

Resolution RPC No. 882

Amending the Dane County Land Use and Transportation Plan,
Farmland Preservation Plan and Water Quality Plan by Revising
the Central Urban Service Area Boundary and Environmental Corridors
in the Nine Springs Neighborhood Area in the Cities of Fitchburg and Madison

WHEREAS, the Dane County Regional Planning Commission has adopted, amended and/or reaffirmed a *Land Use and Transportation Plan, Farmland Preservation Plan, and Water Quality Plan*; and

WHEREAS, said plans delineate urban service areas as amended through May 1999; and

WHEREAS, the City of Fitchburg has requested an addition to the Central Urban Service Area and has submitted the Nine Springs Neighborhood Plan as a basis for that request; and

WHEREAS, a staff analysis of the proposed amendment has been prepared that indicates the amendment is generally consistent with adopted regional plans and policies, and with criteria for urban service area expansions;

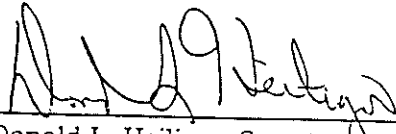
NOW, THEREFORE, BE IT RESOLVED that in accordance with §66.945(9), Wis. Stats., and Sec. 208 of Public Law 92-500, the Dane County Regional Planning Commission amends the *Dane County Land Use and Transportation Plan, Farmland Preservation Plan and Water Quality Plan* by revising the Central Urban Service Area Boundary and Environmental Corridors in the Cities of Fitchburg and Madison, as shown on the attached map.

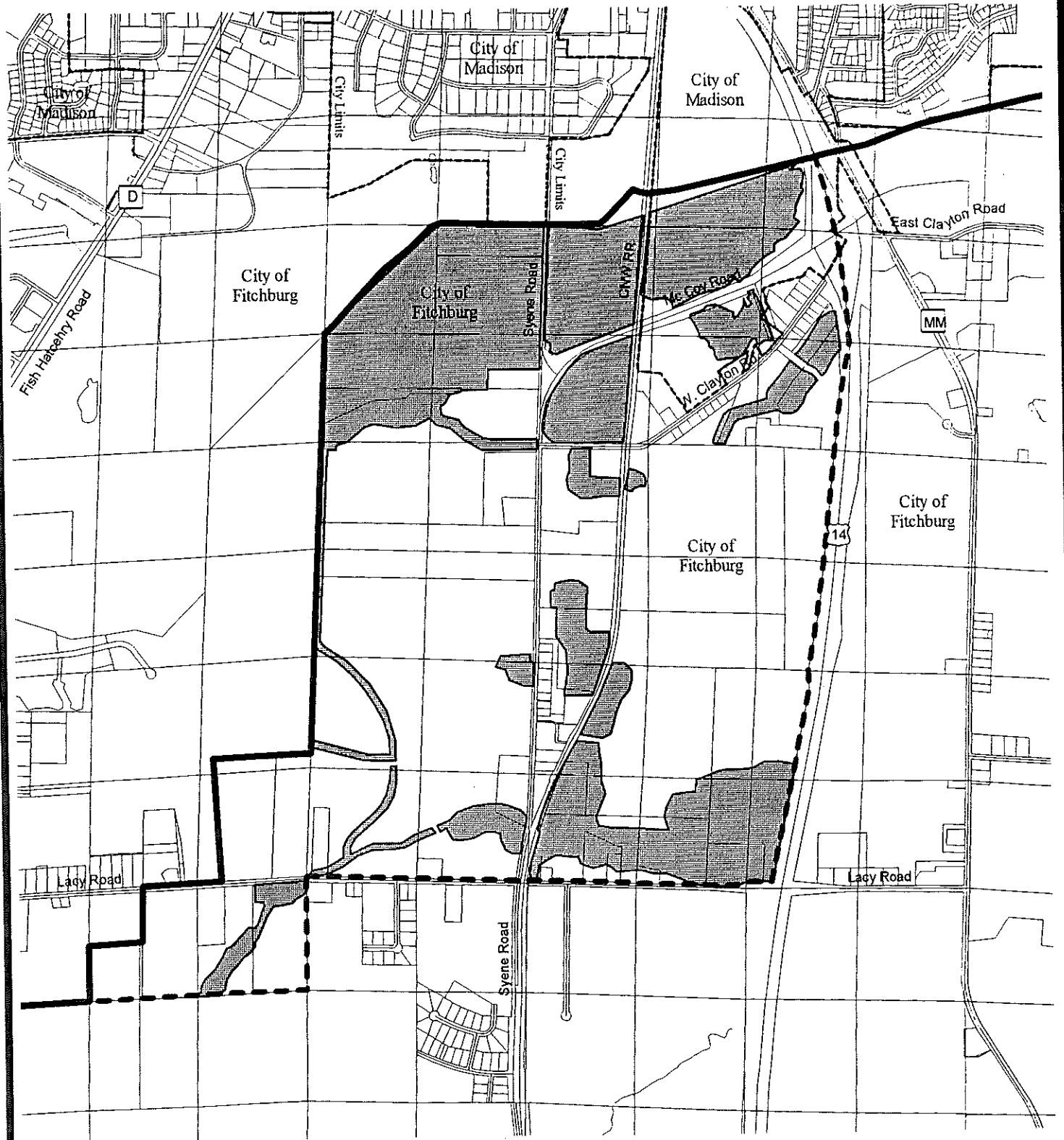
Approval of this amendment is based on the land use and urban service plans submitted in support of this amendment, and on the condition that the City of Fitchburg refine the stormwater management plan and provide stormwater management practices for the proposed amendment to provide water quality protection, to meet the provisions of the City's erosion and runoff control ordinance, and specifically to plan for the area sloping down from the surface drainage divide on the WARF property toward the E-Way to manage the stormwater in a manner that will have no negative impact on the fens.

