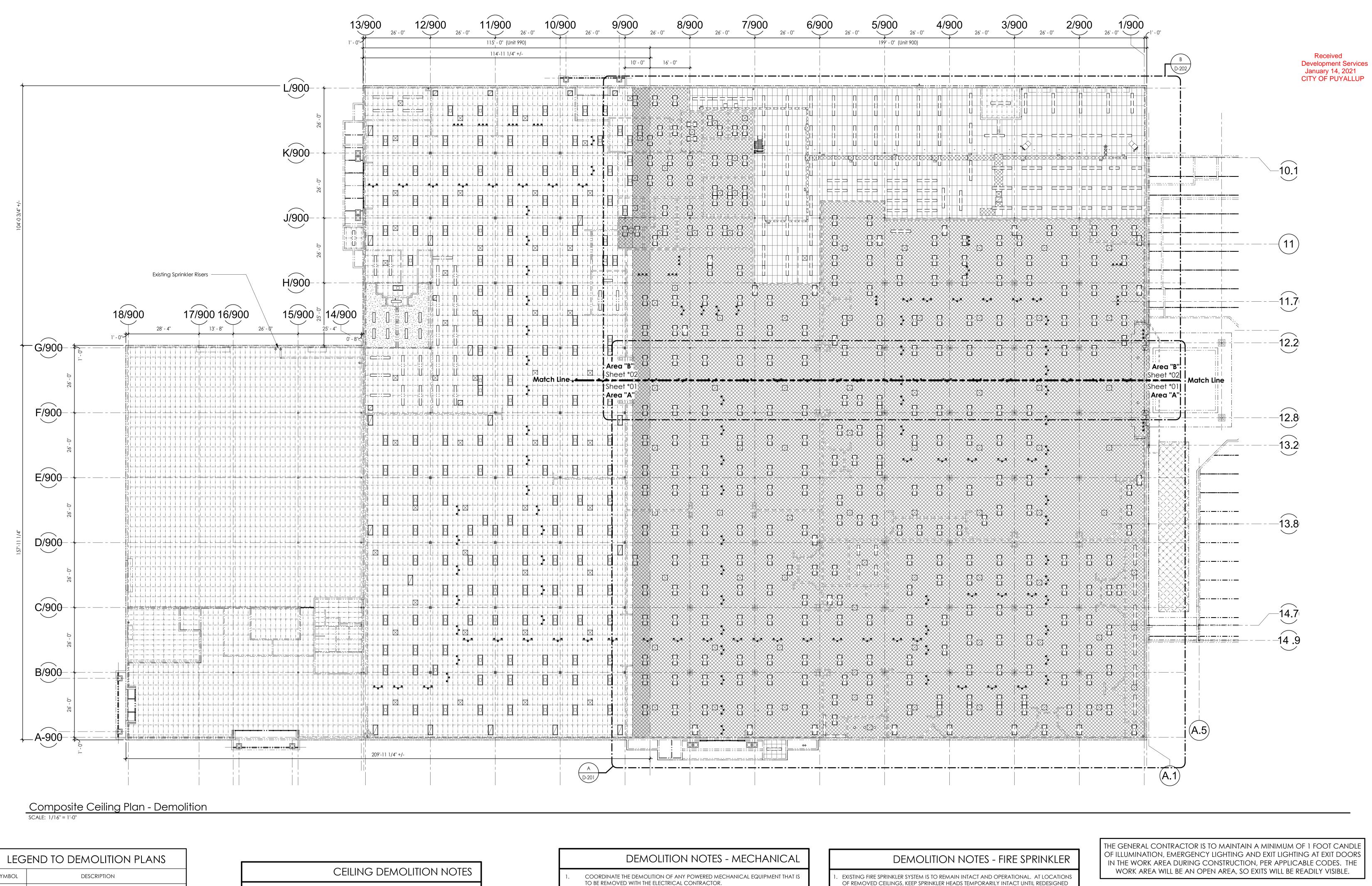
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LEG	END TO DEMOLITION PLANS
SYMBOL	DESCRIPTION
	existing wall, partition, or item to remain
	WALL, PARTITION, OR ITEM TO BE REMOVED
	COLUMN CENTERLINE
	SLAB, CEILING AREA, OR ITEM TO BE REMOVED
	AREA OF ACOUSTIC CEILING TO BE REMOVED FOR CONSTRUCTION OF DEMISING PARTITION AND REINSTALLED BACK TIGHT TO DEMISING WALL.

- IN ALL CEILINGS THAT ARE REMOVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING AT SOURCE AND REMOVING OR CAPPING ANY ELECTRICAL, PLUMBING, GAS LINES AND MECHANICAL DUCTWORK THAT IS DISCLOSED AND NOT SCHEDULED FOR REUSE. REROUTE AND CONTINUE ANY SYSTEM THAT MUST BE RETAINED FOR ADJACENT BUILDING AREAS THAT ARE NOT IN THIS CONTRACT.
- EXISTING FIRE PROTECTIONS SYSTEM IS TO REMAIN INTACT AND OPERATIONAL. REFER TO FIRE PROTECTION AND ARCHITECTURAL DRAWINGS FOR EXTENT OF REQUIRED MODIFICATIONS TO THE EXISTING SYSTEM.

<u>Alternate #1</u>

Contractor to remove all ceilings to the west of column line 9/900, and not have to patch back to demising wall as shown on A-200 series drawings.

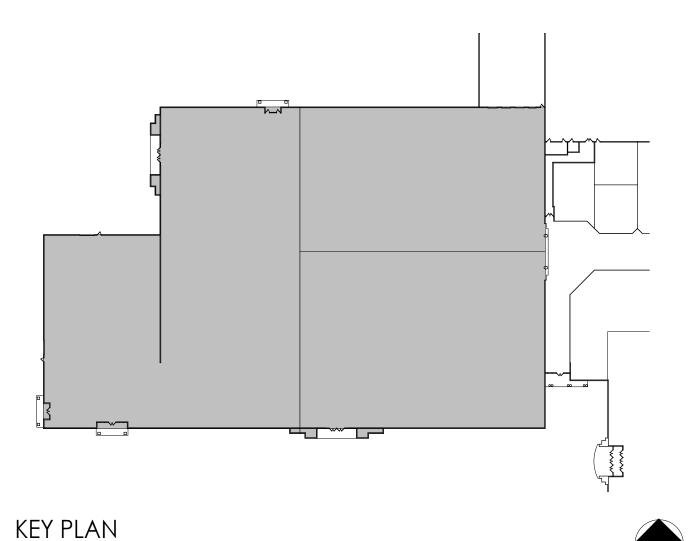
- CONTRACTOR TO DISPOSE OF ALL EQUIPMENT, PIPING, ETC., IN STRICT ACCORDANCE WITH ALL LOCAL AND FEDERAL REGULATIONS, ALONG WITH ANY ASSOCIATED DISPOSAL FEES AND EXPENSES.
- ANY DEMOLITION WORK INVOLVING ANY UTILITY COMPANY SERVICE LINES, METERS, ETC., SHALL BE IN ACCORDANCE WITH, AND APPROVAL OF THAT UTILITY PROVIDER. ANY MALL AND/OR ADJACENT TENANT MECHANICAL DUCTS, CONTROLS,
- OR PIPING WHICH RUNS THOUGH, ABOVE, OR BELOW THIS PROJECT SPACE SHALL REMAIN ACTIVE. IF AFFECTED BY DEMOLITION, REROUTE AND CONTINUE ANY DUCT, CONTROLS, OR PIPING SYSTEM THAT MUST BE RETAINED FOR THIS PROJECT.
- ALL ELECTRICAL CIRCUITS FOR EQUIPMENT THAT IS TO BE REMOVED SHALL BE DISCONNECTED AT SOURCE AND REMOVED COMPLETE. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
- REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL SELECTED DEMOLITION ITEMS.

OF REMOVED CEILINGS, KEEP SPRINKLER HEADS TEMPORARILY INTACT UNTIL REDESIGNED BY CERTIFIED SPRINKLER DESIGNER.

EXISTING ZONED SPRINKLER AREAS TO REMAIN AS IS.

PIPING SYSTEM THAT MUST BE RETAINED FOR THIS PROJECT.

- ALL EXISTING MAINS AND BRANCH LINES WITHIN UNIT 900 TO BE RAISED TIGHT TO UNDER SIDE OF STRUCTURE WITH UPRIGHT HEADS. REFER TO FIRE PROTECTION DRAWING FOR ADDITIONAL INFORMATION AND DETAIL.
- ANY MALL, AND/OR TENANT FIRE SPRINKLER PIPING WHICH RUNS THROUGH THIS PROJECT SPACE SHALL REMAIN ACTIVE. IF AFFECTED BY DEMOLITION, REROUTE AND CONTINUE ANY
- 5. REFER TO FIRE PROTECTION DRAWINGS FOR ADDITIONAL SELECTED DEMOLITION ITEMS.
- CERTIFIED SPRINKLER CONTRACTO IS TO VERIFY FULL SCOPE OF WORK WITH FIELD VISIT AND, PROVID FULL DESIGN DRAWINGS AND CALCULATION AS REQUIRED.

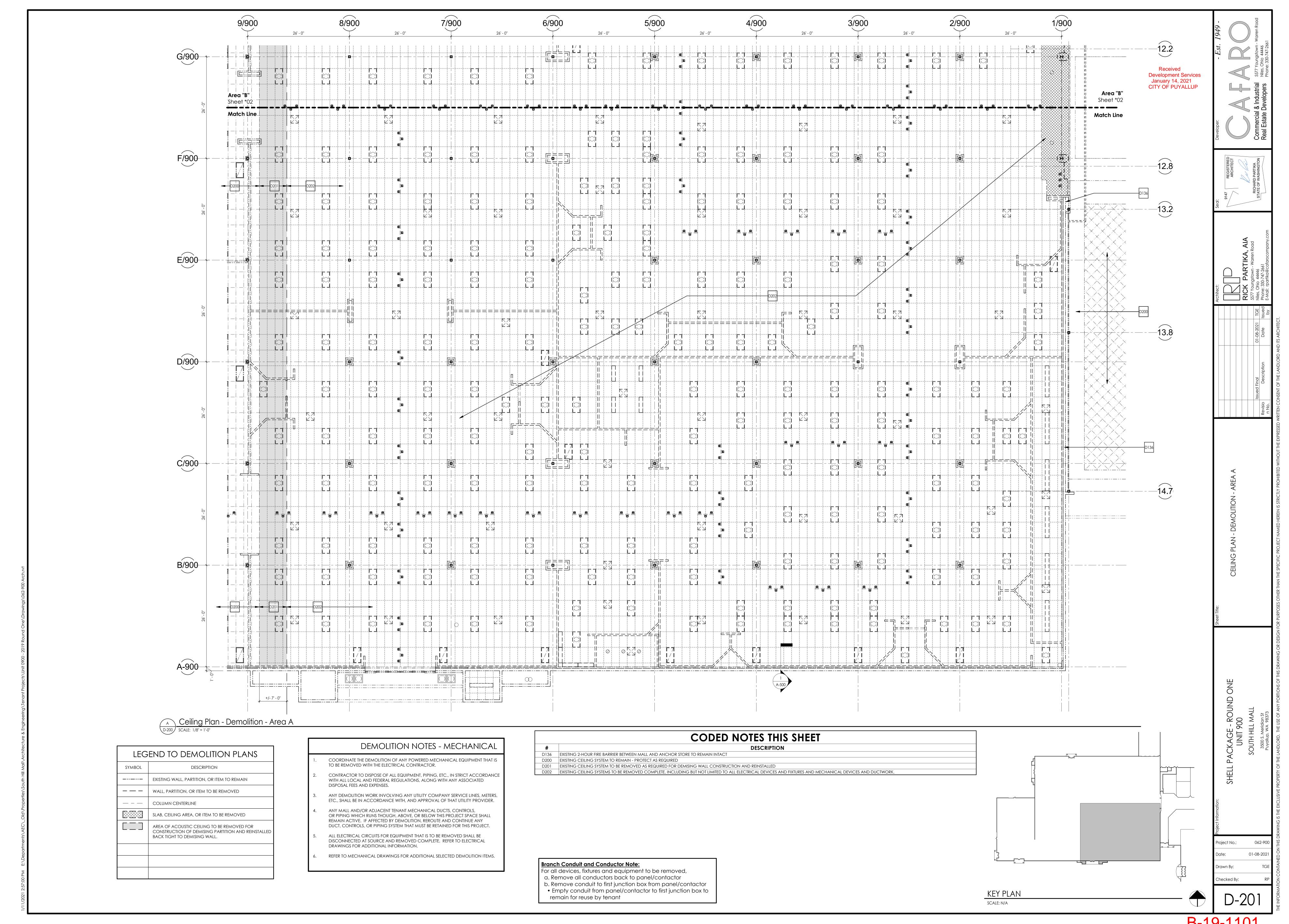


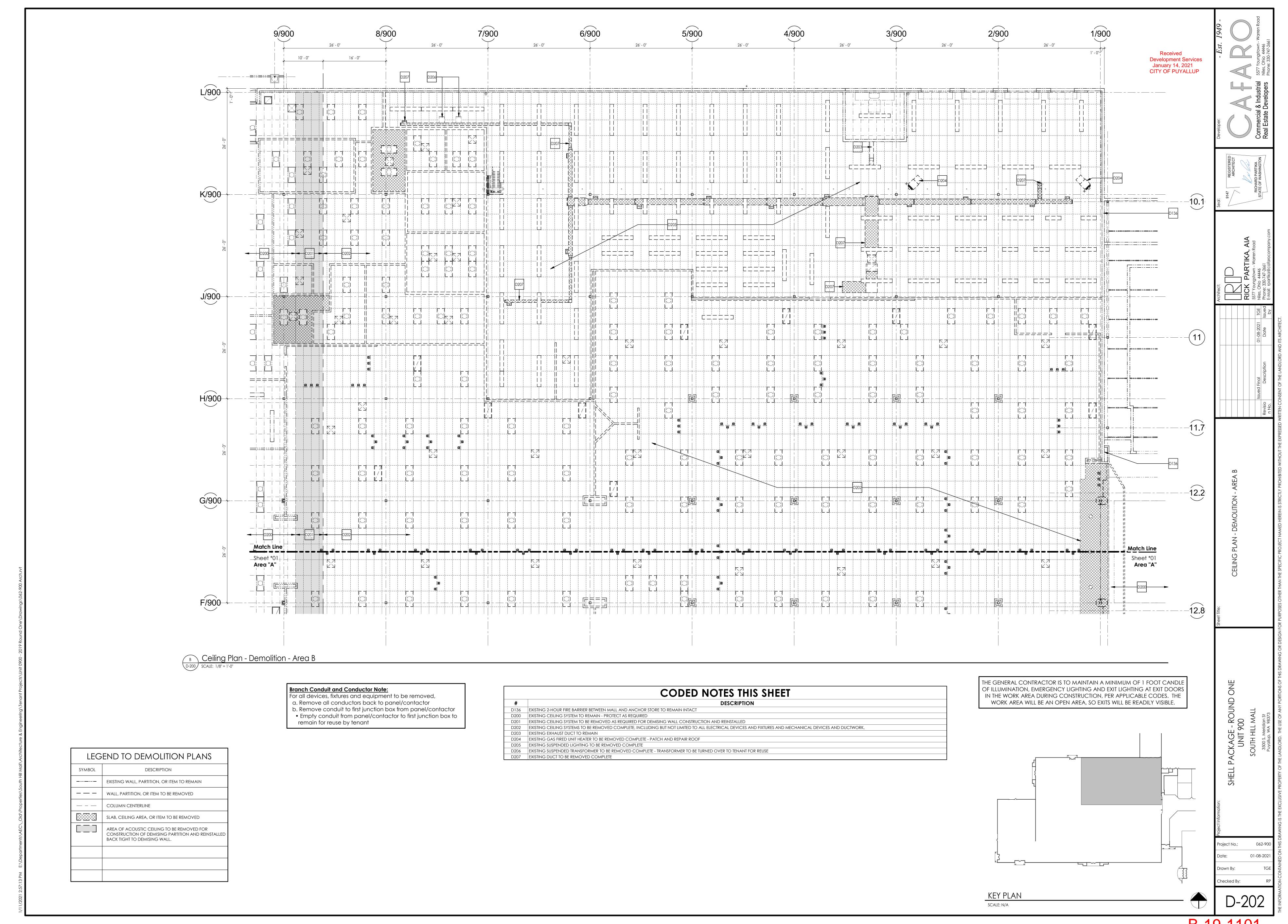
SCALE: N/A

Project No.:

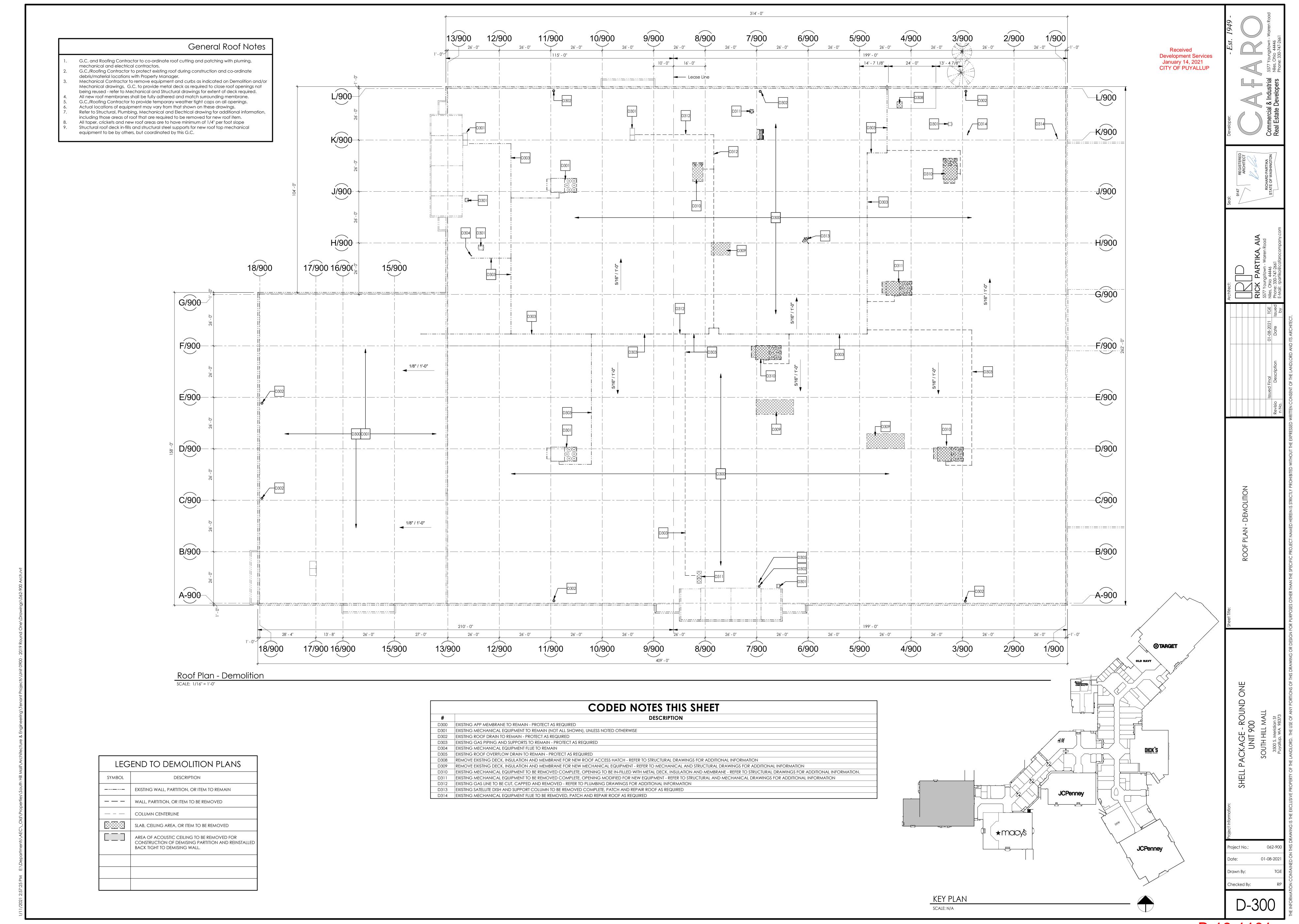
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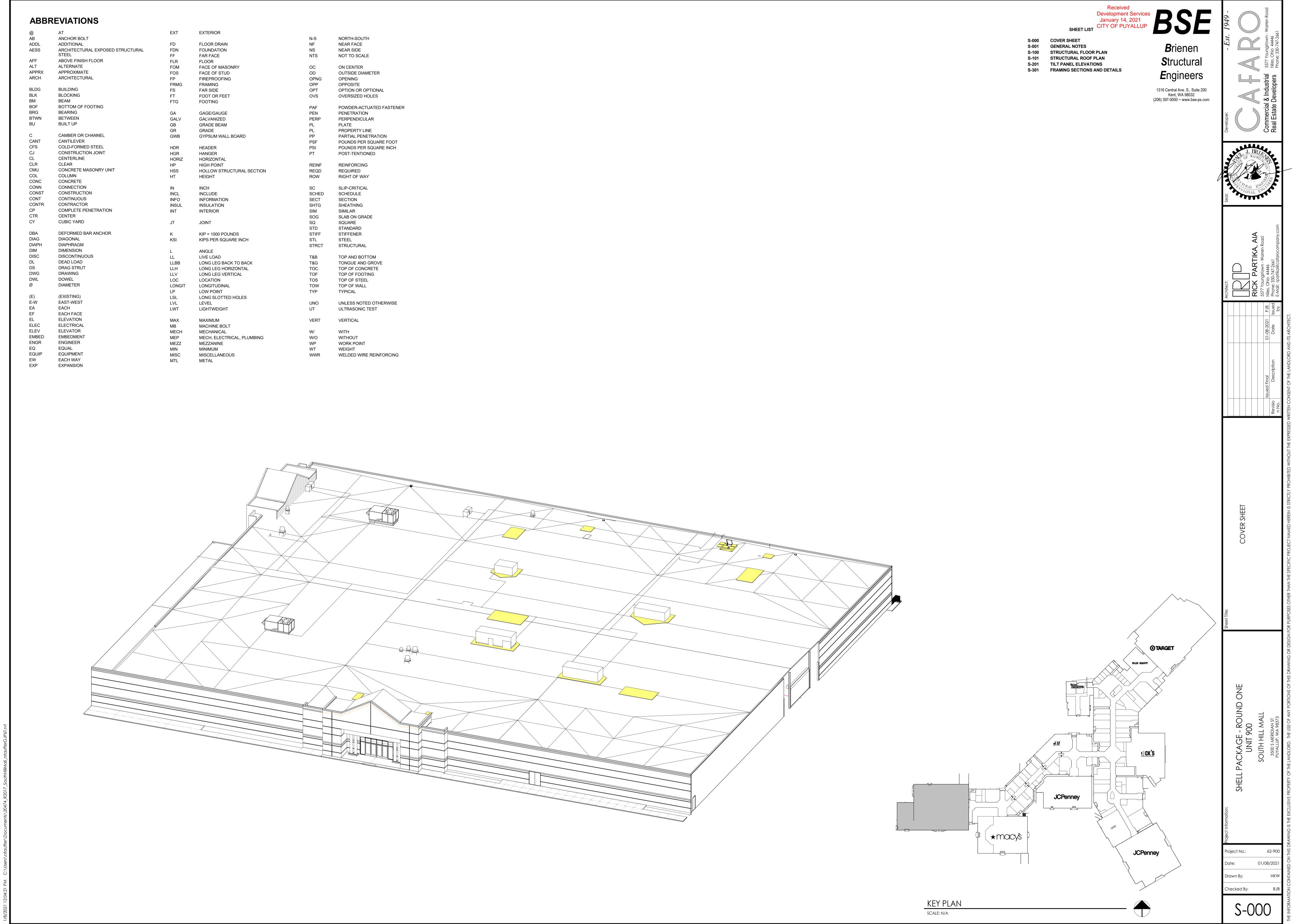
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B-19-1101





THE TERM 'ENGINEER', 'EOR', AND/OR 'SE' AS USED IN THESE STRUCTURAL DOCUMENTS SHALL MEAN BRIENEN STRUCTURAL ENGINEERS, P.S.

ALL WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE REFERENCE STANDARDS AND CODES INDICATED IN THE DRAWINGS UNLESS NOTED OTHERWISE. REFERENCE TO ASTM AND OTHER STANDARDS SHALL MEAN THE LATEST EDITION AS OF THE BID DATE OR DATE OF OWNER-CONTRACTOR AGREEMENT, WHICHEVER IS LATER, UNLESS NOTED IN THESE DOCUMENTS OR DESIGNATED BY THE BUILDING CODE.

THE ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. STRUCTURAL. MECHANICAL, ELECTRICAL, PLUMBING, CIVIL, AND LANDSCAPING, AMONG OTHERS, ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS TO THE PRIME CONTRACT DRAWINGS, STRUCTURAL

DRAWINGS, AND OTHER SUPPLEMENTARY DRAWINGS.

OMISSIONS/CONFLICTS CONTRACTOR SHALL VERIFY ALL DIMENSIONS, FLOOR ELEVATIONS. DEPRESSIONS. FINISHES, STAIR DETAILS, GUARDRAILS, AND ETC. WITH OTHER DISCIPLINES INCLUDING ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL DRAWINGS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE.

TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL APPLY UNLESS NOTED OTHERWISE. SOME TYPICAL DETAILS ARE CUT OR OTHERWISE REFERENCED IN THE DRAWINGS HOWEVER MOST OR NOT. WHERE TYPICAL DETAILS ARE NOTED ON THE DRAWINGS THE SPECIFIC DETAIL SHALL BE USED. WHERE NO DETAIL IS NOTED IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO CHOOSE THE APPROPRIATE DETAIL FROM THOSE

PROVIDED.

THE CONTRACTOR SHALL SUBMIT ALL SUBSTITUTION REQUESTS (MATERIAL, PROCEDURE. CONFIGURATION, AND/OR DETAIL) TO THE ARCHITECT/ENGINEER PRIOR TO SHOP DRAWING PRODUCTION.

REFER TO THE SPECIFICATIONS FOR INFORMATION IN ADDITION TO THESE NOTES AND THE STRUCTURAL DRAWINGS.

CONSTRUCTION MEANS AND METHODS AND SAFETY CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS/METHODS AND FOR VERIFYING STRUCTURAL CAPACITY PRIOR TO APPLYING CONSTRUCTION LOADING. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY AT THE SITE AND FOR THE STRENGTH AND STABILITY OF ALL PARTIALLY COMPLETED STRUCTURE. CONFORM TO ASCE 37 'DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION'.

CONTRACTOR IS RESPONSIBLE FOR STRUCTURAL DESIGN OF THE FOLLOWING ELEMENTS. SUBMIT DRAWINGS TO THE ENGINEER FOR REVIEW. ENGINEER'S REVIEW WILL BE ONLY FOR COMPATIBILITY WITH THE STRUCTURAL FRAME DESIGN PREPARED BY ENGINEER.

METAL STUD CLADDING SYSTEM INTERIOR METAL STUD PARTITION WALLS

STORE FRONT / WINDOW WALL SYSTEMS MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT ANCHORAGE

LADDERS AND ROOF HATCHES TEMPORARY FALL PROTECTIONS

STRUCTURAL OBSERVATION HE ENGINEER WILL PERFORM PERIODIC OBSERVATION DURING CONSTRUCTION OF THE FOUNDATION AND STRUCTURAL FRAME AS REQUIRED BY THE BUILDING CODE.

THE GEOTECHNICAL SHOWN ON THE ORIGINAL CONSTRUCTION DRAWINGS, SHEET S5, DATED FEBRUARY 5TH, 1993, WAS USED FOR DESIGN. NO FOUNDATION WORK IS INCLUDED IN THIS SEISMIC RETROFIT STRUCTURAL DESIGN.

ALLOWABLE BEARING PRESSURE (DEAD + LIVE) = 3000 PSF A 1/3 INCREASE IS ALLOWED FOR WIND OR SEISMIC

SUBMITTALS

SHOP DRAWINGS AND MATERIAL SUBMITTALS FOR THE ITEMS SHOWN BELOW SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWINGS SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER REVIEW, THE CONTRACT DOCUMENTS CONTROL AND SHALL BE FOLLOWED.

CONTRACTOR QUALITY CONTROL TESTING PROCEDURES CONCRETE MIX DESIGNS

FABRICATION SHOP AISC CERTIFICATION STRUCTURAL STEEL MILL CERTIFICATES SHALL BE AVAILABLE UPON REQUEST STRUCTURAL STEEL SHOP AND ERECTION DRAWINGS

WELDING PROCEDURES METAL DECK MATERIAL AND LAYOUT SUBMITTAL ROOF RTU ROUGH OPENING LAYOUT FULLY DIMENSIONED

ROOF RTU CURB LAYOUT FULLY DIMENSIONED WITH REACTIONS **DEFERRED SUBMITTALS**

DESIGN DRAWINGS, CALCULATIONS, AND SHOP DRAWINGS, FOR ITEMS THAT ARE DESIGNED BY OTHERS SHALL BE SEALED BY A PROFESSIONAL ENGINEER (PE) OR STRUCTURAL ENGINEER (SE) REGISTERED IN THE STATE IN WHICH THE BUILDING WILL BE CONSTRUCTED, AND SUBMITTED TO THE ARCHITECT, STRUCTURAL ENGINEER, AND BUILDING OFFICIAL, PRIOR TO FABRICATION. SUBMITTED CALCULATIONS ARE FOR INFORMATION ONLY AND WILL NOT BE STAMPED OR RETURNED. ALL DESIGNS SHALL BE PERFORMED IN ACCORDANCE WITH THE GOVERNING BUILDING CODE. THESE ITEMS SHALL NOT INDUCE TORSIONAL LOADING INTO SUPPORTING STRUCTURAL MEMBERS WITHOUT ADDITIONAL BRACING OF THOSE MEMBERS. TORSIONAL BRACING SHALL BE DESIGNED BY THE DESIGNER AND APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

THE CLADDING SYSTEMS ARE DEFINED AS: WINDOW WALL SYSTEMS, CURTAIN WALL SYSTEMS, ASSOCIATED PRECAST ELEMENTS, METAL FRAMING, WATERPROOFING, ETC. EXTERIOR CLADDING CONNECTIONS SHALL ACCOUNT FOR STRUCTURAL DEFLECTIONS. COLUMN SHORTENING, AND CONSTRUCTION TOLERANCES. THE CLADDING DESIGN SHALL ACCOMMODATE A VERTICAL MOVEMENT OF 3/4-INCH AT EACH FLOOR DUE TO LIVE LOADING. THIS DISPLACEMENT WILL TYPICALLY OCCUR AT THE MIDSPAN OF SLAB SPANS. BEAM SPANS, AND AT THE FREE END OF CANTILEVERS. THE DESIGN SHALL ALSO ACCOMMODATE LATERAL MOVEMENTS OF 2% OF THE FLOOR HEIGHT AND SHALL NOT LATERALLY TIE TWO FLOORS TOGETHER.

