GeoEngineers

December 1, 2000

Consulting Engineers and Geoscientists

Tosco Marketing Company
3977 Leary Way Northwest
Seattle, Washington 98107

Attention: Timothy D. Johnson

Revised Work Plan
Environmental Services During Construction
Former Unocal Site No. 4165
Snohomish, Washington
File No. 4823-394-05-1150E

INTRODUCTION

This document presents a scope of services to be completed during construction of new service station facilities by others at Former Unocal Site No. 4165, located at 202 Avenue 'D' in Snohomish, Washington. This scope is based on discussion during a meeting with you and Hans Brinkerhoff of BEI, on June 8, 2000. The site layout with planned service station facilities and approximate existing monitoring well locations are shown in Figure 1.

Unocal owned the site until 1997, when Tosco purchased the property. Tosco sold the site to Jeff Hulsey in October 1997. Mr. Hulsey will lease the site to others for development as a service station. Construction is planned for Fall 2000. Limited areas of soil contamination are known to exist on the property, based on the results of assessments conducted at the site by AGRA E&E from 1990 to 1994 and by GeoEngineers since 1994. Depths to ground water beneath the site has ranged from 7 to 12 feet below ground surface, and is lowest during fall months. Ground water with petroleum-related compound concentrations exceeding the MTCA Method A cleanup levels remains at the locations of monitoring wells MW-1 and MW-2, and at MW-6 as recently as April 1999. Oxygen-releasing Compound™ (ORC™) was placed in borings completed in the southwest quadrant of the site in March 2000 to help stimulate natural biodegradation of petroleum compounds beneath the site.

Construction of the new service station facilities will require removal of monitoring wells MW-1, MW-3, MW-6 and MW-7. Excavation during construction of the service station facilities will be completed in the northwest portion of the site for canopy footings, in the southwest portion of the site for a detention trench, in the northeast corner of the site for installation of two underground storage tanks (USTs), and in the southeast corner of the site for building footings.

GeoEngineers, Inc.
2924 Colby Avenue
Everett, WA 98201
Telephone (425) 252-4565
Fax (425) 252-4586

Excavation also will be completed adjacent to the southern portion of the site and southern portion of the eastern property boundary to attach the on-site sanitary sewer, storm sewer, gas and water to existing utilities in the rights-of-way (the planned excavations are shown in Exhibit B in Attachment A). Petroleum-impacted soil and/or ground water may be encountered during construction activities. All excavated soil will be removed from the site, regardless of whether or not it is contaminated.

SCOPE OF SERVICES

The purposes of our services are to (1) arrange for decommissioning of monitoring wells MW-1, MW-3, MW-6 and MW-7 in accordance with Washington Administrative Code (WAC) 173-160, prior to construction activities; (2) observe for evidence of petroleum-impacted soil and ground water during excavation activities that are conducted in the planned service island and UST areas; (3) characterize excavated soil and wastewater, if any, for disposition; and (4) monitor the replacement of monitoring wells MW-1 and MW-6. GeoEngineers' specific scope of services includes the following.

