APPENDIX G
ECOLOGY DATA

Bird Species Possibly Occurring on Site that are Known to Occur Within the Survey Blocks (5872B & 5972A) of the Study Area According to the New York State Breeding Bird Atlas 1980-1985 and 2000-2004 Data		
Common Name	**Scientific Name**	**NY Legal Status**
Ruby-throated Hummingbird	*Archilochus colubris*	Protected
Belted Kingfisher	*Ceryle alcyon*	Protected
Red-bellied Woodpecker	*Melanerpes carolinus*	Protected
Downy Woodpecker	*Picoides pubescens*	Protected
Hairy Woodpecker	*Picoides villosus*	Protected
Northern Flicker	*Colaptes auratus*	Protected
Pileated Woodpecker	*Dryocopus pileatus*	Protected
Eastern Wood-Pewee	*Contopus virens*	Protected
Alder Flycatcher	*Empidonax alnorum*	Protected
Willow Flycatcher	*Empidonax traillii*	Protected
Eastern Phoebe	*Sayornis phoebe*	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	Protected
Eastern Kingbird	*Tyrannus tyrannus*	Protected
Yellow-throated Vireo	*Vireo flavifrons*	Protected
Blue-headed Vireo	*Vireo solitarius*	Protected
Red-eyed Vireo	*Vireo olivaceus*	Protected
Blue Jay	*Cyanocitta cristata*	Protected
American Crow	*Corvus brachyrhynchos*	Game Species
Purple Martin	*Progne subis*	Protected
Tree Swallow	*Tachycineta bicolor*	Protected
Barn Swallow	*Hirundo rustica*	Protected
Black-capped Chickadee	*Poecile atricapillus*	Protected
Tufted Titmouse	*Baeolophus bicolor*	Protected
Red-breasted Nuthatch	*Sitta canadensis*	Protected
White-breasted Nuthatch	*Sitta carolinensis*	Protected
Brown Creeper	*Certhia americana*	Protected
Carolina Wren	*Thryothorus ludovicianus*	Protected
House Wren	*Troglodytes aedon*	Protected
Eastern Bluebird	*Sialia sialis*	Protected
Veery	*Catharus fuscescens*	Protected
Blue-gray Gnatcatcher	*Polioptila caerulea*	Protected
Hermit Thrush	*Catharus guttatus*	Protected
Wood Thrush	*Hylocichla mustelina*	Protected
American Robin	*Turdus migratorius*	Protected
Gray Catbird	*Dumetella carolinensis*	Protected
Northern Mockingbird	*Mimus polyglottos*	Protected
Brown Thrasher	*Toxostoma rufum*	Protected
European Starling	*Sturnus vulgaris*	Unprotected
Cedar Waxwing	*Bombycilla cedrorum*	Protected
Blue-winged Warbler	*Vermivora pinus*	Protected

Bird Species Possibly Occurring on Site that are Known to Occur Within the Survey Blocks (5872B & 5972A) of the Study Area According to the New York State Breeding Bird Atlas 1980-1985 and 2000-2004 Data		
Common Name	**Scientific Name**	**NY Legal Status**
Nashville Warbler	*Vermivora ruficapilla*	Protected
Yellow Warbler	*Dendroica petechia*	Protected
Yellow-rumped Warbler	*Dendroica coronata*	Protected
Chestnut-sided Warbler	*Dendroica pensylvanica*	Protected
Pine Warbler	*Dendroica pinus*	Protected
Prairie Warbler	*Dendroica discolor*	Protected
Black-and-white Warbler	*Mniotilta varia*	Protected
American Redstart	*Setophaga ruticilla*	Protected
Ovenbird	*Seiurus aurocapilla*	Protected
Common Yellowthroat	*Geothlypis trichas*	Protected
Scarlet Tanager	*Piranga olivacea*	Protected
Eastern Towhee	*Pipilo erythrophthalmus*	Protected
Chipping Sparrow	*Spizella passerina*	Protected
Savannah Sparrow	*Passerculus sandwichensis*	Protected
Field Sparrow	*Spizella pusilla*	Protected
Song Sparrow	*Melospiza melodia*	Protected
White-throated Sparrow	*Zonotrichia albicollis*	Protected
Dark-eyed Junco	*Junco hyemalis*	Protected
Northern Cardinal	*Cardinalis cardinalis*	Protected
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Protected
Indigo Bunting	*Passerina cyanea*	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	Protected
Eastern Meadowlark	*Sturnella magna*	Protected
Common Grackle	*Quiscalus quiscula*	Protected
Brown-headed Cowbird	*Molothrus ater*	Protected
Baltimore Oriole	*Icterus galbula*	Protected
House Finch	*Carpodacus mexicanus*	Protected
American Goldfinch	*Carduelis tristis*	Protected
House Sparrow	*Passer domesticus*	Unprotected
Total # Species = 69		

Data Source: New York State Breeding Bird Atlas 1980-1985 and 2000-2004
Survey Blocks: 5872B & 5972A

State Definitions

E **Endangered Species** are determined by the New York State Department of Environmental Conservation (DEC) to be in imminent danger of extinction or extirpation in New York State, or are federally listed as endangered. All such species are fully protected under New York State ECL 11-0535.

T **Threatened Species** are determined by the DEC as likely to become endangered within the foreseeable future in New York State, or are federally listed as threatened. All such species are fully protected under the New York State ECL 11-0535.

SC **Special Concern Species** are those native species which are not yet recognized as endangered or threatened, but for which documented evidence exists relating to their continued welfare in New York State. The Special Concern category exists within DEC rules and regulations, but such designation does not in itself provide any additional protection. However, Special Concern species may be

protected under other laws.
GS, GN **Game** species are defined as “big game”, “small game” or “game bird” species in ECL 11-0103. **GS** indicates that there are seasons set for the species when they may be legally hunted.
GN indicates that, while classified under the law as a game species, there are no seasons set and the species may not be hunted or taken at any time in New York.
PB **Protected Birds** are defined in ECL 11-0103 as all wild birds except those named as unprotected. Some of these birds, such as waterfowl and gallinaceous birds, are also listed as game species with seasons set, while others may not be taken at any time.
Un **Unprotected** means that the species may be taken at any time without limit. However, a license to take may be required.

Reptile and Amphibian Species Identified Within the Albany Quadrangle According to the NYS Amphibian and Reptile Atlas Project			
Common Name	**Scientific Name**	**NY Legal Status**	**Possibly Occurring on Site**
Salamanders			
Jefferson Salamander	*Ambystoma jeffersonianum*	**Special Concern**	yes
Blue-spotted Salamander	*Ambystoma laterale*	**Special Concern**	yes
Spotted Salamander	*Ambystoma maculatum*	Unprotected	yes
Northern Dusky Salamander	*Desmognathus fuscus*	Unprotected	yes
Northern Redback Salamander	*Plethodon c. cinereus*	Unprotected	yes
Northern Two-lined Salamander	*Eurycea bislineata*	Unprotected	yes
Toads and Frogs			
Eastern Spadefoot	*Scaphiopus holbrookii*	**Special Concern**	yes
Eastern American Toad	*Bufo a. americanus*	Game Species	yes
Gray Treefrog	*Hyla versicolor*	Game Species	yes
Northern Spring Peeper	*Pseudacris c. crucifer*	Game Species	yes
Bullfrog	*Rana catesbeiana*	Game Species	yes
Green Frog	*Rana clamitans melanota*	Game Species	yes
Wood Frog	*Rana sylvatica*	Game Species	yes
Northern Leopard Frog	*Rana pipiens*	Game Species	yes
Pickerel Frog	*Rana palustris*	Game Species	yes
Snakes			
Northern Water Snake	*Nerodia s. sipedon*	Unprotected	yes
Northern Brown Snake	*Storeria d. dekayi*	Unprotected	yes
Northern Redbelly Snake	*Storeria o. occipitomaculata*	Unprotected	yes
Common Garter Snake	*Thamnophis sirtalis*	Unprotected	yes
Eastern Milk Snake	*Lampropeltis t. triangulum*	Unprotected	yes
Eastern Hognose Snake	*Heterodon platirhinos*	**Special Concern**	yes
Northern Ringneck Snake	*Diadophis punctatus edwardsii*	Unprotected	yes
Turtles			
Common Snapping Turtle	*Chelydra s. serpentine*	Unprotected	yes

Reptile and Amphibian Species Identified Within the Albany Quadrangle According to the NYS Amphibian and Reptile Atlas Project			
Common Name	**Scientific Name**	**NY Legal Status**	**Possibly Occurring on Site**
Turtles continued			
Spotted Turtle	*Clemmys guttata*	**Special Concern**	yes
Wood Turtle	*Clemmys insculpta*	**Special Concern**	yes
Eastern Box Turtle	*Terrapene c. carolina*	**Special Concern**	yes
Painted Turtle	*Chrysemys picta*	Unprotected	yes

Data Source: New York State Amphibian and Reptile Atlas Project 1990-1999
Survey Block: Albany Quadrangle

State Definitions

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GS indicates that there are seasons set for the species when they may be legally hunted.
GN indicates that, while classified under the law as a game species, there are no seasons set and the species may not be hunted or taken at any time in New York.

Un **Unprotected** means that the species may be taken at any time without limit. However, a license to take may be required.

MAMMALS POSSIBLY OCCURRING ON SITE			
COMMON NAME	**SCIENTIFIC NAME**	**LEGAL STATUS**	
		FEDERAL	**STATE**
Marsupials			
Virginia Opossum	*Didelphis virginiana*	Un	GS
Shrews and Moles			
Masked Shrew	*Sorex cinereus*	Un	Un
Pygmy Shrew	*Sorex hoyi*	Un	Un
Northern Short-tailed Shrew	*Blarina brevicauda*	Un	Un
Least Shrew	*Cryptotis parva*	Un	Un
Hairy-tailed Mole	*Parascalops breweri*	Un	Un
Eastern Mole	*Scalopus aquaticus*	Un	Un
Star-nosed Mole	*Condylura cristata*	Un	Un
Bats			
Little Brown Bat	*Myotis lucifugus*	Un	Un
Keen's Bat	*Myotis septentrionalis*	Un	Un
Indiana Bat	*Myotis sodalis*	E	E
Big Brown Bat	*Eptesicus fuscus*	Un	Un
Red Bat	*Lasiurus borealis*	Un	Un
Hoary Bat	*Lasiurus cinereus*	Un	Un
Canids			
Coyote	*Canis latrans*	Un	GS
Red Fox	*Vulpes vulpes*	Un	GS
Gray Fox	*Urocyon cinereoargenteus*	Un	GS
Raccoon			
Raccoon	*Procyon lotor*	Un	GS
Mustelids			
Ermine	*Mustela erminea*	Un	GS
Long-tailed Weasel	*Mustela frenata*	Un	GS
Mink	*Mustela vison*	Un	GS
Fisher	*Martes pennanti*	Un	GS
Striped Skunk	*Mephitis mephitis*	Un	GS
Felids			
Bobcat	*Lynx rufus*	Un-CA2	GS
Ungulates			
White-tailed Deer	*Odocoileus virginianus*	Un	GS

MAMMALS POSSIBLY OCCURRING ON SITE			
COMMON NAME	**SCIENTIFIC NAME**	**LEGAL STATUS**	
		FEDERAL	**STATE**
Rodents			
Eastern Chipmunk	*Tamias striatus*	Un	Un
Woodchuck	*Marmota monax*	Un	Un
Gray Squirrel	*Sciurus carolinensis*	Un	GS
Red Squirrel	*Tamiasciurus hudsonicus*	Un	Un
Southern Flying Squirrel	*Glaucomys volans*	Un	Un
Northern Flying Squirrel	*Glaucomys sabrinus*	Un	Un
Deer Mouse	*Peromyscus maniculatus*	Un	Un
White-footed Mouse	*Peromyscus leucopus*	Un	Un
Meadow Vole	*Microtus pennsylvanicus*	Un	Un
Pine Vole	*Pitymys pinetorum*	Un	Un
Muskrat	*Ondatra zibethicus*	Un	GS
Southern Bog Lemming	*Synaptomys cooperi*	Un	Un
Norway Rat	*Rattus norvegicus*	Un	Un
House Mouse	*Mus musculus*	Un	Un
Meadow Jumping Mouse	*Zapus hudsonius*	Un	Un
Woodland Jumping Mouse	*Napaeozapus insignis*	Un	Un
Porcupine	*Erethizon dorsatum*	Un	Un
Rabbits and Hares			
Eastern Cottontail	*Sylvilagus floridanus*	Un	GS

Data Source: NYSDEC, Division of Fish, Wildlife, and Marine Resources. 1985-2005. Checklist of the Amphibians, Reptiles, Birds and Mammals of New York, Including Their Protective Status. www.dec.state.ny.us/website/dfwmr/wildlife/spplist.pdf

Federal Definitions

E **Endangered Species** are determined by the U. S. Department of the Interior to be in danger of extinction throughout all or a significant portion of their range, as defined in the Endangered Species Act of 1973, and as amended. All such species are fully protected, including their habitat.

T **Threatened Species** are determined by the U. S. Department of the Interior as likely to become endangered within the foreseeable future throughout all or a significant portion of their range, as defined in the Endangered Species Act of 1973, and as amended. All such species are fully protected.

Un **Unprotected** under Federal law.

CA1,CA2,CA3 Indicates species listed in Appendices 1 or 2 under the **Convention on International Trade in Endangered Species (CITES),** whose purpose is to protect certain species of flora and fauna against overexploitation in international trade. CITES lists species in three categories (appendices). Appendix 1 includes species threatened with extinction. Appendix 2 includes those species not currently endangered but which may become so if unrestricted trade occurs. Appendix 3 includes species identified

by a country as needing protection. The listing herein is based upon the 16 April 1997amendment, which can also be found on web site http://international.fws.gov/cites/cites.html.

State Definitions

E **Endangered Species** are determined by the New York State Department of Environmental Conservation (DEC) to be in imminent danger of extinction or extirpation in New York State, or are federally listed as endangered. All such species are fully protected under New York State ECL 11-0535.

T **Threatened Species** are determined by the DEC as likely to become endangered within the foreseeable future in New York State, or are federally listed as threatened. All such species are fully protected under the New York State ECL 11-0535.

SC **Special Concern Species** are those native species which are not yet recognized as endangered or threatened, but for which documented evidence exists relating to their continued welfare in New York State. The Special Concern category exists within DEC rules and regulations, but such designation does not in itself provide any additional protection. However, Special Concern species may be protected under other laws.

GS, GN **Game** species are defined as “big game”, “small game” or “game bird” species in ECL 11-0103. In the checklist,

GS indicates that there are seasons set for the species when they may be legally hunted.

GN indicates that, while classified under the law as a game species, there are no seasons set and the species may not be hunted or taken at any time in New York.

PB **Protected Birds** are defined in ECL 11-0103 as all wild birds except those named as unprotected. Some of these birds, such as waterfowl and gallinaceous birds, are also listed as game species with seasons set, while others may not be taken at any time.

Un **Unprotected** means that the species may be taken at any time without limit. However, a license to take may be required.

SR **Special Regulations** - This designation is used for two species: diamondback terrapin is protected under ECL 11-0311, where DEC can adopt regulations restricting destruction, disturbance or taking of a species after petition by ten or more citizens on behalf of that species. Protection for harbor seal comes via specific inclusion in ECL 11-0107.

Ecological Community Descriptions

According to:

Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors), 2002. Ecological *Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State.* (*Draft for review*). New York Natural Heritage Program, New York State Department of Environmental Conservation. Albany, NY.

AGRICULTURAL LAND

Cropland/field crops: an agricultural field planted in field crops such as alfalfa, wheat, timothy, and oats. This community includes hayfields that are rotated to pasture.

Characteristic birds include grasshopper sparrow (*Ammodramus savannarum*), vesper sparrow (*Pooecetes gramineus*), bobolink (*Dolichonys oryzivorous*), mourning dove (*Zenaida macroura*), and upland sandpiper (*Bartramia longicauda*).

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

DEVELOPED LAND

Mowed lawn with trees: residential, recreational, or commercial land in which the groundcover is dominated by clipped grasses and forbs, and it is shaded by at least 30% cover of trees. Ornamental and/or native shrubs may be present, usually with less than 50% cover. The groundcover is maintained by mowing.

Characteristic animals include gray squirrel (*Sciurus carolinensis*), American robin (*Turdus migratorius*), mourning dove (*Zenaida macroura*), and mockingbird (*Mimus polyglottos*).

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Mowed lawn: residential, recreational, or commercial land, or unpaved airport runways in which the groundcover is dominated by clipped grasses and there is less than 30% cover of trees. Ornamental and/or native shrubs may be present, usually with less than 50% cover. The groundcover is maintained by mowing.

Characteristic birds include American robin (*Turdus migratorius*), upland sandpiper (*Bartramia longicauda*), and killdeer (*Charadrius vociferus*).

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Mowed roadside/pathway: a narrow strip of mowed vegetation along the side of a road, or a mowed pathway through taller vegetation (e.g., meadows, old fields, woodlands, forests), or along utility right-of way corridors (e.g., power lines, telephone lines, gas pipelines). The vegetation in these mowed strips and paths may be dominated by grasses, sedges, and rushes; or it may be dominated by forbs, vines, and low shrubs that can tolerate infrequent mowing.

Distribution: throughout New York State.

Rank: G5 S5 *Revised:* 1990

NATURAL LAND

Natural Terrestrial Communities

Successional old field: a meadow dominated by forbs and grasses that occurs on sites that have been cleared and plowed (for farming or development), and then abandoned. Characteristic herbs include goldenrods (*Solidago altissima, S. nemoralis, S. rugosa, S. juncea, S. canadensis,* and *Euthamia graminifolia*), bluegrasses (*Poa pratensis, P. compressa*), timothy (*Phleum pratense*), quackgrass (*Agropyron repens*), smooth brome (*Bromus inermis*), sweet vernal grass (*Anthoxanthum odoratum*), orchard grass (*Dactylis glomerata*), common chickweed (*Cerastium arvense*), common evening primrose (*Oenothera biennis*), oldfield cinquefoil (*Potentilla simplex*), calico aster (*Aster lateriflorus*), New England aster (*Aster novae-angliae*), wild strawberry (*Fragaria virginiana*), Queen-Anne'slace (*Daucus corota*), ragweed (*Ambrosia artemisiifolia*), hawkweeds (*Hieracium* spp.), dandelion (*Taraxacum officinale*), and ox-tongue (*Picris hieracioides*). Shrubs may be present, but collectively they have less than 50% cover in the community. Characteristic shrubs include gray dogwood (*Cornus foemina* ssp. *racemosa*), silky dogwood (*Cornus amomum*), arrowwood (*Viburnum recognitum*), raspberries (*Rubus* spp.), sumac (*Rhus typhina, R. glabra*), and eastern red cedar (*Juniperus virginiana*).

A characteristic bird is the field sparrow (*Spizella pusilla*). This is a relatively short-lived community that succeeds to a shrubland, woodland, or forest community.

Distribution: throughout New York State.
Rank: G4 S4 *Revised:* 1990
Example: Chippewa Creek Plains, St. Lawrence County; Finger Lakes National Forest, Schuyler County.
Sources: Mellinger and McNaughton 1975; NYNHP field surveys.

Successional northern hardwoods: a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed. Characteristic trees and shrubs include any of the following: quaking aspen (*Populus tremuloides*), bigtooth aspen (*P. grandidentata*), balsam poplar (*P. balsamifera*), paper birch (*Betula papyrifera*), or gray birch (*B. populifolia*), pin cherry (*Prunus pensylvanica*), black cherry (*P. serotina*), red maple (*Acer rubrum*), white pine (*Pinus strobus*), with lesser amounts of white ash (*Fraxinus americana*), green ash (*F. pensylvanica*), and American elm (*Ulmus americana*). Northern indicators include aspens, birches, and pin cherry. This is a broadly defined community and several seral and regional variants are known.

Characteristic birds include chestnut-sided warbler (*Dendroica pensylvanica*), Nashville warbler (*Vermivora ruficapilla*) in young forests with aspen and birch seedlings, and yellow-bellied sapsucker (*Sphyrapicus varius*) in mature aspen forests.

Distribution: throughout upstate New York north of the Coastal Lowlands ecozone.
Rank: G5 S5 *Revised:* 2001
Example: Chase Lake Sandplain, Lewis County.
Source: Mellinger and McNaughton 1975; NYNHP field surveys.

Successional southern hardwoods: a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed. Characteristic trees and shrubs include any of the following: American elm (*Ulmus americana*), slippery elm (*U. rubra*), white ash (*Fraxinus americana*), red maple (*Acer rubrum*), box elder (*Acer negundo*), silver maple (*A. saccharinum*), sassafras (*Sassafras albidum*), gray birch (*Betula populifolia*), hawthorns (*Crataegus* spp.), eastern red cedar (*Juniperus virginiana*), and choke-cherry (*Prunus virginiana*). Certain introduced species are commonly found in successional forests, including black locust (*Robinia pseudo-acacia*), treeof- heaven (*Ailanthus altissima*), and buckthorn (*Rhamnus*

cathartica). Any of these may be dominant or codominant in a successional southern hardwood forest. Southern indicators include American elm, white ash, red maple, box elder, choke-cherry, and sassafras. This is a broadly defined community and several seral and regional variants are known.

