MOUNTAIN VIEW TOWNHOMES

PROJECT No.: I.F.B. 19-522-RAD

ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

BLDG. B CODE STUDY SUMMARY

APPLICABLE CODES:	2015 INTERNATIONAL BUILDING CODE UNIFORM FEDERAL ACCESSIBILITY STANDARDS				
PROJECT DESCRIPTION:	NEW CONSTRUCTION - APARTMENT BUILDING				
OCCUPANCY CLASSIFICATION: 2015 IBC CHAPTER 3	R-2: RESIDENTIAL, APARTMENT HOMES				
TYPE of CONSTRUCTION: 2015 IBC TABLE 601	TYPE V-B with a MIN. FIRE-SEPARATION DISTANCE of 10'-0"				
FIRE RESISTANCE RATING REQs. for BLDG. ELEMENTS 2015 IBC TABLE 601	PRIMARY STRUCTURAL FRAME: 0 BEARING WALLS EXTERIOR: 0 BEARING WALLS INTERIOR: 0 NONBEARING EXTERIOR WALLS: 0 INTERIOR NONBEARING WALLS: 0 FLOOR CONSTRUCTION: 0 ROOF CONSTRUCTION: 0				
TABULAR ALLOWABLE AREA per FLOOR: 2015 IBC TABLE 506.2,	R-2 S13R At (SQ.FT=) 7000			R-2 ACTUAL AREA: 2651 SQ. FT. MAX (1st FL.)	
TABULAR ALLOWABLE HEIGHT and STORIES: 2015 IBC TABLE 504.3 and 504.4	R-2, S13R: 60 FEET, 3 STORY			R-2 ACTUAL HEIGHT: 2 STORY, 22 FEET	
FLOOR AREA, GROSS: 2015 IBC SECTION 202 - DEFINITIONS	FIRST FLOOR:	2651 SQ. FT.			
	SECOND FLOOR:	2056 SQ. FT.			
OCCUPANT LOAD:	2015 IBC TABLE 1004.1.2				

OCCUPANCY:

FUNCTION of SPACE	S.F.	LOAD FACTOR/(per occ.)	GROSS/ NET	OCC. LOAD	NOTES:
STORAGE - 1st Fl.	166 SQ. FT.	300 SQ. FT.	GROSS	.55	ACCESSORY.EA AREA LESS than 100 SF
RESIDENTIAL - 1st Fl.	2485 SQ. FT.	200 SQ. FT.	GROSS	12.43	
RESIDENTIAL - 2nd Fl.	2056 SQ. FT.	200 SQ. FT.	GROSS	10.28	
			TOTAL	23.26	ROUNDED: 24

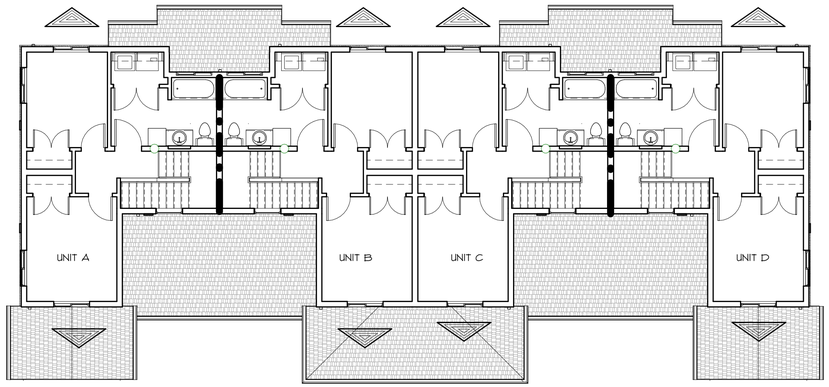
OCCUPANCY SEPARATION: 2015 IBC SECTION 420	WALLS SEPARATING DWELLING UNITS from EACH OTHER and WALLS SEPARATING DWELLING UNITS from OTHER OCCUPANCIES SHALL be FIRE PARTITIONS.
INCIDENTAL USES SEPARATION: 2015 IBC SECTION 509, TABLE 509	N/A
CORRIDORS: 2015 IBC SECTION 1020	N/A
NUMBER OF EXITS: 2015 IBC TABLE 1006.3.1	2- EXITS REQUIRE
TRAVEL DISTANCE: 2015 IBC TABLE 1017.2	R-2 with SPRINKLER SYSTEM: 250 FEET. ACTUAL MAX. TRAVEL DISTANCE: 56 FEET.
AUTOMATIC SPRINKLER SYSTEM: 2015 IBC SECTION 420.5	REQUIRED - GROUP R OCCUPANCIES SHALL be EQUIPPED throughout with an AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE with ICC and NFPA 13R. INCLUDING FIRE SPRINKLER MONITORING SYSTEM.
FIRE ALARM SYSTEM: 2015 IBC SECTION 907	R-2, 2 STORY with 4 DWELLING UNITS: NOT REQUIRED
ACCESSIBILITY: 2015 IBC SECTION 1107.6.2 UFAS SECTION 4.34	R-2, PER IBC: TYPE A UNITS: 2% of TOTAL UNITS on SITE REQUIRED to be TYPE A ACCESSIBLE. GROUND FLOOR of ALL OTHER UNITS REQUIRED to be TYPE B ACCESSIBLE. PER UFAS: 5% of TOTAL UNITS on SITE REQUIRED to be ACCESSIBLE (SIM. to TYPE A as in IBC) TOTAL UNITS on SITE: 51 TOTAL TYPE A ACCESSIBLE UNITS on SITE: 3 UNITS (SHOWN in BLDG. D) 1st FLOOR of ALL UNITS are TYPE B ACCESSIBLE
PLUMBING FIXTURES:	2015 IBC TABLE 2902.1 and 2015 IPC TABLE 403.1 and SECT. 413.2

PLUMBING FIXTURES per OCCUPANCY TYPE

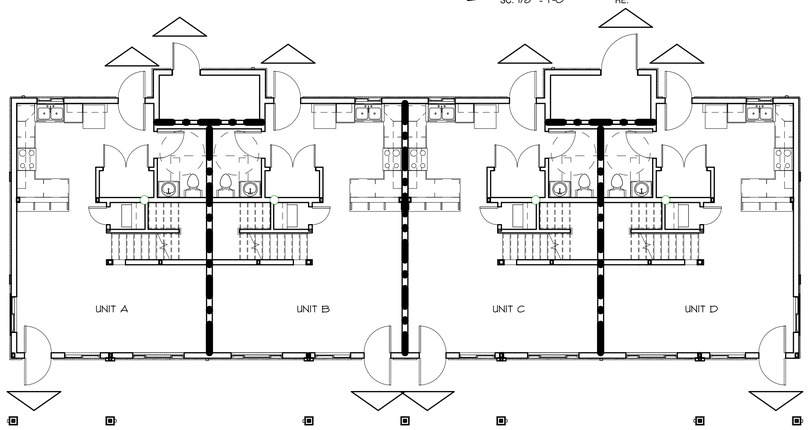
OCCUPANCY TYPE: R-2 RESIDENTIAL	REQUIRED		PROVIDED
		* of FIXTURES REQ.	* of FIXTURES PROVIDED
W.C.s/URINALS	1 per DWELLING UNIT	4	8
LAVATORIES	1 per DWELLING UNIT	4	8
BATHTUBS/SHOWERS	1 per DWELLING UNIT	4	4
OTHER FIXTURES	1 KIT. SINK per DWELLING UNIT. 1 CLOTHES WASHER CONNECTION per 20 UNITS	4 KIT. SINK 1 CLOTHES WASHER CONNECTION	4 KIT. SINKS 4 CLOTHES WASHER CONNECTIONS

GENERAL NOTES

1. THIS PROJECT SHALL MEET the 2015 ENTERPRISE GREEN COMMUNITIES CRITERIA, RE: SPECIFICATIONS.
2. COORDINATE ALL WORK with ALL DISCIPLINES INCLUDING, but NOT LIMITED to ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL and FIRE SPRINKLER.
3. PROVIDE and INSTALL 2X6 WD. BLOCKING BETWEEN STUDS and BEHIND GYP. BD. as REQUIRED for ALL WALL MOUNTED FIXTURES, DOOR HDWR, CLOSET SHELVES, TOILET ACCESSORIES, GRAB BARS, VANITY COUNTERTOPS, WALL and BASE CABINETS, and TELE/DATA BOARD, etc.
4. PROVIDE 3/4" RADIUS BULLNOSE CORNER BEAD at ALL EXPOSED GYP. BD. OUTSIDE WALL CORNERS on INTERIOR of BUILDING.
5. BUILDINGS SHALL BE PROVIDED with AUTOMATIC FIRE SUPPRESSION SPRINKLER SYSTEM including FIRE SPRINKLER MONITORING PANEL in ACCORDANCE with NFPA 13, and 2015 ICC, etc.
6. EACH UNIT SHALL HAVE a FIRE EXTINGUISHER INSTALLED on the FIRST FLOOR. EACH STORAGE ROOM and WATER ENTRY ROOM SHALL HAVE a FIRE EXTINGUISHER INSTALLED in the ROOM.
7. NORTH ARROW NOT SHOWN on FLOOR PLANS.
8. ALL EXTERIOR DIMENSIONS on FLOOR PLANS are from EXTERIOR FACE of EXTERIOR WALL SHEATHING/FOUNDATION WALL UNLESS OTHERWISE NOTED.
9. ALL INTERIOR DIMENSIONS on FLOOR PLANS are to/from FACE of STUD UNLESS OTHERWISE NOTED.
10. ALL DIMENSION STRINGS on ARCHITECTURAL FLOOR PLANS, RFC PLANS, ELEVATIONS, SECTIONS, INT. ELEVATIONS are ROUNDED to 1/8".
11. CONTRACTOR SHALL NOT SCALE DRAWINGS FOR CONSTRUCTION PURPOSES. ANY MISSING DIMENSIONS OR DISCREPENCIES IN THE PLANS, OR PHYSICAL FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECTS AND THE OWNER. IF THE CONTRACTOR PROCEEDS WITH THE WORK WITHOUT NOTIFYING THE ARCHITECT AND THE OWNER, HE/SHE DOES SO AT HIS/HER OWN RISK.



2 2nd FLOOR CODE STUDY - BLDG. B
SC: 1/8" = 1'-0" RE:



1 1st FLOOR CODE STUDY - BLDG. B
SC: 1/8" = 1'-0" RE:

BUILDING B SHEET INDEX

PROJECT TEAM

OWNER:
THE HOUSING AUTHORITY OF PUEBLO
201 S. VICTORIA
PUEBLO, CO 81003
PH: 719-586-8976

ARCHITECT:
HGF ARCHITECTS, INC.
2602 N. ELIZABETH ST
PUEBLO, COLORADO 81003
PH: 719-543-7600
FX: 719-545-2910

ELECTRICAL ENGINEER:
KOHNERT ELECTRICAL ENGINEERS
911 S. 8TH, ST. SUITE 200
COLORADO SPRINGS, CO 80906
PH: 719-633-2637

MECHANICAL ENGINEER:
PLANT ENGINEERING CONSULTANTS
320 W. FILLMORE ST.
COLORADO SPRINGS, CO 80907
PH: 719-473-7077

STRUCTURAL ENGINEER
VALENTINE ENGINEERING
415 N. GREENWOOD
PUEBLO, CO 81003
PH: 719-542-9230

CIVIL ENGINEER:
MATRIX DESIGN GROUP
2435 RESEARCH PKWY, SUITE 300
COLORADO SPRINGS, CO 80920
PH: 719-575-0100

DRAWING LEGEND

- DOOR TAG (D / 1i)
- WINDOW TAG (W / 1t)
- WALL TYPE TAG
- FLAG NOTE
- FLOOR TAG (1t)
- ROOM NAME and NUMBER TAG (Room name / 101)
- CEILING TYPE TAG (1i)
- CEILING HEIGHT TAG (0'-00")
- ROOF TAG (1t)

BELOW SHOWN on CODE STUDY PLAN ONLY

- EMERGENCY ESCAPE and RESCUE
- 1-HR RATED HORIZ. ASSEMBLY (FLOOR BELOW)
- BUILDING EXIT
- 1-HR RATED FIRE PARTITION

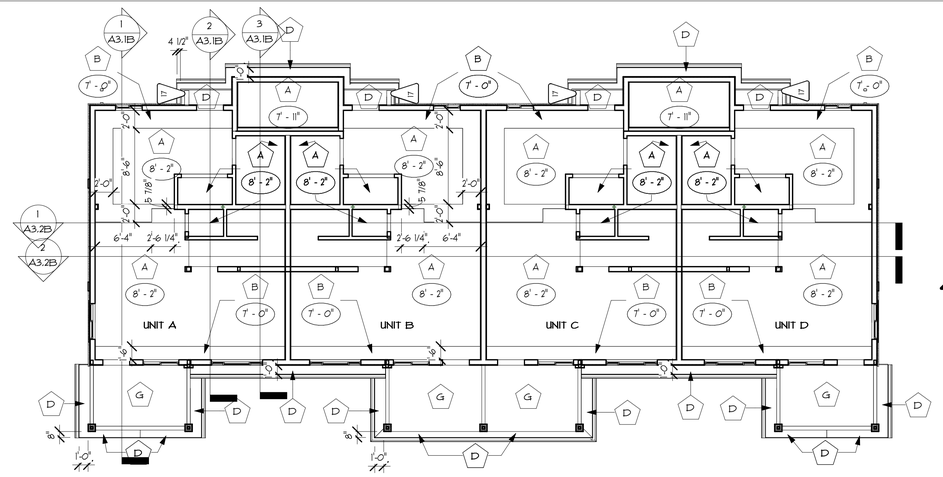
IHGF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No.: I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

DATE 04/16/2019
DRAWN JSR
CHECK AHS
REVISIONS:

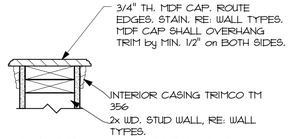
SHEET G1.0B



RFC PLAN NOTES:
1. INTERIOR DIMENSIONS on RFC PLANS are to/from FINISH FACE
2. EXTERIOR DIMS. at ROOF OVERHANG are from EXT. FINISH FACE to EDGE of ROOF STRUCTURE.
3. DIMENSIONS in UNIT C are SIM. as DIMS. in UNIT A.
4. DIMENSIONS in UNIT D are SIM. as DIMS. in UNIT B.

2 1st FLOOR REFL. CEIL. PLAN - BLDG. B

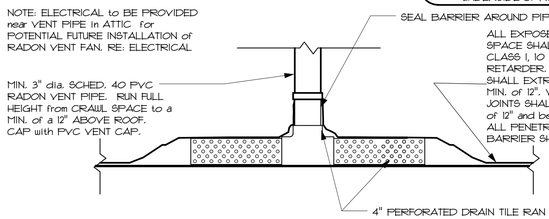
SC: 1/8" = 1'-0" RE:



NOTE: DETAIL at 2x4 and DOUBLE 2x6 WD. STUD SLOPING STAIR WALLS are SIM.

4 BLDG. B WD. CAP DETAIL at SLOPED STAIR WALL

SC: 1 1/2" = 1'-0" RE:



NOTE: ELECTRICAL to BE PROVIDED near VENT PIPE in ATTIC for POTENTIAL FUTURE INSTALLATION of RADON VENT FAN. RE: ELECTRICAL

MIN. 3" dia. SCHED. 40 PVC RADON VENT PIPE. RUN FULL HEIGHT from CRAWL SPACE to a MIN. of a 12" ABOVE ROOF. CAP with PVC VENT CAP.

4" PERFORATED DRAIN TILE RAN PARALLEL to LONGEST DIMENSION of DUELLING UNIT. RUN UNDER VAPOR BARRIER and NO CLOSER THAN 6" from OUTSIDE WALLS. CONNECT to "T" FITTING with VERTICAL STANDPIPE RAN THROUGH ROOF. RE: MECHANICAL.

3 BLDG. B TYP. RADON VENT at CRAWL SPACE

SC: 1" = 1'-0" RE:

CEILING TYPES

Mark.	Description
A	5/8" TYPE "X" GYP. BD. ATTACHED to UNDERSIDE of FLOOR/ROOF FRMG.
B	INTERIOR SOFFIT: 5/8" TYPE "X" GYP. BD. ATTACHED to 2x WD. FRMG. at 16" O.C.
C	CEILING at FIRE RATED FLOOR ASSEMBLY UL L570: 1/2" RESILIENT CHANNEL at 12" O.C. and TWO (2) LAYERS of 1/2" TYPE "X" GYP. BD. ATTACHED to UNDERSIDE of FLOOR/ROOF FRMG. RE: FLOOR TYPES, BLDG. SECTIONS, WALL SECTIONS
D	EXTERIOR FIBER CEMENT SOFFIT: 5/8" FIBER CEMENT SOFFIT ATTACHED to UNDERSIDE of ROOF FRAMING, PAINT.
E	SUSPENDED GYP. BD. CEILING: 5/8" TYPE "X" GYP. BD. ATTACHED to 2x WD. FRMG at 16" O.C., CEILING TYPE "C" SHALL RUN CONTIN. THROUGHOUT UNIT ABOVE this SUSPENDED CEILING.
F	5/8" TYPE "X" GYP. BD. ATTACHED to UNDERSIDE of STAIR FRAMING
G	EXTERIOR FIBER CEMENT SOFFIT at PORCH: 5/8" FIBER CEMENT BEADBOARD SOFFIT ATTACHED to UNDERSIDE of ROOF FRAMING, PAINT.

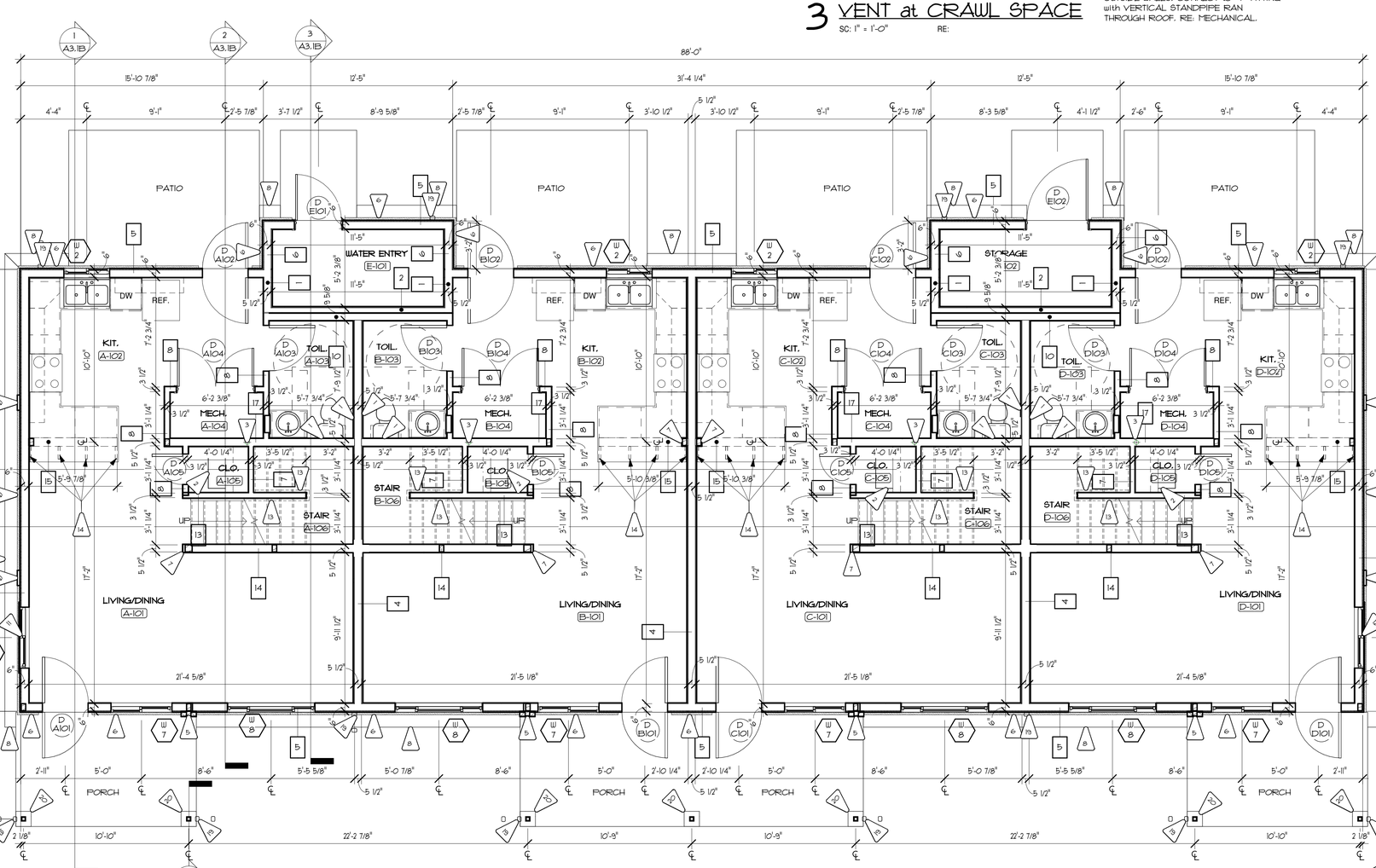
WALL TYPES

No.	DESCRIPTION	FIRE RATING	STC RATING	ACT. WIDTH	NOM. WIDTH
1	FIRE PARTITION SEPARATION WALL: 2x6 WD. FRMG. at 16" O.C. with 5/8" TYPE "X" GYP. on ONE SIDE and 1/2" RESILIENT CHANNEL and 5/8" TYPE "X" GYP. BD. on OTHER SIDE of FRMG. MIN. 3" THICK FIBERGLASS BATT IN CAVITY. RUN FULL HEIGHT to UNDERSIDE of FLOOR/ROOF SHEATHING or to EXTERIOR WALL ABOVE UL DES. No. U311. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.	1-HR	MIN. 50	7 1/4"	8 1/2"
2	FIRE PARTITION SEPARATION WALL: 2x4 WD. FRMG. at 16" O.C. with 5/8" TYPE "X" GYP. on ONE SIDE and 1/2" RESILIENT CHANNEL and 5/8" TYPE "X" GYP. BD. on OTHER SIDE of FRMG. RUN FULL HEIGHT to UNDERSIDE of FLOOR/ROOF SHEATHING. PROVIDE MIN. 3" THK. FIBERGLASS INSULATION in CAVITY FULL HEIGHT. UL DES. No. U311. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.	1-HR	MIN. 50	5 1/4"	3 1/2"
3	FIRE PARTITION SEPARATION WALL: 2x4 WD. STUDS at 24" O.C. with 1/2" SOUNDBOARD and 5/8" TYPE "X" GYP. BD. BOTH SIDES with MIN. 3" TH. FIBERGLASS BATT INSUL. in CAVITY. WALL MUST RUN FULL HEIGHT to UNDERSIDE of FLOOR or ROOF SHEATHING. UL DES. No. U387. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.	1-HR	MIN. 50	5 3/4"	3 1/2"
4	FIRE PARTITION SEPARATION WALL: 2x6 WD. STUDS at 16" O.C. with 1/2" SOUNDBOARD and 5/8" TYPE "X" GYP. BD. BOTH SIDES with MIN. 3" TH. FIBERGLASS BATT INSUL. in CAVITY. WALL MUST RUN FULL HEIGHT to FLOOR or ROOF SHEATHING ABOVE. UL DES. No. U387. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.	1-HR	MIN. 50	7 3/4"	5 1/2"
5	EXTERIOR FINISH SHALL BE: PORTLAND CEMENT PLASTER BASED (3) COAT STUCCO SYSTEM on METAL DIAMOND LATH over (1) LAYER 15 lb FELT, RE: SPECIFICATIONS -OR- FIBER CEMENT LAP SIDING -OR- FIBER CEMENT VERTICAL SIDING over 3/4" TH. x 3-1/2" W. TREATED WOOD FURRING STRIPS at 16" O.C.; RE: ELEVATIONS for LOCATIONS. EXTERIOR FINISH SHALL RUN from FOUNDATION to UNDERSIDE of ROOF SOFFIT. EXTERIOR FINISH SHALL be OVER 7/16" ZIP SYSTEM WALL SHEATHING on 2x6 WD. FRMG at 16" O.C with 5/8" TYPE "X" GYP. BD. on INTERIOR. PROVIDE MIN. R-20 BATT. INSULATION in WALL CAVITIES FULL HGT.	N/A	N/A	7 3/8"	6"
6	EXTERIOR FINISH SHALL BE: PORTLAND CEMENT PLASTER BASED (3) COAT STUCCO SYSTEM on METAL DIAMOND LATH over (1) LAYER 15 lb FELT, RE: SPECIFICATIONS -OR- FIBER CEMENT LAP SIDING -OR- FIBER CEMENT VERTICAL SIDING over 3/4" TH. x 3-1/2" W. TREATED WOOD FURRING STRIPS at 16" O.C.; RE: ELEVATIONS for LOCATIONS. EXTERIOR FINISH SHALL RUN from FOUNDATION to UNDERSIDE of ROOF SOFFIT. EXTERIOR FINISH SHALL be OVER 7/16" ZIP SYSTEM WALL SHEATHING on 2x6 WD. FRMG at 16" O.C with 1/2" RESILIENT CHANNEL and 5/8" TYPE "X" GYP. BD. on INTERIOR. PROVIDE MIN. R-20 BATT. INSULATION in WALL CAVITIES FULL HGT.	N/A	N/A	7 7/8"	6"
7	2x4 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. on ONE SIDE (CLO. SIDE). RUN from TOP of FLOOR SLAB to UNDERSIDE of STAIR STRUCTURE ABOVE.	N/A	N/A	4 1/8"	3 1/2"
8	2x4 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES from TOP of FLOOR SHEATHING to UNDERSIDE of FLOOR/ROOF STRUCTURE or to UNDERSIDE of FIRE RATED HORIZ. ASSEMBLY ABOVE.	N/A	N/A	4 3/4"	3 1/2"
9	FURRED TUB/SHOWER ENCLOSURE/PLUMBING WALL: 2x4 WD. STUDS at 24" O.C. with 5/8" CEMENT BD. ONE SIDE ONLY	N/A	N/A	4 1/8"	3 1/2"
10	FURRED STRUCTURAL INTERIOR WALL: 2x6 WD. STUDS at 16" O.C. with 5/8" TYPE "X" GYP. BD. on ONE SIDE	N/A	N/A	6 1/8"	5 1/2"
11	FURRED TUB/SHOWER ENCLOSURE WALL: 2x4 WD. STUDS at 24" O.C. LAID FLAT with 1/2" CEMENT BD. on ONE SIDE ONLY	N/A	N/A	2"	1 1/2"
12	SLOPING STAIR DOUBLE STUD WALL: TWO 2x4 WD. STUDS with 3"+/- AIR SPACE at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES with WOOD CAP. RE: BUILDING SECTIONS for HEIGHT	N/A	N/A	11 1/8"	9 7/8"
13	SLOPING STAIR WALL: 2x4 WD. STUDS at 16" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES with WOOD CAP. RE: BUILDING SECTIONS for HEIGHT.	N/A	N/A	4 3/4"	5 1/2"
14	SLOPING STAIR WALL: 2x6 WD. STUDS at 16" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES with WOOD CAP. RE: BUILDING SECTIONS for HEIGHT.	N/A	N/A	6 3/4"	5 1/2"
15	HALF WALL: 2x6 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES. RUN to UNDERSIDE of COUNTERTOP ABOVE. RE: INTERIOR ELEVATIONS	N/A	N/A	6 3/4"	5 1/2"
16	HALF WALL: 2x4 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES. RUN to UNDERSIDE of COUNTERTOP ABOVE. RE: INTERIOR ELEVATIONS	N/A	N/A	4 3/4"	3 1/2"
17	PLUMBING WALL: 2x6 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES from TOP of FLOOR SHEATHING to UNDERSIDE of FLOOR/ROOF STRUCTURE ABOVE.	N/A	N/A	6 3/4"	5 1/2"
18	2x8 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES from TOP of FLOOR SHEATHING to UNDERSIDE of FLOOR/ROOF STRUCTURE ABOVE.	N/A	N/A	8 1/2"	7 1/4"

IMPORTANT WALL TYPE GENERAL NOTES:
- AT ALL WET WALLS (EXCEPT BEHIND TUB/SHOWER ENCLOSURES): PROVIDE 5/8" TYPE "X" MOLD-MILDEW-MOISTURE RESISTANT GYP. BD. at ALL WET WALLS (ADJACENT to SINKS, TOILETS, ABOVE TUB/SHOWER ENCLOSURES and WASHING MACHINES) in LIEU of 5/8" TYPE "X" GYP. BD.
- AT ALL WALLS BEHIND SHOWER/TUB ENCLOSURES: PROVIDE 5/8" CEMENT BD. BEHIND ALL SHOWER/TUB ENCLOSURES in LIEU of 5/8" TYPE "X" GYP BD. EXCEPT at WALL TYPES No. 1, 2, 3 and 4. AT WALL TYPES No. 1, 2, 3 and 4, 1/2" CEMENT BD. SHALL BE INSTALLED in ADDITION to 5/8" TYPE "X" GYP. BD.
- ALL EXTERIOR DIMENSIONS on FLOOR PLANS are from EXTERIOR FACE of EXTERIOR WALL SHEATHING/FOUNDATION WALL UNLESS OTHERWISE NOTED.
- ALL INTERIOR DIMENSIONS on FLOOR PLANS are to/from FACE of STUD UNLESS OTHERWISE NOTED.
- ALL DIMS. ARE ROUNDED to 1/8"

NEW WORK FLAG NOTES

Flag Note Number	NOTE
1	PROVIDE and INSTALL WD. BLOCKING for FUTURE INSTALLATION of GRAB BARS
2	24"x30" C.O (F.V.), LOCKING (KEYED to MASTER KEYING SYSTEM) CRAWL SPACE ACCESS HATCH with INTEGRAL FLOOR TOPPING and WD. LADDER
3	RADON VENT: 3" SCHED. 40 PVC PIPE from "T" FITTING BELOW VAPOR BARRIER in CRAWL SPACE to 12" ABOVE ROOF with VENT CAP, OFFSET IN CRAWL SPACE to AVOID BEAM. COORDINATE LOCATION with FLOOR TRUSSES. OFFSET WHERE NECESSARY in ATTIC SPACE for RADON VENT to BE LOCATED on "BACK" SIDE of ROOF. RE: ROOF PLAN, ELEVATIONS. COORDINATE LOCATION through ROOF with OWNER. RE: RADON VENT at CRAWL SPACE DETAIL.
5	12" W. and 3-1/2" D. FOAMED STUCCO POP-OUT at EXTERIOR COLUMN.
6	HORIZ/VERTICAL STUCCO POP-OUT, RE: ELEVATIONS
7	WRAP INTERIOR WD. COLUMN with 5/8" TYPE "X" GYP.
8	1'-0" W. and 4" TH. CONCRETE APRON, RE: SECTIONS, WALL SECTIONS and CIVIL
9	IMPORTANT: WINDOW SHALL BE LOCATED IN BLDGS. A3, A4 and A6 ONLY. RE: EXTERIOR ELEVATIONS and CIVIL.
10	IMPORTANT: WINDOW SHALL BE LOCATED IN BLDGS. A4, A5 and A6 ONLY. RE: EXTERIOR ELEVATIONS and CIVIL.
11	IMPORTANT: WINDOW SHALL BE LOCATED IN BLD. B3 ONLY. RE: EXTERIOR ELEVATIONS and CIVIL.
12	IMPORTANT: WINDOW SHALL BE LOCATED IN BLD. B1 ONLY. RE: EXTERIOR ELEVATIONS and CIVIL.
13	HANDRAIL at STAIR, at 36" above TREAD NOSING.
14	METAL COUNTERTOP SUPPORT BRACKET, RE: INTERIOR ELEVATIONS, SPECIFICATIONS.
15	BALCONY METAL TUBE PIPE GUARD RAIL, RE: EXTERIOR ELEVATIONS, DETAILS.
16	GRAB BAR, RE: INTERIOR ELEVATIONS
17	DECORATIVE 24x24x5 HIGH DENSITY POLYURETHANE BRACKET, PAINT, ARCHITECTURAL ELEMENTS, www.architectural-elements.com, ITEM No. BRA257478-24, or APPROVED EQUAL.
18	LOCKING, MIN. 20"x30" ATTIC ACCESS HATCH, KEYED to MASTER KEY SYSTEM.
19	METAL DOWNSPOUT, RE: WALL SECTIONS
20	BRICK and STUCCO COLUMN WRAP, RE: WALL SECTIONS/COL. DETAIL
21	METAL GUTTER and FIBER CEMENT FASCIA, RE: WALL SECTIONS
22	FIBER CEMENT FASCIA, RE: WALL SECTIONS



GENERAL FLOOR PLAN NOTES:
1. REFER TO CIVIL PLANS for DIMENSIONS of ALL PATIO CONCRETE SLABS.
2. PROVIDE THICKENED EDGE AT ALL FOUR EDGES of ALL PORCH and PATIO CONC. SLABS. PROVIDE THICKENED EDGE at ALL SIDEWALKS WHERE THEY ABUT BLDG. FOUNDATION WALLS. 1'-0" CONC. APRON SHALL NOT HAVE THICKENED EDGE.

1 1st FLOOR - BLDG. B

SC: 1/4" = 1'-0" RE:

ROOM FINISH KEY. RE: INT. ELEV.

HGHF ARCHITECTS

MOUNTAIN VIEW TOWNHOMES

PROJECT No.: I.F.B. 19-522-RAD

ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

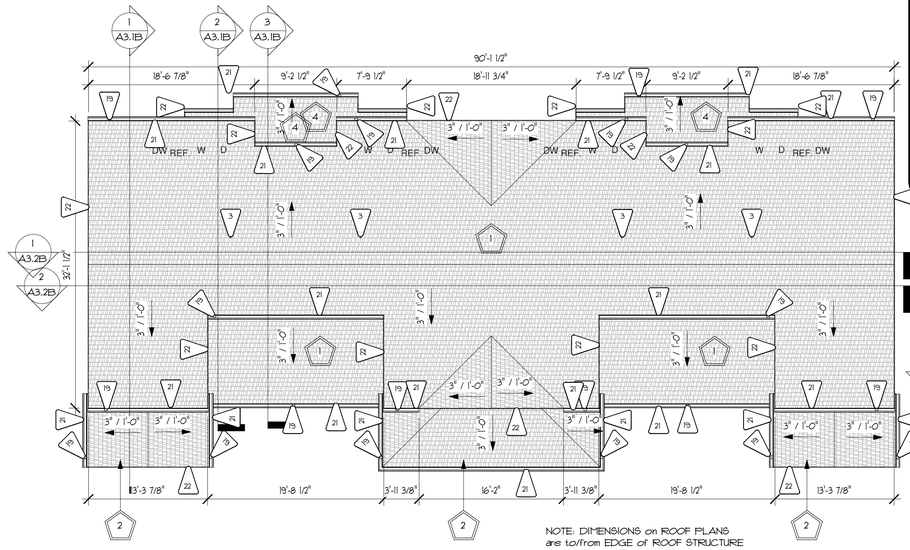
DATE 04/16/2019

DRAWN JSR

CHECK AHS

REVISIONS:

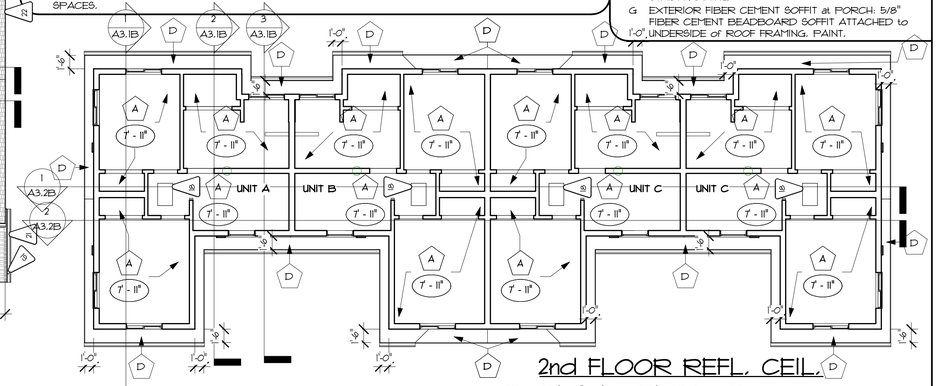
SHEET A1.1B



NOTE: DIMENSIONS on ROOF PLANS are to/from EDGE of ROOF STRUCTURE

2 ROOF PLAN - BLDG. B

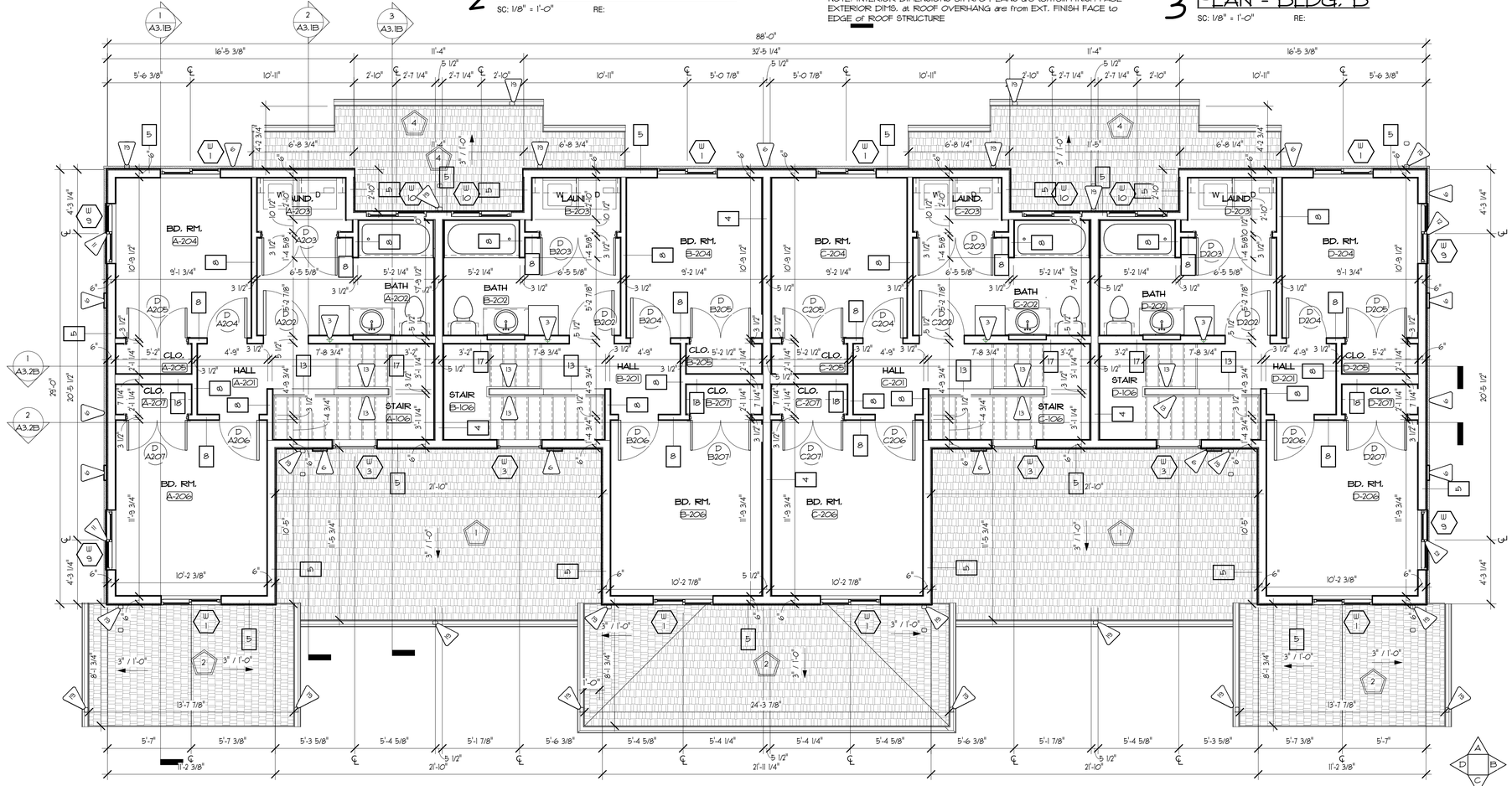
SC: 1/8" = 1'-0" RE:



NOTE: INTERIOR DIMENSIONS on RFC PLANS are to/from FINISH FACE EXTERIOR DIMS. at ROOF OVERHANG are from EXT. FINISH FACE to EDGE of ROOF STRUCTURE

3 2nd FLOOR REFL. CEIL. PLAN - BLDG. B

SC: 1/8" = 1'-0" RE:



1 2nd FLOOR - BLDG. B

SC: 1/4" = 1'-0" RE: ROOM FINISH KEY, RE: INT. ELEV.

ROOF TYPES

No.	Description
1	CLASS A, 30 YR. min. ASPHALT SATURATED ORGANIC FELT SHINGLES, COLOR to be SELECTED from MANUF. STANDARD RANGE on (2) LAYERS 30 lb. FELT on 7/16" APA RATED ROOF SHEATHING on PRE-ENGINEERED WD. TRUSSES at 24" O.C. with MIN. R-49 SPRAYED-ON CLOSED CELL FOAM INSUL. to UNDERSIDE OF ROOF SHEATHING. PROVIDE "W.R. GRACE" ICE and WATER SHIELD MEMBRANE UP 16" at ALL VALLEY (BOTH SIDES), 24" UP from ALL EAVES, 24" DOWN ALL RIDGES (BOTH SIDES). INSUL. to be PROVIDED above OCCUPIED INTERIOR SPACES ONLY.
2	ROOFING at BACK DOOR AWNINGS and FRONT PORCHES: CLASS A, 30 YR. min. ASPHALT SATURATED ORGANIC FELT SHINGLES, COLOR to be SELECTED from MANUF. STANDARD RANGE on (2) LAYERS 30lb. FELT on 7/16" APA RATED ROOF SHEATHING on PRE-ENGINEERED WD. TRUSSES at 24" O.C. RE: STRUCTURAL.
3	LOW-SLOPE ROOF: SELF-ADHERING SBS-MODIFIED ASPHALT ROOFING SYSTEM: TAMKO SA BASE and SA CAP, www.tamko.com, or APPROVED EQUAL. COLOR to be SELECTED by OWNER/ARCHITECT from MANUF. FULL RANGE: over 7/16" APA RATED ROOF SHEATHING over 2x6 WD. RAFTERS at 24" O.C. RE: STRUCTURAL
4	CLASS A, 30 YR. min. ASPHALT SATURATED ORGANIC FELT SHINGLES, COLOR to be SELECTED from MANUF. STANDARD RANGE on (2) LAYERS 30lb. FELT on 7/16" APA RATED ROOF SHEATHING on PRE-ENGINEERED WD. TRUSSES at 24" O.C. RE: STRUCTURAL.PROVIDE R-34 (RE.SPECIFICATIONS, ENERGY MODEL) SPRAYED-ON CLOSED CELL FOAM INSUL. to UNDERSIDE OF ROOF SHEATHING at OCCUPIED SPACES.

CEILING TYPES

Mark.	Description
A	5/8" TYPE "X" GYP. BD. ATTACHED to UNDERSIDE of FLOOR/ROOF FRMG.
B	INTERIOR SOFFIT: 5/8" TYPE "X" GYP. BD. ATTACHED to 2x WD. FRMG. at 16" O.C.
C	CEILING at FIRE RATED FLOOR ASSEMBLY UL L570: 1/2" RESILIENT CHANNEL at 12" O.C. and TWO (2) LAYERS of 1/2" TYPE "X" GYP. BD. ATTACHED to UNDERSIDE of FLOOR/ROOF FRMG. RE: FLOOR TYPES, BLDG. SECTIONS, WALL SECTIONS
D	EXTERIOR FIBER CEMENT SOFFIT: 5/8" FIBER CEMENT SOFFIT ATTACHED to UNDERSIDE of ROOF FRAMING, PAINT.
E	SUSPENDED GYP. BD. CEILING: 5/8" TYPE "X" GYP. BD. ATTACHED to 2x WD. FRMG at 16" O.C., CEILING TYPE "C" SHALL RUN CONTIN. THROUGHOUT UNIT ABOVE this SUSPENDED CEILING.
F	5/8" TYPE "X" GYP. BD. ATTACHED to UNDERSIDE of STAIR FRAMING
G	EXTERIOR FIBER CEMENT SOFFIT at PORCH: 5/8" FIBER CEMENT BEADBOARD SOFFIT ATTACHED to 1'-0" UNDERSIDE of ROOF FRAMING, PAINT.