It is also recommended that the McKeown property in Section 2 be included in the environmental corridors to protect it from disturbance until it can be determined whether it is part of the rare and threatened species community located in this area, and whether there are archeological sites in the area, and that additional traffic modeling be done to better assess the impacts and/or need for an interchange at USH 14 north of Lacy Road.

June 10, 1999

Date Adopted

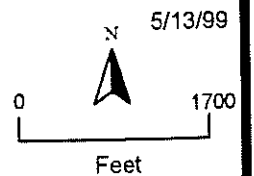

Donald L. Heiliger, Secretary



Map 1

Central Urban Service Area (pt.)
Nine Springs Neighborhood

- Environmental Corridor to be added
- Existing Urban Service Area Boundary
- Proposed Urban Service Area Boundary



Prepared by staff
to the DCRPC.

Resolution RPC No. 880

Revising Procedures for the Dane County Farmland Preservation Plan

WHEREAS, the Dane County Regional Planning Commission has adopted Resolution RPC No. 877, The Changing Role of the Dane County Regional Planning Commission, which states in part: "The Commission will not vote on town land use plans"; and

WHEREAS, the Dane County Board adopted Res. 17, 1999–2000, The Changing Role of the Regional Planning Commission, which states in part: "The Regional Planning Commission will not review, comment upon, amend, participate in the review of, or provide any comments of any kind upon, or vote on town land use plans unless requested by the town itself"; and

WHEREAS, the actual votes on town land use plans occur when the town plans or plan amendments are presented as amendments to the Dane County *Farmland Preservation Plan*; and

WHEREAS, the Dane County *Farmland Preservation Plan* was adopted by the Dane County Regional Planning Commission on October 22, 1981, as a part of the Master Plan for Dane County, following a joint public hearing with the County Zoning Committee; and

WHEREAS, the *Standards for Review of Town Plans* were adopted in 1978 to coordinate the consistency of town plans and were adopted as Appendix 1 of the Dane County *Farmland Preservation Plan*, which requires coordination between Dane County and the RPC in review; and

WHEREAS, the *Dane County Land Use and Transportation Plan* makes reference to the Dane County *Farmland Preservation Plan* as the relevant plan for Agricultural Preservation Areas and Rural Development Areas as well as other references throughout the plan; and

WHEREAS, not voting on town land use plans or plan amendments does not provide a process for the Commission to update or amend the *Farmland Preservation Plan* as an element of its own adopted regional plans; and

WHEREAS, Dane County is the lead agency in adoption of the *Farmland Preservation Plan* under Ch. 91, Farmland Preservation, Wis. Stats.

NOW, THEREFORE, BE IT RESOLVED that the Dane County Regional Planning Commission will review amendments to the Dane County *Farmland Preservation Plan* which are adopted by the Dane County Board for incorporation into the *Farmland Preservation Plan* adopted by the Commission; and

BE IT FURTHER RESOLVED that the Commission requests the Dane County Board to revise the procedures of the *Standards for Review of Town Plans* by deleting references to the Dane County Regional Planning Commission.