A characteristic bird is chestnut-sided warbler (*Dendroica pensylvanica*).

Distribution: primarily in the southern half of New York, south of the Adirondacks.
Rank: G5 S5 *Revised:* 2001
Example: Chippewa Creek Plains, St. Lawrence County.
Sources: Eyre 1980; NYNHP field surveys.

Pitch pine-scrub oak barrens: a shrub-savanna community that occurs on well-drained, sandy soils that have developed on sand dunes, glacial till, and outwash plains. Pitch pine (*Pinus rigida*) is the dominant tree; the percent cover of pitch pine is variable, ranging from 20 to 60%. The shrublayer dominants are scrub oaks (*Quercus ilicifolia* and *Q. prinoides*), which often form dense thickets. Beneath this tall shrub canopy is a low shrublayer primarily composed of sweet-fern (*Comptonia peregrina*), blueberries (*Vaccinium angustifolium* and *V. pallidum*), and black huckleberry (*Gaylussacia baccata*). These scrub oak thickets cover 60 to 80 percent of the community; pitch pines are scattered through the shrub thicket, occurring as emergent trees within an extensive shrubland. Within the shrub thickets are small patches of grassland dominated by the following prairie grasses: big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), and Indian grass (*Sorghastrum nutans*). These grassy areas are usually found near ant mounds, along trails, and in some of the low areas between dunes where the water table may be very close to the soil surface. This community can be rich in species. Characteristic forbs include bushclovers (*Lespedeza capitata, L. hirta, L. procumbens*, and *L. stuevii*), pinweed (*Lechea villosa*), milkwort (*Polygala nuttallii*), goat's-rue (*Tephrosia virginiana*), and wild lupine (*Lupinus perennis*).

Rare butterflies of some northern Hudson Valley pitch pine-scrub oak barrens include Karner blue butterfly (*Lycaeides melissa samuelis*) and frosted elfin (*Callophrys irus*). Buck moth (*Hemileuca maia*) is a characteristic species throughout the range of the community, but the density of buck moths is usually low.

Birds that may be found in pitch pine-scrub oak barrens include eastern towhee (*Pipilo erythrophthalmus*), brown thrasher (*Toxostoma rufum*), pine warbler (*Dendroica pinus*), prairie warbler (*D. discolor*), ovenbird (*Seiurus aurocapillus*), common yellowthroat (*Geothlypis trichas*), field sparrow (*Spizella pusilla*), chipping sparrow (*S. passerina*), and gray catbird (*Dumetella caroliniensis*) (Levine 1998, Drennan 1981). This community is adapted to, and maintained by, periodic fires; frequency of fires ranges from 6 to 15 years.

Distribution: mainly known from the Coastal Lowlands ecozone and the Central Hudson subzone of the Hudson Valley ecozone; small examples are reported from the Appalachian Plateau ecozone.
Rank: G2 S1 *Revised:* 2001
Examples: Albany Pine Bush, Albany County; Edgewood Oak Brush Plains, Suffolk County.
Sources: Cryan and Turner 1981; Drennan 1981; Forman 1979; Kerlinger and Doremus 1981; Levine 1998; Olsvig 1980; NYNHP field surveys.

Pitch pine-oak forest: a mixed forest that typically occurs on well-drained, sandy soils of glacial outwash plains or moraines; it also occurs on thin, rocky soils of ridgetops. The dominant trees are pitch pine (*Pinus rigida*) mixed with one or more of the following oaks: scarlet oak (*Quercus coccinea*), white oak (*Q. alba*), red oak (*Q. rubra*), or black oak (*Q. velutina*). The relative proportions of pines and oaks are quite variable within this community type. At one extreme are stands in which the pines are widely spaced amidst the oaks, in which case the pines are often emergent above the canopy of oak trees. At the other extreme are stands in which the pines form a nearly pure stand with only a few widely spaced oak trees. The shrublayer is well-developed with scattered clumps of scrub oak (*Quercus ilicifolia*) and a nearly continuous cover of low heath shrubs such as blueberries (*Vaccinium pallidum, V. angustifolium*) and black huckleberry (*Gaylussacia baccata*). The herbaceous layer is relatively sparse; characteristic species are bracken fern (*Pteridium aquilinum*), wintergreen (*Gaultheria procumbens*), and Pennsylvania sedge (*Carex pensylvanica*).

Characteristic birds include rufous-sided towhee (*Pipilo erythrophthalmus*), common yellowthroat (*Geothlypis trichas*), field sparrow (*Spizella pusilla*), prairie warbler (*Dendroica discolor*), pine warbler (*Dendroica pinus*), blue jay (*Cyanocitta cristata*), and whip-poor-will (*Caprimulgus vociferus*).

At least two potential regional variants are known or suspected. The typical coastal variant on Long Island and the inland variant of upstate New York. More data on these regional variants are needed. This community combined with several types of barrens and woodland communities make up the broadly defined ecosystem known as the Pine Barrens.

Distribution: known from the Coastal Lowlands and
Hudson Valley ecozones.
Rank: G4G5 S4 *Revised:* 2001
Example: Long Island Pine Barrens, Suffolk County.
Sources: Bernard and Seischab 1995; Greller 1977; Kerlinger and Doremus 1981; Olsvig 1979; Reiners 1967; Seischab and Bernard 1996; NYNHP field surveys.

Appalachian oak-pine forest: a mixed forest that occurs on sandy soils, sandy ravines in pine barrens, or on slopes with rocky soils that are well-drained. The canopy is dominated by a mixture of oaks and pines. The oaks include one or more of the following: black oak (*Quercus velutina*), chestnut oak (*Q. montana*), red oak (*Q. rubra*), white oak (*Q. alba*), and scarlet oak (*Q. coccinea*). The pines are either white pine (*Pinus strobus*) or pitch pine (*P. rigida*); in some stands both pines are present. Red maple (*Acer rubrum*), hemlock (*Tsuga canadensis*), beech (*Fagus grandifolia*), and black cherry (*Prunus serotina*) are common associates occurring at low densities. The shrublayer is predominantly ericaceous, usually with blueberries (*Vaccinium angustifolium, V. pallidum*) and black huckleberry (*Gaylussacia baccata*). The groundlayer is relatively sparse, and species diversity is low. Although Appalachian oak-pine forest currently includes white pine forests of the Coastal Lowlands, the latter may be distinctive enough to be designated as "coastal white pine-oak forest." Appalachian oak-pine forest would be distinguished from a “coastal white pine-oak forest” by the presence of bedrock and large rocks (instead of sand and gravel), and by the presence and dominance of red oak instead of dominance by scarlet oak (*Quercus coccinea*) with red oak lacking. More data on the coastal variant and characteristic animals are needed.

Distribution: occurs in the Appalachian Plateau, Hudson Valley, and Taconic Highlands ecozones.
Rank: G4G5 S4 *Revised:* 2001
Example: Tongue Mountain, Warren County; Steege Hill, Chemung County; Catskill Escarpment, Greene County; Rome Sand Plains, Oneida County.
Sources: McVaugh 1958; NYNHP field surveys.

Rich mesophytic forest: A hardwood or mixed forest that resembles the mixed mesophytic forests of the Allegheny Plateau south of New York but is less diverse. It occurs on rich, fine-textured, well-drained soils that are favorable for the dominance of a wide variety of tree species. A canopy with a relatively large number of codominant trees characterizes this forest. Canopy codominants include five or more of the following species: red oak (*Quercus rubra*), red maple (*Acer rubrum*), white ash (*Fraxinus americana),* American beech (*Fagus grandifolia*), sugar maple (*Acer saccharum),* black cherry (*Prunus serotina*), cucumber tree (*Magnolia acuminata*), and black birch (*Betula lenta)*. American chestnut (*Castanea dentata*) was a characteristic tree before it was eliminated by chestnut blight. Less common in the canopy and subcanopy are tulip tree), (*Liriodendron tulipifera*), white oak (*Quercus alba),* white pine (*Pinus strobus*), basswood (*Tilia americana*), bitternut hickory (*Carya cordiformis*), Black oak (*Quercus velutina*), Eastern hop hornbeam (*Ostrya virginiana*), and striped maple (*Acer pensylvanicum*). This forest has a well-developed shrublayer with a variety of characteristic species including musclewood (*Carpinus caroliniana*), arrow-wood (*Viburnum acerifolium*), witch hazel (*Hamamelis virginiana*), pinkster (*Rhododendron periclymenoides*), red-berried elderberry (*Sambucus pubens*), American flyhoneysuckle (*Lonicera canadensis*), round-leaved dogwood (*Cornus rugosa*), alternate-leaved dogwood (*C. alternifolia*), smooth service-berry (*Amelanchier laevis*), and blueberry (*Vaccinium pallidum*). The groundlayer is fairly rich in species. Characteristic herbs are interrupted fern (*Osmunda claytoniana*), yellow mandarin (*Disporum lanuginosum*), white baneberry (*Actaea pachypoda*), jack-in-the-pulpit

(*Arisaema triphyllum*), early meadow rue (*Thalictrum dioicum*), princess pine (*Lycopodium obscurum* var. *obscurum*), partridge berry (*Mitchella repens*), round-leaf violet (*Viola rotundifolia*), black cohosh (*Cimicifuga racemosa*), stoneroot (*Collinsonia canadensis*), black snakeroot (*Sanicula marilandica*), large-leaf aster (*Aster macrophyllus*), blue-stem goldenrod (*Solidago caesia*), and tall rattlesnake root (*Prenanthes trifoliolata*), and the grass *Brachyelytrum erectum*.

The rare, southern *Clintonia umbellulata* is restricted to rich mesophytic forest and Allegheny oak forest communities in New York State.

In New York, rich mesophytic forests are best developed in the unglaciated portions of the Allegheny Plateau. In Cattaraugus County, this forest typically occurs at mid- to upper elevations between Allegheny oak forest on upper slopes and hemlock-northern hardwood forest on lower slopes and in ravines. The rich mesophytic forest can be distinguished from Allegheny oak forest by the lack of chestnut oak and lack of, or only very rarely present, black oak. The short shrub layer of Allegheny oak forest is typically dominated by heaths such as blueberry (*Vaccinium pallidum*), whereas the shrub layer of rich mesophytic forest is a mix of tree seedlings and saplings and tall shrub species such as red-berried elder (*Sambucus pubens*) and maple-leaved viburnum (*Viburnum acerifolium*). Rich mesophytic forest can be distinguished from maple-basswood rich mesic forest by the presence of rich herbs that include *Hydrophyllum canadense*, *Euonymus obovatus*, *Disporum lanuginosum* and *Cimicifuga racemosa*. It can be distinguished from beech-maple mesic forest by the predominance of rich herbs such as those listed above, and a soil pH range of about 4.5 to 5.0, in contrast to the generally more acidic soils of beechmaple mesic forest. Rich mesophytic forest soil typically contains more clay than other hardwood types, such as clay loam and silty clay loam.

Distribution: only known from the western part of the Appalachian Plateau ecozone, primarily in the Allegany Hills and Finger Lakes Highlands subzones.
Rank: G4 S2S3 *Revised:* 2001
Example: Allegany State Park, Cattaraugus County.
Sources: Braun 1950; Gordon 1940; Shanks 1966; NYNHP field surveys.

Pine-northern hardwood forest: a mixed forest that occurs on gravelly outwash plains, delta sands, eskers, and dry lake sands in the Adirondacks. The dominant trees are white pine (*Pinus strobus*) and red pine (*P. resinosa*); these are mixed with scattered paper birch (*Betula papyrifera*) and quaking aspen (*Populus tremuloides*). In some stands there is an admixture of other northern hardwoods and conifers such as yellow birch (*Betula alleghaniensis*), red maple (*Acer rubrum*), balsam fir (*Abies balsamea*), and red spruce (*Picea rubens*); these are never common in a pinenorthern hardwood forest. Characteristic shrubs are blueberries (*Vaccinium angustifolium*, *V. myrtilloides*), sheep laurel (*Kalmia angustifolia*), wild raisin (*Viburnum cassinoides*), and shadbush (*Amelanchier canadensis*). Characteristic herbs are bracken fern (*Pteridium aquilinum*), wintergreen (*Gaultheria procumbens*), trailing arbutus (*Epigaea repens*), cow wheat (*Melampyrum lineare*), Canada mayflower (*Maianthemum canadense*), bunchberry (*Cornus canadensis*), star flower (*Trientalis borealis*), bluebeads (*Clintonia borealis*), painted trillium (*Trillium undulatum*), spreading ricegrass (*Oryzopsis asperifolia*), and Pennsylvania sedge (*Carex pensylvanica*). Mosses and lichens may be common to abundant, especially the mosses *Pleurozium schreberi*, *Brachythecium* spp., and *Dicranum polysetum*.

Characteristic animals include pine warbler (*Dendroica pinus*) in mature, well-spaced pines, pileated woodpecker (*Drycopus pileatus*). More data are needed on characteristic animals.

Distribution: throughout upstate New York, north of the Coastal Lowlands ecozone, more common to the north.
Rank: G4 S4 *Revised:* 1990
Examples: Five Ponds Wilderness Area, Herkimer and Hamilton Counties; Black Brook Forest, Clinton and Essex Counties; Pine Orchard, Hamilton County.
Sources: Eyre 1980; Heimburger 1934; Roman 1980; NYNHP field surveys.

Cultural Terrestrial Communities

Brushy cleared land: land that has been clearcut or cleared by brush-hog. There may be a lot of woody debris such as branches and slashings from trees that were logged. Vegetation is patchy, with scattered herbs, shrubs, and tree saplings. The amount of vegetative cover probably depends on soil fertility and the length of time since the land was cleared.

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Pine plantation: a stand of pines planted for the cultivation and harvest of timber products, or to provide wildlife habitat, soil erosion control, windbreaks, or landscaping. These plantations may be monocultures with more than 90% of the canopy cover consisting of one species, or they may be mixed stands with two or more codominant species (in which case more than 50% of the cover consists of one or more species of pine). Pines that are typically planted in New York include white pine (*Pinus strobus*), red pine (*P. resinosa*), Scotch pine (*P. sylvestris*), pitch pine (*P. rigida*), and jack pine (*P. banksiana*). Groundlayer vegetation is usually sparse, apparently because of the dense accumulation of leaf litter. Speedwell (*Veronica officinalis*) is a characteristic groundlayer plant. More data on this community are needed.

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Landfill/dump: a site that has been cleared or excavated, where garbage is disposed. The bulk of the material in the landfill or dump is organic and biodegradable; although some inorganic material (plastic, glass, metal, etc.) is usually present.

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Junkyard: a site that has been cleared for disposal or storage of primarily inorganic refuse, including discarded automobiles, large appliances, mechanical parts, etc.

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Urban vacant lot: an open site in a developed, urban area, that has been cleared either for construction or following the demolition of a building. Vegetation may be sparse, with large areas of exposed soil, and often with rubble or other debris. Characteristic trees are often naturalized exotic species such as Norway maple (*Acer platanoides*), white mulberry (*Morus alba*), and tree of heaven (*Ailanthus altissima*), a species native to northern China and introduced as an ornamental. Tree of heaven is fast growing and tolerant of the harsh urban environment; it can dominate a vacant lot and form dense stands.

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Sand mine: an excavation in a sand deposit or sand dune from which sand has been removed. Vegetation is usually sparse.

A characteristic bird is bank swallow (*Riparia riparia*).

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Unpaved road/path: a sparsely vegetated road or pathway of gravel, bare soil, or bedrock outcrop. These roads or pathways are maintained by regular trampling or scraping of the land surface. The substrate consists of the soil or parent material at the site, which may be modified by the addition of local organic material (woodchips, logs, etc.) or sand and gravel.

One characteristic plant is path rush (*Juncus tenuis*). A characteristic bird is killdeer (*Charadrius vociferus*).

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Natural Palustrine Communities

Deep emergent marsh: a marsh community that occurs on mineral soils or fine-grained organic soils (muck or well-decomposed peat); the substrate is flooded by waters that are not subject to violent wave action. Water depths can range from 6 in to 6.6 ft (15 cm to 2 m); water levels may fluctuate seasonally, but the substrate is rarely dry, and there is usually standing water in the fall. The most abundant emergent aquatic plants are cattails (*Typha angustifolia, T. latifolia*), wild rice (*Zizania aquatica*), bur-weeds (*Sparganium eurycarpum, S. androcladum*), pickerel weed (*Pontederia cordata*), bulrushes (*Scirpus tabernaemontani, S. fluviatilis, S. heterochaetus., S. acutus, S. pungens, S. americanus*), arrowhead (*Sagittaria latifolia*), arrowleaf (*Peltandra virginica*), rice cutgrass (*Leersia oryzoides*), bayonet rush (*Juncus militaris*), water horsetail (*Equisetum fluviatile*) and bluejoint grass (*Calamagrostis canadensis*). The most abundant floating-leaved aquatic plants are fragrant water lily (*Nymphaea odorata*), duckweeds (*Lemna minor, L. trisulca*), pondweeds (*Potamogeton natans, P. epihydrus, P. friesii, P. oakesianus, P. crispus, P. pusillus, P. zosteriformis, P. strictifolius*), spatterdock (*Nuphar variegata*), frog's-bit (*Hydrocharis morus-ranae*), watermeal (*Wolffia* spp.), water-shield (*Brasenia schreberi*), and water chestnut (*Trapa natans*). The most abundant submerged aquatic plants are pondweeds (*Potamogeton richardsonii, P. amplifolius, P. spirillus, P. crispus, P. zosteriformis*), coontail (*Ceratophyllum demersum*), chara (*Chara globularis*), water milfoils (*Myriophyllum spicatum, M. sibericum*), pipewort (*Eriocaulon aquaticum*), tapegrass (*Vallisneria americana*), liverwort (*Riccia fluitans*), naiad (*Najas flexilis*), water lobelia (*Lobelia dortmanna*), waterweed (*Elodea canadensis*), water stargrass (*Heteranthera dubia*), and bladderworts (*Utricularia vulgaris, U. intermedia*).

Animals that may be found in deep emergent marshes include red-winged blackbird (*Agelaius phoeniceus*), marsh wren (*Cistothorus palustris*), bullfrog (*Rana catesbeiana*), and painted turtle (*Chrysemys picta*).

Rare species in some deep emergent marshes include American bittern (*Botaurus lentiginosus*), Virginia rail (*Rallus limicola*), and piedbilled grebe (*Podilymbus podiceps*). Marshes that have been disturbed are frequently dominated by aggressive weedy species such as purple loosestrife (*Lythrum salicaria*) and reedgrass (*Phragmites australis*). Deep emergent marshes also occur in excavations that contain standing water (e.g., roadside ditches, gravel pits).

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 2001
Examples: Lake Champlain South Basin, Washington County; Lake Lila, Hamilton County; Chippewa Creek Marsh, St. Lawrence County; Upper and Lower Lakes, St. Lawrence County, Big Bay Swamp, Oswego County.
Sources: Bray 1915; Cowardin 1979; Gilman 1976; NYNHP field surveys.

Shallow emergent marsh: a marsh meadow community that occurs on mineral soil or deep muck soils (rather than true peat), that are permanently saturated and seasonally flooded. This marsh is better drained than a deep emergent marsh; water depths may range from 6 in to 3.3 ft (15 cm to 1 m) during flood stages, but the water level usually drops by mid to late summer and the substrate is exposed during an average year. Most abundant herbaceous plants include bluejoint grass (*Calamagrostis canadensis*), cattails (*Typha latifolia, T. angustifolia, T. x glauca*), sedges (*Carex* spp.), marsh fern (*Thelypteris palustris*), manna grasses (*Glyceria pallida, G. canadensis*), spikerushes (*Eleocharis smalliana, E. obtusa*), bulrushes (*Scirpus cyperinus, S. tabernaemontani, S. atrovirens*), threeway sedge (*Dulichium arundinaceum*), sweetflag (*Acorus americanus*), tall meadow-rue (*Thalictrum pubescens*), marsh St. John's-wort (*Triadenum virginicum*), arrowhead (*Sagittaria latifolia*), goldenrods (*Solidago rugosa, S. gigantea*), eupatoriums (*Eupatorium maculatum, E. perfoliatum*), smartweeds (*Polygonum coccineum, P. amphibium,*

P. hydropiperoides), marsh bedstraw (*Galium palustre*), jewelweed (*Impatiens capensis*), loosestrifes *(Lysimachia thyrsiflora, L. terrestris, L. ciliata*). Frequently in degraded examples reed canary grass (*Phalaris arundinacea*) and/or purple loosestrife (*Lythrum salicaria*) may become abundant. Sedges (*Carex* spp.) may be abundant in shallow emergent marshes, but are not usually dominant. Marshes must have less than 50% cover of peat and tussock-forming sedges such as tussock sedges (*Carex stricta*), otherwise it may be classified as a sedge meadow. Characteristic shallow emergent marsh sedges include *Carex stricta, C. lacustris, C. lurida, C. hystricina, C. alata, C. vulpinoidea, C. comosa, C. utriculata, C. scoparia, C. gynandra, C. stipata,* and *C. crinita.* Other plants characteristic of shallow emergent marshes (most frequent listed first) include blue flag iris (*Iris versicolor*), sensitive fern (*Onoclea sensibilis*), common skullcap (*Scutellaria galericulata*), beggerticks (*Bidens* spp.), water-horehounds (*Lycopus uniflorus, L. americanus*), bur-weeds (*Sparganium americanum, S. eurycarpum*), swamp milkweed (*Asclepias incarnata*), water-hemlock (*Cicuta bulbifera*), asters (*Aster umbellatus, A. puniceus*), marsh bellflower (*Campanula aparinoides*), water purslane (*Ludwigia palustris*), royal and cinnamon ferns (*Osmunda regalis, O. cinnamomea*), marsh cinquefoil (*Potentilla palustris*), rushes (*Juncus effusus*, *J. canadensis*), arrowleaf (*Peltandra virginica*), purple-stem angelica (*Angelica atropurpurea*), water docks (*Rumex orbiculatus, R. verticillatus*), turtlehead (*Chelone glabra*), waterparsnip (*Sium suave*), and cardinal flower (*Lobelia cardinalis*). Shallow emergent marshes may have scattered shrubs including rough alder (*Alnus incana* ssp. *rugosa*), water willow (*Decodon verticillatus*), shrubby dogwoods (*Cornus amomum, C. sericea*), willows (*Salix* spp.), meadow sweet (*Spiraea alba* var. *latifolia*), and buttonbush (*Cephalanthus occidentalis*). Areas with greater than 50% shrub cover are classified as shrub swamps.

