

- ### GENERAL PIPING NOTES
1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERATIONAL PIPING SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
  2. PIPE SIZES INDICATED ARE NOMINAL, I.P.S.
  3. UNLESS OTHERWISE NOTED, ALL OVERHEAD PIPING SHALL BE TIGHT TO UNDERSIDE OF STRUCTURE OR SLAB.
  4. ALL BALANCING VALVES AND BUTTERFLY VALVES SHALL BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS).
  5. ALL VALVES SHALL BE INSTALLED SO THAT THE VALVE REMAINS IN SERVICE WHEN THE EQUIPMENT OR PIPING ON THE EQUIPMENT SIDE OF THE VALVE IS REMOVED.
  6. PROVIDE CHAIN WHEEL OPERATORS FOR ALL VALVES IN EQUIPMENT ROOMS MOUNTED GREATER THAN 7'-0" ABOVE FINISHED FLOOR; CHAIN SHALL EXTEND TO 7'-0" ABOVE FINISHED FLOOR LEVEL.
  7. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
  8. ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES AND SITE CONDITIONS, OFFSETS, EXPANSION LOOPS, OR TRANSITIONS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
  9. ALL PIPING INDICATED SHALL BE CONSIDERED DIAGRAMMATIC.
  10. ALL SWIMMING POOL PIPING ROUTED BELOW THE POOL SHELL SHALL BE CONCRETE ENCASED SCHEDULE 40 PVC OR ALL SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. REFER: ----- & -----
  11. ALL UNDERGROUND OR EXPOSED SWIMMING POOL PIPING SHALL BE SCHEDULE 80 PVC, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REFER TO PLANS AND SPECIFICATIONS FOR ANY SPECIFIC REQUIREMENTS REGARDING PLACEMENT AND BACKFILLING OF BELOW GRADE POOL PIPE.
  12. ALL DIMENSIONS INDICATED FROM THE FINISH WALL SURFACE AND DO NOT ACCOUNT FOR ANY VARIATIONS IN EITHER GRADE OR SLOPE DISTANCES.
  13. THE CHEMICAL SENSOR LINE SHALL BE A 3/4" TO 1" DIAMETER, SCHEDULE 80 PVC PIPE EXTENDED FROM THE WET CELL SENSOR TO ITS RESPECTIVE FILL FUNNEL AND THE BACKWASH CATCH BASIN OR PUMP SUCTION.
  14. CONTRACTOR SHALL ADJUST ALL FLOOR INLETS SO AS TO ACHIEVE AN EVEN FLOW DISTRIBUTION THROUGHOUT SYSTEMS.
  15. ALL PIPE TEES TO BE SIZED FOR LARGEST PIPE CONNECTION.
  16. SURGE TANK VENT PIPING TO ATMOSPHERE.
  17. ACID VENT PIPING TO ATMOSPHERE.
  18. HYDROTHERAPY AIR VENT TO BE LOCATED A MINIMUM OF 4" ABOVE STATIC WATER LEVEL.
  19. ALL GUTTER DROPOUT LINES TO SLOPE 1/8" PER FOOT MINIMUM.
  20. 55 PSI MINIMUM WATER PRESSURE FOR POOL LIFT. REFER TO PLUMBING.
- ### POOL PIPING WINTERIZATION NOTES
1. ALL POOL SUCTION MUST HAVE THE CAPABILITY TO BE DRAINED FOR WINTERIZATION (OUTDOOR POOLS ONLY).
  2. ALL POOL SUCTION AND GRAVITY PIPING SHALL BE INSTALLED WITH A CONSTANT SLOPE TO THE MAIN DRAINS AND/OR SURGE TANK.
  3. ALL POOL RETURN PIPING SHALL HAVE THE ABILITY TO COMPLETELY DRAIN TO THE 2" WINTERIZATION LINE AS SHOWN ON THE DRAWINGS.
  4. ALL POOL SUCTION AND RETURN PIPING SHALL SLOPE BACK TO THE POOL MECHANICAL ROOM. A WINTERIZATION TAP AND VALVE SHALL BE PROVIDED ON PIPING ALLOWING THE ABILITY FOR ALL PIPING TO BE COMPLETELY DRAINED.
  5. BLOW OUT ALL PIPES BY MEANS OF AN AIR BLOWER AND A WINTERIZATION TAP. CAP ALL PIPES FOR ADDED PROTECTION AGAINST FREEZING PIPES. THE PIPES CAN BE FILLED WITH ANTI-FREEZE. REFER: -----

