IPEC
Inland Pacific Engineering Company
Geotechnical Engineering and Consulting

March 11, 2015
Project No. 14-053

NAI Black
c/o Mr. Bryan Walker
107 South Howard
Suite 500
Spokane, WA 99201

Re: **Geohazard Evaluation**
Painted Hills Preliminary Plat
4403 South Dishman-Mica Road
Spokane Valley, WA

Dear Mr. Walker:

As requested by Mr. Todd Whipple of Whipple Consulting Engineers, Inc. (WCE) on your behalf, we have completed a geohazard evaluation for the proposed Painted Hills Preliminary Plat at the above-referenced site in Spokane Valley, Washington. The purpose of the evaluation was to address the requirements of the Spokane County Critical Areas Ordinance.

According to the Spokane County Critical Areas Ordinance, geologically hazardous areas are defined as areas that exhibit a potential for erosion, landslide, or seismic hazards having one or more of the following characteristics:

- Slopes of 30 percent or greater.
- Soils identified by the Natural Resource Conservation Service (NRCS) as having a severe potential for erosion.
- Existing surface or groundwater hydraulic factors or changes in hydraulic factors caused by the proposed project that create a severe potential for erosion or landslide hazards.
- Areas that are historically prone to landslides or have alluvium, landslide deposits, or Latah Formation.
- Areas of uncompacted fill.
- Areas that are unstable as a result of rapid stream or stream bank erosion.

P.O. Box 1566, Veradale, WA 99037
Phone 509-209-6262

The Geologically Hazardous Areas Map dated January 12, 2007 indicate that the site may have alluvium present. This report summarizes the results of our site observations, opinions, and recommendations.

PROJECT DESCRIPTION

The plat encompasses eight parcels of land encompassing 99.5 acres, most of which was developed as a golf course with the remainder being undeveloped. The plat map indicates that the parcel will be divided into 578 single-family and/or multi-family lots of various sizes and two retail sites. Attached is a copy of the preliminary layout map for the site (see Figure 3).

The site is located at 4403 South Dishman-Mica Road in Spokane Valley, Washington. Specifically, the site is located in the southeast ¼ of Section 33 and the southwest ¼ of Section 34, Township 25 North, Range 44 East and the northeast ¼ of Section 4, Township 24 North, Range 44 East of the Willamette Meridian in Spokane Valley, Washington (see Figure 1, Site Location Map).

AVAILABLE INFORMATION

We were provided a copy of a preliminary site plan for the plat. The plan showed proposed lot lines, existing and proposed roadways, and property lines. This plan was prepared by WCE and was dated September 23, 2014.

In addition, Inland Pacific Engineering Company (IPEC) performed a preliminary geotechnical evaluation on the site in December 2013. The evaluation included excavation of 31 test pits at the site and field permeability testing. The results of the preliminary geotechnical evaluation are summarized in our "Preliminary Geotechnical Evaluation" report to you dated December 31, 2013.

IPEC also performed an evaluation of the levee along the east side of Chester Creek. This evaluation consisted of 6 soil borings and extensive laboratory testing of the site soils. The results of the evaluation are summarized in our "Geotechnical Evaluation" report to you dated February 12, 2015.

GENERAL SOIL CONDITIONS

Geologic maps indicate the soils in this area consist primarily of alluvial and/or glacially deposited silts, clays, sands, and gravels. According to the Soil Survey of Spokane County, the site soils are classified by the Natural Resource Conservation Service (NRCS) as Hardesty ashy silt loam, Narcisse silt loam, Endoaquolls and Fluvaquents, Phoebe ashy sandy loam, and Urban land-Springdale disturbed complex. The native soils encountered in the test pits were consistent with the NRCS data.

FIELD OBSERVATIONS

The site was visited multiple times by a geotechnical engineer between December 2, 2013 and February 20, 2015 to observe test pit excavation and/or soil borings. The site was used as a golf course prior to our evaluation. The site is relatively level with some elevated golf greens and excavated areas for water hazards. The site is primarily grass-covered with scattered trees along the fairways and pine trees in the undeveloped area to the northwest. The clubhouse building is present at the southwest corner.

OPINIONS AND RECOMMENDATIONS

Based on the results of our previous site evaluations, field observations, geologic review, the available geotechnical data at the site, and our previous experience in the vicinity of the site, it is our opinion that the proposed development is feasible. It is our opinion that the potential for development problems associated with alluvium is low provided that good construction practices are implemented during construction.

Development and construction will increase the potential for erosion at the site. We recommend that good construction practices be implemented, including silt fences, erosion control berms, establishment of vegetation as rapidly as possible, retaining walls, and proper grading techniques. We recommend a maximum slope angle of 2:1 for temporary and/or permanent slopes.

REMARKS

This report is for the exclusive use of the addressee and the copied parties to use in design of the proposed project and to prepare construction documents. In the absence of our written approval, we make no representations and assume no responsibility to other parties regarding this report. The data, analyses, and recommendations may not be appropriate for other structures or purposes. We recommend that parties contemplating other structures or purposes contact us.

