SUPPLY DIFFUSER SCHEDULE

(A/100) DESIGNATES LABEL FOR DIFFUSER TYPE
DESIGNATES CFM QUANTITY FOR DIFFUSER

ALL DIFFUSERS ARE TO BE PROVIDED WITH OPPOSED BLADE DAMPERS UNLESS OTHERWISE SPECIFIED ON PLANS.

LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
A	TITUS 300RL	8X6	0 – 150	SIDEWALL REGISTER
B	TITUS 300RL	10X6	155 – 200	SIDEWALL REGISTER
C	TITUS 300RL	14X6	205 – 300	SIDEWALL REGISTER
D	TITUS 300RL	16X6	305 – 400	SIDEWALL REGISTER
E	TITUS 300RL	18X6	405 – 500	SIDEWALL REGISTER
F	TITUS 250–AA	8X6	0 – 150	CEILING REGISTER
G	TITUS CT–580	36" X 3"	0 – 225	LINEAR BAR DIFFUSER
H	TITUS CT–580	36" X 4"	230 – 500	LINEAR BAR DIFFUSER

NOTE:
SUPPLY REGISTERS SHALL BE PROVIDED WITH A SURFACE MOUNT BORDER TYPE 1.

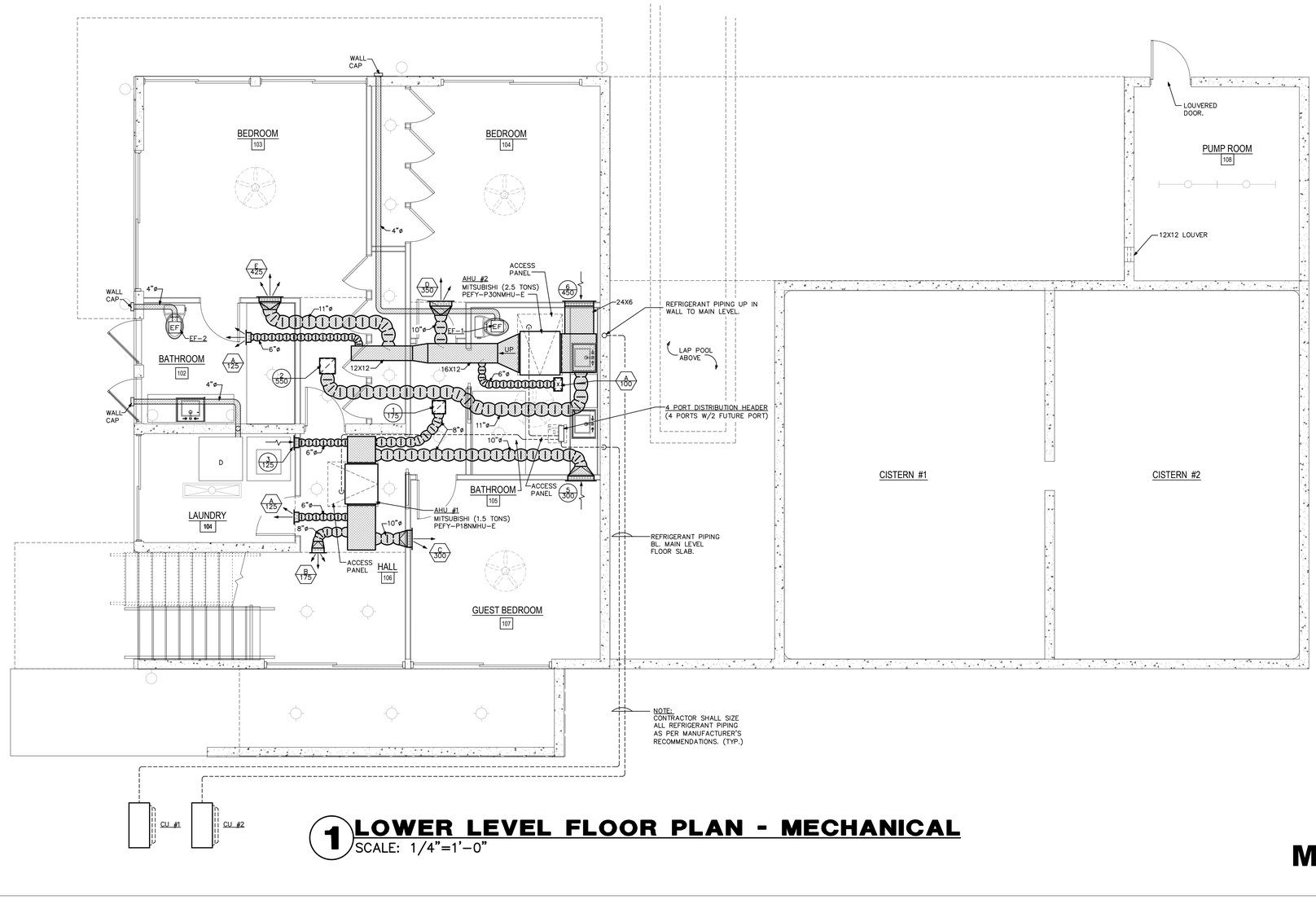
RETURN GRILLE SCHEDULE

(A/100) DESIGNATES LABEL FOR GRILLE TYPE
DESIGNATES CFM QUANTITY FOR GRILLE

FILTER SHALL BE PROVIDED AT UNIT.

LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	TITUS 355FL	10X10	0 – 400	LOUVER FACE
2	TITUS 355FL	12X12	400 – 600	LOUVER FACE
3	TITUS 355FL	6X6	0 – 125	SIDEWALL REGISTER
4	TITUS 355FL	10X6	130 – 200	SIDEWALL REGISTER
5	TITUS 355FL	22X6	280 – 400	SIDEWALL REGISTER
6	TITUS 355FL	24X6	405 – 600	SIDEWALL REGISTER
7	TITUS 355FL	24X24	1205 – 1450	LOUVER FACE
8	TITUS CT–580	36" X 3"	0 – 225	LINEAR BAR DIFFUSER
9	TITUS CT–580	36" X 5"	230 – 550	LINEAR BAR DIFFUSER

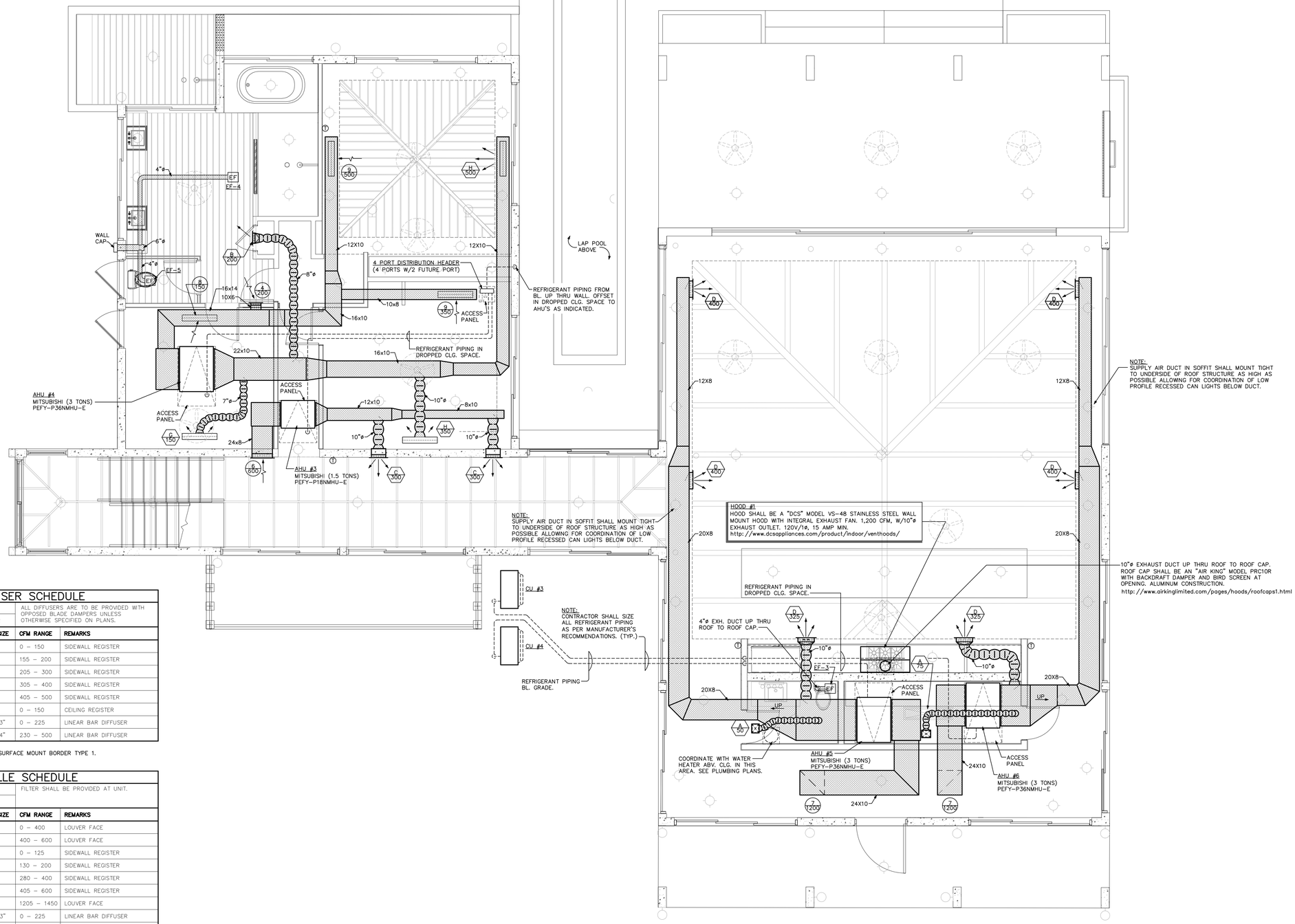
NOTE:
RETURN AIR GRILLES SHALL BE PROVIDED WITH A SURFACE MOUNT BORDER TYPE 1.



1 LOWER LEVEL FLOOR PLAN - MECHANICAL

SCALE: 1/4"=1'–0"

M1.01



SUPPLY DIFFUSER SCHEDULE

(A/100) DESIGNATES LABEL FOR DIFFUSER TYPE
DESIGNATES CFM QUANTITY FOR DIFFUSER

ALL DIFFUSERS ARE TO BE PROVIDED WITH OPPOSED BLADE DAMPERS UNLESS OTHERWISE SPECIFIED ON PLANS.

LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
A	TITUS 300RL	8X6	0 – 150	SIDEWALL REGISTER
B	TITUS 300RL	10X6	155 – 200	SIDEWALL REGISTER
C	TITUS 300RL	14X6	205 – 300	SIDEWALL REGISTER
D	TITUS 300RL	16X6	305 – 400	SIDEWALL REGISTER
E	TITUS 300RL	18X6	405 – 500	SIDEWALL REGISTER
F	TITUS 250-AA	8X6	0 – 150	CEILING REGISTER
G	TITUS CT-580	36" X 3"	0 – 225	LINEAR BAR DIFFUSER
H	TITUS CT-580	36" X 4"	230 – 500	LINEAR BAR DIFFUSER

NOTE:
SUPPLY REGISTERS SHALL BE PROVIDED WITH A SURFACE MOUNT BORDER TYPE 1.

RETURN GRILLE SCHEDULE

(A/100) DESIGNATES LABEL FOR GRILLE TYPE
DESIGNATES CFM QUANTITY FOR GRILLE

FILTER SHALL BE PROVIDED AT UNIT.

LABEL	MANUFACTURER & MODEL NO.	NECK SIZE	CFM RANGE	REMARKS
1	TITUS 355FL	10X10	0 – 400	LOUVER FACE
2	TITUS 355FL	12X12	400 – 600	LOUVER FACE
3	TITUS 355FL	6X6	0 – 125	SIDEWALL REGISTER
4	TITUS 355FL	10X6	130 – 200	SIDEWALL REGISTER
5	TITUS 355FL	22X6	280 – 400	SIDEWALL REGISTER
6	TITUS 355FL	24X6	405 – 600	SIDEWALL REGISTER
7	TITUS 355FL	24X24	1205 – 1450	LOUVER FACE
8	TITUS CT-580	36" X 3"	0 – 225	LINEAR BAR DIFFUSER
9	TITUS CT-580	36" X 5"	230 – 550	LINEAR BAR DIFFUSER

NOTE:
RETURN AIR GRILLES SHALL BE PROVIDED WITH A SURFACE MOUNT BORDER TYPE 1.

