

Changing Flora of the Stockton College Campus 1970-2012

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PINELANDS RESEARCH SERIES

14 August 2012

CMT-ILL-71















Richard Stockton College Exotic Species Sites 1971 Map

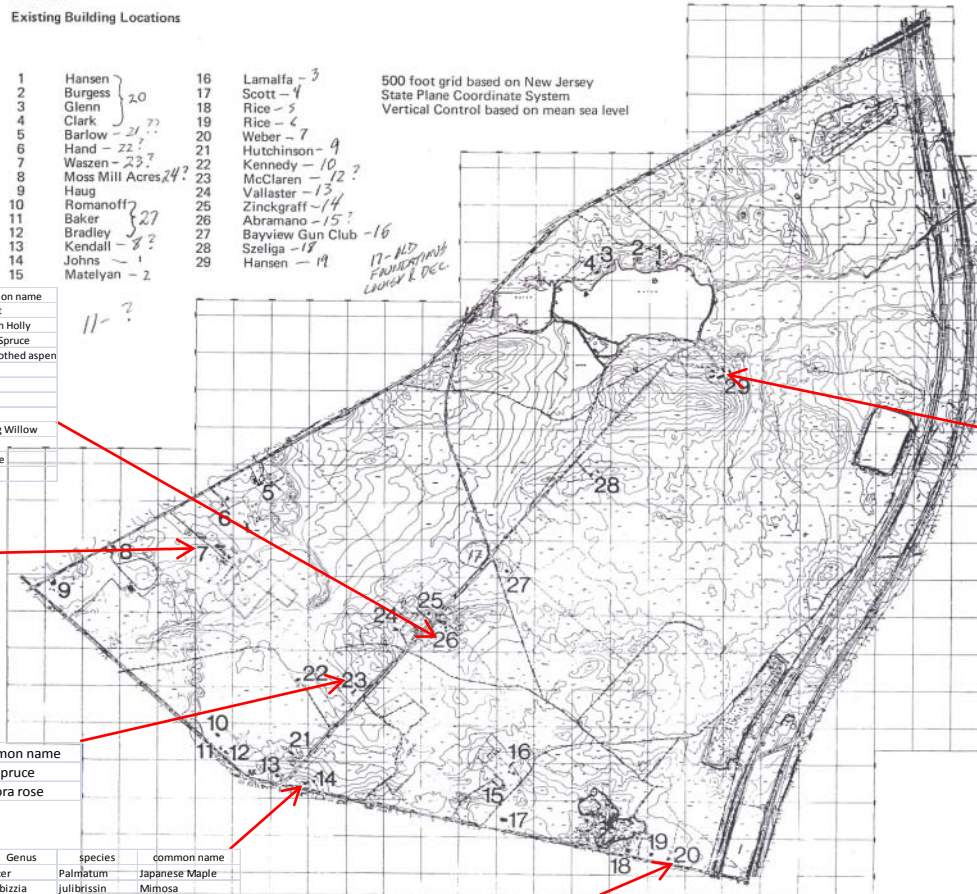
Plate 2.5b

Existing Building Locations

- | | | | |
|----|------------------------|----|-----------------------|
| 1 | Hansen | 16 | Lamalfa - 3 |
| 2 | Burgess | 17 | Scott - 4 |
| 3 | Glenn | 18 | Rice - 5 |
| 4 | Clark | 19 | Rice - 6 |
| 5 | Barlow - 21 ? | 20 | Weber - 7 |
| 6 | Hand - 22 ? | 21 | Hutchinson - 9 |
| 7 | Waszen - 23 ? | 22 | Kennedy - 10 |
| 8 | Moss Mill Acres - 24 ? | 23 | McClaren - 12 ? |
| 9 | Haug | 24 | Vallaster - 13 |
| 10 | Romanoff | 25 | Zinckgraff - 14 |
| 11 | Baker | 26 | Abramano - 15 ? |
| 12 | Bradley | 27 | Bayview Gun Club - 16 |
| 13 | Kendall - 8 ? | 28 | Szeliga - 18 |
| 14 | Johns - 1 | 29 | Hansen - 19 |
| 15 | Matelyan - 2 | | |

500 foot grid based on New Jersey State Plane Coordinate System
Vertical Control based on mean sea level

17 - OLD FOUNDATIONS LAYERS & DEC.



