

PLUMBING FIXTURE SCHEDULE						
MARK	FIXTURE	ROUGH-IN-SIZE				DESCRIPTION/REMARKS
		S/W	V	CW	HW	
WC-1	WATER CLOSET ASSEMBLY	4"	2"	1 1/2"	-	KOHLER 'WELCOME' #K-4350 FLOOR MOUNTED, FLUSH VALVE, WHITE VITREOUS CHINA, 1.6 GPF WITH ELONGATED BOWL, 1 1/2" TOP SPUD CONNECTION, BOLT CAPS, INCLUDE ADA COMPLIANT SLOAN ROYAL #111 EXPOSED TOP SPUD DIAPHRAGM TYPE MANUAL FLUSH VALVE, ELONGATED OPEN FRONT SEAT (LESS COVER) WITH CHECK HINGE STOPS.
WC-2	WATER CLOSET (ADA)	4"	2"	1 1/2"	-	KOHLER 'WELCOME' #K-4358 ADA COMPLIANT FLOOR MOUNTED, FLUSH VALVE, WHITE VITREOUS CHINA, 1.6 GPF WITH ELONGATED BOWL, 1 1/2" TOP SPUD CONNECTION, BOLT CAPS, INCLUDE ADA COMPLIANT SLOAN ROYAL #111 EXPOSED TOP SPUD DIAPHRAGM TYPE MANUAL FLUSH VALVE, ELONGATED OPEN FRONT SEAT (LESS COVER) WITH CHECK HINGE STOPS.
UR-1	URINAL (ADA)	2"	1 1/2"	3/4"	-	KOHLER 'DEXTER' #K-4820-T ADA COMPLIANT FLOOR MOUNTED, WHITE VITREOUS CHINA, 0.5 GPF WITH EXTENDED RIM, 3/4" TOP SPUD CONNECTION, INCLUDE ADA COMPLIANT SLOAN OPTIMA G2 #8186-0.5 EXPOSED TOP SPUD DIAPHRAGM TYPE SENSOR BATTERY POWERED FLUSH VALVE.
LAV-1	LAVATORY (ADA)	2"	1 1/2"	1/2"	1/2"	VERGE BRADLEY #VRD2 TWO STATION VERGE NATURAL EVERO STONE QUARTZ (ANTARCTIC) ADA COMPLIANT WALL MOUNTED SINK WITH WALL BRACKET, FAUCET: ADA COMPLIANT TOTO #FELSLS-10 STANDARD SPOUT (POLISHED CHROME) ECO POWER SELF GENERATING SYSTEM, INFRARED SENSOR OPERATED, SINGLE SUPPLY, 5 GPM.
TD-1	TRENCH DRAIN	3"	2"	-	-	TRENCH DRAINS SHALL BE CUSTOM FIXTURES AS MANUFACTURED BY THE KITCHEN EQUIPMENT VENDOR. REFER TO THE KITCHEN EQUIPMENT DRAWINGS FOR ADDITIONAL INFORMATION.
FD-1	FLOOR DRAIN	3"	2"	-	-	ZURN #LC-P35 PVC BODY FLOOR DRAIN WITH #LC-CS CAST IRON ADAPTOR THREADED SHANK, COMPLETE WITH #LC-FR05H 5" ROUND POLISHED NICKEL FRAME TOP GRATE.
FD-2	FLOOR DRAIN	3"	2"	-	1/2"	ZURN #LC-P35 PVC BODY FLOOR DRAIN AND TRAP PRIMER, WITH #LC-CS CAST IRON ADAPTOR THREADED SHANK, COMPLETE WITH #LC-FR05H 5" ROUND POLISHED NICKEL FRAME TOP GRATE.
FS-1	FLOOR SINK	3"	2"	-	-	ZURN #FD-2370 12"x12" RADIUSED PVC BODY FLOOR SINK WITH FULL RIM AND SEDIMENT BUCKET STRAINER, COORDINATE GRATE CONFIGURATION WITH KITCHEN ROUGH IN PLANS.
FCO	FLOOR CLEANOUT	LINE SIZED	-	-	-	ZURN #1400 ADJUSTABLE FLOOR CLEANOUT, DURABLE COATED CAST IRON BODY, GAS AND WATER TIGHT TAPERED THREAD PLUG, AND NICKEL BRONZE SECURED SMOOTH WALL ACCESS COVER AND FRAME.
WCO	WALL CLEANOUT	LINE SIZED	-	-	-	ZURN #1443 SQUARE WALL CLEANOUT, DURABLE COATED CAST IRON BODY, GAS AND WATER TIGHT TAPERED THREAD PLUG, AND NICKEL BRONZE SECURED SMOOTH WALL ACCESS COVER AND FRAME.
HB-1	HOSE BIBB (WALL MOUNTED)	-	-	3/4"	-	WOODFORD #B65 SELF DRAINING FREEZELESS WALL FAUCET ENCLOSED IN A FLUSH MOUNTED WALL BOX WITH ANTI-SIPHON INTEGRAL VACUUM BREAKER AND ROUGH BRASS FINISH. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT ABOVE FINISHED GRADE (UNO).
HB-2	HOSE BIBB (WALL MOUNTED)	-	-	3/4"	3/4"	MIFAB #M11-45 SELF DRAINING FREEZELESS WALL FAUCET ENCLOSED IN A FLUSH MOUNTED WALL BOX WITH ANTI-SIPHON INTEGRAL VACUUM BREAKER AND ROUGH BRASS FINISH. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT ABOVE FINISHED GRADE (UNO).
HB-3	HOSE BIBB (ROOF MOUNTED)	-	-	3/4"	-	WOODFORD #19 SELF DRAINING WALL FAUCET WITH ANTI-SIPHON INTEGRAL VACUUM BREAKER, INSTALL FIXTURE THROUGH SIDE OF ROOF TOWER.
SS-1	SERVICE SINK	3"	2"	3/4"	3/4"	SERVICE SINK SHALL BE BUILT IN PLACE BY G.C. PROVIDE DRAIN (FD-2). FAUCET SHALL BE FURNISHED WITH THE KITCHEN EQUIPMENT PACKAGE, AND INSTALLED BY THE P.C. FAUCET SHALL BE SIMILAR TO T&S BRASS #B-0650-BSTR CHROME PLATED FAUCET.