EQUIPMENT ANCHORAGES AND BRACING (PE) ALL ELECTRICAL, MECHANICAL, AND OTHER EQUIPMENT ANCHORAGE SHALL BE DESIGNED BY THE CONTRACTOR OR SUBCONTRACTOR. ANCHORS DRILLED INTO POST-TENSIONED CONCRETE SHALL AVOID POST-TENSIONED CABLES BY A MINIMUM OF 6-INCHES IN ANY DIRECTION. LATERAL LOADS SHALL NOT BE APPLIED TO BOTTOM FLANGES OF STEEL BEAMS WITHOUT PROVIDING BRACING TO RESIST 100-PERCENT OF THE APPIED LATERAL LOAD.

POST-INSTALLED ANCHORS

POST-INSTALLED ANCHORS SHALL NOT BE INSTALLED WITHOUT PRIOR APPROVAL OF STRUCTURAL ENGINEER OF RECORD UNLESS SPECIFIED ON THE STRUCTURAL

ADHESIVE ANCHORS ADHESIVE ANCHORS (THREADED RODS OR REINFORCING BARS) SHALL BE INSTALLED USING "HIT-HY200", MANUFACTURED BY THE HILTI CORPORATION. INSTALL PER ICC REPORT NUMBER ESR-3187 AND FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS.

EXPANSION ANCHORS INTO CONCRETE AND MASONRY UNITS SHALL BE "KWIK BOLT TZ", MANUFACTURED BY THE HILTI CORPORATION. INSTALL PER ICC REPORT NUMBER ESR-1917 AND FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS.

BASIS OF DESIGN

THE PURPOSE OF THIS STRUCTURAL DESIGN IS TO BRING THE EAST STRUCTURE INTO CONFORMANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS ADOPTED AND AMENDED BY THE CITY OF PUYALLUP. THE ORIGINAL STRUCTURE WAS CONSTRUCTED IN 1993 AND DESIGNED ACCORDING TO THE 1988 UNIFORM BUILDING CODE. WE CONSIDER THE ORIGINAL BUILDING'S DESIGN TO BE SUBSTANTIALLY CONFORMING TO CURRENT 2015 IBC DESIGN REQUIREMENTS WITH THE EXCEPTION OF SOME SEISMIC PROVISIONS. THE DESIGN ALSO INCLUDES ADDING ROOF STRUCTURAL MEMBERS TO SUPPORT NEW MECHANICAL ROOF TOP UNITS.

WE ANALYZED THE EXISTING STRUCTURE UTILIZING ETABS COMPUTER SOFTWARE. THIS INCORPORATES A 3-DIMENSIONAL FINITE ELEMENT MODEL OF THE BUILDING. THE SEISMIC DESIGN LOADS UTILIZED IN THE ANALYSIS CONFORM TO THE IBC 2015 FOR NEW BUILDINGS. THE ANALYSIS DETERMINED THAT MOST OF THE TILT PANEL FOUNDATION CONNECTIONS AND PANEL TO PANEL CONNECTIONS WERE OVER STRESSED. THIS COMES FROM ADDITIONAL CODE DEVELOPMENTS THAT HAVE SUBSTANTIALLY INCREASED LOADS ON SUCH CONNECTIONS IN RECENT YEARS. ALL OTHER ASPECTS OF THE STRUCTURE ESSENTIALLY MEET THE STRENGTH PROVISIONS OF THE 2015 IBC ALTHOUGH WE HAVE REQUESTED IN SITU TEST ON DIAPHRAGM ANCHORAGE AND CONCRETE STRENGTH.

THE EXISTING TILT PANEL FOUNDATION CONNECTIONS ARE EXTREMELY CHALLENGING AND EXPENSIVE TO STRENGTHEN. THUS, OUR APPROACH WAS TO COUPLE THE TILT PANEL TOGETHER BY ADDING CONNECTION PLATES. ONCE COUPLED TOGETHER THE WALLS SEGMENTS BEHAVE AS MUCH LONGER WALL PANELS AND REDUCE THE FOUNDATION TENSION FORCES SUCH THAT THEY MEET THE REQUIREMENTS OF THE 2015 IBC. BY COUPLING THE WALLS TOGETHER, THE BUILDING DRIFT IS ALSO REDUCED WHICH IS STRUCTURALLY ADVANTAGEOUS.

THE PANEL CONCRETE STRESSES WERE ALL IN CONFORMANCE WITH THE 2015 IBC THUS THE ONLY STRENGTHENING REQUIRED ARE THE CONNECTION PLATES.

DESIGN CRITERIA

BUILDING CATEGORY STRUCTURAL RISK CATEGORY III IMPORTANCE FACTOR SEISMIC ----- le = 1.25

GRAVITY LOADS
ROOF = 25 PSF SNOW PLUS MECHANICAL UNITS

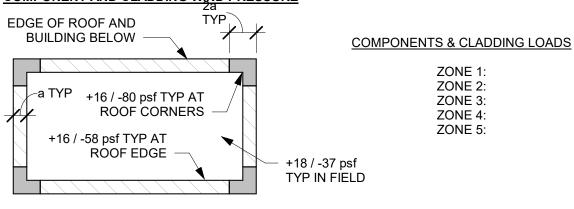
SEISMIC LOADS
SITE CLASS = D (ASSUMED) SEISMIC DESIGN CATEGORY = D

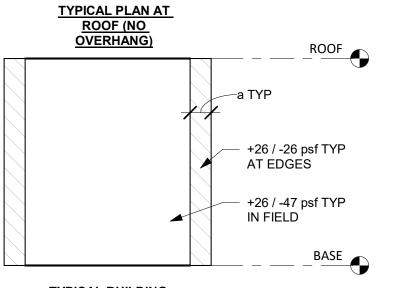
MAPPED SPECTRAL RESPONSE PARAMETERS Ss = 1.248 g; S1 = 0.480 gSds = 0.833 g; Sd1 = 0.486 gANALYSIS TYPE = EQUIVALENT LATERAL FORCE PROCEDURE

R = 4.0 (INTERMEDIATE PRECAST SHEARS WALLS) OMEGA = 2.5 BUILDING SEISMIC WEIGHT, W = 2624 KIPS SEISMIC RESPONSE COEFFICIENT. Cs = 0.26 BASE SHEAR, V = Cs*W = 682 KIPS REDUNDANCY FACTOR = 1.0

EXPOSURE CATEGORY = B BASIC WIND SPEED = 115 MPH Kzt = 1.0

COMPONENT AND CLADDING WIND PRESSURE





WIND LOADS FOR COMPONENT AND CLADDING ARE DETERMINED IN ACCORDANCE WITH ASCE 7-10, CHAPTER 30.

EXTERIOR COMPONENTS AND CLADDING SHALL BE DESIGNED TO ACCOMMODATE WORST-CASE WIND LOAD SHOWN.

POSITIVE PRESSURE ACTS TOWARDS THE SURFACE OF THE STRUCTURE.

NEGATIVE PRESSURE ACTS OUTWARD AS SUCTION ON THE BUILDING SURFACE. PRESSURE ARE CALCULATED USING MINIMUM EFFECTIVE AREA OF 10 sf. FOR ROOF AREAS GREATER THAN 10 sf EXCEPT AT OVERHANGS, NEGATIVE PRESSURE MAY BE REDUCED AS FOLLOWS:

20 sf < AREA < 50 sf 5% REDUCTION $50 \text{ sf} \leq AREA < 80 \text{ sf}$ 12% REDUCTION 80 sf < AREA < 200 sf 16% REDUCTION 200 sf < AREA 2% REDUCTION FOR ALL OVERHANGS, NO WIND LOAD MAY BE REDUCED. FOR WALL AREAS AND PARAPET AREAS GREATER THAN 10 sf, POSITIVE PRESSURE

MAY BE REDUCED AS FOLLOW: 20 sf < AREA < 50 sf 5% REDUCTION 50 sf < AREA < 80 sf 12% REDUCTION 80 sf < AREA < 200 sf 16% REDUCTION 200 sf < AREA 2% REDUCTION

FOR WALL AREAS AND PARAPET AREAS GREATER THAN 10 sf, NEGATIVE PRESSURE MAY BE REDUCED AS FOLLOW: 20 sf < AREA < 50 sf 3% REDUCTION 50 sf < AREA < 80 sf 8% REDUCTION 80 sf < AREA < 200 sf 10% REDUCTION 200 sf <u><</u> AREA 15% REDUCTION

EDGE PRESSURE SHALL BE USED FOR A DISTANCE "a" FROM THE BUILDING WHERE "a" IS 10% OF THE LEAST HORIZONTAL DIMENSION, BUT NOT LESS THAN

NET PRESSURE ON THE PARAPETS SHALL BE +106 psf / -72 psf. ATTACHMENTS TO THE INTERIOR SIDE OF THE PARAPETS SHALL BE DESIGNED TO ACCOMODATE NEGATIVE PRESSURE OF THE ADJACENT ROOF.

REFERENCE STANDARDS

AISC STEEL CONSTRUCTION MANUAL - 14TH EDITION - ANSI/AISC 360-10 AISC SEISMIC DESIGN MANUAL - 2ND EDITION - ANSI/AISC 341-10

AISC CODE OF STANDARD PRACTICE - AISC 303-10 RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS -AISC 348-14

AWS D1.1 STRUCTURAL WELDING CODE

GENERAL REQUIREMENTS

ALL STEEL FABRICATION SHALL BE PERFORMED BY AN AISC CERTIFIED FABRICATION SHOP, CATEGORY STD. ALL DETAILERS SHALL BE EXPERIENCED WITH SIMILAR SIZE AND SCOPE OF PROJECTS.

ALL STEEL ERECTION SHALL BE PERFORMED BY AN AISC CERTIFIED STEEL ERECTOR. CATEGORY CSE. THE CONTRACTOR SHALL PROVIDE AND COORDINATE ALL ERECTION

ALL WORK SHALL CONFORM TO THE AISC SPECIFICATIONS. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER, AND BE APPROVED, PRIOR TO COMMENCING FABRICATION. ALL STEEL BEAMS ARE EQUALLY SPACED BETWEEN DIMENSION POINTS AND/OR GRID LINES UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL COORDINATE THE USE OF TYPICAL DETAILS AND THE SELECTION OF OPTIONAL DETAILS SHOWN ON THE

NON-EXPOSED STRUCTURAL STEEL STRUCTURAL STEEL THAT IS NOT EXPOSED TO EARTH OR WEATHER OR DESIGNATED AS (AESS) SHALL BE UNPAINTED, CLEAN OF LOOSE RUST, LOOSE MILL SCALE, GREASE, OIL, AND MEET THE REQUIREMENTS OF SSPC-SP1.

FAYING SURFACES AND WELDS NEAR CONNECTIONS THE FAYING SURFACES OF SLIP-CRITICAL BOLTED CONNECTIONS SHALL CONFORM TO THE RCSC SPECIFICATIONS. ALL SURFACES WITHIN 2-INCHES OF FIELD WELD LOCATIONS SHALL BE FREE OF MATERIALS THAT WOULD PREVENT PROPER WELDING AND/OR OBJECTABLE FUMES.

REFER TO ARCHITECTURAL PLANS FOR MINIMUM HOURLY VALUES OF STEEL FIRE PROTECTION FOR DETERMINING THE THICKNESS OF SPRAY APPLIED FIREPROOFING. THE STRUCTURAL FRAME CONSISTS OF COLUMNS AND GIRDERS, BEAMS, TRUSSES, AND SPANDRELS HAVING DIRECT CONNECTIONS TO THE COLUMNS AND BRACING MEMBERS DESIGNED TO CARRY GRAVITY LOADS. FLOOR OR ROOF MEMBERS THAT HAVE NO CONNECTION TO COLUMNS SHALL BE CONSIDERED SECONDARY MEMBERS.

MATERIAL CRITERIA

NOTED OTHERWISE ON PLANS:

STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS UNLESS

STRUCTURAI	L STEEL MEMBERS
WIDE FLANGE (W) AND (WT) SHAPES	ASTM A992, Fy = 50 KSI
PLATES, ANGLES AND CHANNELS UNO	ASTM A36, Fy = 36 KSI
BOLTS / FAST	TENERS / ANCHORS
HIGH STRENGTH BOLTS UNO	ASTM A325, F1852
NUTS	ASTM A563
WASHERS, FLAT OR BEVELED	ASTM F436
ANCHOR BOLTS UNO	ASTM F1554, GRADE 36
ANCHOR BOLTS NOTED AS "GRADE 55"	ASTM F1554, GRADE 55 (WELDABLE)
THREADED RODS UNO	ASTM A36, Fy = 36 KSI
	•
w	ELDING
WELDING ELECTRODES	AWS D1.1 E70XX Fy = 70 KSI, AWS D1.1 E71TXX Fy = 70 KSI (AS REQUIRED BY WELDING PROCESS)

BOLTING

<u>HIGH STRENGTH BOLTING</u> ALL HIGH STRENGTH BOLTS SHALL BE INSTALLED, TIGHTENED, AND INSPECTED IN ACCORDANCE WITH THE RCSC. BOLTS IN CONNECTIONS OF BEAM-TO-BEAM AND BEAM-TO-GIRDER MAY BE SNUG TIGHT UNLESS SPECIFICALLY CALLED OUT AS SLIP CRITICAL (SC). ALL OTHER BOLTED CONNECTIONS SHALL SATISFY THE CRITERIA FOR SLIP CRITICAL (SC) CONNECTIONS UNLESS SPECIFICALLY NOTED AS SNUG TIGHT. SLIP CRITICAL CONNECTIONS SHALL USE TENSION CONTROL BOLTS OR LOAD INDICATOR WASHERS. ALL BOLT HOLES SHALL BE STANDARD SIZE HOLES UNLESS NOTED OTHERWISE.

WELDING

ALL STRUCTURAL STEEL WELDING SHALL CONFORM TO AWS D1.1.

FIELD WELD SYMBOLS
NOT ALL FIELD WELDS ARE INDICATED WITH A FIELD WELD SYMBOL. THE CONTRACTOR SHALL COORDINATE ALL FIELD WELDS BETWEEN THE FABRICATOR AND ERECTOR AND PROPERLY IDENTIFY SUCH WELDS AS SUCH ON THE SHOP DRAWINGS.

WELDING SUBMITTALS

WELD PROCEDURE SPECIFICATIONS. CHARPY V-NOTCH CONFORMANCE CERTIFICATE FOR WELDING ELECTRODES. CHARPY V-NOTCH CONFORMANCE FOR HEAVY SHAPES OR JUMBO SECTIONS.

 WELDER CERTIFICATIONS WABO/AWS FOR EACH POSITION AND WELD TYPE. ALL WELD TABS SHALL BE REMOVED AND THE WELD ENDS GROUND SMOOTH.

ALL WELDING SHALL BE PERFORMED BY AWS/WABO CERTIFIED WELDERS AND IN

ACCORDANCE WITH AWS D1.1.

ALL WELD FILLER METAL INCLUDING SHALL BE COMPATIBLE. ALL WELD FILLER METAL AND PROCESS SHALL PROVIDE TENSILE STRENGTH CHARPY V-NOTCH RATING AS FOLLOWS:

	GRAVITY MEMBERS	
WELD TYPE	FILLER MATERIAL	CVN RATING
FILLET	70 KSI	NONE
DADTIAL DENETDATION	70 KCI	NONE
PARTIAL PENETRATION	70 KSI	INONE
PARTIAL PENETRATION	SLRS MEMBERS	INONL
		CVN RATING
WELD TYPE FILLET	SLRS MEMBERS	1

ALL WELDS SHALL BE INSPECTED AS REQUIRED IN THE "STATEMENT OF SPECIAL INSPECTION" OF THESE GENERAL NOTES.

ROOF DECK

STEEL ROOF DECK STEEL ROOF DECK SHALL BE VERCO TYPE B, ASC TYPE B, OR APPROVED EQUAL.

STATEMENT OF SPECIAL INSPECTIONS:

SPECIAL INSPECTION: SPECIAL INSPECTION SHALL BE PROVIDED PER THE REQUIREMENTS OF IBC SECTION 1704 AND AS NOTED

	ONC			
VERIFICATION AND INSPECTION	С	Р	REFERENCED STANDARD	NOTES
NO NEW STRUCTURAL CONCRETE IN PROJECT				
INSPECTION OF ANCHORS POST-INSTALLED				1
IN HARDENED CONCRETE MEMBERS: A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR				
UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAIN TENSION LOADS.	Х			
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN A.			ACI 318: 26.7	
		X	ACI 318: 26.11.2.1	
VERIFICATION OF IN-SITU PRECAST WALL CONCRETE STRENGTH PRIOR TO PRODUCTION OF STEEL SHOP DRAWINGS. (2) 4" DIAMETER CORES MINUMUM. COORDINATE LOCATIONS WITH SE.		X	ACI 318: 26.11.2.1	
STEEL (CON	STR	UCTION	
VERIFICATION AND INSPECTION	С	Р	REFERENCED STANDARD	NOTES
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS		Х	AISC 360 N5.6	
HIGH-STRENGTH BOLTING A. SNUG-TIGHT JOINTS		Х	AISC 360 N5.2 AISC 341 J7	
MATERIAL VERIFICATION OF STRUCTURAL STEEL A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360		х	AISC 360 N5 AISC 341 J6	MANUFACTURER TO PROVIDE CERTIFIED MILL TEST REPORTS
MATERIAL VERIFICATION OF WELD FILLER MATERIALS			AISC 360 N5	MANUFACTURER TO PROVIDE CERTIFICATE OF
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATIONS LISTED IN GENERAL NOTES B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE		X X		COMPLIANCE
INSPECTION OF WELDING			AISC 360 N5.4, N5.5	SPECIAL INSPECTIONS IN
A. COMPLETE AND PARTIAL JOINT PENETRATION	Х		AISC 341 CHP J6 AWS D1.1	THIS SECTION ARE WAIVED WHERE FABRICATION IS
GROOVE WELDS B. SINGLE-PASS FILLET WELDS ≤ 5/16"		Х	AVVO D1.1	PERFORMED ON THE
				PREMISES OF A FABRICATOR REGISTERED
				AND APPROVED IN ACCORDANCE WITH IBC
OTEEL AANATSHATIA	<u> </u>		I AN OTRUGE	SECTION 1704.2
STEEL CONSTRUCTION C				
VERIFICATION AND INSPECTION	С	Р	REFERENCED STANDARD	NOTES
MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK:			APPLICABLE ASTM	
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED		x	MATERIAL STANDARDS	
CONSTRUCTION DOCUMENTS		^		
B. MANUFACTURER'S CERTIFIED TEST REPORTS		Х		
COLD-FORM	IED :	STE	EL FRAMING	
VERIFICATION AND INSPECTION	С	Р	REFERENCED STANDARD	NOTES
OODEW ATTACHMENT WEI BUILD BOLLEY				
SCREW ATTACHMENT, WELDING, BOLTING, ANCHORING AND FASTENING OF SHEAR WALLS, BRACES,		Х	AWS D1.3 IBC 1705.11.2, 1705.12.3	EXCEPTIONS PER IBC 1705.11.2
DIAPHRAGMS, DRAG STRUTS, AND HOLD-DOWNS THAT ARE PART OF SEISMIC RESISTING SYSTEM			150 1100.11.2, 1100.12.0	1700.11.2
ROOF AND WALL CLADDING	<u> </u>	· · ·	IDO 4705 44 0 4705 40 5	
	1	Х	IBC 1705.11.3, 1705.12.5	EVOEDTION 2
NON LOAD BEARING WALLS		Х	IBC 1705.12.5	EXCEPTIONS PER IBC 1705.12.5
STORAGE RACK	SAN	ND A	CCESS FLOOR	S
VERIFICATION AND INSPECTION	С	Р	REFERENCED STANDARD	NOTES
			IDC 4705 40 5 4	SPECIAL INSPECTION NOT
=		Х	IBC 1705.12.5.1,	
INSPECTION OF ANCHORAGE DETAILS FOR COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS		X	1705.12.5.1,	REQUIRED FOR STORAGE RACKS < 8 FT HIGH
COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS	ORE		1705.12.7	
COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS	ORE		•	
VERIFICATION AND INSPECTION	1	D VI	1705.12.7 ENEER REFERENCED STANDARD	RACKS < 8 FT HIGH NOTES
COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS ANCH VERIFICATION AND INSPECTION	1	D VI	1705.12.7 ENEER	RACKS < 8 FT HIGH
COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS ANCHO VERIFICATION AND INSPECTION INSPECTION PROGRAM SHALL VERIFY: 1. SIZE, TYPE OF VENEER ANCHORS 2. SIZE, GRADE OF JOINT REINF.	1	D VE	1705.12.7 ENEER REFERENCED STANDARD ACI 530/ASCE 5/TMS 402	NOTES VERIFICATION AT
COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS ANCHO VERIFICATION AND INSPECTION INSPECTION PROGRAM SHALL VERIFY: 1. SIZE, TYPE OF VENEER ANCHORS 2. SIZE, GRADE OF JOINT REINF. 3. PROPORTIONS OF MORTAR 4. CONSTRUCTION OF MORTAR JOINTS	1	D VE	1705.12.7 ENEER REFERENCED STANDARD ACI 530/ASCE 5/TMS 402	NOTES VERIFICATION AT BEGINNING OF
COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS ANCHO VERIFICATION AND INSPECTION INSPECTION PROGRAM SHALL VERIFY: 1. SIZE, TYPE OF VENEER ANCHORS 2. SIZE, GRADE OF JOINT REINF. 3. PROPORTIONS OF MORTAR	1	D VE	1705.12.7 ENEER REFERENCED STANDARD ACI 530/ASCE 5/TMS 402	NOTES VERIFICATION AT BEGINNING OF
ANCH VERIFICATION AND INSPECTION INSPECTION PROGRAM SHALL VERIFY: 1. SIZE, TYPE OF VENEER ANCHORS 2. SIZE, GRADE OF JOINT REINF. 3. PROPORTIONS OF MORTAR 4. CONSTRUCTION OF MORTAR JOINTS 5. INSTALLATION OF TIES	С	D VE P	ACI 530/ASCE 5/TMS 402 IBC 1705.4	NOTES VERIFICATION AT BEGINNING OF
ANCH VERIFICATION AND INSPECTION INSPECTION PROGRAM SHALL VERIFY: 1. SIZE, TYPE OF VENEER ANCHORS 2. SIZE, GRADE OF JOINT REINF. 3. PROPORTIONS OF MORTAR 4. CONSTRUCTION OF MORTAR JOINTS 5. INSTALLATION OF TIES	С	D VE P	1705.12.7 ENEER REFERENCED STANDARD ACI 530/ASCE 5/TMS 402	NOTES VERIFICATION AT BEGINNING OF
COMPLIANCE WITH MANUFACTURER'S REQUIREMENTS ANCHO VERIFICATION AND INSPECTION INSPECTION PROGRAM SHALL VERIFY: 1. SIZE, TYPE OF VENEER ANCHORS 2. SIZE, GRADE OF JOINT REINF. 3. PROPORTIONS OF MORTAR 4. CONSTRUCTION OF MORTAR 5. INSTALLATION OF TIES FIRE-RESISTANCE VERIFICATION AND INSPECTION	s TA I	D VE	ACI 530/ASCE 5/TMS 402 IBC 1705.4	NOTES VERIFICATION AT BEGINNING OF CONSTRUCTION
ANCHO VERIFICATION AND INSPECTION INSPECTION PROGRAM SHALL VERIFY: 1. SIZE, TYPE OF VENEER ANCHORS 2. SIZE, GRADE OF JOINT REINF. 3. PROPORTIONS OF MORTAR 4. CONSTRUCTION OF MORTAR 5. INSTALLATION OF TIES	s TA I	D VE	ACI 530/ASCE 5/TMS 402 IBC 1705.4 ATERIALS REFERENCED STANDARD	NOTES VERIFICATION AT BEGINNING OF CONSTRUCTION
ANCHO VERIFICATION AND INSPECTION INSPECTION PROGRAM SHALL VERIFY: 1. SIZE, TYPE OF VENEER ANCHORS 2. SIZE, GRADE OF JOINT REINF. 3. PROPORTIONS OF MORTAR 4. CONSTRUCTION OF MORTAR JOINTS 5. INSTALLATION OF TIES VERIFICATION AND INSPECTION SPRAYED FIRE-RESISTANT MATERIALS MASTIC AND INTUMESCENT COATINGS	STAI	D VE P X X X X X YT N P X X	ACI 530/ASCE 5/TMS 402 IBC 1705.14 ATERIALS REFERENCED STANDARD	NOTES VERIFICATION AT BEGINNING OF CONSTRUCTION
ANCHO VERIFICATION AND INSPECTION INSPECTION PROGRAM SHALL VERIFY: 1. SIZE, TYPE OF VENEER ANCHORS 2. SIZE, GRADE OF JOINT REINF. 3. PROPORTIONS OF MORTAR 4. CONSTRUCTION OF MORTAR JOINTS 5. INSTALLATION OF TIES VERIFICATION AND INSPECTION SPRAYED FIRE-RESISTANT MATERIALS MASTIC AND INTUMESCENT COATINGS	STAI	D VE P X X X X X YT N P X X	ACI 530/ASCE 5/TMS 402 IBC 1705.14 IBC 1705.15	NOTES VERIFICATION AT BEGINNING OF CONSTRUCTION

SPECIAL INSPECTION OF ELECTRICAL AND MECHANICAL COMPONENTS PER IBC 1705.12.6 WHERE APPLICABLE.

"C" DENOTES CONTINUOUS INSPECTION "P" DENOTES PERIODIC INSPECTION

STRUCTURAL OBSERVATION SHALL BE PERFORMED AS FOLLOWS:

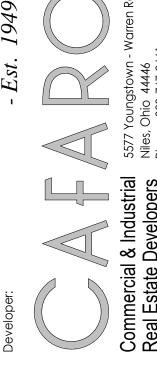
TESTING AND SPECIAL INSPECTION REPORTS SHALL BE PREPARED FOR EACH INSPECTION ITEM ON A DAILY BASIS WHENEVER WORK IS PERFORMED ON THAT ITEM. REPORTS SHALL BE DISTRIBUTED TO OWNER, CONTRACTOR, BUILDING OFFICIAL, ARCHITECT AND STRUCTURAL ENGINEER. STRUCTURAL OBSERVATIONS SHALL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD OR DESIGNATED REPRESENTATIVE IN ACCORDANCE

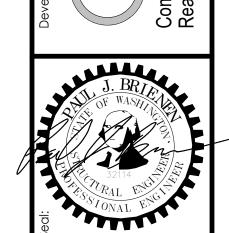
PERIODIC VISUAL OBSERVATION OF STRUCTURAL SYSTEMS FOR GENERAL CONFORMANCE TO CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES. REVIEW OF TESTING AND INSPECTION REPORTS. REPORTS SHALL BE PREPARED FOR EACH SITE VISIT AND SHALL BE DISTRIBUTED TO ARCHITECT.

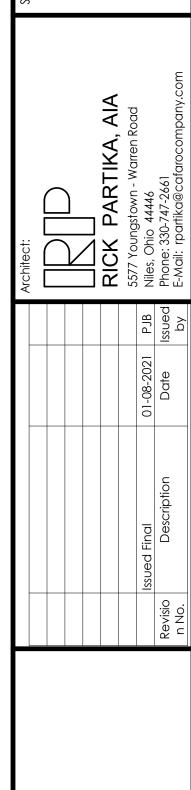
GENERAL CONTRACTOR SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL INCLUDE ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL INSPECTION REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.

