

Re: Consideration of Resolution CARPC No. 2009-12 amending the Dane County Land Use and Transportation Plan and Dane County Water Quality Plan by revising the Central Urban Service Area boundary in the City of Madison

Decision Items:

1. Consideration of Resolution CARPC No. 2009-12

Synopsis

The proposed amendment will add 0.3 acres to Central Urban Service Area (CUSA) in the City of Madison at 3497 Cottage Grove Road, west of Sprecher Road. The amendment proposes to add one residential lot with an existing single-family home that has a failing septic system. No additional development or redevelopment is proposed. The amendment would add no developable area to the Central Urban Service Area.

The owners of this residential lot would like to connect to the City of Madison sanitary sewer system rather than replace the failing private septic system. The property has recently been attached to the City of Madison for that purpose. The City anticipates that the current use will continue for the foreseeable future. If redevelopment would occur, it would be guided by the Cottage Grove Neighborhood Development Plan, which calls for Low Density Residential use, described as primarily single-family dwellings at less than seven units per acre.

Staff Recommendation

The proposed amendment provides the full range of urban services and is within the twenty-year service area land demand for the Central Urban Service Area. There are no significant natural resources in the amendment area.

Replacement of the failing septic system with public sanitary sewer service will have significant public health and water quality benefits.

Staff recommends that this urban service area amendment be approved based on the proposed services.

Materials Presented with Item:

1. Staff Analysis dated November 6, 2009
2. Draft Resolution CARPC No. 2009-12

Contact for Further Information:

Kamran Mesbah, Deputy Director
266-9283
KamranM@CapitalAreaRPC.org

**Staff Analysis of Proposed Amendment to the *Dane County*
*Land Use and Transportation Plan and Water Quality Plan, Revising the Urban
Service Area Boundary in the City of Madison***

1. Applicant:**2. Description of Proposal**

The proposed amendment will add 0.3 acres to Central Urban Service Area (CUSA) in the City of Madison at 3497 Cottage Grove Road, west of Sprecher Road. The amendment proposes adding one residential lot with an existing single-family home that has a failing septic system. No additional development or redevelopment is proposed. The amendment would add no developable area to the Central Urban Service Area. (See Table 1 and Maps 1, 2, and 3).

