APPENDIX G

GEOGRAPHIC INFORMATION SYSTEM DATABASE

APPENDIX G

GEOGRAPHIC INFORMATION SYSTEM DATABASE

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APPENDIX G

GEOGRAPHIC INFORMATION SYSTEM DATABASE

For the first phase of the study, Shannon & Wilson, Inc. completed a literature search for the Greenwood area. Data from Shannon & Wilson, Inc., files and publicly available reports for previous geotechnical studies performed within the designated study area were compiled. In addition to Shannon & Wilson, Inc. file room data was gathered from the University of Washington Seattle Geologic Mapping Project and the Seattle Engineering Department, Records Vault. The results of the literature search are presented in our initial project report to Seattle Public Utilities entitled, "Results of Existing Documents Review," dated September 24, 2003.

The information from the literature search was combined with the subsurface information obtained as part of our exploration and monitoring program to form a database. The database was incorporated into a Geographic Information System (GIS), which was then used to produce the peat and groundwater maps presented in this report.

Table G-1, List of Explorations, summarizes the geologic information gathered and used for the Greenwood Subsurface Characterization Study.

Table G-2, List of Data Sources, summarizes the original authors of the information used in the analyses.

Table G-3, Summary of Groundwater Level Information, and Table G-4, Summary of Groundwater Observations From Shannon & Wilson Explorations Completed for this Study, summarize groundwater level information gathered and used for the Greenwood Subsurface Characterization Study.

TABLE G-1
LIST OF EXPLORATIONS

Project Number	Exploration Number	Data Source Code[1]	Exploration Type	Date	Surface Elevation (Ft)	Total Depth of Exploration (Ft)	Peat	Depth to Top of Peat (Ft)	Depth to Bottom of Peat (Ft)	Peat Thickness (Ft)
1	TP-1	I	Test Pit	8/17/1998	254.0	10.0	Y	0	6	6.0
1	TP-2	I	Test Pit	8/17/1998	253.5	12.0	Y	0	8	8.0
2	TB-1	E	Boring	3/6/1990	246.0	25.0	Y	0	8.0	8.0
3	B-1	M	Boring	4/29/1983	241.0	24.0	Y	0	8.5	8.5
4	TP-1	A	Test Pit	7/2/1991	243.5	20.0	Y	0	15	15.0
4	TP-2	A	Test Pit	7/2/1991	242.0	20.0	Y	0	15	15.0
7	TP-1	T	Test Pit	2/10/1983	293.0	11.0	N			0.0
7	TP-2	T	Test Pit	2/10/1983	289.5	11.0	Y	4	6	2.0
7	TP-3	T	Test Pit	2/10/1983	288.5	11.0	Y	4	6	2.0
7	TP-4	T	Test Pit	2/10/1983	289.0	10.5	Y	4	4.5	1.0
7	TP-5	T	Test Pit	2/10/1983	298.5	11.5	N			0.0
7	TP-6	T	Test Pit	2/10/1983	296.0	11.0	N			0.0
8	TP-1	X	Test Pit	11/11/1980	285.0	12.0	Y	8	11	3.0
8	TP-2	X	Test Pit	11/11/1980	291.0	13.0	Y	8	12	4.0
8	TP-3	X	Test Pit	11/11/1980	293.5	12.0	Y	10		0.0
9	TP-1	W	Test Pit	4/22/1981	277.0	10.0	Y	0	9.5	9.5
9	TP-2	W	Test Pit	4/22/1981	276.5	12.5	Y	0	12	12.0
10	TP-1	AG	Test Pit	3/1/1976	278.0	11.5	N			0.0
10	TP-2	AG	Test Pit	3/1/1976	275.5	3.0	N			0.0
11	1	U	Boring	12/30/1994	238.0	13.0	Y	0	9	9.0
11	2	U	Boring	12/30/1994	237.0	12.0	Y	0	7	7.0
12	TP-1	K	Test Pit	7/2/1981	238.5	14.0	Y	1.5	10.5	9.0
12	TP-2	K	Test Pit	7/2/1981	237.5	10.0	Y	3.5	7.5	4.0
12	TP-3	K	Test Pit	7/2/1981	239.0	8.0	Y	2	4	2.0
12	TP-4	K	Test Pit	7/2/1981	238.0	10.0	Y	3	7.0	4.0
12	TP-5	K	Test Pit	7/2/1981	238.5	8.0	Y	2.5	4.5	2.0
12	TP-6	K	Test Pit	7/2/1981	239.5	8.0	Y	4	6	2.0
15	B-1	R	Boring	1/21/1997	263.5	13.0	N			0.0
15	B-2	R	Boring	1/21/1997	263.0	11.5	N			0.0
16	B-1	AH	Boring	2/13/1990	252.0	38.5	Y	0	8.5	8.5
16	B-2	AH	Boring	2/13/1990	259.5	39.9	Y	5	9	4.0
16	B-3	AH	Boring	2/13/1990	261.5	33.5	N			0.0
17	1	AE	Boring	4/29/1981	252.5	7.5	Y	2		0.0
17	2	AE	Boring	4/29/1981	253.5	7.5	Y	2.5		0.0
17	3	AE	Boring	5/8/1981	253.5	3.5	Y	3		0.0
17	4	AE	Boring	5/8/1981	256.0	7.5	Y	4.5		0.0
17	5	AE	Boring	5/8/1981	256.0	7.5	Y	6.5		0.0
17	6	AE	Boring	5/8/1981	257.5	7.5	N			0.0
18	B-1	J	Boring	1/15/1980	260.0	29.0	Y	4	12	8.0