January 14, 2021 CITY OF PUYALLUP

Brienen **S**tructural **E**ngineers 1316 Central Ave. S., Suite 200 Kent, WA 98032 (206) 397-0000 ~ www.bse-ps.com

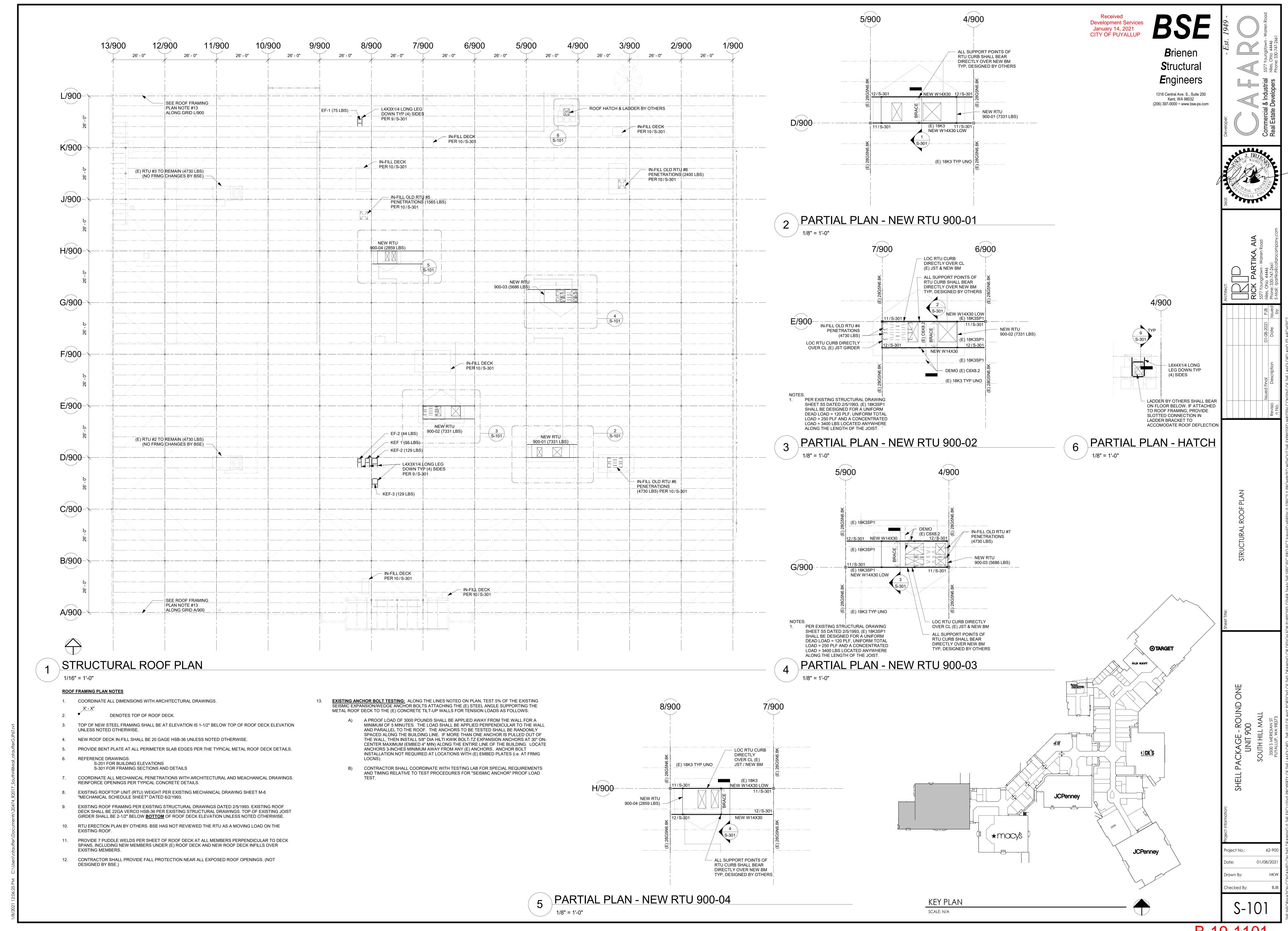


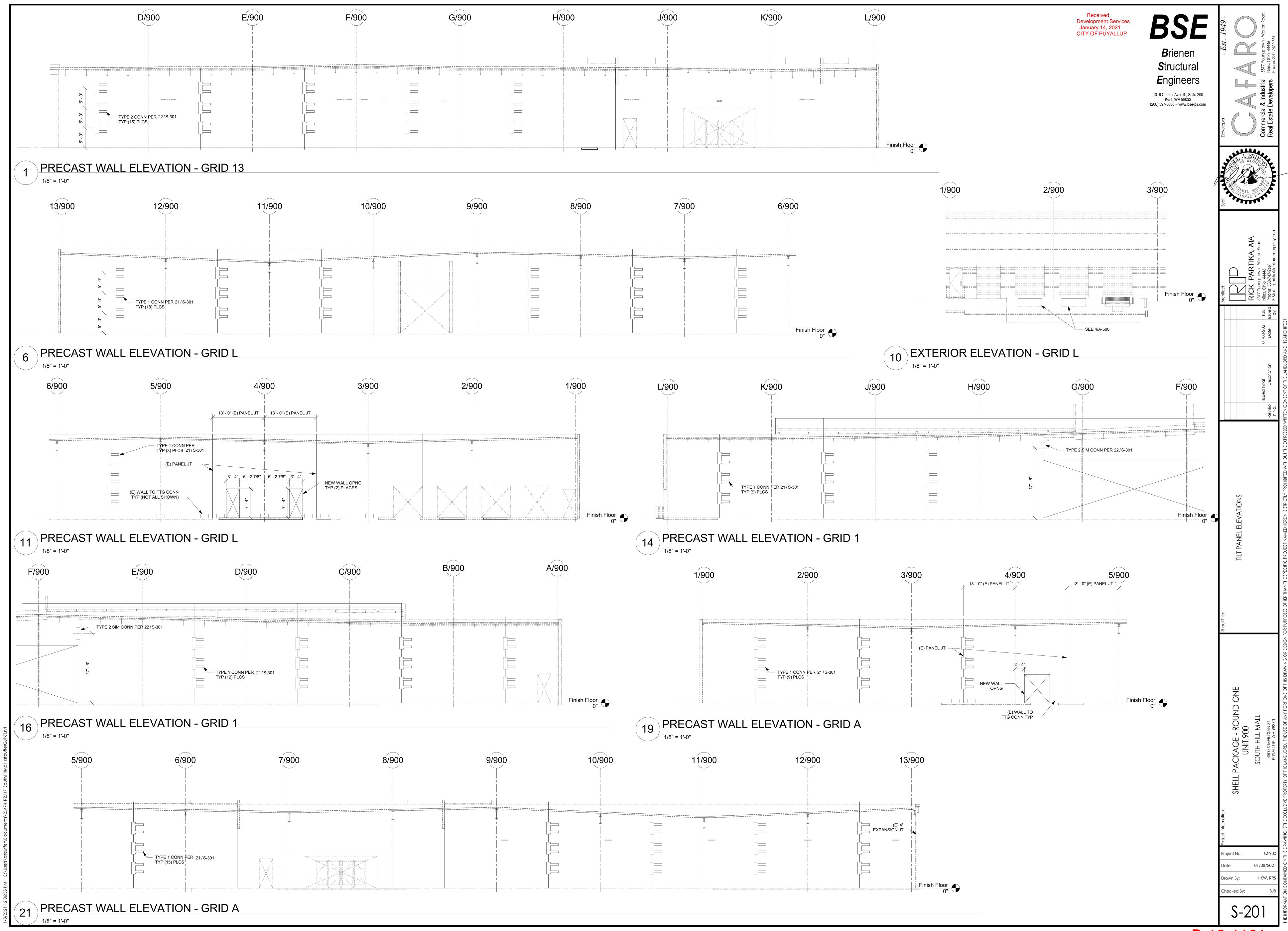


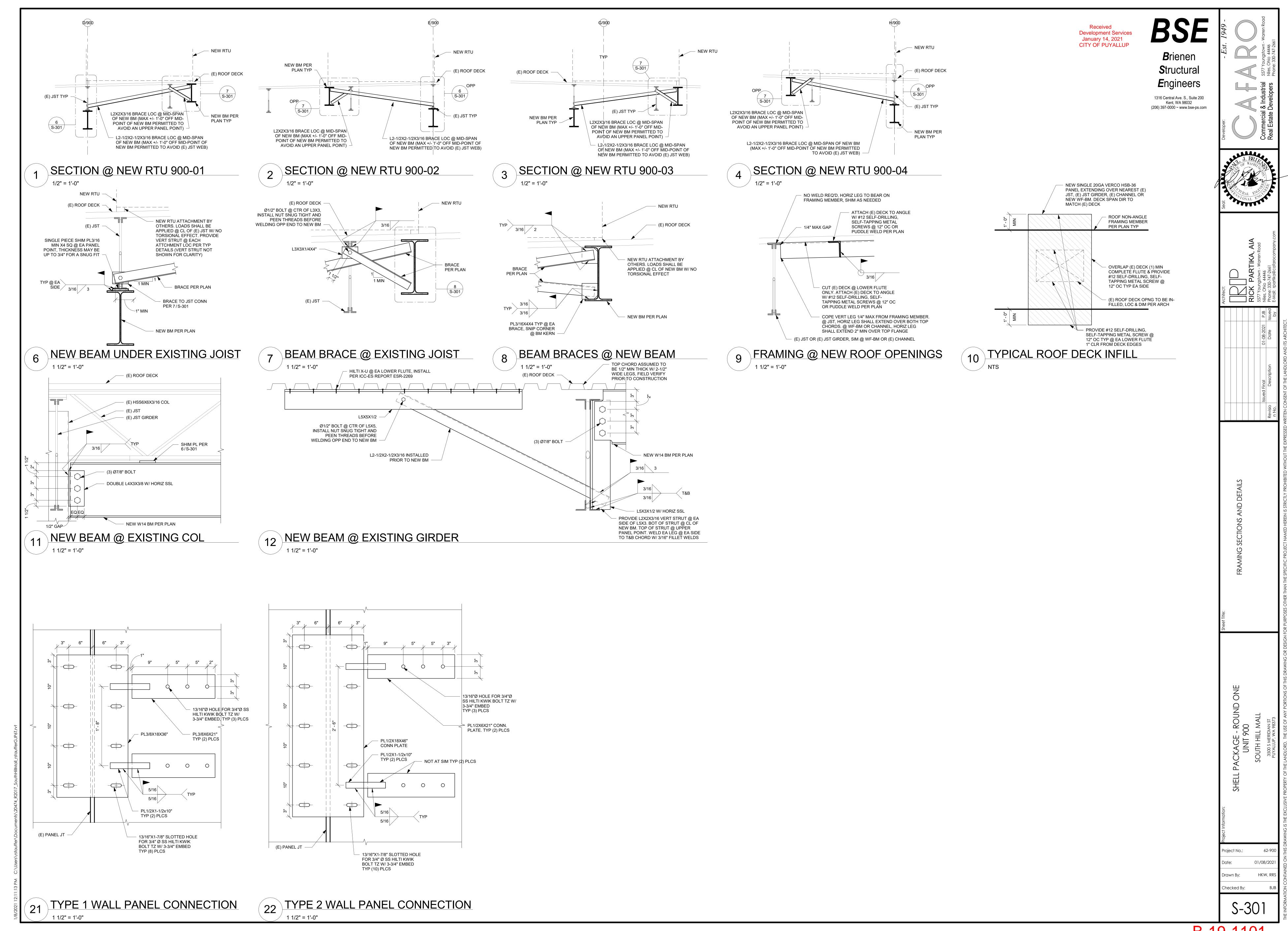


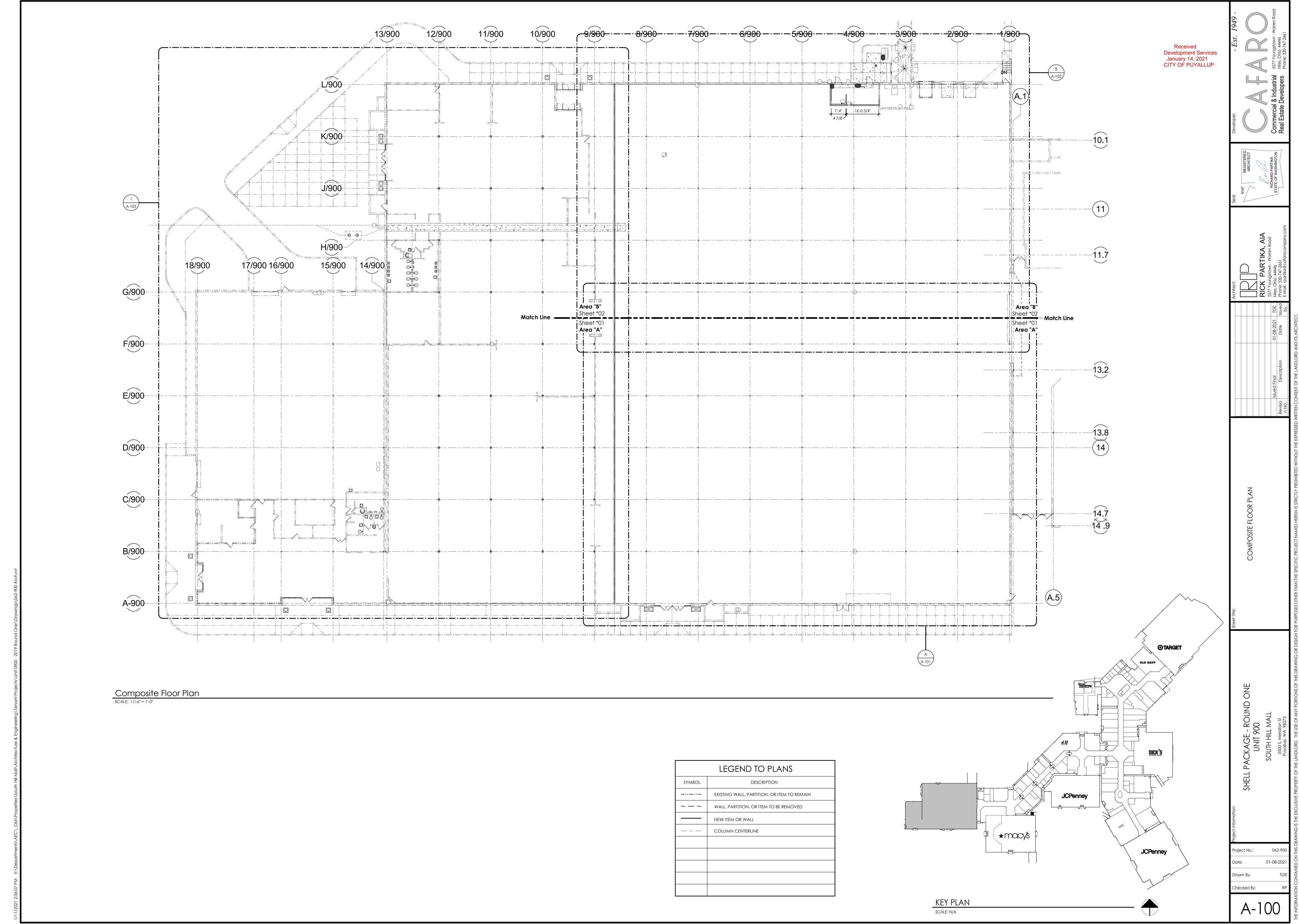
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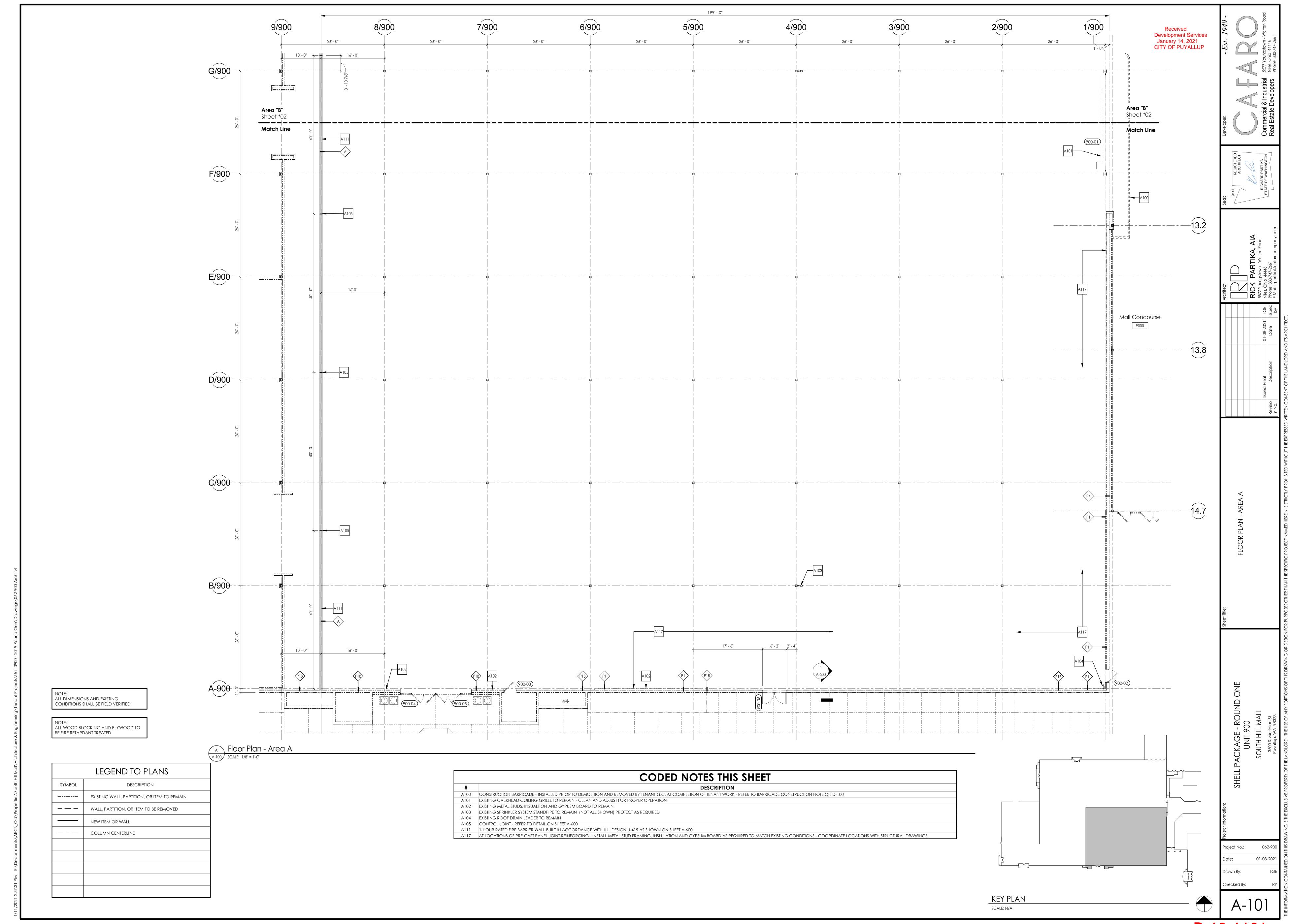
Received
Development Services
January 14, 2021
CITY OF PUYALLUP **B**rienen **S**tructural NEW EXT SOG PER ARCH TYP NEW CONC WALL
OPNG PER ELEVATION **E**ngineers - NEW FDN WALLIN-FILL PER 4/A-500 L/900 1316 Central Ave. S., Suite 200 Kent, WA 98032 (206) 397-0000 ~ www.bse-ps.com BIDDER-DESIGNED LADDER,
COORDINATE W/ COLD-FORMED
STEEL FRAMING DESIGNER S-201 NEW SOG IN-FILL PER A-600 & 4/A-500 NEW NON-STRUCTURAL COLD-FORMED STEEL NEW SOG IN-FILL PER A-600 NEW NON-STRUCTURAL COLD-FORMED STEEL FRAMING -NEW SOG IN-FILL S-201 14 J/900 NEW SOG IN-FILL PER A-600 H/900 F/900 S-201 16 1 STRUCTURAL FLOOR PLAN
1/16" = 1'-0"