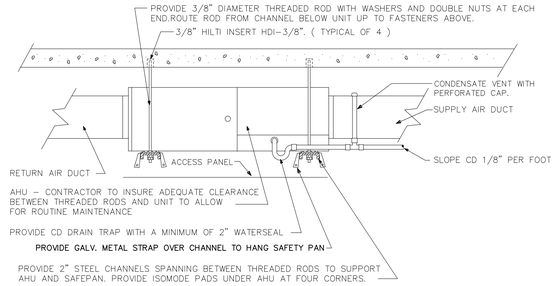
1 MAIN LEVEL FLOOR PLAN - MECHANICAL

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

M1.02

GENERAL MECHANICAL NOTES

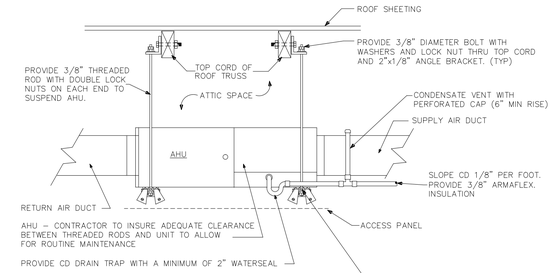
1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SYSTEM IN ACCORDANCE WITH THESE DRAWINGS, ALL MANUFACTURER'S INSTALLATION REQUIREMENTS, THE APPLICABLE BUILDING CODE AND ALL OTHER APPLICABLE STATE, COUNTY AND LOCAL ORDINANCES AND THE LATEST ADDITION OF THE FOLLOWING PUBLICATIONS; SMACNA, ASHRAE, NFPA 90A, 90B, 91 & ANSI B-9.1 MECHANICAL ALL DUCTWORK SHALL BE FABRICATED, INSTALLED AND SUPPORTED AS PER SMACNA STANDARDS.
2. THE CONTRACTOR SHALL PAY ALL COSTS OF PERMIT, INSPECTIONS AND ALL OTHER COSTS INCIDENTAL TO THE COMPLETION AND TESTING OF THIS WORK.
3. THE CONTRACTOR SHALL VISIT THE SITE AND COORDINATE WORK WITH OTHER TRADES. TO ENSURE AN ORDERLY PROGRESS OF THIS WORK.
4. ALL MATERIAL SHALL BE NEW OF GOOD QUALITY. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER BY SKILLED WORKMAN.
5. ALL SUPPLY AND RETURN AIR DUCTWORK SHALL BE GALVANIZED SHEET STEEL EXTERNALLY WRAPPED WITH WITH A MIN. OF R5 INSULATION OR R8 IF DUCTWORK IS LOCATED EXTERIOR TO BLDG INSULATION ENVELOPE. ALL FLEX DUCT SHALL BE "THERMOFLEX" OR APPROVED EQUAL AND SHALL HAVE EQUIVALENT INSULATION.
6. ALL EXHAUST DUCTS AND OUTSIDE AIR DUCTS SHALL BE GALVANIZED SHEET METAL WITH SEALED SEAMS AND JOINTS.
7. DUCT SIZES SHOWN ARE INSIDE DIMENSIONS.
8. ALL AIR DEVICES (DIFFUSERS, REGISTERS AND GRILLES) SHALL BE ALL ALUMINUM CONSTRUCTION WITH EXPOSED SURFACE OFF WHITE BAKED ENAMEL FINISH OR AS SPECIFIED BY ARCHITECT. DEVICES SHALL BE TITUS, METALAIRE, AIRGUIDE. PROVIDE OPPOSED BLADE DAMPERS AT ALL DIFFUSERS AND REGISTERS.
9. THERMOSTAT SHALL BE COMBINATION COOLING/HEATING, WITH SYSTEM "COOL-AUTO-HEAT-OFF" AND FAN "ON-AUTO" SELECTOR SWITCHES. PROVIDE PROGRAMMABLE TYPE THERMOSTAT. * CONTRACTOR SHALL FULLY INSTRUCT OWNER ON HOW TO PROPERLY PROGRAM INSTALLED THERMOSTATS. * PROGRAMMABLE THERMOSTAT SHALL BE BY MANUFACTURER OF INSTALLED AIR HANDLING UNIT. IT IS RECOMMENDED THAT DURING OCCUPIED HOURS, THE FANS BE SET TO "ON" IN LIEU OF "AUTO". * THERMOSTAT MOUNTED A MAX. OF 48" A.F.F.
10. REFRIGERANT LINES SHALL BE COPPER, TYPE "L" HARD DRAWN WITH WROUGHT COPPER SOLDER-JOINT TYPE FITTINGS, USE 95/5 SOLDER. REFRIGERANT LINES SHALL SIZED AS PER MANUFACTURER RECOMMENDATIONS.
11. ARMAFLEX 3/4" INSULATION SHALL BE USED FOR SUCTION LINES. PRE-INSULATED REFRIGERANT LINE KITS ARE ACCEPTABLE.
12. PROVIDE NEW FILTERS FOR ALL AIR CONDITIONING EQUIPMENT BEFORE STARTING THEM. REPLACE THEM PRIOR TO FINAL ACCEPTANCE BY OWNER.
13. MECHANICAL PLANS IN GENERAL, ARE DIAGRAMMATIC IN NATURE, AND ARE TO BE READ IN CONJUNCTION WITH ARCH. PLUMBING, ELECTRICAL AND STRUCTURAL PLANS AND SHALL BE CONSIDERED AS ONE SET OF DOCUMENTS. DUCT AND PIPING OFFSETS, BENDS AND TRANSITIONS WILL BE REQUIRED TO PROVIDE AND INSTALL A COMPLETE FUNCTIONAL SYSTEM AND SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
14. CONTRACTOR SHALL INSTALL ALL OUTDOOR EQUIPMENT TO WITHSTAND WIND LOADING FORCES AS REQUIRED BY LOCAL CODES. REFER TO STRUCTURAL PLANS BY OTHERS FOR STRUCTURAL DETAILS.
15. PROVIDE ALL NECESSARY CONTACTORS, RELAYS, ETC., FOR A COMPLETE OPERATING A/C UNIT.
16. IF ANY ERRORS, DISCREPANCIES OR OMISSIONS APPEAR IN THE DRAWINGS, SPECIFICATIONS OR OTHER CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF SUCH ERROR OR OMISSION. IN THE EVENT OF THE CONTRACTOR FAILING TO GIVE SUCH NOTICE BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK, HE WILL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY SUCH ERRORS, DISCREPANCIES OR OMISSIONS AND THE COST OF RECTIFYING SAME.



(AHU #1 & 2)

2 AHU MOUNTING DETAIL

NO SCALE



(AHU #3 - 6)

3 AHU MOUNTING DETAIL

NO SCALE

Cassinelli Residence

DIAGRAM SYMBOL LEGEND	
DISPLAY	DESCRIPTION
///	POWER WIRE
———	CONTROL WIRE
———	REF. PIPE

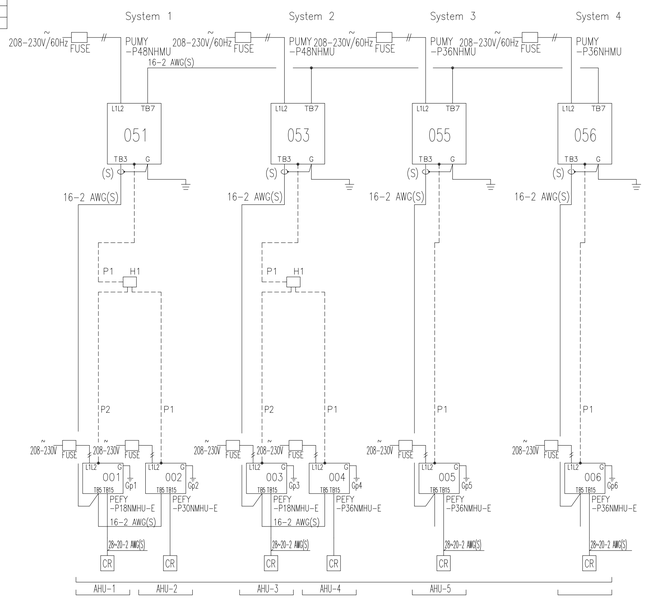
CONT.No 12059 | PAGE 1 / 1

CITY MULTI

SYSTEM SCHEMATIC DWG.

Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.
1.25mm²(16 AWG) : 1.25mm²(16 AWG) or more. 0.75mm²(20 AWG) : between 0.5mm²(24 AWG) and 0.75mm²(20 AWG).

PIPING LIST	
SYMBOL	BRANCH PIPE MODEL NAME
H1	CMY-Y64-G-E
SYMBOL	LIQUID PIPE/GAS PIPE SIZE
P1	3/8 / 5/8
P2	1/4 / 1/2



MITSUBISHI ELECTRIC CORPORATION

PREPARED ON 2012/08/01

FAN SCHEDULE

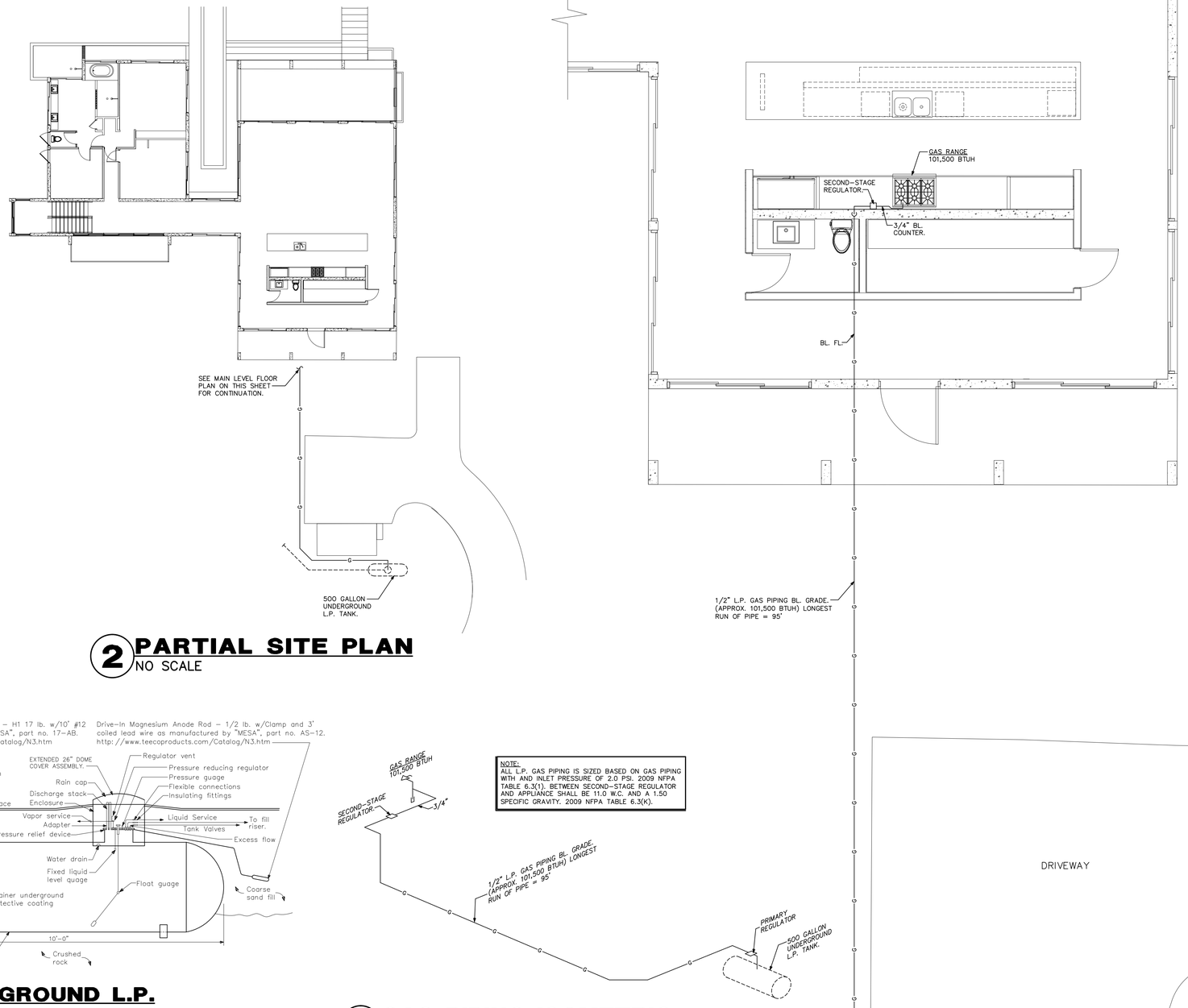
LABEL	TYPE OF UNIT - AREA SERVED	MANUFACTURER & MODEL NO.	CFM	SP	MOUNTING ARRANGEMENT	AMPS	ENCLOSURE TYPE	RPM	VOLTAGE	VENT	NOTES
EF-1-5	CABINET FAN - REFER TO PLANS	NUTONE 671R	90	.125"	CEILING MOUNTED	0.8A	OPEN DRIP PROOF	-	115V/1ø	4"ø	1

NOTES: 1.) REFER TO ELECTRICAL PLANS FOR CONTROL.