TABLE G-1
LIST OF EXPLORATIONS

Project Number	Exploration Number	Data Source Code[1]	Exploration Type	Date	Surface Elevation (Ft)	Total Depth of Exploration (Ft)	Peat	Depth to Top of Peat (Ft)	Depth to Bottom of Peat (Ft)	Peat Thickness (Ft)
19	B-1	Q	Boring	3/13/1998	256.0	41.5	Y	2	11	9.0
19	B-2	Q	Boring	3/13/1998	259.5	30.5	Y	3	11	8.0
19	B-3	Q	Boring	3/13/1998	258.5	31.0	Y	10.5	11.5	1.0
19	B-4	Q	Boring	3/13/1998	261.0	70.5	N			0.0
20	B-1	N	Boring	7/28/1999	266.0	21.0	Y	1.5	7.5	6.0
20	B-2	N	Boring	7/28/1999	268.0	21.0	N			0.0
20	B-3	N	Boring	7/28/1999	296.0	21.0	N			0.0
20	B-4	N	Boring	7/28/1999	290.0	15.5	N			0.0
20	B-5	N	Boring	7/28/1999	264.0	21.0	Y	7	11.5	4.5
20b	B-101	O	Boring	2/2/2001	293.0	51.5	N			0.0
20b	B-102	O	Boring	2/2/2001	265.5	21.5	N			0.0
20b	B-103	O	Boring	2/2/2001	267.0	20.5	Y	1	6	5.0
20b	B-1-96	O	Boring	4/19/1996	260.0	19.0	Y	5	11.5	6.5
20b	B-2-96	O	Boring	4/19/1996	258.0	18.5	Y	7	12.0	5.0
20b	B-3-96	O	Boring	4/19/1996	258.0	19.0	N			0.0
21	B-1	P	Boring	12/8/1992	277.0	18.5	N			0.0
21	B-2	P	Boring	12/8/1992	292.0	39.0	N			0.0
21	B-3	P	Boring	12/8/1992	285.5	28.5	N			0.0
22	B-1	AJ	Boring	12/11/1986	331.0	18.0	N			0.0
22	B-2	AJ	Boring	12/11/1986	330.0	18.0	N			0.0
23	TP-1	C	Test Pit	5/28/1987	285.5	7.0	N			0.0
23	TP-2	C	Test Pit	5/28/1987	291.0	7.0	N			0.0
23	TP-3	C	Test Pit	5/28/1987	288.0	6.0	N			0.0
24	1	B	Boring	12/6/1990	272.0	25.5	N			0.0
24	2	B	Boring	12/6/1990	269.0	25.5	N			0.0
24	3	B	Boring	12/6/1990	268.0	25.5	N			0.0
25	TP-1	D	Test Pit	8/14/1989	287.5	9.0	N			0.0
25	TP-2	D	Test Pit	8/14/1989	286.0	7.0	N			0.0
25	TP-3	D	Test Pit	8/14/1989	287.0	5.0	N			0.0
26	H-2	AF	Boring	3/1/1978	262.0	19.5	Y	3	8.5	5.5
26	HH-2	AF	Hand Borin	4/3/1989	265.0	8.5	Y	3		0.0
29	1	AI	Boring	12/3/1969	244.5	12.5	Y	1	6.5	5.5
29	2	AI	Boring	12/3/1969	246.5	10.0	Y	0	6.5	6.5
29	3	AI	Boring	12/3/1969	247.5	7.0	Y	0	4	4.0
29	4	AI	Boring	12/3/1969	261.0	12.5	N			0.0
29	5	AI	Boring	12/3/1969	251.0	10.0	Y	1.5	5.5	4.0
29	6	AI	Boring	12/3/1969	247.0	10.0	Y	1	6.5	5.5
29	TP-1	AI	Test Pit	12/3/1969	251.5	6.7	N			0.0
29	TP-2	AI	Test Pit	12/4/1969	245.0	10.0	Y	0	6	6.0

