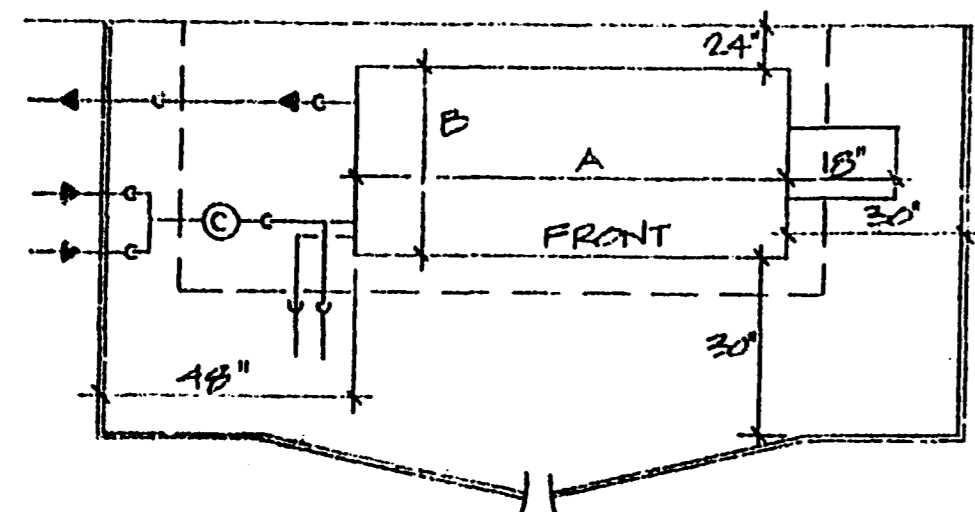


RAYDRONIC NOTES

1. ALL JOINTS UNDER SLAB TO BE BRAZED OR SILVER SOLDERED.
2. ALL WATER PIPING UNDER A BUILDING OR STRUCTURAL SLAB TO BE TYPE 'L' COPPER TUBING. PIPING ABOVE SLAB OR UNDERGROUND OUTSIDE OF A BUILDING OR STRUCTURE MAY BE TYPE 'M' COPPER TUBING.
3. A MINIMUM 1/2" OF COPPER TUBING SHALL BE INSTALLED ON COLD WATER SUPPLY TO ANY WATER HEATER AS PER PIPE SCHEDULE.
4. EXTERIOR UNDERGROUND HOT WATER LINES SHALL HAVE A MINIMUM 2" OF COVER TO LIMIT HEAT LOSS PER ENERGY DESIGN STANDARD, SECTION 1094 K.
5. ALL EXPOSED CONTINUOUSLY CIRCULATED HOT WATER PIPING INSTALLED IN ATTIC SPACES, GARAGES, HOT ENCLOSURES, VENTED CRAWL SPACES OR SIMILAR AREAS SHALL BE INSULATED TO LIMIT HEAT LOSS TO 50 BTU/HR PER LINEAL FOOT FOR PIPE SIZES UP TO AND INCLUDING 2", AND 100 BTU/HR PER LINEAL FOOT FOR LARGER SIZES, PURSUANT TO ENERGY DESIGN STANDARD, SECTION 1094 K.
6. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION.
7. ALL HOT WATER LINES UNDER SLAB CONTINUOUSLY CIRCULATED SHALL BE BURIED A MINIMUM OF 2" BELOW SLAB AND WHERE POSSIBLE 24" FROM ANY COLD WATER PIPE IT PARALLELS.
8. ALL HOT WATER PIPES ABOVE SLAB TO BE PROTECTED WITH CHEST PADDING OR APPROVED ISOLATORS AT ALL POINTS OF STEERING, HANGING, OR ANY POINT WHERE PIPING THROUGH THE BUILDING PENNS OR COMES IN CONTACT WITH PIPES, DUCTS, OR ANY OTHER BUILDING COMPONENT.
9. HOT WATER SHALL CIRCULATE CONTINUOUSLY THROUGH FAN COIL UNITS OR BY PASS PIPING AND NO CROSS CONNECTION BETWEEN SUPPLY AND RETURN SHALL BE ALLOWED UNDER ANY CIRCUMSTANCES.
