DAVINCI ACADEMY SUITES D, E, & F

LOCATION: **850 WEST 350 NORTH** KAYSVILLE, UT 84037

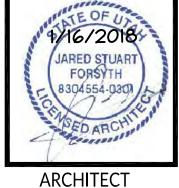
ARCHITECT - STRUCTURAL

SILVERPEAK ENGINEERING (

177 E. ANTELOPE DR. STE. B LAYTON, UT 84041 PHONE: (801) 499-5054



STRUCTURAL ENGINEER



ELECTRICAL OWNER MECHANICAL PVE ENGINEERING NORM CUNNING

926 NORTH 1875 WEST FARMINGTON, UT 84025

PHONE: (801) 755-5003

JEREMY HERRON

1040 NO. 2200 WEST SALT LAKE CITY, UT 84116 PHONE: (801) 359-3158

4685 W. 11600 N. TREMONTON, UT 84337 PHONE: (801) 726-5047

DEFERRED SUBMITTALS CURRENT CODE EDITIONS

I. FIRE SPRINKLER AND FIRE ALARM DRAWINGS WILL BE PROVIDED PRIOR TO INSTALLATION. FIRE SPRINKLER AND FIRE ALARM PLANS SHALL BE GIVEN TO KAYSVILLE CITY.

2. NFRC CERTIFICATE SHALL BE SUBMITTED AS PART OF THEIR CERTIFICATE OF OCCUPANCY REQUIREMENT.

2018 IBC 2018 IFC 2018 IECC 2018 IPC 2018 IFGC

2018 IMC NEC 2011 2003 UPC ICC/ANSI A117.1-2009

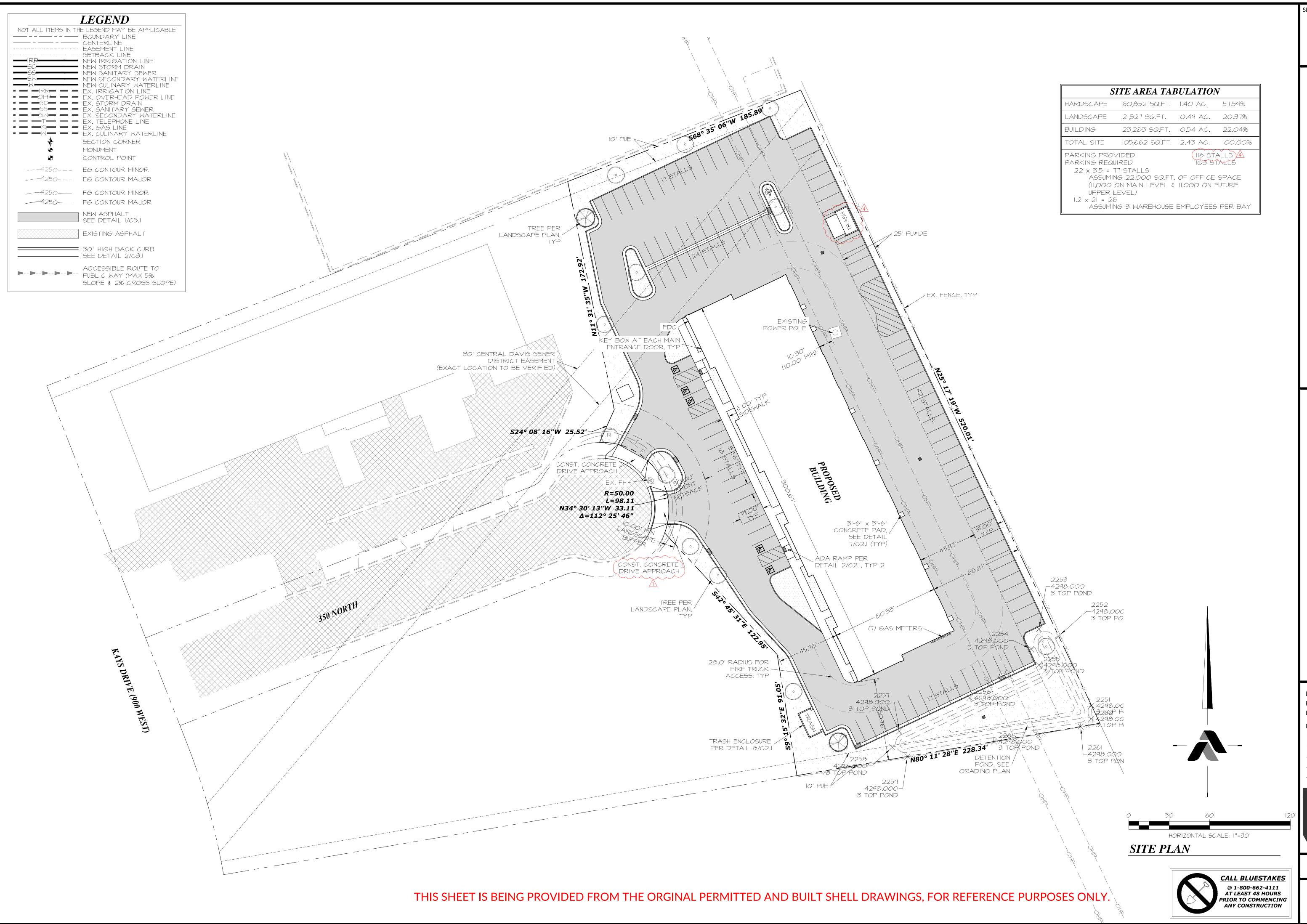
SUITE A: 2018 IBC CODE ANALYSIS

OCCUPANCY GROUP (SUITES B, D, E, & F)

CONGIDUCTION TYPE	
CONSTRUCTION TYPE	Ш - В
FIRE SPRINKLERS PROVIDED?	YES
TOTAL NUMBER OF STORIES	2
TENANT IMPROVEMENT AREA - SUITES D, E, & F	
SUITES D, E, & F OCCUPANT LOADS (TABLE 1004.1.2)	
SUITE D, E, & F FLOOR AREA	1000 / 20 50
CLASSROOMS-MAIN (20 NET)	1028 / 20 = 52
CLASSROOMS - UPPER (20 NET)	1153 / 20 = 58
FUTURE CLASSROOMS - UPPER (20 NET)	316 / 20 =16
MULTIPURPOSE ROOM-MAIN (PER EXCEPTION 1004.5)	80
OFFICE - MAIN (150 GROSS)	220 / 150 2
STORAGE - MAIN (300 GROSS)	220 / 150 = 2
STORAGE - UPPER (300 GROSS)	146 / 300 =1
STORY (SEC STOSS)	123 / 300 = 1
MAIN LEVEL OCCUPANT LOAD	135
UPPER LEVEL OCCUPANT LOAD	75
TOTAL OCCUPANT LOAD BASED ON SQ. FT.	210
TOTAL COCOFANT LOAD BASED ON SQ. 11.	210
STUDENTS ALLOWED	100
TOTAL STALL	10
TOTAL OCCUPANT LOAD BASED ON EXCEPTION 1004.1.2	, 0
EXITS REQUIRED	2
EXITS PROVIDED	6
MAX ALLOWABLE TRAVEL DISTANCE (1017.2)	250'
ACTUAL MAX. TRAVEL DISTANCE	225'
WATER CLOSETS REQUIRED	110/50 = 3
WATER CLOSETS PROVIDED	3
LAVATORIES REQUIRED	110 / 50 =3
LAVATORIES PROVIDED	3
DRINKING FOUNTAINS REQUIRED	110 / 100 = 2
I DRINKING I CUNTAINS REQUIRED	
DRINKING FOUNTAINS PROVIDED	2

INDEX TO DRAWINGS

CVR	COVER SHEET / DRAWING INDEX
A111	SUITES D, E, & F MAIN FLOOR PLAN
A112	SUITES D, E, & F UPPER FLOOR PLAN
A131	SUITES D, E, & F MAIN REFLECTED CEILING PLAN
A132	SUITES D, E, & F UPPER REFLECTED CEILING PLAN
A141	SUITES D, E, & F MAIN FLOOR EXIT PLAN
A142	SUITES D, E, & F UPPER FLOOR EXIT PLAN
A301	BUILDING SECTIONS
A411	ENLARGED BASKETBALL COURT PLAN
A501	ADA DETAILS
A502	WINDOW & DOOR DETAILS
A601	SCHEDULES & INTERIOR ELEVATIONS
A701	CABINET ELEVATIONS
5001	SUITE D, E, & F STRUCTURAL PLAN
S111	SUITE D, E, & F FLOOR FRAMING PLAN
<i>\$</i> 501	SUITE D, E, & F STRUCTURAL DETAILS
E001	ELECTRICAL SYMBOLS AND NOTES
E200	EXISTING/DEMOLITION POWER PLAN
E201	MAIN LEVEL POWER PLAN
E202	UPPER LEVEL POWER PLAN
E300	EXISTING/DEMOLITION LIGHTING PLAN
E301	MAIN LEVEL LIGHTING PLAN
E302	UPPER LEVEL LIGHTING PLAN
E401	ONE-LINE DIAGRAM
E501	ELECTRICAL SCHEDULES
E601	ELECTRICAL DETAILS
P000	PLUMBING SCHEDULES AND SYMBOL LEGEND
P100	FIRST FLOOR PLUMBING PLAN
P101	SECOND FLOOR PLUMBING PLAN
M000	MECHANICIAL SCHEDULES AND SYMBOL LEGEND
M100	FIRST FLOOR HVAC PLAN
M101	SECOND FLOOR HVAC PLAN
M700	MECHANICAL CONTROLS
MS100	MECHANICAL/PLUMBING SPECIFICATIONS



E. ANTELOPE DR. STE FON, UT 84041 NE: (801) 499-5054 (801) 499-5065

EAK PHONI EERING FAX: (8

SILVERP ENGIN

AASONRY 0 W 350 N E, UTAH

HORIZOI APPROX. KAYSV

DATE: 08-08-2017
PROJECT: 16-153
DRAWN BY: C.D.

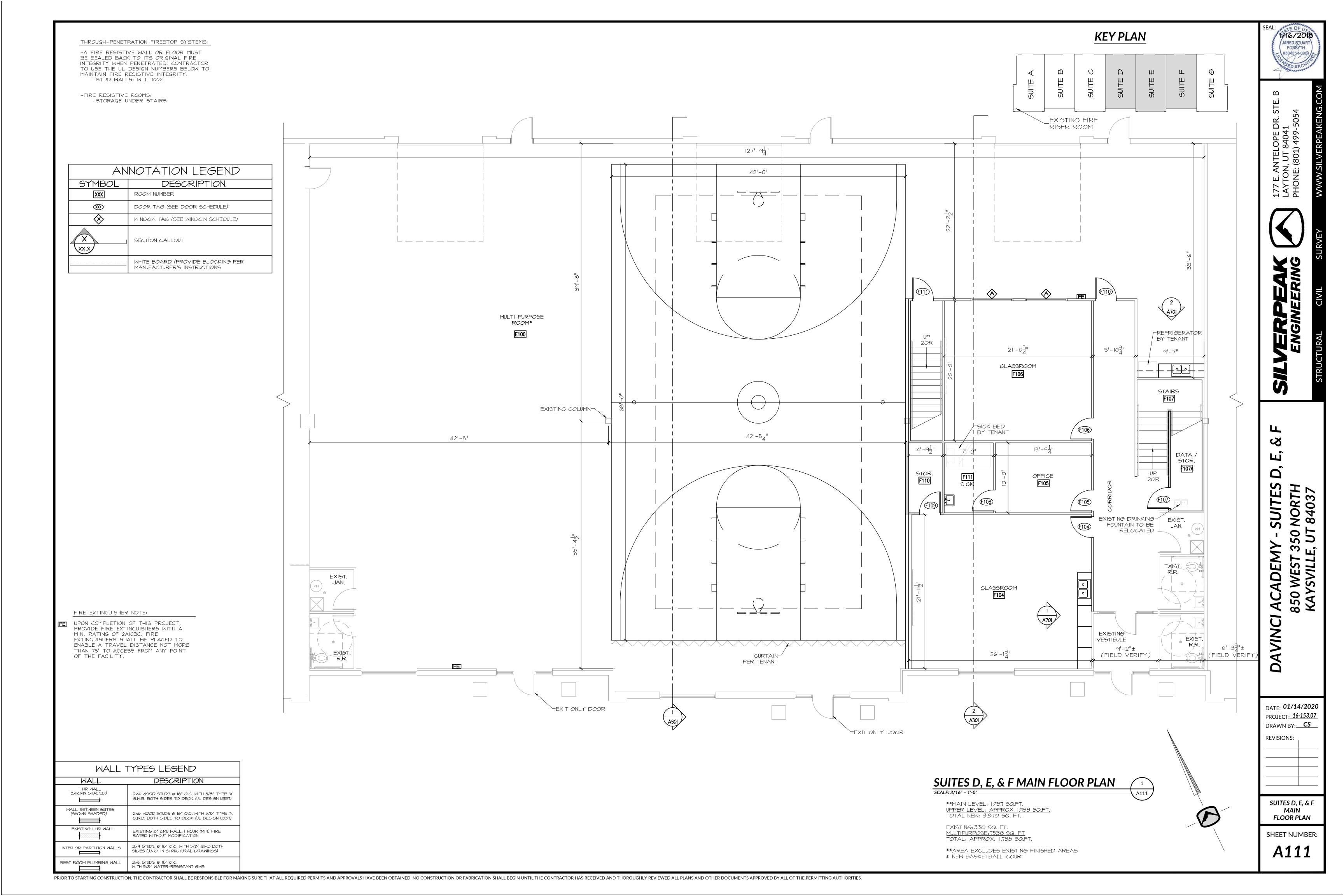
REVISIONS: 4/09/18 3 5/07/18 4

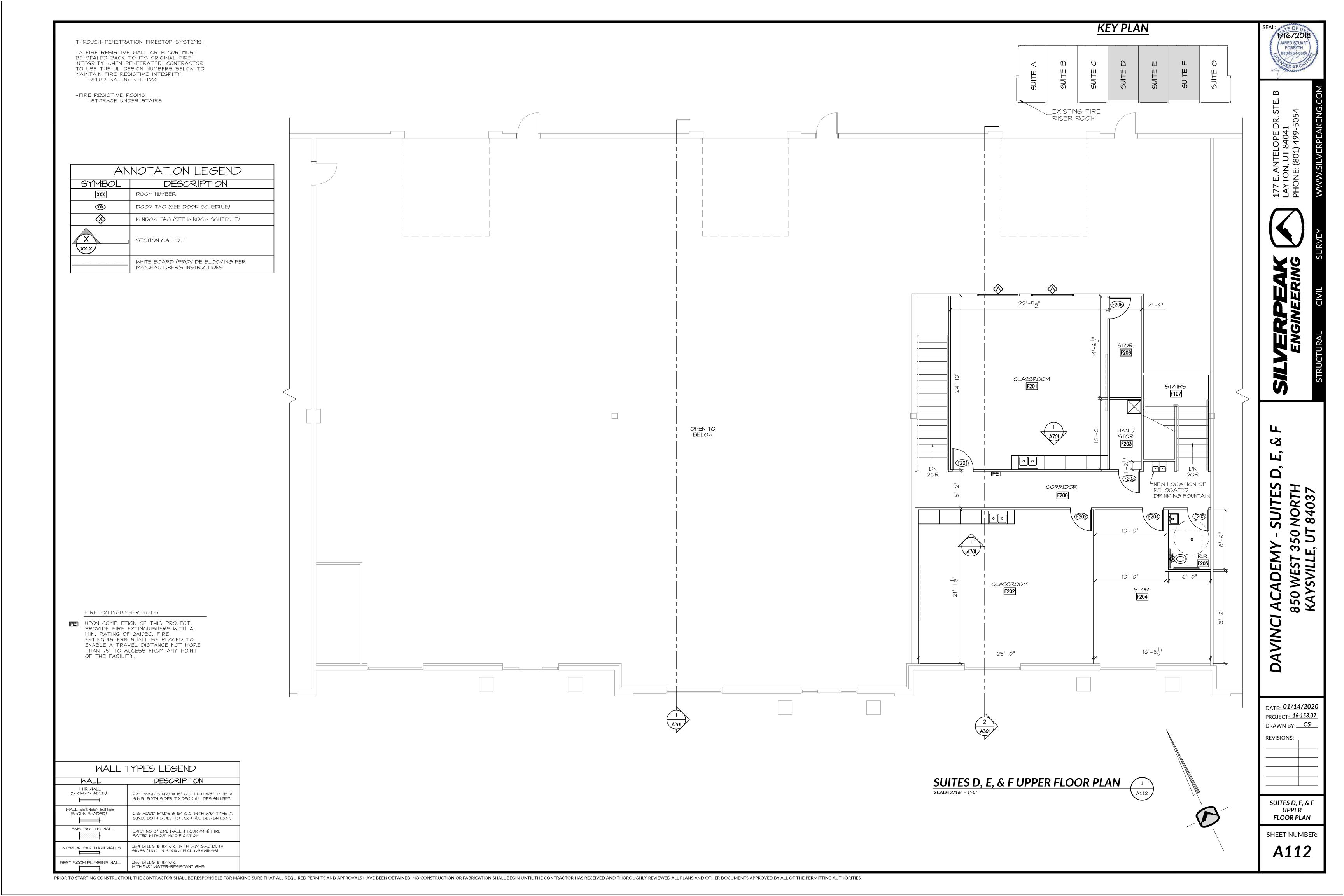


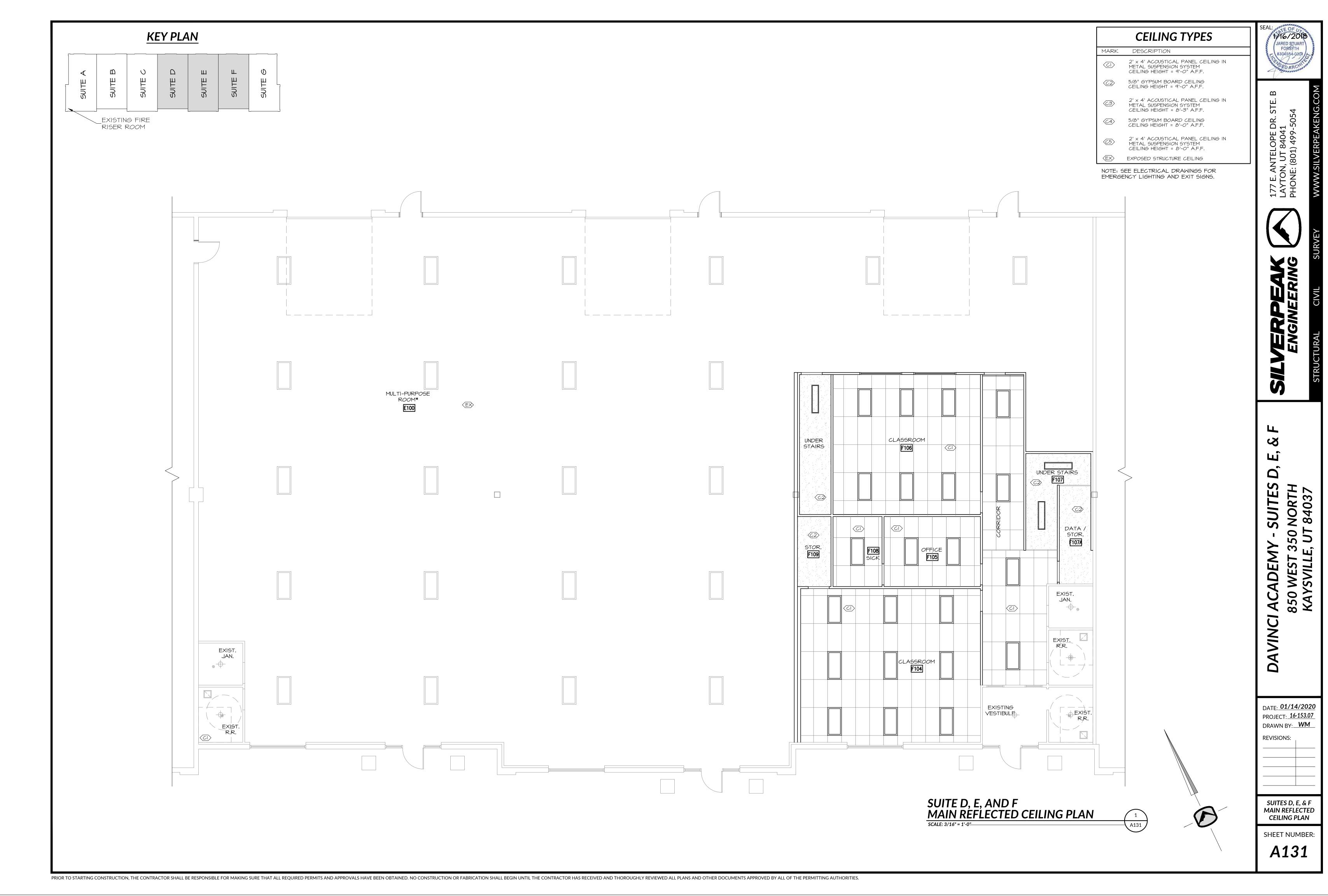


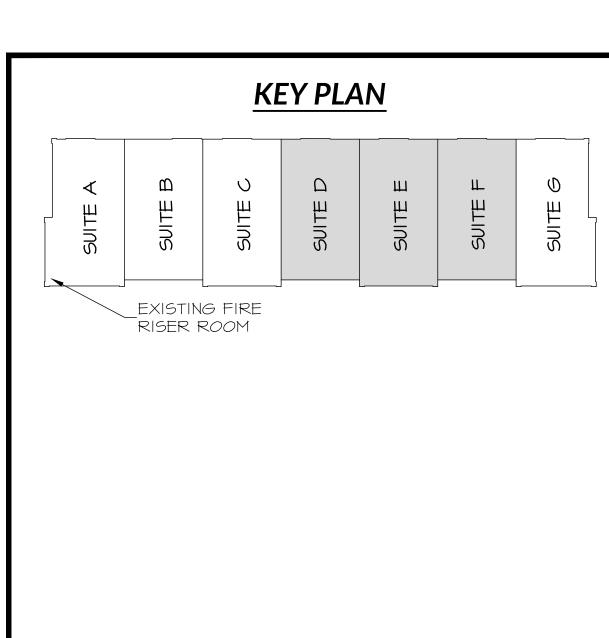
SITE PLAN

SHEET NUMBER:









MAIN RUNNER OR-

CROSS TEE

ACOUSTICAL~

IBC SEISMIC INSTALLATION REQUIREMENTS. INSTALLATION MUST CONFORM TO CISCA RECOMMENDATIONS AND ALSO MUST MEET THESE ADDITIONAL REQUIREMENTS:

* MINIMUM 2" WALL MOLDING

* GRID MUST BE ATTACHED TO TWO ADJACENT WALLS - OPPOSITE WALLS MUST HAVE 3/4" CLEARANCE

* ENDS OF MAIN BEAMS AND CROSS TIES MUST BE TIED TOGETHER TO PREVENT THEIR SPREADING

* HEAVY-DUTY GRID SYSTEM

* CEILING AREAS OVER 1,000 SF MUST HAVE HORIZONTAL RESTRAINT WIRE OR RIGID BRACING

* CEILING AREAS OVER 2,500 SF MUST HAVE SEISMIC SEPARATION JOINTS OR FULL HEIGHT PARTITIONS

* CEILINGS WITHOUT RIGID BRACING MUST HAVE 2" OVERSIZED TRIM RINGS FOR SPRINKLERS AND OTHER PENETRATIONS

* CHANGES IN CEILING PLANE MUST HAVE POSITIVE BRACING

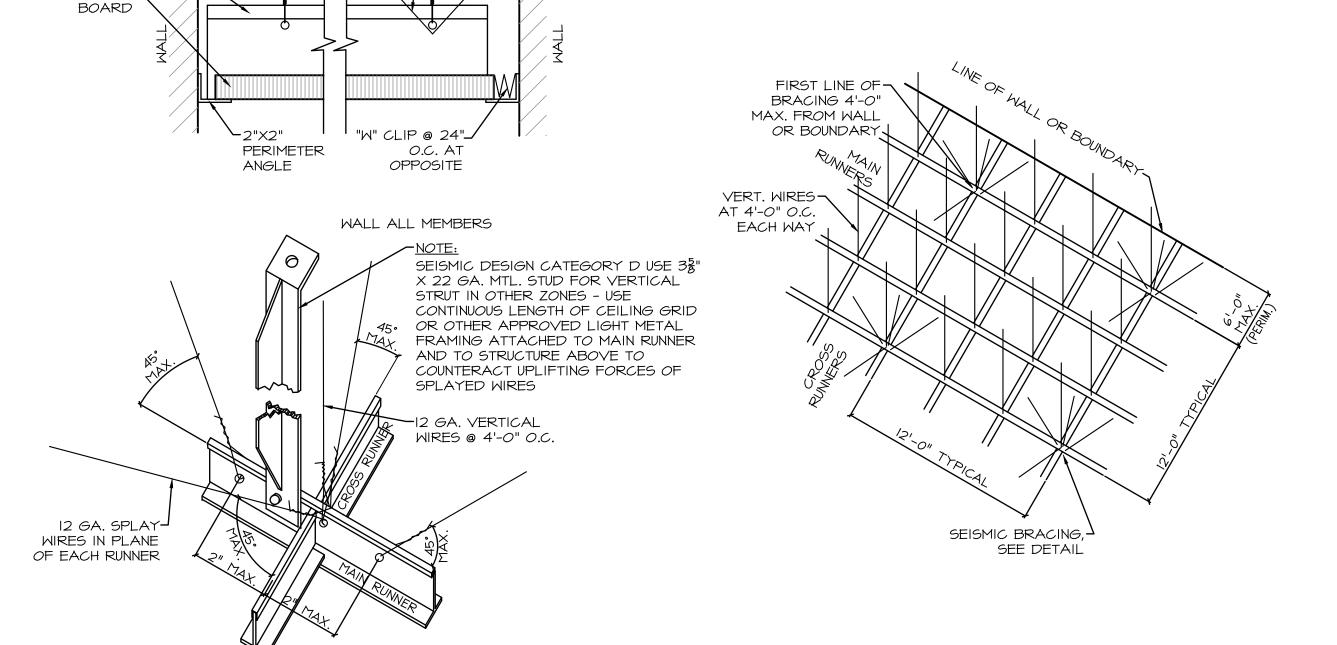
* CABLE TRAYS AND ELECTRICAL CONDUITS MUST BE INDEPENDENTLY SUPPORTED AND BRACED

* SUSPENDED CEILING WILL BE SUBJECT TO SPECIAL INSPECTION

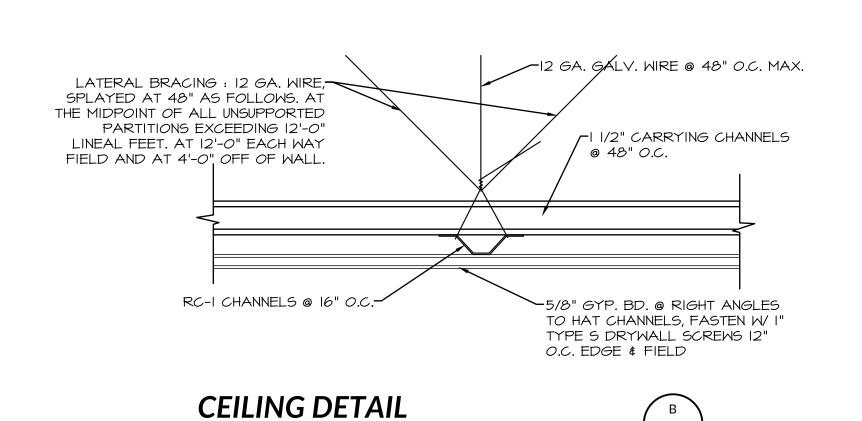
- I. ALL SPLAY WIRES TO BE INLINE WITH
- ATTACHED COMPONENTS. 2. ALL SPLAY WIRES TO BE TAUT AND TIED BOTH ENDS W/ MIN. OF 3 TURNS IN I" OF
- 3. AREAS SMALLER THAN 144 SQ. FT. WITH
- WALLS ON 4 SIDES EXTENDING TO STRUCTURE NEED TO BE BRACED.
- 4. COMPRESSIVE STRUTS REQUIRED @ 12'-0"
 - 5. ALL CEILING MOUNTED LIGHT FIXTURES SHALL BE ATTACHED TO THE SUSPENDED CEILING GRID. IN ADDITION 12 GA. HANGER WIRES SHALL BE ATTACHED TO THE GRID WITHIN 3" OF EACH CORNER OF THE LIGHT HOUSING AND TO THE STRUCTURE ABOVE (THESE WIRES MAY BE SLACK).
 - 6. WIRES SHALL NOT ATTACH TO OR BEND AROUND INTERFERING MATERIAL OR EQUIPMENT NOR SHALL THEY BE CLOSER THAN 6" FROM ANY UNBRACED HORIZONTAL PIPING OR DUCTWORK. A TRAPEZE OR SIMILAR DEVICE SHALL BE USED WHERE OBSTRUCTIONS OCCUR.

CEILING TYPES					
MARK	DESCRIPTION				
(CI)	2' x 4' ACOUSTICAL PANEL CEILING IN METAL SUSPENSION SYSTEM CEILING HEIGHT = 9'-0" A.F.F.				
⟨C2⟩	5/8" GYPSUM BOARD CEILING CEILING HEIGHT = 9'-0" A.F.F.				
€3	$2' \times 4'$ ACOUSTICAL PANEL CEILING IN METAL SUSPENSION SYSTEM CEILING HEIGHT = $8'$ - $3''$ A.F.F.				
(C4)	5/8" GYPSUM BOARD CEILING CEILING HEIGHT = 8'-0" A.F.F.				
(25)	2' x 4' ACOUSTICAL PANEL CEILING IN METAL SUSPENSION SYSTEM CEILING HEIGHT = 8'-0" A.F.F.				
(EX)	EXPOSED STRUCTURE CEILING				

NOTE: SEE ELECTRICAL DRAWINGS FOR EMERGENCY LIGHTING AND EXIT SIGNS.



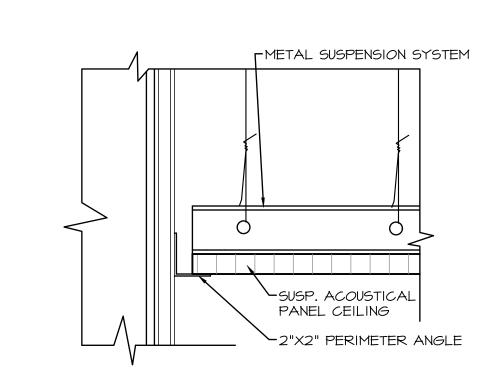
CEILING SUSPENSION SYSTEM & SEISMIC BRACING DETAIL (TYP.)

