
**Staff Analysis of Proposed Amendment to the *Dane County*
Water Quality Plan, Revising the Environmental Corridors of the Central Urban
Service Area in the City of Madison**

1. Applicant: City of Madison

2. Description of Proposal

The City of Madison Common Council acted at its January 4, 2006 meeting to request a “major change” to the environmental corridors of the Central Urban Service Area. The change would reduce the 75-foot vegetative wetland buffer on the parcel at 5513 Femrite Drive. The buffer reduction is being proposed to accommodate 15 parking spaces for Badger Coach buses.

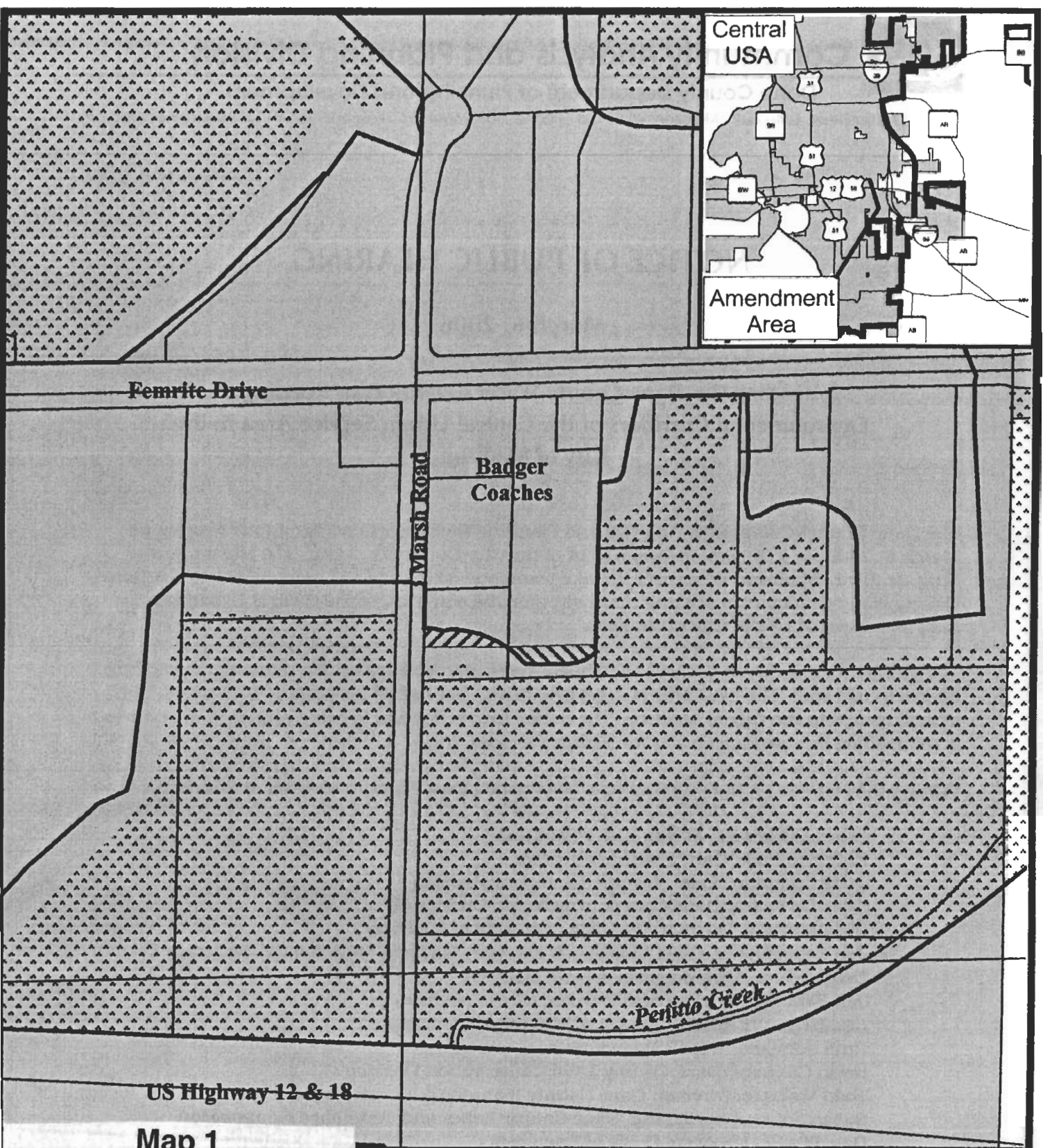
The proposed change reduces the 75-foot vegetative buffer for a small portion of a wetland complex located between Femrite Drive and USH 12/18. The change will remove 0.134 acres of vegetative buffer in one location and will add 0.158 acres to the corridor for mitigation measures (stormwater management). The resulting vegetative buffer width will range from a minimum of 30 feet at the west edge of the property, to a maximum of 110 feet toward the east edge of the parcel (see Map 2).