10. PIPE SIZES MUST BE INSTALLED AS SHOWN, IF VARIATION WILL REQUIRE RECALCULATION, NOTIFY PLUMBING DESIGN, INC. OF ANY DISCREPANCY.
11. HOT WATER COIL SHALL HAVE PROVISIONS FOR AIR VENTING.
12. PLUMBING CONTRACTOR IS RESPONSIBLE FOR FINAL CONNECTION OF HOT WATER LINES TO HEATING COIL WITH FLEXIBLE CONNECTOR AND FULL FLOW BALL VALVE (SEE DETAIL).
13. PLUMBING CONTRACTOR TO COMPLETELY BALANCE RAYDRONIC SYSTEM TO SPECIFIED G.P.M. FLOWS AS SHOWN ON WATER HEATER PIPING DETAIL.
14. PRIOR TO ANY BALANCING THE ENTIRE RAYDRONIC HOT WATER SYSTEM MUST BE THOROUGHLY FLUSHED TO REMOVE DIRT, SOLDER, SLAGS OF OTHER DEBRIS FROM PIPING AND RELATED EQUIPMENT.
15. WATER HEATER ENCLOSURE SHALL BE CONSTRUCTED SO AS TO BLEND WITH SURROUNDING AREA.
16. DO NOT BACKFILL AROUND HOT WATER PIPING WITH SAND, USE ONLY CLEAN ROCK-FREE NATIVE OR IMPORT SOIL, WITH NO SANDY CHARACTERISTICS.
17. INSTALLING CONTRACTOR SHALL THOROUGHLY EXAMINE PRINTS PRIOR TO CONSTRUCTION AND NOTIFY PLUMBING DESIGN, INC. OF ANY DISCREPANCY.
18. INDIVIDUAL HOT WATER SHUT-OFF VALVES SHALL BE INSTALLED AT EACH PLUMBING FIXTURE SUPPLY.
19. ALL CONTINUOUSLY CIRCULATED RISERS ABOVE SLAB, INSTALLED IN EXTERIOR OR INTERIOR PARTITION WALLS SHALL BE INSULATED TO PREVENT HOT SPOTS. BLANKET TYPE INSULATION ON EACH SIDE OF PIPING OR THE PERFORMANCE TYPE MAY BE USED, INSULATION SHALL BE CARRIED BELOW THE SLAB TO THE BRANCH LINES. NON CIRCULATING LINES WILL NOT REQUIRE INSULATION.
20. CONTINUOUSLY CIRCULATED HOT WATER PIPING UNDERGROUND SHALL NOT BE INSTALLED IN CONTACT WITH COLD WATER SERVICE PIPING IN ORDER TO AVOID HEAT TRANSFER. MAINTAIN ADEQUATE SEPARATION WHERE EVER POSSIBLE.