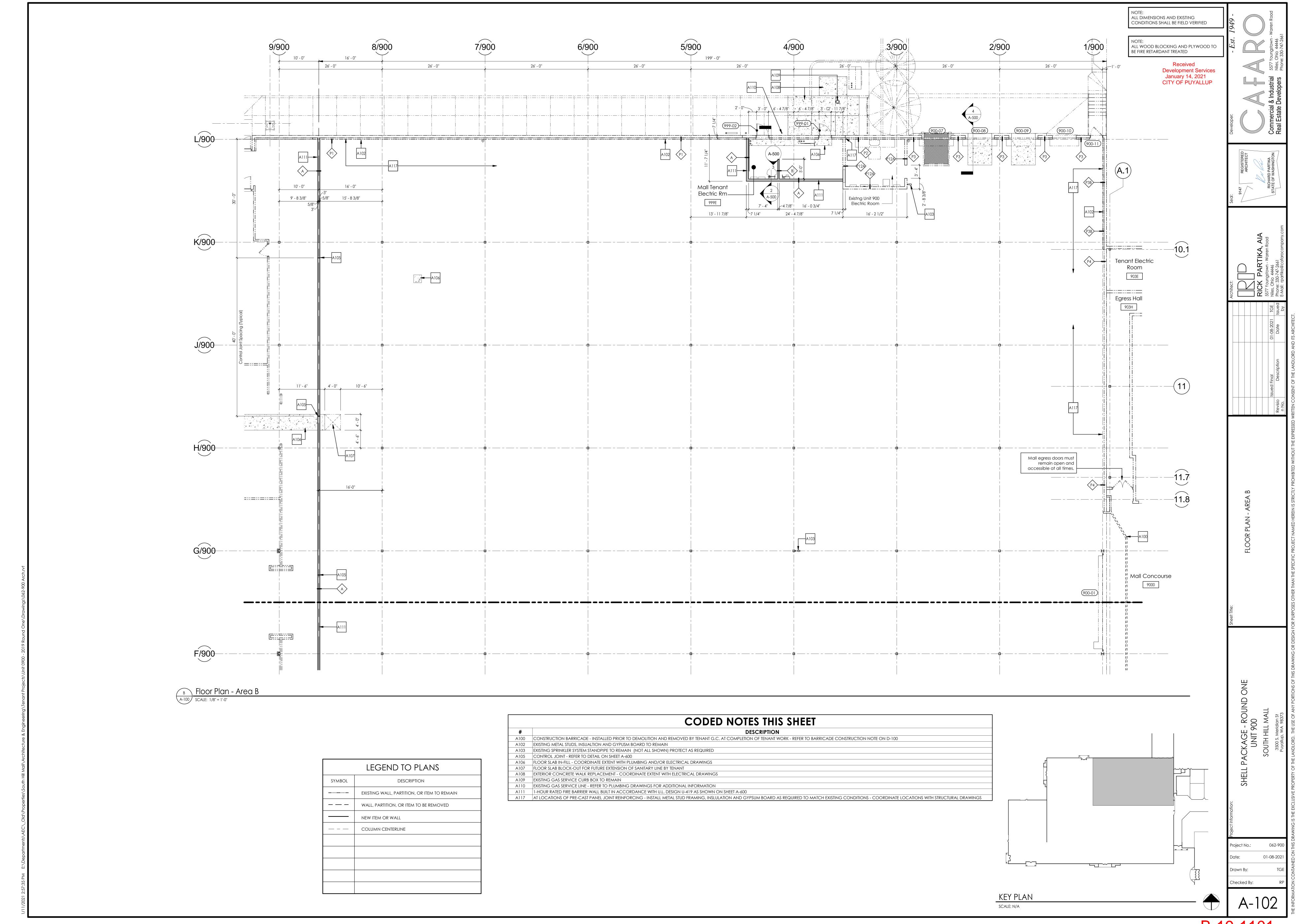




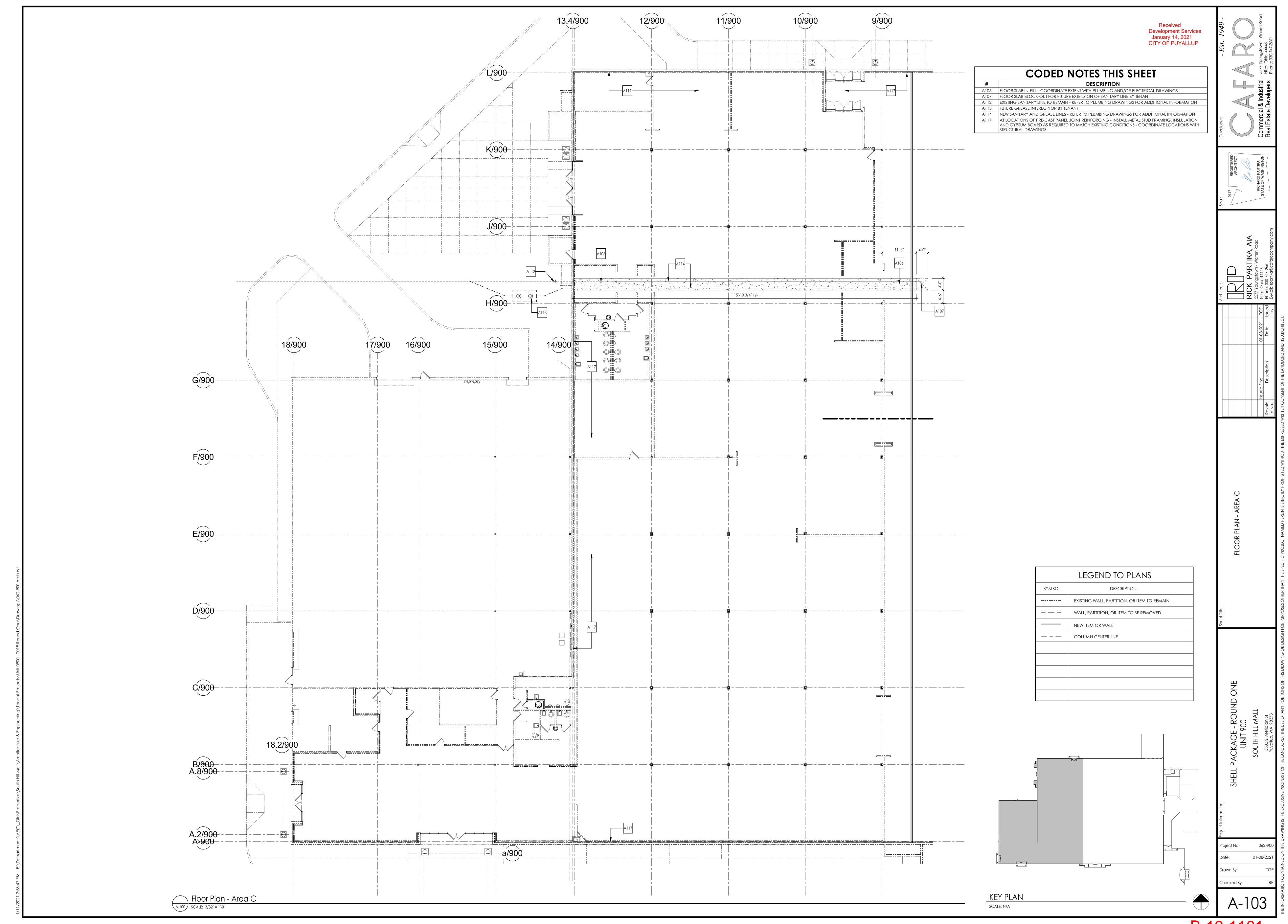


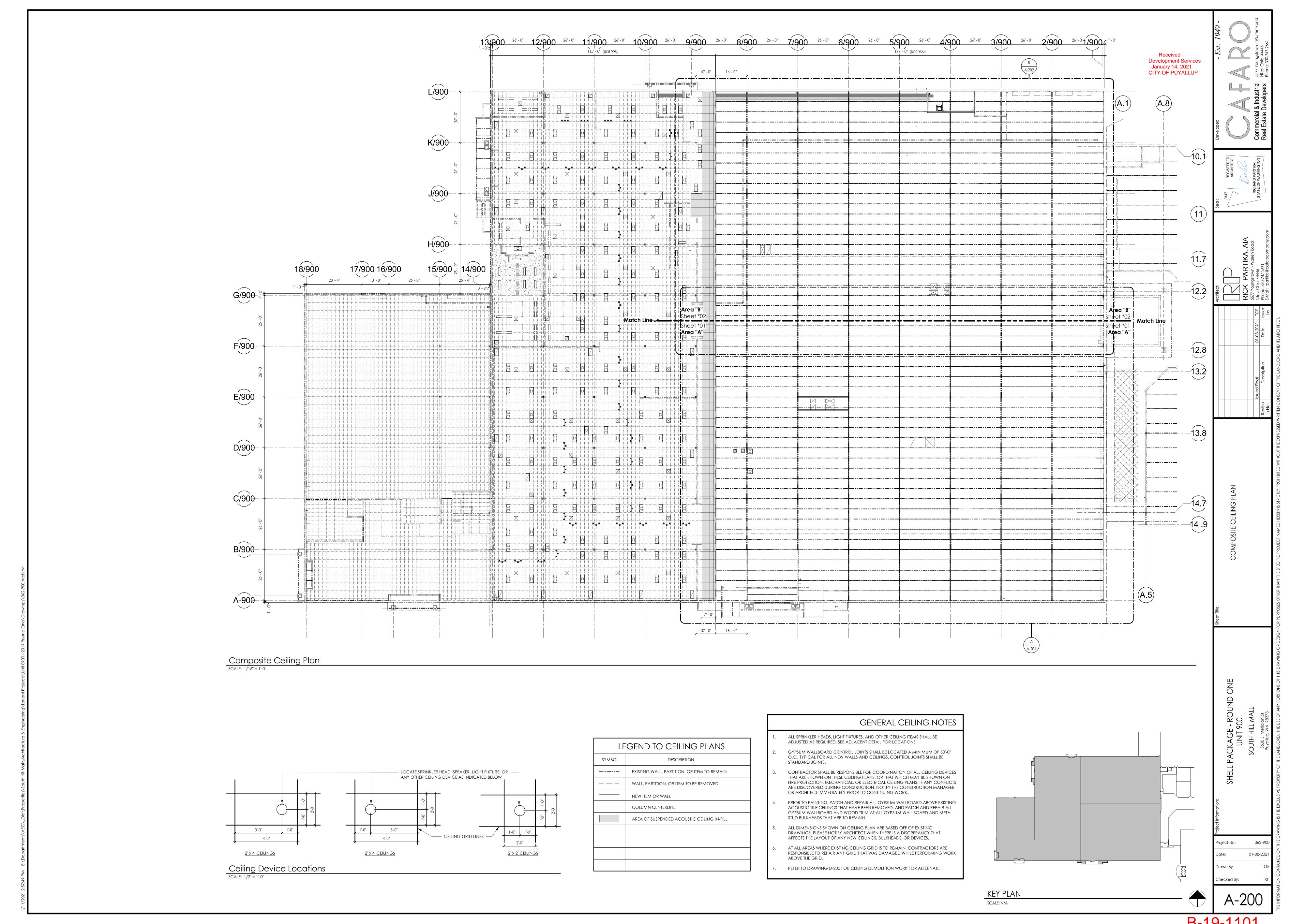


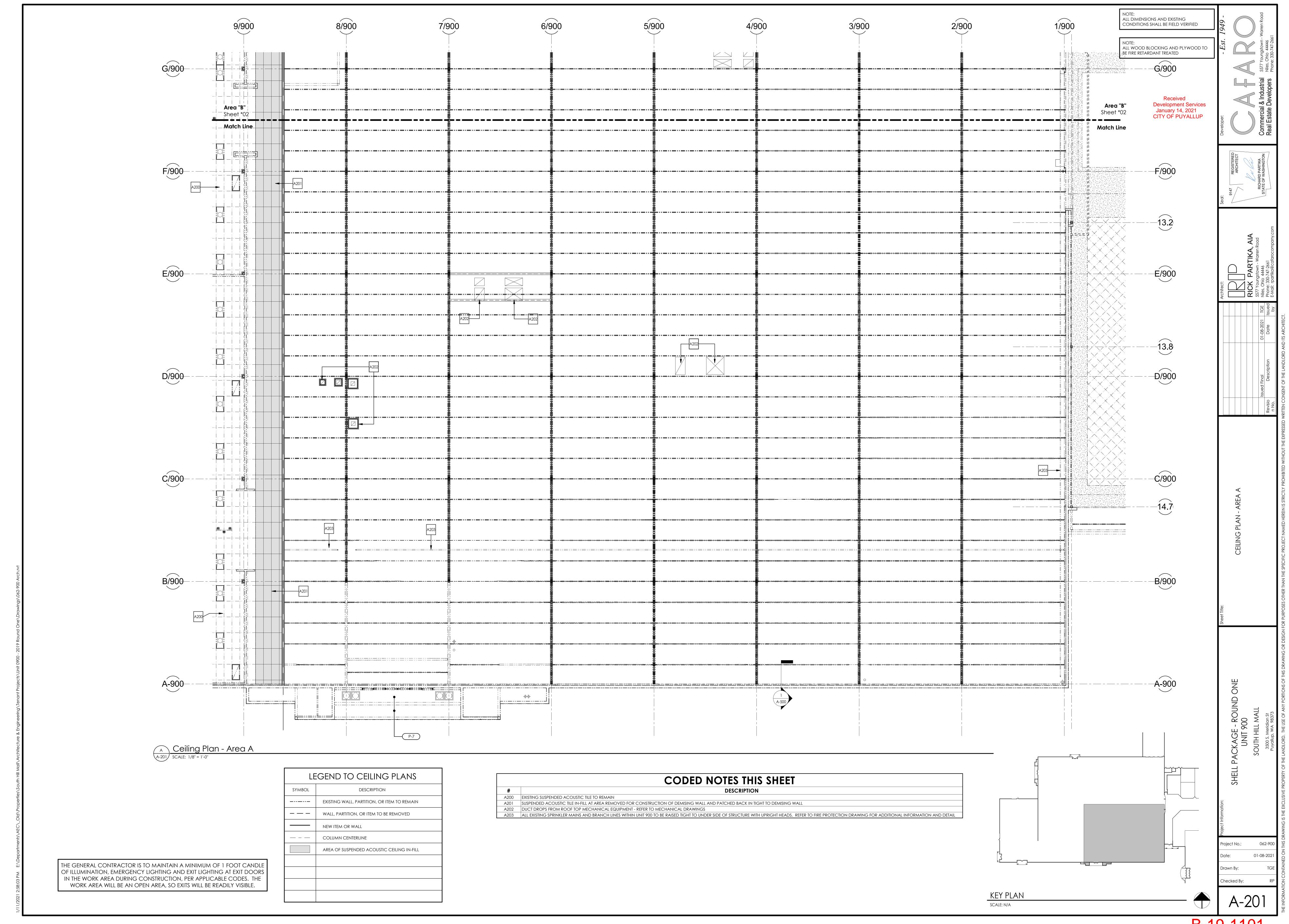


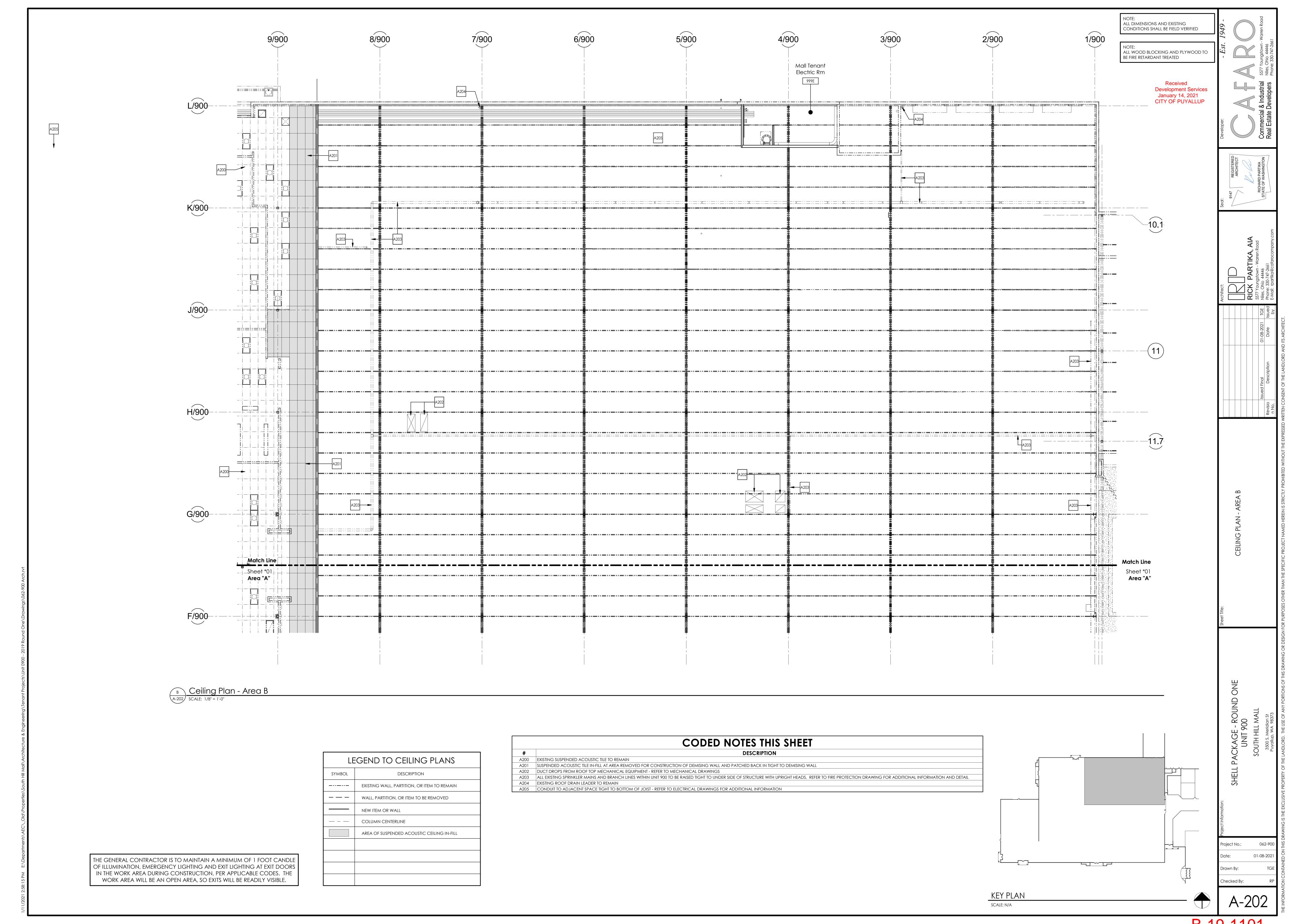


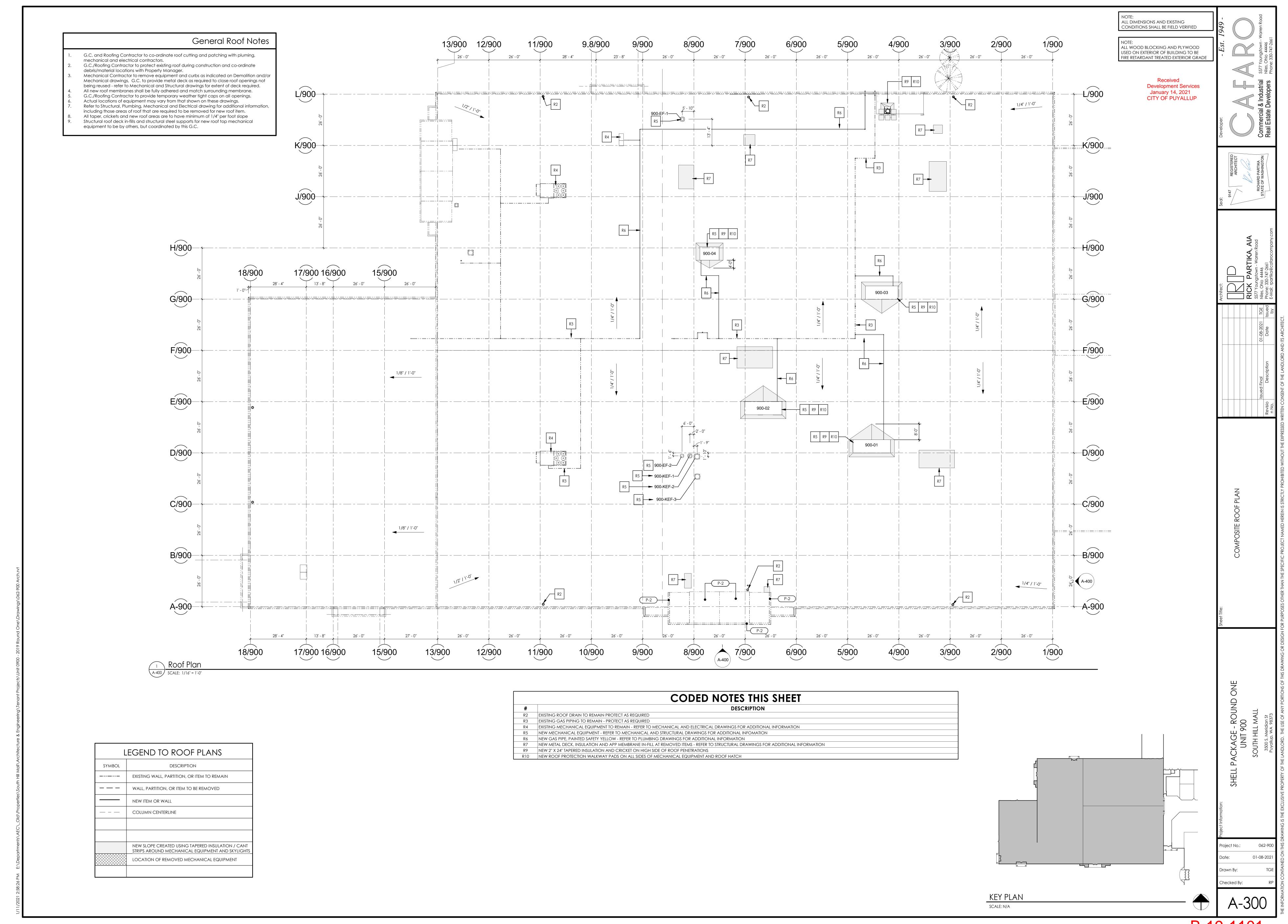
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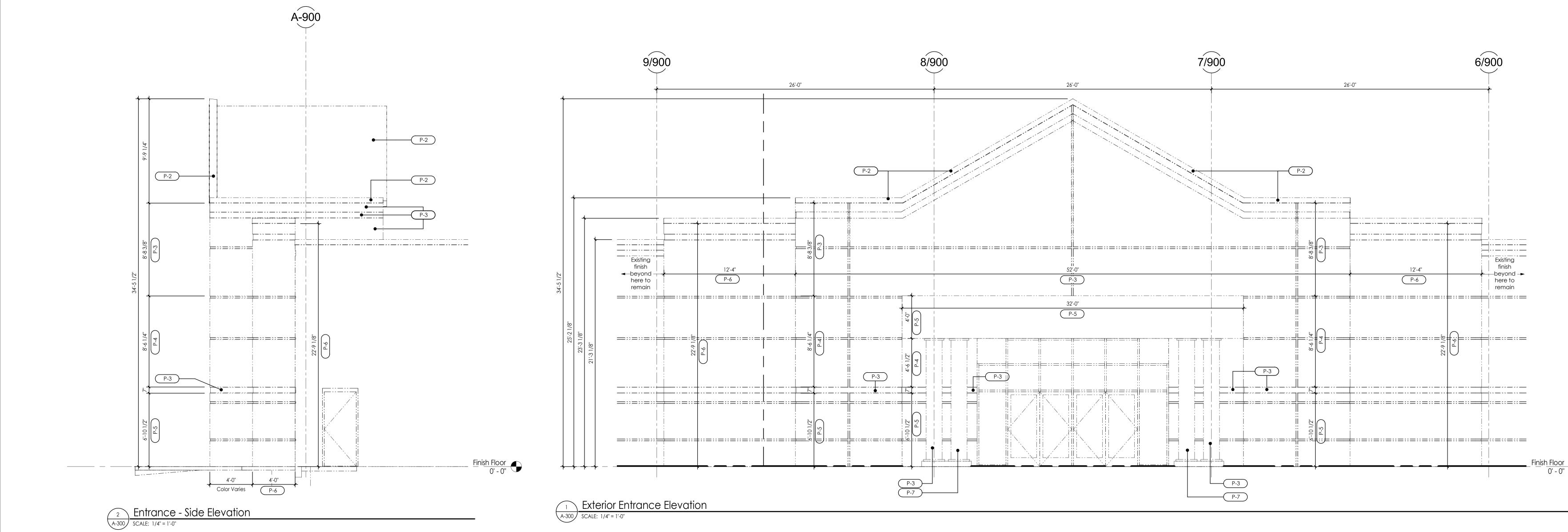


Entrance Rendering

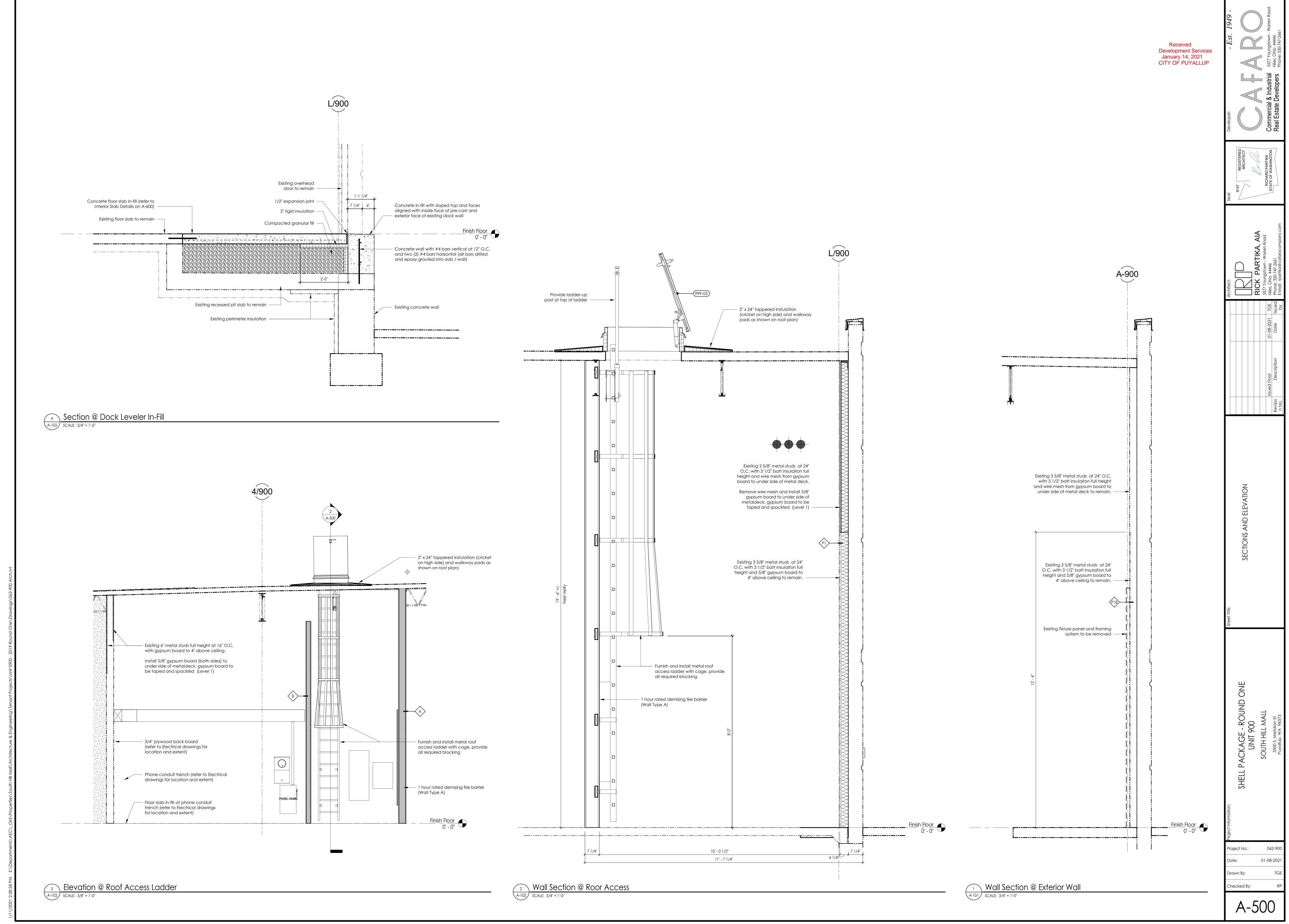
SCALE: None

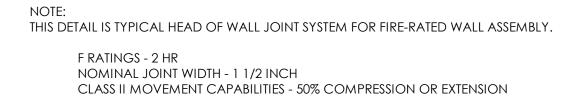
Bowling pin feature by Tenant

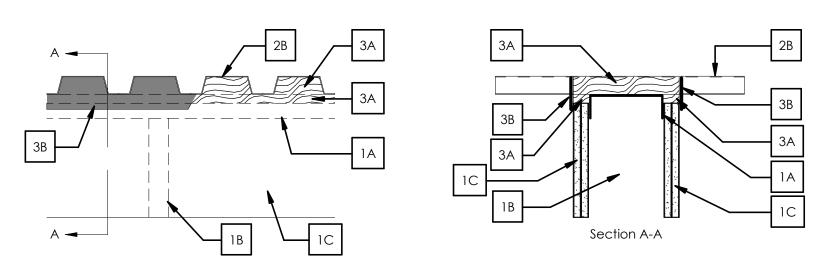
			FINISH L	EGEND
Кеу [Description	Manufacturer	Model / Color	Comments
P-1	Paint	TBD	TBD	Hollow metal door and frame paint
	Paint	TBD	TBD	Paint existing standing seam metal roof and coping
Paint	t	TBD	TBD	Red paint on exisiting pre-cast panels
	Paint	TBD	TBD	Medium Gray paint on existing pre-cast panel
	Paint	TBD	TBD	Dark Gray paint on existing pre-cast panels
	Paint	TBD	TBD	Paint on pre-cast panels
	Paint	TBD	TBD	White paint on entrance column and ceiling



Project No.: Checked By:





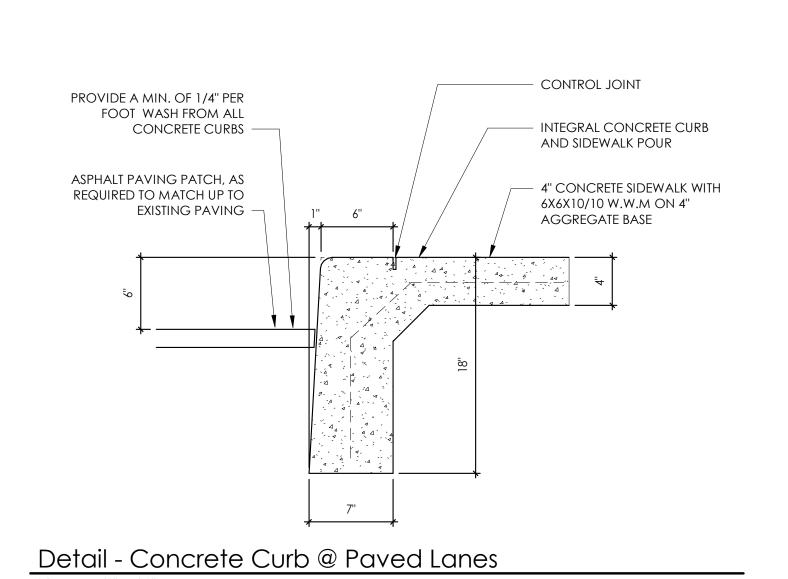


- WALL ASSEMBLY THE 1 OT 2 HR, FIRE RATED GYPSUM WALLBOARD/STEEL STUD WALL ASEMBLY SHALL BE CONSTRCUTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE U.L. FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES.
 - STEEL FLOOR AND CEILING RUNNERS FLOOR AND CEILING RUNNERS OF WALL ASSEMBLY SHALL CONSIST OF GALV STEEL CHANNELS SIZED TO ACCOMMODATE STEEL STUDS (ITEM 1B). FLANGE HEIGHT OF CEILING RUNNER SHALL BE MIN 1/4 IN. (6mm) GREATER THAN MAX EXTENDED JOINT WIDTH. CEILING RUNNER INSTALLED PERPENDICULAR TO DIRECTION OF FLUTED STEEL DECK AND SECURED TO VALLEYS WITH STEEL FASTENERS OR WELDS SPACED MAX 24 IN. (610mm) O.C.
 - A1. **LIGHT GAUGE FRAMING*** (XHLI) SLOTTED CEILING RUNNER -- AS AN ALTERNATE TO THE CEILING RUNNER IN ITEM 1A, SLOTTED CEILING RUNNER TO CONSIST OF GALV STEEL CHANNEL WITH SLOTTED FLANGES SIZED TO ACCOMMODATE STEEL STUDS (ITEM 1B). SLOTTED CEILING RUNNER INSTALLED PERPENDICULAR TO DIRECTION OF FLUTED STEEL DECK AND SECURED TO VALLEYS WITH STEEL FASTENERS OR WELDS SPACED MAX 24 IN. (610mm) O.C. BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS - SLP-TRK
 - CALIFORNIA EXPANDED METAL PRODUCTS CO CST CLARKDIETRICH BUILDING SYSTEMS - TYPE SLT, SLT-H CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV - SDT250, SDT300 MARINO/WARE, DIV OF WARE INDUSTRIES INC - TYPE SLT
 - **METAL-LITE INC** THE SYSTEM **OLMAR SUPPLY INC** - STT250, STT300 SCAFO STEEL STUD MANUFACTURING CO - SLOTTED TRACK TELLING INDUSTRIES L L C - TRUE-ACTION DEFLECTION TRACK
 - LIGHT GAUGE FRAMING* (XHLI) VERTICAL DEFLECTION CEILING RUNNER WHEN THE NOM JOINT WIDTH IS LESS THAN OR EQUAL TO 3/4 IN. (19mm), VERTICAL DEFLECTION CEILING RUNNER MAY BE USED AS AN ALTERNATE TO THE CEILING RUNNERS IN ITEMS 1A AND 1A1. VERTICAL DEFLECTION CEILING RUNNER TO CONSIST OF GALV STEEL CHANNEL WITH SLOTTED VERTICAL DEFLECTION CLIPS MECHANICALLY FASTENED WITHIN RUNNER. SLOTTED CLIPS PROVIDED WITH STEP BUSHINGS FOR PERMANENT FASTENING OF STEEL STUDS. FLANGES SIZED TO ACCOMMODATE STEEL STUDS (ITEM 1B). VERTICAL DEFLECTION CEILING RUNNER INSTALLED PERPENDICULAR TO DIRECTION OF FLUTED STEEL DECK AND SECURED TO VALLEYS WITH STEEL FASTENERS OR WELDS SPACED MAX 24 IN. (610mm) O.C. THE STEEL NETWORK INC - VERTITRACK VTD250, VTD362, VTD400, VTD600, VTD800
 - A3. **LIGHT GAUGE FRAMING*** (XHLI) NOTCHED CEILING RUNNER -- AS AN ALTERNATE TO THE CEILING RUNNERS IN ITEMS 1A THROUGH 1A2, NOTCHED CEILING RUNNERS TO CONSIST OF C-SHAPED GALV STEEL CHANNEL WITH NOTCHED return flanges sized to accommodate steel studs (Item 1B). Notched ceiling runner installed PERPENDICULAR TO DIRECTION OF FLUTED STEEL DECK AND SECURED TO VALLEYS WITH STEEL FASTENERS OR WELDS 24 IN (610mm) O.C. **OLMAR SUPPLY INC** - TYPE SCR
 - STUDS STEEL STUDS TO BE MIN 3-1/2 IN. (69 mm) WIDE. STUDS CUT 3/4 IN. (19 mm) LESS IN LENGTH THAN ASSEMBLY HEIGHT WITH BOTTOM NESTING IN AND RESTING ON FLOOR RUNNER AND WITH TOP NESTING IN CEILING RUNNER WITHOUT ATTACHMENT. WHEN SLOTTED CEILING RUNNER (ITEM 1A1) IS USED, STEEL STUDS SECURED TO SLOTTED CEILING RUNNER WITH NO. 8 BY 1/2 IN. (13 mm) LONG WAFER HEAD STEEL SCREWS AT MIDHEIGHT OF SLOT ON EACH SIDE OF WALL. WHEN VERTICAL DEFLECTION CEILING RUNNER (ITEM 1A2) IS USED, STEEL STUDS SECURED TO SLOTTED VERTICAL DEFLECTION CLIPS, THROUGH THE BUSHINGS, WITH STEEL SCREWS AT MIDHEIGHT OF EACH SLOT. STUD SPACING NOT TO EXCEED 24 IN. (610 MM) OC.
 - GYPSUM BOARD* (CKNX)- MIN 5/8 IN. (16 mm) THICK GYPSUM BOARD SHEETS INSTALLED ON EACH SIDE OF WALL WALL TO BE CONSTRUCTED AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY, EXCEPT THAT A MAX 1-1/2 IN. (38 MM) GAP SHALL BE MAINTAINED BETWEEN THE TOP OF THE GYPSUM BOARD AND THE BOTTOM OF THE STEEL DECK UNITS AND THE TOP ROW OF SCREWS SHALL BE INSTALLED INTO THE STUDS 3-1/2 TO 4 IN. (89 TO 102 mm) BELOW THE LOWER SURFACE OF THE FLOOR OR ROOF.
- NONRATED HORIZONTAL ASSEMBLY THE NONRATED HORIZONTAL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS DESCRIBED BELOW:
 - A. SUPPORTS (NOT SHOWN) STRUCTURAL STEEL OR OTHER MEMBERS SUPPORTING THE STEEL DECK.
 - STEEL DECK MAX 3 IN. (76 mm) DEEP BY MIN 20 MSG STEEL DECK FLUTED MAX 12 IN. (305 mm) ON CENTER. WELDED OR MECHANICALLY FASTENED TO SUPPORTS (ITEM 2A).
- C. CONCRETE (NOT SHOWN, OPTIONAL) STEEL DECK MAY BE TOPPED WITH REINFORCED CONCRETE. THICKNESS OF CONCRETE MAY VARY.
- JOINT SYSTEM MAX SEPARATION BETWEEN BOTTOM OF STEEL DECK AND TOP OF WALL ASSEMBLY AT TIME OF INSTALLATION OF JOINT SYSTEMS IS 1 1/2 IN. (38 mm). JOINT SYSTEM IS DESIGNED TO ACCOMMODATE A MAX 50 PERCENT COMPRESSION OR EXTENSION FROM ITS INSTALLED WIDTH. THE JOINT SYSTEM CONSISTS OF FORMING MATERIAL AND A FILL MATERIAL,
- FORMING MATERIAL* NOM 4 PCF (64 kg/m³) DENSITY MINERAL WOOL BATT INSULATION CUT APPROX 25 PERCENT WIDER THAN THE FLUTES WITH A LENGTH APPROX EQUAL TO THE OVERALL THICKNESS OF THE WALL. MULTIPLE PIECES STACKED ON TOP OF EACH OTHER, AS NEEDED, AND THEN COMPRESSED 50 PERCENT IN THICKNESS AND INSERTED INTO THE FLUTES OF THE STEEL DECK ABOVE THE TOP OF THE CEILING RUNNER. THE MINERAL WOOL BATT INSULAITON IS TO PROJECT BEYOND EACH SIDE OF THE CEILING RUNNER, FLUSH WITH WALL SURFACES. ADDITIONAL 1 1/4 IN. (32 mm) WIDE STRIPS OF NOM 4 PCF (64 kg/m³) MINERAL WOOL BATT INSULATION ARE TO BE CUT TO FILL THE GAP BETWEEN THE TOP OF THE GYPSUM BOARD AND BOTTOM OF THE STEEL DECK. THE STRIPS OF MINERAL WOOL ARE COMPRESSED 50 PERCENT AND TIGHTLY PACKED, CUT EDGE FIRST, INTO THE GAP BETWEEN THE TOP OF THE GYPSUM BOARD AND BOTTOM OF THE STEEL DECK ON BOTH SIDES OF THE WALL.
 - **ROCK WOOL MANUFACTURING CO** DELTA-BOARD ROCKWOOL - SAFE THERMAFIBER INC - TYPE SAF
- FORMING MATERIAL* PLUGS (OPTIONAL, NOT SHOWN) PREFORMED MINERAL WOOL PLUGS, FORMED TO THE SHAPE FO THE FLUTED FLOOR UNITS, FRICTION FIT TO COMPLETELY FILL THE FLUTES ABOVE THE CEILLING CHANNEL THE PLUGS SHALL PROJECT BEYOND EACH SIDE OF THE CEILING RUNNER, FLUSH WITH WALL SURFACES. ADDITIONAL FORMING MATERIAL, DESCRIBED IN ITEM 3A2, TO BE USED IN CONJUCTION WITH THE PLUGS TO FILL THE GAP BETWEEN THE TOP OF GYPSUM BOARD AND BOTTOM OF STEEL DECK. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP 777 SPEED PLUGS
- A2. FORMING MATERIAL* STRIPS (OPTIONAL) NOM 1 1/4 IN. (16 OR 32 mm) WIDE PRECUT MINERAL WOOL STRIPS. THE STRIPS ARE COMPRESSED 50 PERCENT AND FIRMLY PACKED, CUT EDGE FIRST, INTO THE GAP BETWEEN THE TOP OF THE GYPSUM BOARD AND BOTTOM OF THE STEEL DECK ON BOTH SIDE OF THE WALL. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CP 767 SPEED STRIPS
- B. FILL, VOID OR CAVITY MATERIAL* MIN 1/16 IN. (1.6 mm) DRY THICKNESS (1/8 IN. OR 3.2 mm WET THICKNESS) OF FILL MATERIAL SPRAYED OR TROWELED ON EACH SIDE OF THE WALL TO COMPLETELY COVER MINERAL WOOL FORMING MATERIAL AND TO OVERLAP A MIN OF 1/2 IN (13 mm) ONTO GYPSUM BOARD AND STEEL DECK ON

* BEARING THE UL CLASSIFICATION MARKING

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CFS-SP WB FIRESTOP JOINT SPRAY

U.L. Design CJ-D-0004



Wall Type Legend Detail **Description** Mark 6" 20 gage metal studs at 24" on center full height with one (1) layer 5/8" Type 'X' gypsum board full height one (1) side with Level 1 finish. One (1) layer full height 5/8" Type 'X' on Unit 900 side by Tenant. 3 5/8" 20 gage metal studs at 16" on center full height with one (1) layer 5/8" Type 'X' gypsum board full height both sides and end with Level 1 finish. Received

Development Services January 14, 2021 CITY OF PUYALLUP



- WALL ASSEMBLY THE 1 OT 2 HR. FIRE RATED GYPSUM WALLBOARD/STEEL STUD WALL ASEMBLY SHALL BE CONSTRCUTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE U.L. FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES.
 - STUDS WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16" O.C. STEEL STUDS TO BE MIN. 3-5/8" WIDE AND SPACED MAX. 24" O.C. WALLBOARD, GYPSUM* - WALLBOARD SHEETS TO BE INSTALLED TO A MIN TOTAL THICKNESS OF 5/8 OR 1-1/4 IN. ON EACH SIDE OF THE WALL FOR A 1 OR 2 HOUR RATED ASSEMBLIES, RESPECTIVELY. THE HOURLY FIRE RATING OF THE JOINT SYSTEM IS DEPENDENT ON THE HOURLY FIRE RATING OF THE WALL.
- JOINT SYSTEM MAX WIDTH OF JOINT (AT TIME OF INSTALLATION OF JOINT SYSTEM) IS 1/2 IN. (13mm) MEASURED BETWEEN THE FACE BOARDS OF THE GYPSUM ITEM 1B OR A MAX OF 1/4 IN. (6mm) MEASURED BETWEEN THE STUDS ITEM 1A. THE JOINT SYSTEM IS DESIGNED TO ACCOMMODATE A MAX 15 PERCENT COMPRESSION AND EXTENSION FROM ITS INSTALLED WIDTH.
 - MECHANICAL JOINT ASSEMBLY FIRE BARRIER MATERIAL ADHERED TO CORRUGATED METAL OR PLASTIC AND PROVIDED WITH FLANGES OF THE SAME MATERIAL. ASSEMBLY TO BE INSTALLED ON BOTH SIDES OF WALL IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS PROVIDED WITH THE PRODUCT. CALIFORNIA EXPANDED METAL PRODUCTS CO - FAS-093X, FAS 093X V

* BEARING THE UL CLASSIFICATION MARKING

U.L. Design WW-D-0172

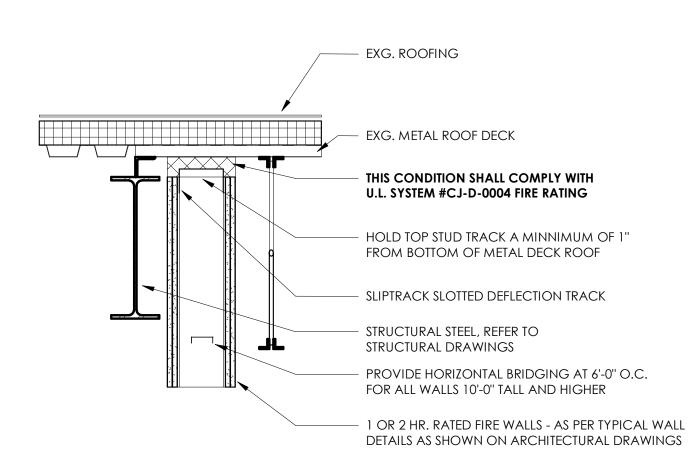
TRIM-TEX INC - TRIM TEX-093X-V

THIS DETAIL IS TYPICAL CONTROL JOINTS A FIRE-RATED WALL ASSEMBLY.