PLUMBING EQUIPMENT SCHEDULE						
MARK	FIXTURE	ROUGH-IN-SIZE				DESCRIPTION/REMARKS
		S/W	V	CW	HW	
WH-1	TANKLESS WATER HEATER	-	-	1 1/2"	1 1/2"	NORITZ GAS FIRED TANKLESS WATER HEATER MULTI-UNIT SYSTEM, (THREE WALL MOUNTED #NC1991-DVC UNITS INSTALLED IN PARALLEL), CONTINUOUS FLOW HOT WATER SYSTEM OUTPUT TEMPERATURE SET @ 140°F FOR 14.8 GPM @ 90°F TEMPERATURE RISE WITH 199MBH GAS INPUT AND 84% EFFICIENCY. FIELD COORDINATE THE INSTALLATION OF MANUFACTURER AVAILABLE STAINLESS STEEL OUTDOOR WALL VENTING #DVK-H, SYSTEM CONTROLLER #SC-301-6M-EXT TO INTEGRATE ALL (4) APPLIANCES, AND REMOTE CONTROLLER #RC-901BM INSTALLED IN THE MANAGER'S OFFICE.
WS-1	WATER SOFTENER	-	-	1"	-	KINETICO #CP208S 00 WATER SOFTENER TO BE FURNISHED BY OWNER AND INSTALLED BY THE PLUMBING CONTRACTOR. CONTACT BOB SHELTON @ SHELTON WATER REFINING FOR EQUIPMENT ORDERING AND INSTALLATION INFORMATION 817.640.8188.
ET-1	EXPANSION TANK	-	-	3/4"	-	WATTS REGULATOR #PLT-12, WITH STEEL BODY AND BUTYL RUBBER DIAPHRAGM FOR 4.5 GALLONS TOTAL CAPACITY/ 2.8 GALLONS ACCEPTANCE CAPACITY, 40 PSI FACTORY PRE-CHARGED.
RCP-1	RECIRCULATION PUMP	-	-	3/4"	3/4"	GRUNDOS #RUP15-1085 INLINE HOT WATER OPEN SYSTEM RECIRCULATING PUMP, CAPABLE OF 4.5 GPM (140°F) @ 6' HEAD, 1/25 HP, 115V/1PH, INTEGRAL ATTACHED TIMER FOR OPERATION CONTROLS, AND ATTACHED POWER CORD.
TP-1	TRAP PRIMER	-	-	1/2"	-	PPP, INC. #PR-500 'PRIME RITE' TRAP PRIMER, BRONZE CONSTRUCTION WITH VACUUM PORT, ADJUSTABLE WITH 1/2" COPPER TYPE 'L' TO RECEIVER. PROVIDE DISTRIBUTION UNIT AS REQUIRED FOR SUPPLY TO MULTIPLE DRAINS. INSTALL VALVE RECESSED IN WALL A MINIMUM 12" AFF, PROVIDE ACCESS PANEL.
WHA-1	WATER HAMMER ARRESTER	-	-	LINE SIZED	-	PPP, INC. SERIES SC, FULLY MECHANICAL WATER HAMMER ARRESTER SIZED AND LOCATED PER THE MANUFACTURER SPECIFICATIONS.
MIX-1	MIXING VALVE	-	-	1/2"	1/2"	WATTS REGULATOR #L11 UNDER SINK THERMOSTATIC MIXING VALVE, WITH BRASS BODY AND INTEGRAL MOUNTING HOLES, TAMPER RESISTANT ENCLOSURE.
