PLUMBING SYMBOLS

CW	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING (120°)
	VENT PIPING
	SOIL, WASTE OR SANITARY PIPING
	PIPING IN CLG. BELOW / BURIED PIPING
	CLEAN OUT/PLUGGED OUTLET
	CAPPED OUTLET
	CLEAN-OUT DECK PLATE (FLOOR PLAN)
	P-TRAP (FLOOR PLAN)
	WATER HAMMER ARRESTOR
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	SLOPE CHANGE IN PIPE ELEVATION (ROLL DOWN)
OPEN CLOSE	GATE VALVE
OR	CHECK VALVE
OPEN CLOSE	BALL VALVE
	DIRECTION OF PUMPED FLOW
	ARROW INDICATES DIRECTION OF LOW
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	UNION
	CAPPED PIPE WITH SHUT-OFF VALVE
	'Y' TYPE STRAINER WITH BLOW-OFF VALVE
	TRAP (RISER DIAGRAM)
	REVISION NUMBER
	CONNECT NEW WORK TO EXISTING
	DISCONNECT EXISTING WORK & CAP

PLUMBING ABBREVIATIONS

ADJ	ADJUSTABLE
A.F.F.	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
B.F.E.	BASE FLOOD ELEVATION
BLDG	BUILDING
BOP	BOTTOM OF PIPE
BR	BRANCH
CLG	CEILING
CLOS	CLOSET
CO	CAPPED OUTLET
CONN	CONNECTION
CV	CHECK VALVE
CW	COLD WATER
CWVO	COLD WATER VALVED OUTLET
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DR	DRAIN
DT	DRAIN TILE (PERFORATED PIPE)
DWG	DRAWING
EA	EACH
EL	ELEVATION
ELEC	ELECTRICAL
EWH	ELECTRIC WATER HEATER
FF	FINISH FLOOR
FFE	FINISH FLOOR ELEVATION
FL	FLOOR
FT	FEET
FTG	FITTING
GC	GENERAL CONTRACTOR
GAL	GALLONS
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HGT	HEIGHT
HORIZ	HORIZONTAL
HR	HOUR
HW	HOT WATER
HWC	HOT WATER CIRCULATION
HWH	HOT WATER HEATER
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
NIC	NOT IN CONTRACT
No.	NUMBER
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PLBG	PLUMBING
PO	PLUGGED OUTLET
REV	REVISED
RM	ROOM
S	SANITARY/SOIL
SCHED	SCHEDULE
SLV	SLEEVE
ST	STREET PRESSURE
STD	STANDARD
TOS	TOP OF SLAB
TYP.	TYPICAL
V	VENT
VB	VACUUM BREAKER
VCO	VALVED & CAPPED OUTLET
VERT	VERTICAL
VEST	VESTIBULE
VO	VALVED OUTLET
VPO	VENT PLUGGED OUTLET
VTR	VENT THROUGH ROOF
W	WASTE
W/	WITH
WC	WATER CLOSET
WF	WIDE FLANGE
WP	WATER PROOFING / WATER PROOFED

GENERAL NOTES

1.EACH BIDDER SHALL VISIT THE SITE AND BECOME INFORMED AS TO THE CONDITION OF THE PREMISES AND THE EXTENT AND CHARACTER OF WORK REQUIRED. NO ADDITIONAL COMPENSATION WILL BE APPROVED DUE TO THE FIELD CONDITIONS.

2.UNDER NO CIRCUMSTANCES WILL THIS CONTRACTOR OR HIS WORKMEN BE PERMITTED TO USE ANY PART OF THE BUILDING AS A SHOP, EXCEPT PART DESIGNATED BY THE OWNER FOR SUCH PURPOSES.

3.UNNECESSARY NOISE SHALL BE AVOIDED AT ALL TIMES AND NECESSARY NOISE SHALL BE REDUCED TO A MINIMUM.

4.WHERE THE WORK MAKES TEMPORARY SHUT DOWN OF SERVICES UNAVOIDABLE, THEY SHALL BE MADE AT NIGHT OR AT SUCH TIMES THAT WILL CAUSE THE LEAST INTERFERENCE WITH THE ESTABLISHED OPERATING ROUTINE OF THE BUILDING.

5.THIS CONTRACTOR SHALL ARRANGE ALL WORK CONTINUOUSLY, INCLUDING OVERTIME AS REQUIRED, TO ASSURE THAT SERVICES WILL BE SHUT DOWN AND CUT-INS ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTION TO EXISTING WORK.

6.THIS CONTRACTOR SHALL GIVE AMPLE WRITTEN NOTICE IN ADVANCE TO THE OWNER OF ANY REQUIRED SHUT DOWNS.

7.TO ENSURE CONTINUOUS OPERATION, MAKE ALL NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. ALL COST RESULTING FROM TEMPORARY SHUTDOWNS SHALL BE BORNE BY THIS CONTRACTOR.

8.ALL VENT, HOT WATER CIRCULATION, HOT AND COLD WATER PIPING ARE AT CEILING OR IN HUNG CEILING: EXCEPT IN PIPE CHASES OR OTHERWISE NOTED.

9.CONTRACTOR SHALL CHECK AND VERIFY THE EXACT LOCATION OF ALL PIPE PENETRATIONS, PIPE ELEVATIONS, AREA DRAINS, ETC.

10.ACCESS DOORS SHALL BE PROVIDED FOR ALL CLEANOUTS, VALVES, FLUSH VALVES, AND ANY OTHER EQUIPMENT AND ACCESSORIES THAT MAY REQUIRE ACCESS FOR MAINTENANCE OR OPERATION WHICH ARE LOCATED BEHIND WALLS AND PARTITIONS OR CONCEALED IN HUNG CEILINGS. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR.

11.THIS CONTRACTOR SHALL OBTAIN A COPY OF THE BUILDING RULES AND REGULATIONS AND PROVIDE ALL WORK AS REQUIRED TO CONFORM TO ALL REQUIREMENTS.

12.THIS CONTRACTOR SHALL PROVIDE CUTTING AND PATCHING OF ALL WORK AS REQUIRED INCLUDING WORK OUTSIDE OF THE GENERAL PROJECT LIMIT LINES (I.E. CEILING OF THE FLOOR BELOW).

13.THIS CONTRACTOR SHALL PROVIDE CAPPED VALVED OUTLETS FOR FUTURE CONNECTIONS WHENEVER CONNECTING INTO AN EXISTING CAPPED VALVED OUTLET. SIZE OF NEW CAPPED VALVED OUTLET SHALL MATCH EXISTING.

14.ALL PIPING SHALL BE INSTALLED RECESSED IN BLOCK WALLS, CHASES OR PARTITIONS.

15.PLUMBING CONTRACTOR SHALL PAY ALL FEES, INSPECTION AND CONNECTION CHARGES REQUIRED.

16.PLUMBING CONTRACTOR SHALL VERIFY ALL SPACE CONDITIONS AND DIMENSIONS AT JOB SITE PRIOR TO FABRICATION AND INSTALLATION OF MATERIALS AND EQUIPMENT.

17.FIELD COORDINATION ALL WORK WITH OTHER TRADES BY GENERAL CONTRACTOR

18.PLUMBING CONTRACTOR SHALL GUARANTEE ALL WORK FREE OF DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.

19.PROVIDE SHOCK ABSORBERS SIZE, QUANTITY AND LOCATION AS PER P.D.I. STANDARDS.

20.PROVIDE SHUT-OFF VALVE FOR EACH GROUP OF FIXTURE AND EACH FIXTURE SUPPLY.

21.WHEREVER DISSIMILAR METALS ARE TO BE JOINED, A DIELECTRIC FITTING SHALL BE PROVIDED TO CONNECT BOTH TYPES OF PIPES.

22.CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL ROUGH-INS WITH THE MANUFACTURER BEFORE MAKING ANY INSTALLATION.

23.POTABLE HOT AND COLD WATER SYSTEMS SHALL BE "LEAD FREE" WITH LEAD CONTENT NOT EXCEEDING 0.2 PERCENT FOR SOLDER AND FLUXES AND 8 PERCENT FOR PIPE FITTINGS, FIXTURES AND TRIM. CONTRACTOR SHALL VERIFY MANUFACTURER'S COMPLIANCE.

24.17. PROVIDE SHUT-OFF AND VACUUM BREAKER TO ALL HOSE BIBBS AND FAUCETS WITH HOSE-END CONNECTIONS.

25.ALL FLOOR DRAINS SHALL HAVE TRAP PRIMERS TO PROTECT THE SEAL OF THE TRAP.

26.PVC PIPING IS NOT ALLOWED IN RETURN AIR PLENUMS. IF RETURN AIR PLENUMS ARE USED, CONTRACTOR SHALL REPLACE ALL EXISTING PVC PIPING WITH CAST IRON OR COPPER PIPING.

27.DRAINAGE SYSTEM DESIGN IS BASED ON 1/8" PER FT. MINIMUM FALL, FOR LINES 3" OR LARGER AND 1/4" PER FT. MINIMUM FALL FOR LINES 2" OR SMALLER. DEVIATIONS SHALL BE APPROVED BY ARCHITECT/ENGINEER.

28.ALL VENT THROUGH ROOF OPENINGS SHALL BE OFFSETED TO A MINIMUM DISTANCE OF 3'-0" FROM PARRAPET WALL OR ROOF EDGE. SEE ARCHITECTURAL DRAWINGS FOR ROOF FLASHING. LEAD FLASHING WILL NOT BE ACCEPTED.

29.FOR OCCUPANCY LOAD REFER TO ARCHITECTURAL PLANS.

PLUMBING SPECIFICATIONS

A. GENERAL:

1. WORK UNDER THIS SECTION INCLUDES FURNISHING ALL LABOR, EQUIPMENT,MATERIALS, SUPPLIES AND COMPONENTS AS PERFORMING ALL OPERATIONSAS NECESSARY FOR THE INSTALLATION OF THE COMPLETE PLUMBING SYSTEM.
2. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER's RECOMMENDATIONS.
3. SUBMIT MANUFACTURER'S DATA AND SHOP DRAWINGS ON ALL EQUIPMENT FOR REVIEW BEFORE INSTALLATION.
4. NO WATER LINES SHALL RUN INSIDE CONCRETE SLABS.
5. ALL DIMENSIONS AND ACTUAL CONSTRUCTION CONDITIONS MUST BE VERIFIED AT THE JOB SITE.
6. THE CONTRACTOR PERFORMING THE WORK SHALL COORDINATE ALL HIS WORK WITH OTHER TRADES AND FIELD CONDITIONS.
7. PLUMBER SHALL NOT DEVIATE FROM THE SANITARY CONNECTION FORMAT WITHOUT ENGINEER'S APPROVAL.
8. THE CONTRACTOR PERFORMING THE WORK, PRIOR TO SUBMITTING HIS BID PRICE, SHALL VISIT THE SITE, FAMILIARIZE HIMSELF WITH ALL FIELD CONDITIONS, AND SHALL OBTAIN ALL REQUIRED INFORMATION NECESSARY TO COMPLETE THE JOB. ANY DISCREPANCIES BETWEEN WHAT IS SHOWN ON THE DRAWINGS AND ACTUAL WORK REQUIRED TO COMPLETE THE JOB SHALL BE TAKEN INTO ACCOUNT IN THE BID PRICE.

B. SANITARY WASTE AND VENT PIPING:

1. SHALL BE PVC NO-HUB ABOVE GROUND WITH NO HUB COUPLINGS BY HUSKY, PUSH-ON JOINT WITH NEOPRENE GASKET UNDERGROUND.
2. ALL SANITARY HORIZONTAL PIPING SHALL BE SLOPED N 1/4" PER FOOTMINIMUM FALL FOR PIPES 2 1/2" OR LESS, 1/8" PER FOOT MINIMUM FALL FOR PIPES 3" TO 6", AND 1/16" PER FOOT MINIMUM FOR PIPES 8" OR LARGER.
3. NO PVC PIPING SHALL BE USED IN A RETURN AIR PLENUM ROOM.

C. DOMESTIC COLD & HOT WATER PIPING:

1. WATER PIPING SHALL BE TYPE "L" COPPER. PROVIDE UPONOR PEX-A PIPING AS AN APPROVED ALTERNATE TO COPPER PIPING. FOLLOWUPONOR LOGIC & ASTM F1960 DESIGN GUIDELINES. PROVIDE CPVC PIPING AS AN APPROVED ALTERNATE. ALL PIPE, VALVES & FITTINGS MUST BE OF SAME MANUFACTURER. IT IS RECOMMENDED THAT A FACTORY-TRAINED REPRESENTATIVE MUST BE PRESENT TO QUALIFY INSTALLING CONTRACTOR & BE PRESENT FOR PERIODIC JOB SITE VISITS.
2. INSTALL MECHANICAL SHOCK ABSORBERS ON ALL PLUMBING FIXTURES. WATER HAMMER ARRESTORS SHALL BE PROVIDED FOR ALL CLOSING VALVES. MIFAB #MWH SERIES.
3. PROVIDE DIELECTRIC ISOLATION BETWEEN CONTACT OF DISSIMILAR METALS.
4. C.P. ESCUTCHEON PLATES REQUIRED ON ALL WALL PENETRATIONS.
5. PROVIDE SHUT OFF VALVES AT EACH PLUMBING FIXTURE WATER SUPPLY.

D. HOT WATER AND HOT WATER RETURN PIPING INSULATION:

1. 3/4" INCH THICK GLASS FIBER MOLDED INSULATION WITH FACTORY APPLIED FRJ JACKET WITH LONGITUDINAL LAP AND BUTT JOINT STRIPS WITH SELF SEALING ADHESIVE.
2. PROVIDE DIELECTRIC ISOLATION BETWEEN CONTACT OF DISSIMILAR METALS.

E. CONDENSATE PIPING:

1. A/C CONDENSATE SHALL BE CPVP WHEN IN PLENUM. INSULATE ALL RUNSWITH 1/2" FIBERGLASS INSULATION WITH ALL SERVICE JACKET INSTALLED PER MANUFACTURER'S RECOMMENDATIONS OR 1/2" ARMAFLEX.

F. PIPE HANGERS AND SUPPORTS:

1. PROVIDE ADJUSTABLE HANGERS, INSERTS AND SUPPLEMENTARY STEEL AS REQUIRED FOR PROPER SUPPORT OF PIPE LINES. PHD MANUFACTURING PIPE HANGERS & DEVICES.

G. CLEANOUTS:

1. CLEANOUTS SHALL BE PROVIDED AND INSTALLED AT CHANGE OF DIRECTIONON ALL SOIL OR WASTE PIPING.
2. CLEANOUT COVERS:
   WALLS - MIFAB #C1430 STAINLESS STEEL FINISH
   RESILIENT FLOORS - MIFAB #1222 SERIES
   CONCRETE FLOORS - MIFAB #C1226 SERIES

H. MISCELLANEOUS PRODUCTS:

1. DRAINS:
   REFER TO PLUMBING SCHEDULE SHEET.

I. EXECUTION:

1. ALL WATER PIPING SHALL BE TESTED AT 100 PSIG, STERILIZED AND FLUSHEDBEFORE CONNECTION TO BUILDING SYSTEMS.

J. ESCUTCHEONS:

1. ESCUTCHEONS SHALL BE PROVIDED AND INSTALLED ON ALL PIPES PASSING THROUGH WALLS, FLOORS AND CEILINGS OF FINISHED AREAS. PROVIDECHROME PLATED OR STAINLESS STEEL ESCUTCHEONS WITH SET SCREWS FOR HOLDING SECURELY IN PLACE.

GOVERNING CODES AND STANDARDS

BUILDING DEPARTMENT NOTES - PLUMBING PLUMBING SYSTEMS DESIGN AND CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING 2023 FLORIDA BUILDING CODE-RESIDENTIAL-EIGHT EDITION CHAPTERS:

CHAPTER 17 COMBUSTION AIR

CHAPTER 19 CHIMNEYS AND VENTS

CHAPTER 24 FUEL GAS

CHAPTER 25 PLUMBING ADMINISTRATION

CHAPTER 26 GENERAL PLUMBING REQUIREMENTS

CHAPTER 27 PLUMBING FIXTURES

CHAPTER 28 WATER HEATERS

CHAPTER 29 WATER SUPPLY AND DISRIBUTION

CHAPTER 30 SANITARY DRAINAGE

CHAPTER 31 VENTS

CHAPTER 32 TRAPS

CHAPTER 33 STORM DRAINAGE

MIAMI-DADE COUNTY PART III- CODE OF ORDINANCES, CHAPTER 8- BUILDING CODE

2023 FLORIDA BUILDING CODE
CHAPTER 3 USE AND OCCUPANCY CLASSIFICATION
SECTION 310 RESIDENTIAL GROUP R-3

PLUMBING DRAWING LIST

#	Sheet Name
P-1	GENERAL INFORMATION - PLUMBING
P-2	SITE PLAN - PLUMBING
P-3	FIRST FLOOR PLUMBING PLAN - (UNDERGROUND)
P-4	FIRST FLOOR PLUMBING PLAN - DRAINAGE (ABOVE SLAB)
P-5	FIRST FLOOR PLUMBING PLAN - DOMESTIC WATER AND GAS
P-6	SECOND FLOOR PLUMBING PLAN
P-7	ROOF PLUMBING PLAN
P-8	PLUMBING ISOMETRICS
P-9	PLUMBING ISOMETRICS
P-10	PLUMBING ISOMETRICS
P-11	PLUMBING ISOMETRICS
P-12	PLUMBING DETAILS
P-13	PLUMBING DETAILS
P-14	PLUMBING DETAILS
P-15	PLUMBING SCHEDULES
P-16	PLUMBING SPECIFICATIONS

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
iag@mipm.com
developers@agdmiami.com

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-engineers.com
siri-ra@rd-engineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO — No. 86717 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:06:42 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

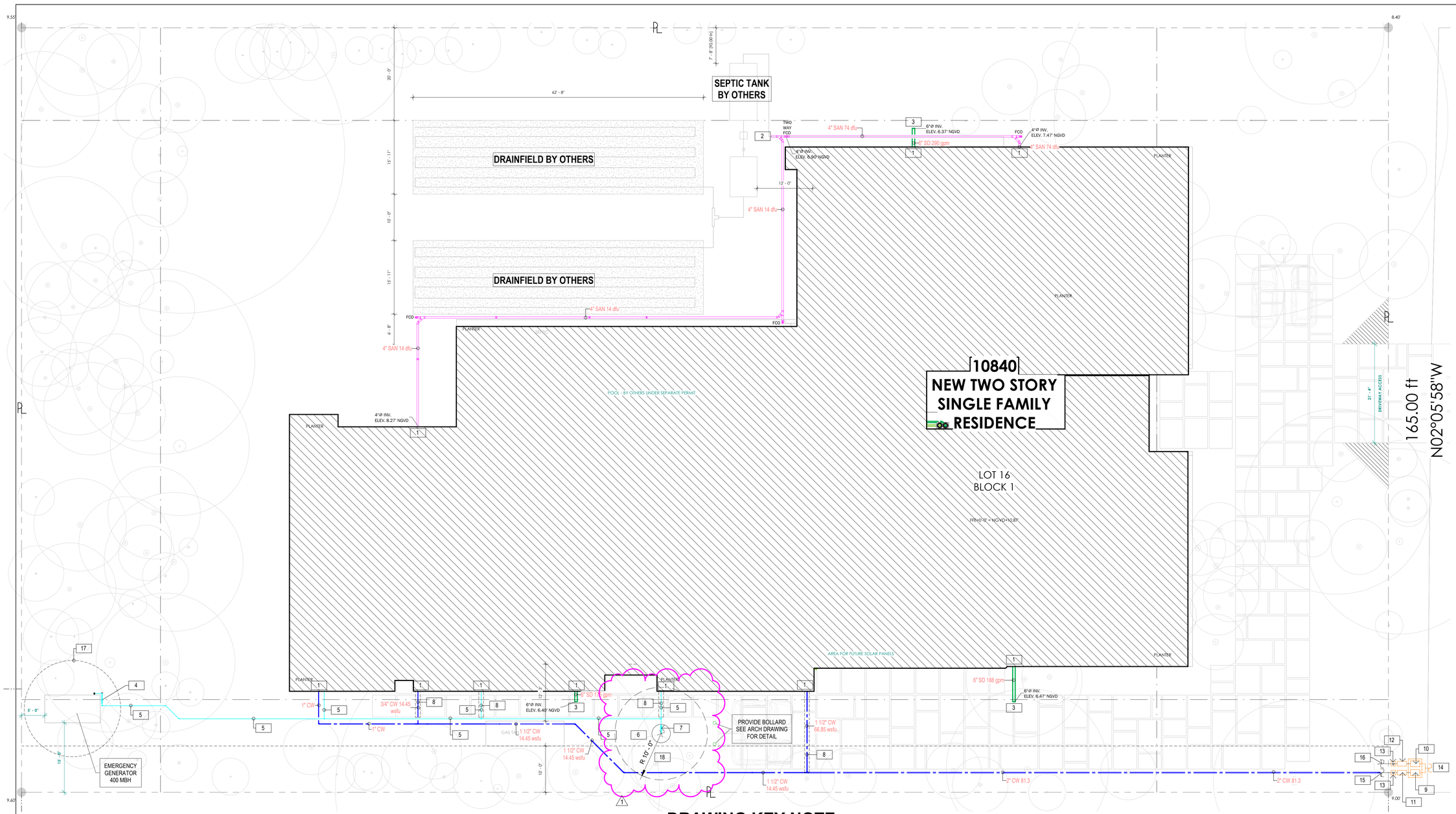
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-1

GENERAL INFORMATION , PLUMBING



1 SITE PLAN - PLUMBING
SCALE: 1" = 10'-0"

MAIN DISTRIBUTION WATER PIPING SYSTEM SIZING
TOTAL OF WATER SUPPLY FIXTURE UNITS (wsfu) = 81.3
BASED ON 2023 FBC-PLUMBING "APPENDIX E" TABLE-E103.3(2)

MINIMUM MAIN WATER LINE SIZE REQUIRED IS 2"⌀ @ 50psi
(AS PER 2023 FBC.-PLUMBING TABLE E-201.1)

TOTAL DEVELOPED LENGTH = 420ft. APPROXIMATE

DRAWING KEY NOTE:

1 - FOR CONTINUATION SEE SHEET P-3.

