

18 July 2005

Wetland Solutions –
Klatt Environmental LLC
10868 Cartier
Brighton, MI 48114

Friends of Novi Parks
Andrew Mutch, President
LuAnne Kozma, Vice President
23837 West Lebost
Novi, MI 48375

Dear Ms. Kozma and Mr. Mutch:

Wetland Solutions – Klatt Environmental LLC (Klatt Environmental) is pleased to submit this report regarding plant inventory consulting services provided to the Friends of Novi Parks in support of a grant application to the Michigan Natural Resources Trust Fund. The enclosed report describes the project in general, as well as the services provided by Klatt Environmental and the results of the plant inventory (including the calculated Floristic Quality Index) conducted on the property as part of those services.

Thank you again for the opportunity to provide consulting services to the Friends of Novi Parks. If you have any questions concerning this report, or if we can be of any further service, please feel free to contact me, as indicated below.

Sincerely,



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Enc.

**FLORISTIC QUALITY ASSESSMENT
FOR
MEADOWBROOK ROAD –
EAST AND WEST TRACTS**

Prepared For

Friends of Novi Parks
23837 West Lebest
Novi, MI 48375

Prepared by

Wetland Solutions –
Klatt Environmental LLC
10868 Cartier
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JULY 18, 2005

Introduction and Background.

The Friends of Novi Parks (the Friends) are endeavoring to purchase, by means of a grant from the Michigan Natural Resources Trust Fund, two tracts of land for eventual incorporation into the City of Novi parks system. The two tracts total 50 acres and consist of a 36-acre parcel owned by Mirage Development and 14-acre parcel owned by Mr. Roskelly. The Mirage and Roskelly properties are located, respectively, on the west and east sides of Meadowbrook Road, between Nine and Ten Mile Roads, in the City of Novi, Michigan. The properties have been referred to by various names, but in accordance with the Friends of Novi Parks they are herein referred to as the West and East Tracts. In the grant application, and consequently herein, the tracts will be treated as a single area due to the proximity of the tracts, which are separated only by Meadowbrook Road.

Background documentation concerning the tracts was supplied to Klatt Environmental by the Friends in the form of the following documents:

- Review letter from Tilton and Associates for Orchard Hills West property (a.k.a. Mirage property; West Tract)
- Review letter from Vilican-Lemen for Villagewood Lake property (a.k.a. Roskelly property; East Tract)
- Plant inventory letter from Vilican-Lemen for Orchard Hills West property (a.k.a. West Tract)
- Sections of PA 116 grant application for Orchard Hills West property (1995) – reviews by Lemke and Tappati

The documents indicated that the tracts, especially the West Tract, contain high quality natural features including diverse plant communities containing a variety of habitats, as well as a creek which retains its natural meanders. To supplement the information in the existing documentation, the Friends contracted with Wetland Solutions - Klatt Environmental LLC (Klatt Environmental) to obtain a professional opinion as to ecological quality of the sites based on a Floristic Quality Assessment (FQA) for the combined tracts. This opinion may be used by the Friends in support of the grant application to the Michigan Natural Resources Trust Fund.

Methods

A FQA is a standardized and well-accepted approach for obtaining an objective measure as to the ecological quality of a site, based on the vegetation present on the property. The basic FQA approach, which is described in detail in Herman, *et al.* (2001), is to conduct a reconnaissance of the area of interest in order to compile a complete list of the plant species present. For each plant species native to Michigan a “coefficient of conservatism”, ranging from 0 – 10 has been assigned. This coefficient of conservatism represents “an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a presettlement

condition.” In other words, plants with a low numerical rating can be found in a wide range of habitats, while those with a high number are “almost always restricted to a presettlement remnant, *i.e.* a high quality natural area”. From the list of plant species for a site, and their respective coefficients of conservatism, an index, referred to as the Floristic Quality Index (FQI) can be calculated for the site.