RPZ-1	REDUCED PRESSURE BACKFLOW PREVENTER	-	-	LINE SIZED	-	WATTS REGULATOR #SS09 REDUCED PRESSURE ZONE ASSEMBLY WATER SUPPLY TO CARBONATOR(S) SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE BACKFLOW PREVENTER AND SHALL BE RATED FOR 150 PSI, THE BODY & ADAPTERS ARE OF STAINLESS STEEL CONSTRUCTION, ALL RUBBER COMPONENTS COMPLY WITH FDA FOOD CONTACT REGULATIONS. THE MODEL IS SUBJECT TO LOCAL HEALTH DEPARTMENT APPROVAL, WATER TEST-2.
RFP-1	BACKFLOW PREVENTER	-	-	LINE SIZED	-	WATTS REGULATOR #007 DOUBLE CHECK VALVE ASSEMBLY DOMESTIC WATER SERVICE TO THE BUILDING SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTER AND SHALL BE RATED FOR 150 PSI, TWO PRESSURE SEATING CHECK VALVES WITH CAPTURED SPRINGS AND RUBBER SEAT DISCS. VERIFY APPROVAL WITH UTILITY AND JURISDICTION PRIOR TO INSTALLATION.
RFP-2	BACKFLOW PREVENTER	-	-	LINE SIZED	-	WATTS REGULATOR #007 DOUBLE CHECK VALVE ASSEMBLY WATER SUPPLY TO ROOFTOP HOSE BIBB(S) SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTER AND SHALL BE RATED FOR 150 PSI, TWO PRESSURE SEATING CHECK VALVES WITH CAPTURED SPRINGS AND RUBBER SEAT DISCS. VERIFY APPROVAL WITH UTILITY AND JURISDICTION PRIOR TO INSTALLATION.
RFP-3	BACKFLOW PREVENTER	-	-	LINE SIZED	-	WATTS REGULATOR #007 DOUBLE CHECK VALVE ASSEMBLY WATER SUPPLY TO BEVERAGE FIXTURE APPLIANCES, DISPENSERS, ETC. SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTER AND SHALL BE RATED FOR CONTINUOUS OR INTERMITTENT PRESSURE, STAINLESS STEEL BODY CONSTRUCTION AND ALL RUBBER INTERNAL COMPONENTS.
RFP-4	BACKFLOW PREVENTER	-	-	LINE SIZED	-	AN #1300 DOUBLE CHECK DETECTOR ASSEMBLY, FIRE WATER SERVICE TO THE BUILDING SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTER AND SHALL BE AVAILABLE TO BE INSTALLED IN THE VERTICAL RISER, VERIFY APPROVAL WITH THE FIRE SPRINKLER CONTRACTOR, AND APPROVAL WITH THE UTILITY AND JURISDICTION PRIOR TO INSTALLATION.
VB-1	VACUUM BREAKER	-	-	LINE SIZED	-	WATTS REGULATOR #288-A ATMOSPHERIC TYPE ANTI-SIPHON VACUUM BREAKER WITH INTERNAL LIGHT WEIGHT DISC FLOAT WITH SILICONE DISC FOR TIGHT SEATING.
IC-1	GREASE INTERCEPTOR	4"	2"	-	-	PARK EQUIPMENT COMPANY PRECAST CONCRETE 1250 GALLON GREASE INTERCEPTOR(S). REFER TO CIVIL DRAWINGS FOR LOCATION(S) AND LAYOUT RELATIVE TO THE BUILDING.