2 - 4"∅ SANITARY SEWER LINE TO SEPTIC TANK. FOR CONTINUATION AND BEFORE INSTALLATION COORDINATE W/ CIVIL ENGINEERING DRAWINGS EXACT LOCATION.

3 - 6"∅ STORM WATER LINE. FOR CONTINUATION AND BEFORE INSTALLATION COORDINATE W/ CIVIL ENGINEERING DRAWINGS EXACT LOCATION.

4 - PROPOSED 2ND. STAGE REGULATOR #4 (EMERGENCY GENERATOR - 400 MBH).

5 - UNDERGROUND GAS LINE IN 18"MIN. DEEP TRENCH. PROVIDE DETECTABLE WARNING TAPE.

6 - LOCATION OF (1) 500 GALLON UNDERGROUND LP GAS TANK BY LOCAL GAS COMPANY. PROVIDE 8" SLABS REINFORCED WITH #5 EACH WAY @ 12"O.C. AND STRAP TANK TO SLAB. TANK WEIGHT: 950 POUNDS (EMPTY).

7 - MAIN GAS REGULATOR AT DOME OF PROPANE GAS TANK.

8 - PROPOSED 3" CAST IRON PIPE SLEEVE, FOR UNDERGROUND GAS AND CW PIPES.

9 - PROPOSED 2"∅ DOMESTIC WATER METER IN VALVE BOX.

10 - PROPOSED 1-1/2"∅ IRRIGATION WATER METER IN VALVE BOX.

11 - PROPOSED 2"⌀ B.F.P FOR DOMESTIC WATER SERVICE.

12 - PROPOSED 1-1/2"⌀ B.F.P FOR IRRIGATION WATER SERVICE.

13 - PROPOSED 1-1/2"⌀ AND 2"⌀ GATE VALVE IN VALVE BOX.

14 - PROPOSED 2"⌀ TO CONNECT TO EXISTING CITY WATER MAIN.

15 - 2"⌀ CW - 81.3 WFU.

16 - 1-1/2" CW (IRRIGATION). TO BE COORDINATED W/ IRRIGATION CONTRACTOR.

17 - CONTRACTOR TO ENSURE THAT GENERATOR ORIENTATION LEAVES EXHAUST OUTLET AT 10'-0" MINIMUM FROM ANY BUILDING OPERABLE OPENING.

1 18 - MINIMUM 10'-0" RADIUS OF CLEARANCE FROM TANK TO ANY SOURCES OF IGNITION AND INTAKES AS PER NFPA 58 AND 167 REQUIREMENTS.

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.728.0880
hello@mikarch.com

AGD

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
agd@miami.com
dev-engineer@agdmiami.com

R&D ENGINEERS, LLC

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
info@rdengineers.com
dev-br@rd-engineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES		
1	APRIL 2025 06.10.25	1ST ISSUED BLDG DEPT COMMENTS

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSED No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:06:54 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

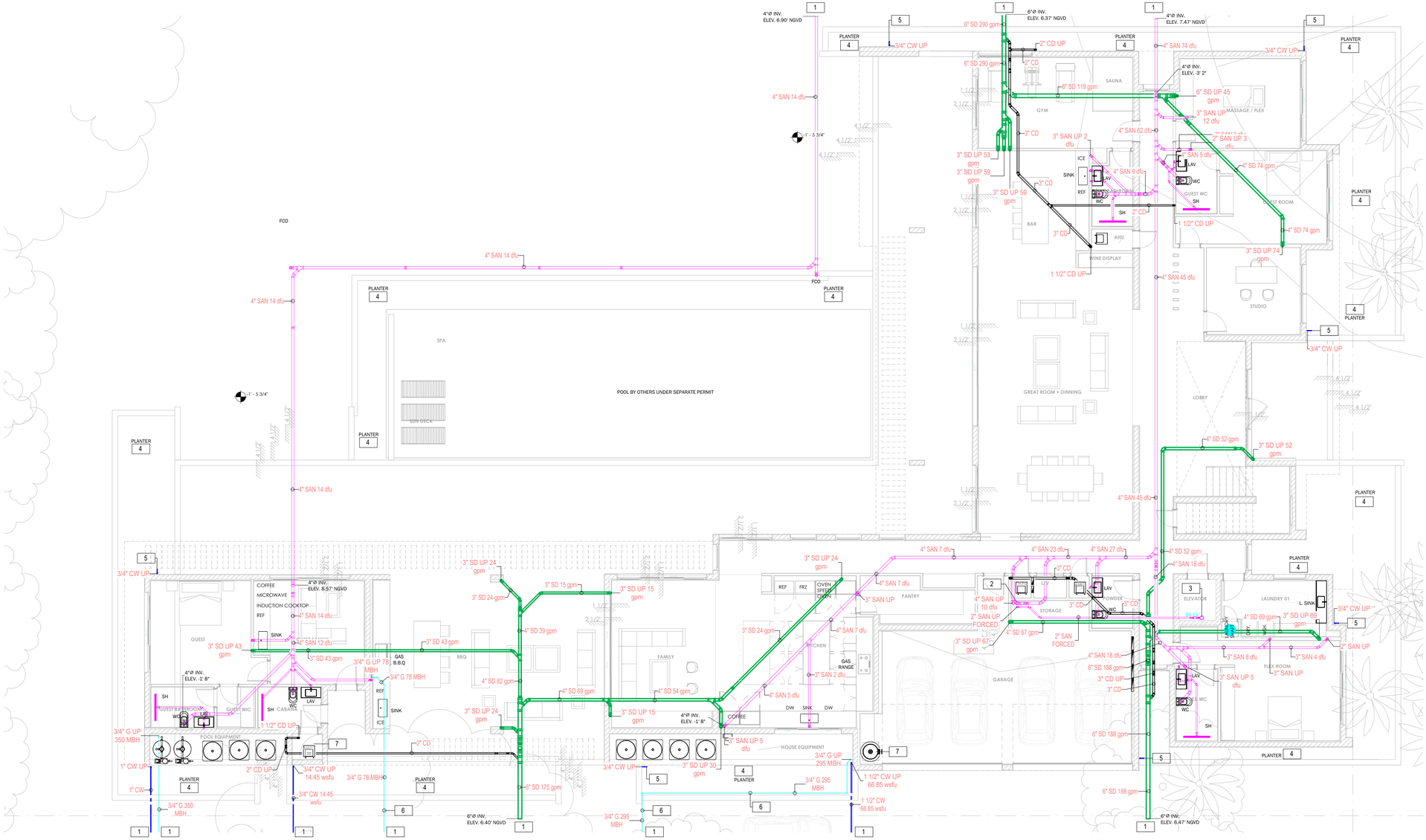
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-2

SITE PLAN ,PLUMBING



1 FIRST FLOOR PLUMBING PLAN - UNDERGROUND
SCALE: 1/8" = 1'-0"

DRAWING KEY NOTE:

1 - FOR CONTINUATION SEE SHEET P-2.

2 - 4"⌀ HUB DRAIN W/ TRAP AND RESEAL.

3 - ELEVATOR SUMP PUMP IN 18"L x 18"W x 24"DEEP ELEVATOR PIT. DISCHARGE TO SANITARY SYSTEM. COORDINATE FINAL LOCATION WITH ELEVATOR CONTRACTOR AND STRUCTURAL ENGINEER. SMART SUBMERSIBLE PUMP TO BE ZOELLER MODEL N152, W/ OIL SENSING TECNOLOGY. MODEL 940-0006. PUMP TO BE 53 GPM @15FT OF HEAD, 4/10HP-115V-8.5A. PUMP INCLUDES ALARM PANEL AND PUMP SWITCH. INSTALL IN SUMP PIT PER PUMP MANUFACTURER SPECIFICATIONS.

4 - THE PLANTERS ARE GOING TO BE OPEN ON THE BOTTOM (NO SLAB OR DRAIN REQUIRED).

5 - PROPOSED 3/4"CW TO IRRIGATION WATER LINE. COORDINATE WITH IRRIGATION DWGS. (CONNECTION SHALL BE AFTER B.F.P. & BEFORE IRRIGATION MAIN CONTROL VALVE).

6 - UNDERGROUND GAS LINE IN 18"MIN. DEEP TRENCH. PROVIDE DETECTABLE WARNING TAPE.

7 - (WH-1) AND (WH-2).

PLUMBING SHEET NOTES

- ALL ELEVATIONS ARE WITH RESPECT TO NATIONAL GEODETIC VERTICAL DATUM. SEE SITE PLAN ON SHEET P-2. (FFE=0'-0" = NGVD +10.87')

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
agd@mail.com
developers@agdmiami.com

R&D ENGINEERS, LLC

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdengineers.com
silvia.rd@rdengineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES		
	APRIL 2025	1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:07:06 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

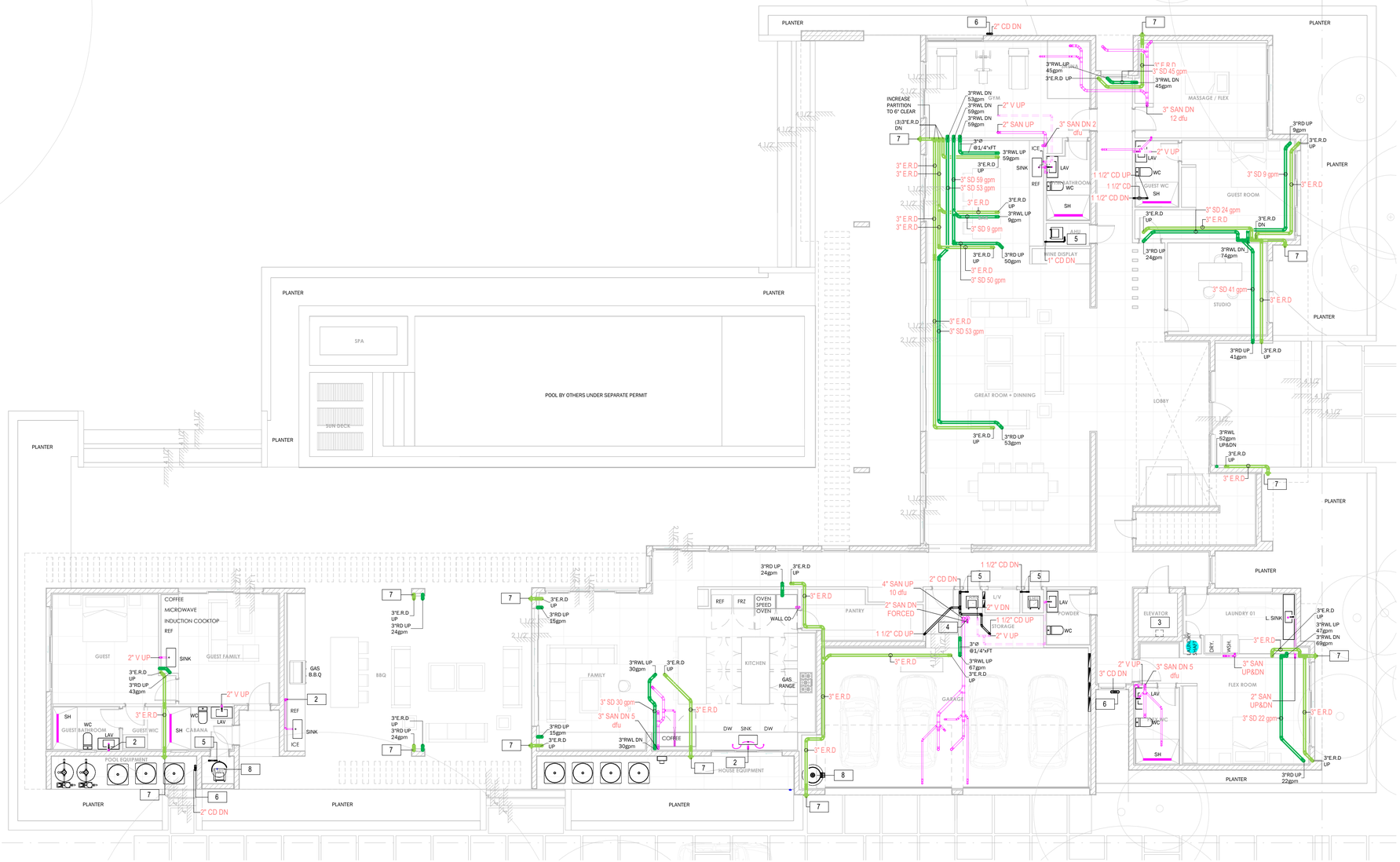
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-3

FIRST FLOOR PLUMBING PLAN , (UNDERGROUND)



1 FIRST FLOOR PLUMBING PLAN - DRAINAGE (ABOVE SLAB)
SCALE: 1/8" = 1'-0"

DRAWING KEY NOTE:

1. - FOR CONTINUATION SEE SHEET P-5.
2. - A.A.V.
3. - ELEVATOR SUMP PUMP IN 18"x18"x30" DEEP ELEVATOR PIT. DISCH. TO SANITARY.
4. - 2" DISCH. W/ AIR GAP ABOVE 4" HUB DRAIN (W/RESEAL) TO SANITARY SYSTEM.
5. - 1" CD & TRAP.
6. - CD RELIEF PIPE (GOOSE NECK W/BUG SCREEN) TYP.
7. - 3"Ø DOWNSPOUT NOZZLE TO DISCHARGE 6"ABOVE FINISH GRADE OUTSIDE THE RESIDENCE.
8. - (WH-1) AND (WH-2).

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
igg@mipm.com
developers@aggmiami.com

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdengineers.com
silvi-ca@rdengineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES		
	APRIL 2025	1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:07:18 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

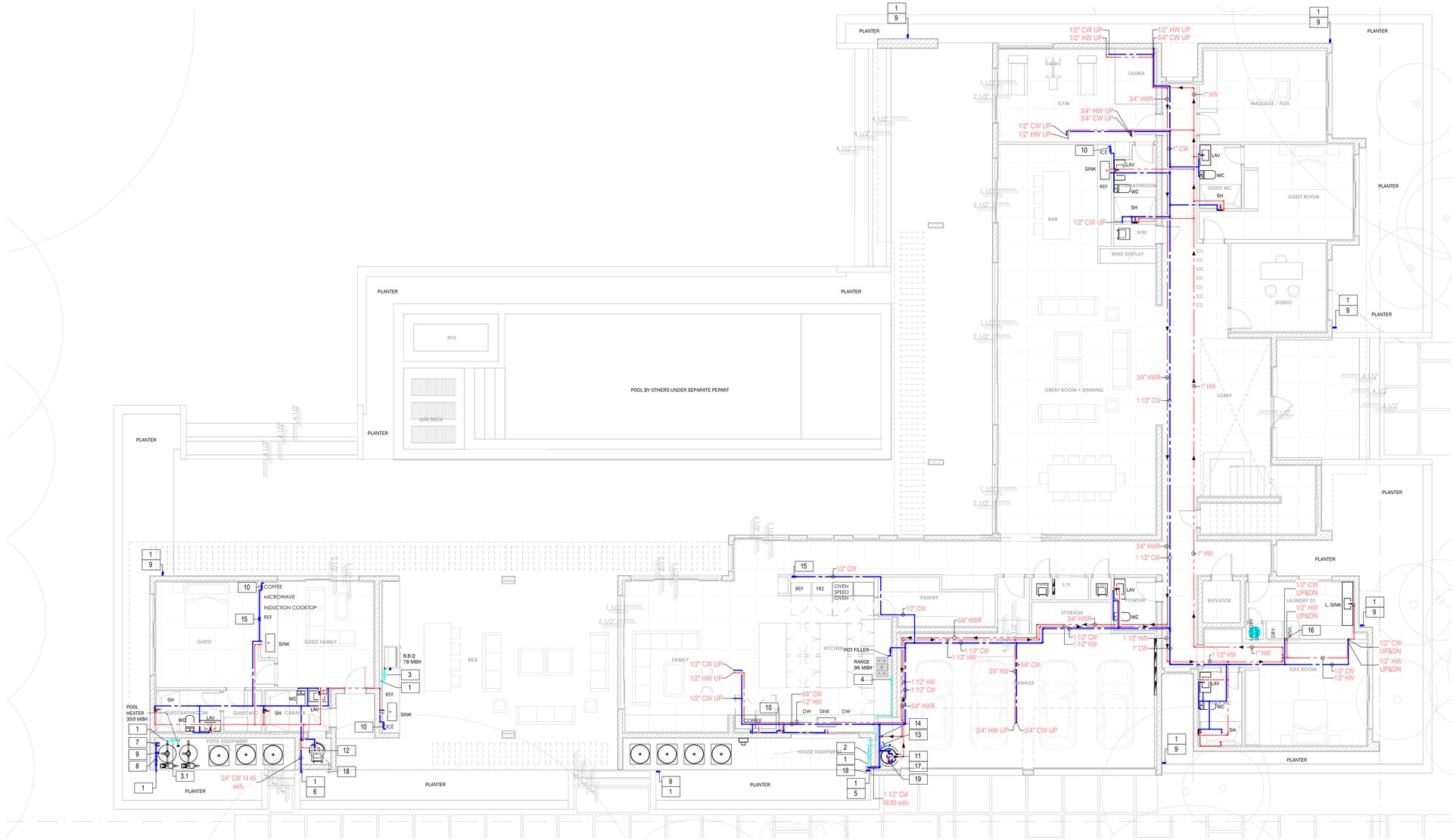
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-4

FIRST FLOOR PLUMBING PLAN - DRAINAGE (ABOVE SLAB)



1 FIRST FLOOR PLUMBING PLAN - DOMESTIC WATER AND GAS
SCALE: 1/8" = 1'-0"

DRAWING KEY NOTE:

1 - FOR CONTINUATION SEE SHEET P-3.

2 - PROPOSED 2ND. STAGE GAS REGULATOR #1 (1 WATER HEATER + 1 RANGE - 295 MBH).

3 - PROPOSED 2ND. STAGE GAS REGULATOR #2 (1 B.B.Q - 78 MBH).

