

G. Present Conditions and Uses of Land within the Project Area

Existing Land Use

The Storrs Center MDP project area is characterized by two primary land uses – relatively dense commercial development on the northwestern side and formerly developed and undeveloped woodlands on the balance of the property to the southeast. The developed commercial strip along Storrs Road extends between 270 and 550 feet into the property. The central and eastern portions of the property are wooded, with 2 watercourses, and a vernal pool. The watercourses generally flow from west-southwest to east-northeast. The headwaters of both watercourses are near the existing commercial development, and portions of the wetlands in these areas may have been filled in to construct portions of the commercial development and the existing Post Office.

The uses in the commercially developed area are described below:

- **Lot 13 (1222, 1228, 1254 Storrs Road and 4 Dog Lane):** This parcel is owned by the State of Connecticut and existing development includes the UConn Design Center, UConn Print Shop, Storrs Automotive, and Storrs Marketplace, a plaza featuring Paul's Pizza, Store 24, Tequila Cove Restaurant, a bookstore, and other small retail and service businesses, and their associated landscaping, parking areas and amenities.
- **Lot 14 (1232 Storrs Road):** This parcel is owned by Nicholas and Georgia Haidous and the trustees of the Haidous Family Trust and existing development includes a two-story commercial building and paved parking areas. The commercial building is occupied by Friendly's Restaurant, Storrs Drug, Inc., Aztec Sun Tanning, and Storrs Laundromat.
- **Lot 15 (1244 Storrs Road):** This parcel is owned by Storrs Associates LLC and existing development includes two two-story commercial buildings. The first building is occupied by Copy Run, Dominos, and Storrs Common Laundromat. The second building is occupied by Blimpie's, Starbuck's, and People's Bank. Office Space is also present on the lower level of the second building.
- **Lot 16 (10 Dog Lane):** This parcel is owned by Esther Warzocha and existing development includes a two-story building used for office and retail purposes.
- **Lot 17 (14 Dog Lane):** This parcel is owned by the University of Connecticut and existing development includes a one-story building occupied by a physical therapy clinic.
- **Lot 18 (18 Dog Lane):** This parcel is owned by Richard Robarge, Jr. and existing development includes a three-story building occupied by a community church.

- **Lot 9 (13 Dog Lane):** This parcel is owned by Steven H. Rogers, Douglas P. Donaldson and Randall B. Bobb and existing development includes a one-story building occupied by University Spirit, HealthSouth, and a bagel restaurant formerly known as Bagelz.
- **Lot 10 (1266 Storrs Road):** This parcel is owned by the University of Connecticut and existing development located within the Project Area Boundary on this parcel includes a one-story building known as the UConn Publications Building.
- **Lot 13A (2 South Eagleville Road):** This parcel is owned by the State of Connecticut and leased to the U.S. Postal Service and existing development includes a one-story building occupied by a U.S. Post Office. A sanitary sewer pump station is also found on this parcel.

Existing Zoning

The Project Area is currently located within several different zoning districts of the Town of Mansfield (see Figure 15 – Existing Zoning). Portions of the Project Area located in the northeast and southern parts of the Project Area are zoned RAR-90 (Rural Agriculture Residence Zone). The existing commercial development along Storrs Road is located in the PB-2 zone (Planned Business 2 Zone). Finally, the undeveloped eastern part of the Project Area and the land at the northeast corner of the intersection of Storrs Road and Post Office Drive is zoned PO-1 (Professional Office 1 Zone). The property located on the western side of Storrs Road, outside of the Project Area, is zoned I (Institutional Zone).

Building Conditions

The Project Area exhibits retail and office development with various commercial uses that have evolved over many years (see Figure 4 – Existing Land Use Map). The physical condition of the buildings in the area varies from well-maintained to well-worn.

Description of Balance of Site

The northerly of the two watercourses located within the Project Area is about 1,200 linear feet (l.f.) long, has a 4% grade sloping generally from west to east, and is wooded. This watercourse is affected by road sand and trash. Because the channel is relatively steep and narrow, sediment is being transported a considerable distance down the watercourse. Most of the trash and road sand is being trapped in the area identified as Wetland A and in the upper 200 l.f. of the channel, which is blocked with a road fill and an old 24” reinforced concrete pipe. The channel meanders within a 35’ to 50’ wide wetland corridor, but eventually becomes a well-defined channel near the northeast end of the property, where it flows into a wooded swamp.

