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January 8, 1979
PLN-207

Director of Nuclear Reactor Regulation
Attention: Mr. William H. Regan, Jr., Chief
Environmental Projects Branch 2
Division of Site Safety and
Environmental Analysis
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Puget Sound Power & Light Company
Skagit Nuclear Power Project, Units 1 & 2
Docket Numbers 50-522 and 50-523
Red Cabin/Muddy Creek Study

Dear Mr. Regan:

Attached for your information are four tables and one figure that present data collected from a Puget hydrological survey in the Skagit floodplain in the general vicinity of the proposed Ranney Collectors between August and November, 1978. The water table elevations presented in Table 1 were derived from surveying existing domestic wells at the locations shown on Figure 1.

The initial (August-September) readings were obtained prior to detailed surveying of elevations at the wells and creek stations to qualitatively characterize ambient conditions. The accuracy of the subsequent measurements is as indicated below:

Ground Water Levels

Elevation of reference point	+0.020 foot
Distance from reference point to water level	+0.05 foot

Stream Flow Measurements*

Time for flow meter revolutions	+0.2 seconds
Width of stream	+0.1 foot
Depth of stream of each segment	+0.05 foot

*Measurements taken with Pygmy Gurley Meter.

A few comments on Figure 1 are appropriate. As shown, there is no surface water connection to the southeast between the eastern headwaters of Etach

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Creek and the Skagit River during normal flow conditions. Although Red Cabin Creek has not been observed to be flowing at Station RC-3 during the reported observations, the only outfall point possible to the Skagit is to the west through Etach Creek. Natural flow conditions of Red Cabin Creek are from north to south with confluence at Etach Creek. No natural or other obstructions are present to hinder this flow.

Etach Creek (Figure 1), east of its confluence with Red Cabin, has no direct connection with the Skagit River. It is closed off from Red Cabin Creek by a natural buildup of material and is murky, making it not conducive to spawning. To the extreme east, the headwaters of Etach Creek fork in the vicinity of Cockreham Road.

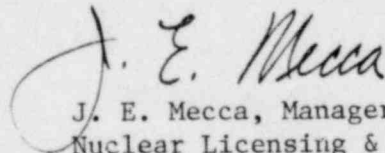
The southern fork of this section has a log-jam at its juncture with the northern fork which obstructs flow. The culvert located at Cockreham Road for this section is also blocked by mud and other debris.

During the observation period the existence of the indicated northern fork could not be ascertained. The area where this fork is depicted on Figure 1 did not contain any water nor any indications that water had been there.

Mannser Slough, just north of Etach, has not been in communication with Red Cabin for several years. The western portion of this slough, for several hundred yards, has been filled in by local residents.

If you desire further explanation of the attached information, please contact the undersigned.

Very truly yours,



J. E. Mecca, Manager
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Attach.

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TABLE 1

SUMMARY OF GROUND WATER LEVEL MEASUREMENTS
IN EXISTING WELLS

Well No.	Reference Point Elevation (feet) (a)	Water Level (Early August, 1978) Elevation (feet) (a)	Water Level (October 24, 1978) (Elevation (feet) (a)	Water Level (November 2, 1978) Elevation (feet) (a)
1	82.97	72.7	73.2	73.2
2	90.62	79.6	—	—
3	140.44	91.1	90.9	90.6
4	113.78	91.2	90.2	90.0
5	93.19	79.0	80.1	79.9
6	109.17	88.7	86.8	86.7
7	87.43	77.4	78.3	78.3
8	161.71	93.0	91.1	90.8
9	126.58	—	89.5	90.3

(a) Elevation expressed in feet above Mean Sea Level (MSL)

TABLE 2

LOCATIONS OF GROUND WATER LEVEL MEASUREMENT WELLS

Well No.	Coordinates	
1	N 559587	E 708091
2	N 561691	E 711002
3	N 561608	E 717549
4	N 560474	E 719554
5	N 558735	E 716099
6	N 560663	E 715896
7	N 560884	E 710673
8	N 562426	E 718404
9	N 561437	E 719619

TABLE 3

SUMMARY OF STREAM FLOW MEASUREMENTS

Measurement Station (Creek)	Creek Bed Elevation (feet) (a)	Flow on August 8, 1978 (cfs)	Flow on August 30, 1978 (cfs)	Flow on September 7, 1978 (cfs)	Flow on October 5, 1978 (cfs)	Flow on October 25, 1978 (cfs)	Flow on November 2, 1978 (cfs)
MC-1 (Muddy)	137.6	0.21	0.60	7.00	2.90	4.10	2.60
MC-2 (Muddy)	103.3	0.17	--	--	2.50	3.90	2.00
MC-2A (Muddy)	100.6	--	--	--	--	4.40	2.30
MC-3 (Muddy)	98.1	0.14	0.50	6.40	2.20	--	--
MC-4 (Muddy)	88.6	dry	--	4.40	1.50	2.50	1.30
RC-1 (Red Cabin)	270.5	3.10	--	4.80	3.20	3.00	2.80
RC-2 (Red Cabin)	95.3	dry	dry	0.70	0.73	0.48	0.52
RC-3 (Red Cabin)	80.5	dry	dry	dry	dry	dry	dry

(a) Elevations expressed in feet above Mean Sea Level (MSL).