Amphibians that may be found in shallow emergent marshes include frogs such as eastern American toad (*Bufo a. americanus*), northern spring peeper (*Pseudoacris c. crucifer*), green frog (*Rana clamitans melanota*), and wood frog (*Rana sylvatica*); and salamanders such as northern redback salamander (*Plethodon c. cinereus*) (Hunsinger 1999). Birds that may be found include red-winged blackbird (*Agelaius phoeniceus*), marsh wren (*Cistothorus palustris*), and common yellowthroat (*Geothlypis trichas*) (Levine 1998). Shallow emergent marshes typically occur in lake basins and along streams often intergrading with deep emergent marshes, shrub swamps and sedge meadows, and they may occur together in a complex mosaic in a large wetland.

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 2001
Examples: South Branch Grass River Colton, St. Lawrence County; West Branch Oswagatchie River Diana, Lewis County; East Branch Fish Creek, Lewis County; Jordan River, St. Lawrence/Franklin Counties; Lakeview Marshes, Jefferson County.
Sources: Bray 1915; Gilman 1976; Hotchkiss 1932; Hunsinger 1999; Levine 1998; Metzler and Tiner 1992; Tiner 1985; NYNHP field surveys.

Pine barrens vernal pond: a seasonally fluctuating, groundwater-fed pond and associated wetland that typically occur in pine barrens, either in low kettlehole depressions of the coastal plain or inland outwash plains or in swales between dunes. The water is intermittent, typically vernally ponded, and circumneutral. The substrate is coarse sand, however, development of a shallow floating peat layer is common. These ponds and wetlands may be small. A split into pine barrens vernal wetland (or pine barrens vernal pondshore) and pine barrens vernal pond (a lacustrine community) may be warranted and is being evaluated. Well-developed examples of this community may consist of about four physiognomic zones. Ponds are characterized by submergent aquatic plants such as pondweeds (*Potamogeton* spp.). Surrounding ponds are typically a zone of emergent aquatic plants dominated by graminoids and herbs. Sedges such as *Carex canescens*, three three-way sedge (*Dulichium arundinaceum*), and woolgrass (*Scirpus cyperinus*) and soft rush (*Juncus effusus*) may be dominant in this zone. Other herbs include tussock sedge (*Carex stricta*), marsh St. John=s-wort (*Triadenum virginicum*), cinnamon fern (*Osmunda cinnamomea*) marsh fern (*Thelypteris palustris*), and Virginia chain fern (*Woodwardia virginica*). Characteristic mosses include include (*Sphagnum fallax*). Some sites these are ringed by a zone of low shrubs. Characteristic shrubs include scattered highbush blueberry (*Vaccinium corymbosum*), winterberry (*Ilex verticillata*) and patches of leatherleaf (*Chamaedaphne calyculata*). Other shrubs include buttonbush (*Cephalanthus occidentalis*), black chokeberry (*Aronia melanocarpa*), black huckleberry (*Gaylussacia baccata*), mountain holly (*Nemopanthus mucronatus*), and meadow sweet (*Spiraea latifolia*). Stunted trees may be present on

hummocks within the wetland or surround the wetland; characteristic trees include red maple (*Acer rubrum*), gray birch (*Betula populifolia*), pitch pine (*Pinus rigida*), and quaking aspen (*Populus tremuloides*).

Amphibians that may be found in pine barrens vernal ponds include frogs such as eastern American toad (*Bufo americanus*), northern spring peeper (*Pseudoacris crucifer*), green frog (*Rana clamitans subsp. melanota*), and wood frog (*Rana sylvatica*). Less frequently occurring amphibians include eastern spadefoot toad (*Scaphiopus holbrookii*), Fowlers toad (*Bufo fowleri*), and Jefferson salamander (*Ambystoma jeffersonianum*). Reptiles that may be found include spotted turtle (*Clemmys guttata*) and common snapping turtle (*Chelydra serpentina*) (Hunsinger 1999). Birds that may be found include red winged blackbird (*Agelaius phoeniceus*) and common yellowthroat (*Geothlypis trichas*). Characteristic macroinvertebrates may include beetles (Coleoptera), Lepidoptera and water striders (*Gerris* sp.). These ponds are too small and emphemeral to support fish populations.

Distribution: known only from sandplains in the Great Lakes Plain and Hudson Valley ecozones and in the Western Adirondack Foothills subzone of the Adirondack ecozone.
Rank: G3G4 S2 *Revised:* 2001
Examples: Albany Pine Bush, Albany County; Rome Sand Plains, Oneida County; Chase Lake Sandplain, Lewis County.
Source: Hunsinger 1999; Williams 2001; NYNHP field surveys.

Sedge meadow: a wet meadow community that has organic soils (muck or fibrous peat). Soils are permanently saturated and seasonally flooded; there is usually little peat accumulation in the substrate, but must have deep enough peat (usually at least 20 cm) to be treated as a peatland, otherwise it may be classified as a mineral soil wetland such as shallow emergent marsh. Peats are usually fibrous, not sphagnous, and are usually underlain by deep muck. The dominant herbs must be members of the sedge family (Cyperaceae), typically of the genus *Carex.* Sedge meadows are dominated by peat and tussock forming sedges such as tussock-sedge (*Carex stricta*), with at least 50% cover. They are often codominated by bluejoint grass (*Calamagrostis canadensis*) with less than 50% cover, and other sedges (*Carex* spp., including *C. utriculata, C. vesicaria,* and *C. canescens*). Other frequently occurring plants with low percent cover include marsh cinquefoil (*Potentilla palustris*), sensitive fern (*Onoclea sensibilis*) manna grasses (*Glyceria* spp., *G. canadensis*), swamp loosestrife (*Lysimachia terrestris*), hairgrass (*Agrostis scabra*), marsh St. John's-wort (*Triadenum virginicum*), water horsetail (*Equisetum fluviatile*), tall meadow-rue (*Thalictrum pubescens*), spike rushes (*Eleocharis acicularis, E. obtusa*), sweetflag (*Acorus americanus*), spotted joe-pye-weed (*Eupatorium maculatum*), purple-stem angelica (*Angelica purpurea*), three-way sedge (*Dulichium arundinaceum*), and bulrushes (*Scirpus* spp.). Sparse shrubs may be present, such as meadow sweet (*Spiraea alba* var. *latifolia, S. tomentosa*), leatherleaf (*Chamaedaphne calyculata*), sweet gale (*Myrica gale*), and alder (*Alnus* spp.). More data on this community are needed. Sedge meadows typically occur along streams and near the inlets and outlets of lakes and ponds; they also occur in lake basins as a zone near the upland edge of a shallow emergent marsh. A sedge meadow does not form a floating mat, instead it is covered with water during flooding. When water levels are low, there is little or no open water.

Distribution: common in the Adirondacks, and sparsely scattered throughout upstate New York, north of the Coastal Lowlands ecozone.
Rank: G5 S4 *Revised:* 2001
Examples: Dutchess Meadows, Dutchess County; West Branch Sacandaga River, Hamilton County; Poestenkill Headwaters, Rensselaer County; Mad River Swamp, Lewis County.
Sources: Jeglum 1974; McVaugh 1958, NYNHP field surveys.

Red maple-hardwood swamp: a hardwood swamp that occurs in poorly drained depressions, usually on inorganic soils. This is a broadly defined community with many regional and edaphic variants. In any one stand red maple (*Acer rubrum*) is either the only canopy dominant, or it is codominant with one or more hardwoods including ashes (*Fraxinus pennsylvanica, F. nigra,* and *F. americana*), elms (*Ulmus americana* and *U. rubra*), yellow birch (*Betula alleghaniensis*), and swamp white oak (*Quercus bicolor*). Other trees with low percent cover include butternut (*Juglans cinerea*),bitternut hickory (*Carya cordiformis*), black

gum (*Nyssa sylvatica*), ironwood (*Carpinus carolinianus*), and white pine (*Pinus strobus*). The shrublayer is usually well-developed and may be quite dense. Characteristic shrubs are winterberry (*Ilex verticillata*), spicebush (*Lindera benzoin*), alders (*Alnus incana* ssp. *rugosa* and *A. serrulata*), viburnums (*Viburnum recognitum*, and *V. cassinoides*), highbush blueberry (*Vaccinium corymbosum*), common elderberry (*Sambucus canadensis*), and various shrubby dogwoods (*Cornus sericea, C. racemosa,* and *C. amomum*). Swamp azalea (*Rhododendron viscosum*) is more common in southern examples, and poison sumac (*Toxicodendron vernix*) and black ash are more common in richer (higher pH) examples. The herbaceous layer may be quite diverse and is often dominated by ferns, including sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*O. regalis*), and marsh fern (*Thelypteris palustris*), with much lesser amounts of crested wood fern (*Dryopteris cristata*), and spinulose wood fern (*Dryopteris carthusiana*). Characteristic herbs include skunk cabbage (*Symplocarpus foetidus*), white hellebore (*Veratrum viride*), sedges (*Carex stricta, C. lacustris,* and *C. intumescens*), jewelweed (*Impatiens capensis*), false nettle (*Boehmeria cylindrica*), arrow arum (*Peltandra virginica*), tall meadow rue (*Thalictrum pubescens*), and marsh marigold (*Caltha palustris*). Open patches within the swamp may contain other herbs characteristic of shallow emergent marsh.

Examples of wetland fauna that occur in the glaciated northeast red maple-hardwood swamps include wood duck (*Aix sponosa*), American black duck (*Anas rubripes*), northern waterthrush (*Seiurus noveboracensis*), beaver (*Castor canadensis*), river otter (*Lutra canadensis*), and mink (*Mustela vison*). These swamps provide breeding habitat for many wetlanddependent species, such as spring peeper (*Pseudacris crucifer*), American toad (*Bufo americanus*), wood frog (*Rana sylvatica*), and spotted salamander (*Ambystoma maculatum*) (Golet et al. 1993). More data on characteristic animals, especially invertebrates, are needed.

Distribution: throughout New York State.
Rank: G5 S4S5 *Revised:* 2001
Example: Great Swamp Pawling, Dutchess County; Deer Creek Marsh, Oswego County; Toad Harbor Swamp; Oswego County; Orange Lake, Orange/Ulster County; Joralemon Woods, Albany County.
Sources: Cain and Penfound 1939; Golet et al. 1993;
McVaugh 1958.

Cultural Palustrine Communities

Dredge spoil wetland: a wetland in which the substrate consists of dredge spoils; reedgrass (*Phragmites australis*) is a characteristic species.

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Cultural Palustrine Communities

Ditch/artificial intermittent stream: the aquatic community of an artificial waterway constructed for drainage or irrigation of adjacent lands. Water levels either fluctuate in response to variations in precipitation and groundwater levels, or water levels are artificially controlled. The sides of ditches are often vegetated, with grasses and sedges usually dominant. Exotic or weedy species are common. Purple loosestrife (*Lythrum salicaria*), reedgrass (*Phragmites australis*), and reed canary grass (*Phalaris arundinacea*) often become established and may form dense, monospecific stands. Reed canary grass is often planted along ditches for erosion control. Other plants that are characteristic include sedges (*Carex* spp.) and cattails (*Typha* spp.). Algae indicative of eutrophic conditions may be abundant.

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Lacustrine Cultural Communities

Farm pond/artificial pond: the aquatic community of a small pond constructed on agricultural or residential property. These ponds are often eutrophic, and may be stocked with panfish such as bluegill (*Lepomis macrochirus*), and yellow perch (*Perca flavescens*). The biota are variable (within limits), reflecting the species that were naturally or artificially seeded, planted, or stocked in the pond.

Distribution: throughout New York State.
Rank: G5 S5 *Revised:* 1990

Albany Landfill Eastern Expansion

Wetland Delineation Report

Albany Co., New York

CHA Project Number: 12206.4002.1106

Prepared for:

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ATTACHMENTS

1.0 INTRODUCTION

This report describes the wetlands that occur on the lands adjacent to the Rapp Road (Albany) Landfill in Albany County, New York (Figure 1 – Project Location Map). The Jurisdictional Determination (JD) area is approximately 164.28 acres in size and consists of dedicated Pine Bush Preserve lands, City-owned property, privately-owned lands and State-owned lands. The City land is located to the north of the existing active landfill cell. Also north of the landfill is the Fox Run Trailer Park that is generally vacant and was dedicated by the City to the Pine Bush Preserve Commission (PBPC). West of the landfill are additional City-owned lands that have also been dedicated to the PBPC. Directly east of the landfill are lands owned by the NYS Department of Environmental Conservation (DEC) that are not formally dedicated to the PBPC but are generally managed by them. All of these lands are included in this report since they represent potential areas of impact, restoration, and alternative assessment. They are referred to as the "project area."

Clough Harbour & Associates, LLP (CHA) was retained to delineate and describe the wetlands regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and the New York State Department of Environmental Conservation (NYSDEC) under Article 24 of the New York State Environmental Conservation Law.

This report is intended to be used as documentation of the wetland boundaries and, if needed, to supplement a wetlands permit application to USACE and NYSDEC. The report includes a general site description, site ecology, and wetland descriptions and is complemented by field data sheets, site photographs and a wetland delineation map that are presented in the attachments.

2.0 AGENCY RESOURCE INFORMATION

Prior to visiting the site, various maps and other sources of background information were reviewed. These included the:

- New York State Department of Transportation (NYSDOT) topographic map (Albany Quadrangle, Figure 1),
- New York State Department of Environmental Conservation (NYSDEC) New York State Freshwater Wetlands Map (Albany Quadrangle, Figure 2),
- Federal Emergency Management Agency (FEMA), FEMA Flood Zones Map (Figure 2) (Albany Quadrangle),

- United States Department of the Interior, Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) Map (Albany Quadrangle, Figure 3),
- Albany County Soil Survey, dated June 1992 (Map 12) (Figure 4)

3.0 METHODOLOGY

CHA conducted a wetland delineation of the trailer park and its surrounding lands as well as the undeveloped lands west of the active and capped landfill in May of 2005 and again in April of 2006. A site visit with USACE was conducted in June of 2006 to verify these wetland boundaries. CHA delineated additional undeveloped lands to the east of the existing active and capped landfill in October and December of 2006. The delineation of wetland boundaries was conducted in accordance with the procedures provided in the U.S. Army Corps of Engineers Wetland Delineation Manual (1987). The "Routine Wetland Determination" method was used based on the characteristics of the project area.

Wetland boundaries were determined in the field based on the three parameter approach, whereby an area is a wetland if it exhibits vegetation adapted to wet conditions (hydrophytes), hydric soils, and the presence or evidence of water at or near the soil surface during the growing season (hydrology).

Coded surveyor's ribbons (e.g. flag code A-1, A-2, etc.) were placed along the wetland boundaries based on observations of vegetation, soils and hydrologic conditions. Data plots were located in the upland and wetland sides of the boundaries at various locations along the wetlands. Data sheets corresponding to each plot can be found in Attachment A.

Vegetative communities were described according to *Ecological Communities of New York State, Second Edition* (Edinger, 2002)[1] and *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979)[2]. Representative photographs of the wetlands and upland portions of the site were taken and are provided in Attachment B.

[1] Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors), 2002. Ecological *Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State.* (*Draft for review*). New York Natural Heritage Program, New York State Department of Environmental Conservation. Albany, NY.

[2] Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe, 1979. *Classification of wetlands and deepwater habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

4.0 GENERAL SITE DESCRIPTION

The 164.28 acre project area contains a mixture of terrestrial (upland), palustrine (wetland) and riverine (stream channel) community types. The terrestrial communities of the project area include mowed lawn with trees, successional old field, successional shrubland, successional northern hardwoods, pitch pine-oak forest and rich mesophytic forest.

The palustrine communities of the project area include reedgrass/purple loosestrife marsh, shallow emergent marsh, shrub swamp, vernal pool and red maple-hardwood swamp.

One lacustrine community occurs in the project area. This is classified as a farm pond/artificial pond.

The riverine communities consist of stream channels that have been manipulated by human activity, apparently during the construction of the trailer park, as part of the P-4 Wetland Creation and Enhancement Mitigation Project that was done on site in June of 2002 and apparently historically to drain Wetland AA for agricultural purposes. All of these stream channels have been manipulated and can best be described as ditch/artificial intermittent streams.

The NYSDEC Freshwater Wetlands map (Figure 2) indicates three state-regulated wetlands A-11, A-32 and A-33 immediately northwest of the Albany landfill. These wetlands are indirectly connected to most of the wetlands on site and form the headwaters of Lake Rensselaer, which is located southeast of the landfill. The NYSDEC classifies A-11, A-32 and A-33 as Class 1 wetlands.

The NWI map (Figure 3) indicates the presence of federally-regulated wetlands occurring within the project area. Some of these mapped wetlands are shown in the same locations as the state wetlands that are located northwest of the landfill.

The FEMA Flood Zones map (Figure 2) (Albany Quadrangle) indicates the presence of 100 year flood zones southeast but outside of the project area. These flood zones are associated with Rensselaer Lake and its immediate vicinity.

4.1 VEGETATION

Thirteen vegetative community types, as described by Edinger (2002), were identified within the project area. These include mowed lawn with trees, successional old field, successional shrubland, successional northern hardwoods, pitch pine-oak forest, rich mesophytic forest, reedgrass/purple loosestrife marsh, shallow emergent marsh, shrub swamp, vernal pool, red maple-hardwood swamp, farm pond/artificial pond and ditch/artificial intermittent stream. These vegetative communities as they occur within the project area are described below.

4.1.1 Terrestrial (upland) Communities

4.1.1.1 Mowed Lawn with Trees

The mowed lawn with trees community is the major community type within the Fox Run Trailer Park area. This community is highly associated with the landscaped and maintained lawns associated with the trailer park. This community is dominated by grasses with dandelion (*Taraxacum officinale*), birdsfoot trefoil (*Loyus corniculata*), gill-over-the-ground (*Glechoma bederacea*), northern bedstraw (*Galium boreale*), clover (*Trifolium pratense* and *T. repens*) and other common forbs occurring scattered throughout these regularly mowed and maintained grassy areas. Trees occur randomly.

Common trees include Norway spruce (*Picea abies*), silver maple (*Acer saccharinum*), sugar maple (*Acer saccharum*), white pine (*Pinus strobus*) and cottonwood (*Populus deltoides*). Some shrubs, mostly planted ornamentals but some native, also occur scattered throughout this community. Honeysuckle (*Lonicera sp.*) and gray dogwood (*Cornus foemina*) were most commonly observed.

4.1.1.2 Successional Old Field

A successional old field occurs along the northwest border of the trailer park, between the park and the adjacent railroad. This community type is also one of the dominant upland community types in the vicinity of the trailer park.

Herbaceous species commonly encountered within this community include Queen-Anne's lace (*Daucus carota*), false baby's breath (*Galium mollugo*), aster (*Symphytotrichum sp.*), Virginia strawberry (*Fragaria virginiana*), timothy (*Phleum pratense*), dandelion, steeplebush (*Spiraea*

tomentosa), Canada goldenrod (*Solidago canadensis*), narrow leaf goldenrod (*Solidago graminifolia*), little bluestem (*Schizachyrium scoparium*), orchard grass (*Dactylis glomerata*), spotted knapweed (*Centaurea biebersteinii*), fox grape (*Vitis labrusca*), American bittersweet (*Celastrus scandens*), black-eyed Susan (*Rudbeckia serotina*), cinquefoil (*Potentilla sp.*), birdsfoot trefoil, common milkweed (*Asclepias syriaca*), crown vetch (*Coronilla varia L.*), common reed (*Phragmites australis*), ragweed (*Ambrosia artemisifolia*), New England aster (*Aster novae-angliae*), clover and common blackberry (*Rubus allegheniensis*).

Shrubs and saplings occur scattered throughout this community with a total cover of less than 50 percent of the total vegetation in any given area. Common shrub species include multiflora rose (*Rosa multiflora*), gray dogwood, common blackberry (*Rubus allegheniensis*), staghorn sumac (*Rhus typhina*) and buckthorn (*Rhamnus catahartica*). Red maple (*Acer rubrum*), cottonwood (*Populus deltoides*) and quaking aspen (*Populus tremuloides*) saplings occur throughout this community in low numbers.