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Project Number	Exploration Number	Data Source Code[1]	Exploration Type	Date	Surface Elevation (Ft)	Total Depth of Exploration (Ft)	Peat	Depth to Top of Peat (Ft)	Depth to Bottom of Peat (Ft)	Peat Thickness (Ft)
29	TP-3	AI	Test Pit	12/4/1969	251.0	10.0	Y	0	4.5	4.5
30	TB-1	S	Boring	6/11/2003	250.5	40.5	N			0.0
30	TB-2	S	Boring	6/11/2003	265.5	40.5	N			0.0
30	TB-3	S	Boring	6/10/2003	260.5	39.5	N			0.0
30	TB-4	S	Boring	6/10/2003	266.0	41.5	N			0.0
30	TB-5	S	Boring	6/9/2003	265.0	41.0	N			0.0
30	TB-6	S	Boring	6/10/2003	264.0	40.5	N			0.0
30	TB-7	S	Boring	6/11/2003	256.5	40.5	Y	5	10	5.0
30	TB-8	S	Boring	6/10/2003	261.5	40.5	N			0.0
0057	1	H	Boring	11/21/1963	249.0	6.5	Y	0	3.5	3.5
0057	2	H	Boring	11/21/1963	243.0	13.5	Y	0	10	10.0
0059	3	H	Boring	12/9/1963	256.0	14.0	Y	1.5	10.5	9.0
0059	4	H	Boring	12/10/1963	243.5	20.5	Y	0	17	17.0
777-102	1	V	Boring	4/1/1949	265.5	8.0	N			0.0
777-102	2	V	Boring	4/22/1949	262.0	15.0	N			0.0
777-102	3	V	Boring	4/22/1949	252.5	15.0	Y	0	11	11.0
777-102	4	V	Boring	4/22/1949	243.0	15.0	Y	0	15	15.0
777-102	5	V	Boring	4/22/1949	252.0	9.0	N			0.0
777-102	6	V	Boring	4/22/1949	261.0	9.0	N			0.0
777-102	9	V	Boring	4/22/1949	249.0	15.0	Y	2	13	11.0
777-102	10	V	Boring	4/22/1949	247.0	10.0	Y	0	5	5.0
777-102	11	V	Boring	4/22/1949	265.5	0.0	N			0.0
777-102	20	V	Boring	1/1/1949	253.5	17.0	Y	4	10	6.0
777-102	21	V	Boring	4/22/1949	259.0	18.0	Y	0	14	14.0
777-102	39	V	Boring	1/1/1949	253.5	19.0	Y	2	10	8.0
777-220	2	AK	Boring		260.5	17.0	Y	5	13	8.0
777-220	5	AK	Boring	6/17/1966	247.0	23.0	Y	2	5	3.0
777-220	7	AK	Boring	2/29/1972	260.5	20.0	N			0.0
777-220	8	AK	Boring	2/29/1972	260.0	15.0	N			0.0
777-220	9	AK	Boring	4/22/1949	255.0	3.0	N			0.0
777-220	10	AK	Boring	1/1/1949	250.5	4.0	N			0.0
777-220	12	AK	Boring	4/22/1949	243.0	6.0	N			0.0
777-220	13	AK	Boring	1/1/1949	281.0	10.0	N			0.0
770-220	20	AK	Boring	6/11/1973	300.0	14.0	N			0.0
777-220	21	AK	Boring	6/11/1973	276.0	15.0	N			0.0
2569A	1	Y	Boring	6/14/1966	244.0	21.0	Y	1	14	13.0
2569A	2	Y	Boring	6/15/1966	238.0	18.0	Y	3	9	6.0
2569B	3	Y	Boring	6/15/1966	238.0	27.5	Y	1	7	6.0
2569B	4	Y	Boring	6/16/1966	239.5	23.0	Y	4	8	4.0

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Project Number	Exploration Number	Data Source Code[1]	Exploration Type	Date	Surface Elevation (Ft)	Total Depth of Exploration (Ft)	Peat	Depth to Top of Peat (Ft)	Depth to Bottom of Peat (Ft)	Peat Thickness (Ft)
2569C	5	Y	Boring	6/17/1966	238.0	28.0	Y	1.5	8	6.5
2569c	6	Y	Boring	7/13/1966	241.0	21.5	Y	0	8	8.0
2569D	7	Y	Boring	6/17/1966	242.0	28.0	Y	1.5	9.5	8.0
2569D	8	Y	Boring	6/20/1966	247.0	28.0	Y	1	8	7.0
2569E	9	Y	Boring	6/20/1966	246.0	13.0	Y	3	6.5	3.5
2569E	10	Y	Boring	6/21/1966	246.0	16.0	Y	2	5.5	3.5
2569E	11	Y	Boring	6/21/1966	246.5	18.0	Y	2	7	5.0
2569F	12	Y	Boring	6/22/1966	238.0	23.0	Y	2	8	6.0
4264	172	F	Boring	1/1/1949	302.0	5.0	N			0.0
4264	93	F	Boring	1/1/1949	260.5	17.0	Y	5	13	8.0
4266	12	F	Boring	1/1/1949	259.0	15.0	Y	8	13	5.0
4266	13	F	Boring	1/1/1949	250.0	11.0	Y	0	7.0	7.0
4266	14	F	Boring	1/1/1949	249.5	10.0	Y	0	7	7.0
4266	15	F	Boring	1/1/1949	272.5	8.0	Y	3	6	3.0
4269	22	F	Boring	1/1/1949	241.0	15.0	Y	0	12	12.0
4269	23	F	Boring	1/1/1949	240.5	10.0	N			0.0
4269	24	F	Boring	1/1/1949	253.0	4.0	N			0.0
4270	32	F	Boring	1/1/1949	240.5	14.0	Y	6	9	3.0
4270	33	F	Boring	1/1/1949	246.0	3.0	N			0.0
4271	90	F	Boring	1/1/1949	251.5	15.0	Y	0	1	1.0
4271	91	F	Boring	1/1/1949	235.0	12.0	N			0.0
5084	B15	G	Boring	9/1/1967	244.0	38.0	N			0.0
6585	1	L	Boring	6/12/1967	258.0	29.0	Y	7	14	7.0
6585	2	L	Boring	6/13/1967	259.0	29.0	Y	7	15	8.0
6585	3	L	Boring	6/13/1967	261.0	29.0	Y	7	14	7.0
6585	4	L	Boring	6/13/1967	260.0	24.0	Y	7	16	9.0
7200	C	AC	Boring	4/24/1972	235.0	12.0	N			0.0
7201	4	AA	Boring	3/1/1972	246.5	20.0	N			0.0
7203	5	Z	Boring	2/29/1972	235.0	20.0	N			0.0
7204	8	Z	Boring	2/29/1972	241.0	25.0	Y	0	12	12.0
7205	10	Z	Boring	2/29/1972	263.5	20.0	Y	9	14	5.0
7205	9	Z	Boring	2/29/1972	250.0	15.0	Y	7	8	1.0
7731	1	AD	Boring	6/11/1973	260.5	15.0	N			0.0
7731	2	AD	Boring	6/11/1973	265.0	15.0	N			0.0
7733	6	AD	Boring	6/12/1973	301.5	15.0	N			0.0
7973	12	AB	Boring	4/17/1972	267.5	29.0	N			0.0
7973	13	AB	Boring	4/17/1972	245.5	8.5	Y	3	7	4.0
GB	1	See Note[2]	Boring	12/1/2003	282.5	35.4	Y	2.6	4.5	1.9
GB	2	See Note[2]	Boring	12/2/2003	238.5	60.9	Y	3.5	8.0	4.5