WALL TYPES

No.	DESCRIPTION	FIRE RATING	STC RATING	ACT. WIDTH	NOM. WIDTH
1	FIRE PARTITION SEPARATION WALL: 2x6 WD. FRMG. at 16" O.C. with 5/8" TYPE "X" GYP. on ONE SIDE and 1/2" RESILIENT CHANNEL and 5/8" TYPE "X" GYP. BD. on OTHER SIDE of FRMG. MIN. 3" THICK FIBERGLASS BATT IN CAVITY. RUN FULL HEIGHT to UNDERSIDE of FLOOR/ROOF SHEATHING or to EXTERIOR WALL ABOVE UL DES. No. U311. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.	1-HR	MIN. 50	7 1/4"	5 1/2"
2	FIRE PARTITION SEPARATION WALL: 2x4 WD. FRMG. at 16" O.C. with 5/8" TYPE "X" GYP. on ONE SIDE and 1/2" RESILIENT CHANNEL and 5/8" TYPE "X" GYP. BD. on OTHER SIDE of FRMG. RUN FULL HEIGHT to UNDERSIDE of FLOOR/ROOF SHEATHING. PROVIDE MIN. 3" THK. FIBERGLASS INSULATION in CAVITY FULL HEIGHT. UL DES. No. U311. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.	1-HR	MIN. 50	5 1/4"	3 1/2"
3	FIRE PARTITION SEPARATION WALL: 2x4 WD. STUDS at 24" O.C. with 1/2" SOUNDBOARD and 5/8" TYPE "X" GYP. BD. BOTH SIDES with MIN. 3" TH. FIBERGLASS BATT INSUL. in CAVITY. WALL MUST RUN FULL HEIGHT to UNDERSIDE of FLOOR or ROOF SHEATHING. UL DES. No. U387. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.	1-HR	MIN. 50	5 3/4"	3 1/2"
4	FIRE PARTITION SEPARATION WALL: 2x6 WD. STUDS at 16" O.C. with 1/2" SOUNDBOARD and 5/8" TYPE "X" GYP. BD. BOTH SIDES with MIN. 3" TH. FIBERGLASS BATT INSUL. in CAVITY. WALL MUST RUN FULL HEIGHT to FLOOR or ROOF SHEATHING ABOVE. UL DES. No. U387. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.	1-HR	MIN. 50	7 3/4"	5 1/2"
5	EXTERIOR FINISH SHALL BE: PORTLAND CEMENT PLASTER BASED (3) COAT STUCCO SYSTEM on METAL DIAMOND LATH over (1) LAYER 15 lb FELT, RE: SPECIFICATIONS -OR- FIBER CEMENT LAP SIDING -OR- FIBER CEMENT VERTICAL SIDING over 3/4" TH. x 3-1/2" W. TREATED WOOD FURRING STRIPS at 16" O.C.; RE: ELEVATIONS for LOCATIONS. EXTERIOR FINISH SHALL RUN from FOUNDATION to UNDERSIDE of ROOF SOFFIT. EXTERIOR FINISH SHALL be OVER 7/16" ZIP SYSTEM WALL SHEATHING on 2x6 WD. FRMG at 16" O.C with 5/8" TYPE "X" GYP. BD. on INTERIOR. PROVIDE MIN. R-20 BATT. INSULATION in WALL CAVITIES FULL HGT.	N/A	N/A	7 3/8"	6"
6	EXTERIOR FINISH SHALL BE: PORTLAND CEMENT PLASTER BASED (3) COAT STUCCO SYSTEM on METAL DIAMOND LATH over (1) LAYER 15 lb FELT, RE: SPECIFICATIONS -OR- FIBER CEMENT LAP SIDING -OR- FIBER CEMENT VERTICAL SIDING over 3/4" TH. x 3-1/2" W. TREATED WOOD FURRING STRIPS at 16" O.C.; RE: ELEVATIONS for LOCATIONS. EXTERIOR FINISH SHALL RUN from FOUNDATION to UNDERSIDE of ROOF SOFFIT. EXTERIOR FINISH SHALL be OVER 7/16" ZIP SYSTEM WALL SHEATHING on 2x6 WD. FRMG at 16" O.C with 1/2" RESILIENT CHANNEL and 5/8" TYPE "X" GYP. BD. on INTERIOR. PROVIDE MIN. R-20 BATT. INSULATION in WALL CAVITIES FULL HGT.	N/A	N/A	7 7/8"	6"
7	2x4 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. on ONE SIDE (CLO. SIDE). RUN from TOP of FLOOR SLAB to UNDERSIDE of STAIR STRUCTURE ABOVE.	N/A	N/A	4 1/8"	3 1/2"
8	2x4 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES from TOP of FLOOR SHEATHING to UNDERSIDE of FLOOR/ROOF STRUCTURE or to UNDERSIDE of FIRE RATED HORIZ. ASSEMBLY ABOVE.	N/A	N/A	4 3/4"	3 1/2"
9	FURRED TUB/SHOWER ENCLOSURE/PLUMBING WALL: 2x4 WD. STUDS at 24" O.C. with 5/8" CEMENT BD. ONE SIDE ONLY	N/A	N/A	4 1/8"	3 1/2"
10	FURRED STRUCTURAL INTERIOR WALL: 2x6 WD. STUDS at 16" O.C. with 5/8" TYPE "X" GYP. BD. on ONE SIDE	N/A	N/A	6 1/8"	5 1/2"
11	FURRED TUB/SHOWER ENCLOSURE WALL: 2x4 WD. STUDS at 24" O.C. LAID FLAT with 1/2" CEMENT BD. on ONE SIDE ONLY	N/A	N/A	2"	1 1/2"
12	SLOPING STAIR DOUBLE STUD WALL: TWO 2x4 WD. STUDS with 3"+/- AIR SPACE at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES with WOOD CAP. RE: BUILDING SECTIONS for HEIGHT	N/A	N/A	11 1/8"	9 7/8"
13	SLOPING STAIR WALL: 2x4 WD. STUDS at 16" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES with WOOD CAP. RE: BUILDING SECTIONS for HEIGHT.	N/A	N/A	4 3/4"	5 1/2"
14	SLOPING STAIR WALL: 2x6 WD. STUDS at 16" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES with WOOD CAP. RE: BUILDING SECTIONS for HEIGHT.	N/A	N/A	6 3/4"	5 1/2"
15	HALF WALL: 2x6 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES. RUN to UNDERSIDE of COUNTERTOP ABOVE. RE: INTERIOR ELEVATIONS	N/A	N/A	6 3/4"	5 1/2"
16	HALF WALL: 2x4 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES. RUN to UNDERSIDE of COUNTERTOP ABOVE. RE: INTERIOR ELEVATIONS	N/A	N/A	4 3/4"	3 1/2"
17	PLUMBING WALL: 2x6 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES from TOP of FLOOR SHEATHING to UNDERSIDE of FLOOR/ROOF STRUCTURE ABOVE.	N/A	N/A	6 3/4"	5 1/2"
18	2x8 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES from TOP of FLOOR SHEATHING to UNDERSIDE of FLOOR/ROOF STRUCTURE ABOVE.	N/A	N/A	8 1/2"	7 1/4"

IMPORTANT WALL TYPE GENERAL NOTES:

- AT ALL WET WALLS (EXCEPT BEHIND TUB/SHOWER ENCLOSURES): PROVIDE 5/8" TYPE "X" MOLD-MILDEW-MOISTURE RESISTANT GYP. BD. at ALL WET WALLS (ADJACENT to SINKS, TOILETS, ABOVE TUB/SHOWER ENCLOSURES and WASHING MACHINES) in LIEU of 5/8" TYPE "X" GYP. BD.
- AT ALL WALLS BEHIND SHOWER/TUB ENCLOSURES: PROVIDE 5/8" CEMENT BD. BEHIND ALL SHOWER/TUB ENCLOSURES in LIEU of 5/8" TYPE "X" GYP BD. EXCEPT at WALL TYPES No. 1, 2, 3 and 4. AT WALL TYPES No. 1, 2, 3 and 4, 1/2" CEMENT BD. SHALL BE INSTALLED in ADDITION to 5/8" TYPE "X" GYP. BD.
- ALL EXTERIOR DIMENSIONS on FLOOR PLANS are from EXTERIOR FACE of EXTERIOR WALL SHEATHING/FOUNDATION WALL UNLESS OTHERWISE NOTED.
- ALL INTERIOR DIMENSIONS on FLOOR PLANS are to/from FACE of STUD UNLESS OTHERWISE NOTED.
- ALL DIMS. ARE ROUNDED to 1/8"

NEW WORK FLAG NOTES

Flag Note Number	NOTE
1	PROVIDE and INSTALL WD. BLOCKING for FUTURE INSTALLATION of GRAB BARS
2	24"x30" C.O (F.V.), LOCKING (KEYED to MASTER KEYING SYSTEM) CRAWL SPACE ACCESS HATCH with INTEGRAL FLOOR TOPPING and WD. LADDER
3	RADON VENT: 3" SCHED. 40 PVC PIPE from "T" FITTING BELOW VAPOR BARRIER in CRAWL SPACE to 12" ABOVE ROOF with VENT CAP. OFFSET IN CRAWL SPACE to AVOID BEAM. COORDINATE LOCATION with FLOOR TRUSSES. OFFSET WHERE NECESSARY in ATTIC SPACE for RADON VENT to BE LOCATED on "BACK" SIDE of ROOF. RE: ROOF PLAN, ELEVATIONS. COORDINATE LOCATION through ROOF with OWNER. RE: RADON VENT at CRAWL SPACE DETAIL.
5	12" W. and 3-1/2" D. FOAMED STUCCO POP-OUT at EXTERIOR COLUMN.
6	HORIZ/VERTICAL STUCCO POP-OUT, RE: ELEVATIONS
7	WRAP INTERIOR WD. COLUMN with 5/8" TYPE "X" GYP.
8	1'-0" W. and 4" TH. CONCRETE APRON, RE: SECTIONS, WALL SECTIONS and CIVIL
9	IMPORTANT: WINDOW SHALL BE LOCATED IN BLDGS. A3, A4 and A6 ONLY. RE: EXTERIOR ELEVATIONS and CIVIL.
10	IMPORTANT: WINDOW SHALL BE LOCATED IN BLDGS. A4, A5 and A6 ONLY. RE: EXTERIOR ELEVATIONS and CIVIL.
11	IMPORTANT: WINDOW SHALL BE LOCATED IN BLD. B3 ONLY. RE: EXTERIOR ELEVATIONS and CIVIL.
12	IMPORTANT: WINDOW SHALL BE LOCATED IN BLD. B1 ONLY. RE: EXTERIOR ELEVATIONS and CIVIL.
13	HANDRAIL at STAIR, at 36" above TREAD NOSING.
14	METAL COUNTERTOP SUPPORT BRACKET, RE: INTERIOR ELEVATIONS, SPECIFICATIONS.
15	BALCONY METAL TUBE PIPE GUARD RAIL, RE: EXTERIOR ELEVATIONS, DETAILS.
16	GRAB BAR, RE: INTERIOR ELEVATIONS
17	DECORATIVE 24x24x5 HIGH DENSITY POLYURETHANE BRACKET, PAINT, ARCHITECTURAL ELEMENTS, www.architectural-elements.com, ITEM No. BRA257478-24, or APPROVED EQUAL.
18	LOCKING, MIN. 20"x30" ATTIC ACCESS HATCH, KEYED to MASTER KEY SYSTEM.
19	METAL DOWNSPOUT, RE: WALL SECTIONS
20	BRICK and STUCCO COLUMN WRAP. RE: WALL SECTIONS/COL. DETAIL
21	METAL GUTTER and FIBER CEMENT FASCIA, RE: WALL SECTIONS
22	FIBER CEMENT FASCIA, RE: WALL SECTIONS

IHGIF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES

PROJECT No.: I.F.B. 19-522-RAD

ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

DATE 04/16/2019

DRAWN JSR

CHECK AHS

REVISIONS:

SHEET A1.2B

ELEVATION GENERAL NOTES

1. MAINTAIN A 1/4" CLEARANCE BETWEEN STUCCO and HARDIEBOARD PRODUCT for EXPANSION, CAULK CONTINUOUSLY AT ALL STUCCO TO HARDBOARD SIDING JOINTS. RE: SPECIFICATIONS.

2. PROVIDE AND INSTALL STUCCO CONTROL JOINT (SCJ) EVERY 12'-0" VERTICALLY AND HORIZONTALLY, BETWEEN STUCCO COLOR CHANGES, AND AT EVERY OTHER LOCATION INDICATED. RE: SPECIFICATIONS.

3. CONTRACTOR to PROVIDE for (3) DIFFERENT EXTERIOR COLOR SCHEMES for ALL EXTERIOR FINISHES ; i.e. (3) DIFFERENT COLORS for EACH, FIBER CEMENT LAP SIDING, FIBER CEMENT VERT. SIDING, FIBER CEMENT TRIM, FIBER CEMENT FASCIA, HARDBOARD SOFFIT, STUCCO No. 1, STUCCO No. 2, STUCCO No. 3 at POP-OUTS, GUTTERS and DOWNSPOUTS, ASPHALT ROOF SHINGLES and BRICK. COLOR SCHEME MAY VARY per EACH INDIVIDUAL BUILDING on SITE.

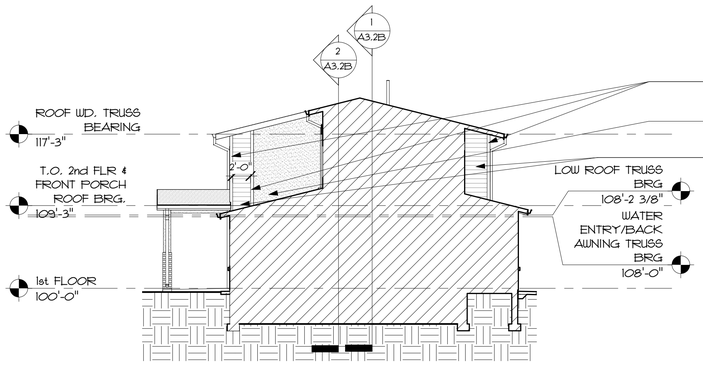
4. AT ALL CONNECTIONS of METAL DOWNSPOUT to DRAIN BOOT, PROVIDE AIR GAP.

5. ALL EXPOSED FLASHING to BE PRE-FIN. COLOR to be SELECTED by OWNER/ARCHITECT from MANUF. FULL RANGE.

6. OFFSET DOWNSPOUTS as REQUIRED at ALL BLDG. ELEMENTS. EXCEPT, at HORIZ. STUCCO POP-OUTS, HORIZ. STUCCO POP-OUT SHALL BE NOTCHED to ALLOW DOWNSPOUT to RUN CONTINUOUS WITHOUT OFFSET in DOWNSPOUT.

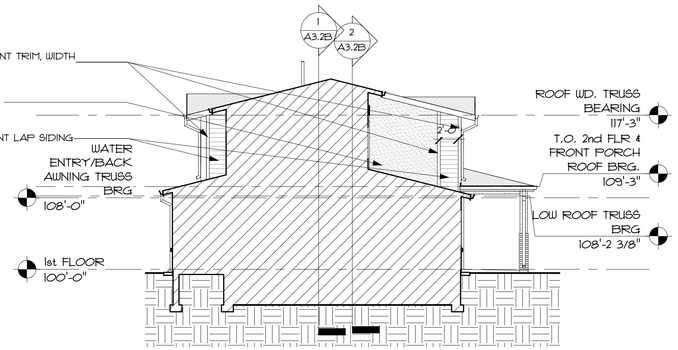
ELEVATION MATERIAL LEGEND

- FIBER CEMENT LAP SIDING
- FIBER CEMENT VERTICAL SIDING
- STUCCO-1
- STUCCO-2
- STUCCO-3
- ASPHALT SHINGLES
- BRICK
- FIBER CEMENT TRIM



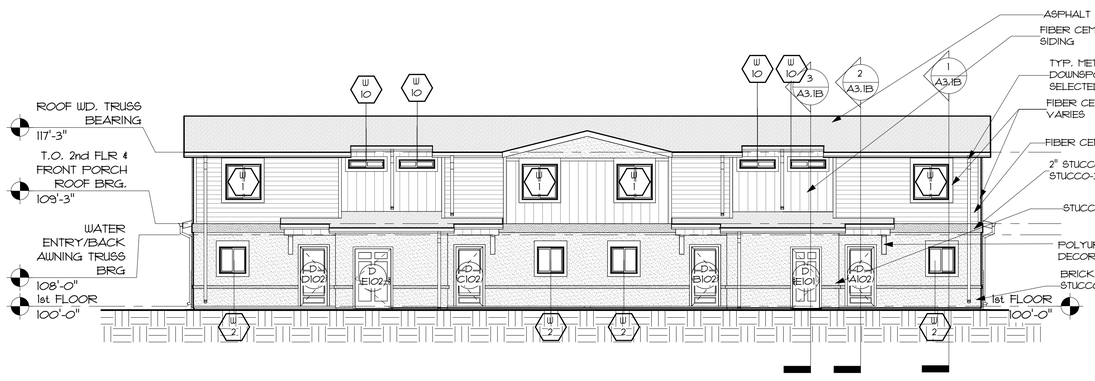
8 BLDG. B RIGHT SIDE RECESSED ELEV.

SC: 1/8" = 1'-0" RE:



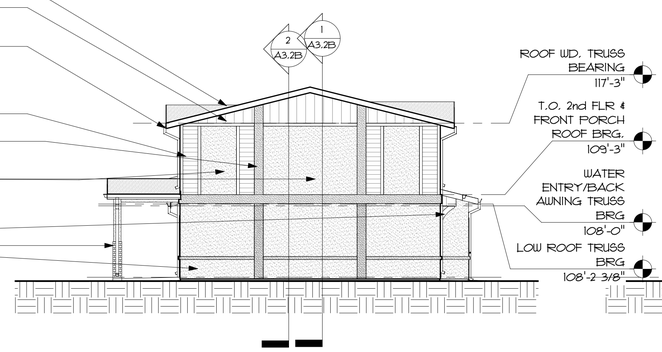
7 BLDG. B LEFT SIDE RECESSED ELEV.

SC: 1/8" = 1'-0" RE:



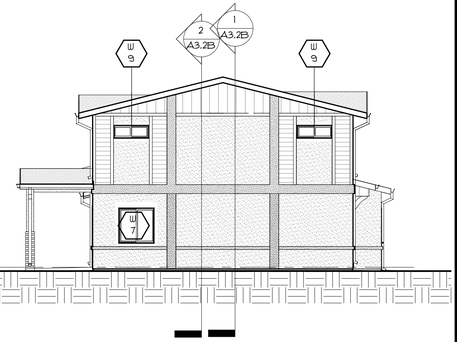
4 BLDG. B BACK ELEV.

SC: 1/8" = 1'-0" RE:



3 BLDG. B RIGHT SIDE ELEV.

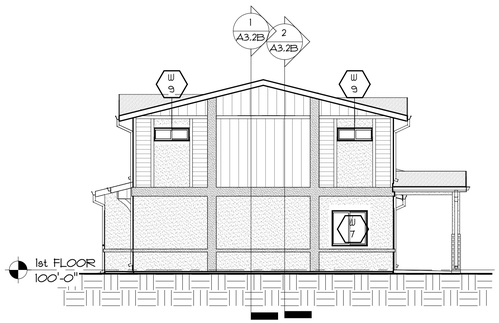
SC: 1/8" = 1'-0" RE:



5 BLDG. B RIGHT SIDE ELEV. - STREET ELEV. ONLY

SC: 1/8" = 1'-0" RE:

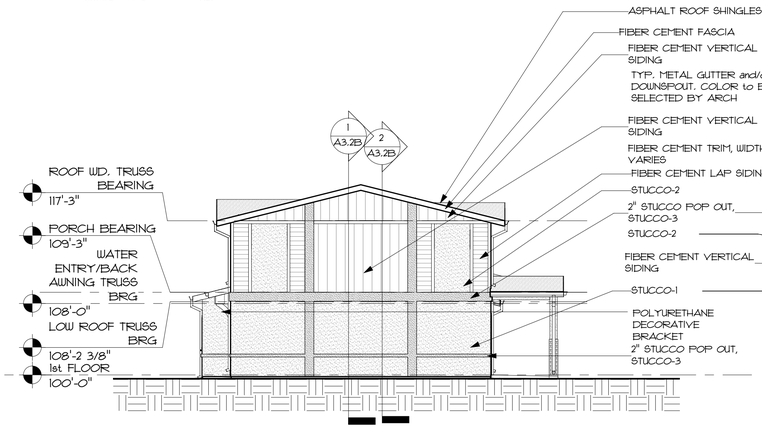
NOTE: AT BLDG. B1 ONLY



6 BLDG. B LEFT SIDE ELEV. - STREET ELEV. ONLY

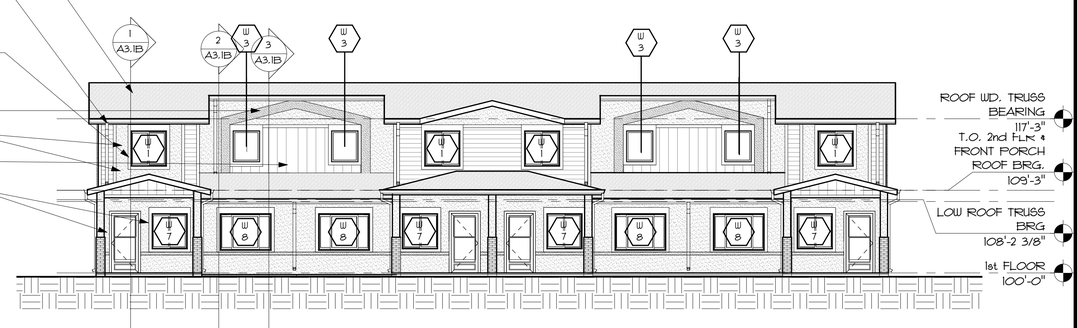
SC: 1/8" = 1'-0" RE:

NOTE: AT BLDG. B3 ONLY



2 BLDG. B LEFT SIDE ELEV.

SC: 1/8" = 1'-0" RE:



1 BLDG. B FRONT ELEV.

SC: 1/8" = 1'-0" RE:

HGIF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES

PROJECT No.: I.F.B. 19-522-RAD

ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

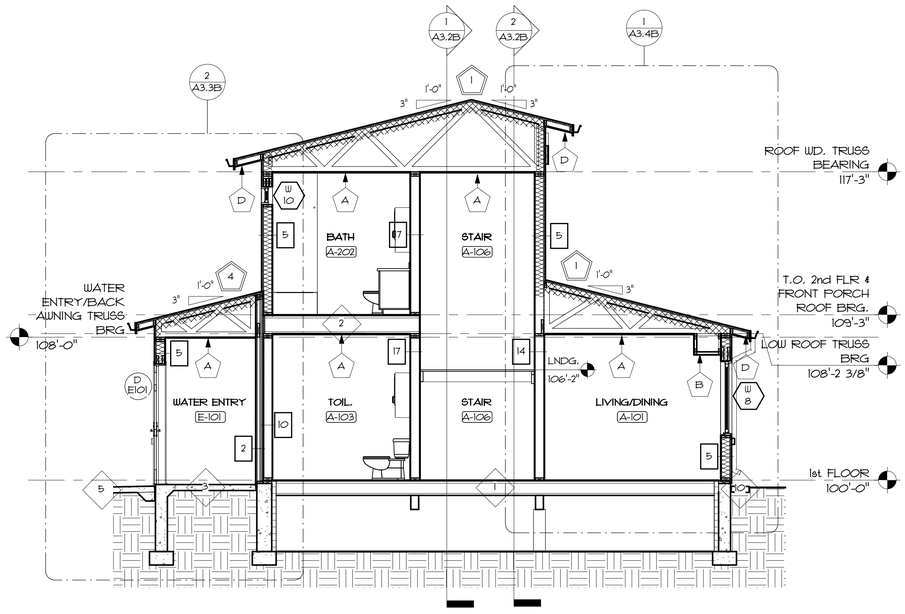
DATE 04/16/2019

DRAWN CG/JSR

CHECK AHS

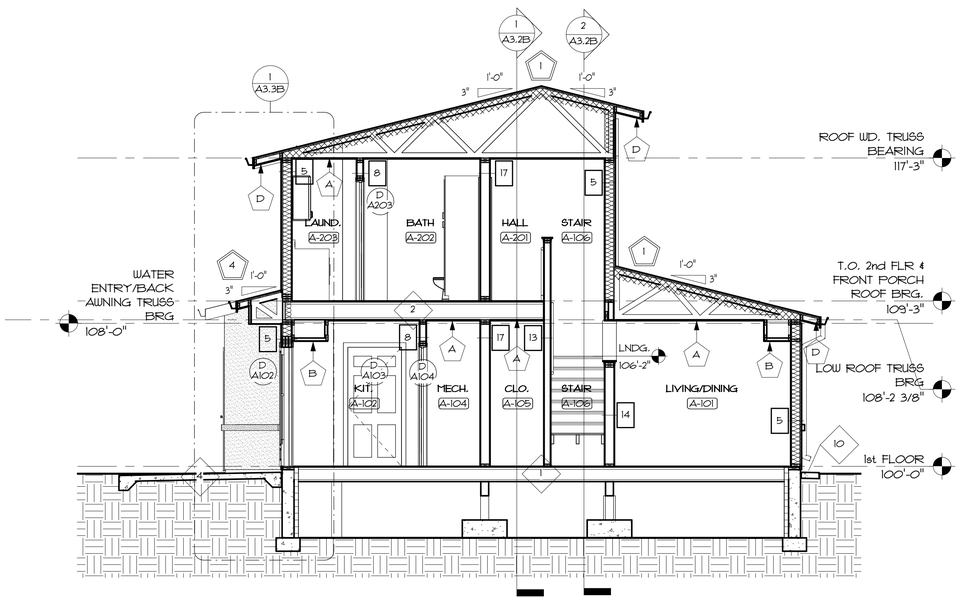
REVISIONS:

SHEET A2.1B



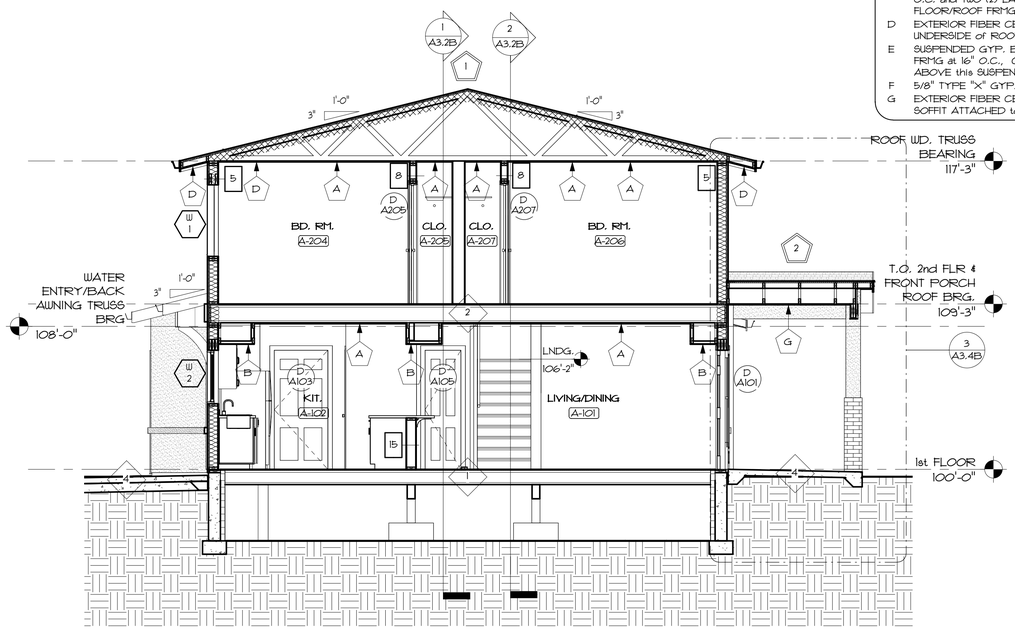
3 BLDG. B SECTION No. 3

SC: 1/4" = 1'-0" RE:



2 BLDG. B SECTION No. 2

SC: 1/4" = 1'-0" RE:



1 BLDG. B SECTION No. 1

SC: 1/4" = 1'-0" RE:

ROOF TYPES at SECTION

Type Mark	Description
1	CLASS A, 30 YR. min. ASPHALT SATURATED ORGANIC FELT SHINGLES, COLOR to be SELECTED from MANUF. STANDARD RANGE on (2) LAYERS 30 lb. FELT on 7/16" APA RATED ROOF SHEATHING on PRE-ENGINEERED WD. TRUSSES at 24" O.C. with MIN. R-49 SPRAYED-ON CLOSED CELL FOAM INSUL. to UNDERSIDE OF ROOF SHEATHING. PROVIDE "W.R. GRACE" ICE and WATER SHIELD MEMBRANE UP 16" at ALL VALLEY (BOTH SIDES), 24" UP from ALL EAVES, 24" DOWN ALL RIDGES (BOTH SIDES). INSUL. to be PROVDED above OCCUPIED INTERIOR SPACES ONLY.
2	ROOFING at BACK DOOR AWNINGS and FRONT PORCHES: CLASS A, 30 YR. min. ASPHALT SATURATED ORGANIC FELT SHINGLES, COLOR to be SELECTED from MANUF. STANDARD RANGE on (2) LAYERS 30lb. FELT on 7/16" APA RATED ROOF SHEATHING on PRE-ENGINEERED WD. TRUSSES at 24" O.C. RE: STRUCTURAL.
3	LOW-SLOPE ROOF: SELF-ADHERING SBS-MODIFIED ASPHALT ROOFING SYSTEM; TAMKO SA BASE and SA CAP, www.tamko.com, or APPROVED EQUAL. COLOR to be SELECTED by OWNER/ARCHITECT from MANUF. FULL RANGE: over 7/16" APA RATED ROOF SHEATHING over 2x6 WD. RAFTERS at 24" O.C. RE: STRUCTURAL
4	CLASS A, 30 YR. min. ASPHALT SATURATED ORGANIC FELT SHINGLES, COLOR to be SELECTED from MANUF. STANDARD RANGE on (2) LAYERS 30lb. FELT on 7/16" APA RATED ROOF SHEATHING on PRE-ENGINEERED WD. TRUSSES at 24" O.C. RE: STRUCTURAL.PROVIDE R-34 (RE:SPECIFICATIONS, ENERGY MODEL) SPRAYED-ON CLOSED CELL FOAM INSUL. to UNDERSIDE OF ROOF SHEATHING at OCCUPIED SPACES.

FLOOR TYPES at SECTION

Type Mark	Description
1	3/4" PLYWOOD over 9-1/2" WD. I-JOISTS at 16" O.C. RE: STRUCTURAL
2	3/4" PLYWOOD over 11-7/8" WD. I-JOISTS at 16 O.C. RE: STRUCTURAL.
3	4" INTERIOR CONC. SLAB on GRADE. REFER to CIVIL for ACTUAL F.F. ELEV. at EACH BLDG. on SITE. RE: STRUCTURAL and CIVIL
4	4" CONCRETE SLAB at PORCH/PATIO, SLOPE at MIN. 1/4" per FOOT. REFER to CIVIL for F.F. ELEV. of ALL CONC. SLABS. RE: CIVIL and STRUCTURAL
5	4" CONC. WALK, SLOPE MIN. 1/4" per FOOT. RE: CIVIL and STRUCTURAL
6	3/4" PLYWOOD over 14" WOOD I-JOISTS at 16" O.C. RE: STRUCTURAL
7	1-HR FIRE RATED HORIZ. ASSEMBLY: 1-1/4" GYPSUM "GYPCRETE" FLOOR TOPPING over 1/4" SOUND REDUCTION MAT over 3/4" T&G SHEATHING over WD. I-JOISTS at 14" O.C. (RE: STRUCTURAL) with 1/2" RESILIENT CHANNEL at 12" O.C. and TWO (2) LAYERS of 1/2" TYPE "X" GYP. BD. at CEILING. 6" TH. FIBERGLASS BATT INSULATION IN CAVITY DRAPE OVER RES. CHANNELS. FULL HORIZ. ASSEMBLY SHALL be CONTIN. from EXT. WALL/FIRE PARTITION SEP. WALL to EXT. WALL/FIRE PARTITION SEP. WALL. MIN. 50 STC. MIN. 50 IIC. UL DES. No. L570/GA FILE No. FC 5011
8	1-1/4" GYPSUM "GYPCRETE" FLOOR TOPPING over 1/4" SOUND REDUCTION MAT over 3/4" T&G SHEATHING over WD. 2x8 JOISTS at 16" O.C. RE: STRUCTURAL
10	4" TH. CONCRETE APRON, SLOPE at MIN. 1/4" per FOOT, REFER to CIVIL for F.F. ELEV. at APRON. RE: CIVIL and STRUCTURAL
11	RAISED FLOOR in LINEN CLO. 3/4" PLYWOOD over 2x6 WD. JOISTS at 16" O.C. RE: STRUCTURAL
12	EXT. BALCONY FLOOR: MIN. 3" TH. CONC. over 60 mil. RUBBER WATEROPROOF MEMBRANE over 3/4" EXT. RATED PLYWOOD SHEATHING over 2x8 WD. JOISTS at 12" O.C., RE: STRUCTURAL. CONC. SHALL be SEALED, ANTI-SLIP and BROOM FINISH. SLOPE CONC. at 2% AWAY from FACE of EXT. WALL.

WALL TYPES at SECTION

TYPE MARK	DESCRIPTION
1	FIRE PARTITION SEPARATION WALL: 2x6 WD. FRMG. at 16" O.C. with 5/8" TYPE "X" GYP. on ONE SIDE and 1/2" RESILIENT CHANNEL and 5/8" TYPE "X" GYP. BD. on OTHER SIDE of FRMG. MIN. 3" THICK FIBERGLASS BATT IN CAVITY. RUN FULL HEIGHT to UNDERSIDE of FLOOR/ROOF SHEATHING or to EXTERIOR WALL ABOVE UL DES. No. U311. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.
2	FIRE PARTITION SEPARATION WALL: 2x4 WD. FRMG. at 16" O.C. with 5/8" TYPE "X" GYP. on ONE SIDE and 1/2" RESILIENT CHANNEL and 5/8" TYPE "X" GYP. BD. on OTHER SIDE of FRMG. RUN FULL HEIGHT to UNDERSIDE of FLOOR/ROOF SHEATHING. PROVIDE MIN. 3" THK. FIBERGLASS INSULATION in CAVITY FULL HEIGHT, UL DES. No. U311. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.
3	FIRE PARTITION SEPARATION WALL: 2x4 WD. STUDS at 24" O.C. with 1/2" SOUNDBOARD and 5/8" TYPE "X" GYP. BD. BOTH SIDES with MIN. 3" TH. FIBERGLASS BATT INSUL. in CAVITY. WALL MUST RUN FULL HEIGHT to UNDERSIDE of FLOOR or ROOF SHEATHING. UL DES. No. U387. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.
4	FIRE PARTITION SEPARATION WALL: 2x6 WD. STUDS at 16" O.C. with 1/2" SOUNDBOARD and 5/8" TYPE "X" GYP. BD. BOTH SIDES with MIN. 3" TH. FIBERGLASS BATT INSUL. in CAVITY. WALL MUST RUN FULL HEIGHT to FLOOR or ROOF SHEATHING ABOVE. UL DES. No. U387. NOTE: WALL SHALL BE SEALED to ACT as an AIR BARRIER.
5	EXTERIOR FINISH SHALL BE: PORTLAND CEMENT PLASTER BASED (3) COAT STUCCO SYSTEM on METAL DIAMOND LATH over (1) LAYER 15 lb FELT, RE: SPECIFICATIONS -OR- FIBER CEMENT LAP SIDING -OR- FIBER CEMENT VERTICAL SIDING over 3/4" TH. x 3-1/2" W. TREATED WOOD FURRING STRIPS at 16" O.C.; RE: ELEVATIONS for LOCATIONS. EXTERIOR FINISH SHALL RUN from FOUNDATION to UNDERSIDE of ROOF SOFFIT. EXTERIOR FINISH SHALL be OVER 7/16" ZIP SYSTEM WALL SHEATHING on 2x6 WD. FRMG at 16" O.C with 5/8" TYPE "X" GYP. BD. on INTERIOR. PROVIDE MIN. R-20 BATT. INSULATION in WALL CAVITIES FULL HGT.
6	EXTERIOR FINISH SHALL BE: PORTLAND CEMENT PLASTER BASED (3) COAT STUCCO SYSTEM on METAL DIAMOND LATH over (1) LAYER 15 lb FELT, RE: SPECIFICATIONS -OR- FIBER CEMENT LAP SIDING -OR- FIBER CEMENT VERTICAL SIDING over 3/4" TH. x 3-1/2" W. TREATED WOOD FURRING STRIPS at 16" O.C.; RE: ELEVATIONS for LOCATIONS. EXTERIOR FINISH SHALL RUN from FOUNDATION to UNDERSIDE of ROOF SOFFIT. EXTERIOR FINISH SHALL be OVER 7/16" ZIP SYSTEM WALL SHEATHING on 2x6 WD. FRMG at 16" O.C with 1/2" RESILIENT CHANNEL and 5/8" TYPE "X" GYP. BD. on INTERIOR. PROVIDE MIN. R-20 BATT. INSULATION in WALL CAVITIES FULL HGT.
7	2x4 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. on ONE SIDE (CLO. SIDE). RUN from TOP of FLOOR SLAB to UNDERSIDE of STAIR STRUCTURE ABOVE.
8	2x4 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES from TOP of FLOOR SHEATHING to UNDERSIDE of FLOOR/ROOF STRUCTURE or to UNDERSIDE of FIRE RATED HORIZ. ASSEMBLY ABOVE.
9	FURRED TUB/SHOWER ENCLOSURE/PLUMBING WALL: 2x4 WD. STUDS at 24" O.C. with 5/8" CEMENT BD. ONE SIDE ONLY
10	FURRED STRUCTURAL INTERIOR WALL: 2x6 WD. STUDS at 16" O.C. with 5/8" TYPE "X" GYP. BD. on ONE SIDE
11	FURRED TUB/SHOWER ENCLOSURE WALL: 2x4 WD. STUDS at 24" O.C. LAID FLAT with 1/2" CEMENT BD. on ONE SIDE ONLY
12	SLOPING STAIR DOUBLE STUD WALL: TWO 2x4 WD. STUDS with 3"+/- AIR SPACE at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES with WOOD CAP. RE: BUILDING SECTIONS for HEIGHT
13	SLOPING STAIR WALL: 2x4 WD. STUDS at 16" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES with WOOD CAP. RE: BUILDING SECTIONS for HEIGHT.
14	SLOPING STAIR WALL: 2x6 WD. STUDS at 16" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES with WOOD CAP. RE: BUILDING SECTIONS for HEIGHT.
15	HALF WALL: 2x6 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES. RUN to UNDERSIDE of COUNTERTOP ABOVE. RE: INTERIOR ELEVATIONS
16	HALF WALL: 2x4 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES. RUN to UNDERSIDE of COUNTERTOP ABOVE. RE: INTERIOR ELEVATIONS
17	PLUMBING WALL: 2x6 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES from TOP of FLOOR SHEATHING to UNDERSIDE of FLOOR/ROOF STRUCTURE ABOVE.
18	2x8 WD. STUDS at 24" O.C. with 5/8" TYPE "X" GYP. BD. BOTH SIDES from TOP of FLOOR SHEATHING to UNDERSIDE of FLOOR/ROOF STRUCTURE ABOVE.

GENERAL NOTES:

1. AT ALL EXTERIOR SLABS LOCATED DIRECTLY ADJACENT to BUILDING FOUNDATIONS: TIE CONC. PAD to FOUNDATION with #4 REBAR DOWEL @ 24"O.C., TYP.

CEILING TYPES at SECTION

Type Mark	Description
A	5/8" TYPE "X" GYP. BD. ATTACHED to UNDERSIDE of FLOOR/ROOF FRMG.
B	INTERIOR SOFFIT: 5/8" TYPE "X" GYP. BD. ATTACHED to 2x WD. FRMG. at 16" O.C.
C	CEILING at FIRE RATED FLOOR ASSEMBLY UL L570: 1/2" RESILIENT CHANNEL at 12" O.C. and TWO (2) LAYERS of 1/2" TYPE "X" GYP. BD. ATTACHED to UNDERSIDE of FLOOR/ROOF FRMG. RE: FLOOR TYPES, BLDG. SECTIONS, WALL SECTIONS
D	EXTERIOR FIBER CEMENT SOFFIT: 5/8" FIBER CEMENT SOFFIT ATTACHED to UNDERSIDE of ROOF FRAMING, PAINT.
E	SUSPENDED GYP. BD. CEILING: 5/8" TYPE "X" GYP. BD. ATTACHED to 2x WD. FRMG at 16" O.C., CEILING TYPE "C" SHALL RUN CONTIN. THROUGHOUT UNIT ABOVE this SUSPENDED CEILING.
F	5/8" TYPE "X" GYP. BD. ATTACHED to UNDERSIDE of STAIR FRAMING
G	EXTERIOR FIBER CEMENT SOFFIT at PORCH: 5/8" FIBER CEMENT BEADBOARD SOFFIT ATTACHED to UNDERSIDE of ROOF FRAMING, PAINT.

HGHF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES

PROJECT No.: I.F.B. 19-522-RAD

ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

DATE 04/16/2019

DRAWN TR/JSB/S

CHECK AH/S

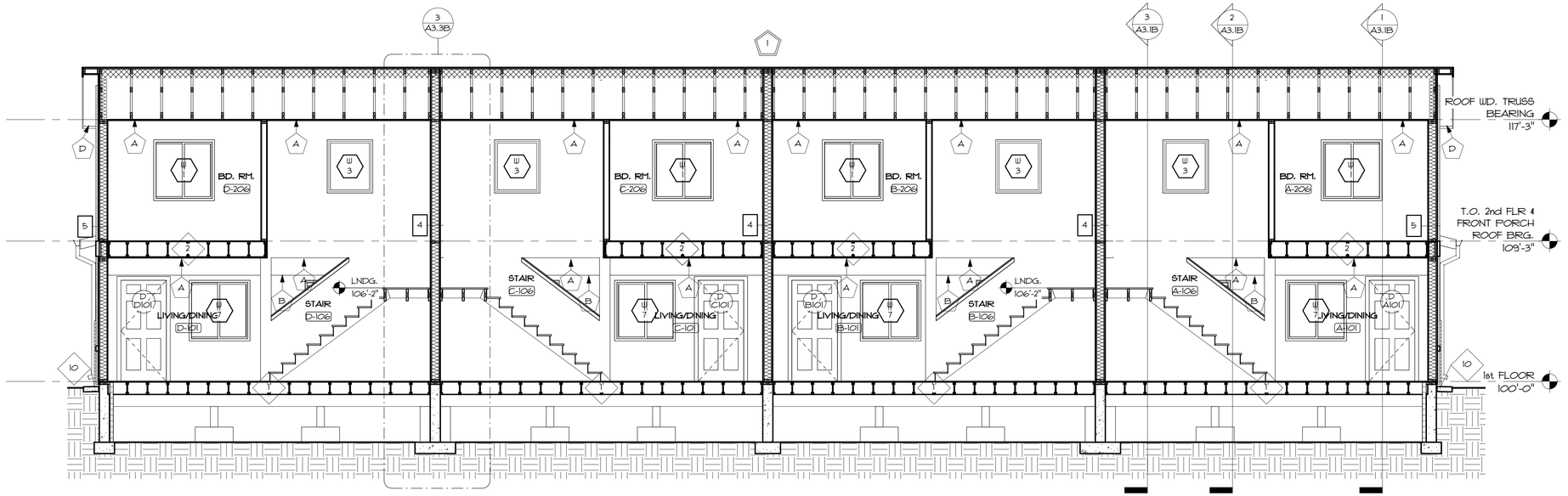
REVISIONS:

SHEET A3.1B

GENERAL NOTES:

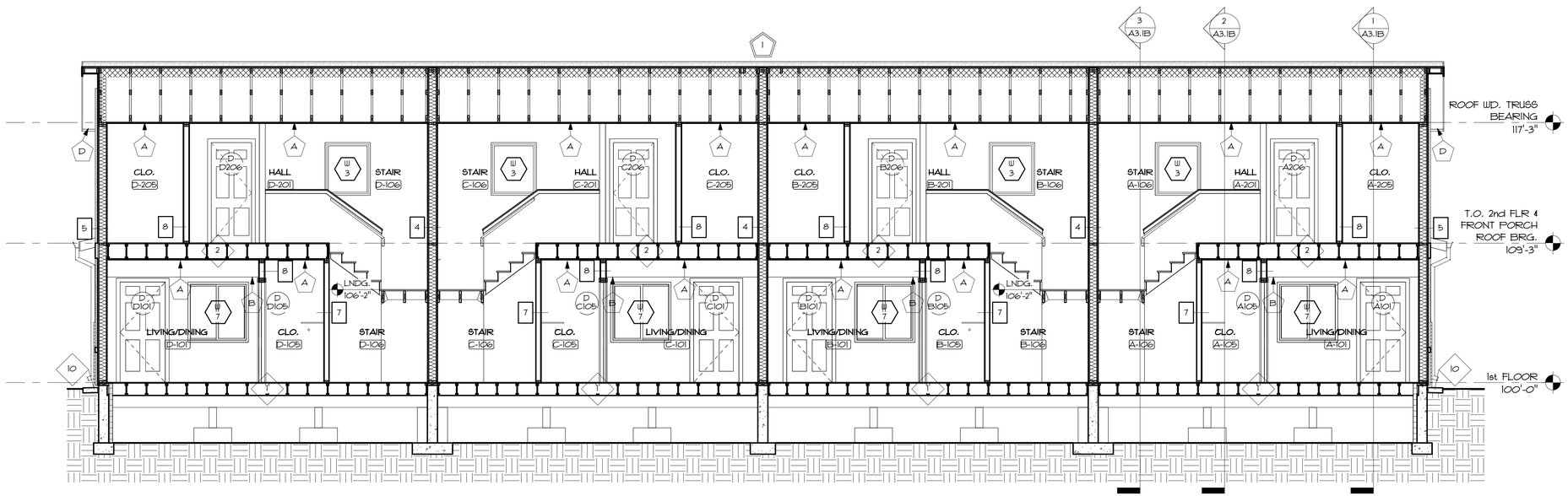
- AT ALL EXTERIOR SLABS LOCATED DIRECTLY ADJACENT to BUILDING FOUNDATIONS: TIE CONC. PAD to FOUNDATION with #4 REBAR DOWEL @ 24"O.C.. TYP.

RE: SHEET A3.1B FOR WALL, ROOF, FLOOR, AND CEILING TYPES LEGENDS.