4.1.1.3 Successional Shrubland

Successional shrubland communities make up a small portion of the site and occur primarily in areas associated with past disturbance and the edges of forested communities. This community is dominated by shrubs with saplings occurring randomly and in low numbers. The density of the herbaceous layer varies and is closely related to percent aerial cover by shrubs and saplings.

Shrub and sapling species include multiflora rose, common blackberry, honeysuckle (*Lonicera sp.*), gray dogwood, elderberry (*Sambucus canadensis*), staghorn sumac, buckthorn, red maple, cottonwood and quaking aspen.

Herbaceous species include sensitive fern (*Onoclea sensibilis*) and most of the species previously listed as occurring in the successional old field communities of the site.

4.1.1.4 Successional Northern Hardwoods

This community occurs as a transitional forested community on the edges of the older forested areas, along the ditch/artificial intermittent stream communities and in other areas of past disturbance.

Trees such as quaking aspen, black cherry (*Prunus serotina*), cottonwood, red maple, white ash (*Fraxinus americana*), green ash (*Fraxinus pennsylvanica*), American elm (*Ulmus americana*) and sugar maple (*Acer saccharum*) dominate this community. Saplings of the canopy tree species dominate the sub canopy.

The shrub layer ranges from sparse to moderately dense with species such as gray dogwood, honeysuckle, rose and blackberry.

The herbaceous layer is moderately dense. Species include goldenrod (*Solidago sp.*), aster, sensitive fern, Virginia creeper (*Parthenocissus quinquefolia*), mayapple (*Podophyllum peltatum*), Virginia strawberry, poison ivy (*Toxicodendron radicans*), jumpseed (*Polygonum virginianum*), wild sarsaparilla (*Aralia nudicaulis*), baneberry (*Actaea sp.*) and young plants of the shrubs and trees present.

4.1.1.5 Pitch Pine-Oak Forest

This community type occurs in random areas throughout the project area. Red oak (*Quercus rubra*) and white oak (*Quercus alba*) dominate the canopy of this community with pitch pine (*Pinus rigida*) occurring scattered throughout and somewhat common in some areas. White pine (*Pinus strobus*), black cherry, red maple and cottonwood trees may occur in low numbers and as sub canopy dominants.

The shrub layer is sparse to moderately dense and dominated by species such as highbush blueberry (*Vaccinium corymbosum*), lowbush blueberry (*Vaccinium angustifolium*), honeysuckle and blackberry. Shrub forms of the trees present also occur throughout the shrub layer.

Commonly found herbaceous species include goldenrod, mayapple, bracken fern (*Pteridium aquilinum*), partridgeberry (*Mitchella repens*), poison ivy, dogtooth violet (*Erythronium americanum*), black cherry and red maple.

4.1.1.6 Rich Mesophytic Forest

This community type is typified by a large number of codominant canopy species with lush shrub and herbaceous layers. This community occurs mostly surrounding Wetland C.

Common canopy trees include red oak, white oak, black cherry, sugar maple and red maple with an understory dominated by saplings of the trees present as well as quaking aspen, green ash, white ash and hickory (*Carya spp.*). Shrubs observed include young growth of most of the trees present as well as arrowwood (*Viburnum dentatum*), rose and honeysuckle. Herbs observed include young growth of the trees and shrubs and interrupted fern (*Osmunda claytoniana*), star flower (*Trientalis borealis*), painted trillium (*Trillium undulatum*), poison ivy, purple crane's-bill (*Geranium maculatum*), garlic mustard (*Alliaria petiolata*), lady fern (*Athyrium filix-femina*), and common blue violet (*Viola papilionacea*).

4.1.2 Palustrine (wetland) Communities

4.1.2.1 Reedgrass/Purple Loosestrife Marsh

Reedgrass/purple loosestrife marsh is an emergent wetland dominated by the exotic and highly invasive common reed and purple loosestrife (*Lythrum salicaria*). Few other herbaceous species occur throughout this community because they are quickly out-competed and shaded by the more aggressive exotics. Native herbaceous species were typically found growing along the edges of this community. Species observed include sensitive fern, reed canary grass (*Phalaris arundinacea*) and the species listed as occurring in the successional old field and shallow emergent marsh communities.

4.1.2.2 Shallow Emergent Marsh

These wetlands are typically located in cleared areas along the edges of the red maple-hardwood swamp communities and along the ditch/artificial intermittent streams of the site. The wetland mitigation area (Wetland A) is entirely shallow emergent marsh.

This community is dominated by herbaceous species with shrubs occurring in low numbers. Species commonly encountered include purple loosestrife, common reed, narrow leaf goldenrod, soft rush (*Juncus effusus*), green bulrush (*Scirpus atrovirens*), fox sedge (*Carex vulpinoidea*), tussock sedge (*Carex stricta*), steeplebush, skunk cabbage (*Symplocarpus foetidus*), reed canary grass, jewelweed (*Impatiens capensis*) and horsetail (*Equisetum fluviatile*).

Shrubs and saplings occur throughout this community but in low numbers. Species observed include gray dogwood, buckthorn, elderberry, white willow (*Salix alba*), black willow (*Salix nigra*), green ash, red maple and silver maple.

4.1.2.3 Shrub Swamp

Shrub swamp is a shrub dominated wetland with greater than 50 percent cover by shrubs. This community type occurs in Wetland B along the forested edge and in small patches intermixed with the other wetland communities of the site. Shrub cover in this community is typically very dense, providing greater than 80 percent cover.

Silky dogwood (*Cornus amomum*) was observed to be the dominant shrub with gray dogwood, spicebush (*Lindera benzoin*), rose, blackberry, white willow, arrowwood, steeplebush and elderberry occurring less frequently. Herbaceous species density varied and was highly dependant on percent cover by shrubs. Areas with a dense shrub cover had a sparse herbaceous layer and areas with a sparse shrub cover had a relatively lush herbaceous layer. Herbaceous species commonly found include sensitive fern, steeplebush, narrow leaf goldenrod, spotted touch-me-not and false baby's breath.

4.1.2.4 Vernal Pool

Wetland VP and portions of Wetland C are vernal pool communities. This temporarily flooded wetland type is critical habitat for numerous wildlife and invertebrate species. Some rare species, such as the eastern spadefoot toad (*Scaphiopus holbrookii*), Jefferson salamander (*Ambystoma jeffersonianum*) and blue-spotted salamander (*Ambystoma laterale*) are considered obligate vernal pool breeders and are highly dependant on this community type.

Vegetation in this community type is limited. Species observed within the vernal pool community of Wetland C include tussock sedge, sensitive fern and skunk cabbage with red maple trees and saplings as well as highbush blueberry shrubs along the edges of the community. Species dominant within Wetland VP include sensitive fern, royal fern (*Osmunda regalis*), highbush blueberry, arrowwood and gray birch (*Betula populifolia*).

4.1.2.5 Red Maple-Hardwood Swamp

The forested wetland communities on-site can be described as red maple-hardwood swamp according to Edinger (2002). These wetlands are dominated by red maple, cottonwood, green ash and American elm trees. The shrub layer within these communities ranges from sparse to dense and dominated by saplings of the dominant tree species along with shrubs such as gray

dogwood, highbush blueberry and spicebush. A variety of herbaceous species including skunk cabbage, sedges and rushes, poison ivy, moss, sensitive fern, cinnamon fern (*Osmunda cinnamomea*), royal fern, jewelweed, dewberry and false nettle (*Boehmeria cylindrica*) were typically present.

4.1.3 Lacustrine (ponded) Communities

4.1.3.1 Farm Pond/Artificial Pond

Edinger describes this community as the aquatic, usually eutrophic, community of a small pond constructed on agricultural or residential property. The pond is located near the farm in the eastern portion of the project area, appears to be man-made and is shallow with murky water. The pond has a culverted outfall which diverts water underground then to an intermittent stream channel running along the fence line of the farm.

4.1.4 Riverine (stream) Community

4.1.4.1 Ditch/Artificial Intermittent Stream

Multiple stream channels occur in the project area. These streams show obvious characteristics of human influence/alteration. One stream channel is shown on the USGS Topographic map in the vicinity of the trailer park but occurs outside of the site.

The intermittent stream channel that flows from west to east, south of the trailer park (through part of Wetland B), can be classified as a ditch/artificial intermittent stream because it has apparently been directed into a man-made ditch. This stream flows into a stream of similar characteristics that flows through Wetlands D, F, I and AA.

The stream that flows west to east through a portion of Wetland B is fed by Wetland B and tile drains that were placed to drain the field located south of the stream. The stream that flows through Wetlands F, D and AA originates from an outfall of a vernal pond located west of the site and receives additional water from Wetland A as well as the wetlands that it flows through.

The intermittent stream that flows west to east through a portion of Wetland AA and Wetland I is fed by runoff and groundwater. This stream and the stream that flows through Wetland B intersect in an underground culvert and exit through a culvert to the southwest of Wetland I.

This culvert feeds an intermittent stream that occurs along the project boundary near the farm and exits the project area through a culvert along Rapp Rd.

Portions of these stream channels are vegetated with herbaceous species. Areas with standing water have little to no vegetation but saturated areas and areas along the banks generally consist of jewelweed, common reed and sensitive fern. Willow, cottonwood, quaking aspen, green ash, elderberry and red maple trees, saplings and shrubs occur along the edges of the streams.

4.2 SOILS

Soils data for the project area was obtained from the Albany County Soil Survey (Figure 4). This information was used in conjunction with on-site soil sampling to determine the presence of hydric soils. The following is a list and brief description of the soils that occur within the project area.

Symbol	Name
Ad	Adrian muck
CoA	Colonie loamy fine sand, 0 to 3 percent slopes
CoB	Colonie loamy fine sand, 3 to 8 percent slopes
CoC	Colonie loamy fine sand, rolling
CoD	Colonie loamy fine sand, hilly
EnA	Elnora loamy fine sand, 0 to 3 percent slopes
Gr	Granby loamy fine sand
Pm	Pits, Gravel
St	Stafford loamy fine sand
Ud	Udipsamments, smoothed
Uf	Udipsamments-Urban land complex

- Adrian muck (Ad). This Hyric soil is a very deep, very poorly drained soil that occurs in bogs, depressions, on uplands and in concave basins on lowland plains.

- Colonie loamy fine sand, 0-3% slope (CoA) is a very deep, nearly level, well drained to somewhat excessively drained soil, on plains and deltas. Included in this soil are small areas of moderately well drained Elnora soils, somewhat poorly drained Stafford soils,

and poorly drained and very poorly drained Granby soils in depressions and low areas. Soil properties include:

- Colonie loamy fine sand, 3 to 8 percent slopes (CoB). These soils are very deep and well drained to somewhat excessively drained. The seasonal high water table occurs at depths of greater than 6 feet but in some years the water table may fluctuate to within 3.5 feet of the soil surface for brief periods in early spring.

- Colonie loamy fine sand, rolling (CoC). These soils are very deep and well drained to somewhat excessively drained. The seasonal high water table occurs at depths of greater than 6 feet but in some years the water table may fluctuate to within 3.5 feet of the soil surface for brief periods in early spring.

- Colonie loamy fine sand, hilly (CoD). This soil is very deep and well drained to somewhat excessively drained. The seasonal high water table occurs at depths of greater than 6 feet but in some years the water table may fluctuate to within 40 inches of the soil surface for brief periods in early spring.

- Elnora loamy fine sand, 0 to 3 percent slopes (EnA). This soil is very deep and moderately well drained. It occurs on deltas and glacial lake plains. The seasonal high water table is at a depth of 1.5 to 2 feet from the soil surface from February to May.

- Granby loamy fine sand (Gr). This soil is very deep and poorly drained to very poorly drained. Areas of this soil occur in flat and slightly depressional areas of glacial lake plains or deltas. The seasonal high water table occurs at a depth of 1 foot from the soil surface from November to June.

- Pits, Gravel (Pm). These areas consist of areas where sand and gravel material has been excavated for use in construction. The pits can be 3 to 50 feet deep and have steep sides. The pits may be filled with salvaged topsoil and permeability is site dependent but typically is rapid.

- Stafford loamy fine sand (St). This soil is very deep and somewhat poorly drained. The seasonal high water table is 0.5 to 1.5 feet below the soil surface from January to May.

- Udipsamments, smoothed (Ud). These moderately well drained to somewhat excessively well drained soils are nearly level to very steep areas of disturbed sandy soils. The depth of the seasonal high water table is normally at a depth of greater than 6 feet but occasionally occurs within 4 feet of the soil surface.

- Udipsamments-Urban land complex (Uf). These soils are nearly level to gently sloping, very deep and well drained to somewhat excessively drained. The depth of the seasonal high water table is normally at a depth of greater than 6 feet but occasionally occurs within 4 feet of the soil surface.

4.3 HYDROLOGY

Hydrology of the wetlands on-site is primarily a function of ground water, surface water runoff and rainfall. Wetlands A, B, C, D, F, I and AA appear to meet the criteria for designation as Waters of the United States. Wetlands G, H, DD, EE and VP appear to be hydrologically isolated.

The water quality of surface waters in New York State is classified by the NYSDEC as "A," "B," "C," or "D," with special classifications for water supply sources. A "T" used with the classification indicates the stream supports, or may support, a trout population. Water quality standards are also provided. The standards apply the same classification system but, in some cases, are more stringent in an effort to eventually improve the water quality. The higher standard is most often used to reflect the existence or the potential for breeding trout, whereby the standard for discharges includes stricter oxygen requirements (designation of (T) as discussed above). All surface waters with a Classification and/or a Standard of C(T) or better are regulated by the State.

Multiple stream channels occur within the project area. These streams are not mapped on the USGS topographic map. All streams appear to be either man-made or altered from their natural state.

These streams flow east off site and form unnamed tributaries to Lake Rensselaer. The tributaries occur within the Lower Hudson River Drainage Basin and are ultimately tributary to the Hudson River. The portions of the streams that occur on site are classified as Class D surface waters.

5.0 DISCUSSION OF WETLAND BOUNDARIES

Based on the methodology discussed in Section III of this report, twelve wetland areas (Wetlands A, B, C, D, F, G, H, I, AA, DD, EE and VP) were identified and delineated within the project area. A total of 36.79 acres (1,602,541.5 sq. ft.) of wetland and 5726.39 linear feet of stream channel are present on site. Seven of the wetlands (Wetlands A, AA, B, C, D, F, and I - totaling 36.43 acres (1,586,898.54 sq. ft.)) and all of the stream channels on site appear to be jurisdictional due to a direct hydrologic connection to Waters of the U.S., in this case the Hudson River via Lake Rensselaer and Patroons Creek. Wetlands G, H, DD, EE and VP (totaling 0.36 acres (15642.96 sq. ft.)) appear to be hydrologically isolated from Waters of the U.S.

Wetland VP is a vernal pool and Wetlands DD and EE are small depressional wetlands that may be seasonally inundated with vernal pool characteristics. Vernal pools are important communities for certain rare species. Surveyed wetland boundaries are provided in Attachment C – Wetland Location Map.

The following table provides a list of the vegetative communities that occur within each wetland of the project area as well as a listing of the plant species within each wetland.

Table 1
Wetland Communities and Species Compositions

Wetland ID	Wetland Type	Dominant Vegetation
A	Shallow Emergent Marsh (PEM1)	purple loosestrife, common reed, narrow leaf goldenrod, soft rush, green bulrush, fox sedge, tussock sedge, reed canary grass, spotted touch-me-not, cattail, sensitive fern
B	Ditch/ Artificial Intermittent Stream (R3UB3)	spotted touch-me-not, cattail, soft rush, purple loosestrife, common reed, white willow, black willow
	Reedgrass/ Purple Loosestrife Marsh (PEM1)	purple loosestrife, common reed
	Shallow Emergent	purple loosestrife, common reed, narrow leaf goldenrod, soft rush, green

Wetland ID	Wetland Type	Dominant Vegetation
	Marsh (PEM1)	bulrush, fox sedge, tussock sedge, steeplebush, skunk cabbage, reed canary grass, spotted touch-me-not, water horsetail
	Shrub Swamp (PEM1)	Sensitive fern, spotted touch-me-not, water horsetail, moss, gray dogwood, silky dogwood, elderberry, fox grape, American bittersweet
	Red Maple-Hardwood Swamp (PFO1)	red maple, cottonwood, green ash, American elm, gray dogwood, highbush blueberry, spicebush, skunk cabbage, sedges, rushes, poison ivy, moss, sensitive fern, cinnamon fern, royal fern, spotted touch-me-not, dewberry, false nettle
C	Vernal Pool (PEM)	tussock sedge, sensitive fern, skunk cabbage
	Red Maple Hardwood Swamp (PFO1)	red maple, cottonwood, green ash, American elm, gray dogwood, highbush blueberry, spicebush, skunk cabbage, sedges, rushes, poison ivy, moss, sensitive fern, cinnamon fern, royal fern, spotted touch-me-not, dewberry, false nettle
D	Ditch/ Artificial Intermittent Stream (R3UB3)	spotted touch-me-not, cattail, soft rush, purple loosestrife, common reed, white willow, black willow
	Shallow Emergent Marsh (PEM1)	purple loosestrife, common reed, narrow leaf goldenrod, soft rush, skunk cabbage, reed canary grass, spotted touch-me-not, water horsetail
F	Ditch/ Artificial Intermittent Stream (R3UB3)	spotted touch-me-not, cattail, soft rush, purple loosestrife, common reed, white willow, black willow
	Shallow Emergent Marsh (PEM1)	purple loosestrife, common reed, narrow leaf goldenrod, soft rush, skunk cabbage, reed canary grass, spotted touch-me-not, water horsetail
	Reedgrass/ Purple Loosestrife Marsh (PEM1)	purple loosestrife, common reed

Wetland ID	Wetland Type	Dominant Vegetation
G	Shallow emergent marsh (PEM1)	switchgrass, cottonwood (sapling), common reed, purple loosestrife, pussy willow
H	Reedgrass/ Purple Loosestrife Marsh (PEM1)	Common reed, switchgrass
I	Red Maple-Hardwood Swamp (PFO1)	red maple, cottonwood, green ash, American elm, silky dogwood, spicebush, elderberry, skunk cabbage, sedges, sensitive fern, cinnamon fern, royal fern, spotted touch-me-not
	Ditch/ Artificial Intermittent Stream (R3UB3)	spotted touch-me-not, sensitive fern
	Shallow Emergent Marsh (PEM1)	purple loosestrife, common reed, narrow leaf goldenrod, soft rush, raspberry, skunk cabbage, spotted touch-me-not, water horsetail, elderberry, silky dogwood
	Artificial eutrophic pond	Sensitive fern, spotted touch-me-not, dogwood, submerged vegetation
VP	Vernal pool (PUB)	Sensitive fern, royal fern, arrowwood, gray birch, highbush blueberry
AA	Ditch/ Artificial Intermittent Stream (R3UB3)	spotted touch-me-not, sensitive fern
	Reedgrass/ Purple Loosestrife Marsh (PEM1)	common reed
	Shallow Emergent Marsh (PEM1)	purple loosestrife, common reed, narrow leaf goldenrod, soft rush, raspberry, skunk cabbage, reed canary grass, spotted touch-me-not, water horsetail, elderberry, silky dogwood

Wetland ID	Wetland Type	Dominant Vegetation
	Red Maple-Hardwood Swamp (PFO1)	red maple, cottonwood, green ash, American elm, silky dogwood, spicebush, elderberry, skunk cabbage, sedges, sensitive fern, cinnamon fern, royal fern, spotted touch-me-not
DD	Shrub Swamp (PSS1)	jumpseed, red maple, gray dogwood
EE	Red Maple Hardwood Swamp (PFO1)	Red maple, spotted touch-me-not, cinnamon fern

6.0 SUMMARY

Clough Harbour & Associates, LLP delineated wetlands and stream channels on a 164.28 acre site located adjacent to the existing Rapp Road Landfill in Albany County, New York. A total of 36.79 acres (1,602,541.5 sq. ft.) of wetland and 5726.39 linear feet of stream channel are present on site. Wetlands A, AA, B, C, D, F and I (totaling 36.43 acres (1,586,898.54 sq. ft.)) and all of the stream channels on site appear to be jurisdictional due to a hydrological connection to Waters of the U.S. Wetlands G, H, DD, EE and VP (totaling 0.36 acres (15642.96 sq. ft.)) are hydrologically isolated from Waters of the U.S. Wetland VP is a vernal pool and Wetlands DD and EE are small depressional wetlands that may be seasonally inundated with vernal pool characteristics. Vernal pool communities are known to provide critical habitat for certain rare species so any proposed impacts to these wetlands will need to be considered during the permitting process.

This report describes these resources as they occur on site. It is intended to be used as information for a verification of wetland boundaries, and if needed, supplemental information in support of a wetland permit application to the Corps & NYSDEC.