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LIST OF EXPLORATIONS

Project Number	Exploration Number	Data Source Code[1]	Exploration Type	Date	Surface Elevation (Ft)	Total Depth of Exploration (Ft)	Peat	Depth to Top of Peat (Ft)	Depth to Bottom of Peat (Ft)	Peat Thickness (Ft)
GB	3	See Note[2]	Boring	12/8/2003	241.0	31.5	Y	4.5	10.5	6.0
GB	4	See Note[2]	Boring	12/8/2003	253.0	30.4	Y	4.5	7.0	2.5
GB	5	See Note[2]	Boring	12/9/2003	246.5	31.5	Y	4.5	8.2	3.7
GB	6	See Note[2]	Boring	12/1/2003	250.0	31.5	Y	2.4	9.5	7.1
GB	7	See Note[2]	Boring	12/3/2003	249.5	60.9	Y	2	6	4.0
GB	8	See Note[2]	Boring	12/23/2003	251.5	30.9	Y	2.8	5.5	2.7
GC	9	See Note[2]	CPT	12/11/2003	284.0	3.4	N			0.0
GC	10	See Note[2]	CPT	12/11/2003	281.0	7.0	Y	3.5	6	2.5
GC	12	See Note[2]	CPT	12/11/2003	287.0	4.6	Y	2.5	4.5	2.0
GC	13	See Note[2]	CPT	12/11/2003	278.0	9.7	Y	4	6	2.0
GC	14	See Note[2]	CPT	12/11/2003	276.5	7.1	Y	2.5	3.5	1.0
GC	15	See Note[2]	CPT	12/11/2003	269.0	13.0	Y	4.5	6.5	2.0
GC	16	See Note[2]	CPT	12/11/2003	241.0	18.5	Y	6	11	5.0
GC	17	See Note[2]	CPT	12/11/2003	248.0	13.8	Y	5	7	2.0
GC	18	See Note[2]	CPT	12/11/2003	238.0	9.0	N			0.0
GC	19	See Note[2]	CPT	12/11/2003	244.0	4.1	N			0.0
GC	20	See Note[2]	CPT	12/11/2003	257.5	8.4	N			0.0
GC	22	See Note[2]	CPT	12/11/2003	252.5	5.3	N			0.0
GC	23	See Note[2]	CPT	12/11/2003	263.5	5.6	Y	3	5	2.0
GC	24	See Note[2]	CPT	12/11/2003	259.0	6.2	Y	2	5	3.0
GC	26	See Note[2]	CPT	12/11/2003	249.0	14.8	Y	3	11	8.0
GC	27	See Note[2]	CPT	12/11/2003	246.0	17.0	Y	5	9	4.0
GC	28	See Note[2]	CPT	12/11/2003	259.0	11.3	N			0.0
GC	31	See Note[2]	CPT	12/11/2003	253.0	12.6	Y	5	9	4.0
GC	32	See Note[2]	CPT	12/11/2003	268.0	13.6	N			0.0
GC	34	See Note[2]	CPT	12/11/2003	270.0	3.3	N			0.0
GC	37	See Note[2]	CPT	12/11/2003	254.5	11.3	Y	4	9	5.0
GC	38	See Note[2]	CPT	12/11/2003	252.5	39.7	Y	2	8	6.0