The wetland buffer reduction is mitigated by the installation of stormwater management facilities to capture and treat stormwater runoff from the parking area.

3. Existing Environment






The proposed change is located in the Central Urban Service Area. The Central Urban Service Area has a year 2000 Census population of 268,850; an estimated 2004 population of 281,437; and an official 2030 population forecast of 339,222. The proposed buffer reduction is located east of Marsh Road, south of Femrite Drive, and north of USH 12/18 in the City of Madison (see Maps 1 and 2). The buffer is related to a large wetland complex associated with Penitto Creek. The Creek drains portions of southeast Madison and the Town of Blooming Grove, and flows to Upper Mud Lake and the Yahara River. The Penitto Creek watershed contains many wetland complexes though it also has large areas of prior converted wetlands that are being developed. With increased development and loss of its original wetlands, the Creek will likely experience continued increases in stormwater runoff rates and volumes.

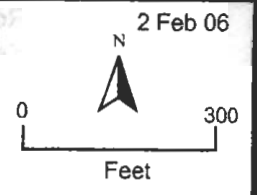
The soils of the amendment area are Wacousta silty clay loam. These soils consist of deep, nearly level, poorly drained soils formed in old lake basins. Wacousta soils have slow permeability and are subject to seasonally high water table and flooding, and pose severe to very severe limitations for development.



Map 1

Major Change to the Environmental Corridors of the Central Urban Service Area, City of Madison

-  Environmental Corridors to Add
-  Environmental Corridor to Delete
-  Wetland
-  Environmental Corridor
-  Incorporated Area



Prepared by staff of the CAPD.

Drainage from the parcel is north to south, and flows overland into the wetlands to the south of the parcel, and to Penitto Creek next to USH 12/18 about 800 feet south of the amendment area.

The Wisconsin Natural Heritage Inventory does not indicate the presence of rare and endangered species in the amendment area. Furthermore, because the parcel was already developed prior to current redevelopment activities, it is unlikely that endangered species would have survived the original filling and development of the site.

The Yahara River and its chain of lakes support a warm water sport fishery. The River flows through Dane County to join the Rock River south of the county line in Rock County.

The environmental corridors of the Central Urban Service Area were adopted in 1983. The corridors on the subject parcel were delineated as part of the original corridor delineation based on a 75-foot vegetative wetland buffer strip. However, the wetlands expanded after the original delineation, resulting in expanded DNR wetland delineation in 1990 and subsequent environmental corridor adjustment in 2001.

Land uses adjacent to the parcel are wetlands to the south and east, Marsh Road to the west, and Femrite Drive to the north. The area is generally in industrial/commercial use.

4. Consistency and Conflict With Adopted Plans and Policies

The City of Madison Common Council approved the site plan on 10/11/05, and approved requesting a “major change” on 1/4/06. The rest of the parcel is under construction.

The *Dane County Water Quality Plan* outlines policies regarding the delineation and designation of environmental corridors in the Environmental Corridors report, last updated and adopted by the Dane County Regional Planning Commission in 1996, and approved by the WDNR in 1997. The report establishes the need for a minimum 75-foot vegetative shoreland and wetland buffer. The need for buffer strips is based on the role they play in filtering pollutants from stormwater runoff; protecting stream banks and wetlands from erosion; providing space for the natural meander, shifting, and expansion of streams and wetlands; and protecting the habitat functions of these resource areas. Because of the natural resource functions played by vegetative buffer strips, any encroachment into the minimum buffer width of 75 feet requires an evaluation of the impacts of the encroachment. This evaluation is performed through the Water Quality Plan amendment process and the requirement for WDNR review and approval.

Wetlands in the amendment area have already shown a propensity for expansion. This may be due to changes in drainage practice as the land use has changed from agricultural to urban (removal of drainage tiles and ditches, replaced by infiltration and detention practices). It can also be due to increased stormwater runoff volumes resulting from increases in impervious surfaces. The trend in wetland expansion may continue as the entire watershed is developed.