2 BLDG. B SECTION No. 5

SC: 1/4" = 1'-0" RE:



1 BLDG. B SECTION No. 4

SC: 1/4" = 1'-0" RE:

IHGIF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES

PROJECT No.: I.F.B. 19-522-RAD

ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

DATE 04/16/2019

DRAWN TR/JSB

CHECK AHS

REVISIONS:

SHEET A3.2B

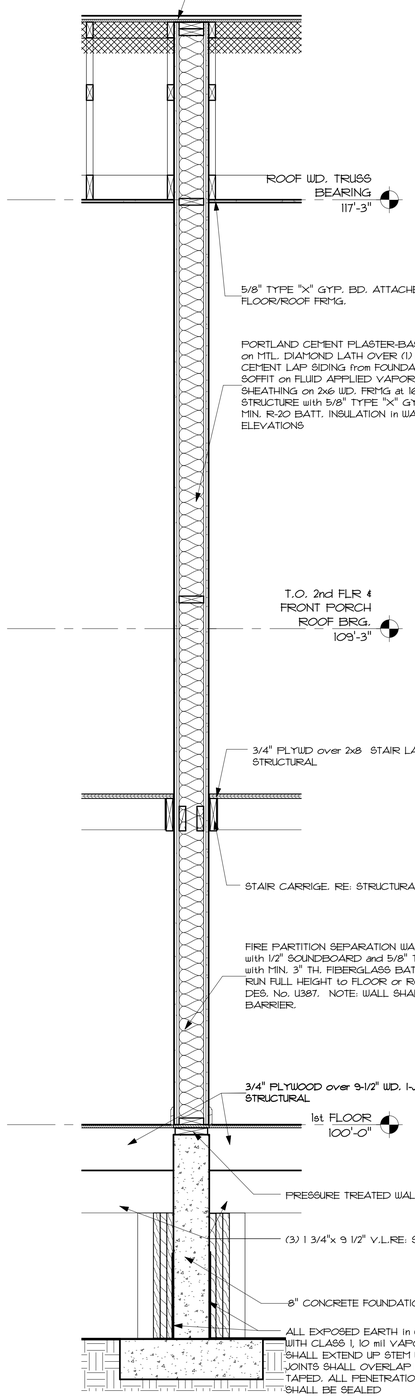
WALL SECTIONS GENERAL NOTES

1. MAINTAIN A 1/4" MIN. CLEARANCE (GAP FOR DRAINAGE) BETWEEN BOTTOM of JAMES HARDIE PRODUCT (BOTH VERTICAL AND HORIZONTAL SIDING) and STUCCO or JH TRIM HORIZONTAL TRANSITIONS. DO NOT CAULK GAP. PROVIDE POSITIVE SLOPE and Z- FLASHING at ALL HORIZONTAL JOINTS.

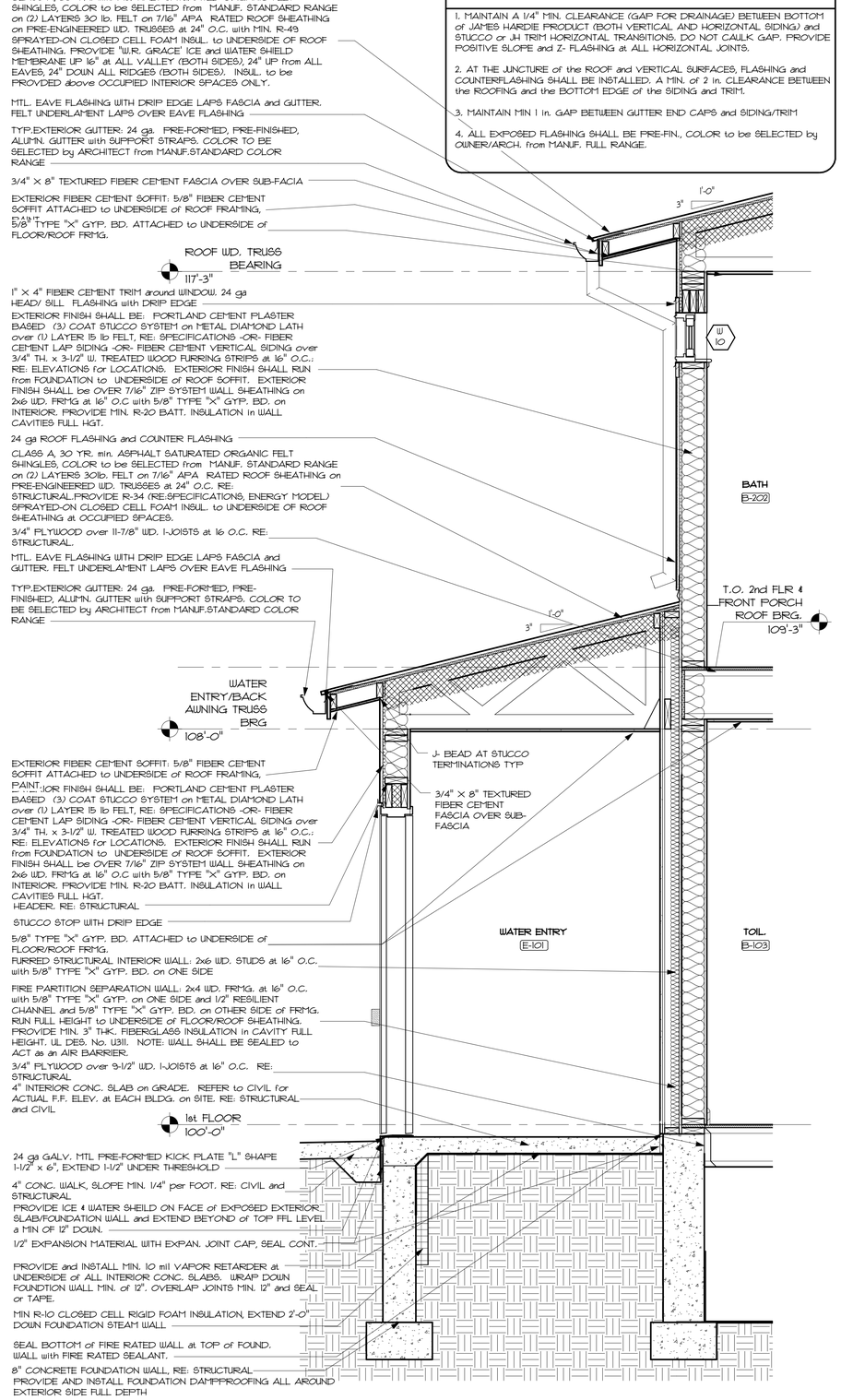
2. AT THE JUNCTURE of the ROOF and VERTICAL SURFACES, FLASHING and COUNTERFLASHING SHALL BE INSTALLED. A MIN. of 2 in. CLEARANCE BETWEEN the ROOFING and the BOTTOM EDGE of the SIDING and TRIM.

3. MAINTAIN MIN 1 in. GAP BETWEEN GUTTER END CAPS and SIDING/TRIM

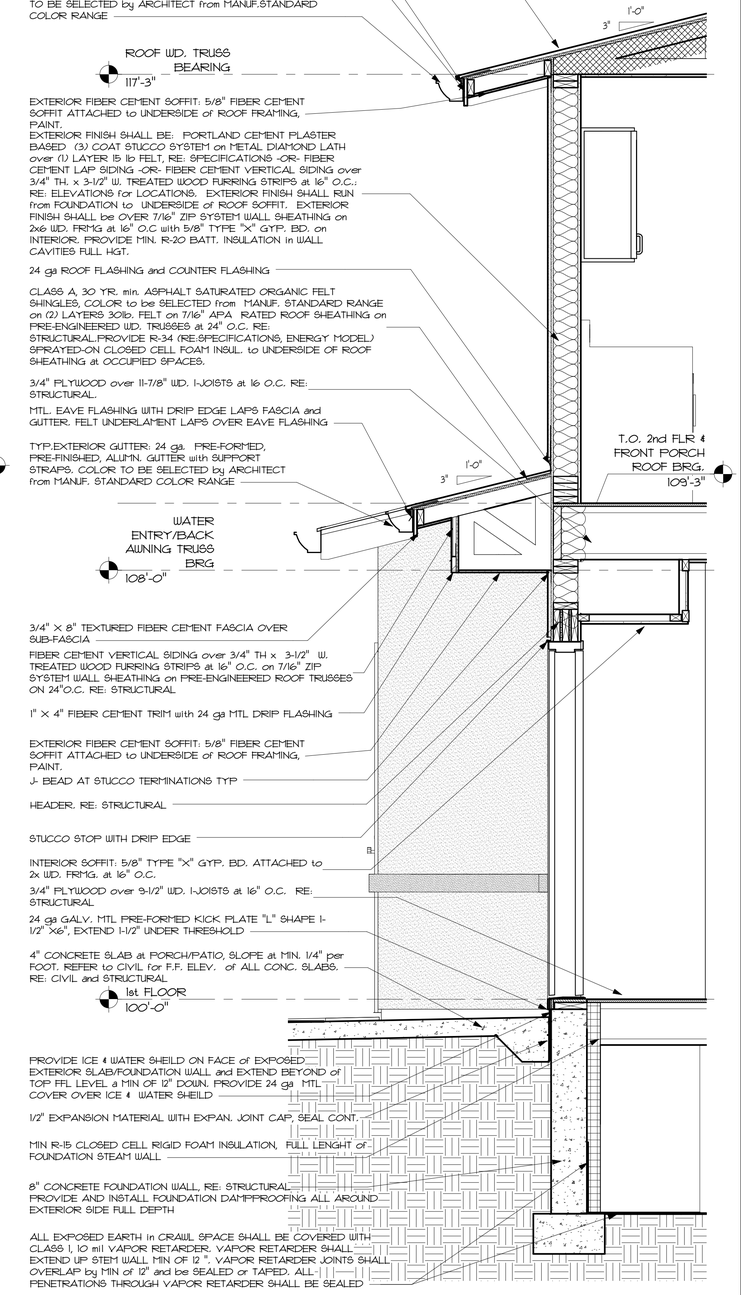
4. ALL EXPOSED FLASHING SHALL BE PRE-FIN., COLOR to be SELECTED by OWNER/ARCH. from MANUF. FULL RANGE.



BLDG, B WALL SECTION
3 No. 5
SC: 3/4" = 1'-0" RE:



BLDG, B WALL SECTION
2 No. 3
SC: 3/4" = 1'-0" RE:



BLDG, B WALL SECTION
1 No. 2
SC: 3/4" = 1'-0" RE:

IHGIF ARCHITECTS
HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No.: I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

DATE 04/16/2019
DRAWN CS/JSR
CHECK AHS
REVISIONS:

SHEET A3,3B

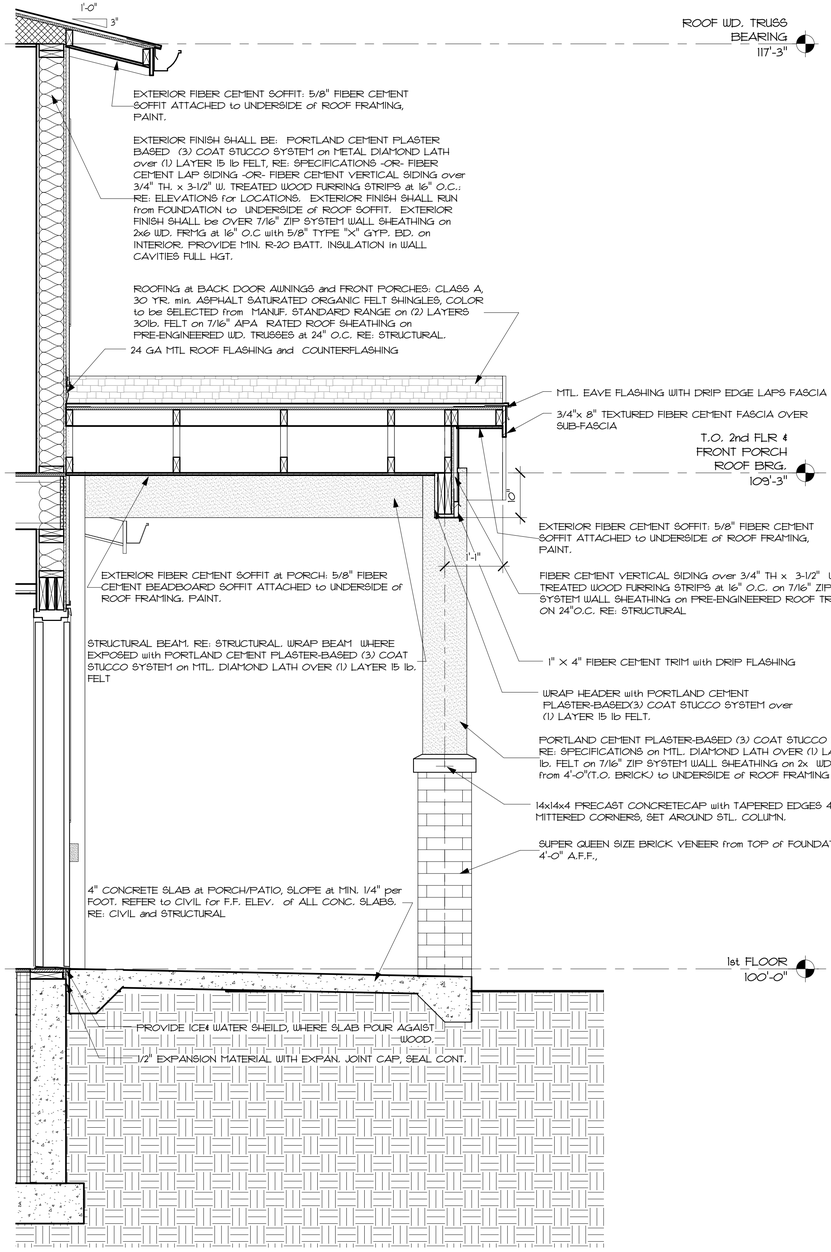
WALL SECTIONS GENERAL NOTES

1. MAINTAIN A 1/4" MIN. CLEARANCE (GAP FOR DRAINAGE) BETWEEN BOTTOM of JAMES HARDIE PRODUCT (BOTH VERTICAL AND HORIZONTAL SIDING) and STUCCO or JH TRIM HORIZONTAL TRANSITIONS. DO NOT CAULK GAP. PROVIDE POSITIVE SLOPE and Z- FLASHING at ALL HORIZONTAL JOINTS.

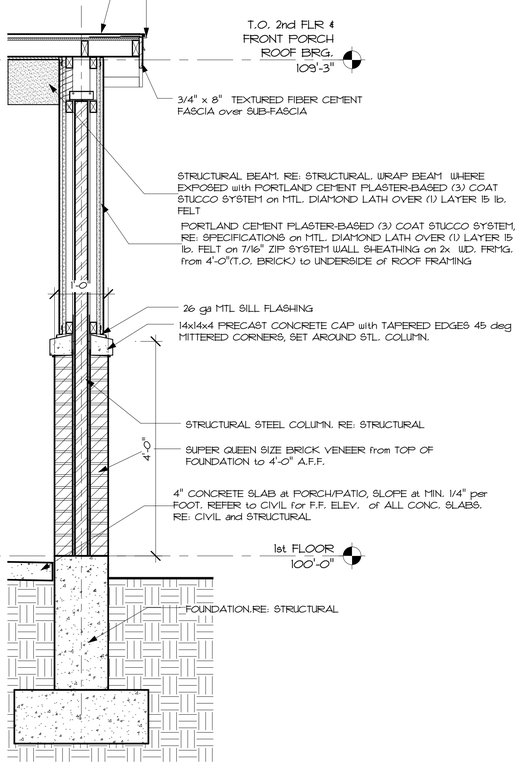
2. AT THE JUNCTURE of the ROOF and VERTICAL SURFACES, FLASHING and COUNTERFLASHING SHALL BE INSTALLED, A MIN. of 2 in. CLEARANCE BETWEEN the ROOFING and the BOTTOM EDGE of the SIDING and TRIM.

3. MAINTAIN MIN 1 in. GAP BETWEEN GUTTER END CAPS and SIDING/TRIM

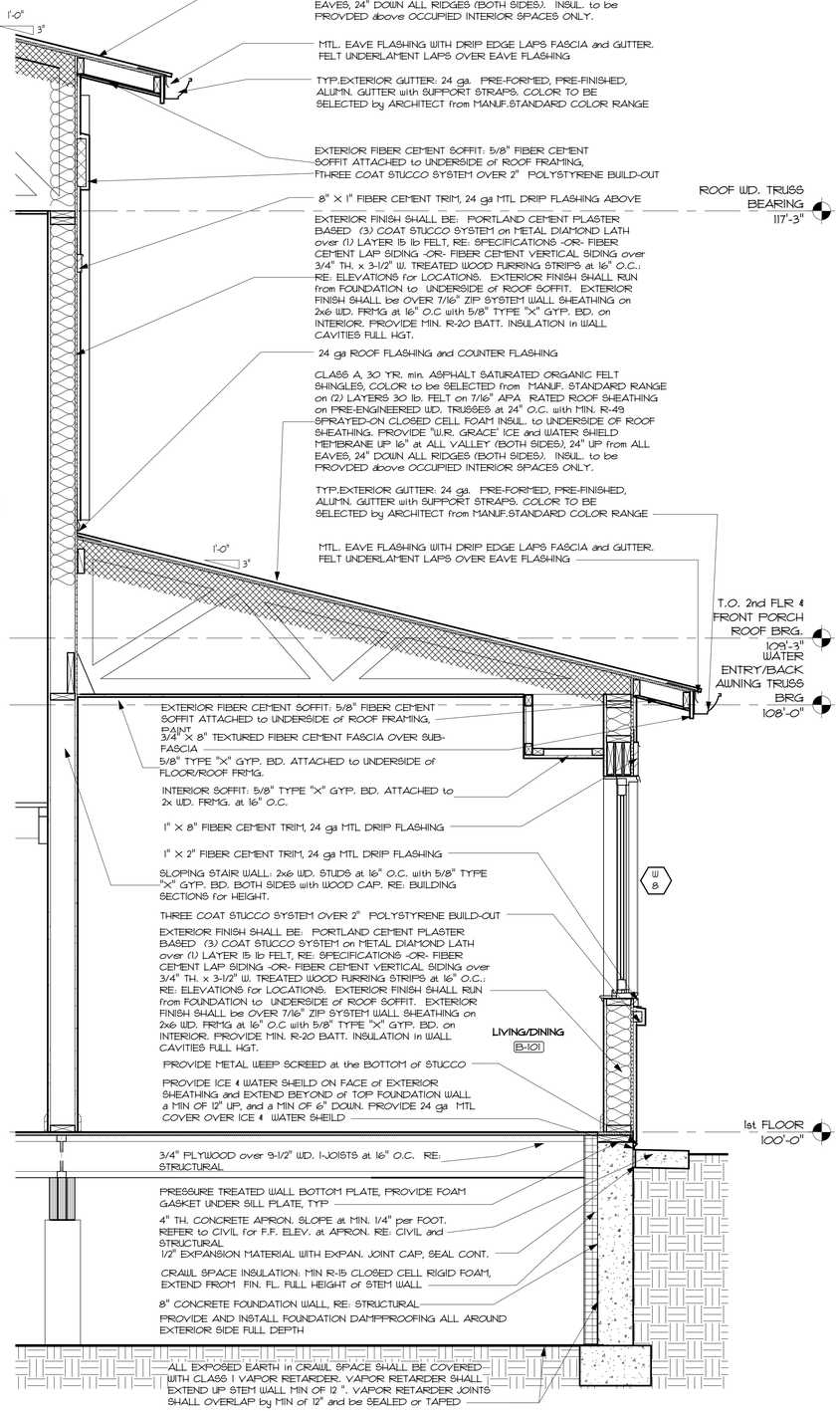
4. ALL EXPOSED FLASHING SHALL BE PRE-FIN., COLOR to be SELECTED by OWNER/ARCH. from MANUF. FULL RANGE.



WALL SECTION THROUGH FRONT PORCH
3 SC: 3/4" = 1'-0" RE:



SECTION THROUGH PORCH COLUMN - BLDG B
2 SC: 3/4" = 1'-0" RE:



BLDG. B WALL SECTION No.4
1 SC: 3/4" = 1'-0" RE:

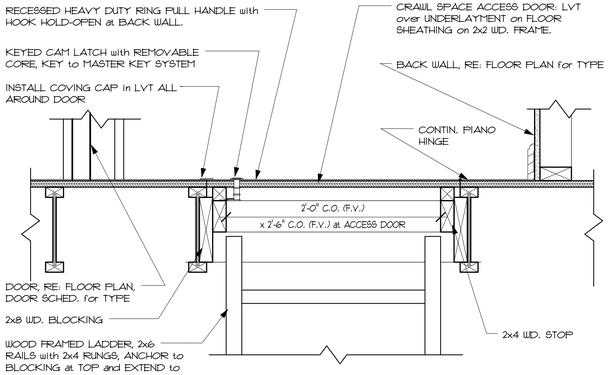
IHGIF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No.: I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

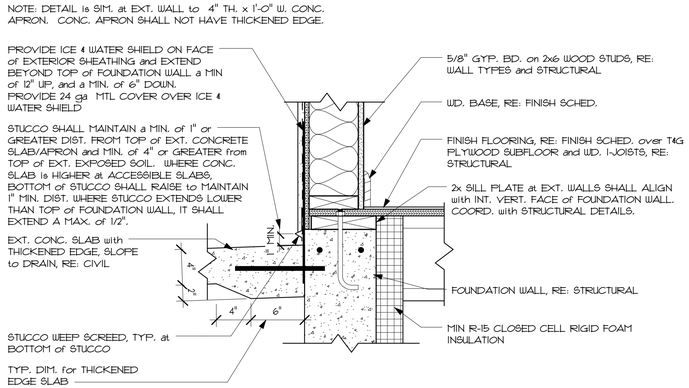
DATE 04/16/2019
DRAWN CS/JSR
CHECK AHS
REVISIONS:

SHEET A3,4B



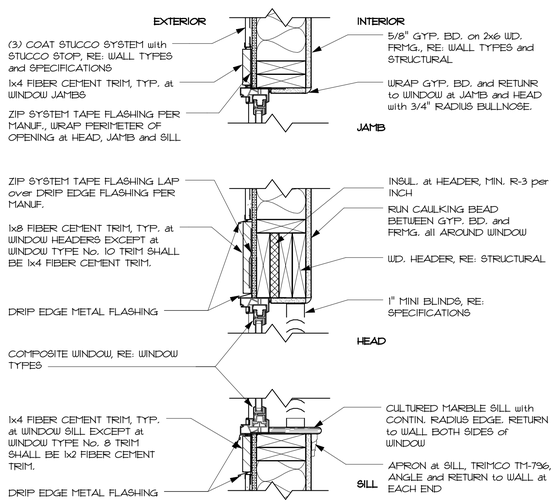
TYP. DETAIL at CRAWL SPACE ACCESS

SC: 1 1/2" = 1'-0" RE:



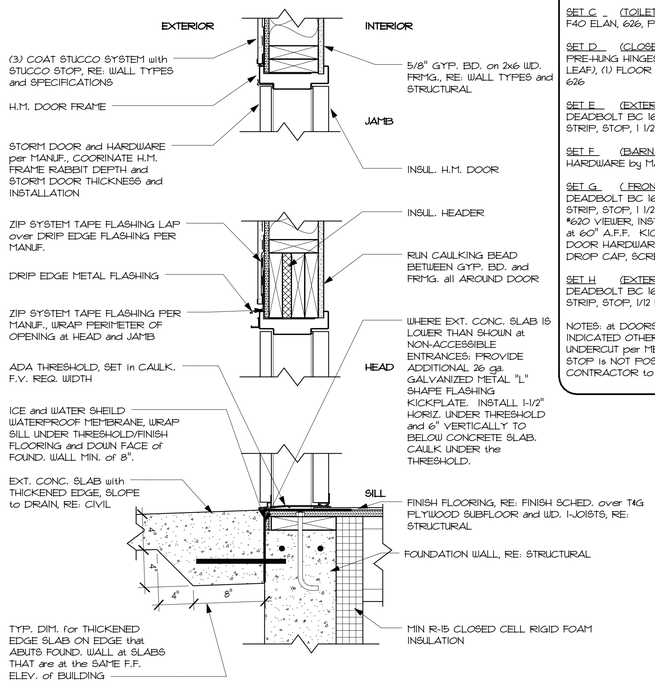
TYP. DETAIL at EXT. WALL to CONC. SLAB, NON-ACCESSIBLE

SC: 1 1/2" = 1'-0" RE:



DETAIL at WINDOW HEAD, SILL and JAMB

SC: 1 1/2" = 1'-0" RE:

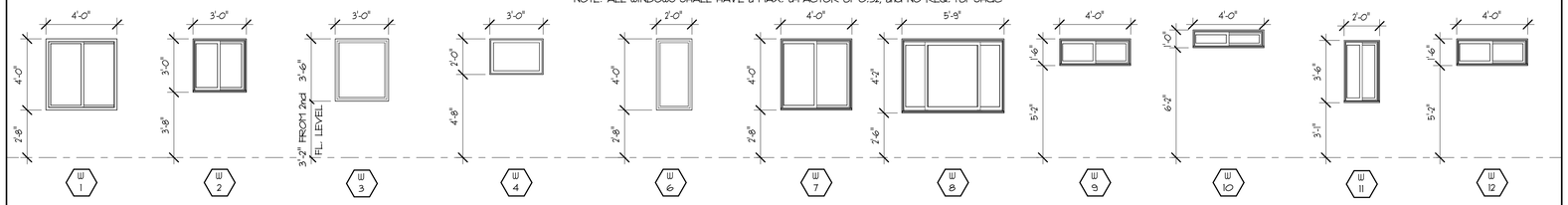


DETAIL at EXT. DOOR HEADER, JAMB and SILL at ACCESSIBLE ENTRANCE

SC: 1 1/2" = 1'-0" RE:

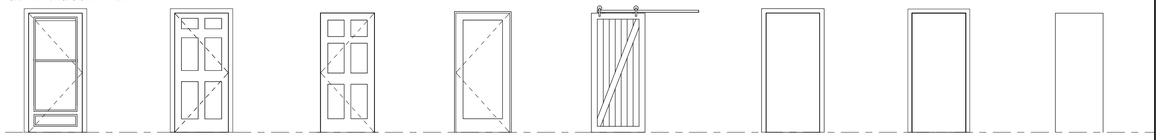
WINDOW TYPES

NOTE: ALL WINDOWS SHALL HAVE a MAX. U-FACTOR of 0.32, and NO REQ. for SHGC



DOOR and FRAME TYPES

GENERAL NOTES:
1. COORDINATE DOOR SIZES and UNDERCUTTING of DOORS with MECHANICAL DRAWINGS.
2. HEIGHT of DOOR SILLS at WATER ETNRY ROOMS/EXTERIOR STORAGE ROOMS SHALL MATCH HEIGHT of INT. FLOOR SLAB. RE: CIVIL for SLAB ELEV. HEIGHT. FOUNDATION WALL at SUCH DOORS SHALL BE NOTCHED to ALLOW INSTALLATION of DOOR. RE: CIVIL and STRUCTURAL



SD-1, 3068 LARSON MANUFACTURING STORM DOOR. MODEL 830-80. COLOR WHITE, SATIN CHROME. INSTALL with HINGES INSIDE of HMF-1, HARDWARE by MANUFACTURER. F.V. THICKNESS and COORD. with HMF-1

HM-1, INSUL. HOLLOW METAL DOOR, PREP per DOOR FINISH HARDWARE, PRE-FINISHED. STEELCRAFT GRAINTECH EMBOSSED or EQUAL FINISH to be SELECTED by ARCH. from MANUF. FULL RANGE. MAX. U-FACTOR: 0.32

WD-1, MASONITE 6 PANEL TEXTURED DOOR, PRE-HUNG. PAINT with (2) COATS of SEMI-GLOSS LATEX ENAMEL.

HMV-1, INSUL. HOLLOW METAL DOOR with FULL VISION LITE. PREP. per DOOR FINISH HARDWARE. PRE-FINISHED. STEELCRAFT GRAINTECH or EQUAL. FINISH to be SELECTED by ARCH. from MANUF. FULL RANGE

BD-1, BARN DOOR 36"x84" MATTE BLACK HARDWARE (2) COATS SEMI-GLOSS LATEX ENAMEL, EQUAL to ARTISAN HARDWARE" Z SLIDING BARN DOOR, PAINTED.

HMF-1, HOLLOW METAL FRAME - FACTORY PRIMED and FINISH with (2) COATS ENAMEL PAINT.

WF-1, PRE-HUNG FINGER JOINTED PINE FRAME with TRIMCO TM356 CASING. PRIME and PAINT with (2) COATS of LATEX ENAMEL SEMI-GLOSS.

GYP-1, GYPSUM BD. WRAPPED OPENING, 3/4" BULLNOSE OUTSIDE CORNERS, FACTORY FINISHED DOOR TRACT and HARDWARE by MANUF. 7'-8" x 6'-8" CLEAR OPENING

DOOR HARDWARE SETS

SET A (FRONT & BACK ENTRY DOORS)
DEADBOLT BC 160R, E 626 REMOVABLE CORE. FIO ELAN LEVER PASSAGE, WEATHER STRIP, STOP, 1 1/2 PAIR HINGES, ADA APPROVED THRESHOLD, ROCKWOOD # 620 VIEWER INSTALL at 60 A.F.F..STORM DOOR to HAVE FACTORY HARDWARE and WIND CHAIN.

SET B (BEDROOMS, CLOSETS with SINGLE DOOR)
PRE-HUNG HINGES by MFG.; FIO ELAN LEVER, 626, PASSAGE, STOP.

SET C (TOILET & BATH ROOMS)
F40 ELAN, 626, PRIVACY, STOP

SET D (CLOSETS with DOUBLE DOORS)
PRE-HUNG HINGES by MFG.; DUMMY TRIM F170 ELAN LEVER, SPRING CATCHES (EACH LEAF), (1) FLOOR and (1) HINGE STOP. ADJUSTABLE BALL CATCH, SATIN CHROME FINISH 626

SET E (EXTERIOR STORAGE and WATER ENTRY DOORS):
DEADBOLT BC 160R, E 626 REMOVABLE CORE. FIO ELAN LEVER PASSAGE, WEATHER STRIP, STOP, 1 1/2 PAIR HINGES, ADA APPROVED THRESHOLD.

SET F (BARN DOOR):
HARDWARE by MANUFACTURER, COLOR BLACK. PULL RE: INTERIOR DOOR TYPES,

SET G (FRONT & BACK ENTRY DOORS ACESSIBLE UNITS):
DEADBOLT BC 160R, E626 REMOVABLE CORE, FIO ELAN LEVER PASSAGE, WEATHER STRIP, STOP, 1 1/2 PAIR HINGES, KICK PLATES ADA APPROVED THRESHOLD, ROCKWOOD #620 VIEWER, INSTALL (2) VIEWERS at ENTRY DOORS INSTALL VIEWER at 43" A.F.F. and at 60" A.F.F. KICK PLATE MOUNT at EXTERIOR of DOOR (VERIFY with OWNER). STORM DOOR HARDWARE per MANUF. INCLUDING but NOT LIMITED to: HINGES, LEVER HANDLE, DROP CAP, SCREEN DOOR CLOSER, WEATHER STRIPPING, and WIND CHAIN.

SET H (EXTERIOR BALCONY DOORS)
DEADBOLT BC 160R, E 626 REMOVABLE CORE. FIO ELAN LEVER PASSAGE, WEATHER STRIP, STOP, 1/2 PAIR HINGES.

NOTES: at DOORS, STOP, ROCKWOOD 1/2" BASE, DOME STOPE #442, 626 UNLESS INDICATED OTHERWISE and EXCEPT at CARPET FLOOR FINISHES and WHERE DOORS are UNDERCUT per MECHANICAL PROVIDE WALL STOP in LIEU of FLOOR STOP, WHERE WALL STOP is NOT POSSIBLE PROVIDE RISER on DOME STOP. RE: INTERIOR FINISH SCHED. CONTRACTOR to F.V. REQ. WIDTH of THRESHOLD at EXTERIOR DOORS.

DOOR COLOR NOTES:

DOORS and FRAMES:
LE-1 LATEX ENAMEL (LE).
APPROVED MANUFACTUER COLOR to be SELECTED from the MANUFACTURER'S TOTAL COLOR RANGE. RE: SPECIFICATIONS.

EN-1 ENAMEL (EN)
APPROVED MANUFACTUER COLOR to be SELECTED from the MANUFACTURER'S TOTAL COLOR RANGE. RE: SPECIFICATIONS.

NOTE: CONTRACTOR to ALLOW for (4) EXTERIOR BUILDING COLOR SCHEMES at FRONT and BACK ENTRY DOORS. INTERIOR of FRAMES to MATCH LE-1.

BLDG. B - DOOR SCHED.

MARK	HEIGHT	WIDTH	DOOR TYPE and FINISH	FRAME TYPE and FINISH	Fire Rating	HARDWARE SET
A101	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN. with SD-1	HMF-1 x H.M. x EN.	N/A	SET A
A102	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN. with SD-1	HMF-1 x H.M. x EN.	N/A	SET A
A103	6'-8"	3'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET C
A104	6'-8"	5'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
A105	6'-8"	2'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
A202	6'-8"	3'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET C
A203	6'-8"	5'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
A204	6'-8"	2'-8"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
A205	6'-8"	4'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
A206	6'-8"	2'-8"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
A207	6'-8"	4'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
B101	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN. with SD-1	HMF-1 x H.M. x EN.	N/A	SET A
B102	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN. with SD-1	HMF-1 x H.M. x EN.	N/A	SET A
B103	6'-8"	3'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET C
B104	6'-8"	5'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
B105	6'-8"	2'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
B202	6'-8"	3'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET C
B203	6'-8"	5'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
B204	6'-8"	2'-8"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
B205	6'-8"	4'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
B206	6'-8"	2'-8"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
B207	6'-8"	4'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
C101	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN. with SD-1	HMF-1 x H.M. x EN.	N/A	SET A
C102	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN. with SD-1	HMF-1 x H.M. x EN.	N/A	SET A
C103	6'-8"	3'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET C
C104	6'-8"	5'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
C105	6'-8"	2'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
C202	6'-8"	3'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET C
C203	6'-8"	5'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
C204	6'-8"	2'-8"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
C205	6'-8"	4'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
C206	6'-8"	2'-8"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
C207	6'-8"	4'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
D101	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN. with SD-1	HMF-1 x H.M. x EN.	N/A	SET A
D101	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN.	HMF-1 x H.M. x EN.	N/A	SET E
D102	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN. with SD-1	HMF-1 x H.M. x EN.	N/A	SET A
D103	6'-8"	3'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET C
D104	6'-8"	5'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
D105	6'-8"	2'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
D202	6'-8"	3'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET C
D203	6'-8"	5'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
D204	6'-8"	2'-8"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
D205	6'-8"	4'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
D206	6'-8"	2'-8"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET B
D207	6'-8"	4'-0"	WD-1 x MASONITE x LE	WF-1 x WOOD x EN	N/A	SET D
E101	6'-8"	3'-0"	HM-1 x H.M. x PRE-FIN.	HMF-1 x H.M. x EN.	N/A	SET E
E102	6'-8"	4'-0"	HM-1 x H.M. x PRE-FIN.	HMF-1 x H.M. x EN.	N/A	SET E

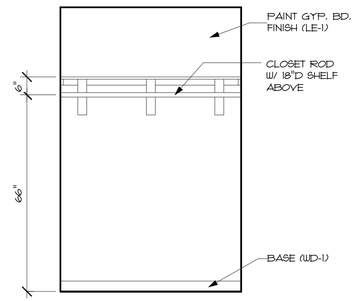
IHGIF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No.: I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

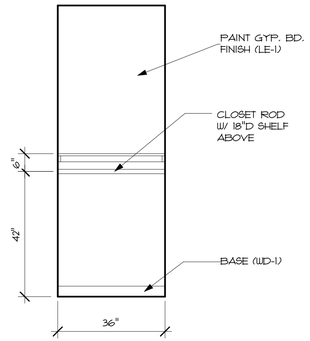
DATE 04/16/2019
DRAWN JSR
CHECK AHS
REVISIONS:

SHEET A4.1B



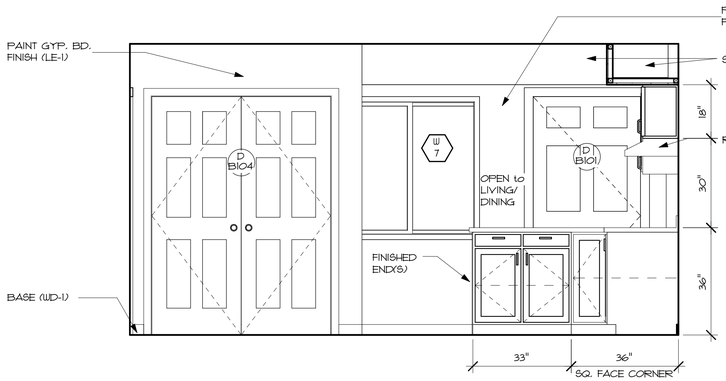
BLDG. B - CLO. A-205 INT. ELEV. C

5 SC: 1/2" = 1'-0" RE:



BLDG. B - CLO. A-105 INT. ELEV. B

4 SC: 1/2" = 1'-0" RE:



BLDG. B - KIT. A-102 INT. ELEV. C

3 SC: 1/2" = 1'-0" RE:

ROOM FINISH NOTES:

SLR: SEALER ON CONC. by APPROVED MANUF.

LUXURY VINYL TILE: NOTE: ALL VINYL FLOORING SHALL MEET SCIENTIFIC CERTIFICATION SYSTEM'S FLOORSCORE PROGRAM CRITERIA

LVT-1: LUXURY VINYL TILE (LVT) APPROVED MANUF. COLOR and PATTERN to be SELECTED FROM MANUFACTURER'S STANDARD COLOR RANGE, RE: SPECIFICATIONS to BE INSTALLED OVER "ULTRAPLY" PREMIUM UNDERLAYMENT by MORELAND CO.

VST-1: VINYL STAIR TREAD and STRINGER (VST) by BURKE (or APPROVED MANUF.) COLOR / PATTERN as SELECTED by OWNER / ARCHITECT.

SHEET VINYL:NOTE: ALL VINYL FLOORING SHALL MEET SCIENTIFIC CERTIFICATION SYSTEM'S FLOORSCORE PROGRAM CRITERIA

SV-1: APPROVED MANUF. COLOR and PATTERN to be SELECTED FROM MANUFACTURER'S STANDARD COLOR RANGE, RE: SPECIFICATIONS, to BE INSTALLED OVER "ULTRAPLY" PREMIUM UNDERLAYMENT by MORELAND CO.

CARPET: NOTE: ALL CARPET, PAD and CARPET ADHESIVES to MEET CARPET and RUG INSTITUTE'S GREEN LABEL or GREEN LABEL PLUS CERTIFICATION.

CPT-1: APPROVED MANUF. COLOR and PATTERN to be SELECTED FROM MANUFACTURER'S STANDARD COLOR RANGE, RE: SPECIFICATIONS to BE INSTALLED OVER "ULTRAPLY" PREMIUM UNDERLAYMENT by MORELAND CO.

BASE:
WD-1: WOOD BASE (WD), TRIMCO MILLWORK 444, 9/16"X3 1/4" PAINT with LE-1, SEMI-GLOSS

RB-1: RUBBER BASE (RB) by APPROVED MANUF. COLOR as SELECTED by OWNER / ARCHITECT

PAINT (LATEX ENAMEL): NOTE: ALL PAINT SHALL be LOW/NO VOC
LE-1: LATEX ENAMEL FIELD COLOR, APPROVED MANUF. COLOR and PATTERN to be SELECTED FROM MANUFACTURER'S TOTAL COLOR RANGE,
LE-2: LATEX ENAMEL ACCENT WALL, APPROVED MANUF. COLOR and PATTERN to be SELECTED FROM MANUFACTURER'S TOTAL COLOR RANGE,

CASEWORK:
WOOD BASE and WALL CABINETS, LOW/NO FORMALDEYHYDE PLYWOOD, LOW-VOC STAIN

COUNTERTOPS:
PLASTIC LAMINATE:
PL-1: PLASTIC LAMINATE (PL) APPROVED MANUF. COLOR and PATTERN to be SELECTED FROM MANUFACTURER'S STANDARD TOTAL COLOR RANGE of SOLIDS and PATTERNS, RE: SPECIFICATIONS

ROOM FINISH NOTES:
1. SPECIALTIES: GRAB BARS, TOWEL BAR(S), RECESSED MEDICINE CABINET, MIRROR, TOILET PAPER HOLDER, SHOWER CURTAIN ROD

2. SPECIALTIES: TOWEL BAR(S), RECESSED MEDICINE CABINET, MIRROR, TOILET PAPER HOLDER

3. SPECIALTIES: TOWEL BAR(S), TWO DOOR MEDICINE CABINET, TOILET PAPER HOLDER, SHOWER CURTAIN ROD

4. SPECIALTIES: ROBE HOOK, RECESSED MEDICINE CABINET, MIRROR, TOILET PAPER HOLDER, SHOWER CURTAIN ROD

5. SPECIALTIES: GRAB BAR(S) ROBE HOOK, RECESSED MEDICINE CABINET, MIRROR, TOILET PAPER HOLDER, SHOWER CURTAIN ROD

6. SPECIALTIES: ROBE HOOK, TOWEL BAR(S) RECESSED MEDICINE CABINET, MIRROR, TOILET PAPER HOLDER, SHOWER CURTAIN ROD

GENERAL NOTES:
- ALL FLOORING, FINISH WOOD, PAINT and STAIN, CASEWORK/PLYWOOD SHALL MEET GREEN COMMUNITIES CRITERIA
- INTERIOR SIDE of ALL WINDOWS SHALL HAVE SOLID SURFACE SILLS and WINDOW BLINDS.

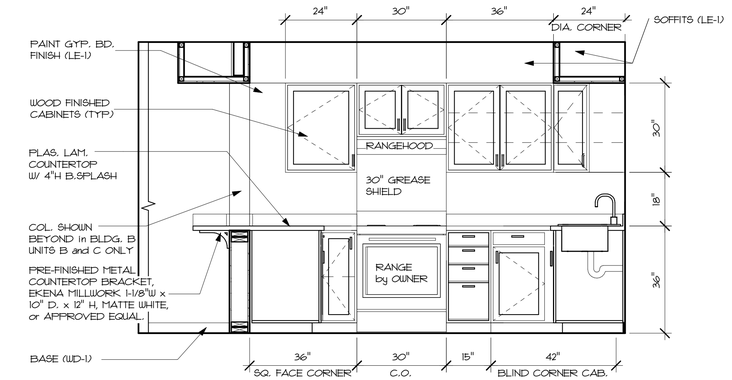
CLOSET NOTES
BEDROOM CLOSETS: INSTALL (1) 3/4" PARTICLE BOARD SHELF ON 1 x 2 CLEATS WITH 1 x 4 CLEAT AT (3) LOCATIONS FOR SHELF BRACKETS. INSTALL ON (3) METAL SHELF BRACKETS PER CLOSET WITH WOOD DOWEL ROD ON POLE SOCKETS 1 5/16".
PAINT ALL PARTICLE BOARD SHLEVES and CLEATS (LE-1)

BLDG. B - ROOM FINISH SCHEDULE

BUILDING TYPE	ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALLS A WALL FINISH	WALLS B WALL FINISH	WALLS C WALL FINISH	WALLS D WALL FINISH	CEILING FINISH	CASEWORK CASE WORK	CASEWORK COUNTER TOPS	SPECIALTIES
BLDG. B	A-101	LIVING/DINING	LVT-1	WD-1	LE-1	LE-2	LE-1	LE-1	LE-1			
BLDG. B	A-102	KIT.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	
BLDG. B	A-103	TOIL.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	SEE RM. FIN. NOTE 2
BLDG. B	A-104	MECH.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	A-105	CLO.	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	A-106	STAIR	VST-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	A-106	STAIR	VST-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	A-201	HALL	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	A-202	BATH	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	SEE RM. FIN. NOTE 3
BLDG. B	A-203	LAUND.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD		
BLDG. B	A-204	BD. RM.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	A-205	CLO.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	A-206	BD. RM.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	A-207	CLO.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	B-101	LIVING/DINING	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-2	LE-1			
BLDG. B	B-102	KIT.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	
BLDG. B	B-103	TOIL.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	SEE RM. FIN. NOTE 2
BLDG. B	B-104	MECH.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	B-105	CLO.	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	B-106	STAIR	VST-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	B-106	STAIR	VST-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	B-201	HALL	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	B-202	BATH	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	SEE RM. FIN. NOTE 3
BLDG. B	B-203	LAUND.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD		
BLDG. B	B-204	BD. RM.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	B-205	CLO.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	B-206	BD. RM.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	B-207	CLO.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	C-101	LIVING/DINING	LVT-1	WD-1	LE-1	LE-2	LE-1	LE-1	LE-1			
BLDG. B	C-102	KIT.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	
BLDG. B	C-103	TOIL.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	SEE RM. FIN. NOTE 2
BLDG. B	C-104	MECH.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	C-105	CLO.	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	C-106	STAIR	VST-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	C-106	STAIR	VST-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	C-201	HALL	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	C-202	BATH	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	SEE RM. FIN. NOTE 3
BLDG. B	C-203	LAUND.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD		
BLDG. B	C-204	BD. RM.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	C-205	CLO.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	C-206	BD. RM.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	C-207	CLO.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	D-101	LIVING/DINING	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-2	LE-1			
BLDG. B	D-102	KIT.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	
BLDG. B	D-103	TOIL.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	SEE RM. FIN. NOTE 2
BLDG. B	D-104	MECH.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	D-105	CLO.	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	D-106	STAIR	VST-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	D-106	STAIR	VST-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	D-201	HALL	LVT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	D-202	BATH	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD	PL-1	SEE RM. FIN. NOTE 3
BLDG. B	D-203	LAUND.	SV-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1	WOOD		
BLDG. B	D-204	BD. RM.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	D-205	CLO.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	D-206	BD. RM.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	D-207	CLO.	CPT-1	WD-1	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	E-101	WATER ENTRY	SLR	RB	LE-1	LE-1	LE-1	LE-1	LE-1			
BLDG. B	E-102	STORAGE	SLR	RB	LE-1	LE-1	LE-1	LE-1	LE-1			

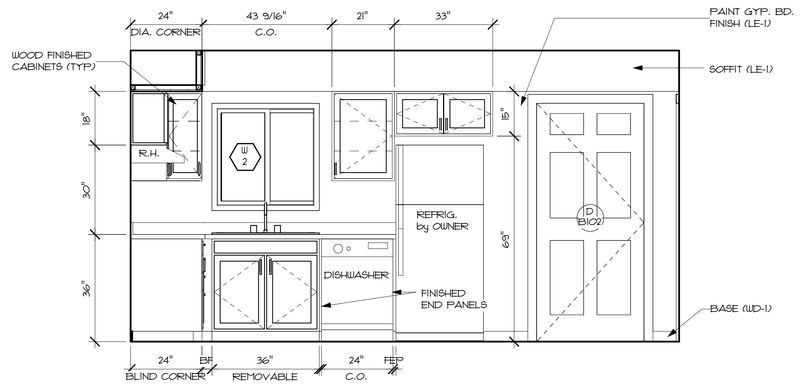
NOTE: ALL INTERIOR ELEVATIONS THIS SHEET ARE SIM at BLDG. B UNIT C. ALL INTERIOR ELEV. THIS SHEET ARE MIRROR OPPOSITE at BLDG. B UNIT B AND D

GENERAL NOTES:
1. BACK SIDE OF ALL TRIM SHALL BE PRIMED OR PAINTED (COLOR AS SELECTED BY OWNER / ARCHITECT.
2. ALL MEDICINE CABINETS SHALL BE RECESSED.
3. REFRIGERATORS and RANGES SHALL BE OWNER PROVIDED and OWNER INSTALLED.
4. ALL FIRST FLOOR BATHROOMS SHALL HAVE BLOCKING INSTALLED FOR CURRENT AND FUTURE INSTALLATION OF GRAB BARS.
5. CABINETS SHALL HAVE FINISHED ENDS at ALL APPLICABLE LOCATIONS.
6. CABINET HARDWARE SHOWN for DOOR and DRAWER CLARIFICATION ONLY. ALL CABINETS SHALL BE MANUFACTURED WITH INTEGRATED FINGER PULLS.