Notes

1 See Table C.2 for list of references
2 Explorations completed specifically for this study

TABLE G-2
LIST OF DATA SOURCES

Data Source Code	Data Source
A	Altinay and Associates, Inc., 1991, Report of soil investigation for the Huoth property: Report by Altinay and Associates, Inc., Seattle, Wash., for Darrell D. Huoth, Seattle, Wash., July, 5 pp.
B	Applied Geotechnology, Inc., 1991, Geotechnical engineering study, proposed radio telephone monopole tower, Seattle, Washington: Report by Applied Geotechnology, Inc., Bellevue, Wash., 14.351.015, for Cellular One, Seattle, Wash., January, 29 pp.
C	Cascade Geotechnical, 1987, Community psychiatric clinic, HUD Section 202 project, 9010 Greenwood Avenue N., Seattle, Washington: Report by Cascade Geotechnical, Kirkland, Wash., 875-13G, for John G. Henkle Financial Incorporated, Bellevue, Wash., May, 12 pp.
D	Cascade Geotechnical, 1989, Community Health Mental Health Agency, Greenwood, new 9 unit apartment building, 639 N.W. 85th Street, Seattle, Washington: Report by Cascade Geotechnical, Kirkland, Wash., 898-5G, for Community Health Mental Health Agency, Seattle, Wash., August, 12 pp.
E	Cascade Geotechnical, 1990, Aquino & Devera Residences, N.W. 90th Street at 4th Avenue N.W., Seattle, Washington: Report by Cascade Geotechnical, Kirkland, Wash., 9002-24G, for Alex Rolluda, Seattle, Wash., March, 14 pp.
F	City of Seattle, 1949, Greenwood Sewer District, records vault I.D. 4264, 4266, 4269, 4270, and 4271.
G	City of Seattle, 1967, Comprehensive transit plan, downtown to northwest route, log of borings: Prepared by Metropolitan Engineers.
H	City of Seattle Testing Laboratory, 1963, Holman, boring logs, records vault I.D. 0057 and 0059, hole nos. 1 – 4.
I	Crooks, R.R., 1998, Geotechnical report for a single family house, 8742 Palatine Ave. N., Seattle, WA: Report by Richard R. Crooks, P.E., Seattle, Wash., November, 10 pp.
J	Earth Consultants, Inc., 1980, Geotechnical engineering study, proposed McDonalds restaurant, N. 85th Avenue and Greenwood Avenue, Seattle, Washington: Report by Earth Consultants, Inc., Bellevue, Wash., E-1210, for McDonalds Corporation, Bellevue, Wash., February, 17 pp.
K	Earth Consultants, Inc., 1981, Geotechnical engineering study, two proposed residences, N.W. 92nd Street and 6th Avenue N.W., Seattle, Washington: Report by Earth Consultants, Inc., Bellevue, Wash., E-1605, for Lovor Corporation, Seattle, Wash., July, 16 pp.
L	Dames & Moore, 1967, Log of borings, North 87th Street and Greenwood Avenue North, boring 1-4, June 12-13.
M	Earth Consultants, Inc., 1983, Supplemental geotechnical engineering study, 9017 3rd Avenue Northwest, Seattle, Washington: Report by Earth Consultants, Inc., Bellevue, Wash., E-1297-1, for Roger Erickson, Erickson Construction, Edmonds, Wash., May, 6 pp.
N	Earth Consultants, Inc., 1999, Geotechnical engineering study, proposed Safeway No. 1389, 8704 Greenwood Avenue North, Seattle, Washington: Report by Earth Consultants, Inc., Bellevue, Wash., E-8866, for Safeway Stores, Inc., Bellevue, Wash., September, 44 pp.

TABLE G-2
LIST OF DATA SOURCES

Data Source Code	Data Source
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P	GeoEngineers, 1993, Report, geotechnical engineering services, Westview Plaza, 8740 [sic, with handwritten address correction to 8760] Greenwood Avenue North, Seattle, Washington: Report by GeoEngineers, Redmond, Wash., 2761-001-R05, for Westview Plaza Associates, Seattle, Wash., May, 21 pp.
Q	Geotech Consultants, Inc., 1998, Geotechnical engineering study, proposed mixed-use building, Greenwood Avenue North at North 87th Street, Seattle, Washington: Report by Geotech Consultants, Inc., Bellevue, Wash., JN 98091, for Mullally Development Company, Seattle, Wash., April, 23 pp.
R	Giles Engineering Associates, Inc., 1997, Geotechnical engineering exploration and analysis, proposed Vision Press Building, 8618 Third Avenue NW, Seattle, Washington: Report by Giles Engineering Associates, Inc., Lynnwood, Wash., 6G-9701020, for Fraley/Sticker Architects, P.S., Seattle, Wash., January, 31 pp.
S	GN Northern, Fred Meyer
T	Klima, J.A., 1977, Anderson-Magruder Building Addition, Permit No. 567396, Hollow Concrete Masonry Wall Supervision: Letter report by John A. Klima, P.E., Mercer Island, Wash., to Seattle Building Dept., Seattle, Wash., January, 1 pg.
U	Nelson-Couvrette & Associates, Inc., 1995, Geotechnical engineering report, planned residence, Seattle, Washington: Report by Nelson-Couvrette & Associates, Inc., Woodinville, Wash., 142894, for Butler Building Corporation, Seattle, Wash., January, 1995, 11 pp.
V	Parker & Hill Consulting Engineers, 1949, Greenwood Avenue Sewer District, sewer plan and profile: Report prepared by Parker & Hill Consulting Engineers, Seattle, Wash., project 777-102, for City of Seattle Engineering Department, Seattle Wash.
W	Rittenhouse-Zeman & Associates, Inc., 1981, Soils and foundation study, second lot southwest of 95th Street N. and 1st Avenue N.W., Seattle, Washington: Report by Rittenhouse-Zeman & Associates, Inc., Bellevue, Wash., W-3581, for Terhune Custom Homes, Kent, Wash., April, 7 pp.
X	Sa Hong Consulting Engineers, 1980, Soil evaluation, 9248 Palatine Ave. N., Seattle, Washington: Report by Sa Hong Consulting Engineers, Lynnwood, Wash., for Curtis Woodward, Seattle, Wash., November, 7 pp.
Y	Seattle Engineering Department, 1966, Holman Road, Log of test borings, Project 2569A-F, hole nos. 1 – 12.
Z	Seattle Engineering Department, 1972, N. Greenwood W., Log of test boring, Projects 07203, 07204, and 07205, hole nos. 5, 8, 9. and 10, February 29.
AA	Seattle Engineering Department, 1972, N. Greenwood, Log of test boring, Project 07201, hole no. 4, March 1.
AB	Seattle Engineering Department, 1972, Neil J. Sandal playfield, Log of test boring: Seattle Engineering Department, Project 7973, hole nos. 12 and 13, April 17.
AC	Seattle Engineering Department, 1972, W. Greenwood, Log of test boring/pit, Project 07200, hole no. C, April 24.

