Ian Cole, LLC

Professional Registered Soil Scientist / Professional Wetland Scientist
P.O. Box 619
Middletown, CT 06457
Itcole@gmail.com
860-514-5642

April 11, 2024

DONOCO, LLC
Mark Coen, Member
5 Library Lane
Gales Ferry, CT 06335

RE: **SITE EVALUATION REPORT** prepared for: DONCO, LLC – 8-30G Plan- 59 Kings Highway & Christy Hill Road, MBL: 92-1160-59, Ledyard, Connecticut:

Dear DONOCO LLC,

At DONOCO LLC's request, I completed a site investigation and prepared this letter report to evaluate site impacts that potentially could result from the proposed plans to construct 10 residential dwelling units and associated appurtenances at the above referenced parcel. I completed my site evaluation on April 10, 2024.

EXISTING CONDITIONS

The subject parcel is located on the corner of Kings Highway and Christy Hill Road. The property is currently vacant. A review of archival CTDEEP air photos demonstrates that the site has been cleared and re-vegetated several times dating back to the CTDEEP 1934 air photos. Currently, the property is partially cleared along most of the frontage on King's Highway. The northern dog-legged section of the property is wooded with a high concentration of white pine in the forest canopy. In the low-lying southeastern limits of the property at the intersection of Kings Highway and Christy Hill Road, is an area of scrub-shrub habitat with a man-made wetland that was installed as a detention basin. The basin is part of the stormwater management system for the neighboring Municipal Kings Corner Manor Senior Housing located uphill. The wet basin drains east under Christy Hill Road to Pine Swamp Brook.

In most times of the year the wetland feature is nearly unrecognizable as such, especially to the lay-person if it were not for the tall patch of Phragmites that stands above the herbaceous and shrub-scrub vegetation community that surrounds the wetland denoted on the subject site plans by wetland flags 1A to 7A. The basin outlets east to a headwall along the roadside that is in very bad shape and needs repair to maintain proper function (see attached photos). Several paved roadside leak-offs direct untreated stormwater runoff from Christy Hill Road into the basin. The entire basin is located with a drainage easement in favor of the Town. The bulk of the 100' upland review area is

dominated by a thick growth of Japanese Knotweed that surrounds the basin. This patch of knotweed has been mowed by the Town several times over the years presumably to maintain access to the basin for maintenance purposes as it was intended.

The man-made wetland feature was created to provide water quality renovation functions serving to attenuate, de-energize and store local runoff from the road intersection, and additionally capture and retain sediments and other roadside debris. The wetland feature is both physically and functionally similar to common roadside and parking lot stormwater detention basins. The 100-foot upland review area habitat is of low ecological integrity as it is dominated by a near 100 % cover of invasive Japanese Knotweed.

SOIL SURVEY

The soils identified on-site are a refinement of the Natural Resources Conservation Service (NRCS) Websoil Soil Survey. The on-site soil parent material is derived from eolian deposits of fine textured soils over sandy and gravelly melt-out glacial till. Generally, these soils have rapid permeability in the substratum layers.

Wetland Soils

The primary wetlands soil series along the wetland boundary are classified as (3) Ridgebury, Leicester, and Whitman fine sandy loams. The poorly drained soils along the wetland boundary belong to the Ridgebury and Leicester soil series. Ridgebury and Leicester soils are found within drainageways and depressions on glacial till landscapes. Ridgebury and Leicester soils have a seasonal high-water table at a depth of about 6 inches. A typical soil profile along the wetland boundary consists of approximately 3”-0” of intermediately decomposed organic material (Oi), followed by 0”-5” of a thick dark topsoil horizon (A), underlain by 5-20” of a wet weakly developed grayish subsoil horizon (Bg) with common redoximorphic features (Common medium distinct strong brown mottles, masses) ranging from fine sandy loam to very fine sandy loam. This subsoil is underlain by a saturated sandy loam to fine sandy loam gray substratum (2Cg).