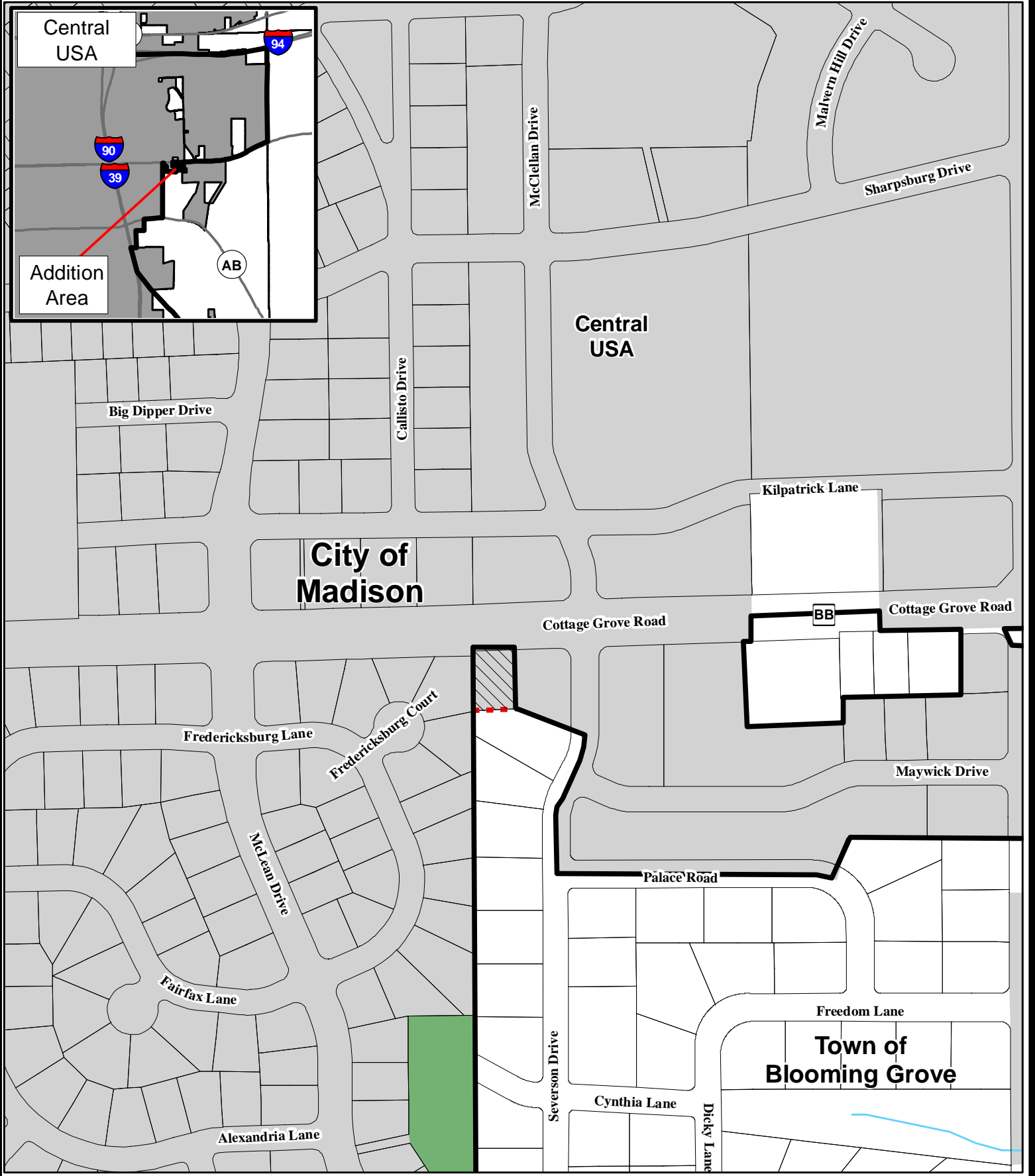
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Requested by the City of Madison**

Proposed Land Use	Density (units/acre)		Total (ac.)	% of Total	Housing Units	No. of Persons	No. of Students	Existing Develop.	Environ. Corridor	Developable
	Proposal	CUSA								
Residential	3.3		0.3	100%	1			0.3		
Residential Total	3.3	6.6	0.3	100%	1			0.3		
Stormwater Mgmt.			0.0	0%						
Street R-O-W			0.0	0%						
TOTAL			0.3	100%				0.3	0.0	0.0

0.3 acres in the City of Madison







Source: City of Madison Planning Submittal and CARPC

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Map 1

Amendment to the Central Urban Service Area in the City of Madison

-  Service Area to be added (0.3 acres)
-  Proposed Environmental Corridor (0.0 acres)
-  Existing Environmental Corridor
-  Incorporated Area
-  Existing Urban Service Area Boundary
-  Proposed Urban Service Area Boundary

5 Nov. 2009






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Feet

Prepared by staff of the CARPC.

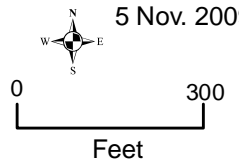


Map 2 (Aerial 2008)