Proposed Rapp Road Landfill Expansion
CHA Project Number: 12206

Project Contacts

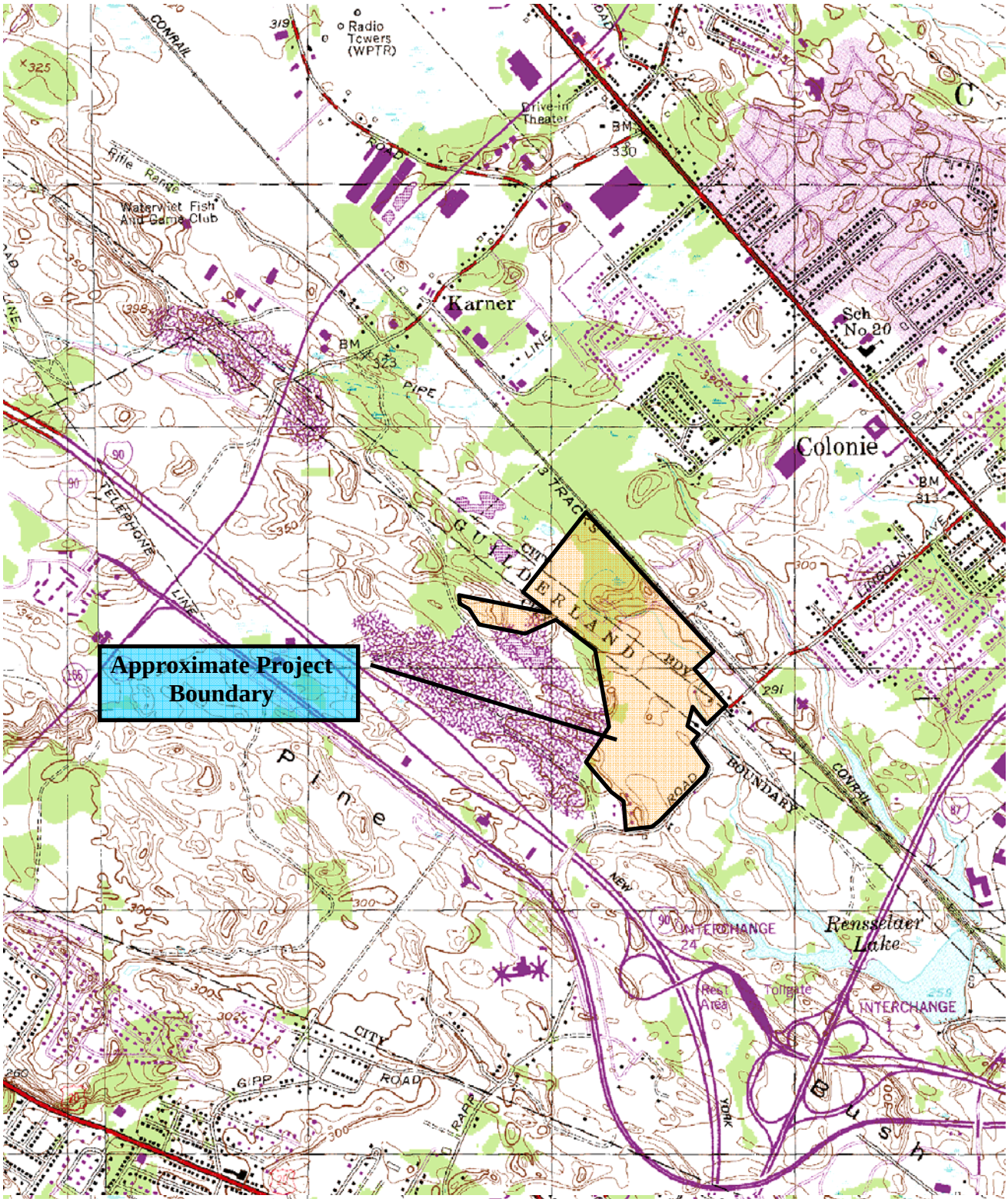
Consultant:
Clough, Harbour & Associates LLP
Project Manager: Frank LaVardera, Principal
Wetland Delineator(s): John Greaves, Bryan Hunter,
Nicole Frazer, Maura Furey and Dave Macdougall
III Winners Circle
Albany, NY 12205
Phone: 518-453-4500
Fax: 518-453-4522

Applicant:
City of Albany
Mr. Willard A. Bruce, Commissioner
City of Albany Dept. of General Services
1 Connors Boulevard
Albany, NY 12204
(518) 432-1144

Current Property Owners:
City of Albany
Department of General Services
1 Connors Boulevard
Albany, NY 12204

Peter Innes
Natural Resources Supervisor
NYSDEC
1130 North Westcott Road
Schenectady, NY 12306
(518) 357-2450

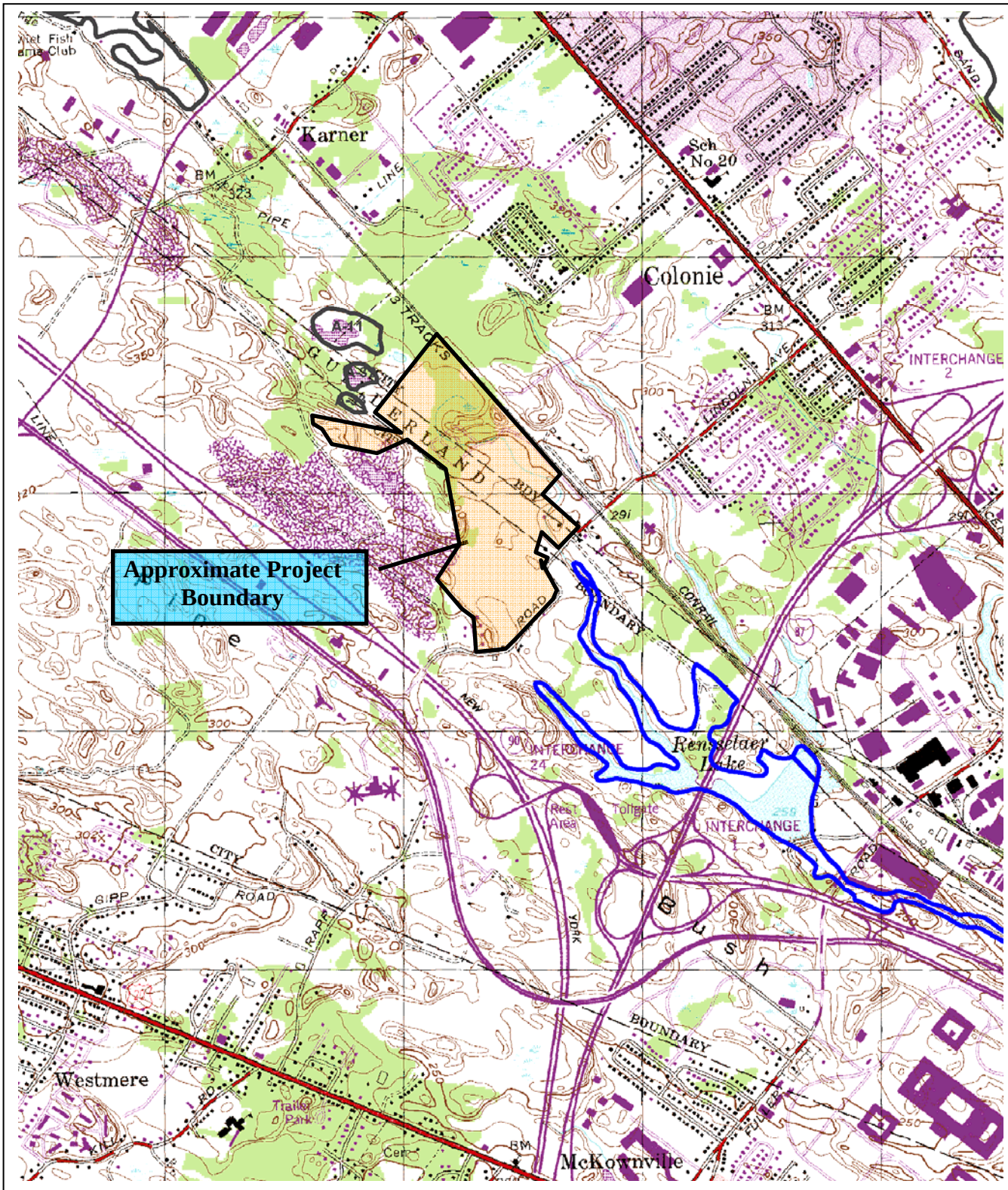
Albany Pine Bush Preserve
195 New Karner Road
Albany, NY 12205
(518) 456-0655



CLOUGH HARBOUR & ASSOCIATES LLP

Project Location Map

Scale 1" = 2000'	Figure 1	Albany Landfill Eastern Expansion Albany County, NY



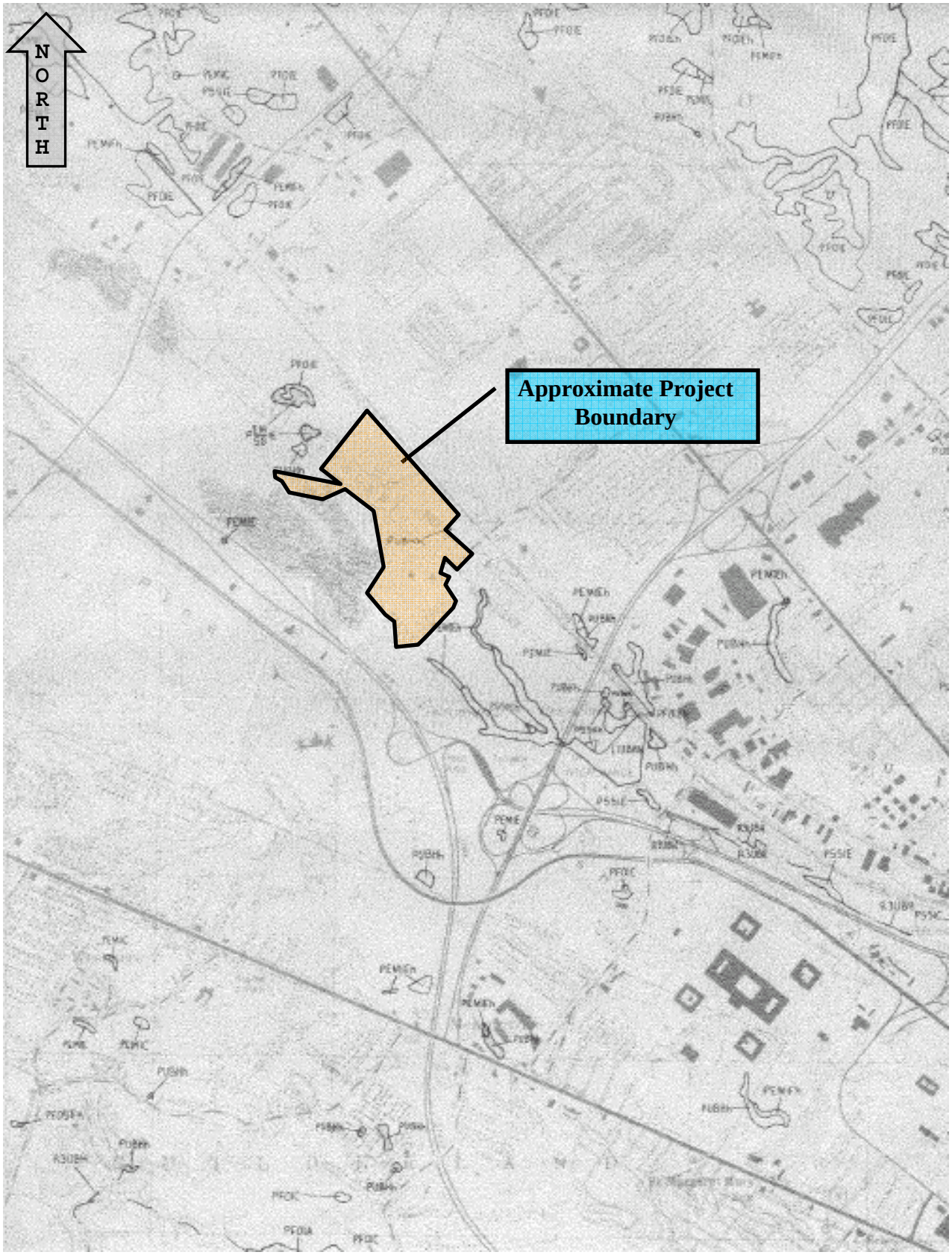
Key: 100 Year Flood Plain (typ) State Wetland (typ)

N

CLOUGH HARBOUR & ASSOCIATES LLP

NYS Regulated Wetlands\FEMA Flood Zones Map

Scale 1" = 2000'	Figure 2	Albany Landfill Eastern Expansion Albany County, NY



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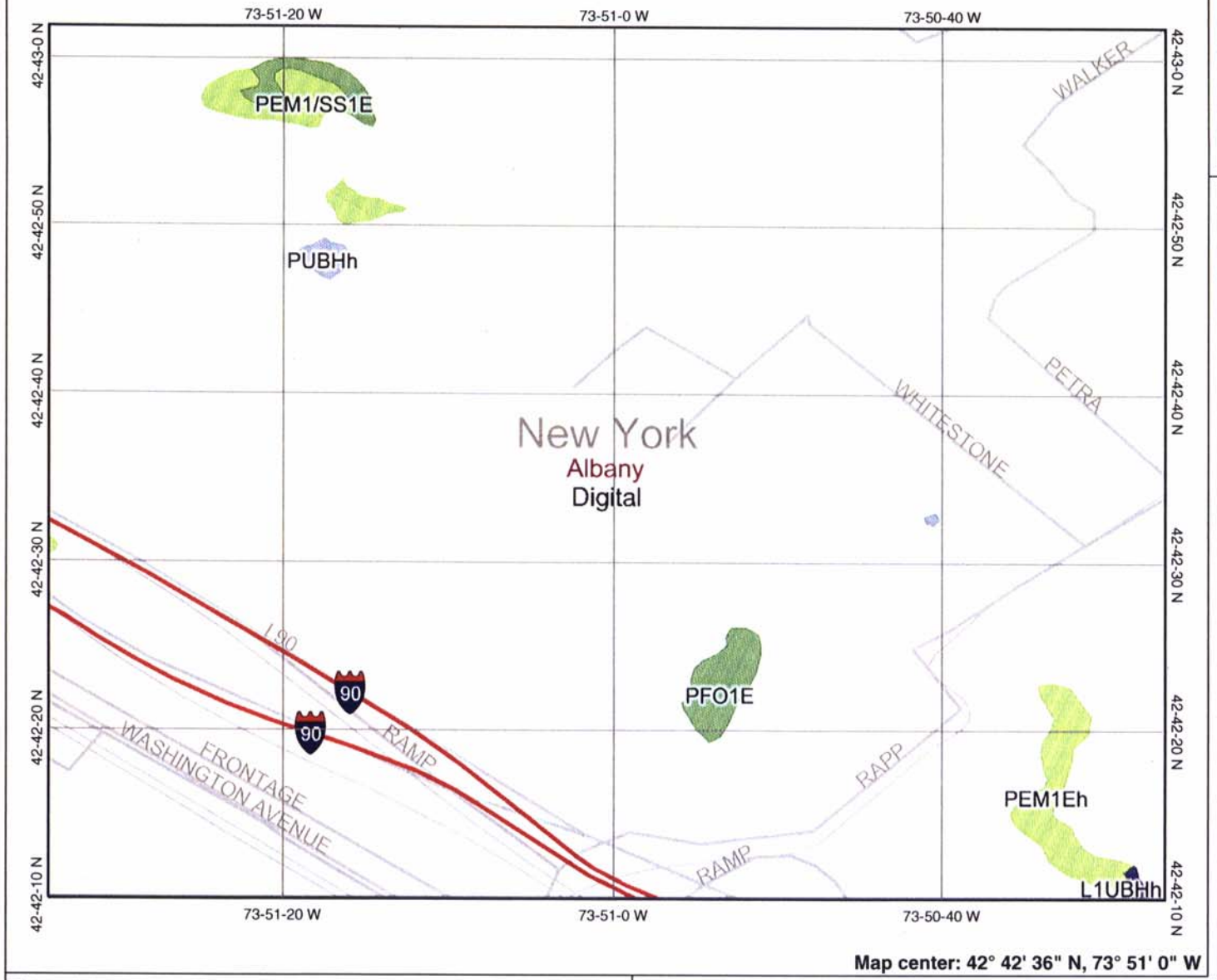
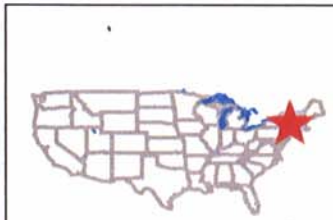
NATIONAL WETLANDS INVENTORY MAP

Albany Landfill Eastern Expansion
Albany County, NY
Albany USGS Quad

Scale: NTS | **Figure 3**

Albany Landfill NWI Map





Legend

CONUS_wet_scan
- 0
- 1
- Out of range

Interstate
Major Roads

Other Road
- Interstate
- State highway
- US highway

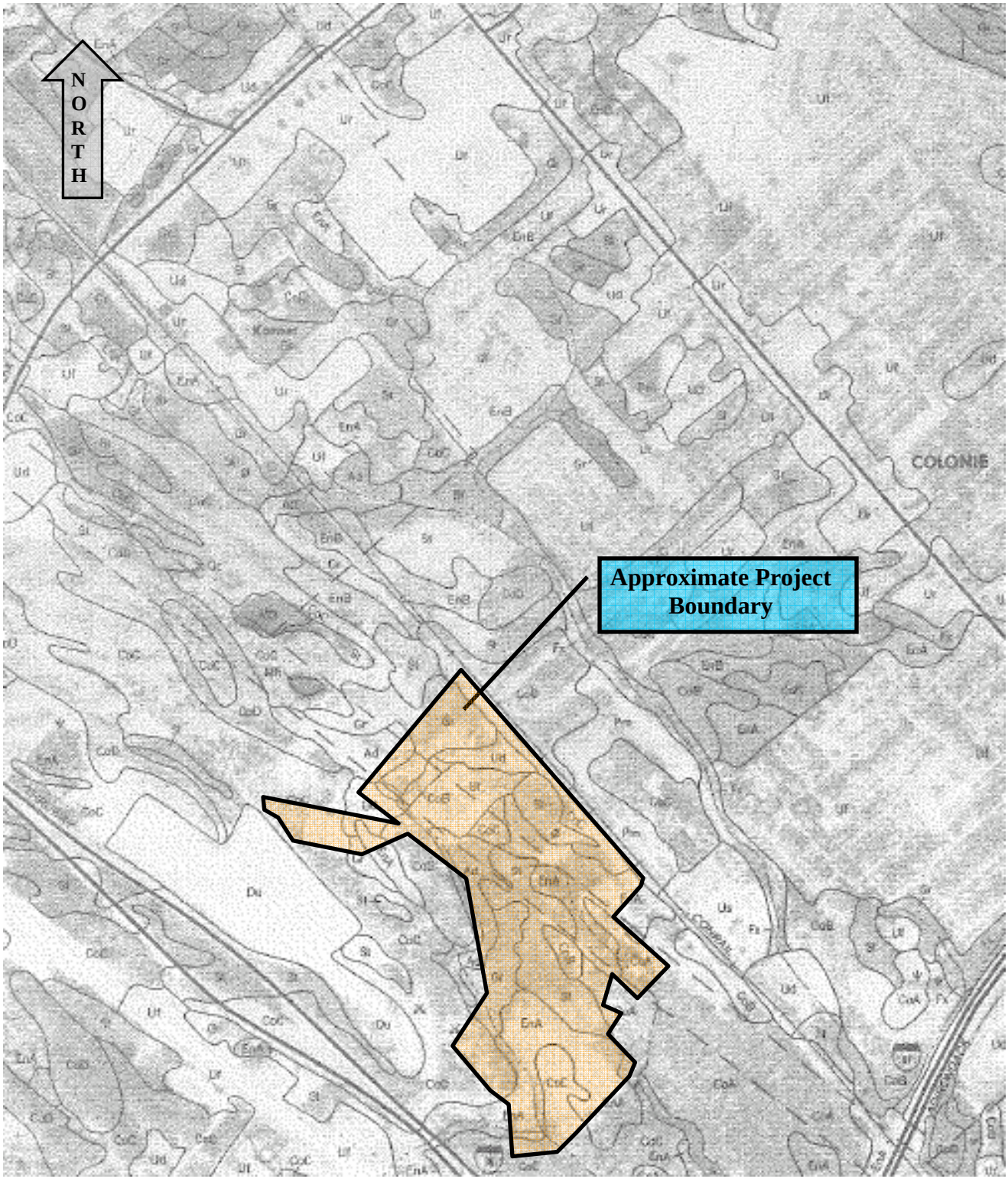
Roads
Cities
USGS Quad Index 24K
Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan

NHD Streams
Counties 100K
Urban Areas 300K
States 100K
South America

Scale: 1:15,000

Map center: 42° 42' 36" N, 73° 51' 0" W



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SOILS MAP

Albany Landfill Eastern Expansion
Albany County, NY
Albany USGS Quad

Scale: NTS

Figure 4

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 1

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Shallow Emergent Marsh/Wtld. Mitiga
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet A
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		Near flag A-6