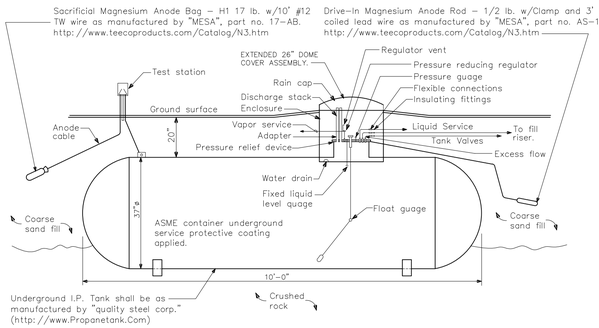
MITSUBISHI CITY MULTI SYSTEM SPECIFIATIONS
H.V.A.C. OUTDOOR UNIT / INDOOR UNIT / CONTROLLER SCHEDULE

System	Indoor unit information		Outdoor unit information			
	Model name			Model name	Calculated Actual Capacity Cooling BTUH	Power Source
AHU #1	PEFY-P18NMHU-E	240V/1 Phase	CU #1	PUMY-P48NHMU	40,941	240V/1 Phase
AHU #2	PEFY-P30NMHU-E	240V/1 Phase				
AHU #3	PEFY-P18NMHU-E	240V/1 Phase	CU #2	PUMY-P48NHMU	40,973	240V/1 Phase
AHU #4	PEFY-P36NMHU-E	240V/1 Phase				
AHU #5	PEFY-P36NMHU-E	240V/1 Phase	CU #3	PUMY-P36NHMU	32,054	240V/1 Phase
AHU #6	PEFY-P36NMHU-E	240V/1 Phase	CU #4	PUMY-P36NHMU	32,496	240V/1 Phase

M2.01



2 PARTIAL SITE PLAN
NO SCALE



UNDERGROUND L.P. 3 TANK INSTALLATION DETAIL
NO SCALE

NOTE:
ALL L.P. GAS PIPING IS SIZED BASED ON GAS PIPING WITH AND INLET PRESSURE OF 2.0 PSI. 2009 NFPA TABLE 6.3(1). BETWEEN SECOND-STAGE REGULATOR AND APPLIANCE SHALL BE 11.0 W.C. AND A 1.50 SPECIFIC GRAVITY. 2009 NFPA TABLE 6.3(K).

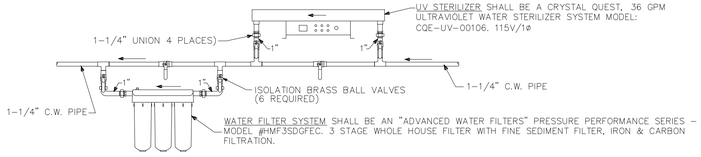
4 GAS PIPING ISOMETRIC
NO SCALE

GENERAL GAS PIPING NOTES

1. GAS PIPING AND FITTINGS SHALL BE POLYETHYLENE PLASTIC.
2. GAS PIPING SYSTEM SHALL BE INSTALLED TO THE REQUIREMENTS OF THE AGA PAMPHLET "INSTALLATION OF GAS APPLIANCES AND GAS PIPING" AND THE NFPA STANDARD #54. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND PAY ALL FEES WITH THE "LOCAL" GAS COMPANY FOR THE INSTALLATION OF THE GAS METER, GAS SERVICE, AND ITS ACCESSORIES NECESSARY FOR A COMPLETE SYSTEM.
3. GAS PIPING SHALL BE TESTED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN NFPA #54, AND ANY OTHER TESTS REQUIRED BY THE LOCAL BUILDING DEPARTMENT AND/OR THE LOCAL GAS UTILITY COMPANY.
4. THE INSTALLING SUBCONTRACTOR SHALL BE LICENSED BY THE STATE FOR THE INSTALLATION OF GAS PIPING.
5. RUNOUT PIPING, FROM THE MAIN PIPING TO APPLIANCES, SHALL BE WITH AN INVERTED TRAP CONNECTION AT THE MAIN.
6. A 12" DIRT LEG, AND A GAS COCK, SHALL BE PROVIDED AT ALL GAS APPLIANCES.
7. ALL EXPOSED GAS PIPING SHALL BE IDENTIFIED BY A YELLOW LABEL MARKED "GAS" IN BLACK LETTERS. THE MARKERS SHALL BE AT INTERVALS NOT EXCEEDING 5'.

1 MAIN LEVEL FLOOR PLAN - GAS PIPING
SCALE: 1/4"=1'-0"

M□.01



3-STAGE WATER FILTER - "ADVANCED WATER FILTERS" MODEL #HMF3SDGFEC
http://www.advancedwaterfilters.com/filter-products/home-master-3-stage-sediment-iron-carbon-filter.html

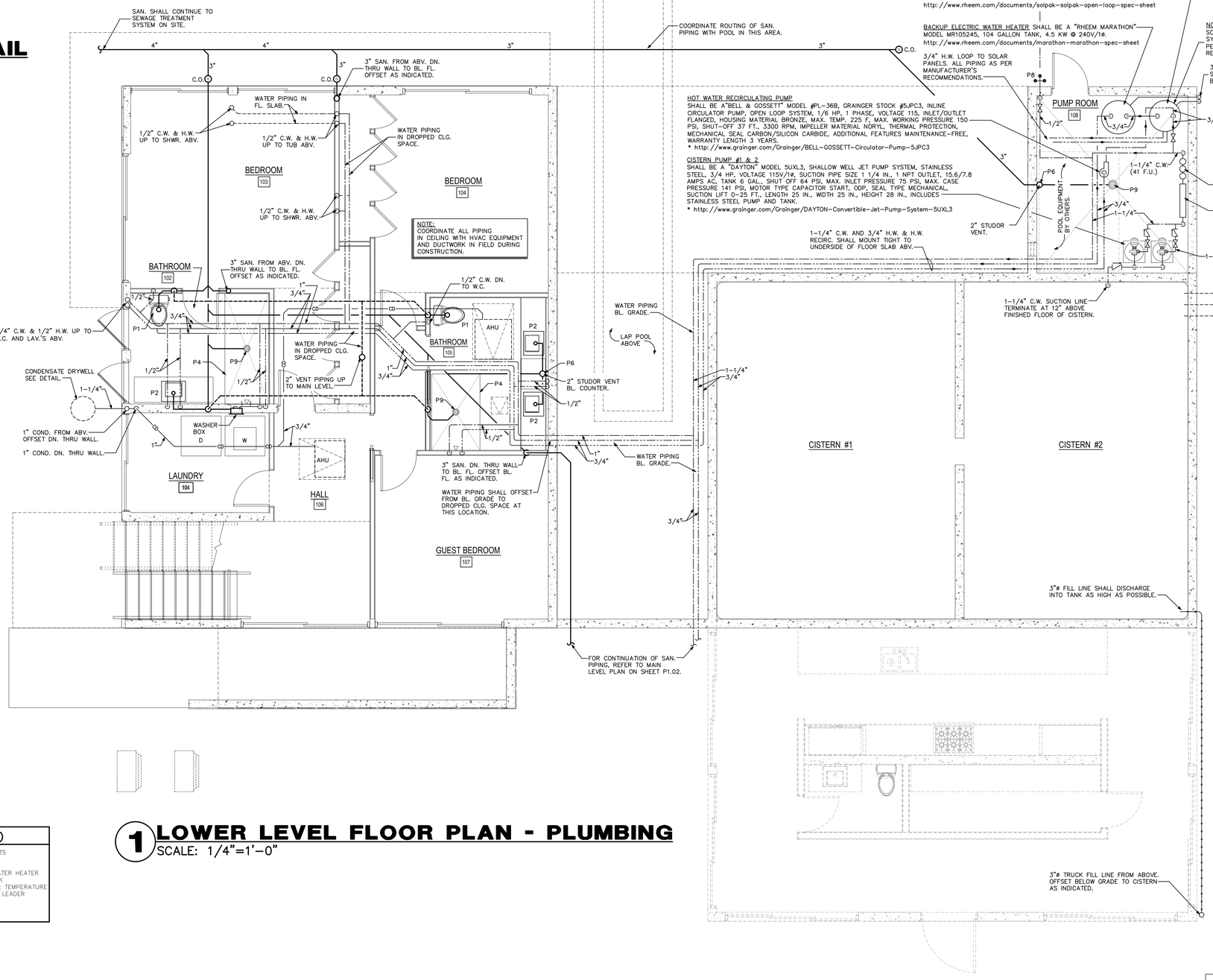
UV STERILIZER - "CRYSTAL QUEST" MODEL CQE-UV-00106
http://www.crystalquest.com/p6.htm

NOTE: COORDINATE FINAL FILTRATION SYSTEM WITH OWNER PRIOR TO CONSTRUCTION.