BLDG. B - KIT. A-102 INT. ELEV. D

2 SC: 1/2" = 1'-0" RE:



BLDG. B - KIT. A-102 INT. ELEV. A

1 SC: 1/2" = 1'-0" RE:

IHGIF ARCHITECTS
HOUSING AUTHORITY OF THE CITY OF PUEBLO

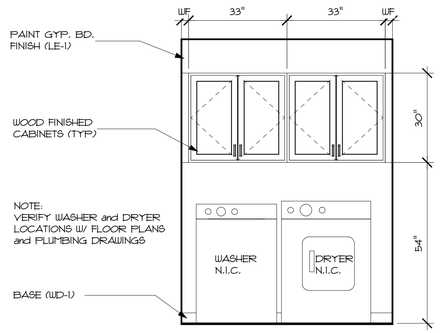
MOUNTAIN VIEW TOWNHOMES
PROJECT No.: I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

DATE 04/16/2019
DRAWN KV/JSR
CHECK AHB
REVISIONS:

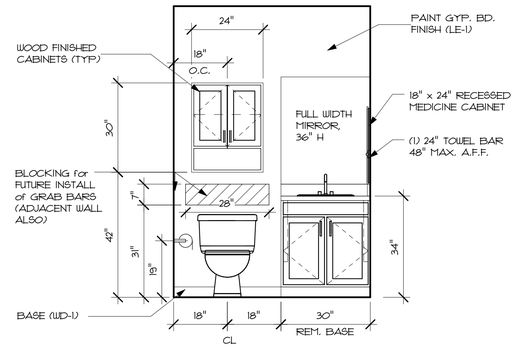
SHEET A5.1B

NOTE: ALL INTERIOR ELEVATIONS THIS SHEET ARE SIMILAR at BLDG. B, UNIT C.
ALL INTERIOR ELEVATIONS THIS SHEET ARE MIRROR OPPOSITE at BLDG. B, UNITS B & D.

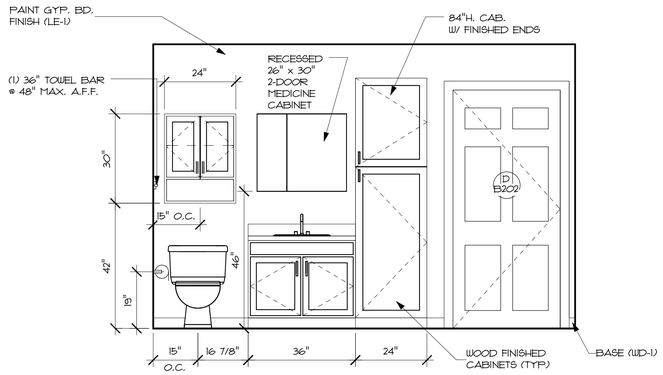
GENERAL NOTES:
1. CABINET HARDWARE SHOWN FOR DOOR and DRAWER CLARIFICATION ONLY. ALL CABINETS SHALL BE MANUFACTURED WITH INTEGRATED FINGER PULLS.



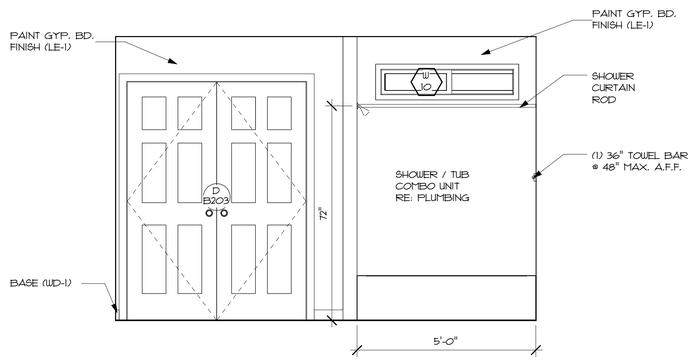
4 BLDG. B - LAUND. A-203 INT. ELEV. A
SC: 1/2" = 1'-0" RE:



3 BLDG. B - TOIL. A-103 INT. ELEV. C
SC: 1/2" = 1'-0" RE:



2 BLDG. B - BATH A-202 INT. ELEV. C
SC: 1/2" = 1'-0" RE:



1 BLDG. B - BATH A-202 INT. ELEV. A
SC: 1/2" = 1'-0" RE:

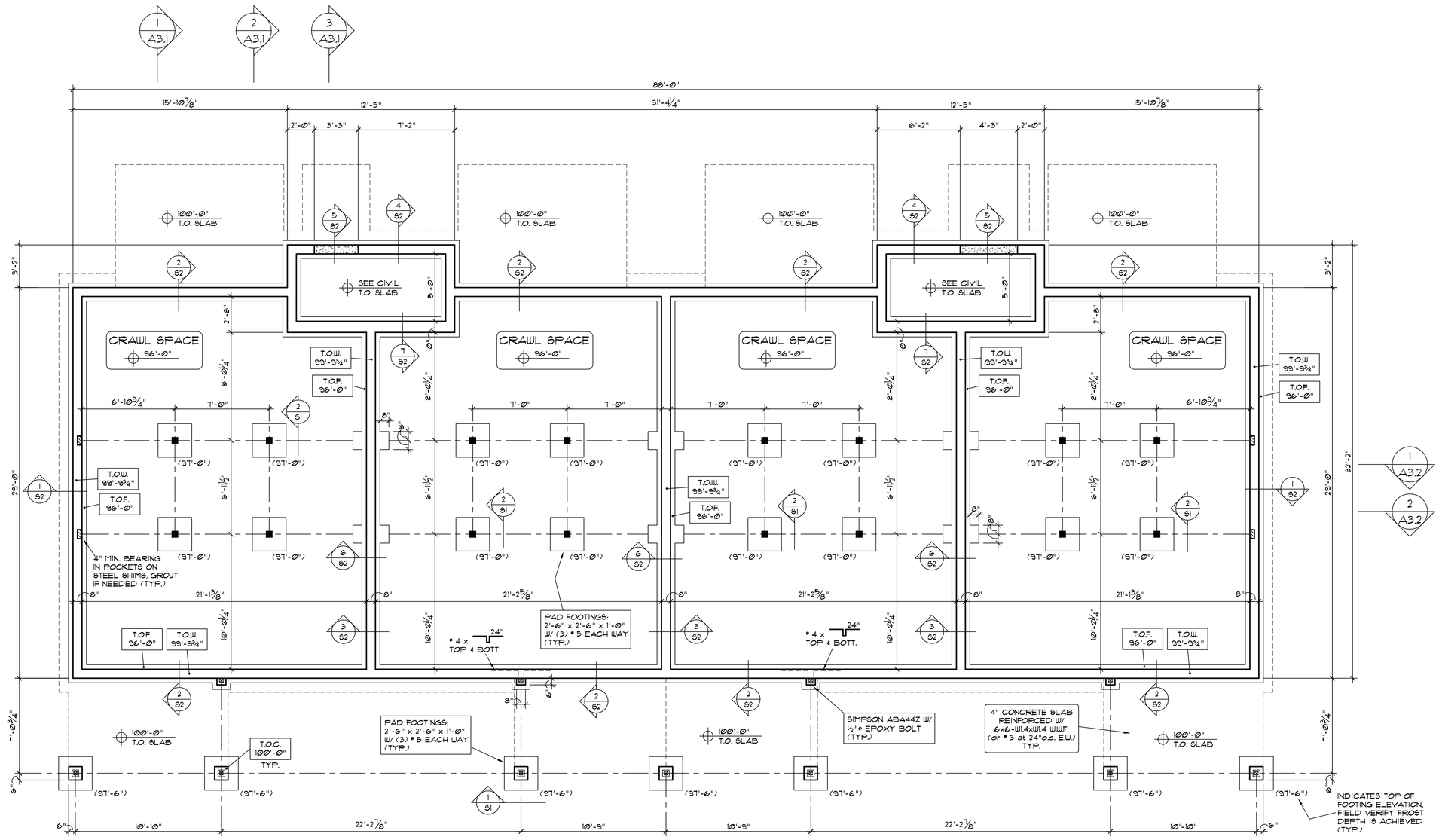
MOUNTAIN VIEW TOWNHOMES
PROJECT No.: I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE. PUEBLO, COLORADO

DATE 04/16/2019
DRAWN KV/JSR
CHECK AHS
REVISIONS:

SHEET A5.2B

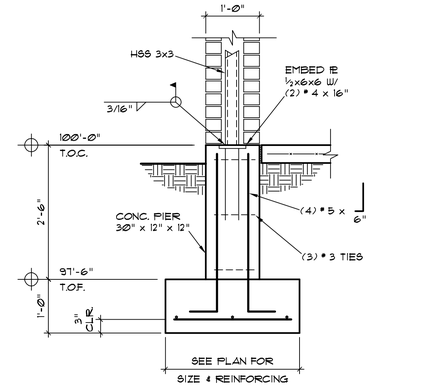
GENERAL NOTES

1. This project is designed in accordance with the International Building Code (IBC) 2015 Edition.
2. Dead Loads:
   A. Floor . . . . . 15 psf
   B. Roof . . . . . 15 psf (20 psf at trusses)
3. Live Loads:
   A. Roof (snow) . . . . . 30 psf
      Design trusses for future solar panel load of 5 psf.
   B. Floors . . . . . 40 psf
   C. Wind . . . . . 115 mph, Exposure 'C'
4. Foundation:
   A. The structure shall be founded on spread footings placed on at least 24 inches of structural fill with a maximum bearing pressure of 3,000 psf.
   B. Minimum frost depth of footings shall be 30" (top of grade to bottom of footing). Field verify all top of footing elevations.
   C. Refer to soil report # SC03229-125, dated June 1, 2016 (prepared by CTL Thompson) for additional information.
5. Concrete:
   A. Concrete has been designed and shall be constructed in accordance with the American Concrete Institute "Building Code Requirements for Structural Concrete" (ACI 318). All concrete shall be of stone aggregate, unless noted otherwise.
      Minimum 28 day compressive strength shall be:
      (1) Foundation concrete shall be made with cement that meets ASTM C150 Type II, 20% fly ash (ASTM C618 Class F), maximum water-cement ratio of 0.40, total air content of 6 percent +/- 1.5 percent, and a minimum 28 day compressive strength of 4,000 psi. Fly ash content can be reduced to 15% for placement in cold weather provided water-cement ratio of 0.40 is maintained.
      (2) Slabs: . . . . . 4000 psi
      (3) All other concrete: . . . . . 3000 psi
   B. Reinforcing shall be new billet steel ASTM A615, grade 60, except stirrups, ties and bars to be welded shall be grade 40. Provide corner bars to match all horizontal reinforcing. Provide (2) # 5 around all openings in concrete and extend bars 24" past edges of openings.
   C. Lap Splices shall be Class B. Use the following lap lengths, U.N.O.:
      (1) No. 6 bars and smaller:
         a. 57 bar diameters for 3,000 psi concrete.
         b. 50 bar diameters for 4,000 psi concrete.
   D. Reinforcing placement: Provide chairs, standees, additional reinforcement, and accessories necessary to support reinforcement at position shown. Support of reinforcement on form ties, brick, or other unacceptable material will not be allowed.
   E. Minimum concrete cover:
      (1) Concrete cast against and permanently exposed to earth . . . . . 3 inches
      (2) Concrete exposed to earth or weather:
         a. # 6 bar and larger . . . . . 2 inches
         b. # 5 bar and smaller . . . . . 1.5 inches
      (3) Concrete not exposed to earth or weather . . . 3/4 inches
   F. Anchor rods (Anchor bolts) shall be grade 36, conforming to ASTM F1554, and shall have a minimum concrete embedment of 7" with a 2" hook, unless noted otherwise.
   G. Exterior slabs/sidewalks shall be 4" thick (minimum) reinforced with 6x6-W1.4xW1.4 w.w.f.
6. Steel:
   A. Structural steel shall be detailed and erected in accordance with the American Institute of Steel Construction Specifications and Code of Standard Practice. Minimum yield strength: 50 ksi for square/rectangular HSS (ASTM A500, GR. C) 36 ksi for all other members (ASTM A36)
   B. Connections:
      (1) Use standard framed beam connections meeting the requirements of the "Manual of Steel Construction-ASD", latest edition. Use 3/4" diameter, A325-N bolts, minimum, snug-tightened; or ASTM F1852 tension-control (TC) bolts.
      (2) Minimum welds per AISC Specification and AWS D1.1, not less than continuous 3/16" fillet, E70XX electrodes, unless noted otherwise. Welding of reinforcing to embeds shall be done to develop 1.5 times the yield strength of the reinforcing.
   C. Column base plates that require grout shall bear on non-shrink grout.
7. Wood:
   A. Framing lumber shall be (U.N.O.):
      (1) Studs . . . . . Hem-fir Stud grade
      (2) Headers . . . . . Hem-fir # 2
      (3) Joists/Rafters . . . . . Hem-fir # 2
   B. Wood construction shall be in conformance with the "National Design Specification for Stress Grade Lumber and its Fastenings."
   C. Stainless steel (or galvanized) connectors, fasteners and anchors shall be used with preservative-treated woods.
   D. Exterior walls shall be fully sheathed with 7/16" ZIP-System, manufactured by Huber.
   E. Plywood web joists and Versa-lam LVL (2.0E - noted V.L. on plans) shall be manufactured by Boise Cascade, or approved equivalent. Joists and beams shall not be modified without the written consent of the Structural Engineer.
   F. Locate floor joists so that they do not interfere with plumbing.
   G. Roof trusses shall be designed by a registered professional engineer (Colorado). Live load deflections shall not exceed 1/240 of the span. Calculations and shop drawings bearing the seal and signature of the design engineer shall be reviewed by the Structural Engineer prior to truss fabrication. Shop drawings shall show location of all trusses, connection plate capacity, and the size and grade of lumber used. Truss manufacturer shall provide blocking and bridging as required for stability, and bearing blocks if needed. Truss supplier shall provide all hangers and connectors needed.
      Trusses to be designed for future solar panels, verify locations and weights with Owner.
8. Drawing Coordination:
   A. Dimensions on these Structural drawings shall be verified with the Architectural drawings and any discrepancy shall be brought to the Architect's attention.
   B. DRAWINGS SHALL NOT BE SCALED. Written dimensions shall take precedence over scaled measurements.
   C. Shop drawings shall be prepared and drawn by the fabricator. Copying these drawings for shop drawing use will not be permitted.
   D. Any and all material substitutions shall be approved by the Structural Engineer prior to construction.



FOUNDATION PLAN

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



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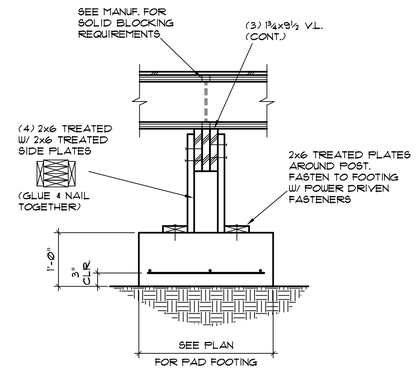

2 SCALE: 3/4"=1'-0"

HGF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

PROJECT 18.068
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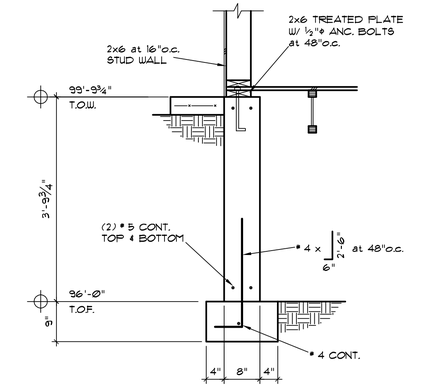

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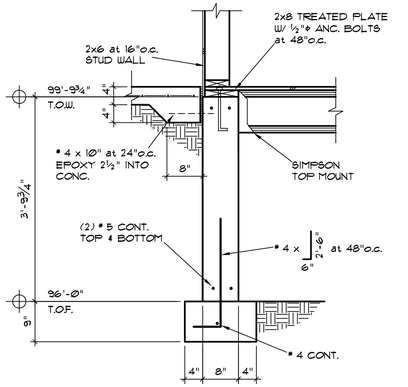

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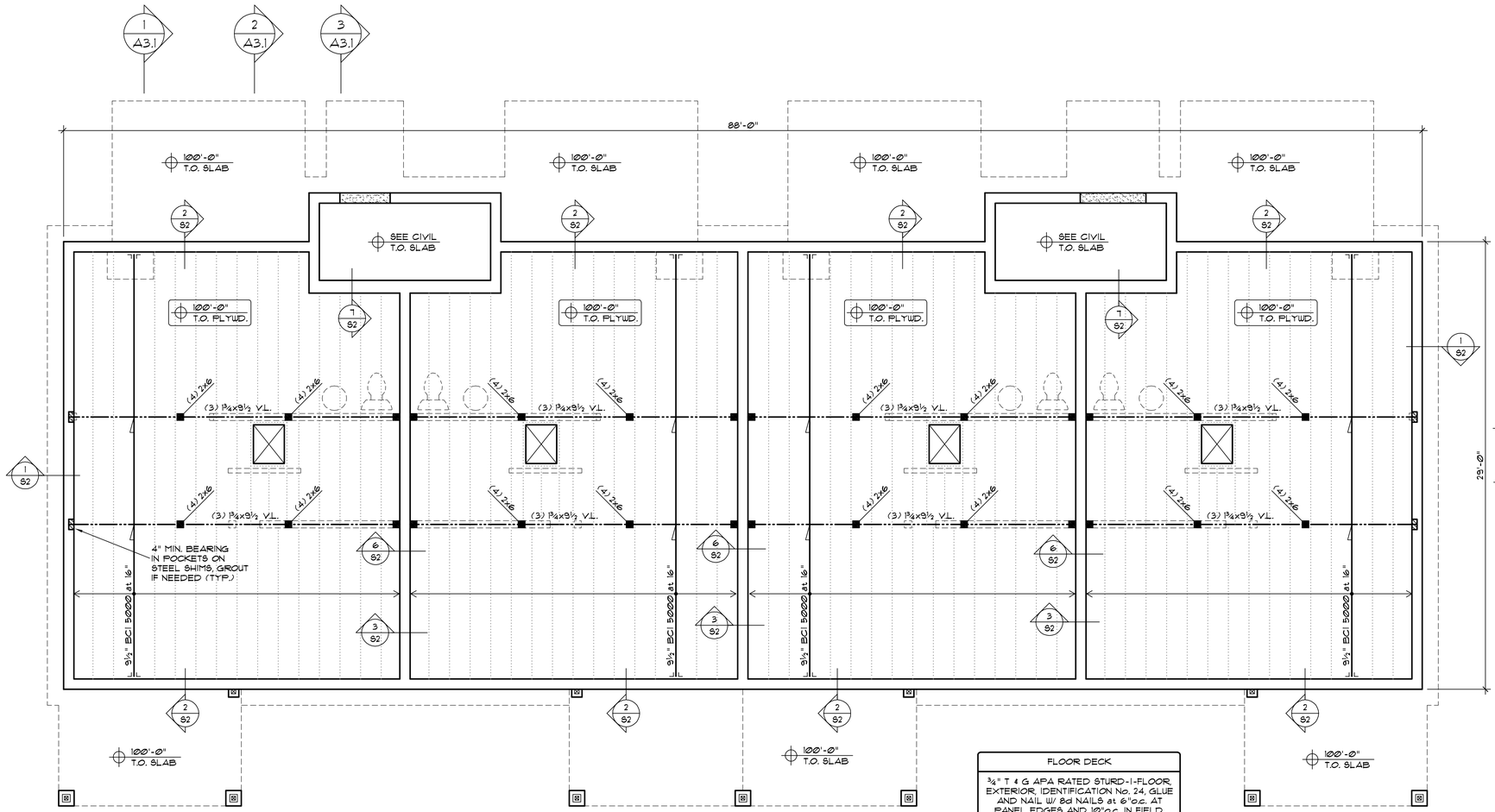
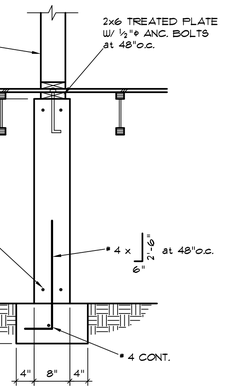


MAIN FLOOR FRAMING PLAN

SCALE: 1/4"=1'-Ø"

FLOOR DECK
¾" T & G APA RATED STURD-I-FLOOR, EXTERIOR, IDENTIFICATION No. 24, GLUE AND NAIL W/ 8d NAILS at 6"o.c. AT PANEL EDGES AND 12"o.c. IN FIELD. (O.S.B. IS ACCEPTABLE)



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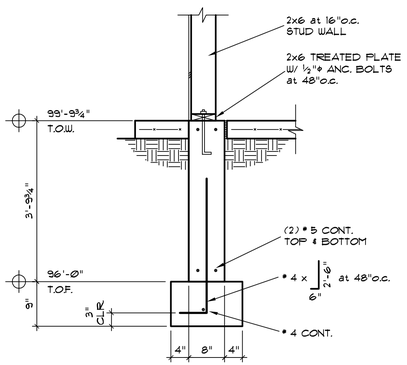

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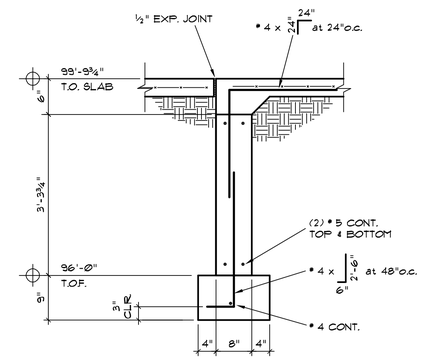

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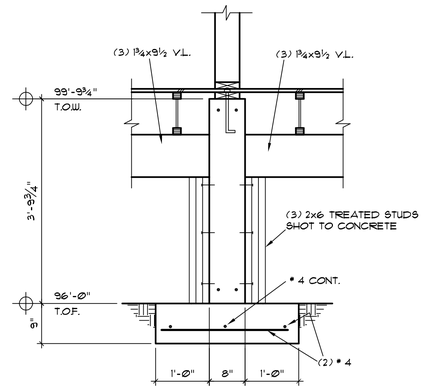

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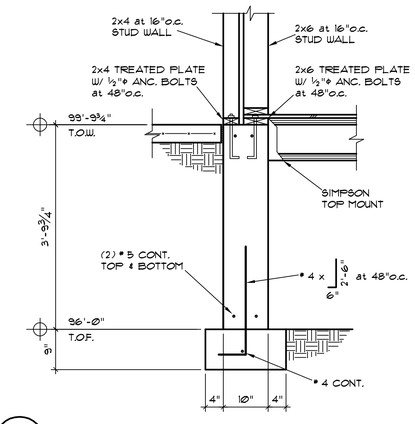

7 SCALE: 3/4"=1'-Ø"

HGF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19-522-RAD
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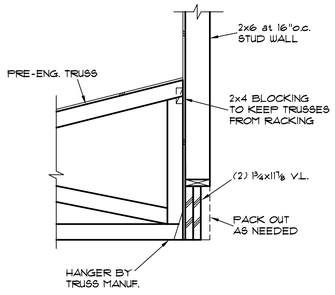

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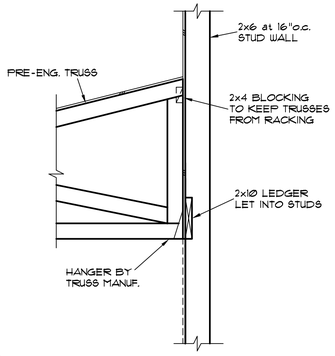

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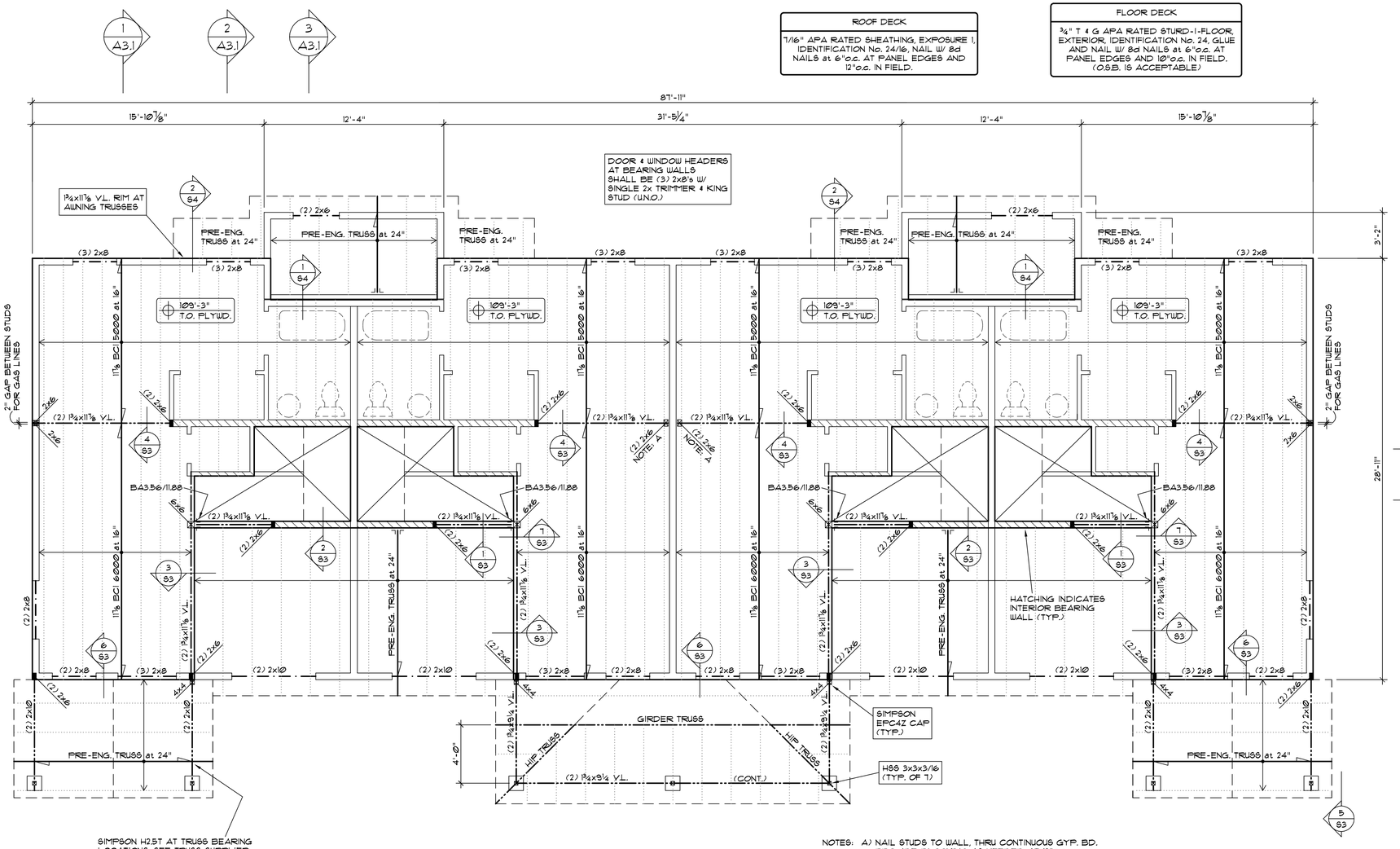
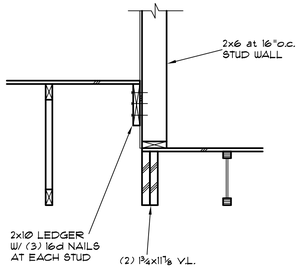


UPPER FLOOR / LOW ROOF FRAMING PLAN

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



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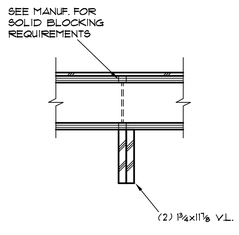

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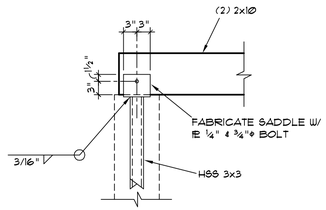

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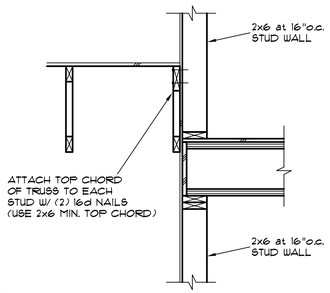

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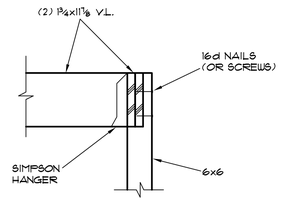

7 SCALE: 3/4"=1'-0"

HIGH PLAINS ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES

PROJECT No. I.F.B. 19-522-RAD

ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

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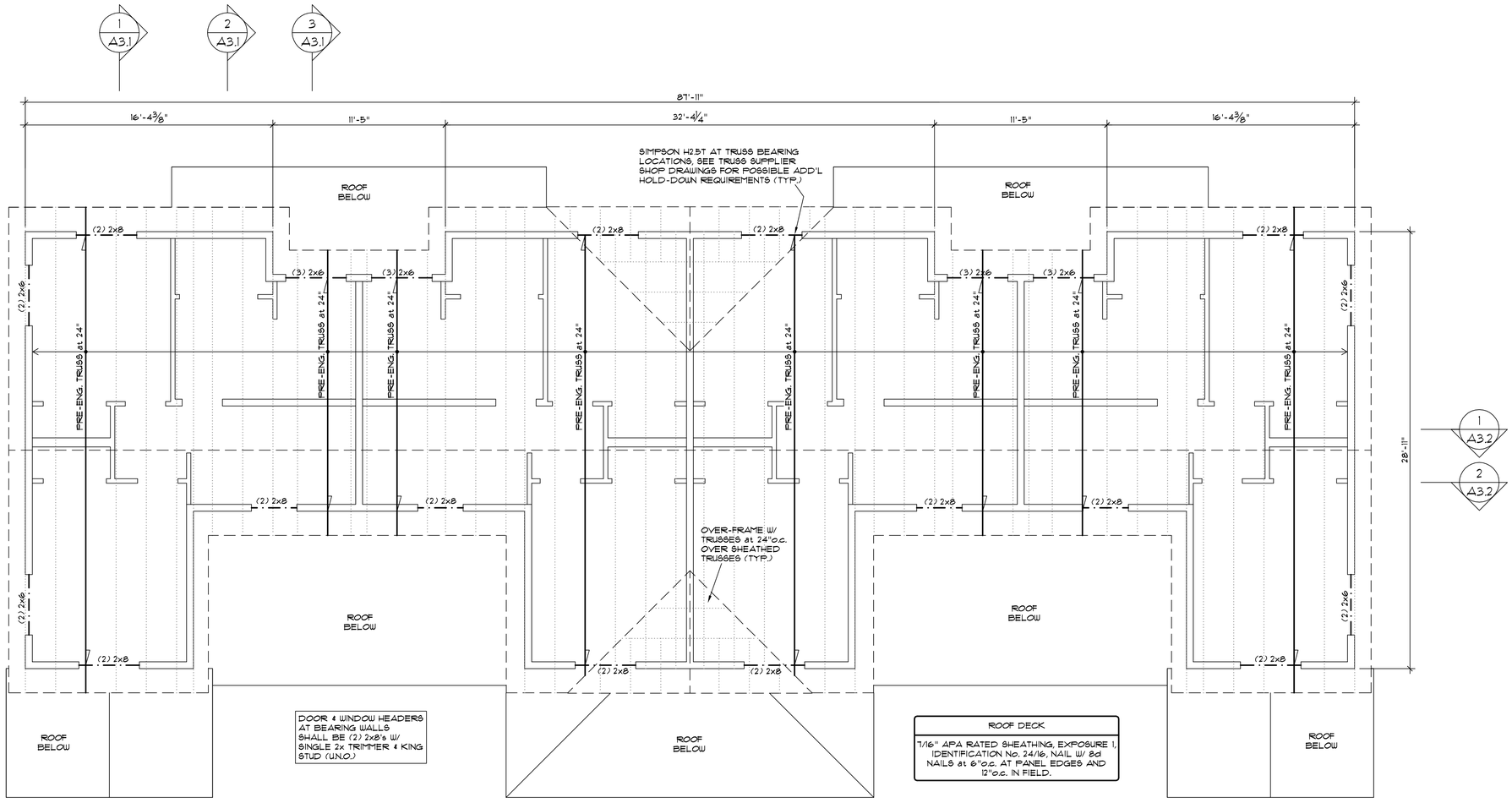
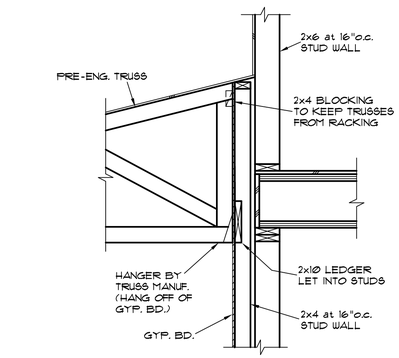


HIGH ROOF FRAMING PLAN

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



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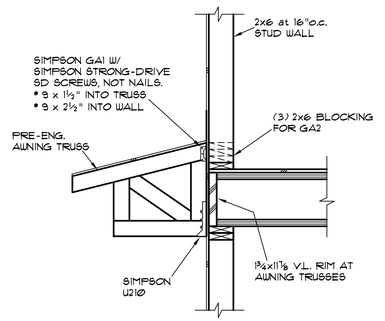

2 SCALE: 3/4"=1'-0"

IHG IF ARCHITECTS
HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19-522-RAD
ACERO AVE. and SPAGUE AVE., PUEBLO, COLORADO

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2015 INTERNATIONAL ENERGY CONSERVATION CODE COMPLIANCE

C403.2.3 HVAC EQUIPMENT PERFORMANCE REQUIREMENTS. EQUIPMENT SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES C403.2.3(1) THROUGH C403.2.3(9), WHEN TESTED AND RATED IN ACCORDANCE WITH THE APPLICABLE TEST PROCEDURE. PLATE-TYPE LIQUID-TO-LIQUID HEAT EXCHANGERS SHALL MEET THE MINIMUM REQUIREMENTS OF TABLE C403.2.3(10). THE EFFICIENCY SHALL BE VERIFIED THROUGH CERTIFICATION UNDER AN APPROVED CERTIFICATION PROGRAM OR, IF NO CERTIFICATION PROGRAM EXISTS, THE EQUIPMENT EFFICIENCY RATINGS SHALL BE SUPPORTED BY DATA FURNISHED BY THE MANUFACTURER. WHERE MULTIPLE RATING CONDITIONS OR PERFORMANCE REQUIREMENTS ARE PROVIDED, THE EQUIPMENT SHALL SATISFY ALL STATED REQUIREMENTS. WHERE COMPONENTS, SUCH AS INDOOR OR OUTDOOR COILS, FROM DIFFERENT MANUFACTURERS ARE USED, CALCULATIONS AND SUPPORTING DATA SHALL BE FURNISHED BY THE DESIGNER THAT DEMONSTRATES THAT THE COMBINED EFFICIENCY OF THE SPECIFIED COMPONENTS MEETS THE REQUIREMENTS HEREIN.

C403.2.9 DUCT AND PLENUM INSULATION AND SEALING. SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES AND WHERE LOCATED OUTSIDE THE BUILDING WITH A MINIMUM OF R-8 IN CLIMATE ZONES 1 THROUGH 4 AND A MINIMUM OF R-12 FOR CLIMATE ZONES 5 THROUGH 8. WHERE LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM OF R-8 INSULATION IN CLIMATE ZONES 1 THROUGH 4 AND A MINIMUM OF R-12 INSULATION IN CLIMATE ZONES 5 THROUGH 8.

C403.2.4.2.1 THERMOSTATIC SETBACK CAPABILITIES. THERMOSTATIC SETBACK CONTROLS SHALL HAVE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).

C403.2.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN CAPABILITIES. AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE: A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS, A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS, OR AN OCCUPANCY SENSOR.

C408.2 MECHANICAL SYSTEMS AND SERVICE WATER-HEATING SYSTEM COMMISSIONING AND COMPLETION REQUIREMENTS. PRIOR TO THE FINAL MECHANICAL AND PLUMBING INSPECTIONS, THE REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY SHALL PROVIDE EVIDENCE OF MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION IN ACCORDANCE THE PROVISIONS OF THIS SECTION. CONSTRUCTION DOCUMENT NOTES SHALL CLEARLY INDICATE PROVISIONS FOR COMMISSIONING AND COMPLETION REQUIREMENTS IN ACCORDANCE WITH THIS SECTION AND ARE PERMITTED TO REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS. COPIES OF ALL DOCUMENTATION SHALL BE GIVEN TO THE OWNER AND MADE AVAILABLE TO THE CODE OFFICIAL UPON REQUEST IN ACCORDANCE WITH SECTIONS C408.2.4 AND C408.2.5.

C408.2.2.1 AIR SYSTEM BALANCING.
EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 OF THE INTERNATIONAL MECHANICAL CODE. DISCHARGE DAMPERS ARE PROHIBITED ON CONSTANT VOLUME FANS AND VARIABLE VOLUME FANS WITH MOTORS 10 HP AND LARGER. AIR SYSTEMS SHALL BE BALANCED IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES THEN, FOR FANS WITH SYSTEM POWER OF GREATER THAN 1HP, FAN SPEED SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS.

C408.2.5.2 MANUALS.
AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED AND INCLUDE ALL OF THE FOLLOWING:

1. SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.
2. MANUFACTURER'S OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
3. NAME AND ADDRESS OF AT LEAST ONE SERVICE AGENCY.
4. HVAC CONTROLS SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SETPOINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN SYSTEM PROGRAMING INSTRUCTIONS.
5. A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SETPOINTS.

ABBREVIATIONS

AAV/AV	AIR VENT
AC	AIR COMPRESSOR/ AIR CONDITIONER
ACU	AIR CONDENSING UNIT
AD	AIR DRIER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	AIRFLOW STATION
AHU	AIR HANDLING UNIT
AP	AIR PURIFIER
AT	AIR TANK
BCU	BATTERY COOLING UNIT
BFP	BACK FLOW PREVENTER
BOD	BOTTOM OF DUCT
CA	COMPRESSED AIR
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CIRC	CIRCULATION
CRAC	COMPUTER ROOM AIR CONDITIONER
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
D	DRAIN
DCW	DOMESTIC COLD WATER
DD	DUAL DUCT TERMINAL BOX
DDC	DIRECT DIGITAL CONTROLLER
DHW	DOMESTIC HOT WATER
DTW	DOMESTIC TEMPERED WATER
(E), EX	EXISTING
EA	EXHAUST AIR
EDH	ELECTRIC DUCT HEATER
EF/EX	EXHAUST FAN
EHC	ELECTRICAL HEATING CABINET
FB	FILTER BOX
FC	FAN COIL
G	NATURAL GAS
HWC	DOMESTIC HOT WATER RECIRCULATION
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
MAU	MAKEUP AIR UNIT
MM	MINIMATE A/C UNIT
MR	MECHANICAL ROOM
MVD	MANUAL VOLUME DAMPER
MZU	MULTI ZONE UNIT
NA	NOT AVAILABLE
OA	OUTSIDE AIR
P	PUMP
PENT	PENTHOUSE
PWU	PACKAGED WALL UNIT
RA	RETURN AIR
RD	REFRIGERANT DISCHARGE
RF	RETURN FAN
RP	RADIANT PANEL
RR	REST ROOM
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
TA	TRANSFER AIR
TF	TRANSFER FAN
TOD	TOP OF DUCT
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME

HVAC PIPING LEGEND

SYMBOL	ABBR.	DESCRIPTION
HWS	HWS	HOT WATER SUPPLY
HWR	HWR	HOT WATER RETURN
CHWS	CHWS	CHILLED WATER SUPPLY
CHWR	CHWR	CHILLED WATER RETURN
C	C	CONDENSER WATER SUPPLY
CR	CR	CONDENSER WATER RETURN
D	D	CONDENSATE OR EQUIPMENT DRAIN
RD	RD	REFRIGERANT DISCHARGE
RS	RS	REFRIGERANT SUCTION
		REFRIGERANT LINE SET (SUCTION AND DISCHARGE)
G	G	NATURAL GAS
CA	CA	COMPRESSED AIR
HPS	HPS	HIGH PRESSURE STEAM
HPC	HPC	HIGH PRESSURE CONDENSATE
MPS	MPS	MEDIUM PRESSURE STEAM
MPC	MPC	MEDIUM PRESSURE CONDENSATE
LPC	LPS	LOW PRESSURE STEAM
LPC	LPC	LOW PRESSURE CONDENSATE
		EXISTING PIPING
		HATCH DENOTES TO BE REMOVED
		ELBOW DOWN
		ELBOW UP
		TEE DOWN
		TEE UP
		STRAINER WITH BLOWOFF VALVE
		REDUCER
		BALL VALVE
		BUTTERFLY VALVE
		DIAPHRAGM VALVE
		GATE VALVE
		GLOBE VALVE
		ANGLE VALVE
		PLUG VALVE
		CHECK VALVE
	CBV	CALIBRATED BALANCING VALVE
S		SOLENOID ACTUATOR
M		MOTOR ACTUATOR
P		PNEUMATIC ACTUATOR
	PRV	PRESSURE REGULATING VALVE
	PSV	PRESSURE RELIEF VALVE

HVAC LEGEND

SYMBOL	DESCRIPTION
	SUPPLY DIFFUSER - FOUR WAY THROW, UNLESS NOTED OTHERWISE (UNO), OR SUPPLY (POSITIVE PRESSURE) AIR DUCT
	SUPPLY DIFFUSER WITH ROUND CONNECTION FOUR WAY THROW, UNLESS NOTED OTHERWISE (UNO)
	RETURN GRILLE OR RETURN (NEGATIVE PRESSURE) AIR DUCT
	RETURN GRILLE WITH ROUND CONNECTION
	EXHAUST GRILLE
20x12	DUCT SIZE, FIRST FIGURE IS FOR SIDE SHOWN.
20x10 15x8	TRANSITION, RECTANGULAR
10x10 8"Ø	TRANSITION, SQUARE-TO-ROUND
	ELBOW WITH TURNING VANES
	BRANCH, NO SPLITTER
MVD	ROUND SPIN-IN WITH MANUAL VOLUME DAMPER (MVD)
	PARALLEL BLADE DAMPER
	OPPOSED BLADE DAMPER
M	MOTORIZED DAMPER
FD/SD/FSD	FIRE DAMPER, FD=FIRE, SD=SMOKE, FSD=FIRE/SMOKE
S	SMOKE DETECTOR
1	FIRE (HEAT) DETECTOR
	FLEX DUCT TO DIFFUSER
P	PRESSURE SENSOR
H	HUMIDISTAT
T RTU-4	THERMOSTAT WITH EQUIPMENT CONTROLLED TAG
T	WIRED THERMOSTAT TO EQUIPMENT
T	WIRELESS THERMOSTAT TO EQUIPMENT
	CABINET EXHAUST FAN
	ROOF MOUNTED EXHAUST FAN
	AIR FLOW DIRECTION
	CONNECT NEW TO EXISTING
A ### CFM / #Ø	SUPPLY AIR DEVICE CALLOUT TOP LINE DENOTES CFM BOTTOM LINE DENOTES NECK SIZE - (SEE SCHEDULE)
A ### CFM / #Ø 3	SUPPLY AIR DEVICE CALLOUT WITH QUANTITY TOP LINE DENOTES CFM BOTTOM LINE DENOTES NECK SIZE - (SEE SCHEDULE)
A	RETURN AIR GRILLE CALLOUT (SEE SCHEDULE)
VAV 1	EQUIPMENT TAG (SEE SCHEDULE)
(E)	EXISTING
(N)	NEW
(R)	RELOCATED
SA	SUPPLY AIR
RA	RETURN AIR
OA	OUTSIDE AIR
EA	EXHAUST AIR
TA	TRANSFER AIR

MECHANICAL GENERAL NOTES (2015)

A. NOT ALL EXISTING DUCTWORK, PIPING, AND ACCESSORIES ARE NECESSARILY SHOWN ON THIS DRAWING, BUT WHAT IS DEEMED NECESSARY TO SHOW INTENT OF WORK INVOLVED IN THIS PROJECT. REFER TO ALL PLANS, SECTIONS, DETAILS, SCHEDULES, AND SPECIFICATIONS FOR COMPLETE SYSTEM REQUIREMENTS.

B. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO ORDERING, FABRICATION OF MATERIAL, OR PERFORMING ANY NEW WORK. DEVIATIONS FROM CONDITIONS SHOWN IN THESE PLANS SHALL BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY AND NO WORK SHALL BE PERFORMED IN THIS AREA UNTIL A RESOLUTION HAS BEEN ESTABLISHED. SITE CONDITIONS DIFFERING FROM THOSE SHOWN ON THESE PLANS WILL NOT BE GENERALLY CONSIDERED A BASIS FOR CONTRACT MODIFICATION AS THE CONTRACTOR SHALL TAKE INTO ACCOUNT WORST CASE SITE CONDITIONS WHEREVER POSSIBLE.