Date Adopted

Donald L. Heiliger, Secretary

Amendment to RPC Resolution No. 880

NOW THEREFORE BE IT RESOLVED that the Dane County Regional Planning Commission will amend the Land Use and Transportation Plan: Vision 2020 (and any other adopted regional plans) to “incorporate the Dane County Farmland Preservation Plan as amended from time to time by Dane County.”

BE IT FURTHER RESOLVED that the Commission will annually review the Dane County Farmland Preservation Plan to determine whether it will continue to be incorporated as an element in the Land Use and Transportation Plan: Vision 2020 (and any other adopted regional plans).

BE IT FINALLY RESOLVED that the Commission requests that Dane County revise the procedures of the *Standards for Review of Town Plans* by deleting references to the Commission.

Water Quality Issue relating to Fitchburg USA Amendment

- The amendment area contains newly documented “calcareous fens”, which are an especially rare type of wetland plant community.
- Calcareous fens as listed in NR103.04 as an “area of special natural resource interest”.
- These wetlands are protected by a “zero impact” rule in NR 103.08.

This justifies the commission putting a special stormwater management condition on the area that slopes down to the E-Way above these fens.

Amendment to RPC Resolution No. 882

Add at the end of the second paragraph of the Resolved clause:

and specifically to plan for the area sloping down from the surface drainage divide on the WARF property toward the E-Way to manage the stormwater in a manner that will have no negative impact on the fens.

Chapter NR 103

WATER QUALITY STANDARDS FOR WETLANDS

Subchapter I — Standards

NR 103.01	Purpose
NR 103.02	Definitions
NR 103.03	Wetland water quality standards
NR 103.04	Wetlands in areas of special natural resource interest

Subchapter II — Implementation

NR 103.05	Purpose
NR 103.06	Applicability
NR 103.07	Definitions
NR 103.08	Department determinations

Subchapter I —
Standards

NR 103.01 Purpose. (1) The purpose of this chapter is to establish water quality standards for wetlands. Chapters NR 102, 104 and 105 and this subchapter provide water quality standards for waters of the state pursuant to s. 144.025 (2) (b), Stats.

(2) Water quality standards are intended to protect public rights and interest, public health and welfare and the present and prospective uses of all waters of the state for public and private water supplies, propagation of fish and other aquatic life and wild and domestic animals, preservation of natural flora and fauna, domestic and recreational uses, and agricultural, commercial, industrial and other uses. In all cases where the potential uses are in conflict, these water quality standards for wetlands shall be administered to protect the general public interest.

(3) This subchapter sets forth the conditions necessary to protect water quality related functions and values of wetlands including sediment and pollutant attenuation, storm and flood water retention, hydrologic cycle maintenance, shoreline protection against erosion, biological diversity and production and human uses such as recreation.

(4) Water quality standards serve as a basis for developing and implementing strategies to achieve legislative policies and goals. These standards also serve as a basis for decisions in regulatory, permitting, planning or funding activities that impact water quality and which impact wetlands.

History: Cr. Register, July, 1991, No. 427, eff. 8-1-91.

NR 103.02 Definitions. In this chapter:

(1) "Areas of special natural resource interest" means areas as listed in s. NR 103.04 recognized by the state or federal government as possessing special ecological, cultural, aesthetic, educational, recreational or scientific qualities.

(2) "Farm pond" means any artificially created open water area used solely for the purpose of watering livestock.

(3) "Surface waters" means all natural and artificial named and unnamed lakes and all naturally flowing streams within the boundaries of the state, but not including cooling lakes, farm ponds and facilities constructed for the treatment of wastewaters.

(4) "Waters of the state" includes those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, and all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, drainage systems and other surface or ground water, natural or artificial, public or private, within the state or its jurisdiction.

(5) "Wetlands" means an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

History: Cr. Register, July, 1991, No. 427, eff. 8-1-91.

NR 103.03 Wetland water quality standards. (1) To protect, preserve, restore and enhance the quality of waters in wetlands and other waters of the state influenced by wetlands, the following water quality related functional values or uses of wetlands, within the range of natural variation of the affected wetland, shall be protected:

(a) Storm and flood water storage and retention and the moderation of water level fluctuation extremes;

(b) Hydrologic functions including the maintenance of dry season streamflow, the discharge of groundwater to a wetland, the recharge of groundwater from a wetland to another area and the flow of groundwater through a wetland;

(c) Filtration or storage of sediments, nutrients or toxic substances that would otherwise adversely impact the quality of other waters of the state;

(d) Shoreline protection against erosion through the dissipation of wave energy and water velocity and anchoring of sediments;

(e) Habitat for aquatic organisms in the food web including, but not limited to fish, crustaceans, mollusks, insects, annelids, planktonic organisms and the plants and animals upon which these aquatic organisms feed and depend upon for their needs in all life stages;

(f) Habitat for resident and transient wildlife species, including mammals, birds, reptiles and amphibians for breeding, resting, nesting, escape cover, travel corridors and food; and

(g) Recreational, cultural, educational, scientific and natural aesthetic values and uses.