WATER HEATER ENCLOSURE

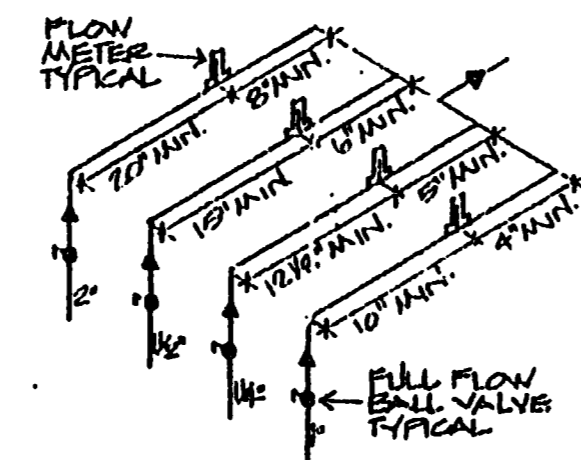


RAYDRONIC SYMBOLS

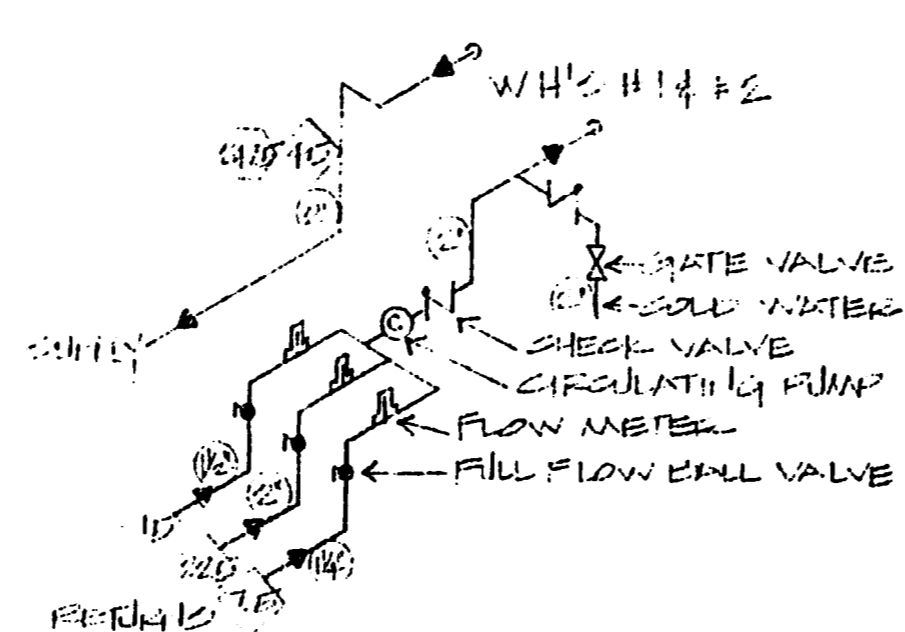
- - - HOT WATER SUPPLY
- - - HOT WATER RETURN
- - - DIRECTION OF FLOW
- (W) = FIXTURE UNITS
- (D) = G.P.M. FLOW
- (P) = PIPE SIZE
- (M) = BLUE & WHITE FLOW METER MODEL P-300

RAYDRONIC MODEL NO.	WIDTH	HEIGHT	HEIGHT FROM FLOOR TO TOP OF UNIT
332	24"	29 1/2"	43"
422	24"	29 1/2"	43"
516	24"	29 1/2"	43"
602	24"	29 1/2"	43"
710	24"	33"	47"
1020	24"	33"	47"
1193	24"	33"	47"
1303	24"	33"	47"
1413	24"	33"	47"
1510	24"	33"	47"