C. COORDINATE ALL PENETRATIONS OF FLOOR, ROOF, WALLS, ETC. WITH GENERAL CONTRACTOR. ALL PENETRATIONS THROUGH FIRE/SMOKE RATED CONSTRUCTION SHALL BE SEALED WITH A FIRE RATED CAULK EQUAL TO OR EXCEEDING THE CONSTRUCTION FIRE RATING.

D. ALL NEW MATERIALS IN THE RETURN AIR PLENUM SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50 IN ACCORDANCE WITH SECTION 602.2.1 OF THE 2015 INTERNATIONAL MECHANICAL CODE.

E. FLEXIBLE AIR DUCTS SHALL CONFORM TO UL181 IN ACCORDANCE WITH SECTION 603.6 OF THE 2015 INTERNATIONAL MECHANICAL CODE. LENGTH OF FLEX DUCT SHALL NOT EXCEED 5 FT.

F. ALL MECHANICAL EQUIPMENT SHALL BE LABELED AS TO THE AREA(S) SERVED IN ACCORDANCE WITH SECTION 304.12 OF THE 2015 INTERNATIONAL MECHANICAL CODE.

G. PROVIDE ACCESS DOORS OR OTHER MEANS OF APPROVED ACCESS TO ALL FIRE AND FIRE/SMOKE DAMPERS. ACCESS DOORS SHALL BE LABELED ON THE ACCESS DOOR AND ON THE CEILING BELOW.

H. PROVIDE AND INSTALL A BALANCING DAMPER AT EACH BRANCH TAKEOFF FOR THE SUPPLY AND EXHAUST AIR SYSTEMS. PROVIDE AND INSTALL A BALANCING DAMPER AT EACH BRANCH TAKEOFF FOR THE RETURN AIR SYSTEM WHERE INDICATED. BALANCING DAMPERS LOCATED ABOVE GYPSUM BOARD OR OTHER INACCESSIBLE CEILINGS SHALL BE INSTALLED WITH A CONCEALED DAMPER REGULATOR AND COVER PLATE, PAINTED TO MATCH CEILING COLOR.

I. MOUNT SPACE TEMPERATURE SENSORS, THERMOSTATS, AND REMOTE CONTROL DEVICES WITH CENTERLINE AT 48" ABOVE FINISH FLOOR (AFF) UNLESS OTHERWISE INDICATED.

J. PROVIDE BALANCE REPORT TO INSPECTOR AT TIME OF HEATING FINAL IN ACCORDANCE WITH 2015 INTERNATIONAL MECHANICAL CODE. SUBMIT TO ARCHITECT FOR FINAL APPROVAL.

K. DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE 2015 EDITION OF THE INTERNATIONAL MECHANICAL CODE, SECTION 603.9.

L. DUCT SIZES SHOWN REPRESENT CLEAR INSIDE DIMENSIONS.

M. ALL RECTANGULAR DUCT ELBOWS OR CHANGES IN DIRECTION OF 45 DEGREES OR GREATER, OTHER THAN BRANCH CONNECTIONS, SHALL INCLUDE DOUBLE THICKNESS AIRFOIL SHAPED TURNING VANES.

N. UNLESS NOTED OTHERWISE, DIFFUSER/GRILLE/REGISTER NECK SIZE SHOWN ON DRAWINGS INDICATES SIZE OF DUCT TO DIFFUSER/GRILLE/REGISTER.

O. COORDINATE FINAL LOCATION OF DUCTWORK, PIPING, DIFFUSERS, ETC. WITH ALL OTHER TRADES BEFORE FABRICATION OR INSTALLATION.

P. CONTRACTOR SHALL PROVIDE ALL REQUIRED OFFSETS, TRANSITIONS, AND FITTINGS FOR DUCTWORK AND PIPING FOR COMPLETE SYSTEM.

Q. UNLESS NOTED OTHERWISE, PROVIDE BELL MOUTH SPIN-IN FITTING WITH A 2" STAND-OFF BRACKET AND LOCKING QUADRANT VOLUME DAMPER FOR ALL DIFFUSER CONNECTIONS.

R. COORDINATE LOCATION OF ALL WALL/CEILING MOUNTED DIFFUSERS AND GRILLES WITH ALL TRADES AND GENERAL CONTRACTOR.

S. PROVIDE AND INSTALL 1/4" BIRD-SCREEN ON OPENINGS FREELY COMMUNICATING WITH THE OUTDOORS.

T. FOR AIR HANDLING EQUIPMENT WITH A CAPACITY OF 2,000 CFM OR GREATER, A SMOKE DETECTOR SHALL BE INSTALLED IN THE RETURN AIR STREAM.

U. PROVIDE 115V MAINTENANCE RECEPTACLE WITHIN 25'-0" OF ROOF TOP EQUIPMENT.

V. BUILDING EXHAUST AND VENTS SHALL BE INSTALLED A MINIMUM OF 10'-0" FROM VENTILATION INTAKES.

MECHANICAL SHEET INDEX

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HIGHLIFE ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

DATE 04-16-2019
DRAWN PLANT
CHECK RL
REVISIONS:

SHEET M001B

DIVISION 23 - MECHANICAL

SECTION 23 01 00 - BASIC HVAC REQUIREMENTS

1.01 GENERAL
A. ALL PROVISIONS OF THE CONTRACT DOCUMENTS APPLY TO THE WORK OF THIS DIVISION.
B. ALL DIVISION 23 SECTIONS ARE SUBJECT TO THE PROVISIONS OF THIS SECTION.

1.02 SUMMARY OF WORK
A. WORK INCLUDED: PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTAL ITEMS NECESSARY FOR COMPLETELY FINISHED AND OPERATIONAL MECHANICAL SYSTEMS. EXAMINE DOCUMENTS OF OTHER TRADES FOR ANY ADDITIONAL WORK WHICH MAY BE REQUIRED OF THE MECHANICAL CONTRACTOR.

1.03 DEFINITIONS
A. EXPOSED: EXPOSED IN MECHANICAL ROOMS OR ROOMS WITH FINISHED WALLS OR CEILINGS. DOES NOT INCLUDE EXTERIOR.
B. CONCEALED: LOCATED IN PIPE CHASES, FURRED SPACES, ATTICS, CRAWL SPACES, ABOVE SUSPENDED CEILINGS, OR ALL OTHER LOCATIONS NOT EXPOSED TO VIEW.
C. PROVIDE: FURNISHED AND INSTALL.
D. EXTERIOR: LOCATED OUTSIDE OF BUILDING ENVELOPE.

1.04 DIVISION OF RESPONSIBILITY
SPECIFICATION FORMATTING WHICH INDICATES A DIVISION IN THE MECHANICAL WORK IS FOR CONVENIENCE ONLY. IT IS NOT INTENDED TO DELINEATE LINES OF RESPONSIBILITY BETWEEN SUBCONTRACTORS AND/OR SUPPLIERS. SUCH DELINEATION RESTS ENTIRELY WITH THE CONTRACTOR.

1.05 PLANS AND SPECIFICATIONS
PLANS ARE DIAGRAMMATIC. THEY INDICATE GENERAL INTENT, DESIGN AND ARRANGEMENT OF SYSTEMS. PROVIDE ALL MINOR INCIDENTALS SUCH AS OFFSETS, FITTINGS, ETC., AS MAY BE REQUIRED EVEN THOUGH NOT SHOWN. PROVIDE ISOLATION VALVES AND UNIONS AS CALLED FOR IN THESE SPECIFICATIONS WHETHER OR NOT SHOWN ON DRAWINGS. DO NOT SCALE THE PLANS; TAKE DIMENSIONS FROM ACTUAL FIELD CONDITIONS.

1.06 CODES AND REGULATIONS
A. CONFORM TO CODES AND REGULATIONS APPLICABLE AT THE PROJECT SITE.
B. CALL FOR INSPECTIONS FROM LOCAL AUTHORITIES AS REQUIRED IF DISCREPANCIES OCCUR BETWEEN CONTRACT DOCUMENTS AND LOCAL REGULATIONS, THE MORE STRINGENT REQUIREMENT APPLIES.

1.07 FEES AND PERMITS
A. OBTAIN REQUIRED PERMITS.
B. PAY PERMIT FEES, CONSTRUCTION FEES, TAP FEES, INSPECTION FEES.
C. DEVELOPMENT FEES ARE PAID BY OWNER.

1.08 COORDINATION
A. COORDINATE WITH OTHER TRADES TO ASSURE ORDERLY PROGRESS OF THE WORK AND TO ASSURE PROPER FIT IN CONFINED SPACES.
B. REPORT TO THE ARCHITECT ANY CONSTRUCTION DEFECTS WHICH AFFECT THE MECHANICAL WORK; PROCEED WITH MECHANICAL WORK ONLY AFTER DEFECTS HAVE BEEN CORRECTED.

1.09 QUALITY ASSURANCE
A. PERFORM WORK IN ACCORDANCE WITH GOOD TRADE PRACTICE AND IN A NEAT MANNER. COMPLY WITH ARCHITECT'S DIRECTION CONCERNING FINISHED APPEARANCE.
B. ADHERE TO MANUFACTURER'S RECOMMENDATIONS.

1.10 PROTECTION
A. OF PEOPLE: ARRANGE BARRIERS, SIGNS, ETC. AS REQUIRED TO MINIMIZE THE HAZARD TO PEOPLE. COMPLY WITH APPLICABLE SAFETY AND HEALTH REGULATIONS.
B. OF WORK: TAKE ALL MEASURES NECESSARY TO PROTECT THE WORK BOTH BEFORE AND AFTER INSTALLATION, TO ASSURE THAT IT WILL BE IN CLEAN, UNDAMAGED, UNBLEMISHED CONDITION WHEN TURNED OVER TO THE OWNER. REPAIR/REPLACE WORK DAMAGED DURING CONSTRUCTION.
C. OF EXISTING MECHANICAL: PROVIDE TEMPORARY FILTERS AT ALL EXISTING RETURN AIR DEVICES AND OPENINGS DURING CONSTRUCTION.

1.11 SUBMITTALS
A. SUBMIT PRODUCT DATA FOR THE FOLLOWING ITEMS:
1. GRILLES, REGISTERS, DIFFUSERS, SPIN-IN, FLEX, DUCT INSULATION, THERMOSTAT, HVAC EQUIPMENT AND OTHER MISC HVAC ITEMS.
2. ALL PLUMBING FIXTURES, ACCESSORIES AND PIPE INSULATION.
B. SUBMIT PDF THROUGH GENERAL CONTRACTOR TO ENGINEER.

1.12 RECORD DOCUMENTS
A. MAINTAIN AT JOB SITE: CONTRACT DOCUMENTS, REVIEWED SUBMITTALS, FIELD TEST RECORDS.
B. AS-BUILT DRAWINGS: NEATLY REVISE THE DESIGN DRAWINGS TO REFLECT THE AS-BUILT CONDITION. DIMENSIONALLY LOCATE SITE UTILITIES AND UNDER SLAB WORK. DELIVER AS-BUILT DRAWINGS TO ENGINEER AT PROJECT COMPLETION.

1.13 OPERATING & MAINTENANCE MANUAL
A. FORMAT: PDF
B. CONTENTS: EACH SECTION SET OFF BY INDEX TABS. INCLUDE:
1. TABLE OF CONTENTS.
2. EXECUTED WARRANTIES.
3. NAME, ADDRESS AND TELEPHONE NUMBER OF INSTALLING CONTRACTORS AND SUBCONTRACTORS, ALONG WITH BRIEF DESCRIPTION OF THEIR PROJECT RESPONSIBILITY.
4. NAME, ADDRESS AND TELEPHONE NUMBER OF MATERIAL AND EQUIPMENT SUPPLIERS, ALONG WITH LISTING OF ITEMS SUPPLIED.
5. EQUIPMENT TABS, MINIMUM ONE TAB FOR EACH APPLICABLE DIVISION 23 SECTION, ARRANGED IN THE SAME ORDER AS THE SPECIFICATIONS. INCLUDE FOR ALL EQUIPMENT SUPPLIED:
A. REVIEWED SUBMITTALS.
B. INSTALLATION INSTRUCTIONS.
C. OPERATING INSTRUCTIONS
D. MAINTENANCE INSTRUCTIONS.
E. PARTS LISTS.
F. TEST AND BALANCE REPORT.
G. CERTIFICATES OF INSPECTION
C. AT PROJECT COMPLETION SUBMIT ONE COPY OF MANUAL TO ENGINEER FOR REVIEW. MAKE ANY CORRECTIONS REQUIRED. TRANSMIT THREE CORRECTED COPIES TO GENERAL CONTRACTOR FOR DELIVERY TO OWNER.

1.14 WARRANTIES
A. PROVIDE ONE (1) YEAR WARRANTY ADDRESSED TO OWNER COVERING ALL DIVISION 23 WORK. PROVIDE ADDITIONAL FOUR (4) YEAR WARRANTY COVERING ALL REFRIGERANT COMPRESSORS.
B. INCLUDE EXECUTED WARRANTIES IN OPERATING & MAINTENANCE MANUALS.
C. DURING WARRANTY PERIOD, PROVIDE LABOR AND MATERIALS, INCLUDING SHIPPING, TO REPAIR OR REPLACE DEFECTS IN DIVISION 23 WORK. PAY FOR DAMAGE TO OTHER WORK RESULTING FROM DEFECTS IN DIVISION 23 WORK.

1.15 DEMONSTRATIONS
A. CONDUCT DEMONSTRATIONS WHEN SYSTEMS ARE COMPLETE AND OPERATIONAL AND READY TO BE TURNED OVER TO THE OWNER, AND AFTER THE OPERATING AND MAINTENANCE MANUAL IS COMPLETE.
B. INSTRUCT THE OWNER'S REPRESENTATIVE ONCE ON THE PROPER OPERATION AND MAINTENANCE OF THE MECHANICAL SYSTEMS. PAY PARTICULAR ATTENTION TO NORMAL AND EMERGENCY START-UP AND SHUT-DOWN PROCEDURES, SEASONAL CHANGE OVER, SAFETY DEVICES, AND TEMPERATURE CONTROL SYSTEMS.
END OF SECTION 23 01 00

SECTION 23 05 00 - BASIC MATERIALS AND METHODS

PART 1 GENERAL
1.01 WORK INCLUDED
THIS SECTION DESCRIBES MATERIALS AND METHODS COMMON TO THE WORK IN GENERAL FOR DIVISION 23.

PART 2 PRODUCTS
2.01 MOTORS, STARTERS, MISC. ELECTRICAL
A. MOTORS: MINIMUM HORSEPOWER AS INDICATED HEREIN OR ON DRAWINGS, CONSTRUCTED FOR OPERATION AT SITE ALTITUDE, RUST PROOF/LEAK PROOF BEARING RINGS, BUILT TO NEMA STANDARDS, FACTORY BALANCED, OPEN DRIP PROOF, THERMAL OVERLOAD PROTECTED, 1.15 SERVICE FACTOR AT ALTITUDE, POWER FACTOR CORRECTED IN ACCORDANCE WITH APPLICABLE ENERGY CODE, SUITABLE FOR OPERATION ON VOLTAGE INDICATED.

SECTION 23 05 00 - BASIC MATERIALS AND METHODS (cont'd)

B. STARTERS: STARTERS OR SMALL MOTORS WITHOUT STARTERS SHALL HAVE THERMAL OVERLOAD PROTECTION IN EACH PHASE. ALL MAGNETIC STARTERS SHALL BE FURNISHED WITH TRANSFORMERS THAT PROVIDE 120V CONTROL VOLTAGE UNLESS ESTABLISHED BY OTHER MEANS. STARTERS SHALL INCLUDE TWO SETS OF AUXILIARY CONTACTS.

2.02 PIPE SCHEDULE
A. GENERAL: ALL EXTERIOR EXPOSED GAS PIPING SHALL BE PAINTED.
B. NATURAL GAS: STEEL PIPE, ASTM A53 SCH. 40 WITH ASME B16.3 MALLEABLE IRON OR ASTM A234 FORGED STEEL THREADED OR WELDED FITTINGS.
C. REFRIGERANT: COPPER ACR TUBING ASTMB280, NITROGENIZED, TYPE L, HARD DRAWN.

2.03 PIPE HANGERS AND SUPPORTS
A. INSERTS: STEEL CASE AND EXPANDER PLUG FOR THREADED CONNECTION WITH LATERAL ADJUSTMENT, TOP SLOT FOR REINFORCING RODS AND LUGS FOR ATTACHING TO FORMS. SIZE TO MATCH HANGER ROD.
B. EXPANSION ANCHORS: LEAD SHIELD OR SLIDING EXPANSION TYPE WITH MACHINE BOLT. SIZE TO MATCH HANGER ROD.
C. BEAM CLAMPS: STEEL WITH CLAMPING BOLT AND JAMB NUT, CONFIGURED TO ATTACH SECURELY TO BEAM.
D. CLIP ANGLES: SHORT SECTION OF STEEL ANGLE WITH SUITABLE FASTENERS.
E. HANGER RODS: STEEL ALL-THREAD.
F. HANGERS:
1. INDIVIDUAL HANGERS: ADJUSTABLE WROUGHT STEEL RING FOR PIPING THROUGH 1-1/2". ADJUSTABLE WROUGHT STEEL CLEVIS FOR PIPING 2" AND LARGER. CHAIN OR PERFORATED STRAP HANGERS NOT PERMITTED.
2. TRAPEZE: INVERTED STEEL CHANNELS WITH WELDED PIPE SPACERS. PIPING MAY REST DIRECTLY ON TRAPEZE. SIZE HANGER RODS ONE SIZE LARGER THAN REQUIRED FOR LARGEST PIPE ON TRAPEZE. UNIFORMLY SPACE HANGER RODS MAXIMUM 3' ON CENTER. LOCATE PIPING ON TRAPEZE TO ALLOW FOR INSULATION AND THERMAL EXPANSION. SEE SECTION 23 07 00 - INSULATION.
G. WALL SUPPORTS: CAST IRON HOOK FOR PIPING THROUGH 3". WELDED STEEL WALL BRACKET WITH WROUGHT STEEL CLAMP FOR COLD PIPING 4" TO 6". SIZE IN ACCORDANCE WITH CODE AND TO ALLOW FOR INSULATION. SEE SECTION 23 07 00 - INSULATION.
H. RISER CLAMPS: STEEL, BOLT-TOGETHER, WITH SUPPORTING TABS. SIZE FOR UNINSULATED PIPE.
I. FLOOR STANDS:
1. BASE: CONCRETE PIER OR STEEL SUPPORT.
2. STAND: CAST IRON ADJUSTABLE SADDLE WITH PIPE NIPPLE RISER, LOCKNUT AND FLOOR FLANGE FOR PIPING THROUGH 5". ADJUSTABLE STEEL STAND AND CAST IRON ROLLER FOR PIPING 6" AND LARGER. SIZE IN ACCORDANCE WITH CODE AND TO ALLOW FOR INSULATION. SEE SECTION 23 07 00 - INSULATION.
J. MATERIALS: METALLIC PIPE HANGERS SHALL BE OF SAME MATERIAL AS BASE METAL OF PIPE OR INSTALL WEAR PADS FOR DISSIMILAR METALS.

2.04 SLEEVES, SAFING, AND ESCUTCHEONS
A. SLEEVES:
1. ROUND: STEEL PIPE SIZED LARGE ENOUGH TO ALLOW FOR UNINTERRUPTED INSULATION AND FOR MOVEMENT.
2. RECTANGULAR: GALVANIZED STEEL, REINFORCED TO PREVENT DEFORMATION.
B. SAFING:
1. WATERPROOF: ELASTIC MASTIC, SILICONE, ETC.
2. FIREPROOF: PLASTER, GROUT, OTHER MATERIAL AS APPROVED BY LOCAL AUTHORITIES.
C. ESCUTCHEONS
1. PIPING: ADJUSTABLE CHROME-PLATED, SOLID OR SPLIT, FLAT OR DISHED TO SUIT THE APPLICATION.
2. DUCTWORK: FABRICATED SHEET METAL.

2.05 VALVES
A. ACCEPTABLE MANUFACTURERS: CRANE, HAMMOND, JENKINS, KENNEDY, NIBCO, POWELL, STOCKHAM, GRINNELL.
B. GENERAL: ALL VALVES OF THE SAME TYPE SHALL BE OF ONE MANUFACTURER. USE VALVES LISTED WITH THE MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY.
G. GAS PLUG VALVES:
1. UNDER 2-1/2": CAST IRON BODY, 150 #, BUILT IN STOP.
2. 2-1/2" AND LARGER: MSS SP-78, 150 #, CWP, CAST IRON BODY AND PLUG, PRESSURE LUBRICATED, TEFLON OR BUNA N PACKING.

2.06 UNIONS
A. FERROUS PIPING
1. 2" AND SMALLER: 150# MALLEABLE IRON GROUND JOINT, THREADED ENDS.
2. 2-1/2" AND LARGER: GRADE 1 150# FORGED STEEL SLIP ON OR WELD-NECK FLANGES IN ACCORDANCE WITH ASTM 181, REGULAR SQUARE-HEAD MACHINE BOLTS WITH HEAVY HEXAGONAL NUTS IN ACCORDANCE WITH ASTM A307 GRADE B, 1/16" THICK PRE-FORMED SYNTHETIC GASKETS.
B. DIELECTRIC UNIONS:
1. UNION WITH GALVANIZED OR PLATED STEEL THREADED END, COPPER SOLDER END, WATER IMPERVIOUS ISOLATION BARRIER.

PART 3 - EXECUTION
3.01 MOTORS, STARTERS, AND MISC. ELECTRICAL PROVIDE MOTORS OF MINIMUM HORSEPOWER INDICATED, COMPLETE WITH STARTERS,AND ACCESSORIES AS REQUIRED.

SECTION 23 05 00 - BASIC MATERIALS AND METHODS (cont'd)

3.02 PIPE HANGERS, SUPPORTS
A. GENERAL: ADEQUATELY SUPPORT PIPING FROM BUILDING STRUCTURE, TO MAINTAIN REQUIRED GRADES, TO PREVENT SAGGING. SUPPORT PIPING INDEPENDENTLY OF EQUIPMENT SO ITS WEIGHT WILL NOT BE SUPPORTED BY THE EQUIPMENT. PROVIDE SWAY BRACING WHERE NECESSARY. ISOLATE HANGERS AND SUPPORTS COMING IN CONTACT WITH BARE COPPER PIPE; USE DIELECTRIC HANGER CONNECTORS OR WRAP WITH NON-CONDUCTIVE TAPE.
B. HANGER SPACING:
1. SPACING SHALL BE IN ACCORDANCE WITH IMC TABLE 305.4
2. TO PROVIDE 1/2" MINIMUM CLEARANCE BETWEEN INSULATION AND ADJACENT WORK.
3. SUPPORT HORIZONTAL CAST IRON PIPING NEAR EACH JOINT, MAXIMUM 5' ON CENTER.
4. SUPPORT VERTICAL CAST IRON PIPING AT EACH FLOOR INDEPENDENTLY OF CONNECTING HORIZONTAL PIPING WHERE PRACTICAL.
C. INSERTS: USE FOR CAST-IN-PLACE CONCRETE. SET IN PLACE PRIOR TO CONCRETE POUR. ATTACH INSERT TO RE-BAR IF INSERT WILL CARRY PIPING 4" AND OVER. WHERE CONCRETE WILL REMAIN EXPOSED, FINISH INSERTS FLUSH WITH EXPOSED SURFACE.
D. EXPANSION ANCHORS: USE FOR PRECAST AND EXISTING CONCRETE. DRILL APPROPRIATE SIZE HOLE AND SECURELY SET ANCHOR. DO NOT CUT STRESSED CONCRETE REINFORCING. WHERE ARCHITECT ALLOWS, MAY DRILL THROUGH CONCRETE SLAB FROM BELOW AND PROVIDE HANGER ROD WITH RECESSED SQUARE STEEL PLATE AND NUT ABOVE SLAB.
E. BEAM CLAMPS: USE FOR STEEL BEAMS AND JOISTS, CLAMPED IN PLACE.
F. CLIP ANGLES: USE FOR STEEL BEAMS, WELDED IN PLACE. USE FOR WOOD BEAMS AND JOISTS, THROUGH-BOLTED IN PLACE WITH BACKER PLATE AND LOCK NUT.
G. HANGER RODS: SUSPENDED FROM INSERTS AND ANCHORS WITH JAMB NUT. SUSPENDED FROM CLAMPS AND ANGLES WITH TOP AND BOTTOM LOCK NUTS.
H. HANGERS: SUSPEND FROM RODS WITH TOP AND BOTTOM LOCK NUTS. ALLOW FOR AT LEAST 1-1/2" VERTICAL ADJUSTMENT.
I. WALL SUPPORTS: SECURELY ATTACH TO WALL USING INSERTS, EXPANSION ANCHORS, BOLTS, ETC. AS SUITS THE APPLICATION AND TO ASSURE A PERMANENT FASTENING.
J. RISER CLAMPS: LOCATE AT EACH FLOOR FOR RISERS WHICH EXTEND THROUGH MORE THAN ONE FLOOR AND FOR PIPING WHICH IS NOT ADEQUATELY SUPPORTED FROM BELOW.
K. FLOOR STANDS: USE FOR HORIZONTAL PIPING SUPPORTED FROM THE FLOOR. PROVIDE GENERAL CONTRACTOR WITH ANCHOR BOLTS AND SETTING TEMPLATES FOR CONCRETE PIERS.

3.03 SLEEVES, SAFING, AND ESCUTCHEONS
A. MAKE PENETRATIONS THROUGH BUILDING ELEMENTS AS FOLLOWS:
1. NEW CONCRETE: USE INDIVIDUAL SLEEVES CAST IN PLACE. ONLY ONE PIPE OR DUCT TO A SLEEVE; MULTIPLE PIPES/DUCTS IN A SLEEVE NOT ALLOWED. EXTENDED FLOOR SLEEVES 2" ABOVE FINISHED FLOOR, NOTCHED AS REQUIRED FOR RISER CLAMPS. CUT WALL SLEEVES FLUSH WITH WALL.
2. PRE-CAST AND EXISTING CONCRETE, SLEEVES NOT REQUIRED. SAW CUT OR CORE DRILL CONCRETE AS IN ACCORDANCE WITH CUTTING AND PATCHING HEREIN.
3. NEW MASONRY: SAME AS NEW CONCRETE.
4. EXISTING MASONRY: SAME AS EXISTING CONCRETE.
5. FRAME: SAME AS EXISTING CONCRETE.
B. PROVIDE SAFING IN ANNULAR SPACE BETWEEN PIPE/DUCT/INSULATION AND SLEEVE/OPENING AS FOLLOWS:
1. FOR UN-RATED CONCRETE FLOORS AND FOUNDATION WALLS USE WATERPROOF TYPE.
2. FOR FIRE-RATED CONSTRUCTION USE FIREPROOF TYPE FOR FULL THICKNESS OF THE CONSTRUCTION.
C. PROVIDE ESCUTCHEONS FOR PIPES AND DUCTS PASSING THROUGH WALLS, FLOORS AND CEILINGS IN FINISHED AREAS. PROVIDE TO COMPLETELY CONCEAL THE PENETRATION, TO BUTT TIGHTLY AGAINST THE WALL/FLOOR/CEILING AND THE PIPE/DUCT, AND TO YIELD A NEATLY FINISHED APPEARANCE. INSTALL PLATED ESCUTCHEONS AFTER WALL/FLOOR/CEILING HAS BEEN PAINTED.

3.04 VALVES
A. ORIENTATION: INSTALL WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED. INSTALL SWING CHECKS HORIZONTALLY OR IN UPFLOW VERTICAL PIPING, NOT DOWNFLOW VERTICAL.
B. SHUT-OFF AND ISOLATION: PROVIDE WHERE SHOWN, AT INLET AND OUTLET TO EACH PIECE OF EQUIPMENT, TO ISOLATE MAJOR HORIZONTAL BRANCHES, AT BASE OF VERTICAL RISERS. MAY OMIT WHERE BALANCING VALVE CAN BE USED FOR SHUT-OFF.
C. BALANCING: PROVIDE BALANCING VALVES WHERE SHOWN.
D. DRAINS: PROVIDE WHERE SHOWN, AT MAIN SHUT-OFF VALVES, AT LOW POINTS OF PIPING AND EQUIPMENT, TO ASSURE COMPLETE SYSTEM DRAIN-DOWN. LOCATE AT ACCESSIBLE POINTS WITHIN THE PIPING SYSTEM. USE DRAIN VALVES.

3.05 UNIONS
A. PROVIDE WHERE SHOWN, AT ALL EQUIPMENT AND CONTROL VALVE CONNECTIONS, FOR CONNECTION TO OTHER ITEMS REQUIRING REMOVAL FOR SERVICE/REPLACEMENT.
B. PROVIDE DIELECTRIC TYPE AT JUNCTIONS OF DISSIMILAR METALS.

3.06 PIPING SPECIALTIES
A. PRESSURE AND TEMPERATURE RELIEF VALVES: PROVIDE WHERE SHOWN AND TO ADEQUATELY PROTECT FIRED AND UNFIRED PRESSURE VESSELS AND PIPING SYSTEMS DESIGNED FOR OPERATION AT REDUCED PRESSURE. PIPE DISCHARGE TO A SAFE LOCATION. DO NOT PROVIDE ISOLATION VALVE BETWEEN RELIEF VALVE AND SYSTEM BEING PROTECTED.
B. THERMOMETERS: PROVIDE WHERE SHOWN, AT INLET AND OUTLET TO ALL FIRED PRESSURE VESSELS EXCEPT RESIDENTIAL-SIZED DOMESTIC WATER HEATERS, AT OUTLET FROM DOMESTIC WATER STORAGE TANKS AND STORAGE WATER HEATERS. AT PRIMARY AND SECONDARY INLET AND OUTLET TO CONVERTERS AND HEAT EXCHANGERS, DOWNSTREAM OF MAJOR MIXING VALVES. OMIT ON STEAM AND CONDENSATE SYSTEMS.

3.07 PIPE INSTALLATION
A. LOCATION: ROUTE PIPING GENERALLY AS INDICATED, PARALLEL WITH BUILDING ELEMENTS, IN AN ORDERLY MANNER. LOCATE CONCEALED UNLESS INDICATED OTHERWISE. ARRANGE TO CONSERVE HEADROOM AND TO CLEAR DOORS, WINDOWS AND OTHER OPENINGS.
B. INSTALLATION: INSTALL WITHOUT SPRING OR FORCING UNLESS COLD-SPRINGING IS INDICATED. MAKE CHANGES IN DIRECTION WITH FITTINGS. PROVIDE NECESSARY OFFSETS TO ACCOMMODATE OTHER WORK AND AS REQUIRED FOR EQUIPMENT FIT-UP. REAM AND CLEAN PRIOR TO JOINING. CAP OPEN ENDS TO PREVENT ENTRANCE OF FOREIGN MATERIAL.
C. GRADES: SLOPE ALL PIPING TO ALLOW FOR DRAINAGE, MINIMUM 1" IN 40' OR AS PRESCRIBED BY CODE OR SPECIFIED IN OTHER DIVISION 23 SECTIONS.
D. DRAINS: PROVIDE AT LOW POINTS IN WATER PIPING.
E. CLEARANCES: ALLOW FOR APPLICATION OF INSULATION AND FOR ACCESS TO VALVES, VENTS, DRAINS AND UNIONS. ALLOW FOR MINIMUM 1/2" CLEARANCE BETWEEN PIPES AFTER INSTALLATION.
F. BUILDING SETTLEMENT: PROVIDE SWING JOINTS AS NECESSARY TO PERMIT FREE BUILDING MOVEMENT WITHOUT CAUSING UNDUE PIPE STRESS OR DAMAGE TO BUILDING. PAY PARTICULAR ATTENTION TO PIPING CROSSING BUILDING EXPANSION JOINTS AND TO PIPING PENETRATING FLOORS, FOUNDATIONS, AND ROOF.
G. CONNECTIONS:
1. COPPER: SWEAT OR BRAZED AS IN ACCORDANCE WITH APPLICABLE DIVISION 23 SECTIONS.

3.08 PIPE TESTING
A. NEW PIPING: TEST ALL PIPING INSTALLED UNDER DIVISION 23. CONDUCT TESTS PRIOR TO CONCEALMENT OR INSULATING. NOTIFY ARCHITECT PRIOR TO CONDUCTING TESTS, TO ALLOW HIM TO OBSERVE TEST. PROVIDE ALL INSTRUMENTS AND EQUIPMENT REQUIRED TO CONDUCT TESTS. SEE APPROPRIATE DIVISION 23 SECTIONS FOR TESTING SPECIFICS AND PRESSURES.
B. EXISTING PIPING: ISOLATE FROM TEST PRESSURES USING ISOLATING VALVES, BLIND FLANGES, ETC. REPAIR ANY EXISTING PIPING DAMAGED DURING TESTING.
C. FIXTURES, EQUIPMENT: ISOLATE FROM TEST PRESSURES IF SUCH PRESSURE MAY DAMAGE THE FIXTURE/EQUIPMENT. USE ISOLATION VALVES, CAPS, ETC.
D. DURATION: HOLD HYDROSTATIC TESTS FOR 15 MINUTES MINIMUM WITHOUT PRESSURE LOSS. HOLD AIR TESTS FOR 15 MINUTES MINIMUM WITHOUT SIGNIFICANT PRESSURE LOSS. AIR TEST MAY BE SUBSTITUTED FOR HYDROSTATIC TEST IF APPROVED BY ARCHITECT.
D. RE-TESTING: CORRECT ANY WORK FAILING THE INITIAL TEST. RE-TEST IN ACCORDANCE WITH INITIAL TEST PROCEDURES.
E. FIELD RECORDS: MAINTAIN FOR ALL TESTS. SUBMIT TO ARCHITECT IN TRIPLICATE.

SECTION 23 05 00 - BASIC MATERIALS AND METHODS (cont'd)

3.09 FLASHING AND COUNTERFLASHING
ROOF PENETRATIONS: FLASH AND COUNTERFLASH ROOF PENETRATION IN ACCORDANCE WITH ROOFING MANUFACTURER'S RECOMMENDATIONS.
3.10 CUTTING AND PATCHING
E. GENERAL: PERFORM AS REQUIRED FOR DIVISION 23 WORK. KEEP TO A MINIMUM THROUGH PROPER SCHEDULING. WHERE UNAVOIDABLE, PERFORM IN ACCORDANCE WITH APPLICABLE DIVISIONS. SEE DIVISION 1.
F. CUTTING: OBTAIN ARCHITECT'S APPROVAL PRIOR TO CUTTING OR DRILLING TO STRUCTURAL ELEMENTS. USE SAW OR ROTARY DRILL: DO NOT USE PNEUMATIC HAMMER.
G. PATCHING: SEAL OPENINGS, REPAIR, REFINISH, RESTORE DAMAGED ELEMENTS TO ORIGINAL CONDITIONS. COMPLY WITH PROVISIONS OF APPLICABLE DIVISIONS.
3.11 ACCESS PANELS
FURNISH IN ACCORDANCE WITH DIVISION 8 AND WITH FIRE RATING COMPATIBLE WITH CEILING OR PARTITION RATING. FURNISH WHERE INDICATED AND AT LOCATIONS WHERE REQUIRED FOR ACCESS TO CONCEALED VALVES, DAMPERS, CLEANOUTS, CONTROL DEVICES, EQUIPMENT, OTHER ITEMS REQUIRING SERVICE/MAINTENANCE. DELIVER TO GENERAL CONTRACTOR FOR INSTALLATION UNDER OTHER DIVISIONS. PROVIDE INSTRUCTIONS FOR LOCATION.
3.12 ITEMS FURNISHED BY OTHERS
INSTALL IN ACCORDANCE WITH MANUFACTURES' DIRECTIONS AND AS REQUIRED BY APPLICABLE DIVISION 23 SECTIONS.

END OF SECTION 23 05 00

SECTION 23 07 00 - INSULATION

PART 1 - GENERAL

1.01 WORK INCLUDED
PROVIDE INSULATION AS SHOWN AND SPECIFIED HEREIN.

1.02 QUALITY ASSURANCE
A. FIRE HAZARD CLASSIFICATION: TESTED AS A COMPOSITE IN ACCORDANCE WITH ASTM E84 OR NFPA 255 OR UL723 AND SO LABELED. MAXIMUM FLAME SPREAD = 25, MAXIMUM SMOKE DEVELOPED = 50.
B. ENERGY CONSERVATION: COMPLY WITH 2015 INTERNATIONAL ENERGY CONSERVATION CODE.
C. PROHIBITED MATERIALS: PRODUCTS OR MATERIALS CONTAINING ASBESTOS ARE EXPRESSLY PROHIBITED.

PART 2 - PRODUCTS

2.01 PIPE INSULATION - MATERIALS
A. ACCEPTABLE MANUFACTURERS: MANVILLE, CERTAINTEED, OWENS-CORNING, AND ARMSTRONG.
B. FIBERGLASS: ASTM C547 TYPE 1. MAXIMUM K/INCH = 0.27 AT MEAN TEMPERATURE OF 75 DEGREES F. ALL SERVICE JACKET WITH SELF-SEALING LAPS. PRE-MOLDED FITTING AND VALVE COVERS WITH FIBERGLASS INSERTS.

2.02 DUCT INSULATION - MATERIALS
A. ACCEPTABLE MANUFACTURERS: CERTAIN TEED, JOHNS MANVILLE, KNAUF, AND OWENS CORNING.
B. WRAP (UNCONDITIONED SPACES): MINERAL-FIBER BLANKET IN ACCORDANCE WITH ASTM C553, TYPE I, 2" THICK, MIN. R-6 PER 2015 IECC. 0.75 LB/FT3 DENSITY WITH K=0.29. FSK FACING.
C. WRAP (SUPPLY IN PLENUM): MINERAL-FIBER BLANKET IN ACCORDANCE WITH ASTM C553, TYPE I, 2" THICK, MIN. R-4.2. 0.75 LB/FT3 DENSITY WITH K=0.29. FSK FACING.
D. LINER (UNCONDITIONED SPACES): RETURN DUCT ONLY. MINERAL-FIBER DUCT LINER IN ACCORDANCE WITH ASTM C1071, TYPE II, MIN. R-6 PER 2015 IECC. 1.5" THICK, 1.5 LB/FT3 DENSITY WITH COATING ON AIR-SIDE SURFACE RATED TO 6,000 FPM.
E. LINER (PLENUM NOISE CONTROL): SAME AS ABOVE.
F. EXTERIOR: MINERAL-FIBER BOARD IN ACCORDANCE WITH ASTM C612, TYPE IA, 2" THICK, MIN. R-12 FOR CLIMATE ZONE 5-8 PER 2015 IECC. 6 LB/FT3 DENSITY WITH K=0.22. ASJ FACING.
G. EXTERIOR (ALTERNATE): MINERAL-FIBER DUCT LINER IN ACCORDANCE WITH ASTM C1071, TYPE II, MIN. R-12 FOR CLIMATE ZONE 5-8 PER 2015 IECC. 2" THICK, K=0.13, 1.5 LB/FT3 DENSITY WITH COATING ON AIR-SIDE SURFACE RATED TO 6,000 FPM.
H. EXPOSED IN CONDITIONED SPACE: R-6 FIBERGLASS LINER PER LETTER D ABOVE.

PART 3 - EXECUTION

3.01 GENERAL
A. APPLY INSULATION AFTER SYSTEMS HAVE BEEN TESTED.
B. COMPLY WITH MANUFACTURER RECOMMENDATIONS REGARDING AMBIENT AND SYSTEM TEMPERATURES AND APPLICATION METHODS.
C. APPLY INSULATION TO CLEAN, DRY SURFACES.
D. APPLY INSULATION WITH SECTIONS OR EDGES FIRMLY BUTTED TOGETHER.
E. RUN INSULATION CONTINUOUS THROUGH SLEEVES AND OPENINGS IN WALLS AND FLOORS.
F. MAINTAIN INTEGRITY OF VAPOR BARRIER ON COLD SYSTEMS. AVOID THE USE OF STAPLES ON VAPOR BARRIER. SEAL ALL VAPOR BARRIER PENETRATIONS.
G. REPAIR INSULATION DAMAGED DUE TO STRAIN OR POOR WORKMANSHIP.
H. LEAVE SURFACE CLEAN AND READY FOR PAINTING.
I. INSULATION WHICH HAS BEEN APPLIED IN AN UNSIGHTLY MANNER WILL BE ORDERED REPLACED.

3.02 PIPE INSULATION - INSTALLATION
A. GENERAL
1. INSULATE PIPE, FITTINGS AND VALVES.
2. DO NOT INSULATE UNIONS, FLANGES, STRAINERS, FLEXIBLE CONNECTIONS, EXPANSION JOINTS. TERMINATE INSULATION NEATLY WITH INSULATION AND FINISHING CEMENT TROWELED ON A BEVEL.
3. INSULATE THROUGH HANGERS AND SUPPORTS. USE HEAVY DENSITY INSERT AND SHEET METAL SHIELD.
4. FOR COLD PIPING, SEAL FITTING/VALVE COVERS AT EACH END AND THROAT.
B. USE
1. INDOORS, ABOVE GROUND: FIBERGLASS WITH LONGITUDINAL SEAMS LOCATED AWAY FROM NORMAL LINES OF SIGHT.
2. OUTDOORS, ABOVE GROUND: FIBERGLASS WITH METAL JACKET SECURED WITH DRAW BANDS 12" ON CENTER AND SEALED WEATHER TIGHT. FOR HORIZONTAL PIPING LOCATE LONGITUDINAL SEAM AND DRAWBAND CLAMP ON UNDERSIDE OF PIPE. FOR GIRTH JOINTS IN VERTICAL PIPING, WRAP UPPER JACKET SECTION AROUND THE LOWER SECTION.
3. INDOORS, BURIED:
a. 2" AND SMALLER: FLEXIBLE CLOSE CELL ELASTOMERIC WITH ALL JOINTS SEALED WATERTIGHT WITH CONTACT ADHESIVE. MITER INSULATION AT FITTINGS.
b. 2-1/2" AND LARGER: MINERAL FIBER INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE MINERAL FIBER CUSHIONS AT ALL ELBOWS AND TEES TO ALLOW TAKE-UP SPACE FOR THERMAL EXPANSION. INSTALL RISERS AND WALL PENETRATIONS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. OUTDOORS, BURIED: MINERAL POWDER SAME AS FOR INDOORS BURIED.
C. THICKNESS: INSULATE PIPING SYSTEMS IN ACCORDANCE WITH 2015 IECC TABLE C403.2.1 UNLESS NOTED OTHERWISE.

3.03 DUCT INSULATION - INSTALLATION
A. LINER: INTERNALLY INSULATE ALL RETURN DUCTWORK WITH DUCT LINER UNLESS INDICATED OTHERWISE. APPLY LINER WITH COATED SURFACE FACING THE AIR STREAM. APPLY LINER WITH 100% ADHESIVE COVERAGE. BUTTER ALL RAW EDGES WITH ADHESIVE. ADHERE TO MANUFACTURER'S RECOMMENDATIONS REGARDING MECHANICAL FASTENERS AND NOSINGS.
B. WRAP: 1-1/2" THICK. ADHERE TO DUCT EXTERIOR PER MANUFACTURER'S RECOMMENDATIONS. SEAL ALL JOINTS AND PUNCTURES TO MAINTAIN INTEGRITY OF VAPOR BARRIER ON COLD AIR DUCTS. APPLY TO ALL SUPPLY AIR AND OUTSIDE AIR DUCT WORK. AT CONTRACTOR'S OPTION, ALL DUCTS MAY BE LINED IN LIEU OF DUCT WRAP.
C. EXPOSED RECTANGULAR DUCT: ALL EXPOSED DUCT WITHIN BUILDING SHALL BE INTERNALLY LINED UNLESS NOTED OTHERWISE.
D. EXPOSED SPIRAL DUCT: SHALL BE UNINSULATED UNLESS OTHERWISE NOTED.

END OF SECTION 23 07 00

SECTION 23 33 00 - AIR DISTRIBUTION

PART 1 - GENERAL

1.01 WORK INCLUDED
A. FURNISH AND INSTALL DUCTWORK AND SHEET METAL ACCESSORIES AS SHOWN AND SPECIFIED HERE-IN.

1.02 QUALITY ASSURANCE
A. COMPLY WITH APPLICABLE NFPA AND SMACNA STANDARDS, ASHRAE HANDBOOK, UL 181, AND IMC.

1.03 SUBMITTALS
A. IN ADDITION TO ALL ITEMS SCHEDULED ON THE DRAWINGS, FURNISH SUBMITTALS ON ALL ITEMS SPECIFIED HERE-IN.

PART 2 - PRODUCTS

2.01 DUCTWORK MATERIALS
A. GALVANIZED STEEL
1. GAUGE: AS PRESCRIBED BY SMACNA.
2. FLAT SHEETS: ASTM A527.
3. ROUND:
a. FABRICATION FOR CONCEALED: PIPE LOCK LONGITUDINAL SEAMS WITH BEADED CRIMP TRANSVERSE JOINTS SECURED WITH SHEET METAL SCREWS.
b. FABRICATION FOR EXPOSED: SPIRAL PIPE WITH JOINTS SECURED WITH SHEET METAL SCREWS. USE DUCT SEALANT THAT IS NEATLY APPLIED AND MATCHES COLOR OF DUCT.
c. FITTINGS: ADJUSTABLE 4 - SEGMENT ELBOWS, MANUFACTURED CONICAL TEE FITTINGS AND TAPS (SADDLE TAPS NOT PERMITTED), MANUFACTURED REGISTER BOOTS AND STACK HEADS.
B. FLEX DUCT:
1. ACCEPTABLE MANUFACTURERS: FLEXMASTER, THERMAFLEX.
2. CLASSIFICATION: NFPA 90A - CLASS 1, UL 181 LABELED.
3. LOW PRESSURE: FLEXMASTER TYPE 5 - INSULATED WITH MIN R-8 INSULATION. FACTORY FABRICATED ASSEMBLY CONSISTING OF A ZINC-COATED SPRING STEEL HELIX, SEAMLESS INNER LINER WRAPPED WITH A NOMINAL 1" THICK ONE-POUND DENSITY FIBERGLASS INSULATION ALL ASSEMBLED IN A VAPOR BARRIER JACKET. RATED FOR PRESSURES TO +10" WG.
4. SPIN-INS: WITH BALANCING DAMPER AND 2" INSULATION STAND-OFF BRACKET.

