

**NICHOLS & LAGLE ENGINEERING, INC.**  
PROFESSIONAL ENGINEERS

333 Rouser Road, Airport Office Park, Building 4, Suite 600, Moon Township, PA 15108-2773 - 412-269-9440 - Fax 412-269-0533

May 19, 2016

Mrs. Jodi Noble, Manager  
Chartiers Township  
2 Buccaneer Drive  
Houston, PA 15342

Subject: Houston Injection Station Site Plan  
Stormwater Management & Floodplain Plan Review  
Resubmitted: May 16, 2016  
NSE No. P046-164(f)

Dear Ms. Noble:

Pursuant to your request, we have reviewed the Houston Injection Station Stormwater Management Plan and H&H Report as prepared by Tetra Tech and offer the following comments:

Stormwater Management Review:

1. Pursuant to Township Ordinance requirements, the proposed site plan is required to control the peak storm water discharge for the 1, 10, 25 and **100-year** design storms. As currently designed, the proposed stormwater infiltration facilities are completely submerged under the floodwaters of a 100-year storm event. Please refer to the enclosed marked up plan. **Please note that the proposed gravel surface located outside of the FEMA 100-year floodplain will result in additional stormwater runoff during the 100-year design storm which cannot be routed through the infiltration facilities due to inundation by the 100-year flood. Please provide peak runoff rate control of the 100-year design storm.**
2. Provide PaDEP/WCCD approval of the proposed E&S Control Plan and Stormwater Management Plan for Oil and Gas activities.

Floodplain Management Review

1. Declare the presence of any proposed petroleum products within the FEMA 100-year floodplain. **Please be advised that all petroleum products located within the FEMA 100-year floodplain district shall be elevated to remain completely dry up to at least 1.5 feet above the 100-year flood and designed to prevent pollution from the structure during the course of a 100-year flood. Provide profiles to illustrate that each facility storing/transmitting petroleum products is located a minimum 1.5 feet above the 100-year floodplain. Please relocate any proposed petroleum products outside the 100 year floodplain.**

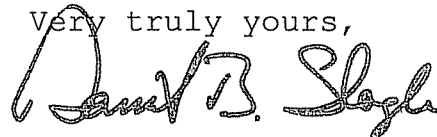
2. Provide a certified statement by a registered professional engineer which contains a complete and accurate description of the nature and extent of pollution that might possibly occur from the development during the course of a one-hundred year flood, including a statement concerning the effects such pollution may have on human life. **Indicate the amount of time required for the Emergency Shut Down Valves to activate in the event of a line rupture. Provide quantity of petroleum product which would be released in such an event.**

Comments

1. Please note that raising the proposed pad above the 100-year floodplain would effectively address our remaining concerns (i.e. elevating the stormwater facilities out of the 100-year flood, elevating the petroleum products above the 100-year flood, minimize public health/safety concerns, etc.) **The current site design indicates minimal disturbances to the Base Flood Elevations, which would indicate that additional fill may be placed without increasing the Base Flood Elevations by more than one (1) foot.**

Please note that our review has been limited to the Stormwater Management and Floodplain Management Ordinances of the Township. Should you have any questions regarding this matter, please do not hesitate to contact us.

Very truly yours,



Daniel B. Slagle, P.E.  
Principal Engineer

DBS/RDH

cc: Sam Stockton, CDC  
Jim Liekar, Esq.  
Tetra Tech  
Sunoco Pipeline, L.P.