TABLE G-2
LIST OF DATA SOURCES

Data Source Code	Data Source
AD	Seattle Engineering Department 1973, N. Greenwood W. #3, Log of test boring, Projects 7731 and 7733, hole nos. 1, 2, and 6, June 19.
AE	Seattle Engineering Department, 1981, Palatine Avenue North, Log of test borings, hole nos. 1 – 6, April 29 and May 8.
AF	Seattle Engineering Department, 1989, Greenwood Avenue North, North 85th Street to North 87th Street, Log of test boring, hand hole nos. 1 and 2, March 31 and April 3.
AG	Shannon & Wilson, Inc., 1976, Subsurface explorations and report on lot located immediately north of 9547 First Avenue N.W., Seattle: Report by Shannon & Wilson, Inc., Seattle, Wash., W-3006-01, for McAbee Construction Co., Inc., Seattle, Wash., March, 6 pp.
AH	Shannon & Wilson, Inc., 1990, Geotechnical report, proposed alterations and additions to Greenwood retail store, Fred Meyer, Inc., 100 N.W. 85th Street, Seattle, Washington: Report by Shannon & Wilson, Inc., Seattle, Wash., W-5409-01, for Fred Meyer, Inc., Seattle, Wash., March, 18 pp.
AI	Sprout Engineers & Associates, Inc., 1970, Soils investigation, North Greenwood Playground, Seattle, King County, Washington: Report by Sprout Engineers & Associates, Inc., Kent, Wash., WA-2069-F, for the City of Seattle, Parks & Recreation Dept., Seattle, Wash., January, 31 pp.
AJ	Terra Associates, Inc., 1987, Geotechnical engineering study, proposed apartment building, Phinney Avenue North & North 90th Street, Seattle, Washington: Report by Terra Associates, Inc., Redmond, Wash., T-414, for Architects Design Group, Lynnwood, Wash., January, 13 pp.
AK	Wilsey & Ham, Inc., 1974, North Greenwood—West storm drains, construction contract no. 3: Report prepared by Wilsey & Ham, Inc., Renton, Wash., project 777-220, for City of Seattle Engineering Department, Seattle, Wash.

TABLE G-3
SUMMARY OF GROUNDWATER LEVEL INFORMATION

Project No.	Exploration No.	Groundwater Information			Geologic Unit	Ground Surface Elevation (Ft)	Depth to Groundwater (Ft)	Water Level Elevation (NAVD 88) (Ft)	Comments
		None	Inferred	Measured					
1	TP-1		8/17/98		Peat	254	1	253	
1	TP-2		8/17/98		Peat	253	1	252	Heave
2	TB-1			3/6/90	Peat	247	3	244	Well installed
3	B-1			4/29/83	Peat	241	2	239	Estimate
4	TP-1	7/2/91			Peat	242	2	240	Estimate
4	TP-2	7/2/91			Peat	242	2	240	
7	TP-1			2/10/83	Organic Silt	294	6.5	287.5	
7	TP-2			2/10/83	Organic Silt	290	6	284	
7	TP-3			2/10/83	Organic Silt	288	5	283	
7	TP-4			2/10/83	Organic Silt	289	7	282	
7	TP-5	2/10/83			Fill	296	-	-	
7	TP-6	2/10/83			Fill	298	-	-	
8	TP-1			11/11/80	Peat	286	8	278	Minor seepage
8	TP-2	11/11/80			-	291	-	-	
8	TP-3	11/11/80			-	294	-	-	
9	TP-1			4/22/81	Peat	277	3	274	
9	TP-2			4/22/81	Peat	277	2	275	
10	TP-1	3/16/76			S & G	278	-	-	
10	TP-2	3/16/76			S & G	276	-	-	
11	OA-1			12/30/94	Peat	238	4	234	
11	OA-2	12/30/94			Peat	-	-	-	
12	TP-1		7/2/81		Peat/SM	238	10	228	GW noted in silty sand, below peat,
12	TP-2		7/2/81		Peat/SM	238	7.5	230	static level likely higher
12	TP-3		7/2/81		Peat/SM	239	6	233	"
12	TP-4		7/2/81		Peat/SM	238	6.5	231	"
12	TP-5	7/2/81			SM	238	-	-	
12	TP-6	7/2/81			SM	239	-	-	
13	TH-1		9/13/67		Sand	251	6.5	244.5	Not plotted on map, no peat
13	TH-2		9/13/67		Sand	252	9	243	"
13	TH-3		9/13/67		Sand	251	8	243	"