1. Attend a pre-construction meeting to discuss details of site construction activities with Tosco, the site developer, the site contractor and the developer's representative(s).
2. Assist Tosco in arranging for decommissioning of monitoring wells MW-1, MW-3, MW-6 and MW-7.
3. Prepare a site-specific health and safety plan for GeoEngineers' personnel prior to starting the project. The plan will address contaminants and physical hazards that may be encountered during excavation and drilling activities.
4. Assist Tosco in obtaining authorization to recycle petroleum-contaminated soil, if any, at TPS Technologies facility in Tacoma, Washington.
5. Observe excavation activities in the planned service island and UST areas. Field screen excavated soil for evidence of petroleum hydrocarbons using visual, water sheen and/or headspace vapor screening methods. Also, field screen other soil generated and stockpiled during construction activities.
6. If GeoEngineers' field screening results indicate petroleum contamination of soil, GeoEngineers will assist the contractor in segregating the contaminated soil for direct loading into trucks for transport to TPS Technologies or to a temporary stockpile pending removal from the site.
7. If GeoEngineers' field screening results do not indicate likely petroleum contamination of excavated soil, GeoEngineers will request that the contractor place the soil into a temporary on-site stockpile. The contractor also will temporarily stockpile all other excavated soil from the site, such as from the building footings. We will visit the site as necessary, to field screen stockpiled soil and to obtain discrete soil samples from the stockpile(s) for chemical analysis of benzene, ethylbenzene, toluene and xylenes (BETX) by EPA Method 8021B; gasoline-range hydrocarbons by the Washington State Department of Ecology (Ecology) Method WTPH-G; and diesel- and heavy oil-range hydrocarbons by Ecology Method WTPH-D extended. The number of samples obtained will be in accordance with Ecology's "Guidance

for Remediation of Releases from Underground Storage Tanks." Sample results will be used to determine an end use for the stockpiled soil.

8. If ground water is encountered in the excavations, the contractor will place the wastewater into aboveground storage tank(s) for temporary storage pending characterization.
9. GeoEngineers will obtain a sample from each batch of wastewater for chemical analysis, determined by the City of Snohomish for disposal into the City sewer system. We will recommend treatment options for the wastewater, if necessary, to comply with discharge criteria.
10. Interview the site contractor regarding ORC™ that is excavated from the southwest portion of the site during construction activities. Document where the ORC™ was removed.
11. Obtain a right-of-way permit from the City prior to installation of replacement monitoring wells for MW-1 and MW-6 in the sidewalk adjacent to the southern site boundary.
12. Observe drilling and installation of two monitoring wells (to replace MW-1 and MW-6) using hollow-stem auger drilling methods to approximate depths of 17.5 feet. Install a well casing with a flush-grade, lockable surface monument in each boring.
13. Develop each well screen by hand bailing using a stainless steel bailer.
14. Determine each monitoring well casing rim elevation to the nearest 0.01 foot relative to the existing monitoring wells using an engineer's level.
15. Measure the depth to ground water in each new monitoring well and calculate the ground water elevation.
16. Prepare a report summarizing the activities completed in this scope of work.

Routine ground water sampling at the site is conducted by Environmental Resolutions, Inc. (ERI). The monitoring wells installed to replace MW-1 and MW-6 will be sampled by ERI.

We will provide an Alliance Work Order for the above services at your request. Please call if you have any questions regarding this work plan submittal.

Respectively Yours,

GeoEngineers, Inc.