Genus	species	common name
Castanea	spp	Chestnut
Ilex	opaca	American Holly
Picea	abies	Norway Spruce
Populus	grandidentata	Large-toothed aspen
Prunus	persica	Peach
Pyrus	communis	Pear
Pyrus	malus	Apple
Rosa	spp	Rose
salix	babylonica	Weeping Willow
Syringia	vulgaris	Lilac
Vitis	labrusca	Fox grape
Wisteria	spp	Wisteria

Genus	species	common name
Catalpa	bignonioides	Common Catalpa
Celtis	occidentalis	Common Hackberry
Ilex	opaca	American Holly
Juglans	nigra	Black Walnut
Prunus	spp	Cherry
Pyrus	communis	Pear
Pyrus	malus	Apple

Genus	species	common name
Acer	saccharinum	Silver Maple
Castanea	spp	Chestnut
Rosa	spp	Rose
Syringia	vulgaris	Lilac

Genus	species	common name
Picea	glauca	White Spruce
Rosa	multiflora	multiflora rose

Genus	species	common name
Acer	Palmatum	Japanese Maple
Albizia	julibrissin	Mimosa
Catalpa	bignonioides	Common Catalpa
Cornus	florida	Flowering Dogwood
Populus	grandidentata	Large-toothed aspen
Taxus	spp	Yew

Genus	species	common name
Berberis	thunbergii	Japanese Barberry
Cornus	florida	Flowering Dogwood
Hibiscus	syriacus	Rose-of-Sharon
Morus	alba	White Mulberry
Picea	glauca	White Spruce



Jack McCormick recommended very specific efforts to preserve and restore the native Pine Barrens flora on the site of the Stockton State College Campus

Strict use of native plants

- Stockpiling shrub turf
- *Carex pennsylvanica* “lawns”

