Appendix E

Addendum to Supplemental Rock Hardness/ Rippability Evaluation

Geosoils 2013b

GeoSoils, Inc.

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5741 Palmer Way • Carlsbad, California 92010 • (760)438-3155 • FAX(760)931-0915

MEMORANDUM

DATE: June 11, 2013

W.O. 6539-B-SC

TO: New Urban West, Inc., attention: Mr. Jason Han

FROM: Mr. David Skelly, PE;
Mr. Robert Crisman, CEG

REGISTERED PROFESSIONAL ENGINEER
DAVID W. SKELLY
No. RCE 47657
Exp. 12/31/13
CIVIL
STATE OF CALIFORNIA

PROFESSIONAL GEOLOGIST
ROBERT Q. CRISMAN
No. 1934
Certified Engineering Geologist
STATE OF CALIFORNIA

SUBJECT: **Addendum to the Supplemental Rock Hardness/Rippability Evaluation, Offsite Improvements for 11 Acres at 2115 Amanda Lane, Unincorporated Escondido, San Diego County, California**

Reference: "Supplemental Rock Hardness/Rippability Evaluation, 11 Acres at 2115 Amanda Lane, Unincorporated Escondido, San Diego County, California," W.O. 6539-A-SC, dated April 15, 2013, by GeoSoils, Inc.

In accordance with your request, GeoSoils, Inc. (GSI) is providing this addendum to the supplemental rock hardness and rippability evaluation previously completed for the subject site (see Reference). Specifically, this addendum presents an opinion regarding rock hardness and rippability within future underground improvement areas (offsite) located along Gamble Lane, between the intersection of Eucalyptus Avenue and the western terminus at a fire only, access gate, and Amanda Lane, from Gamble Lane, northward to the main project site. This addendum is based on a review of the referenced report, and our experience in the vicinity. Unless specifically superceded herein, the conclusions and recommendations presented in the referenced report remain valid and applicable.

Based on our review, the road alignments appear to be underlain by dense granitic bedrock of Tonalite composition with a surficial mantle of colluvial/alluvial soil. Site work completed prior to this evaluation (see Reference) indicates practical refusal on hard rock at depths ranging from approximately 6 to 9 feet below existing grades, using a Caterpillar 420D backhoe. Observation of existing cut slopes along Gamble Lane, to the east of Eucalyptus Avenue indicate excavation depths completed to at least 15 feet into similar granitic bedrock, consisting of scattered "corestones" in a matrix of weathered, "disintegrated granite," or "DG."

An evaluation has been made of the seismic refraction line data to estimate the approximate depth to non-rippable trenching (i.e., utility excavation) and to non-rippable bedrock within the main property (see Reference). Approximate cut-off velocities of ±3,800 and ±6,000 fps are generally used as a basis for non-rippable trenching (assuming a Cat 235 Hoe [a large trackhoe], or equivalent), and non-rippable bedrock (assuming a D9L, or equivalent), respectively.

Based on a review of the referenced report, especially data for seismic refraction line ST-1, bedrock materials should be rippable and trenchable along the subject alignment to depths on the order of 35 to 38 feet below existing grades. Based on anticipated excavation depths on the order of up to approximately 17 feet, excavations should be able to be accomplished with heavy trenching (Cat 235, or equivalent) equipment.

The conclusions and recommendations presented herein are professional geotechnical opinions based on our preliminary findings. These findings may change as site grading further exposes the underlying soil conditions, and additional recommendations may be offered. These opinions have been derived in accordance with current standards of practice, and no warranty is express or implied. Standards of practice are subject to change with time. Should you have any questions regarding this memorandum, please do not hesitate to contact this office.