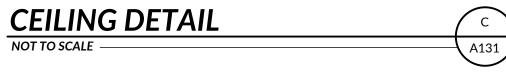


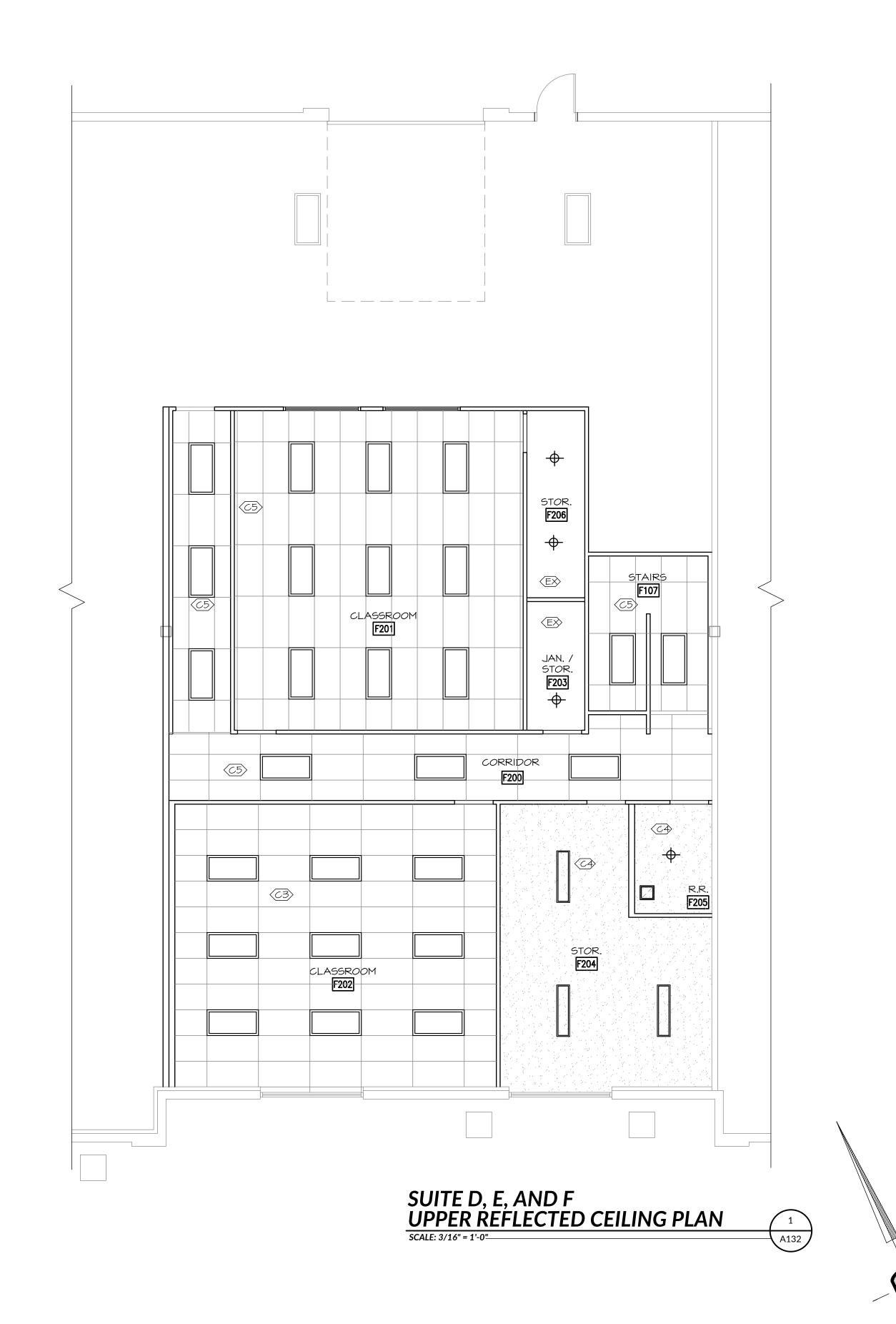
- 12 GA. HANGER -WIRE @ 4'-0" O.C.

HORZ. STRUT AT 7

UNATTACHED









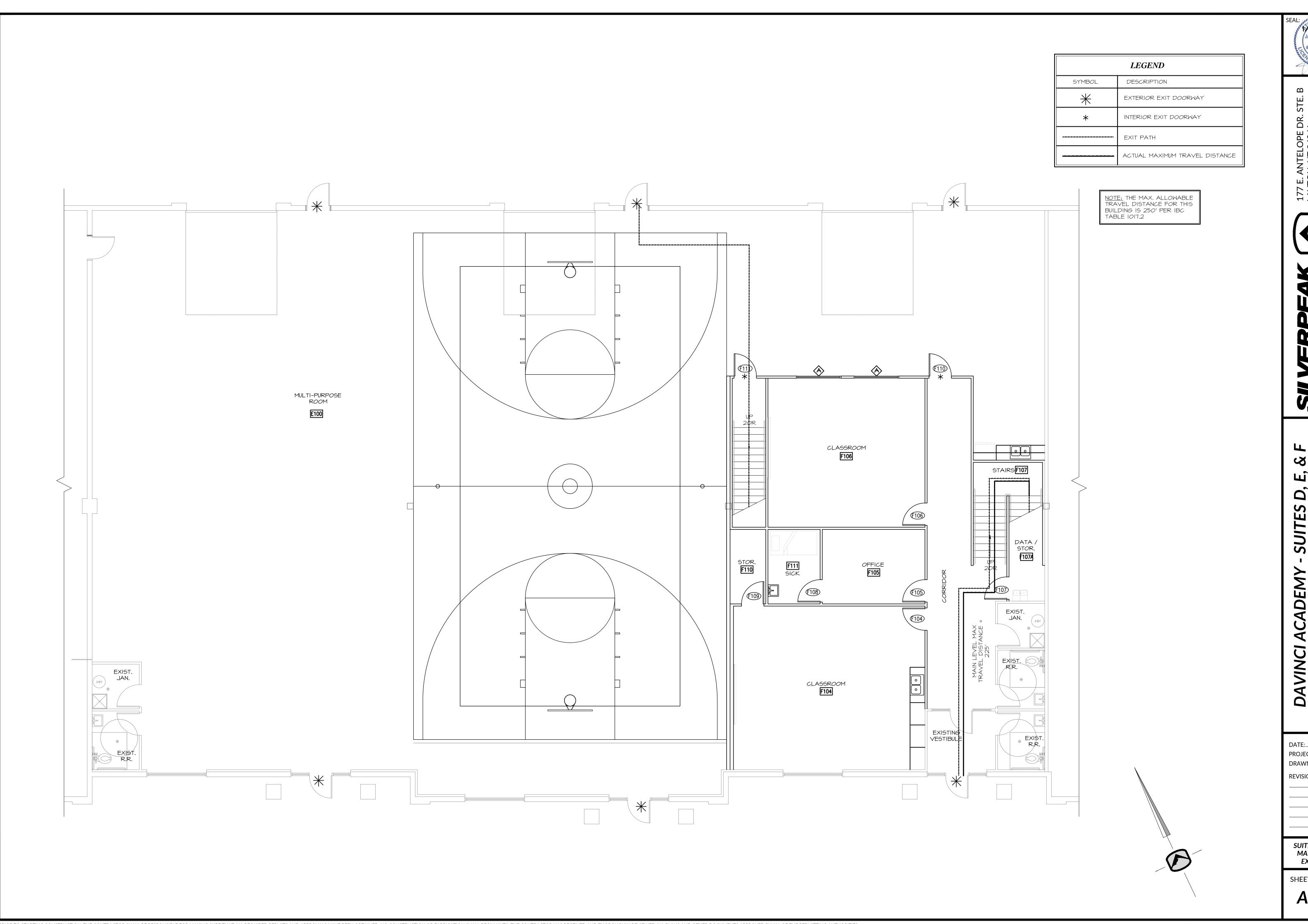
ADEMY 850 KAY

DATE: 01/14/2020 PROJECT: 16-153.07 DRAWN BY: WM

REVISIONS:

SUITES D, E, & F **UPPER REFLECTED CEILING PLAN**

SHEET NUMBER: A132



JARED STUART FORSYTH 8304554-0300

DAVINCI

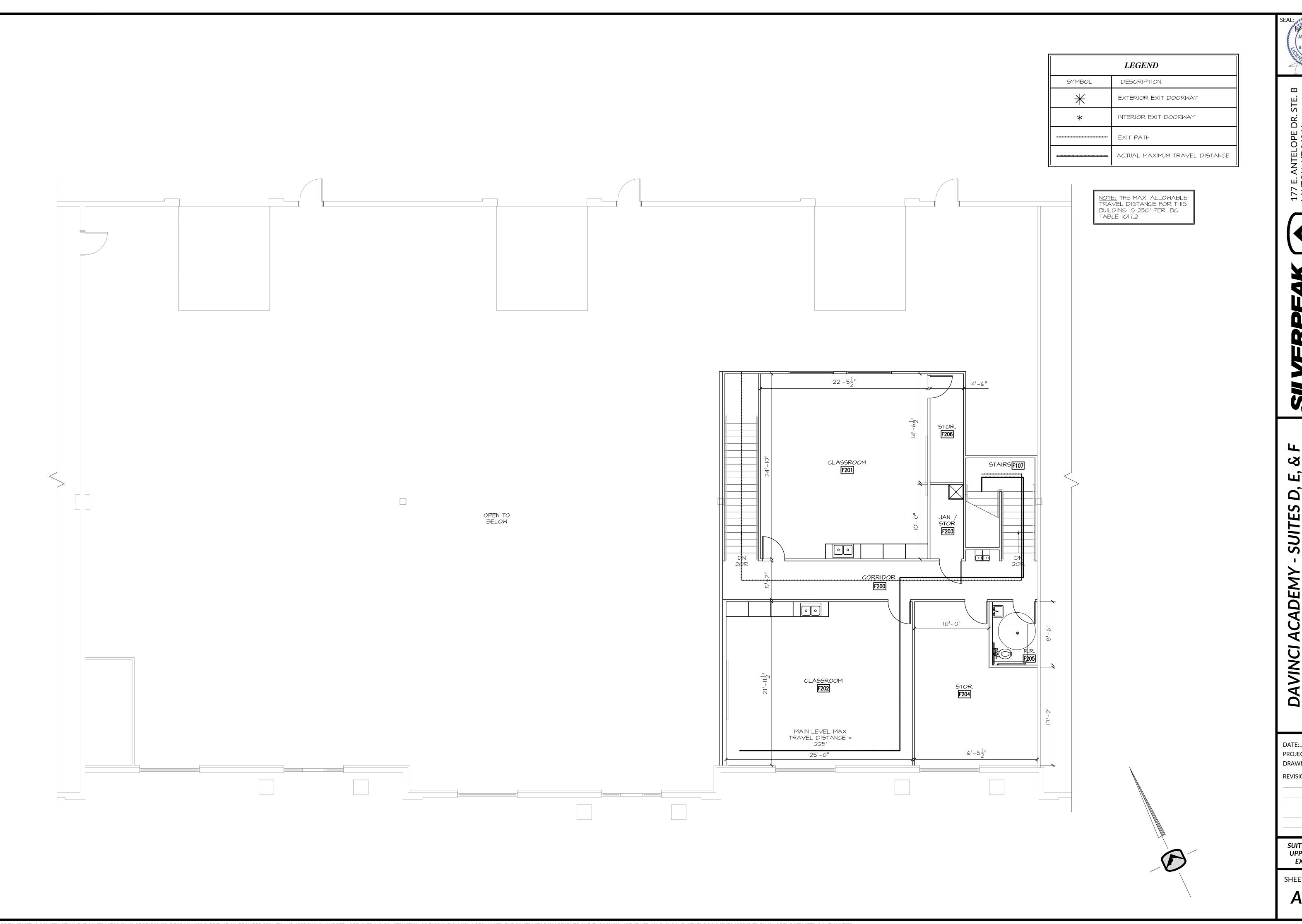
DATE: 01/14/2020 PROJECT: <u>16-153.07</u> DRAWN BY: WM

REVISIONS:

SUITES D, E, & F MAIN FLOOR **EXIT PLAN**

SHEET NUMBER: A141

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.





177 E. ANTELOPE DR. STE. B LAYTON, UT 84041 PHONE: (801) 499-5054





0 **ACADEMY**

DATE: 01/14/2020 PROJECT: <u>16-153.07</u>

DRAWN BY: WM

REVISIONS:

SUITES D, E, & F UPPER FLOOR EXIT PLAN

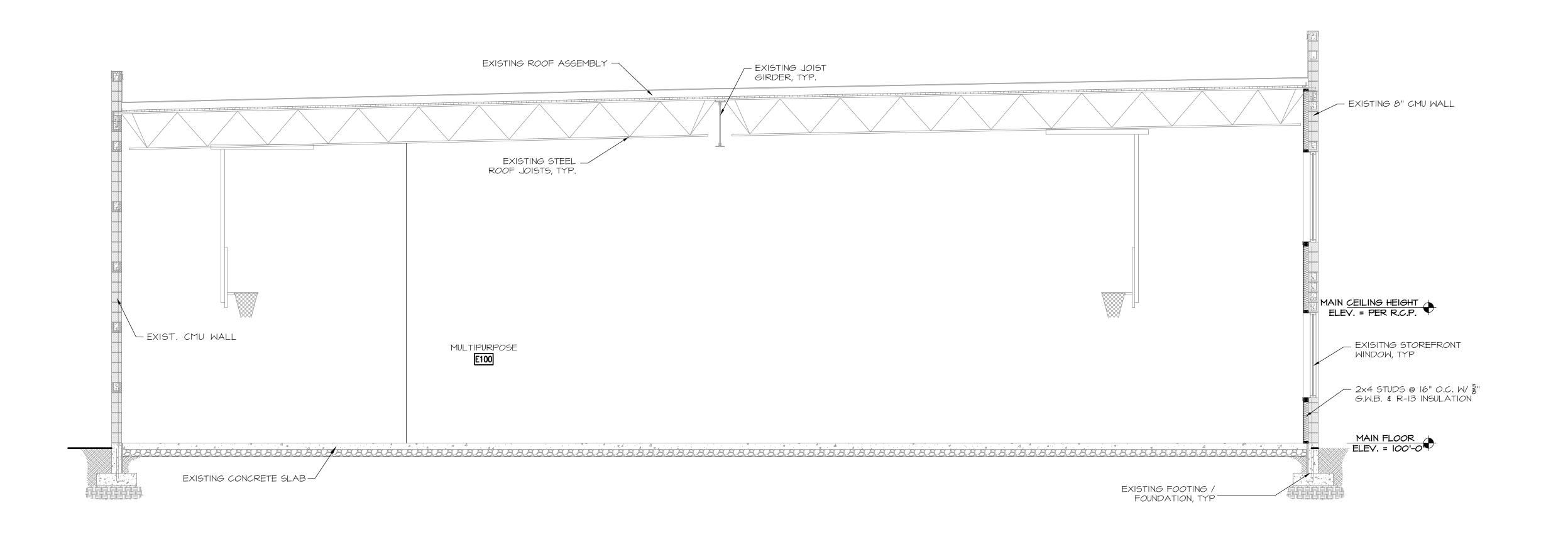
SHEET NUMBER: A142

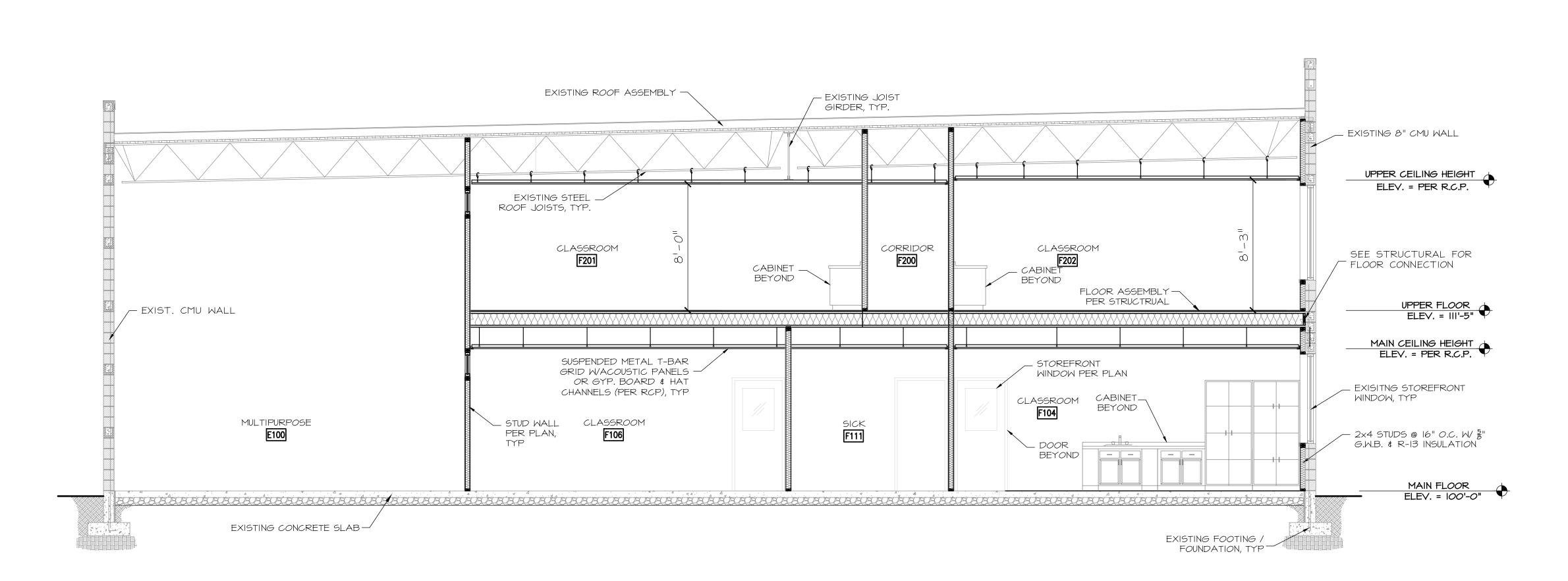
50 UT 850 WEST 35 KAYSVILLE, U **ACADEMY** DAVINCI

DATE: **01/14/2020** PROJECT: 16-153.07 DRAWN BY: WM **REVISIONS:**

BUILDING SECTIONS

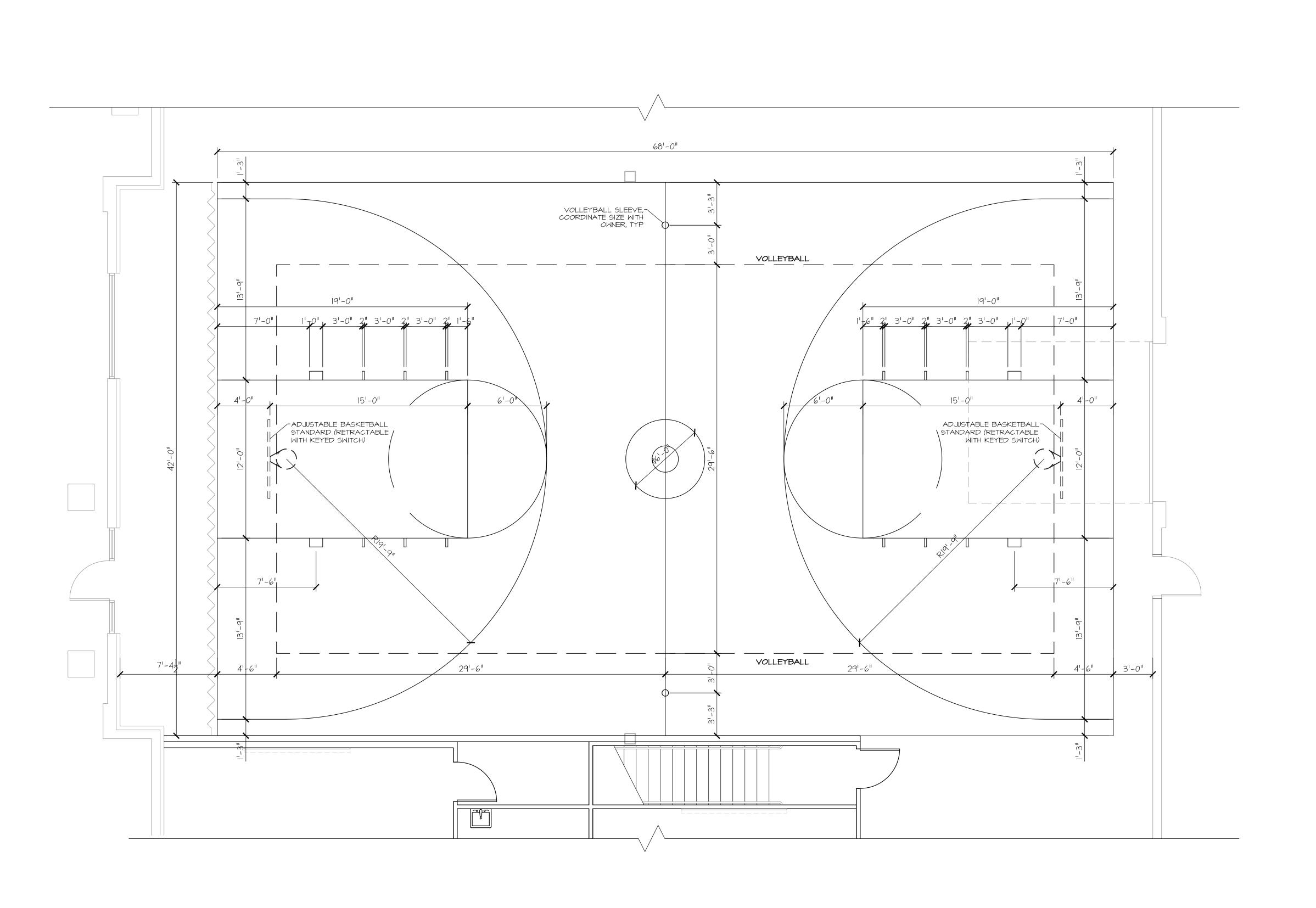
SHEET NUMBER: A301





BUILDING SECTION

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.





177 E. ANTELOPE DR. STE. B LAYTON, UT 84041 PHONE: (801) 499-5054



SILVERPEAK (
ENGINEERING (
STRUCTURAL CIVIL SURVE

INCI ACADEMY - SUITES D, E, & 850 WEST 350 NORTH KAYSVILLE, UT 84037

DATE: 01/14/2020 PROJECT: 16-153.07 DRAWN BY: WM

REVISIONS:

FNI ARGED

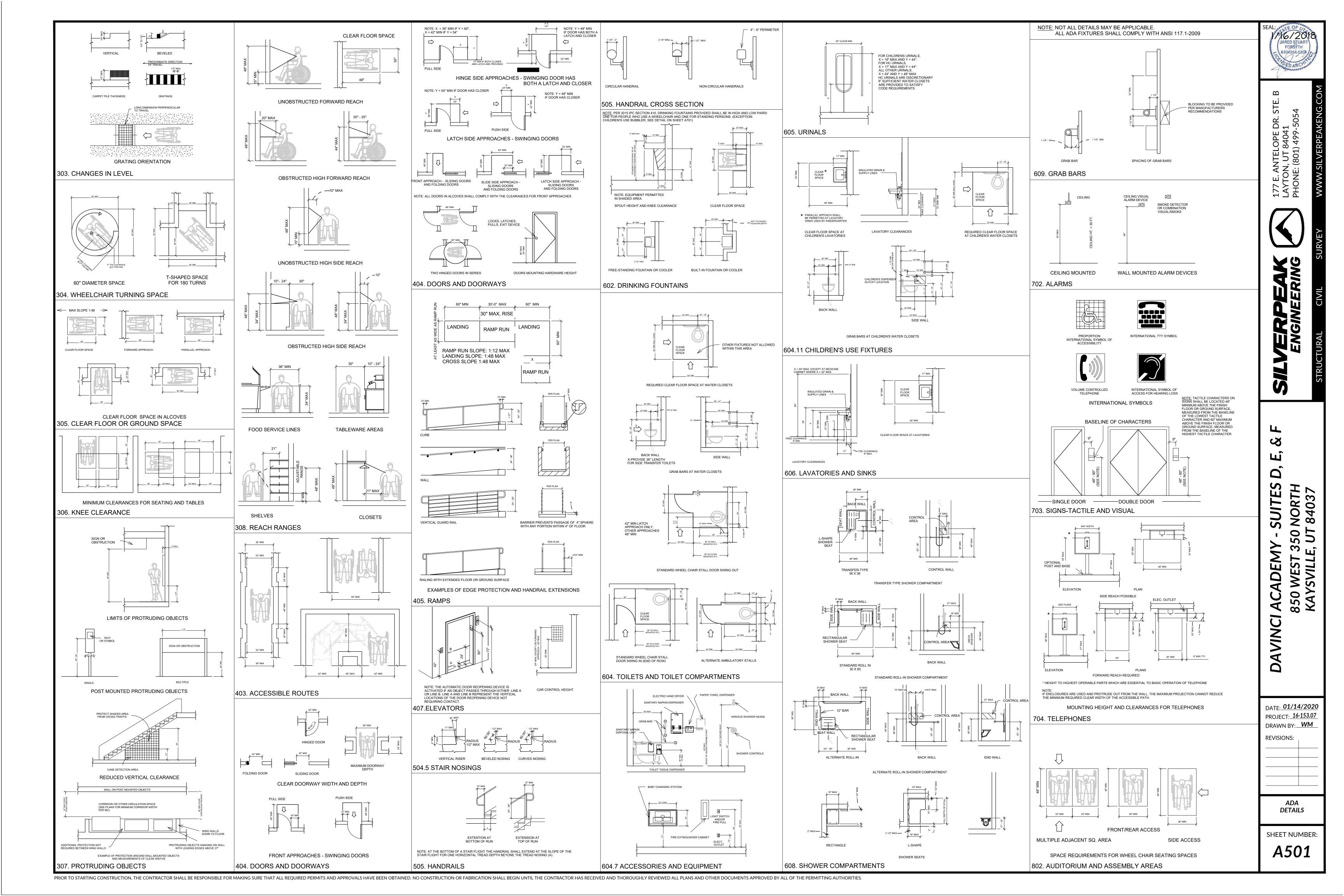
BASKETBALL COURT PLAN SHEET NUMBER:

A411

ENLARGED BASKETBALL COURT PLAN

SCALE: 1/4" = 1'-0"

A411



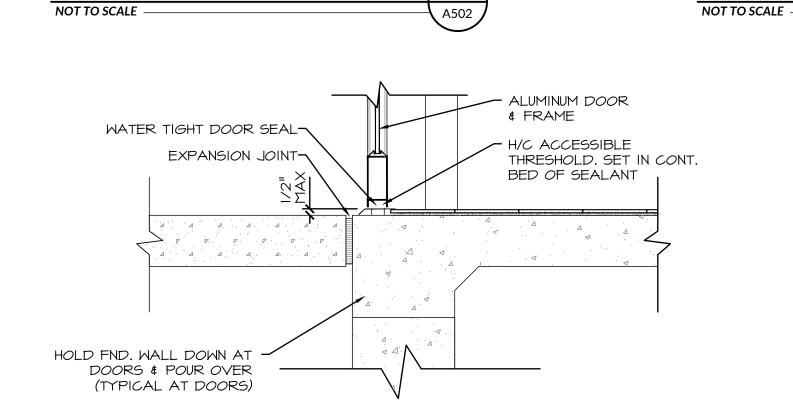
RAISED MIN. 1/32"

SAN-SERIF UPPERCASE

SIGNS ON THE RESTROOM DOORS AT 60"

A.F.F. FROM THE CENTER OF THE SIGN

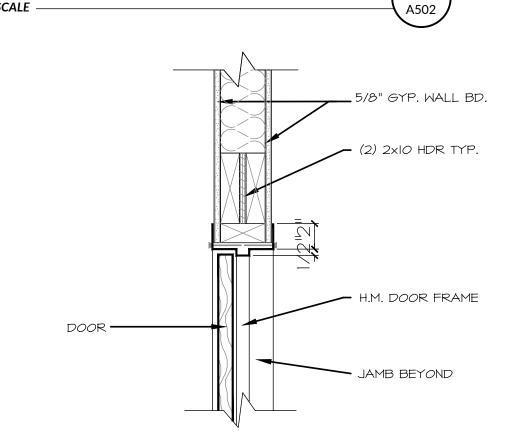
REST ROOM SIGNS



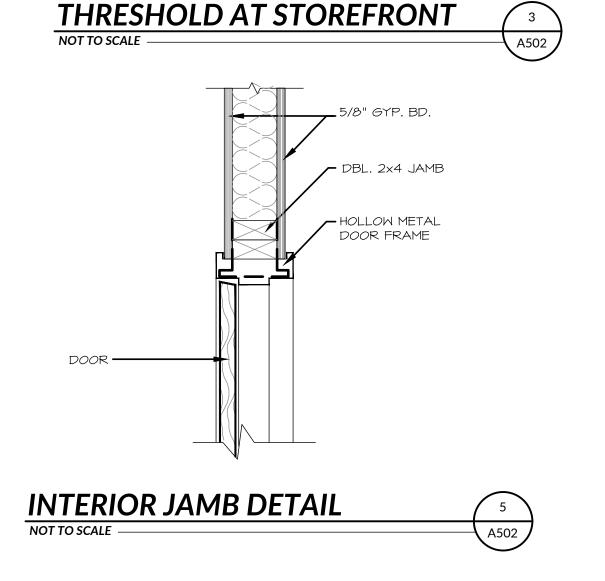
SIGNS TO BE PLACED ON THE WALL NEAR THE LATCH SIDE OF THE DOOR

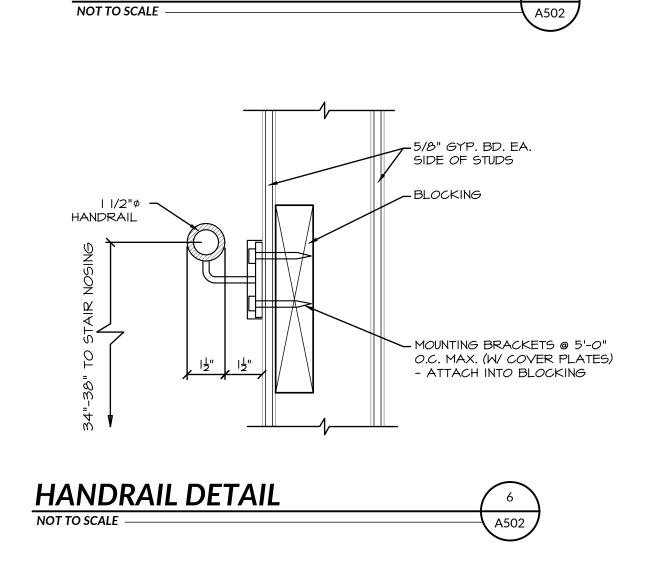
LETTERS: MIN. 5/8" HIGH

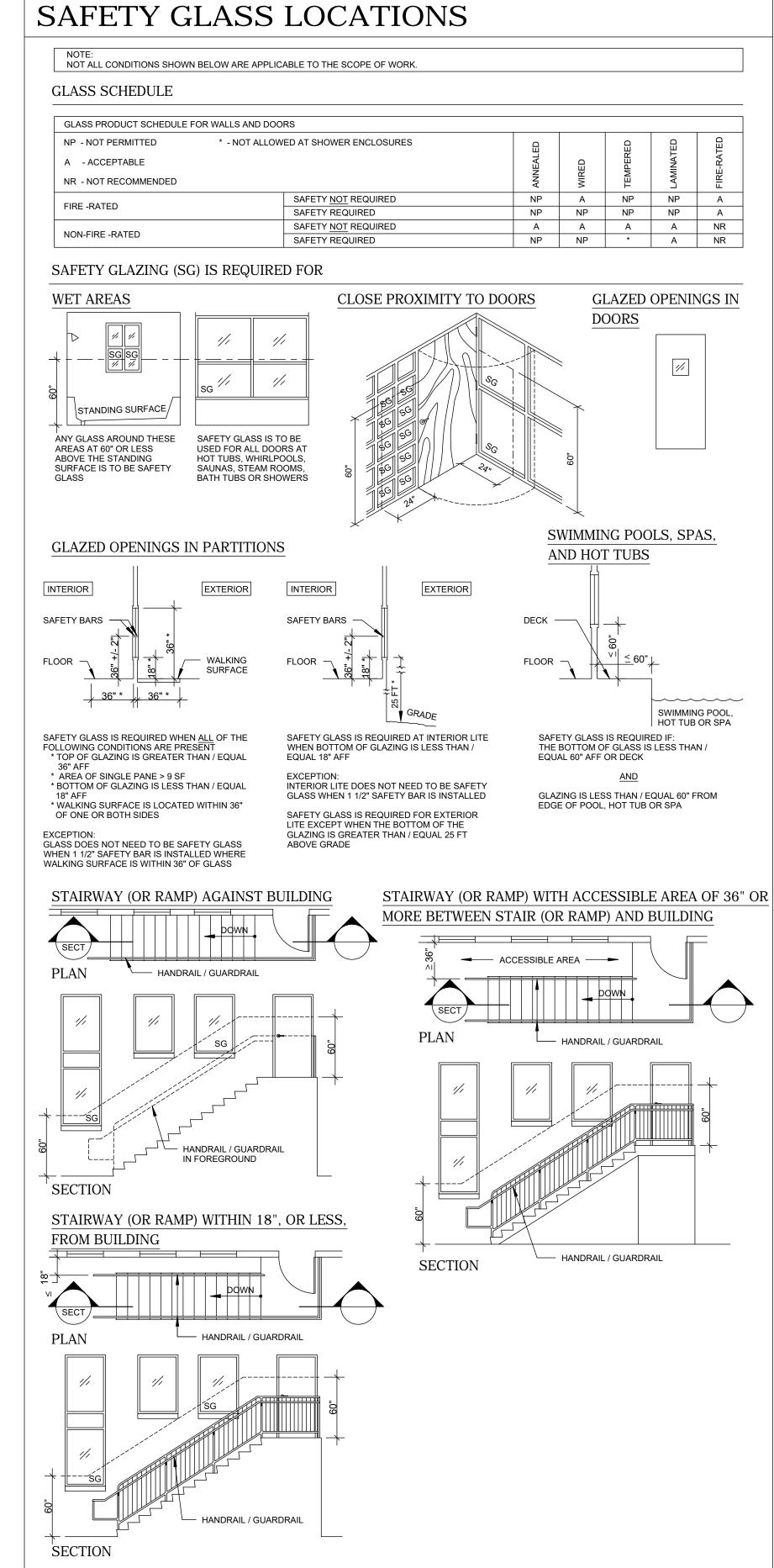
TYPICAL ROOM SIGNS



INTERIOR HEAD DETAIL









177 E. ANTELOPE DR. ST LAYTON, UT 84041 PHONE: (801) 499-5054



SILVERRPEAK ENGINEERING

VCI ACADEMY - SUITES D, E, 850 WEST 350 NORTH KAYSVILLE, UT 84037

DATE: 01/14/2020
PROJECT: 16-153.07
DRAWN BY: WM
REVISIONS:

0

WINDOW & DOOR DETAILS

A502

REVISIONS:

DAVINCI

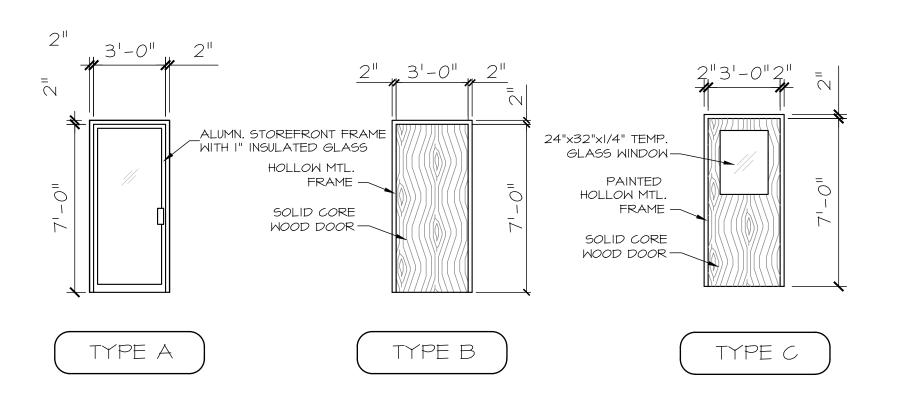
SCHEDULES & INTERIOR **ELEVATIONS**

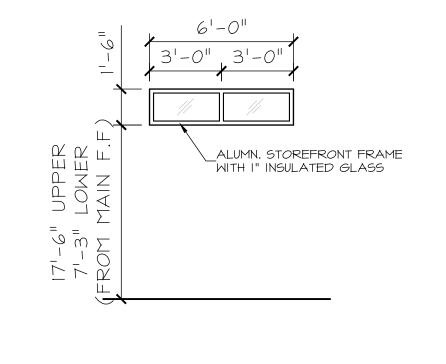
SHEET NUMBER: A601

DOOR TYPES

	FINISH SCHEDULE												
ROOM NAME AND NUMBER		FLOC)R	BASE		WALLS			<u>()</u>	CEILING		
		CARPET	NON-POROUS CERAMIC TILE	SEALED CONCRETE	RUBBER BASE	CERAMIC TILE	PAINTED G.W.B.	СМИ	6' CERAMIC TILE WAINSCOT	F.R.P PANELS OVER 5/8" G.W.B.	PAINTED G.W.B.	2'X6' ACOUSTICAL PANEL	PAINTED EXPOSED CEILING
200	COORIDOR	•			•		•					•	
201	CLASSROOM	•			•		•				•	•	
202	CLASSROOM	•			•		•				•	•	
203	JANITOR/CLOSET			•	•		•				•		
204	CLASSROOM	•			•		•				•	•	
205	RESTROOM		•						•		•		
206	STORAGE			•	•		•				•		

F206 STORAGE





WINDOW	
PROVIDE (4) OF THIS WINDOW TYPE	$\overline{}$

	DOOR SCHEDULE											
DOOR		Ι	700F	2		FRAME	REMARKS	Ī				
NO.	MIDTH	HEIGHT	THICK	TYPE	MATL.	MATERIAL	RLMARKS					
F104	3'-0"	7'-0"	1 3/4"	C	ALUM.	ALUM.	PANIC HARDWARE & AUTO CLOSER					
F105	3'-0"	7'-0"	3/4"	В	MOOD	H.M.	PROVIDE LOCK & AUTO CLOSER	Ī				
F106	3'-0"	7'-0"	3/4"	С	MOOD	H.M.	PROVIDE LOCK & AUTO CLOSER	Ī				
F107	3'-0"	7'-0"	3/4"	В	WOOD	H.M.	PROVIDE LOCK	Ī				
F108	3'-0"	7'-0"	1 3/4"	В	WOOD	H.M.	PROVIDE LOCK & AUTO CLOSER					
F109	3'-0"	7'-0"	1 3/4"	В	ALUM.	H.M.	PANIC HARDWIRE & AUTO CLOSER					
F110	3'-0"	7'-0"	3/4"	В	ALUM.	H.M.	PANIC HARDWIRE & AUTO CLOSER	•				
F111	3'-0"	7'-0"	3/4"	В	ALUM.	H.M.	PANIC HARDWIRE & AUTO CLOSER LOCKABLE FROM GYM SIDE					

FINISH SCHEDULE

WALLS

FLOOR

ROOM NAME AND NUMBER

100 MULTIPURPOSE ROOM

VESTIBULE RESTROOM RESTROOM

STORAGE

CLASSROOM

CLASSROOM

STORAGE

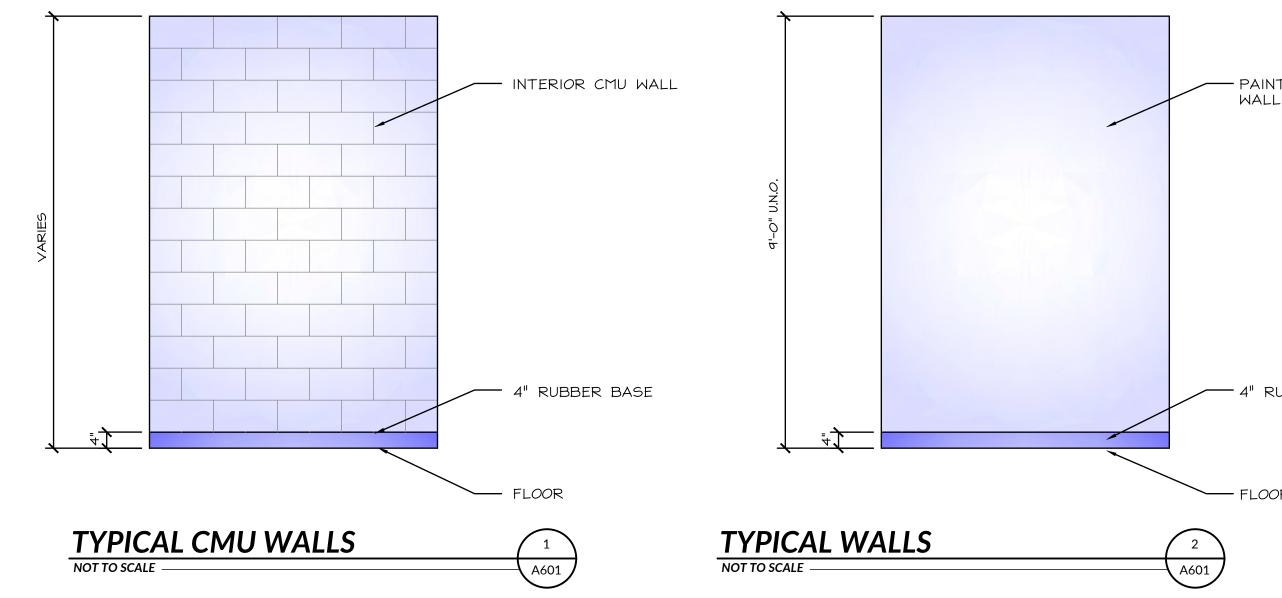
	DOOR SCHEDULE											
DOOR		Ι	000F	2		FRAME	REMARKS					
NO.	MIDTH	HEIGHT	THICK	TYPE	MATL.	MATERIAL	KLMAKKS					
F201	3'-0"	7'-0"	1 3/4"	C	ALUM.	ALUM.	PANIC HARDWARE & AUTO CLOSER					
F202	3'-0"	7'-0"	1 3/4"	C	WOOD	H.M.	PROVIDE LOCK & AUTO CLOSER					
F203	3'-0"	7'-0"	1 3/4"	В	WOOD	H.M.	PROVIDE LOCK & AUTO CLOSER					
F204	3'-0"	7'-0"	3/4"	В	WOOD	H.M.	PROVIDE LOCK					
F205	3'-0"	7'-0"	1 3/4"	В	WOOD	H.M.	PROVIDE LOCK & AUTO CLOSER					
F206	3'-0"	7'-0"	3/4"	В	ALUM.	H.M.	PANIC HARDWIRE & AUTO CLOSER					

DOOR NOTES:

DOOR HARDWARE TO COMPLY WITH CURRENT ADA & IBC STANDARDS 2. LEVER TYPE HARDWARE ONLY

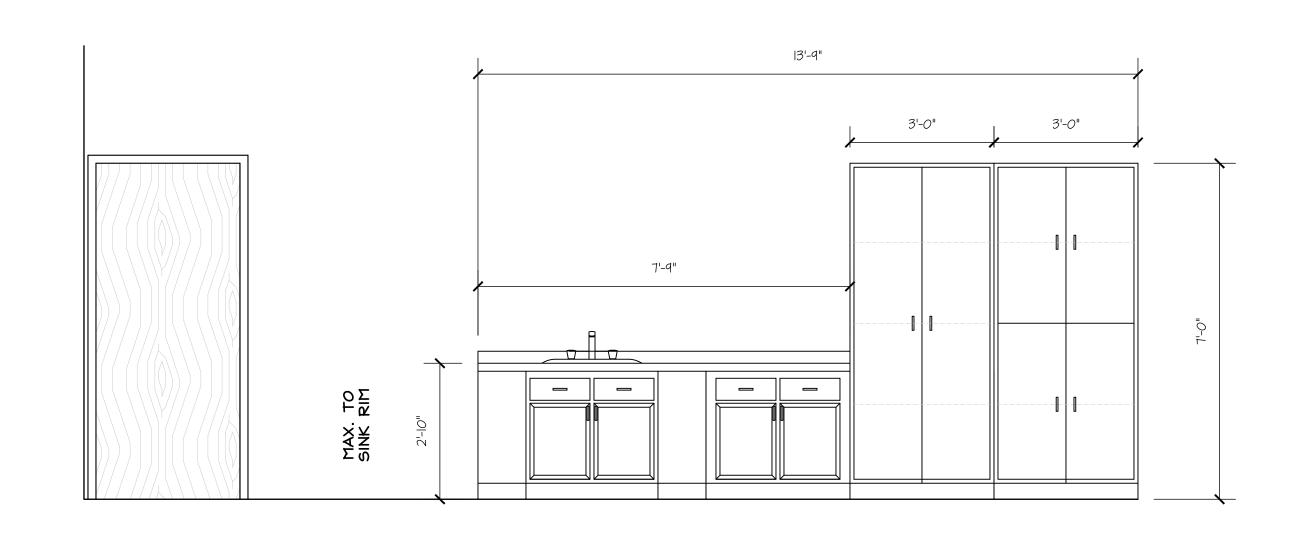
<u>WINDOW NOTES:</u>

SEE SHEET A502 FOR WINDOW HEAD, JAMB, SILL & MULLION DETAILS

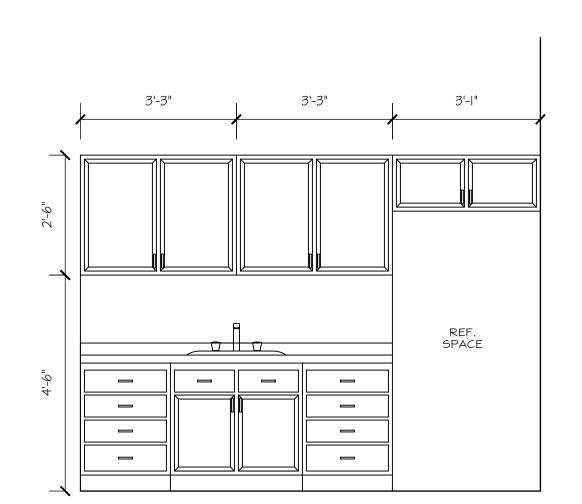


CABINET **ELEVATIONS**

SHEET NUMBER: A701









GENERAL NOTES:

- VISITS TO THE JOB SITE BY REPRESENTATIVES OF THE ENGINEER DO NOT SUBSTITUTE APPROVAL OF THE WORK PERFORMED BY THE CONTRACTOR OR HIS SUBCONTRACTORS AND ARE MERELY FOR THE PURPOSE OF OBSERVING THE WORK PERFORMED.
- 2. CONTRACTOR SHALL NOTIFY ENGINEER/ARCHITECT OF ANY DISCREPANCIES, OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN ALL CASES, UNLESS OTHERWISE DIRECTED, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN AND BE
- 3. CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND ELEVATIONS, ETC., AT THE SITE AND SHALL COORDINATE WORK PERFORMED BY ALL TRADES. DO NOT SCALE DRAWINGS.
- 4. CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS AND ELEVATIONS, ETC., AT THE SITE AND SHALL COORDINATE WORK PERFORMED BY ALL TRADES. DO NOT SCALE DRAWINGS.
- 5. SIZES, LOCATIONS, LOADS, AND ANCHORAGES OF EQUIPMENT SHALL BE VERIFIED IN THE FIELD WITH EQUIPMENT MANUFACTURERS (SUPPLIERS) PRIOR TO FABRICATION OR INSTALLATION OF SUPPORTING STRUCTURES.
- 6. TEMPORARY BRACING SHALL BE PROVIDED WHEREVER NECESSARY TO TAKE CARE OF ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING WIND. SUCH BRACING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY, OR UNTIL ALL THE STRUCTURAL ELEMENTS ARE INSTALLED.
- 7. DURING AND AFTER CONSTRUCTION THE CONTRACTOR AND/OR OWNER SHALL KEEP LOADS ON THE STRUCTURE WITHIN THE LIMITS OF THE DESIGN LOAD.
- 8. CONTRACTOR AND ALL SUBCONTRACTORS SHALL PERFORM THEIR TRADES AND DUTIES IN A MANNER CONFORMING TO THE PROCEDURES AND REQUIREMENTS AS STATED IN THE CURRENTLY ADOPTED INTERNATIONAL BUILDING CODE, (OR LATEST ACCEPTED CODE ADOPTED BY THE LOCAL BUILDING OFFICIALS).
- 9. ANY SPECIAL INSPECTIONS REQUIRED BY THE BUILDING OFFICIAL OR THE BUILDING CODE ARE THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR.
- IO. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION WITHIN AND ADJACENT TO THE JOB SITE.

FOUNDATION AND EARTHWORK NOTES

CMT ENGINEERING

9474

- I. SOILS INFORMATION / REPORT
- I.I. SOILS REPORT BY
- SOILS REPORT PROJECT NUMBER
- I.2. SOIL BEARING CAPACITY (PSF)
- 3/24/2017 2,000, ON COMPACTED FILL
- ANY SOIL CONDITION ENCOUNTERED DURING EXCAVATION THAT IS CONTRARY TO THOSE USED FOR DESIGN OF FOOTINGS AS OUTLINED IN THE WORKING DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING.
- 3. ALL FOOTINGS SHALL BEAR ON UNDISTURBED NATIVE SOIL OR ENGINEERED GRANULAR FILL COMPACTED TO 95% OF MAX DENSITY, BASED ON ASTM D 1557 METHOD OF COMPACTION. FILL SHALL BE PLACED IN LAYERS NOT TO EXCEED SIX INCHES IN DEPTH AFTER COMPACTION AND SHALL EXTEND DOWN TO IN-SITU SOILS. FILL SHALL BE COMPACTED UNDER ALL CONCRETE WORK ON THE SITE.
- 4. NO FOOTINGS SHALL BE PLACED IN WATER, SNOW, FROZEN GROUND, OR UNSTABLE SOILS.
- 5. ALL EXCAVATIONS ADJACENT TO AND BELOW FOOTING ELEVATION FOR OTHER TRADES SHALL BE ACCOMPLISHED PRIOR TO POURING ANY FOOTINGS.
- 6. CONTRACTOR SHALL BE RESPONSIBLE FOR LATERALLY SUPPORTING ALL RETAINING TYPE FOUNDATION WALLS WHILE COMPACTING BEHIND WALLS AND UNTIL ALL SUPPORTING MEMBERS HAVE BEEN PLACED (SUCH AS FLOOR SLABS). ALL OPEN EXCAVATIONS AND TRENCHES SHALL BE SUPPORTED AND BARRICADED BY CONTRACTOR TO CONFORM WITH OSHA SAFETY
- 7. ALL REINFORCEMENTS SHALL BE SECURELY TIED IN PLACE PRIOR TO POURING CONCRETE.
- 8. CONSULT THE PROJECT SPECIFICATIONS AND SOILS REPORT FOR FURTHER EARTHWORK

CONCRETE NOTES

- I. CONCRETE MATERIALS:
- I.I. CEMENT TYPE ASTM C-150 TYPE I/II CEMENT SOURCE SHALL REMAIN THE SAME FOR THE ENTIRE JOB.
- I.2. FLY ASH ASTM C618 CLASS F, 25% MAX CEMENT. CONTENT I.3. ADMIXTURES:
- I.3.I. AIR-ENTRAINING ASTM C260
- I.3.2. WATER-REDUCING ADMIXTURE ASTM C494, TYPE A
- I.3.3. RETARDING ADMIXTURE ASTM C494, TYPE B I.3.4. WATER-REDUCING AND RETARDING ADMIXTURE - ASTM C494, TYPE F
- I.3.5. HIGH-RANGE, WATER-REDUCING AND RETARDING ADMIXTURE ASTM 494, TYPE G
- I.3.6. ADMIXTURE MANUFACTURER SHALL HAVE ISO 9001 QUALITY CERTIFICATION.
- ALL ADMIXTURES SHALL BE FROM THE SAME MANUFACTURER TO ENSURE COMPATIBILITY
- 1.3.8. CALCIUM CHLORIDE SHALL NOT BE ADDED TO THE CONCRETE MIX I.4. NORMAL WEIGHT AGGREGATES
- I.4.2. COMBINED AGGREGATE GRADATION FOR SLABS ON GRADE AND OTHER DESIGNATED CONCRETE SHALL BE 8% TO 18% FOR LARGE TOP SIZE AGGREGATES (1 1/2") OR 8% TO 22% FOR SMALLER TOP SIZE AGGREGATES (I" OR 3/4") RETAINED ON EACH SIEVE BELOW THE TOP SIZE AND ABOVE THE NO. 100. THE RANGE FOR THE NO. 30 AND NO. 50 SIEVES SHALL BE 8% TO 15% RETAINED IN EACH. TO AVOID GAP
- GRADING THE FOLLOWING SHALL OCCUR. 1.4.2.1. THE PERCENT RETAINED ON TWO ADJACENT SIEVES SHALL NOT FALL BELOW
- 1.4.2.2. THE PERCENT RETAINED ON THREE ADJACENT SIEVES THAT NOT FALL BELOW
- 1.4.2.3. WHEN THE PERCENT RETAINED ON TWO ADJACENT SIEVES IS LESS THAN 8%, THE TOTAL RETAINED ON EITHER OF THESE SIEVES AND THE ADJACENT OUTSIDE SIEVE SHALL BE AT LEAST 13%. SEE ACI 302 SECTION 5.4.3.3
- 1.4.3. MAXIMUM AGGREGATE SIZE SHALL BE NOT LARGER THAN: I.4.3.I. I/5 THE NARROWEST DIMENSION OF THE FORMS
- 1.4.3.2. 1/3 THE DEPTH OF THE SLAB
- 1.4.3.3. 3/4 THE MINIMUM SPACING BETWEEN BARS
- 1.5. REINFORCING STEEL ASTM A615, GRADE GO (Fy = 60 ksi) USE GRADE 40 (Fy = 40 ksi) FOR FIELD BENT DOWELS WITH SPACINGS REDUCED BY 1/3
- FROM THAT INDICATED IN THE DRAWINGS.
- I.6. ANCHOR RODS (TYPICAL) ASTM FI554, GRADE 36
- I.T. WATER CEMENT RATIO SHALL MEET THE REQUIREMENTS OF ACI 318
- I.S. PROVIDE AIR ENTRAINMENT AS RECOMMENDED BY ACI 318.
- HORIZONTAL USE CONCRETE THAT EXTENDS ABOVE GRADE AND IS EXPOSED TO FREEZING AND THAWING WHILE MOIST SHALL BE AIR ENTRAINED (UNLESS OTHERWISE
- I.9. ITEMS NOT PERMITTED TO BE DIRECTLY EMBEDED IN CONCRETE ARE ALUMINUM CONDUIT, PRODUCTS CONTAINING ALUMINUM, OR OTHER SUCH NON-COMPATIBLE MATERIALS.

FO, SO, WO, CO

FO, SO, WO, CO

3,000 PSI

- 2. CONCRETE COMPRESSIVE STRENGTHS OF CONCRETE AT 28 DAYS AND ACI 318 CLASSIFICATIONS SHALL BE AS FOLLOWS (OR AS OTHERWISE INDICATED)
- 2.I. INTERIOR FOOTINGS & INTERIOR FOUNDATION WALLS STRENGTH CLASSIFICATION
- 2.2. INTERIOR SLABS ON GRADE STRENGTH
- CLASSIFICATION 2.3. WAREHOUSE INTERIOR SLABS-ON-GRADE STRENGTH
- 3,000 PSI CLASSIFICATION FO, SO, WO, CO

- 3. REINFORCEMENT COVER 3.I. CAST-IN-PLACE CONCRETE
- 3.I.I. PERMANENTLY CAST AGAINST EARTH 3.1.2. CONCRETE NOT EXPOSED TO WEATHER OR AGAINST EARTH SLABS, WALLS AND THEIR PIERS 3/4" 1 1/2" BEAMS, COLUMNS:
- 4. ONLY ONE GRADE OR TYPE OF CONCRETE SHALL BE POURED ON THE SITE AT ANY GIVEN

CLEAR COVER

- 4.I. ALL CONCRETE WORK SHALL BE PLACED, CURED, STRIPPED, AND PROTECTED AS DIRECTED BY THE ACI STANDARDS AND PRACTICES
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND FORMWORK. 5.1. SUPPORTING FORMS AND SHORING SHALL NOT BE REMOVED UNTIL STRUCTURAL MEMBERS HAVE ACQUIRED SUFFICIENT STRENGTH TO SAFELY SUPPORT THEIR OWN WEIGHT AND ANY CONSTRUCTION LOAD TO WHICH THE MAY BE SUBJECTED.
- 6. CONSTRUCTION JOINTS, CONTROL JOINTS
- 6.I. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION JOINTS SHALL BE KEYED WITH A KEY I-I/2" DEEP, A LENGTH 2" LESS THAN THE MEMBER, AND A WIDTH 1/2 OF THE MEMBER. REINFORCING SHALL BE CONTINUOUS THRU JOINT.
- 6.2. UNLESS NOTED OTHERWISE, CONTROL JOINTS (CONTRACTION JOINTS) SHALL BE SPACED NO FURTHER THAN 30 TIMES THE SLAB THICKNESS. THE CONTROL JOINTS SHALL BE
- INSTALLED SO THAT THE LENGTH TO WIDTH RATIO IS NO MORE THAN 1.20:1. 6.2.I. CONTROL JOINTS SHALL BE COMPLETED AS SOON AS FINAL SET IS ACHIEVED. THE JOINT DEPTH FOR SAWCUT AND TOOLED JOINTS SHALL BE 1/4" THE SLAB THICKNESS. THE SAWCUT DEPTH SHALL INCREASE TO 1/3 THE SLAB THICKNESS FOR MACRO FIBER REINFORCED SLABS.
- 7. CONSTRUCTION AND DETAILING
- 7.I. ALL SPLICES IN CONTINUOUS CONCRETE REINFORCING BARS SHALL LAP 40 BAR DIAMETERS. ALL SUCH SPLICES SHALL BE MADE IN A REGION OF COMPRESSION UNLESS OTHERWISE SHOWN.
- 1.2. BEFORE CONCRETE IS POURED CHECK WITH ALL TRADES TO INSURE PROPER PLACEMENT. OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, BOLTS, INSERTS, ETC. RELATIVE TO WORK. 7.3. NO PIPES, DUCTS, SLEEVES, ETC SHALL BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER. PENETRATIONS THROUGH WALLS WHEN APPROVED SHALL BE BUILT INTO THE WALL PRIOR TO CONCRETE
- WALL PRIOR TO CONCRETE PLACEMENT. 7.4. ALL REINFORGEMENT SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH THE CURRENT VERSION OF ACI-318.
- 7.5. USE CHAIRS OR OTHER SUPPORT DEVICES RECOMMENDED BY THE CRSI TO SUPPORT AND TIE REINFORCEMENT BARS PRIOR TO PLACING CONCRETE. REINFORCING STEEL FOR SLABS ON GRADE AND SLABS OVER METAL DECK SHALL BE ADEQUATELY SUPPORTED. SUPPORT REINFORCING STEEL OF SLABS ON GRADE WITH PRECAST CONCRETE UNITS.

PLACEMENT. PENETRATIONS THROUGH WALLS WHEN APPROVED SHALL BE BUILT INTO THE

LIFTING THE REINFORCING OFF THE GRADE DURING PLACEMENT IS NOT PERMITTED. 7.6. REINFORCING BARS SHALL NOT BE WELDED UNLESS SPECIFICALLY NOTED ON DRAWINGS.

LUMBER NOTES

DOUG-FIR LARCH #2 BTR

DOUG-FIR LARCH #1 BTR

1.9E

- I. WOOD MATERIALS
- I.I. FRAMING LUMBER
- I.I.I. STUDS BEARING WALLS
- DOUG-FIR LARCH #2 BTR I.I.2. STUDS NON BEARING WALLS DOUG-FIR LARCH STUD GRADE BTR DOUG-FIR LARCH #2 BTR
- 1.1.3. JOISTS I.I.4. HEADERS
- I.I.5. POSTS
- I.I.6. SILL PLATES IN CONTACT WITH CONCRETE DOUG-FIR LARCH #2 (PRESS. TREAT.) I.2. ENGINEERED LUMBER
- I.2.I. LAMINATED VENEER LUMBER (LVL)
- I.3. SHEATHING I.4. WOOD SHEATHING SHALL BE UNSANDED PLYWOOD OR ORIENTED STRAND BOARD (OSB) AND SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE AND HAVE THE MINIMUM FOLLOWING SPAN RATING AND THICKNESS, UNLESS NOTED OTHERWISE.
- 24/0 WALLS (7/16 INCH THICK) FLOORS (23/32 INCH THICK)
- 2. WHERE NOT NOTED OTHERWISE, CONNECT ALL WOOD TO CONCRETE, WOOD TO STEEL AND WOOD TO WOOD (EXCEPT STUD TO PLATE) WITH SIMPSON CONNECTORS OR APPROVED EQUAL
- 3. ALL WOOD IN DIRECT CONTACT WITH CONCRETE, MASONRY OR SOIL SHALL BE PRESSURE TREATED OR BE REDWOOD
- 4. ALL MULTIPLE PLATES AND LEDGERS SHALL BE NAILED TOGETHER WITH 16d NAILS AT 8" ON
- 5. STUD WALLS SHALL RUN CONTINUOUS BETWEEN POINTS OF HORIZONTAL SUPPORT. PROVIDE
- BRACING WHERE OTHERWISE. 6. BLOCK ALL HORIZONTAL EDGES OF PLYWOOD WALL SHEATHING OR GYPBOARD SHEAR PANLES WITH 2" NOMINAL BLOCKING. BLOCK EDGES OF PLYWOOD ON FLOORS AS DIRECTED
- ON DRAWINGS. 7. SOLID 2" NOMINAL BLOCKING (SHAPED AND FULL DEPTH) SHALL BE PROVIDED AT ENDS OR POINTS OF SUPPORT OF ALL WOOD JOISTS. ATTACH BLOCKING TO THE WOOD TOP PLATE WITH
- ONE SIMPSON 'A35' CONNECTOR PER EACH PIECE OF BLOCKING WITH (12) 8d x 1-1/2" NAILS. 8. ALL WALLS SHALL HAVE A MINIMUM OF TWO TOP PLATES. SPLICES IN TOP PLATES SHALL BE STAGGERED A MINIMUM OF FOUR FEET FROM THE NEAREST ADJOINING SPLICE IN THE TOP
- 9. ALL LEDGER BOLTS SHALL HAVE PLATE WASHERS WITH A MINIMUM DIA. EQUAL TO 3 TIMES
- THE BOLT DIA. UNLESS SHOWN OTHERWISE IN DETAILS.
- IO. MINIMUM NAILING FOR GENERAL FRAMING AND CARPENTRY SHALL BE PER THE IRC/IBC OR PER THE "MINIMUM NAILING SCHEDULE" IN THESE DRAWINGS.
- II. FASTENERS SUCH AS STAPLES, CAN ONLY BE SUBSTITUTED FOR NAILS AT A RATE EQUAL TO LOAD VALUES PROVIDED BY I.C.B.O. APPROVAL. SEE EQUIVALENT STAPLE SCHEDULE IN
- 12. JOISTS SHALL HAVE BRIDGING, BLOCKING AND NOTCHED BEARING PLATES AS RECOMMENDED BY THE MANUFACTURER WITH A MINIMUM OF ONE ROW OF BRACING AT MID SPAN. MANUFACTURER SHALL SUPPLY AND CONTRACTOR SHALL INSTALL. PROVIDE AT 8'-O" O.C. MAXIMUM BETWEEN JOIST END SUPPORTS.
- 13. ALL FASTENERS (I.E. NAILS, SCREWS, ANCHOR BOLTS, ETC.) WHICH ARE TO BE INSTALLED IN PRESERVATIVE TREATED WOOD (I.E. SILL PLATES) SHALL MEET THE REQUIREMENTS OF IBC 2304.10.5.1

SPECIAL INSPECTIONS AND TESTS OF WOOD						
TYPE	CONTINUOUS SPECIAL INSPECTION	SPECIAL	REFERENCED STANDARD			
WOOD DIAPHRAGMS A	ND SHEAR WA	ALLS				
I. VERIFY WOOD PANEL SHEATHING, GRADE, THICKNESS AND NOMINAL SIZE OF FRAMING MEMBERS, ADJOINING PANEL EDGES, NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHING THE LATERAL FORCE RESISTING SYSTEM.	-	Х				

CONCRETE CONSTRUCTION					
TYPE	CONTINUOUS SPECIAL INSPECTION	SPECIAL	REFERENCED STANDARD		
I. INSPECT REINFORCEMENT AND VERIFY PLACEMENT.	-	Х	ACI 318 CH. 20, 25.2, 25.3, 26.5.1-26.5.3		
3. INSPECT ANCHORS CAST IN CONCRETE					
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEN	MBERS	-	-		
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X		ACI 318: 17.8.2.4		
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.		Х	ACI 318: 17.8.2		
5. VERIFY USE OF REQUIRED DESIGN MIX		X	ACI 318: CH. 19, 26.4.3, 26.12		
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X		ASTM C172, ASTM C31, ACI 318: 26.4.5, 26.12		
7. INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X		ACI 318: 26.4.5		
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X	ACI 318: 26.4.7-26.4.9		
12 INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.10.1(B)		

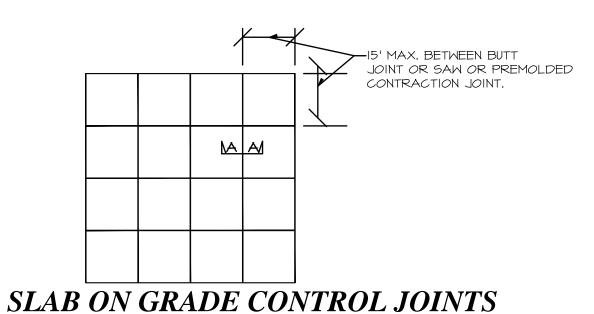


TABLE OF EQUIVALENT FASTENERS STAPLES, NAILS AND T-NAILS (VALID FOR LATERAL LOAD ONLY)

EQUIV. SPACING OF APPR.

