

## MEMORANDUM

**TO:** Chuck Dobson, PE- Earth Companies  
**FROM:** Jonathan Kasitz  
**DATE:** May 22, 2007  
**PROJECT NAME:** Wellness Center/ Valhalla Site      **PROJECT NO.:** 07-07489-001  
**SUBJECT:** Vegetative Cover Investigation

A vegetative cover investigation of the proposed Wellness Center/Valhalla Site was conducted by Jonathan Kasitz (RETTEW) on May 21, 2007. This site visit was supplemental to a tree survey that was conducted on the site during the week of April 30- May 4, 2007. The approximately 300 acre site is situated in Wallace Township, Chester County, and consists of a mix of mature hardwood and coniferous woods, successional scrub-shrub woods and fallow fields. The surrounding area is dominated by mature woods and light-density residential parcels. The Wallace Township Subdivision Ordinance requires a vegetative cover analysis of properties prior to subdivision or changes in land use. The vegetative cover of the site was delineated into several different vegetative cover types, based upon the site survey and numerous field investigations. The following information documents the general habitat found within each of these vegetative cover types. A spreadsheet listing the common, and/or dominant species found within each type, as well as representative photographs, is attached to this memo.

The locations of the cover types identified below are based upon the "Existing Conditions" plan, as prepared by Earth Design Group. The general boundaries of the site are the East Branch Brandywine Creek and the Struble Trail to the south, Marsh Creek State Park to the east, Chalfont and Little Conestoga Roads to the north, and private parcels to the west. Marshall Road runs in a northeast-southwest direction through the middle of the site, bisecting the site into roughly two halves. These features are utilized to describe the general locations of the vegetative cover types identified below. Please refer to the "Existing Conditions" plan when reviewing this memo.

### **Mature Woodland**

The northern and southern ends of the site were identified as mature woodland. These woodlands were dominated by native hardwood species, with scattered coniferous species. The dominant tree species included *Quercus rubra* (northern red oak), *Quercus alba* (white oak), *Liriodendron tulipifera* (tuliptree), *Platanus occidentalis* (American sycamore) and *Fraxinus pennsylvanica* (green ash). The dominant shrubs were *Lindera benzoin* (northern spicebush), *Lonicera tatarica* (Tatarian honeysuckle) and *Rosa multiflora* (multiflora rose). *Alliaria petiolata* (garlic mustard) and *Podophyllum peltatum* (mayapple) were the dominant herbs. The mature woodland on the extreme north end of the site, to the west of the stream and wetlands, was the most pristine woodland on the property. The mature woodlands on the steep slopes to the west of this section, and those on the south side of the site (near the Marsh Creek State Park boundary) were less diverse and more overgrown with invasive species. All of these

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mature woodlands included many trees over 18" in diameter. The approximate age of these woodlands is 30-50+ years (the oldest being the section described above as the most pristine).

### **Mature Woodland (Deciduous)**

Two large areas were identified as mature woodland (deciduous). These areas included the central portion of the site (south of Marshall Road) and the western side of the site (north of Marshall Road). These woodlands are slightly younger than the mature woodlands described above and included very few coniferous species (limited to the edges of the woodlands). The dominant tree species included *Acer rubrum* (red maple), *Fraxinus pennsylvanica*, *Liriodendron tulipifera* and *Ulmus rubra* (slippery elm). The dominant shrub was *Rosa multiflora*. *Alliaria petiolata* was the dominant herb and *Toxicodendron radicans* (eastern poison ivy) and *Celastrus orbiculatus* (Oriental bittersweet) were the dominant vines. There were a few scattered specimen over 18" in diameter in the southern portion of these woodlands. The northern portion of these woodlands (north of Marshall Road) was a monoculture of *Liriodendron tulipifera*, with no specimen over 18" in diameter. The approximate age of these woodlands is 20-30 years.

### **Emergent Woodland**

A narrow strip of woodland lying south of Marshall Road, north of the old quarry, was identified as emergent woodland. These woods were characterized by a relatively young, deciduous overstory and thick shrub understory dominated by invasive species. The dominant trees included *Liriodendron tulipifera*, *Acer rubrum* and *Platanus occidentalis*. *Elaeagnus angustifolia* (Russian olive) and *Lonicera tatarica* were the dominant shrubs. The dominant herb was *Alliaria petiolata* and the dominant vine was *Lonicera japonica* (Japanese honeysuckle). The high level of invasive species is most likely due to the high degree of disturbance this area has experienced and relative young age of the woodlands. The approximate age of these woods is 10-20 years.