### PUMP SCHEDULE

ID	DESCRIPTION	SPECIFICATIONS			PUMP REQUIREMENTS REFER TO ELECTRICAL
		GPM	TDM	HP	
PP1					
PP2					
PP3					
PP4					
PP5					
PP6					
PP7					
PP8	CHLORINE BOOSTER PUMP			3/4	D
A	REMOTE PUMP START	B	15 MINUTE TIMER		
C	EMERGENCY STOP	D	INTERLOCK WITH RECIRCULATION PUMP		
E	VARIABLE FREQUENCY DRIVE				

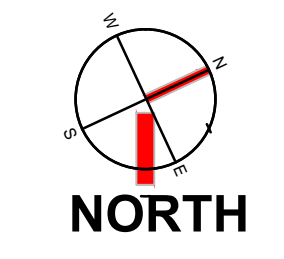
### PIPE SCHEDULE

ID	DESCRIPTION
P1	
P2	
P3	
P4	
P5	
P6	
P7	
P8	
P9	
P10	

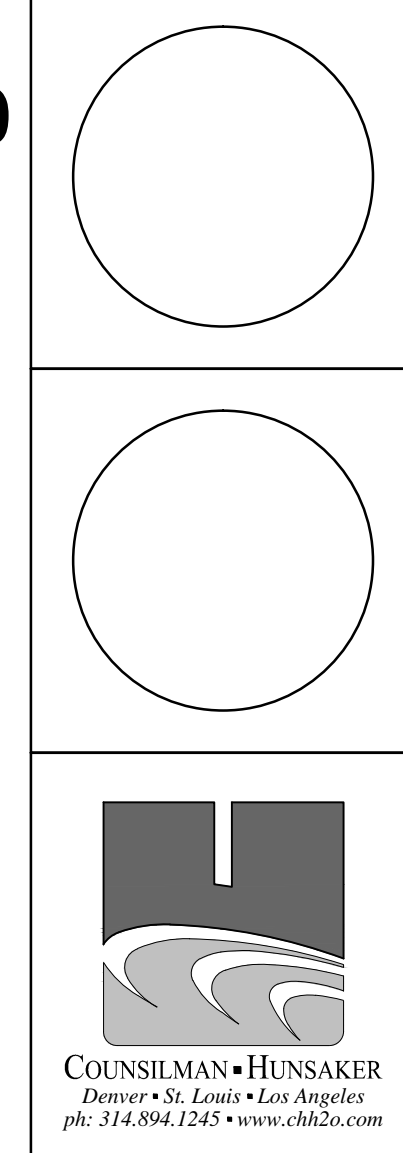
### PIPING LEGEND

LEGEND	QTY.	ITEM
COMPETITION POOL		
▲		WALL INLET REFER:
●		FLOOR INLET REFER:
⊗		SIGHT SUMP REFER:
▨		GUTTER DROPOUT BOX REFER:
■		MAIN DRAIN REFER:
⊠		AGITATOR BOX REFER:
SPA		
▲		WALL INLET REFER:
●		FLOOR INLET REFER:
■		HYDROTHERAPY INLET REFER:
○		SKIMMER REFER:
○		WATER LEVEL CONTROLLER REFER:
COMBINED		
----	N/A	BELOW GRADE PIPING

1 POOL RETURN PIPING PLAN  
 SP-4.1 1/8" = 1'-0" 07/09/12



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Drawing Name:	Pool Return Piping Plan	Revision Date
NKU Project Number:		
Project Number:	05/30/2012	SWC
Date:		
Drawn By:	BMH	Checked By:

**SP-4.1**