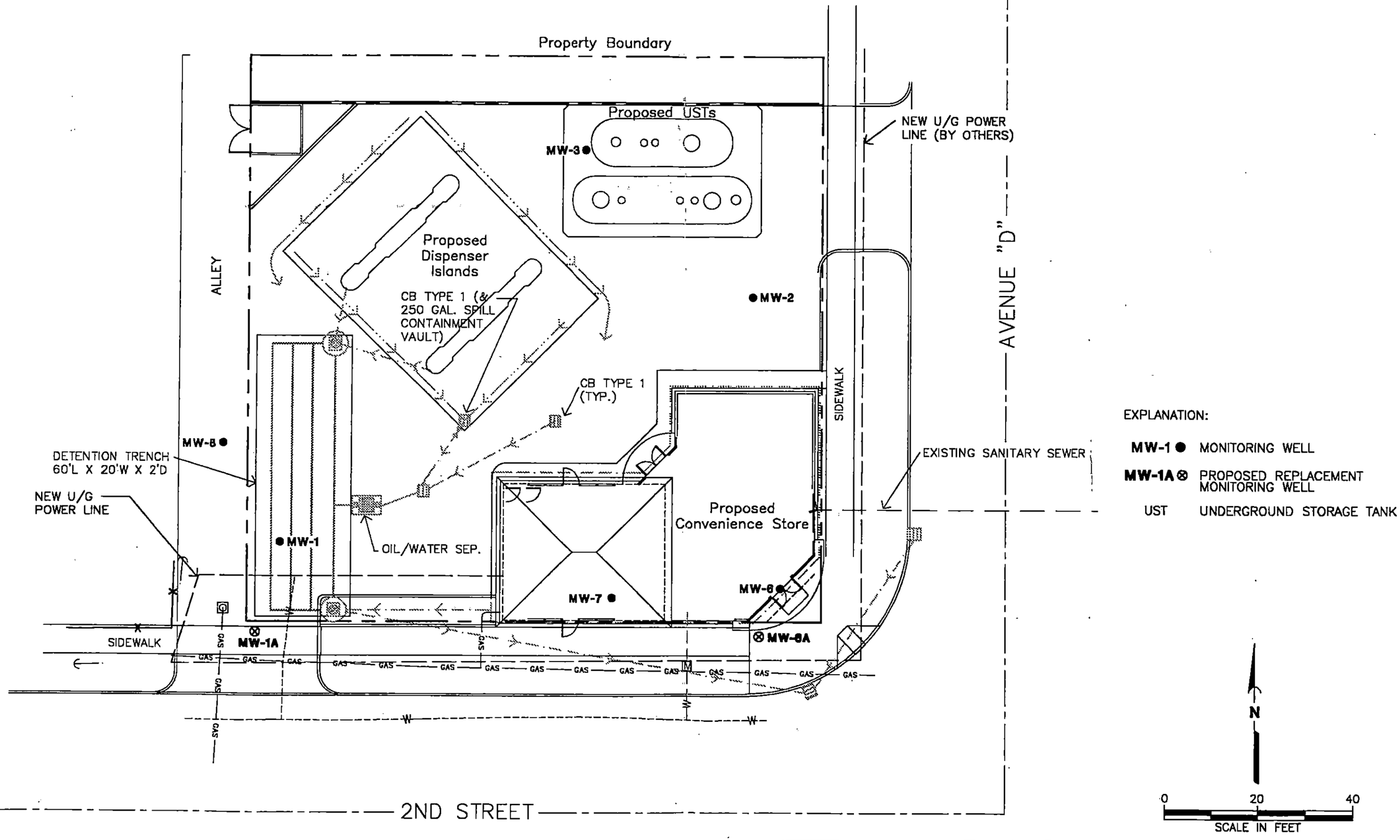
Lisa J. Bona
Senior Geologist

James A. Miller, P.E.
Principal

LJB:JAM:ja
P:\05\finals\482339405WP.doc

Attachments
Two copies submitted

cc: Brian Sato
Northwest Regional Office
Washington State Department of Ecology



Note: The locations of all features shown are approximate.

Reference: Drawing entitled "Storm Water & Utilities Plan" by Zenovic & Associates, Inc. dated May 2000, and "Site Plan" from GeoEngineers' report dated March 2000.

GeoEngineers

SITE PLAN

FIGURE 1

LJB:HLA P:\4823394\CAD\05\4823394O5A.DWG 06/23/00

ATTACHMENT A

EXHIBIT "A"

UNDERGROUND FACILITIES
DEMOLITION IN CITY OF SNOHOMISH RIGHT-OF-WAY

SERVICE STATION PROJECT
202 AVENUE "D"
SNOHOMISH, WASHINGTON

DRAWN:
BRINKERHOFF ENTERPRISES, INC.
DATE: 11/09/2000
SCALE: 1" = 20'-0"