3.1 - PROPOSED 2ND. STAGE GAS REGULATOR #3 (1 POOL HEATER - 350 MBH).

4 - PROPOSED ACCESSIBLE GAS SHUT-OFF VALVE.

5 - PROPOSED 1-1/2"∅ MAIN HOUSE DOMESTIC WATER SHUT-OFF VALVE IN VERTICAL POSITION.

6 - PROPOSED 3/4"∅ GUEST HOUSE DOMESTIC WATER SHUT-OFF VALVE IN VERTICAL POSITION.

7 - PROPOSED 1"∅ DOMESTIC WATER SHUT-OFF VALVE AND CAP-OFF FOR POOL CONTRACTOR.

8 - PROPOSED 1"∅ BACKFLOW PREVENTER.

9 - PROPOSED 3/4"∅ HOSE BIBB CONNECTION W/ SHUT-OFF VALVE.

10 - PROPOSED DUAL CHECK VALVE BFP WATTS LF7R.

11 - PROPOSED (WH-1) GAS FIRED WATER HEATER HTP, MODEL PHOENIX PH199 -119.

12 - PROPOSED (WH-2) ELECTRIC WATER HEATER BRADFORD WHITE, MODEL RE250LN6.

13 - PROPOSED EXPANSION TANK.

14 - PROPOSED (RP-1) HOT WATER RECIRCULATION PUMP IN VERTICAL POSITION.

15 - PROPOSED RECESSED ICE MAKER OUTLET BOX W/ 1/4TURN VALVE & HAMMER ARRESTER.

16 - RECESSED WASHER MACHINE OUTLET BOX W/ 1/4TURN VALVE & HAMMER ARRESTER.

17 - PROPOSED 4" CONCRETE PAD.

18 - PROPOSED 3/4" RVD/DP TO DISCHARGED INDIRECTLY ABOVE PLANTER.

19 - PROPOSED 1-1/2"∅ ADJUSTABLE HIGH FLOW ASSE 1017 APPROVED THERMOSTATIC MIXING VALVE CALEFFI, MODEL 5231 SERIES TO BE SET AT 120° MAX.

GENERAL NOTES:

1- PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPE SLEEVES THRU BEAMS AS REQUIRED. COORDINATE WITH STRUCTURAL PLANS & STRUCTURAL ENGINEER THE EXACT LOCATION OF SLEEVES BEFORE INSTALLATION.

2- ALL INDIVIDUAL SHOWER AND TUB-SHOWER COMBINATION VALVES SHALL BE BALANCED-PRESSURE, THERMOSTATIC OR COMBINATION BALANCED-PRESSURE/THERMOSTATIC VALVES THAT CONFORM TO THE REQUIREMENTS OF ASSE1016/ASME A112.1016/CSA B125.16 OR ASME A112.18.1/CSA B125.1 AND SHALL BE INSTALLED AT THE POINT OF USE. SHOWER AND TUB-SHOWER COMBINATION VALVES REQUIRED BY THIS SECTION SHALL BE EQUIPPED WITH A MEANS TO LIMIT THE MAXIMUM SETTING OF THE VALVE TO 120°F, WHICH SHALL BE FIELD ADJUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. IN-LINE THERMOSTATIC VALVES SHALL NOT BE UTILIZED FOR COMPLIANCE WITH THIS SECTION.

3- ALL BATHTUBS AND WHIRLPOOL BATHTUBS WATER SERVICE TO BE LIMITED TO A MAXIMUM TEMPERATURE OF 120°F BY A WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3. EXCEPT WHERE SUCH PROTECTION IS OTHERWISE PROVIDED BY A COMBINATION TUB/SHOWER VALVE (THAT CONFORMS TO ASSE 1016).

4- HAND-HELD SHOWERS SHALL CONFORM TO ASME A112.18.1/CSA B125.1. HAND-HELD SHOWERS SHALL PROVIDE BACKFLOW PROTECTION IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1 OR SHALL BE PROTECTED AGAINST BACKFLOW BY A DEVICE COMPLYING WITH ASME A112.18.3.

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
agd@agdmi.com
developers@agdmiami.com

R&D ENGINEERS

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdengineers.com
silvi-ca@rdengineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No. 2025.512
DRAWN BY Author
CHECKED BY Checker
SCALE AS NOTED
R&D ENGINEERS REGISTRY No. 37312
SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86737 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:07:31 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

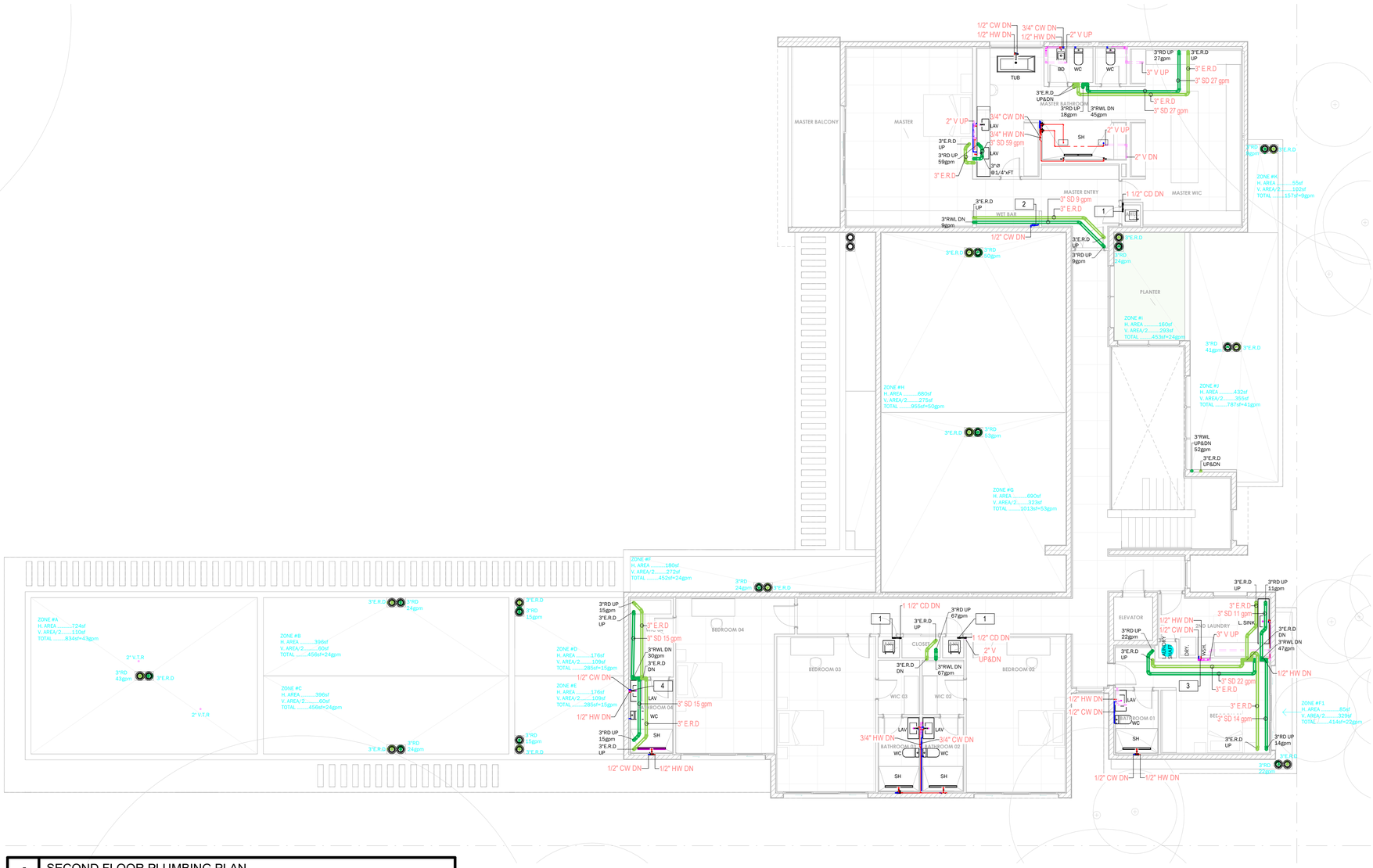
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-5

FIRST FLOOR PLUMBING PLAN , DOMESTIC WATER AND GAS



1 SECOND FLOOR PLUMBING PLAN
SCALE: 1/8" = 1'-0"

PLUMBING LEGEND

1 - 1" CD & TRAP

2 - PROPOSED DUAL CHECK VALVE BFP WATTS LF7R.

3 - RECESSED WASHER MACHINE OUTLET BOX W/ 1/4TURN VALVE & HAMMER ARRESTER.

4 - A.A.V (AIR ADMITTANCE VALVE).

OVERFLOW SCUPPER SCHEDULE CALCULATIONS (ROOF DRAINAGE LEVEL 2).					
AREAS (BY ZONES)	CAPACITY (gpm)	TOTAL ROOF TO DRAIN (gpm)	DRAIN SIZE PER FBC-P 1106.2	SCUPPER SIZE MINIMUM REQUIRED FBC-P 1106.2, 1106.5, 1108.3 &1101.7.	PROPOSED SCUPPER SIZE
ZONE #A	43	43	3"Ø	OVERFLOW SCUPPERS NOT REQUIRED. (EMERGENCY ROOF DRAINS ARE BEING PROPOSED)	
ZONE #B	24	43	3"Ø		
ZONE #C	24	43	3"Ø		
ZONE #D	15	43	3"Ø		
ZONE #E	15	43	3"Ø		
ZONE #F	24	43	3"Ø		
ZONE #F-1	22	22	3"Ø		
ZONE #G	53	43	3"Ø		
ZONE #H	50	43	3"Ø		
ZONE #i	24	43	3"Ø		
ZONE #J	41	43	3"Ø		
ZONE #K	9	43	3"Ø		

GENERAL NOTES:

1- PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL PIPE SLEEVES THRU BEAMS AS REQUIRED. COORDINATE WITH STRUCTURAL PLANS & STRUCTURAL ENGINEER THE EXACT LOCATION OF SLEEVES BEFORE INSTALLATION.

2- ALL INDIVIDUAL SHOWER AND TUB-SHOWER COMBINATION VALVES SHALL BE BALANCED-PRESSURE, THERMOSTATIC OR COMBINATION BALANCED-PRESSURE/THERMOSTATIC VALVES THAT CONFORM TO THE REQUIREMENTS OF ASSE1016/ASME A112.1016/CSA B125.16 OR ASME A112.18.1/CSA B125.1 AND SHALL BE INSTALLED AT THE POINT OF USE. SHOWER AND TUB-SHOWER COMBINATION VALVES REQUIRED BY THIS SECTION SHALL BE EQUIPPED WITH A MEANS TO LIMIT THE MAXIMUM SETTING OF THE VALVE TO 120°F, WHICH SHALL BE FIELD ADJUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. IN-LINE THERMOSTATIC VALVES SHALL NOT BE UTILIZED FOR COMPLIANCE WITH THIS SECTION.

3- ALL BATHTUBS AND WHIRLPOOL BATHTUBS WATER SERVICE TO BE LIMITED TO A MAXIMUM TEMPERATURE OF 120°F BY A WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3. EXCEPT WHERE SUCH PROTECTION IS OTHERWISE PROVIDED BY A COMBINATION TUB/SHOWER VALVE (THAT CONFORMS TO ASSE 1016).

4- HAND-HELD SHOWERS SHALL CONFORM TO ASME A112.18.1/CSA B125.1. HAND-HELD SHOWERS SHALL PROVIDE BACKFLOW PROTECTION IN ACCORDANCE WITH ASME A112.18.1/CSA B125.1 OR SHALL BE PROTECTED AGAINST BACKFLOW BY A DEVICE COMPLYING WITH ASME A112.18.3.

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
igp@mikarch.com
developers@agdmiami.com

R&D ENGINEERS

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdengineers.com
silvi-ca@rdengineers.com

NEW SINGLE FAMILY RESIDENCE
AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No. 2025.512
DRAWN BY IG
CHECKED BY ARP
SCALE AS NOTED
R&D ENGINEERS REGISTRY No. 37312
SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSED No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:07:46 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

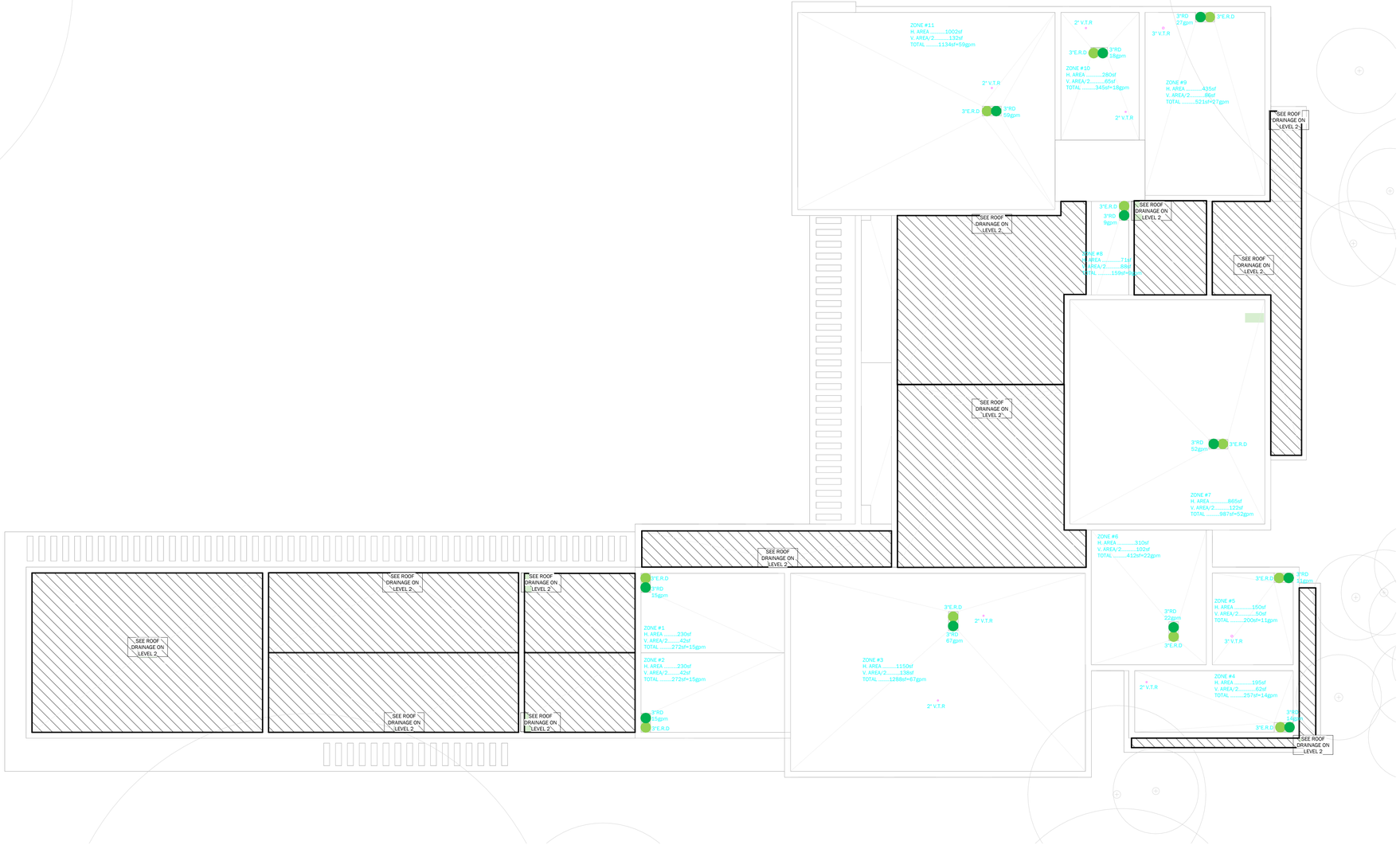
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-000 FOR DETAILS

SHEET No.

P-6

SECOND FLOOR PLUMBING PLAN



1 ROOF PLUMBING PLAN
SCALE: 1/8" = 1'-0"

OVERFLOW SCUPPER SCHEDULE CALCULATIONS (ROOF DRAINAGE LEVEL ROOF).					
AREAS	CAPACITY (gpm)	TOTAL ROOF TO DRAIN (gpm)	DRAIN SIZE PER FBC-P 1106.2	SCUPPER SIZE MINIMUM REQUIRED FBC-P 1106.2, 1106.5, 1108.3 &1101.7.	PROPOSED SCUPPER SIZE
ZONE #1	15	15	3"Ø	OVERFLOW SCUPPERS NOT REQUIRED. (EMERGENCY ROOF DRAINS ARE BEING PROPOSED)	
ZONE #2	15	15	3"Ø		
ZONE #3	67	67	3"Ø		
ZONE #4	14	14	3"Ø		
ZONE #5	11	11	3"Ø		
ZONE #6	22	22	3"Ø		
ZONE #7	52	52	3"Ø		
ZONE #8	9	9	3"Ø		
ZONE #9	27	27	3"Ø		
ZONE #10	18	18	3"Ø		
ZONE #11	59	59	3"Ø		

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
agdmiami.com
developers@agdmiami.com

R&D ENGINEERS, LLC

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdeng.com
alm-ca@rd-engineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES		
	APRIL 2025	1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:07:57 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

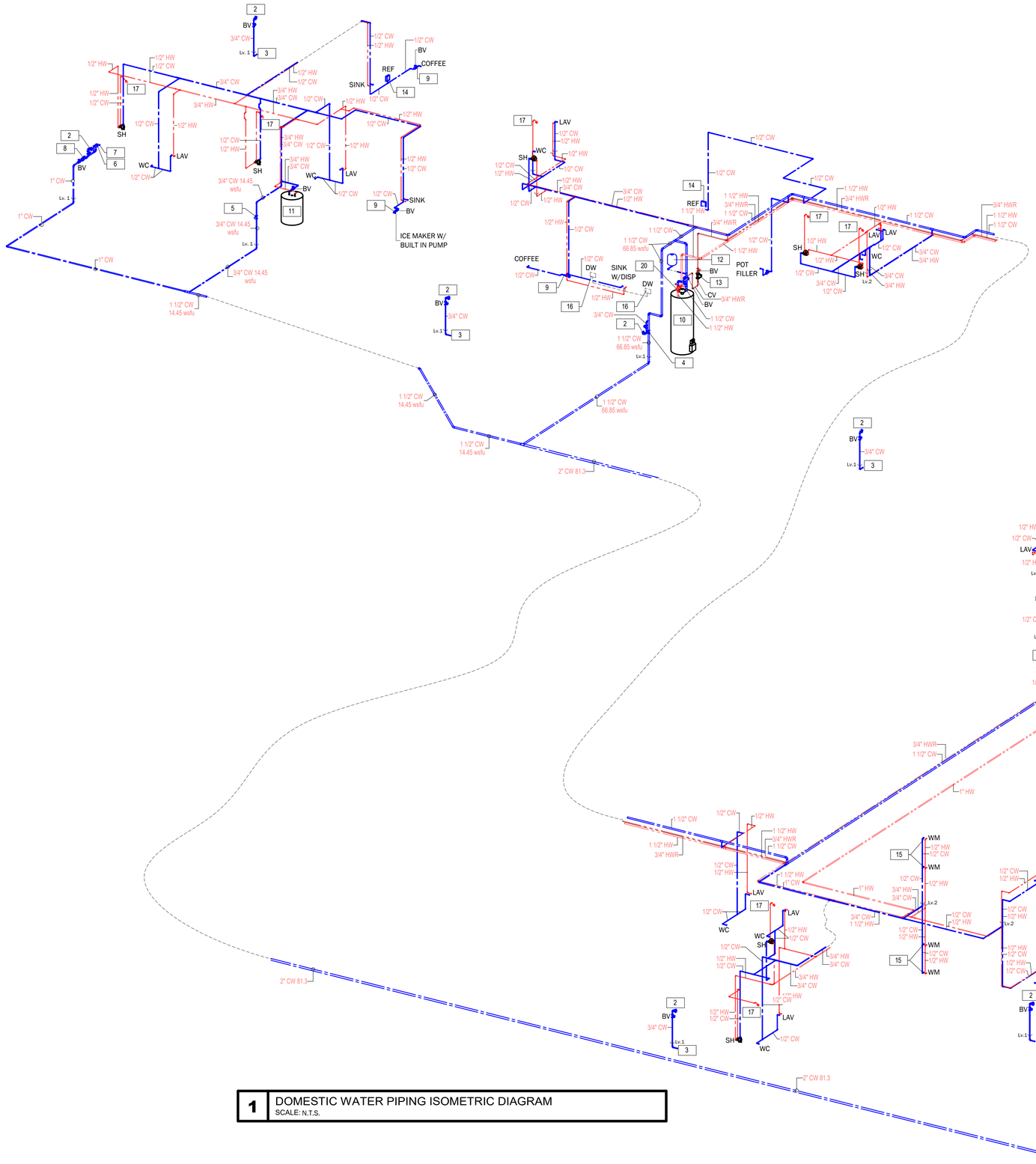
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-7