TESTING PROCEDURES	
1.	TEST INSTALLED WATER PIPING AT 100 PSI FOR A PERIOD OF 8 HOURS, OBSERVING FOR ANY VISIBLE LEAKS. TEST PIPING AGAIN WITH FIXTURES INSTALLED.
2.	CHLORINATE ALL WATER PIPING FOR A PERIOD OF 8 HRS. BY CHARGING WITH A HYPOCHLORINATE SOLUTION TO ACHIEVE A 5 PPM STRENGTH AT THE FUTURE FURTHEST FROM THE POINT OF APPLICATION. UPON COMPLETION OF THE CHLORINATION, FLUSH ALL PIPING UNTIL NO CHLORINE CAN BE DETECTED BY TASTE. CLEAN ALL STRAINERS AND SET WATER FLOWS FROM FIXTURES IN ACCORDANCE WITH MANUFACTURER AND LOCAL REQUIREMENTS.
3.	TEST INSTALLED GAS PIPING AT 60 PSI FOR A PERIOD OF 2 HRS, USING SOAP AND WATER OBSERVING FOR ANY VISIBLE LEAKS AT ALL JOINTS.
4.	TEST INSTALLED WASTE AND VENT PIPING FOR A PERIOD OF 8 HRS. BY CAPPING OR PLUGGING ALL JOINTS TO A LEVEL OF THE HIGHEST FIXTURE OR FITTING. FILL THE SYSTEM WITH WATER AND OBSERVE FOR ANY LEAKS.