(2) The following criteria shall be used to assure the maintenance or enhancement of the functional values identified in sub. (1):

(a) Liquids, fill or other solids or gas may not be present in amounts which may cause significant adverse impacts to wetlands;

(b) Floating or submerged debris, oil or other material may not be present in amounts which may interfere with public rights or interest or which may cause significant adverse impacts to wetlands;

(c) Materials producing color, odor, taste or unsightliness may not be present in amounts which may cause significant adverse impacts to wetlands;

(d) Concentrations or combinations of substances which are toxic or harmful to human, animal or plant life may not be present in amounts which individually or cumulatively may cause significant adverse impacts to wetlands;

(e) Hydrological conditions necessary to support the biological and physical characteristics naturally present in wetlands shall be protected to prevent significant adverse impacts on:

1. Water currents, erosion or sedimentation patterns;
2. Water temperature variations;
3. The chemical, nutrient and dissolved oxygen regime of the wetland;
4. The movement of aquatic fauna;
5. The pH of the wetland; and
6. Water levels or elevations.

(f) Existing habitats and the populations of wetland animals and vegetation shall be maintained by:

1. Protecting food supplies for fish and wildlife,
2. Protecting reproductive and nursery areas, and
3. Preventing conditions conducive to the establishment or proliferation of nuisance organisms.

History: Cr. Register, July, 1991, No. 427, eff. 8-1-91.

NR 103.04 Wetlands in areas of special natural resource interest. Wetlands in areas of special natural resource interest includes those wetlands both within the boundary of designated areas of special natural resource interest and those wetlands which are in proximity to or have a direct hydrologic connection to such designated areas. For purposes of this chapter, the following are designated as areas of special natural resource interest:

(1) Cold water communities as defined in s. NR 102.04 (3) (b), including all trout streams and their tributaries and trout lakes;

(2) Lakes Michigan and Superior and the Mississippi river;

(3) State and federal designated wild and scenic rivers, designated state riverways and state designated scenic urban waterways (s. 30.26, Stats., ch. NR 302, 16 USC 1271 to 1287, ss. 30.40 to 30.49, Stats., and s. 30.275, Stats.);

(4) Environmentally sensitive areas and environmental corridors identified in area-wide water quality management plans, special area management plans (SAMP), special wetland inventory studies (SWIS), advanced delineation and identification studies (ADID) and areas designated by the United States environmental protection agency under s. 404 (c), 33 USC 1344 (c);

Register, September, 1995, No. 477

(5) Calcareous fens;

(6) Habitat used by state or federally designated threatened or endangered species (s. 29.415, Stats., ch. NR 27 and 16 USC 1531 to 1543);

(7) State parks, forests, trails and recreation areas;

(8) State and federal fish and wildlife refuges and fish and wildlife management areas;

(9) State and federal designated wilderness areas (16 USC 1131 to 1135 and s. NR 1.415);

(10) Designated or dedicated state natural areas established under ss. 23.27 to 23.29, Stats.;

(11) Wild rice waters as listed in s. NR 19.09; and

(12) Any other surface waters identified as outstanding or exceptional resource waters in ch. NR 102.

History: Cr. Register, July, 1991, No. 427, eff. 8-1-91.

Subchapter II — Implementation

NR 103.05 Purpose. (1) The purpose of this subchapter is to establish implementation procedures for application of the wetland water quality standards contained in subch. I.

(2) Whenever the procedures of this subchapter are applicable to an activity, they shall supersede the regulatory provisions of s. NR 1.95 (5).

(3) These procedures are promulgated under ss. 144.025 and 147.01, Stats.

History: Cr. Register, July, 1991, No. 427, eff. 8-1-91.

NR 103.06 Applicability. The provisions of this chapter shall, subject to the provisions below, apply to all department regulatory, planning, resource management, liaison and financial aid determinations that affect wetlands. This chapter shall only apply to specific activities which may require authorization or reauthorization after August 1, 1991 and which are subject to the requirements of statute or rules requiring a department determination concerning effects on water quality or wetlands.