ROOF PLUMBING PLAN



DRAWING KEY NOTE:

1	- FOR CONTINUATION SEE SITE PLAN ON P-2.
2	- 3/4"Ø HOSE BIBB CONNECTION WITH VACUUM BREAKER.
3	- PROPOSED 3/4"CW TO IRRIGATION WATER LINE. COORDINATE WITH IRRIGATION DWGS. (CONNECTION SHALL BE AFTER B.F.P. & BEFORE IRRIGATION MAIN CONTROL VALVE).
4	- PROPOSED 1-1/2"Ø MAIN HOUSE DOMESTIC WATER SHUT-OFF VALVE IN VERTICAL POSITION.
5	- PROPOSED 3/4"Ø GUEST HOUSE DOMESTIC WATER SHUT-OFF VALVE IN VERTICAL POSITION.
6	- PROPOSED 1"Ø DOMESTIC WATER SHUT-OFF VALVE AND CAP-OFF FOR POOL CONTRACTOR.
7	- PROPOSED 1"CW W/ CAP-OFF FOR AUTOMATIC POOL FILLER.
8	- PROPOSED 1"Ø BACKFLOW PREVENTER.
9	- PROPOSED DUAL CHECK VALVE BFP WATTS LF7R.
10	- PROPOSED (WH-1) GAS FIRED WATER HEATER HTP, MODEL PHOENIX PH199 -119.
11	- PROPOSED (WH-2) ELECTRIC WATER HEATER BRADFORD WHITE, MODEL RE250LN6.
12	- PROPOSED EXPANSION TANK.
13	- PROPOSED (RP-1) HOT WATER RECIRCULATION PUMP IN VERTICAL POSITION.
14	- PROPOSED RECESSED ICE MAKER OUTLET BOX W/ 1/4TURN VALVE & HAMMER ARRESTER.
15	- RECESSED WASHER MACHINE OUTLET BOX W/ 1/4TURN VALVE & HAMMER ARRESTER.
16	- RECESSED DISHWASHER OUTLET BOX W/ 1/4TURN VALVE & HAMMER ARRESTER.
17	- SHOWER HEAD.
18	- RAIN SHOWER.
19	- HANDHELD SHOWER (WITH HOSE).
20	- PROPOSED 1-1/2"Ø ADJUSTABLE HIGH FLOW ASSE 1017 APPROVED THERMOSTATIC MIXING VALVE CALEFFI, MODEL 5231 SERIES TO BE SET AT 120° MAX.

NOTES:

- EACH SHOWER DOMESTIC WATER VALVES SHALL BE BALANCED-PRESSURE, THERMOSTATIC OR COMBINATION BALANCED-PRESSURE/THERMOSTATIC VALVES THAT CONFORM TO THE REQUIREMENTS OF ASSE1016/ASME A112.1016/CSA B125.16 OR ASME A112.18.1/CSA B125.1 AND SHALL BE INSTALLED AT THE POINT OF USE. SHOWER VALVES REQUIRED BY THIS SECTION SHALL BE EQUIPPED WITH A MEANS TO LIMIT THE MAXIMUM SETTING OF THE VALVE TO 120°F, WHICH SHALL BE FIELD ADJUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. IN-LINE THERMOSTATIC VALVES SHALL NOT BE UTILIZED FOR COMPLIANCE WITH THIS SECTION.

- ALL BATHTUB AND WHIRLPOOL BATHTUB DOMESTIC WATER VALVES SHALL BE LIMITED TO A MAXIMUM TEMPERATURE OF 120°F (49°C) BY A WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070 OR CSA B125.3 WHICH SHALL BE FIELD ADJUSTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

-HEATED WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. GRAVITY AND THERMOSYPHON CIRCULATION SYSTEMS SHALL BE PROHIBITED. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.

1 DOMESTIC WATER PIPING ISOMETRIC DIAGRAM
SCALE: N.T.S.

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
iggi@mpm.com
developers@aggimpm.com

R&D ENGINEERS, LLC

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@wlink.com
alm-cad@rd-engineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:08:10 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

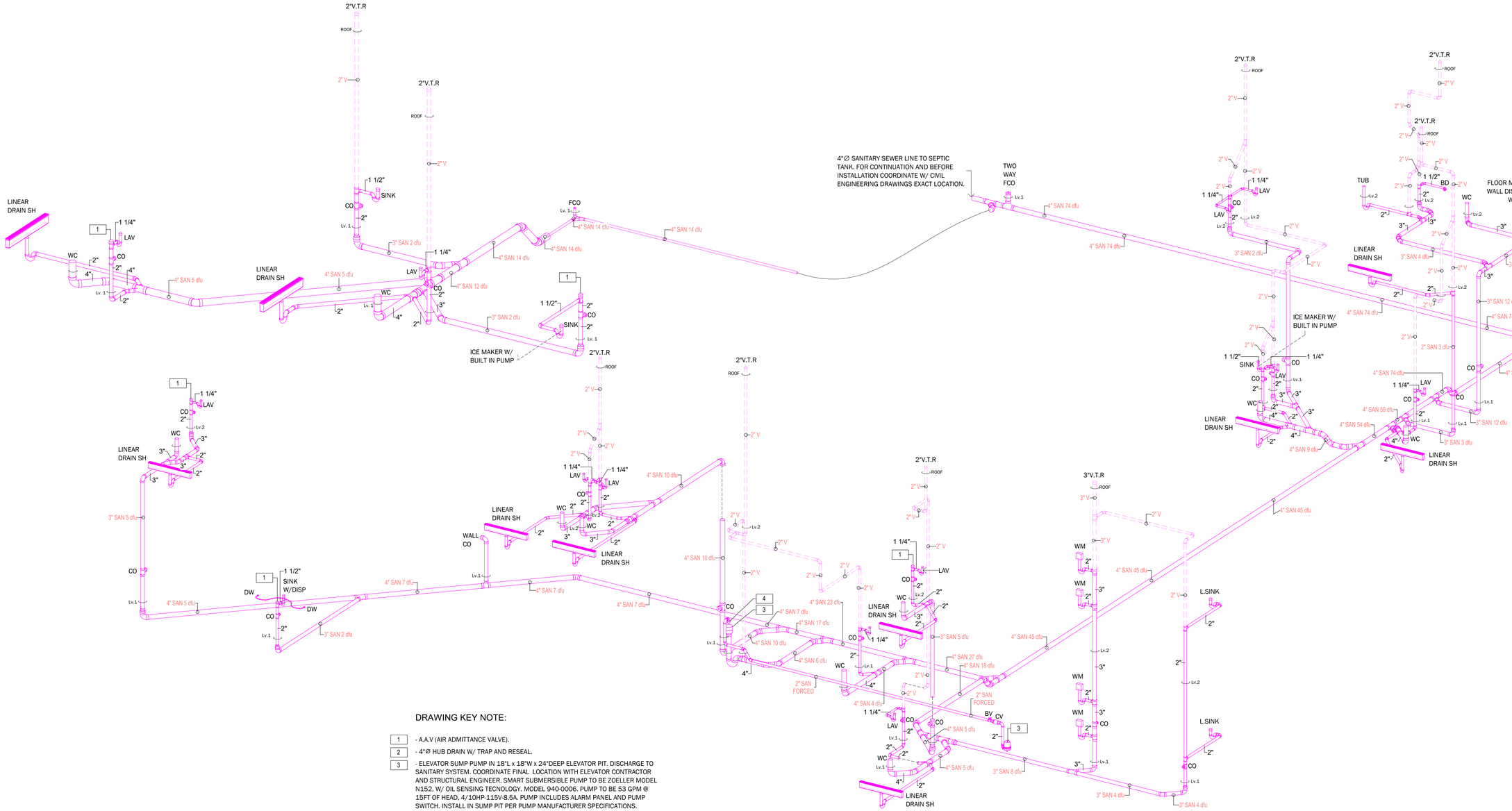
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE COPYRIGHTED. THEY SHALL NOT BE REPRODUCED, PUBLISHED OR USED FOR ANY PURPOSE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-8

PLUMBING ISOMETRICS



DRAWING KEY NOTE:

1 - A.A.V (AIR ADMITTANCE VALVE).

2 - 4"Ø HUB DRAIN W/ TRAP AND RESEAL.

3 - ELEVATOR SUMP PUMP IN 18"L x 18"W x 24"DEEP ELEVATOR PIT. DISCHARGE TO SANITARY SYSTEM. COORDINATE FINAL LOCATION WITH ELEVATOR CONTRACTOR AND STRUCTURAL ENGINEER. SMART SUBMERSIBLE PUMP TO BE ZOELLER MODEL N152, W/ OIL SENSING TECNOLOGY. MODEL 940-0006. PUMP TO BE 53 GPM @ 15FT OF HEAD, 4/10HP-115V-8.5A. PUMP INCLUDES ALARM PANEL AND PUMP SWITCH. INSTALL IN SUMP PIT PER PUMP MANUFACTURER SPECIFICATIONS.

4 - 2"Ø SANITARY FORCED PIPE TO DISCHARGE INDIRECTLY ABOVE HUB DRAIN.

1 SANITARY WASTE PIPING ISOMETRIC DIAGRAM
SCALE: N.T.S.

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786 708 0880
hello@mikarch.com

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
agdmiami.com
developers@agdmiami.com

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-engineers.com
orivas@rdengineers.com

NEW SINGLE FAMILY RESIDENCE
AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86737 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:08:22 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS.

SHEET No.

P-9

PLUMBING ISOMETRICS

1 MAIN REGULATOR AND DISTRIBUTION PIPING SYSTEM SIZING

FUEL TYPE: UNDILUTED PROPANE (SP=1.5)
DELIVERY PRESSURE: 2psi
PRESSURE DROP: 1.0psi
TOTAL CONNECTED LOAD =>

EMERGENCY GENERATOR	=	400 MBH
POOL HEATER	=	350 MBH
B.B.Q.	=	78 MBH
RANGE	=	96 MBH
WH-1	=	199 MBH
TOTAL	=	1,123 MBH

TOTAL DEVELOPED LENGTH = MAX. 150ft. (MOST REMOTE FIXTURE)

PIPING MATERIAL:

-SCH. 40 BLACK STEEL PIPE ASTM A53M (FOR ABOVE GROUND INSTALLATION)
PRESSURE DROP = 1.0psi PER FBC 2023 FUEL GAS TABLE 402.4(27).
- ASTM D2513. MEDIUM DENSITY POLYETHYLENE (MDPE) PLASTIC PIPE (FOR BELOW GROUND INSTALLATION)
PRESSURE DROP = 1.0psi PER FBC 2023 FUEL GAS TABLE 402.4(36).

2 2ND. STAGE REGULATOR #1

-FUEL TYPE: UNDILUTED PROPANE (SG=1.5)
-PIPE MATERIAL: SCH 40 BLACK STEEL PIPE WITH THREADED FITTINGS ABOVE GROUND.
-DELIVERY PRESSURE = LESS THAN 2 PSI (11 in.w.c.)
-DISTANCE TO MOST REMOTE OUTLET (PIPE LENGTH) = 20 FT
-TOTAL SYSTEM LOAD = 295 MBH (1 RANGE + 1 WATER HEATER)
-MAX. PRESSURE AT APPLIANCE ALLOWED/REQUIRED = 14iwc
-TOTAL PRESSURE DROP = 0.5 in.w.c. MAX. PER FBC 2023 FUEL GAS TABLE 402.4(28).

3 2ND. STAGE REGULATOR #2

-FUEL TYPE: UNDILUTED PROPANE (SG=1.5)
-PIPE MATERIAL: SCH 40 BLACK STEEL PIPE WITH THREADED FITTINGS ABOVE GROUND.
-DELIVERY PRESSURE = LESS THAN 2 PSI (11 in.w.c.)
-DISTANCE TO MOST REMOTE OUTLET (PIPE LENGTH) = 5 FT
-TOTAL SYSTEM LOAD = 78 MBH (1 B.B.Q)
-MAX. PRESSURE AT APPLIANCE ALLOWED/REQUIRED = 14iwc
-TOTAL PRESSURE DROP = 0.5 in.w.c. MAX. PER FBC 2023 FUEL GAS TABLE 402.4(28).

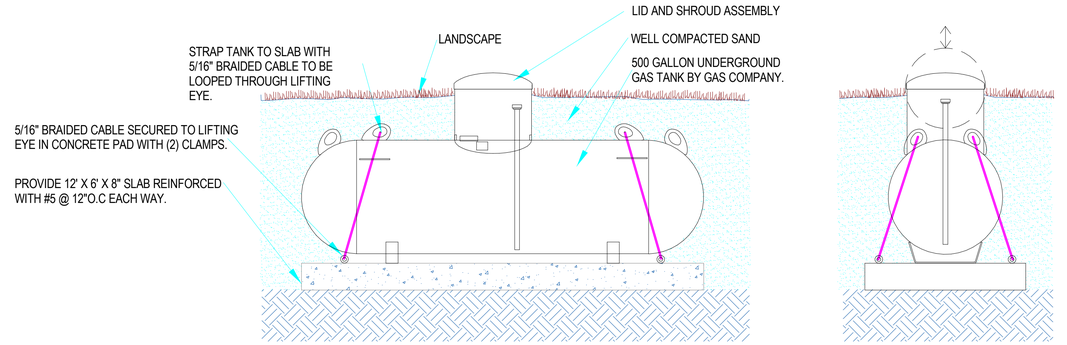
4 2ND. STAGE REGULATOR #3

-FUEL TYPE: UNDILUTED PROPANE (SG=1.5)
-PIPE MATERIAL: SCH 40 BLACK STEEL PIPE WITH THREADED FITTINGS ABOVE GROUND.
-DELIVERY PRESSURE = LESS THAN 2 PSI (11 in.w.c.)
-DISTANCE TO MOST REMOTE OUTLET (PIPE LENGTH) = 5 FT
-TOTAL SYSTEM LOAD = 350 MBH (1 POOL HEATER)
-MAX. PRESSURE AT APPLIANCE ALLOWED/REQUIRED = 14iwc
-TOTAL PRESSURE DROP = 0.5 in.w.c. MAX. PER FBC 2023 FUEL GAS TABLE 402.4(28).

5 2ND. STAGE REGULATOR #4

-FUEL TYPE: UNDILUTED PROPANE (SG=1.5)
-PIPE MATERIAL: SCH 40 BLACK STEEL PIPE WITH THREADED FITTINGS ABOVE GROUND.
-DELIVERY PRESSURE = LESS THAN 2 PSI (11 in.w.c.)
-DISTANCE TO MOST REMOTE OUTLET (PIPE LENGTH) = 5 FT
-TOTAL SYSTEM LOAD = 400 MBH (1 EMERGENCY GENERATOR)
-MAX. PRESSURE AT APPLIANCE ALLOWED/REQUIRED = 14iwc
-TOTAL PRESSURE DROP = 0.5 in.w.c. MAX. PER FBC 2023 FUEL GAS TABLE 402.4(28).

(RED) FIRST STAGE REGULATOR
POSITION REGULATOR AS HIGH
AS POSSIBLE INSIDE COVER.



TANK SIZE	- 500 GAL.
TANK DIMENSIONS	- 9'-10" x 37" DIAMETER
WEIGHT (APPROX.)	- 950 POUNDS.
HOLE DIMENSIONS	- 12' L x 5' W x 5' DEEP
BELOW THE TANK-ALL SIZES PRIOR TO BACK-FILLING	- 6" OF SAND IN THE BOTTOM OF THE HOLE. - ONE 17LB. ANODE BAG CONNECTED TO TANK. PLACE AT LEAST 2' AWAY FROM TANK AND LOW IN THE HOLE. POUR 1 GALLON OF WATER ON BAG AND IMMEDIATELY COVER WITH SAND.
BACK-FILL	- ONCE TANK IS PLACE AND INSPECTED BY THE LOCAL AHJ, IF REQUIRED, BACK-FILL THE ENTIRE HOLE WITH SAND. GRADE DOWNWARD AND AWAY FROM HOUSING DOME. THIS PREVENTS WATER FROM COLLECTING AND RUNNING INTO OR STANDING AROUND THE HOUSING DOME. TOUCH UP ANY SCRATCHES OR MARKS ON TANKS OR LIFTING LUGS WITH PROPER COATING MATERIALS BEFORE BACK-FILLING.

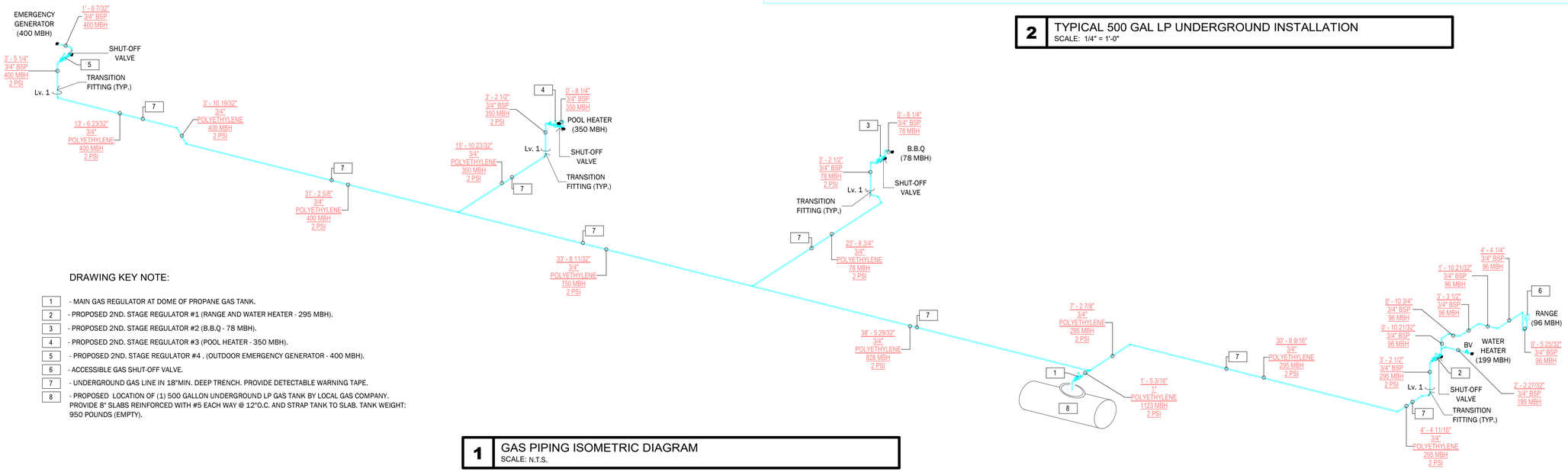
MAGNESIUM ANODE BAGS ARE TO BE LOCATED AT OR BELOW THE BOTTOM LEVEL OF THE TANK AND 2'- 5' FROM THE SIDE OF THE TANK.

CATHODIC PROTECTION REGULATIONS AND PRINCIPLES

NFPA 58 REQUIRES THE PROTECTING OF UNDERGROUND TANKS IN ACCORDANCE WITH GOOD ENGINEERING PRACTICE.