Loss of environmental functions resulting from the proposed buffer reduction is to be mitigated through stormwater management practices which have been incorporated into the design of the site.

5. Impacts or Effects of the Proposal

The parcel is being redeveloped. Some of the existing structures will be retained, and the gravel parking areas will be paved. These changes to the site will increase the volume of stormwater runoff (generated by expanded impervious surfaces), but reduce the sediment load in the stormwater discharge (by paving gravel surfaces). The parking area will likely continue to generate pollutants associated with traffic and bus storage (e.g. VOCs from fuel and oil leaks).

The mitigation of the adverse impacts of buffer reduction will be through a stormwater management grass swale and a dry detention pond. A dry pond provides insufficient water quality treatment. If the proposed pond is designed as a water quality (wet) pond, it can mitigate the stormwater quality impacts of the proposal. The pond can also be designed to mitigate the water quantity impacts of the increased impervious area. It is also important to contain the stormwater that is generated on the paved areas. To achieve this, it would be advisable to edge the pavement areas with curbs, to prevent the discharge of untreated stormwater to wetland areas.

It should also be remembered that a stormwater facility concentrates the runoff to pond outfalls. This concentrated flow can cause erosion where it is discharged to receiving wetlands and creates channels. It is therefore important to design the discharge structure so it can spread the flow and prevent channelization and the resulting erosion.

In summary, the proposed changes in the area have some positive impacts, and the negative impacts can be mitigated if the stormwater management plan is revised to treat the runoff from paved areas in a water quality (wet) pond, with an outlet designed to prevent the discharge of floatables (oils, grease, and trash) and prevent channelization and erosion in the wetlands at the outfall.

6. Alternatives

The alternative of not allowing encroachment into the buffer strip would result in 15 less bus parking spaces (out of a total of 45). It is not known if adjacent land is available to replace the lost parking stalls.

7. Controversies, Comments Received, Unresolved Issues

The proposal has been reviewed by the City of Madison Board of Public Works, Commission on the Environment, and Plan Commission, and approved by the Common Council.

A public hearing has been scheduled on March 6, 2006, at 4:00 p.m. in Room 103A of the City-County Building by the Dane County Community Analysis and Planning Division to receive testimony on this amendment to the Dane County Water Quality Plan. Staff has not received any comments on the proposed amendment at this writing.

8. Conclusions

The “major change” to the environmental corridors is located on a parcel that was developed in the 1980s. The environmental corridors were first delineated in 1983 based on wetlands and a 75-foot vegetative buffer strip. The DNR wetland inventory update shows expanding wetlands south and east of the subject property. The proposed buffer reduction results in a variable buffer width ranging between 30 and 110 feet. The loss of buffer area is mitigated by stormwater management facilities. The following conclusions can be made for the proposed amendment:

- The proposed site plan reduces the sediment load in stormwater runoff from this parcel by paving gravel parking and storage areas.
- The proposed site plan increases stormwater runoff rates and volumes by expanding impervious areas.
- Stormwater runoff will require water quality treatment to capture and neutralize pollutants that typically wash off of parking and equipment storage surfaces.
- The entire site drains to the south property boundary. Therefore, stormwater treatment will be needed for runoff from the entire site. The site design needs to include measures to prevent untreated stormwater runoff from discharging into wetlands and waterways adjacent to the property.
- Because of increased stormwater runoff volumes and the concentration of stormwater discharge to one outfall, measures that prevent increased off site erosion and channelization should be included in the pond outfall design.

Therefore, staff recommends approval of the proposed amendment based on plans submitted as part of the request for this amendment to the Dane County Water quality Plan, and conditioned on the City of Madison pursuing the following:

Submit a detailed stormwater quality and quantity management plan for CAPD and DCL&WCD staff review and approval prior to land disturbance in the area of buffer reduction. Stormwater measures should include the following:

1. Provide stormwater quality treatment for polluted stormwater from the entire site.
2. Provide a minimum of 2 feet of effective pool depth.
3. Prevent increased erosion and channelization in adjacent and downstream areas.
4. Prevent floatables from getting flushed out of the pond.

Report approved by Kamran Mesbah, Deputy Administrator/Director of Environmental Resources Planning, Dane County Community Analysis and Planning Division.