TABLE G-3
SUMMARY OF GROUNDWATER LEVEL INFORMATION

Project No.	Exploration No.	Groundwater Information			Geologic Unit	Ground Surface Elevation (Ft)	Depth to Groundwater (Ft)	Water Level Elevation (NAVD 88) (Ft)	Comments
		None	Inferred	Measured					
13	TH-4		9/13/67		Sand	250	8	242	"
13	TH-5		9/13/67		Sand	258	8	250	"
15	B-1			1/21/97	Grav. Sand	262	10	252	Perched at 2 feet bgs
15	B-2			1/21/97	Grav. Sand	262	10	252	Perched at 6.5 feet bgs
16	B-1			2/13/90	Sand	252	9	243	Report elevations differ
16	B-2			2/13/90	Sandy Silt	259	11.5	247.5	"
16	B-3			2/13/90	Sand	261	12	249	"
17	1	4/29/81			Peat	253	-	-	
17	2	4/29/81			Peat	253	-	-	
17	3	5/8/81			Peat	254	-	-	
17	4	5/8/81			Peat	255	-	-	
17	5	5/8/81			Peat	256	-	-	
17	6	5/8/81			Peat	257	-	-	
18	B-1			1/15/80	Peat	260	10	250	Not plotted, report elevations differ
18	B-2			1/15/80	Till	260	22	238	"
18	B-3			1/15/80	Fill	260	9	251	"
18	TP-1			1/24/80	Till	260	7	253	"
18	TP-2			1/24/80	Peat	260	12	248	"
18	TP-3	1/24/80			Peat	260	-	-	
18	TP-4	1/24/80			Peat	260	-	-	
19	B-1			3/13/98	Peat	256	9	247	Report expects water levels to rise to
19	B-2			3/13/98	SP	260	13	247	5 feet bgs
19	B-3			3/13/98	Peat	258	10	248	"
19	B-4			3/13/98	SM	261	17	244	"
20	B-1			7/28/99	Peat	266	5	261	
20	B-2			7/28/99	SP-SM	268	10	258	
20	B-3	7/28/99			-	296	-	-	
20	B-4	7/28/99			-	290	-	-	
20	B-5			7/28/99	Sand/Peat	264	5	259	
20B	B-101			2/2/01	SM	292	30	262	

TABLE G-3
SUMMARY OF GROUNDWATER LEVEL INFORMATION

Project No.	Exploration No.	Groundwater Information			Geologic Unit	Ground Surface Elevation (Ft)	Depth to Groundwater (Ft)	Water Level Elevation (NAVD 88) (Ft)	Comments
		None	Inferred	Measured					
20B	B-102			2/2/01	SM	265	5	260	
20B	B-103		2/2/01		Peat	267	5	262	Typo in log?
20B	B-1-96			4/19/96	Peat	260	10	250	Elevations uncertain
20B	B-2-96			4/19/96	Peat	258	11.5	246	"
20B	B-3-96			4/19/96	Gravel	258	3	255	"
21	B-1			12/8/92	Till?	286	10	276	
21	B-2			12/8/92	Till?	292	15	277	Piezo installed at 38.5, no data
21	B-3			12/8/92	Till?	284	11	273	
22	B-1		12/11/86		Sand/Till	332	3	329	Well installed at 17, no data
22	B-2		12/11/86		Sand/Till	330	2	328	Perched on till
23	TP-1	12/28/87			Till	286	-	-	
23	TP-2	12/28/87			Till	291	-	-	
23	TP-3	12/28/87			Till	288	-	-	
24	1		12/6/90		SP-Adv.	270	20.5	249.5	
24	2		12/6/90		SP-Adv.	269	20.5	248.5	Possible groundwater at 18.5
24	3		12/6/90		SP-Adv.	268	20.5	247.5	
25	TP-1	8/14/89			SM	288	-	-	
25	TP-2	8/14/89			SM	286	-	-	
25	TP-3	8/14/89			SM	287	-	-	
26	HH-1	3/31/89			Peat		-	-	
26	HH-2	4/3/89			Peat	264	-	-	
26	H-2			3/1/78	O. Silt	263	9	252	
26	B-1			6/13/67	SM/Peat	258	2	256	
26	B-2	6/13/67				259	-	-	
26	B-3			6/13/67	SM/Peat	261	2	259	
26	B-4			6/13/67	SM/Peat	260	3	257	
27	?								
28	?								
29	B-1			12/3/69	Peat	245	4	241	Slow recovery, water may rise to
29	B-2			12/3/69	Peat	246	3.5	243	surface

TABLE G-3
SUMMARY OF GROUNDWATER LEVEL INFORMATION

Project No.	Exploration No.	Groundwater Information			Geologic Unit	Ground Surface Elevation (Ft)	Depth to Groundwater (Ft)	Water Level Elevation (NAVD 88) (Ft)	Comments
		None	Inferred	Measured					
29	B-3			12/3/69	Peat	248	1.5	247	"
29	B-4			12/3/69	G,S,S	261	5.5	256	"
29	B-5			12/3/69	Peat	251	4	247	"
29	B-6			12/3/69	Peat	247	4	243	"
29	TP-1	12/3/69			G,S,S	251	-	-	
29	TP-2			12/4/69	Peat	245	0	245	
29	TP-3			12/4/69	Peat	251	2	249	
770-220	1			12/9/63	?	257	5	252	
770-220	2	?				260	-	-	
770-220	3			3/2/72	Sand	264	11.5	252.5	Sand below peat
770-220	4			6/17/66	Fill	243	1.5	242	
770-220	5	6/16/66				247	-	-	
770-220	6			6/16/66		240	1.5	239	
770-220	7			3/2/72		260	11	249	
770-220	8			2/29/72		260	8.5	252	
770-220	9	?				255	-		
770-220	10	?				251	-		
770-220	11	?					-		
770-220	12	?				242	-		
770-220	13	?				281	-		
770-220	14			6/11/73	f. sand	261	8.25	253	
770-220	15			6/11/73	f. sand	265	12.5	253	
770-220	16			6/11/73			14.5		
770-220	17			6/11/73			9		
770-220	18	Jun-73					-		
770-220	19	Jun-73				299	-		
770-220	20	Jun-73					-		
770-220	21	Jun-73				286	-		
777-102	1								
777-102	2								