COMMON		FASTENERS								
NAIL		STAPLES VAILS/T-NA								
	GAUGE	16	15	14	113	131				
SPACING	PENETRATION	111	111	111	1 1/4"	1/2				
	4"	3 1/2"	4"	5"	4"	5"				
(J) T	6"	5"	6"	フ"	6"	7 1/				
6d AT	8"	6 1/2"	6"	9 1/2"	8"	10"				
	10"	8 1/2"	10"	12"	10"	12"				
	12"	10"	12"	14 1/2"	12"	14 1/				
	3"	2"	2 1/2"	3"	2 1/2"	3"				
	4 ^{۱۱}	2 1/2"	3 1/2"	4"	3 1/2"	4"				
2 J A T	6"	4"	5"	6"	5"	6"				
8d AT	8"	5 1/2"	6 1/2"	8"	6 1/2"	8"				
	10"	6 1/2"	8"	10"	8"	10"				
	12"	8"	10"	12"	9 1/2"	12"				
	4"	2"	2 1/2"	3"	2 1/2"	3 1/				
	6"	3 1/2"	4"	5"	4"	5"				
10d AT	8"	4 1/2"	5 1/2"	6 1/2"	5 1/2"	7"				
	10"	5 1/2"	フ"	8"	6 1/2"	8 1/				
	12"	6 1/2"	8"	9 1/2"	8 1/2"	10"				

PENETRATION IS THE DEPTH OF EMBEDMENT OF THE STAPLE OR NAIL INTO THE MAIN MEMBER REQUIRED TO ATTAIN ITS FULL CAPACITY (SHEAR VALUE) FOR LATERAL LOADING.

ALL FASTENERS (I.E. NAILS, SCREWS, ANCHOR BOLTS, ETC.) WHICH ARE TO BE INSTALLED IN PRESERVATIVE TREATED WOOR (I.E. SILL PLATES) SHALL MEET THE REQUIREMENTS OF IBC 2304.9.5

STUD HEIGHT CHART FOR ALL STUD'S U.N.O.						
STUDS	SPACING	MAX. HEIGHT				
2×4	16" O.C.	10'-0"				
2×4	12" O.C.	11'-6"				
2×6	16" O.C.	16'-0"				
2×6	12" O.C.	18'-0"				
5 1/2" LVL	16" O.C.	20'-0"				

15. BUILT-UP CORNER STUDS....

16. BUILT-UP GIRDER AND BEAMS

MINIMUM NAILING SCHEDULE

	"CONNECTION"	"NAILING"
	I. JOIST TO SILL GIRDER, TOENAIL	3-8d
	2. BRIDGING TO JOIST, TOENAIL EA. END	2-8d
ı	3. SOLE PLATE TO JOIST OR BLOCKING, F.	ACE NAIL6d @ 16" OC
1	4. TOP PLATE TO STUD, END NAIL	2-16d
	5. STUD TO SOLE PLATE4-	
ı	6. DOUBLE STUDS, FACE NAIL	
	7. DOUBLE TOP PLATES, FACE NAIL	16d @ 16" OC
	8. TOP PLATES, LAPS & INTERSECTIONS, F.	
ı	9. CONTINUOUS HEADERS TWO PIECES, ALC	NG EA. EDGE16d @ 16" OC
ı	IO. CEILING JOISTS TO PLATE, TOENAIL	3-8d
ı	II. CONTINUOUS HEADERS TO STUD, TOENAIL	L4-8d
ı	12. CEILING JOISTS, LAPS OVER PARTITION	
ı	13. CEILING JOISTS TO PARALLEL RAFTERS	5, FACE NAIL3-16d
	14 RAFTER TO PLATE TOFNAIL	3-8d

DESIGN CRITERIA

GOVERNING BUILDING CODE(S) RISK CATEGORY

2. SEISMIC LOADS SEISMIC IMPORTANCE FACTOR, I/e SEISMIC DESIGN CATEGORY

2.2. SOIL SITE CLASS 2.3. SOIL SITE COEFFICIENTS

2.4. 5% DAMPED ACCELERATION

2.5. BASIC SFRS 2.6. RESPONSE MOD. COEFFICIENT SYSTEM OVER-STRENGTH FACTOR

2.I. MAPPED SPECTRAL ACCELERATION

DEFLECTION AMPLIFICATION FACTOR 2.7. SEISMIC RESPONSE COEFFICIENT

2.9. ANALYSIS PROCEDURE 3. FLOOR LIVE LOADS

...16d @ 24" OC

...20d @ 24" OC T/B STAGGERED

2-20d @ ENDS & SPLICES

3.I. CLASSROOM 3.2. CORRIDORS ABOVE IST FLOOR 3.3. STORAGE

2018 INTERNATIONAL BUILDING CODE

S_S = 1.41

 $S_1 = 0.50$ $F_a = I.O$ $F_{v} = 1.50$

 $S_{DS} = 2/3 * F/a * S/S = 0.94$ $S_{DI} = 2/3 * F/v * S/I = 0.50$ LT. FRAMED PLYWOOD SHEATHED

R = 6.5

C/s = S/DS * I/e / R = 0.10DEAD LOADS OF STRUCTURE

EQUIVALENT LATERAL FORCE

50 PSF + 20 PSF PARTITION 80 PSF 125 PSF

SHEET NUMBER

DATE: 01/14/2020

PROJECT: 16-153.07

DRAWN BY: WM

REVISIONS:

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SUITES D, E, & I

STRUCTURAL

PLAN

FLOOR SHEATHING NOTES:

- I. FLOOR SHEATHING SHALL BE 3/4" T&G WAFERBOARD GLUED & NAILED WITH IOd NAILS AT 6" OC AT ALL PANEL ENDS, SUPPORTED EDGES AND ALL BLOCKING; IOd AT 12" OC ALONG INTERMEDIATE FRAMING MEMBERS. GLUE WITH GLUE CONFORMING TO AFG-OI ACCORDING TO APA SPECIFICATIONS.
- 2. BLOCK JOISTS SOLID AT ALL BEARING POINTS.
- 3. ALL HEADERS OVER DOOR & WINDOWS ARE (2) 2" x 10" U.N.O.
- 4. PROVIDE SQUASH BLOCKING AT ALL POINT LOADS THROUGH FLOOR

GENERAL FRAMING NOTES

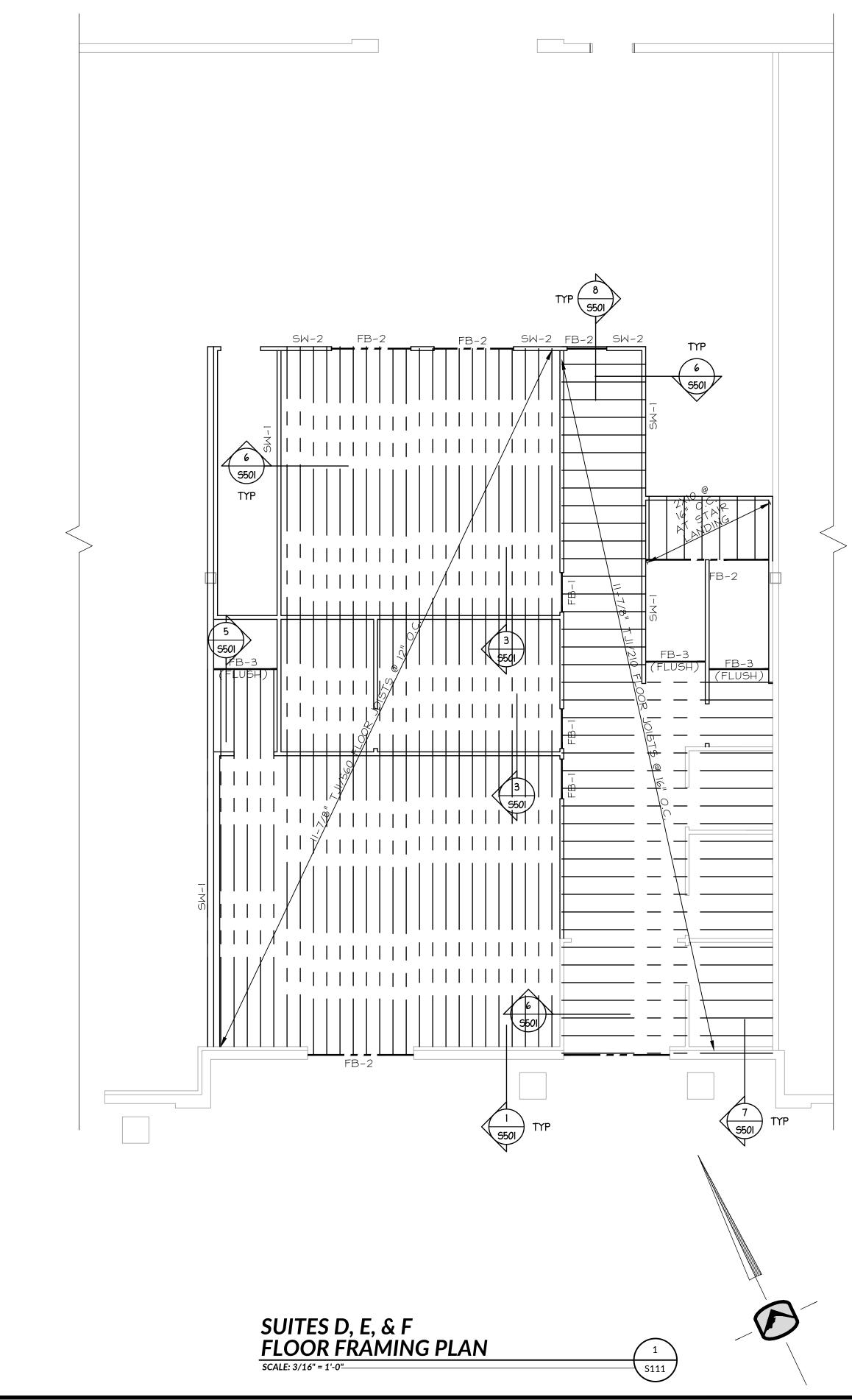
- I. USE DOUGLAS FIR-LARCH #2 AND BETTER FOR ALL SAWN LUMBER BEAMS \$ STRUCTURAL COLUMNS
- 2. USE I.9E (MIN) LVL BEAMS.
- 3. CONNECT 4 PLY AND GREATER LVL BEAMS WITH (2) ROWS 1/2" THRU BOLTS @ 12" O.C. (SEE MANUFACTURERS SPECIFICATIONS)
- 4. CARRY ALL COLUMN LOADS DOWN TO FOOTING OR FOUNDATION WALL.
- 5. PROVIDE SOLID BLOCKING OR SQUASH BLOCKS IN JOIST SPACE AT ALL COLUMN
- 6. ALL NOTES PERTAINING TO APPLIED LOADS ARE BASED ON ALLOWABLE STRESS DESIGN (ASD).

FLO	OR BEAM SCHEDULE
FB-I	(2) 2×10
FB-2	(2) 9.1/2" MICROLAM
FB-3	(2) 7/8" MICROLAM

NOTE: SEE DETAIL 2/S501 FOR TYPICAL BEAM CONNECTIONS OVER 6'-0" IN LENGTH.

			SHEARWAL	L SCHEDU	LE			
MARK	SHEATHING	FASTENE	R REQ'S	ANCHOR	R BOLTS	SILL	NOTES	
MARK	SHEATHING	ED6E	FIELD	DIAMETER SPACIN		PLATE	NOTES	
SW-I	5/8" G.W.B. ONE SIDE MIN.	#6 SCREWS @ 8" O.C.	#6 SCREWS @ 8" O.C.	1/2"	32" O.C.	2 x	4, 5	
SM-2	7/16" 05B ONE SIDE	8d @ 6" O.C.	8d @ 12"O.C.	1/2"	32" <i>O.</i> C.	2 x	1, 2, 3, 4, 5	
					_	_		

- I. APPLY 7/16" APA OSB OVER DOUGLAS FIR OR SOUTHERN PINE FRAMING SPACED @ 16"O.C.
- 2. NAIL OR STAPLE SHEATHING ALONG INTERMEDIATE STUDS @ 12" O.C.
- 3. BLOCK ALL PANEL EDGES
- 4. PROVIDE 3" \times 3" \times 1/4" PLATE WASHERS ON ANCHOR BOLTS (Typical).
- 5. ALL SHEATHING SHALL EXTEND CONTINUOUS FROM SILL PLATE TO ROOF OR FLOOR SHEATHING.





DATE: 01/14/2020 PROJECT: 16-153.07 DRAWN BY: WM **REVISIONS:**

SUITES D, E, & F **FLOOR FRAMING** PLAN

SHEET NUMBER: **S111**

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DATE: 01/14/2020 PROJECT: 16-153.07 DRAWN BY: WM

REVISIONS:

SUITES D, E, & F STRUCTURAL

SHEET NUMBER: *S*501

DETAILS

	, , ,	ABBREVIATIONS	
AFF ABOVE FINISHED FLOOR	(D) DEMOLISH/DELETE	GND GROUND	OFOI OWNER FURNISHED OWNER INSTALLED
AFP ARC FAULT PROTECTOR	E EMERGENCY	GRC GALVANIZED RIGID CONDUIT	PNL PANEL
AIC AMP INTERRUPTING CURRENT (SYMMETRICAL)	(EX) EXISTING	IG ISOLATED GROUND	(R) RELOCATE
AL ALUMINUM	EPO EMERGENCY POWER OFF	MCB MAIN CIRCUIT BREAKER	(RM) REMOVE AND RETURN TO OWNER
BG BELOW GRADE	EWC ELECTRIC WATER COOLER	MCC MOTOR CONTROL CENTER	TR TAMPER RESISTANT
C CONDUIT	EWH ELECTRIC WATER HEATER	MH MANHOLE	TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR
CFCI CONTRACTOR FURNISHED CONTRACTOR INSTALLED	(F) FUTURE	MLO MAIN LUGS ONLY	TYP TYPICAL
CKT CIRCUIT	FA FIRE ALARM	(N) NEW	UNO UNLESS NOTED OTHERWISE
CO CONDUIT ONLY	FLA FULL LOAD AMPS	NIC NOT IN CONTRACT	WP WEATHER PROOF
CU COPPER	GFI GROUND FAULT INTERRUPTER	NL NIGHT LIGHT	XMR TRANSFORMER
C/W COMPLETE WITH	GFP GROUND FAULT PROTECTOR	OFCI OWNER FURNISHED CONTRACTOR INSTALLED	

POWER SUPPLY LOW VOLTAGE

AS NOTED

TOP AT

NURSE CALL STATION PANEL

* THIS IS A TYPICAL ABBREVIATION LIST. NOT ALL ABBREVIATIONS ARE USED ON THIS PROJECT.

GENERAL NOTES

- THE ELECTRICAL CONTRACTOR SHALL REVIEW AND COORDINATE WITH ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL, PLUMBING AND OTHER DRAWINGS PRIOR TO BID.
- SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE SPECIFICATIONS IN A NEAT AND ORDERLY MANNER WITH TYPE AND MODEL NUMBERS INDICATED. SUBMITTALS SHALL INCLUDE BUT NOT LIMITED TO: LIGHTING FIXTURES, LAMPS, WIRING DEVICES. OCCUPANCY SENSORS. CONTACTORS. TIME CLOCKS. PHOTOCELLS. RELAYS. SWITCHBOARDS. PANELBOARDS. MOTOR CONTRO CENTERS, SAFETY SWITCHES, MOTOR STARTERS, OVERCURRENT PROTECTION DEVICES, TRANSFORMERS, CONDUCTORS OVER 6 VOLTS AND ALL SPECIAL SYSTEMS SUCH AS FIRE ALARM, LIGHTING CONTROLS, SECURITY SYSTEMS, SOUND SYSTEMS ETC.
- IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. MANUFACTURES CATALOG NUMBERS ARE LISTED AS A BASIS OF DESIGN. ELECTRICAL CONTRACTOR SHALL SUBMIT PRODUCT INFORMATION THAT DEVIATES FROM ORIGINAL DESIGN AND SPECIFICATION.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY BUILDING PERMITS AND INSPECTION FEES.
- ALL IMPACT FEES ASSOCIATED WITH CITY, UTILITY OR SERVICE COMPANIES FOR BUT NOT LIMITED TO POWER,
- TELEPHONE, FIBER OPTIC & INTERNET SHALL BE THE RESPONSIBILITY OF THE OWNER.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE GENERAL CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY POWER FOR PROJECT CONSTRUCTION AS REQUIRED. ALL ENERGY COSTS ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- DO NOT SCALE DRAWINGS VERIFY DIMENSIONS IN FIELD PRIOR TO MAKING ANY ROUGH-INS.
- ELECTRICAL CONTRACTOR SHALL REVIEW ALL ARCHITECTS ELEVATIONS, SECTIONS AND FLOOR PLANS PRIOR TO ROUGH IN OF ELECTRICAL DEVICE JUNCTION BOXES.
- CONSULT ARCHITECTS REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF LIGHTING FIXTURES, SPEAKERS, SMOKE DETECTORS ETC.
- ELECTRICAL CONTRACTOR SHALL MEET WITH THE CEILING AND MECHANICAL CONTRACTORS TO COORDINATE LOCATIONS, CLEARANCES, CEILING TYPES AND ROUGH-IN REQUIREMENTS OF ALL LIGHTING FIXTURES PRIOR TO DUCT, PIPING AND CEILING INSTALLATIONS.
- 1. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
- ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH-INS. CONSULT CONTRACT DOCUMENT DRAWINGS AND SHOP DRAWINGS TO VERIFY AND MAINTAIN REQUIRED CLEARANCES.
- ELECTRICAL ROOM DRAWINGS ARE FOR REFERENCE ONLY OF EQUIPMENT QUANTITIES. ELECTRICAL CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ELECTRICAL ROOM SHOWING DIMENSIONS AND CLEARANCES OF ALL EQUIPMENT AND ELECTRICAL GEAR PROVIDED. COORDINATE LAYOUT WITH ONE-LINE
- 14. CONTRACTOR SHALL VERIFY ACTUAL ELECTRICAL LOADS FROM NAMEPLATE RATINGS OF EACH PIECE OF EQUIPMENT REQUIRING POWER, BRING ANY DISCREPANCIES TO THE ATTENTION OF THE PROJECT ENGINEER
- WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER, PER INDUSTRY STANDARD AND TO THE SATISFACTION OF THE ARCHITECT AND ENGINEER.
- WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE AND NATIONAL CODES, STANDARDS AND ORDINANCES,
- FINAL CONNECTIONS TO EQUIPMENT SHALL BE MADE AS PER MANUFACTURERS WRITTEN INSTRUCTIONS AND APPROVED WIRING DIAGRAMS AND DETAILS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROVIDE ALL MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
- ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A 200LB RATED PULL CORD INSTALLED AND SHALL BE IDENTIFIED AT EACH JUNCTION, PULL AND TERMINATION POINT, USING PERMANENT MARKER IN THE BOX, ID SHALL INDICATE INTENDED USE OF CONDUIT, ORIGINATION AND TERMINATION POINTS OF EACH INDIVIDUAL
-). ALL PENETRATIONS OF FIRE RATED FLOORS, CEILING AND WALLS SHALL BE SEALED WITH UL LISTED AND RATED FIRE STOP MATERIAL TO MAINTAIN FIRE RATING OF ASSEMBLY.
- . ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY OR CONCRETE COLUMNS, BOND BEAMS OR GROUTED CELLS OF MASONRY WALLS ADJACENT TO OPENINGS WITHOUT COORDINATION WITH THE MASONRY
- WIRE FOR GENERAL USE SHALL BE COPPER 75° C RATED. WIRING FOR HID FIXTURES WITHIN 3" OF FLUORESCENT BALLAST SHALL BE COPPER, MINIMUM 90° C RATED. CONDUCTOR SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30° C AMBIENT TEMPERATURE ENVIRONMENT. CONDUCTOR AMPACITY SHALL BE DERATED FOR HIGHER AMBIENT INSTALLATIONS.
- . CONDUCTORS HAVE BEEN SIZED FOR VOLTAGE DROP AS PER PLANS AND DIRECT ROUTING. ANY DEVIATION IN CONDUIT ROUTING MAY INCREASE THE WIRE AND CONDUIT SIZE. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO INSURE PROPER OPERATING VOLTAGE ON ALL CIRCUITS BOTH INTERIOR AND EXTERIOR. THE VOLTAGE DROP SHALL NOT EXCEED 3% FOR BRANCH CIRCUITS AND 2% FOR FEEDERS FOR A TOTAL OF 5% COMBINED TOGETHER OF BRANCH AND FEEDER CIRCUITS TO THE FARTHEST OUTLET.
- 3. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL UTILITY METERING EQUIPMENT TO COMPLY WITH THE STANDARDS OF THE LOCAL OR PROJECT SPECIFIC POWER COMPANY.
- . VERIFY EXACT LOCATIONS OF ALL NEW AND EXISTING UNDERGROUND SITE UTILITIES, PIPING AND RACEWAY SYSTEMS PRIOR TO TRENCHING. A UTILITY LOCATING COMPANY SUCH AS "BLUE STAKE" OR EQUAL SHALL BE USED TO VERIFY AND MARK UTILITIES BEFORE TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL EXCAVATION, SUPPORTS, SERVICE FEEDERS, (CONDUIT AND/OR WIRE), PULL BOXES, TRANSFORMER PADS, SAW CUTTING AND PATCHING. CONCRETE PAVING ETC. REQUIRED. BACKFILL TRENCHES TO 90% COMPACTION. PATCHING SHALL MATCH EXISTING SURROUNDING SURFACES. CONTRACTOR SHALL OBTAIN AND VERIFY UTILITY COMPANY DRAWINGS AND REQUIREMENTS FOR ALL SITE UTILITIES. ELECTRICAL CONTRACTOR SHALL ALSO COORDINATE ELECTRICAL RELATED UTILITIES WITH THE CIVIL, MECHANICAL, AND SITE EXCAVATION
- . PULLBOXES. CABINETS. ETC. MOUNTED ON THE EXTERIOR OF THE BUILDING SHALL BE WEATHERPROOF TYPE WITH HINGED GASKETED LOCKABLE COVERS SECURED WITH TAMPERPROOF SCREWS.
- 6. SPLICES IN EXTERIOR PULLBOXES AND MANHOLES SHALL BE MADE WATERPROOF USING "SCOTCAST" SPLICE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS ENTERING BOXES WITH "DUCTSEAL" OR
- . ELECTRICAL CONTRACTOR SHALL TEST AND VERIFY ALL SYSTEMS WITH PROJECT ENGINEER DURING FINAL INSPECTION TO INSURE PROPER OPERATION. IF TESTS RESULT IN DEFECT THE CONTRACTOR SHALL MAKE ANY CORRECTIONS NECESSARY AT NO ADDITIONAL COSTS TO THE OWNER.
- 28. PROVIDE RECORD DRAWINGS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- 9. THE CONTRACTOR SHALL GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP, WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER SUBSTANTIAL COMPLETION. DEFECTS SHALL BE PROMPTLY CORRECTED.

DRAWING INDEX

E001	ELECTRICAL SYMBOLS AND NOTES
E200	EXISTING / DEMOLITION POWER PLAN
E201	MAIN LEVEL POWER PLAN
E202	UPPER LEVEL POWER PLAN
E300	EXISTING / DEMOLITION LIGHTING PLAN
E301	MAIN LEVEL LIGHTING PLAN
E302	UPPER LEVEL LIGHTING PLAN
E401	ONE-LINE DIAGRAM
E501	ELECTRICAL SCHEDULES

ELECTRICAL DETAILS

ELECTRICAL SPECIFICATIONS

SECTION 16000 - GENERAL PROVISIONS

WORK CONSISTS OF FURNISHING LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED FOR THE COMPLETE INSTALLATION OF ELECTRICAL

WORK SHOWN IN THE CONTRACT DOCUMENTS AND SPECIFIED IN DIVISION 16. INCLUDE ALL PARTS AND LABOR, WHICH ARE INCIDENTAL AND NECESSARY FOR A COMPLETE AND OPERABLE INSTALLATION EVEN THOUGH NOT SPECIFICALLY MENTIONED IN THE CONTRACT DOCUMENTS. SUCH ITEMS INCLUDE NUTS, BOLTS, ANCHORS, BRACKETS, SLEEVES, OFFSETS IN CONDUIT,

REQUEST INSPECTIONS AS REQUIRED BY REGULATING AGENCIES AND/OR REGULATIONS, PAY ALL CHARGES FOR INSPECTIONS BY REGULATING AGENCIES OF INSTALLATIONS OF PLANS AND SPECIFICATIONS

INCLUDE STATE AND LOCAL SALES TAXES IN THE BID. KEEP ACCURATE RECORDS OF THESE TAXES AND FURNISH SUCH RECORDS TO THE OWNER UPON REQUEST

MEET OR EXCEED ALL CURRENT APPLICABLE CODES, ORDINANCES AND REGULATIONS FOR ALL INSTALLATIONS. PROMPTLY NOTIFY THE ENGINEER, IN WRITING, IF THE CONTRACT DOCUMENTS APPEAR TO CONFLICT WITH GOVERNING CODES AND REGULATIONS. CONTRACTOR ASSUMES ALL RESPONSIBILITY AND COSTS FOR CORRECTING NON-COMPLYING WORK

HIGHER QUALITY OF WORKMANSHIP AND MATERIALS INDICATED IN THE CONTRACT DOCUMENTS TAKES PRECEDENCE OVER THAT ALLOWED IN REFERENCED CODES AND STANDARDS.

INSTALLED WITHOUT NOTIFYING THE ENGINEER.

- THE TERMS DEFINED BELOW APPLY TO ALL WORK INCLUDED IN DIVISION 16
- a. THE WORK AS DEFINED IN THE 1997 AIA DOCUMENT A201: "THE TERM "WORK" MEANS THE CONSTRUCTION AND SERVICES REQUIRED BY THE CONTRACT DOCUMENTS WHETHER COMPLETED OR PARTIALLY COMPLETED, AND INCLUDES ALL OTHER LABOR, MATERIALS, EQUIPMENT AND SERVICES PROVIDED OR TO BE PROVIDED BY THE CONTRACTOR TO FULL THE CONTRACTORS OBLIGATIONS, THE WORK MAY CONSTITUTE THE WHOLE OR A PART OF THE PROJECT"
- b. FURNISH TO OBTAIN IN NEW CONDITION READY FOR INSTALLATION
- c. INSTALL TO STORE, SET IN PLACE, CONNECT AND PLACE INTO OPERATION INTO THE WORK.
- d. PROVIDE TO FURNISH AND INSTALL.
- e. CONNECT TO BRING SERVICE TO THE EQUIPMENT AND MAKE FINAL ATTACHMENT INCLUDING NECESSARY SWITCHES, OUTLETS, BOXES TERMINATIONS, ETC.
- f. CONDUIT INCLUDES IN ADDITION TO CONDUIT, ALL FITTINGS, PULL BOXES, HANGERS AND OTHER SUPPORTS AND ACCESSORIES RELATED
- TO SUCH CONDUIT. CONCEALED - HIDDEN FROM SIGHT IN CHASES, FURRED SPACES.
- SHAFTS, HUNG CEILINGS, EMBEDDED IN CONSTRUCTION, IN CRAWL h. EXPOSED - NOT INSTALLED UNDERGROUND NOR CONCEALED AS

DEFINED ABOVE THE DRAWINGS AND SPECIFICATIONS CONSTITUTE THE CONTRACT DOCUMENTS, ANY ITEM NOTED IN THE SPECIFICATION OR SHOWN ON THE

ALL ELECTRICAL DETAILS AND DRAWINGS ARE DIAGRAMMATIC. UNLESS SPECIFICALLY NOTED, FIELD VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY CONFLICTS OR DISCREPANCIES, IN WRITING, PRIOR TO

DRAWINGS IS INCLUDED IN THE CONTRACT DOCUMENTS.

ASBESTOS CONTAINING MATERIALS ARE SUSPECTED.

GOVERNING AGENCIES.

INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY PRECAUTIONS REQUIRED WITH THIS WORK IN ACCORDANCE WITH THE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND OTHER

DO NOT REMOVE OR DISTURB ANY ASBESTOS CONTAINING MATERIALS FROM THE PROJECT. IMMEDIATELY STOP WORK AND NOTIFY THE TENANT IF

BEFORE SUBMITTING A PROPOSAL ON THE WORK CONTEMPLATED, EXAMINE THE SITE OF THE PROPOSED WORK AND BECOME THOROUGHLY FAMILIAR WITH EXISTING CONDITIONS AND LIMITATIONS. NO EXTRA COMPENSATION WILL BE ALLOWED BECAUSE OF MISUNDERSTANDING AS TO THE AMOUNT OF WORK INVOLVED NOR BIDDERS LACK OF KNOWLEDGE OF EXISTIN ONDITIONS WHICH COULD HAVE BEEN DISCOVERED OR REASONABLY ANTICIPATED PRIOR TO BIDDING.

CONDUITS, PIPES, DUCTS, LIGHTS, DEVICES, SPEAKERS, ETC., SHOWN ON THE MAY NOT BE INSTALLED AS ORIGINALLY SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE AND MAKE EXACT DETERMINATION OF THE EXISTENCE, LOCATION AND CONDITION OF SUCH FACILITIES PRIOR TO SUBMITTING A BID.