CATHODIC PROTECTION IS THE ACCEPTED METHOD OF PROTECTING UNDERGROUND METAL STRUCTURES. TANKS SHOULD BE PROTECTED BY INSTALLING MAGNESIUM ANODE BAGS TO TANK ANODE BRACKET OR LIFTING LUG BY CADWELD METHOD OR BY CONNECTING WIRE DIRECTLY TO ANODE LEAD PROVIDED BY TANK MANUFACTURER. THEY SHOULD BE COATED COMPLETELY AND ISOLATED ELECTRICALLY WITH THE INSTALLATION OF INSULATED UNIONS.

2 TYPICAL 500 GAL LP UNDERGROUND INSTALLATION
SCALE: 1/4" = 1'-0"



DRAWING KEY NOTE:

1 - MAIN GAS REGULATOR AT DOME OF PROPANE GAS TANK.
2 - PROPOSED 2ND. STAGE REGULATOR #1 (RANGE AND WATER HEATER - 295 MBH).
3 - PROPOSED 2ND. STAGE REGULATOR #2 (B.B.Q - 78 MBH).
4 - PROPOSED 2ND. STAGE REGULATOR #3 (POOL HEATER - 350 MBH).
5 - PROPOSED 2ND. STAGE REGULATOR #4 . (OUTDOOR EMERGENCY GENERATOR - 400 MBH).
6 - ACCESSIBLE GAS SHUT-OFF VALVE.
7 - UNDERGROUND GAS LINE IN 18"MIN. DEEP TRENCH. PROVIDE DETECTABLE WARNING TAPE.
8 - PROPOSED LOCATION OF (1) 500 GALLON UNDERGROUND LP GAS TANK BY LOCAL GAS COMPANY. PROVIDE 8" SLABS REINFORCED WITH #5 EACH WAY @ 12"O.C. AND STRAP TANK TO SLAB. TANK WEIGHT: 950 POUNDS (EMPTY).

1 GAS PIPING ISOMETRIC DIAGRAM
SCALE: N.T.S.

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
iggi@mikm.com
developers@aggimiami.com

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdengineers.com
adv-da@rdengineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:08:34 -04'00'
ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

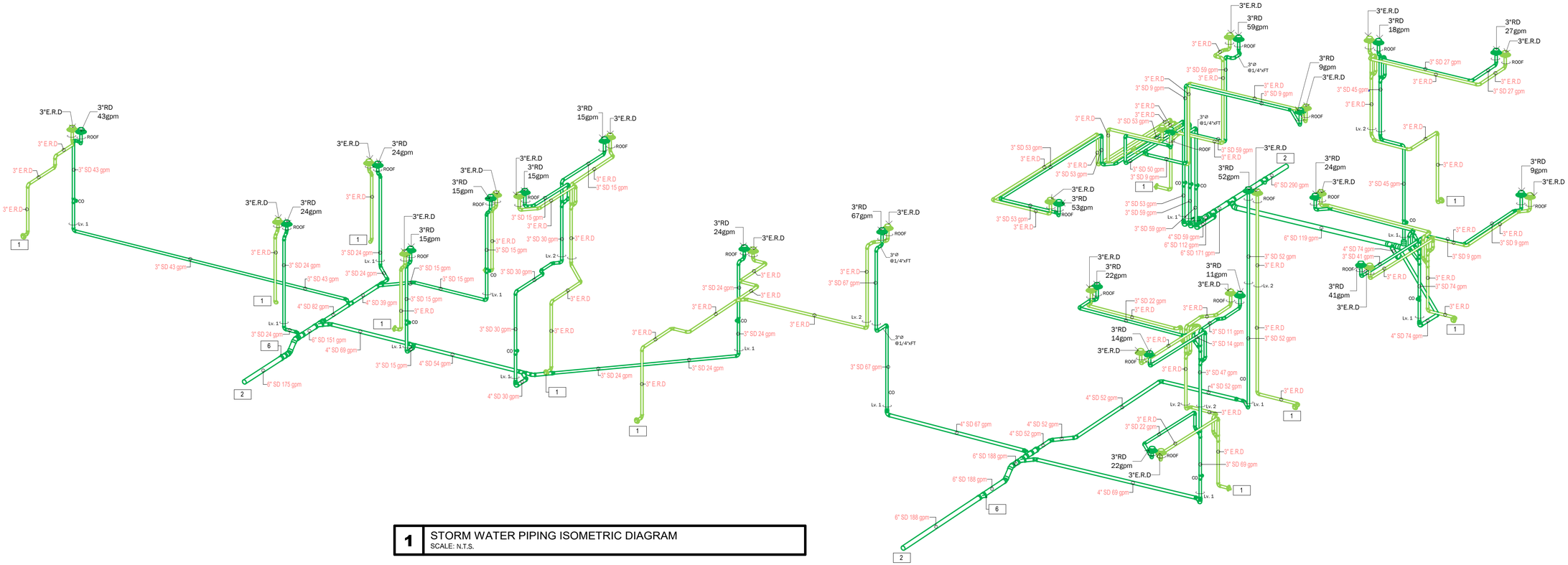
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

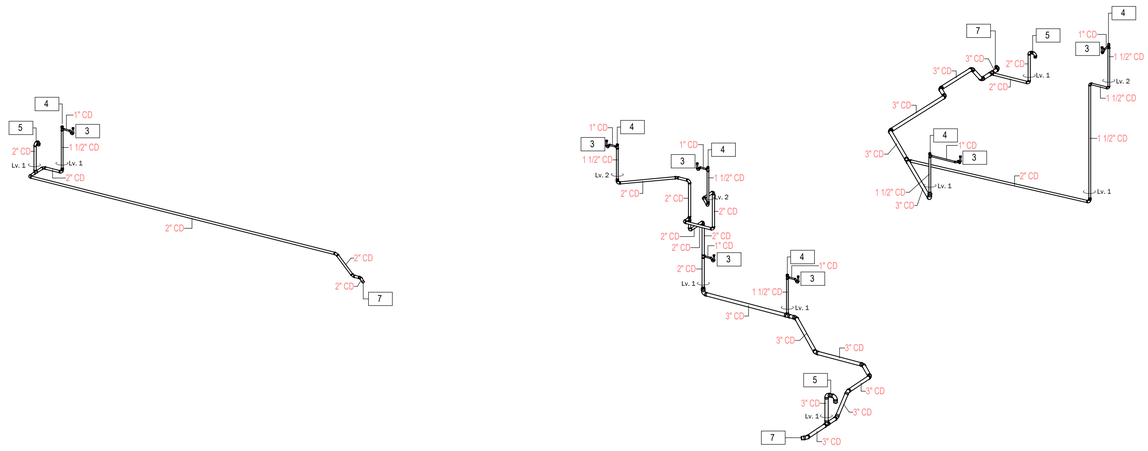
SHEET No.

P-10

PLUMBING ISOMETRICS



1 STORM WATER PIPING ISOMETRIC DIAGRAM
SCALE: N.T.S.



2 CONDENSATE DRAINAGE ISOMETRIC DIAGRAM
SCALE: N.T.S.

DRAWING KEY NOTE:

1 - 3"Ø DOWNSPOUT NOZZLE TO DISCHARGE 6" ABOVE FINISH GRADE OUTSIDE THE RESIDENCE.
2 - 6"Ø STORM WATER LINE. FOR CONTINUATION AND BEFORE INSTALLATION COORDINATE W/ CIVIL ENGINEERING DRAWINGS EXACT LOCATION.
3 - 1" CD & TRAP.
4 - PERFORATED CAP-OFF.
5 - CD RELIEF PIPE (GOOSE NECK W/BUG SCREEN) TYP.
6 - 3"Ø CONDENSATE DRAIN LINE. FOR CONTINUATION SEE STORM WATER ISOMETRIC.
7 - 6"Ø STORM WATER LINE. FOR CONTINUATION SEE CONDENSATE DRAINAGE ISOMETRIC.

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786 708 0880
hello@mikarch.com

AGD

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
agdmiami.com
developers@agdmiami.com

R&D ENGINEERS, LLC

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-engineers.com
arivas@rdengineers.com

NEW SINGLE FAMILY RESIDENCE
AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO
LICENSE
No. 86717
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:08:51 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

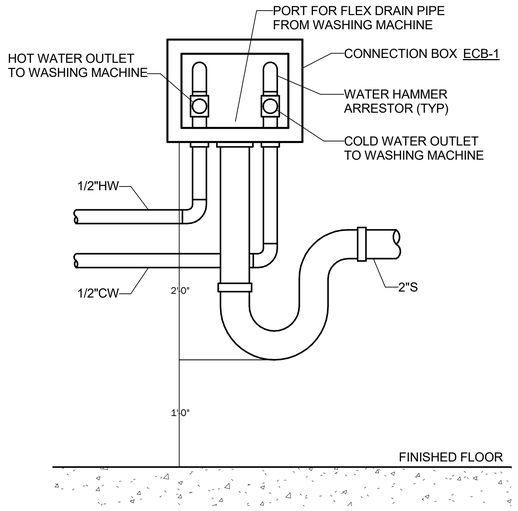
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS.

SHEET No.

P-11

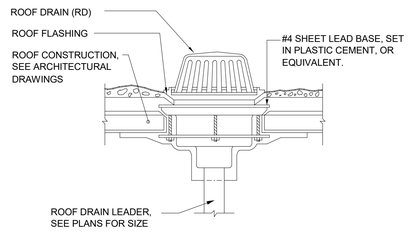
PLUMBING ISOMETRICS



1 WASHING MACHINE BOX
NOT TO SCALE

NOTES

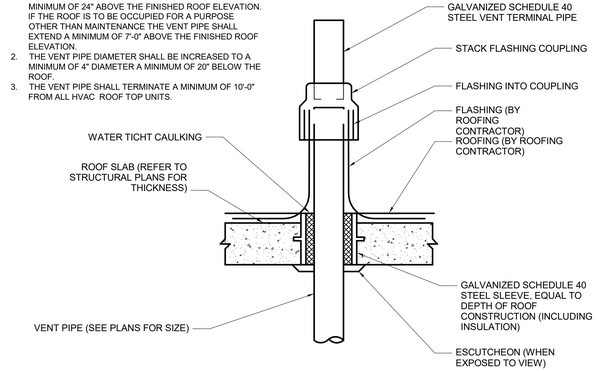
1. LOCATE ROOF DRAINS AT LOWE POINTS OF ROOF, AS SHOWN ON PLAN.
2. ALL ROOF FLASHING WORK AND MATERIALS ARE THE RESPONSIBILITY OF THE ROOFING CONTRACTOR.
3. ROOFING CONTRACTOR MAY USE AN ALTERNATE FLASHING ARRANGEMENT PROVIDED IT HAS BEEN SUBMITTED TO AND APPROVED BY THE ARCHITECT.



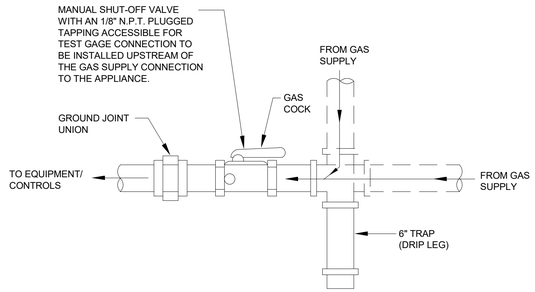
2 ROOF DRAIN DETAIL
NOT TO SCALE

NOTES:

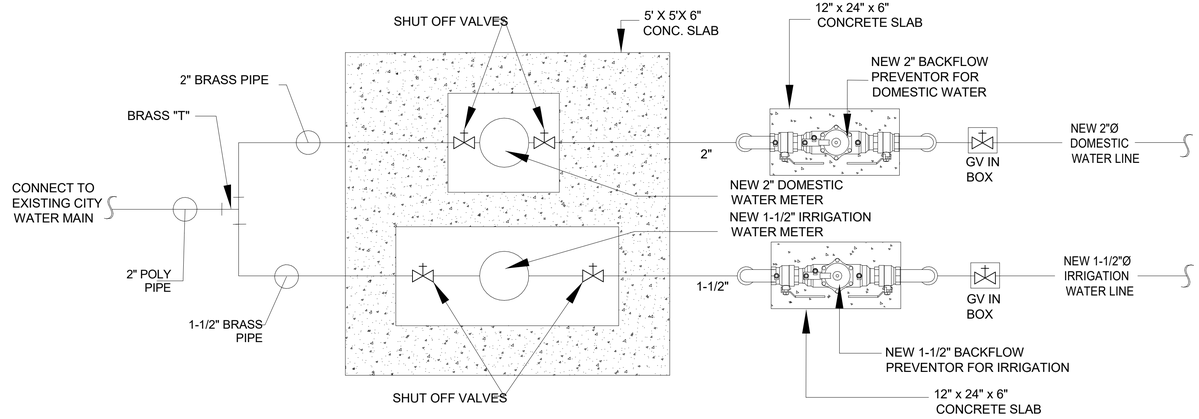
1. THE HEIGHT OF THE VENT PIPE SHALL EXTEND A MINIMUM OF 24" ABOVE THE FINISHED ROOF ELEVATION. IF THE ROOF IS TO BE OCCUPIED FOR A PURPOSE OTHER THAN MAINTENANCE THE VENT PIPE SHALL EXTEND A MINIMUM OF 7'-0" ABOVE THE FINISHED ROOF ELEVATION.
2. THE VENT PIPE DIAMETER SHALL BE INCREASED TO A MINIMUM OF 4" DIAMETER A MINIMUM OF 20" BELOW THE ROOF.
3. THE VENT PIPE SHALL TERMINATE A MINIMUM OF 10'-0" FROM ALL HVAC ROOF TOP UNITS.



3 VENT THROUGH FLAT ROOF DETAIL
NOT TO SCALE



4 GAS CONNECTION TO EQUIPMENT DETAIL
NOT TO SCALE



5 DOMESTIC AND IRRIGATION WATER METER DETAIL
NOT TO SCALE

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
iig@mijmi.com
developers@agdmiami.com

R&D ENGINEERS, LLC

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdengineers.com
silvia.rd@rdengineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES		
	APRIL 2025	1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86716 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:09:43 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

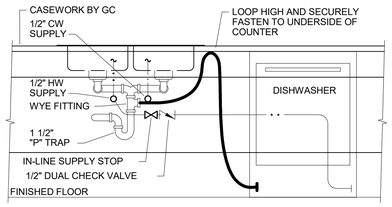
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

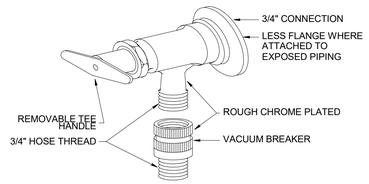
SHEET No.

P-12

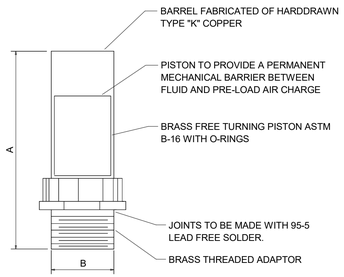
PLUMBING DETAILS



1 RESIDENTIAL DISHWASHER CONNECTION SCHEMATIC DETAIL
NOT TO SCALE



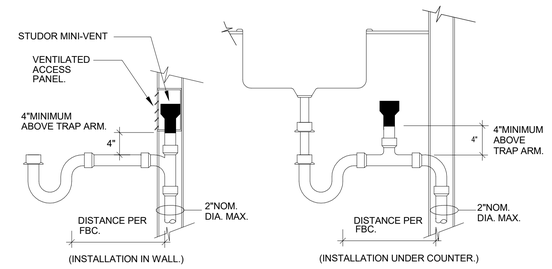
2 HOSE BIB DETAIL
NOT TO SCALE



PPP SIZE	P.D.I. SYMBOL	FIXTURE UNIT RATINGS	A SIZE	B SIZE
1/2"	A	1 - 11	5"	1/2"
3/4"	B	12 - 32	5"	3/4"
1"	C	33 - 60	7"	1"
1-1/4"	D	61 - 113	7"	1-1/4"
1-1/2"	E	114 - 154	9"	1-1/2"
2"	F	155 - 330	9"	2"

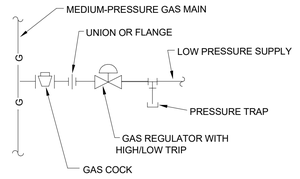
NOTE: SEE WATER RISER DIAGRAMS FOR LOCATIONS OF SHOCK ABSORBERS.

3 WATER SHOCK ARRESTOR DETAIL
NOT TO SCALE



4 AIR ADMITANCE VALVE DETAIL
NOT TO SCALE

5 GAS FIRED WATER HEATER SPECIFICATION
NOT TO SCALE



6 MEDIUM TO LOW PRESSURE GAS REGULATOR
NOT TO SCALE

MIK ARCHITECTURE
MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
agd@mjmi.com
developers@agdmjmi.com

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdengineers.com
silvia@rdengineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:09:58 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

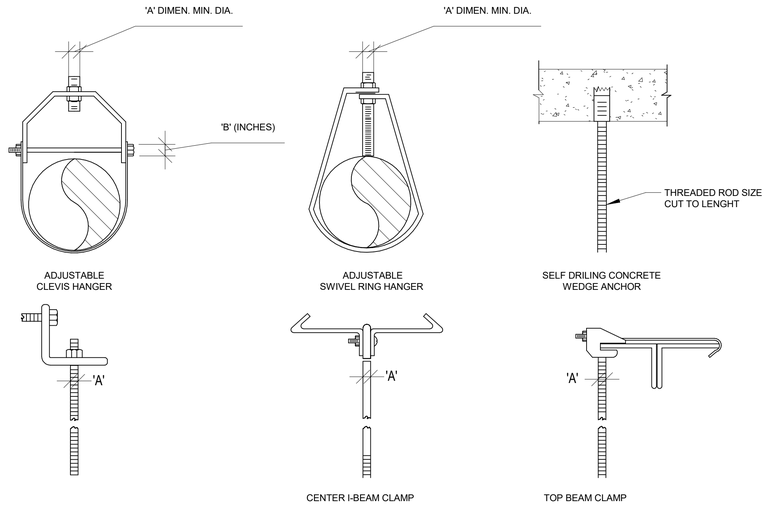
THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-13

PLUMBING DETAILS



ADJUSTABLE CLEVIS HANGER

ADJUSTABLE SWIVEL RING HANGER

SELF DRILING CONCRETE WEDGE ANCHOR

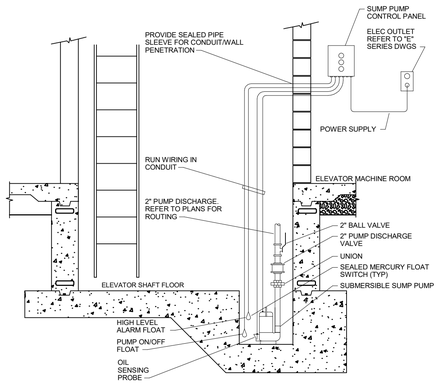
CENTER I-BEAM CLAMP

TOP BEAM CLAMP

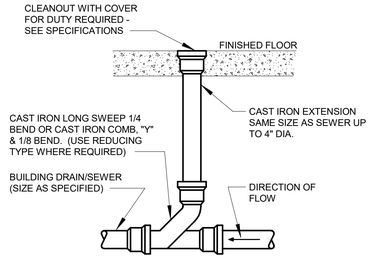
PIPE SIZE	A	B	PIPE SIZE	A	B
2.54 cm [1"]	.95 cm [3/8"]	.32 cm [1/8"]	10.16 cm [4"]	.95 cm [3/8"]	.63 cm [1/4"]
3.17 cm [1-1/4"]	.95 cm [3/8"]	.32 cm [1/8"]	15.24 cm [6"]	1.27 cm [1/2"]	.63 cm [1/4"]
3.81 cm [1-1/2"]	.95 cm [3/8"]	.32 cm [1/8"]	20.32 cm [8"]	1.27 cm [1/2"]	.63 cm [1/4"]
5.08 cm [2"]	.95 cm [3/8"]	.63 cm [1/4"]	25.4 cm [10"]	1.58 cm [5/8"]	.63 cm [1/4"]
6.35 cm [2-1/2"]	.95 cm [3/8"]	.63 cm [1/4"]	30.48 cm [10"]	1.58 cm [5/8"]	.63 cm [1/4"]
7.62 cm [3"]	.95 cm [3/8"]	.63 cm [1/4"]			

HANGER SPACING:
1. STEEL PIPE: MAXIMUM 12 FT. SPACING.
2. PROVIDE PIPE CLAMP AT EACH FLOOR FOR RISERS PENETRATING FLOOR.