TABLE 4

LOCATIONS OF STREAM FLOW MEASUREMENT STATIONS

(a)		
Station	Coordinates	
MC-1	N 561658	E 717999
MC-2	N 559967	E 717430
MC-2A	N 559652	E 717408
MC-3	N 559520	E 717149
MC-4	N 558971	E 716367
RC-1	N 566645	E 715380
RC-2	N 561847	E 711895
RC-3	N 560496	E 711242

(a) Coordinates are those of reference points near each measurement station.

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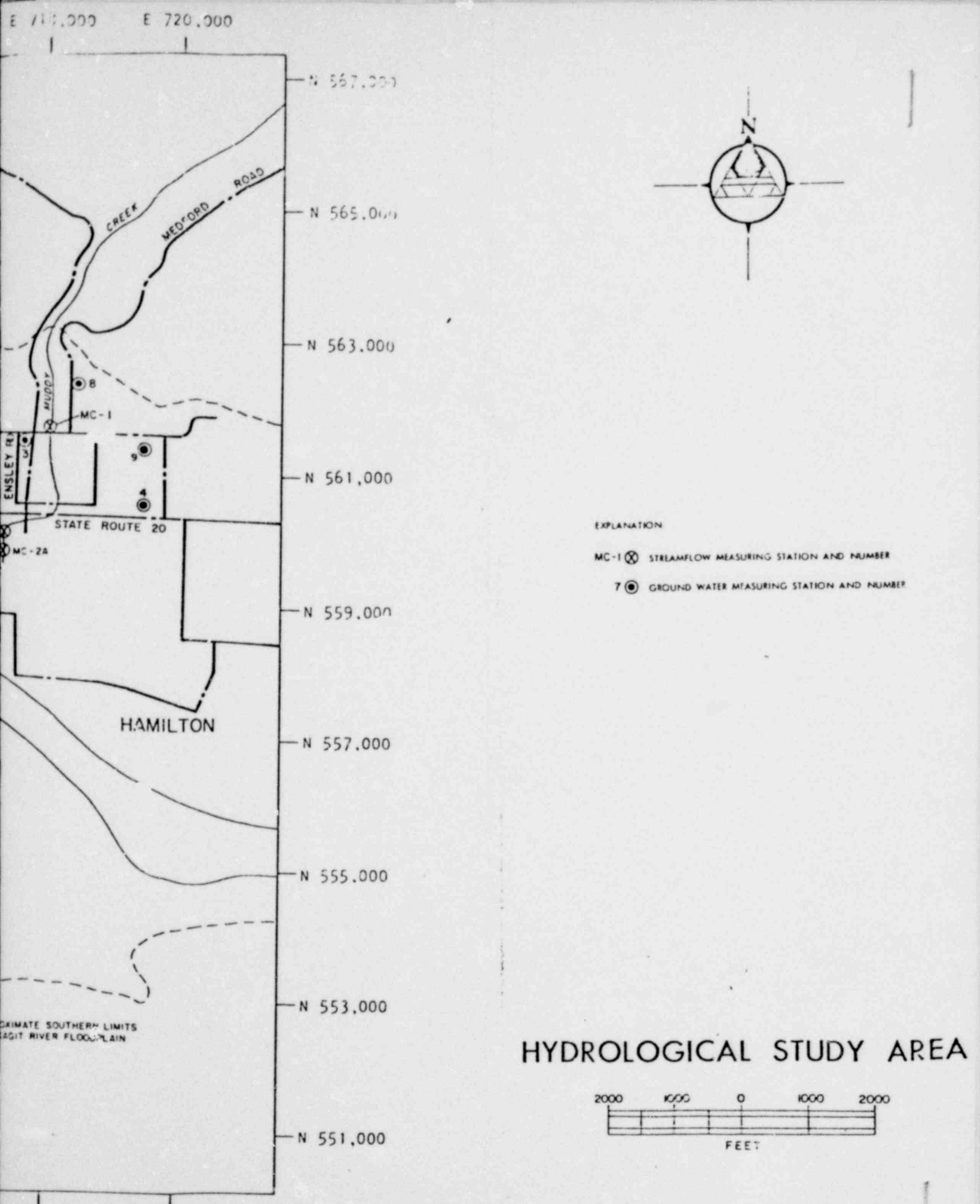


FIGURE 1