Upland Soils

The uplands are mapped as well drained Narragansett silt loams. These upland soils consist of 0-24” of fine textured soils on top of stratified, water sorted sands and gravels are well 3 Wetland Delineations Wetland Evaluations Soil Evaluations suited for development and are generally unrestricted. Surrounding the property are notable pockets of mapped Udorthent soils. These mapping units occur in areas where material was previously mined, evidence of how useful the sandy soil material at the site is for building purposes. A notable pile of chimney bricks was noted, suggesting that the site location may have previously hosted a structure or dwelling since razed. A copy of the NRCS soil map is attached for your reference.

PROPOSED ACTIVITIES

The applicant is seeking approval from the Town to construct 10 individual two-bedroom residential units that are serviced by municipal water and on-site sub-surface sewage disposal systems.

The western half of the property will host 5 units and a 15-foot-wide shared common driveway will access the additional 5 units clustered in the northeast central portion of the property. The topography in the vicinity of the proposed development is relatively level and will not require substantial earth moving, also as previous stated above the site has been cleared several times over the past 100 years and is already partially cleared, as such large-scale wholesale clear-cutting will not be required. The limits of clearing will closely match the proposed perimeter silt fence that encloses the entire development during construction as erosion and sediment control barrier which

will be installed before any initial ground disturbance activities. Stormwater runoff from each unit's roof will tie into a Stormtech™ infiltrator unit which will infiltrate the first 1" of rainfall. The proposed development will not create any new point discharges. The site will be graded so stormwater runoff will sheet flow across the landscape to promote infiltration into the surrounding well drained soils.

IMPACT ASSESSMENT

There are no proposed direct disturbances or fill to any inland wetland or watercourse associated with the proposed activities. There are also no proposed activities within the 100 – foot upland review area. Stormwater runoff will infiltrate into the ground. There will be no changes to hydrology or watershed of the wetland feature. There will be no changes in the wetland vegetation community or composition of the 100-foot upland review area. As a result, it is my professional judgement that the proposed activities will not have a substantial or negative effect on the natural capacity of the wetland system or the functions and services it provides. The applicant will mitigate construction related impacts by implementing standard construction Best Management Practices (BMPs) and conforming to permit conditions. In my professional opinion there will be no significant adverse impacts to the wetlands resulting from the project as currently proposed. In closing, the design has minimized wetland impacts by:

1. Having no direct impact to either the wetland or the 100' upland review area
2. Providing and maintaining erosion and sediment controls during construction.
3. Providing stormwater management and treatment for roof surfaces.
4. Commitment to adhering to permit conditions and construction industry standard best management practices (BMPs).
5. Compliance with all regulatory standards.
6. Conformance with Department of Public Health regulations.

Please do not hesitate to contact me at itcole@gmail.com or (860) 514-5642 if you have any questions or need any additional information.

Sincerely,

Ian T. Cole
Professional Registered Soil Scientist
Professional Wetland Scientist #2006

ATTACHMENTS
SITE PHOTOS
NRCS MAP

WETLAND SITE PHOTOS

APRIL 10, 2024

59 KINGS HIGHWAY

LEDYARD

Photo 1: Example of the wetland conditions of the detention basin at the corner of Kings Highway and Christy Hill Road.

