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Hoffman Construction Company of Oregon

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Letter of

			Date: 5/4/2005
Client:	First Presbyterian	Church	Nob Site Address
Project Name:		Church Parking Garage	
Project No.:	2550004	ondion Faiking Garage	Hoffman Construction 1200 S.W. Alder
Location:	Portland, OR	T = Transmittal Only	Portland, GB- 97205
HCC / IA / PW		X = Entire Package	DOCUMENT SERVICES
Jim Dill, H	CCo	•	· '!'-
		First Presbyterian - Harold	Total # of Pages
Dan Gorie	, HCCo	Hennebery Eddy -David Webb	Ming Surveyors
X File Copy		KPFF - Julie Hays	Testing
T Routing/P	osting	Perron Arch - Jim Perron	KPFF - Mark Reuland - 274-46
		Glumac	<u> </u>
		GEOCON - Wes Spang	
SUBCONTRACT	OR / VENDORS	F=Field O=Office	
FO		FO	FO
	illing - Don Kingsbury	Roofing	Tri Met - John Whipple
<del></del>	cavation - Jake Asmus	Decking	City Water - Don Pierman
Apex - Ron		Framing/Sheetrock	City Sidewalks - Dana Dister
Nuprecon -	Bryan DiLoreto	Doors and Frames	Urban Forestry - Frank Krawdzy
Dynalectric	- Sean Cox	Elevators	NW Natural - Phillip Toth
Whitaker El	is - Bill Ellis	Fire Extinguishers/Specialites	Pacific Power - John Moudy
Temp Contr	ol - Dave Mayer	Bike Racks/Specialties	City Signal and Lights - Lisa Elb
Star Mason	y - Kelly Nelson	Fire Sprinkler	City Sanitary - Patty Oliver
Handrail		Steel	X City of Portland - Andy Petersor
Striping		Interior Tech - Ron Holden	BDS - Document Services
Garnette 1-	(480) 899 5367		attn: Rich Eisenhauer
QTY DATE	<u> </u>	DESCRIPTION	
05/04/05	Mr. Peterson	DESCRIP NO	
		ns Response to a verbal request from	
	was not issued so	I do not have one to return. Please secontact me at 503-720-1353.	attached. If you have any
	Thanks	contact the at 505-720-1355.	

04.040238-EXL-1-

Rodney Myrick, HCCo Project Engineer

24: 503-221-05:

Email: rodney-myrick@hoffmancorp.com

Geocon Northwest 8283 SW Cirrus Drive Beaverton, OR 97008 Phone No (503) 626-9889 Fax No. (503) 626-8611

Fax Transmittal

TO: Julic Hays/Rodney Myrick COMPANY: kpff/Hoffman

FAX NUMBER: 503-227-7980/503-221-0559

NO. OF PAGES: 3 (including this page)

DATE: 5/3/05

Please find attached the letter for First Presbyterian Church regarding the load capacity of footings and piles.

Let me know if you have any questions.

Sincerely,

Wesley Spang, Ph.D., P.E.

Principal Engineer

Wesley So

04-040238-EXC01-CO

## GEOCON

May 3, 2005 Project P1064-05-02 GEOTECHNICAL CONSULTANTS



Ms. Julie Hays KPFF Consulting Engineers 111 S.W. Fifth Avenue, Suite 2500 Portland, Oregon 97204-3628

Subject:

FIRST PRESBYTERIAN CHURCH PARKING GARAGE

PORTLAND, OREGON

CONSULTATION

Dear Ms. Hays:

Per your request, this letter has been prepared to discuss the load-settlement relationship of the continuous footings and the pile foundations for the subject project. Perimeter wall loads have been designed to be supported by continuous wall footings and vertical piles that will be used as soldier piles for excavation support and permanent axial load bearing piles.

Both the continuous wall footings and the vertical piles will develop load resistance as a function of movement (settlement). At working loads (i.e. factor of safety of 2 to 3 for bearing capacity) a significant portion of the pile's vertical load resistance will be carried in skin friction. Maximum pile skin friction load transfer is typically developed at movements of approximately 1 to 2 percent of the pile diameter. The soldier pile diameter at First Presbyterian Church will be 18 to 24 inches; this will result in movements of approximately 0.25 inches to 0.5 inches being required to mobilize skin friction load resistance. The remainder of the pile load will be developed by end bearing resistance in the underlying dense gravel at nominal additional movement.

The continuous footings for the project will have widths of 2 to 2.5 feet. Our previous analysis of the footing bearing pressure-settlement relationship indicated that the continuous footings will develop the allowable bearing pressure, 6800 psf to 7400 psf, at settlements of approximately 0.5 inches. This movement is of the same magnitude as the settlement needed to develop the vertical pile load resistance.

It is understood that the structural detailing of the shoring/permanent wall will include headed studs welded the entire length of the pile. This will provide attachment of the pile to the wall. The rigidity of the wall system will provide load transfer to both the continuous footings and the piles. The approximate same degree of settlement is required to mobilize the load resistance of the continuous footings and piles. Therefore, the continuous footings and piles may be designed to support structural loads concurrently.

First Presbyterian Church Parking Garage Portland, Oregon Consultation

Project P1064-05-02 May 3, 2005 Page 2

Please contact the undersigned if you have any questions regarding this letter.

Sincerely,

Geocon Northwest, Inc.

Wesley Spang, Ph.

Principal Engineer

cc: Mr. Rodney Myrick, Hoffman Construction