2.02 DUCTWORK SPECIALTIES
A. TURNING VANES
1. CONSTRUCTION: DOUBLE-THICKNESS AIR FOIL, NONADJUSTABLE.
B. BALANCING DAMPERS
1. CONSTRUCTION: RIGID BEARINGS AND LOCKING QUADRANTS. WHERE USED IN CONJUNCTION WITH DUCT-MOUNTED COILS, PROVIDE OPPOSED-BLADE TYPE WITH MAX 2" WIDE BLADES.
C. FIRE/SMOKE DAMPERS
1. CONSTRUCTION: CONSTRUCTION AND INSTALLATION SHALL CONFORM TO UL LISTINGS AND MANUFACTURER'S INSTRUCTIONS.
D. ACCESS DOORS.
1. HINGED DOOR WITH HOUSING FRAME, SASH-TYPE CLOSURES, DOOR OF TWO GAUGES HEAVIER THAN DUCT, SPONGE RUBBER GASKETS CEMENTED IN PLACE.
E. FLEX CONNECTIONS EQUAL TO VENTFABRICS VENTGLAS
F. TEST HOLE FOR LOW VELOCITY DUCTWORK: DRILLED HOLE WITH FRICTION-FIT PLASTIC CAP ON METAL DUCT.
H. WATER-BASED DUCT SEALANT TO COMPLY WITH UL 181A OR 181B PER 2015 IECC C403.2.9.

2.03 GRILLES, REGISTERS, DIFFUSERS
A. ACCEPTABLE MANUFACTURERS: NAILOR, PRICE, TITUS, METAL-AIRE.
B. SIZES, TYPES: SEE SCHEDULE ON DRAWINGS.

PART 3 - EXECUTION

3.01 LOW VELOCITY DUCTWORK
A. APPLICATION: ALL DUCTWORK IS CLASSIFIED AS LOW VELOCITY UNLESS INDICATED OTHERWISE.
B. FABRICATION:
1. IN ACCORDANCE WITH SMACNA AND ASHRAE STANDARDS FOR LOW VELOCITY DUCTWORK.
2. MANUFACTURED DUCT CONNECTION SYSTEM MAY BE UTILIZED FOR TRANSVERSE JOINTS IN RECTANGULAR GALVANIZED STEEL DUCTWORK. PROVIDE IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
C. MATERIALS:
1. EXPOSED: GALVANIZED STEEL.
2. CONCEALED: GALVANIZED STEEL.
D. FLEX: LOW PRESSURE TYPE, PLENUM RATED.

3.02 DUCTWORK FABRICATION AND INSTALLATION
A. GENERAL
1. FABRICATE AND INSTALL TO MEET JOB CONDITIONS FROM DIMENSIONS TAKEN FROM JOB SITE AND SHOP DRAWINGS. TRANSITION AS REQUIRED TO AVOID INTERFERENCE; MAINTAIN REQUIRED CROSS-SECTIONAL AREA.
2. FABRICATE AND INSTALL SO NO UNDUE NOISE OR VIBRATION RESULTS.
3. DO NOT PROVIDE HOLES IN THE DUCT SYSTEMS FOR THE INSTALLATION OF HANGERS, CONDUIT, PIPES, ETC.
4. DUCT DIMENSIONS ON DRAWINGS ARE CLEAR INSIDE DIMENSION; INCREASE SHEET METAL DIMENSIONS TO ACCOMMODATE LINER.
5. LOCATE ALL DUCTWORK CONCEALED UNLESS INDICATED OTHERWISE.
B. ELBOWS
1. CURVED: CENTER LINE RADIUS EQUAL TO 1-1/2 TIMES THE DUCT WIDTH.
2. SQUARE: FITTED WITH TURNING VANES WHEN DUCT SIZE INTO THE ELBOW IS THE SAME AS DUCT SIZE OUT. FITTED WITH FIXED EXTRACTOR WHEN DUCT SIZE INTO THE ELBOW IS DIFFERENT FROM DUCT SIZE OUT.
C. TAKE-OFFS: 45 DEGREE TAKE-OFF WHERE OTHER MEANS OF CONTROL ARE NOT INDICATED OR USED, AND IN DUCTWORK BEHIND SIDEWALL SUPPLY REGISTERS.
D. HANGERS AND SUPPORTS
1. HORIZONTAL DUCTS: PROVIDE HANGERS OF TYPE AND SPACING AS RECOMMENDED BY SMACNA.
2. VERTICAL DUCTS THROUGH FLOORS: PROVIDE GALVANIZED STEEL ANGLES ON AT LEAST TWO SIDES OF THE DUCT; FASTEN SECURELY TO DUCT AND FLOOR.
E. BALANCING DAMPERS: PROVIDE FOR PROPER ADJUSTMENT AND CONTROL OF AIR DISTRIBUTION. MARK DAMPER ROD TO INDICATE THE RELATIVE POSITION OF THE DAMPER BLADES WITH RESPECT TO THE ROD.
F. FIRE/SMOKE DAMPERS: PROVIDE WHERE SHOWN.
G. ACCESS DOORS: PROVIDE IN DUCTWORK FOR ACCESS TO ALL AUTOMATIC DAMPERS, FIRE DAMPERS, COILS, OTHER ITEMS REQUIRING MAINTENANCE OR INSPECTION. PROVIDE 12"x12" DOORS WHERE PERMITTED BY DUCT SIZE; WHERE DUCT IS TOO SMALL, PROVIDE AS LARGE A DOOR AS POSSIBLE.
H. FLEX DUCT: USE MINIMUM LENGTHS NECESSARY TO MAKE CONNECTION WITHOUT PINCHING OR KINKING. SUSPEND HORIZONTAL RUNS WITH 3/4" WIDE FLAT STEEL BAND AT 36" OC. MAKE END CONNECTIONS WITH STEEL DRAW BANDS. MAXIMUM FLEX DUCT LENGTH SHALL NOT EXCEED SIX (6) FEET.
I. FLEX CONNECTIONS: PROVIDE AT INLET AND OUTLET TO ALL FANS.
J. TEST HOLES: PROVIDE ON BRANCH AND MAIN DUCT TO PROVIDE OPENINGS THROUGH DUCT WALLS FOR THE INSERTION OF TEST EQUIPMENT. LOCATE TO ENABLE TRAVERSE READINGS PER ASHRAE STANDARDS.
K. PAINTING: WHERE INTERIOR OF DUCT IS VISIBLE THROUGH GRILLES, LOUVERS, ETC., PAINT VISIBLE INSIDE PORTION OF DUCT WITH FLAT BLACK PAINT.

END OF SECTION 23 33 00

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HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

DATE 04-16-2019
DRAWN PLANT
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REVISIONS:

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GENERAL NOTES

A. FAN COIL UNIT TO BE SUPPLIED BY MECHANICAL CONTRACTOR. COORDINATE WITH PLUMBING CONTRACTOR FOR PIPING CONNECTIONS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

B. FAN COIL UNIT HAS A HYDRONIC HEATING COIL. SEE PIPING DIAGRAM AND PLUMBING DRAWINGS FOR CONNECTION REQUIREMENT TO TANKLESS WATER HEATER.

C. ALL SA AND RA DUCTWORK TO BE ROUTED HIGH BETWEEN JOISTS WHERE POSSIBLE.

D. MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS ARE TO COORDINATE ALL SYSTEMS IN WALLS.

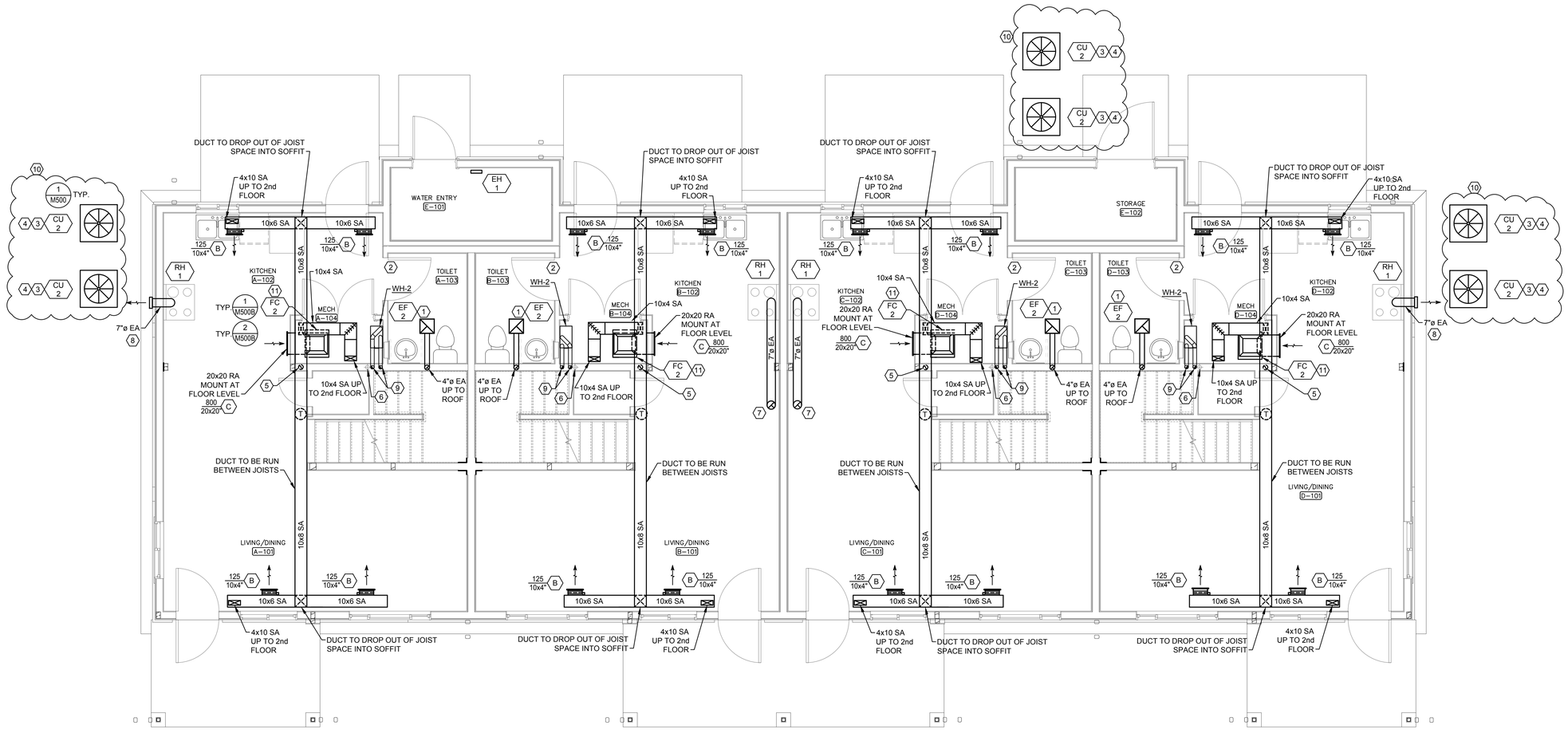
E. COORDINATE ROOF PENETRATIONS WITH OWNER.

F. CONTRACTOR IS TO FIX SUPPLY DAMPERS IN POSITION AFTER TEST AND BALANCE ON SYSTEM IS ACCOMPLISHED.

G. CONDENSING UNITS ARE REQUIRED TO BE 3 FEET FROM GAS REGULATORS. COORDINATE IN FIELD.

KEYED NOTES

1. INSTALL ALL COMPONENTS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. FAN RUNS CONTINUOUSLY.
2. UNDERCUT DOOR BY APPROXIMATELY 1".
3. SET THE CONDENSING UNIT ON A 3" LEVEL EQUIPMENT PAD.
4. PROVIDE LINE SETS SIZED PER MANUFACTURER'S RECOMMENDATIONS. COVER BOTH LIQUID AND SUCTION LINES WITH CLOSED CELL INSULATION THEN WRAP WITH WATER PROOF COVER. SLEEVE FOUNDATION APPROXIMATELY 9" BELOW GRADE WITH (2) 3" DIAMETER PIPES.
5. DROP A 4"ø DUCT INTO THE CRAWL SPACE FOR APPROXIMATELY 25 CFM.
6. RADON MITIGATION VENT INSTALLED BY OTHERS. COORDINATE WITH OTHER TRADES IN WALL SPACE.
7. ROUTE EXHAUST DUCT BETWEEN BEAMS AND UP THROUGH CLOSETS WALL ON 2ND FLOOR TO ROOF. TERMINATE PER THE HOOD MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8. 7" EA FROM RH-1. TERMINATE PER THE HOOD MANUFACTURER'S INSTALLATION INSTRUCTIONS.
9. 3"ø CA & FLUE UP TO 2ND FLOOR. COORDINATE WITH RADON EXHAUST VENT AND PLUMBING. INSTALL PER THE WATER HEATER MFG. INSTALLATION INSTRUCTIONS.
10. BUILDING REQUIRES 4 TOTAL CONDENSERS BUT ALTERNATE LOCATIONS ARE SHOWN. 2 CONDENSER UNITS WILL NEED TO BE LOCATED OUTSIDE THE STORAGE ROOM VERSUS THE END OF THE BUILDING. THIS APPLIES TO BUILDING B2. ALL LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE. REFER TO SITE PLAN AND EQUIPMENT CLEARANCE REQUIREMENTS FOR LOCATION AND BUILDING ORIENTATION. CONTRACTOR TO ENSURE CONDENSER SIZE MATCHES FURNACE SIZE FOR EACH TOWN HOME.
11. LOCATE FURNACE TO ENSURE 3' OF CLEAR SPACE IN FRONT OF UNIT WHEN DOORS ARE OPEN.



MECHANICAL BUILDING B HVAC PLAN

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

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GENERAL NOTES

A. MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS ARE TO COORDINATE ALL SYSTEMS IN WALLS.

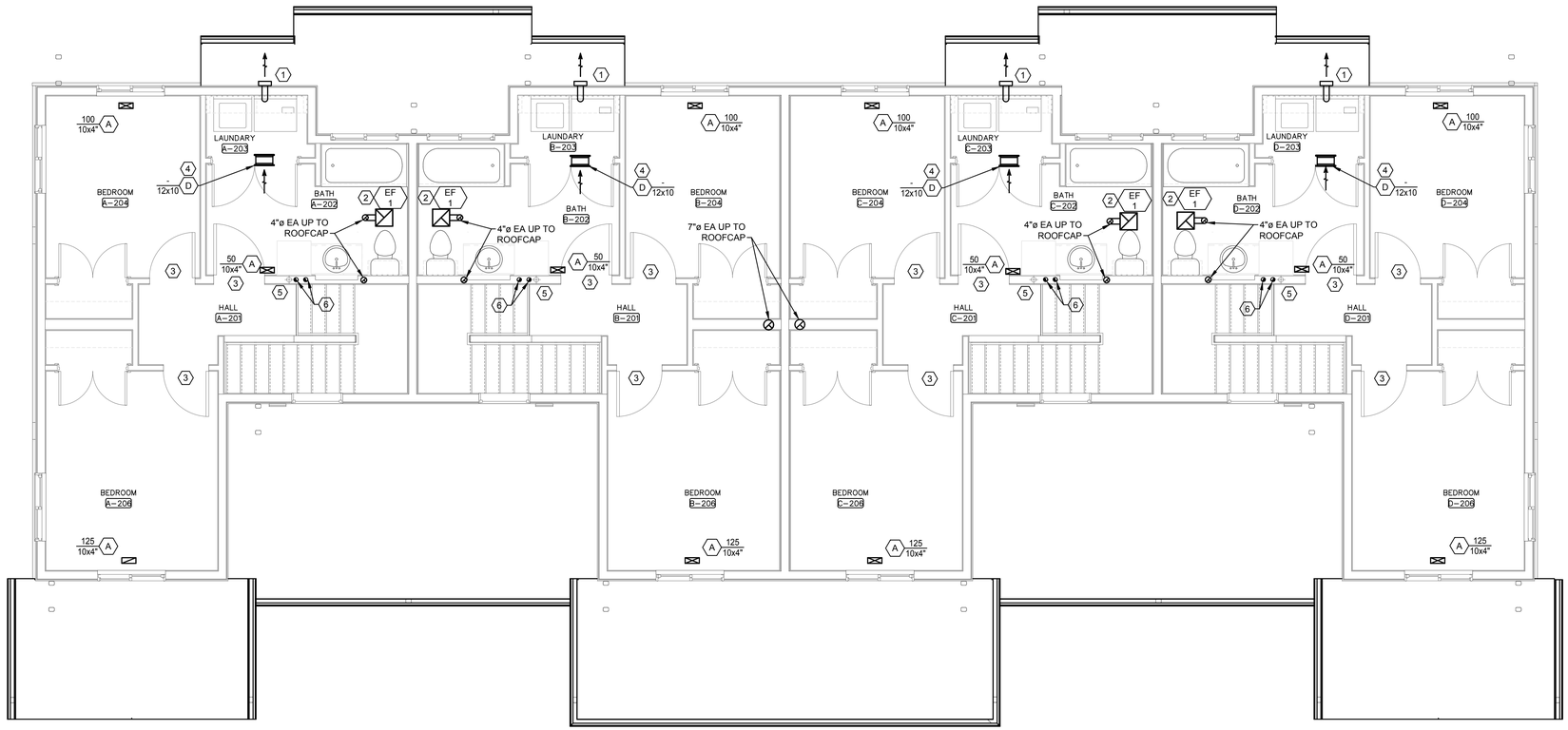
B. COORDINATE ROOF PENETRATIONS WITH OWNER.

C. CONTRACTOR IS TO FIX SUPPLY DAMPERS IN POSITION AFTER TEST AND BALANCE ON SYSTEM IS ACCOMPLISHED.

D. COORDINATE SYSTEMS IN WALLS TO AVOID RECESSED BATHROOM MIRROR.

KEYED NOTES

1. RUN DRYER 4"ø VENT HIGH THROUGH THE WALL. TERMINATE WITH DRYER VENT CAP.
2. INSTALL ALL COMPONENTS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. COORDINATE WITH ELECTRICAL FOR WALL SWITCH.
3. UNDERCUT DOOR BY APPROXIMATELY 1".
4. 12x10" TRANSFER AIR DUCT FOR DRYER. LOCATE HIGH IN WALL ABOVE DOOR. PROVIDE 2 GRILLES.
5. RADON MITIGATION VENT. COORDINATE WITH OTHER TRADES IN WALL SPACE.
6. 3" CA & FLUE FROM WATER HEAT UP TO ATTIC SPACE. TERMINATE THROUGH ROOF WITH A MANUFACTURER PROVIDED CONCENTRIC VENT KIT.



NORTH

MECHANICAL BUILDING B HVAC PLAN 2ND FLOOR

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

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GENERAL NOTES

A. CONTRACTOR TO ADHERE TO 2015 IFGC.

B. SERVICE TO METERS BY UTILITY CONTRACTOR.

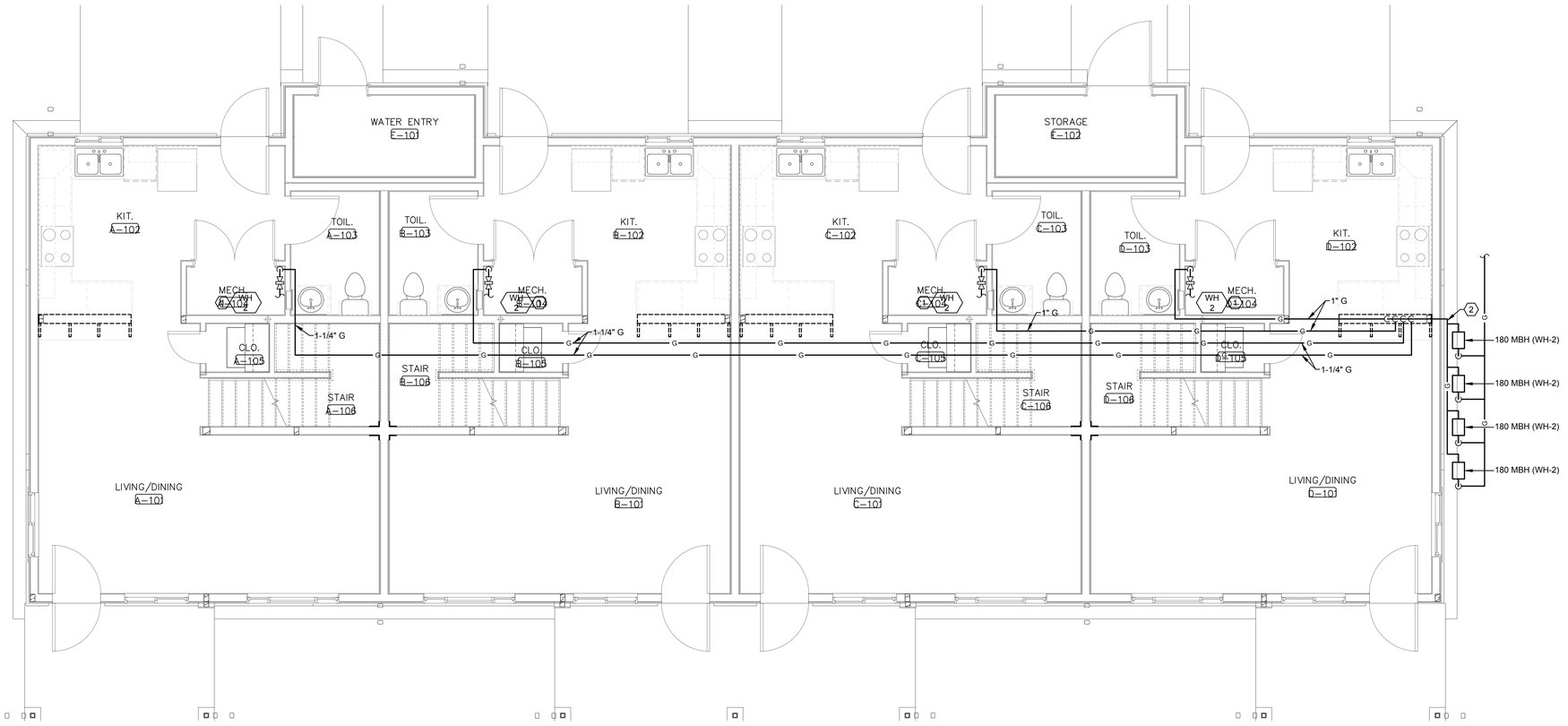
C. GAS REGULATORS ARE REQUIRED TO BE 3 FEET FROM CONDENSING UNITS. COORDINATE WITH MECHANICAL CONTRACTOR.

D. REFER TO SITE PLANS FOR BUILDING ORIENTATION AND GAS METER LOCATION. MIRROR GAS PLAN AS NEEDED TO LOCATE GAS METERS ON EITHER SIDE OF BUILDING.

E. COORDINATE METERS TO NOT BE LOCATED UNDER WINDOWS.

KEYED NOTES

1. SEE DETAIL 3/M500B FOR WATER HEATER GAS CONNECTION DETAIL.
2. ROUTE GAS PIPING FROM METERS STACKED VERTICALLY ON EXTERIOR WALL. TURN AND PENETRATE PIPING INTO HALF HEIGHT WALL BELOW KITCHEN COUNTERTOP/BAR. ROUTE PIPING DOWN HALF HEIGHT WALL AND INTO CRAWL SPACE. SEE DETAIL 4/M500B



NORTH

MECHANICAL BUILDING B GAS PLAN

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

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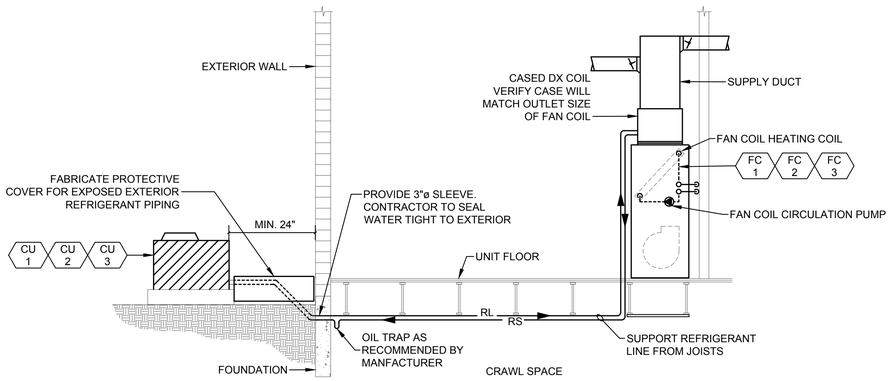
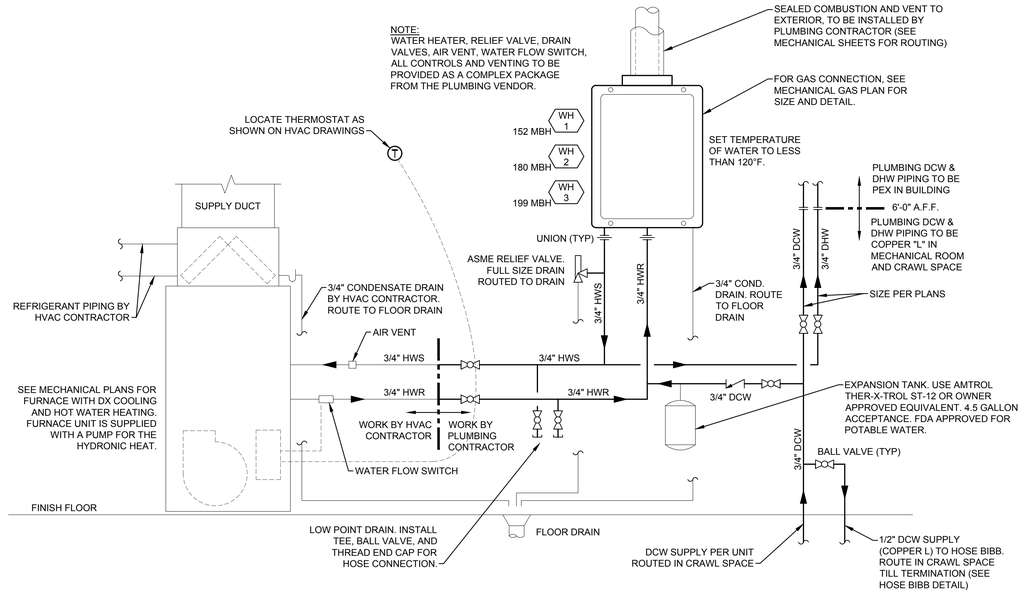


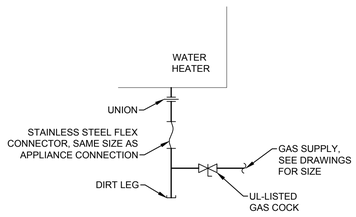
1 REFRIGERATION PIPING DIAGRAM

NOT TO SCALE



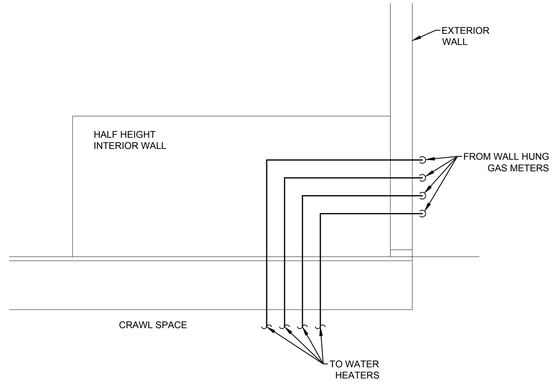
2 DOMESITC HYDRONIC PIPING DIAGRAM

NOT TO SCALE



3 GAS CONNECTION DETAIL

NOT TO SCALE



4 GAS ENTRY DETAIL

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HOUSING AUTHORITY CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

DATE 04-16-2019
DRAWN PLANT
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SHEET M500B

FAN COIL SCHEDULE															
TAG	MANUFACTURER	MODEL	CFM	ESP	HYDRONIC HEAT COIL		BLOWER	CIRC. PUMP			ELECTRICAL			WEIGHT	NOTES
				"WC	MBH	GPM	HP	HP	RLA	INLET WATER	MCA	VOLTS/ø	MAX. FUSE	(LBS)	
FC-1	AIRMARK	GFM 18/19	650	0.3	30.5	3.5	1/3	1/40	0.57	140	4.1	115/1	15	100	1,3,4,5,6,7,8,9,10,11
FC-2	AIRMARK	GFM 24/25	800	0.3	35.3	3.5	1/3	1/40	0.57	140	4.1	115/1	15	100	1,3,4,5,6,7,8,9,10,11
FC-3	AIRMARK	GFM 30/31	1050	0.3	39.1	3.5	1/2	1/40	0.57	140	7.4	115/1	20	120	1,3,4,5,6,7,8,9,10,11
FC-4	AIRMARK	GFM 18/19	650	0.3	30.5	3.5	1/3	1/40	0.57	140	4.1	115/1	15	100	2,3,4,5,6,7,8,9,10,11,12
FC-5	AIRMARK	GFM 24/25	800	0.3	35.3	3.5	1/3	1/40	0.57	140	4.1	115/1	15	100	2,3,4,5,6,7,8,9,10,11,12
FC-6	AIRMARK	GFM 30/31	1050	0.3	39.1	3.5	1/2	1/40	0.57	140	7.4	115/1	20	120	2,3,4,5,6,7,8,9,10,11,12

NOTES
1. UPFLOW CONFIGURATION
2. DOWN FLOW CONFIGURATION
3. DISPOSABLE FILTER
4. EC MOTOR ON BLOWER
5. MICRO-PROCESSOR CIRCUIT BOARD
6. FACTORY MOUNTED 410A COOLING COIL WITH EXPANSION VALVE
7. UNIT SUPPLIED AND SET IN PLACE WITH CONDENSING UNIT BY HVAC CONTRACTOR
8. PROGRAMMABLE THERMOSTAT
9. PLUMBER TO MAKE HYDRONIC PIPING CONNECTIONS PER DETAIL 2/M500
10. PROVIDE WITH 3-ROW HEATING COIL. TACO 006 CIRC. PUMP, CHECK VALVE, AND SCHRADER PORTS
11. INTEGRAL PUMP OPERATES FOR 60 SECONDS EVERY 6 HOURS
12. REARRANGEMENT OF DX COIL REQUIRED.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE				
TAG	MANUFACTURER	MODEL	DESCRIPTION	NOTES
A	HART & COOLEY	450/421	SUPPLY DIFFUSER 2-WAY DEFLECTION, STEEL CONSTRUCTION, FLOOR MOUNT	1,2,3
B	PRICE	510D	SUPPLY DIFFUSER, STEEL, SIDEWALL	2,3,4
C	HART & COOLEY	650	RETURN GRILLE, 35° DEFLECTION, 1/2",SPACING, STEEL CONSTRUCTION, SIDEWALL MOUNT	3,4
D	PRICE	530	RETURN GRILLE, STEEL CONSTRUCTION, SIDEWALL MOUNT	4

NOTES
1. STANDARD FACTORY BROWN FINISH
2. VOLUME DAMPER
3. SEE DRAWING FOR NECK SIZE AND AIR QUANTITY
4. COORDINATE FINISH WITH ARCHITECT

RANGE HOOD SCHEDULE								
TAG	MANUFACTURER	MODEL	TYPE	CFM	SONES	VOLTS/ø	MCA	NOTES
RH-1	BROAN	42300	7"ø VENTED	190	60	120/1	2.5	1,2,3,4,5

NOTES
1. INCLUDES BACKDRAFT DAMPER
2. 30" WIDTH
3. 75 WATT LIGHT
4. 2-SPEED
5. OWNER TO CHOOSE COLOR

CONDENSING UNIT AND DX COOLING COIL SCHEDULE									
TAG	MANUFACTURER	CU	NOMINAL	ELECTRICAL			WEIGHT	SERVES	NOTES
		MODEL	TONS	VOLTS/ø	MCA	MOP	(LBS)		
CU-1	CARRIER	24ANB618A003	1.5	230/1	11.7	20	184	FC-1,4	1,2,3,4,5,6,7,8
CU-2	CARRIER	24ANB624A003	2	230/1	17.5	25	186	FC-2,5	1,2,3,4,5,6,7,8
CU-3	CARRIER	24ANB630A003	2.5	230/1	18	25	193	FC-3,6	1,2,3,4,5,6,7,8

NOTES
1. PROVIDE REFRIGERATION PIPING ACCORDING TO MANFACTURERS RECOMMENDATIONS.
2. SCROLL COMPRESSOR
3. 16 SEER
4. R-410A REFRIGERANT
5. CURVED LOUVER PANELS.
6. LIQUID LINE 3/8", SUCTION LINE 3/4"
7. CC IS INTEGRAL TO FAN COIL
8. CONTRACTOR TO PROVIDE MANUF. RECOMMENDED PAD. CONDENSER PAD IS NOT TO BE SET TILL FINAL GRADE IS SET

ELECTRIC HEATER SCHEDULE						
TAG	MANUFACTURER	MODEL	KW	BTU	VOLTS/ø	NOTES
EH-1	RAYWALL	E3323TD-RP	1.5	5120	120/1	1,2,3,4,5

NOTES
1. INTEGRAIL THERMOSTAT
2. SEMI-RECESSED MOUNT
3. DISCONNECT SWITCH
4. MOUNT 12" A.F.F
5. HEAVY DUTY GRILLE

EXHAUST FAN SCHEDULE										
TAG	MANUFACTURER	MODEL	CFM MIN/MAX	ESP "WC	TYPE	DRIVE	SONES	WATTS	VOLTS/ø	NOTES
EF-1	PANASONIC	FV-05-11VK2	50	0.25	CEILING	DIRECT	0.5	25	120/1	1,2,3,5
EF-2	PANASONIC	FV-05-11VKS2	30	0.25	CEILING	DIRECT	0.5	25	120/1	1,2,3,6
EF-3	PANASONIC	FV-05-11VKS2	30/80	0.25	CEILING	DIRECT	0.5	25	120/1	1,2,3,4,7

NOTES
1. INCLUDES WHITE PLASTIC GRILLE
2. MEETS ENERGY STAR RATINGS AND ASHRAE STD 62.2
3. BACKDRAFT DAMPER
4. INCLUDE GRILLE MOUNTED OCCUPANCY SENSOR TO CONTROL FAN
5. SWITCH WITH LIGHT SWITCH
6. SET FAN TO OPERATE CONTINUOUSLY AT 30CFM
7. SET FAN TO OPERATE CONTINUOUSLY AT 30 CFM UNOCCUPIED AND 80 WHEN OCCUPIED

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REVISIONS:

SHEET M610B

FIRE PROTECTION GENERAL NOTES

A. FIRE PROTECTION CONTRACTOR SHALL PROVIDE A NEW HYDRAULICALLY CALCULATED FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH THE LATEST EDITIONS OF UBC, UFC, AND NFPA-13R. COVERAGE WILL INCLUDE LIVING SPACES, MECHANICAL SPACES, AND ATTIC SPACES.

B. FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE SYSTEM AND SHALL FURNISH TO THE ARCHITECT ALL DESIGN CALCULATIONS, SHOP DRAWINGS OF THE SYSTEM, AND CATALOG DATA OF ALL EQUIPMENT AS PART OF REQUIRED SUBMITTAL DATA IN SPECIFICATIONS.

C. SHOP DRAWINGS SHALL INDICATE THE LOCATION OF ALL SPRINKLER HEAD AND PIPING COORDINATED WITH THE LOCATION OF ALL STRUCTURAL MEMBERS, HVAC EQUIPMENT, LIGHT FIXTURES, CEILING DIFFUSERS, REGISTERS AND PIPING.

D. THE LAYOUT DESIGN, SUPERVISION, AND INSTALLATION OF FIRE PROTECTION SYSTEMS IS A TRADE IN ITSELF AND SHALL BE PERFORMED ONLY BY FULLY SKILLED, EXPERIENCED, AND RESPONSIBLE PARTIES. THE PROSPECTIVE FIRE PROTECTION CONTRACTOR MAY BE REQUIRED TO SHOW, TO THE SATISFACTION OF THE ARCHITECT, SUCH SKILL, EXPERIENCE, AND RESPONSIBILITY.

E. THE FIRE PROTECTION CONTRACTOR SHALL PERFORM WORK IN STRICT COMPLIANCE WITH THESE SPECIFICATIONS AND DRAWINGS, THE REQUIREMENTS OF THE STATE CERTIFIED SUPPRESSION INSPECTOR, AND ALL APPLICABLE CODES, ORDINANCES, STANDARDS, AND STATUTES IN EFFECT AT THE BUILDING SITE.

F. ADHERE TO THE MOST RECENT EDITION OF THE FOLLOWING PUBLICATIONS: TOGETHER WITH THE LATEST REVISIONS, SUPPLEMENTS, AND AMENDMENTS THERETO:
1. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 13.
2. UNDERWRITERS' LABORATORIES, INC. (UL), FIRE PROTECTION EQUIPMENT LIST.
3. CITY OF PUEBLO FIRE AUTHORITY.

G. THE FIRE PROTECTION CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS PRIOR TO STARTING WORK. OBTAIN CERTIFICATES, APPROVALS, AND/OR ACCEPTANCES OF ALL INTERESTED PARTIES AND AUTHORITIES HAVING JURISDICTION.

H. PIPING TO BE IRON, STEEL, OR CPVC, IN WEIGHTS AND GAUGES APPROVED BY NFPA 13 FOR USE IN FIRE PROTECTION SYSTEMS. FITTINGS SHALL BE APPROVED FOR USE WITH THE INSTALLED SPRINKLER PIPING, WITH A MINIMUM WORKING PRESSURE OF 175 PSI.

I. NOTIFY OWNER, ARCHITECT, AND ALL AUTHORITIES HAVING JURISDICTION, NOT LESS THAN SEVENTY-TWO (72) HOURS PRIOR TO FINAL TESTING. DO NOT PERMIT INTERIOR PIPING TO BE CONCEALED IN ANY WAY UNTIL ALL HYDROSTATIC AND OTHER TESTS AND INSPECTIONS HAVE BEEN SATISFACTORILY COMPLETED. CONDUCT ALL TESTS IN ACCORDANCE WITH NFPA STANDARDS AND ALL APPLICABLE CODES AND ORDINANCES. PROVIDE ALL NECESSARY PERSONNEL, CORRECT ALL DEFECTS, DEFICIENCIES, REPAIR ALL LEAKS AND RE-TEST AS REQUIRED.

J. REFER TO DRAWING P500# FOR WATER ENTRY DETAIL AND P111# FOR THE LOCATION OF THE WATER ENTRY ROOM. REFER TO WATER ENTRY DETAIL FOR SOLENOID THAT SHUTS OFF DOMESTIC SUPPLY IN THE EVENT OF A FIRE WATER EVENT. SOLENOID SHALL BE PIPED BY PLUMBING CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR. GENERAL CONTRACTOR SHALL CONFIRM RESPONSIBILITY OF WORK TO GET SOLENOID WIRED AND WORKING. SOLENOID VALVE SHALL BE A 24VDC POWERED SOLENOID.

ABBREVIATIONS

AAV/AV	AIR VENT
AC	AIR COMPRESSOR/ AIR CONDITIONER
ACU	AIR CONDENSING UNIT
AD	AIR DRIER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	AIRFLOW STATION
AHU	AIR HANDLING UNIT
AP	AIR PURIFIER
AT	AIR TANK
BCU	BATTERY COOLING UNIT
BFP	BACK FLOW PREVENTER
BOD	BOTTOM OF DUCT
CA	COMPRESSED AIR
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CIRC	CIRCULATION
CRAC	COMPUTER ROOM AIR CONDITIONER
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
D	DRAIN
DCW	DOMESTIC COLD WATER
DD	DUAL DUCT TERMINAL BOX
DDC	DIRECT DIGITAL CONTROLLER
DHW	DOMESTIC HOT WATER
DTW	DOMESTIC TEMPERED WATER
(E), EX	EXISTING
EA	EXHAUST AIR
EDH	ELECTRIC DUCT HEATER
EF/EX	EXHAUST FAN
EHC	ELECTRICAL HEATING CABINET
FB	FILTER BOX
FC	FAN COIL
G	NATURAL GAS
HWC	DOMESTIC HOT WATER RECIRCULATION
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
MAU	MAKEUP AIR UNIT
MM	MINIMATE A/C UNIT
MR	MECHANICAL ROOM
MVD	MANUAL VOLUME DAMPER
MZU	MULTI ZONE UNIT
NA	NOT AVAILABLE
OA	OUTSIDE AIR
P	PUMP
PENT	PENTHOUSE
PWU	PACKAGED WALL UNIT
RA	RETURN AIR
RD	REFRIGERANT DISCHARGE
RF	RETURN FAN
RP	RADIANT PANEL
RR	REST ROOM
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
TA	TRANSFER AIR
TF	TRANSFER FAN
TOD	TOP OF DUCT
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME

PLUMBING LEGEND

SYMBOL	ABBR.	DESCRIPTION
	SAN	SOIL, WASTE, OR SANITARY ABOVE GRADE OR FLOOR
	SAN	SOIL, WASTE, OR SANITARY BELOW GRADE OR FLOOR
	SD	STORM DRAIN
	GW	GREASE WASTE
	V	VENT
	CW	COLD WATER
	HW	HOT WATER (110°F)
	HWC	HOT WATER CIRCULATING
TW	TW	TEMPERED WATER (110°F)
G	G	NATURAL GAS
		EXISTING PIPING
		HATCH DENOTES TO BE REMOVED
		ELBOW DOWN
		ELBOW UP
		TEE DOWN
		TEE UP
		VALVE IN RISER
		UNION
		STRAINER WITH BLOWOFF VALVE
		REDUCER
		BALL VALVE
		BUTTERFLY VALVE
		GATE VALVE
		GLOBE VALVE
		ANGLE VALVE
		PLUG VALVE
		CHECK VALVE
	CBV	CALIBRATED BALANCING VALVE
	PRV	PRESSURE REGULATING VALVE
	PSV	PRESSURE RELIEF VALVE
	DCBFP	BACKFLOW PREVENTER, DOUBLE CHECK
	RPBFP	BACKFLOW PREVENTER, REDUCED PRESSURE
	WHA	WATER HAMMER ARRESTER
	FD	FLOOR DRAIN
	FS	FLOOR SINK
	FCO	FLOOR CLEANOUT
	FDC	FIRE DEPARTMENT CONNECTION
	WCO	WALL CLEANOUT
	HB	HOSE BIBB
		FLOOR OR WALL PENETRATION (ISOMETRIC)
		CONNECT NEW TO EXISTING
XX / #		FIXTURE OR EQUIPMENT CALLOUT (SEE SCHEDULE)
	(E)	EXISTING
	(N)	NEW
	(R)	RELOCATED

PLUMBING GENERAL NOTES (2015)

A. ALL PLUMBING SHALL BE INSTALLED IN ACCORDANCE WITH 2015 INTERNATIONAL PLUMBING CODE (INCLUDE FOR LOCAL) AND PPRBD AMENDMENTS.

B. NOT ALL EXISTING PIPING, AND ACCESSORIES ARE NECESSARILY SHOWN ON THIS DRAWING, BUT WHAT IS DEEMED NECESSARY TO SHOW INTENT OF WORK INVOLVED IN THIS PROJECT. REFER TO ALL PLANS, SECTIONS, DETAILS, SCHEDULES AND SPECIFICATIONS FOR COMPLETE SYSTEM REQUIREMENTS.

C. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO ORDERING OR FABRICATION OF MATERIAL OR PERFORMING ANY NEW WORK. DEVIATIONS FROM CONDITIONS SHOWN IN THESE PLANS SHALL BE REPORTED TO THE PROJECT MANAGER IMMEDIATELY AND NO WORK SHALL BE PERFORMED IN THIS AREA UNTIL A RESOLUTION HAS BEEN ESTABLISHED. SITE CONDITIONS DIFFERING FROM THOSE SHOWN ON THESE PLANS WILL NOT BE GENERALLY CONSIDERED A BASIS FOR CONTRACT MODIFICATION AS THE CONTRACTOR SHALL TAKE INTO ACCOUNT WORST CASE SITE CONDITIONS WHEREVER POSSIBLE.

D. COORDINATE ALL PENETRATIONS OF FLOOR, ROOF, WALLS, ETC. WITH GENERAL CONTRACTOR. ALL PENETRATIONS THROUGH FIRE/SMOKE RATED CONSTRUCTION SHALL BE SEALED IN ACCORDANCE WITH SECTION 717 OF THE 2015 INTERNATIONAL BUILDING CODE.
ALL PIPING PENETRATIONS THROUGH FLOORS SHALL BE SEALED WATER TIGHT BY GROUTING PERIMETER GAP BETWEEN PIPE AND FLOOR STRUCTURE, OR BY USING APPROVE UL SLEEVE AND SEALER SYSTEM. PENETRATIONS OF RATED WALLS SHALL USE SLEEVE WITH UL APPROVED FIRE SEALANT.
SEAL ROOF PENETRATIONS WATERTIGHT WITH ROOF SYSTEM COMPATIBLE WITH ROOFING.

E. MOUNT HANDICAPPED FIXTURES AT HEIGHTS ABOVE THE FINISHED FLOOR AS DIRECTED BY AMERICANS WITH DISABILITIES ACT AND STATE BUILDING CODES, INCLUDE OFFSET TAILPIECE AND TRUBRO LAV-GUARD INSULATION KIT.

F. INSULATE ALL HOT AND COLD WATER TO FIXTURES IN ACCORDANCE WITH 2015 INTERNATIONAL ENERGY CODE. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INSULATION REQUIREMENTS.

G. FURNISH AND INSTALL INDIVIDUAL STOPS (SHUT-OFF VALVES) FOR EACH PLUMBING FIXTURE.

H. PROVIDE ACCESS DOORS OR OTHER MEANS OF APPROVED ACCESS TO ALL ISOLATION VALVES, TRAP PRIMERS, AND WATER HAMMER ARRESTORS.