GAS DEMAND LOAD					
NO.	DESCRIPTION	CONN. SIZE	QTY.	INPUT (MBH/EA)	TOTAL (MBH)
P11	FRYER	1 1/4"	2	120	240
P22A	PANCAKE GRIDDLE	1 1/4"	3	135	405
P26	6 BURNER RANGE	1 1/2"	1	180	180
WH-1	TANKLESS HEATERS	1 1/4"	3	199	597
RTU-1	ROOF TOP UNIT (DINING 8.5T)	1 1/4"	1	130	130
RTU-2	ROOF TOP UNIT (DINING 8.5T)	1 1/4"	1	180	180
RTU-3	ROOF TOP UNIT (DINING 8T)	1 1/4"	1	260	260
MAU-1	MAKEUP AIR UNIT (HOODS)	1 1/2"	1	222	222
COOKING APPLIANCE SUB-TOTAL				945	
WATER HEATING SUB-TOTAL				597	
HVAC SUB-TOTAL				792	
GAS DEMAND TOTAL (MBH)				2,334	
GAS DEMAND TOTAL (BTU/H)				2,334,000	
GAS DEMAND TOTAL (CFH)				2,334	

NOTE(S):

- THE ACTUAL LENGTH TO THE MOST REMOTE APPLIANCE CONNECTION IS 100'-0".
- THE SYSTEM IS SIZED FOR A TOTAL DEVELOPED LENGTH OF MAXIMUM 150'-0".
- THE SERVICE TO THE BUILDING SHALL BE INSTALLED AS A LOW PRESSURE SUPPLY (INLET PRESSURE OF 0.5 PSI) AND A 0.5" NO. 10 PRESSURE DROP. PIPE SIZES SHOWN ON THE RISER DIAGRAM ARE BASED ON 2012 INTERNATIONAL FUEL GAS CODE, WITH CITY AMENDMENTS, TABLE 402.2(2) FOR NATURAL GAS. VERIFY FIELD CONDITIONS FOR ACTUAL DEVELOPED LENGTH AND POSSIBLE ADJUSTMENTS TO PIPE SIZES.
- THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY FOR THE PROVISION OF THE COMPLETE METER ASSEMBLY INCLUDING REGULATOR AND VENTING REQUIREMENTS.

KITCHEN H.W. DEMAND			
ITEM	QTY.	GPH	TOTAL GPH
DISHWASHER	1	50	50
KITCHEN HAND SINK	4	5	20
DIPPERWELL	2	5	10
3 COMPARTMENT SINK	1	90	90
HOSE BIBB	3	5	15
SERVICE SINK FAUCET	1	20	20
LAVATORY FAUCET	4	5	20
TOTAL			205

HOT WATER CALCULATIONS:

PEAK DEMAND

- 225 GPH (PEAK DEMAND) X 0.40 (DEMAND FACTOR) = 90 GPH.
- 90 GPH (DEMAND) X 1.0 (STORAGE FACTOR) = 90 GPH.
- 225 GPH (PEAK DEMAND) / 60 MIN./HR. = 3.75 GPM.
- 50°F DOMESTIC SUPPLY WATER TEMPERATURE.
- 140°F DESIGN SUPPLY WATER TEMPERATURE.
- 500 GPM X ΔT = MIN. OUTPUT BTU'S REQUIRED AT WATER HEATER. (500)(3.75)(70) = 1,312,500 BTU/H.

CAPACITY PROVIDED

- TANKLESS WATER HEATERS WITH 600,000 BTU/H OUTPUT CAPACITY AND CONTINUOUS REHEATING.

BACKFLOW DEVICE SCHEDULE			
ITEM / FIXTURE	ITEM / EQUIPMENT #	BACKFLOW DEVICE	
BAR-N BOX SODA SYSTEM	P45	BPZ-1	
ROOF MOUNTED HOSE BIBB	HB-2	BPZ-2	
TEA DISPENSER(S)	P110		
JUICE DISPENSER(S)	P109		
COFFEE MACHINE(S)	P112A		
ICE MAKERS(S)	P74A	BPZ-3	
ECOLAB CONNECTION(S)	-		
HOT CHOCOLATE DISPENSER(S)	-		
SODA DISPENSER(S)	P107		
DIPPER WELLS(S)	P102A	YB-1	
DISHWASHER	P67A		
POT FILL FAUCETS(S)	-		
HOSE BIBB(S)	-		
SERVICE SINK	SS-1	INTEGRAL	