The property includes a central ridge that creates a divide between the two watercourses. A vernal pool is located east of the ridge at the northeast portion of the property. The western end of the central ridge is the location of the original farmhouse on this parcel, though no structure remains. This area is presently a meadow that is gradually revegetating.

The southerly watercourse is about 1180 l.f. long, is also wooded, and is forked near the Post Office building. This watercourse exhibits a gentler grade of about 2%-3% generally sloping west to east, a wider wetland corridor (120'-200' typical), and a more open appearance than the northerly watercourse due to the adjacent Town athletic fields. There is gravel eroding into adjoining offsite wetlands from a gravel parking lot that serves the athletic fields. That wetland eventually flows into the pocket wetland (southern branch of the southerly watercourse), near the gate to the athletic fields parking lot. Road sand and runoff from the Post Office parking lot is also being piped into the western branch of the southerly watercourse, and appears to be having a negative effect on that wetland. There is also an oily orange seepage, presumably from iron bacteria, coming from the fill of the commercial parking lot along Storrs Road in this area. A significant amount of trash, debris, road sand and fine sediment has been and continues to be deposited into the southerly watercourse in this area.

The western ends of both watercourses are being negatively affected by sediment, non-point source pollution, and trash from existing development in the area. None of the existing dumpsters are located in enclosures, and there are no fences at the rear of the parking lots, which allows trash to escape into surrounding areas. There do not appear to be any oil/grit separators or other stormwater best management practices being utilized to treat non-point source pollution from the surrounding developed areas.

Wildlife Evaluation and Botanical Survey

An assessment of wildlife and habitats within and affected by the Project Area, prepared by Dr. Michael Klemens, is included in this section of the MDP. A botanical survey of the Project Area prepared by Environmental Planning Services, Inc. is also included in this section of the MDP.

Storrs Center MDP
Biodiversity Surveys—Existing Conditions
Michael W. Klemens, LLC--December 1, 2004

INTRODUCTION

Biodiversity surveys were conducted in the spring and summer of 2004 at the Storrs Downtown (a.k.a.) Mansfield Partnership site in Storrs by Michael W. Klemens, LLC of Rye, NY. Herpetological studies were conducted by Michael W. Klemens, PhD assisted by Kevin J. Ryan, and ornithological studies by Nicholas A. Miller, MSc. These surveys were completed in order to determine the current composition and distribution of focal taxa species (amphibians, reptiles, and breeding birds) on the subject property.

METHODS (HERPETOLOGICAL)

To detect amphibians and reptiles requires using a variety of techniques over an extended time period. These techniques include auditory surveys (to detect calling frogs), egg mass counts and larval sampling to detect breeding amphibians, minnow trap emplacement in small wetlands to capture breeding amphibians, turning rocks, logs, and other cover objects to detect animals that are hiding, and visual searching on the forest floor, along trails and edges, for basking animals. Streams are searched intensively to detect salamanders that are captured by hand or with small nets or scoops.

Surveys were conducted on the site on: April 7, 8, May 19, and August 10, though some data were collected in conjunction with other activities on the site, such as site walks with state and federal agency representatives or with the Mansfield Partnership Board.

RESULTS (HERPETOLOGICAL)

The study has identified three major wetland resource zones on the property. The northern and southern stream corridors and their associated wetlands, and a large vernal pool. The southern stream corridor has a larger assemblage of wetlands and is more biologically intact as it does not receive much stormwater runoff, though its headwaters area is filled in the vicinity of the Post Office. The northern watercourse is heavily impacted by stormwater runoff from the existing development along Storrs Road. The vernal pool is an exceptional resource with high biological values.

Salamanders

Dusky Salamander (*Desmognathus fuscus*): This is an ecologically sensitive stream salamander that is undergoing a long-term non-cyclical decline in Connecticut due to impairment of its stream habitats. Its distribution on the site reflects the quality of the riparian habitats, with this species being dominant in the southern watercourse and very rare in the northern watercourse.

Two-lined Salamander (*Eurycea bislineata*): This is a species that is able to exploit compromised riparian habitats, and although it requires clean water, is better able to tolerate thermal alterations, flashiness, and scouring that occurs in streams that receive stormwater runoff from the built environment. It is the dominant species in the more impaired northern

watercourse, however, it is limited from the upper portions of that stream because of the seasonal deposition of large volumes of silt.