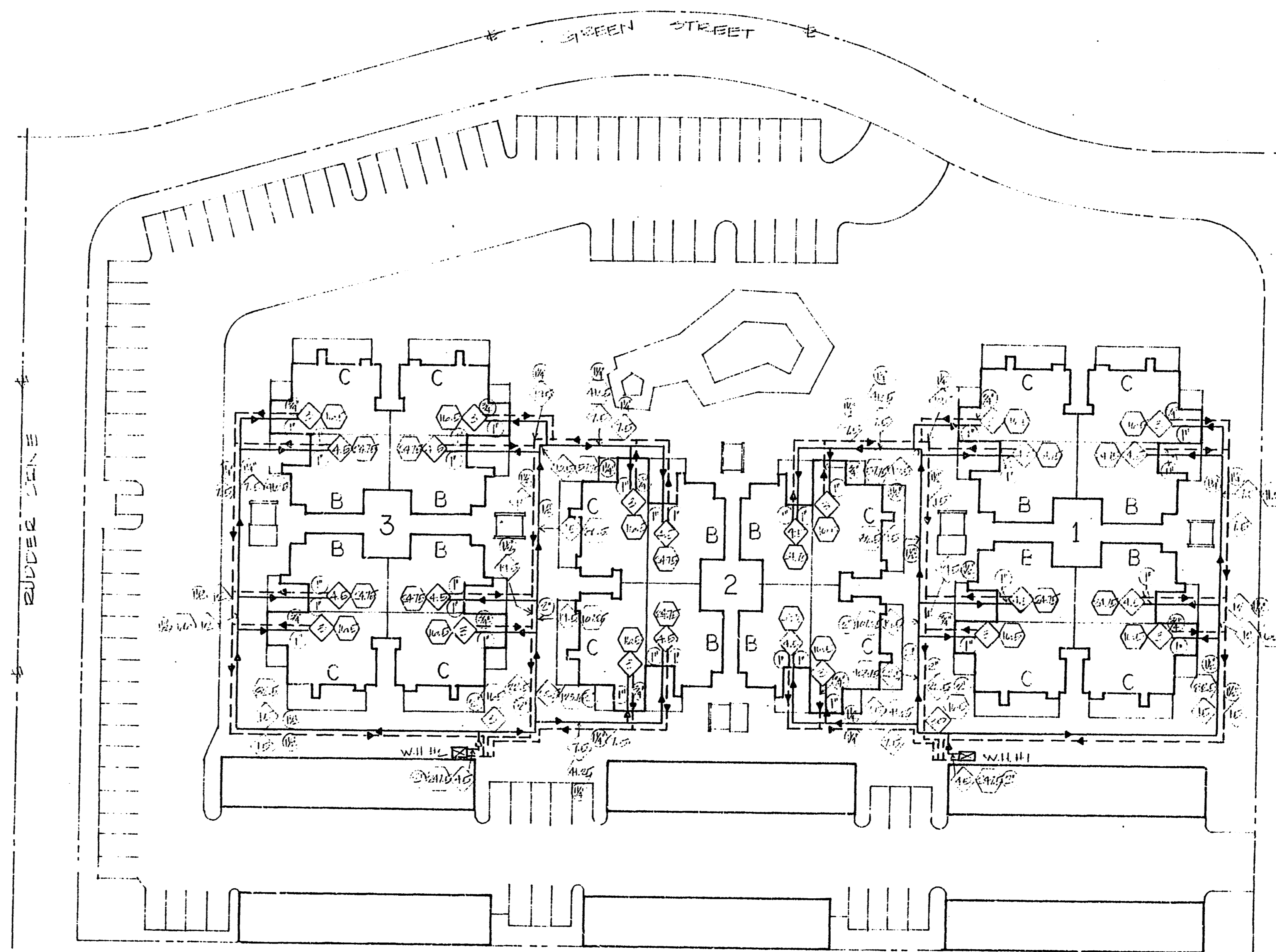
TYPICAL FLOW METER LOCATIONS
MINIMUM DIMENSIONS SHOWN



WATER HEATER PIPING DETAIL



WH NO.	PLICE DESIGNATED BY WH	WATER HEATER MANUFACTURER AND MODEL NO.	DESIGN FLOW (G.P.M.)	DESIGN PRESSURE (PSI)	DESIGN TEMPERATURE (°F)	WATER HEATER MODEL NO.	WATER HEATER SERIAL NO.	WATER HEATER MANUFACTURER	WATER HEATER DATE	WATER HEATER LOCATION	WATER HEATER TYPE	WATER HEATER SIZE	WATER HEATER WEIGHT (LBS)	WATER HEATER HEIGHT (IN)	WATER HEATER WIDTH (IN)	WATER HEATER DEPTH (IN)	WATER HEATER VOLUME (GALLONS)	WATER HEATER COMMENTS	
1	H-1	RAYDRONIC H-1112	4.0	150	180	H-1112	11-53	RAYDRONIC	11-53	11-53	11-53	11-53	11-53	11-53	11-53	11-53	11-53	11-53	11-53
2	H-2	RAYDRONIC H-1112	4.0	150	180	H-1112	11-53	RAYDRONIC	11-53	11-53	11-53	11-53	11-53	11-53	11-53	11-53	11-53	11-53	



SCALE - 1" = 20'

10498

REVISIONS	DATE	BY	DESCRIPTION

PLUMBING DESIGN, INC.
2555 PERATA DR. SUITE B
LAKELAND, FL. 34601
(813) 775-4000

HERMANSEN
2555 SPRINGDALE SUITE 104
LAKELAND, FL. 34601
(813) 775-4000

HARDE VISTA
FLORIDA
LAKELAND, FL. 34601
LAKELAND, FL. 34601

DESIGNED BY
CATHY

NO. 404

DATE
6-20-80

SHEET

RAYDRONIC P-1