PIPING MATERIAL SCHEDULE		
1.	WATER PIPE (ABOVE GROUND)	UPONOR AQUAPEX CROSSLINKED POLYETHYLENE (PEX) TUBING WITH PROPEX LEAD-FREE BRASS INSERT FITTINGS. FIELD COORDINATE COLOR AND COILED LENGTH FOR REQUIRED INSTALLATION. NO PEX PIPING SHALL BE INSTALLED WHERE IT IS EXPOSED TO DIRECT SUNLIGHT.
2.	WATER PIPE (BELOW GROUND)	UPONOR AQUAPEX CROSSLINKED POLYETHYLENE (PEX) TUBING WITH PROPEX LEAD-FREE BRASS INSERT FITTINGS. FIELD COORDINATE COLOR AND COILED LENGTH FOR REQUIRED INSTALLATION. NO JOINTS OR UNIONS SHALL BE INSTALLED BELOW THE BUILDING SLAB.
3.	SEWER AND VENT PIPE (ABOVE AND BELOW GRADE)	BELOW AND ABOVE GRADE DVM SCHEDULE 40 POLYVINYL CHLORIDE (PVC) PIPING. INSIDE BUILDING SERVICE WEIGHT (HUBLESS) CAST IRON SOIL PIPE AND STAINLESS STEEL NO HUB COUPLINGS.
4.	CONDENSATE DRAIN PIPE AND INDIRECT DRAINAGE PIPE (INTERIOR TO BUILDING)	TYPE 'M' COPPER WITH 95/5 SILVER SOLDER JOINT FITTINGS. INSULATE CONDENSATE PIPING WITH 1/2" ARMAFLEX CLOSED CELL PIPE INSULATION WITH SELF SEALING ADHESIVE JOINTS, OR EQUIVALENT.
5.	CONDENSATE DRAIN PIPE (EXTENSION TO BUILDING)	TYPE 'M' COPPER WITH 95/5 SILVER SOLDER JOINT FITTINGS.
6.	STORM DRAIN PIPE (ABOVE AND BELOW GRADE)	INSIDE BUILDING SERVICE WEIGHT (HUBLESS) CAST IRON SOIL PIPE AND STAINLESS STEEL NO HUB COUPLINGS. INSULATE WITH 1/2" ARMAFLEX CLOSED CELL PIPE INSULATION WITH SELF SEALING ADHESIVE JOINTS, OR EQUIVALENT.
7.	GAS PIPE	SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON FITTINGS, WELDED JOINTS FOR PIPE 2-1/2" AND LARGER AND ALL JOINTS BELOW GRADE.

PLUMBING LEGEND		
SYMBOL	ABBREV.	DESCRIPTION
---	S OR W	SOIL OR WASTE (BELOW GRADE)
---	GW	GREASE WASTE
---	V	VENT
---	CD	CONDENSATE DRAIN
---	ST	STORM DRAIN
---	CW	COLD WATER
---	FW	FILTERED WATER
---	SW	SOFTENED WATER
---	FSW	FIRE SERVICE WATER
---	HW	HOT WATER
---	HWR	HOT WATER RETURN
---	RCL	RECLAIMED HEAT WATER
---	G	GAS, NATURAL OR PROPANE
○	UP	PIPE UP
○	DN	TEE DOWN
○	DN	PIPE DOWN
●	FOO	FLOOR CLEANOUT
●	DCO	DOUBLE CLEANOUT
---	CO	CLEANOUT, WALL OR PIPE
---	SOV	SHUT-OFF VALVE
---	SOV	SHUT-OFF VALVE, NORMALLY OPEN
---	SOV	SHUT-OFF VALVE, NORMALLY CLOSED
---	C.V.	CHECK VALVE
---	B.V.	BALANCE VALVE
---	UNION	UNION
---	P.V.	POSITIVE STOP VALVE (PRESSURE)
---	SOC	SHUT-OFF COCKING
---	AV	EARTH-SHAKE ADJUSTED AUTOMATIC VALVE (GAS)
---	---	ELECTRIC SOLENOID VALVE (GAS)
---	P.R.	PRESSURE REGULATOR (GAS)
---	POC	POINT OF CONNECTION
---	T&P	TEMPERATURE & PRESSURE RELIEF VALVE
---	VTR	VENT TO ROOF
---	HD	HUB DRAIN
---	FD	FLOOR DRAIN (COORDINATE GRATE REQS)
---	FS	FLOOR SINK (COORDINATE GRATE REQS)
---	RP	RECIRCULATION PUMP
---	KEC	KITCHEN EQUIPMENT CONTRACTOR
---	BTUH	BRITISH THERMAL UNITS PER HOUR
---	MBH	BTUH X 1000
---	CFH	CUBIC FEET PER HOUR (1 MBH = 1 CFH)
---	(E)	EXISTING
---	I.E.	INVERT ELEVATION
---	CONN	CONNECTION
---	FU	FIXTURE UNITS
---	GPM	GALLONS PER MINUTE
---	GPH	GALLONS PER HOUR
---	HP	HORSEPOWER
---	PSI	POUNDS PER SQUARE INCH
---	AP	ACCESS PANEL
---	W/	WITH
---	FLR	FLOOR
---	CLG	CILING
---	ABV	ABOVE
---	BEL	BELOW
---	UG	UNDERGROUND
---	DN	DOWN
---	CONT.	CONTINUE
---	TYP.	TYPICAL
---	FOH	FRONT OF HOUSE
---	BOH	BACK OF HOUSE
---	A.D.A.	AMERICAN DISABILITIES ACT
---	A.F.F.	ABOVE FINISH FLOOR
---	B.F.F.	BELOW FINISH FLOOR