I. COLD WATER PIPING LOCATED IN CRAWL SPACE TYPE L HARD DRAWN COPPER TUBING CONFORMING TO ASTM B-88 WITH SWEAT JOINTS AND CAST OR WROUGHT FITTINGS. JOINTS SHALL BE MADE WITH LEAD FREE SOLDER. WATER PIPING PENETRATIONS SHALL BE PROTECTED WITH PLASTIC SLEEVES. ALL DISTRIBUTION PIPING LOCATED WITHIN INDIVIDUAL UNITS SHALL BE CROSS LINKED PEX PIPING WITH SPECIFIC MANUFACTURER FITTINGS.

J. SANITARY PIPING SHALL BE SCHEDULE 40 DWV PVC WITH SOLVENT JOINTS. ALL SANITARY PIPING SHALL BE SLOPED AT 1/4" PER FOOT MINIMUM. PVC PIPING SHALL NOT BE USED IN RETURN AIR PLENUM.

K. FIELD VERIFY ACTUAL LOCATIONS OF EXISTING PIPING FOR NEW TIE-INS. FIELD VERIFY AND COORDINATE WITH CIVIL ENGINEERING DRAWINGS FOR LOCATION AND INVERT ELEVATION OF EXISTING SANITARY AND WATER PIPING.

L. FURNISH AND INSTALL ALL REQUIRED COMPONENTS INCLUDING TRAPS, TAIL-PIECES, CARRIERS AND SUPPORTS. PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP GUARDS.

M. PLUMBING CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND PAY ALL FEES RELATED TO PROJECT.

N. COORDINATE FINAL LOCATION OF PIPING WITH ALL OTHER TRADES BEFORE FABRICATION OR INSTALLATION.

O. INSULATE DOMESTIC WATER LINES IN ACCORDANCE WITH 2015 IECC.

P. ALL SANITARY LINES SHALL BE VENTED IN ACCORDANCE WITH 2015 INTERNATIONAL PLUMBING CODE.

Q. IN ACCORDANCE WITH 2015 INTERNATIONAL PLUMBING CODE SECTION 603.1, BUILDING SUPPLY PIPING LESS THAN 3/4" NOT ALLOWED. MINIMUM SIZES OF WATER SUPPLY PIPES TO FIXTURES SHALL BE PER 2015 IPC TABLE 604.5.

R. ALL HOSE BIBBS AND WALL HYDRANTS SHALL BE EQUIPPED WITH APPROVED AND PROPERLY INSTALLED ATMOSPHERIC TYPE VACUUM BREAKER.

S. ALL VENTS THROUGH ROOF SHALL BE MINIMUM OF THREE FEET VERTICALLY AND TEN FEET HORIZONTALLY FROM AIR CONDITIONING EQUIPMENT FRESH AIR INTAKES, WINDOW, DOOR OR OTHER OPENINGS.

T. SEPARATE 8-1/2"X11" SPECIFICATIONS FORM A PART OF THESE DOCUMENTS.

U. TRENCHES INSTALLED PARALLEL TO FOOTINGS SHALL NOT EXTEND BELOW THE 45° BEARING PLANE OF THE FOOTING WALL.

V. SEE ARCHITECTURAL DRAWINGS FOR EXACT PLUMBING FIXTURE LOCATIONS AND QUANTITIES.

W. CLEANOUTS SHALL BE INSTALLED PER 2015 INTERNATIONAL PLUMBING CODE.

X. CONTRACTOR SHALL KEEP HIS WORK, AND ADJACENT AREAS AFFECTED, FREE AND CLEAR FROM ALL DEBRIS CAUSED BY THE WORK OF THIS SECTION. DURING AND UPON COMPLETION OF WORK HEREIN SPECIFIED, REMOVE FROM BUILDING AND SITE ALL DEBRIS, UNUSED MATERIALS, AND EQUIPMENT CAUSED BY WORK OF THIS SECTION AND LEAVE WORK IN A CLEAN, ACCEPTABLE CONDITION.

Y. ALL FLAT VENTS SHALL HAVE CLEANOUTS PER 2015 INTERNATIONAL PLUMBING CODE.

Z. ALL FLOOR SINKS, FLOOR DRAINS, AND FUNNEL DRAINS RECEIVING THE DISCHARGE OF INDIRECT WASTE PIPES SHALL BE LOCATED WHERE THEY ARE READILY ACCESSIBLE.

PLUMBING SHEET INDEX

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DATE 04-16-2019
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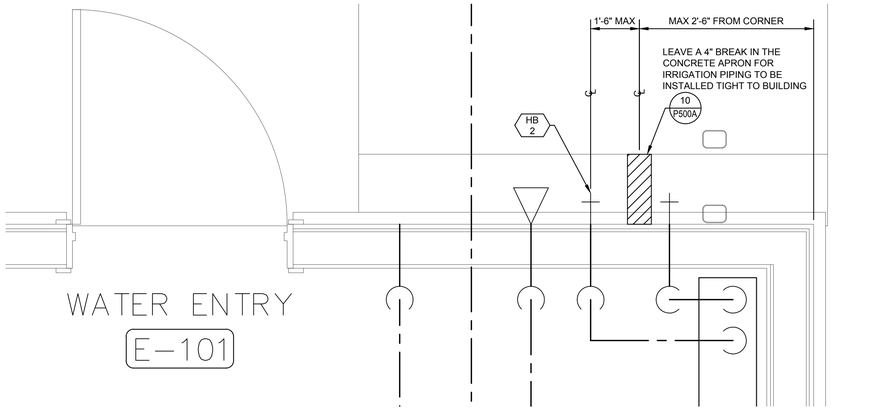
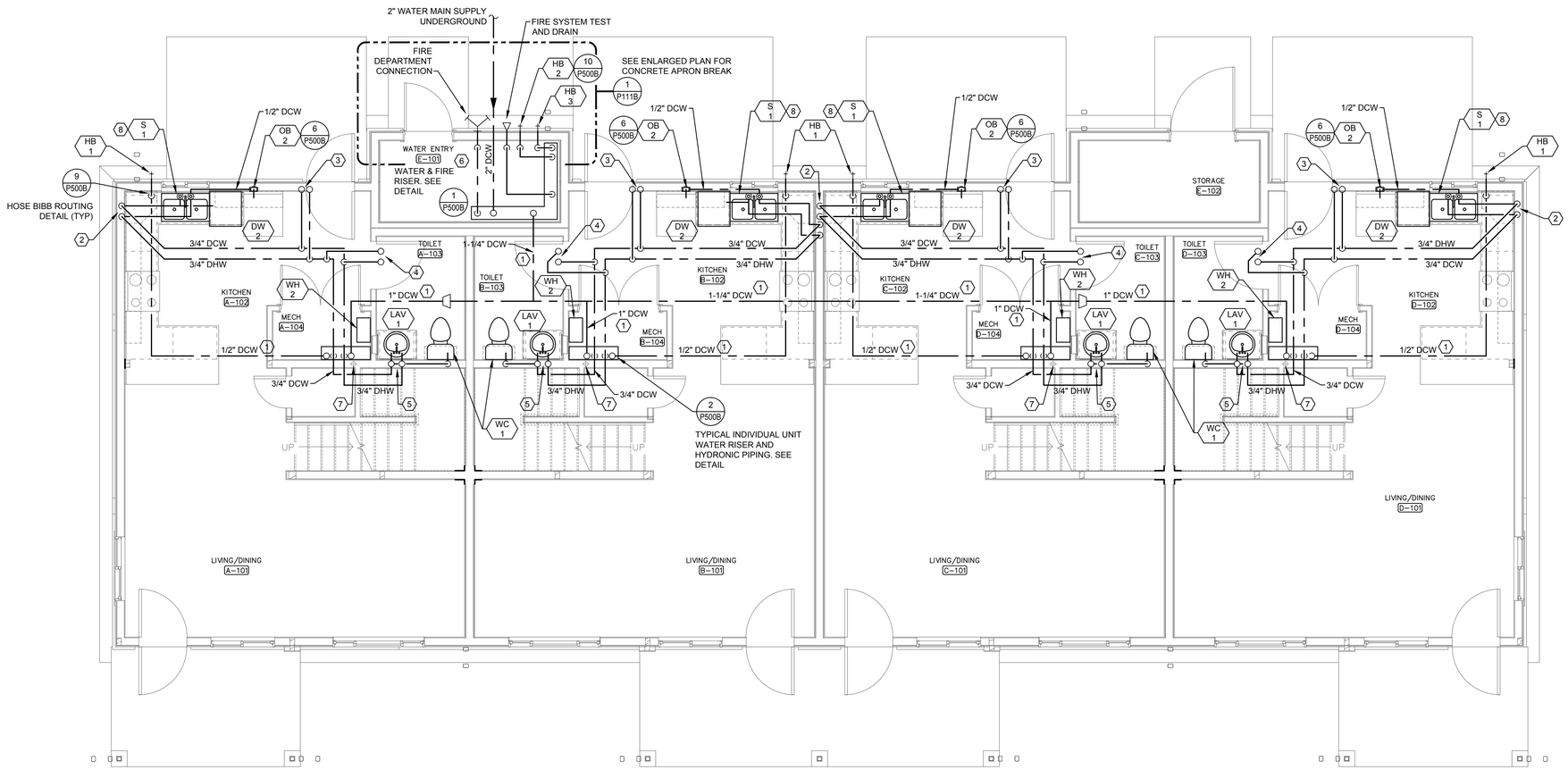


1 WATER ENTRY ROOM ENLARGED PLAN

SCALE: 1" = 1'-0"

KEYED NOTES

1. PIPE IS ROUTED IN CRAWL SPACE. ROUTE PIPE HIGH AND TIGHT IN CRAWL SPACE AND SUPPORT PIPE FROM CRAWL SPACE CEILING. DOMESTIC WATER SUPPLY PIPE IN CRAWL SPACE SHALL BE COPPER TYPE L PIPE MATERIAL.
2. 3/4" DCW/DHW PIPING ROUTED DOWN INTERIOR WALL AND UNDER KITCHEN CASEWORK TO SUPPLY SINK, DISHWASHER, AND REFRIGERATOR OUTLET BOX FIXTURES.
3. 1/2" DCW/DHW SUPPLY UP TO OUTLET BOX FIXTURE. ROUTE PIPE IN CEILING AND UP INTO SECOND FLOOR WALL. SEE CONTINUATION ON SECOND FLOOR PLAN.
4. 1/2" DCW/DHW SUPPLY UP TO SHOWER FIXTURE. ROUTE PIPE IN CEILING AND UP INTO SECOND FLOOR WALL. SEE CONTINUATION ON SECOND FLOOR PLAN.
5. 3/4" DCW/DHW SUPPLY UP TO SECOND FLOOR BATHROOM (WATER CLOSET AND LAVATORY FIXTURE). ROUTE PIPE UP IN WALL INTO SECOND FLOOR WALL. SEE CONTINUATION ON SECOND FLOOR PLAN.
6. ELECTRICAL, IRRIGATION, FIRE, PLUMBING CONTRACTORS (AND OTHERS IF THEY APPLY) SHALL COORDINATE THE LOCATION OF EQUIPMENT IN THE WATER ENTRY ROOM. EQUIPMENT AND PIPE ROUTING SHALL BE CONSISTENT BETWEEN THE DIFFERENT BUILDINGS AND BUILDING TYPES.
7. RADON PIPE FROM CRAWL SPACE TO ROOF. SEE ARCHITECTURAL SHEETS FOR LOCATION AND SIZE. COORDINATE LOCATION OF RADON VENT PIPE WITH PLUMBING PIPING IN WALL.
8. KITCHEN SINKS HAVE TWO BASINS, ONE WITH A GARBAGE DISPOSAL AND ONE WITHOUT. CONTRACTOR SHALL MAKE THE NON GARBAGE DISPOSAL BASIN TO BE CONSTRUCTED SO THAT A FUTURE MODIFICATION CAN BE DONE TO MAKE IT ADA COMPLIANT (RECESSED CASEWORK, OFFSET P-TRAP AND DRAIN, AND INSULATION). OWNER SHALL NOTE THAT SINK BASINS WITH GARBAGE DISPOSAL SHALL NOT BE ADA COMPLIANT UNLESS GARBAGE DISPOSAL IS REMOVED.



PLUMBING BUILDING B WATER PLAN FIRST FLOOR

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

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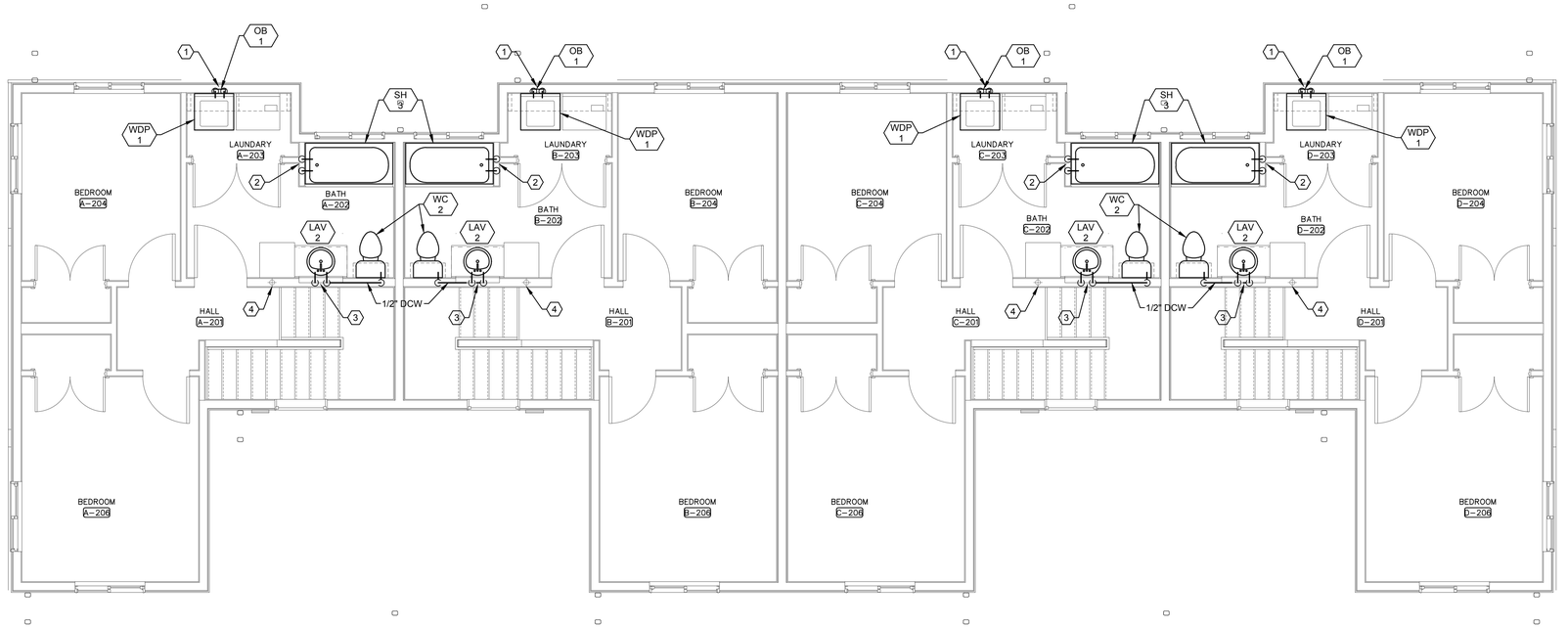
SHEET P111B

KEYED NOTES

1. 1/2" DCW/DHW SUPPLY FROM BELOW. FEED PIPE FROM CEILING OF FIRST FLOOR UP TO OUTLET BOX FIXTURE. SEE FIRST FLOOR PLAN.
2. 1/2" DCW/DHW SUPPLY FROM BELOW. FEED PIPE FROM CEILING OF FIRST FLOOR UP TO SHOWER FIXTURE. SEE FIRST FLOOR PLAN.
3. 3/4" DCW/DHW SUPPLY FROM BELOW. FEED PIPE FROM CEILING OF FIRST FLOOR UP TO WATER CLOSET AND LAVATORY FIXTURE. SEE FIRST FLOOR PLAN.
4. RADON PIPE FROM CRAWL SPACE TO ROOF. SEE ARCHITECTURAL SHEETS FOR LOCATION AND SIZE. COORDIANTE LOCATION OR RADON VENT PIPE WITH PLUMBING IN THE WALL



NORTH

PLUMBING BUILDING B WATER PLAN SECOND FLOOR

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

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HGF ARCHITECTS

HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

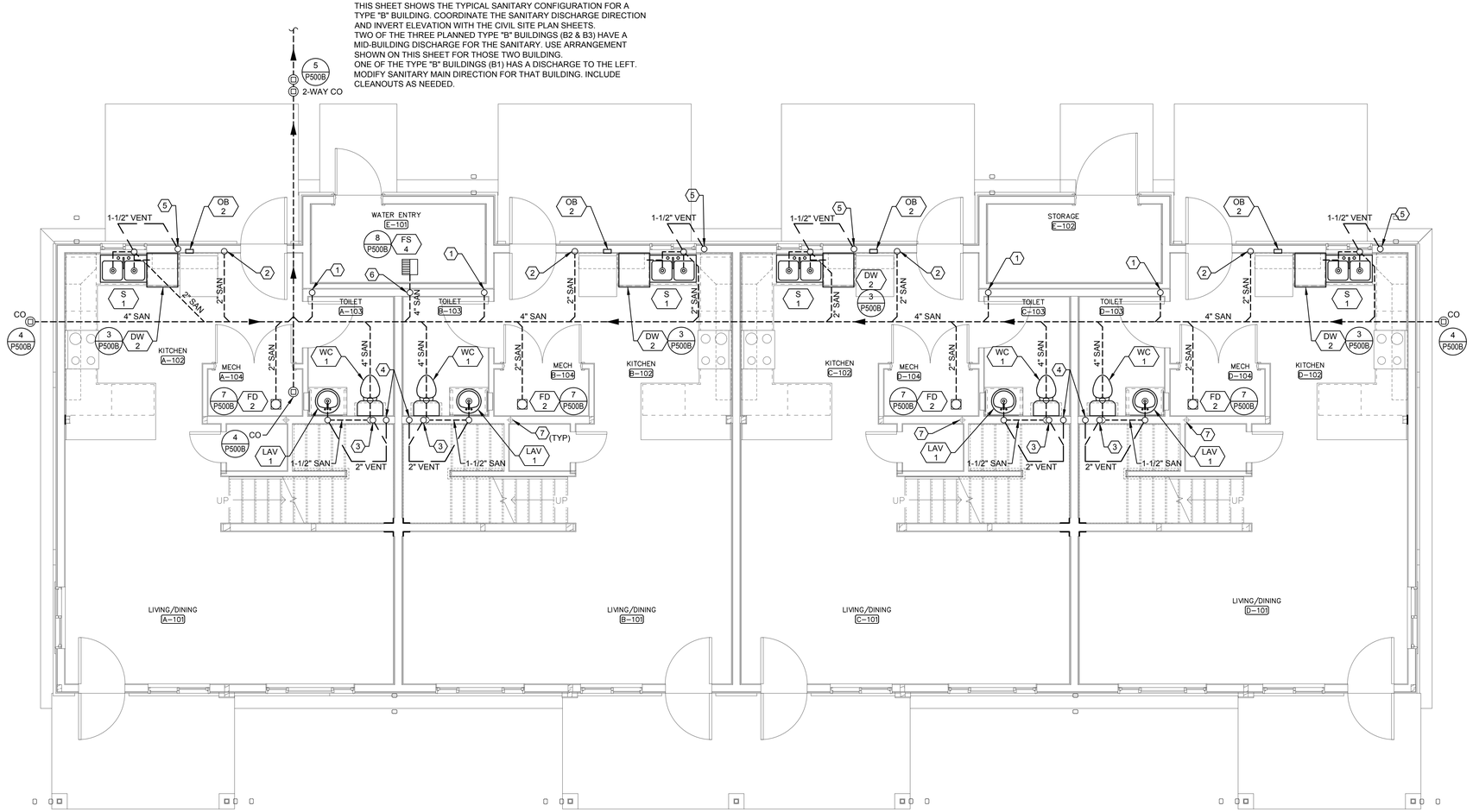
DATE 04-16-2019
DRAWN PLANT
CHECK RL
REVISIONS:

SHEET P112B

KEYED NOTES

1. 2" SANITARY UP TO SHOWER ON SECOND FLOOR. SEE SECOND FLOOR PLAN.
2. 2" SANITARY UP TO CLOTHES WASHER OUTLET BOX. SEE SECOND FLOOR PLAN.
3. 4" SANITARY UP TO WATER CLOSET AND LAVATORY ON SECOND FLOOR. SEE SECOND FLOOR PLAN.
4. 2" VENT PIPE FOR FIRST FLOOR WATER CLOSET AND LAVATORY ROUTED UP TO SECOND FLOOR. COMBINE WITH SECOND FLOOR WATER CLOSETS AND LAVATORIES, AND CONNECT TO 3" VENT THROUGH ROOF.
5. 1-1/2" VENT PIPE FOR FIRST FLOOR KITCHEN SINK ROUTED UP TO SECOND FLOOR. COMBINE WITH CLOTHES WASHER AND SHOWER VENT PIPE, AND CONNECT TO 3" VENT THROUGH ROOF.
6. 2" VENT PIPE FOR WATER ENTRY ROOM FLOOR SINK ROUTED UP TO SECOND FLOOR. CONNECT TO 3" VENT THROUGH ROOF.
7. RADON PIPE FROM CRAWL SPACE TO ROOF. SEE ARCHITECTURAL SHEETS FOR LOCATION AND SIZE. COORDINATE LOCATION OF RADON VENT PIPE WITH PLUMBING PIPING IN WALL.

THIS SHEET SHOWS THE TYPICAL SANITARY CONFIGURATION FOR A TYPE "B" BUILDING. COORDINATE THE SANITARY DISCHARGE DIRECTION AND INVERT ELEVATION WITH THE CIVIL SITE PLAN SHEETS.
TWO OF THE THREE PLANNED TYPE "B" BUILDINGS (B2 & B3) HAVE A MID-BUILDING DISCHARGE FOR THE SANITARY. USE ARRANGEMENT SHOWN ON THIS SHEET FOR THOSE TWO BUILDING.
ONE OF THE TYPE "B" BUILDINGS (B1) HAS A DISCHARGE TO THE LEFT. MODIFY SANITARY MAIN DIRECTION FOR THAT BUILDING. INCLUDE CLEANOUTS AS NEEDED.



PLUMBING BUILDING B SANITARY PLAN FIRST FLOOR

SCALE: ############

NORTH

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HIGH ARCHITECTS

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MOUNTAIN VIEW TOWNHOMES
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DATE 04-16-2019
DRAWN PLANT
CHECK RL
REVISIONS:

SHEET P121B

KEYED NOTES

1. ROUTE 2" SANITARY DOWN TO LOWER FLOOR FOR CLOTHES WASHER OUTLET BOX. SEE FIRST FLOOR PLAN. ROUTE 1-1/2" VENT UP TO 2" COMMON VENT PIPE.
2. ROUTE 2" SANITARY DOWN TO LOWER FLOOR FOR SHOWER . SEE FIRST FLOOR PLAN. ROUTE 1-1/2" VENT UP TO 2" COMMON VENT PIPE.
3. ROUTE 4" SANITARY DOWN TO LOWER FLOOR FOR WATER CLOSET AND LAVATORY. SEE FIRST FLOOR PLAN. ROUTE VENT PIPE UP TO 2" COMMON VENT PIPE.
4. 1" DRAIN PAN DISCHARGE PIPE SHALL BE ROUTED BETWEEN JOISTS, DOWN THE EXTERIOR WALL AND PENETRATED OUT THE EXTERIOR WALL TO DAYLIGHT NEAR GRADE. COVER EXTERIOR OPENING WITH SCREEN.
5. 2" VENT FROM FIRST FLOOR. CONNECT TO SECOND FLOOR 2" VENT PIPE AND ROUTE TO 3" VENT THROUGH ROOF.
6. RADON PIPE FROM CRAWL SPACE TO ROOF. SEE ARCHITECTURAL SHEETS FOR LOCATION AND SIZE. COORDINATE LOCATION OF RADON VENT PIPE WITH PLUMBING PIPING IN WALL.

PLUMBING BUILDING B SANITARY PLAN SECOND FLOOR

SCALE: ############

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MOUNTAIN VIEW TOWNHOMES

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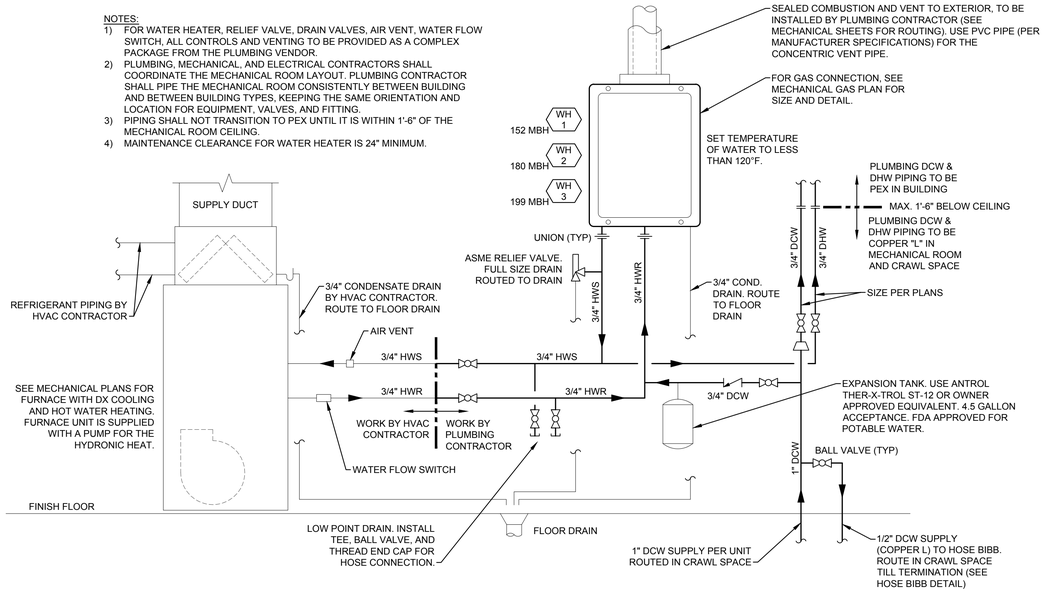
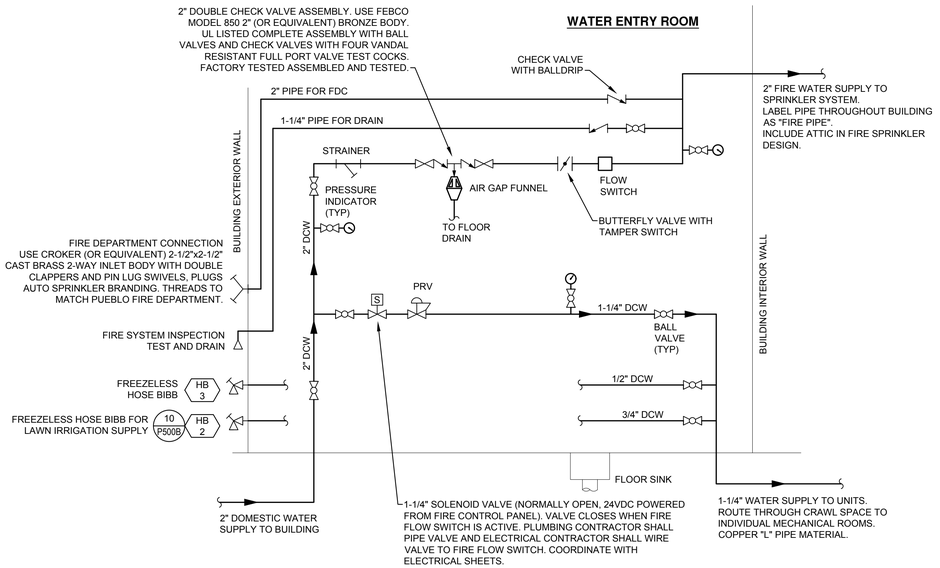


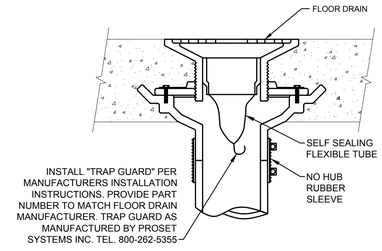
2 DOMESITC HYDRONIC PIPING DIAGRAM

NOT TO SCALE



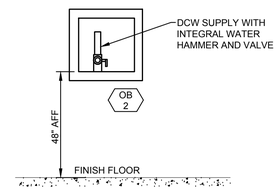
1 WATER ENTRY ROOM DETAIL - DCW AND FIRE PIPING

NOT TO SCALE



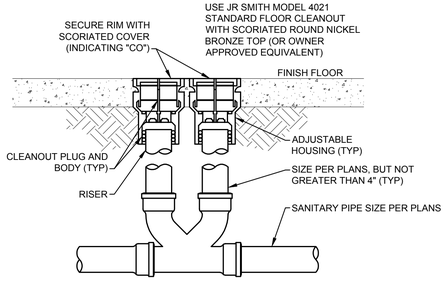
7 FLOOR DRAIN WITH TRAP GUARD SEAL

NOT TO SCALE



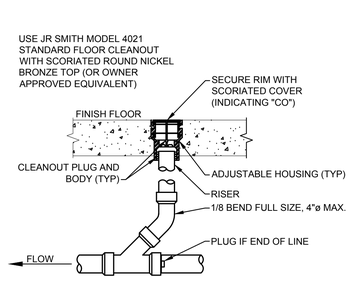
6 OUTLET BOX

NOT TO SCALE



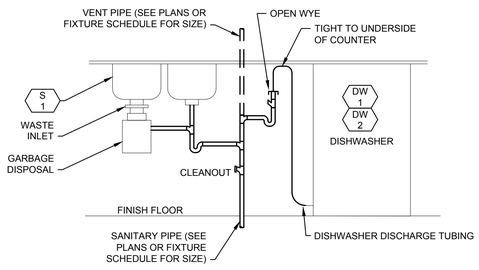
5 TWO-WAY CLEANOUT DEAIL

NOT TO SCALE



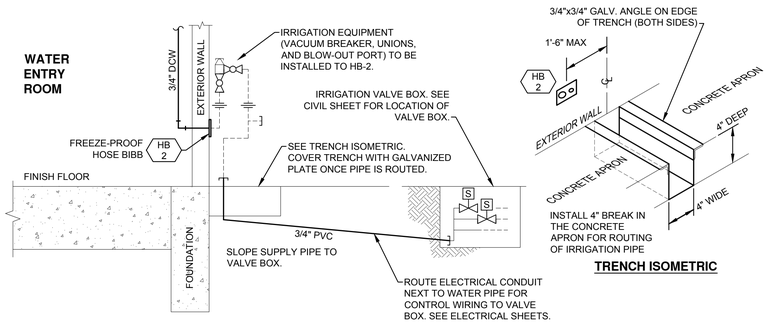
4 FLOOR CLEANOUT

NOT TO SCALE



3 KITCHEN SINK WITH DISHWASHER

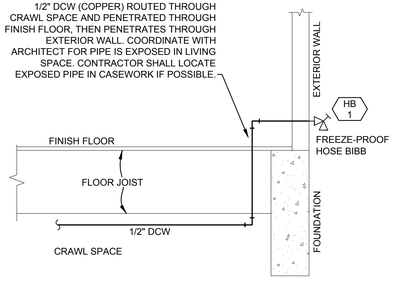
NOT TO SCALE



NOTES:
1) GENERAL CONTRACTOR SHALL GET 4" BREAK IN THE CONCRETE APRON. GENERAL CONTRACTOR SHALL HAVE UNDERGROUND PIPE, FROM TRENCH TO VALVE BOX, INSTALLED AT TIME OF CONCRETE WORK. INSTALL THREADED CAP AT END THAT PENETRATES INTO THE VALVE BOX AND THREADED CAP THE OTHER PIPE END 2" ABOVE TRENCH.
2) PLUMBING CONTRACTOR SHALL PIPE AND INSTALL HB-2 ON EXTERIOR WALL. IRRIGATION CONTRACTOR SHALL CONNECT IRRIGATION EQUIPMENT ABOVE TRENCH, AND CONNET TO UNDERGROUND PVC PIPE. LOCATE ABOVE GROUND EQUIPMENT TIGHT TO EXTERIOR WALL AND DOWN INTO TRENCH. COVER TRENCH WITH GALVANIZED SHEET.

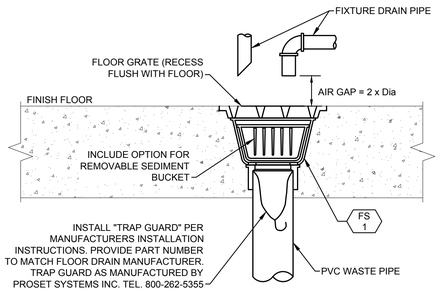
10 EXTERIOR IRRIGATION HOSE BIBB AND PIPING DETAIL

NOT TO SCALE



9 HOSE BIBB WATER ROUTING

NOT TO SCALE



8 FLOOR SINK W/ TRAP GUARD AND AIR GAP

NOT TO SCALE

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HIGHLIFE ARCHITECTS
HOUSING AUTHORITY OF THE CITY OF PUEBLO

MOUNTAIN VIEW TOWNHOMES

PROJECT No. I.F.B. 19-522-RAD

ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

DATE 04-16-2019
DRAWN PLANT
CHECK RL
REVISIONS:

SHEET P500B

PLUMBING FIXTURE UNIT TABULATION - BUILDING B

FIXTURE (IPC E103.3(2) AND 709.1)	TOTAL FIXTURES	CW SUPPLY		HW SUPPLY		TOTAL SUPPLY		DRAINAGE UNITS	
		PER FIXTURE	TOTAL UNITS	PER FIXTURE	TOTAL UNITS	PER FIXTURE	TOTAL UNITS	PER FIXTURE	TOTAL UNITS
BATHTUB - PRIVATE	4	1	4	1	4	1.4	5.6	2	8
DISHWASHING MACHINE	4	0	0	1.4	5.6	1.4	5.6	2	8
HOSE BIBB	4	5	20	0	0	5	20	0	0
KITCHEN ICE MAKER	4	0.25	1	0	0	0.25	1	0	0
FLOOR DRAIN - EMERGENCY	5	0	0	0	0	0	0	0	0
KITCHEN SINK - PRIVATE	4	1	4	1	4	1.4	5.6	2	8
LAVATORY	8	0.5	4	0.5	4	0.7	5.6	1	8
WASHING MACHINE - 8 LB PRIVATE	4	1	4	1	4	1.4	5.6	2	8
WATER CLOSET, FLUSH TANK, PRIVATE	8	2.2	17.6	0	0	2.2	17.6	3	24
	TOTALS		**54.6**		**21.6**		**66.6**		**64**

CW FIXTURE UNITS **66.6 @ 50 FEET DEVELOPMENT LENGTH**
PER 2015 IPC TABLE E201.1 **PROVIDE 1" METER (SERVICE SIZE) AND 1-1/4" DISTRIBUTION PIPE**

DRAINAGE FIXTURE UNITS **64**
PER 2015 IPC TABLE 710.1(1) **REQUIRES 4" SANITARY MAIN**

PLUMBING FIXTURE SCHEDULE - BUILDING B

MARK	DESCRIPTION		MINIMUM CONNECTION SIZE (in.)				NOTES
			WASTE	VENT	COLD WATER	HOT WATER	
DW-2	DISHWASHER	ENGERGY STAR COMPLIANT	1-1/2"	1-1/4"		1/2"	(1)
	MANUF/MODEL/COLOR	GE BUILT-IN DISHWASHER. MODEL GDF530PGMWW. WHITE.					
	ACCESSORIES	PROVIDE WITH DRAIN HOSE AND ELECTRICAL CONNECTION					
FD-2	FLOOR DRAIN		2"	1-1/2"			
	TYPE	SQUARE GRATE, MEDIUM DUTY, CAST IRON BODY					
	MANUF/MODEL/FINISH	J.R. SMITH. 2270Y-S-NB. SQUARE NICKEL BRONZE. 2" NO-HUB OUTLET					
	OPTIONS	INCLUDE TRAP GUARD PER DETAIL. FLOOR DRAIN WITH SEDIMENT BUCKET.					
FS-4	FLOOR SINK		4"	2"			
	TYPE	SQUARE CAST IRON FLANGED RECEPTOR WITH NICKEL BRONZE TOP, GENERAL SERVICE					
	MANUF/MODEL/FINISH	J.R. SMITH / 3151Y-12-PDBS. 4" NO HUB OUTLET. WITH SEDIMENT BUCKET					
	OPTIONS	INCLUDE TRAP GUARD PER DETAIL.					
HB-1	HOSE BIBB				1/2"		
	TYPE	FREEZE-PROOF WALL FAUCET					
	MANUF/MODEL	WOODFORD 25. AUTOMATIC DRAWING WITH VACUUM BREAKING.					
	ACCESSORIES / NOTES	3/4" HOSE THREAD OUTLET. HAND OPERATED WHEEL HANDLE					
HB-2	HOSE BIBB				1/2"		
	TYPE	FREEZE-PROOF WALL HYDRANT FOR IRRIGATION SYSTEM CONNECTION.					
	MANUF/MODEL	WOODFORD 32. AUTOMATIC DRAWING WITH VACUUM BREAKING.					
	ACCESSORIES / NOTES	3/4" NPT THREADED OUTLET. LOOSE TEE KEY FOR TURNING ON/OFF.					
HB-3	HOSE BIBB				1/2"		
	TYPE	FREEZE-PROOF WALL HYDRANT					
	MANUF/MODEL	WOODFORD 67. AUTOMATIC DRAWING WITH VACUUM BREAKING.					
	ACCESSORIES / NOTES	3/4" HOSE THREAD OUTLET. LOOSE TEE KEY FOR TURNING ON/OFF.					
LAV-1	LAVATORY		1-1/2"	1-1/4"	1/2"	1/2"	(3) (4) (6)
	TYPE	DROP-IN LAVATORY WITH A.D.A. INSULATION AROUND UNDERNEATH PIPING					
	MANUF / MODEL / COLOR	MANSFIELD, ALTO MODEL 251-4. WHITE VITREOUS CHINA, 4" CENTERS					
	FAUCET MANUF / MODEL	MOEN, MODEL L4601 "CHATEAU".					
	ACCESSORIES	USE PROFLO ADA DRAIN ASSESSORIES (DRAIN PFGD100, OFFSET P-TRAP)					
	ACCESSORIES	INCLUDE ANGLE STOPS WITH HANDLE ON/OFF.					
	ADA INSULATION	INCLUDE INSULTION FOR WASTE PIPE AND SUPPLY PIPES.					
LAV-2	LAVATORY		1-1/2"	1-1/4"	1/2"	1/2"	(4) (6)
	TYPE	DROP-IN LAVATORY					
	MANUF / MODEL / COLOR	MANSFIELD, ALTO MODEL 251-4. WHITE VITREOUS CHINA, 4" CENTERS					
	FAUCET MANUF / MODEL	MOEN, MODEL L4601 "CHATEAU".					
	ACCESSORIES	USE PROFLO ASSESSORIES (DRAIN PFGD100, P-TRAP PFPTB100,					
	ACCESSORIES	INCLUDE ANGLE STOPS WITH HANDLE ON/OFF.					
OB-1	OUTLET BOX		2"	1-1/4"	1/2"	1/2"	
	TYPE	OUTLET BOX FOR CLOTHES WASHING MACHINE. DCW / DHW / SAN					
	MANUF/MODEL	OATEY. MODEL 38271					
	DESCRIPTION	SINGLE LEVER VALVE, PEX CONNECTION, INTEGRAL HAMMER ARRESTOR					
OB-2	OUTLET BOX				1/2"		
	TYPE	OUTLET BOX FOR REFRIGERATOR WATER SUPPLY					
	MANUF/MODEL	OATEY. MODEL 39158					
	DESCRIPTION	QUARTER TURN VALVE, PEX CONNECTION					
S-1	SINK		2"	1-1/2"	1/2"	1/2"	(6)
	TYPE	DROP-IN 20 GAUGE STAINLESS STEEL, ADA COMPLIANT					
	FIXTURE MANUF/MODEL/FINISH	STERLING, MIDDLETON 14633-4. STAINLESS STEEL WITH 4 HOLES					
	FAUCET MANUF/MODEL/TYPE/FINISH	MOEN, MODEL M67430. WITH SPRAY					
	ACCESSORIES	INCLUDE GARBAGE DISPOSAL. MOEN MGXP50C. 1/2" HP. WITH POWER CORD					
SH-3	SHOWER TUB	FIXED SHOWER HEAD	2"	1-1/2"	1/2"	1/2"	(2) (5) (6)
	TYPE	60" TUB WITH WALLS AND SHELVES					
	FIXTURE MANUF/MODEL/COLOR	STERLING. MODEL 71240110 ACCORD. INCLUDES TUB AND WALL SET.					
	FAUCET MANUF/MODEL/TYPE/FINISH	MOEN. MODEL 8389EP15. 1.5 GPM. CHROME FINISH.					
	ACCESSORIES	INCLUDE PROFLO TUB DRAIN					
WC-1	WATER CLOSET		4"	2"	1/2"		(2) (6)
	TYPE	FLOOR MOUNT - ADA COMPLIANT					
	FLUSH TYPE	FLUSH TANK WITH PRESSURE ASSIST SIPHON JET ACTION. 1.28 GPF					
	MANUF/MODEL/COLOR	MANSFIELD MODEL 148-155. WHITE VIRTEOUS CHINA. ELOGATED BOWL.					
	SEAT/COLOR	BEMIS 1200CT. WHITE PLASTIC					
	ACCESSORIES	INCLUDE ANGLE STOP WITH HANDLE, CONNECTING TUBING, AND WAX RING.					
WC-2	WATER CLOSET		4"	2"	1/2"		(2) (6)
	TYPE	FLOOR MOUNT					
	FLUSH TYPE	FLUSH TANK WITH PRESSURE ASSIST SIPHON JET ACTION. 1.28 GPF					
	MANUF/MODEL/COLOR	MANSFIELD MODEL 146-155. WHITE VIRTEOUS CHINA. ROUND BOWL.					
	SEAT/COLOR	BEMIS OR PROFLO. WHITE PLASTIC					
	ACCESSORIES	INCLUDE ANGLE STOP WITH HANDLE, CONNECTING TUBING, AND WAX RING					
WDP-1	WASHER DRAIN PAN		1"				
	MANUF/MODEL	CAMCO MODEL 20752, 30"x32"					
	DESCRIPTION	2.5" DEEP PAN. PLASTIC. 1" BOTTOM DRAIN CONNECTION.					

NOTES:
(1) ALTERNATE SUBSTITUTIONS TO BE APPROVED BY OWNER.
(2) REFER TO PLANS FOR RIGHT HAND OR LEFT HAND CONFIGURATION. ORIENT FLUSH HANDLE ON OPEN SIDE OF ROOM, NOT SIDE WITH WALL. OREINT TUB AS PER PLANS.
(3) MOUNT IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS. INCLUDE OFFSET TAILPIECE ON ALL ADA LAVATORIES AND TRUEBRO LAV-GUARD INSULATION KIT IN CHINA WHITE
(4) PROVIDE GRID STRAINER, 0.5 GPM AERATOR, CHROME-PLATED BRASS ANGLE STOP VALVES, AND CHROME-PLATED P-TRAP
(5) CEMENT BOARD IN SHOWER WALL IS 5/8" THICK AND BEHIND SHOWER ENCLOSER PANEL. CONTRACTOR SHALL PROVIDE EXTENTION OPTION FOR SHOWER VALVE.
(6) LAVATORY FAUCET, SINK FAUCETS, SHOWER HEADS, AND WATER CLOSETS SHALL HAVE THE WATER-SENSE COMPLIANCE LABEL.

TANKLESS GAS WATER HEATER SCHEDULE

MARK	MANUF.	MODEL	TEMP. SETPOINT	VENT CONN.	COMB. AIR INTAKE CONN.	STORAGE (GAL)	FLOWRATE (GPM)	GAS HEATING DATA				ELECTRICAL	ELEVATION	NOTES
								MBH INPUT	MBH OUTPUT	MIN. EFFIC.	GAS CONN. (in.)			
WH-1	RINNAI	RUC80	120F	3"	3"	NONE	8.0	152	122	96%	3/4"	120V/1PH/60HZ	6,400	(1) (2) (3) (4) (5) (6) (7) (8)
WH-2	RINNAI	RUC90	120F	3"	3"	NONE	9.0	180	145	96%	3/4"	120V/1PH/60HZ	6,400	(1) (2) (3) (4) (5) (6) (7) (8)
WH-3	RINNAI	RUC98	120F	3"	3"	NONE	9.8	199	161	95%	3/4"	120V/1PH/60HZ	6,400	(1) (2) (3) (4) (5) (6) (7) (8)

NOTE:
(1) PROVIDE VERTICAL CONCENTRIC VENT KIT. USE PVC PIPE FOR VENT SYSTEM. REFER TO MECHANICAL SHEETS AND DETAIL FOR EXHAUST DUCTWORK.
(2) PROVIDE AND EXPANSION TANK SUPPORTED FROM BUILDING WITH UNISTRUT. SEE PLUMBING DETAIL.
(3) WATER HEATER IS HIGH-EFFICIENCY CONDENSING UNIT. DO NOT PROVIDE NEUTRALIZATION KIT FOR DRAIN DISCHARGE.
(4) A ONE BEDROOM UNIT REQUIRES A WH-1. A TWO BEDROOM UNIT REQUIRES A WH-2. A THREE BEDROOM UNIT REQUIRES A WH-3.
(5) PROVIDE WITH HEAT TRAP AND VALVES.
(6) PROVIDE PRIORITY DEMAND TO DOMESTIC HOT WATER SYSTEM.
(7) EQUIPMENT REQUIRES ELECTRICAL CONNECTION. COORDINATE WITH ELECTRICAL FOR 120V OUTLET TO PLUG INTO.
(8) PROJECT SITE IS AT HIGH ELEVATION. INCLUDE OPTION FOR HIGH ALTITUDE GAS KIT.