The background documents contained various lists of plant species for the tracts. However, to supplement these data, Dr. Brian Klatt conducted a reconnaissance of the properties on 16 July 2005. During the reconnaissance, a list of all plant species observed and identified with a high degree of confidence was compiled. The plant information contained in the Vilican-Leman and PA 116 grant application documents are considered reliable and were combined with the data from Dr. Klatt’s reconnaissance to create a “master list” of the plant species for the tracts. This master list was then used to calculate an FQI for the tracts following the procedures of Herman *et al.* (2001).

FINDINGS/OPINION

The background documents reported a total of 70 plant species from the sites, of which 55 species are native to Michigan. During his reconnaissance, Dr. Klatt found more than 130 species present on the tracts, 89 species (59 native species) of which were not previously reported for the tracts raising the total number of species reported to 159 plant species, of which 114 are native to Michigan. Based on the data, a FQI of 38.4 was calculated for the tracts. Table 1 presents the master list of plants compiled for the tracts, as well as presenting the summary FQA information.

The Michigan Department of Natural Resources (Herman, *et al.*, 2001) provides the following guidance with respect to FQIs: “Most of the remaining undeveloped land registers floristic quality indices (FQI) of less than 20 and has minimal significance from a natural quality perspective. Areas with a FQI higher than 35 possess sufficient conservatism and richness that they are floristically important from a statewide perspective”. By this standard, the floristic quality of the East and West Tracts is very high. Indeed, based on the MDNR guidance, the area taken as a whole is floristically significant on a state-wide basis.

I would also point out that FQIs, being based strictly on the plant list for a site, are sensitive to the time of year they are conducted and the number of times a site is visited. Thus, the FQI of 38.4, presented above, should probably be viewed as conservative, as some plants observed at the time of the reconnaissance were not in an identifiable state (some species of *Carex*, *Ranunculus*, and *Viola* were past peak blooming and did not retain sufficient characteristics for unequivocal identification; similarly most asters do not bloom until fall and even though some could be identified at the time of the reconnaissance, others are likely to be identifiable later in the year).

In addition to the FQI, I would like to offer a few observations that also speak to the floristic quality and wildlife habitat values of these tracts. First of all, on the East Tract a number of deer

beds were found that exhibited evidence (freshly crushed plants) of having been used the previous night. Additionally, I was particularly impressed by the lack of invasive species and the maturity of the trees in the West Tract. Shrubs such as honeysuckle (*Lonicera* spp.) and European buckthorn (*Rhamnus cathartica*) are frequently severe problems in urban woodlots. These species establish aggressively and have significant negative impacts on the native flora. While both honeysuckle and buckthorn do occur on the West Tract, they are limited primarily to the edges of the woods and have not severely impacted the native flora in the majority of the area.

Thus, in summary, it is my opinion that the East and West Tracts represent very significant natural resources based on objective measures. The significance of these resources is even greater when viewed in the landscape setting of these tracts, i.e. that they are located in very urbanized settings. I would heartily support the grant application of the Friends of Novi Parks for obtaining these properties and putting them into protection on a perpetual basis.

Literature Cited

Herman, K. D., L. A. Masters, M. R. Penskar, A. A. Reznicek, G. S. Wilhelm, and W. W. Brodowicz. 2001. Floristic quality assessment with wetland categories and computer application programs for the State of Michigan, Revised, 2nd Edition. Michigan Department of Natural Resources, Wildlife Division, Natural Heritage Program. Lansing, MI. 21 pp. + Appendices.

Sincerely,



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Table 1. Plant Species and Floristic Quality Index for Meadowbrook Road East and West Tracts.