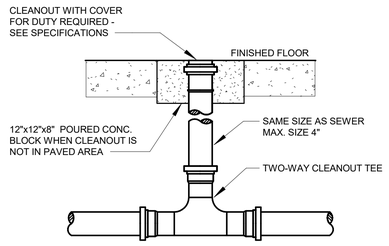
1 HANGER ROD SCHEDULE
NOT TO SCALE



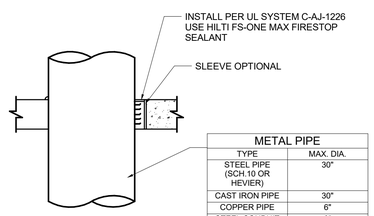
8 ELEVATOR SHAFT SUMP PUMP DETAIL
NOT TO SCALE



2 ONE-WAY FLOOR CLEANOUT DETAIL
NOT TO SCALE

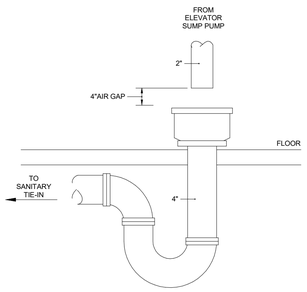


4 TWO-WAY FLOOR CLEANOUT DETAIL
NOT TO SCALE

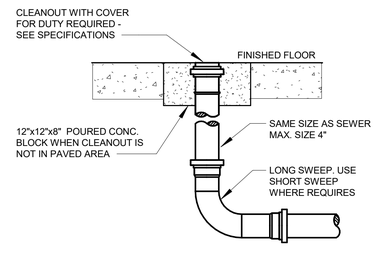


METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH.10 OR HEVIER)	30"
CAST IRON PIPE	30"
COPPER PIPE	6"
STEEL CONDUIT	6"
EMT	4"

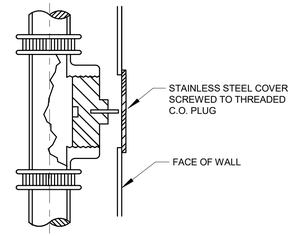
6 METAL PIPE THROUGH CONCRETE FLOOR
NOT TO SCALE



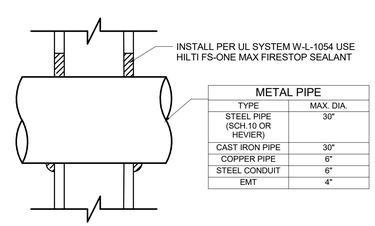
9 HUB DRAIN FOR ELEVATOR PUMP DISCH
NOT TO SCALE



3 FLOOR CLEANOUT DETAIL
NOT TO SCALE

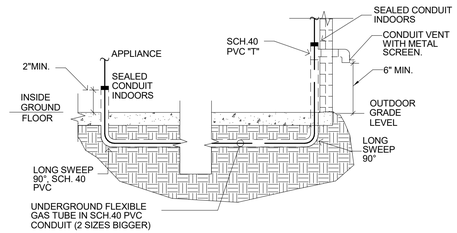


5 WALL CLEANOUT DETAIL
NOT TO SCALE



METAL PIPE	
TYPE	MAX. DIA.
STEEL PIPE (SCH.10 OR HEVIER)	30"
CAST IRON PIPE	30"
COPPER PIPE	6"
STEEL CONDUIT	6"
EMT	4"

7 METAL PIPE THROUGH GYPSUM WALL
NOT TO SCALE



10 GAS PIPING INSIDE CONDUIT UNDER SLAB DETAIL
NOT TO SCALE

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
igg@mipm.com
developers@aggmiami.com

R&D ENGINEERS

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdengineers.com
silvi-ca@rdengineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No. 2025.512
DRAWN BY IG
CHECKED BY ARP
SCALE AS NOTED
R&D ENGINEERS REGISTRY No. 37312
SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:10:12 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-14

PLUMBING DETAILS

MINIMUM FLOW PER FIXTURE AT PEAK DEMAND

MARK	TYPE OF FIXTURE	FLOW RATE (GPM)	FLOW PRESSURE (PSI)
SINK	SINK	1.5	8
L	LAVATORY	0.8	8
SH	SHOWER	1.5	8
TUB	BATHTUB	2.5	8
WC	WATER CLOSET	1.28	20
WM	WASHING MACHINE	4	8
DW	DISHWASHER	2.75	8

MAXIMUM FLOW PER FIXTURE

TYPE OF FIXTURE	MAXIMUM FLOW RATE
SINK	1.5 GPM @ 60 PSI
LAVATORY	1.5 GPM @ 60 PSI
SHOWER / BATHTUB	1.5 GPM @ 80 PSI
WATER CLOSET	1.28 GALLONS PER FLUSH
WASHING MACHINE	WATER FACTOR 8 OR LOWER
DISHWASHER	6 GALLONS PER CYCLE

WATER HEATER SCHEDULE

MARK	MANUFACTURER	MODEL NUMBER	TANK	CAPACITY	POWER (KW)	UEF	VOLTS	PHASE	REMARKS
WH-1	HTP	PHOENIX PH199 -119	YES	119 GAL	-	0.96	120	1	
WH-2	BRADFORD WHITE	RE250LN6	YES	47 GAL	5.5	0.92	240	1	

PLUMBING SPECIALTIES SCHEDULE

TYPE MARK	FIXTURE TYPE	COMPONENT	MANUFACTURER	MODEL NUMBER	DESCRIPTION
FD-1	SHOWER DRAIN		JR SMITH	2005Y-B06NB-P	FLOOR DRAIN, CI BODY & SQARE 6" NB ADJUSTABLE STRAINER
HB-1	HOSE BIBB	FAUCET	GRAINGER	103-004NL	PROVIDE VACUUM BREAKER ZURB BFP-9 AND SHUT-OFF VALVE ON VERTICAL SUPPLY
RD-1	ROOF DRAIN	-	JR SMITH	1010-C-E-R	ROOF DRAIN WITH UNDERDECK CLAMP
RD-2	OVERFLOW ROOF DRAIN	-	JR SMITH	1080-C-E-R	ROOF DRAIN WITH UNDERDECK CLAMP, 2" EXTERNAL DAM
ON-1	OVERFLOW NOZZLE	-	JR SMITH	1770	OVERFLOW NOZZLE. CAST BRONZE

DRAINAGE FIXTURE UNITS SCHEDULE

MARK	TYPE OF FIXTURE	DFU	CONNECTION SIZE		COMMENTS
			DRAIN	VENT	
SINK	SINK/BAR SINK	2	1-1/2"	2"	
LAV	LAVATORY	1	1-1/4"	2"	
SH	SHOWER	2	2"	2"	
TUB	BATHTUB	2	2"	2"	
WC	WATER CLOSET	4	3"	2"	
DW	DISHWASHER	-	-	-	6 GP CYCLE
WM	WASHING MACHINE	2	2"	2"	8 GP CYCLE PER CUBIF FT. CAPAC.
BD	BIDET	1	1-1/2"	2"	

NOTE: PLUMBING FIXTURE CONNECTION SIZES SHOWING FOR CONVENIENCE ONLY. PLUMBING CONTRACTOR TO CONFIRM FINAL PLUMBING FIXTURE CONNECTION SIZES WITH PLUMBING FIXTURE MANUFACTURER'S REQUIREMENTS. ALL FIXTURES SHALL COMPLY WITH MIAMI-DADE WATER-USE EFFICIENCY REQUIREMENTS.

WATER FIXTURE UNITS SCHEDULE

MARK	TYPE OF FIXTURE	FIXTURE UNITS			CONNECTION SIZE		COMMENTS
		CW	HW	TOTAL	CW	HW	
SINK	SINK/LAUNDRY SINK	1	1	1.4	1/2 "	1/2 "	
L	LAVATORY	0.5	0.5	0.7	1/2 "	1/2 "	
SH	SHOWER	1	1	1.4	1/2 "	1/2 "	
TUB	BATHTUB	1	1	1.4	1/2 "	1/2 "	
WC	WATER CLOSET	2.2	-	2.2	1/2 "	-	
DW	DISHWASHER	-	1.4	1.4	-	1/2 "	
HB	HOSE BIBB	-	-	-	3/4 "	-	VACUUM BREAKER & VALVE IN THE VERTICAL
BD	BIDET	1.5	1.5	2.0	1/2"	1/2 "	

NOTE: PLUMBING FIXTURE CONNECTION SIZES SHOWING FOR CONVENIENCE ONLY. PLUMBING CONTRACTOR TO CONFIRM FINAL PLUMBING FIXTURE CONNECTION SIZES WITH PLUMBING FIXTURE MANUFACTURER'S REQUIREMENTS. ALL FIXTURES SHALL COMPLY WITH MIAMI-DADE WATER-USE EFFICIENCY REQUIREMENTS. PROVIDE SHOCK ABSORBERS ON ALL QUICK CLOSING VALVES

SUMP PUMP SCHEDULE

MARK	HEAD (FT)	FLOW (GPM)	MOTOR HP	VOLT/PHASE	MANUF.	MODEL	DESCRIPTION
ESP-1	15	53	4/10	115 / 1	ZOELLER	940-0006 & 10-1528	NON-AUTOMATIC N152 HARD WIRED BACK TO OIL SMART SIMPLEX PANEL (10-1528). PUMP CORD TO BE SO JACKETED FOR OIL

HOT WATER RETURN PUMP SCHEDULE

MARK	MANUFACTURER	MODEL	GPM@HEAD	ELECTRICAL			DESCRIPTION
				HP	VOLT	PHASE	
RP-1	ARMSTRONG	ASTRO EXPRESS 2	2@5.5'	1/25	115	1	PROVIDE WITH ARMSTRONG ASTRO EXPRESS LF VALVE

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786.708.0880
hello@mikarch.com

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
iggi@mjmi.com
developers@iggimjmi.com

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-eng@rdengineers.com
alm-cad@rdengineers.com

NEW SINGLE FAMILY RESIDENCE

AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES
APRIL 2025 1ST ISSUED

R&D Project No. 2025.512
DRAWN BY IG
CHECKED BY ARP
SCALE AS NOTED
R&D ENGINEERS REGISTRY No. 37312

SEAL

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:10:25 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-15

PLUMBING SCHEDULES

PART I - GENERAL

1. APPLICABLE STANDARDS, CODES AND PUBLICATIONS

1.A. THIS ENTIRE INSTALLATION SHALL BE TESTED AND INSTALLED TO CONFORM, AS A MINIMUM, TO APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS EXCEPT WHERE STRICTER REQUIREMENTS ARE SPECIFIED ELSEWHERE HEREIN OR SHOWN ON THE CONTRACT DRAWINGS:

1.A.1. FLORIDA BUILDING CODE (2023 EDITION)

1.A.2. FLORIDA PLUMBING CODE (2023 EDITION).

2. REQUIREMENTS

2.A. THE PLUMBING CONTRACTOR SHALL BE A LICENSED INSTALLER OF PLUMBING SYSTEMS IN THE STATE OF FLORIDA.

2.B. UPON REVIEW OF PLUMBING DRAWINGS PRIOR TO SUBMITTING HIS PROPOSAL, THE PLUMBING CONTRACTOR SHALL INFORM ARCHITECT AND/OR ENGINEER OF ANY DISCREPANCIES OR REQUEST CLARIFICATION IN WRITING, IF NECESSARY, CONCERNING THE INTENT OF THE PLANS AND SPECIFICATIONS TO PROVIDE A COMPLETE PLUMBING INSTALLATION. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS SHOULD SUCH PROCEDURE NOT BE FOLLOWED.

2.C. THE ARCHITECT'S SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.

2.D. THE SCHEDULING OF THE PLUMBING WORK SHALL BE COORDINATED WITH THE BUILDING OWNER, WITH OTHER CONTRACTORS AND WITH THE CLIENT.

2.E. WORK IN CEILING OF TENANT SPACE ON FLOOR BELOW MUST TAKE PLACE BEFORE OR AFTER TENANT'S NORMAL BUSINESS HOURS AND SHALL BE CONSIDERED OVERTIME WORK. ALL CEILINGS DAMAGED MUST BE RESTORED TO ORIGINAL CONDITION.

3. WORK INCLUDED

3.A. ALL REQUIRED LABOR, MATERIALS AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE SAFE INSTALLATION OF PLUMBING WORK IN FULL CONFORMITY WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION: ALL AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED, INCLUDING THE FOLLOWING:

3.A.1. SANITARY DRAINAGE AND VENT PIPING.

3.A.2. DOMESTIC WATER SUPPLY PIPING, CONNECTIONS TO PLUMBING FIXTURES AND EQUIPMENT.

3.A.3. PLUMBING FIXTURES

3.A.4. INSULATION.

3.A.5. CUTTING AND PATCHING.

3.A.6. GAS PIPING

4. COORDINATION

4.A. COORDINATE WITH OTHER TRADES AS NECESSARY TO FACILITATE TIMELY COMPLETION AND AVOID NECESSITY FOR CUTTING AND PATCHING.

4.B. FURNISH TO OTHER AFFECTED TRADES ALL NECESSARY INFORMATION, WORKING DRAWINGS OR MATERIALS REQUIRED FOR INSTALLATION AND COMPLETION OF ALL WORK.

4.C. COORDINATE THE WORK OF ALL SUBMITTALS FOR THE PURPOSE OF INSURING THAT NO CONFLICT EXISTS WITH THE INSTALLATIONS TO BE MADE BY OTHER ENTITIES, WITH FIELD CONDITIONS AND THE INTENDED OPERATION INCLUDING THE CAPABILITY OF PERFORMING ROUTINE AND MAJOR MAINTENANCE OF ALL COMPONENTS OF THE INSTALLATIONS.

4.D. RISER SHUT-DOWNS SHALL BE PERFORMED AT TENANT'S COST AND AT DESIGNATED TIMES UNDER BUILDING MANAGER'S SUPERVISION AND ONLY WITH HIS APPROVAL. THE CONTRACTOR SHALL NOTIFY THE BUILDING MANAGER 48 HOURS PRIOR TO SHUT-DOWN OF ANY BUILDING SERVICE.

4.E. EXAMINE ALL DRAWINGS COVERING THE WORK OF THIS SECTION AND REFER TO ALL OTHER DRAWINGS, INCLUDING ARCHITECTURAL, MECHANICAL, FIRE PROTECTION, FIRE ALARM AND ELECTRICAL DRAWINGS, WHICH MAY AFFECT THE WORK OF THIS SECTION OR REQUIRE COORDINATION BY SAME.

4.F. BEFORE STARTING ANY WORK THOROUGHLY CHECK DRAWINGS, DIMENSIONS, SPECIFICATIONS, AND ADJOINING OR UNDERLYING CONDITIONS IN WHICH THE WORK OF THIS SECTION IS TO BE PERFORMED.

4.G. REPORT, IN WRITING, TO THE ARCHITECT ANY AND ALL CONDITIONS WHICH MAY INTERFERE WITH OR OTHERWISE AFFECT OR PREVENT THE PROPER EXECUTION AND COMPLETION OF THE WORK OF THIS SECTION. DO NOT COMMENCE WORK UNTIL ANY AND ALL SUCH CONDITIONS HAVE BEEN CORRECTED BY THE TRADE OR TRADES RESPONSIBLE.

4.H. FAILURE TO NOTIFY THE ARCHITECT OF UNSATISFACTORY CONDITIONS WILL BE CONSTRUED AS AN ACCEPTANCE OF ALL CONDITIONS.

4.I. THE EXECUTION OF THE WORK OF THIS SECTION CONSTITUTES ACCEPTANCE OF THE BASE OR ADJOINING WORK AND OTHER CONDITIONS AS BEING SATISFACTORY IN EVERY RESPECT AND LATER CLAIMS OF DEFECTS IN SUCH CASES WILL NOT BE ALLOWED.

4.J. THE DRAWINGS INDICATE AND THE SPECIFICATIONS DESCRIBE THE GENERAL ARRANGEMENT AND THE APPROXIMATE LOCATION OF EQUIPMENT, FIXTURES, PIPING, ETC. EXACT LOCATIONS MAY BE ADJUSTED IN THE FIELD TO SUIT FIELD CONDITIONS.

4.K. THE CONTRACTOR SHALL, WITHOUT EXTRA COST TO THE OWNER, MAKE ALL REASONABLE MODIFICATIONS IN THE WORK AS MAY BE REQUIRED TO PREVENT CONFLICT WITH THE WORK OF OTHER TRADES, OR FOR THE PROPER INSTALLATION OF THE WORK.

5. SUBMITTALS

5.A. GENERAL

5.A.1. CATALOG CUTS SHALL BE REFERENCED TO THE SPECIFICATIONS SECTION AND LOCATION WHERE THE ITEM IS TO BE USED.

5.A.2. INCLUDE ON EACH LAYOUT WORKING DRAWING, A CERTIFICATION THAT ALL RELATED CONDITIONS HAVE BEEN CHECKED WITH ALL TRADES, AND THAT NO CONFLICT EXISTS. WORKING DRAWING SUBMISSIONS WILL NOT BE APPROVED WITHOUT SUCH CERTIFICATION.

5.A.3. SUBMIT TO THE ENGINEER, FOR APPROVAL, A LIST OF ALL MATERIAL AND EQUIPMENT MANUFACTURERS WHOSE PRODUCTS ARE PROPOSED, INCLUDING ALL DELIVERY DATES.

5.A.4. MAKE ALL SUBMITTALS SUFFICIENTLY IN ADVANCE OF FIELD REQUIREMENTS TO ALLOW AMPLE TIME FOR CHECKING. NO CLAIM FOR EXTENSION OF TIME WILL BE GRANTED BY REASON OF FAILURE IN THIS RESPECT AND NO WORK IN THE FIELD MAY BE STARTED WITHOUT APPROVED SHOP DRAWINGS AND THE ENGINEER'S APPROVAL.

5.A.5. APPROVAL OF ANY SUBMITTAL SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF FURNISHING MATERIALS AND SYSTEMS OF PROPER DIMENSIONS, CAPACITIES, SIZES, QUANTITIES, QUALITY AND INSTALLATION DETAILS, TO EFFICIENTLY PERFORM THE REQUIREMENTS AND INTENT OF THE CONTRACT DOCUMENTS. SUCH APPROVAL SHALL NOT RELIEVE THIS CONTRACTOR FROM THE RESPONSIBILITY FOR ERRORS IN SUBMITTALS.

5.A.6. IF THE SUBMITTALS DIFFER FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, MAKE SPECIFIC MENTION OF SUCH DIFFERENCE IN LETTERS OF TRANSMITTAL, WITH A REQUEST FOR SUBSTITUTION, TOGETHER WITH REASONS THEREFORE, SO THAT, IF ACCEPTABLE, SUITABLE ACTION MAY BE TAKEN FOR PROPER ADJUSTMENT. FAILING THIS, THE CONTRACTOR WILL NOT BE RELIEVED OF THE RESPONSIBILITY FOR EXECUTING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

5.B. WORKING DRAWINGS

5.B.1. PIPING LOCATION LAYOUTS, INCLUDING METHOD AND LOCATION OF SUPPORTS

5.B.2. EQUIPMENT LOCATION DETAILS

5.C. CATALOG CUTS AND BROCHURES

5.C.1. PLUMBING FIXTURES AND EQUIPMENT

5.C.2. PIPE AND FITTINGS

5.C.3. HANGERS AND SUPPORTS

5.C.4. SLEEVES AND ESCUTCHEONS

5.C.5. VALVES

5.C.6. SYSTEM IDENTIFICATION BANDS

5.C.7. INSULATION

5.C.8. FIXTURES AND TRIM

5.C.9. WATER HEATERS

5.C.10. PUMPS

5.D. AS BUILT DRAWINGS

5.D.1. FURNISH TO THE ENGINEER A REPRODUCIBLE COPY OF EACH APPLICABLE CONTRACT DRAWING NEATLY MARKED UP INDICATING THE ACTUAL FINAL INSTALLATION INCLUDING ALL DEVIATIONS OR REVISIONS NOT SHOWN ON THE ISSUED SET.