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HIGH IRON ARCHITECTS
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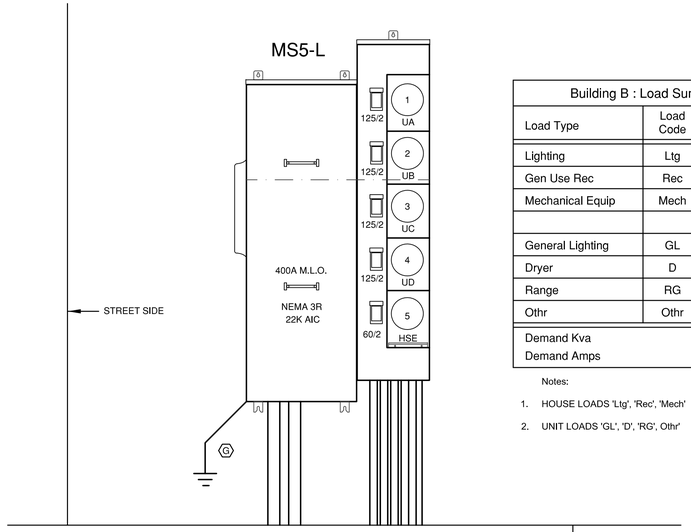
PROJECT No. I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

DATE 04-16-2019
DRAWN PLANT
CHECK RL
REVISIONS:

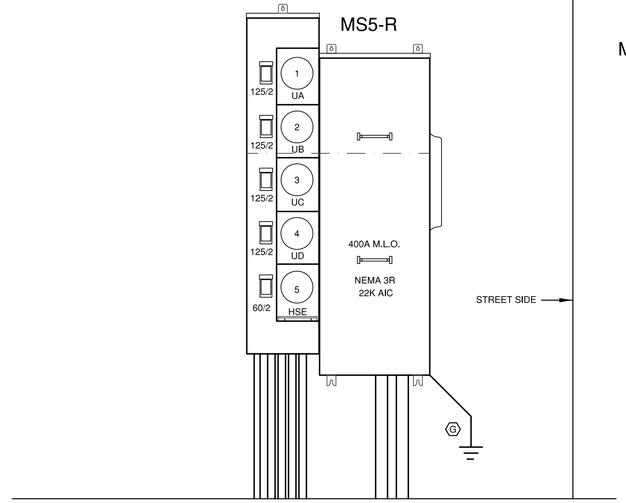
SHEET P610B



Building B : Load Summary : 400a Service				
Load Type	Load Code	Conn Kva	Demand Factor	Dmd Kva
Lighting	Ltg	0.5	125%	0.6
Gen Use Rec	Rec	0.5	10+50%	0.5
Mechanical Equip	Mech	1.5	125%	1.9
General Lighting	GL	56.8	3+35%	21.4
Dryer	D	20.0	100%	20.0
Range	RG	32.0	50%	16.0
Othr	Othr	23.3	100%	22.3
Demand Kva		Demand Kva		82.7
Demand Amps		Demand Amps		344.6

Notes:

1. HOUSE LOADS 'Ltg', 'Rec', 'Mech'
2. UNIT LOADS 'GL', 'D', 'RG', Othr'



Meterstacks MS5 Style

GROUNDING ELECTRODE SYSTEM

PROVIDE A 1/0cu GROUNDING ELECTRODE, UFER GROUND AND FINAL CONNECTION TO COLD WATER ENTRY.

FEEDER SCHEDULE:

SERVICE LATERAL METERS TO XFMR
2 SETS PARALLEL (3#250,al, 2 1/2"c.)

TYPICAL UNIT PANEL
3#1/0,al+#4g, 1 1/2"c.

TYPICAL HOUSE PANEL
3#6cu+#10g, 1"c.

GENERAL NOTE:

LABEL BREAKERS AS 'SERVICE DISCONNECTS' 1, 2, 3, 4, 5

SCHEDULE FOR PANEL HSE

VOLTS/PHASE/WIRE 120/240/1ph-3w — MAIN DEVICE 60a MLO
MOUNTING SURFACE — S.C. RATING 10,000 AIC
NOTES: N/A
N/A

Duty/Demand Load is Calculated Per NEC : Ltg, Cmp, Htg, Mtr & AC at 125%, Rec @ 10 + 50% and Othr @100%

PHASE A (KVA) 3.7 — CONNECTED KVA 3.64
PHASE B (KVA) 0.9 — LOAD FACTOR 1.14
PHASE C (KVA) N/A — DUTY/DEMAND KVA 4.15

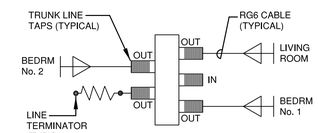
AVERAGE AMPS/LEG BASED ON DUTY/DEMAND KVA 17.3

#	DESCRIPTION	LOAD	BRKR	PH	BRKR	LOAD	DESCRIPTION	#
1	Rec : Wtr Entry + Exter	900	20/1	A	20/1	350	Othr : Fire Prot Sys Pnl	2
3	Ltg : Exterior Bldg	540	20/1	B	20/1	350	Othr : Irrigation Control	4
5	Mech : Wtr Entry	1,500	20/1	A	20/1		Spare	6
7	Spare		20/1	B	20/1		Spare	8
9	Space			A			Space	10
11	Space			B			Space	12

ENCLOSURE TYPE: NEMA 1 — BREAKER TYPE: PLUG ON
CLASS OF EQUIPMENT: LOADCENTER — NO. CIRCUITS: 12

SYMBOL LEGEND

3way	20A–1P LIGHT SWITCH MOUNTED AT +45"A.F.F.
	20A, 3 WAY SWITCH MOUNTED AT +45".A.F.F.
	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR MOUNTED AT +45" A.F.F. WATTSTOPPER #DSW–301 OR APPROVED EQUIVALENT.
	WALL MOUNTED ASTRONOMICAL TIME CLOCK ON/OFF FUNCTION MOUNTED AT +45" A.F.F. WATTSTOPPER #RT–200 OR APPROVED EQUIVALENT.
	WALL MOUNTED FAN SWITCH MOUNTED AT +45" A.F.F. CONFIRM EXACT REQUIREMENT WITH FAN SUPPLIER.
	20A, TAMPER RESISTANT DUPLEX RECEPTACLE WITH ONE–HALF SWITCHED FOR DISPOSER & DISHWASHER. MOUNT BELOW COUNTER.
	20A, TAMPER RESISTANT GROUND FAULT CIRCUIT INTERRUPT TYPE DUPLEX RECEPTACLE. MOUNT AT +24" A.F.F. UNLESS INDICATED OTHERWISE ON DRAWINGS. 'wp' INDICATES WEATHER PROOPF COVER. RE: SPECIFICATIONS.
	20A, TAMPER RESISTANT AFCI/GFCI BREAKER PROTECTED KITCHEN DUPLEX RECEPTACLE. MOUNTED AT HEIGHT INDICATED.
	15A, TAMPER RESISTANT AFCI BREAKER PROTECTED (GENERAL USE) DUPLEX RECEPTACLE. MOUNTED AT +18".
	30A–120/250V OUTLET FOR DRYER. GROUND PER NEC.
to	50A–120/250V OUTLET FOR RANGE. GROUND PER NEC. MOUNTING HEIGHT TO BE COORDINATED WITH EQUIPMENT INSTALLED.
	CONNECTION FOR EXHAUST FAN. PROVIDE SNAP SWITCH NO THERMAL OVERLOAD MOUNT @ MTR.
	CONNECTION FOR FAN COIL UNIT. PROVIDE SNAP SWITCH WITH THERMAL OVERLOAD MOUNT @ MTR.
	RECEPTACLE FOR RINNAI WATER HEATER. RE: MECHANICAL. COORDINATE EXACT LOCATION WITH EQUIPMENT AND INSTALL RECEPTACLE AT ACCESSIBLE LOCATION.
	CONNECTION FOR MECHANICAL EQUIPMENT WITH HEATING COIL.
	HEAVY DUTY MOTOR DISCONNECT SWITCH FOR UNIT AIR CONDITIONING UNIT.
	CABLE TELEVISION OUTLET – RE: DETAILS THIS SHEET FOR REQUIREMENTS. PROVIDE A COMPLETE OPERATIONAL SYSTEM.
CD alarm	120V HARD WIRED COMBINATION RESIDENTIAL SMOKE DETECTOR /CARBON MONOXIDE DETECTOR WITH 9V BATTERY BACKUP AND ALARM. UNITS TO BE TANDEM WIRED WITHIN APT. UNIT TO SOUND ALARM'S SIMULTANEOUSLY.
	120V HARD WIRED STROBE LIGHT WITH 9V BATTERY BACK UP. UNITS TO BE INTERCONNECTED WITH THE SMOKE/CARBON DETECTORS IN UNIT.
	FIRE SPRINKLER MONITORING PANEL PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. PANEL TO HAVE A CELL DIALER.
WP	ADDRESSABLE EXTERIOR WEATHER PROOF HORN/STROBE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR AND TIED INTO FIRE SPRINKLER MONITORING PANEL.
CD	ADDRESSABLE SMOKE DETECTOR PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR AND TIED INTO FIRE SPRINKLER MONITORING SYSTEM.
F	ADDRESSABLE PULL STATION PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR AND TIED INTO FIRE SPRINKLER MONITORING SYSTEM.
WF	WATERFLOW SWITCH/ES PROVIDED AND INSTALLED BY FIRE PROTECTION CONTRACTOR. CONNECTION, CONDUIT AND BOXES BY ELEC. CONTRACTOR.
TS	TAMPER SWITCH/ES PROVIDED AND INSTALLED BY FIRE PROTECTION CONTRACTOR. CONNECTION, CONDUIT AND BOXES BY ELEC. CONTRACTOR.
	SYMBOL ATTRIBUTES – 'A' = MOUNTED ABOVE COUNTER. RE: ARCHITECTURAL CASEWORK.
	ALL HEIGHTS INDICATED IS TO CENTER OF FIXTURE/DEVICE.



TYPICAL 2 BEDROOM APT

PROVIDE SINGLE GANG BACKBOX, RG6 CABLE AND COAX JACK WITH PLATE. STUB CONDUIT DOWN INTO CRAWLSPACE (1ST FLOOR) & ATTIC (2ND FLOOR). CABLE TO BE ROUTED IN CRAWLSPACE AND ATTIC BACK TO SPLITTER IN WATER ENTRY ROOM.
SPLITTERS TO BE MOUNTED IN A NEAT AND WORKMAN LIKE MANNER ON TELEPHONE BOARD.
PROVIDE FINAL TESTING REPORT FOR ALL CABLES.

COAX CABLING DETAIL

FIXTURE SCHEDULE

TYPE	DESCRIPTION & MANUFACTURES CATALOGUE NUMBERS ALL BALLASTS ARE 120V	NOTES	FINISH	LOCATION	LAMP(S) NO.	LAMP(S) TYPE
A	NOMINAL 18"w x 4' LONG FLUORESCENT FIXTURE W. WHITE FINISH, FROSTED WHITE ACRYLIC LENS AND 120V ELECTRONIC BALLAST. KICHLER LIGHTING #8300K–10303WH OR APPROVED EQUIVALENT.	1	WHITE	KITCHEN	4	82 CRI F32T8/830 3000 Deg K
B	6" ROUND IC RATED LED CAN LIGHT WITH 30K LAMP COLOR AND WHITE TRIM RING. PRESCOLITE #LB6LEDA10L–30K–WH–DBXQL OR APPROVED EQUIVALENT.	1	WHITE	VARIOUS	–	12W/ 1000LUM/ 3000 Deg K
C	NOMINAL 6" DIAMETER SURFACE MOUNTED (ROUND) LED LIGHT WITH STANDARD HIGH IMPACT POLYCARBONATE DIFFUSER, COMPLIANT WITH NEC 410.16(A)(3) & (C)(5) PROVIDE WITH APPROPRIATE BACK BOX. HALO #SLD612830WH OR APPROVED EQUIVALENT.	1	WHITE	VARIOUS	–	15W/ 1150LUM/ 3000 Deg K
D	SURFACE MOUNTED NOMIMAL 15"DIA. x 5.5" HIGH LED FIXTURE WITH BRUSHED NICKEL TRIM AND ETCHED ALABASTER STYLE GLASS. SEA GULL LIGHTING #75943EN3–962 OR APPROVED EQUIVALENT.	1	NICKEL	VARIOUS	3	80 CRI 9.5W/A19 3000 Deg K
E	SURFACE MOUNTED NOMIMAL 13"DIA. x 5" HIGH LED FIXTURE WITH BRUSHED NICKEL TRIM AND ETCHED ALABASTER STYLE GLASS. SEA GULL LIGHTING #75942EN3–962 OR APPROVED EQUIVALENT.	1	NICKEL	DINING	2	80 CRI 9.5W/A19 3000 Deg K
F1	SURFACE MOUNTED NOMIMAL 14"DIA. x 5" HIGH LED FIXTURE WITH FROSTED WHITE ACRYLIC DIFFUSER. SEA GULL LIGHTING #5639493S–15 OR APPROVED EQUIVALENT.	1	NICKEL	VARIOUS	–	80 CRI 23W/ 3000 Deg K
F2	SURFACE MOUNTED NOMIMAL 16.5"DIA. x 5" HIGH LED FIXTURE WITH FROSTED WHITE ACRYLIC DIFFUSER. SEA GULL LIGHTING #5739493S–15 OR APPROVED EQUIVALENT.	1	NICKEL	VARIOUS	–	80 CRI 34W/ 3000 Deg K
G	SURFACE MOUNTED 52" DIA CEILING FAN W/(5) BLADES, TWO LIGHT FAN LIGHT KIT WITH SWIRL ALABASTER STYLE GLASS. HUNTER #53251 WITH LIGHT KIT OR APPROVED EQUIVALENT.	1	WHITE	LIVING	2	80 CRI 13W–GU24 3000 Deg K
H	OWNER PROVIDED 24" WIDE OVER MIRROR LIGHT WITH BRUSHED NICKEL FINISH AND WHITE TEXTURED POLYCARB. DIFFUSER. KICHLER #8300K–11142NILED	1	NICKEL	RESTROOMS	–	20W/ 1410LUM 3000 Deg K
J	1 LIGHT DECORATIVE SCONCE WITH LED BULB, NICKEL FINISH AND WHITE GLASS. SEA GULL LIGHTING #41036EN3–999 OR APPROVED EQUIVALENT.	1	NICKEL	HALL	1	80 CRI 9.5W/A19 3000 Deg K
K	SMALL LED EXTERIOR WALL SCONCE OPERATED VIA ASTRONOMICAL TIME SWITCH. MOUNT AT 6'–6" TO CENTER. KICHLER # 8300K–49278XXXLED OR APPROVED EQUIV.	1	BY ARCH	EXTERIOR	–	8W/ 720LUM/ 3000 Deg K
L	DARK SKY COMPLIANT LED ADDRESS LIGHT OPERATED VIA BLDG MOUNTED PHOTOCELL. MOUNT LV TRANSF. IN ACCESSIBLE SPACE. PROVIDE WITH ADDRESS NUMBERS AND ALL NECESSARY COMPONENTS REQUIRED FOR AN OPERATIONAL SYSTEM. KICHLER #8300K–43800XXLED OR APPROVED EQUIV.	1	BY ARCH	EXTERIOR	–	4W/ 250LUM/ 3000 Deg K
AA	EXTERIOR LED WALL SCONCE WITH TYPE III DISTR. WIRED VIA BLDG MOUNTED PHOTOCELL. HUBBEL #TRP1–12L–15–3K7–3–U–XX–PCU OR APPROVED EQUIVALENT.	1	BY ARCH	EXTERIOR	–	15W/ 1477LUM/ 3000 Deg K
BB	EXTERIOR SMALL LED WALL SCONCE OPERATED VIA BUILDING MOUNTED PHOTOCELL. BEGA #22 261–XX–3000K OR APPROVED EQUIVALENT.	1	BY ARCH	EXTERIOR	–	6W/ 362LUM/ 3000 Deg K
	SELF–CONTAINED EMERGENCY LIGHT WITH INJECTION MOLDED HOUSING, 2 HEADS, SELF–DIAGNOSTIC FEATURE (120V)	2	WHITE	VARIOUS	2	BY MFGR

NOTES:

1. SUBSTITUTIONS PRIOR TO BID REQUIRED - ENGINEER MUST RECEIVE PRODUCT DATA 10 DAYS PRIOR TO BID - ONLY PRODUCT LISTED IN AN ADDENDUM WILL BE ACCEPTED.

   FIXTURES TO BE ENERGY STAR RATED OR UTILIZE ENERGY EFFICIENT LAMPS AS LISTED IN GREEN COMMUNITY STANDARDS.

IT IS THE CONTRACTORS's RESPONSIBILITY NOT TO EXCEED OUTLET SPACING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.

IT IS THE CONTRACTOR'S RESPONSIBILTY TO ADHERE TO ALL APPLICABLE SECTIONS OF THE NEC. ANY DESCREPANCIES BETWEEN THESE DRAWINGS AND THE NEC SHALL BE BROUGHT TO THE ENGINEER's ATTENTION PRIOR TO ROUGH-IN.
FAILURE TO BRING SUCH ITEMS TO THE ATTENTION OF THE ENGINEER, RESULTING IN ANY TYPE OF MODIFICATIONS TO THE INSTALLATION, SHALL BE AT THE CONTRACTOR's EXPENSE.

HED ARCHITECTS
HOUSING AUTHORITY OF THE CITY OF PUEBLO
KOHNERT ELECTRICAL ENGINEER's, INC
911 South 8Th Steet, Colorado Springs Co 80905
Phone (719) 633-2637 Fax: (719) 633-3465
email@kohnertes.com

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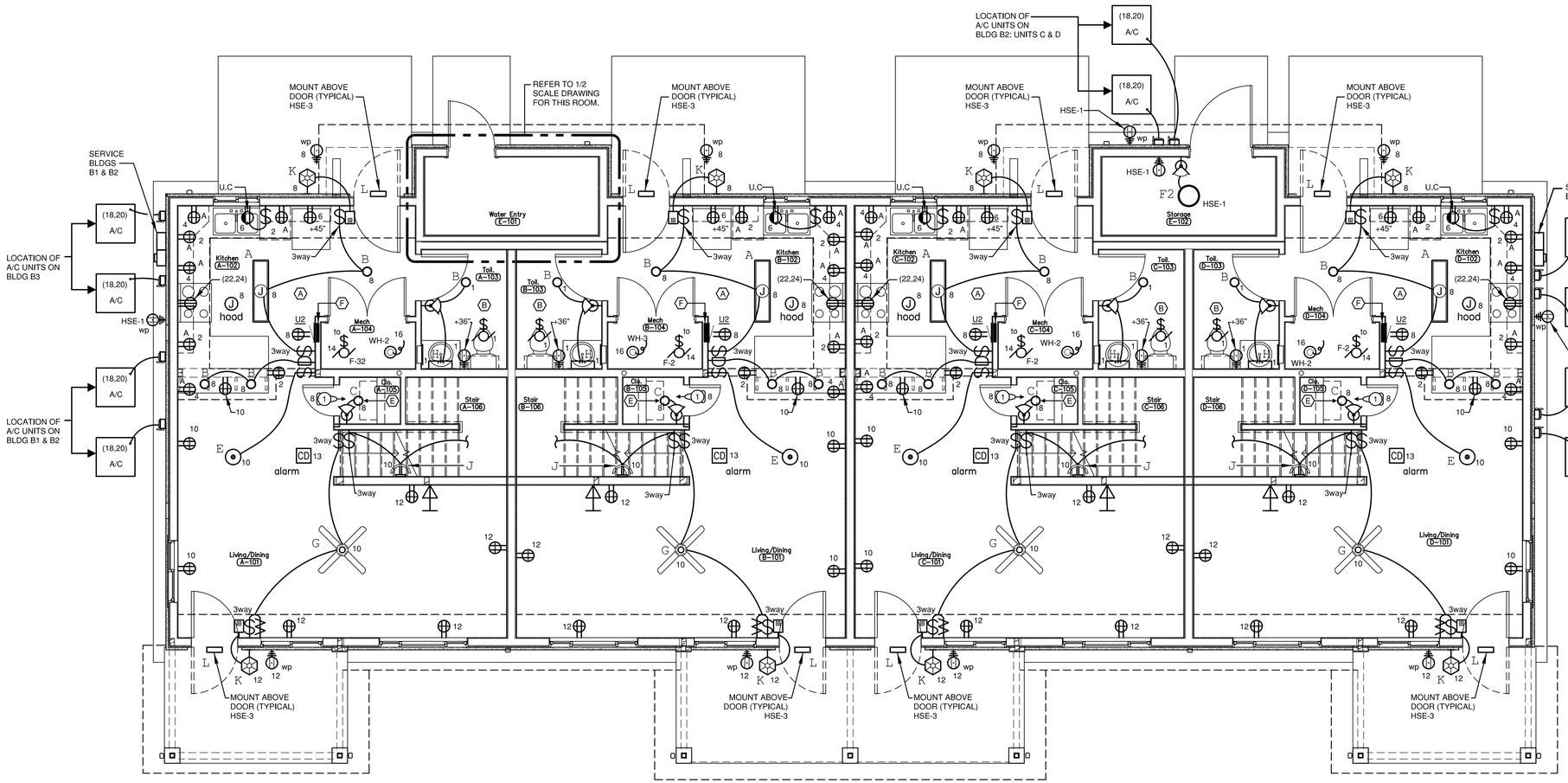
MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19–522–RAD
ACERO AVE. and SPRAGUE AVE, PUEBLO, COLORADO

BLDG B: FIXTURE SCHEDULE, SYMBOL LEGENDS and SERVICE DETAILS

DATE 04/16/19
DRAWN LMAK
CHECK MSK
REVISIONS:

SHEET E1.0B



BLDG B: FIRST FLOOR - ELECTRICAL PLAN

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

POWER BRANCH CIRCUIT REQUIREMENTS

15a GENERAL LIGHTING BRANCH CIRCUITS (x#14+g).
20a GENERAL LIGHTING BRANCH CIRCUITS (x#12+g).
30a A/C UNIT & DRYER BRANCH CIRCUIT (2#10+g).
50a ELECTRIC RANGE BRANCH CIRCUIT (3#6+g).

WIRING METHODS IN UNITS MAY BE MC OR FLEXIBLE NON METALLIC CONDUIT SYSTEMS AS ALLOWED BY THE NATIONAL ELECTRICAL CODE. NMC ALLOWED FOR APARTMENT UNIT WIRING ONLY.

ALL 'AFCI' CIRCUITS REQUIRE A DEDICATED NEUTRAL

IT IS THE CONTRACTORS's RESPONSIBILITY NOT TO EXCEED OUTLET SPACING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.

IT IS THE CONTRACTOR'S RESPONSIBILTY TO ADHERE TO ALL APPLICABLE SECTIONS OF THE NEC. ANY DESCREPANCIES BETWEEN THESE DRAWINGS AND THE NEC SHALL BE BROUGHT TO THE ENGINEER's ATTENTION PRIOR TO ROUGH-IN. FAILURE TO BRING SUCH ITEMS TO THE ATTENTION OF THE ENGINEER, RESULTING IN ANY TYPE OF MODIFICATIONS TO THE INSTALLATION, SHALL BE AT THE CONTRACTOR's EXPENSE.

FLAG NOTES:

1. PROVIDE (2) LED UTILITY FIXTURES (EQUAL TO SYLVANIA #LED/700/CL/827/RP), (1) GFCI RECEPTACLE AND (1) SWITCH IN CRAWLSPACE. WIRE TO CIRCUIT INDICATED. LOCATE SWITCH AND RECEPTACLE AT ACCESS LOCATION. FIXTURES TO BE UNIFORMLY SPACED IN AREA.
2. PROVIDE (2) LED UTILITY FIXTURES (EQUAL TO SYLVANIA #LED/700/CL/827/RP), (1) GFCI RECEPTACLE AND (1) SWITCH IN ATTIC SPACE. WIRE TO CIRCUIT INDICATED. LOCATE SWITCH AND RECEPTACLE AT ACCESS LOCATION. FIXTURES TO BE UNIFORMLY SPACED IN AREA.
3. NOT USED
4. NOT USED
5. PROVIDE A 4'Wx4'H PLYWOOD BACKBOARD FOR INCOMING PHONE/CATV. COORDINATE EXACT REQUIREMENTS WITH SERVICE PROVIDERS. PROVIDE GROUND PER NEC. REFER TO ADDITIONAL WORK REQUIRED FOR PHONE/CATV DESCRIBED ON PLANS AND WORK NOTED.
6. PROVIDE 120V CONNECTION FOR IRRIGATION CONTROLS. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER. WIRE TO CIRCUIT HSE-4. CONFIRM EXACT LOCATION WITH OWNER/IRRIGATION CONTRACTOR PRIOR TO ROUGH-IN.
7. PROVIDE 1" CONDUIT SLEEVE INTO ACCESSIBLE CRAWLSPACE. (FOR COAX CABLES 1ST FLOORS).
8. PROVIDE 1" CONDUIT SLEEVE INTO ACCESSIBLE ATTIC SPACE. (FOR COAC CABLES 2ND FLOORS).
9. PROVIDE LIGHTING PULL BOX WITH 1/2"c. TO PHOTO CELL AND 3/4"c. TO SITE FIXTURES. RE: SITE PLAN

HEX NOTES:

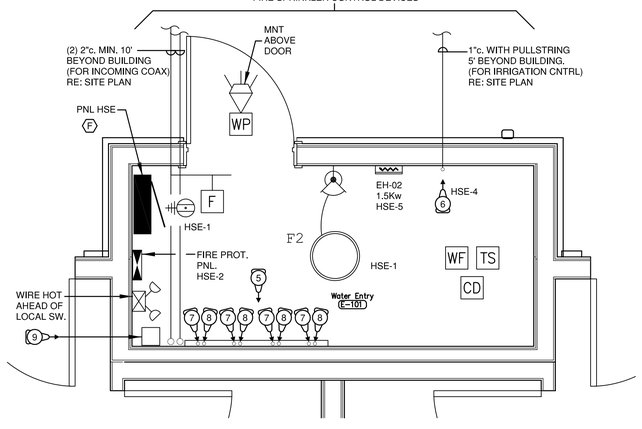
- (A) ALL KITCHEN RECEPTACLES TO BE GFCI PROTECTED VIA COMBINATION AFCI/GFCI BREAKERS LOCATED IN PANEL.
- (B) EXHAUST FAN SHALL BE WIRED HOT TO RUN CONTINUOSLY AT THE SPEED SET BY MECHANICAL. WIRE TO CIRCUIT INDICATED.
- (C) EXHAUST FAN SHALL BE WIRED VIA OCCUPANCY SENSOR AND BE ENERGIZED WITH THE LIGHT. WIRE TO CIRCUIT INDICATED.
- (D) EXHAUST FAN SHALL BE WIRED HOT AND RUN CONTINUOSLY AT SPEED SET BY MECHANICAL. UPON ACTIVATION OF OCCUPANCY SENSOR LOCATED ON FAN, FAN TO RUN HIGH UNTIL TIMED OUT. WIRE TO CIRCUIT INDICATED. OBTAIN WIRING DIAGRAM FROM EQUIPMENT SUPPLIER.
- (E) INSTALL TYPE C FIXTURE AT A MINIMUM OF 12" AWAY FROM DEFINED STORAGE AREA, I.E SHELVING ETC, PER NEC 410.16.
- (F) COORDINATE WITH OTHER TRADES TO MAINTAIN NEC CLEARANCES ABOUT ELECTRICAL PANEL.

GENERAL NOTES:

1. ONLY APPROVED PRODUCTS LISTED ON DRAWINGS OR IN AN ADDENDUM WILL BE ACCEPTED.
2. REFER TO MECHANICAL/CIVIL DRAWINGS AND ADDENDUMS FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.
3. ELECTRICAL CONTRACTOR TO CONFIRM ALL MECHANCIAL EQUIPMENT CONNECTIONS PRIOR TO ROUGH-IN.
4. ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL CASEWORK DRAWINGS PRIOR TO ROUGH-IN.
5. ALL CONDUITS FOR LOW VOLTAGE SYSTEMS TO HAVE INSULATED BUSHINGS. RE: COAX WIRING DETAIL FOR ADDITIONAL REQUIREMENTS.
6. ALL KITCHEN RECEPTACLES TO BE TAMPER RESISTANT GFI PROTECTED RECEPTACLES THRU COMBINATION AFCI/GFCI BREAKER IN PANEL. RE: PANEL SCHEDULE.
7. THE ENTIRE ELECTRICAL INSTALLATION SHALL CONFORM TO THE 2017 NEC.
8. THIS PROJECT SHALL MEET THE 2015 ENTERPRISE GREEN COMMUNITIES CRITERIA.
9. PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS WELL AS COMPLETE AND OPERATIONAL LOW VOLTAGE SYSTEM. ALL NECESSARY COMPONENT MAY NOT BE INDICATED.
10. CONTRACTOR TO REFER TO CODE STUDY FOR RATINGS OF WALLS, FLOORS AND CEILINGS. ADJUST INSTALLATION AS REQUIRED TO MAINTAIN RATING OR UTILIZE UL LISTED METHODS TO MAINTAIN THE FIRE RATING.
11. SLEEVE AS REQUIRED BETWEEN UNIT CRAWL SPACES AND ATTIC SPACES. ALL SLEEVES TO BE FIRE CAULKED TO MAINTAIN RATINGS.
12. ALL TYPE L FIXTURES ARE TO BE WIRED VIA BUILDING PHOTOCELL AND TIED INTO BUILDING LIGHT CIRCUIT. RE: SITE PLAN.
13. REFER TO SITE PLAN FOR WIRING OF TYPE AA & BB FIXTURES.

FINAL LAYOUT OF ROOM TO BE COORDINATED WITH EQUIPMENT.
DO NOT RUN WATER LINES OVER POWER PANEL.

REFER TO DIAGRAM FOR WIRING OF FIRE SPRINKLER CONTROL DEVICES



BLDG B: WATER ENTRY ROOM

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

CONDUCTOR LEGEND

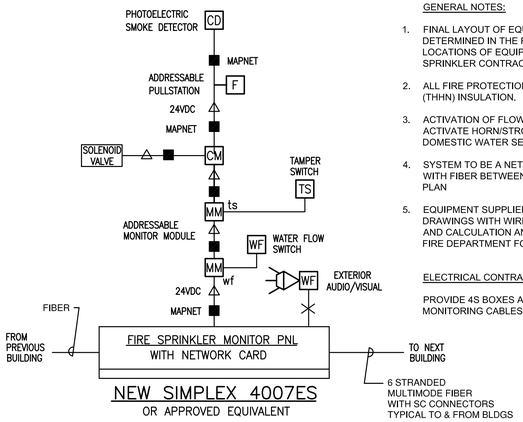
■ 2#18 SHIELDED – AS REQUIRED BY SYSTEM MANUFACTURER – MAPNET

CONDUCTOR LEGEND

△ 2#14 DEVICE POWER CIRCUIT(S) – 24VDC – AS REQUIRED BY SYSTEM MANUFACTURER

CONDUCTOR LEGEND

✕ 2#14 APPLIANCE NOTIFICATION CIRCUIT(S) – No. AS REQUIRED BY SYSTEM MANUFACTURER



FIRE PROTECTION WIRING DIAGRAM

GENERAL NOTES:

1. FINAL LAYOUT OF EQUIPMENT TO BE DETERMINED IN THE FIELD. COORDINATE EXACT LOCATIONS OF EQUIPMENT WITH FIRE SPRINKLER CONTRACTOR AND OTHER TRADES.
2. ALL FIRE PROTECTION SYSTEM WIRING TO BE (THHN) INSULATION.
3. ACTIVATION OF FLOW SWITCH SHALL DIAL OUT, ACTIVATE HORN/STROBE AND CLOSE THE DOMESTIC WATER SERVICE SOLENOID.
4. SYSTEM TO BE A NETWORKED SYSTEM TIED WITH FIBER BETWEEN BLDGS. RE: ELEC SITE PLAN
5. EQUIPMENT SUPPLIER TO PROVIDE SHOP DRAWINGS WITH WIRING DIAGRAM, EQUIPMENT AND CALCULATION AND SUBMIT TO THE PUEBLO FIRE DEPARTMENT FOR PERMIT.

ELECTRICAL CONTRACTOR ROUGH-IN:

PROVIDE 4S BOXES AND 1/2"c. FOR FPS MONITORING CABLES.

KOHNERT ELECTRICAL ENGINEER's, INC
911 South 8Th Steet, Colorado Springs Co 80905
Phone (719) 633-2637 Fax: (719) 633-3465
email@kohnertes.com

HGE ARCHITECTS
HOUSING AUTHORITY OF THE CITY OF PUEBLO

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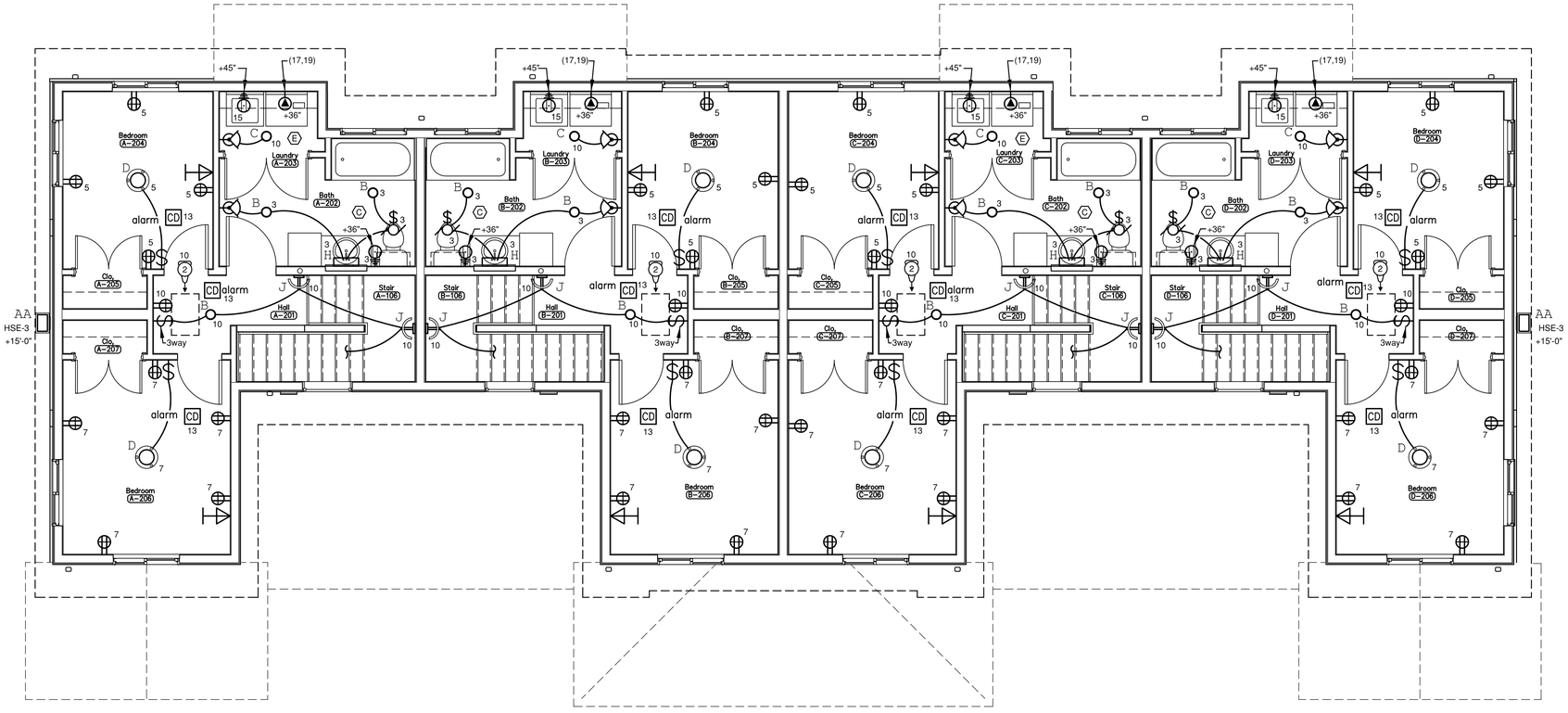
MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

DATE	04/16/19
DRAWN	LMAK
CHECK	MSK
REVISIONS:	

BUILDING B: FIRST FLOOR - ELECTRICAL PLANS

SHEET E1.1B



BLDG B - SECOND FLOOR - ELECTRICAL PLAN

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

0 2' 4' 8'

SCHEDULE FOR PANEL U2

VOLTS/PHASE/WIRE 120/240/1ph-3w
MAIN DEVICE 125a MLO
MOUNTING FLUSH
S.C. RATING 10,000 AIC
NOTES: Provide with (2) each Spare 3/4"c. into Attic & Crawlspaces
N/A

Duty/Demand Load is Calculated Per NEC : Ltg, Cmp, Htg, Mtr & AC at 125%, Rec @ 10 + 50% and Othr @100%

PHASE A (KVA) 17.2
PHASE B (KVA) 16.7
PHASE C (KVA) N/A
CONNECTED KVA 32.35
LOAD FACTOR 0.78
DUTY/DEMAND KVA 25.24

AVERAGE AMPS/LEG BASED ON DUTY/DEMAND KVA 105.2

#	DESCRIPTION	LOAD	BRKR	PH	BRKR	LOAD	DESCRIPTION	#
1	GL : 1st Flr Toilet	1,500	A20/1	A	C20/1	1,500	GL : Kit Appliance	2
3	GL : 2nd Flr Bath	1,500	A20/1	B	C20/1	1,500	GL : Kit Appliance	4
5	GL : Bedrm 1	765	A20/1	A	C20/1	1,540	GL : Disp/DW/Fridge	6
7	GL : Bedrm 2	940	A20/1	B	A20/1	1,185	GL : Kit + Hall Lts	8
9	Spare		A20/1	A	A20/1	1,080	GL : Living Rm Rec	10
11	Spare		A20/1	B	A20/1	920	GL : Living Rm Rec	12
13	Othr : Smoke Detectors	600	A20/1	A	A15/1	495	Othr : Furnace	14
15	GL : Laundry Washer	1,500	A20/1	B	A20/1	960	Othr : Water Heater	16
17	Othr : Dryer	2,500	30/2	A	20/2	1,680	Othr : Condensing Unit	18
19	Do	2,500	Do	B	Do	1,680	Do	20
21	Space			A	50/2	4,000	Othr : Range	22
23	Space			B	Do	4,000	Do	24

ENCLOSURE TYPE: NEMA 1
BREAKER TYPE: PLUG ON
CLASS OF EQUIPMENT: LOADCENTER
NO. CIRCUITS: 24

'A' INDICATES ARC FAULT CIRCUIT BREAKER
'C' INDICATES COMBINATION ARC FAULT CIRCUIT/ GROUND FAULT CIRCUIT INTERUPTER BREAKER.

IT IS THE CONTRACTORS's RESPONSIBILITY NOT TO EXCEED OUTLET SPACING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.

IT IS THE CONTRACTOR'S RESPONSIBILTY TO ADHERE TO ALL APPLICABLE SECTIONS OF THE NEC. ANY DESCREPANCIES BETWEEN THESE DRAWINGS AND THE NEC SHALL BE BROUGHT TO THE ENGINEER's ATTENTION PRIOR TO ROUGH-IN.
FAILURE TO BRING SUCH ITEMS TO THE ATTENTION OF THE ENGINEER, RESULTING IN ANY TYPE OF MODIFICATIONS TO THE INSTALLATION, SHALL BE AT THE CONTRACTOR's EXPENSE.

POWER BRANCH CIRCUIT REQUIREMENTS

15a GENERAL LIGHTING BRANCH CIRCUITS (x#14+g).
20a GENERAL LIGHTING BRANCH CIRCUITS (x#12+g).
30a A/C UNIT & DRYER BRANCH CIRCUIT (2#10+g).
50a ELECTRIC RANGE BRANCH CIRCUIT (3#6+g).

WIRING METHODS IN UNITS MAY BE MC OR FLEXIBLE NON METALLIC CONDUIT SYSTEMS AS ALLOWED BY THE NATIONAL ELECTRICAL CODE. NMC ALLOWED FOR APARTMENT UNIT WIRING ONLY.

ALL 'AFCI' CIRCUITS REQUIRE A DEDICATED NEUTRAL

GENERAL NOTES:

1. ONLY APPROVED PRODUCTS LISTED ON DRAWINGS OR IN AN ADDENDUM WILL BE ACCEPTED.
2. REFER TO MECHANICAL/CIVIL DRAWINGS AND ADDENDUMS FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.
3. ELECTRICAL CONTRACTOR TO CONFIRM ALL MECHANCIAL EQUIPMENT CONNECTIONS PRIOR TO ROUGH-IN.
4. ELECTRICAL CONTRACTOR SHALL REFER TO ARCHITECTURAL CASEWORK DRAWINGS PRIOR TO ROUGH-IN.
5. ALL CONDUITS FOR LOW VOLTAGE SYSTEMS TO HAVE INSULATED BUSHINGS. RE: COAX WIRING DETAIL FOR ADDITIONAL REQUIREMENTS.
6. ALL KITCHEN RECEPTACLES TO BE TAMPER RESISTANT GFI PROTECTED RECEPTACLES THRU COMBINATION AFCI/GFCI BREAKER IN PANEL. RE: PANEL SCHEDULE.
7. THE ENTIRE ELECTRICAL INSTALLATION SHALL CONFORM TO THE 2017 NEC.
8. THIS PROJECT SHALL MEET THE 2015 ENTERPRISE GREEN COMMUNITIES CRITERIA.
9. PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM AS WELL AS COMPLETE AND OPERATIONAL LOW VOLTAGE SYSTEM. ALL NECESSARY COMPONENT MAY NOT BE INDICATED.
10. CONTRACTOR TO REFER TO CODE STUDY FOR RATINGS OF WALLS, FLOORS AND CEILINGS. ADJUST INSTALLATION AS REQUIRED TO MAINTAIN RATING OR UTILIZE UL LISTED METHODS TO MAINTAIN THE FIRE RATING.
11. SLEEVE AS REQUIRED BETWEEN UNIT CRAWL SPACES AND ATTIC SPACES. ALL SLEEVES TO BE FIRE CAULKED TO MAINTAIN RATINGS.
12. ALL TYPE L FIXTURES ARE TO BE WIRED VIA BUILDING PHOTOCELL AND TIED INTO BUILDING LIGHT CIRCUIT. RE: SITE PLAN.
13. REFER TO SITE PLAN FOR WIRING OF TYPE AA & BB FIXTURES.

FLAG NOTES:

(1) PROVIDE (2) LED UTILITY FIXTURES (EQUAL TO SYLVANIA #LED/700/CL/827/RP), (1) GFCI RECEPTACLE AND (1) SWITCH IN CRAWLSPACE. WIRE TO CIRCUIT INDICATED. LOCATE SWITCH AND RECEPTACLE AT ACCESS LOCATION. FIXTURES TO BE UNIFORMLY SPACED IN AREA.

(2) PROVIDE (2) LED UTILITY FIXTURES (EQUAL TO SYLVANIA #LED/700/CL/827/RP), (1) GFCI RECEPTACLE AND (1) SWITCH IN ATTIC SPACE. WIRE TO CIRCUIT INDICATED. LOCATE SWITCH AND RECEPTACLE AT ACCESS LOCATION. FIXTURES TO BE UNIFORMLY SPACED IN AREA.

(3) NOT USED

(4) NOT USED

(5) PROVIDE A 4'Wx4'H PLYWOOD BACKBOARD FOR INCOMING PHONE/CATV. COORDINATE EXACT REQUIREMENTS WITH SERVICE PROVIDERS. PROVIDE GROUND PER NEC. REFER TO ADDITIONAL WORK REQUIRED FOR PHONE/CATV DESCRIBED ON PLANS AND WORK NOTED.

(6) PROVIDE 120V CONNECTION FOR IRRIGATION CONTROLS. COORDINATE EXACT REQUIREMENTS WITH EQUIPMENT SUPPLIER. WIRE TO CIRCUIT HSE-4. CONFIRM EXACT LOCATION WITH OWNER/IRRIGATION CONTRACTOR PRIOR TO ROUGH-IN.

(7) PROVIDE 1" CONDUIT SLEEVE INTO ACCESSIBLE CRAWLSPACE. (FOR COAX CABLES 1ST FLOORS).

(8) PROVIDE 1" CONDUIT SLEEVE INTO ACCESSIBLE ATTIC SPACE. (FOR COAC CABLES 2ND FLOORS).

(9) PROVIDE LIGHTING PULL BOX WITH 1/2"c. TO PHOTO CELL AND 3/4"c. TO SITE FIXTURES. RE: SITE PLAN

HEX NOTES:

(A) ALL KITCHEN RECEPTACLES TO BE GFCI PROTECTED VIA COMBINATION AFCI/GFCI BREAKERS LOCATED IN PANEL.

(B) EXHAUST FAN SHALL BE WIRED HOT TO RUN CONTINUOSLY AT THE SPEED SET BY MECHANICAL. WIRE TO CIRCUIT INDICATED.

(C) EXHAUST FAN SHALL BE WIRED VIA OCCUPANCY SENSOR AND BE ENERGIZED WITH THE LIGHT. WIRE TO CIRCUIT INDICATED.

(D) EXHAUST FAN SHALL BE WIRED HOT AND RUN CONTINUOSLY AT SPEED SET BY MECHANICAL. UPON ACTIVATION OF OCCUPANCY SENSOR LOCATED ON FAN, FAN TO RUN HIGH UNTIL TIMED OUT. WIRE TO CIRCUIT INDICATED. OBTAIN WIRING DIAGRAM FROM EQUIPMENT SUPPLIER.

(E) INSTALL TYPE C FIXTURE AT A MINIMUM OF 12" AWAY FROM DEFINED STORAGE AREA, I.E SHELVING ETC, PER NEC 410.16.

(F) COORDINATE WITH OTHER TRADES TO MAINTAIN NEC CLEARANCES ABOUT ELECTRICAL PANEL.

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IHDE ARCHITECTS
HOUSING AUTHORITY OF THE CITY OF PUEBLO

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MOUNTAIN VIEW TOWNHOMES
PROJECT No. I.F.B. 19-522-RAD
ACERO AVE. and SPRAGUE AVE., PUEBLO, COLORADO

DATE 04/16/19
DRAWN LMAK
CHECK MSK
REVISIONS:

BUILDING B- SECOND FLOOR - ELECTRICAL PLANS

SHEET E1.2B