(Nat/Adv – Native or Adventive species; C – Coefficient of Conservatism; Wet Coeff – Wetland Coefficient; W. I. – Wetland Indicator Status)

Scientific Name	Common Name	Nat/ Adv	C	Physiogy- nomy
<i>Acer negundo</i>	BOX ELDER	N	0	N Tree
<i>ACER PLATANOIDES</i>	NORWAY MAPLE	A	*	A Tree
<i>Acer rubrum</i>	RED MAPLE	N	1	N Tree
<i>Acer saccharinum</i>	SILVER MAPLE	N	2	N Tree
<i>Acer saccharum</i>	SUGAR MAPLE; HARD MAPLE	N	5	N Tree
<i>Achillea millefolium</i>	YARROW	N	1	N Forb
<i>Actaea pachypoda</i>	WHITE BANEERRY; DOLL'S- EYES	N	7	N Forb
<i>AGROSTIS GIGANTEA</i>	REDTOP	A	*	A Grass
<i>Agrimonia gryposepala</i>	TALL AGRIMONY	N	2	N Forb
<i>Alisma plantago-aquatica</i>	WATER-PLANTAIN	N	1	N Forb
<i>Ambrosia artemisiifolia</i>	COMMON RAGWEED	N	0	N Forb
<i>Apocynum cannabinum</i>	INDIAN HEMP; HEMP DOGBANE	N	3	N Forb
<i>Aralia nudicaulis</i>	WILD SARSAPARILLA	N	5	N Forb
<i>ARCTIUM MINUS</i>	COMMON BURDOCK	A	*	A Forb
<i>Arisaema triphyllum</i>	JACK-IN-THE-PULPIT; INDIAN- TURNIP	N	5	N Forb
<i>Asarum canadense</i>	WILD-GINGER	N	5	N Forb
<i>Asclepias incarnata</i>	SWAMP MILKWEED	N	6	N Forb
<i>Asclepias syriaca</i>	COMMON MILKWEED	N	1	N Forb
<i>ASPARAGUS OFFICINALIS</i>	ASPARAGUS	A	*	A Forb
<i>Aster lateriflorus</i>	SIDE-FLOWERING ASTER	N	2	N Forb
<i>Aster puniceus</i>	SWAMP ASTER	N	5	N Forb
<i>BARBAREA VULGARIS</i>	YELLOW ROCKET	A	*	A Forb
<i>BRASSICA JUNCEA</i>	INDIAN, CHINESE or BROWN MUSTARD	A	*	A Forb
<i>BROMUS INERMIS</i>	HUNGARIAN BROME; SMOOTH BROME	A	*	A Grass
<i>Caltha palustris</i>	MARSH-MARIGOLD; COWSLIP	N	6	N Forb
<i>Calystegia sepium</i>	HEDGE BINDWEED	N	2	N Forb
<i>Carya cordiformis</i>	BITTERNUT HICKORY	N	5	N Tree
<i>Carya ovata</i>	SHELLBARK or SHAGBARK HICKORY	N	5	N Tree
<i>Caulophyllum thalictroides</i>	BLUE COHOSH	N	5	N Forb
<i>CENTAUREA MACULOSA</i>	SPOTTED Knapweed	A	*	A Forb
<i>Chelone glabra</i>	TURTLEHEAD	N	7	N Forb
<i>CHENOPODIUM ALBUM</i>	LAMB'S QUARTERS; "PIGWEEED"	A	*	A Forb
<i>CHRYSANTHEMUM LEUCANTHEMUM</i>	OX-EYE DAISY	A	*	A Forb
<i>CICHORIUM INTYBUS</i>	CHICORY	A	*	A Forb
<i>CIRSIUM ARVENSE</i>	CANADIAN-THISTLE	A	*	A Forb
<i>Circaea lutetiana</i>	ENCHANTER'S-NIGHTSHADE	N	2	N Forb
<i>CIRSIUM VULGARE</i>	BULL-THISTLE	A	*	A Forb