Restoration of agricultural and residential sites



McCormick's advice has been largely ignored







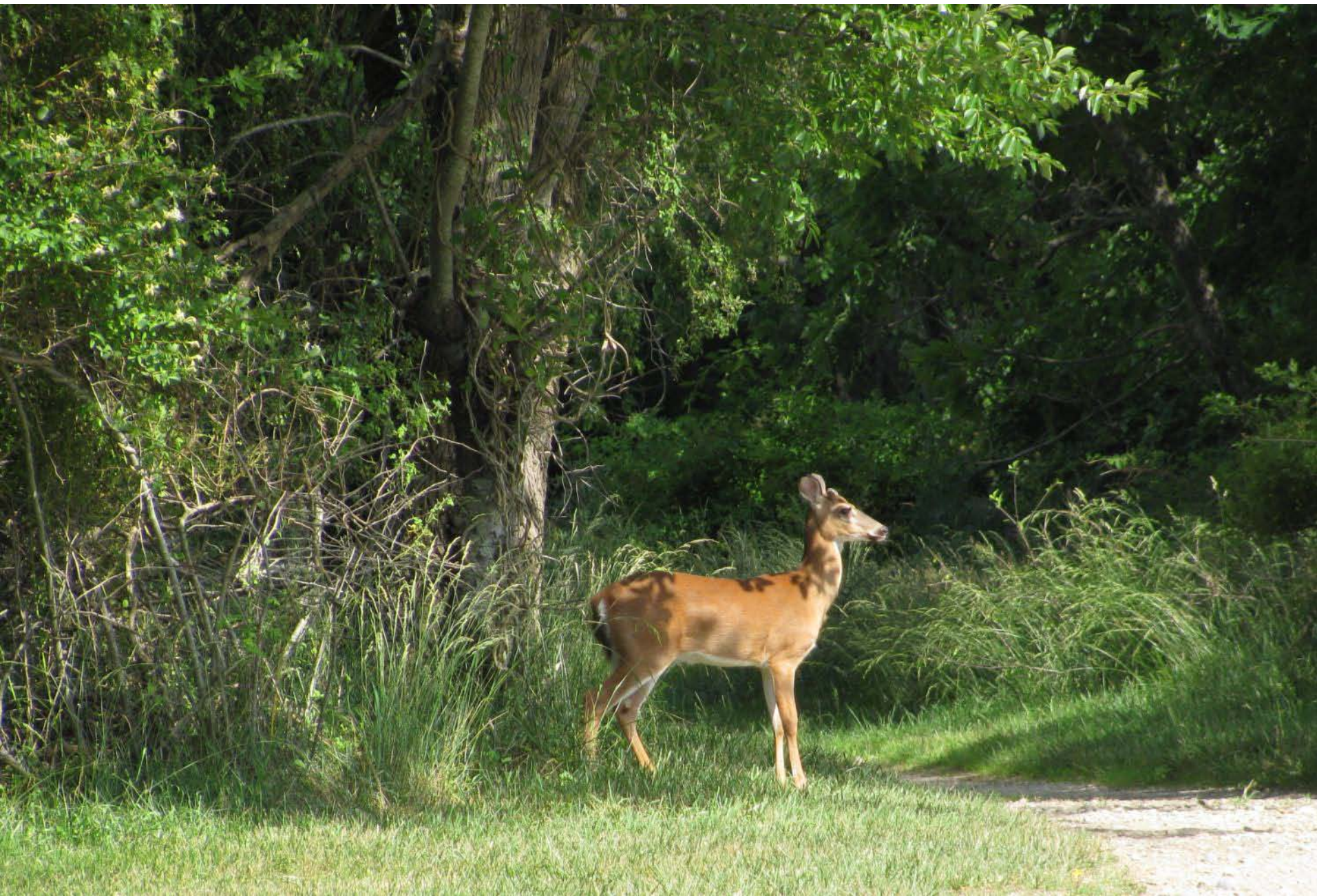














Rosa multiflora a
common invasive



*Berberis
thunbergii*



*Lonicera
japonica*



Studies to date have mapped the distribution of selected invasives in some previously disturbed sites – lakeshore, borrow pits, old fields, pig farms.

My general impression from over twenty years of sampling the tree and shrub stratum in native forest and cleared sites that were forested in 1970, is that there has been little or no invasion by non-natives.



A student experienced in invasive species detection and mapping walked most of the trails on campus and failed to detect invasives entering the native woodlands.





0 25 50 100 Meters

Legend

- Invasives fall 10
- * Berberis
- ☆ Elaeagnus
- △ Lonicera
- ⬠ Rosa_multiflora
- Undetermed
- Phragmites fall10
- Phragmites
- Phragmites fall 10
- stockton soils