(1) Activities subject to the requirements of this chapter include, but are not limited to:

(a) Permits, reviews, approvals and other actions under chs. 23 and 26 to 31, Stats.;

(b) Permits and approvals under chs. 144 and 147, Stats., except as provided in sub. (3);

(c) Water quality certification under ch. NR 299;

(d) Permits and approvals under chs. NR 500 to 520;

(e) Department development and management projects; and

(f) Actions under ch. NR 120.

(2) In addition to the requirements of s. NR 207.03 (5), this chapter shall apply to new or increased point source discharges to wetlands.

(3) Wetland alterations which are directly caused by operations on a metallic mineral prospecting site or mining site shall be regulated pursuant to specific wetland standards under chs. NR 131 and 132, respectively.

Note: This chapter does not apply to activities which are exempted from state and federal regulations. Examples include certain silvicultural and agricultural activities exempted under ch. 30, Stats., and s. 404 of the Clean Water Act (33 USC 1344). This chapter is not applicable to local zoning decisions.

History: Cr. Register, July, 1991, No. 427, eff. 8-1-91.

NR 103.07 Definitions. As used in this subchapter:

(1) "Practicable alternatives" means available and capable of being implemented after taking into consideration cost, available technology and logistics in light of overall project purposes.

(2) "Water dependency" or "wetland dependency" means the activity is of a nature that requires location in or adjacent to surface waters or wetlands to fulfill its basic purpose.

History: Cr. Register, July, 1991, No. 427, eff. 8-1-91.

NR 103.08 Department determinations. (1) The department shall review all proposed activities subject to this chapter and shall determine whether the project proponent has shown, based on the factors in sub. (3), if the activities are in conformance with the provisions of this chapter. The department shall, upon request, meet with a project proponent and other interested persons to make a preliminary analysis of the potential for compliance with this chapter.

(2) Wetland functional values and the impact of a proposed activity upon those functional values shall be determined using wetland ecological evaluation methods accepted by the department and appropriate to the affected wetland. The department shall consider available land use studies in its determinations.

(3) To protect all present and prospective future uses of wetlands, the following factors shall be considered by the department in making determinations under this section:

(a) Wetland dependency of the proposal;

(b) Practicable alternatives to the proposal which will not adversely impact wetlands and will not result in other significant adverse environmental consequences;

(c) Impacts which may result from the activity on the maintenance, protection, restoration or enhancement of standards under s. NR 103.03;

(d) Cumulative impacts attributable to the proposed activity which may occur, based upon past or reasonably anticipated impacts on wetland functional values of similar activities in the affected area;

(e) Potential secondary impacts on wetland functional values from the proposed activity; and

(f) Any potential adverse impacts to wetlands in areas of special natural resource interest as listed in s. NR 103.04.

(4) (a) The department shall make a finding that the requirements of this chapter are not satisfied when it determines that:

1. An activity is not wetland dependent, and

2. A practicable alternative exists which will not adversely impact wetlands and will not result in other significant adverse environmental consequences.

(b) For all activities which do not meet the conditions in par. (a), the department, utilizing the factors in sub. (3) (b) to (f), shall determine whether the project proponent has shown that the activity will not result in significant adverse impacts to the functional values of the affected wetlands, significant adverse impacts to water quality or other significant adverse environmental consequences. If it is determined that significant adverse impacts will occur, the department shall make a finding that the requirements of this chapter are not satisfied. If it is determined that significant adverse impacts will not occur, the department shall make a finding that the requirements of this chapter are satisfied.

Note: Examples of wetland ecological evaluation methods include, but are not limited to, "Wetland Evaluation Technique" (FHWA/COE), "Wisconsin Wetland Evaluation Methodology", "Hollands-Magee" (IEP/Normandeau), "Minnesota Wetland Evaluation Methodology for the North Central United States" and the "Wisconsin Department of Natural Resources Rapid Assessment Method".

Note: Examples of available land use studies include Special Area Management Plans (SAMP), Special Wetland Inventory Studies (SWIS) and Advanced Delineation and Identification Studies (ADID).

History: Cr. Register, July, 1991, No. 427, eff. 8-1-91.

PRELIMINARY REPORT ON THE MADISON AREA E-WAY FENS

Report on a hastily arranged field survey of a small portion of the NINE SPRINGS E-WAY, along the BIKE PATH just south of the new sewer line and just N of McCoy Rd., W of Syene Rd., just S of Madison.