### **Shrubs/Emergent Woodland**

The southeast and northeast ends of the site were identified as shrubs/emergent woodland. These areas were dominated by native and non-native successional species and include young deciduous trees surrounded by a dense, non-native shrub understory. The dominant trees include *Liriodendron tulipifera*, *Acer rubrum*, *Prunus avium* (sweet cherry), *Fraxinus pennsylvanica* and *Pinus strobus* (eastern white pine, FACU). *Rosa multiflora* and *Elaeagnus angustifolia* were the dominant shrubs. *Alliaria petiolata* was the dominant herb and *Toxicodendron radicans* was the dominant vine. The approximate age of these areas is 10-20 years.

### **Sparse Woodland/ Sparse Woodland- Coniferous**

These woodlands lie on the eastern side of the site, just south of Marshall Road. They are dominated by more mature, deciduous trees, and a thinner shrub and herbaceous understory. These areas, especially near the pond to the west, were probably maintained as lawn or field around the trees in recent past. The portion of these woodlands to the east, near the intersection of Marshall and Chalfont Roads, were more overgrown with shrubs and included more coniferous trees. The dominant trees included *Ulmus rubra*, *Fraxinus pennsylvanica*, *Liriodendron tulipifera* and *Pinus strobes*. *Rosa multiflora* was the dominant shrub and *Alliaria petiolata*, *Dactylis glomerata* (orchardgrass) and *Solidago* sp. (goldenrod) were the dominant herbs. *Celastrus orbiculatus* was the dominant vine. The approximate age of the larger deciduous trees is 20-30 years, with the thicker understory being closer to 5-10 years.

### **Coniferous Buffer**

Chalfont Road, the eastern side of Marshall Road and the main driveway off Little Conestoga Road are lined with a thin band of mature, coniferous trees. The dominant trees included *Pinus strobes* and *Picea*

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*abies* (Norway spruce, NI). *Rosa multiflora* and *Lonicera tatarica* were the dominant shrubs. *Alliaria petiolata* was the dominant herb, and *Lonicera japonica*, *Celastrus orbiculatus* and *Toxicodendron radicans* were the dominant vines. The approximate age of the coniferous buffer is 30-40 years.

### **Shrubs**

The portion of the site just north of the quarry, south of Marshall Road was identified as shrubs. This area was devoid of large trees and is dominated by *Elaeagnus angustifolia*. *Dactylis glomerata*, *Solidago*, *Plantago lanceolata* (narrowleaf plantain) and *Ambrosia artemisiifolia* (annual ragweed) were the dominant herbs, and *Lonicera japonica* was the dominant vine. A few, scattered *Platanus occidentalis* and *Prunus avium* were located amongst the shrubs. The approximate age of this area is 5-15 years.

### **Fields**

Two large fields are located on the site, just north and south of Marshall Road on the eastern side of the site. These fields are routinely mowed and were probably cultivated fields in recent past. No trees or shrubs were dominant in the fields, though young *Rosa multiflora* is common. *Asclepias syriaca* (common milkweed), *Andropogon virginicus* (broomsedge bluestem, FACU) and *Solidago* sp. were the dominant plants found in both fields.

### **Forested Wetlands**

The majority of wetlands found on the site were identified as forested wetlands. These wetlands included many springs/seeps and were surrounded by mature woodlands (see descriptions above). The dominant trees found in the wetlands included *Fraxinus pennsylvanica*, *Acer rubrum* and *Platanus occidentalis*. *Lindera benzoin* was the dominant shrub, and *Symplocarpus foetidus* (skunk cabbage) and *Impatiens capensis* (jewelweed) were the dominant herbs. The approximate age was dependent upon the surrounding woodlands.

**Note:** The descriptions listed above include only the dominant plants identified in the different habitats during the mid-late spring 2007 site visits. Dominant herbaceous species will vary according to time of year. Again, these descriptions are not meant to be an exhaustive list of all plants found within each habitat type. See the attached plant list, which lists other common species found in the different habitat types.