Redback Salamander (*Plethodon cinereus*): This is Connecticut's most common salamander and is totally terrestrial. It favors deciduous woods with a well-developed duff layer. It occurs on the site, but is not common in the extensive areas of pine plantation.

Frogs

Spring peeper (*Pseudacris crucifer*): Found throughout the site in moist woods, breeds in various wetlands on site. Common and secure in Connecticut.

Green frog (*Rana clamitans*): Found in both watercourses as well as the vernal pool. Common and secure in Connecticut.

Wood frog (*Rana sylvatica*): A large breeding population occurs in the "classic" vernal pool, with several hundred egg masses counted on April 7-8. A smaller satellite population occurs in a "cryptic" vernal pool (ca. 25 egg masses) located just downstream of the Post Office in the southern watercourse. The wood frog is a declining species in Connecticut and the presence of a large breeding population on the site is significant.

Snakes

Snakes are uncommon in forested habitats, congregating along edge areas where there is sufficient sunlight to bask. Single specimens of two common snakes were found during the survey, both at the perimeter of the woodlands, a garter snake (*Thamnophis sirtalis*) and a ringneck snake (*Diadophis punctatus*).

The herpetofauna is typical of upland sites in eastern Connecticut. The lack of permanent water and deeper wetlands precludes turtles from the site, and the lack of extensive open area precludes many snakes and terrestrial turtles. It is likely that several other species may occur on the site (gray tree frog, pickerel frog, brown snake, milk snake), but if they do the numbers are quite low or they are transient. The one species where special attention was paid to documenting its occurrence was the State-listed (Threatened) spring salamander (*Gyrinophilus porphyriticus*). There is a historical record (1900) from the Storrs Plateau area. Intensive stream salamander surveys of the site revealed no evidence of the presence of this species. Both stream watercourses lack sufficient seepage and are too warm to support this coldwater species.

METHODS (ORNITHOLOGICAL)

The following bulleted list presents protocols for bird surveys that are established in the scientific literature. These protocols were followed during bird surveys at the Storrs Downtown Alliance site in order to maximize bird detectability and the reliability of results. Details specific to this site are provided following the bulleted list.

- *Bird surveys should occur during the spring breeding season (mid-May through early July).*
- *Surveys should occur during the early morning hours.*
- *Surveys should occur under relatively fair weather conditions.*
- *Surveys should follow standardized point-count or transect techniques.*
- *Surveys should be conducted within all habitats on site (e.g., grasslands, forested uplands, forested wetlands), regardless of where proposed construction activities would take place.*
- *Multiple field visits to the same site—spaced throughout the breeding season—increases detectability.*

Three surveys (i.e., visits) were conducted throughout the breeding bird season on the following dates: May 24, June 9, and June 16. All birds seen and heard during these surveys were recorded (see species list). Each survey commenced by 5:00 am and continued until bird activity levels declined (i.e., in the late morning); all surveys were concluded by noon. Weather conditions on these visits ranged from adequate to optimal. The weather on Visit 1 was 58 degrees at survey start time, overcast, no wind, and a slight mist/drizzle on and off throughout the survey. The weather on Visit 2 was 60 degrees at survey start, intermittent light breezes, and mostly sunny. The weather on Visit 3 was 65 degrees at survey start, mostly sunny, and no wind.

Transect surveys were conducted at this site in order to maximize the number and extent of habitats covered during the surveys. The entire site was surveyed during each of the three visits, and all habitats were surveyed, including both stream corridors and associated forested wetlands, the vernal pool, the open canopy area near the parking lot, the upland deciduous and mixed forest that dominates the site, and the pine forest on the central ridgeline.

On the first visit, observations were made of some probable migrants (i.e., birds that are migrating through the area, rather than establishing territories and breeding here). Some species of conservation concern were also observed. To determine if birds in these two categories were actively holding territories on the site, song playback methods were used on Visits 2 and 3. Song playback (i.e., broadcasting recorded bird songs to elicit territorial behavior and counter-singing) can confirm the continued presence and likely breeding status of these birds.

RESULTS (ORNITHOLOGICAL)

Fifty bird species were detected during the three bird survey visits (see attached bird species list). None of these species have endangered, threatened, or special concern status at either federal or state levels. Two of the species (worm-eating warbler and wood thrush) are included on the Audubon Society's WatchList.