CONSULT THE DRAWINGS AND SPECIFICATIONS OF MECHANICAL AND OTHER TRADES FOR CORRELATING INFORMATION AND LAY OUT WORK SO THAT IT WILL COORDINATE WITH OTHER TRADES. VERIFY DIMENSIONS AND CONDITIONS (I.E., FINISHED CEILING HEIGHTS, FOOTING AND FOUNDATION ELEVATIONS, BEAM DEPTHS, ETC). WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. NOTIFY THE ARCHITECT/ENGINEER OF ANY CONFLICTS THAT CANNOT BE RESOLVED. IN THE FIELD, BY AFFECTED. TRADES REPLACEMENT OF WORK DUE TO LACK OF COORDINATION AND FAILURE TO VERIFY EXISTING CONDITIONS WILL BE COMPLETED AT NO COST TO THE OWNER.

INSTALL ALL CONDUIT, CABLE TRAY, BUSDUCT, EQUIPMENT, ETC. ALLOWING PROPER CODE AND MAINTENANCE CLEARANCES AND TO AVOID BLOCKING PASSAGEWAYS AND ACCESS PANELS.

WHERE WORK MUST BE REPLACED DUE TO FAILURE OF THE CONTRACTOR O VERIFY THE CONDITIONS EXISTING ON THE JOB, SUCH REPLACEMEN' MUST BE ACCOMPLISHED AT NO COST TO THE OWNER. THIS APPLIES TO SHOP FABRICATED WORK AS WELL AS TO WORK FABRICATED IN PLACE.

THROUGHOUT THE COURSE OF THE WORK, MINOR CHANGES AND ADJUSTMENTS TO THE INSTALLATION MAY BE REQUESTED BY THE ENGINEER. HE CONTRACTOR SHALL MAKE ADJUSTMENTS WITHOUT ADDITIONAL COST TO THE OWNER, WHERE SUCH ADJUSTMENTS ARE NECESSARY TO THE PROPER INSTALLATION AND OPERATION WITHIN THE INTENT OF THE CONTRACT DOCUMENTS. THIS DOES NOT INCLUDE WORK ALREADY

OBTAIN EXACT LOCATION OF CONNECTION TO EQUIPMENT, FURNISHED BY OTHERS, FROM THE PERSON FURNISHING THE EQUIPMENT. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY AND WHAT IS CALLED FOR IN EITHER ONE IS AS BINDING AS IF CALLED FOR IN BOTH.

INCLUDE THE BETTER QUALITY, GREATER QUANTITY OR HIGHER COST FOR AN ITEM OR ARRANGEMENT WHERE A DISAGREEMENT EXISTS IN THE DRAWINGS AND SPECIFICATIONS.

GUARANTEE AND MAINTAIN THE STABILITY OF WORK AND MATERIALS AND KEEP SAME IN PERFECT REPAIR AND CONDITION FOR THE PERIOD OF ONE (1) YEAR AFTER THE FINAL COMPLETION OF THE WORK AS EVIDENCED BY ISSUANCE OF THE FINAL CERTIFICATE BY THE OWNER

DEFECTS OF ANY KIND DUE TO FAULTY WORK OR MATERIALS APPEARING DURING THE ABOVE MENTIONED PERIOD MUST BE IMMEDIATELY MADE GOOD BY THE CONTRACTOR AT HIS OWN EXPENSE TO THE ENTIRE SATISFACTION OF THE OWNER, INCLUDE DAMAGE TO THE FINISH OR THE BUILDING RESULTING FROM THE ORIGINAL DEFECT OR REPAIRS.

REPLACE ALL RECEPTACLES, SWITCHES, COVERPLATES, ETC. DAMAGED BY ANY CONTRACTOR DURING THE COURSE OF CONSTRUCTION.

MATERIALS FURNISHED FOR THE TEMPORARY LIGHT AND POWER SYSTEM REMAIN CONTRACTORS PROPERTY. REMOVE WHEN THERE IS NO LONGER ANY NEED FOR TEMPORARY LIGHT AND POWER.

COORDINATE/SCHEDULE ALL WORK WITH THE OWNER TO MINIMIZE ANY DISRUPTIONS, CONFINE ALL INTERRUPTIONS TO THE SMALLEST POSSIBLE AREA. PROVIDE TEMPORARY CONNECTIONS IF REQUIRED TO PROVIDE CONTINUITY OF SERVICE.

INSPECT ALL AREAS AFFECTED BY THE INTERRUPTIONS AND RETURN ALL AUTOMATICALLY CONTROLLED EQUIPMENT, ELECTRICALLY OPERATED EQUIPMENT TO THE SAME OPERATING CONDITION PRIOR TO THE

DO NOT DISTURB NORMAL USE OF THE FACILITY, EXCEPT WITHIN THE IMMEDIATE CONSTRUCTION AREA. KEEP WALKS, DRIVEWAYS, ENTRANCES, ETC. FREE AND CLEAR OF EQUIPMENT, MATERIAL AND DEBRIS.

STORE ALL EQUIPMENT AND MATERIAL IN A PLACE AND MANNER THAT MINIMIZES CONGESTION AND IS APPROVED BY THE OWNER.

PROVIDE NEW MATERIAL AND EQUIPMENT, UNLESS NOTED OTHERWISE.

PROTECT EQUIPMENT AND MATERIAL FROM DAMAGE, DIRT AND THE PROVIDE THE HIGHEST QUALITY WORKMANSHIP AND PERFORM ALL WORK ONLY BY SKILLED MECHANICS. INSTALL MATERIAL AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, INSTRUCTIONS

AND CURRENT NECA STANDARDS. THE OWNER RESERVES THE RIGHT TO REJECT MATERIAL OR WORKMANSHIP NOT IN ACCORDANCE WITH THE SPECIFICATIONS, BEFORE OR AFTER INSTALLATION.

PERFORM ALL CUTTING AND PATCHING NECESSARY TO WORK, UNLESS SPECIFICALLY DELEGATED TO THE GENERAL CONTRACTOR. OBTAIN SPECIAL PERMISSION FROM THE LANDLORD BEFORE CUTTING STRUCTURAL MEMBERS OR FINISHED MATERIAL. PERFORM ALL PATCHING IN SUCH A MANNER AS TO LEAVE NO VISIBLE TRACE AND RETURN THE AREA AFFECTED TO THE CONDITION OF UNDISTURBED WORK, PERFORM ALL PATCHING BY WORKERS EXPERIENCED, SKILLED, AND LICENSED FOR THE PARTICULAR TYPE OF WORK INVOLVED, INFERIOR WORK WILL NOT BE

PATCH ALL HOLES LEFT AS A RESULT OF DEMOLITION OF ELECTRICAL EQUIPMENT AND DEVICES.

PREVENT THE SPREAD OF DUST, DEBRIS, AND OTHER MATERIAL INTO ADJACENT AREAS.

REFINISH ALL ELECTRICAL EQUIPMENT DAMAGED DURING SHIPPING AND/OR INSTALLATION TO ITS ORIGINAL CONDITION REMOVE ALL RUST: PRIME AND PAINT PER MANUFACTURERS RECOMMENDATIONS FOR FINISH EQUAL TO

AFTER TESTS HAVE BEEN MADE AND ACCEPTED, CLEAN LIGHT FIXTURES, PANELS AND OTHER EQUIPMENT INSTALLED BY THE CONTRACTOR, LEAVING THE ENTIRE WORK AREA IN A CLEAN AND COMPLETE WORKING ORDER.

OPERATE EQUIPMENT AND SYSTEMS IN ALL THEIR OPERATING MODES, TO VERIFY PROPER OPERATION, PRIOR TO FINAL INSPECTION AND OWNER INSTRUCTIONS. NOTIFY THE ENGINEER, IN WRITING, THAT ALL SYSTEMS HAVE BEEN TESTED AND ARE FUNCTIONING AND OPERATING PROPERLY. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ELECTRICAL

EQUIPMENT OR MATERIALS UNTIL FINAL ACCEPTANCE OF THE ENTIRE PROJECT BY THE OWNER. PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEMS, INCLUDING TELEPHONE AND DATA SYSTEMS, IN SERVICE DURING

CONSTRUCTION, WHEN WORK MUST BE PERFORMED ON ENERGIZED EQUIPMENT OR CIRCUITS, USE PERSONNEL EXPERIENCED IN SUCH EXISTING ELECTRICAL SERVICE: MAINTAIN EXISTING SYSTEM IN SERVICE

AND OBTAIN PERMISSION FROM OWNER/FNGINEER AT LEAST 24 HOURS BEFORE PARTIALLY OR DISABLING SYSTEM. MINIMIZE OUTAGE DURATION. MAKE TEMPORARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREA.

DISABLE SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS, NOTIFY

EXISTING TELEPHONE, DATA, CCTV & SECURITY SYSTEM MAINTAIN EXISTING SYSTEMS IN SERVICE.

DEMOLISH AND EXTEND EXISTING ELECTRICAL WORK UNDER AND THIS

SECTION, AND AS INDICATED ON THE DRAWINGS, REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION. PROVIDE SUPPORTS FOR ALL EXISTING FLECTRICAL FOUIPMENT THAT WAS SUPPORTED PREVIOUSLY BY DEMOLISHED WALLS, FLOORS, CEILING OR OTHER STRUCTURES, PROVIDE NEW SUPPORTS FROM STRUCTURAL MEMBERS

NOT SLATED FOR DEMOLITION, PRIOR TO ANY DEMOLITION. OWNER RESERVES THE RIGHT OF FIRST REFUSAL TO OBTAIN MATERIAL SHOWN TO BE REMOVED UNDER THIS CONTRACT. ITEMS NOT RETAINED BY THE OWNER BECOME THE PROPERTY OF THE CONTRACTOR AND MUST BE REMOVED FROM THE PREMISES

EXTEND EXISTING INSTALLATIONS USING MATERIALS AND METHODS RELOCATE AND REROUTE CONDUIT AND WIRING AS REQUIRED FOR CONDUIT CONCEALED IN WALLS OR STRUCTURE BEING ALTERED AS PART OF THE REMODELING. MAINTAIN CONTINUITY TO ALL DEVICES IN AND DOWNSTREAM OF REMODELED WORK.

REROUTE EXISTING RACEWAY AND WIRING, WHICH IS EXPOSED DUE TO REMOVAL OF EXISTING CONSTRUCTION. CONCEAL NEW RACEWAY AND

WIRING AND MAINTAIN OPERATION. SECTION 16050 - BASIC MATERIALS AND METHODS

ENCASE ALL CONDUCTORS IN A CONTINUOUS RACEWAY SYSTEM, PROVIDE PULL AND JUNCTION BOXES AS REQUIRED BY THE NEC. SIZE ALL RACEWAY PER THE NEC WITH OVERSIZED CONDUITS AS INDICATED.

PROVIDE JUNCTION BOXES OR GUTTER AT BRANCH PANEL AND ROUTE EMT

PROVIDE EXPANSION FITTINGS WHERE RACEWAY CROSSES BUILDING EXPANSION JOINTS.

RUN ALL EXPOSED CONDUIT IN A NEAT, WORKMANLIKE MANNER PARALLEL TO THE BUILDING LINES, TIGHT TO THE WALL AND CEILING SURFACES, AND FIRMLY SUPPORT WITH CONDUIT CLAMPS OR HANGERS, PROVIDE TWO (2) HOLE MOUNTING STRAPS, MINIMUM THREE (3) FEET ON CENTER, FOR ALL SURFACE CONDUIT MOUNTED ON WALLS LESS THAN SIX (6) FEET ABOVE FINISHED FLOOR, PLACE CONDUITS AT LEAST 8" AWAY FROM ALL HOT PIPING AND SURFACES INCLUDING DOMESTIC HOT WATER LINES.

PROVIDE GALVANIZED CODE GAUGE STEEL JUNCTION AND PULL BOXES WITH SCREW ON COVERS OF TYPE, SHAPE AND SIZE REQUIRED TO SUIT EACH INSTALLATION. PROVIDE GASKETING IN DAMP AND DUSTY

PROVIDE 4" BOXES THROUGHOUT. PROVIDE 3-1/2" DEEP BOXES WHERE INSTALLED IN MASONRY, 2-1/2" MINIMUM ELSEWHERE. VAPOR TIGHT GANG MUD OR TILE RING FOR SINGLE DEVICES.

COORDINATE THE LOCATION OF ALL OUTLETS WITH MECHANICAL DRAWINGS

PROVIDE WIRE AND CABLE WITH INSULATION VOLTAGE RATING EQUAL TO OR GREATER THAN THE APPLIED SYSTEM VOLTAGE, PROVIDE SOLID OR STRANDED COPPER CONDUCTORS WITH TYPE THWN, THHN, OR XHHW INSULATION FOR NO. 12 AWG AND NO. 10 AWG CONDUCTORS. PROVIDE MINIMUM NO. 12 AWG CONDUCTOR SIZE, UNLESS NOTED OTHERWISE. USE THE

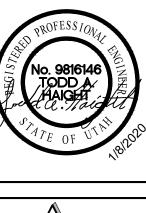
TO BE COLOR-CODED. SECTION 16501 - BUILDING LIGHTING

PROVIDE LIGHTING FIXTURES AS SCHEDULED C/W HOUSING LAMPS, LAMP HOLDERS, REFLECTORS, BALLASTS & WIRING.

MINIMUM CONDUCTOR SIZE WHEN NO SIZE IS INDICATED. ALL CONDUCTORS

FLUORESCENT LAMP BALLAST FOR T8 & T5 LAMPS SHALL BE ELECTRONIC CBM CERTIFIED W/ THD LESS THAN 20% RAPID START

SUPPORT ALL RECESSED LIGHTING FIXTURES W/ 4 # 12GA. WIRES INDEPENDENT FROM CEILING SUPPORT SYSTEM.





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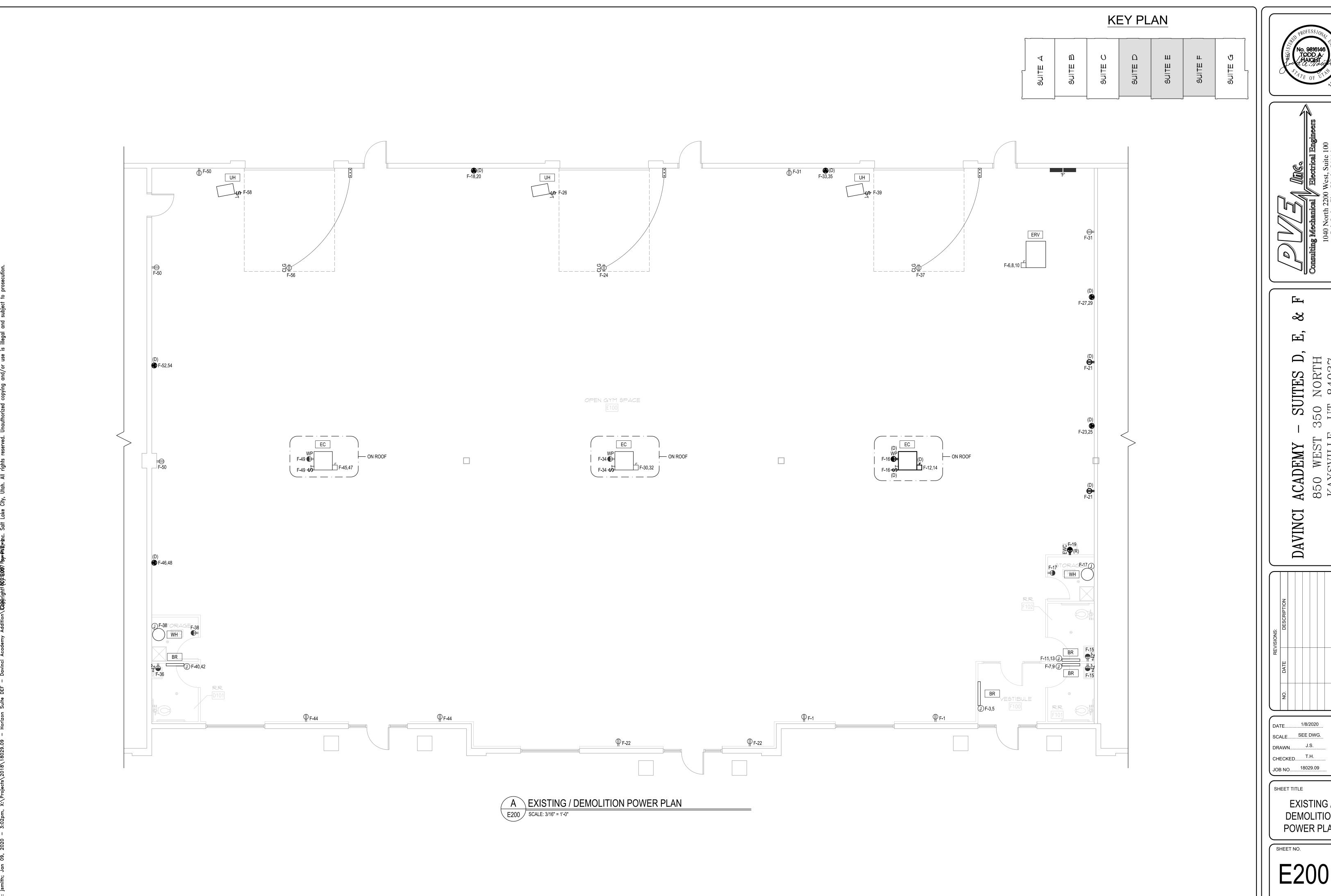
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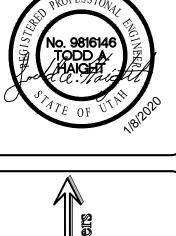
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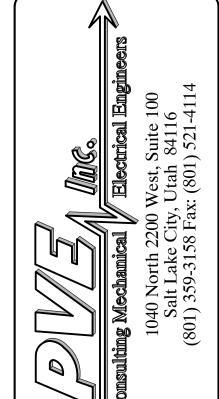
ELECTRICAL SYMBOLS AND NOTES

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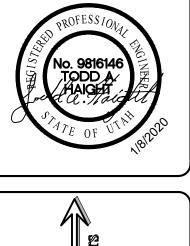
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EXISTING / **DEMOLITION** POWER PLAN





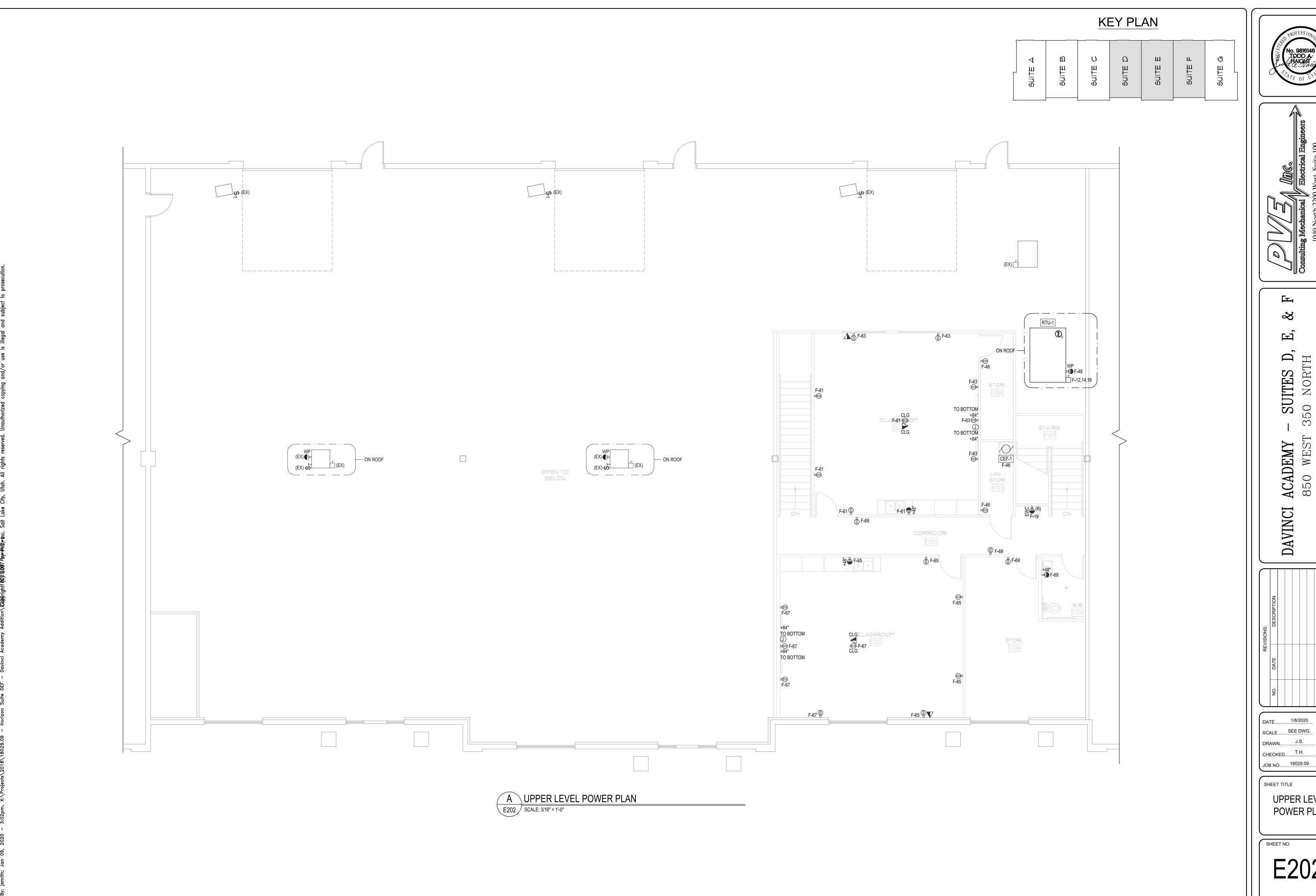




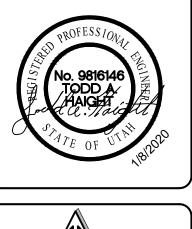
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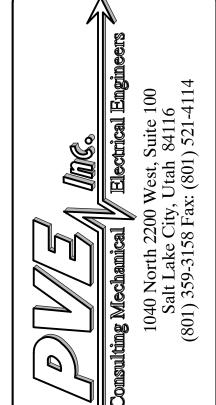
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MAIN LEVEL POWER PLAN



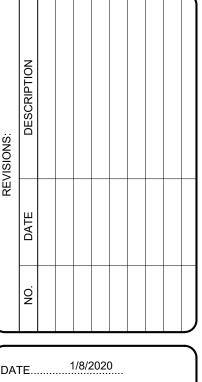






- SUITES D, 350 NORTH 1, UT 84037

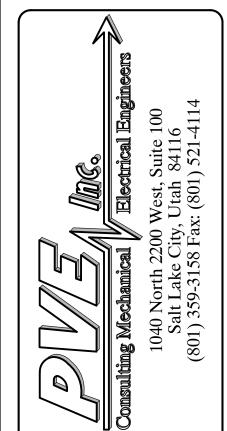
ACADEMY - 850 WEST 3 KAYSVILLE,



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UPPER LEVEL POWER PLAN



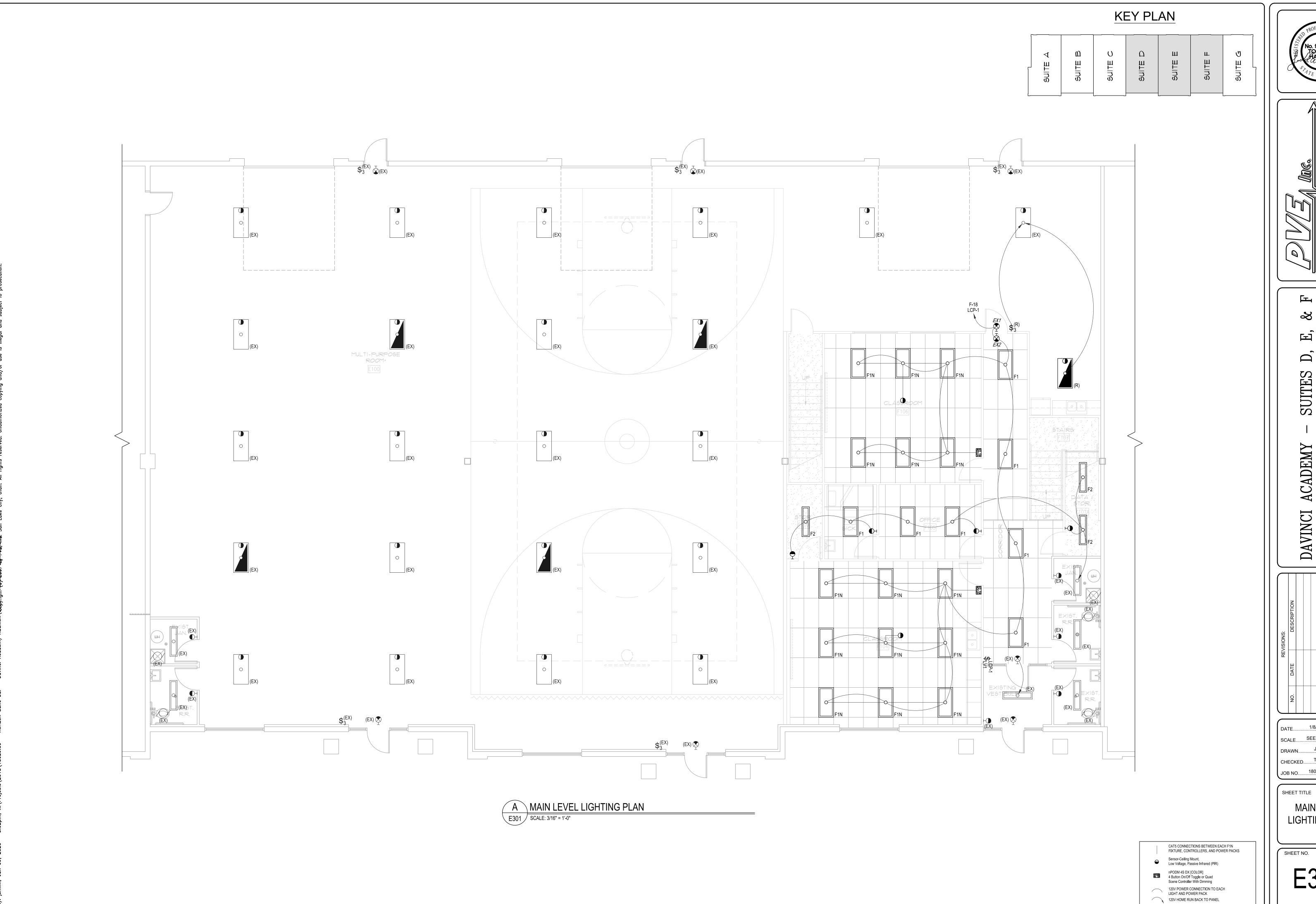


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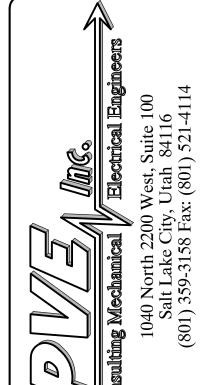
SHEET TITLE EXISTING /

DEMOLITION LIGHTING PLAN









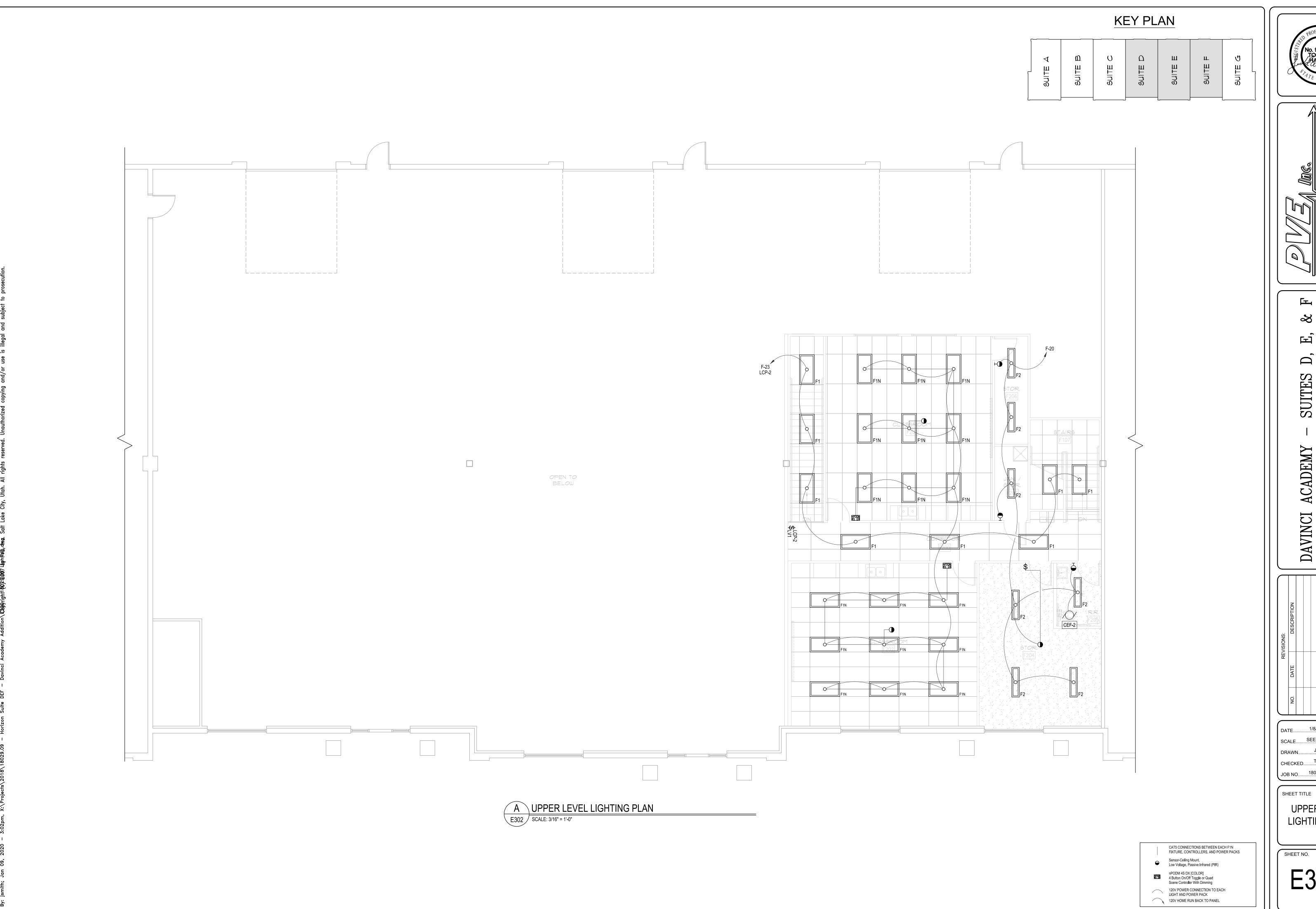
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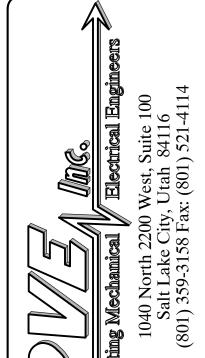
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MAIN LEVEL LIGHTING PLAN









- SUITES D, 350 NORTH 1, UT 84037 ACADEMY - 850 WEST 3 KAYSVILLE,

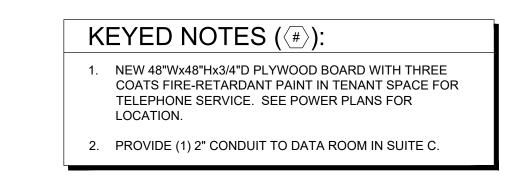
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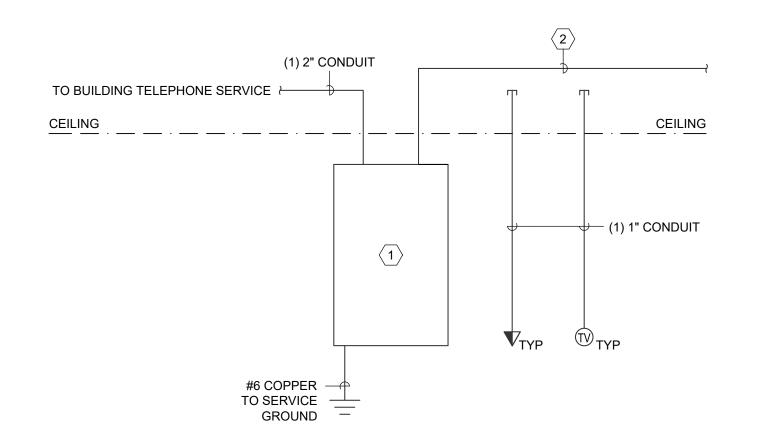
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UPPER LEVEL LIGHTING PLAN

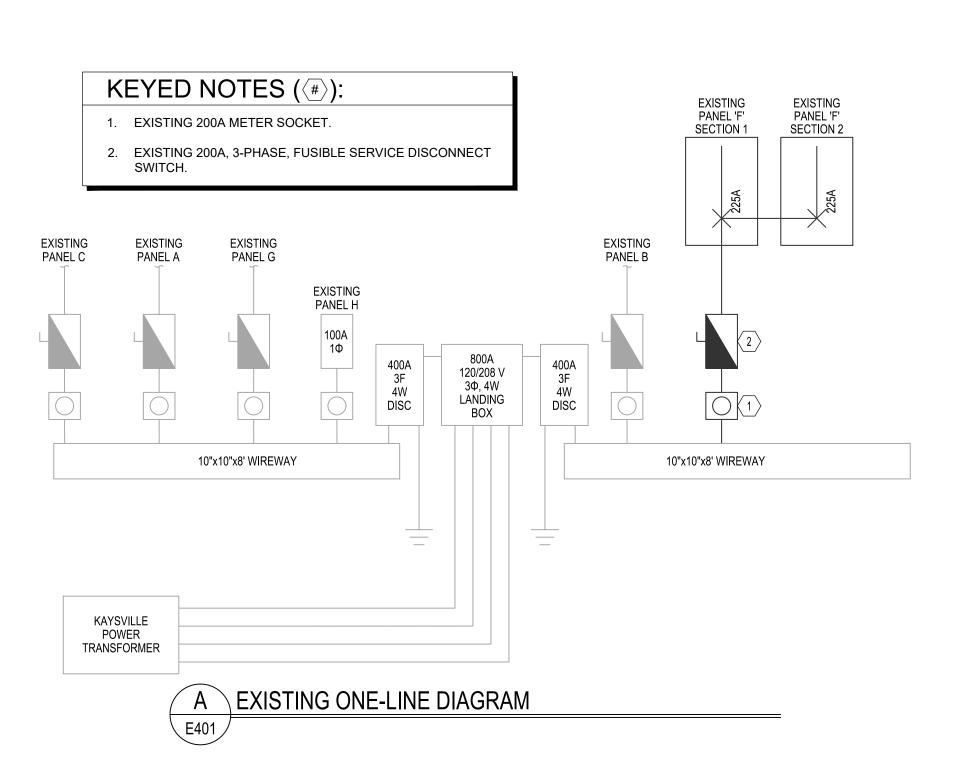






\backslash B \backslash	TELEPHONE RISER DIAGRAM
E401	

	SERVICE SCHED	ULE	
KT NO	DESCRIPTION	DESIGN KVA	DESIGN FLA
1	PANEL 'H'	19.8	95.0
2	SUITE 'A'	32.1	89.2
3	SUITE 'C'	49.0	136.0
4	SUITE 'G'	54.2	150.4
5	SUITE 'B'	28.8	79.9
6	SUITE 'F'	58.2	161.4
7	SPACE		
8	SPACE		
ESIG	GN KVA: 242.0		
ESIG	GN FLA: 671.8		







D, E, & F

I ACADEMY – SUITES D, 850 WEST 350 NORTH KAYSVILLE, UT 84037

NO. DATE DESCRIPTION

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ONE-LIN

ONE-LINE DIAGRAM

IEET NO.