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Scientific Name	Common Name	Nat/ Adv	C	Physiog- nomy
<i>Clematis virginiana</i>	VIRGIN'S BOWER	N	4	N Vine
<i>CONVALLARIA MAJALIS</i>	LILY-OF-THE-VALLEY	A	*	A Forb
<i>Cornus amomum</i>	SILKY or PALE DOGWOOD	N	2	N Shrub
<i>Cornus foemina</i>	GRAY DOGWOOD	N	1	N Shrub
<i>Cornus stolonifera</i>	RED-OSIER DOGWOOD	N	2	N Shrub
<i>Carex brunnescens</i>	SEDGE	N	5	N Sedge
<i>Carex lacustris</i>	SEDGE	N	6	N Sedge
<i>Carex rosea</i>	WOOD SEDGE	N	2	N Sedge
<i>Carex stricta</i>	SEDGE	N	4	N Sedge
<i>Carex vulpinoidea</i>	SEDGE	N	1	N Sedge
<i>DACTYLIS GLOMERATA</i>	ORCHARD GRASS	A	*	A Grass
<i>DAUCUS CAROTA</i>	WILD CARROT; QUEEN-ANNE'S- LACE	A	*	A Forb
<i>DIANTHUS ARMERIA</i>	DEPTFORD PINK	A	*	A Forb
<i>Dryopteris carthusiana</i>	SPINULOSE WOODFERN	N	5	N Fern
<i>Echinocystis lobata</i>	WILD CUCUMBER	N	2	N Vine
<i>ELAEAGNUS UMBELLATA</i>	AUTUMN-OLIVE	A	*	A Shrub
<i>Equisetum pratense</i>	MEADOW-HORSETAIL	N	10	N Fern
<i>Erigeron annuus</i>	ANNUAL FLEABANE	N	0	N Forb
<i>Erigeron philadelphicus</i>	MARSH FLEABANE	N	2	N Forb
<i>Erythronium americanum</i>	YELLOW TROUT LILY	N	5	N Forb
<i>Eupatorium maculatum</i>	JOE-PYE WEED	N	4	N Forb
<i>Eupatorium perfoliatum</i>	COMMON BONESET	N	4	N Forb
<i>Fagus grandifolia</i>	AMERICAN BEECH	N	6	N Tree
<i>Fraxinus americana</i>	WHITE ASH	N	5	N Tree
<i>Fraxinus pennsylvanica</i>	RED ASH	N	2	N Tree
<i>Geranium maculatum</i>	WILD GERANIUM	N	4	N Forb
<i>Geum canadense</i>	WHITE AVENS	N	1	N Forb
<i>Glyceria striata</i>	FOWL MANNA GRASS	N	4	N Grass
<i>HESPERIS MATRONALIS</i>	DAME'S ROCKET	A	*	A Forb
<i>Hypericum punctatum</i>	SPOTTED ST. JOHN'S-WORT	N	4	N Forb
<i>Impatiens capensis</i>	SPOTTED TOUCH-ME-NOT	N	2	N Forb
<i>Impatiens pallida</i>	PALE TOUCH-ME-NOT	N	6	N Forb
<i>Juglans nigra</i>	BLACK WALNUT	N	5	N Tree
<i>Juncus dudleyi</i>	DUDLEY'S RUSH	N	1	N Forb
<i>Juncus tenuis</i>	ROADSIDE RUSH; PATH RUSH	N	1	N Forb
<i>Laportea canadensis</i>	WOOD NETTLE	N	4	N Forb
<i>Leersia oryzoides</i>	CUT GRASS	N	3	N Grass
<i>Lilium philadelphicum</i>	WOOD LILY	N	10	N Forb
<i>LONICERA MAACKII</i>	AMUR HONEYSUCKLE	A	*	A Shrub
<i>LONICERA TATARICA</i>	SMOOTH TARTARIAN HONEYSUCKLE	A	*	A Shrub
<i>LOTUS CORNICULATA</i>	BIRDFOOT TREFOIL	A	*	A Forb
<i>Lysimachia ciliata</i>	FRINGED LOOSESTRIFE	N	4	N Forb