June 4, 1999

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My visit to the area on May 28, 1999, was too brief to produce a good species list, because the primary and only purpose was to determine whether indeed the calcareous fen remained as a community type within this expanse of grassy wetland. No quantitative studies were done, but based on general botanical knowledge and experience in many plant communities, I would say that the area was formerly sedge meadow for the most part with pockets of fens on the wettest, springiest sites. Although little is left of the original vegetation, fens are such a rare community type today that these in the E-Way are worth protecting, if not for conservation, then for teaching and research purposes by the University of Wisconsin's rapidly expanding field of restoration ecology. Except for Cherokee Marsh and the badly degraded Wingra Fen in the UW-Arboretum, the nearest fens are in Walworth and Jefferson counties. Most fens have been destroyed or degraded; if they have not been drained, ditched, or filled, or dug out and changed into ponds, they have been degraded by groundwater alterations or have developed into shrub swamps by the invasion of such woody plants as willows and dogwoods.

General Considerations.--Four small, degraded remnants of calcareous fens were spotted and checked over the course of a hour or so, three about 10 m N of the bike path, one, the largest and best quality piece, about 50 m N of the path. Surely, additional calcareous fens are yet to be discovered in this area. They are evident on the E-Way landscape by virtue of still being dominated by caric sedges (*Carex*) rather than by the ubiquitous, introduced reed canary grass (*Phalaris arundinacea*).

The bulk of the species present are also prevalent species of such related communities and wet prairies and sedge meadows, but a few indicator species for fens were present on two of the sites, namely *Carex sterilis* and *Lysimachia quadriflora*. *Carex sterilis* is the single most important fen indicator from the floristic point of view and confirms that at least two of the spots seen are indeed fens. The first two are probably degraded fens but may have been areas transitional between fens and sedge meadows. The absence of any other important indicator

PRELIMINARY REPORT ON THE MADISON AREA E-WAY FENS - 2

species of fens, together with the low diversity of forbs (non-graminoid herbs), confirms the overall poor quality of these wetlands. Nonetheless, soil, hydrologic, and floristic characteristics suggest that this wetland complex originally contained fens, and still contains fens, albeit disturbed ones. As long as the hydrologic inputs and outflows remain little changed, and if satisfactory methods can be found to control reed canary grass, the restoration of fen vegetation ought to be possible, at least theoretically. Any development on the N-facing slope to the south (which would lead to siltation, pollution, and other problems in the adjacent wetlands) or any permanent changes to the water budget (such as putting in wells) would deal a blow to the goal of keeping the wetland habitats as they are.

The Fens.--1) 7 X 5 m elliptical, E-W lying patch (first one near path going W from Syene Rd.). *Carex stricta* dominant, with *Saxifraga pensylvanica*, *Aster puniceus*, *Solidago gigantea*, and *Equisetum arvense*. The fact that the original sedge meadow is now all grass- rather than sedge-dominated suggests that this patch of vegetation has a more stable water table and is therefore a remnant fen or at least a community transitional between sedge meadow and fen.

2) 31 X 38 m modified dumbbell-shaped, E-W lying patch (second one near path going W from Syene Rd.). Black spongy muck. *Carex stricta* dominant, with *Caltha palustris* (rare), *Pycnanthemum virginianum* (rare), *Verbena hastata*, *Chelone glabra* (rare), *Aster puniceus*, *A. lanceolatus* (syn. *A. simplex*), *Helianthus grosseserratus*, *Carex pellita* (syn. *C. lanuginosa*), and *Glyceria striata*. Disturbance plants around the edges: *Pastinaca sativa* (rare), *Erigeron annuus*, *Carex hystericina*, *C. stipata*, *C. vulpinoidea*, *Juncus dudleyi*. The fact that the original sedge meadow is now all grass- rather than sedge-dominated suggests that this piece, with its highly organic, black spongy soil and sedge cover, has a more stable water table and is therefore a remnant fen.

3) 31 m X 8 m (N end, an artificial berm) X 10 m (S end) modified trapezoid, N-S lying patch. Black, spongy, peaty muck that obviously had been under water two months earlier. *Carex stricta* dominant, with *Caltha palustris* (rare), *Angelica atropurpurea*, *Pycnanthemum virginianum*, *Aster lanceolatus* (syn. *A. simplex*), *Eupatorium maculatum*, *E. perfoliatum*, *Pedicularis lanceolata*, *Helianthus grosseserratus*, *Carex pellita* (syn. *C. lanuginosa*), *C. sartwellii*, *C. sterilis*, and *C. (conoidea or tetanica)*. Disturbance plant around the edges: *Solidago canadensis*.