CLASS II OR III MOVEMENT CAPABILITIES - 100% COMPRESSION OR EXTENSION

F RATINGS - 1 AND 2 HR

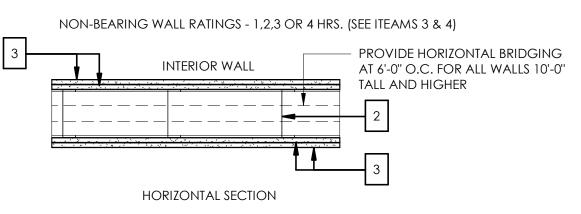
NOMINAL JOINT WIDTH - 1/2 INCH



Detail - Typical Joint System @ Top of Rated Walls

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

THIS WALL ASSEMBLY TYPICAL FOR 1-HOUR FIRE-RATED BARRIER WALLS OR PARTITIONS OF TENANTS, OR 2-HOUR FIRE BARRIER WALLS AS SHOWN ON PLANS. DESIGN NO. U419



1. FLOOR AND CEILING RUNNERS (NOT SHOWN), CHANNEL SHAPED, FABRICATED FROM MIN. 20 MSG CORROSION - PROTECTED STEEL WITH MIN. 1" LENS, ATTACHED TO FLOOR AND CEILING WITH FASTNERS 24" O.C., MAX.

2. STEEL - STUDS CHANNEL SHAPED FROM MIN. 20 MSG CORROSION - PROTECTED STEEL, MIN. WIDTH AS INDICATED IN ITEM #4, STUDS SPACED AT MAX. OF 24" O.C.

3. WALL BOARD, GYPSUM - GYPSUM PANELS WITH BEVELED, SQUARE, OR TAPERED EDGES APPLIED VERTICALLY OR HORIZONTALLY. VERTICAL JOINTS CENTERED OVER STUDS, AND STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF THE STUDS. VERTICAL JOINTS IN MULTILAYER SYSTEMS SHALL BE STAGGERED ONE STUD CAVITY. HORIZONTAL EDGE JOINTS AND BUTT JOINTS ON OPPOSITE SIDES OF STUDS NEED NOT TO BE STAGGERED. HORIZONTAL EDGE JOINTS AND BUTT JOINTS IN MULTILAYER SYSTEMS SHALL BE STAGGERED A MIN. OF 12 INCHES. TOTAL GYPSUM THICKNESS SHALL BE AS FOLLOWS:

RATING	MIN. STUD DEPTH	# OF GYPBD. LAYERS
1 HR.	2 1/2"	1 LAYER 5/8"
2 HRS.	3 1/2"	2 LAYERS, 5/8" EACH
3 HRS.	6"	2 LAYERS, 3/4" EACH

U.S. GYSUM CO. - 5/8" THICK TYPE SCX, SHX, WRX, IP-X1, AR, C, WRC, OR IP-X2, 3/4" THICK TYPE IP-X3 OR ULTRACODE.

4. FASTNERS (NOT SHOWN) - TYPE S OR S-12 STEEL SCREWS USED TO ATTACH PANELS TO STUDS. SINGLE LAYER SYSTMES - 1" LONG FOR 5/8" THICK PANELS, SPACED 8" O.C. WHEN PANELS ARE APPLIED HORIZONTALLY, AND 12" O.C. WHEN APPLIED VERTICALLY. TWO LAYER SYSTEMS - FIRST LAYER, 1" LONG FOR 5/8" THICK PANELS, OR 1 1/4" LONG FOR 3/4" THICK PANELS, SPACED 16" O.C., SECOND LAYER, 1 5/8" LONG FOR 5/8" THICK PANELS, OR 2 1/4" LONG FOR 3/4" THICK PANELS, SPACED 16" O.C., WITH SCREWS OFFSET FROM 8" FROM FIRST LAYER.

5. FURRING CHANNELS (OPTIONAL, NOT SHOWN)

6. JOINT TAPE AND COMPOUND (NOT SHOWN) - VINYL OR CASEIN, DRY OR PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS OF OUTER LAYERS. PAPER TAPE, NOM. 2" WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS OF OUTTER PANELS.

* BEARING THE UL CLASSIFICATION MARKING

U.L. Design No. U419

14" LONG #4 BARS @ 28" O.C.

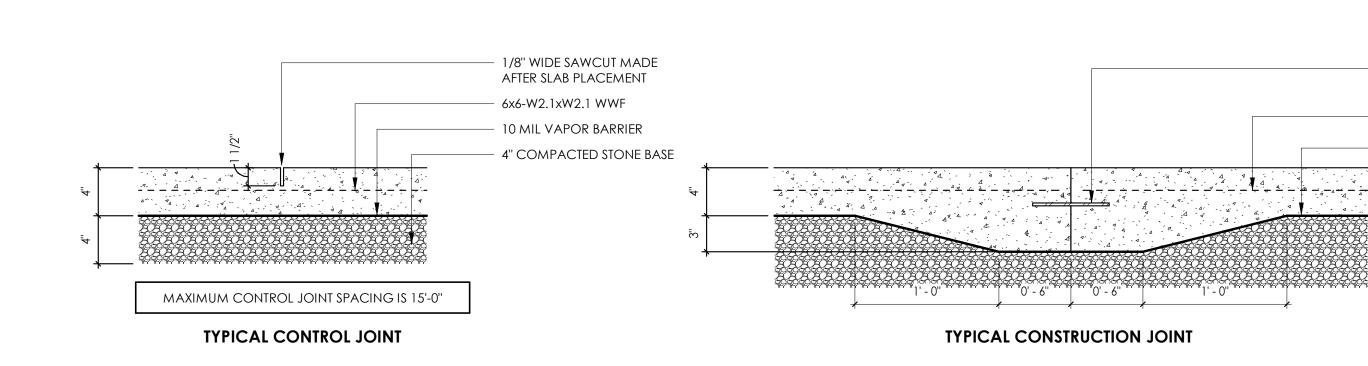
INTO EXISTING SLAB

6x6-W2.1xW2.1 WWF

- 10 MIL VAPOR BARRIER

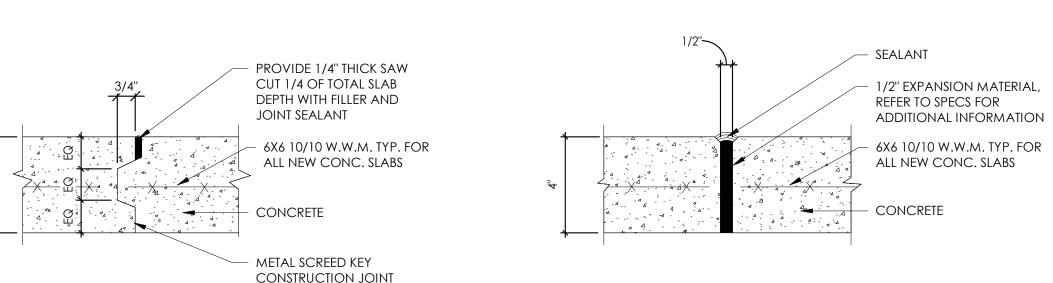
- 4" COMPACTED STONE BASE

DRILLED AND EPOXY GROUTED



Detail - Interior Concrete Flatwork

SLAB IN-FILL JOINT



CONSTRUCTION JOINTS SHALL OCCUR BETWEEN SEPARATE CONC. POURS

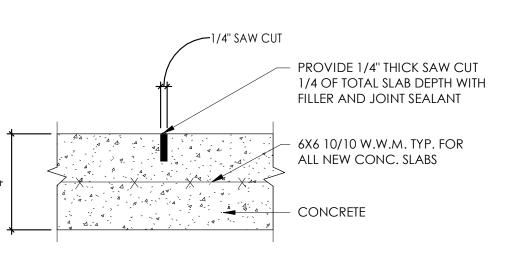
CONSTRUCTION JOINT

Detail - Exterior Concrete Flatwork

EXPANSION JOINT

EXPANSION JOINT (EJ) SHALL OCCUR AS LOCATED ON

SIDEWALK PLANS, OR AT A MAX. OF 30'-0" O.C.



CONTROL JOINTS (CJ) SHALL OCCUR AT A MAX. OF 6'-0" O.C., IN BOTH DIRECTIONS. A MIN. OF ONE CONTROL JOINT SHALL OCCUR AT ALL BUILDING CORNERS, PIERS, AND WHERE SIDEWALK MATERIAL CHANGE.

- EXTERIOR WALL - SEALANT 3/4" EXPANSION MATERIAL, SEALEN BY OTHERS. REFER TO SPECS FOR ADDITIONAL INFORMATION 6X6 10/10 W.W.M. TYP. FOR ALL NEW CONC. SLABS — CONCRETE

EXPANSION JOINT AT EXTERIOR WALL CONTROL JOINT

- ROOF DECK

---- 5/8" 'X' GYP. BD.

- 6"x20 GA. MTL. STUDS

- 3 1/2" BATT INSULATION TO DECK ABOVE

CONC. PANEL WALL-

REF. WALL SECTIONS

3 5/8"x25 GA. MTL. STUD

- CLG. AS SCHED.

12'-0" A.F.F. • P6A 10'-0" A.F.F. • P6

- SELF-SUPPORTING STL.

GYP. BD. ● <u>P10</u> & <u>P10A</u>. PLYWD. ● <u>P11</u>

1/2" HARDWD. REVEAL

PTD. FLAT BLACK

5'-0" • P10 3'-6" • P10A

-- 5/8" GYP BD. ON

3 5/8"x20 GA. MTL.

STUDS • 16" O.C.

PLAN SECTION

- 3/4" HARDWD. CAP W/ + 5 1/2" x

(END COND. SHOWN)

FIXTURE PART, BY SEARS

KICKERS 4'-0" O.C.

TO DECK

TO DECK

CLG. AS SCHED.

-- 3 5/8"x20 GA. MTL.

16" O.C. ● P3A

STUDS • 24" O.C.-

- 7/8" FURRING ['s ● 16"

- CONT 2x WOOD CAP W/

3/4" W.x1/2" D. RABBET

- 3/4" TREATED PLYWOOD

TO DECK ABOVE

- ROOF DECK

5/8" GYP. BD. TO DK.

CLG. AS SCHED.

CLG. EXTENDS PAST

FIXTURE PART. TO

CLG. BY SEARS

---- 3/4" HARDWD. CAP

5'-0" A.F.F • P11

- 7'-3" A.F.F. **⊙** <u>P11A</u>

3 5/8"x20 GA. MTL

STUDS • 16" O.C.

--- 3/4" PLYWOOD ON

PART. ENDS & 48" (

---- 3/4" PLYWOOD

STOCK

EXP. ANCHORS

- CLG. AS SCHED.

STUDS ● 24 0.C.

-1 1/2" C.R. ['s SUSP. W/ #9 WRE ● 4'-0" O.C.

P3 P3A

CONC. PANEL WALL-

REF. WALL SECTIONS

CONT. 1x6 WOOD BASE

OVER GYP. BD. - REF. B/A11 - 3 1/2" BATT INSULATION

O.C. W/ RIGID INSUL. • P3B

· CLG. AS SCHED.

---- FIXTURE PART, TO

CLG. BY SEARS

- CONC. PANEL WALL-

REF. WALL SECTIONS

MTL STUD KICKERS

& ENDS OF WALLS

CLG. AS SCHED.

- 3 5/8"x20 GA. MTL.

STUDS • 16" O.C.

16[®] 0.C. ● <u>P8C</u>

6"x20 GA. MTL. STUDS

SIDES- 5/8" 'X' ON

ONE SIDE ONLY . PBB

CLG. BY SEARS • PBA

CLG. AS SCHED.

- CLG. AS SCHED.

- 3 5/8"x20 GA. MTL. STUDS • 16" O.C. 6"x20 GA. MTL.

STUDS • P12A

- 5/8" 'X' GYP. BD. BOTH SIDES

P12 P12A

1/4" DIAMOND

DOWELS AT 18" O.C.

6x6-W2.1xW2.1 WWF

- 10 MIL VAPOR BARRIER

P8B P8C

O.C.- ALT. TO EA. SIDE

- WIRE MESH FROM TOP

OF GYP. BD. TO DECK ABOVE- WIRE MESH FULL

CLG. BY SEARS • P1B

TO 4" ABOVE CLG .-

NO GYP. BD. ● P1B - 3 5/8"x25 GA. MTL.

- 6"x25 GA. MTL. STUDS

- 3 1/2" BATT INSULATION

TO DECK ABOVE (NO

INSULATION • PIC)

P1 P1A P1B P1C

CLG. AS SCHED.

-- 5/8" 'X' GYP. BD.

TO 4" ABOVE CLG.

- 2 1/2"x25 GA. MTL.

STUDS • 16" O.C.

- CONC. PANEL WALL-

REF. WALL SECTIONS

7/8" FURRING ['s • 16" O.C. • <u>P5A</u>

- ROOF DECK

- DBL STUD BRACE TO DECK

● WALL ENDS & 8'-0"

O.C. MAX. - ALL SIDES

BD. TO 4" ABOVE CLG.

DELETE BRACES • P9A

- CLG. AS SCHED.

STUD TRACK

- 3 5/8"x20 GA. MT STUDS ● 16" O.C.

-- 5/8" 'X' GYP. BD. BOTH SIDES & TOP

Existing Partition Schedule

P9 P9A

● 16 0.C. ● <u>P1A</u>

STUDS @ 24" O.C. FULL HT. TO ROOF DECK @ P1

HT. ● <u>P1B</u>

CLG, AS SCHED.

FIXTURE PART, TO

5/8" 'X' GYP. BD.

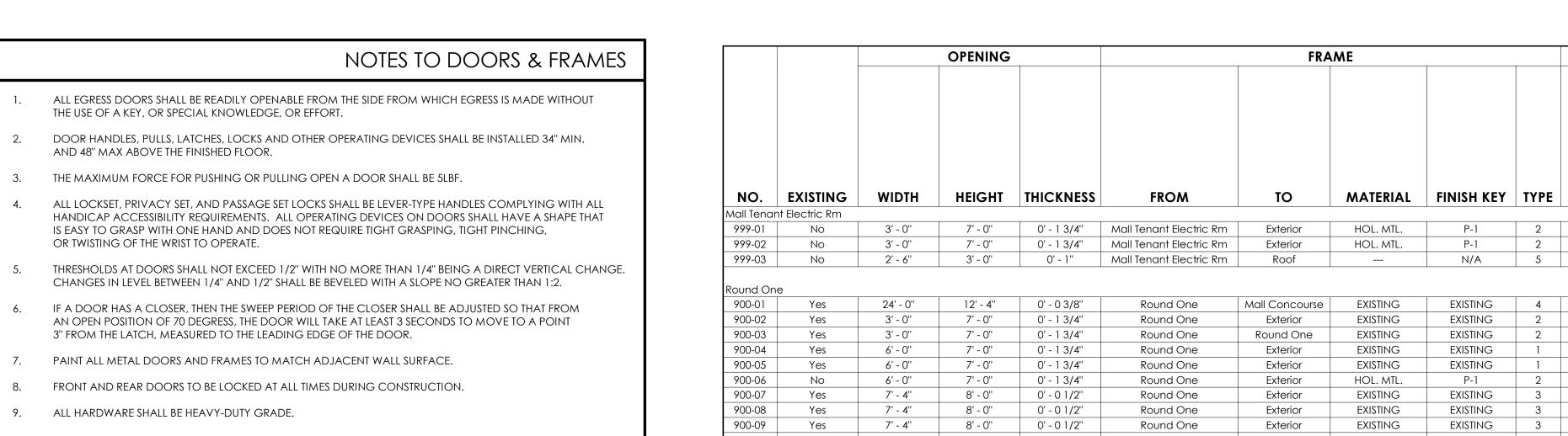
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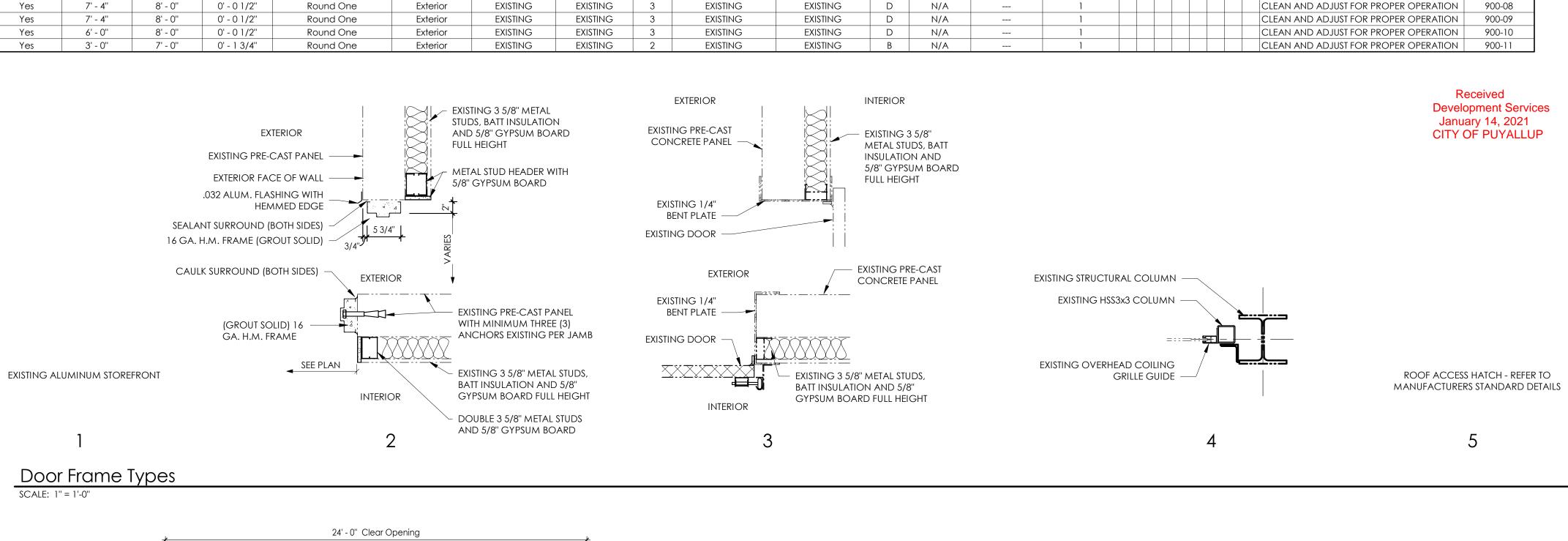
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MATERIAL

INSULATED MTL.

INSULATED MTL.

INSULATED MTL.

EXISTING

EXISTING

EXISTING

EXISTING

INSULATED MTL

EXISTING

DOOR

P-1

EXISTING

EXISTING

EXISTING

EXISTING

EXISTING

EXISTING

FINISH KEY TYPE GLASS RATING

B N/A

F N/A

В

N/A

N/A

N/A

N/A

EXISTING

EXISTING

N/A

N/A

HARDWARE

4 | • | • | • | | | • | • | • |

COMMENTS

CLEAN AND ADJUST FOR PROPER OPERATION

MARK

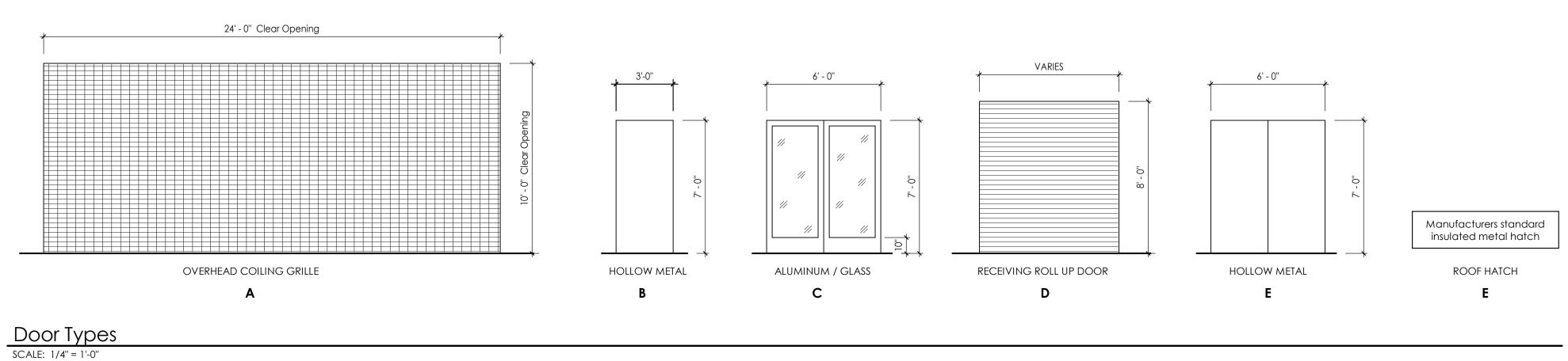
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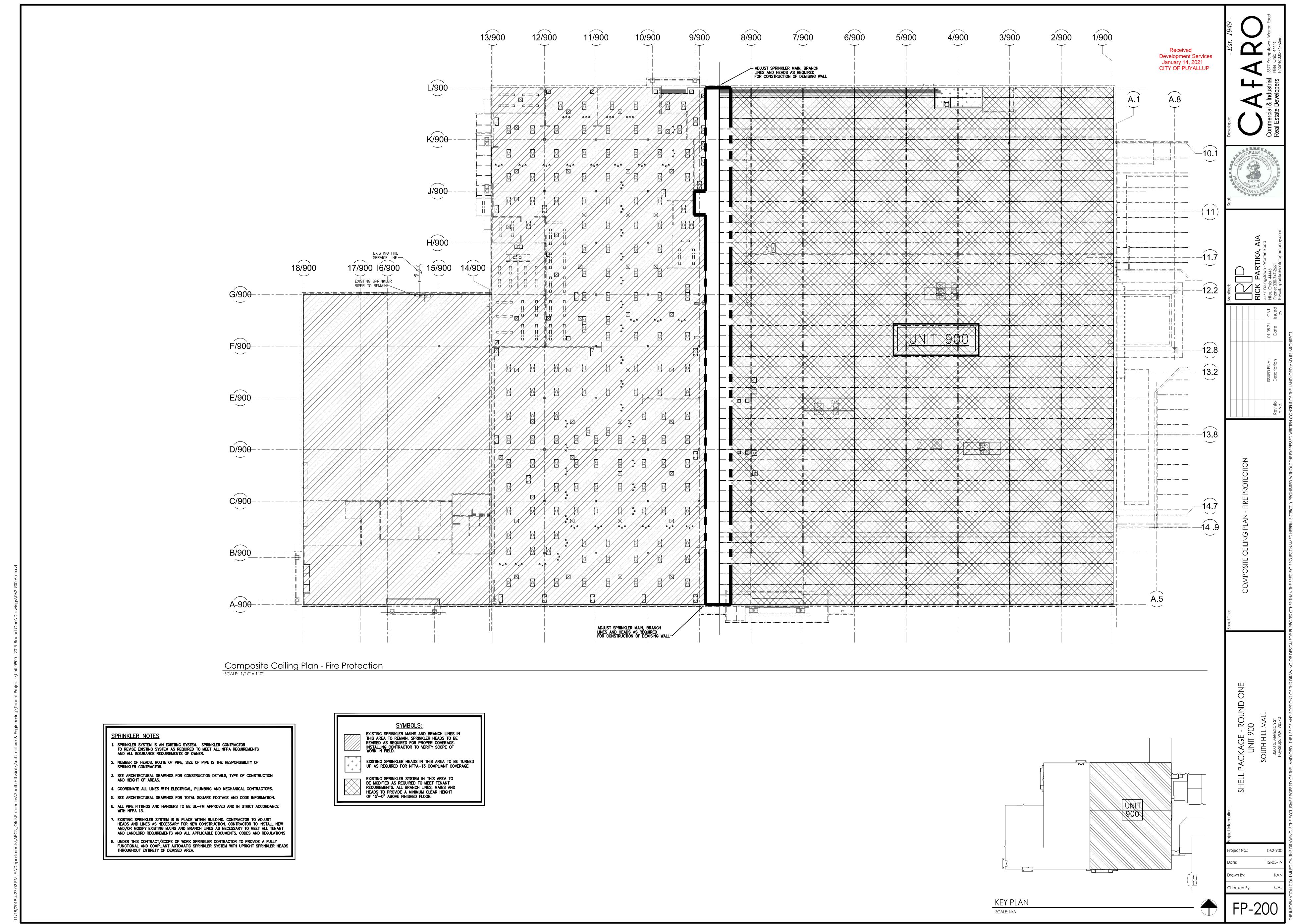
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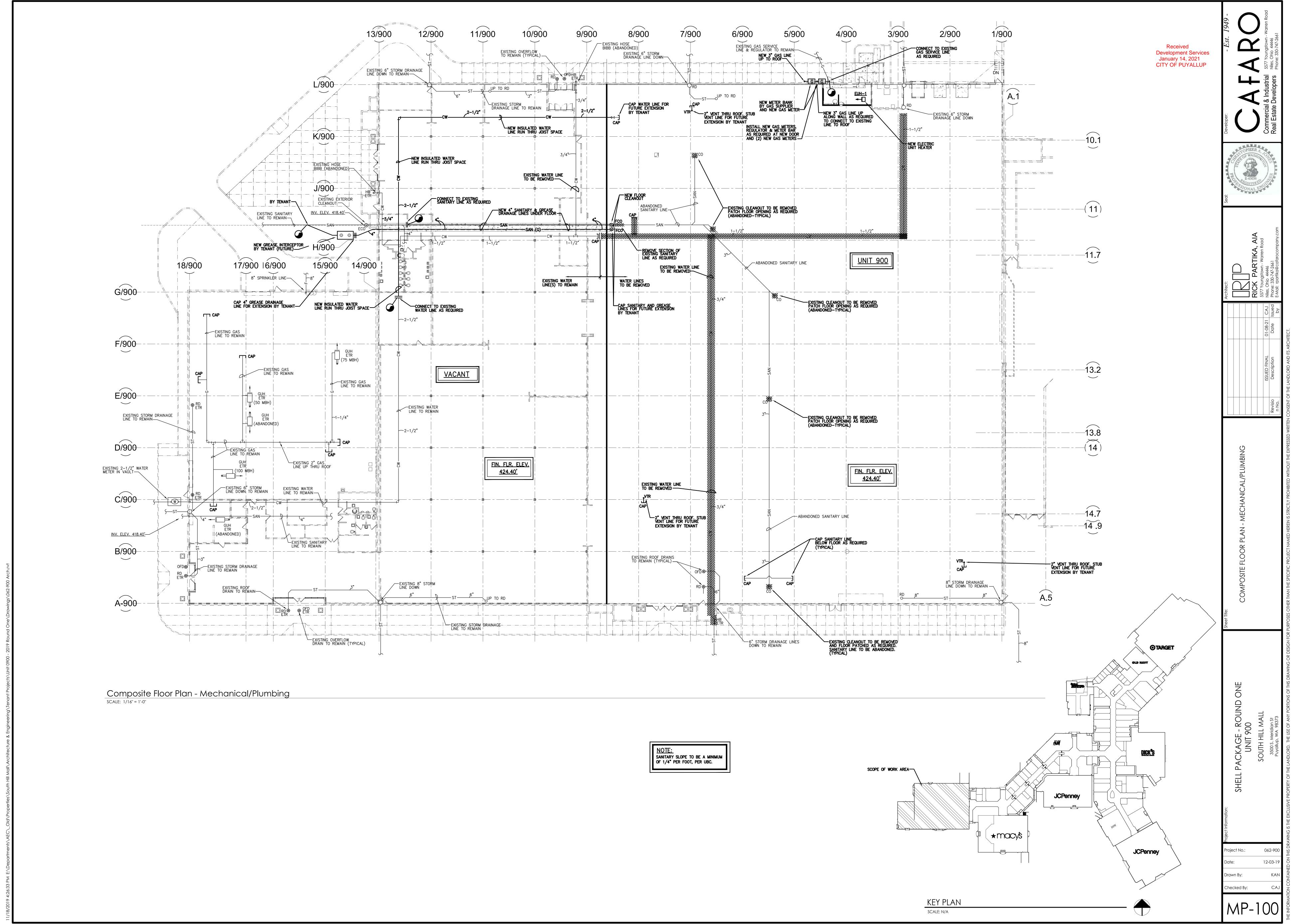
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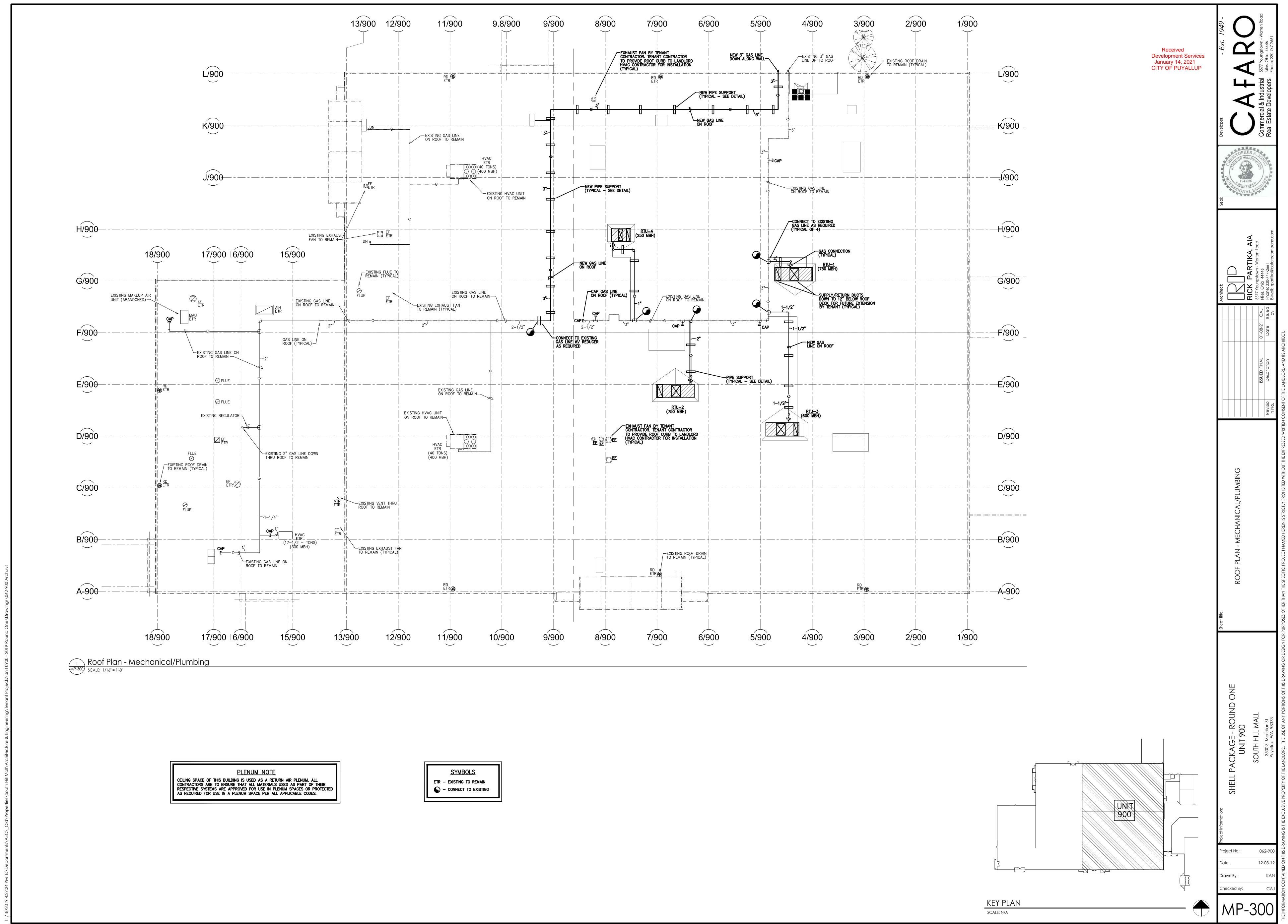
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B-19-1101





