GORIAN AND ASSOCIATES, Inc.
Soil and Foundation Engineers
Applied Earth Sciences

January 23, 1987

Prudential Insurance Company
100 Westlake Boulevard
Westlake Village, California 91362

Work Order: 1232-1-12
Log Number: 11303 R

Subject: Reinforced Concrete Support Saddle Over Callegus Municipal Water District Waterline, Westlake Boulevard Extention, Tract 4023, North Ranch, City of Thousand Oaks, California.

Reference: 1) Gorian and Associates, Inc., Soil Engineering and Geologic Investigation, Tract 3701, Dated July 16, 1981, Work Order: 1232-1-10, Log Number: 7074; Updated July 9, 1985, as Tract 4023, Work Order: 1232-1-11, Log Number: 10255.

2) Gorian and Associates, Inc., Geotechnical Site Investigation, Children's Aid Guild House, Parcel "B", Lot 14, Tract 4023, Dated September 9, 1985, Work Order: 1497-2-10, Log Number: 10387

Gentlemen:

This report addresses from a soil engineering standpoint the construction of a reinforced concrete saddle over the Callegus Municipal Water District Waterline. The saddle will carry the soil surcharge imposed by the grading of the extention of Westlake Boulevard over the waterline.

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PROPOSED CONSTRUCTION AND LOCATION

Westlake Boulevard will be extended from the intersection of Kanan Road north to the northern boundary of Tract 4023. The extension is in the northern portion of the North Ranch area of the City of Thousand Oaks.

The road will diagonally cross the Callegus Waterline at approximately Station 192+55±. To construct the road, at the waterline intersection, a cut of approximately 4 feet will be constructed on the western side of the road and on the eastern side a fill of 6 to 8 feet will be placed. A reinforced concrete saddle will be constructed over the waterline to carry the increased surcharge due to the fill placed.

GEOLOGIC CONDITIONS

The waterline area is underlain by Older Alluvium and bedrock of the Modelo Formation. Tract 4023 was investigated and updated in the first reference; however,the most recent work performed adjacent to the line was reported in the second reference.

Boring 1 of the referenced report 2 was drilled at an elevation of 1276+ approximately 150 feet north of the waterline on the eastern side of Westlake Boulevard in Lot 14 of Tract 4023. In that boring the alluvium is approximately 12 feet deep and consists of well consolidated moist silty clay with traces of sand or siltstone and shale fragments. The alluvium is underlain by Modelo Formation bedrock consisting of interbedded siltstone

and shale with minor sandstone which are well bedded. Bedding planes are oriented to the southeast at moderate dips of 39 -49 degrees. The boring was drilled to a depth of 25 feet and no groundwater was encountered.

RECOMMENDATIONS

Allowable Soil Bearing Capacity

An allowable soil bearing capacity of 4000 lbs./sq.ft. may be used for engineered compacted fill, firm native soils, or competent bedrock. The footings should have a minimum width of 12 inches. If the footings are located above a 1:1 line extending up from the outer edge of the pipe, the lateral loads from the footing will be imposed upon the pipe. Where the footing is constructed on the pipe bedding material, the bedding should be compacted to a minimum of 90% of the maximum soil density.

The steel reinforcing used in the saddle and footings should be per the structural engineer's recommendations. The footing excavations should be inspected by a soil engineer prior to placing the reinforcing or forming.

Settlement

The settlement of a footing loaded to a maximum of 4000 lbs./ sq.ft. is estimated to be approximately 1/2 inch. A separation of at least 1 inch should be provided between the top of the pipe and the saddle.

Pipe Trench Backfill

The trench backfill with in the Westlake Boulevard street right of way should be recompacted to a minimum of 90% of the maximum soil weight. The recompaction operations should be per the Callegus Municipal Water District direction.

Inspection

The above recommendations were prepared based on interpretations of the subsurface conditions concluded from information gained from a surficial site reconnaissance and the subsurface work previously addressed. The interpretations may differ from the actual subsurface conditions which can vary horizontally and vertically across the site. Due to the possible subsurface variations, all aspects of field construction addressed in this report should be inspected by an engineering geologist and/or soil engineer.

Please call if you have any questions.

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Respectfully,

Gorian and Associates, Inc.

By: Jerome J. Blunck

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