Mourning dove	<i>Zenaida macroura</i>	Brown creeper	<i>Certhia americana</i>
Cooper's hawk	<i>Accipiter cooperii</i>	White-breasted nuthatch	<i>Sitta carolinensis</i>
Great horned owl	<i>Bubo virginianus</i>	Tufted titmouse	<i>Baeolophus bicolor</i>
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Black-capped chickadee	<i>Poecile atricapillus</i>
Downy woodpecker	<i>Picoides pubescens</i>	Blue-gray gnatcatcher	<i>Poliptila caerulea</i>
Pileated woodpecker	<i>Dryocopus pileatus</i>	Wood thrush	<i>Hylocichla mustelina</i>
Red-bellied woodpecker	<i>Melanerpes carolinus</i>	Veery	<i>Catharus fuscescens</i>
Chimney swift	<i>Chaetura pelagica</i>	Swainson's thrush	<i>Catharus ustulatus</i>
Great crested flycatcher	<i>Myiarchus crinitus</i>	American robin	<i>Turdus migratorius</i>
Eastern phoebe	<i>Sayornis phoebe</i>	Eastern bluebird	<i>Sialia sialis</i>
Eastern wood-pewee	<i>Contopus virens</i>		
Blue jay	<i>Cyanocitta cristata</i>		
American crow	<i>Corvus brachyrhynchos</i>		
European starling	<i>Sturnus vulgaris</i>		
Common grackle	<i>Quiscalus quiscula</i>		
House finch	<i>Carpodacus mexicanus</i>		
American goldfinch	<i>Carduelis tristis</i>		
Chipping sparrow	<i>Spizella passerina</i>		
Song sparrow	<i>Melospiza melodia</i>		
Northern cardinal	<i>Cardinalis cardinalis</i>		
Rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>		
Scarlet tanager	<i>Piranga olivacea</i>		
Cedar waxwing	<i>Bombycilla cedrorum</i>		
Red-eyed vireo	<i>Vireo olivaceus</i>		
Blue-headed vireo	<i>Vireo solitarius</i>		
Black-and-white warbler	<i>Mniotilta varia</i>		
Worm-eating warbler	<i>Helmitheros vermivorum</i>		
Yellow warbler	<i>Dendroica petechia</i>		
Magnolia warbler	<i>Dendroica magnolia</i>		
Chestnut-sided warbler	<i>Dendroica pensylvanica</i>		
Blackpoll warbler	<i>Dendroica striata</i>		
Black-throated green warbler	<i>Dendroica virens</i>		
Ovenbird	<i>Seiurus aurocapilla</i>		
Common yellowthroat	<i>Geothlypis trichas</i>		
American redstart	<i>Setophaga ruticilla</i>		
House sparrow	<i>Passer domesticus</i>		
Northern mockingbird	<i>Mimus polyglottos</i>		
Gray catbird	<i>Dumetella carolinensis</i>		
Carolina wren	<i>Thryothorus ludovicianus</i>		
House wren	<i>Troglodytes aedon</i>		

**BOTANICAL SURVEY
STORRS CENTER PROJECT AREA**

ENVIRONMENTAL PLANNING SERVICES, INC.
OCTOBER, 2004

SURVEY METHODS AND LIMITATIONS

A botanical survey of the parcel east of Route 195 and south of Dog Lane, in Storrs, Connecticut was conducted by Environmental Planning Services biologist James Cowen on October 26, 2004. Field conditions were sunny and in the 60s degrees F. Since the vegetation was going dormant, assessment relied largely on persistent and woody vegetation.

VEGETATION

Three plant communities occur on the parcel: old field, mixed hardwood-coniferous forest, and wooded swamp. A detailed description of each vegetation type follows.

Old Field

In the eastern portion of the site is a patch of old field vegetation associated with an internal road. There are also many planted woody ornamental shrubs and conifers present.

In the early years after abandonment/disturbance, open land is characteristically vegetated with an extensive herb layer of grasses and forbes. On this site the herb layer consists predominantly of various grasses (*Poaceae spp.*), Rough-stemmed Goldenrod (*Solidago rugosa*), and Grass-leaved Goldenrod (*Euthamia graminifolia*). The open shrub layer is composed mostly of brambles (*Rubus spp.*) and several invasive non-native species: Multiflora Rose* (*Rosa multiflora*), Autumn Olive* (*Elaeagnus umbellata*), and Asiatic Bittersweet* (*Celastrus orbiculatus*). The latter forms dense thickets. The scattered tree and sapling layer includes Gray Birch (*Betula populifolia*) and Black Cherry (*Prunus serotina*).