Developer:)	Commercial	Real Estate
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PRO E-43036 E-43036 PROJECTOPHER A. O. O. A. O
Seal:

Seal:	RTIKA, AIA Normal Road Normal Road	2661 2661
	KA, AIA ren Road	

Architect:		<u>)</u>	RICK PARTIKA, AIA	5577 Youngstown - Warren Road	Niles, Ohio 44446	Phone: 330-747-2661	E-Mail: rpartika@cafarocompany.com
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					01-08-21 CAJ	Date	

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roject No.:

PACKAGED GAS/ELEC. ROOFTOP UNIT SCHEDULE (BY LANDLORD)					
М	ARK	RTU-I	RTU-2	RTU-3	RTU-4
٢	1FG.	TRANE	TRANE	TRANE	TRANE
M	ODEL	YCD-480	YCD-480	YCD-360	YHD-240
(CFM	16000	16000	12000	8000
E	S.P.	1.0"	1.0"	1.0"	1.25"
HEAT.	INPUT	750;000	750,000	600,000	250,000
CAP: (BTUH)	OUTPUT	600;000	600,000	480,000	200,000
COOLING CAPACITY		480,00 ⁻ BTUH	480,00 BTUH	360,000 BTUH	240,000 BTUH
MCA/MFS		116/125	116/125	82.7/100	48/60
VOLTAGE		480/3/60	480/3/60	480/3/60	480/3/60
SUPPLY/ EXHAUST FAN HP		15	15	10	7.5
WEIGHT		7331 Lbs.	7331 Lbs.	5686 Lbs.	2859 Lbs.
O/A		6010 CFM	6010-CFM	4500 CFM	2500 CFM
REMARKS					
NOTES					

- I. ROOFTOP UNITS, ASSOCIATED GAS PIPING, CONDENSATE PIPING, AND SPECIFIED OPTIONS AND ACCESSORIES PROVIDED AND INSTALLED BY LANDLORD UNLESS OTHERWISE NOTED. ROOFTOP UNIT STARTUP AND CONTROLS AND ASSOCIATED CABLES, WIRING, ETC. PROVIDED AND INSTALLED BY TENANT 2. RTU-1 & 2 SHALL BE PROVIDED WITH ENTHALPY WHEEL ENERGY RECOVERY WITH ENTHALPY EXCHANGE EFFICIENCY AS
- REQUIRED BY APPLICABLE WASHINGTON STATE ENERGY CODE. 3. RTU-3 SHALL BE PROVIDED WITH MODULATING HOT GAS REHEAT DEHUMIDIFICATION INTERLOCKED TO HUMIDITY SENSOR LOCATED IN ASSOCIATED ZONE
- 4. ALL RTU'S SHALL BE PROVIDED WITH HAIL GUARD. 5. RTU-1,2, &3 SHALL BE SINGLE-ZONE VAV UNITS AND SHALL BE PROVIDED WITH FACTORY VFD AND BACNET CARD BY LANDLORD, RTU-4 SHALL BE TRUE VAV UNIT AND SHALL BE RPOVIDED WITH FACTORY VFD AND BACNET CARD BY
- LANDLORD. LOCATE CONTROL PANEL IN STORAGE 125 AND CONTROL DISPLAY 6. TENANT MECHANICAL CONTRACTOR SHALL PROVIDE TRANE CONTROL PANEL MODEL TRACER SC AND ASSOCIATED TRANE 10" CONTROL DISPLAY TO ALLOW FOR MONITORING, PROGRAMMING, AND CONTROLS INTEGRATION OF ALL ROOFTOP
- UNITS. ANY ALTERNATE CONTROL SYSTEM MUST BE APPROVED BY TENANT ENGINEER. IN OFFICE 124, ALL RTU'S SHALL BE PROVIDED WIITH REMOTE TEMPERATURE SENSOR LOCATED IN ASSOCIATED ZONE FOR EACH UNIT BY TENANT. 7. ALL RTU'S SHALL BE PROVIDED WITH FACTORY DEMAND CONTROL VENTILATION INTERLOCKED TO CO2 SENSOR LOCATED
- IN COMMON RA DUCT FOR EACH UNIT.

 8. ALL RTU'S SHALL BE PROVIDED WITH DIFFERENTIAL ENTHALPY ECONOMIZER WITH FAULT DETECTION AND DIAGNOSTICS.
 ALL RTU'S SHALL BE PROVIDED WITH LOW LEAK DAMPERS (MAXIMUM LEAKAGE RATE OF 4 CFM/SQ FT.)

 9. RTU-1, 2 & 3 SHALL BE PROVIDED WITH FACTORY 100% POWER EXHAUST AND RTU-4 SHALL BE PROVIDED WITH FACTORY
- PROVIDED AND FIELD MOUNTED STANDARD POWERED EXHAUST
- 10. ALL RTU'S SHALL BE PROVIDED WITH FACTORY MOUNTED AND POWERED CONVENIENCE OUTLET. II. ALL RTU'S SHALL BE PROVIDED WITH FACTORY MOUNTED NON-FUSED DISCONNECT 12. ALL RTU'S SHALL BE PROVIDED WITH FACTORY 14" INSULATED ROOF CURB. ALL CURBS TO BE SEISMICALLY RATED AND
- CERTIFIED AS REQUIRED BY APPLICABLE CODES. 13. ALL RTU'S SHALL BE INSTALLED SUCH THAT ROOF CURBS AND EQUIPMENT TIE-DOWNS MEET ALL APPLICABLE WIND RESISTANCE CODE REQUIREMENTS. 14. RTU-1,2 & 3 SHALL BE PROVIDED WITH MODULATING HIGH NATURAL GAS HEATING AND RTU-4 SHALL BE PROVIDED
- WITH 2-STAGE LOW NATURAL GAS HEATING. 15. ALL RTU'S SHALL BE PROVIDED WITH HIGH-EFFICIENCY DX COOLING.
 16. ALL RTU'S SHALL BE PROVIDED WITH HINGED ACCESS DOORS.
- 16. ALL RTU'S SHALL BE PROVIDED WITH HINGED ACCESS DOORS.
 17. ALL RTU'S SHALL BE PROVIDED WITH FILTERS WITH MINIMUM MERV-8 RATING.
 18. PIPE CONDENSATE FOR ALL ROOFTOP UNITS TO OUTDOORS ONTO ROOF OR TO NEAREST AVAILABLE DRAIN.
 19. ALL RTU'S SHALL BE PROVIDED WITH FIELD MOUNTED SMOKE DETECTOR IN RETURN AIR BY LANDLORD. WIRED TO FIRE ALARM BY TENANT ELECTRICAL CONTRACTOR. INSTALLED AND WIRED TO UNIT BY TENANT MECHANICAL CONTRACTOR.

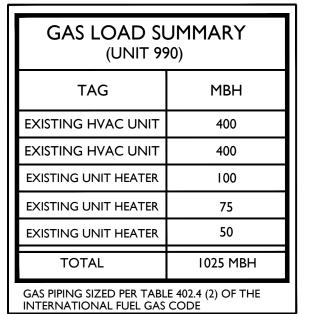
EXHAUST FAN SCHEDULE (BY TENANT)					
MARK	EF-I	EF-2	KEF-I	KEF-2	KEF-3
MFG.	соок	соок			
MODEL	120 ACEB	100 ACEB			
CFM	1250	600	450	2500	2500
E.S.P.	0.3	0:3	0.5	1.25	1.25
RPM	1339	1328	1510	1334	1334
WATTS/H.P.	1/4	1/6	1/15	1.5	1:5
VOLTAGE	115/1/60	115/1/60	115/1/60	460/3/60	460/3/60
SONES	9:8	7.2	7:1	16.8	16.8
CURB	YES	YES	YES	YES	YES
WEIGHT	75	44	55	129	
REMARKS	CURB INSTALLED BY LANDLORD HVAC CONTRACTOR	CURB INSTALLED BY LANDLORD HVAC CONTRACTOR	FURNISHED BY FOOD SERVICE EQPT. SUPPLIER INSTALLED BY TENANT HVAC CONTRACTOR. CURB INSTALLED BY	FURNISHED BY FOOD SERVICE EQPT. SUPPLIER INSTALLED BY TENANT HVAC CONTRACTOR. CURB INSTALLED BY	FURNISHED BY FOOD SERVICE EQPT. SUPPLIER INSTALLED BY TENANT HVAC CONTRACTOR. CURB INSTALLED BY

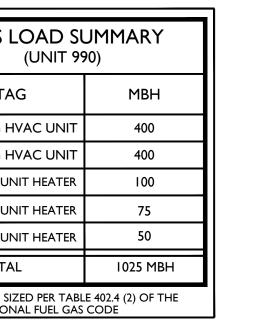
WEIGHT	75	44	55	129		
REMARKS REMARKS CURB INSTALLED BY LANDLORD HVAC CONTRACTOR CURB INSTALLED BY LANDLORD HVAC CONTRACTOR CURB INSTALLED BY LANDLORD HVAC CONTRACTOR CURB INSTALLED BY LANDLORD HVAC CONTRACTOR CURB INSTALLED BY FOOD SERVICE EQPT. SUPPLIER INSTALLED BY TENANT HVAC CONTRACTOR. CURB INSTALLED BY LANDLORD HVAC CONTRACTOR CONTRACTOR FURNISHED BY FOOD SERVICE EQPT. SUPPLIER INSTALLED BY TENANT HVAC CONTRACTOR. CURB INSTALLED BY LANDLORD HVAC CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR						
NOTES I. EF-I & 2 SHALL OPERATE CONTINUOUSLY DURING BUILDING OCCUPIED TIMES. 2. EF-2 SHALL BE INTERCONNECTED TO CO2 GAS DETECTION SYSTEM IN MECHANICAL III AND SHALL OPERATE UPON ACTIVATION OF GAS DETECTION SYSTEM.						
3. FOR EXHAUST FANS KEF-1,2 & 3. REFER TO FOOD SERVICE EQUIPMENT PLANS FOR EQUIPMENT SPECIFICATIONS AND ADDITIONAL REQUIREMENTS. KEF-1,2 & 3 SHALL BE INTERCONNECTED WITH KITCHEN HOOD CONTROL PANEL AND SHALL BE AUTOMATICALLY CONTROLLED TO OPERATE SIMULTANEOUSLY WITH THE OPERATION OF THE KITCHEN EXHAUST SYSTEM. REFER TO FOOD SERVICE EQUIPMENT PLANS AND ELECTRICAL PLANS. KEF-2 & 3 ARE CLASSIFIED HEAVY DUTY EQUIPMENT. 4. ROOF CURBS AND EQUIPMENT TIE-DOWNS SHALL MEET ALL APPLICABLE WIND RESISTANCE CODE REQUIREMENTS. 5. EF-1&2 AND KEF-1 SHALL BE PROVIDED WITH GRAVITY BACKDRAFT DAMPERS WITH MAXIMUM LEAKAGE RATE OF 40 CFM/SQ. FT.						

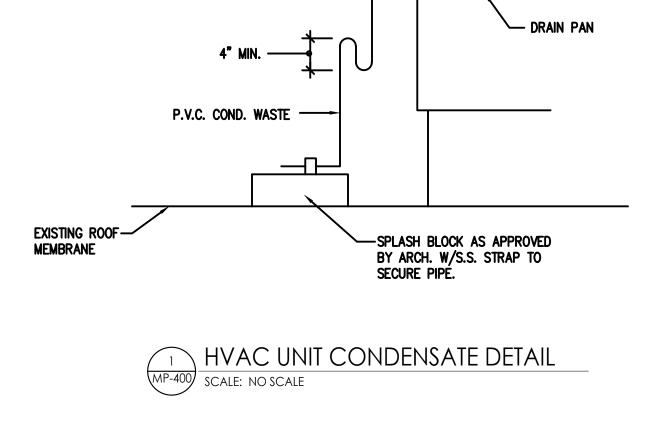
ELECTRIC HEATER SCHEDULE (BY LANDLORD)			
MARK	EUH-I		
MFG.	MARKEL		
MODEL	GIG5103N		
TYPE	UNIT		
LOCATION	MALL/TENANT ELECTRIC ROOM		
MTG.	CLG. BRACKET		
K.W.	3.3		
VOLTAGE	277/1/60		
BTUH	11,200		
THERMOSTAT	INTEGRAL		
FINISH			

GAS LOAD SUMMARY (UNIT 900)				
TAG MBH				
RTU-I	750			
RTU-2 750				
RTU-3 600				
RTU-4 250				
TOTAL 2350 MBH				
GAS PIPING SIZED PER TABLE 402.4 (2) OF THE INTERNATIONAL FUEL GAS CODE				

GAS LOAD SUMMARY (UNIT 990)		
TAG	МВН	
EXISTING HVAC UNIT	400	
EXISTING HVAC UNIT	400	
EXISTING UNIT HEATER	100	
EXISTING UNIT HEATER	75	
EXISTING UNIT HEATER	50	
TOTAL	1025 MBH	







FILL CURB W/ BATT—INSULATION

RETURN AIR OPENING

WELD CORNERS IN—FIELD

FILL CURB W/ BATT-INSULATION

SUPPLY AIR OPENING

RETURN AIR OPENING

WELD CORNERS IN—— FIELD

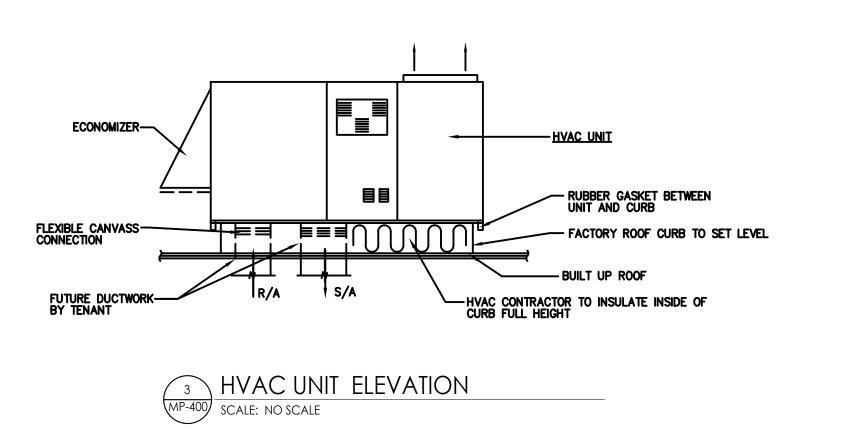
FILL CURB W/ BATT-INSULATION

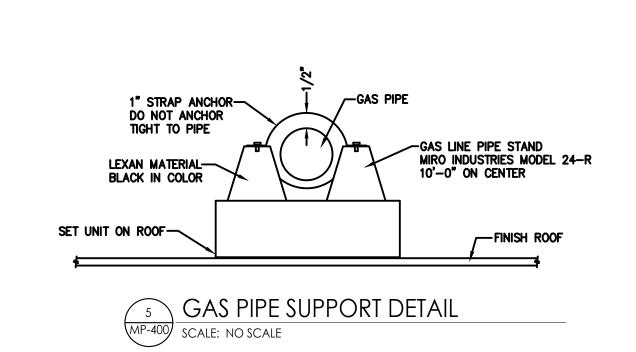
RETURN AIR OPENING

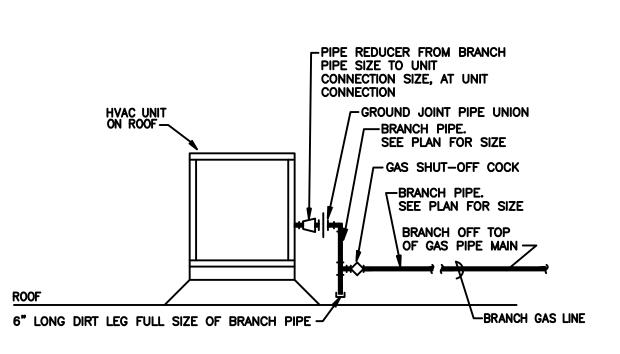
P-400 ROOF CURB DETAIL (HVAC-1&2)
SCALE: NO SCALE

ROOF CURB DETAIL (HVAC-4)
SCALE: NO SCALE

ROOF CURB DETAIL (HVAC-3)
SCALE: NO SCALE









ACKAGE - ROUND (UNIT 900

SECTION 15000 - GENERAL REQUIREMENTS

PART I - GENERAL

1.01 SCOPE OF WORK

- A. The work shall include, but not be limited to, the following: 1. The General Requirements for the Mechanical Trades Work.
- 2. The Administration and Coordination of the Plumbing and Heating Ventilation and Air Conditioning

1.02 SPECIFICATIONS AND DRAWINGS

A. These specifications and accompanying drawings are not to be considered separately, but are to be considered together, and when so taken are intended to explain each other and must describe the work to be performed and the materials entering into the contract.

1.03 SHOP DRAWNGS

A. Prepare shop drawings of equipment controls and ductwork at sufficient scale and in sufficient detail to clearly show details of construction, show all specified operating characteristics for each item of equipment, including pump and fan curves with design conditions for each fan shown thereon. Identify each drawing or item clearly as to location and use.

1.04 COORDINATION AND SUPERVISION

A. Contractor shall examine work of other trades which comes in contact with or is covered by this work. He shall, in no case, attach to, cover up, or finish against any defective work or install his work in a manner which will prevent proper installation of the work of other trades. He shall consult all drawings, specs and details of other divisions of the work on this project, shall conform to all requirements of same affecting his work. He shall do all plumbing, heating, ventilation and air conditioning work necessary to be done in connection with the installation of other divisions of the work unless specifically otherwise specified under that division.

1.05 RECORD DRAWINGS

A. Prepare and deliver to architect one new and complete set of "As Built" drawings. These prints are to accurately show location of all heating, ventilation, air conditioning and plumbing as installed, exact location of all services where connected into existing piping abandoned or terminated under this

1.06 DRAWING STANDARDS

A. Attention is directed to the fact that drawings and design of systems are based on definite makes of materials or equipment which shall be considered the "specified standard" and shall serve to establish a standard quality and character for equipment and materials.

1.07 INTERFERENCES

A. Before installing any work Contractor shall see that it does not interfere with clearances required for finish on beams, columns. pilasters, walls or other structural or architectural members as shown on architectural drawings. If any work so installed and it later develops that Architectural design cannot be followed, Contractor shall, at his own expense, make such changes in his work in accordance with plans and specifications.

1.08 HOISTS. RIGGING. TRANSPORTATION AND SCAFFOLDING

A. Each Contractor and Subcontractor shall provide all scaffolding, staging, cribbing, racks, hoists and rigging necessary for placing all his materials and equipment in their proper places in the project. All temporary work shall be removed on the job.

1.09 CUTTING AND PATCHING

A. Each Contractor is responsible for his own cutting and patching of existing walls, ceilings and floors as required for installation of their contract work.

1.10 INSTALLATION REQUIREMENTS

A. Contractor shall be governed by the architectural, mechanical, electrical and structural drawings, as well as drawings of associated trades, in the installation of the heating and plumbing work. The location of piping, equipment, ducts, etc. on the drawings are diagrammatic. Indicated positions shall be followed as closely as possible; however, exact locations shall be subject to building construction and interferences with electrical work. Should difficulties prevent the installation of any part of the work as indicated, such shall be called to the attention of the Architect, who will determine locations and changes, and the Contractor shall install the work accordingly. The Architect reserves the right to make minor changes in location of any part of the work up to the time of roughing in without additional cost.

1.11 PERMITS, CERTIFICATES, CODES AND ORDINANCES

A. The intent of this specifications is that Contractors for those portions of the work base their bids upon the plans and specs, but each installation shall comply with OSHA Safety Requirements and the following applicable code, ordinance, and/or safety rule and regulation, as well as any other which apply to the work shown and

- 1. Plumbing: Local plumbing code and/or ordinances.
- 2. HVAC: All applicable state and/or local laws and regulations.
- B. The Contractors shall obtain and pay for all official permits, licenses and inspections required by the governing state and local authorities and departments.

1.12 ELECTRICAL CONNECTIONS

A. The Contractors shall acquaint themselves with those portions of the electrical drawings and specs, which establish characteristics of electrical service and shall furnish equipment to operate on that service. Contractors shall confirm available voltage(s) with electrical contractor and provide equipment as required for use with service.

B. The Mechanical Contractor shall furnish all starters. Starters to be provided with proper NEMA enclosures and for surfaces or flush application as required. Where equipment has magnetic starters furnished as an integral part of the equipment, Electrical Contractor shall furnish necessary disconnect switches.

1.13 SUPERVISION

A. Contractor shall have in charge of work at all times during construction a competent superintendent with experience in work to be installed under this contract.

1.14 FLOOR AND CEILING PLATES

A. On all pipes passing through floors, walls, partitions, plaster, furring, etc. where exposed to view in occupied areas, provide approved steel plates. In finished rooms these plates shall be chrome plated and in unfinished rooms these shall be black iron prime coated.

SECTION 15100 HEATING, VENTILATING AND AIR CONDITIONING

1.01 MATERIALS AND RESPONSIBILITY

A. All materials and equipment shall be installed in a neat and workmanlike manner by competent specialists for each subtrade. The installation of any materials and equipment not meeting these standards may be condemned by the Engineer and shall be removed and reinstalled at no additional cost to the Owner. Contractor is responsible for the safety and good condition of the materials and equipment installed until final acceptance by Owner. All materials shall be stored in such a manner as to prevent damage or weathering prior to installation.

B. When an installation is found being improperly installed, Architect shall notify the Contractor to cease work at once, followed by a written order Contractor shall then proceed only when corrections have been made.

1.02 ACCESS DOORS

A. The Mechanical Contractor shall furnish and install access doors and frames in all locations where designated to provide access to concealed valves, dampers, and other equipment requiring service or inspection as shown on drawings or as approved in the field by the

B. Mechanical Contractor shall mark lay—in ceiling tiles in a method approved by Architect where access is required to such mechanical equipment as valves, regulators, fire dampers, etc.

1.03 MISCELLANEOUS STEEL

A. Furnish and install all miscellaneous steel required for supports, hangers, anchors, guides, etc., required for installation of equipment and materials furnished and installed under this section.

1.04 SHEET METAL WORK

A. Furnish and install ductwork, hangers, dampers, hoods, access doors, grilles, louvers, diffusers, exhaust fans, roof caps and related sheet metal accessories as shown on drawings and as indicated in these specifications.

B. All low velocity sheet metal shall be fabricated in accordance with the latest recommendations of the ASHRAE and SMACNA. Duct shall be fabricated of prime galvanized sheet metal.

C. Ductwork construction resulting in a short side dimension of 19" and above shall require reinforcing on all four sides in accordance with the above schedule. Evidence of any separation of galvanized surface from the steel at any point of the ductwork shall be considered sufficient cause to reflect this material and work.

D. Furnish and install all manual balancing dampers, splitter dampers, extractors and deflectors as shown on drawings or as required to properly distribute the air. All dampers, extractors and deflectors shall be constructed of the same material as the surrounding ductwork. Unless noted otherwise on the drawings, all manual balancing dampers shall be the opposed blade type. Opposed blade dampers shall be Young Regulator Series 820; extractors shall be Young No. 890—A.

E. All manual balancing dampers, splitter dampers, extractors and deflectors shall be controlled by Young No. 1 or Ventlock No. 688 regulators. If ductwork is accessible, mount the regulator on the ductwork. If work will be inaccessible, after the installation of the ceiling or walls, mount the regulator in a steel. flush-mounted box specifically designed for this purpose. Provide all linkage, top bearings and/or gear drives required for the remote installation of the

1.05 INSULATION
A. Size, location and type as noted on drawings.

1.06 TESTS AND ADJUSTMENTS

A. Obtain all inspections required by law, ordinance, rules, regulations of authorities having jurisdiction, and obtain and furnish to Architect Certificates of such inspections. Also pay fees, charges, and other expenses in connection therewith.

B. Perform tests and adjustments under this Contractors supervision and report to Architect. During testing period, maintain on job a competent Engineer thoroughly familiar with all phases for as long as required to thoroughly adjust all systems and demonstrate to Architect that they are functioning properly.

C. Perform all tests in accordance with latest standards of Air Balance Council and make necessary adjustments to obtain specified equipment and system characteristics. Perform tests and adjustments in presence of Architect's representative. Adjust diffusers, grilles, and registers to minimize drafts in all areas. Give Architect one week's notice prior to performing final tests. Furnish all necessary labor, tools and testing equipment to make tests and adjustments accurately and expediently.

D. Do not consider work under this specification complete until Contractor has obtained required inspections, perform tests, made necessary adjustments, and has submitted satisfactory evidence of compliance. Architect reserves the right to make spot checks to determine accuracy and completeness of all adjustments to satisfaction

1.07 ROOF WORK

A. H.V.A.C. contractor is responsible for all roofwork associated with mechanical trades work. All flashing of curbs and caps is to be done by roofing contractor acceptable to owner so any "BOND" on roof is

SECTION 15200 PLUMBING

1.01 SCOPE OF WORK

A. The work required under this division shall consist of all labor, materials, tools, equipment, power, transportation, hoisting implements, services, etc. of every description necessary for the entire completion of the plumbing work of the contract, all as specified herein, shown on the drawings, or reasonably implied by either, complete in every respect unless specifically expected herein.

1.02 EXCAVATION AND BACKFILLING

A. Plumbing Contractor shall do all excavating and backfilling necessary to install his work. He shall dia all trenches to exact grade and depth with only sufficient dirt removed to provide working space. Any trenches dug below required depth shall be filled to proper depth with sand. Trenches shall not be more than 18" wider than external diameter of pipe, and sides shall be practically perpendicular. Shoring or sheet piling shall be used if necessary to prevent caving of trench sides.

1.03 INSPECTION AND TESTS

A. All tests shall comply with these specifications and further with the requirements of the governing authority or serving utility as the case may be. Architect and Plumbing Inspector shall be notified in advance of all tests and shall be present at such tests and shall not backfill or cover up any work until inspected and approved. Furnish final inspection certificate before final payment.

1.04 PIPING MATERIALS

A. Materials shall be all new and adapted to use intended, be free from defects, clean, and protected from weathering or damage as installed, and, unless specifically otherwise noted, shall be specified for each item.

B. Soil, Storm, Waste, Vent and Drain Piping (Installed Above Ground): Shall be no-hub cast iron pipe and fittings made in accordance with Cast Iron Soil Pipe Institute Standard 301-72, with neoprene gasket and stainless steel clamp and as manufactured by Glamorgan, Tyler, or Buffalo. Schedule 40 polyvinyl chloride (PVC) per ASTM D2665, ASTM F1488 is acceptable if areas not used as a return air plenum. See architectural and mechanical drawings for additional information. Contractor to use cast iron in all open plenum areas (if applicable).

C. Water Piping: All hot water piping and cold water piping, including hot water return piping above ground, shall by Type "L" copper pipe with wrought copper sweat solder type fittings. Cross—linked polyethylene (PEX) is acceptable for water lines 3/4" and smaller. PEX piping to be color coded and approved for domestic water distribution per ASTM F877.

D. Gas Piping: Schedule 40 black steel pipe and fittings.

E. Floor Drains, JOSAM 3000-A, with 6" round strainer and nickle bronze

F. Building Cleanouts, "JOSAM" 586000 series wall mounted cleanout with stainless steel wall access cover and screw.

1.05 INSULATION

A. Provide 1" Fiberglass insulation on all water piping. Exception: Water lines located within wall cavities are to NOT be insulated. 1.06 VALVES

A. Furnish and install Nibco, Crane, Fairbanks, Powell, Milwaukee, or Lundenheimer valves shown on drawings and valves required for proper operation of various parts of work. Valves hereinafter scheduled are taken from Nibco or Dezurik drain valves with hose connecting ends and protective caps and shall be installed at low points on all lines carrying

1.07 SANITARY DRAINAGE SYSTEMS

A. Arrange and provide for connection to sanitary sewer facilities as shown on drawings. All soil, waste, vent, sewer, and drainage piping shall be installed so as to be concealed in all occupied spaces, except as otherwise specifically noted on the drawings and except as shown in the Equipment Rooms. All offsets around beams, columns, etc. shall be made as close as possible, using special fittings if necessary.