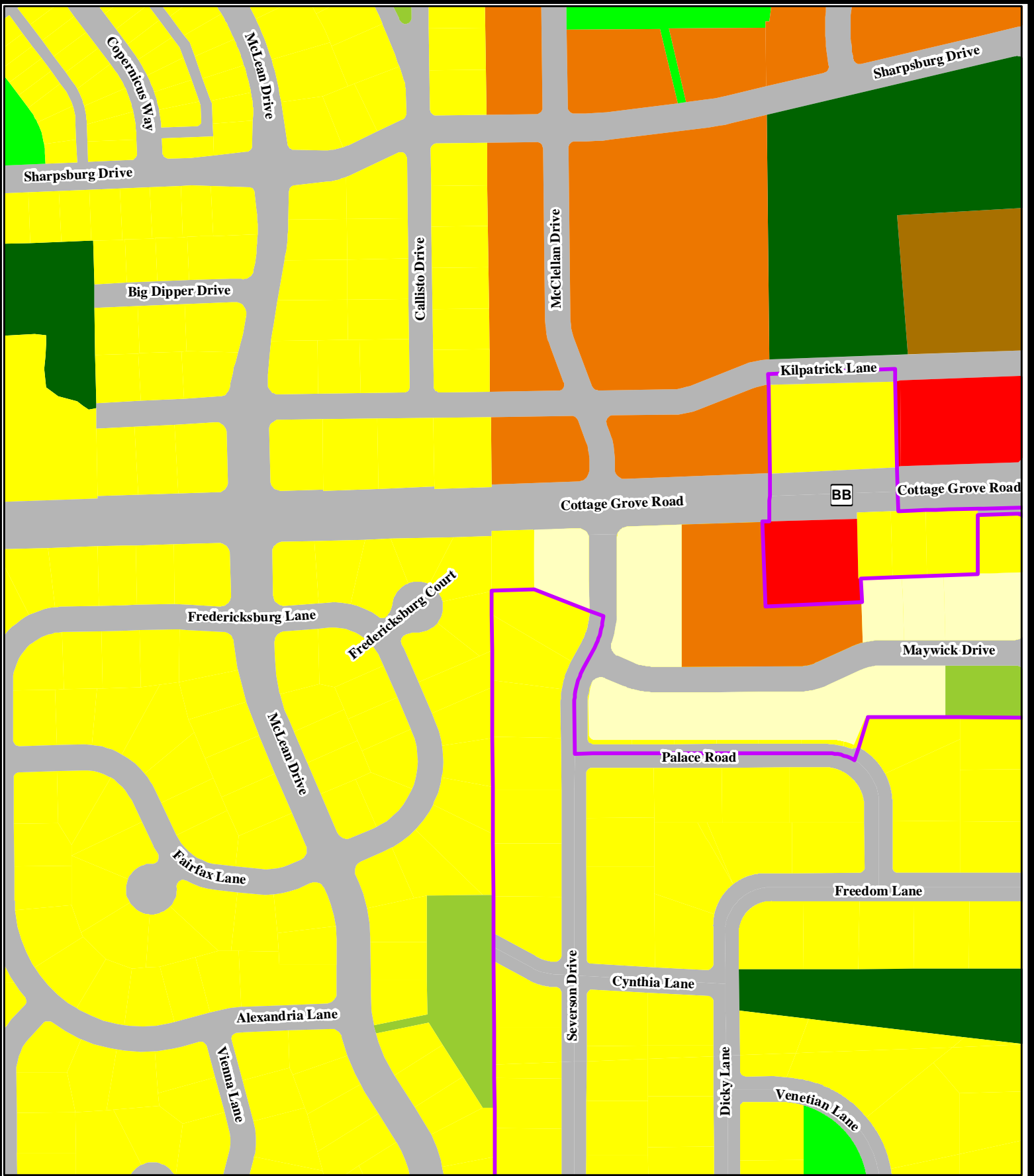
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-  Existing Service Area Boundary
-  Proposed Service Area Boundary
-  Incorporated Area

5 Nov. 2009



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Map 3 Planned Land Use

Amendment to the Central Urban Service Area in the City of Madison

Incorporated Area	Extractive	Right of Way
Agriculture	Industrial	Single Family
Cemetery	Institutional or Governmental	Transportation
Commercial Forest	Multi-Family	Two Family
Commercial Sales or Services	Open Land	Water
Communications or Utilities	Outdoor Recreation	Woodland

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3. Existing Environment

Natural Resources. The proposed amendment area is located entirely within the Door Creek Subwatershed of the Yahara River and Lake Kegonsa Watershed.

Door Creek's physical characteristics and low flow limit the fishery to forage species. The most common fish species include common and spotfin shiner, mud minnow, bluntnose minnow, creek chub, white sucker, black bullhead, brook stickleback, bluegill, and johnny darter. Water quality condition indicators are showing a declining trend in most sampling events. The creek is not on the WDNR 303(d) list of impaired water bodies. The Dane County Water Body Classification study lists Door Creek as a developing stream with the management objective of protection and enhancement.