TABLE G-3
SUMMARY OF GROUNDWATER LEVEL INFORMATION

Project No.	Exploration No.	Groundwater Information			Geologic Unit	Ground Surface Elevation (Ft)	Depth to Groundwater (Ft)	Water Level Elevation (NAVD 88) (Ft)	Comments
		None	Inferred	Measured					
777-102	3								
777-102	4								
777-102	5								
777-102	6								
777-102	9								
777-102	10								
777-102	20								
777-102	21								
777-102	39								
4264	93	?			Peat	261	?	-	
4264	172		?		Sand	302	4	298	
4266	13		?		Peat	250	5	245	
4266	14		?		Peat	250	1	249	
4266	15		?		Peat	272	5	267	
7200	B			4/24/72	Peat	240	6	234	
7201	4			3/7/72	f. sand	235	6	229	
7203	5			3/7/72	f. sand	235	2	233	
7203	6			3/2/72	f. sand	262	11	251	
7204	8			3/1/72	O. Silt/Peat	241	0.5	240	
7205	9			3/1/72	Fill/Peat	250	4	246	
7205	10			3/2/72	Peat	263	11	252	
57	2			11/21/63	Peat	243	3	240	
59	3			12/9/63	Peat	256	5	251	
59	4			12/10/63	Peat	243	2	241	
2569A	1			7/13/66	Peat	244	1	243	
2569A	2			6/15/66	Peat	240	1	239	
2569B	3	6/15/66			Peat	240	?	-	Heave
2569B	4			6/16/66	O. Silt	240	1.5	238	
2569C	5			6/17/66	O. Silt	242	2.5	240	
2569C	6			7/13/66	Peat	241	7	234	

TABLE G-3
SUMMARY OF GROUNDWATER LEVEL INFORMATION

Project No.	Exploration No.	Groundwater Information			Geologic Unit	Ground Surface Elevation (Ft)	Depth to Groundwater (Ft)	Water Level Elevation (NAVD 88) (Ft)	Comments
		None	Inferred	Measured					
2569D	7			6/17/66	Peat	243	1.5	242	
2569E	9		6/20/66		Peat	246	7	239	
2569D	7 or 8?		6/20/66		Sand	247	8	239	
2569E	10		6/20/66		O. Sand	245	2	243	
2569E	11		6/20/66		Peat	246	6.5	240	
2569F	12			6/22/66	Peat	238	2	236	
7973	13		4/17/72		Peat	245	3	242	
7973	12		4/17/72		S. Sand	268	7	261	
5084	B15			9/1/67	S & G	244	18	226	
7731	1			6/12/73	f. sand	260	8	252	
7731	2			6/11/73	f. sand	267	14	253	
7733	6	6/12/75					-	-	
777-102	2		?		Sand	262	7	255	
1949	77	?			-	351	-	-	
1949	171	?			-	340	-	-	
1949	76	?			-	325	-	-	
26-4-3N				3/27/01	?	271	8	263	
25-4-6D?	MW-1			3/15/01	S & G	265	16.5	249	? Location
26-4-31C	Well			11/19/01	S & G	313	22	291	

TABLE G-4
SUMMARY OF GROUNDWATER OBSERVATIONS FROM SHANNON & WILSON EXPLORATIONS COMPLETED FOR THIS STUDY

Exploration Designation	Exploration Type	Date (Ft)	Depth to Groundwater[1] (Ft)	Groundwater Elevation (Ft)
GB-1(OW)	Boring	1/9/2004	2.2	280.3
GB-2 (OW)	Boring	1/8/2004	-2.1	240.6
GB-2 (VWP)	Boring	1/8/2004	-2.1	240.6
GB-3 (OW)	Boring	1/9/2004	3.6	237.4
GB-4 (OW)	Boring	1/8/2004	3.3	249.7
GB-5 (OW)	Boring	1/5/2004	4.6	241.9
GB-5 (VWP)	Boring	1/5/2004	11.3	235.2
GB-6 (OW)	Boring	1/7/2004	7.1	242.9
GB-7 (OW)	Boring	1/8/2004	4.1	245.4
GB-7 (VWP)	Boring	1/8/2004	-1.1	250.6
GB-8 (OW)	Boring	1/9/2004	2.6	248.9
GB-8 (VWP)	Boring	1/9/2004	0.8	250.7
GP-10	CPT	12/11/2003	4.2	276.8
GP-13	CPT	12/11/2003	5.6	272.4
GP-15	CPT	12/11/2003	4.3	264.7
GP-16	CPT	12/11/2003	9.7	231.3
GP-18	CPT	12/11/2003	4.5	233.5
GP-23	CPT	12/11/2003	4.2	259.3
GP-26	CPT	12/11/2003	4.0	245.0
GP-27	CPT	12/11/2003	1.9	244.1
GP-37	CPT	12/11/2003	3.3	251.2
GP-38	CPT	12/11/2003	7.2	245.3

Notes:

[1] (-) indicates groundwater level, i.e., piezometric pressure elevation, is above ground surface.

OW indicates observation well.

VWP indicates vibrating wire piezometer.