2 WATER FILTER DETAIL
NO SCALE

PLUMBING SYMBOLS LEGEND

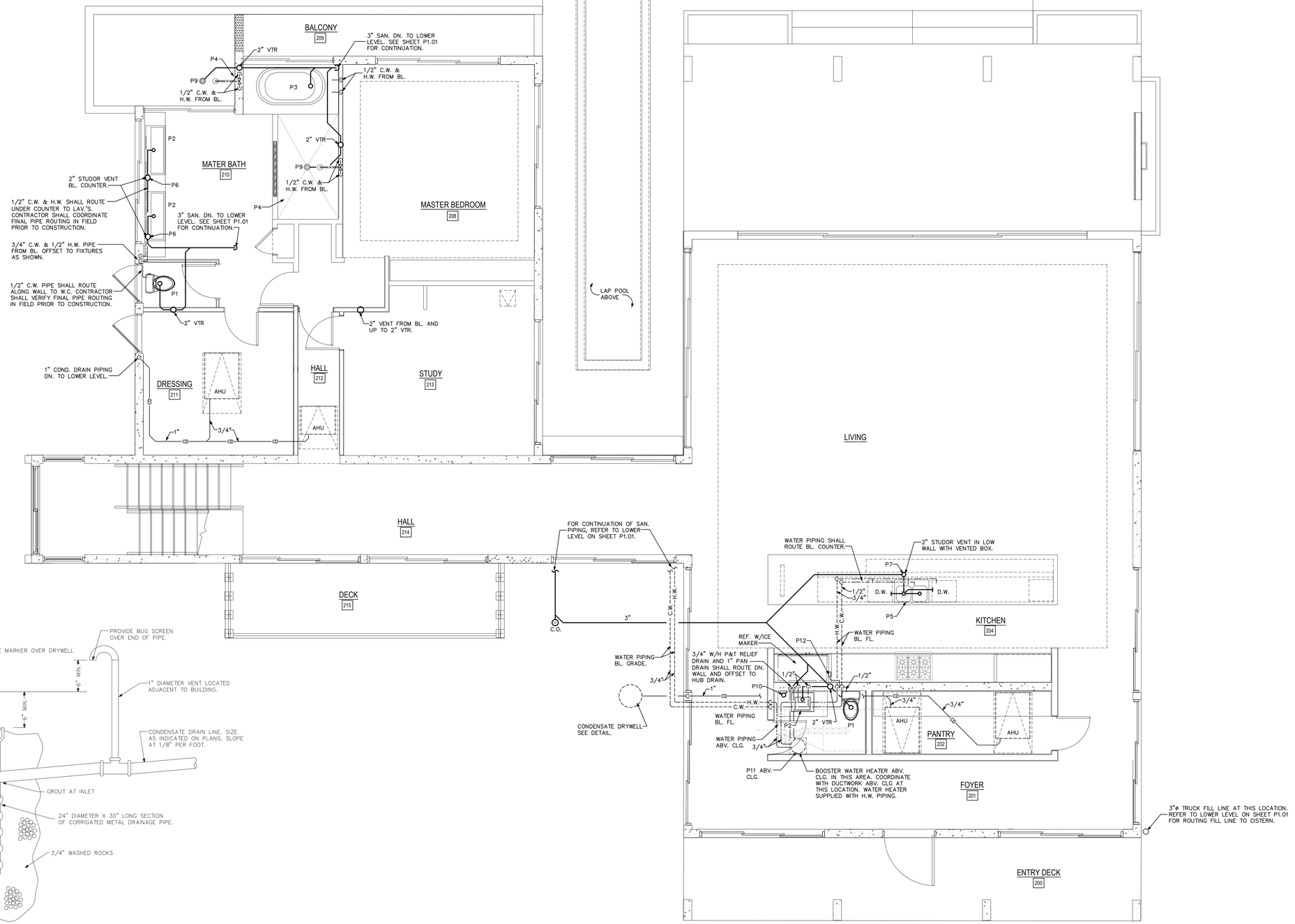
	FLOOR DRAIN
	HOSE BIBB
	CLEANOUT
	RELIEF VALVE
	AIR CHAMBER
	UNION
	SOIL OR WASTE LINE
	SANITARY VENT LINE
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC WATER RECIRCULATION
P&T	PRESSURE & TEMP. RELIEF LINE
CD	CONDENSATE DRAIN LINE
RWL	RAIN WATER LEADER
G	GAS LINE
	SAFEWASTE LINE
F	FIRE PROTECTION
	SHUT OFF VALVE
SP	SAFEPAN LINE
	FIRE SPRINKLER HEAD
	PIPE TURN UP
	PIPE TURN DOWN
	P-TRAP

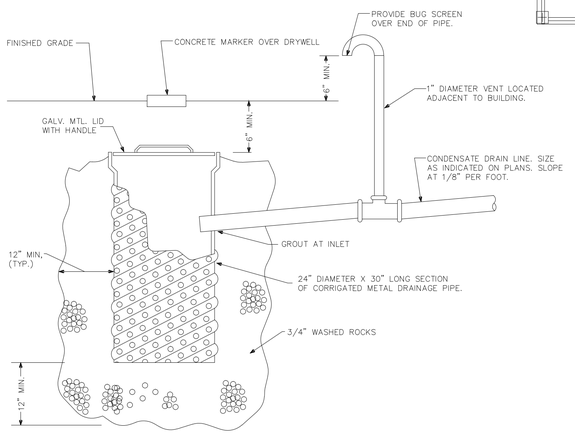


1 LOWER LEVEL FLOOR PLAN - PLUMBING
SCALE: 1/4"=1'-0"

PLUMBING ABBREVIATION LEGEND

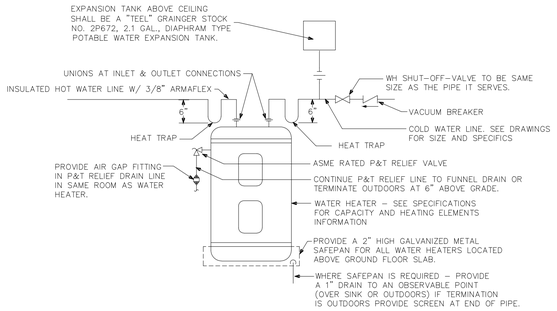
DN.	DOWN	C.C.	CENTER TO CENTER	F.U.	FIXTURE UNITS
EXT.	EXTERIOR	N.T.S.	NOT TO SCALE	H.B.	HOSE BIBBS
F.D.	FLOOR DRAIN	MFGR.	MANUFACTURER	C.O.	CLEANOUT
F.F.	FINISH FLOOR	S.O.V.	SHUT OFF VALVE	E.W.H.	ELECTRIC WATER HEATER
A.F.F.	ABOVE FINISH FLOOR	W.C.	WATER CLOSET	JAN.SK.	JANITOR SINK
V.T.R.	VENT THRU ROOF	LAV.	LAVORATORY	P & T	PRESSURE & TEMPERATURE
TYP.	TYPICAL	SK.	SINK	RWL.	RAIN WATER LEADER
R.D.	ROOF DRAIN	D.W.	DISH WASHER		
REV.	REVISION	E.D.F.	ELECTRIC DRINKING FOUNTAIN		
O.C.	ON CENTER	UR.	URINAL		



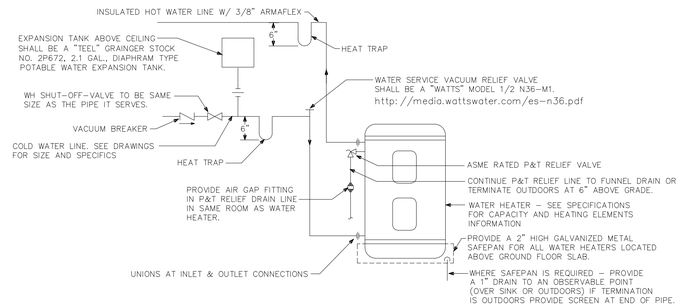


2 DRYWELL DETAIL
NO SCALE

1 MAIN LEVEL FLOOR PLAN - PLUMBING
SCALE: 1/4"=1'-0"



W/H AT PUMP RM.



W/H AT TOILET MAIN LEVEL TLT. RM.

GENERAL PLUMBING NOTES

1. Drawings are diagrammatic and shall not be scaled. Refer to architectural plans and elevations for exact location of all plumbing fixtures, equipment, etc.. Plumbing contractor shall furnish and install all items required for a complete and acceptable working installation. Contractor is responsible to install all fixtures and equipment in strict compliance with the manufactures installation instructions. This requirement is to supersede any details or information contained on these drawings.
2. All work and materials shall comply with the latest edition of the National, State, and all local codes and Ordinances having jurisdiction.
3. The plumbing contractor shall visit the site and thoroughly familiarize himself with all existing conditions. All execution and backfill as required for this phase of construction shall be a part of this contract.
4. All material shall be new.
5. All work shall be performed by a licensed plumbing contractor in a first class workmanlike manner. The completed system shall be fully operative and accepted by engineer/architect.
6. All required insurance shall be provided for protection against public liability or property damage for the duration of the work.
7. The plumbing contractor shall secure and pay all permit fees, inspections, and tests.
8. All work shall be coordinated with other trades to avoid interference with the progress of construction.
9. The plumbing contractor shall guarantee all materials and workmanship free from defects for a period of not less than (1) one year from date of acceptance. Correction of any defects shall be completed without additional charge and shall include replacement or repair of any other phase of the installation which may have been damaged thereby.
10. Verify location, size and inverts of all existing utilities prior to start of construction. Advise architect/engineer of any discrepancies.
11. All fixtures shall be provided with readily accessible stops.
12. All below floor slab water piping shall be flexible "temprite pex (cross-linked polyethylene)" installed as per manufacturers recommendations found here: www.lubrizol.com. All above slab water piping shall be "FlowGuard Gold CPVC" installed as per manufacturers recommendations found here: www.flowguardgold.com. All water piping as specified or approved equal. All water piping larger than 1" shall be CPVC.
13. Soil, wastes and vent piping shall be PVC #40 DMV. Waste and vent piping above slab shall be PVC, if approved by local authorities having jurisdiction, otherwise cast iron. PVC shall not be installed in A/C return air plenum or penetrate fire rated walls or floors.
14. Air conditioning condensate drain piping shall be PVC #40 or copper drain waste and bent pipe and fittings. Insulate all condensate piping except exterior piping.
    Install all condensate piping for air conditioning units as required per local codes.
15. Furnish and install approved water hammer arrestors at each plumbing fixture and PDI approved shock arrestors on main lines and risers.
16. Provide chrome plated combination covered plate and cleanout plug for all wall cleanouts, Josam 58890.
17. Insulate lines as follows:
    a.) 1" thick armaflex preformed insulation shall be provided on both c.w. & h.w. when piping is located outside of the insulated building envelope.
    b.) 1/2" thick armaflex preformed insulation shall be provided on hw piping & h.w. recirc. piping, only when there is a h.w. recirculating piping system.
    c.) Condensate piping: 1/2" thick armaflex preformed or approved equal.

PLUMBING FIXTURE SCHEDULE

P-1 (WATER CLOSET)
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO BID/CONSTRUCTION.

P-2 (LAVATORY)
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO BID/CONSTRUCTION.

P-3 (BATH TUB)
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO BID/CONSTRUCTION.

P-4 (SHOWER)
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO BID/CONSTRUCTION.

P-5 (2 COMPARTMENT SINK)
COORDINATE FINAL SPECIFICATIONS WITH OWNER/ARCHITECT PRIOR TO BID/CONSTRUCTION.

P-6 (2" STUDOR VENT - AIR ADMITTANCE VALVE)
AIR ADMITTANCE VALVE SHALL BE A "STUDOR" MODEL MINII-VENT, CONNECTION SIZE 2".
* http://www.ipscorp.com/pdf/studor/Studor_MiniVent_Spec_Sep08.pdf

P-7 (2" STUDOR VENT - AIR ADMITTANCE VALVE W/LOUVERED RECESSED BOX)
AIR ADMITTANCE VALVE SHALL BE A "STUDOR" MODEL MINI-VENT, CONNECTION SIZE 2".
* http://www.ipscorp.com/pdf/studor/Studor_MiniVent_Spec_Sep08.pdf
STUDOR VENT RECESSED BOXPRODUCT INFO:
* http://www.ipscorp.com/plumbing/studor/recessbox

P-8 (HOSE BIBB)
SHALL BE A "WOODFORD" MODEL 101 ANTI-SIPHON WALL FAUCET.
* http://www.wcmind.com/woodford/Wall_Faucet_Pages/Model-101.html

P-9 (FLOOR DRAIN WITH TRAP PRIMER)
SHALL BE A JOSAM 30000-WT-A-49 SERIES COATED CAST IRON FLOOR DRAIN. TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEJLOC INVERTIBLE NON- PUNCTURING FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET, INSIDE CAULK CONNECTION AND ADJUSTABLE SATIN NIKALOY ROUND SUPER-FLO STRAINER.
* http://www.josam.com/images/josammkt/sbmtl/s06_30000-WT-A.pdf

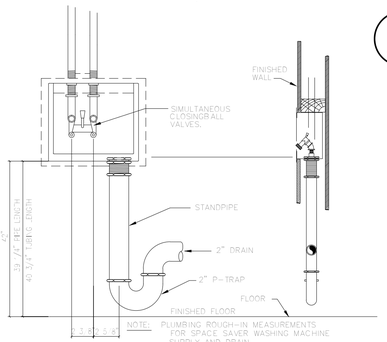
P-10 (HUB DRAIN - INDIRECT WASTE FUNNEL)
SHALL BE A "ZURN" Z326, 2" PIPE CONNECTION, DURA-COATED CAST IRON BODY AND BOTTOM OUTLET. CONTRACTOR SHALL VERIFY FINAL HEIGHT OF FUNNEL WITH EQUIPMENT THAT IS UTILIZING FUNNEL DRAIN AND VERIFY PROPER CLEARANCE PRIOR TO CONSTRUCTION. COORDINATE WITH EQUIPMENT MANUFACTURER.
* http://www.zurn.com/operations/specdrain/pdfs/specsheets/58975.pdf