		-	EQ	UIPM	ENT	SCHE	DUL	E			200		
			EL	.ECTRICAI	_			REFERENC	E NOTES		00	CPD	
UNIT #	EQUIPMENT DESCRIPTION	LOAD	LOAD UNITS	VOLTS	PHASE	FULL LOAD AMPS (FLA)	DISCONNECTING MEANS	DISCONNECT RATING (AMPS)	STARTER SIZE	ENCLOSURE TYPE	FUSE SIZE (AMPS)	BREAKER SIZE (AMPS)	REMARKS
CEF-1	JAN/STORAGE F203 CEILING EXHAUST FAN	87	W	120	1	0.7	12	-	-	-	-	20	
CEF-2	RESTROOM F205 CEILING EXHAUST FAN	87	W	120	1	0.7	12	-	-	-	-	20	CONTROL WITH RESTROOM LIGHTING
RTU-1	ROOFTOP UNIT (7.5 TONS)	49.8	MCA	208	3	39.8	1A	60	-	18	-	60	FURNISHED WITH 120V OUTLET & RETURN AIR SMOKE DETECTOR. EC TO MAKE POWER AND FIRE ALARM CONNECTIONS AS NEEDED.
	DEFEDENCE NOTES												

A. FURNISHED, INSTALLED AND FINAL CONNECTION BY THE

B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION,

C. FURNISHED UNDER ANOTHER DIVISION, INSTALLED AND

FINAL CONNECTION BY THE ELECTRICAL CONTRACTOR.

FINAL CONNECTION BY THE ELECTRICAL CONTRACTOR. D. FURNISHED, INSTALLED AND FINAL CONNECTION UNDER

ELECTRICAL CONTRACTOR.

ANOTHER DIVISION.

REFERENCE NOTES:

NON-FUSED DISCONNECT SWITCH

FUSED DISCONNECT SWITCH BREAKER IN ENCLOSURE

FUSED DISCONNECT SWITCH WITH SHUNT TRIP

MANUAL STARTER WITH THERMAL OVERLOAD MANUAL STARTER

MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION

MAGNETIC STARTER/FUSED DISCONNECT COMBINATION MAGNETIC STARTER/MOTOR CIRCUIT PROTECTOR COMBINATION

VARIABLE SPEED DRIVE

REDUCED VOLTAGE STARTER

DIRECT CONNECTION

RECEPTACLE/SPECIAL PURPOSE OUTLET ETC. TWO-SPEED STARTER, COORDINATE WITH MOTOR TYPE

MAXIMUM CIRCUIT AMPS (MCA)

FULL LOAD CURRENT

PROVIDE WITH NEMA 1 ENCLOSURE PROVIDE WITH NEMA 3R ENCLOSURE

VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTION REQUIREMENTS (i.e. VOLTAGE, PHASE, FLA, ETC.) WITH MECHANICAL

DRAWINGS/SUBMITTALS PRIOR TO STARTING ROUGH IN. ALL FUSES SHALL BE DUAL ELEMENT, TIME DELAY. FINAL BREAKER/FUSE & DISCONNECT SIZE SHALL BE DETERMINED BY

MANUFACTURER'S RECOMMENDATION FOR ACTUAL EQUIPMENT INSTALLED.

ALL INSULATION ON CONDUCTORS TO BE THHN UNLESS NOTED OTHERWISE. INSULATION ON ALL UNDERGROUND EXTERIOR

CONDUCTORS SHALL BE THHW.

NAME:	LCP			POWER SUPPLY CIRC	CUIT: F-	-25
MOUNTING:	SURFACE			NUMBER OF RELAYS:	4	
ENCLOSURE:	NEMA 1					
LOCATION:	MULTI-PU	RPOSE ROOM E1	00			
RELAY NUMBER AMP	POLE	SUPPLY CIRCUIT	AREA SERVED	LV SWITCH (SEE SWITCH SCHEDULE)	CONTROL CODE	REMARKS
1 20	1	F-18	MAIN LEVEL LIGHTING	LV1	A(C)1	
2 20	1	F-23	UPPER LEVEL LIGHTING	LV1	A(C)1	
3 20	1		SPARE			
4 20	1		SPARE			
PROGRAM CODE:		Α	AUTO ON / AUTO OFF	1	HOURS OF OPERATION	
		В	MANUAL ON / AUTO OFF	2	DUSK TO DAWN	
		(C)	ASTRONOMIC TIMECLOCK	3	CUSTOM TIMES	
		(D)	DIMMING RELAY	4	OFF AFTER X MINUTES	
		(E)	PHOTOCELL	5	OFF AT DUSK	
				6	OFF AT CUSTOM TIME	
GENERAL NOTES:						
A. SEE PLAN(S) FOR	OCATION(S)	OF LOW VOLTAG	E SWITCH(ES).			
B. RELAY TO CONTRO	L COIL OF 2	POLE CONTACTO	R, FACTORY MOUNTED ON CABINET INTERIO	R.		
C. ELECTRICAL CONT	RACTOR TO	PROVIDE SPACE	IN THIS PANEL FOR FUTURE EXPANSION.			

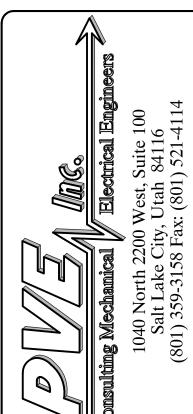
		RPOSE ROON	WIRE: 4 POLE SPACES: 84 DM E100		MAIN O\	/ERCUR	RENT DEVIC RENT AMPS: PMENT RATIN	:		225 LUGS N/A 10,000	AMPS				USE: E = Equipment Load				
	EAKER			FEE	DER	CI	KT. LOAD	L	OAD/PHASE	(VA)	CKT. LC	DAD	FEE	DER			BREAI	KER	
MPS	POLE	TYPE	CIRCUIT NAME	WIRE	GRD	USE	WATTS	ØA	ØB	ØC	WATTS	USE	GRD	WIRE	CIRCUIT NAME	TYPE	POLE	AMPS	No.
20	1		CLASSROOM F104	#12	#12	R	720	1,311	***************************************		591	L	#12	#12	MAIN LEVEL LIGHTING		1	20	2
20	2		BR-6	#12	#12	Е	375	***************************************	685	***************************************	310	L	#12	#12	SUITE F GYM LIGHTING		1	20	4
	-			#12	-	Е	375			2,607	2,232	М	#10	#10	ERV-2		3	25	6
20	2		BR-4	_	#12	Е		2,482				М							8
	-				-	E			2,482										10
						L	1	5 O21		5,031							3	1	12
20	1					E D		3,031	5 1/11		<u> </u>	_						1	14 16
20	1		,		ļ	+	1		J, 141	1 125							1		18
20	1		SUITE F WATER COOLER			E		827		1,120		+ -			UPPER LEVEL LIGHTING		1		20
20	1		BREAK ROOM RECPT	#12	#12	R	540		900		360	R	#12	#12	SUITE E GYM RECPT		1	20	22
20	1		UPPER LEVEL LIGHTING	#12	#12	L	1,040			2,216	1,176	М	#12	#12	SUITE E OVERHEAD DOOR		1	20	24
20	1		LIGHTING CONTROL PANEL 'LCP'	#12	#12	Е	200	860			660	М	#12	#12	UH-2		1	15	26
20	1	GFCI	BREAK ROOM FRIDGE	#12	#12	Е	1,400	***************************************	2,410		1,010	L	#12	#12	SUITE E GYM LIGHTING		1	20	28
20	1		DATA/STOR F107A	#12	#12	E				2,968	1,768	М	#10	#10	EC-2 BLOWER		2	25	30
20	1		SUITE F GYM RECPT	#12	#12	R	360	2,128			1,768	М	-					-	32
20	1							***************************************	257	***************************************		M			· ·		1		34
20	1		·	"10	"10		4.470	4.500		180		_					1		36
20	1			_		111	-,	1,536	040			_			· ·		1		38
	1					IVI			910	470		_			BR-/		2	1	40
	1		•			L		1 270		4/8		_			CHITE D CVM DECDT			ļ	42
	2			_		L M		1,370	2 215		1	_					1		44
						171			2,213	1 948		_			·		1		48
20	1			_		M	· · · · · · · · · · · · · · · · · · ·	797		1,010		_		-			1		50
20	1		CLASSROOM F106			R	1		900		0.10	1			SPARE		1	20	52
20	1		CLASSROOM F106	#12	#12	R	720			720					SPARE		1	20	54
20	1		CLASSROOM F104	#12	#12	R	900	2,076			1,176	М	#12	#12	SUITE D OVERHEAD DOOR		1	20	56
20	1		OFFICE F105	#12	#12	R	720		1,380		660	М	#12	#12	UH-1		1	15	58
20	1		· · · · · · · · · · · · · · · · · · ·	_		R		***************************************		360							1		60
20	1			_		+	1	900									1		62
20	1			_					900								1		64
	1			_		+		000		900							1		66
	1			_				900	720								1		68 70
20	1			#12	#12	"	120	***************************************	120	*****							1		70
20	1			+			<u> </u>										1		74
20	1		SPARE												SPARE		1	20	76
20	1		SPARE												SPARE		1	20	78
20	1		SPARE												SPARE		1	20	80
20	1		SPARE												SPARE		1	20	82
20	1		SPARE							******					SPARE		1	20	84
				BR-4 BR-5 BR-5	#12	#12 — #12 — #12 — #12 #12 #12 #12 #12 #12 #12 #12 #12 #12	#12 — E #12 —	## 12	BR-4 #12 — E 375 BR-4 #12 #12 E 250 2.482 BR-5 #12 #12 E 250 2.0 2 BR-5 #12 #12 E 250 BR-6 #12 #12 E 250 BR-7 #12 #12 E 250 BR-8 #12 #12 E 250 BR-8 #12 #12 E 250 BR-9 #12 #12 F 250 BR-9 F	BR-4	1	## ## ## ## ## ## ## ## ## ## ## ## ##	BR-4	1	## 12 ## 12 ## 12 ## 12 ## 12 ## 12 ## 12 ## 12 ## 12 ## 12 ## 13 ## 14 ## 13 ## 14 ## 14 ## 14 ## 14 ## 15		BR-4	1	

	LUMINAIRE SCHEDULE											
LUMINAIRE NUMBER	LUMINAIRE MANUFACTURER	LUMINAIRE CATALOG#	DESCRIPTION	LAMPS TYPE			LUMINAIRE CT VOLTS WATTS MOUNTING		REMARKS			
F1	LITHONIA LIGHTING	2GTL-4-48L-EZ1-LP830	CORRIDOR 2X4	LED	3000K	120	40	RECESSED GRID				
F1N	LITHONIA LIGHTING	2GTL-4-48L-EZ1-LP830-N100	CLASSROOM 2X4 WITH nLIGHT CONTROLS	LED	3000K	120	40	RECESSED GRID				
F2	LITHONIA LIGHTING	SBL4-40L-80CRI-30K-NODIM-MVOLT	1X4 IN HARD LID	LED	3000K	UNV	32.4	HARD LID				
EX1	ISOLITE	LQM-S-W-3-G-120/277-EL-N-ELA-WG1	EXIT SIGN WITH BUG EYE AND WIRE GUARD	LED	_	UNV	2.5	UNIVERSAL				
EX2	ISOLITE	LHQM-LED-G	EXIT SIGN WITH BUG EYE	LED	-	UNV	2.5	UNIVERSAL				

ELECTRICAL CONTRACTOR SHALL PROVIDE A 'QUICK DISCONNECT HARNESS' FOR EACH FLUORESCENT LIGHTING FIXTURE TO SERVE AS A MEANS OF DISCONNECT TO ALLOW THE FIXTURE BALLAST TO BE SERVICED IN PLACE, AS PER THE NATIONAL ELECTRICAL CODE 2014, ARTICLE 410.130 (G).







ITES D, NORTH 84037

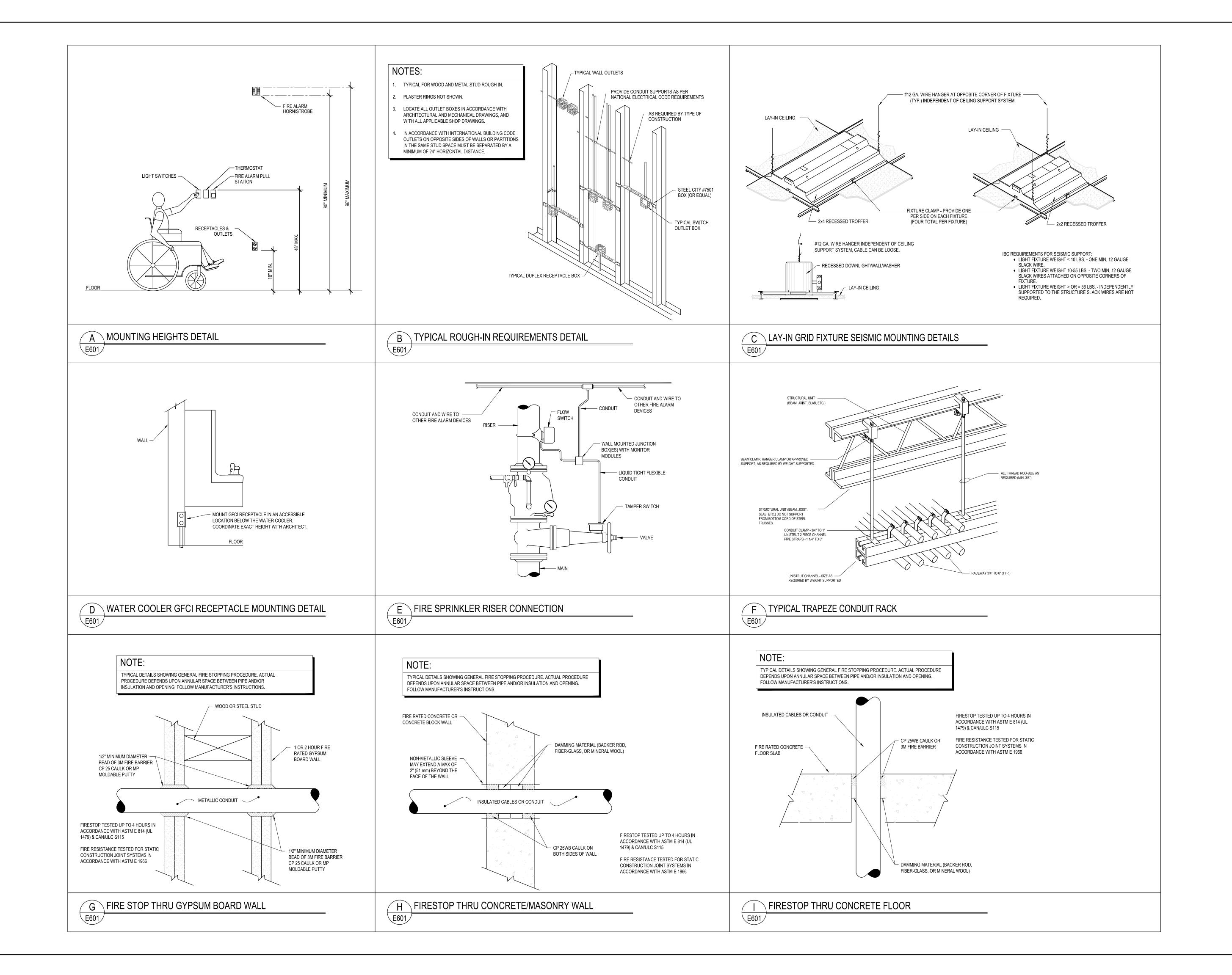
50 UT ACADEMY 850 WEST KAYSVILL

DAVINCI

SCALE....SEE DWG. CHECKED.....T.H.

SHEET TITLE

ELECTRICAL SCHEDULES





NORTH 84037 SOITES 0

DEMY **ACA** 850 KAY DAVINCI

1/8/2020 SCALE SEE DWG.

DRAWN.... CHECKED.... JOB NO......18029.09

SHEET TITLE

ELECTRICAL DETAILS

SHEET NO.

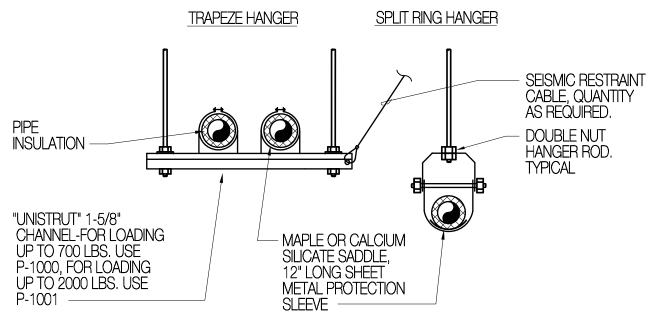
	PLUMBING SY	MBO	L LEGEND \.	ABBI	REVIATIONS
——	FLOOR DRAIN	+	ELBOW IN PIPE	O.R.D.	OVERFLOW ROOF DRAIN
—— FCO	FLOOR CLEAN OUT	+++	TEE IN PIPE	C.O.	CLEAN OUT
— I WCO	WALL CLEAN OUT	——\(\bar{\psi}\)——	GAS SHUTOFF VALVE	VTR	VENT THROUGH ROOF
	DOMESTIC COLD WATER (DCW)	— \$ —	GAS PRESSURE REGULATOR	WHA	WATER HAMMER ARRESTOR
	DOMESTIC HOT WATER (DHW)	-	BALL VALVE	A.D.	ACCESS DOOR
	WASTE (W)	HØC+	VALVE IN DROP	A.F.F.	ABOVE FINISHED FLOOR
	VENT (V)		UNION	COTG	CLEAN OUT TO GRADE
	NATURAL GAS (G)		CHECK VALVE	MV	MIXING VALVE
	DROP IN PIPE	 ∮ -	BALANCE VALVE	F.U.	FIXTURE UNITS
+0	RISE IN PIPE	R.D.	ROOF DRAIN	D.N.	DOWNSPOUT NOZZLE

	PLUMBING FIXTURE SCHEDULE											
SYMBOL	DESCRIPTION	COLD	HOT	TRAP	WASTE	VENT	REMARKS					
P-1	WATER CLOSET, FLOOR MOUNTED, FLUSH VALVE, ADA HEIGHT	1"	-	INT.	3"	2"	-					
P-2	LAVATORY, WALL MOUNTED, ADA COMPLIANT, AUTOMATIC FAUCET	1/2"	1/2"	1-1/2"	2"	1-1/2"	-					
P-3	BREAK ROOM SINK, DOUBLE BOWL, STAINLESS STEEL	1/2"	1/2"	1-1/2"	2"	1-1/2"	-					
P-4	SERVICE SINK, FLOOR MOUNTED, PORCELAIN CAST IRON	1/2"	1/2"	2"	2"	2"	-					
FD	FLOOR DRAIN, 6" DIAMETER GRATE	-	-	2"	2"	2"	_					
WCO	WALL CLEAN OUT	-	-	-	-	-	-					

GENERAL FIXTURE NOTES:

- THE PLUMBING CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF ALL PLUMBING EQUIPMENT AND THE RELATED ROUGH IN LOCATIONS WITH THE MECHANICAL AND
 ARCHITECTURAL PLANS AND SPECIFICATIONS. PROVIDE ALL ACCESSORIES AND OPTIONS REQUIRED TO PROVIDE THE OWNER A COMPLETELY FUNCTIONAL PLUMBING SYSTEM.
 ALL WALL HUNG PLUMBING FIXTURES SHALL BE SUPPORTED BY FLOOR MOUNTED CARRIERS (SMITH, JOSAM, MIFAB, OR WATTS) CARRIERS SHALL BE CONSTRUCTED UTILIZING
 ALL METAL COMPONENTS WITH SUPPORT FEET SECURELY ANCHORED TO FLOOR STRUCTURE. FIXTURE ARMS SHALL SUPPORT FIXTURE INDEPENDENT FROM WALL STRUCTURE.
 EACH INDMIDUAL FIXTURE SUPPLY SHALL BE PROVIDED WITH A CHROME-PLATED QUARTER TURN STOP VALVE BRASSCRAFT MODEL KTCR_ OR ENGINEER APPROVED EQUAL.
- FIXTURES AND ACCESSORIES SHALL BE AS SCHEDULED. EACH ITEM SHALL BE COMPLETE WITH CHROME-PLATED BRASS TRIM.
 ADA COMPLIANT FIXTURES SHALL BE INSTALLED WITH PRE-FORMED INSULATION AND PROTECTIVE COVERS ON P-TRAPS AND STOPS. COVERS TO BE MANUFACTURED BY BUCKAROOS OR TRUEBRO.
- 6. CAULK ALL FIXTURES TO THE WALL OR FLOOR WITH APPLICABLE SILICONE COMPOUND. UTILIZE MULTIPLE BEADS TO FILL GAPS AND FINISH TO SMOOTH, FILLETED EDGE. USE APPROPRIATE TOOLS TO PROVIDE PROFESSIONAL APPEARANCE.
- 7. ALL PLUMBING SHALL BE INSTALLED TO CONFORM TO THE LATEST ADOPTED EDITION OF THE INTERNATIONAL PLUMBING CODE INCLUDING LOCAL AMENDMENTS, CONSULT AUTHORITIES HAVING JURISDICTION.
- 8. ALL SINKS AND LAVATORIES WHERE HAND WASHING IS ANTICIPATED (FIXTURE P-2) SHALL BE PROTECTED WITH ASSE 1070 APPROVED TEMPERING VALVES PER DETAIL 4/P-000.

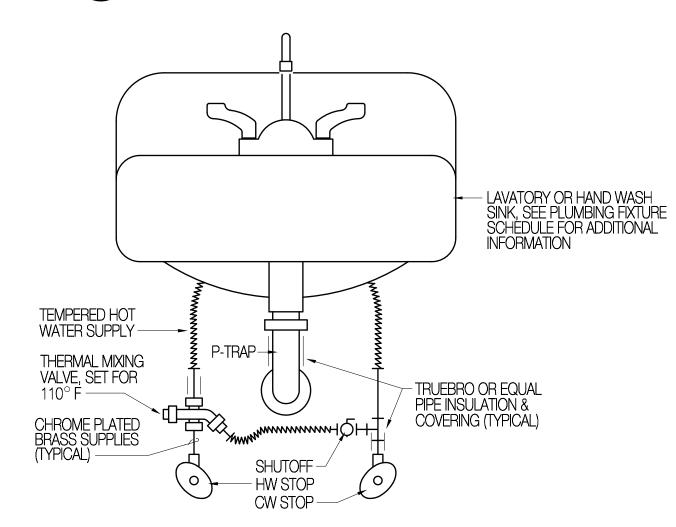
	PIPING MATERIALS SCHEDULE	
SERVICE	MATERIAL	REMARKS
DCW / DHW	TYPE "L" COPPER TUBING W/ WROUGHT COPPER FITTINGS	-
NAT. GAS	SCHEDULE 40 BLACK IRON	-
WASTE / VENT	SOLID CORE ABS OR PVC WITH DWV FITTINGS ABOVE AND BELOW GRADE	-



PIPE SIZE	MAX. SPACING	PIPE LOAD WEIGHT/FT. TOTAL	ROD SIZE
1" AND SMALLER	8	2.5/20	3/8"
1-1/4" - 2"	10	6/60	3/8"

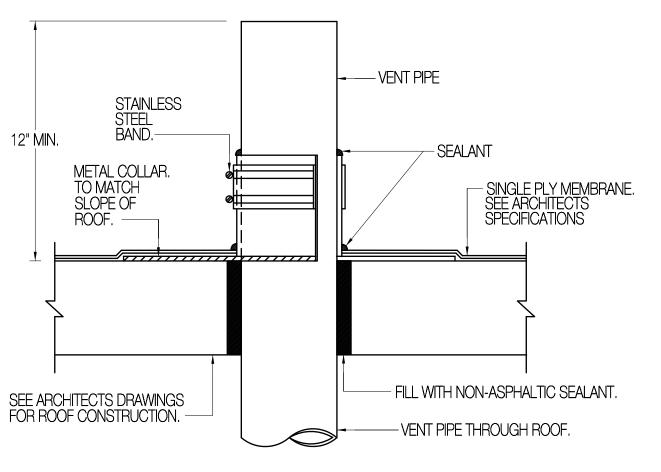
HANGERS SIZES AND SPACING ARE FOR SINGLE PIPES. HANGER ROD LOADING FOR TRAPEZE HANGERS SHALL NOT EXCEED THE TOTAL LOADING INDICATED. IF SMALLER ROD SIZE IS USED, DECREASE MAXIMUM SPACING SO THAT TOTAL LOADING IS NOT EXCEEDED.