Threatened and Endangered Resources

The WDNR Bureau of Endangered Resources maintains a map representing the known occurrences of rare species and natural communities that have been recorded in the Wisconsin Natural Heritage Inventory (NHI). The map does not indicate the presence of rare aquatic or terrestrial species in or near the amendment area.

Soils and Geology

According to the Natural Resource Conservation Service (NRCS) Soil Survey of Dane County, the soils in the amendment area are Dodge Silt Loam (DnB). These soils are deep, well drained, gently sloping and sloping soils on glaciated uplands. The soils have a high fertility, moderate permeability, and a moderate hazard of erosion. This soil type poses only a slight limitation to septic tank and absorption fields.

Depth to groundwater is over 25 feet in the amendment area. According to Wisconsin Geological and Natural History Survey mapping, the bedrock in the amendment area is in the Prairie du Chien Group, which is dolomite with some sandstone and shale. Depth to bedrock is less than 10 feet in amendment area.

Archaeology

The parcel is currently developed and any archaeological resources would have been destroyed as part of the construction of the residence. No impact on archaeological resources is foreseen.

Land Use. The proposed amendment area is composed of lands currently in residential use. The area was in the Town of Blooming Grove prior to recent attachment to the City of Madison in anticipation of requesting public sewer service.

Land uses adjacent to the proposed amendment are as follows:

- North: Low density single-family residential (City of Madison)
- South: Low density single-family residential (Town of Blooming Grove)
- East: Vacant (City of Madison)
- West: Low density single-family residential (City of Madison)

Existing Transportation System. The amendment area is located on Cottage Grove Road, which is also County Trunk Highway BB.

4. Consistency or Conflict With Adopted Plans and Policies

The proposed amendment is consistent with the *City of Madison Comprehensive Plan* and the *Cottage Grove Neighborhood Development Plan*. The application includes a finding of consistency by the City of Madison Plan Commission and Common Council.

Expansion of the CUSA to include the amendment area is also consistent with the *Town of Blooming Grove and City of Madison Cooperative Plan*, adopted in 2006 to guide development and transition of lands from the Town to the City. The amendment area was located in an area of the Town of Blooming Grove where all properties will be attached to the City of Madison by 2015. In anticipation of connecting to the City sanitary sewer system to address their septic system problems, the property owners requested and were granted attachment to the City in 2009 under the provisions of the Cooperative Plan. In the Cooperative Plan, the City has agreed to provide public sanitary and water service for the areas as they become attached to the City, subject to expansion of the urban service area boundary.

The amendment is a logical expansion of the Central Urban Service Area. It is surrounded by the current Central Urban Service Area on the west, north and east. Public sanitary sewer service can easily be extended to the area from existing public sanitary sewer 90 west of the amendment area.

The amendment supports the CARPC objectives of providing a safe and healthful environment and minimizing adverse impacts on ground and surface water quality by allowing the amendment area to be served by the public sewer system rather than the existing failing septic system. Documentation of failure of the septic system currently serving the amendment area is provided by the City of Madison in the form of a letter from Honey Wagon Services, Inc., a septic service company. The letter states that the system had been operating at overfull levels and needs frequent pumping or replacement. The property owners indicate that they have to pump the septic tank monthly.

This proposed addition to the urban service area adds no developable area.

5. Proposed Urban Services

Public Water System. The City of Madison proposes to provide public water service to the amendment area through the extension of a water main that is within the Cottage Grove Road right-of-way. The current capacity of the Water Utility's system is 68 million gallons per day, with an average demand of 32 million gallons per day, with the capability of providing 2,000 gallons per minute for 2.5 hours for fire fighting purposes, meeting CARPC service criteria.

Wastewater. The City of Madison proposes to provide sanitary sewer service through the extension of an 8" main that is located approximately 90 feet west of the amendment area. The main will be extended within the Cottage Grove Road right-of-way, with adequate capacity to serve the amendment area. It is anticipated that the existing single-family home in the amendment area will generate approximately 230 gallons of wastewater per day. No additional development is planned or proposed.