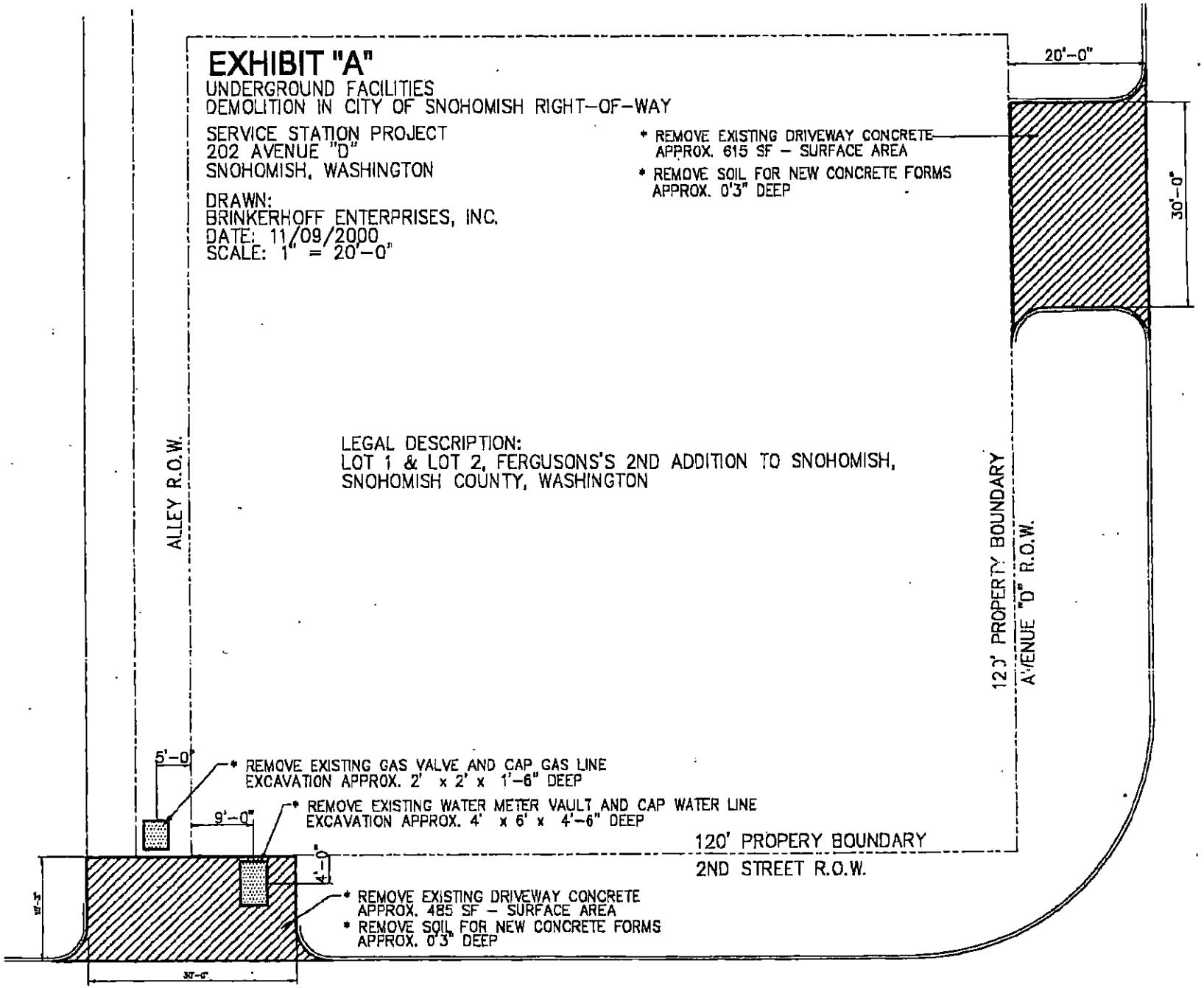


EXHIBIT "B"

UNDERGROUND FACILITIES
INSTALLATION IN CITY OF SNOHOMISH RIGHT-OF-WAY

SERVICE STATION PROJECT
202 AVENUE "D"
SNOHOMISH, WASHINGTON

DRAWN:
BRINKERHOFF ENTERPRISES, INC.
DATE: 11/09/2000
SCALE: 1" = 20'-0"