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Scientific Name	Common Name	Nat/ Adv	C	Physiog- nomy
<i>LYSIMACHIA NUMMULARIA</i>	MONEYWORT	A	*	A Forb
<i>LYTHRUM SALICARIA</i>	PURPLE LOOSESTRIFE	A	*	A Forb
<i>MALUS PUMILA</i>	APPLE	A	*	A Tree
<i>MELILOTUS ALBA</i>	WHITE SWEET-CLOVER	A	*	A Forb
<i>MELILOTUS OFFICINALIS</i>	YELLOW SWEET-CLOVER	A	*	A Forb
<i>Mentha arvensis</i>	WILD MINT	N	3	N Forb
<i>MENTHA PIPERITA</i>	PEPPERMINT	A	*	A Forb
<i>Monarda fistulosa</i>	WILD BERGAMOT	N	2	N Forb
<i>MORUS ALBA</i>	RUSSIAN or WHITE MULBERRY	A	*	A Tree
<i>Onoclea sensibilis</i>	SENSITIVE FERN	N	2	N Fern
<i>Ostrya virginiana</i>	IRONWOOD; HOP HORNBEAM	N	5	N Tree
<i>Oxalis fontana</i>	YELLOW WOOD-SORREL	N	0	N Forb
<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER	N	5	N Vine
<i>Phalaris arundinacea</i>	REED CANARY GRASS	N	0	N Grass
<i>PHLEUM PRATENSE</i>	TIMOTHY	A	*	A Grass
<i>Pilea pumila</i>	CLEARWEED	N	5	N Forb
<i>PLANTAGO LANCEOLATA</i>	ENGLISH PLANTAIN; RIBGRASS	A	*	A Forb
<i>POA COMPRESSA</i>	CANADA BLUEGRASS	A	*	A Grass
<i>POA PRATENSIS</i>	KENTUCKY BLUEGRASS	A	*	A Grass
<i>POA TRIVIALIS</i>	BLUEGRASS	A	*	A Grass
<i>Podophyllum peltatum</i>	MAY APPLE; MANDRAKE	N	3	N Forb
<i>Polygonum virginianum</i>	JUMPSEED	N	4	N Forb
<i>Populus deltoides</i>	COTTONWOOD	N	1	N Tree
<i>Populus grandidentata</i>	BIG-TOOTHED or LARGE-TOOTHED ASPEN	N	4	N Tree
<i>Populus tremuloides</i>	QUAKING ASPEN	N	1	N Tree
<i>POTENTILLA RECTA</i>	ROUGH-FRUITED CINQUEFOIL	A	*	A Forb
<i>Prunus serotina</i>	WILD BLACK CHERRY	N	2	N Tree
<i>Prunus virginiana</i>	CHOKE CHERRY	N	2	N Shrub
<i>PRUNELLA VULGARIS</i>	LAWN PRUNELLA	A	*	A Forb
<i>Quercus alba</i>	WHITE OAK	N	5	N Tree
<i>Quercus bicolor</i>	SWAMP WHITE OAK	N	8	N Tree
<i>Quercus macrocarpa</i>	BUR OAK	N	5	N Tree
<i>Quercus palustris</i>	PIN OAK	N	8	N Tree
<i>Quercus rubra</i>	RED OAK	N	5	N Tree
<i>Quercus velutina</i>	BLACK OAK	N	6	N Tree
<i>Ranunculus abortivus</i>	SMALL-FLOWERED BUTTERCUP	N	0	N Forb
<i>RHAMNUS CATHARTICA</i>	COMMON BUCKTHORN	A	*	A Tree
<i>Rhus typhina</i>	STAGHORN SUMAC	N	2	N Tree
<i>Ribes americanum</i>	WILD BLACK CURRANT	N	6	N Shrub
<i>Ribes cynosbati</i>	PRICKLY or WILD GOOSEBERRY	N	4	N Shrub
<i>ROSA MULTIFLORA</i>	JAPANESE or MULTIFLORA ROSE	A	*	A Shrub

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(Nat/Adv – Native or Adventive species; C – Coefficient of Conservatism; Wet Coeff – Wetland Coefficient; W. I. – Wetland Indicator Status)