MMSD

The Madison Metropolitan Sewerage District (MMSD) will provide wastewater treatment for the amendment area. MMSD's North East Interceptor will serve the amendment area. The MMSD Pumping Station 7 is expected to be at capacity during periods of peak flow around 2015, depending on the rate of development in the service area for this pumping station. MMSD has capacity improvement projects planned for this area in 2013. The Nine Springs Treatment Facility has a design capacity of 50 million gallons per day (mgd) and received an average of 47.2 mgd in 2008, including infiltration. It is expected to reach capacity by 2020 depending on growth rate assumptions. The MMSD has completed a long-range plan that evaluated various options for expanded treatment capacity to serve its current and future service area. For the 20-year planning period, service to this area is expected to remain through current interceptor routes with expanded capacity of the system as the need is foreseen.

Stormwater Management System. Currently there are no stormwater management facilities in the amendment area. An existing wet detention basin serves the storm sewershed in which the amendment area is located, according to City of Madison storm sewer mapping. If the amendment area were to have additional development, which added a significant amount of impervious surface, a new stormwater management system would be required.

Environmental Corridors. The amendment proposal does not include any Environmental Corridors since the amendment area is an existing single-family residential lot and does not contain any sensitive natural resources

Public Safety Services. The City of Madison Police Department provides police protection services to the City of Madison and will provide services the proposed amendment. The amendment area is in the East District of the Madison Police Department. The East District operates from a station at the intersection of South Thompson Drive and Cottage Grove Road, less than one mile from the amendment area.

The City currently has 438 full time equivalent police officers, or about 1.93 officers per 1,000 residents, well within the CARPC guideline of one officer per 1,000 residents. The number of officers and the ratio to population varies over time but the City plans to maintain average police staffing levels at about this level in the future.

The City of Madison Fire Department provides fire protection and emergency medical services for the City of Madison, including the amendment area. The City of Madison has an ISO fire rating of three (3), well within CARPC fire protection guidelines. Currently, the closest Madison fire station is located about two miles from the amendment area, on Cottage Grove Road near Stoughton Road. Response time to the amendment area is estimated to be four minutes. A new fire station is being considered for the vicinity of Sprecher Road and Milwaukee Street, just over one mile from the amendment area. This location would improve service to the amendment area.

Streets and Sanitation Services. The Madison Streets Division provides solid waste collection, street repair, street cleaning and snow and ice control to the amendment area. Street maintenance services are provided on City of Madison public streets. These services will be provided to the amendment area from the East Side Public Works Facility located on Sycamore Avenue.

School and Park Facilities. The amendment area is in the Madison Metropolitan School District. Currently, students residing at this location would attend Elvehjem Elementary School, Sennett Middle School and La Follette High School.

The amendment area includes no additional public parkland. There is an existing neighborhood park located approximately one-quarter mile to the south.

Urban Transportation System. The City reports that this segment of Cottage Grove Road is planned to eventually be a four-lane divided roadway with marked bicycle lanes and sidewalks.

6. Impacts or Effects of Proposal

Surface Water and Groundwater Impacts. Failing septic systems can discharge inadequately treated sewage that may contaminate surface waters or groundwater. This discharge contains bacteria and viruses that can be harmful to humans and aquatic habitat. Excess nitrogen and phosphorus from the untreated waste can lead to excessive aquatic plant growth that depletes the dissolved oxygen needed by fish and other aquatic species. Failing septic system can also release nitrogen to the groundwater. Nitrates are highly soluble in water and can seep easily through the soil and into the groundwater. High levels of nitrate in drinking water (> 10 mg/L) can cause health problems for babies under 6 months of age. Bacteria that live in the digestive tracts of infants convert nitrate into nitrite, which transforms hemoglobin to methemoglobin, preventing transport of oxygen and producing symptoms of asphyxiation (blue baby syndrome).

Eliminating the failing septic system by providing public sanitary sewer service to this property will protect or improve surface and/or groundwater quality by eliminating a source of contamination.

The amendment area is an existing single-family residential lot. Adding this existing impervious area to the urban service area will not change the existing peak flow rates or volumes of stormwater runoff.

Transportation System Impacts. Because no changes to the current development are proposed, there are no transportation system issues or impacts anticipated with the addition of this single lot with an existing home.

School System Impacts. There are no anticipated impacts to the school system with the proposed amendment. The area is already developed with a single-family home. No redevelopment or additional development is planned.