5.D.2. THE CONTRACTOR MUST PROVIDE `AS BUILT' DRAWINGS TO BUILDING MANAGEMENT AT COMPLETION OF WORK.

6. MATERIALS, DELIVERY, STORAGE AND HANDLING

6.A. DELIVER MATERIALS IN MANUFACTURER'S ORIGINAL UNOPENED PROTECTIVE PACKAGING.

6.B. STORE MATERIALS IN ORIGINAL PACKAGING IN A MANNER TO PREVENT SOILING, PHYSICAL DAMAGE, WETTING OR CORROSION PRIOR TO INSTALLATION.

6.C. HANDLE IN A MANNER TO PREVENT DAMAGE TO FINISHED SURFACES. WHERE POSSIBLE, MAINTAIN PROTECTIVE COVERINGS UNTIL INSTALLATION IS COMPLETE AND REMOVE SUCH COVERS AS PART OF FINAL CLEAN-UP.

6.D. TOUCH-UP ANY DAMAGE TO FINISHES TO MATCH ADJACENT SURFACES TO SATISFACTION OF ENGINEER.

7. BUILDING DEPARTMENT FILING, PERMITS, AND CERTIFICATES

7.A. THE PLUMBING CONTRACTOR SHALL FILE ALL REQUIRED DRAWINGS AND SPECIFICATIONS WITH THE BUILDING DEPARTMENT AND BE RESPONSIBLE FOR OBTAINING FINAL APPROVAL.

8. CLEANING

8.A. ALL PIPING, FIXTURES, EQUIPMENT, ETC., INSTALLED UNDER THIS CONTRACT SHALL BE THOROUGHLY CLEANED AND PROTECTED DURING CONSTRUCTION AND PUT INTO FIRST-CLASS OPERATING CONDITION BEFORE BEING OFFERED FOR ACCEPTANCE.

8.B. UPON COMPLETION OF ALL WORK, THE PLUMBING CONTRACTOR SHALL THOROUGHLY CLEAN ALL PLUMBING FIXTURES, SINKS AND TRIM AND LEAVE ALL ITEMS READY FOR USE BY THE OWNER. ALL FLOOR DRAINS SHALL BE CLEANED AND MANUFACTURERS PROTECTIVE COVERINGS SHALL BE REMOVED.

9. LAWS, ORDINANCES, ETC.

9.A. THE WORK OF THIS CONTRACTOR MUST COMPLY WITH ALL LOCAL LAWS, ORDINANCES AND RULES. THIS CONTRACTOR MUST HAVE THE NECESSARY INSPECTIONS MADE BY THESE AUTHORITIES, PAY ALL THE REQUIRED FEES, AND FURNISH THE OWNER WITH CERTIFICATES OF APPROVAL BEFORE FINAL PAYMENT ON THIS CONTRACT IS MADE. HE SHALL APPLY, PAY FOR, AND OBTAIN ALL PERMITS.

10. SUPERVISION

10.A. THIS CONTRACTOR SHALL HAVE A COMPETENT FOREMAN IN RESPONSIBLE CHARGE OF THE WORK WHO SHALL BE ON THE SITE DURING THE INSTALLATION OF THE MATERIAL, FIXTURES AND EQUIPMENT FURNISHED UNDER THIS SPECIFICATION UNTIL SAME HAS BEEN PUT IN COMPLETE OPERATIVE CONDITION AND ACCEPTED BY THE OWNER.

11. GUARANTEE

11.A. THIS CONTRACTOR SHALL GUARANTEE FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE BY THE OWNERS, ALL MATERIALS, APPARATUS AND WORKMANSHIP WHETHER FURNISHED BY HIMSELF OR BY HIS SUBCONTRACTORS AND HE SHALL REPLACE OR REPAIR IN A MANNER APPROVED BY THE ARCHITECTS, WITHOUT COST TO THE OWNER, ANY PARTS OR PARTS OF THE WORK WHICH MAY PROVE DEFECTIVE OR UNSATISFACTORY WITHIN THE PERIOD OF THE GUARANTEE.

11.B. WHERE SPECIAL GUARANTEES COVERING INSTALLATION, OPERATION OR PERFORMANCE OF ANY SYSTEMS OR APPLIANCES FURNISHED UNDER THIS CONTRACTOR ARE REQUIRED, THE FULL RESPONSIBILITY FOR THE FULFILLMENT OF SUCH GUARANTEES MUST BE ASSUMED BY THE CONTRACTOR, WHO SHALL OBTAIN WRITTEN GUARANTEES, IN TRIPLICATE, WHICH SHALL BE FILED WITH THE ARCHITECT BEFORE FINAL ACCEPTANCE.

11.C. CONTRACTOR WILL BE RESPONSIBLE FOR ALL LEAKS IN ALL PIPES FOR A PERIOD OF ONE YEAR FROM THE DATE OF COMPLETION OF WORK UNDER THIS CONTRACT. CONTRACTOR SHALL REPAIR AT NO COST TO THE OWNER, ALL SUCH LEAKS WHICH OCCUR AFTER COMPLETION OF THIS CONTRACT UPON 24 HOURS NOTICE THEREOF BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR. LEAKS WHICH OCCUR PRIOR TO THE COMPLETION OF THIS CONTRACT SHALL BE REPAIRED AT ONCE. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED BY SUCH LEAKS AND THE REPAIR THEREOF AND WILL REIMBURSE THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR FOR ALL EXPENSE INCURRED THEREBY.

11.D. DISINFECTION: THE POTABLE WATER SYSTEM SHALL BE DISINFECTED PRIOR TO USE BY A METHOD OF DISINFECTION IN ACCORDANCE WITH THE FLORIDA BUILDING CODE. THE POTABLE WATER PURITY TEST RESULT FROM A FLORIDA CERTIFIED TESTER SHALL BE SUBMITTED FOR ENGINEER'S REVIEW AND APPROVAL.

PART 2 - MATERIALS

1. GENERAL

1.A. THE PLUMBING SYSTEM SHALL BE COMPLETE WITH ALL PIPE, FITTINGS, VALVES, DRAINAGE SYSTEM, VALVES, HANGERS AND SUPPORTS, ALSO MISCELLANEOUS WORK ITEMS, SUCH AS, SIGNS AS REQUIRED, VALVE TAGS, ETC., AND ALL OTHER RELATED EQUIPMENT, APPARATUS, AND MATERIAL ITEMS NECESSARY FOR COMPLETE, SATISFACTORY OPERATING AND APPROVED TYPE SYSTEM.

1.B. ALL PIPE FITTINGS, VALVES, FIXTURES. HANGERS, SUPPORTS, INSULATION, ETC., SHALL CONFORM TO THE FLORIDA BUILDING CODE REQUIREMENTS AS TO TYPES OF MATERIALS, ARRANGEMENT, SIZES, AND INSTALLATION.

1.C. MANUFACTURER'S NAME AND NUMBERS ARE USED TO IDENTIFY THE TYPE AND QUALITY OF PRODUCTS REQUIRED, HOWEVER, PRODUCTS OF OTHER MANUFACTURERS WHICH ARE SIMILAR AND EQUAL MAY BE SUBMITTED FOR APPROVAL.

2. PIPE SUPPORTS AND HANGERS

2.A. INSTALL SUITABLE AND SUBSTANTIAL PIPE HANGERS (ADJUSTABLE HEAVY CLEVIS TYPE), SUPPORTS, GUIDES AND ANCHORS ADEQUATE TO SUPPORT AND GUIDE THE PIPING, ALLOW FOR FORCES IMPOSED BY EXPANSION JOINTS, SATISFY STRUCTURAL REQUIREMENTS AND MAINTAIN PROPER CLEARANCES WITH RESPECT TO ADJACENT PIPING, EQUIPMENT AND STRUCTURES.

2.B. KEEP THE TYPES OF HANGERS TO A MINIMUM AND PROVIDE HANGERS THAT ARE NEAT, WITHOUT COMPLICATED BOLTING AND WITH THE NUMBER OF PARTS OF EACH HANGER AND ITS ANCHOR KEPT TO A MINIMUM.

2.C. HANGERS SHALL BE SUSPENDED FROM BEAM CLAMPS, BRACKETS, FISH PLATES, INSERTS OR OTHER APPROVED MEANS. FURNISH AND INSTALL ANY ADDITIONAL MISCELLANEOUS STEEL SUPPORTS BETWEEN BUILDING FRAMING MEMBERS AS MAY BE REQUIRED.

2.D. SUPPORT MAIN VERTICAL PIPING ON EVERY FLOOR WITH STEEL RISER CLAMPS. ADDITIONAL INTERMEDIATE SUPPORT BRACKETS, SECURED TO STRUCTURE, SHALL BE INSTALLED ON PIPING UTILIZING GASKET COUPLING JOINTS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

2.E. COPPER PLATE ALL HANGERS THAT WILL BE IN DIRECT CONTACT WITH BRASS OR COPPER PIPING.

2.F. HANGERS, ANCHORS, GUIDES AND SUPPORTS SHALL BE MANUFACTURED BY ANVIL CO., F & S CENTRAL IRON, FEE AND MASON, BLAW-KNOX CO., OR ANOTHER APPROVED PIPE HANGER SPECIALIST AND SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 6 OF ANSI B31.1, "CODE FOR PRESSURE PIPING"., AND SPACED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE.

2.G. BASE HANGER LOADS ON WEIGHT OF PIPE OR EQUIPMENT SUPPORTED, WEIGHT OF INSULATION COVERING, WEIGHT OF FLUID BEING TRANSPORTED WHICHEVER IS HEAVIER.

2.H. INSTALL PROTECTIVE SADDLES FOR INSULATED PIPING.

2.I. WHEN LOADS BETWEEN SUPPORTS CAN BE EXPECTED TO CAUSE A SAG IN THE PIPE IN EXCESS OF 1/4" REDUCE SPACING AS NECESSARY TO STAY WITHIN SUCH LIMIT.

2.J. ALL HANGERS, RODS, BEAM CLAMPS, ETC. SHALL BE GALVANIZED, EXCEPT THAT ALL EXTERIOR HANGERS OR AREAS WHICH ARE OPEN TO THE EXTERIOR SHALL BE STAINLESS STEEL.

2.K. UNLESS OTHERWISE SPECIFICALLY APPROVED, HANGER ROD SIZE AND SPACING SHALL BE WITHIN THE FOLLOWING LIMITS:

2.K.1. COPPER PIPING 1/2" TO 1-1/4" TO BE SUPPORTED EVERY 6 FT. O.C.

2.K.2. COPPER PIPING 1-1/2" TO 2" TO BE SUPPORTED EVERY 8 FT. O.C.

2.K.3. ALL CAST IRON PIPE TO BE SUPPORTED EVERY 5 FT. O.C.

2.K.4. THE ROD SIZE FOR THESE PIPES IS 3/8".

3. PIPING

3.A. INSTALL PIPING AS INDICATED ON THE CONTRACT DRAWINGS AND AS DIRECTED DURING INSTALLATION, STRAIGHT AND DIRECT AS POSSIBLE, FORMING RIGHT ANGLES OR PARALLEL LINES WITH BUILDING WALLS, NEATLY SPACED, RISERS PLUMB AND TRUE, AND AVOID INTERFERENCE WITH OTHER CONSTRUCTION.

3.B. PIPING SHALL PITCH BACK TOWARD SYSTEM DRAIN VALVE AND ANY INSTALLED LOW POINTS OR POCKETS SHALL HAVE A HOSE END DRAIN VALVE.

3.C. AVOID TOOL MARKS AND UNNECESSARY PIPE THREADS. BURRS FORMED WHEN CUTTING PIPE SHALL BE REMOVED BY REAMING. BEFORE INSTALLING PIPE, THOROUGHLY CLEAN THE INSIDE FREE OF CUTTINGS AND FOREIGN MATTER. CUT ALL PIPE SQUARE AND SMOOTH; MAKE UP ALL JOINTS TO REQUIRED LIMITS.

3.D. ERECT ALL PIPING TO OBTAIN SUFFICIENT FLEXIBILITY TO PREVENT EXCESSIVE STRESSES IN MATERIALS AND EXCESSIVE BENDING MOMENTS AT JOINTS OR CONNECTIONS. INSTALL EXPANSION LOOPS, EXPANSION JOINTS AND SWING CONNECTIONS WHERE SHOWN ON THE CONTRACT DRAWINGS.

3.E. MAKE CHANGES IN PIPE SIZE BY THE USE OF REDUCING FITTINGS. DO NOT USE REDUCING BUSHINGS EXCEPT BY APPROVAL OF THE ENGINEER. DO NOT USE CLOSE OR SHOULDER NIPPLES.

3.F. ARRANGE WATER PIPING SO THAT SYSTEM CAN BE COMPLETELY DRAINED. WHERE LINES ARE PURPOSELY PITCHED FOR DRAINAGE, A UNIFORM GRADE SHALL BE MAINTAINED. LINES SHALL BE SO SUPPORTED AS TO PREVENT POCKETING OF LIQUID. NO LINES SHALL HAVE POCKETS DUE TO CHANGES IN ELEVATION.

3.G. INSTALLED PIPING SHALL NOT INTERFERE WITH THE OPERATION OR ACCESSIBILITY OF DOORS OR WINDOWS; SHALL NOT ENCROACH ON AISLES, PASSAGEWAYS AND EQUIPMENT; AND SHALL NOT INTERFERE WITH THE SERVICING OR MAINTENANCE OF ANY EQUIPMENT. ADJACENT PIPE LINES SHALL BE GROUPED IN THE SAME HORIZONTAL OR VERTICAL PLANE.

3.H. COORDINATE AS NECESSARY TO INSURE THAT ALL HANGERS, SUPPORTS, SLEEVES AND OTHER BUILT-IN DEVICES ARE INCORPORATED IN FORMS OR IN MASONRY TO AVOID NECESSITY OF CUTTING FINISHED STRUCTURE.

3.I. WATER PIPING NOT LOCATED IN RETURN PLENUM SHALL BE COPPER TUBE SIZE WITH SOLVENT WELDED FITTINGS. WATER PIPING LOCATED IN PLENUM AND STEAM PIPING SHALL BE SEAMLESS DRAWN OR EXTRUDED COPPER TUBING TYPE L NSF-61 LEAD FREE

3.J. SANITARY DRAINAGE PIPING SHALL BE DWV PVC SCHEDULE 40, ASTM D2665 & ASTM D1784 WITH PVC SOCKET FITTING ASTM 2665, VENT PATTERNS AND TOFIT SCHEDULE 40 PIPE ADHESIVE PRIMER,ASTM 656 SOLVENT CEMENT ASTMD 2564.

3.K. FOR ALL DRAINAGE PIPING RUNNING HORIZONTAL IN SPACES, DIRECTLY ABOVE PLENUM SPACE, PIPING SHALL BE SERVICE WEIGHT CAST IRON NO HUB IN ACCORDANCE WITH THE FOLLOWING SPECIFICATION AND THE STANDARDS OF THE CAST IRON PIPE INSTITUTE.

3.K.1. PIPE: CAST IRON SOIL PIPE, NO-HUB TYPE, WITH SIZE, WEIGHT PER FOOT AND MAKER'S NAME CLEARLY CAST OR STAMPED ON EACH LENGTH. PIPE SHALL BE MANUFACTURED BY A MEMBER OF THE CAST IRON SOIL PIPE INSTITUTE.

3.K.2. JOINTS: MECHANICAL JOINTS WITH STAINLESS STEEL NEOPRENE SLEEVE FOR USE WITH CAST IRON SOIL PIPE (C.I.): CAST IRON, NO-HUB TYPE, MANUFACTURED BY A MEMBER OF THE CAST IRON SOIL PIPE INSTITUTE.

4. JOINTS

4.A. THREADED JOINTS

4.A.1. SCREWED JOINTS SHALL BE MADE TIGHT WITHOUT THE USE OF WICKING. TEFLON TAPE AND/OR COMPOUND SUITABLE FOR THE TYPE OF SERVICE SHALL BE APPLIED TO MALE THREADS ONLY.

4.B. FLANGED JOINTS

4.B.1. MAKE UP SQUARE AND TIGHT WITH GASKETS 1/16" THICK FULL FLAT FACED, CUT FROM SERVICE SHEET PACKING. DIP BOLTS AND NUTS IN MIXTURE OF GRAPHITE AND OIL IMMEDIATELY PRIOR TO INSTALLATION.

4.C. SOLDER JOINTS

4.C.1. 95-5 TIN ANTIMONY LEAD FREE SOLDER COMPLIANT WITH ALL REQIREMENTS OF NSF/ANSI-61G HAVING A MELTING POINT GREATER THAN 450°F. EXCESS SOLDER SHALL BE REMOVED WHILE STILL IN A MOLTEN STATE WITH A FILLET LEFT AT THE FACE OF THE FITTING. INTERNAL PARTS OF VALVE SHALL BE REMOVED BEFORE SOLDERING.

5. SOIL, WASTE, VENT, AND LEADER

5.A. ALL SANITARY WASTE AND VENT PIPING SHALL BE DWV PVC SCHEDULE 40, ALL JOINTS AND CONNECTIONS AT THE BASE OF STACKS SHALL BE REINFORCED WITH STAINLESS STEEL BANDS, STAINLESS STEEL TIGHTENING DEVICES, AND ASTM C564 ELASTOMERIC SEALING SLEEVE.

5.B. PLENUM PIPE AND FITTINGS: CAST IRON HUBLESS SOIL PIPE, CISPI 301, SERVICE WEIGHT OR SCHEDULE 40 GALVANIZED STEEL SCREW PIPE WITH GALVANIZED THREADED CAST IRON DRAINAGE FITTINGS, WITH GALVANIZED MALLEABLE IRON FITTINGS.

5.C. JOINTS: 24 GAUGE, 304 STAINLESS STEEL COUPLINGS WITH NEOPRENE GASKETS, RATED FOR 15 PSI AND REQUIRING A MINIMUM OF 100 INCH/LBS OF TORQUE, SIMILAR TO HUSKY. CAREFULLY NOTE MANUFACTURER'S RECOMMENDATIONS REGARDING ADDITIONAL SUPPORTS REQUIRED FOR NO HUB PIPING INSTALLATIONS, AND INSTALL PIPING IN ACCORDANCE WITH THOSE STANDARDS.

5.D. ALL HUBLESS PIPES SHALL BE ANCHORED AT EACH SIDE OF JOINT AT FIVE (5) FOOT INTERVALS.

6. CONDENSATE PIPING

6.A. A/C CONDENSATE SHALL BE COPPER TYPE "M" OR PLENUM RATED CPVC FLOWGUARD GOLD WHEN IN PLENUM. INSULATE ALL RUNS WITH 1/2" FIBERGLASS INSULATION WITH ALL SERVICE JACKET INSTALLED PER MANUFACTURER'S RECOMMENDATIONS OR 1/2" ARMAFLEX.

7. COLD WATER AND HOT WATER PIPE AND FITTINGS

7.A. DOMESTIC COLD WATER, HOT WATER AND HOT WATER CIRCULATION PIPE SHALL BE TYPE "L", HARD DRAWN, LEAD FREE, NSF/ANSI 61G COPPER TUBING WITH WROUGHT COPPER FITTINGS FOR 150 POUND WATER WORKING PRESSURE AND WITH JOINTS LEAD FREE SOLDER. NO SOLDER CONTAINING LEAD IS PERMITTED.