Legend

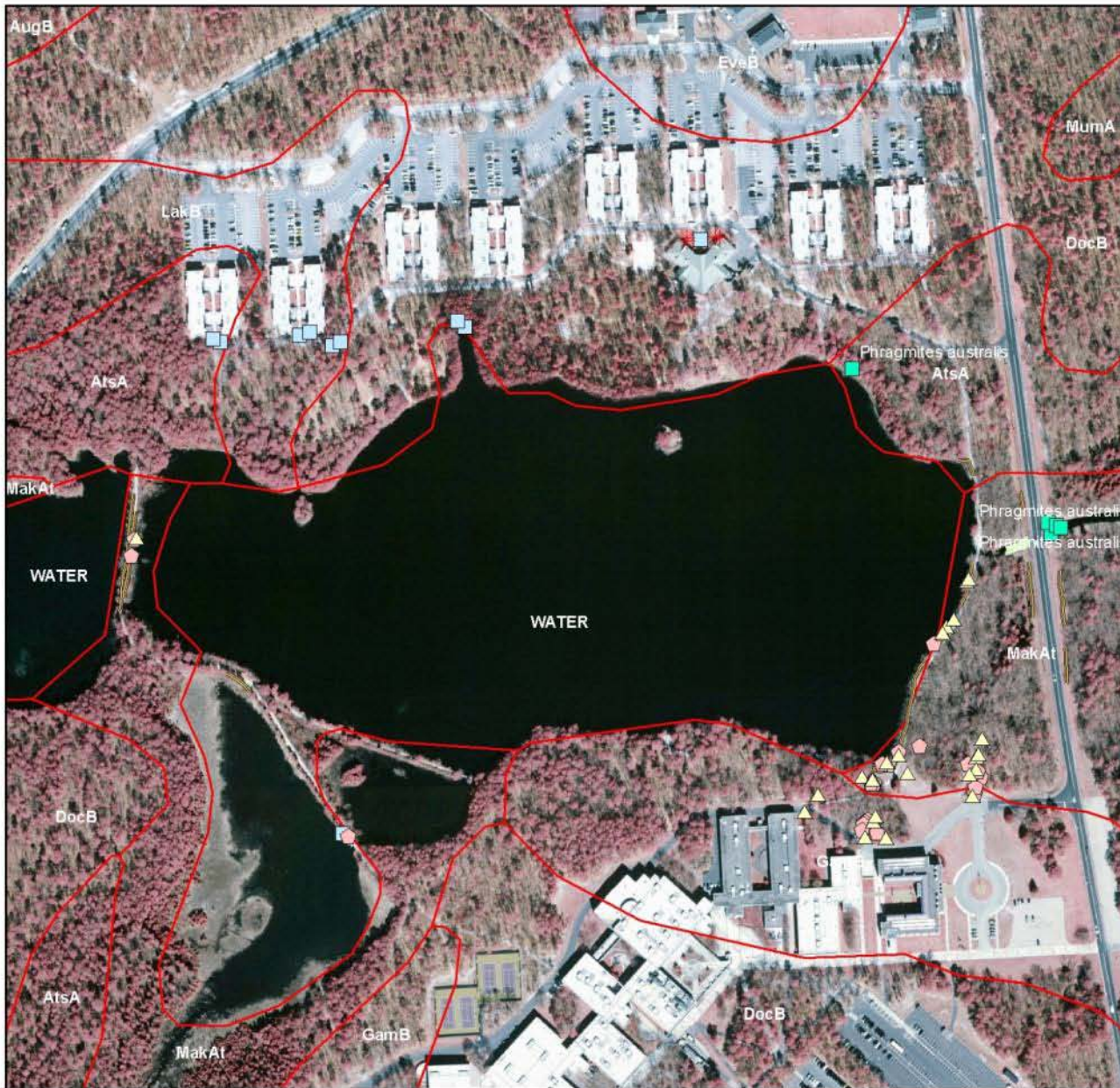
- Invasives fall 10
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0 45 90 180 Meters



