Title block:

MERCER ISLAND SEWER DISTRICT
ULID NO 1

PUMPING STATIONS - SCHEDULE B
PUMP STATION NO 1

CAREY and KRAMER
CONSULTING ENGINEERS
SEATTLE, WASHINGTON

REVISIONS	DES. BY: AGC & LAN	DATE:
	DW'N BY: LAN/AGC	NOV 1955
	CK'D BY: LAN	
	APV'D BY: K	SCALE: AS NOTED

DRAWING NO. 5409-01B

Ken Wiersema P.E.
COUGHLIN PORTER LUNDEEN
STRUCTURAL CIVIL SEISMIC ENGINEERING
801 SECOND AVENUE, SUITE 900
SEATTLE, WA 98104
(206) 343-0460
www.cplinc.com

Drawing titles:

PLAN BELOW ROOF SLAB — Scale 1/2" = 1'-0"

SECTION A-A — Scale 1/2" = 1'-0"

SECTION B-B — Scale 1/2" = 1'-0"

SECTION C-C — Scale 1/2" = 1'-0"

SITE PLAN — Scale 1" = 20'

DETAIL "A" — Scale 1" = 1'-0"

DETAIL "B" — INTAKE - SUMP

PLAN BELOW ROOF SLAB — Scale 1/2" = 1'-0"

NOTES FOR CIRCULAR STATION

DATUM = U.S.C. & G.S., M.S.L. 1929

General Notes:

- GENERAL NOTES -

PUMPS: 1 - 300 G.P.M. @ 6' T.D.H. VERTICAL R.H. SEWAGE PUMP WITH 1 H.P., 3 PH. 60 CYCLE, 220 V. MOTOR (SEE SPECS.)
1 - 250 G.P.M. @ 6' T.D.H. VERTICAL R.H. SEWAGE PUMP WITH 1 H.P., 3 PH. 60 CYCLE, 220 V. MOTOR (SEE SPECS.)
SUMP PUMP - FAIRBANKS MORSE #CO SUBMERSIBLE TYPE WITH 1/3 H.P. 110 VOLT SINGLE PHASE MOTOR.
MOTORIZED VALVE - 10" IRON BODY BRZ. MOUNTED DOUBLE DISC WEDGE TYPE GATE VALVE WITH LIMITORQUE DRIVE UNIT FOR 220 V SINGLE PHASE OPERATION.
FLOAT CONTROLS: FLOAT CONTACTS SHALL BE ADJUSTABLE BETWEEN EL. 7.0 TO 14.5.

STRUCTURAL

1. ALL REINF. CONC. WORK SHALL BE IN ACCORDANCE W/ THE ACI BLDG CODE ACI 318-51
2. ALL CONC. SHALL HAVE 28 DAY STRENGTH OF 3,000 PSI.
3. REINF. STL. SHALL BE NEW BILLET, INTERMEDIATE GRADE DEFORMED BARS. DEFORMATION SHALL BE IN ACCORDANCE W/ ASTM A-305. fs = 20,000 PSI.
4. CONSTRUCTION JOINTS SHALL BE AS SHOWN OR AS APPROVED BY THE ENGR. JOINTS SHALL BE SHOWN ON REINF. STL. PLACING PLANS.
5. LAPS FOR REINF. STL. SHALL BE A MINIMUM OF 20 DIAM.
6. ALL WALLS SHALL HAVE A SMOOTH FLYFORM FINISH.
7. ALL SLABS SHALL BE FLOAT FINISHED.
8. ALL CONSTRUCTION JOINTS BELOW EL 14.5 SHALL BE WATER-TIGHT.
9. SEE DWG 5409-08B FOR TYPICAL CONSTRUCTION DETAILS.

- PAINTING -

1. ALL CAST IRON & STEEL PIPE, VALVES & FITTINGS NOT GALV. TO BE PAINTED WITH 1 COAT "INERTOL" 621 AND 2 COATS "INERTOL" STD. BLACK.

Record information box:

Record information indicates 3 gravity inflows to this structure:
--A City main from the south (20th Street) Under the property line.
--A City main from the east
--The shared side sewer from 7840 and 8000 properties (from the west).

Per this drawing all gravity pipes enter the pump within 5-feet of the surface. Only one of them (the private side sewer) from the west.

Three pipes exit this facility:
--The Force main-to the northwest
--A gravity overflow; west and then north
--A suction intake; to the north

The force main has been found about 3-feet below grade to the Northwest of the vault.

The overflow appears to to come out next to the private side sewer, about the same depth (3-feet below grade), and runs to the lake by gravity.

The suction intake is supposed to be deep, under the neighbor's dock. Based on the actual location of the vault, this pipe is all on the neighboring property.

The Surveyor found the water level in the wet well side of this facility to be about 5.6-feet below the lid, which aligns with the record entry within the two City mains.

A gravity pipe could not enter the vault any deeper than the static level of the water, and still flow reliably. If the wet well static water depth is about 6-feet above the floor of the vault, then that is the minimum depth of a gravity inflow pipe.

Red annotation callouts:

- Public sewers into vault See below about 5-feet below surface
- Depth to force main top — 2.7 ft
- Note: Vault actually installed to the east of the property line, immediately south of the neighbor's dock
- Exact location of pump station shall be determined by Engr. in field
- 6-inch side sewer 8000 20th Street about 3-feet below grade
- From 20th Street about 5-feet below grade
- From east properties about 5-feet below grade
- Force main out of vault about 3-feet below grade
- Note: This drawing on a different datum than the current survey. 20.69 (Survey)=16.5 (Sewer Design) Diff=4.19'
- Overflow to lake about 3-feet below grade at vault, slope to lake
- Private sewer into vault about 3-feet below grade
- Sewer main from 20th Street and from east 5-ft deep +/-
- Top of this vault is at or near grade (visible in field)
- Private Side sewer from 8000 20th Street 3-ft or less below surface
- overflow to lake about 3-ft deep
- Suction line? runs due north under neighbor's dock
- Water level observed per survey
- 15.19?

Section dimension annotations: 10.8 ft, 9.0 ft, 5.6 ft, 5.5 ft, 10.9 ft

Site plan labels: LAKE WASHINGTON, R.H. JOHNSON, R.T. LAMSON, H.W. WITHINGTON, A.D. SHERWOOD, PROPERTY LINE, DOCK, SHORELINE PROTECTED W/ ROCK RIP-RAP

NOTE! ELEV. OF SHERWOOD & WITHINGTON PROPERTIES IS APPROX. 16.5

Plan labels: DRY WELL, WET WELL, SUBMERSIBLE SUMP PUMP, THRU WALL ASSEM., ELEV. 16.9', EL. 7.0, FLR. EL. 4.0

DATUM = U.S.C. & G.S., M.S.L. 1929