7. Cost-effectiveness Analysis

NR121 requires cost-effectiveness analysis when alternative wastewater disposal systems are compared or considered. The existing septic system is failing and does not meet code because the septic tank flows through a drywell. The backyard does not have adequate room for a replacement absorption field. A new septic system in the front yard would have a capital cost of \$4,000 to \$8,000 (John Hausbeck, Dane County Sanitarian). If a pumped system is needed, this would result in additional capital cost, 10-year pump replacement costs, and pump operation costs. The operation and maintenance cost of a gravity system

would be limited to the required triennial pumping and inspection of the septic tank, about \$150. According to the City of Madison's Engineering Division, the cost to the property owner to connect to the City's sanitary sewer would be approximately \$10,500. The operation and maintenance cost of the public system is reflected in the City's sewer fee. Base charges are about \$100 per household and demand charges are \$1.78 per 1,000 gallons. Average residential water use in the city in 2008 was 161 gallons per household per day. This results in an annual sewer service cost of about \$200. In accordance with NR 110, the WDNR sets the discount rate to be used in facility planning cost-effective analyses. The current discount rate is 4.375%. A 20-year cost analysis for the two systems results in a present value cost of about \$8,700 for the septic system versus \$13,200 for a connection to the public sanitary sewer. The property owner prefers connection to the public sanitary sewer system, even though it is a more costly option. The submittal indicates that the home-owner will be responsible for the expense of extending the public sanitary sewer service to this lot. Therefore, the fact that the proposed option is not the most cost-effective, does not have any effect on the advisability of the proposed extension.

8. Controversies, Comments Received, Unresolved Issues

A public hearing before the Capital Area Regional Planning Commission is scheduled for November 12, 2009. No comments have been received and no controversies are noted.

9. Conclusions and Staff Recommendation

The proposed amendment provides the full range of urban services and is within the twenty-year service area land demand for the Central Urban Service Area. There are no significant natural resources in the amendment area.

Replacement of the failing septic system with public sanitary sewer service will have significant public health and water quality benefits.

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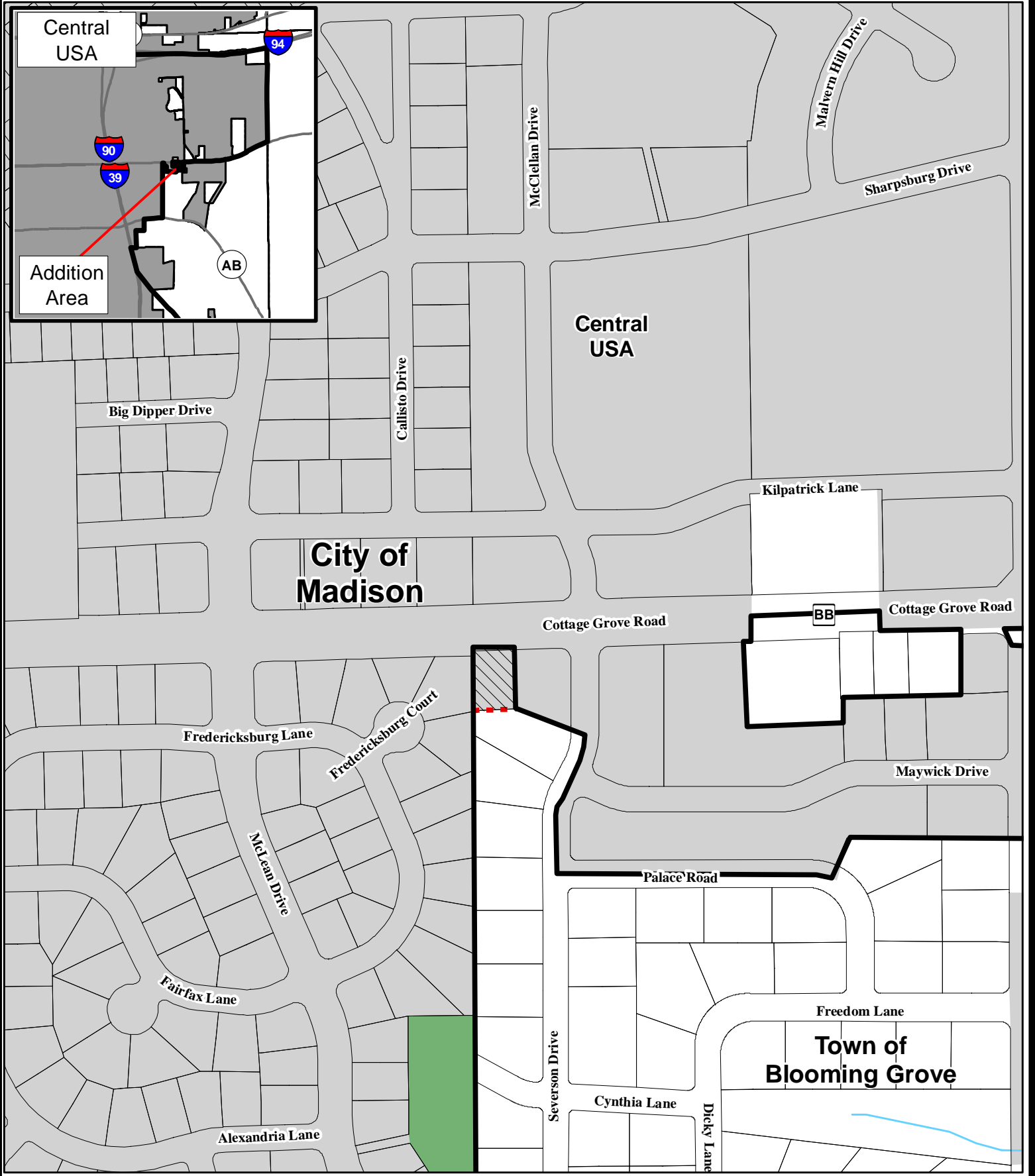
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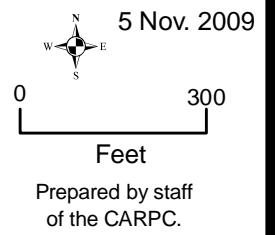