P-11 (JUNIOR WATER HEATER)
WATER HEATER SHALL BE A LOCHINVAR MODEL JRC010DS, 10 GALLON GLASSLINED STORAGE TANK, JUNIOR TYPE WATER HEATER WITH (1) - 1.6 KW ELECTRIC ELEMENT AT 115 VOLTS, SINGLE PHASE INCOMING POWER. 3 YEAR LIMITED WARRANTY ON STORAGE TANK AGAINST TANK FAILURE. WATER HEATER SHALL MEET OR EXCEED ALL APPLICABLE SECTIONS OF ASHRAE STANDARD 90-80A AND NAECA REQUIREMENTS FOR ENERGY CONSERVATION.
* http://lochinvar.com/_linefiles/JRE-06.pdf

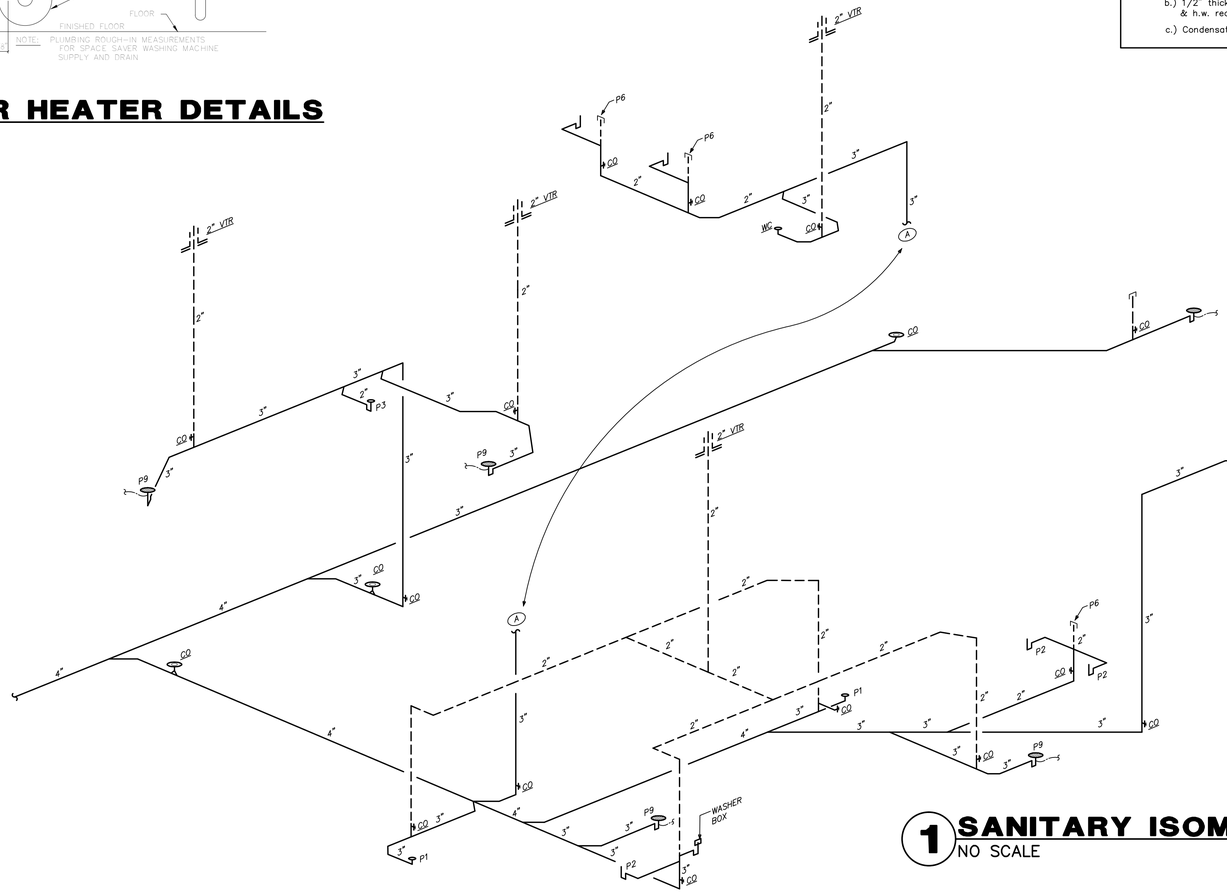
P-12 (WATER CONNECTION BOX)
SHALL BE A HIGH QUALITY CONNECTION BOX AS SPECIFIED ON PLUMBINGSUPPLY.COM LOCATED ON THIS PAGE "http://www.plumbingsupply.com/icemaker-outlet-boxes.html" SHALL INCLUDE 2 SUPPORT BRACKETS, HIGH IMPACT POLYSTYRENE, 1/4" BRASS BALL VALVE WITH 1/2" SWEAT CONNECTION. OR APPROVED EQUAL.

NOTES:
1.) ALL PLUMBING FIXTURES SHALL BE AS SPECIFIED OR APPROVED EQUAL.
2.) PROVIDE ANGLE STOPS ON ALL WATER SERVICE LINES TO FIXTURES FOR INDIVIDUAL SHUT-OFF.

2 WATER HEATER DETAILS
NO SCALE



3 WATER HEATER DETAILS
NO SCALE



1 SANITARY ISOMETRIC
NO SCALE

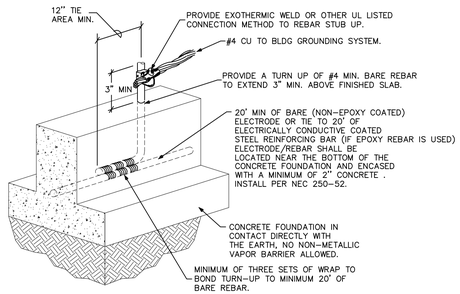
PLUMBING FIXTURE CONNECTION SIZES

FIXTURE	C.W. CONN. SIZE	H.W. CONNECTION SIZE	SANITARY BRANCH SIZE
P1	1/2"	-	3"
P2	1/2"	1/2	1-1/4"
P3,P5	1/2"	1/2"	1-1/2"
P4	1/2"	1/2"	3"

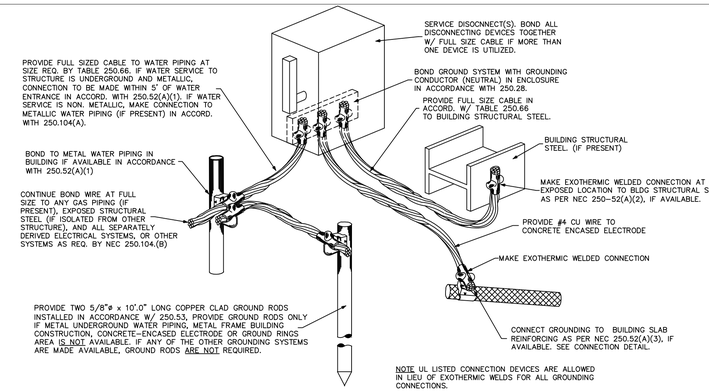
ELECTRICAL SYMBOLS LEGEND

NOTE – NOT ALL SYMBOLS MAY BE USED ON PROJECT

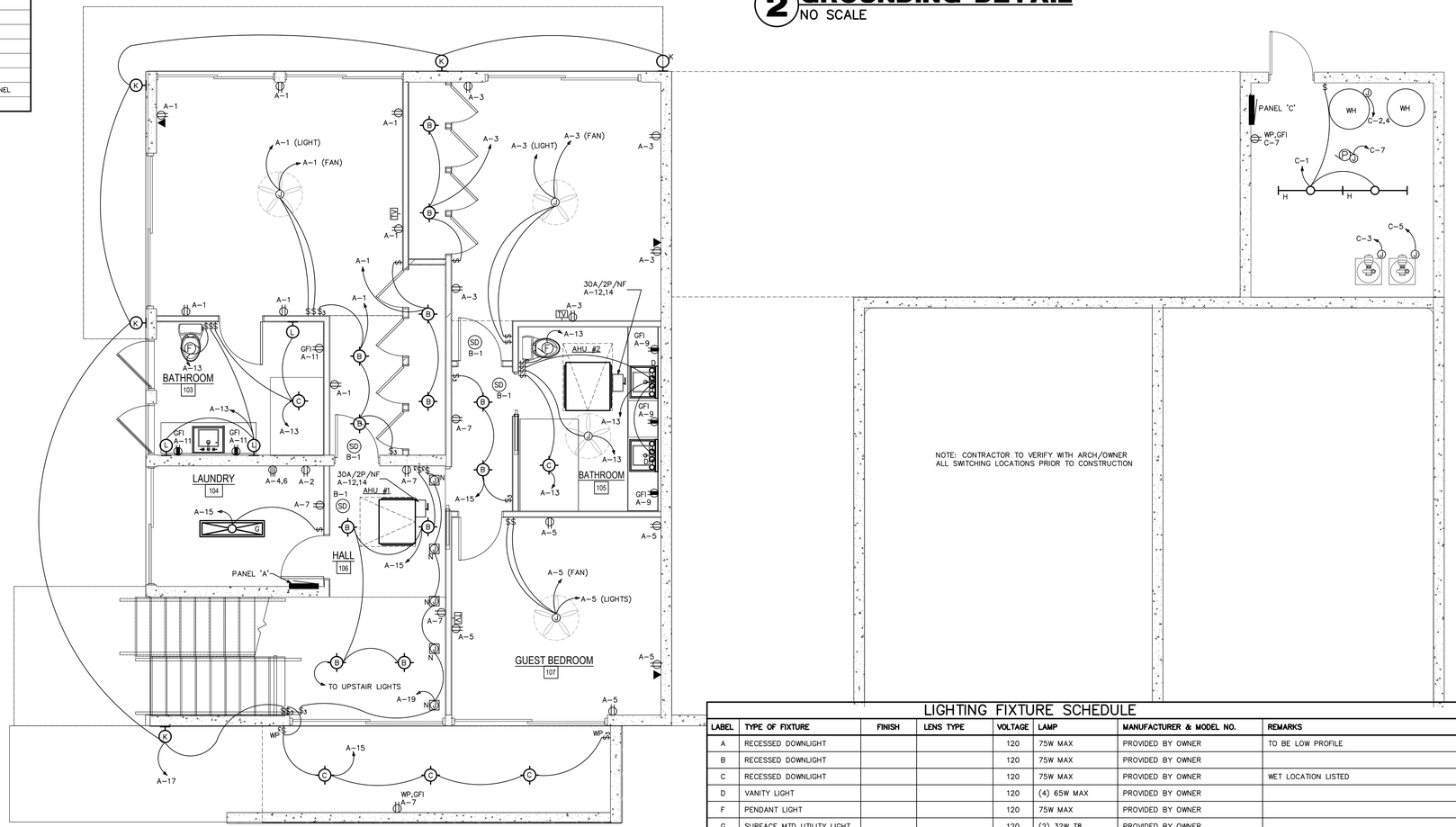
SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
	DUPLEX RECEPTACLE, MTD. +18" AFF	T	TRANSFORMER – SIZE AS NOTED
	240 VOLT RECEPTACLE (HT. AS REQ.)		PANEL – SIZE AS NOTED
	QUADRUPLEX RECEPTACLE, MTD. +18"		MOMENTARY CONTACT PUSH BUTTON
	COUNTERTOP HT. RECEPTACLE +42"	F	F–FAN; M–MOTOR; P–PUMP
$	SINGLE POLE SWITCH, MTD +47"		SPECIAL OUTLET – AS REQUIRED
$3	THREE–WAY SWITCH, MTD +47"	B–2	CKT. HOMERUN (B INDICATES PANEL) "2" DESIGNATES CIRCUIT NUMBER
$M	MANUAL STARTER SWITCH		EXIT SIGN; ONE SIDED, OR TWO SIDED
$D	DIMMER SWITCH, MTD +47"		EMERGENCY LIGHTING
$L	SWITCH W/ ILLUM. WHEN ON +47"	B	RECESSED MOUNTED LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
$O3	THREE–WAY SWITCH W/ OCCU SENSOR WHEN ON +47"	M	OVERHEAD OCCUPANCY SENSOR
$O	SWITCH W/ OCCU SENSOR. WHEN ON +47"	B	HIGHBAY HID LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
J	JUNCTION BOX, FLUSH IF POSSIBLE	B	FLUORESCENT LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
	TELEPHONE / DATA OUTLET +18"	B NL	FLUORESCENT LIGHTING NIGHT LIGHT B DESIGNATES FIXTURE TYPE
	DED. COMPUTER TERM. OUTLET +18"	B	FLUORESCENT STRIP LIGHTING FIXTURE B DESIGNATES FIXTURE TYPE
SC	DISCONNECT SWITCH W/ STARTER	IG	ISOLATED GROUND
	DISCONNECT SWITCH	WP	WEATHER–PROOF
	FLR. MTD. FLUSH DUPLEX RECEPTACLE	BC	BELOW COUNTER
	FLR. MTD. FLUSH QUAD. RECECPTACLE	TC	TIME CLOCK – 24 HOUR
	FLR. MTD. FLUSH PHONE/DATA OUTLET	GFI	GROUND FAULT INTERRUPTER
	FLR. MTD. FLUSH COMPUTER OUTLET	AFF	ABOVE FINISHED FLOOR
SD	AREA SMOKE DETECTOR	EWC	ELECTRIC WATER COOLER
H	HEAT DETECTOR	ASW	ABOVE SHOW WINDOW
D	DUCT SMOKE DETECTOR	BSW	BELOW SHOW WINDOW
F	FIRE ALARM MAN. PULL STATION +47"	FACP	FIRE ALARM CONTROL PANEL
30	HORN WITH STROBE LIGHT, MTD. +80" # BESIDE DEVICE IS CANDELLA RATING	FAAP	FIRE ALARM ANNUNCIATOR PANEL
L30	STROBE LIGHT ONLY, MTD. +80" # BESIDE DEVICE IS CANDELLA RATING		