PIPE HANGER DETAIL SCALE: NONE

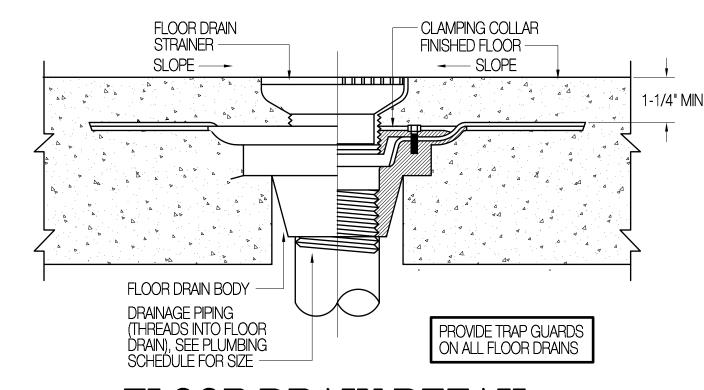


TEMPERING VALVE DETAIL

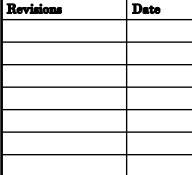
SCALE: NONE

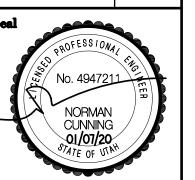


TYPICAL VENT THRU ROOF DETAIL



FLOOR DRAIN DETAIL
POOD SCALE: NONE

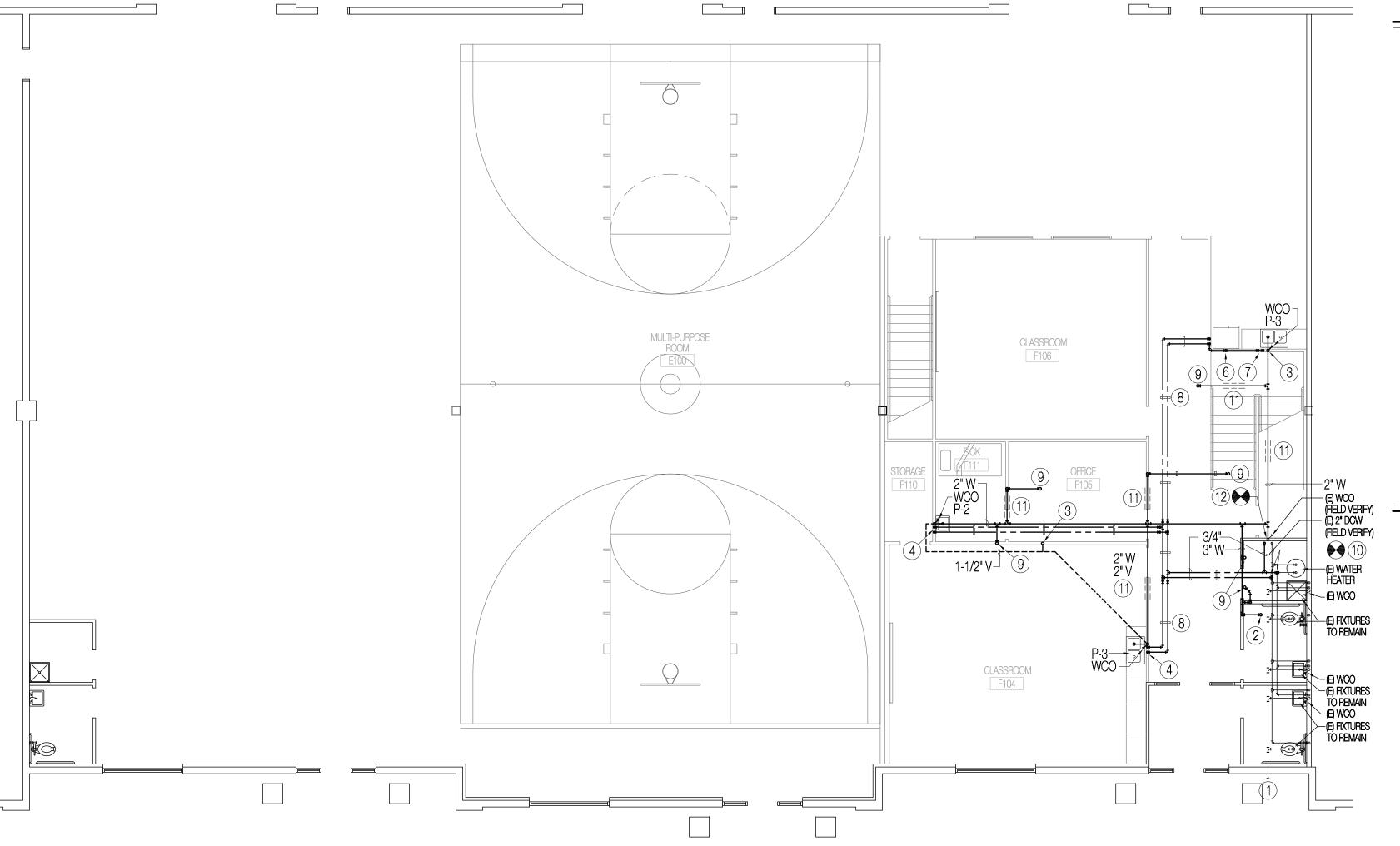






DA VINCI ACADEMY 850 WEST 350 NORTH KAYSVILLE, UTAH 84037

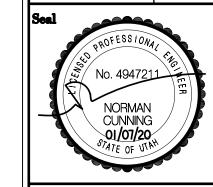
P-000



MAIN FLOOR PLUMBING PLAN
SCALE 3/16" = 1'-0"

DRAWING NOTES

- 1) FIELD VERIFY EXACT LOCATION, SIZE AND FLOW DIRECTION OF EXISTING UNDER-GROUND WASTE PIPING AND CONNECT NEW TO EXISTING UTILIZING LIKE MATERIALS.
- 2 3" WASTE PIPING RISE TO FIXTURES ON SECOND FLOOR. SEE SECOND FLOOR PLUMBING PLAN THIS SHEET FOR CONTINUATION.
- 3) 2" VENT PIPING RISE TO SECOND FLOOR. SEE SECOND FLOOR PLUMBING PLAN THIS SHEET FOR CONTINUATION.
- 4) 1/2" DOMESTIC HOT WATER AND 1/2" DOMESTIC COLD WATER PIPING DROPS TO FIXTURE. TERMINATE PIPING AT REQUIRED FIXTURE ROUGH-IN HEIGHT WITH QUARTER TURN STOP AND ESCUTCHEON AS REQUIRED BY SPECIFICATION.
- 5) 1/2" DOMESTIC COLD WATER AND 1/2" DOMESTIC HOT WATER PIPING DROPS TO WALL MOUNTED FAUCET. TERMINATE PIPING AT FAUCET ROUGH IN HEIGHT WITH PIPE NIPPLE AND INSTALL FAUCET AS REQUIRED BY SPECIFICATION.
- 6 1/2" DOMESTIC COLD WATER PIPING DROP TO GUY GRAY MODEL AB-9700 (OR EQUAL) ICE MAKER BOX. INSTALL BOX AT REQUIRED ROUGH-IN HEIGHT READY FOR CONNECTION TO OWNERS FRIDGE.
- 7 1/2" DOMESTIC HOT WATER AND 1/2" DOMESTIC COLD WATER PIPING DROPS TO FIXTURE. TERMINATE PIPING AT REQUIRED FIXTURE ROUGH-IN HEIGHT WITH QUARTER TURN STOP AND ESCUTCHEON AS REQUIRED BY SPECIFICATION.
- 8 PIPE SUPPORT, SEE DETAIL 5/P-000.
- 9 2" WASTE PIPING RISE TO SECOND FLOOR. SEE SECOND FLOOR PLUMBING PLAN THIS SHEET FOR CONTINUATION.
- 10 FIELD VERIFY EXACT LOCATION EXISTING WATER UTILITIES AND CONNECT NEW TO EXISTING UTILIZING LIKE MATERIALS.
- (1) SAWCUT EXISTING FLOOR IN THIS AREA AS REQUIRED TO INSTALL NEW UNDERGROUND UTILITIES.
- 12) FIELD VERIFY EXACT LOCATION EXISTING WASTE UTILITIES AND CONNECT NEW TO EXISTING UTILIZING LIKE MATERIALS.





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A VINCI ACADEMY 60 WEST 350 NORTH AYSVILLE, UTAH 84037

Project Number 5310

awing Title

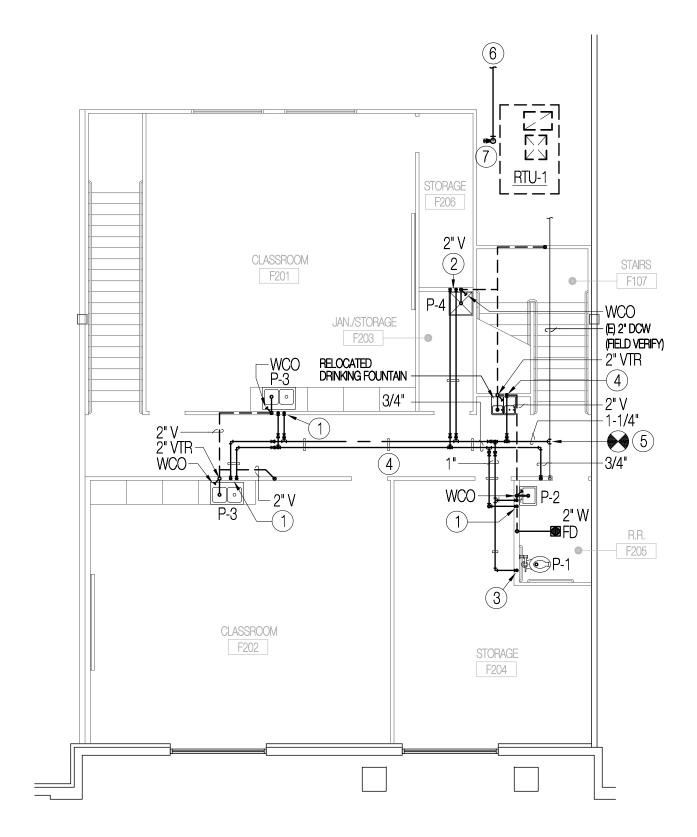
FIRST FLOOR PLUMBING PLAN

Issue Date

01/07/20

et Number

P-100



DRAWING NOTES

- 1 1/2" DOMESTIC HOT WATER AND 1/2" DOMESTIC COLD WATER PIPING DROPS TO FIXTURE. TERMINATE PIPING AT REQUIRED FIXTURE ROUGH-IN HEIGHT WITH QUARTER TURN STOP AND ESCUTCHEON AS REQUIRED BY SPECIFICATION.
- 2) 1/2" DOMESTIC COLD WATER AND 1/2" DOMESTIC HOT WATER PIPING DROPS TO WALL MOUNTED FAUCET. TERMINATE PIPING AT FAUCET ROUGH IN HEIGHT WITH PIPE NIPPLE AND INSTALL FAUCET AS REQUIRED BY SPECIFICATION.
- 3 1" DOMESTIC COLD WATER PIPING DROP TO FLUSH VALVE. TERMINATE PIPING AT REQUIRED FIXTURE ROUGH-IN HEIGHT WITH PIPE NIPPLE AND INSTALL FLUSH VALVE TRIM AS REQUIRED BY SPECIFICATION. PROVIDE WATER HAMMER ARRESTOR WITH SHUTOFF VALVE AND LOCKING ACCESS DOOR ON ACCESSIBLE SIDE OF TOILET NEAR FLOOR.
- 4) PIPE SUPPORT, SEE DETAIL 5/P-000.
- 5 FIELD VERIFY EXACT LOCATION EXISTING WATER UTILITIES AND CONNECT NEW TO EXISTING UTILIZING LIKE MATERIALS.
- 6) FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING GAS PIPING. EXTEND NEW GAS PIPING TO EXISTING AND CONNECT UTILIZING LIKE MATERIALS..
- 7 1/2" (2#) GAS PIPING RISE TO ROOFTOP MECHANICAL EQUIPMENT. TERMINATE GAS PIPING WITH PRESSURE REGULATOR, DIRT LEG AND FLEXIBLE CONNECTION PER GAS FLOW DIAGRAM SHEET P-400.

SECOND FLOOR PLUMBING PLAN

SCALE 1/8" =1'-0"





Mechanical Consulting Engineers

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DA VINCI ACADEMY 850 WEST 350 NORTH KAYSVILLE, UTAH 84037

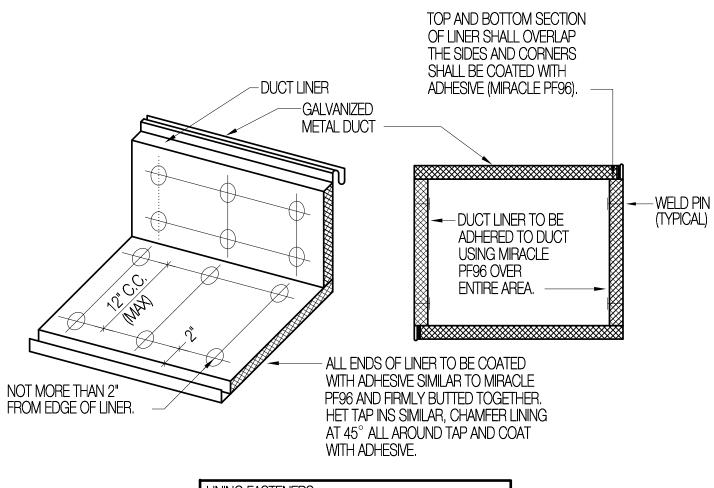
Issue Date 01/07/20

SECOND FLOOR PLUMBING PLAN

SYMBOL LEGEND								
	SIDEWALL GRILLE	•	ROUND SUPPLY AIR DUCT CROSS SECTION	A.F.F.	ABOVE FINISHED FLOOR			
- -⊠	SUPPLY AIR DIFFUSER	— — H.D.	HAND DAMPER, SEE DETAIL 9/M-500	HET	HIGH EFFICIENCY TAKEOFF			
_ N	RETURN OR EXHAUST GRILLE		RISE OR DROP IN DUCT	A.L.	ACOUSTICAL LINING			
24" x 12"	ACOUSTICALLY LINED DUCTWORK (INSIDE CLEAR DIMENSION)	(1)	THERMOSTAT	S.A.	SUPPLY AIR			
SLOPE	SLOPE IN DUCT, SEE SECTIONS FOR SLOPE DIRECTION	-	SUPPLY AIR DIRECTION	R.A.	RETURN AIR			
	RECTANGULAR SUPPLY AIR DUCT CROSS SECTION	→	RETURN AIR DIRECTION	NK.	NECK			

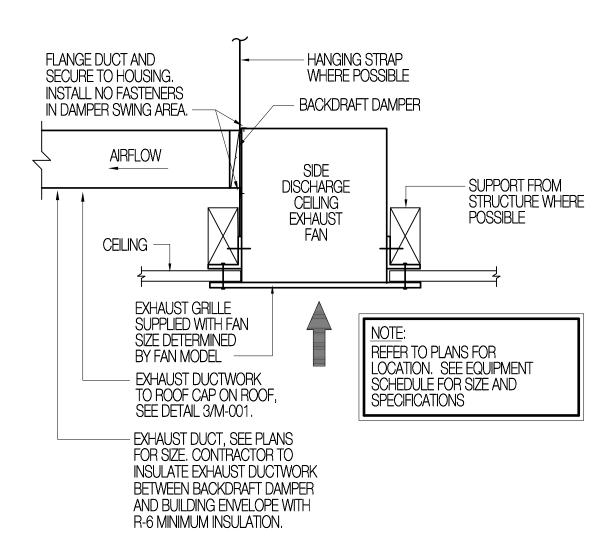
CEILING EXHAUST FANS (CEF)										
SYMBOL	MINIMUM	TOTAL STATIC PRESSURE	ELEC	TRICAL I	REQUIRE	EMENTS	BROAN	SERVICE	REMARKS	
OTIVIDOL	CFM	IN. WG.	VOLTS	PH.	HZ.	WATTS	MODEL	SENVICE	HUNNING	
CEF-1	100	0.375"	120	1	60	87	L150MG	R.R. 118	-	
CEF-2	100	0.375"	120	1	60	87	L150MG	R.R. 119	-	
1 CAPAC	1) CAPACITIES AT JOB SITE ELEVATION.									

GRILLES AND DIFFUSERS									
SYMBOL	CFM	NECK SIZE	FACE SIZE	KRUEGER MODEL	REMARKS				
S-1	AS NOTED	AS NOTED	AS NOTED	1400	-				
S-2	AS NOTED	AS NOTED	AS NOTED	SH	-				
R-1	AS NOTED	AS NOTED	AS NOTED	6490	-				
TG-1	AS NOTED	AS NOTED	AS NOTED	S85H	-				

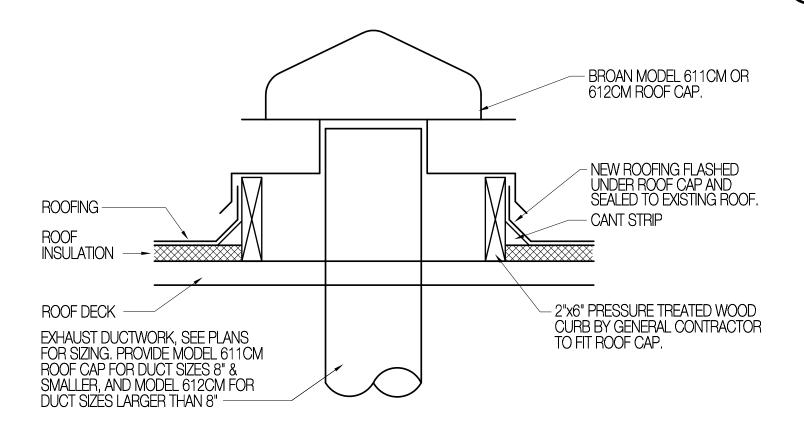


LINING FASTENERS: DURA DYNE MODEL CP WELD TYPE FASTENERS OR EQUIVALENT. ADHESIVE TYPE STICK CLIPS OR GRIP NAILS NOT ALLOWED.





CEILING EXHAUST FAN DETAIL



EXHAUST ROOF CAP DETAIL

HEATING/COOLING ROOFTOP UNIT (RTU) FAN SECTION

COND. COIL HEATING SECTION COOLING SECTION COND. AMB. UNIT ELEC. REQUIREMENTS E.S.P. COIL TOTAL CAP. | SENS. CAP. AIR | MIN MOTOR SYMBOL AREA REMARKS MODEL CFM TEMP. EER | VOLTS | PH. | HZ. | MCA | MOCP (BTUH) (BTUH) (IN. WC.) HP 180,000 | 144,000 83,800 80,200 2,985 3.0 18.5 7,600 | 95°F | 11.2 | 208 | 3 | 60 | 49.8 | 60 ZF090 1.2 (1)(2)(3)(4)(5)(6)(14)(15)

(4) BELT DRIVE CAPACITY REQUIRED AT SITE ELEVATION AND CONDITIONS.

?) PROVIDE UNIT WITH 120 V CONVENIENCE OUTLET.

3) FACTORY INSTALLED ECONOMIZER W/ BARO. RELIEF.

(5) PROVIDE UNIT WITH RETURN AIR SMOKE DETECTOR.

(7) HOT GAS BYPASS (ZONE CONTROL) (8) HI/LOW LIMIT SWITCHES (ZONE CONTROL)

(6) BALANCE OUTSIDE AIR TO 265 CFM.

UNIT WEIGHTS: RTU-1: 880 LBS.

GENERAL NOTES

1. ALL DRAWINGS SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL ASPECTS OF THE CONTRACT DOCUMENTS PRIOR TO SUBMITTING PRICING. ANY AND ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO TO ANY INSTALLATION SUCH THAT CLARIFICATIONS CAN BE ISSUED.

2, ANY WORK PERFORMED OR MATERIAL USED WHICH IS SHOWN TO BE IN CONFLICT WITH THE CONTRACT DRAWINGS, SPECIFICATIONS OR ANY APPLICABLE CODE OR GOVERNING REGULATION SHALL BE REMOVED AND REPLACED OR CORRECTED AT THE CONTRACTOR'S EXPENSE.

- 3. ALL SYMBOLS AND ABBREVIATIONS USED ON THE CONTRACT DRAWINGS ARE CONSIDERED CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH ANY WORK.
- 4. DO NOT SCALE THE DRAWINGS: ALL EXISTING CONDITIONS AND DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOB SITE PRIOR TO FABRICATION OF MATERIALS OR ERECTION OF ASSEMBLIES. IF DISCREPANCIES ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION.
- 5. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT, TRANSPORTATION AND SERVICES REQUIRED FOR COMPLETION OF THE WORK, ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE DONE IN STRICT COMPLIANCE WITH ALL LOCAL CODES AND GOVERNING REGULATIONS.

1-1/4

REDUCER

- 6. ALL PERMITS AND FEES WHICH ARE REQUIRED FOR THIS WORK SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR.
- 7. ALL PLUMBING AND MECHANICAL INSTALLATIONS SHALL ADHERE TO THE 2018 IECC INCLUDING: MINIMUM R-6 INSULATION ON ALL NON-ACOUSTICALLY LINED DUCTWORK; ACOUSTICAL LINER SHALL PROVIDE A MINIMUM OF R-6 INSULATING VALUE. ALL DOMESTIC WATER PIPING SHALL BE INSULATED WITH A MINIMUM 1" FIBERGLASS INSULATION. PROVIDE DEMAND CONTROL VENTILATION FOR THE MULTI PURPOSE ROOM PER SHEET M-700.

45°LO-LOSS CONICAL TAP

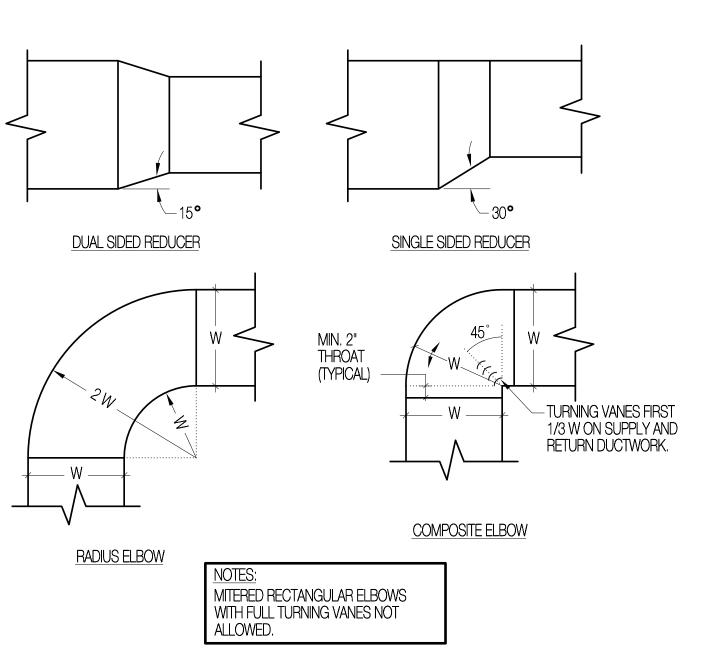
LO-LOSS TAP

<u>DIMENSIONS</u>

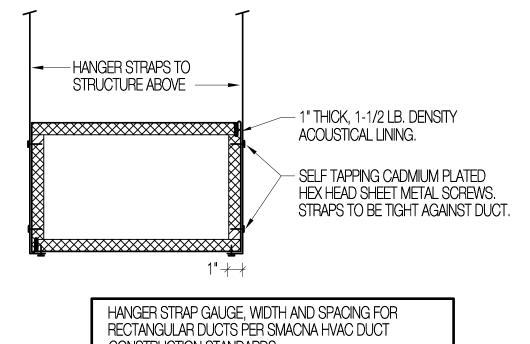
D = DUCT SIZE QR = 1.5D

0-35°---- 2 PIECE 36-71°----3 PIECE 72-90°----5 PIECE

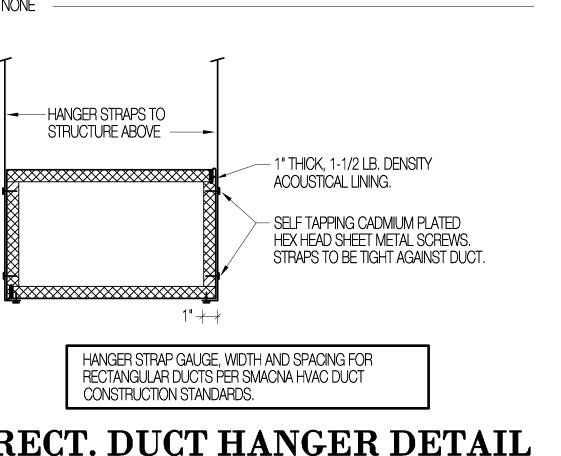
ADD ONE PIECE FOR EACH ADDITIONAL 18



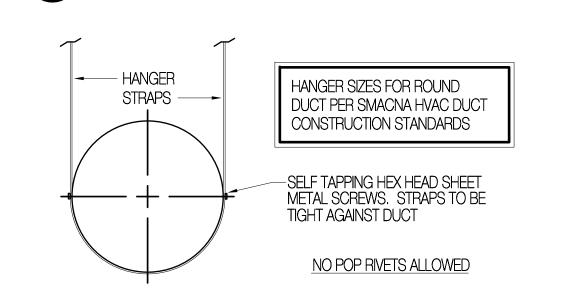
RECTANGULAR DUCT FITTINGS



RECT. DUCT HANGER DETAIL M000 SCALE: NONE

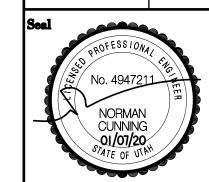






RND. DUCT HANGER DETAIL

SCALE: NONE







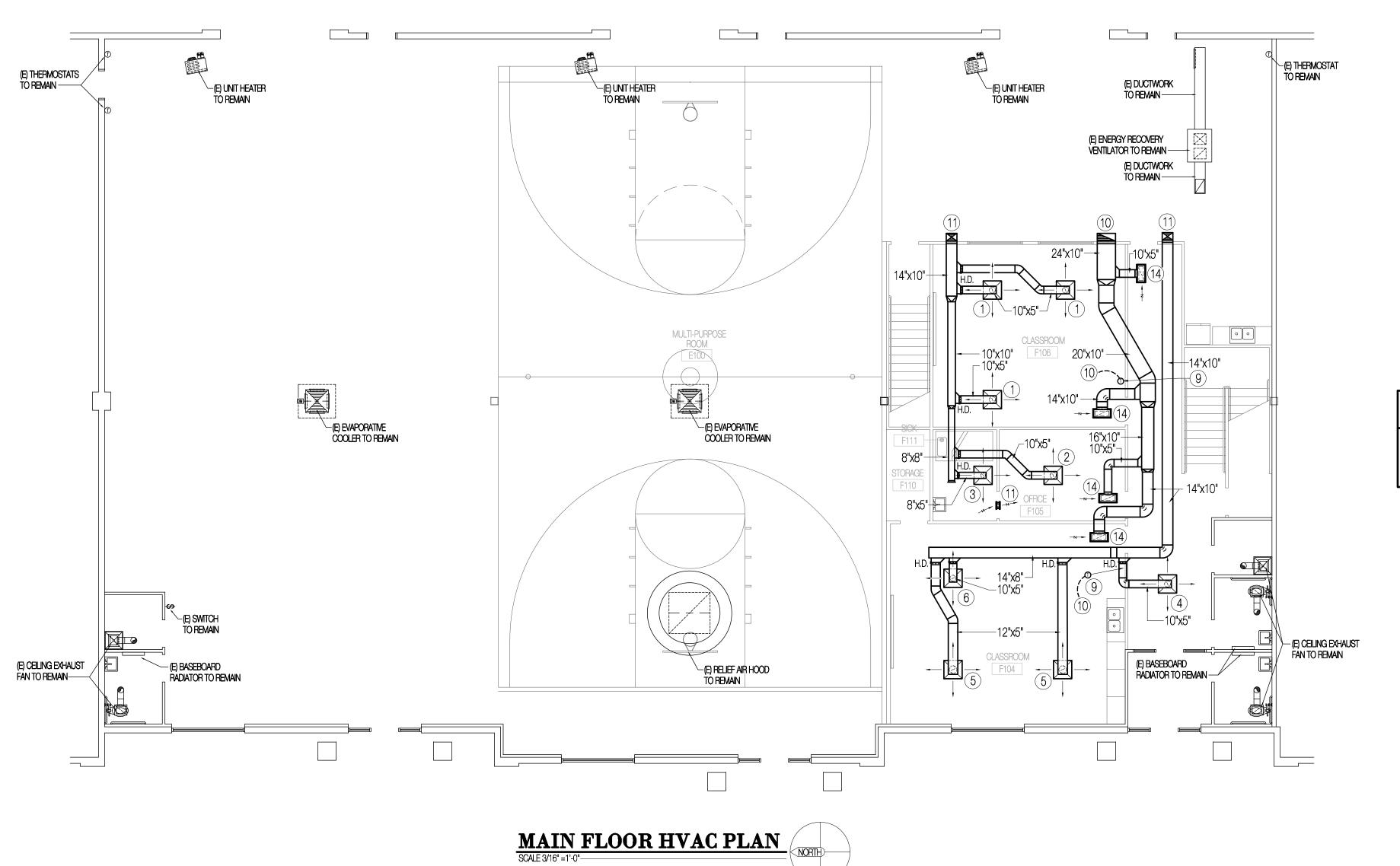


DA 850 KA

Issue Date Project Number 5319 01/07/20

Drawing Title MECHANICAL SCHEDULES AND SYMBOL LEGEND

Sheet Number



DRAWING NOTES

- 1 S-1 185 CFM, 8"Ø NK. S.A. DIFFUSER.
- 2 S-1 105 CFM, 8"Ø NK. S.A. DIFFUSER.
- 3 S-1 75 CFM, 6"Ø NK. S.A. DIFFUSER.
- 4 S-1 125 CFM, 8"Ø NK. S.A. DIFFUSER.
- 5 S-2 275 CFM, 10"Ø NK. S.A. DIFFUSER.
- (6) S-1 150 CFM, 8"Ø NK. S.A. DIFFUSER.
- 7 PROVIDE AND INSTALL NEW THERMOSTAT, MOUNT THERMOSTAT AT 48" A.F.F. SEE CONTROL DIAGRAMS SHEET M-700 FOR ADDITIONAL INFORMATION.
- 8 CONTROL WIRING FROM THERMOSTATS TO ZONE CONTROLLER. SEE CONTROL DRAWINGS SHEET M-700 FOR ADDITIONAL INFORMATION.
- 9 TG-1 8"x8" NK. T.A. GRILLE, TYPICAL OF ONE GRILLE EACH SIDE WITH
- INTERCONNECTING DUCT.

 10 24"x10" RETURN DUCTWORK RISE TO SECOND FLOOR, SEE SECOND FLOOR HVAC PLAN THIS SHEET FOR CONTINUATION.
- 11) 14"x10" SUPPLY DUCTWORK RISE TO SECOND FLOOR, SEE SECOND FLOOR HVAC PLAN THIS SHEET FOR CONTINUATION.
- 12 R-1 22"x10" NK, R.A. GRILLE WITH ACOUSTICALLY LINED PLENUM AND O.B.D. BALANCE GRILLE TO MATCH SUPPLY CFM.

CEILING PLENUM NOTE

THE CEILING PLENUM IN THIS BUILDING CONTAINS COMBUSTIBLE CONSTRUCTION. ALL RETURN / SUPPLY DUCTWORK SHALL BE CONTINUOUS THROUGH THE PLENUM SPACE. DO NOT USE THE PLENUM SPACE FOR AIR DISTRIBUTION.