GREASE INTERCEPTOR CALCULATION				
TAG	DESCRIPTION	QTY.	DFU'S	TOTAL (DFU'S)
FD-1	FLOOR DRAIN	5	3	15
FS-1	FLOOR SINK	10	3	30
SS-1	MOP SINK	1	3	4
TD-1	TRENCH DRAIN	2	3	6
P101	HAND SINK	4	2	8
TOTAL DFU'S				73

NOTE(S):

- CALCULATIONS WERE PERFORMED PER 2012 INTERNATIONAL PLUMBING CODE.
- (1) 1500 GALLON INTERCEPTORS WILL BE ACCEPTABLE FOR THIS SITE.

PLUMBING GENERAL NOTES	
1.	NOTE: FOR THE PURPOSE OF CLEARNESS AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH SIZES AND LOCATIONS OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION PRIOR TO ORDERING, FABRICATING OR INSTALLING ANY MATERIALS.
2.	THE PLUMBING SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
3.	PLUMBING QUALITY, WEIGHTS OF MATERIALS AND ALTERNATE METHODS OF CONSTRUCTION SHALL CONFORM TO THE THE 2012 INTERNATIONAL PLUMBING CODE, WITH CITY AMENDMENTS.
4.	CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON THESE DRAWINGS AND SPECIFICATIONS WITH ALL DISCIPLINES AND TRADES PRIOR TO SUBMITTAL OF BID AND INSTALLATION OF SYSTEM.
5.	CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH UTILITY COMPANIES FOR SERVICE AND CONNECTIONS AND SHALL PAY FOR ALL FEES, PERMITS AND INSURANCE.
6.	THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS (INCLUDING THE COMPLETE PLUMBING SYSTEM) AGAINST PERMANENT DEFECTS FROM WRITTEN ACCEPTANCE BY THE TENANT. ANY DEFECTS IN MATERIALS AND/OR LABOR FOUND WITHIN THE GUARANTEE PERIOD SHALL BE PROVIDED OR REPAIRED BY THIS CONTRACTOR IN A TIMELY FASHION. IT IS THE RESPONSIBILITY OF THE TENANT TO VERIFY THAT THE CONTRACTOR HAS MET THE SITE.
7.	ALL PLUMBING FIXTURE LOCATIONS (WATER CLOSURES, LAVORIES ETC.) ARE DIAGRAMMATIC. CONTRACTOR SHALL REFER TO FLOOR SERVICE AND ARCHITECTURAL DRAWINGS FOR EXACT PLACEMENT AND FINISHING HEIGHTS.
8.	ANY DEVIATIONS FROM THE DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO INSTALLATION.
9.	CONTRACTOR SHALL VERIFY PRIOR TO SUBMITTAL OF BID AND FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS. SUBMITTAL OF BID WILL VERIFY THAT THE CONTRACTOR HAS VISITED THE SITE.
10.	PIPING SHALL BE INSTALLED PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. THE CONTRACTOR SHALL MEET ALL CONSTRUCTION CONDITIONS AND ALLOW FOR THE INSTALLATION OF OTHER TRADES.
11.	SUPPORT PIPING WITH CLEVIS OR SPLIT RING TYPE PIPE HANGERS WITH 3/8" ALL THREAD ROD AND BEAM CLAMPS. "PLUMBERS TAPE AND WIRE" NOT PERMITTED.
12.	TRAP PRIMERS FOR FLOOR DRAINS AND FLOOR SINKS AND WATER HAMMER ARRESTORS TO BE INSTALLED AS PER THE 2012 INTERNATIONAL PLUMBING CODE, WITH CITY AMENDMENTS AND THE LATEST EDITION OF THE AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE 1010) SIZING AND INSTALLATION REQUIREMENTS.