Services performed by the geotechnical engineers for this project have been conducted in a manner consistent with that level of care ordinarily exercised by members of the profession currently practicing in this area under similar budget and time restraints. No warranty, expressed or implied, is intended or made.

GENERAL REMARKS

We appreciate the opportunity to provide our services to you. If you have any questions or need additional information, please do not hesitate to call me at (509) 209-6262 at your convenience.

Sincerely,
Inland Pacific Engineering Company

Paul T. Nelson, P.E.
Principal Engineer

Attachments: Figure 1, Site Location Map
Figure 2, NRCS Map
Figure 3, Plat Map

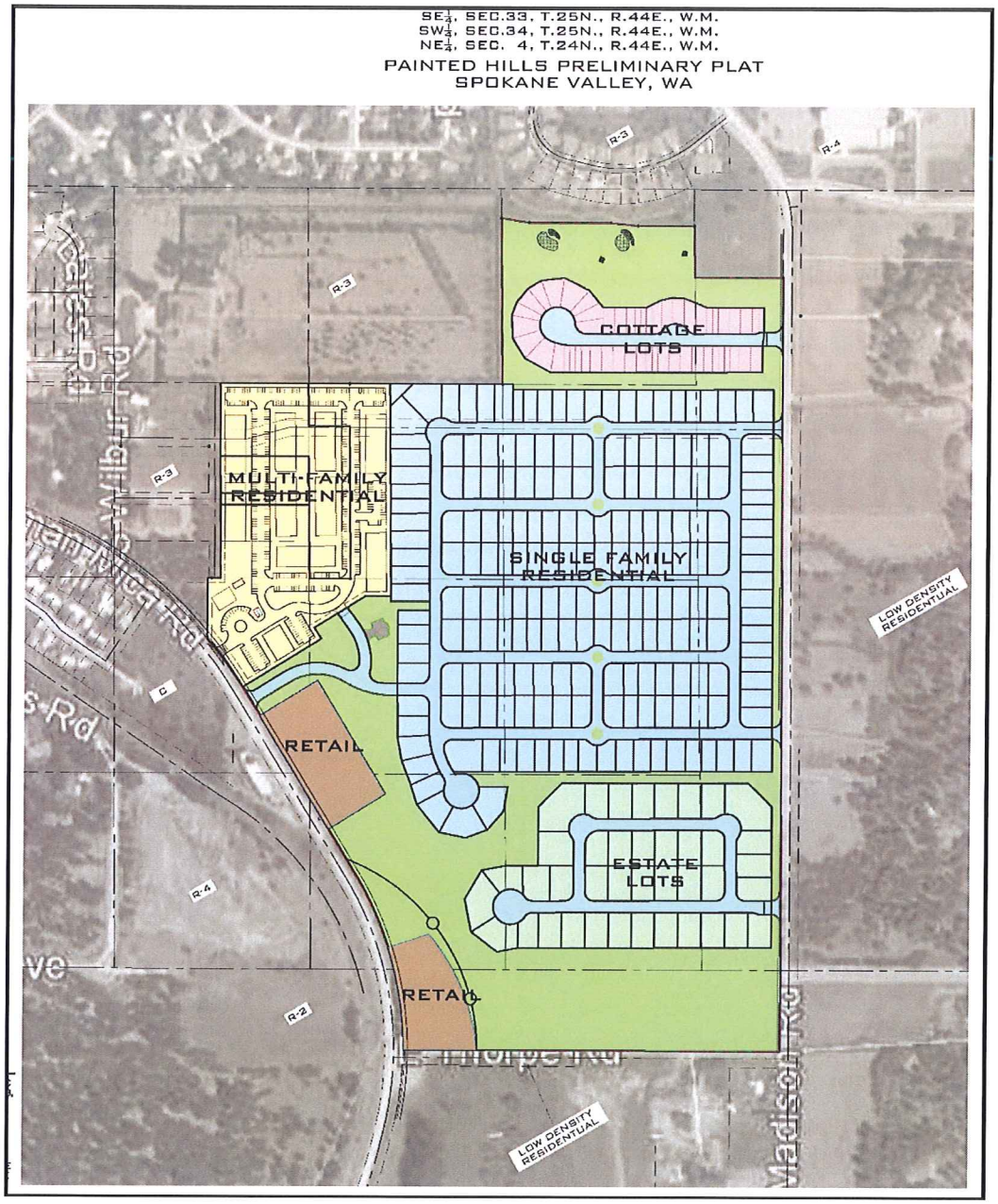
FIGURE 1

Site Location Map		
IPEC Inland Pacific Engineering Company Geotechnical Engineering and Consulting	Project No. 14-053 Geohazard Evaluation Painted Hills Preliminary Plat Spokane Valley, WA	March 11, 2015

FIGURE 2

NRCS Map		
IPEC Inland Pacific Engineering Company Geotechnical Engineering and Consulting	Project No. 14-053 Geohazard Evaluation Painted Hills Preliminary Plat Spokane Valley, WA	March 11, 2015

FIGURE 3



Plat Map		
IPEC Inland Pacific Engineering Company Geotechnical Engineering and Consulting	Project No. 14-053 Geohazard Evaluation Painted Hills Preliminary Plat Spokane Valley, WA	March 11, 2015