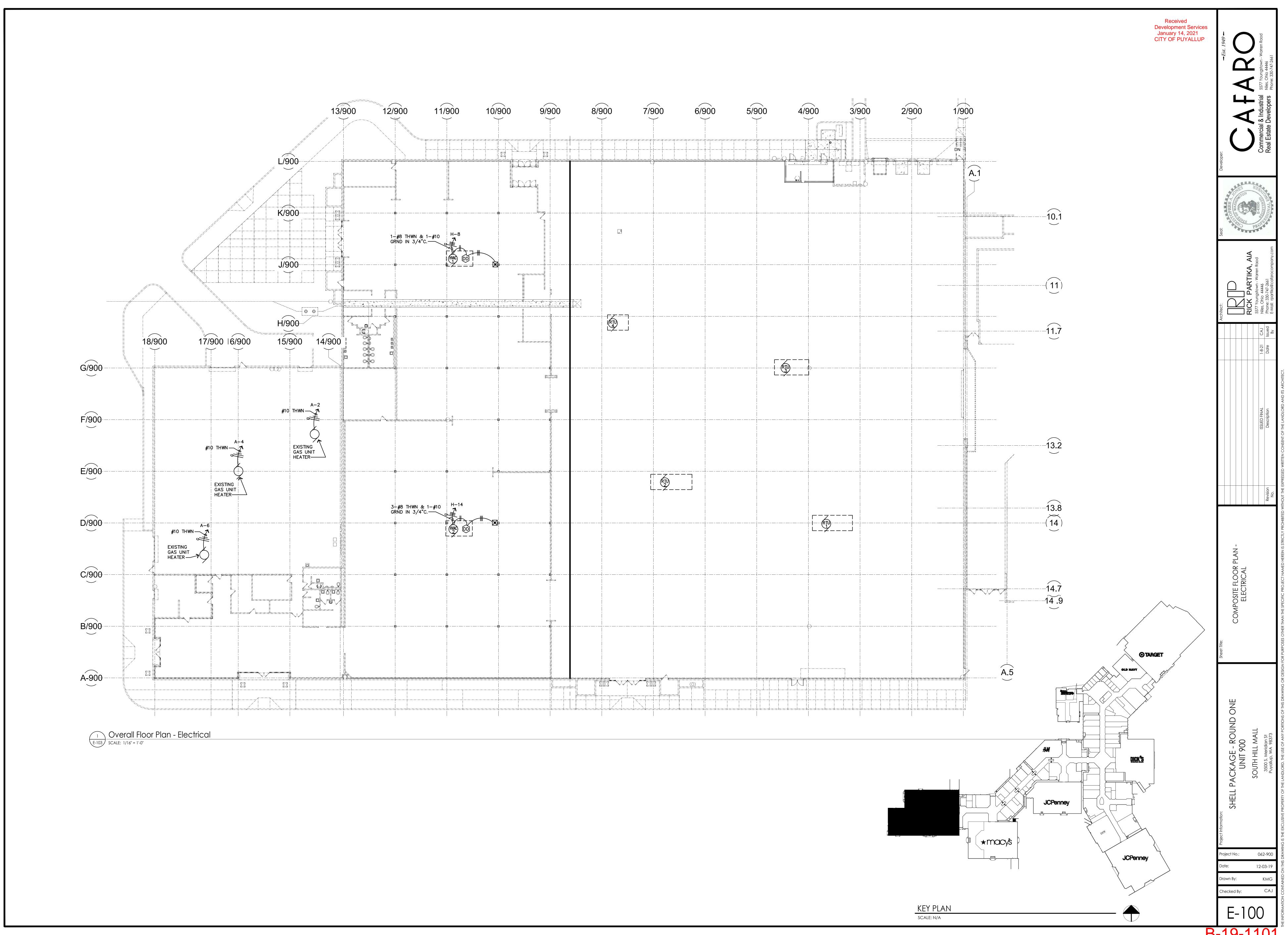
1.08 WATER SUPPLY SYSTEM

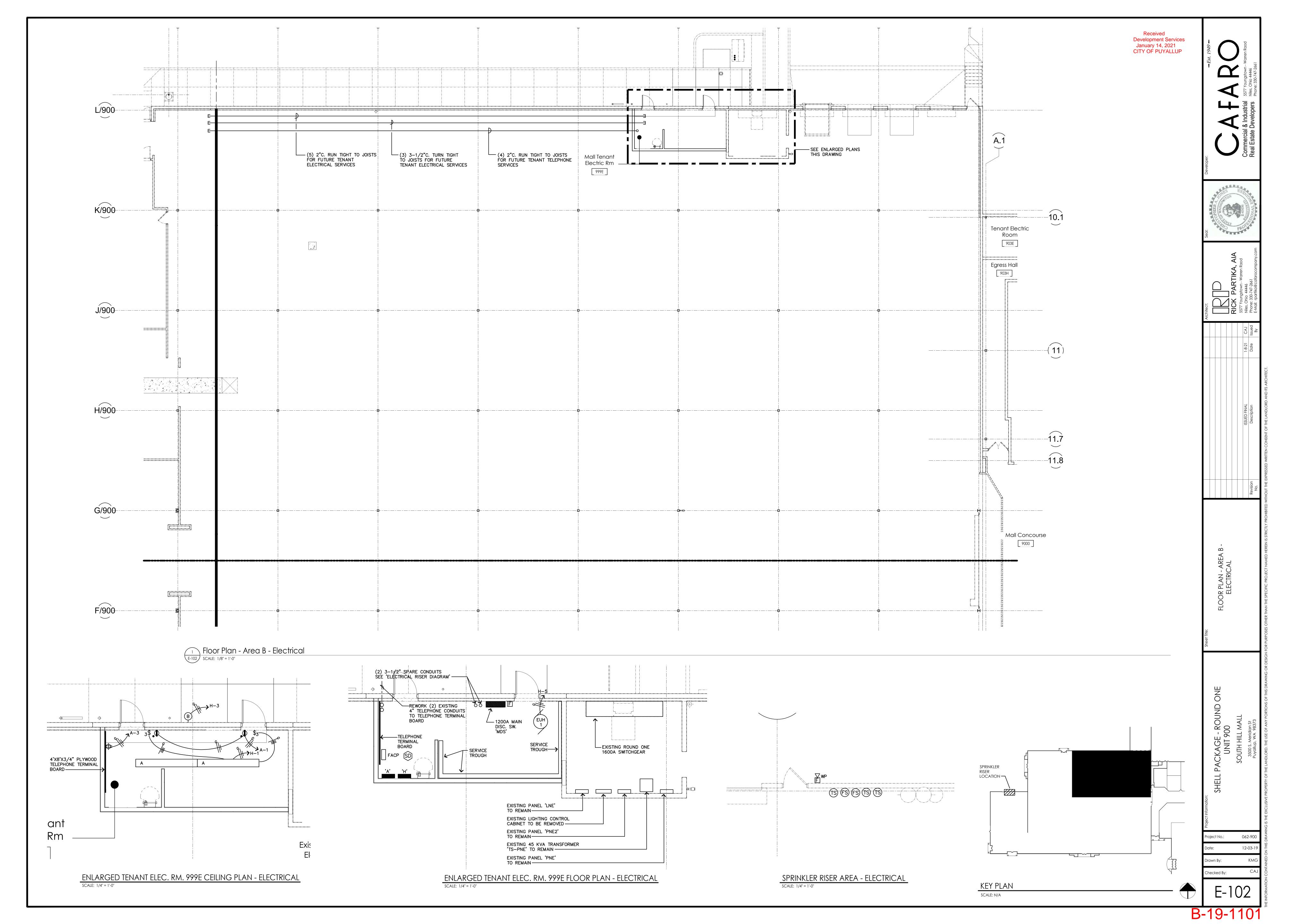
A. Provide Precision Plumbing Products, Inc. system-rated water hammer arrestors on all cold and hot water lines at each group of fixtures, at isolated individual fixtures, and before all quick-closing valves. Water hammer arrestors shall be sized and installed in accordance with manufacturer's published data. Manufactured water hammer arrestors of other makes will be considered.

1.09 PLUMBING FIXTURES

A. Except as specifically otherwise noted or shown, the Plumbing Contractor shall furnish and install all plumbing fixtures shown on the drawings complete and ready for use.

B. All fixture supports to be of type and to permit adjustment to fit variations in construction. All grounds or special supports necessary for setting fixtures shall be furnished and installed before plastering or other finished construction work is begun. All fixtures shall be hung at height directed by Architect. Accessories in general are listed for each fixture. Plumbing Contractor shall, however, supply all stops, traps, esutcheons, connections, etc. as necessary to complete installation of each fixture, whether or not such items are listed.





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Architect: RIC 5577 Y Niles, 0 Phone E-Mail

	FI FOTRICAL SCHEDUI	
Sheet Title:		

Project Inf	
Project No.:	062-900
Date:	12-03-19
Drawn By:	KMG

Checked By:

E-400

_														
	* C.B. LOCK			FACE MOUT			GROUND B	AR				LIGHT FIXTU	RE SCH	EDULE
	• TYPE 'HACR' C.B. 3PH, 4W, 120/208V	_		10,000 AIC			60 AMP M		SYN	MBOL	MARK	DESCRIPTION	LAMPS	MOUNTING
1	USE USE	LOAD	C.B. AMP		C.B. AMP	LOAD	USE	CIR NO	┌╴		Α	COLUMBIA LCL8-40ML	LED	SUSPEND TO 10'-0" A.F.F.
E	1 METER RM OUTS 3 TELE TERM BD OUTS	360 360	20			600 600	UNIT HEATER UNIT HEATER	4	H	Ю	В	HUBBELL LNC2-12LU-4K-3-1-PCU	LED	WALL/SURF 12'-0" A.F.F.
E	5 FIRE ALARM PANEL 7 SPACE	500	1 1	^ \ ^	20	600	UNIT HEATER SPARE	6 8		•				
ŀ	9 SPACE 11 SPACE			^ ^			SPARE SPARE	10 12						
	13 SPACE		1 1	\sim			ISPACE	14						

*	C.B. LOCK TYPE 'HACR' C.B.			FACE M	L'			GROUND	
3PI	H, 4W, 277/480V			14,000	AIC			200 AMP I	MLO
CIR NO	USE	LOAD	C.B. AMP			C.B. AMP	LOAD	USE	CIR NO
1	METER RM LTS	192	20	\sim	~			SPACE	2
3	EXTERIOR LTS	30	20	\sim	\sim			SPACE	4
5	SPKLR UNIT HEATER	3300	20	\sim	~			SPACE	6
7	SPARE		20	\sim	<u> </u>	40	5817	EXIST. ḤVAC-1	8
9	SPARE		20	\sim	<u> </u>		5817		10
11	SPARE		20	\sim	\sim		5817		12
13	SPACE			\sim	1	40	5817	EXIST. HVAC-2	14
15	SPACE			\sim	 		5817		16
17	SPACE			\sim	\sim		5817		18
19	SPACE			-1		25	5000	PANEL 'A'	20
21	SPACE						5000		22
23	SPACE			\vdash			5000		24

ELECTRICAL LEGEND

HUBBELL NO. HBL-GFRST20, 120V/20A DUPLEX RECEPTACLE WITH GROUND FAULT PROTECTION AT 18" A.F.F. OR AS NOTED — WP

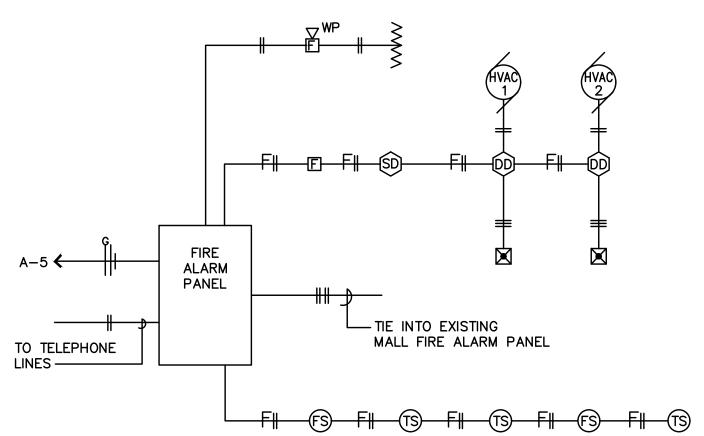
HUBBELL NO. HBL-1223, 120-277V/20A THREE-WAY TOGGLE SWITCH AT 48" A.F.F. UNLESS NOTED OTHERWISE.

DENOTES WEATHERPROOF PLATE.

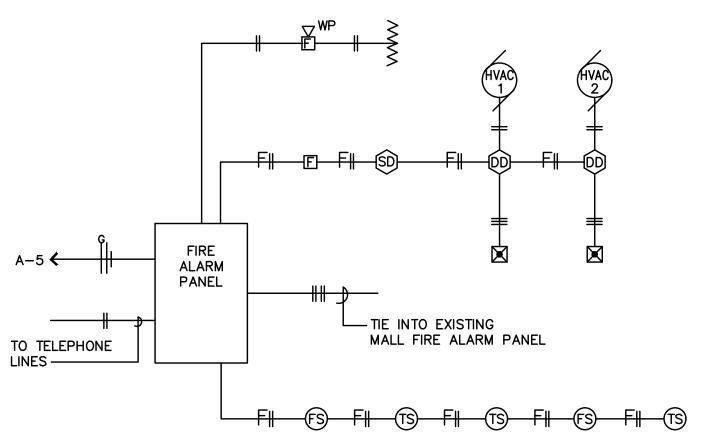
DESCRIPTION

11 SPACE13 SPACE15 SPACE

SYMBOL



	ELECTRICAL LEGEND
SYMBOL	DESCRIPTION
F	FIRE ALARM SYSTEM — PULL STATION
	FIRE ALARM SYSTEM - COMBINATION HORN/STROBE
E⊠ wp	FIRE ALARM SYSTEM - WEATHERPROOF HORN/STROBE
<u>(</u> ⊕)	FIRE ALARM SYSTEM — CEILING SMOKE DETECTOR
FS	FIRE ALARM SYSTEM - FLOW SWITCH
(13)	FIRE ALARM SYSTEM - TAMPER SWITCH
<u>(B</u>)	FIRE ALARM SYSTEM - DUCT SMOKE DETECTOR
×	SIMPLEX NO. 4098-9842 TEST STATION - LOCATE IN CEILING TILE.



TYPICAL FIRE ALARM RISER

DESCRIPTION E FIRE ALARM SYSTEM - PULL STATION FIRE ALARM SYSTEM - COMBINATION HORN/STROBE FIRE ALARM SYSTEM - WEATHERPROOF HORN/STROBE
FIRE ALARM SYSTEM - COMBINATION HORN/STROBE FIRE ALARM SYSTEM - WEATHERPROOF HORN/STROBE
EN FIRE ALARM SYSTEM - WEATHERPROOF HORN /STROBE
FIRE ALARM SYSTEM - WEATHERPROOF HORN/STROBE
WP THE ALARM STSTEM - WEATHER ROOF HORRY STROBE
FIRE ALARM SYSTEM - CEILING SMOKE DETECTOR
FS FIRE ALARM SYSTEM - FLOW SWITCH
TS FIRE ALARM SYSTEM - TAMPER SWITCH
FIRE ALARM SYSTEM - DUCT SMOKE DETECTOR
SIMPLEX NO. 4098-9842 TEST STATION - LOCATE IN CEILING TILE.

— EXISTING 3-#4 & 1-#8 GRND

3PH, 480V PRI - 120/208V SEC.

-EXISTING 4-#2/0 & 1-#6 GRND

► EXISTING 4-#6 & 1-#10 GRND

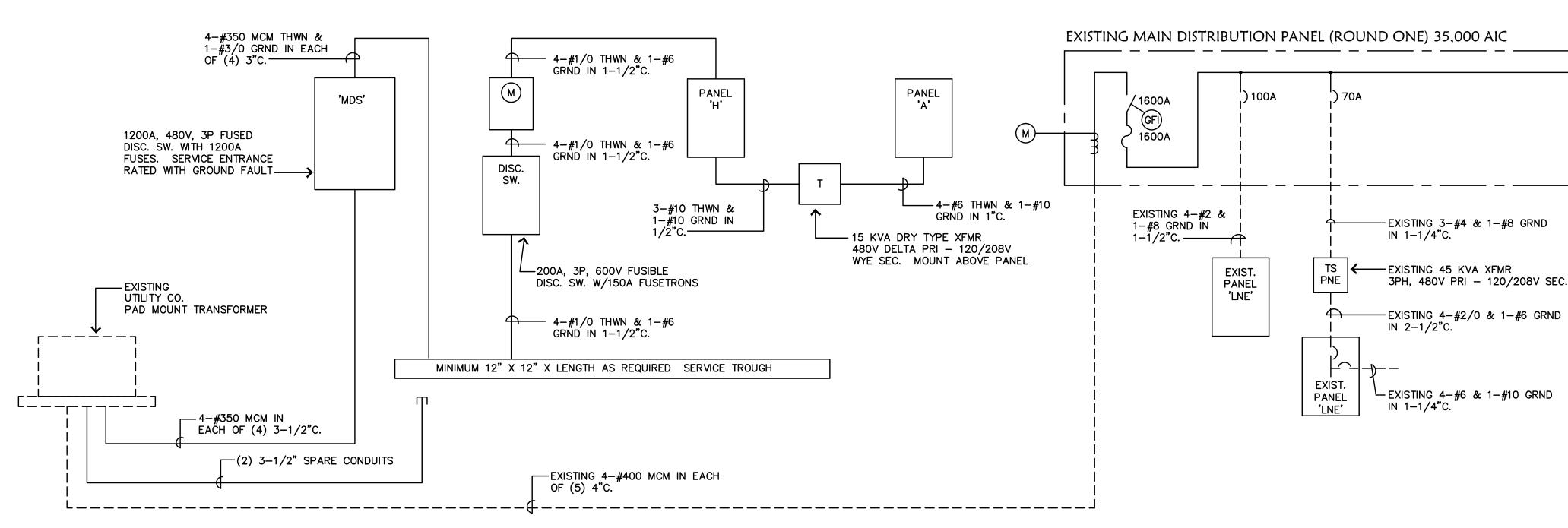
— EXISTING 45 KVA XFMR

IN 1-1/4"C.

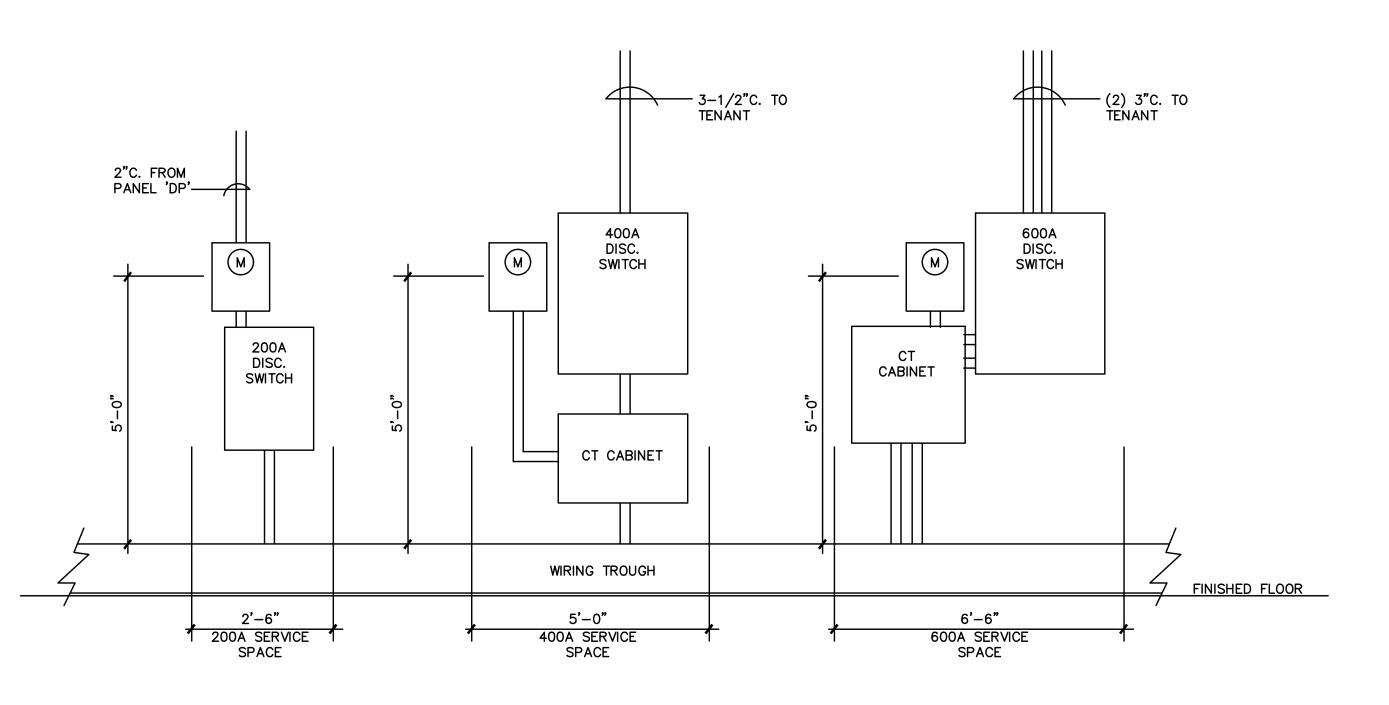
IN 2-1/2"C."

EXIST. PANEL

'LNE' IN 1-1/4"C."







MECHANICAL EQUIPMENT SCHEDULE

104

ΚW

15

BONDING JUMER

TYPICAL TRANSFORMER GROUNDING DETAIL

1) ALL WIRE SHALL BE COPPER CONDUCTOR.

NEUTRAL BUS

GROUND BUS

—? — PIPE CLAMP

NOTE: ALL GROUNDING SHALL BE INSTALLED IN MUNUMARE POPE 14경TICLE 250-50 OF THE REPARNABULE ING WALLODE. FOOTING, (NEC 250-50C)

GROUNDING DETAIL

└──JUMPER

NO SCALE

(1)#6 TO PHONE BOARD

CONDUCTOR (NEC 250-66)

STEEL (NEC 250-52(A)(2)

PANELBOARD ENCLOSURE SIZE

---#3/0 CU BARE COPPER GROUNDING ELECTRODE

→ BONDING JUMPER TO

CADWELD

PÉR NEC 800-40(D)

VALVE, WETER OR SUPPLY SIDE STEEL (A) SO STEEL (A) STEEL

GENERAL NOTES:

MAIN BONDING JUMPER

BARE COPPER

CONDUCTION -

OPTIONAL FOR EXISTING

ENTRANCE (PROVIDE SIMILAR

SLAB UFER. 3/4" X 10'

GROUND ROD (NEC /

COLD WATER SERVICE

CONNECTION TO FIRE PROTECTION WATER SERVICE ENTRANCE), (NEC 250-50A) ——— FLA PHASE VOLTS

480

480

480

480

480

480

277

LOCATION

ROOF

ROOF

ROOF

ROOF

ROOF

ROOF

CEILING

NOTES

A,C,E

A,B

SYMBOL

NOTES:

10,000 LU - 96W

2,600 LU - 28W

RTU-1 ROOF TOP UNIT

RTU-2 ROOF TOP UNIT

RTU-3 ROOF TOP UNIT

RTU-4 ROOF TOP UNIT

HVAC−1 | EXISTING HVAC UNIT

HVAC-2 | EXISTING HVAC UNIT

DISCONNECT SWITCH AT UNIT.

EUH-1 UNIT HEATER

NTS

GAS SERVICE --- 8

DESCRIPTION

A. ELECTRICAL CONTRACTOR SHALL MAKE FINAL TERMINAL CONNECTION AT UNIT.

C. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A FUSIBLE DISCONNECT SWITCH WITH FUSETRON FUSES AS RECOMMENDED BY THE MANUFACTURER AT

DETECTOR/SAMPLING TUBE ETC. IN RETURN AIR DUCT AT UNIT. DUCT DETECTOR TO BE COMPATIBLE WITH ROUND ONE FIRE ALARM SYSTEM.

B. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A NO-FUSE

D. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A DUCT

E. ELECTRICAL CONTRACTOR TO LOCK OUT COOLING ON UNIT.

1.01 RELATED REQUIREMENTS

A. REQUIREMENTS SPECIFIED IN DIVISION 1, INSTRUCTIONS TO BIDDERS, SUPPLEMENTAL GENERAL CONDITIONS, SPECIAL CONDITIONS, 16 AND ALL ITS SECTIONS, COMPRISE THE DOCUMENTS FOR THE ELECTRICAL CONTRACT.

B. THIS PROJECT HAS BEEN DESIGNED TO ADHERE TO AT LEAST THE MINIMUM RECOMMENDATIONS OF THE PREVAILING ELECTRICAL CODES. THE DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT ARE INTENDED TO BE THE INSTALLATION QUALITY AND NOT TO CONFORM TO A MINIMUM CODE STANDARD. WHEN THE DESIGN IS BELOW THE PREVAILING MINIMUM REQUIRED CODES AND ORDINANCES, THE CONTRACTOR SHALL INSTALL THE EQUIPMENT TO THE CODE MINIMUM AT NO ADDITIONAL COST TO THE OWNER.

1.02 INSPECTION

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

1.03 CODES

A. PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AS ISSUED BY THE NATIONAL FIRE PROTECTION ASSOCIATION INTERNATIONAL, NATIONAL ELECTRICAL SAFETY CODE, STANDARDS OF THE NATIONAL BUREAU OF THE FIRE

UNDERWRITERS AND ANY LOCAL CODES OR ORDINANCES.

1.04 SHOP DRAWINGS

A. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT DETAILED, DIMENSIONED SHOP DRAWINGS COVERING ALL ITEMS OF EQUIPMENT AND BROCHURES OF ALL LIGHTING FIXTURES. NO EQUIPMENT SHALL BE PUT INTO MANUFACTURE OR ORDERED UNTIL THESE SHOP DRAWINGS OR BROCHURES HAVE BEEN APPROVED BY THE ARCHITECT. SHOP DRAWINGS SHALL BE SUBMITTED FOR DEVICES, LIGHT FIXTURES, SOUND SYSTEMS, CARD ACCESS, FIRE ALARM AND LIGHTING

1.05 EXAMINATION OF SITE

A. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING

1.06 WORKMANSHIP

THE TRADE.

A. ELECTRICAL WORK SHALL BE INSTALLED BY JOURNEYMEN ELECTRICIANS, SUPERVISED BY COMPETENT FOREMEN AND WORKMANSHIP IN ACCORDANCE WITH THE BEST PRACTICE OF

1.07 EQUIPMENT IDENTIFICATION

PROVIDE NAME PLATES ON ALL EQUIPMENT. LETTERING SHALL INCLUDE NAME OF EQUIPMENT, THE SPECIFIC UNIT NUMBER, AND ANY REFERENCE TO ON-OFF OR OTHER INSTRUCTIONS THAT ARE APPLICABLE. NAME PLATES SHALL BE LAMINATED PHENOLIC WITH A BLACK SURFACE AND WHITE CORE.

1.08 MATERIALS AND EQUIPMENT

A. 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

B. WHERE MATERIALS, EQUIPMENT, APPARATUS OR OTHER PRODUCTS ARE SPECIFIED BY MANUFACTURER, BRAND NAME, TYPE, CATALOG NUMBER, OR SUCH DESIGNATION AS TO ESTABLISH STANDARDS OF DESIRED QUALITY AND STYLE AND SHALL BE THE BASIS OF THE BID. MATERIALS SO SPECIFIED, SHALL BE FURNISHED UNDER CONTRACT. WHERE TWO OR MORE DESIGNATIONS ARE LISTED, CHOICE OF THOSE DESIGNATED SHALL BE OPTIONAL TO THE CONTRACTOR.

1.09 TESTS

A. CONTRACTOR SHALL CONDUCT SUCH TESTS AND ADJUSTMENTS OF EQUIPMENT AS REQUIRED BY ARCHITECT OR NECESSARY TO VERIFY PERFORMANCE REQUIREMENTS. SUBMIT DATA TAKEN DURING SUCH TESTS TO ARCHITECT.

1.10 RECORD DRAWINGS

A. CONTRACTOR SHALL KEEP AN ACCURATE RECORD OF ALL DEVIATIONS FROM CONTRACT DRAWINGS AND SPECIFICATIONS. AT COMPLETION OF JOB AND BEFORE FINAL APPROVAL, MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY TO THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON AND DELIVER SAME TO

1.11 LOAD BALANCE AND ADJUSTMENT

A. THIS CONTRACTOR SHALL FURNISH PERSONNEL AND EQUIPMENT AND INSURE THAT BUILDING POWER, LIGHTING, MOTOR AND APPLIANCE LOADS ARE BALANCED BETWEEN PHASES OF SERVICE ENTRANCE, DISTRIBUTION FEEDERS AND/OR TRANSFORMERS AS CLOSELY AS POSSIBLE.

1.12 CUTTING AND PATCHING

A. ALL PENETRATIONS OF FIRE RATED WALLS OR CEILING SHALL BE AS DIRECTED BY THE ARCHITECT. ALL OPENINGS SHALL BE SEALED ADEQUATELY AND SHALL MAINTAIN THE INTEGRITY OF THE RATED WALL OR CEILINGS. THE ELECTRICAL CONTRACTOR SHALL DO ALL CUTTING, PATCHING, TRENCHING AND BACKFILLING REQUIRED TO PERFORM HIS WORK.

1.13 SCOPE OF WORK

A. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL LABOR, MATERIAL, SUPERVISION, TOOLS AND EQUIPMENT NECESSARY TO PERFORM THE ELECTRICAL WORK AS SHOWN ON THE DRAWINGS AND/OR DESCRIBED IN THESE SPECIFICATIONS OR AS NECESSARY TO COMPLETE THE PROJECT.

B. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK WITH THE POWER COMPANY. THIS CONTRACTOR SHALL INCLUDE IN HIS BID THE COST OF ALL WORK AND MATERIALS NECESSARY FOR A COMPLETE ELECTRIC SERVICE.

C. INSTALL NEW ELECTRIC DISTRIBUTION SYSTEM, INCLUDING ALL FEEDERS, PANELS, BRANCH CIRCUITS, DEVICES, PLATES AND SAFETY SWITCHES AS SHOWN.