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Scirpus cyperinus	Herb	FACW+	*Alisma plantago-aquatica*	Herb	OBL
Wool-Grass			Water-Plantain,Broad-Leaf		
Carex stricta	Herb	OBL	*Carex lurida*	Herb	OBL
Sedge,Uptight			Sedge,Shallow		
Juncus effusus	Herb	FACW+	*Lythrum salicaria*	Herb	FACW+
Rush,Soft			Loosestrife,Purple		
Typha latifolia	Herb	OBL	*Phragmites australis*	Herb	FACW
Cattail,Broad-Leaf			Reed,Common		
Salix alba	Herb	FACW			
Willow,White					

Percent of Dominant Species that are OBL, FACW or FAC:	**FAC Neutral:** 9/9 = 100.00%
(excluding FAC-) 9/9 = 100.00%	**Numeric Index:** 14/9 = 1.56

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	+/- 4 *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- YES **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 1

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-3	O	10YR2/1	N/A	N/A	N/A	Loam
3-8	A	Gley 1 3/10Y	10YR2/1 2.5Y6/2	Common Few	Distinct Faint	Sandy loam
9+	B	5Y3/1	10YR2/1	Common	Distinct	Sandy clay

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	YES **High Organic Content in Surface Layer in Sandy Soils**
YES **Sulfidic Odor**	YES **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	YES **Other (Explain in Remarks)**

Remarks:
The A layer also had few/distinct 10YR 2/2 mottles

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes) No	
Hydric Soils Present?	(Yes) No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 2

Do Normal Circumstances exist on the site?	(Yes)	No	**Community ID:** Successional Old Field
Is the site significantly disturbed (Atypical Situation:)?	Yes	(No)	**Transect ID:** Upl A
Is the area a potential Problem Area?	Yes	(No)	**Field Location:**
(If needed, explain on the reverse side)			Near flag A-6

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Solidago canadensis	Herb	FACU	*Phleum pratense*	Herb	FACU
Golden-Rod,Canada			Timothy		
Phragmites australis	Herb	FACW	*Rubus allegheniensis*	Herb	FACU-
Reed,Common			Blackberry,Allegheny		
Euthamia graminifolia	Herb	FAC	*Rosa rugosa*	Shrub	FACU-
Fragrant-Golden-Rod,Flat-Top			Rose,Rugosa		
Asclepias hirtella	Herb	UPL	*Lonicera tatarica*	Shrub	FACU*
Milkweed,Green			Honeysuckle,Tartarian		
Fragaria virginiana	Herb	FACU			
Strawberry,Virginia					

Percent of Dominant Species that are OBL, FACW or FAC: **(excluding FAC-)** 2/9 = 22.22%

FAC Neutral: 1/8 = 12.50%
Numeric Index: 34/9 = 3.78

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- NO **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 2

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-11	A	10YR4/3	N/A	N/A	N/A	Silty clay loam, small cobbles
12-30	B	10YR6/1	7.5YR5/8 10YR4/3	Common Common	Distinct Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
NO **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
Suspect former grading and past soil disturbance

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes (No)	Is the Sampling Point within the Wetland? Yes (No)
Wetland Hydrology Present?	Yes (No)	
Hydric Soils Present?	Yes (No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 3

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** shallow emergent marsh
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet B
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag B-106

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Euthamia graminifolia	Herb	FAC	*Spiraea tomentosa*	Herb	FACW
Fragrant-Golden-Rod,Flat-Top			Steeple-Bush		
Carex vulpinoidea	Herb	OBL	*Sambucus canadensis*	Shrub	FACW-
Sedge,Fox			Elder,American		
Acer rubrum	Shrub	FAC			
Maple,Red					

Percent of Dominant Species that are OBL, FACW or FAC:	**FAC Neutral:** 3/3 = 100.00%
(excluding FAC-) 5/5 = 100.00%	**Numeric Index:** 11/5 = 2.20

Remarks:
The vegetation is mowed

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- YES **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 3

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-6	A	10YR2/1	N/A	N/A	N/A	Loamy sand
7-9	Be	10YR2/1	2.5Y7/1	Common	Distinct	Sandy loam
10+	B	2.5Y7/1	10YR2/1 10YR6/6	Common Common	Distinct Distinct	Loamy sand

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	YES **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 4

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Successional Old Field
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Upl B
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag B-106

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Lonicera tatarica	Herb	FACU*	*Aster novi-belgii*	Herb	FACW+
Honeysuckle,Tartarian			Aster,New York		
Lonicera tatarica	Shrub	FACU*	*Galium mollugo*	Herb	NI
Honeysuckle,Tartarian			fales baby's breath		
Spiraea tomentosa	Herb	FACW	*Solidago canadensis*	Herb	FACU
Steeple-Bush			Golden-Rod,Canada		
Acer rubrum	Shrub	FAC	*Euthamia graminifolia*	Herb	FAC
Maple,Red			Fragrant-Golden-Rod,Flat-Top		
Acer rubrum	Herb	FAC			
Maple,Red					

Percent of Dominant Species that are OBL, FACW or FAC: **(excluding FAC-)** 5/8 = 62.50%

FAC Neutral: 2/5 = 40.00%
Numeric Index: 25/8 = 3.13

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- NO **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 4

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-6	A	10YR4/2	N/A	N/A	N/A	Sandy loam
7+	B	10YR5/6	10YR4/2	Common	Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
NO **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland? Yes (No)
Wetland Hydrology Present?	Yes (No)	
Hydric Soils Present?	Yes (No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 5

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Shrub Swamp
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet B
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag B-39

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Spiraea tomentosa	Herb	FACW	*Galium mollugo*	Herb	NI
Steeple-Bush			Galium mollugo		
Rubus hispidus	Herb	FACW	*Cornus foemina*	Shrub	FAC
Blackberry,Bristly			Dogwood,Stiff		
Euthamia graminifolia	Herb	FAC	*Salix alba*	Shrub	FACW
Fragrant-Golden-Rod,Flat-Top			Willow,White		
Solidago rugosa	Herb	FAC	*Viburnum dentatum*	Shrub	FAC
Golden-Rod,Wrinkled			Arrow-Wood		
Vitis labrusca	Vine	FACU			
Grape,Fox					

Percent of Dominant Species that are OBL, FACW or FAC: **(excluding FAC-)** 7/8 = 87.50%

FAC Neutral: 3/4 = 75.00%
Numeric Index: 22/8 = 2.75

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	= 12 *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 5

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-10	A	2.5Y3/1	N/A	N/A	N/A	Sandy loam
11-24	B	10YR7/1	2.5Y3/1 10YR6/8	Few Common	Distinct Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	YES **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
2.5Y 3/1 streaks

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present? (Yes) No	
Hydric Soils Present? (Yes) No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 6

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Successional Old Field
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Upl B
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag B-39

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Galium mollugo	Herb	NI	*Euthamia graminifolia*	Herb	FAC
Galium mollugo			Fragrant-Golden-Rod,Flat-Top		
Daucus carota	Herb	NI	*Erigeron annuus*	Herb	FACU
Lace, Queen Anne's			Fleabane,White-Top		
Fragaria virginiana	Herb	FACU	*Vitis aestivalis*	Herb	FACU
Strawberry,Virginia			Grape,Summer		

Percent of Dominant Species that are OBL, FACW or FAC: 1/4 = 25.00%
(excluding FAC-)

FAC Neutral: 0/3 = 0.00%
Numeric Index: 15/4 = 3.75

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- NO **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 6

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-5	A	2.5Y3/1	N/A	N/A	N/A	Sandy loam
6-11	B	2.5Y7/4	10YR6/8	Few	Distinct	Sandy loam
			2.5Y3/1	Few	Distinct	
12-24	C	10YR6/8	10YR6/8	N/A	N/A	Sandy loam

Hydric Soil Indicators:

NO **Histosol**
NO **Histic Epipedon**
NO **Sulfidic Odor**
NO **Aquic Moisture Regime**
NO **Reducing Conditions**
NO **Gleyed or Low Chroma Colors**
NO **Concretions**
NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Organic Streaking in Sandy Soils**
NO **Listed on Local Hydric Soils List**
NO **Listed on National Hydric Soils List**
NO **Other (Explain in Remarks)**

Remarks:
2.5Y 3/1 streaking in B layer.
Soils dry and friable.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes (No)	Is the Sampling Point within the Wetland? Yes (No)
Wetland Hydrology Present?	Yes (No)	
Hydric Soils Present?	Yes (No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 7

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Reedgrass/Purple Loosestrife Marsh
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet B
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag B-44

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Phragmites australis	Herb	FACW	*Thalictrum pubescens*	Herb	FACW+
Reed,Common			Meadow-Rue,Tall		
Scirpus atrovirens	Herb	OBL	*Cornus foemina*	Herb	FAC
Bulrush,Green			Dogwood,Stiff		
Onoclea sensibilis	Herb	FACW	*Equisetum fluviatile*	Herb	OBL
Fern,Sensitive			Horsetail,Water		

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 6/6 = 100.00%

FAC Neutral: 5/5 = 100.00%

Numeric Index: 11/6 = 1.83

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	= 10 *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 7

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-12	A	2.5Y3/1	N/A	N/A	N/A	Sandy loam
13-16	B	10YR7/1	2.5Y3/1 10YR6/8	Few Common	Distinct Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	YES **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
2.5Y 3/1 streaks in B layer

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 8

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Red maple hardwood swamp
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet B
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag B-128

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Acer rubrum Maple,Red	Tree	FAC	*Osmunda cinnamomea* Fern,Cinnamon	Herb	FACW
Acer rubrum Maple,Red	Shrub	FAC	*Toxicodendron radicans* Ivy,Poison	Herb	FAC
Acer rubrum Maple,Red	Herb	FAC	*Viburnum dentatum* Arrow-Wood	Shrub	FAC
Populus deltoides Cotton-Wood,Eastern	Tree	FAC	*Viburnum dentatum* Arrow-Wood	Herb	FAC
Populus deltoides Cotton-Wood,Eastern	Shrub	FAC	*Cornus foemina* Dogwood,Stiff	Shrub	FAC
Populus deltoides Cotton-Wood,Eastern	Herb	FAC	*Cornus foemina* Dogwood,Stiff	Herb	FAC
Symplocarpus foetidus Skunk-Cabbage	Herb	OBL	*Maianthemum canadense* Wild-Lily-Of-The-Valley	Herb	FAC-
Osmunda claytoniana Fern,Interrupted	Herb	FAC	*Osmunda regalis* Fern,Royal	Herb	OBL
Athyrium filix-femina Fern,Subarctic Lady	Herb	FAC	*Sphagnum sp.* Moss,Sphagnum	Herb	NI

Percent of Dominant Species that are OBL, FACW or FAC: **(excluding FAC-)** 16/17 = 94.12%

FAC Neutral: 3/3 = 100.00%

Numeric Index: 46/17 = 2.71

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	= 2 *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- YES **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- YES **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- YES **Other (Explain in Remarks)**

Remarks:
patchy inundated areas. Soils saturated to surface where not inundated. Hummocks. Exposed roots.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 8

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-3	O	10YR2/1	N/A	N/A	N/A	Loam, Decomposed leaves
4-6	A	2.5YR3/1	5YR5/6	Common	Distinct	Sand
			2.5YR4/8	Common	Distinct	
7+	B	2.5YR7/2	10YR2/1	Few	Distinct	Sandy loam
			10YR2/1	Common	Distinct	

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	YES **High Organic Content in Surface Layer in Sandy Soils**
YES **Sulfidic Odor**	YES **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
O layer is peaty not loam.
B layer also had 2.5YR 6/6 common/distinct mottles.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes) No	
Hydric Soils Present?	(Yes) No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 9

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Pitch Pine-Oak Forest
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Upl B & C
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag B-128 & C-1

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Pinus resinosa	Tree	FACU	*Rosa rugosa*	Herb	FACU-
Pine,Red			Rose,Rugosa		
Quercus rubra	Tree	FACU-	*Prunus serotina*	Herb	FACU
Oak,Northern Red			Cherry,Black		
Quercus rubra	Shrub	FACU-	*Rubus allegheniensis*	Herb	FACU-
Oak,Northern Red			Blackberry,Allegheny		
Quercus alba	Tree	FACU-	*Betula populifolia*	Shrub	FAC
Oak,White			Birch,Gray		
Quercus alba	Shrub	FACU-	*Vaccinium corymbosum*	Shrub	FACW-
Oak,White			Blueberry,Highbush		
Pteridium aquilinum	Herb	FACU	*Maianthemum canadense*	Herb	FAC-
Fern,Bracken			Wild-Lily-Of-The-Valley		
Osmunda claytoniana	Herb	FAC			
Fern,Interrupted					

Percent of Dominant Species that are OBL, FACW or FAC:	**FAC Neutral:** 1/10 = 10.00%
(excluding FAC-) 3/13 = 23.08%	**Numeric Index:** 47/13 = 3.62

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- NO **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 9

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-8	A	10YR6/6	10YR2/1	Common	Distinct	Sandy loam
9+	B	10YR7/8	N/A	N/A	N/A	Sandy loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
NO **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes (No)	Is the Sampling Point within the Wetland? Yes (No)
Wetland Hydrology Present?	Yes (No)	
Hydric Soils Present?	Yes (No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 10

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Vernal Pool
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet C
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag D-2

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Acer rubrum	Tree	FAC	*Betula populifolia*	Tree	FAC
Maple,Red			Birch,Gray		
Acer rubrum	Shrub	FAC	*Betula populifolia*	Shrub	FAC
Maple,Red			Birch,Gray		
Acer rubrum	Herb	FAC	*Carex stricta*	Herb	OBL
Maple,Red			Sedge,Uptight		
Osmunda cinnamomea	Herb	FACW	*Symplocarpus foetidus*	Herb	OBL
Fern,Cinnamon			Skunk-Cabbage		
Vaccinium corymbosum	Shrub	FACW-			
Blueberry,Highbush					

Percent of Dominant Species that are OBL, FACW or FAC: **(excluding FAC-)** 9/9 = 100.00%

FAC Neutral: 4/4 = 100.00%
Numeric Index: 21/9 = 2.33

Remarks:
All woody vegetation occurred along edge of the vernal pool. Only carex stricta occurred within the pool.

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	= 8 *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- YES **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- YES **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- YES **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 10

SOILS

Map Unit Name (Series and Phase): Medihemists and Hydraquents, ponded
Map Symbol: Mh **Drainage Class:** very poorly drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): VIIIw **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-2	O	10YR2/1	N/A	N/A	N/A	Loam
2-6	A	10YR2/1	N/A	N/A	N/A	Sandy clay loam
7-13	B	10YR2/1	N/A	N/A	N/A	Sandy clay loam
14+	C	2.5YR7/2	10YR2/1 2.5YR6/6	Common Common	Distinct Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	YES **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	YES **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
O layer was a peaty muck, not a loam. C layer 10YR 2/1 mottles were actually streaks.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 11

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Red maple hardwood swamp
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet C
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag D-15

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Acer rubrum	Tree	FAC	*Viburnum dentatum*	Shrub	FAC
Maple,Red			Arrow-Wood		
Acer rubrum	Shrub	FAC	*Viburnum dentatum*	Herb	FAC
Maple,Red			Arrow-Wood		
Symplocarpus foetidus	Herb	OBL	*Trillium undulatum*	Herb	FACU*
Skunk-Cabbage			Trillium,Painted		
Osmunda cinnamomea	Herb	FACW	*Onoclea sensibilis*	Herb	FACW
Fern,Cinnamon			Fern,Sensitive		
Osmunda regalis	Herb	OBL	*Thalictrum pubescens*	Herb	FACW+
Fern,Royal			Meadow-Rue,Tall		
Carex stricta	Herb	OBL			
Sedge,Uptight					

Percent of Dominant Species that are OBL, FACW or FAC: **FAC Neutral:** 6/7 = 85.71%
(excluding FAC-) 10/11 = 90.91% **Numeric Index:** 25/11 = 2.27

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	= 0.5 *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- YES **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- YES **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:
Patchy inundated areas. In other areas soils saturated to surface.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 11

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-6	A	10YR2/1	N/A	N/A	N/A	Sandy loam
7-12	E	2.5Y7/1	5YR5/8 7.5YR6/8	Common Common	Distinct Distinct	Silt loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
YES **Sulfidic Odor**	YES **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
Also 10YR 2/1 streaks in E layer.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill **Project No:** 13515
Applicant/Owner: City of Albany
Investigators: John Greaves & Bryan Hunter

Date: 20-May-2005
County: Albany
State: New York
Plot ID: 12

Do Normal Circumstances exist on the site? (Yes) No
Is the site significantly disturbed (Atypical Situation:)? Yes (No)
Is the area a potential Problem Area? Yes (No)
(If needed, explain on the reverse side)

Community ID: Rich Mesophytic Forest
Transect ID: Upl C
Field Location: near flag D-15

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Quercus rubra Oak,Northern Red	Tree	FACU-	*Trientalis borealis* Starflower,American	Herb	FAC
Quercus alba Oak,White	Tree	FACU-	*Trillium undulatum* Trillium,Painted	Herb	FACU*
Prunus serotina Cherry,Black	Tree	FACU	*Toxicodendron radicans* Ivy,Poison	Herb	FAC
Prunus serotina Cherry,Black	Herb	FACU	*Geranium maculatum* Crane's-Bill,Purple	Herb	FACU
Acer saccharum Maple,Sugar	Tree	FACU-	*Alliaria petiolata* Mustard,Garlic	Herb	FACU-
Acer rubrum Maple,Red	Tree	FAC	*Athyrium filix-femina* Fern,Subarctic Lady	Herb	FAC
Osmunda claytoniana Fern,Interrupted	Herb	FAC	*Rosa rugosa* Rose,Rugosa	Herb	FACU-
Viburnum dentatum Arrow-Wood	Shrub	FAC	*Lonicera tatarica* Honeysuckle,Tartarian	Shrub	FACU*
Viburnum dentatum Arrow-Wood	Herb	FAC	*Viola papilionacea* Violet,Common Blue	Shrub	FAC

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 8/18 = 44.44%
FAC Neutral: 0/10 = 0.00%
Numeric Index: 64/18 = 3.56

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
N/A **Stream, Lake or Tide Gauge**
N/A **Aerial Photographs**
N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water: N/A *(in.)*
Depth to Free Water in Pit: N/A *(in.)*
Depth to Saturated Soil: N/A *(in.)*

Wetland Hydrology Indicators
Primary Indicators
NO **Inundated**
NO **Saturated in Upper 12 Inches**
NO **Water Marks**
NO **Drift Lines**
NO **Sediment Deposits**
NO **Drainage Patterns in Wetlands**
Secondary Indicators (2 or more required):
NO **Oxidized Root Channels in Upper 12 Inches**
NO **Water-Stained Leaves**
NO **Local Soil Survey Data**
NO **FAC-Neutral Test**
NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 12

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-4	A	10YR3/2	N/A	N/A	N/A	Sandy loam
5-12	B	10YR6/8	10YR3/2	Few	Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**
NO **Histic Epipedon**
NO **Sulfidic Odor**
NO **Aquic Moisture Regime**
NO **Reducing Conditions**
NO **Gleyed or Low Chroma Colors**
NO **Concretions**
NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Organic Streaking in Sandy Soils**
NO **Listed on Local Hydric Soils List**
NO **Listed on National Hydric Soils List**
NO **Other (Explain in Remarks)**

Remarks:
10YR 3/2 in B layer were streaks not mottles.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes (No)	Is the Sampling Point within the Wetland? Yes (No)
Wetland Hydrology Present?	Yes (No)	
Hydric Soils Present?	Yes (No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 13

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Red maple hardwood swamp
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet C
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag C-2

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Acer rubrum	Tree	FAC	*Carex stricta*	Herb	OBL
Maple,Red			Sedge,Uptight		
Acer rubrum	Shrub	FAC	*Impatiens capensis*	Herb	FACW
Maple,Red			Touch-Me-Not,Spotted		
Acer rubrum	Herb	FAC	*Vaccinium corymbosum*	Shrub	FACW-
Maple,Red			Blueberry,Highbush		
Cornus amomum	Shrub	FACW			
Dogwood,Silky					

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 7/7 = 100.00%

FAC Neutral: 4/4 = 100.00%

Numeric Index: 16/7 = 2.29

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	= 0 *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- YES **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- YES **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 13

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc
>16"	O	10YR2/1	10YR4/6	Few Distinct	Loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
YES **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
NO **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
O horizon was a mucky peat

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes) No	
Hydric Soils Present?	(Yes) No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 14

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Rich Mesophytic Forest
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Upl C
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag C-2

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Acer saccharum	Tree	FACU-	*Quercus rubra*	Tree	FACU-
Maple,Sugar			Oak,Northern Red		
Acer saccharum	Shrub	FACU-	*Parthenocissus quinquefolia*	Vine	FACU
Maple,Sugar			Creeper,Virginia		
Acer saccharum	Herb	FACU-	*Berberis thunbergii*	Shrub	FACU
Maple,Sugar			Barberry,Japanese		
Toxicodendron radicans	Herb	FAC	*Berberis thunbergii*	Herb	FACU
Ivy,Poison			Barberry,Japanese		

Percent of Dominant Species that are OBL, FACW or FAC: 1/8 = 12.50%
(excluding FAC-)

FAC Neutral: 0/7 = 0.00%
Numeric Index: 31/8 = 3.88

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- NO **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 14

