identified tract with respect to NRCS soil mapping data, National Wetland Inventory mapping, FEMA mapping, and USGS topographic data. The area of suitable soil and wastewater capacity of the property will be the estimated based on the desktop review. The soils on the tract will be categorized in terms of their potential for wastewater management.

A technical memorandum will be prepared that summarizes the methodology of our evaluation and the results of our desktop assessment. The report will include figures that convey the attributes and limitations of the site. The report will include the estimated wastewater assimilative capacity of the site and the area of potentially suitable soil. The report will include recommendations for field confirmation as well as detailed investigation work necessary for permitting a LAS.

Task 2. Phase II – Ground Truthing of additional land tract north of U1 & revised capacity estimate

To ground truth the property evaluated in Task 1, NAI staff will advance approximately twelve hand auger soil borings across the projected suitable area as determined in the desktop analysis. The observed soils will be described, and soil logs will be completed in the field. The soil log descriptions will include texture, color, slope, depth to wetness indicators, and depth to water restrictive horizons.

All boring locations will be recorded with a Global Navigation Satellite System (GNSS) receiver with sub-meter accuracy, differentially corrected, and plotted on a site map, and compared to the published NRCS soil mapping of the site. Areas identified as suitable for wastewater irrigation will be identified on a preliminary suitability map. A revised technical memorandum will be prepared that summarizes the methodology of our evaluation and the results of our assessment. The report will include a revised estimate of the wastewater assimilative capacity of the site and the area identified as suitable soil.

Task 3 – Groundwater Nitrate-Nitrogen Fate & Transport Modeling Analysis

NAI will conduct a STUMOD modeling analysis to assess groundwater nitrate migration at the existing LAS. STUMOD (Geza, et al., 2014) has been identified as an acceptable analytical model for calculating nitrogen species transformations and concentrations in the soil (unsaturated vadose zone) beneath wastewater application areas and in the saturated zone (groundwater) downgradient from application areas. This modeling effort will enable steady-state estimates of the extent and distance of nitrate migration associated with the LAS. Having model results combined with additional groundwater data in the downgradient direction (provided by others) will provide more insight into the likelihood of potential adverse effects to downgradient receptors or water bodies from migration of groundwater nitrates.