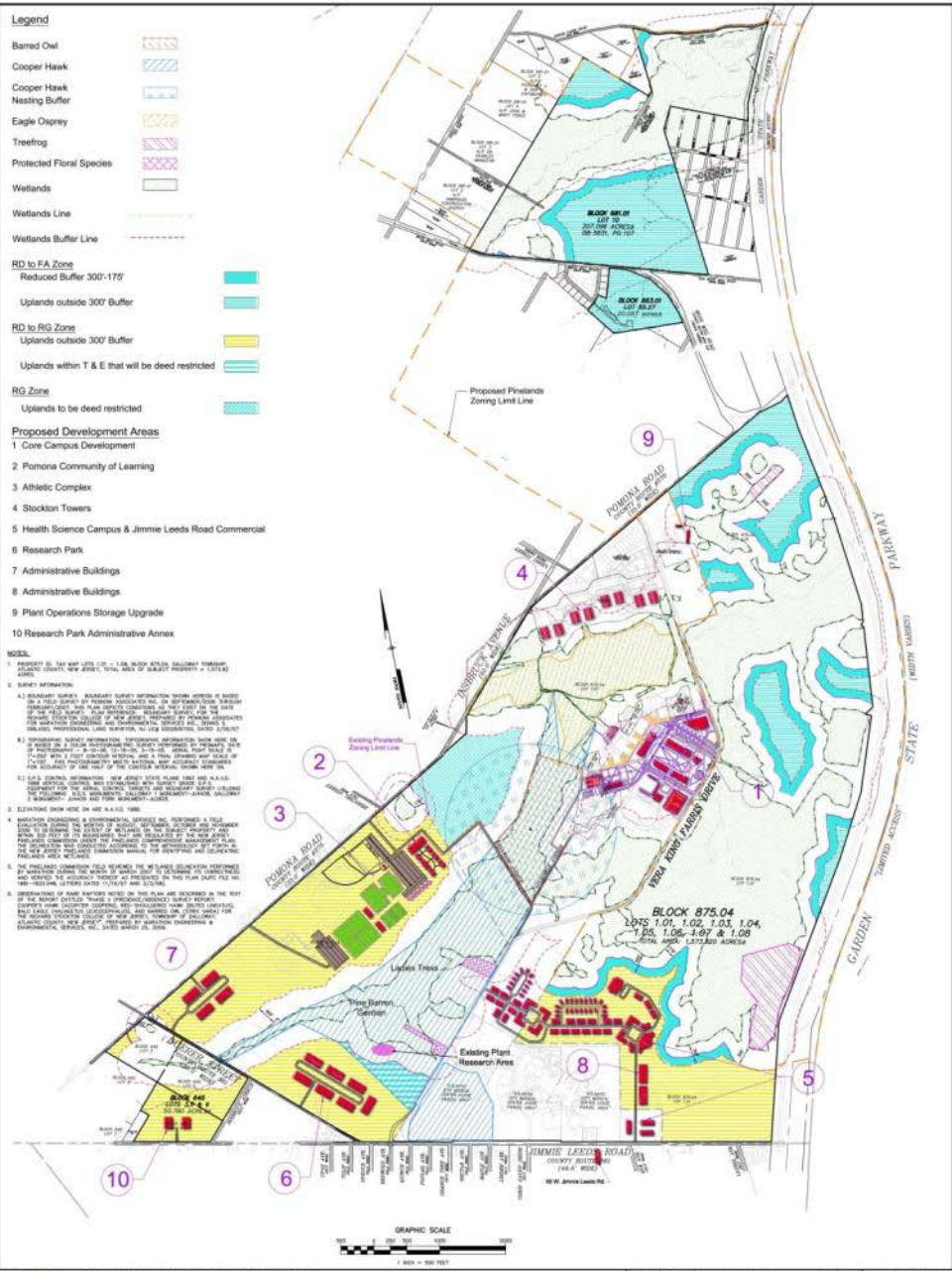




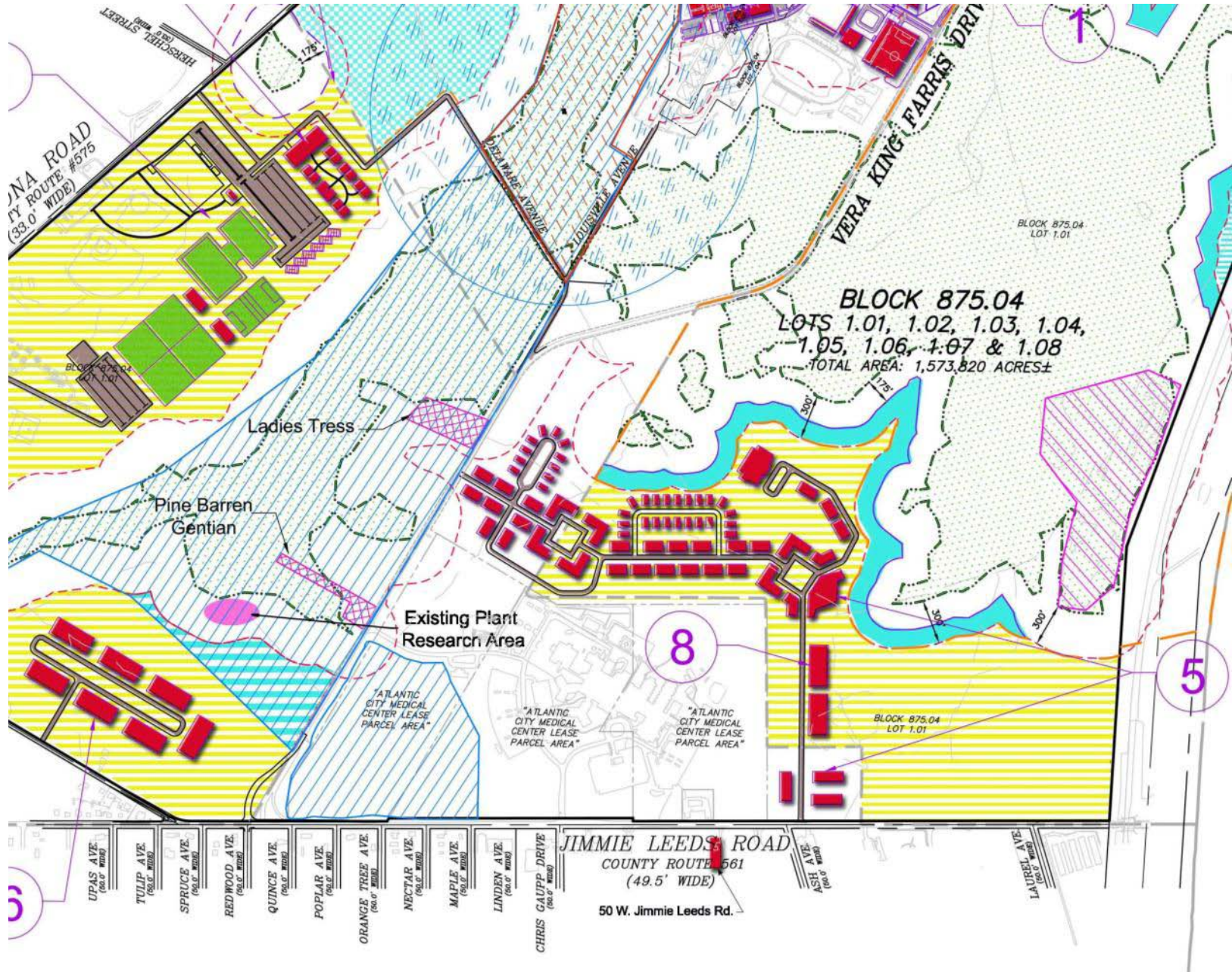








- Legend**
- Barned Owl
 - Cooper Hawk
 - Cooper Hawk Nesting Buffer
 - Eagle Osprey
 - Treefrog
 - Protected Floral Species
 - Wetlands
 - Wetlands Line
 - Wetlands Buffer Line
 - RD to FA Zone
 - Reduced Buffer 300'-175'
 - Uplands outside 300' Buffer
 - RD to RG Zone
 - Uplands outside 300' Buffer
 - Uplands within T & E that will be deed restricted
 - RG Zone
 - Uplands to be deed restricted
- Proposed Development Areas**
- 1 Core Campus Development
 - 2 Pomona Community of Learning
 - 3 Athletic Complex
 - 4 Stockton Towers
 - 5 Health Science Campus & Jimmie Leeds Road Commercial
 - 6 Research Park
 - 7 Administrative Buildings
 - 8 Administrative Buildings
 - 9 Plant Operations Storage Upgrade
 - 10 Research Park Administrative Annex
- NOTES:**
1. PROPERTY ID: FOR NEW LOTS 1.01 - 1.08, BLOCK 875.04, CALLED THE "RESEARCH PARK" TRACT, NEW JERSEY TAX MAP ID: 000001 - 000001 - 000001.
 2. SURVEY INFORMATION:
 - A) SURVEYOR'S REPORT: SURVEYOR'S REPORT DATED 08/26/10, BY JAMES M. HANCOCK, INC., 1000 ROUTE 100, SUITE 100, LEBANON, NJ 07036. THE SURVEY SHOWS THE BOUNDARIES OF THE TRACT AND THE PROPOSED LOTS. THE SURVEY ALSO SHOWS THE BOUNDARIES OF THE PINELANDS AND THE WETLANDS. THE SURVEY ALSO SHOWS THE BOUNDARIES OF THE UPLANDS AND THE BUFFER ZONES. THE SURVEY ALSO SHOWS THE BOUNDARIES OF THE PROPOSED DEVELOPMENT AREAS.
 - B) ZONING INFORMATION: THE TRACT IS ZONED R-100. THE PROPOSED DEVELOPMENT AREAS ARE ZONED R-100. THE PROPOSED DEVELOPMENT AREAS ARE ZONED R-100.
 - C) LOCAL ORDINANCES: THE TRACT IS SUBJECT TO THE LOCAL ORDINANCES OF THE COUNTY OF BERGEN, NEW JERSEY. THE TRACT IS SUBJECT TO THE LOCAL ORDINANCES OF THE COUNTY OF BERGEN, NEW JERSEY.
 3. ELEVATION DATA: SEE SHEET 02 OF 02.
 4. UTILITIES: THE TRACT IS SUBJECT TO THE UTILITIES OF THE COUNTY OF BERGEN, NEW JERSEY. THE TRACT IS SUBJECT TO THE UTILITIES OF THE COUNTY OF BERGEN, NEW JERSEY.
 5. THE PROPOSED DEVELOPMENT AREAS ARE SUBJECT TO THE LOCAL ORDINANCES OF THE COUNTY OF BERGEN, NEW JERSEY. THE PROPOSED DEVELOPMENT AREAS ARE SUBJECT TO THE LOCAL ORDINANCES OF THE COUNTY OF BERGEN, NEW JERSEY.
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VERA KING FARRIS DRIVE
 COUNTY ROUTE #575
 (33.0' WIDE)