Mechanical Consulting Engineers

Cunning & Associates
4685 W. 11600 N. Tremonton, UT 84337
Email: norm@cunning-eng.com
Ph: (801) 726-5047

A VINCI ACADEMY
0 WEST 350 NORTH
AYSVILLE, UTAH 84037

Project Number Lasue Date

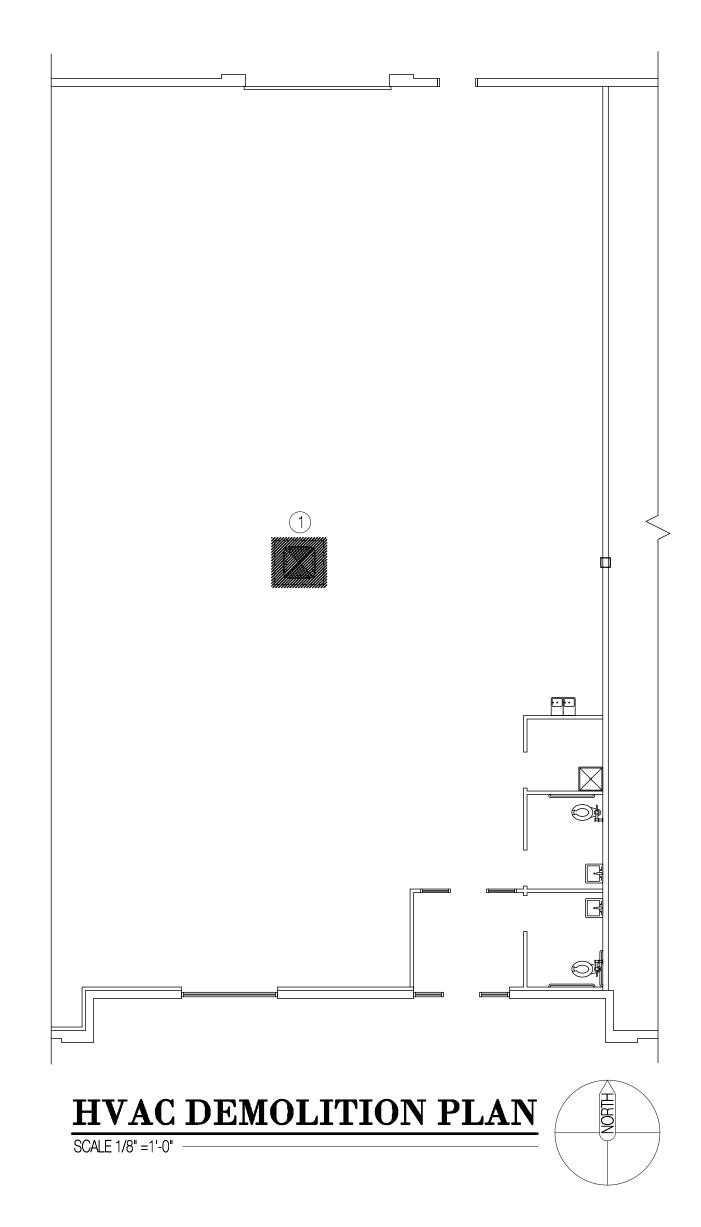
5319 01/07/20

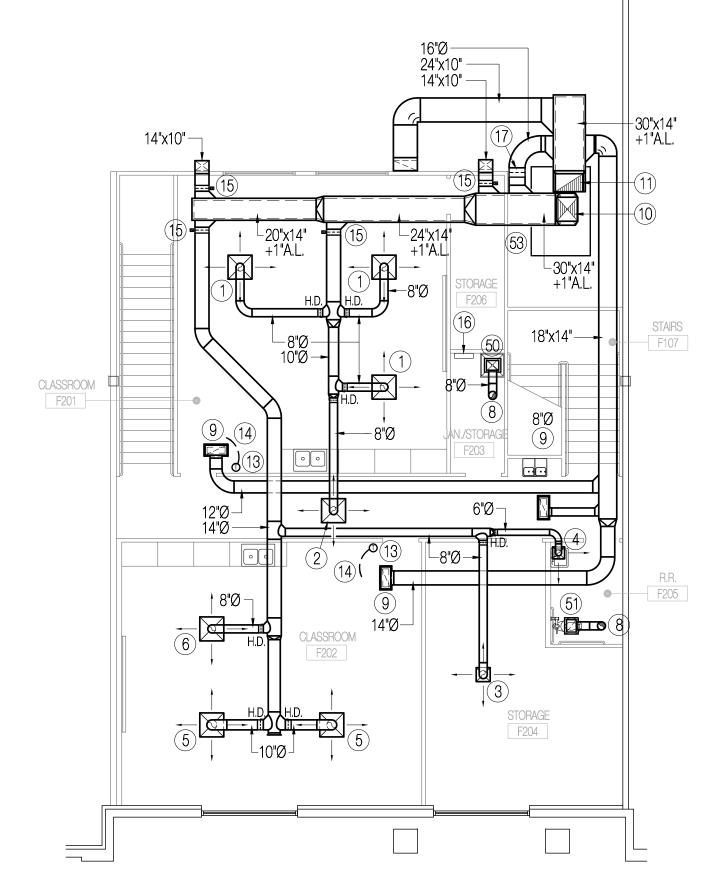
rawing Title

FIRST FLOOR HVAC PLAN

t Number

M-100







GENERAL DEMO. NOTES

- 1. REMOVE ALL PORTIONS OF EXISTING HVAC INSTALLATION NOT REQUIRED TO REMAIN IN SERVICE. FIELD COORDINATE REMOVAL WITH REMODEL PLAN, SHEET M-100 AND REMOVE EXISTING DUCTWORK SYSTEMS COMPLETE INCLUDING; DUCTWORK, DIFFUSERS, ETC PREPARATORY TO NEW WORK.
- 2. REMOVE ALL PORTIONS OF EXISTING HVAC CONTROL SYSTEMS NOT REQUIRED TO REMAIN IN SERVICE. FIELD COORDINATE REMOVAL WITH REMODEL PLAN, SHEET M-100 AND REMOVE EXISTING CONTROL SYSTEMS COMPLETE INCLUDING; CONTROLS, AND CONTROL WIRING PREPARATORY TO NEW WORK.

DRAWING NOTES

1 REMOVE EXISTING EVAPORATIVE COOLER COMPLETE. REMOVAL SHALL INCLUDE UNIT, ALL ASSOCIATED HANGERS, CONTROLS, AND ACCESSORIES PREPARATORY TO NEW WORK.

DRAWING NOTES

- 1 S-1 185 CFM, 8"Ø NK. S.A. DIFFUSER.
- (2) S-1 125 CFM, 8"Ø NK. S.A. DIFFUSER.
- (3) S-1 105 CFM, 8"Ø NK. S.A. DIFFUSER.
- 4 S-2 50 CFM, 6"Ø NK. S.A. DIFFUSER.
- 5 S-1 275 CFM, 10"Ø NK. S.A. DIFFUSER.
- 6 S-1 150 CFM, 8"Ø NK. S.A. DIFFUSER.
- 7 HIGH EFFICIENCY TAKEOFF, TYPICAL.
- 8 8 Ø EXHAUST DUCT RISE TO VENT CAP ON ROOF, SEE DETAIL 6/M-700 FOR ADDITIONAL INFORMATION.
- 9 R-1 22"x10" NK. R.A. GRILLE WITH ACOUSTICALLY LINED PLENUM AND O.B.D. BALANCE GRILLE TO MATCH SUPPLY CFM.
- (10) 30"x14"+1"A.L. SUPPLY AIR PLENUM ON BOTTOM OF ROOFTOP UNIT. TRANSITION PLENUM TO OUTLET COLLAR SIZE AND CONNECT WITH FLEXIBLE CONNECTION PER DETAIL 4/M-000.
- (11) 30"x14"+1"A.L. RETURN AIR DUCTWORK ON BOTTOM OF ROOFTOP UNIT. TRANSITION DUCTWORK TO OUTLET COLLAR SIZE AND CONNECT WITH FLEXIBLE CONNECTION PER DETAIL 4/M-000.
- PROVIDE AND INSTALL NEW THERMOSTAT, MOUNT THERMOSTAT AT 48" A.F.F. SEE CONTROL DIAGRAMS SHEET M-700 FOR ADDITIONAL INFORMATION.
- (14) CONTROL WIRING FROM THERMOSTATS TO ZONE CONTROLLER. SEE CONTROL DRAWINGS SHEET M-700 FOR ADDITIONAL INFORMATION.
- CONTROL DRAWINGS SHEET M-700 FOR ADDITIONAL INFORMATION.

 (15) ZONE CONTROL DAMPER, SEE CONTROL DRAWINGS SHEET M-700 FOR ADDITIONAL
- INFORMATION.

 16 ROOFTOP UNIT ZONE CONTROLLER, SEE CONTROL DRAWINGS SHEET M-700 FOR
- ADDITIONAL INFORMATION.

 (17) BYPASS DUCTWORK WITH BAROMETRIC DAMPER, SEE M-700 FOR ADDITIONAL
- INFORMATION.

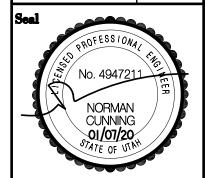
EQUIPMENT NOTES

50 CEF CEILING EXHAUST FAN

 $\begin{array}{c|c}
\hline
\text{51} & \overline{\text{CEF}} & \underline{\text{CELING}} \\
\hline
2 & \underline{\text{EXHAUST FAN}}
\end{array}$

CEILING PLENUM NOTE

THE CEILING PLENUM IN THIS BUILDING CONTAINS COMBUSTIBLE CONSTRUCTION. ALL RETURN / SUPPLY DUCTWORK SHALL BE CONTINUOUS THROUGH THE PLENUM SPACE. DO NOT USE THE PLENUM SPACE FOR AIR DISTRIBUTION.





Consulting
Engineers

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DA VINCI ACADEMY 850 WEST 350 NORTH KAYSVILLE, UTAH 84037

Project Issue Date

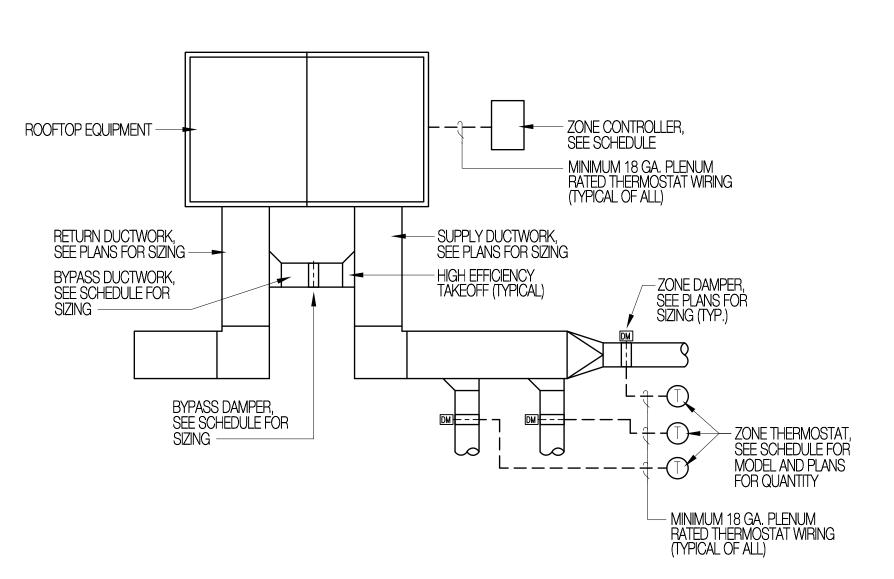
9 01/07/20

Drawing Title
SECOND FLOOR
HVAC PLAN

Mumber

M-101

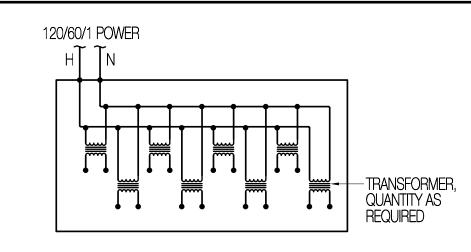
				Z	ONE CO	ONT	ROLLER	SCHEDULE		
ZONE	EQUIP. SERVED	NO. OF ZONES	BYPASS DAMPER SIZE	BYPASS DAMPER MFG. / MOD.	BYPASS DAMPER PRESS. SETTING	BYPASS CFM	ZONE DAMPER MANUF. / MODEL	ZONE THERMOSTAT MANUF. / MODEL	ZONEFIRST CONTROLLER MODEL	REMARKS
Z-1	RTU-1	4	16"Ø	ZONEFIRST / SPAD	0.30" - 0.60"	2,310	ZONEFIRST / RDP	VENSTAR / T2900	MZP4	-
	•	•			•					



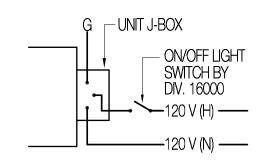
ZONE CONTROLLER SCHEMATIC

GENERAL NOTES

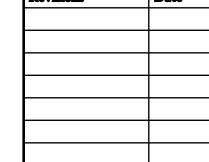
- 1. 120 VAC ELECTRICAL POWER TO ZONE CONTROLLERS AND LOW VOLTAGE TRANSFORMER PANELS BY DIVISION 16000, DIVISION 15000 TO COORDINATE LOCATION AND QUANTITY.
- 2. THE CONTROLS CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR CONTROL SYSTEM CIRCUITS.
- 3. ANY QUESTION OF RESPONSIBILITY SHALL BE CLARIFIED BY THE GENERAL CONTRACTOR 4. ALL WIRING SHALL BE 18 GA. MULTI CONDUCTOR WITH PLENUM RATED JACKET AND SHALL TERMINATE AT LABELED TERMINAL STRIPS.

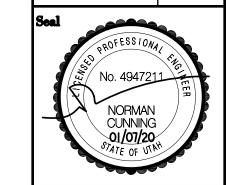


LOW VOLTAGE TRANSFORMER PANEL LVTP QUANTITY AS REQUIRED, LOCATION AS DIRECTED



CEILING EXHAUST FAN CONTROL DIAGRAM TYPICAL OF CEILING EXHAUST FANS CEF-1 & 2







DA VINCI ACADEMY 850 WEST 350 NORTH KAYSVILLE, UTAH 84037

Project Number	Issue Date
5319	01/0

01/07/20

MECHANICAL CONTROLS

MECHANICAL SPECIFICATIONS

GENERAL CONDITIONS

<u>DESCRIPTION OF PROJECT</u>: The mechanical work described in these mechanical specifications is for a project located in Kaysville, Utah. Design weather conditions are: 95° db, 62° wb, and winter 8°F. Altitude readings, unless otherwise noted, are for an elevation of 4,300 feet above sea level. Make adjustment to manufacturer's performance data as needed.

CODES AND PERMITS, AUTHORITIES HAVING JURISDICTION:

2018 International Mechanical Code - (with Utah amendments) 2018 International Building Code – (with Utah amendments)

2018 International Plumbing Code – (with Utah amendments) 2018 International Energy Code – (with Utah amendments)

SMACNA Duct Design Standards Locally enforced NFPA Codes

Local Fuel Utility Regulations

Local Power Utility Regulations American Gas Association

ASTM B31.1 Piping

DEFINITION OF PLANS AND SPECIFICATIONS: The mechanical drawings at reduced scale show the general arrangement of piping, ductwork, equipment, etc., and shall be followed as closely as the actual building construction and the work of other trades will permit. The architectural and structural drawings shall be considered as part of the work insofar as these drawings furnish the Contractor with information relating to design and construction of the building. Architectural drawings shall take precedence over mechanical drawings. Request clarification and participate in resolution in the event of conflict.

- A. Because of the small scale of the mechanical drawings, it is not possible to indicate all offsets, fittings and accessories which may be required. Investigate the structural and finish conditions affecting the work and arrange the work accordingly, providing such extensions, fittings, valves and accessories to meet the conditions as may be required. Some small scale work is not shown such as control conduit and piping,
- incidental piping, specialties. Provide as directed by note or specification. Examine the actual construction site prior to bidding and obtain an understanding of the conditions under which the work will be performed. No allowances will be made for failure to make such examination.
- During construction, verify the dimensions governing the mechanical work at the building. No extra compensation shall be claimed or allowed because of differences between actual dimensions and those indicated on the drawings. Examine adjoining work on which mechanical work is dependent for perfect efficiency, and report any work of other trades which must be corrected. No waiver of responsibility for defective work shall be claimed nor allowed due to failure to report unfavorable conditions affecting the mechanical work.

ALTERNATIVE CONSTRUCTION/SUBSTITUTION: The contract documents outline a way in which the Owner may be delivered a functional and reliable facility. Drawings and specifications describe reasonable engineering practice for the Contractor to follow.

- Coordination between trades may result in periodic needs to adjust the installation from that indicated, but in no case shall the intended function be compromised.
- The Contractor may perceive some work methods which differ from those specified which could save time and effort. These may be presented to the Architect with a breakdown of possible cost savings for review. Implement only with authorization.
- Materials substitutions will generally be covered in a review process prior to bidding. After bidding, substitutions shall be proposed only on the basis of definitive cost accounting and implemented only with authorization.

QUALITY OF MATERIALS AND EQUIPMENT:

- All equipment and materials shall be new, and shall be the standard products of manufacturers regularly engaged in the production of plumbing, heating, ventilating and air conditioning equipment, and shall be the manufacturer's latest design. Specific equipment shown in schedules on drawings and specified herein is to be the basis for the Contractor's bid. Provisions for substitute equipment are outlined in the General Conditions. All materials shall be produced by manufacturing plants located in the United States of
- Furnish and install all major items of equipment specified in the equipment schedules on the drawings
 - J.R. Smith No. 4530
 - Wade No. W-8460-R Josam No. 58790

DUCTWORK - GENERAL

- A. Standards: All duct fabrications shall comply with standards and techniques detailed by SMACNA "Duct Construction Manuals" for the appropriate pressure class, with the ASHRAE Handbook, 1988 edition, Chapter 1, Duct Construction, and with the contract drawing details.
- Sheet Metal: Except as otherwise indicated, fabricate ductwork from galvanized sheet steel complying with ASTM A 527, lockforming quality, with G 90 zinc coating in accordance with ASTM A 525; mill phosphatized for exposed locations.

FITTINGS AND FABRICATION:

- A. Fittings: Fabricate duct fittings to match adjoining ducts, and to comply with duct requirements as applicable to fittings. Fabricate elbows utilizing inside and outside radiuses with a center-line radius equal to associated duct width; or where fully radiused elbows are not possible, fabricate elbows with an inside square and outside radius and include turning vanes in the first 1/3 of elbow. Maintain duct width throughout turn on inside square and outside radiused elbows. Limit angular tapers to 30° for contracting tapers and 20° for expanding tapers.
- Fabricate ductwork with accessories installed during fabrication to the greatest extent possible. Refer to Division-23 section "Duct Accessories' for accessory requirements.
- Fabricate ductwork with duct liner in each section of duct where indicated. Laminate liner to internal surfaces of duct in accordance with instructions by manufacturers of lining and adhesive, and fasten with weld type fasteners.
- Offset, transition, adapt ductwork to structural obstacles and work of other trades in a coordinated effort. Layout work to avoid conflict with piping, etc. With review of conditions, teardrop around conflicting piping, lights, etc., all at no added cost to the owner.

LOW PRESSURE ROUND DUCTWORK:

- A. Round type ductwork for use on low velocity supply systems (1200 fpm maximum), low pressure (0.75" maximum duct pressure), shall be fabricated on 26 gauge galvanized steel sheets with snap-lock longitudinal seams and crimped and beaded joints.
- All end joints shall have at least three screw fasteners and joints shall be sealed airtight with Hardcast TA tape or water based duct sealer. Snap lock longitudinal seams shall be seal with water based duct sealer NO EXCEPTIONS. Elbows and fittings shall provide smooth air flow patterns and have a neat appearance.

LOW PRESSURE RECTANGULAR DUCTWORK:

- A. Rectangular ductwork for use on supply systems up to 2" maximum duct static pressure and 2000 fpm maximum duct velocity shall be constructed of galvanized steel using construction for nominal 3" SMACNA rated systems. Seal all transverse and longitudinal joints with water based duct sealer NO
- Use radiused elbows, or square inside radiused outside elbows with single thickness turning vanes in the first 1/3 where space restrictions prohibit fully radiused elbows. Use 45° high efficiency tapping takeoffs with separate downstream balance dampers.
 - Duct dimensions are inside clear. Increase for acoustical lining.

MISCELLANEOUS DUCTWORK MATERIALS:

- A. General: Provide miscellaneous materials and products of types and sizes indicated and, where not otherwise indicated, provide type and size required to comply with ductwork system requirements including proper connection of ductwork and equipment.
- Runout Fittings: Runout fittings shall be used to make round to rectangular duct connections. Use 45° time and a half square to round fittings. Provide with locking quadrant dampers where balance is involved. Provide with insulation guard where insulated duct is involved.
- Duct Sealing Compound: Duct sealing compound shall be 3M brand number EC-750 or Duro-Dyne S-2. This material shall be used in making up duct joints or in water proofing, caulking plenums, etc.
- Acoustical Lining: Acoustical lining in ducts shall be 1" thick, 1-1/2 pound density, coated, flexible glass fiber type, set in adhesive and impaled on weld studs spaced not more than 12" on centers and secured with lock washers. Airstream surface faced with black coated matte. Acoustical lining shall completely line the ducts. Lining shall have a fire and smoke hazard rating not exceeding 20-50-50. Owens-Corning, Johns-Manville, Certainteed.
 - 1. All joints, edges and/or surface breaks in the coating of the acoustical lining shall be pointed up to

complete with all accessories normally supplied with catalog items listed, and all other accessories necessary for a complete and satisfactory installation.

MANUFACTURER'S DIRECTIONS: Install all equipment in strict accordance with directions and recommendations furnished by the manufacturer. Where such directions are in conflict with the plans and specifications, report such conflicts to the Architect who shall direct adjustments as deemed necessary and desirable.

<u>VALVES</u>:

DOMESTIC COLD WATER, DOMESTIC HOT WATER:

Ball Valves: Copper piping, 2-1/2" and Smaller: 475 psig WOG @ 250°F, bronze construction, soldered ends for 3/4" and smaller, threaded ends for 1" and larger, glass Reinforced PolyTetraFlouroEthylene (RPTFE) seat providing bubble tight leakage performance at 100 psig air pressure under water, full port stainless steel ball. Operate with flow in either direction. Suitable for throttling and tight shut-off. Lever or tee handle as required.

- Manufacturers & Models: Provide ball valves from one of the manufacturers and model numbers listed below.
- (1) Apollo 77-140
- (2) Watts FBV-SS (up to 2") (3) Nibco T-580-70-66 (up to 1")
- (4) Crane/Stockham 285-BR-R-66

<u>WATER PIPING</u> (domestic cold & hot water, 1-1/2" thickness required.) Preformed Fiberglass Piping Insulation: ASTM C 547. (Class 1 for use to 450°F (230°C); Class 2 for use to 650°F (345°C); Class 3 for use to 1200°F (650°C).

lbs/ft³; Class B-2 - 0.75 lbs/ft³; Class B-3 - 1.0 lbs/ft³; Class B-4 - 1.5 lbs/ft³; Class B-5 - 2.0 lbs/ft3; Class

B-6 - 3.0 lbs/ft³; Type II - flexible; Class F-1 - 4.5 lbs/ft³; Type III - semirigid; Class F-2 - 4.5 lbs/ft³.

DUCTWORK (1-1/2" thickness for all non-acoustically lined ductwork, concealed areas only): Flexible Fiberglass Ductwork Insulation: ASTM C 553, Type 1 - resilient, flexible; Class B-1 - 0.65

NATURAL GAS PIPING:

- A. Building Distribution Piping: Pipe Size 2" and Smaller: Black steel pipe; Schedule 40; malleable-iron threaded fittings (exposed).
- Gas Cocks: Gas Cocks 2" and Smaller: 150 psi non-shock WOG, bronze straightway cock, flat or square
- head, threaded ends. Manufacturer: Subject to compliance with requirements, provide gas cocks of one of the
- following:
 - DeZurik Corp. Jenkins Bros.
- Lukenheimer Co.
- NIBCO, Inc. Powell (The Wm.) Co.
- Rockwell International; Flow Control Div.
- Stockham Valves and Fittings. Walworth Co.

DOMESTIC WATER:

Domestic Water Pipe: Pipe Sizes 2" and Smaller: Copper tubing. Conform to ASTM B88, Type L, hard temper, copper tube; ASME B16.22 streamlined pattern wrought-copper fittings, with soldered joints using 95-5 tin antimony solder or non-lead bearing solders such as "Silvabrite."

WASTE, DRAIN AND VENT PIPING:

A. Sanitary Soil Drain, Waste and Vent Piping:

Piping and Fittings: Schedule 40 PVC pipe and fittings conforming to the requirements of ASTM D 2665. Pipe and fittings shall be produced domestically as supplied by Spears, or Charlotte Pipe and Fittings.

a smooth surface with adhesive.

- Duct Liner Adhesive: Comply with ASTM C 916 "Specifications for Adhesives and Duct Thermal
- Duct Liner Fasteners: Comply with SMACNA HVAC Duct Construction Standards, Article S2.11.
- Ductwork Support Materials: Except as otherwise indicated, provide hot-dipped galvanized steel fasteners, anchors, rods, straps, trim and angles for support of ductwork.

GRILLES AND DIFFUSERS:

- A. Ceiling Supply Diffuser (S-1): Krueger Series 1400 with adjustable tabs for directional air flow control, square face, round neck, four-way deflection, anti-smudge design, all steel construction, lay-in tile mounting frame, white baked enamel finish, size as indicated on drawings.
- Ceiling Supply Diffuser (S-2): Krueger Series SH, square face, one, two three or four way blow as required. Square neck, opposed blade volume damper, anti-smudge border, all steel, white baked on enamel, size as indicated on drawings.
- Perforated Return Grille (R-1): Krueger series 6490. Concealed hinge frame, sponge rubber gasket, white baked-on enamel, color as selected by architect, size as indicated on drawing.
- Transfer Grille (TG-1): Krueger series S85H. Heavy duty steel construction, horizontal blades at 35° deflection with 1/2" spacing, mounting frame with concealed fasteners, sponge rubber gasket, white baked enamel finish, size as indicated on drawings.

MECHANICAL CONTROLS:

CONDUCTORS

- Color coded and No. 16 and No. 12 AWG Type TWN, TFN, or THHN, stranded.
- Thermostat Cable 12 conductor or 8 conductor, 18AWG solid copper wire, insulated with high density polyethylene. Conductors parallel enclosed in brown PVC jacket (No 22 AWG cable

<u>THERMOSTAT</u>: (Typical RTU-1)

- A. Programmable low voltage type provided with automatic change over feature for both heating and cooling stages, seven day program with two starts and stops per day, and provisions for damper operators. Thermostat and subbase compatible with heat pump operation.
- Battery Mallory AA 1.5 volt alkaline type or equal as approved by Engineer.
- Approved Manufacturer & Model -

Venstar T2900

- Microprocessor controller with LED indicator display, 4 stage heat / 3 stage cooling capacity, smoke
- detector input terminals, LCD display, 365 day per year clock. Approved Manufacturer -
- Zonefirst MZP4.

TRANSFORMER:

120/24 volt, 38VA Honeywell AT72D1188, covermount 120/24 volt, 50VA Honeywell AT87A1106, foot mount

AUXILIARY RELAYS:

A. Light Duty - as required.

Heavy Duty - Square D, Class 8501, Type X.

AIR SYSTEMS BALANCE:

- A. Before any adjustments are made, check the systems for such items as dirty filters, duct leakage, filter leakage, damper leakage, equipment vibrations, correct damper operations, etc. Adjust all fan systems, major duct sections, registers, diffusers, etc., to deliver design air quantities within +5%. Individual air outlets, when one of three or more serve a space may have a tolerance of 10 percent from the average. Design static pressure is based on filters approximately 50% loaded with dirt. Pressure drop across filters during balancing shall be simulated to that condition. After balancing is completed check motor amperage with the filters clean.
- Adjust supply, and recirculation air systems towards air quantities shown on drawings. Establish a proper relationship between supply and exhaust. Follow proportional balance procedures outlined by AABC and/or SMACNA for such work.

EQUIPMENT SELECTION

The contractors shall select equipment based on the drawing schedules and requirements of these specifications. Any and all substitutions shall be presented during submittals for approval.

FIXTURES AND TRIM: The model numbers listed below have been carefully selected to help bidders in the submittal process of selecting fixtures and trim. The completeness and accuracy of these numbers must be verified during the bidding process. Any discrepancies between the model numbers and the fixture, or trim descriptions noted by a manufacturer during the bidding process will be reported to the Architect / Engineer for clarification. Clarifications will be made a part of the contract through an addendum only. The contractor is responsible for reporting any clarifications before the bid date as required in this specification.

- A. Water Closets: (Flush Valve Type-Floor Mounted) 1. (P-1) ADA Compliant Fixture: (1.6 gal./flush, siphon jet) Floor mounted, vitreous china, elongated bowl, and top spud. Mounted so top of seat is 18" above finished floor. Approved Manufacturers: (1) Kohler - "Highcliff" No. K-4368 (2) American Standard (3) Eljer
 - 2. (P-1) Flush Valve: (1.6 gal./flush) Exposed, battery powered, automatic sensor operated, 6 volt DC input, low battery indicator light, furnish with initial battery(s), polished chrome plated flush valve, diaphragm operated, 1.6 gallon per flush, screw driver operated angled stop valve with back-check feature, vacuum breaker, wall escutcheon, spud escutcheon, fixture spud
 - securing nut for 1" top spud. Approved Manufacturers: (1) Sloan "Optima Plus" No. 8113-1.6

(4) Crane

- (2) Delany "Impulse No. I-1402-1.6 (3) Zurn "ZER6000 Series"
 - (White) high impact plastic, open front, check hinge. Approved Manufacturers: (Typical on standard use and ADA fixtures) (1) Church No. 295C
 - (2) Beneke No. 527CH (3) Bemis No. 1655-C (4) Olsonite No. 95

Lavatory:

(P-2) ADA Fixture Wall mounted, 18" x 20", vitreous china, front overflow, faucet holes on 4" centers, concealed arm carrier, mounted so bottom of lavatory is 29" above finished floor, furnish and install pre-formed insulation around P-trap and water supplies meet 25/50 flame/smoke

1.5 GPM flow control device, chrome plated, perforated strainer assembly, vandal proof.

- Approved Manufacturers: Kohler "Kingston" No. K-2005 American Standard "Lucerne" No. 0355.012
- Eljer "Delwyn" No. 051-1644. Crane "Harwich" No. 1-412-V. (P-2) Faucet: Two handle, 4" center set, renewable seats, indexed 4" wrist blade handles, aerator with
- Approved Manufacturers: Kohler "Triton" No. 7404
- American Standard "Heritage" No. 5402.172V Chicago Faucet No. 802A
- Breakroom Sinks (P-3):

drafts and noise within the capabilities of the system.

- Double compartment, counter mounted, 14" x 14" x 7-1/2" deep inside dimensions of each bowl, 18 gauge type 304 stainless steel, 3 faucet holes on 4" centers, self-rimming, sound
- Approved Manufacturers

Distribution system shall be further adjusted to obtain uniform space temperatures free from objectionable

- Just No. DL-1933-A-GR (2) Elkay No. LR-3319
- 2. (P-3) Faucet: Underdeck mounted, 8" high rigid gooseneck spout, 2.5 gpm vandal proof aerator, 4" wing handles, supplies on 8" centers.
 - Approved Manufacturers: (1) Chicago Faucet No. 786-HZFCCP
 - (P-3) Supplies and Stops: Chrome plated quarter turn cast brass angle stop, brass stem, gasketed seat, flexible chrome plated copper riser, chrome plated escutcheon, compression type connections.
 - Approved manufacturers: (1) Brass Craft (2) Eastman
 - (3) McGuire (P-3) Outlet Fitting and Tailpiece: Chrome plated 17 gauge cast brass. Approved Manufacturers: (1) Elkay No. LK-53
 - (2) Just (P-3) Strainer: Basket strainer, stainless steel, stainless steel basket, neoprene stopper, locking shell,
 - tailpiece. Provide offset type where required to maintain ADA clearances. Approved Manufacturers: (1) Jameco
 - Sanitary Dash No. SS3000W (2) (3) McGuire (4) Elkay
 - (5) Service Sink:

(P-4) Fixture:

- Floor mounted, enameled cast iron, vinyl coated rim guard. Approved Manufacturers: (1) Kohler "Whitby" No. K-6710. (2) American Standard "Florwell" No. 7740.020.
- (3) Eljer "Custodial" No. 242-0050. (P-4) Faucet: Wall-mounted mixing faucet, bucket hook, vacuum breaker, top brace, integral stops in shanks, polished chrome finish, mount so inlets are 36" above finished floor. Provide 5 ft.
 - of 3/4" commercial grade rubber hose with male and female connectors. Approved Manufacturers: (1) Kohler No. K-8904.
- (2) American Standard No. 8344.111 (3) Eljer No. 749-1200. (P-4) Outlet: 3" threaded outlet and chrome plated flat metal grid strainer. Approved Manufacturers:

(1) Kohler No. 9146

(3) Eljer No. 830-0630. Floor Drain: (FD) Fixture:

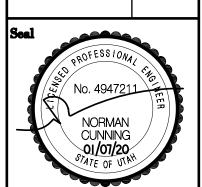
(2) American Standard No. 7721.038

- 6" diameter nickel bronze strainer, cast iron body with 2" outlet and deep seal P-trap, clamping collar. Provide Proset Protection "Trap Guards" or similar on all floor drains.
- Approved Manufacturers: (1) Zurn No. ZN-415. Josam No. 30000 -A (2)

Approved Manufacturers:

(1) Zurn No. Z-1445-1

J.R. Smith No. 2010 Wade No. 1100 Series Cleanouts Finished Walls:



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01/07/20 Drawing Title **MECHANICAL** / **PLUMBING**

SPECIFICATIONS Sheet Number