Scientific Name	Common Name	Nat/ Adv	C	Physiogy- nomy
<i>Rubus allegheniensis</i>	COMMON BLACKBERRY	N	1	N Shrub
<i>Rubus occidentalis</i>	BLACK RASPBERRY	N	1	N Shrub
<i>Rubus strigosus</i>	WILD RED RASPBERRY	N	2	N Shrub
<i>RUMEX CRISPUS</i>	SOUR or CURLY DOCK	A	*	A Forb
<i>Rumex orbiculatus</i>	GREAT WATER DOCK	N	9	N Forb
<i>Sagittaria graminea</i>	GRASS-LEAVED ARROWHEAD	N	10	N Forb
<i>Salix exigua</i>	SANDBAR WILLOW	N	1	N Shrub
<i>SALIX FRAGILIS</i>	CRACK WILLOW	A	*	A Tree
<i>Salix nigra</i>	BLACK WILLOW	N	5	N Tree
<i>Sambucus canadensis</i>	ELDERBERRY; COMMON ELDER	N	3	N Shrub
<i>Sanguinaria canadensis</i>	BLOODROOT	N	5	N Forb
<i>Scirpus atrovirens</i>	BULRUSH	N	3	N Sedge
<i>Scrophularia marilandica</i>	LATE FIGWORT	N	5	N Forb
<i>Sisyrinchium angustifolium</i>	STOUT BLUE-EYED-GRASS	N	4	N Forb
<i>Smilacina racemosa</i>	FALSE SPIKENARD	N	5	N Forb
<i>Solidago altissima</i>	TALL GOLDENROD	N	1	N Forb
<i>SOLANUM CAROLINENSE</i>	HORSE NETTLE	A	*	A Forb
<i>SOLANUM DULCAMARA</i>	BITTERSWEET NIGHTSHADE	A	*	A Vine
<i>Solidago gigantea</i>	LATE GOLDENROD	N	3	N Forb
<i>Solidago patula</i>	SWAMP GOLDENROD	N	6	N Forb
<i>Symplocarpus foetidus</i>	SKUNK-CABBAGE	N	6	N Forb
<i>SYMPHYTUM OFFICINALE</i>	COMMON COMFREY	A	*	A Forb
<i>Thalictrum dasycarpum</i>	PURPLE MEADOW-RUE	N	3	N Forb
<i>Tilia americana</i>	LINDEN; BASSWOOD	N	5	N Tree
<i>Toxicodendron radicans</i>	POISON-IVY	N	2	N Vine
<i>Trillium grandiflorum</i>	COMMON TRILLIUM	N	5	N Forb
<i>TYPHA ANGUSTIFOLIA</i>	NARROW-LEAVED CAT-TAIL	A	*	A Forb
<i>Typha latifolia</i>	BROAD-LEAVED CAT-TAIL	N	1	N Forb
<i>Ulmus americana</i>	WHITE or AMERICAN ELM	N	1	N Tree
<i>ULMUS PUMILA</i>	SIBERIAN ELM	A	*	A Tree
<i>Ulmus rubra</i>	RED or SLIPPERY ELM	N	2	N Tree
<i>Urtica dioica</i>	NETTLE	N	1	N Forb
<i>Verbena urticifolia</i>	WHITE VERVAIN	N	4	N Forb
<i>Viburnum acerifolium</i>	MAPLE-LEAVED ARROW-WOOD	N	6	N Shrub
<i>Viburnum lentago</i>	NANNYBERRY; SHEEPBERRY	N	4	N Shrub
<i>Viburnum opulus americanum</i>	HIGHBUSH CRANBERRY	N	5	N Shrub
<i>Virgulus novae-angliae</i>	NEW ENGLAND ASTER	N	3	N Forb
<i>Vitis riparia</i>	RIVERBANK GRAPE	N	3	N Vine
<i>Zanthoxylum americanum</i>	PRICKLY-ASH	N	3	N Shrub

Table 1. Plant Species and Floristic Quality Index for Meadowbrook Road East and West Tracts.

(Nat/Adv – Native or Adventive species; C – Coefficient of Conservatism; Wet Coeff – Wetland Coefficient; W. I. – Wetland Indicator Status)

<i>Scientific Name</i>	<i>Common Name</i>	<i>Nat/ Adv</i>	<i>C</i>	<i>Physiog- nomy</i>
	Floristic Quality Assessment			
Native Species Count =	114			
Total Species Count =	159			
Floristic Quality Index =	38.40			