D. INSTALL ALL LIGHTING FIXTURES INCLUDING ALL LAMPS AND

E. MAKE FINAL CONNECTIONS TO MECHANICAL EQUIPMENT, INCLUDING CONTROLS AS OUTLINED ON THE DRAWINGS AND IN DIVISION 15. PROVIDE AND INSTALL STARTERS, CONTROLS AND INDICATING LIGHTS AS NOTED ON THE DRAWINGS OR AS REQUIRED.

F. PROVIDE AND INSTALL TEMPORARY LIGHT AND POWER AND REMOVE SAME WHEN DIRECTED.

G. PROVIDE AN EMPTY CONDUIT SYSTEM FOR TELEPHONE SYSTEM AS SHOWN ON THE PLANS INCLUDING SERVICE CONDUIT, BACKBOARD,

H. PROVIDE DEMOLITION AS INDICATED ON THE PLANS AND AS REQUIRED SO AS NOT TO IMPEDE THE REMODELING: MAINTAIN CIRCUIT CONTINUITY TO ALL DOWNSTREAM EQUIPMENT.

SECTION 16100 MATERIALS & EQUIPMENT

1.01 SERVIC

A. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK WITH THE POWER COMPANY. THIS CONTRACTOR SHALL INCLUDE IN HIS BASE BID THE COST OF ALL WORK AND MATERIALS NECESSARY FOR A COMPLETE ELECTRIC SERVICE.

1.02 CONDUIT

A. ALL WIRING SHALL BE INSTALLED IN CONDUIT. ALL CONDUIT SHALL BEAR THE UL LABEL. GALVANIZED ELECTRICAL METALLIC TUBING (EMT) WITH SET SCREW TYPE STEEL COUPLINGS AND CONNECTORS, MAY BE USED WHERE CONCEALED IN WALLS OR

B. CONDUIT IN EARTH OR IN CONCRETE SLABS SHALL BE GALVANIZED RIGID HEAVYWALL CONDUIT OR SCHEDULE 40 PVC CONDUIT.

C. CONDUIT RUN EXPOSED OUTDOORS SHALL BE GALVANIZED RIGID HEAVYWALL.

D. MINIMUM CONDUIT SHALL BE 1/2 INCH TRADE SIZE.
E. FLEXIBLE CONDUIT SHALL BE MINIMUM 1/2 INCH TRADE SIZE.
F. MINIMUM CONDUIT SIZE FOR HOME RUNS SHALL BE 3/4"

G. NO CONDUIT SHALL REST ON OR BE SUPPORTED FROM ACOUSTICAL TILE CEILINGS.

1.03 WIRE

INCH TRADE.

A. ALL WIRING SHALL BE COPPER. FURNISH AND INSTALL MINIMUM (UNLESS NOTED OTHERWISE ON DRAWINGS) TYPE THWN 600 VOLT, 75 DEGREES C WIRE FOR GENERAL USE. MINIMUM SIZE OF CONDUCTORS SHALL BE NO. 12 (UNLESS SHOWN OTHERWISE ON THE DRAWINGS).

B. JOINTS IN NUMBER 12 AWG AND SMALLER WIRE SHALL BE MADE WITH MINNESOTA MINING AND MANUFACTURING CO. INSULATED "SCOTCHLOCKS", IDEAL CO., "WING-NUT", T & B CO., "PIGGY" CONNECTORS, OR WITH MECHANICALLY CRIMPED SLEEVES AS MANUFACTURED BY T & B OR IDEAL.

C. JOINTS IN NO. 8 AWG AND LARGER SHALL BE MADE WITH PRESSURE TYPE MECHANICAL CONNECTORS AND INSULATED WITH ELECTRICAL TAPE TO 150% OF THE INSULATING VALUE OF THE CONDUCTOR INSULATION.

1.04 MC CABLE

A. MC CABLE MAY BE USED FOR BRANCH CIRCUIT WIRING WHERE PERMITTED BY ARTICLE 330 OF THE NATIONAL ELECTRICAL CODE. MC CABLE WILL HAVE A U.L. LABEL AND BE APPROVED FOR THE USE

1.05 OUTLET BOXES

A. BOXES USED FOR DEVICES, CIRCUIT OUTLETS AND JUNCTION BOXES SHALL BE GALVANIZED PRESSED STEEL CAPABLE OF BEING MOUNTED IN ANY POSITION. ALL BOXES SHALL HAVE SIDE AND BACK KNOCKOUTS WITH SMOOTH CLEAN EDGES. KNOCKOUTS SHALL BE A COMBINATION OF 1/2" AND 3/4".

1.06 DEVICES

A. THE ARCHITECT AND/OR THE ENGINEER RESERVE THE RIGHT TO CHANGE OUTLET LOCATIONS UP TO THE TIME OF ROUGH—IN WITHOUT ADDITIONAL COST.

B. ALL DEVICES SHALL BE FIRMLY SECURED TO BOXES.C. SPECIFICATIONS GRADE DUPLEX RECEPTACLES AND SWITCHES

SHALL BE FURNISHED AS SHOWN ON THE DRAWINGS.

D. ALL PLATES SHALL BE SUITED FOR THE NUMBER OF DEVICES USED. STAMPED IN ONE PIECE AND WITH COUNTERSUNK SCREW HOLES. FURNISH AND INSTALL METAL SCREWS WITH A FINISH TO MATCH THE FINISH OF THE PLATES.

1.07 FIXTURES

A. ALL LUMINARIES AND LIGHTING EQUIPMENT SHALL BE DELIVERED TO THE BUILDING COMPLETE WITH SUSPENSION ACCESSORIES, CANOPIES, HICKEYS, CASINGS, SOCKETS, HOLDERS, REFLECTORS, BALLASTS, DIFFUSING MATERIAL, LOUVERS, GUARDS, PLASTER FRAMES, RECESSING BOXES, ETC., ALL WIRED AND

B. ALL PLASTIC ENCLOSURES SHALL BE MANUFACTURED WITHOUT IMPERFECTION. THESE PLASTICS SHALL BE MADE OF VIRGIN ACRYLIC AND BE FREE OF BURRS OR VOIDS.

C. FIXTURES SHALL BE SUPPORTED INDEPENDENT OF CEILING SYSTEM. PROVIDE MINIMUM OF TWO SUPPORTS (AT OPPOSITE CORNERS) ON ALL LAY—IN FIXTURES.

D. ACCEPTABLE MANUFACTURERS SHALL BE HUBBELL, ACUITY BRANDS AND COOPER.

1.08 MOTORS AND CONTROLS

A. GENERALLY, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAIN FEEDER WIRING AND THE CONTROL WIRING WHERE NOTED ON THE DRAWINGS.

B. ALL MOTOR TERMINATIONS FROM THE STARTERS SHOWN SHALL BE DONE IN FLEXIBLE SEALTITE CONDUIT TO ABSORB VIBRATION.

C. ELECTRICAL CONTRACTOR SHALL VERIFY NAME PLATE DATA ON ALL MOTORS TO INSURE INSTALLATION IS IN ACCORDANCE WITH APPROPRIATE SECTIONS OF THE NEC.

D. ENCLOSURES IN DAMP AND WET LOCATIONS OR WHERE EXPOSED TO WEATHER SHALL BE NEMA 3R.

1.09 DISTRIBUTION PANELBOARDS

A. FURNISH AND INSTALL DISTRIBUTION AND POWER PANELBOARDS AS INDICATED IN THE PANELBOARD SCHEDULE AND WHERE SHOWN ON THE PLANS. PANELBOARDS SHALL BE PROVIDED WITH ALUMINUM BUS AND DEAD—FRONT, SAFETY TYPE. B. PANELBOARD BUS STRUCTURE AND MAIN LUGS OR MAIN SWITCH SHALL HAVE CURRENT RATINGS AS SHOWN ON THE PANELBOARD SCHEDULE. SUCH RATINGS SHALL BE ESTABLISHED BY HEAT AND RISE TESTS WITH MAXIMUM HOT SPOT TEMPERATURE ON ANY CONNECTOR OR BUS BAR NOT TO EXCEED 50 DEGREE C, RISE ABOVE AMBIENT.

C. EQUIP EACH SWITCH WITH A CIRCUIT CARDHOLDER AND TYPED CARD IDENTIFYING THE CIRCUIT. PROVISIONS FOR ADDITIONAL SWITCHES SHALL BE SUCH THAT NO ADDITIONAL CONNECTORS WILL BE REQUIRED TO ADD SWITCHES.

D. EACH PANELBOARD, AS A COMPLETE UNIT, SHALL HAVE A RATING EQUAL TO OR GREATER THAN THE INTEGRATED EQUIPMENT RATING SHOWN ON THE PANELBOARD SCHEDULE ON THE PLANS.

E. PANELBOARD ASSEMBLY SHALL BE ENCLOSED IN A STEEL CABINET. THE RIGIDITY AND GAUGE OF STEEL TO BE AS SPECIFIED IN UL STANDARD 50 FOR CABINETS. END WALLS SHALL BE REMOVABLE. FRONTS SHALL BE OF CODE GAUGE, FULL—FINISHED STEEL WITH RUST INHIBITING PRIMER AND BAKED ENAMEL FINISH.

F. PANELBOARDS SHALL BE LISTED BY UNDERWRITERS LABORATORIES AND SHALL BEAR THE UL LABEL. PANELBOARDS SHALL BE SQUARE D, I—LINE OR EQUAL.

1.10 LIGHTING AND APPLIANCE PANELBOARDS

A. FURNISH AND INSTALL CIRCUIT BREAKER LIGHTING PANELBOARDS AS INDICATED IN THE PANELBOARD SCHEDULE AND WHERE SHOWN ON THE PLANS. PANELBOARDS SHALL HAVE ALL ALUMINUM BUS AND BE OF A DEAD-FRONT SAFETY TYPE, EQUIPPED WITH THERMAL MAGNETIC MOLDED CASE CIRCUIT BREAKERS WITH FRAME AND TRIP RATING AS SHOWN ON THE SCHEDULE.

B. CIRCUIT BREAKERS SHALL BE QUICKMAKE, QUICK—BREAK,
THERMAL MAGNETIC, TRIP INDICATING AND HAVE COMMON TRIP ON ALL
MULTIPLE BREAKERS. CIRCUIT BREAKERS SHALL BE BOLT ON TYPE.

C. THE PANELBOARD BUS ASSEMBLY SHALL BE ENCLOSED IN A STEEL CABINET. THE SIZE OF THE WIRING GUTTERS AND GAUGE OF STEEL SHALL BE IN ACCORDANCE WITH NEMA STANDARDS. THE BOX SHALL BE FABRICATED FROM GALVANIZED STEEL OR EQUIVALENT RUST—RESISTANT STEEL.

D. FRONTS SHALL INCLUDE DOORS AND HAVE FLUSH, BRUSHED STAINLESS STEEL, CYLINDER TUMBLER—TYPE LOCKS WITH CATCHES AND SPRING—LOADED DOOR PULLS.

E. A CIRCUIT DIRECTORY FRAME AND CARD WITH A CLEAR PLASTIC COVERING SHALL BE PROVIDED. FRONTS SHALL BE OF CODE GAUGE, FULL FINISHED STEEL WITH RUST—INHIBITING PRIMER AND BAKED—ENAMEL FINISH.

F. PANELBOARDS SHALL BE LISTED BY UNDERWRITERS' LABORATORIES AND BEAR THE UL LABEL. PANELBOARDS SHALL BE SQUARE D, ITE OR GENERAL ELECTRIC CO. ALL PANELS SHALL BE OF CONSISTENT MANUFACTURER THROUGHOUT PROJECT AND ALL SHALL BE KEYED ALIKE

H. PANELBOARDS SHALL HAVE A PERMANENT NAMEPLATE INSTALLED

G. PANELBOARDS SHALL BE PROVIDED WITH A TYPE WRITTEN INDEX AS INDICATED ON THE PANEL SCHEMATIC AND SHALL INCLUDE ANY FIELD CHANGES.

ON PANEL COVER INDICATING SOURCE/ORIGIN, VOLTAGE, PANEL

DESIGNATION AND ARC FLASH.

1.11 DISCONNECT SWITCHES

A. FUSIBLE SAFETY SWITCHES TO BE HEAVY DUTY TYPE WITH SINGLE—THROW KNIFE BLADE CONSTRUCTION AND PROVIDED WITH CLASS 'R' REJECTION FUSE CLIPS.

B. NON-FUSIBLE SAFETY SWITCHES TO BE HEAVY DUTY TYPE WITH SINGLE-THROW BLADE CONSTRUCTION AND NO FUSE CLIPS.C. ENCLOSURES TO BE NEMA 1 FOR INDOOR TYPE, NEMA 3R FOR OUTDOOR TYPE.

1.12 GROUNDING

A. ALL GROUND WIRES SHALL BE SIZED IN ACCORDANCE WITH NEC FOR EACH APPLICATION REQUIRED. ANY GROUND CONDUCTORS USED IN EXPOSED AREAS SHALL BE IN CONDUIT AND CONDUCTOR BRAZED AT EACH END. GROUNDING SYSTEM SHALL BE CONTINUOUS THROUGH CONDUITS AND/OR GROUND CONDUCTORS.

B. GROUNDING SYSTEMS SHALL INCLUDE SERVICE ENTRANCE EQUIPMENT GROUNDING. ALL FLEXIBLE CONDUITS SHALL CONTAIN A CODE SIZE GROUND WIRE THROUGH ITS ENTIRE LENGTH AND WIRE SHALL BE GREEN IN COLOR.

1.13 GUARANTEE

A. THIS CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIAL (LAMPS EXCEPTED) FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE AND LEAVE HIS WORK IN PERFECT ORDER AT COMPLETION. SHOULD DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD, THIS CONTRACTOR SHALL, UPON NOTICE OF SAME, 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 HIS EXPENSE, TO THE CONDITION BEFORE SUCH DAMAGE.



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HELL PACKAGE - ROUND ONE UNIT 900 SOUTH HILL MALL

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PART I - DESCRIPTION

1.01 GENERAL

A. FURNISH AND INSTALL A SUPERVISED ADDRESSABLE FIRE ALARM CONTROL PANEL AS MANUFACTURED BY THE NOTIFIER TIME RECORDER COMPANY, TO BE WIRED, CONNECTED AND LEFT IN FIRST CLASS OPERATING CONDITION. ALL EQUIPMENT SHALL COMPLY WITH THE AMERICAN DISABILITIES ACT AND BE APPROVED BY UL, FM, OHIO BASIC BUILDING CODE AND DIVISION OF ELEVATOR

- B. THE CONTROL PANEL SHALL INCLUDE THE FOLLOWING:
 - FIRE AUDIO WARNING SYSTEM REMOTE ANNUNCIATION CAPABILITY
 - FIRE ALARM HORNS AND ADA VISUAL STROBES 4. VERIFIED ADDRESSABLE TRUE ALARM
- C. ALL PANELS AND PERIPHERAL DEVICES SHALL BE THE STANDARD PRODUCT OF A SINGLE MANUFACTURER AND SHALL DISPLAY THE MANUFACTURER'S NAME ON EACH COMPONENT. THE CATALOG NUMBERS SPECIFIED UNDER THIS SECTION ARE THOSE OF NOTIFIER TIME RECORDER CO. AND CONSTITUTE THE TYPE, PRODUCT QUALITY, MATERIAL AND DESIRED OPERATING FEATURES.

1.02 OPERATION

A. THE SYSTEM ALARM OPERATION SUBSEQUENT TO THE ALARM ACTIVATION OF ANY ADDRESSABLE MANUAL STATION, AUTOMATIC DETECTION DEVICE, OR SPRINKLER FLOW SWITCH SHALL BE AS FOLLOWS:

- B. ALL AUDIBLE ALARM SIGNAL CIRCUITS SHALL:
 - 1. SEND A BUILDING ALARM SIGNAL TO THE LOCAL SYSTEM. 2. DISPLAY THE APPROPRIATE CONDITION ON THE 80 CHARACTER LCD
- 3. SOUND A SELECTABLE HORN SIGNAL UNTIL SILENCED BY THE ALARM SILENCE SWITCH AT THE CONTROL PANEL.
- 4. CAUSE ALL FIRE STROBES TO FLASH CONTINUOUSLY UNTIL THE SYSTEM IS RESET.
- C. ALL ALARMS SHALL BE DISPLAYED ON AN 80 CHARACTER LCD DISPLAY. THE TOP LINE OF 40 CHARACTERS SHALL BE THE POINT LABEL AND THE SECOND LINE SHALL BE THE DEVICE TYPE IDENTIFIER. THE SYSTEM ALARM LED SHALL FLASH ON THE CONTROL PANEL UNTIL THE ALARM HAS BEEN ACKNOWLEDGED. ONCE ACKNOWLEDGED, THIS SAME LED SHALL LATCH ON. A SUBSEQUENT ALARM RECEIVED FROM ANOTHER ZONE SHALL FLASH THE SYSTEM ALARM LED ON THE CONTROL PANEL. THE LCD DISPLAY SHALL SHOW THE NEW ALARM INFORMATION.
- D. THE ACTIVATION OF ANY SMOKE DETECTOR SHALL START AN ALARM VERIFICATION MODE WHEREBY THE PANEL WILL RESET THE ACTIVATED DETECTOR AND WAIT FOR A SECOND ACTIVATION. IF. WITHIN ONE (1) MINUTE AFTER RESETTING. A SECOND ALARM IS REPORTED FROM THE SAME OR ANY OTHER SMOKE DETECTOR, THE SYSTEMS SHALL PROCESS THE ALARM IMMEDIATELY. IF NO SECOND ALARM OCCURS WITHIN ONE MINUTE THE SYSTEM SHALL RESUME NORMAL OPERATION. THE ALARM VERIFICATION SHALL OPERATE ONLY ON SMOKE DETECTOR ALARMS. ALARM VERIFICATION SHALL OPERATE ONLY ON SMOKE DETECTOR ALARMS.
- E, THE CONTROL PANEL SHALL HAVE THE CAPABILITY TO DISPLAY THE NUMBER OF TIMES A DEVICE HAS GONE INTO A VERIFICATION MODE. SHOULD THIS SMOKE VERIFICATION TALLY REACH A PRE-PROGRAMMED NUMBER, A TROUBLE CONDITION SHALL OCCUR.
- F. A MANUAL EVACUATION (DRILL) SWITCH SHALL BE PROVIDED TO OPERATE THE SIGNAL CIRCUITS WITHOUT CAUSING OTHER CONTROL CIRCUITS TO BE ACTIVATED. HOWEVER, SHOULD A TRUE ALARM OCCUR, ALL ALARM FUNCTIONS WOULD OCCUR AS DESCRIBED PREVIOUSLY.
- G. THE ACTUATION OF THE 'ENABLE WALK TEST' PROGRAM AT THE CONTROL PANEL SHALL ACTIVATE THE 'WALK TEST' MODE OF THE SYSTEM WHICH SHALL CAUSE THE FOLLOWING TO OCCUR:
 - 1. THE CITY CIRCUIT CONNECTION SHALL BE BYPASSED. CONTROL RELAY FUNCTIONS SHALL BE BYPASSED.
 - THE CONTROL PANEL SHALL SHOW A TROUBLE CONDITION. 4. THE ALARM ACTIVATION OF ANY INITIATION DEVICE SHALL CAUSE THE
- AUDIBLE SIGNAL TO SOUND EXACT DEVICE TESTED. 5. THE PANEL SHALL AUTOMATICALLY RESET ITSELF AFTER SIGNALING IS COMPLETE.
- 6. ANY MOMENTARY OPENING OF AN INITIATING OR SIGNAL CIRCUIT WIRING SHALL CAUSE THE AUDIBLE SIGNALS TO ANNOUNCE THE TROUBLE SIGNAL INDICATING A TROUBLE CONDITION.

H. THERE SHALL BE (4) INDEPENDENTLY SUPERVISED AND INDEPENDENTLY FUSED SIGNAL CIRCUITS FOR ALARM SPEAKERS AND STROBES. DISARRANGEMENT CONDITIONS OF ANY CIRCUIT SHALL NOT AFFECT THE OPERATION OF OTHER CIRCUITS.

I. EACH INDEPENDENTLY SUPERVISED CIRCUIT SHALL INCLUDE A DISCRETE LCD READOUT TO INDICATE DISARRANGEMENT CONDITIONS PER CIRCUIT AND DEVICE.

1.03 POWER REQUIREMENTS

A. THE SYSTEM SHALL BE PROVIDED WITH SUFFICIENT BATTERY CAPACITY TO OPERATE THE ENTIRE SYSTEM UPON LOSS OF NORMAL 120 VAC POWER IN A NORMAL SUPERVISORY MODE FOR A PERIOD OF TWENTY-FOUR (24) HOURS WITH (5) MINUTES OF ALARM OPERATION AT THE END OF THIS PERIOD. THE SYSTEM SHALL AUTOMATICALLY TRANSFER TO THE STANDBY BATTERIES UPON POWER FAILURE ALL BATTERY CHARGING AND RECHARGING OPERATIONS SHALL BE AUTOMATIC.

PART II - PRODUCTS

2.01FIRE ALARM PANEL

A. FURNISH AND INSTALL A NOTIFIER 4100 ES FIRE ALARM WARNING SYSTEM TO CONTAIN (250) ADDRESSABLE INITIATING ZONES AND (4) SIGNAL CIRCUITS, TWO AUXILIARY RELAYS AND EXTERNAL COMMUNICATIONS INTERFACES. THIS PANEL SHALL BE EXPANDABLE TO 500 ZONES AND INCLUDE:

- EIGHTY CHARACTER LIQUID CRYSTAL DISPLAY
- ALARM VERIFICATION SOFTWARE FOR SMOKE DETECTORS VISUAL SUPERVISORY CIRCUITS
- 4. EIGHT AMP POWER SUPPLY 5. SOFTWARE TIMERS
- B. THE FOLLOWING SECONDARY CONTROL SWITCHES AND LED'S SHALL BE

6. TRANSIENT SUPPRESSION OF ALL ZONES AND SIGNAL CIRCUITS.

- AVAILABLE BEHIND AN ACCESS DOOR:
- 1. CITY DISCONNECT/SWITCH MANUAL EVACUATION (DRILL)
- 3. DOOR HOLDER RELEASE BYPASS
- C. THE CONTROL PANEL SHALL PROVIDE THE FOLLOWING: SETTING OF TIME AND DATE LED TESTING
- ALARM, TROUBLE AND ABNORMAL CONDITION LISTING . ENABLING AND DISABLING OF EACH MONITOR POINT SEPARATELY
- 5. ACTIVATION AND DEACTIVATION OF EACH CONTROL POINT SEPARATELY
- CHANGING OPERATOR ACCESS LEVELS WALK TEST ENABLE
- B. RUNNING DIAGNOSTIC FUNCTIONS
- 9. DISPLAYING HISTORICAL LOGS 10. DISPLAYING CARD STATUS
- 11. POINT LISTING
- D. THE CONTROL PANEL SHALL HAVE A 2 LINE X 40 CHARACTER LIQUID CRYSTAL DISPLAY WHICH SHALL BE BACKLIGHTED FOR ENHANCED READABILITY. SO AS TO CONSERVE BATTERY STANDBY POWER. IT SHALL NOT BE LIT DURING AN AC POWER FAILURE UNLESS AN ALARM CONDITION OCCURS OR THERE IS KEYPAD ACTIVITY. UNDER NORMAL CONDITION THE FRONT PANEL SHALL DISPLAY A 'SYSTEM IS NORMAL' MESSAGE AND THE CURRENT TIME AND DATE. THE LCD SHALL DISPLAY THE FOLLOWING INFORMATION RELATIVE TO THE ABNORMAL CONDITION OF A POINT IN THE SYSTEM.
- 1. 40 CHARACTER CUSTOM LOCATION LABEL 2. TYPE OF DEVICE (I.E. SMOKE, PULLSTATION, WATERFLOW)

3. POINT STATUS (I.E. ALARM, TROUBLE)

E. THE SYSTEM SHALL BE CAPABLE OF LOGGING AND STORING 300 EVENTS IN AN ALARM LOG AND 300 EVENTS IN A TROUBLE LOG. THESE EVENTS SHALL BE STORED IN A BATTERY PROTECTED RANDOM ACCESS MEMORY. EACH RECORDED EVENT SHALL INCLUDE THE TIME AND DATE OF THE EVENT'S OCCURRENCE. THE SYSTEM SHALL BE CAPABLE OF BEING TESTED BY ONE PERSON. WHILE IN TESTING MODE THE ALARM ACTIVATION OF AN INITIATING DEVICE CIRCUIT SHALL BE SILENTLY LOGGED AS AN ALARM CONDITION IN THE HISTORICAL DATA FILE. THE PANEL SHALL AUTOMATICALLY RESET ITSELF

2.02 ALARM INITIATING DEVICES

AFTER LOGGING OF THE ALARM.

- A. ADDRESSABLE MANUAL STATIONS SHALL BE NOTIFIER TYPE 4099-9901, KEY RESET TYPE. SURFACE STATIONS SHALL BE FURNISHED WITH MATCHING BOX OR WIRE MOLD TRIM.
- B. TRUE ALARM SMOKE DETECTORS SHALL MAINTAIN AN AVERAGE PREDETERMINED VALUE. A 'DIRTY SENSOR' TROUBLE CONDITION SHALL BE INDICATED AT THE CONTROL PANEL FOR THE INDIVIDUAL SENSOR. IF A 'DIRTY SENSOR' IS LEFT UNATTENDED AND ITS AVERAGE VALUE INCREASES TO A SECOND PREDETERMINED VALUE, AN 'EXCESSIVELY DIRTY SENSOR' TROUBLE CONDITION SHALL BE INDICATED AT THE CONTROL PANEL FOR THE INDIVIDUAL SENSOR. SENSITIVITY TESTING OF ALL SMOKE DETECTORS SHALL BE DONE FROM THE MAIN PANEL. DETECTORS THAT REQUIRE SEPARATE SENSITIVITY TESTING SHALL NOT BE PERMITTED.
- C. ADDRESSABLE SMOKE DETECTORS SHALL BE NOTIFIER MODEL 4098-9710 WITH 4098-9781 BASE.
- D. DUCT SMOKE DETECTORS SHALL BE TRUE ALARM TYPE 4098-9753 WITH SAME 'DIRTY SENSOR' WARNING AS CEILING DETECTORS. DUCT DETECTORS SHALL BE EQUIPPED WITH A PROGRAMMABLE SPDT CONTACT FOR PROGRAM OPERATION. DETECTORS SHALL BE EQUIPPED WITH ALARM AND TEST SWITCH (4098-9837) AND TUBES TO FIT DUCTS.
- E. HANDICAP ROOM SIGNALS: HANDICAP ROOMS SHALL HAVE MINI-HORN STROBE UNIT NOTIFIER MODEL 4903-9233.
- F. ADDRESSABLE COMBINATION CARBON MONOIXIDE/SMOKE DETECTORS SHALL BE NOTIFIER MODEL 4098-9770 (CO SENSOR BASE) AND 4098-9710 SMOKE

2.03 ALARM SIGNALS

- A. AUDIO/VISUAL UNITS SHALL BE NOTIFIER TYPE 4903-9236 WITH 15/75 CANDELA CIRCUMPOLAR DISTRIBUTION ADA STROBE AND HORN. SURFACE DEVICES SHALL BE FURNISHED WITH MATCHING SURFACE BOX. UNIT SHALL MEET ADA AND UL 1971 STANDARDS, HORN SHALL SUPPLY 87 db AT 10 FEET.
- B. HANDICAP BATH ROOMS AND MEETING ROOMS SHALL BE EQUIPPED WITH 4904-9137 15/75 CANDELA CIRCUMPOLAR DISTRIBUTION STROBE FOR ADA AND UL 1971 REQUIREMENTS.

2.04 ANNUNCIATOR

A. THE ANNUNCIATOR SHALL HAVE AN 80 CHARACTER ENGLISH LANGUAGE DISPLAY, THREE PROGRAMMABLE CONTROL SWITCHES FOR ACTIVATING REMOTE FUNCTIONS SUCH AS SEVERE WEATHER WARNING. ANNUNCIATORS SHALL BE CAPABLE OF GIVING TONE ALERT FOR ALL ALARM AND TROUBLE CONDITIONS. ALL MANUAL CONTROLS SHALL REQUIRE A MAIN KEY ENABLE SWITCH FOR OPERATION. EACH LOCATION OF ANNUNCIATOR SHALL BE VERIFIED BY THE FIRE DEPARTMENT BEFORE INSTALLATION.

PART III - EXECUTION

3.01 TESTING

A. THE COMPLETE FIRE ALARM SYSTEM SHALL BE FULLY TESTED IN ACCORDANCE WITH NFPA-72H BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND THE LOCAL FIRE MARSHALL. UPON COMPLETION OF A SUCCESSFUL TEST, THE CONTRACTOR SHALL SO CERTIFY IN WRITING TO THE OWNER AND GENERAL CONTRACTOR.

3.02 WARRANTY

A. THE CONTRACTOR SHALL WARRANT THE COMPLETED FIRE ALARM SYSTEM WIRING AND EQUIPMENT TO BE FREE FROM INHERENT MECHANICAL AND ELECTRICAL DEFECTS FOR A PERIOD OR ONE (1) YEAR FROM THE DATE OF THE COMPLETED AND CERTIFIED TEST OR FROM THE DATE OF FIRST BENEFICIAL

<u>3.03 WIRING</u>

A. MANUFACTURER'S WIRING DIAGRAMS SHALL BE USED FOR THE SYSTEM WIRING. THE RISER DIAGRAM SHOWN ON THE DRAWINGS IS SCHEMATIC ONLY. ALL DEVICES SHALL BE WIRED TO THE SYSTEM.

3.04 INTEGRAL DACT SPECIFICATION

A. THE CONTROL PANEL SHALL INCLUDE AN INTEGRAL DIGITAL ALARM COMMUNICATING TRANSMITTER (DACT) TO TRANSMIT FIRE ALARM ACTIVATION TO AN OWNER SELECTED CENTRAL MONITORING LOCATION. THE COMMUNICATOR SHALL BE UL 864 LISTED AS CONFORMING TO THE REQUIREMENTS OF NFPA 71. IT SHALL BE LISTED AS INTEGRAL COMPONENT WITH THE FIRE ALARM CONTROL PANEL. THE COMMUNICATOR SHALL SUPERVISE (2) TWO TELEPHONE LINES AND BE CAPABLE OF SEIZING THE TELEPHONE LINE AND SENDING AN ALARM SIGNAL ON ONE OR BOTH LINES WITHOUT THE NEED OF ANY ADDITIONAL EQUIPMENT. THE COMMUNICATOR SHALL BE CAPABLE OF TRANSMITTING TO SILENT KNIGHT, RADIONICS OR ADEMCO RECEIVING STATIONS.

3.05 MANUFACTURERS

A. THE FIRE ALARM SYSTEM SHALL BE MANUFACTURED BY NOTIFIER.