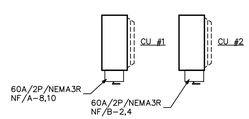


3 GROUNDING DETAIL
NO SCALE



2 GROUNDING DETAIL
NO SCALE



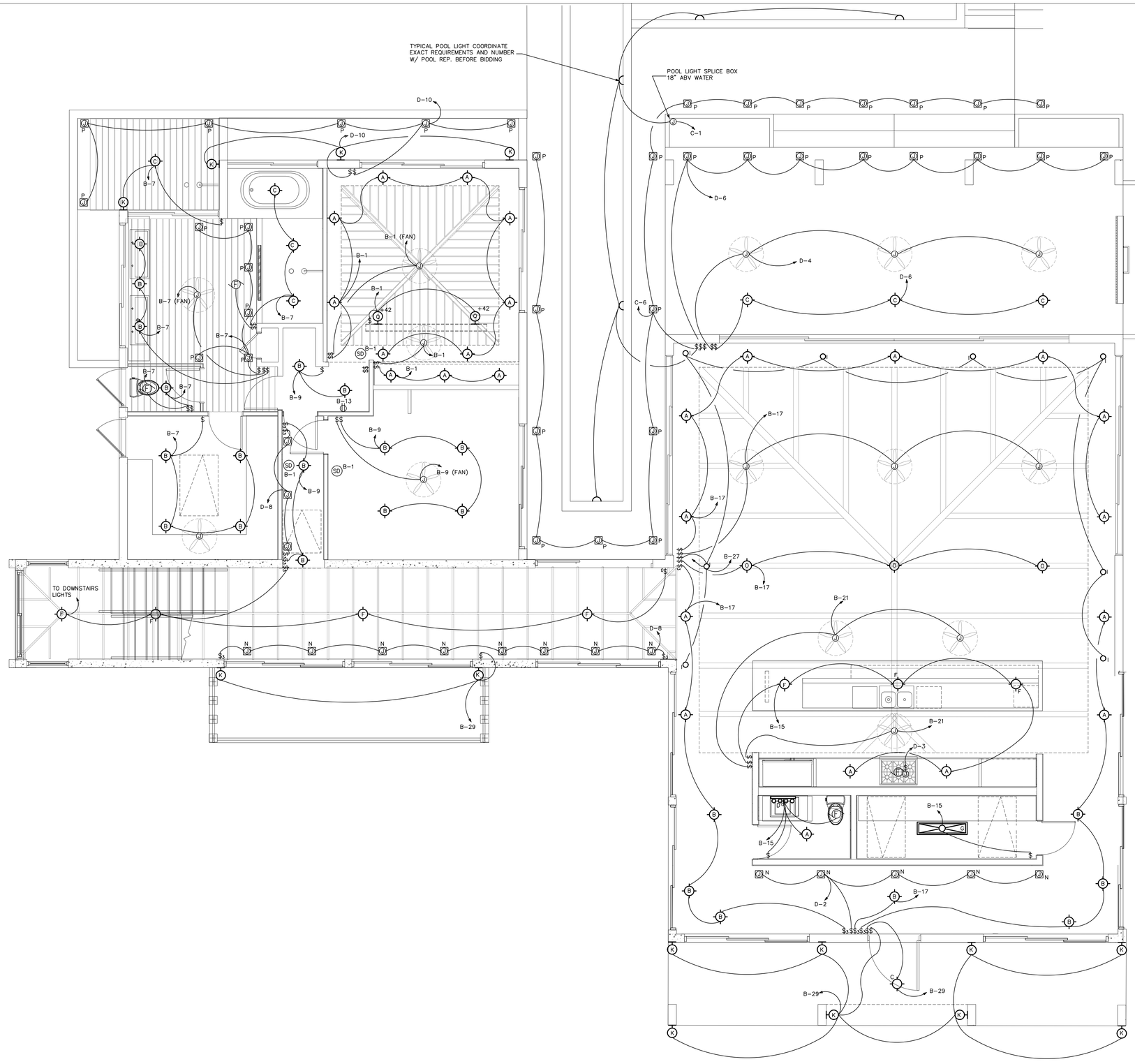


LIGHTING FIXTURE SCHEDULE

LABEL	TYPE OF FIXTURE	FINISH	LENS TYPE	VOLTAGE	LAMP	MANUFACTURER & MODEL NO.	REMARKS
A	RECESSED DOWNLIGHT			120	75W MAX	PROVIDED BY OWNER	TO BE LOW PROFILE
B	RECESSED DOWNLIGHT			120	75W MAX	PROVIDED BY OWNER	
C	RECESSED DOWNLIGHT			120	75W MAX	PROVIDED BY OWNER	WET LOCATION LISTED
D	VANITY LIGHT			120	(4) 65W MAX	PROVIDED BY OWNER	
F	PENDANT LIGHT			120	75W MAX	PROVIDED BY OWNER	
G	SURFACE MTD UTILITY LIGHT			120	(2) 32W T8	PROVIDED BY OWNER	
H	4' STRIP LIGHT			120	(2) 32W T8	PROVIDED BY OWNER	
I	FLR WALL WASH LIGHT			120	50W MAX	PROVIDED BY OWNER	
K	EXTERIOR WALL LIGHT			120	75W MAX	PROVIDED BY OWNER	
L	WALL LIGHT			120	75W MAX	PROVIDED BY OWNER	
N	FLOOR LIGHT			120	60W MAX	PROVIDED BY OWNER	
O	PENDANT FLOOR			120	100W MAX	PROVIDED BY OWNER	
P	OUTSIDE WALKWAY LIGHT			120	60W MAX	PROVIDED BY OWNER	
Q	INTERIOR WALL SCONCE			120	60W MAX	PROVIDED BY OWNER	

1 LOWER LEVEL FLOOR PLAN - ELECTRICAL
SCALE: 1/4"=1'–0"

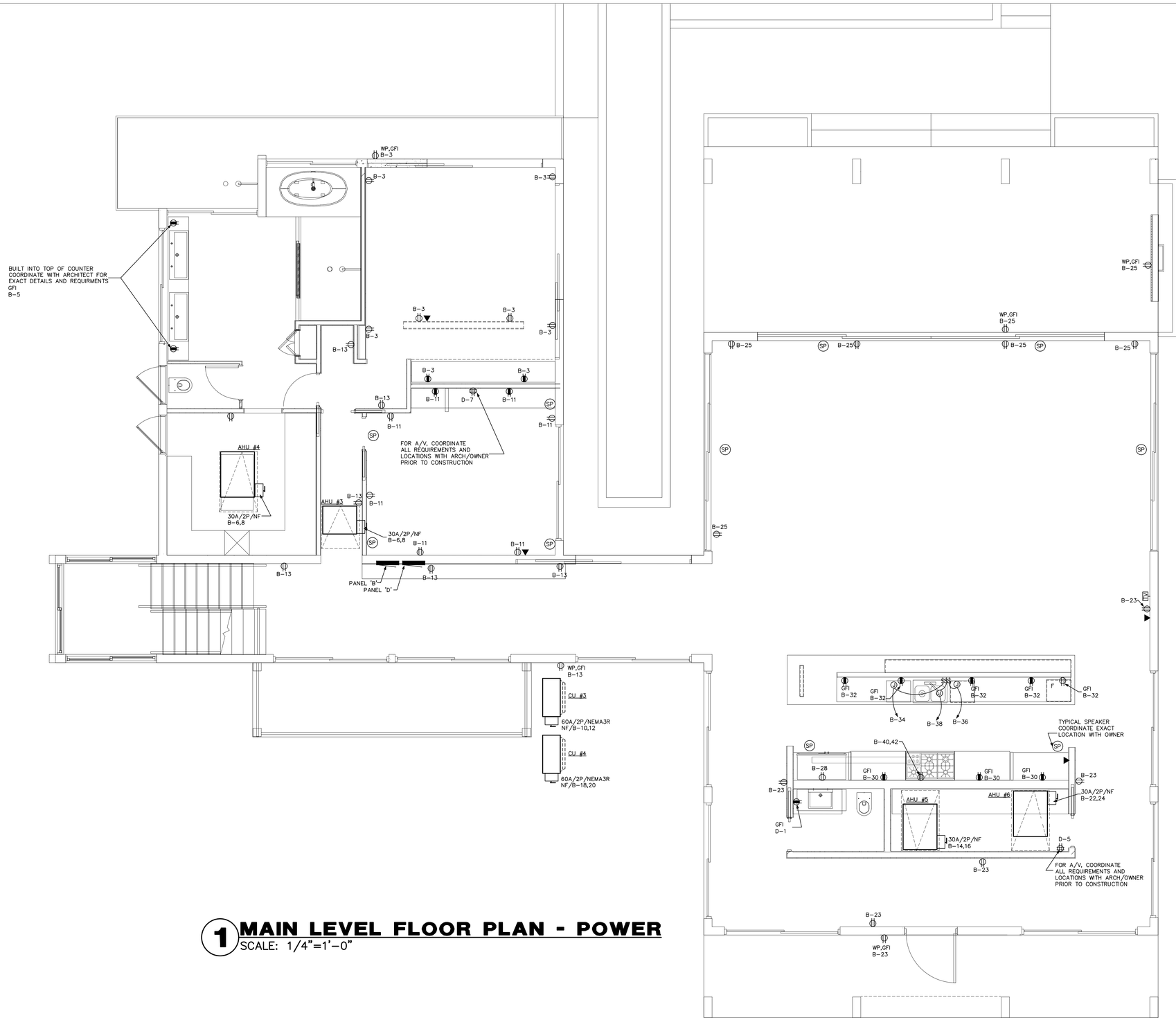
E1.01



1 MAIN LEVEL FLOOR PLAN - LIGHTING

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

E1.02



1 MAIN LEVEL FLOOR PLAN - POWER

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

ELECTRICAL NOTES:

1. GENERAL: ALL WORK SHALL CONFORM TO THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL JURISDICTIONAL CODES.

   THE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND ANY APPLICABLE SPECIFICATIONS. IF A PROBLEM IS ENCOUNTERED IN COMPLYING WITH THIS REQUIREMENT, THE CONTRACTOR SHALL NOTIFY THE OWNER OR HIS REPRESENTATIVE AS SOON AS POSSIBLE AFTER DISCOVERY OF THE PROBLEM, AND SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL THE OWNER HAS DIRECTED THE CORRECTIVE ACTION TO BE TAKEN.

   THE CONTRACTOR SHALL COORDINATE THE PROPOSED LOCATIONS OF ALL ELECTRICAL MATERIALS AND EQUIPMENT WITH THE REPRESENTATIVES OF THE OTHER TRADES INVOLVED BEFORE STARTING INSTALLATION OF THOSE ITEMS.