Mixed Hardwood-Coniferous Forest

The majority of the site is forested. This is the most plentiful and characteristic type of vegetation in Connecticut. Our forests are included in the Central Hardwoods-Hemlock zone in a classification of New England forests. Since most of Connecticut has been cleared in the past, forests are called second growth and usually consist of relatively young trees with a diameter at breast height (dbh) of less than one foot.

The tree and sapling layers consist predominantly of: oak (*Quercus spp.*), White Pine (*Pinus strobus*), Red Pine (*Pinus resinosa*), Sugar Maple (*Acer saccharinum*), Black Birch (*Betula lenta*), hickory (*Carya spp.*), American Beech (*Fagus grandifolia*), Red Maple (*Acer rubrum*), and White Ash (*Fraxinus americana*). White Pine is scattered

throughout the forest and forms a dense stand on the east central knoll. The relatively open shrub layer consists largely of locally dense thickets of Japanese Barberry* (*Berberis thunbergii*), Highbush Blueberry (*Vaccinium corymbosum*), Spicebush (*Lindera benzoin*), Winged Burning Bush* (*Euonymus alatus*), Arrowwood (*Viburnum dentatum*), privet* (*Ligustrum sp.*) and Multiflora Rose* (*Rosa multiflora*). The sporadic vine layer includes Poison Ivy (*Toxicodendron radicans*), and Asiatic Bittersweet* (*Celastrus orbiculatus*). The open herb layer is mostly patches of Hay-scented Fern (*Dennstaedtia punctiloba*), sedges (*Carex spp.*), New York Fern (*Thelypteris noveboracensis*), Tree Clubmoss (*Lycopodium obscurum*), Cinnamon Fern (*Osmunda cinnamomea*), and Bristly Dewberry (*Rubus hispidus*).

Wooded Swamp

Wooded swamps are the most abundant wetland type in Connecticut and have a vegetational community which is characterized by a forest canopy at least 20 feet (6 m) tall. The wetlands on this site are all wooded and consist of two easterly-flowing stream systems and a vernal pool.

The tree layer consists mostly of Red Maple (*Acer rubrum*) with American Elm (*Ulmus americana*), Yellow Birch (*Betula allegheniensis*), Green Ash (*Fraxinus pensylvanica*), and American Beech. The moderately dense shrub layer is largely Spicebush (*Lindera benzoin*), Highbush Blueberry (*Vaccinium corymbosum*), Winterberry (*Ilex verticillata*), Sweet Pepperbush (*Clethra alnifolia*), Nannyberry (*Viburnum lentago*), Multiflora Rose*, and Japanese Barberry*. The herb layer consists predominantly of Skunk Cabbage (*Symplocarpus foetidus*), Cinnamon Fern (*Osmunda cinnamomea*), Sensitive Fern (*Onoclea sensibilis*), Bristly Dewberry, and sedges. The minimal vine layer consists of Fox Grape (*Vitis labrusca*) and Poison Ivy. Common Reed** (*Phragmites australis*) grows along the disturbed edge adjacent to the Post Office.

The vernal pool has a tree layer of Red Maple with a shrub layer of mostly Sweet Pepperbush along the edges and Spicebush, Winterberry, and Japanese Barberry*. The open herb layer includes Cinnamon Fern and Tussock Sedge (*Carex stricta*).

Specimen Trees

A large White Pine, 2' dbh, occurs approximately 20' upslope from the wetland edge between wetland flags WL 77 & 78.

A mature Japanese Chestnut tree (*Castanea crenata*.) with numerous burs beneath is located east of the internal road.

*=invasive non-native species. Invasive non-native species are derived from CT Invasive Plant List (produced by the Connecticut Invasive Plants Council) Connecticut Public Act No. 03-136

** Common Reed on the site was confirmed to be an introduced invasive genotype using the observed "morphological differences between native and introduced genotypes" as described at the Cornell University website

(<http://www.invasiveplants.net/phragmites/morphology.asp>)