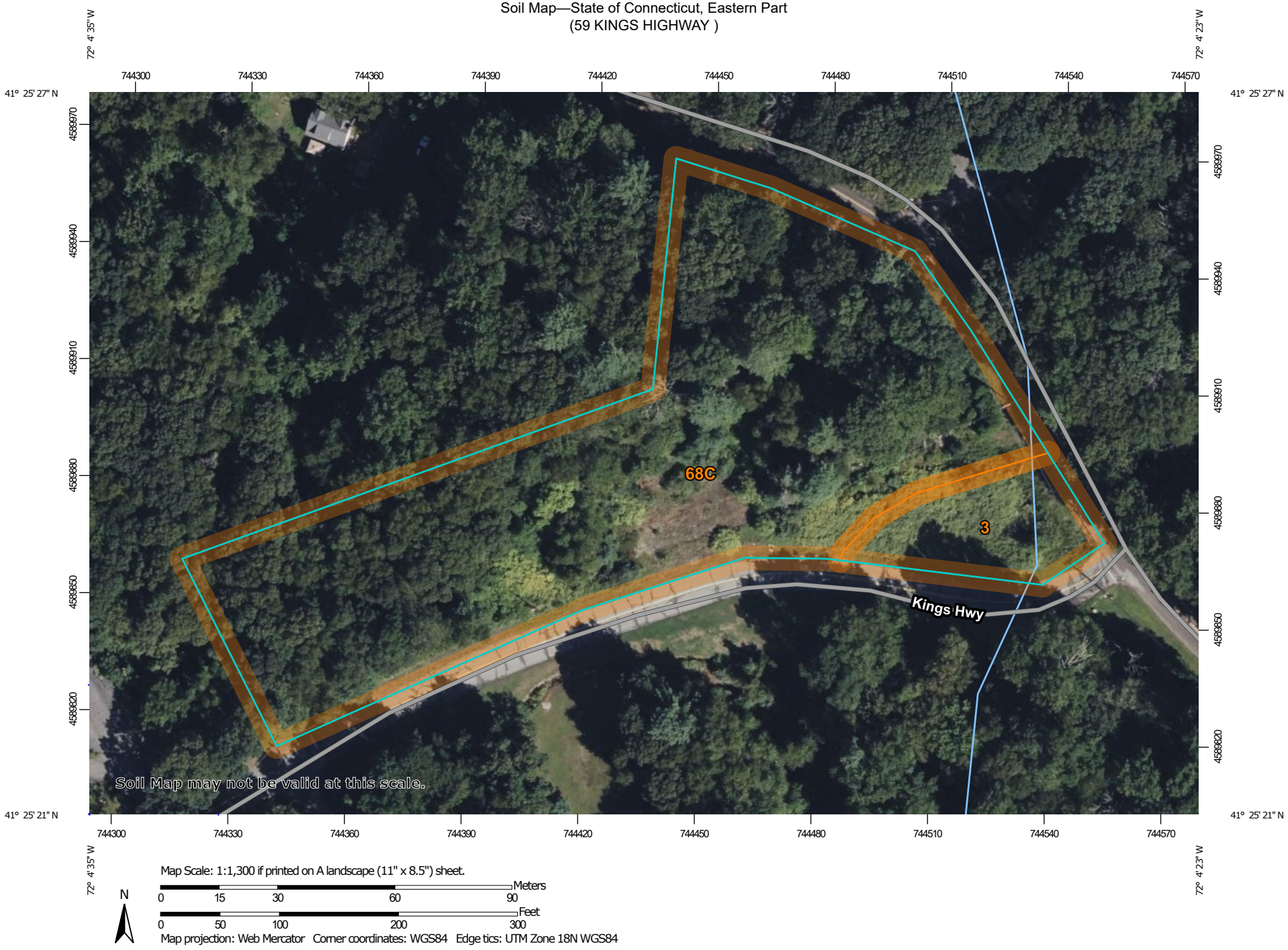
Photo 2: Failing headwall at drainage connection outlet along shoulder of Christy Hill Road.

Photo 3: Example of the Japanese Knotweed stand that covers the 100’ URA.

Photo 4: General conditions of cleared upland habitat on the property slated to host the development.

Photo 5: Example of the forested upland habitat that will have selected clearing to facilitate space for the 5 northern clustered dwellings.

Soil Map—State of Connecticut, Eastern Part
(59 KINGS HIGHWAY)



Map Scale: 1:1,300 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Eastern Part
Survey Area Data: Version 1, Sep 15, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	0.3	9.7%
68C	Narragansett silt loam, 3 to 15 percent slopes, extremely stony	3.2	90.3%
Totals for Area of Interest		**3.5**	**100.0%**