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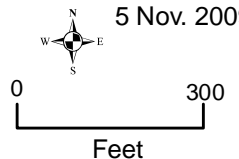


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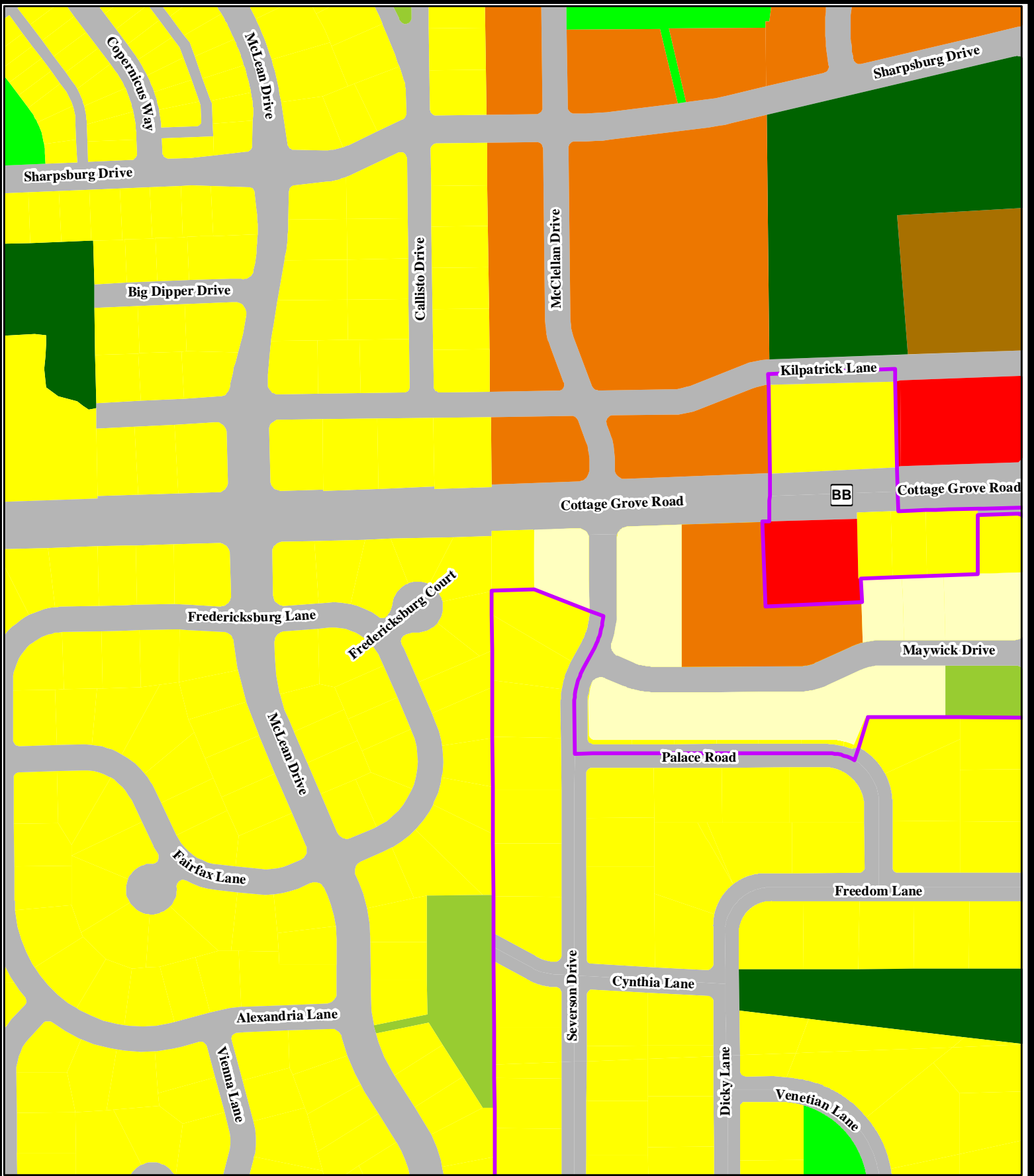
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7. Cost-effectiveness Analysis