7.B. DOMESTIC COLD WATER, HOT WATER, AND HOT WATER CIRCULATION PIPES NOT LOCAED IN THE HVAC RETURN PLENUM SHALL BE COPPER TUBE SIZE (CTS) CPVC PIPE AND FITTINGS – CONFORMING TO ASTM D2846, FLOWGUARD GOLD® CPVC COMPOUND MATERIAL AND SHALL MEET A CELL CLASS RATING OF 24448 AS DEFINED BY ASTM D1784, AND SHALL BE CERTIFIED/LABELED BY NSF INTERNATIONAL FOR USE IN POTABLE WATER SYSTEMS. FLOWGUARD GOLD® PIPE AND FITTINGS SHALL BE ASSEMBLED USING ONE-STEP SOLVENT CEMENT PROCESS. ALL SOCKET TYPE JOINTS SHALL BE ASSEMBLED EMPLOYING SOLVENT CEMENTS THAT MEET OR EXCEED THE REQUIREMENTS OF ASTM F493. THE STANDARD PRACTICE FOR SAFE HANDLING OF SOLVENT CEMENTS SHALL BE IN ACCORDANCE WITH ASTM F402. SOLVENT CEMENT SHALL BE LISTED BY NSF INTERNATIONAL FOR USE WITH POTABLE WATER AND SHALL BE LOW VOC

7.C. PROVIDE DIELECTRIC ISOLATION BETWEEN CONTACT OF DISSIMILAR METALS.

7.D. C.P. ESCUTCHEON PLATES REQUIRED ON ALL WALL PENETRATIONS.

7.E. PROVIDE SHUT OFF VALVES AT EACH PLUMBING FIXTURE WATER SUPPLY.

7.F. EXPOSED PIPE TO BE CORROSION RESISTANT.

8. VALVES

8.A. STOP VALVES, EXCEPT FIXTURE STOPS, ON HOT AND COLD WATER LINES 2 IN. AND SMALLER SHALL BE LEAD FREE, NSF/ANSI 61G FULL PORT 400 LB. NON-SHOCK BRONZE BALL VALVES, NIBCO T-595-Y-LF FOR THREADED CONNECTIONS, AND NIBCO S-595-Y-LF FOR COPPER TO COPPER, OR APPROVED OTHER.

8.B. VALVES 2.5 IN. TO 12 IN. SHALL BE DUCTILE-IRON, SINGLE-FLANGE BUTTERFLY VALVES. VALVES SHALL BE LEAD FREE AND CONSTRUCTED IN ACCORDANCE WITH MSS SP-67 AND RATED FOR 200 VALVE SHALL INCLUDE EPDM SEAT, ALUMINUM-BRONZE DISC, AND STAINLESS STEEL STEM. VALVES TO BE NIBCO LD-2000.

8.C. CHECK VALVES SHALL BE LEAD FREE, NSF/ANSI 61G OF THE SWING-TYPE, SIZES UP TO AND INCLUDING 2 IN. SHALL BE ALL BRONZE, 200 PSI CWP, NIBCO T-413-Y-LF FOR THREADED CONNECTIONS AND NIBCO S-413-Y-LF FOR SOLDER CONNECTIONS, OR APPROVED OTHER.

9. VALVE TAGS AND CHART

9.A. EACH VALVE, EXCEPT VALVES AT FIXTURES, SHALL HAVE A 2 INCH DIAMETER BRASS TAG WITH 1 INCH HIGH NUMERAL STAMPED THEREON, SECURED TO THE VALVE BY MEANS OF BRASS S HOOK OR BRASS CHAIN. EACH SYSTEM TO HAVE A LETTER DESIGNATION AS WELL.

9.B. THE CONTRACTOR SHALL FURNISH AN APPROVED, NEATLY DRAWN VALVE CHART, PROPERLY FRAMED, SHOWING THE USE AND LOCATION OF EACH VALVE THAT IS TAGGED.

10. SYSTEM IDENTIFICATION

10.A. BANDS - INSTALL ON EACH SYSTEM IN EACH SEPARATED SPACE AND NOT MORE THAN 10 FEET APART WHERE THEY CAN EASILY BE READ, SNAP-ON BANDS IDENTIFYING THE SYSTEM IN BLACK LETTERS 2" HIGH FOR 3" PIPE AND LARGER, 1" HIGH FOR 2-1/2" PIPE AND SMALLER; BLACK FLOW DIRECTIONAL ARROW AND BACKGROUND IN COLOR TO CONFORM WITH ANSI A13.1; SIMILAR TO SETON CORP., IN COLOR TO CONFORM WITH ANSI A13.1; SIMILAR TO SETON CORP., W.H. BRADY CO., OR APPROVED EQUAL.

10.B. PROVIDE IDENTIFY TAGS TO WATER PIPING CONDENSATE/RECLAIMED WATER FOR COOLING TOWER SYSTEM ONLY. *NOT FOR DRINKING.

11. PIPE AND FITTING INSULATION

11.A. ALL INSULATION (INCLUDING JACKET, FACING, AND ADHESIVE) SHALL NOT EXCEED 25 FLAME SPREAD AND 50 SMOKE DEVELOPED RATINGS, WHEN TESTED IN CONFORMANCE WITH ASTM E 84, NFPA 255, AND UL 723.

11.B. INSULATE ALL DOMESTIC HOT WATER, DOMESTIC COLD WATER, AND STORM WATER PIPING WITH KNAUF EARTHWOOL 1000°F FIBERGLASS PIPE INSULATION WITH ECOSE TECHNOLOGY AND ASJ+/SSL+. INSULATION SHALL BE UL GREENGUARD GOLD CERTIFIED. THE INSULATION AVERAGE THERMAL CONDUCTIVITY SHALL NOT EXCEED 0.24 BTU PER INCH, PER SQUARE FOOT PER DEGREES F. PER HOUR AT A MEAN TEMPERATURE OF 100 DEGREES F. INSULATION THICKNESS SHALL CONFORM TO THE FOLLOWING:

11.B.1. DOMESTIC HOT WATER PIPING (0.5" TO 1.25"): 1" THICK INSULATION.

11.B.2. DOMESTIC HOT WATER PIPING (1.5" TO 6"): 1.5" THICK INSULATION.

11.B.3. STORM WATER PIPING (ALL SIZES): 1" THICK INSULATION.

11.C. COVERING FOR FITTINGS - ALL FITTINGS THAT ARE REQUIRED TO COVERED SHALL BE INSULATED WITH ALUMINUM BACKED FIBERGLASS.

12. PLUMBING FIXTURES & TRIM

12.A. FIXTURES SHALL BE OF THE FIRST QUALITY AS FABRICATED BY A MANUFACTURER OF ESTABLISHED REPUTATION.

12.B. REFER TO ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES.

12.C. PROVIDE LOOSE KEY LOCK SHIELD, HEAVY PATTERN ANGLE STOP VALVE AT EACH PLUMBING FIXTURE. BRASSCRAFT, MCGUIRE, OR ENGINEER APPROVED EQUAL.

12.D. HOSE BIBB (HB) - WHERE SHOWN ON THE CONTRACT DRAWINGS, PROVIDE AND INSTALL HOSE BIBB AS MANUFACTURED BY WOODFORD MFG. CO. MODEL No. 24P WITH CHROME FINISH. PROVIDE MATCHING FINISH VACUUM BREAKERS AT THE HOSE BIBB.

12.E. BACKFLOW PREVENTER (SECONDARY) - THE BACKFLOW PREVENTER SHALL BE "WATTS" MODEL No. LF007QT. LEAD FREE NSF/ANSI61G.

13. VACUUM BREAKERS

13.A. VACUUM BREAKER AS MANUFACTURED BY "WATTS" - MODEL #LF288A-C LEAD FREE BRASS BODY WITH POLISHED CHROME FINISH, ANTI-SIPHON AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

14. DRAINS

14.A. IN GENERAL DRAINS SHALL BE ZURN OR ENGINEER APPROVED EQUAL.

14.B. UNLESS OTHERWISE NOTED DRAINS SHALL BE PROVIDED WITH A DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, MEMBER CLAMP, ADJUSTABLE COLLAR WITH SEEPAGE SLOTS, AND POLISHED NICKEL BRONZE STRAINER. REFER TO DRAIN SCHEDULE

15. DRIP PAN

15.A. PAN SHALL BE 18 GAUGE GALVANIZED SHEET STEEL, SOLDERED JOINTS, WATERTIGHT 4" HIGH, LENGTH, WIDTH AS REQUIRED TO HOUSE PLUMBING EQUIPMENT.

15.B. PAN SHALL BE 18 GAUGE GALVANIZED SHEET STEEL, SOLDERED JOINTS, WATERTIGHT, HEIGHT SHALL BE HALF THE PIPE DIAMETER BUT NOT LESS THAN 2", LENGTH, WIDTH AS REQUIRED IN THE FIELD WITH A DRAIN PIPE TO A LOCAL RECEPTACLE.

16. REFRIGERATOR WITH ICE MAKER (FURNISHED BY OTHERS)

16.A. INSTALL REFRIGERATOR WHERE INDICATED ON THE DRAWINGS. PROVIDE 1/2" COLD WATER WITH BALL VALVE AND VACUUM BREAKER.

17. CROSS CONTAMINATION PROTECTION

17.A. PROVIDE A WATTS MODEL 7C DUAL CHECK BACKFLOW PREVENTER LEAD FREE, NSF/ANSI 61G ON HOT AND COLD WATER SUPPLIES TO EQUIPMENT SUCH AS COFFEE MAKERS, WATER DISPENSERS, REFRIGERATORS, ICE MACHINES, DISHWASHERS, AND OTHER SIMILAR FOOD EQUIPMENT.

17.B. PROVIDE A DOUBLE CHECK VALVE ASSEMBLY, WATTS MODEL LF007-QT, LEAD FREE, NSF61 ON EACH HOT OR COLD WATER SUPPLY TO MECHANICAL EQUIPMENT WHERE AN AIR GAP IS ATTAINED BUT IS LESS THAN TWO TIMES THE PIPE DIAMETER. PROVIDE A DOUBLE CHECK VALVE ASSEMBLY ON ALL COOLING TOWER MAKE-UP CONNECTIONS REGARDLESS OF THE AIR GAP DIMENSION.

17.C. PROVIDE AN RPZ ASSEMBLY, WATTS MODEL LF009-QT, LEAD FREE, NSF/ANSI 61G ON ALL MAKE-UP WATER CONNECTIONS TO MECHANICAL EQUIPMENT WHERE AN AIR GAP IS NOT ATTAINED.

PART 3 - EXECUTION

1. CUTTING AND PATCHING

1.A. THERE CUTTING AND PATCHING OF CONSTRUCTION PERFORMED UNDER THIS CONTRACT BECOMES NECESSARY BECAUSE OF FAILURE TO PROPERLY COORDINATE THE INSTALLATION WITH OTHER CONSTRUCTION, ARRANGE FOR PATCHING TO BE PERFORMED BY THE VARIOUS TRADES INVOLVED AND IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS HEREIN SO AS TO MATCH ADJACENT SURFACES.

2. TESTS

2.A. GENERAL

2.A.1. PERFORM TESTS AS HEREIN SPECIFIED ON THE VARIOUS PIPING SYSTEMS OR PORTIONS THEREOF PRIOR TO PAINTING, CONCEALING OR INSULATING.

2.A.2. NOTIFY THE ENGINEER AND REPRESENTATIVES OF AGENCIES OR OTHER ENTITIES WHICH WOULD HAVE JURISDICTION AT LEAST 48 HOURS IN ADVANCE OF MAKING THE REQUIRED TESTS, SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS THE TESTS.

2.A.3. FURNISH AND INSTALL ALL DEVICES, MATERIALS, SUPPLIES, LABOR AND POWER REQUIRED IN CONNECTION WITH TESTS. MAKE ALL TESTS IN THE PRESENCE AND TO THE SATISFACTION OF THE ENGINEER AND REPRESENTATIVES OF THE AFORESAID AGENCIES OR OTHER ENTITIES.

2.A.4. SHOULD THE TESTS REVEAL ANY LEAKS OR OTHER EVIDENCE OF UNSATISFACTORY MATERIALS OR WORKMANSHIP, MAKE NECESSARY REPAIRS IMMEDIATELY, OR, IF REQUIRED BY THE ENGINEER, REPLACE DEFECTIVE WORK WITH NEW WORK WITHOUT ADDITIONAL COST TO THE AUTHORITY. REPEAT TESTS AS DIRECTED UNTIL THE ENTIRE INSTALLATION IS PROVEN SATISFACTORY. NO TEMPORARY METHOD OF REPAIRING LEAKS WILL BE PERMITTED.

2.A.5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PROPERTY OR INSTALLATION DAMAGED BY THE TESTS AND SHALL RESTORE THE DAMAGED ITEMS TO THEIR ORIGINAL CONDITION OR REPLACE THEM WITH NEW ITEMS.

2.A.6. DISPOSE OF WATER REMOVED FROM PIPE LINES IN A MANNER THAT WILL NOT CAUSE DAMAGE TO ANY PROPERTY.

2.A.7. PROVIDE AND INSTALL THE REQUIRED AIR VENTS IN THE PIPING SYSTEM TESTED.

2.A.8. ALL EQUIPMENT, CONTROLS, INSTRUMENTS AND VALVES SHALL BE ISOLATED FROM THE PIPING SYSTEM DURING TEST.

2.B. PLUMBING

2.B.1. DOMESTIC WATER: CAP OR PLUG ALL OUTLETS, APPLY A HYDROSTATIC PRESSURE OF 125 PSI AND SUSTAIN SUCH PRESSURE FOR ONE HOUR.

2.B.2. SANITARY DRAINAGE: CAP OR PLUG ALL OUTLETS, APPLY A 10-FOOT HEAD OF WATER BEFORE MAKING CONNECTIONS TO EXISTING SYSTEM.

2.B.3. TEST ALL SYSTEMS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2010-PLUMBING.

3. PROTECTION AND CLEANING

3.A. PROTECT ENTIRE INSTALLATION FROM DAMAGE DURING CONSTRUCTION AND BE RESPONSIBLE FOR ALL DAMAGE UNTIL FINAL ACCEPTANCE OF THE WORK. ALL PIPES SHALL BE PROTECTED WITH SUITABLE COVERINGS AS SOON AS THEY ARE SET. ALL OPEN ENDS OF PIPES SHALL BE CLOSED BY A PLUG FITTING TO PREVENT OBSTRUCTION AND DAMAGE.

3.B. ALL OPENINGS IN FLOORS SHALL BE COVERED AND PROTECTED DURING THE COURSE OF CONSTRUCTION.

3.C. BEFORE FINAL CONNECTIONS ARE MADE AND BEFORE OPERATION OF EQUIPMENT AND PIPING, ALL PIPING SHALL BE THOROUGHLY BLOWN OUT, RODDED OUT, OR WASHED OUT AT LEAST TWICE IN A MANNER AS DIRECTED AND/OR APPROVED BY THE ENGINEER, TO REMOVE ALL ACCUMULATION OF DIRT, CHIPS OR OTHER DELETERIOUS MATERIAL. MAKE ALL TEMPORARY CONNECTIONS AND FURNISH ALL APPLIANCES REQUIRED FOR THE PURPOSE OF CLEANING.

3.D. UPON COMPLETION OF THE INSTALLATION AND WHEN DIRECTED BY THE ENGINEER REMOVE ALL PROTECTION MATERIALS, ALL SCALE, DIRT, GREASE, STAINS AND THE LIKE, AND LEAVE IN A CLEAN CONDITION FOR PAINTING.

3.E. ALL MATERIALS AND EQUIPMENT SHALL BE STORED IN A DRY AND CLEAN ENVIRONMENT. MATERIALS AND EQUIPMENT SHALL NOT BE STORED OUTDOORS.

3.F. POTABLE WATER SYSTEM SHALL BE PURGED OF DELETERIOUS MATTER AND WHERE REQUIRED BY THE ADMINISTRATIVE AUTHORITY, DISINFECTED PRIOR TO UTILIZATION. THE METHOD TO BE FOLLOWED SHALL BE THAT PRESCRIBED BY THE HEALTH AUTHORITY OR WATER PURVEYOR HAVING JURISDICTION OR, IN ABSENCE OF A PRESCRIBED METHOD, THE PROCEDURE DESCRIBED IN AWWA C651 OR AWWA C652, OR SECTION 610 OF FLORIDA BUILDING CODE.

4. INSPECTION

4.A. ALL MATERIALS AND EQUIPMENT DELIVERED TO THE SITE WILL BE INSPECTED. MATERIAL AND EQUIPMENT THAT IS DEFECTIVE OR FAILS TO CONFORM TO THE REQUIREMENTS OF THESE SPECIFICATIONS SHALL BE REMOVED IMMEDIATELY FROM THE CONSTRUCTION SITE AND REPLACED WITH NEW MATERIAL AND EQUIPMENT SATISFACTORY TO THE ENGINEER.

5. EXECUTION

5.A. CONNECTION

5.A.1. FIXTURE FAUCET SHALL HAVE THE COLD WATER HANDLE ON THE RIGHT HAND SIDE OF THE FIXTURE AND THE HOT WATER FAUCET ON THE LEFT HAND SIDE OF THE FIXTURE.

5.B. INSTALLATION

5.B.1. PROTECT PLUMBING FIXTURES INCLUDED IN THESE SPECIFICATIONS AGAINST INJURY FROM THE BUILDING MATERIALS, ACIDS, TOOLS AND EQUIPMENT.

5.B.2. PLATED OR POLISHED FITTINGS, PIPES AND APPLIANCES SHALL BE COATED WITH VASELINE, IMMEDIATELY AFTER INSTALLATION AND SHALL BE FINALLY POLISHED AND FREED FROM ALL MARKS AND FOREIGN SUBSTANCES, WHEN DIRECTED BY THE ARCHITECT.

5.B.3. PRIOR TO BUILDING'S ACCEPTANCE BY THE OWNER, REMOVE MANUFACTURERS' LABELS AND THOROUGHLY CLEAN ALL FIXTURES AND MAKE READY FOR USE BY BUILDING'S OCCUPANTS.

5.B.4. SET FIXTURE RIM HEIGHTS AS SPECIFIED OR AS DIRECTED BY THE ARCHITECT.

5.B.5. THOROUGHLY REVIEW ALL CONTRACT DOCUMENTS AND DETERMINE EXTENT OF MISCELLANEOUS FIXTURES, TOILET ACCESSORIES, ETC., SPECIFIED IN OTHER SECTIONS OF THE SPECIFICATIONS AND INCLUDE IN BID PROPOSAL ALL MATERIAL AND LABOR REQUIRED TO INSTALL THE ITEMS SPECIFIED IN OTHER SECTIONS AND/OR CLAIMED BY THIS TRADE.

5.B.6. PLUMBING CONTRACTOR SHALL ARRANGE AND PAY FOR ALL BUILDING DEPARTMENT FILING, INSPECTIONS AND SHALL FURNISH APPROVAL CARDS AT COMPLETION OF WORK.

MIK ARCHITECTURE

MIK ARCHITECTURE LLC
MATIAS DAROCH
AR-100480
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
+1 786 708 0880
hello@mikarch.com

AGD DEVELOPERS LLC
1385 CORAL WAY, SUITE 202
MIAMI, FLORIDA 33145
agdmiami.com
developers@agdmiami.com

R&D ENGINEERS,LLC

R&D ENGINEERS LLC
7925 NW 12TH ST, SUITE 227
DORAL, FLORIDA 33126
rd-engineers.com
arivas@rd-engineers.com

NEW SINGLE FAMILY RESIDENCE
AGD CALISTONE LLC
10840 SW 67 Ave MIAMI, FL 33156

ISSUES		
	APRIL 2025	1ST ISSUED

R&D Project No.	2025.512
DRAWN BY	IG
CHECKED BY	ARP
SCALE	AS NOTED
R&D ENGINEERS REGISTRY No.	37312

SEAL

ALEJANDRO LUIS RIVAS PRIETO LICENSE No. 86717 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Alejandro L Rivas Prieto
Date: 2025.06.12 09:10:40 -04'00'

ALEJANDRO L. RIVAS PRIETO
PROFESSIONAL ENGINEER
FL PE 86717

THIS IS A DIGITALLY SIGNED SHEET. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

THE CONTENT OF THIS SHEET AND ALL OTHER DRAWINGS ISSUED IN THIS SET ARE PROTECTED BY U.S. AND INTERNATIONAL COPYRIGHT LAWS. REPRODUCTION OR USE WITHOUT PROPER WRITTEN CONSENT IS PROHIBITED BY LAW. SEE A-001 FOR DETAILS

SHEET No.

P-16

PLUMBING SPECIFICATIONS