4) 148 m X 66 m (W end) to 38 m (center) to 40 m (E end) dumbbell-shaped, E-W lying piece. E half (70 m long) of good quality, W half (78 m long) drier, grassy, more degraded. *Carex sterilis* the overwhelming dominant (1000s of plants), with *Lysimachia quadriflora* (rare), *Lycopus americanus*, *Aster puniceus*, *Eupatorium maculatum*, *E. perfoliatum*, *Cornus stolonifera*, *Carex pellita* (syn. *C. lanuginosa*), *C. (conoidea or tetanica)*, *Eleocharis erythropoda*. Disturbance plants: *Solidago canadensis*, *Rhamnus frangula* (one individual of this ecologically invasive alien, which might also be regarded a a fen indicator, pulled).

W8720 Hwy 106
Ft. Atkinson, WI 53538
7 June 1999

Jim Mueller
Dane County Parks Dept.
Madison, WI

Dear Jim,

Thank you for granting permission for my Field Ecology students to make the study of the area of Nine Springs parkland that we discussed. With the Fitchburg planning hearing coming up this Thursday, I thought I would drop you a line to tell you of their preliminary findings. Their final report will be available on Monday, June 14th.

In the tract they are surveying (bounded by Syene Rd., the bike path, the Nursery Spring outlet and the Nine Springs Creek/ditch), they have found a number of interesting native plant communities that have survived the ditching and draining efforts of the past century. Most would be called "sedge meadows." They range from wetter phases dominated by *Carex lacustris* and *Sparganium* sp. to drier phases dominated by *Carex stricta* and *Calamagrostis canadensis*. These meadows are large and diverse in species; they make up about ten to fifteen per cent of the aforementioned area. The primary threat to these communities would be increased stormwater input that would occasionally inundate them, often leaving behind high-nutrient silt that favors cattails and reed canary grass in the wetter and drier phases, respectively

The most interesting find, however, is a small fen (about two acres) located just before the curve in the bike path as it ascends the hill above Nursery Spring (and just east of the sewer line crossing). While this fen is somewhat degraded on the edges, the central portion is in good condition, with its groundwater supply apparently still intact. Species diversity is quite high here, and many typical fen species such as *Carex sterilis* are present in good numbers. Additional evidence of groundwater influence can be seen in the low profile of the vegetation. In many areas no plant is more than a foot tall, yet most survive and flower. In my experience, this dwarfing trait is characteristic of the high flow zones of fens.

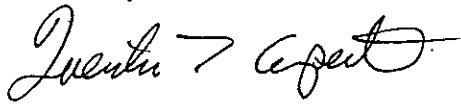
Hydrologically, this fen appears to have formed as a peat deposit over a sandy discharge zone on the side of the hill, with the peat body elevated several feet above the flat valley bottom. Corings of the site reveal about thirty inches of peat overlying a coarse sand deposit. No lacustrine clay was found under the fen, although this deposit is found both above (south) and below (north) of the fen. The upper portion of the peat is black and well-decomposed but the lower portion is brown and well-preserved. The transition from brown peat to sand is abrupt. All this evidence points to a long-term fen community sustained by steady groundwater discharge.

Fens are rare communities in Wisconsin. In my dissertation (Carpenter 1995), I enumerated fifty-seven for the whole state. Many of Wisconsin's fens are that in name only. An unfortunate example is the Syene Rd. Fen just to the northeast of this site. I recall visiting the site in 1988 with Jim Zimmerman. Many fen indicator plants were still present then but the site was becoming shrubby and water tables were dropping (likely due to the development of the industrial park to the north). In 1997, a group of my students studied the

site. They found essentially no remaining "fen indicator" plants, and they found that during mid-summer, the water table dropped to the base of the peat. The Syene Rd. Fen is essentially "dead," transformed from a high diversity community to a mass of decaying peat that grows shrubs and weedy wetland species instead of rare fen plants. The same fate awaits this new discovery unless measures are taken to protect its groundwater supply.