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
3	A	2.5Y2.5/1	N/A	N/A	N/A	Silt loam
4+	B	10YR2/1	10YR6/6	Few	Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
NO **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
Soils appear to be fill

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes (No)	Is the Sampling Point within the Wetland?	Yes (No)
Wetland Hydrology Present?	Yes (No)		
Hydric Soils Present?	Yes (No)		

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 15

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Shallow Emergent Marsh/Intermittens
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet D
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag F-3

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Lythrum salicaria	Herb	FACW+	*Acer rubrum*	Shrub	FAC
Loosestrife,Purple			Maple,Red		
Juncus effusus	Herb	FACW+	*Acer rubrum*	Herb	FAC
Rush,Soft			Maple,Red		
Impatiens capensis	Herb	FACW	*Onoclea sensibilis*	Herb	FACW
Touch-Me-Not,Spotted			Fern,Sensitive		
Acer rubrum	Tree	FAC	*Carex stricta*	Herb	OBL
Maple,Red			Sedge,Uptight		

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 8/8 = 100.00%

FAC Neutral: 5/5 = 100.00%

Numeric Index: 18/8 = 2.25

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	+/- 1 *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- YES **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- YES **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- YES **Other (Explain in Remarks)**

Remarks:
Soils saturated to surface in wetland and flowing water in undefined channel within the wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 15

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
>12"	A	10YR2/1	N/A	N/A	N/A	Loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
YES **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
Soils are a gravelly loam.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 16

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Successional Old Field
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Upl D & E
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		between wetlands D & E

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Podophyllum peltatum	Herb	FACU	*Lonicera tatarica*	Shrub	FACU*
May-Apple			Honeysuckle,Tartarian		
Solidago rugosa	Herb	FAC	*Acer rubrum*	Herb	FAC
Golden-Rod,Wrinkled			Maple,Red		
Euthamia graminifolia	Herb	FAC	*Vitis aestivalis*	Vine	FACU
Fragrant-Golden-Rod,Flat-Top			Grape,Summer		
Solidago canadensis	Herb	FACU	*Rubus hispidus*	Herb	FACW
Golden-Rod,Canada			Blackberry,Bristly		
Onoclea sensibilis	Herb	FACW	*Cornus foemina*	Herb	FAC
Fern,Sensitive			Dogwood,Stiff		
Galium mollugo	Herb	NI	*Trifolium pratense*	Herb	FACU-
fales baby's breath			Clover,Red		
Fragaria virginiana	Herb	FACU	*Taraxacum officinale*	Herb	FACU-
Strawberry,Virginia			Dandelion,Common		
Lonicera tatarica	Herb	FACU*	*Lotus corniculatus*	Herb	FACU-
Honeysuckle,Tartarian			Trefoil,Birds-Foot		

Percent of Dominant Species that are OBL, FACW or FAC:	**FAC Neutral:** 2/11 = 18.18%
(excluding FAC-) 6/15 = 40.00%	**Numeric Index:** 52/15 = 3.47

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- NO **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 16

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-11	A	10YR4/3	N/A	N/A	N/A	Silty clay loam
12-30	B	10YR6/1	7.5YR5/8 10YR4/3	Common Few	Distinct Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
NO **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
A layer is gravelly. The 10YR 4/3 "mottles" in the B horizon are streaks, not mottles. Throughout this area we suspect former grading and past disturbance associated with the construction of the trailer park.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes (No)	Is the Sampling Point within the Wetland? Yes (No)
Wetland Hydrology Present?	Yes (No)	
Hydric Soils Present?	Yes (No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 17

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** shallow emergent marsh
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet E
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag E-7

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Carex stricta	Herb	OBL	*Phragmites australis*	Herb	FACW
Sedge,Uptight			Reed,Common		
Impatiens capensis	Herb	FACW	*Lythrum salicaria*	Herb	FACW+
Touch-Me-Not,Spotted			Loosestrife,Purple		

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 4/4 = 100.00%

FAC Neutral: 4/4 = 100.00%

Numeric Index: 7/4 = 1.75

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	+/- 1 *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- YES **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- YES **Sediment Deposits**
- YES **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- YES **Oxidized Root Channels in Upper 12 Inches**
- YES **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:
Patchy inundated areas.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 14-Oct-2005
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 17

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** (Yes) No

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-1	O	7.5YR2.5/1	7.5YR5/8	Common	Distinct	Loam
2-3	A	10YR3/2	7.5YR5/8	Common	Distinct	Silty clay loam
4->12	B	Gley 2 7/5BG	7.5YR5/8	Common	Distinct	Silty clay loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
O horizon is a peaty loam.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes) No	
Hydric Soils Present?	(Yes) No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 18

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** stream/emergent wetland
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet F
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag I-30

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Impatiens capensis	Herb	FACW	*Lythrum salicaria*	Herb	FACW+
Touch-Me-Not,Spotted			Loosestrife,Purple		
Phragmites australis	Herb	FACW	*Salix alba*	Herb	FACW
Reed,Common			Willow,White		
Carex stricta	Herb	OBL			
Sedge,Uptight					

Percent of Dominant Species that are OBL, FACW or FAC: **FAC Neutral:** 5/5 = 100.00%
(excluding FAC-) 5/5 = 100.00% **Numeric Index:** 9/5 = 1.80

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	+/- 1 *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- YES **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- YES **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 20-May-2005
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 18

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, 3 to 8 % slopes
Map Symbol: CoB **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** Yes (No)
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc
>12	A	10YR2/1	10YR5/8	Common Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 27-Mar-2006
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 19

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** shallow emergent marsh
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet G
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag A-5

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Panicum virgatum	Herb	FAC	*Phragmites australis*	Herb	FACW
Switchgrass			Reed,Common		
Salix discolor	Shrub	FACW	*Lythrum salicaria*	Herb	FACW+
Willow,Pussy			Loosestrife,Purple		
Populus deltoides	Shrub	FAC			
Cotton-Wood,Eastern					

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 5/5 = 100.00%

FAC Neutral: 3/3 = 100.00%

Numeric Index: 12/5 = 2.40

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- YES **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 27-Mar-2006
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 19

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, rolling
Map Symbol: CoC **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** Yes (No)
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-5	A	10YR3/4	N/A	N/A	N/A	Sandy loam
6-10	A2	2.5Y3/2	10YR3/4	Common	Faint	Sandy loam
			10YR2/1	Few	Faint	
11+	B	2.5Y2.5/1	10YR4/4	Few	Distinct	Sandy loam
			10YR3/6	Few	Distinct	

Hydric Soil Indicators:

- NO **Histosol**
- NO **Histic Epipedon**
- NO **Sulfidic Odor**
- NO **Aquic Moisture Regime**
- NO **Reducing Conditions**
- YES **Gleyed or Low Chroma Colors**
- NO **Concretions**
- NO **High Organic Content in Surface Layer in Sandy Soils**
- NO **Organic Streaking in Sandy Soils**
- NO **Listed on Local Hydric Soils List**
- NO **Listed on National Hydric Soils List**
- NO **Other (Explain in Remarks)**

Remarks:
after 14" hitting buried woody material

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes) No	
Hydric Soils Present?	(Yes) No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 27-Mar-2006
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 20

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Successional Old Field
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Upl G
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag A-5

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Panicum virgatum	Herb	FAC	*NA*	Herb	NI
Switchgrass			Grass species		

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 1/1 = 100.00%

FAC Neutral: 0/0 = 0.00%

Numeric Index: 3/1 = 3.00

Remarks:
disturbed area from landfill operations

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- NO **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 27-Mar-2006
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 20

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, rolling
Map Symbol: CoC **Drainage Class:** well drained
Taxonomy (Subgroup): IIIe
Mapped Hydric Inclusion?
Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-7	A	10YR3/2	N/A	N/A	N/A	Sandy loam
8-11	A2	10YR5/6	N/A	N/A	N/A	Sandy loam
12+	B	2.5Y3/2	10YR5/6	Common	Distinct	Sandy loam

Hydric Soil Indicators:

NO **Histosol**
NO **Histic Epipedon**
NO **Sulfidic Odor**
NO **Aquic Moisture Regime**
NO **Reducing Conditions**
NO **Gleyed or Low Chroma Colors**
NO **Concretions**
NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Organic Streaking in Sandy Soils**
NO **Listed on Local Hydric Soils List**
NO **Listed on National Hydric Soils List**
NO **Other (Explain in Remarks)**

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No	Is the Sampling Point within the Wetland? Yes (No)
Wetland Hydrology Present? Yes (No)	
Hydric Soils Present? Yes (No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 27-Mar-2006
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 21

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Vernal Pool
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Wet VP
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag VP-7

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Onoclea sensibilis	Herb	FACW	*Vaccinium corymbosum*	Shrub	FACW-
Fern,Sensitive			Blueberry,Highbush		
Osmunda regalis	Herb	OBL	*Betula populifolia*	Tree	FAC
Fern,Royal			Birch,Gray		
Viburnum dentatum	Shrub	FAC			
Arrow-Wood					

Percent of Dominant Species that are OBL, FACW or FAC: **FAC Neutral:** 3/3 = 100.00%
(excluding FAC-) 5/5 = 100.00% **Numeric Index:** 11/5 = 2.20

Remarks:

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	+/- 0 *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- YES **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- YES **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 27-Mar-2006
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 21

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, rolling
Map Symbol: CoC **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** Yes (No)
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-2	O	10YR3/1	N/A	N/A	N/A	Sand
3-12	A	10YR5/6	7.5YR5/8 10YR3/1	Common Few	Distinct Distinct	Sand
13+	B	2.5Y5/3	N/A	N/A	N/A	Sand

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	YES **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
YES **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:
O layer is a peaty sand.
The 10YR 3/1 in the A layer are organic streaks.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rapp Road Landfill	**Project No:** 13515	**Date:** 27-Mar-2006
Applicant/Owner: City of Albany		**County:** Albany
Investigators: John Greaves & Bryan Hunter		**State:** New York
		Plot ID: 22

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** successional northern hardwoods
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:** Upl VP
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		near flag VP-7

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Betula populifolia	Tree	FAC	*Fragaria virginiana*	Herb	FACU
Birch,Gray			Strawberry,Virginia		
Acer rubrum	Tree	FAC	*Maianthemum racemosum*	Herb	NI
Maple,Red			Solomon's seal,False		
Pteridium aquilinum	Herb	FACU			
Fern,Bracken					

Percent of Dominant Species that are OBL, FACW or FAC:	**FAC Neutral:** 0/2 = 0.00%
(excluding FAC-) 2/4 = 50.00%	**Numeric Index:** 14/4 = 3.50

Remarks:
Gray birch and red maples are saplings not trees.

HYDROLOGY

NO **Recorded Data(Describe in Remarks):**
- N/A **Stream, Lake or Tide Gauge**
- N/A **Aerial Photographs**
- N/A **Other**

YES **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO **Inundated**
- NO **Saturated in Upper 12 Inches**
- NO **Water Marks**
- NO **Drift Lines**
- NO **Sediment Deposits**
- NO **Drainage Patterns in Wetlands**

Secondary Indicators (2 or more required):
- NO **Oxidized Root Channels in Upper 12 Inches**
- NO **Water-Stained Leaves**
- NO **Local Soil Survey Data**
- NO **FAC-Neutral Test**
- NO **Other (Explain in Remarks)**

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	Rapp Road Landfill	**Project No:** 13515	**Date:** 27-Mar-2006
Applicant/Owner:	City of Albany		**County:** Albany
Investigators:	John Greaves & Bryan Hunter		**State:** New York
			Plot ID: 22

SOILS

Map Unit Name (Series and Phase): Colonie loamy fine sand, rolling
Map Symbol: CoC **Drainage Class:** well drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): IIIe **Field Observations Confirm Mapped Type?** Yes (No)
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-10	A	10YR3/2	N/A	N/A	N/A	Sandy loam
11+	B	10YR5/8	7.5YR4/6	Common	Distinct	Sand

Hydric Soil Indicators:

NO **Histosol**	NO **Concretions**
NO **Histic Epipedon**	NO **High Organic Content in Surface Layer in Sandy Soils**
NO **Sulfidic Odor**	NO **Organic Streaking in Sandy Soils**
NO **Aquic Moisture Regime**	NO **Listed on Local Hydric Soils List**
NO **Reducing Conditions**	NO **Listed on National Hydric Soils List**
NO **Gleyed or Low Chroma Colors**	NO **Other (Explain in Remarks)**

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes (No)	Is the Sampling Point within the Wetland? Yes (No)
Wetland Hydrology Present?	Yes (No)	
Hydric Soils Present?	Yes (No)	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION

Project Site: Rapp Rd Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **S. Emergent Marsh**
Is the site significantly disturbed? No	Transect ID: Wetland AA
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: AA-25

VEGETATION:

Dominant Plant Species	Stratum	Indicator
Spotted touch-me-not (*Impatiens capensis*)	H	FACW
Sensitive fern (*Onoclea sensibilis*)	H	FACW
Quaking aspen (*Populus tremuloides*)	S	FACU
Clearweed (*Pilea pumila*)	H	FACW
White snakeroot (*Eupatorium rugosum*)	H	FACU-

Percent of Dominant Species that are OBL, FACW, or FAC = 60%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is FAC, FACW, or OBL.

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundation
- _____ Saturated in upper 12 inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil: 3”

Secondary Indicators: (2 required)
- __X__ Oxidized Root Channels in Upper 12 inches
- ____ Water-stained Leaves
- ____ Local Soil Survey Data
- __X__ FAC-neutral Test
- ____ Other (Explain in Remarks)

Remarks: Hydrology indicators present.

SOILS:

Series and Phase: Adrian	Drainage Class: Very Poorly drained
Taxonomy (Subgroup): Terric Haplosaprists	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-12	A	10YR 2/1	-	Loam
12+	B	10YR 3/1	10YR 4/2, C/F	Sand

Hydric Soil Indicators:

____ Histosol	_____ Concretions
____ Histic Epipedon	_____ High Organic Content in Surface Layer of Sandy Soils
____ Sulfidic Odor	__X__ Organic Streaking in Sandy Soil
____ Aquic Moisture Reg.	_____ Listed on Local Hydric Soils List
____ Reducing Conditions	_____ Listed on National Hydric Soils List
__X__ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? Yes Wetland Hydrology Present? Yes Hydric Soils Present? Yes	Is this sampling point within a wetland? Yes

Remarks: All three parameters Present.

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site: Rapp Road Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **S.N.H. Forest**
Is the site significantly disturbed? No	Transect ID: Upland AA
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: AA-25

VEGETATION:

Dominant Plant Species	Stratum	Indicator
White snakeroot (*Eupatorium rugosum*)	H	FACU-
Virginia creeper (*Parthenocissus quinquefolia*)	V	FACU
White pine (*Pinus strobus*)	T	FACU
Oriental bittersweet (*Celastrus orbiculatus*)	V	FACU-
Violet (*Viola sp.*)	H	UPL

Percent of Dominant Species that are OBL, FACW, or FAC= 0%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is not FAC, FACW, or OBL.
Onoclea sensibilis and Acer rubrum also present but not dominant

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data Available

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil:

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundation
- ____ Saturated in upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators: (2 required)
- _____ Oxidized Root Channels in Upper 12 inches
- _____ Water -stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-neutral Test
- _____ Other (Explain in Remarks)

Remarks: Hydrology indicators not present.

SOILS:

Series and Phase: Colonie	Drainage Class: Well drained to excessively drained
Taxonomy (Subgroup): Lamellic Udipsamments	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-5	A	2.5Y 3/3	-	Sand
5+	B	10YR 4/4	-	Sand

Hydric Soil Indicators:

_____ Histosol	____ Concretions
_____ Histic Epipedon	____ High Organic Content in Surface Layer of Sandy Soils
_____ Sulfidic Odor	____ Organic Streaking in Sandy Soil
____ Aquic Moisture Regime	____ Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils not present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? Yes Wetland Hydrology Present? No Hydric Soils Present? No	Is this sampling point within a wetland? No

Remarks: All three parameters are not present

DATA FORM
ROUTINE WETLAND DETERMINATION

Project Site: Rapp Rd Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **R.M.H. Swamp**
Is the site significantly disturbed? No	Transect ID: Wetland AA
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: AA-40

VEGETATION:

Dominant Plant Species	Stratum	Indicator
Spotted touch-me-not (*Impatiens capensis*)	H	FACW
Sensitive fern (*Onoclea sensibilis*)	H	FACW
Red maple (*Acer rubrum*)	T	FAC
Cinnamon fern (*Osmunda cinnamomea*)	H	FACW
White snakeroot (*Eupatorium rugosum*)	H	FACU-

Percent of Dominant Species that are OBL, FACW, or FAC = 80%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is FAC, FACW, or OBL.

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundation
- ___X_ Saturated in upper 12 inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil: 6”

Secondary Indicators: (2 required)
- __X_ Oxidized Root Channels in Upper 12 inches
- ____ Water-stained Leaves
- ____ Local Soil Survey Data
- __X_ FAC-neutral Test
- ____ Other (Explain in Remarks)

Remarks: Hydrology indicators present.

SOILS:

Series and Phase: Adrian	Drainage Class: Very poorly drained
Taxonomy (Subgroup): Terric Haplosaprists	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-28	A	10YR 2/1	10YR 3/6, F/F	Mucky loam
28+	B	2.5Y 3/1	10YR 3/6, M/D	Sand

Hydric Soil Indicators:

__X__ Histosol	_____ Concretions
____ Histic Epipedon	_____ High Organic Content in Surface Layer of Sandy Soils
____ Sulfidic Odor	_____ Organic Streaking in Sandy Soil
____ Aquic Moisture Reg.	_____ Listed on Local Hydric Soils List
____ Reducing Conditions	_____ Listed on National Hydric Soils List
__X__ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? Yes Wetland Hydrology Present? Yes Hydric Soils Present? Yes	Is this sampling point within a wetland? Yes

Remarks: All three parameters Present.

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site: Rapp Road Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **S.S.H. Forest**
Is the site significantly disturbed? No	Transect ID: Upland AA
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: AA-40

VEGETATION:

Dominant Plant Species	Stratum	Indicator
White snakeroot (*Eupatorium rugosum*)	H	FACU-
Common buckthorn (*Rhamnus cathartica*)	S	UPL
Red maple (*Acer rubrum*)	T	FAC
Oriental bittersweet (*Celastrus orbiculatus*)	V	FACU-
Violet (*Viola sp.*)	H	UPL

Percent of Dominant Species that are OBL, FACW, or FAC= 20%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is not FAC, FACW, or OBL.

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data Available

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil:

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundation
- ____ Saturated in upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators: (2 required)
- _____ Oxidized Root Channels in Upper 12 inches
- _____ Water -stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-neutral Test
- _____ Other (Explain in Remarks)

Remarks: Hydrology indicators not present.

SOILS:

Series and Phase: Colonie	Drainage Class: Well drained to excessively drained
Taxonomy (Subgroup): Lamellic Udipsamments	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-9	A	10YR 2/2	-	Sandy loam
9+	B	10YR 3/3	-	Sand

Hydric Soil Indicators:

_____ Histosol	____ Concretions
_____ Histic Epipedon	____ High Organic Content in Surface Layer of Sandy Soils
_____ Sulfidic Odor	____ Organic Streaking in Sandy Soil
____ Aquic Moisture Regime	____ Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils not present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? No Wetland Hydrology Present? No Hydric Soils Present? No	Is this sampling point within a wetland? No

Remarks: All three parameters are not present

DATA FORM
ROUTINE WETLAND DETERMINATION

Project Site: Rapp Rd Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **S. Emergent Marsh**
Is the site significantly disturbed? No	Transect ID: Wetland AA
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: AA-76

VEGETATION:

Dominant Plant Species	Stratum	Indicator
Sensitive fern (*Onoclea sensibilis*)	H	FACW
Purple loosestrife (*Lythrum salicaria*)	H	FACW+
Common boneset (*Eupatorium perfoliatum*)	H	FACW+
Broadleaf cattail (Typha latifolia)	H	OBL
Spotted touch-me-not (*Impatiens capensis*)	H	FACW

Percent of Dominant Species that are OBL, FACW, or FAC = 100%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is FAC, FACW, or OBL.

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundation
- _____ Saturated in upper 12 inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil:

Secondary Indicators: (2 required)
- _X_ Oxidized Root Channels in Upper 12 inches
- ____ Water-stained Leaves
- ____ Local Soil Survey Data
- _X_ FAC-neutral Test
- ____ Other (Explain in Remarks)

Remarks: Two secondary hydrology indicators present.

SOILS:

Series and Phase: Adrian	Drainage Class: Very poorly drained
Taxonomy (Subgroup): Terric Haplosaprists	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-2	A	10 YR 3/1	10YR 4/6, F/D	Sandy Loam
2+	B	2.5 Y 3/1	10YR 4/6, F/F	Sand

Hydric Soil Indicators:

____ Histosol	_____ Concretions
____ Histic Epipedon	__X__ High Organic Content in Surface Layer of Sandy Soils
____ Sulfidic Odor	_____ Organic Streaking in Sandy Soil
____ Aquic Moisture Reg.	_____ Listed on Local Hydric Soils List
____ Reducing Conditions	_____ Listed on National Hydric Soils List
__X_ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? Yes Wetland Hydrology Present? Yes Hydric Soils Present? Yes	Is this sampling point within a wetland? Yes

Remarks: All three parameters Present.