VERA KING FARRIS DRIVE

BLOCK 875.04
 LOTS 1.01, 1.02, 1.03, 1.04,
 1.05, 1.06, 1.07 & 1.08
 TOTAL AREA: 1,573,820 ACRES±

Ladies Tress

Pine Barren
 Gentian

Existing Plant
 Research Area

"ATLANTIC
 CITY MEDICAL
 CENTER LEASE
 PARCEL AREA"

"ATLANTIC
 CITY MEDICAL
 CENTER LEASE
 PARCEL AREA"

8

"ATLANTIC
 CITY MEDICAL
 CENTER LEASE
 PARCEL AREA"

BLOCK 875.04
 LOT 1.01

5

UPAS AVE.
 (60.0' WIDE)

TULIP AVE.
 (60.0' WIDE)

SPRUCE AVE.
 (60.0' WIDE)

REDWOOD AVE.
 (60.0' WIDE)

QUINCE AVE.
 (60.0' WIDE)

POPLAR AVE.
 (60.0' WIDE)

ORANGE TREE AVE.
 (60.0' WIDE)

NECTAR AVE.
 (60.0' WIDE)

MAPLE AVE.
 (60.0' WIDE)

LINDEN AVE.
 (60.0' WIDE)

CHRIS GAUPP DRIVE
 (60.0' WIDE)

JIMMIE LEEDS ROAD
 COUNTY ROUTE #561
 (49.5' WIDE)

50 W. Jimmie Leeds Rd.

ASH AVE.
 (60.0' WIDE)

LAUBEL AVE.
 (60.0' WIDE)

3



	McCormick and Marathon	McCormick, not Marathon	Marathon, not McCormick	Neither McCormick nor Marathon	TOTAL
Invasive	6	0	11	1	18
Natives disappeared?	0	5	0	0	5
Non-natives disappeared?	0	39	0	0	39
Overlooked	0	30	11	15	56
Taxonomic issues	0	28	39	14	81
Undetermined	104	67	109	23	303
TOTAL	110	169	170	53	502

Total plant species in Pine Barrens over 1500, depending on what you count

Name from Juleg	common name
Aralia nudicaulis L. ^	Wild sarsaparilla
Calopogon tuberosus (L.) B.S.P. var. tuberosus `	Grass pink
Euphorbia ipecacuanhae L.	Wild ipecac
Pogonia ophioglossoides (L.) Ker-Gawl. `	Rose pogonia
Rosa carolina L.	Pasture Rose

Ceanothus americanus L.

New Jersey Tea

Acer platanoides L. ><

Norway Maple

Ailanthus altissima (P. Mill.) Swingle

Tree-Of-Heaven

Lonicera japonica Thunb. ><

Japanese Honeysuckle

Berberis thunbergii DC.

