

PROJECT DESCRIPTION

PROJECT: Rose Quarter, Broadway Parking Structure
LOCATION: Portland, Oregon
OWNER: Oregon Arena Corporation
CONTRACTORS: Donald M. Drake Company
Turner Construction



DESCRIPTION:

- 3-Level, reinforced concrete (cast-in-place)
- Column loads of 320 to 960 kips

Initial plans were to support the structure on spread footings proportioned to impose bearing pressures up to 3500 psf. To achieve this bearing pressure and limit settlements to tolerable amounts, geotechnical recommendations included overexcavation to depths of 3 ½ feet and installation of structural crushed rock fill.

As an alternative to overexcavation, 7' tall Rammed Aggregate Pier® (RAP) elements were installed beneath the footings. In addition to eliminating the need for overexcavation and replacement filling, the RAP's permitted footings to be proportioned to impose bearing pressures of 7000 psf, double the value feasible without RAP's.

Settlement of the RAP supported footings were conservatively estimated to be less than 1" under full design load. Settlement observations at about ½ of the full design load on 6 of the building columns reveal actual settlements of only about ¼". Ultimate structure settlements under full design load were reportedly less than ½".

REFERENCES: Mr. Ronald Schlegel
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