13.	ALL VALVES, TRAP PRIMERS, WATER HAMMER ARRESTORS OR OTHER EQUIPMENT SHOWN IN WALLS IS ABOVE NON-ACCESSIBLE CEILINGS SHALL BE INSTALLED BEHIND AN ACCESS PANEL.
14.	ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE 2012 INTERNATIONAL PLUMBING CODE, WITH CITY AMENDMENT REQUIREMENTS AND LABELED AS SUCH.
15.	ALL ITEMS PROJECTING THROUGH THE ROOF SHALL BE FLASHED THROUGH CURBS OR PIPE SEALS A MINIMUM OF 12" ABOVE THE ROOF. THE PIPE CURBS AND SEALS SHALL BE INSTALLED BY THE ROOFING CONTRACTOR. ENSURE THAT AMPLE BOOT OPENINGS ARE PROVIDED TO ACCOMMODATE ANY ELECTRICAL CONDUIT PENETRATIONS REQUIRED FOR POWER.
16.	ALL WATER PIPING TO BE INSULATED AS PER THE 2012 INTERNATIONAL PLUMBING CODE, WITH CITY AMENDMENT REQUIREMENTS.
PIPE SIZE INSULATION THICKNESS R VALUE	
1/2" THRU 1 1/4" 1/2" R = 6.0	
1-1/2" THRU 2" 1" R = 6.0	
17.	CONTRACTOR SHALL PROVIDE: FAUCETS, TRAPS, STOPS, BALL VALVES, BACKFLOW DEVICES FOR KITCHEN EQUIP. GASCOCKS, WATER HAMMER ARRESTORS, CLEANOUT COVERS AND INDIRECT WASTE TO AN APPROVED RECEIVER AND ALL NECESSARY TRIM FOR A COMPLETELY CONNECTED PLUMBING SYSTEM.
18.	ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE AND LOCATED AS PER CODE REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE ALL CLEAN OUT LOCATIONS WITH EQUIPMENT, MILLWORK, ETC., PRIOR TO INSTALLATION.
19.	ALL PLUMBING FIXTURE VENTS TO TERMINATE A MINIMUM OF 12 INCHES FROM ANY VERTICAL SURFACE AND 10'-0" FROM OR 3'-0" ABOVE ANY MECHANICAL EQUIPMENT OUTSIDE AIR INTAKE.
20.	ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS CONNECTED SUPPLY LINE UNLESS OTHERWISE NOTED ON DRAWINGS.
21.	UNIONS SHALL BE PROVIDED AND INSTALLED AFTER EACH SCREW-TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
22.	PIPING SHALL BE INSTALLED COMPLETE WITH DIELECTRIC UNIONS BETWEEN CONNECTIONS OF NON-FERROUS MATERIALS.
23.	PROVIDE ACCESSIBLE WATER SUPPLY STOP VALVE(S) AT EACH PLUMBING FIXTURE.
24.	PROVIDE A LINE SIZED PRESSURE REDUCING VALVE AT THE BUILDING SERVICE CONNECTION SHOULD THE SUPPLY PRESSURE EXCEED 80 PSI.
25.	ALL UNDERGROUND METALLIC PIPE AND FITTINGS SHALL BE PROTECTED IN ACCORDANCE WITH THE SOILS ENGINEER'S RECOMMENDATIONS.
26.	NO PIPING SHALL BE DIRECTLY EMBEDDED IN CONCRETE, MASONRY WALLS, OR CONCRETE FOOTINGS.
27.	THE PLUMBING CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTION WITH THE GENERAL CONTRACTOR AND OTHER TRADES PRIOR TO START OF WORK.
28.	VERIFY EXACT LOCATIONS, DEPTH AND SIZE OF ALL PIPING TO WHICH CONNECTIONS ARE REQUIRED. COORDINATE ALL CONNECTIONS WITH SITE CONDITIONS AND SITE UTILITY CONTRACTOR/ REPRESENTATIVE.
29.	ALL HORIZONTAL PIPING LINES EXTENDED AND CONNECTED TO EQUIPMENT