Japanese Barberry

Phragmites australis (Cav.) Trin. ex Steud.

Common Reed

Rosa multiflora Thunb., not in Juleg

multiflora rose

Wisteria floribunda (Willd.) DC., Japanese W. sinensis Wisteria

Wisteria sinensis (Sims) DC.

Chinese wisteria

Datura stramonium L. ><	Jimsonweed
Dennstaedtia punctilobula (Michx.) T. Moore)(Hayscented Fern
Elaeagnus umbellata Thunb. >< (1)	Autumn Olive
Eragrostis curvula (Schrad.) Nees	Weeping Lovegrass
Eragrostis spectabilis (Pursh) Steud.	Purple Lovegrass
Hedera helix, not in Juleg	English Ivy
Microstegium vimineum (Trin.) A. Camus >< 	Japanese stiltgrass
Miscanthus sinensis Andersson not in Juleg	Chinese Silvergrass
Phalaris arundinacea L.	Reed Canary Grass
Secale cereale, not in Juleg	Cereal Rye
Securigera varia (L.) Lassen not in Juleg	Purple Crownvetch

<i>Acer palmatum</i> Thunb. ><	Japanese Maple	<i>Picea</i> sp., not in Juleg	Spruce
<i>Alcea rosea</i> L. not listed in Juleg	Hollyhock	<i>Pinus resinosa</i> , not in Juleg	Red Pine
<i>Barbarea vulgaris</i> Ait. f. ><	Common wintercress	<i>Pinus sylvestris</i> , not in Juleg	Scots Pine
<i>Convallaria majalis</i> L. not listed in Juleg	Lilly of the Valley	<i>Populus alba</i> L. not in Juleg	White Poplar
<i>Euphorbia cyparissias</i> L. - cypress spurge, noy in Juleg	Cypress spurge	<i>Prunus persica</i> (L.) Batsch ><	Peach
<i>Forsythia</i> sp., not in Juleg	Forsythia	<i>Pyrus communis</i> , not in Juleg	Pear
<i>Gaillardia pulchella</i> Foug. Not in Juleg	Blanket flower	<i>Pyrus malus</i> , not in Juleg	Apple
<i>Hemerocallis fulva</i> (L.) L. ><	Day Lily	<i>Rhododendron</i> spp	Azalea
<i>Hibiscus syriacus</i> , not in Juleg	Rose-of-Sharon	<i>Rhododendron</i> spp	Rhododendron
<i>Hydrangea</i> sp. H. <i>arborescens</i> L. in Juleg	Hydrangea	<i>Rubus occidentalis</i> L.	Black Raspberry
<i>Juniperus communis</i> L.	Common Juniper	<i>Rubus</i> sp. 10 spp. In Juleg	Blackberry
<i>Larix leptolepis</i> , not in Juleg	Japanese larch	<i>Sedum</i> sp. Not in Juleg	Stonecrop
<i>Ligustrum vulgare</i> L. ><?	Privet	<i>Solanum nigrum</i> L.	Black nightshade
<i>Lilium lancifolium</i> Thunb.	Tiger-lily	<i>Syringa vulgaris</i> L. ><	Lilac
<i>Lolium perenne</i> L.	Italian rye-grass	<i>Taxus</i> sp. Not in Juleg	Yew
<i>Lycopersicon esculentum</i> , not in Juleg	Tomato	<i>Thuja occidentalis</i> not in Juleg	Arbor vitae
<i>Medicago lupulina</i> L. ><	Black medick	<i>Tsuga</i> sp.	Hemlock
<i>Mentha</i> sp. M. <i>spicata</i> ??	Mint	<i>Ulmus</i> sp.	Elm
<i>Asparagus officinale</i>	Asparagus	<i>Vinca minor</i> L. not in Juleg	Periwinkle
<i>Picea glauca</i> , not in Juleg	White Spruce		

Future Studies

- Resampling vegetation and flora
- Soil properties – pH, organic matter, etc.
- Impact on birds and insects
- Effects of removal or destroying plants
- Long term, adaptation of local wildlife
- Competition in new disturbed areas, eg. forest management
- McCormick archives?