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site: Rapp Road Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **Succ. Old Field**
Is the site significantly disturbed? No	Transect ID: Upland AA
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: AA-76

VEGETATION:

Dominant Plant Species	Stratum	Indicator
Quaking aspen (*Populus tremoloides*)	S	FACU
Canada goldenrod (*Solidago Canadensis*)	H	FACU
Grass (*Poa sp.*)	H	UPL
Grape (*Vitis sp.*)	V	UPL

Percent of Dominant Species that are OBL, FACW, or FAC= 0%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is not FAC, FACW, or OBL.

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data Available

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil:

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundation
- ____ Saturated in upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators: (2 required)
- _____ Oxidized Root Channels in Upper 12 inches
- _____ Water -stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-neutral Test
- _____ Other (Explain in Remarks)

Remarks: Hydrology indicators not present.

SOILS:

Series and Phase: Colonie	Drainage Class: Well drained to excessively drained
Taxonomy (Subgroup): Lamellic Udipsamments	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-2	A	10YR 3/2		Sandy Loam
2+	B	10YR 4/3	10YR 4/6, F/F	Sand

Hydric Soil Indicators:

_____ Histosol	____ Concretions
_____ Histic Epipedon	____ High Organic Content in Surface Layer of Sandy Soils
_____ Sulfidic Odor	____ Organic Streaking in Sandy Soil
____ Aquic Moisture Regime	____ Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils not present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? No Wetland Hydrology Present? No Hydric Soils Present? No	Is this sampling point within a wetland? No

Remarks: All three parameters are not present

DATA FORM
ROUTINE WETLAND DETERMINATION

Project Site: Rapp Rd Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **Shrub Swamp**
Is the site significantly disturbed? No	Transect ID: Wetland DD
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: DD-4

VEGETATION:

Dominant Plant Species	Stratum	Indicator
Jumpseed (*Polygonum virginianum*)	H	FAC
Red maple (*Acer rubrum*)	T	FAC
Gray dogwood (*Cornus foemina*)	S	FAC
Black cherry (*Prunus serotina*)	S	FACU

Percent of Dominant Species that are OBL, FACW, or FAC = 60%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is FAC, FACW, or OBL.

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundation
- __X__ Saturated in upper 12 inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil: 3”

Secondary Indicators: (2 required)
- ____ Oxidized Root Channels in Upper 12 inches
- ____ Water-stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-neutral Test
- ____ Other (Explain in Remarks)

Remarks: Hydrology indicators present.

SOILS:

Series and Phase: Granby	Drainage Class: Poorly drained, very poorly drained
Taxonomy (Subgroup): Typic Endoaquolls	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-6	A	10YR 2/1	10YR 4/4, C/F	Loamy clay
6-12	B	10YR 2/2	10YR 4/6, F/F	Sand
12+	C	2.5Y 6/2	2.5Y 5/6, F/F	Sand

Hydric Soil Indicators:

____ Histosol	_____ Concretions
____ Histic Epipedon	_____ High Organic Content in Surface Layer of Sandy Soils
____ Sulfidic Odor	_____ Organic Streaking in Sandy Soil
____ Aquic Moisture Reg.	_____ Listed on Local Hydric Soils List
____ Reducing Conditions	_____ Listed on National Hydric Soils List
_X__ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? Yes Wetland Hydrology Present? Yes Hydric Soils Present? Yes	Is this sampling point within a wetland? Yes

Remarks: All three parameters Present.

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site: Rapp Road Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **Pitch Pine-Oak Forest**
Is the site significantly disturbed? No	Transect ID: Upland DD
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: DD-4

VEGETATION:

Dominant Plant Species	Stratum	Indicator
White snakeroot (*Eupatorium rugosum*)	H	FACU-
White pine (*Pinus strobus*)	T	FACU
Red oak (*Quercus rubra*)	T	FACU-
Oriental bittersweet (*Celastrus orbiculatus*)	V	FACU-
Black cherry (*Prunus serotina*)	S	FACU

Percent of Dominant Species that are OBL, FACW, or FAC= 0%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is not FAC, FACW, or OBL.

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data Available

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil:

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundation
- ____ Saturated in upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators: (2 required)
- _____ Oxidized Root Channels in Upper 12 inches
- _____ Water -stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-neutral Test
- _____ Other (Explain in Remarks)

Remarks: Hydrology indicators not present.

SOILS:

Series and Phase: Colonie	Drainage Class: Well drained to excessively drained
Taxonomy (Subgroup): Lamellic Udipsamments	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-2	A	10YR 3/2	-	Sand
2-20	B	10YR 4/4	-	Sand

Hydric Soil Indicators:

_____ Histosol	____ Concretions
_____ Histic Epipedon	____ High Organic Content in Surface Layer of Sandy Soils
_____ Sulfidic Odor	____ Organic Streaking in Sandy Soil
____ Aquic Moisture Regime	____ Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils not present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? No Wetland Hydrology Present? No Hydric Soils Present? No	Is this sampling point within a wetland? No

Remarks: All three parameters are not present

DATA FORM
ROUTINE WETLAND DETERMINATION

Project Site: Rapp Rd Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **R. M. H. Swamp**
Is the site significantly disturbed? No	Transect ID: Wetland EE
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: EE-5

VEGETATION:

Dominant Plant Species	Stratum	Indicator
Red maple (*Acer rubrum*)	T	FAC
Spotted touch-me-not (*Impatiens capensis*)	H	FACW
Cinnamon fern (*Osmunda cinnamomea*)	H	FACW
Sphagnum moss (*Sphagnum sp.*)	H	N/A

Percent of Dominant Species that are OBL, FACW, or FAC = 100%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is FAC, FACW, or OBL.

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data

Wetland Hydrology Indicators:

Primary Indicators:
- _____ Inundation
- __X__ Saturated in upper 12 inches
- _____ Water Marks
- _____ Drift Lines
- _____ Sediment Deposits
- _____ Drainage Patterns in Wetlands

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil: 4”

Secondary Indicators: (2 required)
- ____ Oxidized Root Channels in Upper 12 inches
- ____ Water-stained Leaves
- ____ Local Soil Survey Data
- ____ FAC-neutral Test
- ____ Other (Explain in Remarks)

Remarks: Hydrology indicators present.

SOILS:

Series and Phase: Granby	Drainage Class: Poorly drained, very poorly drained
Taxonomy (Subgroup): Typic Endoaquolls	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-22	A	10YR 2/1	-	Loam
22-28	B	10YR 3/2	10YR 4/6, F/F	Sand
28+	C	10YR 4/1	-	Sand

Hydric Soil Indicators:

_X__ Histosol	_____ Concretions
____ Histic Epipedon	_____ High Organic Content in Surface Layer of Sandy Soils
____ Sulfidic Odor	__X__ Organic Streaking in Sandy Soil
____ Aquic Moisture Reg.	_____ Listed on Local Hydric Soils List
____ Reducing Conditions	_____ Listed on National Hydric Soils List
__X_ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? Yes Wetland Hydrology Present? Yes Hydric Soils Present? Yes	Is this sampling point within a wetland? Yes

Remarks: All three parameters Present.

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site: Rapp Road Landfill Eastern Expansion	Date: 9/21/06
Applicant/Owner: City of Albany	County: Albany
Investigator: NF/MF	State: NY
Do normal conditions exist on site? Yes	Community ID: **S.N.H. Forest**
Is the site significantly disturbed? No	Transect ID: Upland EE
Is the area potential Problem Area? No (If needed, explain on reverse Determination Remarks)	Plot ID: EE-5

VEGETATION:

Dominant Plant Species	Stratum	Indicator
Japanese barberry (*Berberis thunbergii*)	S	FACU
Tatarian honeysuckle (Lonicera tatarica)	S	FACU
Virginia creeper (*Parthenocissus quinquefolia*)	V	FACU
Black cherry (*Prunus serotina*)	T	FACU
Violet (*Viola sp.*)	H	UPL

Percent of Dominant Species that are OBL, FACW, or FAC= 0%
(excluding FAC-)

Remarks: Greater than 50% of the dominant vegetation is not FAC, FACW, or OBL.

HYDROLOGY:

_____ Recorded Data (Describe in Remarks):
- _____ Stream, Lake, or Tide Gauge
- _____ Aerial Photographs
- _____ Other

_____ No Recorded Data Available

Field Observations:
- Depth of Surface Water:
- Depth to Water in Pit:
- Depth to Saturated Soil:

Wetland Hydrology Indicators:

Primary Indicators:
- ____ Inundation
- ____ Saturated in upper 12 inches
- ____ Water Marks
- ____ Drift Lines
- ____ Sediment Deposits
- ____ Drainage Patterns in Wetlands

Secondary Indicators: (2 required)
- _____ Oxidized Root Channels in Upper 12 inches
- _____ Water -stained Leaves
- _____ Local Soil Survey Data
- _____ FAC-neutral Test
- _____ Other (Explain in Remarks)

Remarks: Hydrology indicators not present.

SOILS:

Series and Phase: Colonie	Drainage Class: Well drained to excessively drained
Taxonomy (Subgroup): Lamellic Udipsamments	Field Observations Confirm Mapped Type? Yes

Profile Description:

Depth (Inches)	Horizon	Matrix Color	Mottle Color/Contrast	Soil Texture
0-4	A	10YR 3/2	-	Sand
4-12	B	10YR 3/4	-	Sand

Hydric Soil Indicators:

_____ Histosol	____ Concretions
_____ Histic Epipedon	____ High Organic Content in Surface Layer of Sandy Soils
_____ Sulfidic Odor	____ Organic Streaking in Sandy Soil
____ Aquic Moisture Regime	____ Listed on Local Hydric Soils List
____ Reducing Conditions	____ Listed on National Hydric Soils List
____ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks: Hydric soils not present.

WETLAND DETERMINATION:

Hydrophytic Vegetation Present? No Wetland Hydrology Present? No Hydric Soils Present? No	Is this sampling point within a wetland? No

Remarks: All three parameters are not present

Wetland A – existing wetland mitigation area/shallow emergent marsh

Upland area adjacent to Wetland A – successional northern hardwoods community

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 1	CHA # 12206

Wetland B – shallow emergent marsh community near flag B-106

Wetland B – red maple hardwood swamp community near flag B-127

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 2	CHA # 12206

Wetland B – red maple hardwood swamp community near flag B-105

Wetland B – reedgrass/purple loosestrife marsh community near flag B-43

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 3	CHA # 12206

Upland B/C – pitch pine-oak forest near flag B-127 and C-1

Wetland B - ditch/artificial intermittent stream near flag B-86

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 4	CHA # 12206

Wetland C – vernal pool community, near flag C-1

Wetland C – red maple hardwood swamp community near flag D-15

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 5	CHA # 12206

Upland C – rich mesophytic forest near flag D-15

Wetland/stream channel D – near flag F-2

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 6	CHA # 12206

Upland D & AA – successional old field near flag F-1

Wetland AA – reedgrass/purple loosestrife marsh (background) near flag E-4

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 7	CHA # 12206

Wetland F – ditch/artificial intermittent stream channel and shallow emergent marsh

Wetland G – shallow emergent marsh community

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 8	CHA # 12206

Area delineated by flags BBB-1 to BBB-10 – common reed and forested wetland

Wetland VP – vernal pool community

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 9	CHA # 12206

Upland VP – early successional northern hardwoods forest

Wetland AA – red maple hardwood swamp community

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 10	CHA # 12206

Wetland AA – red maple hardwood swamp community

Wetland AA – red maple hardwood swamp community

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 11	CHA # 12206

Upland AA – successional northern hardwoods community

Upland AA - pitch pine-oak forest community

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 12	CHA # 12206

Wetland AA – reedgrass/purple loosestrife marsh community

Stream channel that flows through Wetland AA, near flag A- 2

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 13	CHA # 12206

Stream channel that flows through Wetland AA, near flag A- 25

Wetland AA – shallow emergent marsh community along utility R.O.W.

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany County, NY

Sheet 14	CHA # 12206

Upland AA – successional old field community (foreground) along utility R.O.W.

Wetand DD – shrub swamp community

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Rapp Road Landfill Expansion
Albany County, NY

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Upland DD – pitch pine-oak forest community

Wetland EE – red maple hardwood swamp community

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Rapp Road Landfill Expansion
Albany County, NY

Wetland I – Intermittent stream portion of Wetland I through successional old field near flag I-23.

Wetland I – red maple hardwood swamp near flag I-66

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Rapp Road Landfill Expansion
Albany, NY

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Intermittent stream channel from Wetland I flowing through successional old field near flag I-29.

Wetland I - Intermittent stream channel portion near flag I-53.

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Rapp Road Landfill Expansion
Albany, NY

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Wetland L – eutrophic artificial pond near flag I-61

Perennial stream fed by Wetland I and Wetland AA near flag I-65.

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Rapp Road Landfill Expansion
Albany, NY

Wetland AA – wetland and stream channel near flag AA-27.

Wetland AA – wetland and stream channel near flag AA-36.

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany, NY

Wetland AA – shallow emergent marsh near flag AA-21.

Wetland AA – intermittent stream channel near flag AA-45.

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany, NY

Sheet 21	CHA # 12206

Wetland AA – red maple hardwood swamp near flag AA-61.

Successional old field adjacent to Wetland AA near flag AA-83.

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SITE PHOTOGRAPHS

Rapp Road Landfill Expansion
Albany, NY

NOTES:

1. BASE MAP PREPARED BY CLOUGH HARBOUR & ASSOCIATES LLP FROM A MAY AND JUNE 2005 AND MARCH 2006 FIELD SURVEY.

2. NORTH ORIENTATION IS BASED ON EXISTING LANDFILL CONTROL.

3. CONTOURS AND ELEVATIONS BASED ON EXISTING LANDFILL DATUM.

4. SUBJECT TO ANY STATEMENT OF FACT AN UP-TO-DATE ABSTRACT OF TITLE WOULD DISCLOSE.

5. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS OR RESTRICTIONS OF RECORD.

6. UNDERGROUND UTILITIES ARE SHOWN BASED ON THE FIELD LOCATION OF SURFACE FEATURES COMBINED WITH INFORMATION FROM RECORD PLANS. THE ACTUAL LOCATION OF UNDERGROUND UTILITIES MAY DIFFER SOMEWHAT FROM WHAT IS SHOWN AND OTHERS MAY EXIST.

MAP REFERENCES:

1. MAP ENTILTLED "BOUNDARY SURVEY, PORTION OF LANDS NOW OR FORMERLY OF THE CITY OF ALBANY FORMERLY KNOWN AS FOXRUN MOBILE HOME PARK" AS PREPARED BY C.T. MALE ASSOCIATES, P.C., DATED JULY 17, 2001 AND LAST REVISED 8/16/01.

WETLAND	SIZE (sq.ft./acres)	JURISDICTIONAL	ISOLATED	DESIGNATED STATE WETLAND
A	15467.81 sq.ft./0.35 ac.	15467.81 sq.ft./0.35 ac.	NO	NO
B	372937.45 sq.ft./8.56 ac.	372937.45 sq.ft./8.56 ac.	NO	YES
C	53525.99 sq.ft./1.23 ac.	53525.99 sq.ft./1.23 ac.	NO	YES
D	6593.70 sq.ft./0.15 ac.	6593.70 sq.ft./0.15 ac.	NO	NO
F	29677.68 sq.ft./0.68 ac.	29677.68 sq.ft./0.68 ac.	NO	NO
G	7410.38 sq.ft./0.17 ac.	NO	7410.38 sq ft./0.17± ac.	NO
H	1163.70 sq.ft./0.03 ac.	NO	1163.70 sq.ft./0.03 ac.	NO
I	78203.07 sq. ft./1.80 ac.	78203.07 sq. ft./1.80 ac.	NO	NO
J	29303.39 sq. ft./0.67 ac.	29303.39 sq. ft/0.67 ac.	NO	NO
AA	1030472.84 sq.ft./23.66 ac.	1030472.84 sq.ft./23.66 ac.	NO	YES
DD	343.38 sq.ft./0.007 ac.	NO	343.38 sq.ft./0.007 ac.	NO
EE	2463.66 sq.ft./0.06 ac.	NO	2463.66 sq.ft./0.06 ac.	YES
VP	4281.84 sq.ft./0.10 ac.	NO	4281.84 sq.ft./0.10 ac.	YES
TOTAL	163184.89 sq.ft./ 37.46 acres	1616201.93 sq.ft./ 37.10 acres	15642.96 sq.ft./ 0.36 acres	

JD BOUNDARY

LINEAR FEET OF PERENNIAL STREAM CHANNEL =4,536.59 l.f.

LINEAR FEET OF INTERMITTENT STREAM CHANNEL =1189.80 l.f.

AREA WITHIN JD BOUNDARY = 7155994.30 sq.ft. / 164.28 acres

LEGEND

- JURISDICTIONAL WETLAND
- ISOLATED WETLAND
- PERENNIAL STREAM CHANNEL
- INTERMITTENT STREAM CHANNEL
- JD BOUNDARY
- STATE WETLAND WITH 100' BUFFER LINE

No.	Submittal / Revision	App'd	By	Date
1	WETLAND REVISIONS		JWG	2/28/07

CITY OF ALBANY
DEPARTMENT OF GENERAL SERVICES
ONE CONNORS BOULEVARD
ALBANY, NEW YORK

CHA
CLOUGH HARBOUR & ASSOCIATES LLP
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Main: (518) 453-4500 · www.cloughharbour.com

Designed: 04/06 Drawn: CAP Checked: JG 02/28/07

ALBANY LANDFILL EASTERN EXPANSION

WETLAND DELINEATION MAP

Issue Date: 02/28/07 Project No.: 12206 Scale: 1"=120'

Rare, Threatened and Endangered Wildlife and Species of Greatest Conservation Need that could occur in the Expansion Area based on Habitat Requirements

A comprehensive list of rare or vulnerable species known to occur in the Albany Pine Bush derived from: Albany Pine Bush Management Plan, 2002[1], NYSDEC NHP list of "Species and Community Status in the Albany Pine Bush: 2006"[2] and the list of "Species of Greatest Conservation Need" consolidated from the NYSDEC Comprehensive Wildlife Conservation Strategy for New York State[3]

Invertebrates

- A noctuid moth (Pitch pine–scrub oak barrens and open oak woodlands, often sites that have burned in the previous decade)
- Pine barrens zanclognatha (inland pitch pine–scrub oak barrens, especially late-successional barrens)

Reptiles & Amphibians

- Jefferson salamander (vernal pools, vernal-like inundated portions of wetlands & upland forests)
- Blue-spotted salamander (deciduous and coniferous forests, from moist bottomlands to dry uplands)
- Eastern spadefoot toad (sandy soils near vernal pools and vernal-like inundated areas)
- Fowler's Toad (sandy soils/open woodlands, meadows)
- Eastern hognose snake (sandy soils in areas with toads)
- Worm snake (loose damp soil in wooded areas or on edges, under surface cover or in rotten logs)
- Black rat snake (variety of habitats from rocky hillsides to farmland)
- Northern black racer (dry, sunny habitats with access to cover)
- Smooth green snake (mostly moist grassy places but will occur in open deciduous or pine woodlands and along woodland borders)
- Eastern box turtle (deciduous or mixed woodlands, especially with sandy soils, adjacent thickets, proximity to water important)
- Wood turtle (in or near sandy-bottomed streams or rivers or streams with partially rocky or silty beds, woodlands, marshes and fields near the floodplain of their streams)

Birds

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[1] Environmental Design & Research, P.C., M. Batcher, and Behan Planning Associates. 2002. *Albany Pine Bush Management Plan and Final Environmental Impact Statement.* Prepared for the Albany Pine Bush Commission, Latham, NY.

[2] Species and Community Status in the Albany Pine Bush: 2006. July 31, 2006. New York Natural Heritage Program.

[3] Comprehensive Wildlife Conservation Strategy for New York State. 2006. New York State Department of Environmental Conservation, Albany, NY.

- Sharp-shinned hawk (forests, usually with conifers)
- Cooper's hawk (dense canopied evergreen and deciduous forests)
- Wood thrush (mature deciduous forest)
- Blue-winged warbler (power line corridors/successional forested edges)
- Golden-winged warbler (power line corridors/damp, heavily-vegetated fields with clumps of shrubs)
- Black-throated blue warbler (mature deciduous and mixed woodlands with thick understory)
- Whip-poor-will (deciduous or mixed forests with little or no underbrush, mixed woods near open areas)
- Yellow-breasted chat (dense second-growth, riparian thickets, and brush)
- Rufous-sided towhee (old fields and forest edges, often in dry environments and open ground)
- Indigo bunting (power line corridors/brushy and weedy areas/open deciduous woods)
- American woodcock (forests with openings, shrubby areas)
- Black-billed cuckoo (forest edges and thickets, frequently associated with water)
- Brown thrasher (thickets, riparian areas, brushy woodland edges)
- Red-shouldered hawk (forests with open understory, bottomland hardwoods, riparian areas)
- Ruffed grouse (aspen woodlands and early succession mixed deciduous forests with small clearings)
- Scarlet tanager (deciduous and mixed deciduous/coniferous woodlands, especially mature forests)
- Yellow-breasted chat (dense second-growth, riparian thickets and brush