   COORDINATE THE INSTALLATION OF REQUIRED SUPPORTING DEVICES, CONDUIT, AND SLEEVES TO BE SET IN CAST-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS, AS THEY ARE CONSTRUCTED.

   UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL SPECS ARE NOT INTENDED TO BE PROPRIETARY. SUBSTITUTIONS WILL BE ACCEPTABLE FOR EQUAL RATED AND LISTED UNITS.

2. SCOPE: EXCEPT WHERE OTHERWISE SPECIFICALLY INDICATED ON THE DRAWINGS BY "FUTURE", "BY OTHERS", OR BY A SIMILAR NOTATION, IT IS THE INTENT THAT THE CONTRACTOR FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS NECESSARY TO PROVIDE ALL SYSTEMS IN COMPLETE AND OPERATING CONDITION.

3. EXCAVATE AS NECESSARY FOR THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT. VERIFY THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES OR STRUCTURES BEFORE EXCAVATING AND EXERCISE CARE TO AVOID DAMAGE TO SUCH ITEMS DURING EXCAVATION. BACKFILL WITH EARTH FREE OF LARGE CLODS, LARGE STONES AND FOREIGN DEBRIS, DEPOSITED IN 6" LAYERS AND COMPACTED TO A DENSITY OF NOT LESS THAN THAT OF THE SURROUNDING UNDISTURBED MATERIAL.

4. MATERIALS: THE MATERIALS AND EQUIPMENT FURNISHED SHALL BE AS INDICATED ON THE DRAWINGS; SUBSTITUTIONS SHALL NOT BE MADE EXCEPT WHERE EXPRESSLY APPROVED BY THE OWNER OR HIS REPRESENTATIVE PRIOR TO STARTING INSTALLATION OF THE ITEMS. THE ELECTRICAL MATERIALS AND EQUIPMENT FURNISHED SHALL BE LISTED OR LABELED BY UNDERWRITERS LABORATORIES OR OTHER RECOGNIZED TESTING ORGANIZATION, AND SHALL BE ACCEPTABLE TO THE LOCAL BUILDING AUTHORITY.

5. GROUNDING: GROUNDING SHALL BE IN ACCORDANCE WITH ARTICLE 250, NEC.

6. SHARED NEUTRAL CONDUCTORS SHALL NOT BE ALLOWED UNLESS INSTALLED IN ACCORDANCE WITH NEC-210.4

7. CONDUITS: PROVIDE CONDUITS WHERE CALLED FOR ON PANEL SCHEDULES: ELECTRICAL METALLIC TUBING (EMT) SHALL BE INSTALLED ONLY IN DRY LOCATIONS, IN CONCRETE ABOVE GRADE, AND WHERE NOT SUBJECT TO PHYSICAL DAMAGE.

   CONDUITS INSTALLED UNDERGROUND SHALL BE POLYVINYLCHLORIDE (PVC) AND SHALL NOT BE SMALLER THAN 3/4" TRADE SIZE. WHERE PVC CONDUIT IS INSTALLED UNDERGROUND, ELBOWS TURNING UP AND CONDUIT EMERGING ABOVE GRADE SHALL BE RSC. THE TOPS OF CONDUITS SHALL NOT BE LESS THAN 24" BELOW FINISHED GRADE. PVC CONDUIT INSTALLED ABOVE GRADE OR DIRECT-BURIED IN EARTH SHALL BE NEMA TC2 TYPE EPC-40-PVC (SCHEDULE 40) EXCEPT THAT WHERE UNDER AREAS SUBJECT TO HEAVY VEHICULAR TRAFFIC, IT SHALL BE NEMA TC2 TYPE EPC-80-PVC (SCHEDULE 80).

   ALL ARMOR CLAD CABLE (AC CABLE) WIRING SHALL MEET OR EXCEED ALL NEC, OSHA AND HUD STANDARDS.

8. CONDUCTORS: CONDUCTORS SHALL BE AS SCHEDULED ON PANEL SCHEDULES. ALL POWER CONDUCTORS SHALL NOT BE SMALLER THAN #14 AWG (CU), OR #12 AWG (AL), CONTROL CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #18 AWG CU. CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET WITHOUT SPLICES EXCEPT WITHIN WIREWAY OR JUNCTION BOXES. MARK CONDUCTORS IN PANELS, PULL BOXES OR WIREWAYS AND TERMINAL STRIP TERMINALS FOR IDENTIFICATION OF CIRCUITS.

   CONDUCTORS SHALL BE JOINED USING COMPRESSION SPLICES, EXCEPT THAT CONDUCTORS #10 AND SMALLER MAY BE JOINED USING WIRE NUT TYPE CONNECTORS. CONDUCTORS SHALL BE TERMINATED USING COMPRESSION OR PRESSURE TYPE TERMINAL LUGS, OR IN PRESSURE TERMINALS. COMPRESSION SPLICES USED ON CONDUCTORS #10 AWG. AND SMALLER, SHALL BE THE SELF-INSULATED TYPE; OTHER SPLICES SHALL BE INSULATED USING 3M #33+ OR #88 PLASTIC TAPE. SPLICES IN WET LOCATIONS SHALL BE INSULATED WITH ELECTRICAL TAPE AND ENCAPSULATED WITH SCOTCHCAST OR EQUAL POTTING COMPOUND.

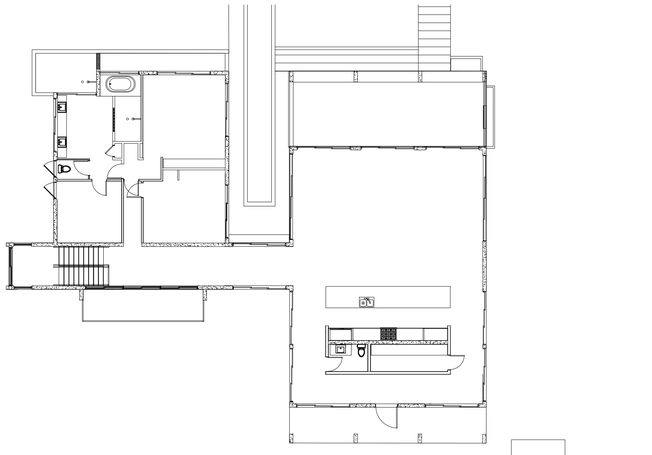
9. PROVIDE AND INSTALL JUNCTION AND PULL BOXES WHERE INDICATED AND WHERE NECESSARY TO TERMINATE, TAP OFF, OR REDIRECT MULTIPLE CONDUIT RUNS, OF SIZE INDICATED OR AS REQUIRED BY NEC. WHERE FEEDER SPLICES ARE TO BE MADE, INSTALL BOXES LARGE ENOUGH TO PROVIDE AMPLE WORK SPACE.

10. LIGHTING FIXTURES: LIGHTING FIXTURES SHALL BE AS INDICATED ON THE DRAWINGS, AND SHALL BE INSTALLED COMPLETE WITH LAMPS.

    FIXTURES WITH ADJUSTMENTS AFFECTING LIGHT DISTRIBUTION SHALL BE SET TO PROVIDE THE REQUIRED LIGHT PATTERNS PRIOR TO THE FINAL DEMONSTRATION TEST.

11. TESTS: AFTER EACH SYSTEM HAS BEEN COMPLETED, A FUNCTIONAL TEST SHALL BE PERFORMED TO DEMONSTRATE THAT THE SYSTEM OPERATES IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS. THE TEST SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER OR HIS REPRESENTATIVE.

12. TERMINALS: ALL ELECTRICAL EQUIPMENT FURNISHED ON THIS PROJECT IS TO HAVE TERMINALS RATED FOR 75° C. OPERATION.



2 PARTIAL SITE PLAN
NO SCALE

PANEL SCHEDULE A

125 AMP, 120/240 VOLT, SINGLE PHASE, THREE WIRE, M.L.O., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE

##	BKR.	WIRE AND CONDUIT COND.	NEUTRAL	GND	C.	KEYS	LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LOAD DESCRIPTION	WIRE AND CONDUIT KEYS	C.	GND	NEUTRAL	COND.	BKR.	##
1	20/1	#12	#12	#12	---	RB-L	BEDROOM OUTLETS *	1080	1080	------								
								1200	1200	------	WASHER	RB-L	---	#12	#12	#12	20/1	2
3	20/1	#12	#12	#12	---	RB-L	BEDROOM OUTLETS *	1080	------	1080								
								0	------	1800	DRYER	RB-L	---	#10	---	#10	30/2	4
5	20/1	#12	#12	#12	---	RB-L	BEDROOM OUTLETS *	1080	1080	------								6
								0	------	1800								
7	20/1	#12	#12	#12	---	RB-L	RECEPTACLES *	720	------	720								
								0	------	3600								8
9	20/1	#12	#12	#12	---	RB-L	BATH RECEPTACLES	180	180	------	CU 1	RB-L	---	#10	---	#8	40/2	
								0	3600	------								10
11	20/1	#12	#12	#12	---	RB-L	BATH RECEPTACLES	180	------	180								
								0	------	1800								12
13	20/1	#12	#12	#12	---	RB-L	BATH LIGHTS *	900	900	------	AHU 1/2	RB-L	---	#12	---	#12	20/2	
								0	------	1800								14
15	20/1	#12	#12	#12	---	RB-L	HALL/STAIR LIGHTS	1000	------	1000								
								0	------	0	SPACE							16
17	20/1	#12	#12	#12	---	RB-L	EXTERIOR LIGHTS	500	500	------								
								0	------	0	SPACE							18
19	20/1	#12	#12	#12	---	RB-L	STEP LIGHTS *	900	------	900								
								0	------	0	SPACE							20
21							SPACE	0	0	------								
								0	0	------	SPACE							22
23							SPACE	0	------	0								
								0	------	0	SPACE							24
25							SPACE	0	0	------								
								0	0	------	SPACE							26
27							SPACE	0	------	0								
								0	------	0	SPACE							28
29							SPACE	0	0	------								
								0	0	------	SPACE							30
31							SPACE	0	------	0								
								0	------	0	SPACE							32
33							SPACE	0	------	0								
								0	------	0	SPACE							34
35							SPACE	0	------	0								
								0	------	0	SPACE							36
37							SPACE	0	0	------								
								0	0	------	SPACE							38
39							SPACE	0	------	0								
								0	------	0	SPACE							40
41							SPACE	0	0	------								
								0	0	------	SPACE							42

WIRE/CONDUIT KEY 1234	WIRING TYPE	INSULATION	CONDUIT TYPE	TEMP RATING	12140	11080	PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 41.2 AMPS
1 TEMP RATING	R-ROMEX	B-UF	- NO CONDUIT	L-78-86 Deg. F.	23,220		NON DIVERSIFIED LOAD AT 240 VOLT, SINGLE PHASE = 96.8 AMPS
2 CONDUIT TYPE							
3 INSULATION							PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
4 WIRING TYPE							REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CARDINAS

PANEL NOTES:
* - PROVIDE ARC FAULT BREAKER FOR CIRCUIT

PANEL SCHEDULE B

400 AMP, 120/240 VOLT, SINGLE PHASE, THREE WIRE, 400A. M.C.B., 22000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE

##	BKR.	WIRE AND CONDUIT COND.	NEUTRAL	GND	C.	KEYS	LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LOAD DESCRIPTION	WIRE AND CONDUIT KEYS	C.	GND	NEUTRAL	COND.	BKR.	##
1	20/1	#12	#12	#12	---	RB-L	MASTER OUTLETS *	1200	1200	------								
								0	3600	------								2
3	20/1	#12	#12	#12	---	RB-L	MASTER OUTLETS *	1200	------	1200	CONDENSING 2	RB-L	---	#10	---	#8	40/2	
								0	------	3600								4
5	20/1	#12	#12	#12	---	RB-L	BATH RECEPTACLES	360	360	------								
								0	1800	------								6
7	20/1	#12	#12	#12	---	RB-L	BATH LIGHTS *	900	------	900	AIR HANDLER 3,4	RB-L	---	#12	---	#12	20/2	
								0	------	1800								8
9	20/1	#12	#12	#12	---	RB-L	MEDIA HALL LIGHTS *	1200	1200	------								
								0	3600	------								10
11	20/1	#12	#12	#12	---	RB-L	MEDIA RECEPTACLES *	1080	------	1080	CONDENSING 3	RB-L	---	#10	---	#8	40/2	
								0	------	3600								12
13	20/1	#12	#12	#12	---	RB-L	HALL RECEPTACLES *	540	540	------								
								0	1800	------								14
15	20/1	#12	#12	#12	---	RB-L	KITCHEN AREA LIGHTS *	1200	------	1200	AIR HANDLER 5	RB-L	---	#12	---	#12	20/2	
								0	------	1800								16
17	20/1	#12	#12	#12	---	RB-L	MAIN AREA LIGHTING *	1200	1200	------								
								0	3600	------								18
19	20/1	#12	#12	#12	---	RB-L	MAIN AREA FANS *	900	------	900	CONDENSING 4	RB-L	---	#10	---	#8	40/2	
								0	------	3600								20
21	20/1	#12	#12	#12	---	RB-L	KITCHEN FANS *	360	360	------								
								0	1800	------								22
23	20/1	#12	#12	#12	---	RB-L	ENTRY RECEPTACLES *	1080	------	1080	AIR HANDLER 6	RB-L	---	#12	---	#12	20/2	
								0	------	1800								24
25	20/1	#12	#12	#12	---	RB-L	LIVING RECEPTACLES *	1080	1080	------								
								1500	1500	------	WATER HEATER	RB-L	---	#12	#12	#12	20/1	26
27	20/1	#12	#12	#12	---	RB-L	HALL/ UPLIGHTS	900	------	900								
								900	------	900	REFRIGERATOR	RB-L	---	#12	#12	#12	20/1	28
29	20/1	#12	#12	#12	---	RB-L	OUTSIDE LIGHTING	900	900	------								
								540	540	------	COUNTER RECEPTACLES	RB-L	---	#12	#12	#12	20/1	30
31	100/2	#1	#1	#8	---	RB-L	PANELBOARD 'A'	4940	------	12140								
								540	------	540	COUNTER RECEPTACLES	RB-L	---	#12	#12	#12	20/1	32
33								3880	11080	------								
								1200	1200	------	DISHWASHER	RB-L	---	#12	#12	#12	20/1	34
35	100/2	#1	#2	#8	---	RB-L	PANELBOARD 'C'	4356	------	6606								
								1200	------	1200	DISHWASHER	RB-L	---	#12	#12	#12	20/1	36
37								2506	4806	------								
								900	900	------	DISPOSAL	RB-L	---	#12	#12	#12	20/1	38
39	60/2	#4	#4	#10	---	RB-L	PANELBOARD 'D'	3240	------	3240								
								0	------	2700								40
41								2520	2520	------	OVEN	RB-L	---	#10	---	#10	30/2	
								0	2700	------								42

WIRE/CONDUIT KEY 1234	WIRING TYPE	INSULATION	CONDUIT TYPE	TEMP RATING	48286	50786	PEAK PHASE (B) UNBALANCED NEUTRAL LOAD AMPS = 187. AMPS
1 TEMP RATING	R-ROMEX	B-UF	- NO CONDUIT	L-78-86 Deg. F.	99,072		NON DIVERSIFIED LOAD AT 240 VOLT, SINGLE PHASE = 412.8 AMPS
2 CONDUIT TYPE							
3 INSULATION							PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
4 WIRING TYPE							REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CARDINAS

PANEL NOTES:
* - CIRCUIT TO BE ARCFAULT

PANEL D DIVERSIFICATION CALCULATIONS
BASED ON RESIDENTIAL 220.82 CALCULATION
COVERING 4000 SQUARE FEET

NEC 220.82 GENERAL LOADS FOR CALCULATION	
LIGHTING AND RECEPTACLES	
4000 SQUARE FEET X 3.0 WATTS/FOOT -	12000
MOTOR LOADS AT 100% -	1260
TOTAL GENERAL LOADS -	14520
FIRST 10KW OF GEN LOADS AT 100% -	10000
REMAINDER OF GEN LOADS AT 40% -	1808
PLUS HVAC LOADS AT 100% -	
TOTAL DIVERSIFIED PANEL LOAD -	11808
LOAD AT 120/240v/1-Phase/3-Wire -	49.2A

PANEL A DIVERSIFICATION CALCULATIONS
BASED ON RESIDENTIAL 220.82 CALCULATION
COVERING 1400 SQUARE FEET

NEC 220.82 GENERAL LOADS FOR CALCULATION	
LIGHTING AND RECEPTACLES	
1400 SQUARE FEET X 3.0 WATTS/FOOT -	4200
MISC NON-CONTINUOUS LOADS AT 100% -	8400
TOTAL GENERAL LOADS -	12600
FIRST 10KW OF GEN LOADS AT 100% -	10000
REMAINDER OF GEN LOADS AT 40% -	1040
PLUS HVAC LOADS AT 100% -	7200
TOTAL DIVERSIFIED PANEL LOAD -	18240
LOAD AT 120/240v/1-Phase/3-Wire -	76.0A

PANEL B DIVERSIFICATION CALCULATIONS
BASED ON RESIDENTIAL 220.82 CALCULATION
COVERING 4000 SQUARE FEET

NEC 220.82 GENERAL LOADS FOR CALCULATION	
LIGHTING AND RECEPTACLES	
4000 SQUARE FEET X 3.0 WATTS/FOOT -	12000
MOTOR LOADS AT 100% -	5472
MISC APPLIANCE LOADS AT 100% -	1080
MISC NON-CONTINUOUS LOADS AT 100% -	45600
TOTAL GENERAL LOADS -	69624
FIRST 10KW OF GEN LOADS AT 100% -	10000
REMAINDER OF GEN LOADS AT 40% -	23850
PLUS HVAC LOADS AT 100% -	18000
TOTAL DIVERSIFIED PANEL LOAD -	51850
LOAD AT 120/240v/1-Phase/3-Wire -	216.0A

PANEL C DIVERSIFICATION CALCULATIONS

LIGHTING - 2700 X 125% -	3375
MOTOR LOADS AT 100% -	4212
PLUS 25% OF THE LARGEST MOTOR -	414
MISC NON-CONTINUOUS LOADS AT 100% -	4500
TOTAL DIVERSIFIED PANEL LOAD -	12501
LOAD AT 120/240V/1-PHASE/3-WIRE -	52.1A

PANEL SCHEDULE D

60 AMP, 120/240 VOLT, SINGLE PHASE, THREE WIRE, M.L.O., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE

##	BKR.	WIRE AND CONDUIT COND.	NEUTRAL	GND	C.	KEYS	LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LOAD DESCRIPTION	WIRE AND CONDUIT KEYS	C.	GND	NEUTRAL	COND.	BKR.	##
1	20/1	#12	#12	#12			BATH RECEPTACLE	180	180	------								
								500	500	------	ENTRY STEP LIGHTS *	CHAL	1/2	#14	#14	#14	15/1	2
3	20/1	#12	#12	#12			EXHAUST FAN	360	------	360								
								900	------	900	OUTSIDE FANS	CHAL	1/2	#14	#14	#14	15/1	4
5	15/1	#14	#14	#14	1/2	CHAL	A/V RECEPTACLE *	360	360	------								
								1000	1000	------	DECK LIGHTS	CHAL	1/2	#14	#14	#14	15/1	6
7	15/1	#14	#14	#14	1/2	CHAL	A/V RECEPTACLE *	360	------	360								
								900	------	900	HALL STEP LIGHTS *	CHAL	1/2	#14	#14	#14	15/1	8
9							SPACE	0	0	------								
								1200	1200	------	OUTSIDE LIGHTING	CHAL	1/2	#12	#12	#12	20/1	10
11							SPACE	0	------	0								
								0	------	0	SPACE							12
13							SPACE	0	0	------								
								0	0	------	SPACE							14
15							SPACE	0	------	0								
								0	------	0	SPACE							16
17							SPACE	0	0	------								
								0	0	------	SPACE							18
19							SPACE	0	------	0								
								0	------	0	SPACE							20
21							SPACE	0	0	------								
								0	0	------	SPACE							22
23							SPACE	0	------	0								
								0	------	0	SPACE							24

WIRE/CONDUIT KEY 1234	WIRING TYPE	INSULATION	CONDUIT TYPE	TEMP RATING	3240	2520	PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 27. AMPS
1 TEMP RATING	R-ROMEX C-CU WIRE	B-UF H-THWN	A-EMT	L-78-86 Deg. F.	5,760		NON DIVERSIFIED LOAD AT 240 VOLT, SINGLE PHASE = 24. AMPS
2 CONDUIT TYPE							
3 INSULATION							PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
4 WIRING TYPE							REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CARDINAS

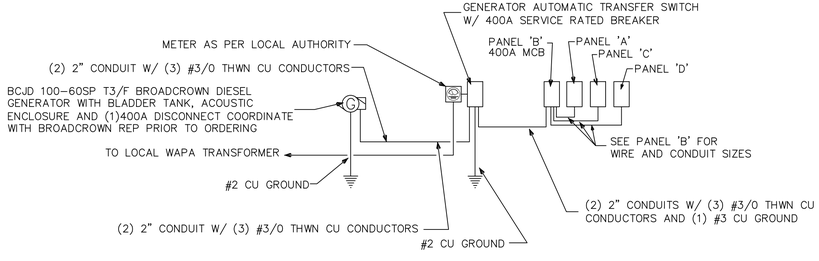
PANEL NOTES:
* - CIRCUIT TO BE ARC FAULT

PANEL SCHEDULE C

100 AMP, 120/240 VOLT, SINGLE PHASE, THREE WIRE, M.L.O., 10000 AMPS MINIMUM A.I.C. BRACING, FLUSH MOUNTED, TYPE NEMA 1 ENCLOSURE

##	BKR.	WIRE AND CONDUIT COND.	NEUTRAL	GND	C.	KEYS	LOAD DESCRIPTION	NEUT.	LINE A	LINE B	LOAD DESCRIPTION	WIRE AND CONDUIT KEYS	C.	GND	NEUTRAL	COND.	BKR.	##
1	20/1	#12	#12	#12	1/2	CHAL	LIGHTING	1500	1500	------								
								0	2250	------								2
3	20/1	#12	#12	#12	1/2	CHAL	CISTERN PUMP	1656	------	1656	WATER HEATER	CHAL	1/2	#10	---	#10	25/2	
								0	------	2250								4
5	20/1	#12	#12	#12	1/2	CHAL	CISTERN PUMP	1656	1656	------								
								1200	1200	------	DECK LIGHTING	CHAL	1/2	#12	#12	#12	20/1	6
7	20/1	#12	#12	#12	1/2	CHAL	RECEPTACLE AND CIRC PUMP	900	------	900								
								0	------	0	SPACE							8
9							SPACE	0	0	------								
								0	------	0	SPACE							10
11							SPACE	0	------	0								
								0	------	0	SPACE							12
13							SPACE	0	0	------								
								0	0	------	SPACE							14
15							SPACE	0	------	0								
								0	------	0	SPACE							16
17							SPACE	0	0	------								
								0	0	------	SPACE							18
19							SPACE	0	------	0								
								0	------	0	SPACE							20
21							SPACE	0	0	------								
								0	0	------	SPACE							22
23							SPACE	0	------	0								
								0	------	0	SPACE							24

WIRE/CONDUIT KEY 1234	WIRING TYPE	INSULATION	CONDUIT TYPE	TEMP RATING	6606	4806	PEAK PHASE (A) UNBALANCED NEUTRAL LOAD AMPS = 36.3 AMPS
1 TEMP RATING	C-CU WIRE	H-THWN	A-EMT	L-78-86 Deg. F.	11,412		NON DIVERSIFIED LOAD AT 240 VOLT, SINGLE PHASE = 47.6 AMPS
2 CONDUIT TYPE							
3 INSULATION							PRINTED ON PANELS PROGRAM SERIAL NUMBER 2001.4001
4 WIRING TYPE							REGISTERED TO - TODD W. CAREY AND ASSOCIATES OF THE CARDINAS



1 ELECTRICAL SERVICE RISER
NO SCALE

E2.01