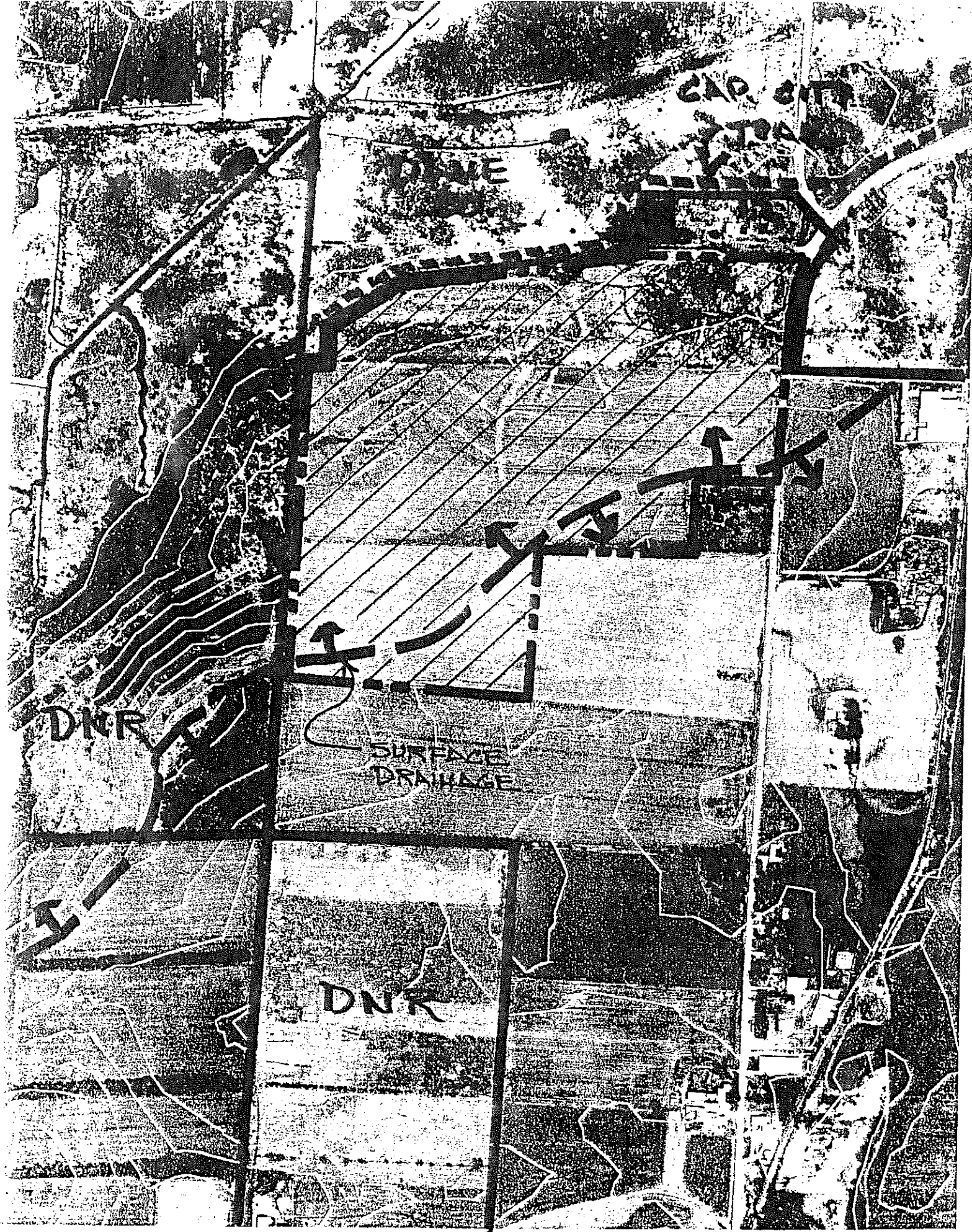
The measures required are simple in principle: keep infiltration volumes the same in the uplands that supply the aquifer and refrain from excessive groundwater extraction from that aquifer that will lower the water table at the site. The practical steps that will accomplish this are best left to others to discuss, but I know they exist. The key to the process is advanced planning, and I understand that Fitchburg is at least considering a number of innovative options. I hope they will make them a reality as this area develops so that we do not lose yet another bit of our natural heritage.

Thank you,

A handwritten signature in cursive script that reads "Quentin J. Carpenter". The signature is written in dark ink and is positioned above the printed name.

Dr. Quentin J. Carpenter
Institute for Environmental Studies
University of Wisconsin-Madison

Carpenter, Quentin J. 1995. "Toward a New Definition of Calcareous Fen for Wisconsin." Ph. D. Dissertation, Land Resource Program of the Institute for Environmental Studies, University of Wisconsin-Madison.



■ ■ ■ PROPOSED ADDITIONAL OPEN SPACE

NORTH ↑