NR121 requires cost-effectiveness analysis when alternative wastewater disposal systems are compared or considered. The existing septic system is failing and does not meet code because the septic tank flows through a drywell. The backyard does not have adequate room for a replacement absorption field. A new septic system in the front yard would have a capital cost of \$4,000 to \$8,000 (John Hausbeck, Dane County Sanitarian). If a pumped system is needed, this would result in additional capital cost, 10-year pump replacement costs, and pump operation costs. The operation and maintenance cost of a gravity system

would be limited to the required triennial pumping and inspection of the septic tank, about \$150. According to the City of Madison's Engineering Division, the cost to the property owner to connect to the City's sanitary sewer would be approximately \$10,500. The operation and maintenance cost of the public system is reflected in the City's sewer fee. Base charges are about \$100 per household and demand charges are \$1.78 per 1,000 gallons. Average residential water use in the city in 2008 was 161 gallons per household per day. This results in an annual sewer service cost of about \$200. In accordance with NR 110, the WDNR sets the discount rate to be used in facility planning cost-effective analyses. The current discount rate is 4.375%. A 20-year cost analysis for the two systems results in a present value cost of about \$8,700 for the septic system versus \$13,200 for a connection to the public sanitary sewer. The property owner prefers connection to the public sanitary sewer system, even though it is a more costly option. The submittal indicates that the home-owner will be responsible for the expense of extending the public sanitary sewer service to this lot. Therefore, the fact that the proposed option is not the most cost-effective, does not have any effect on the advisability of the proposed extension.

8. Controversies, Comments Received, Unresolved Issues

A public hearing before the Capital Area Regional Planning Commission is scheduled for November 12, 2009. No comments have been received and no controversies are noted.

9. Conclusions and Staff Recommendation

The proposed amendment provides the full range of urban services and is within the twenty-year service area land demand for the Central Urban Service Area. There are no significant natural resources in the amendment area.

Replacement of the failing septic system with public sanitary sewer service will have significant public health and water quality benefits.

Staff recommends that this urban service area amendment be approved based on the proposed services.

Resolution CARPC No. 2009-12

Amending the *Dane County Land Use and Transportation Plan* and *Dane County Water Quality Plan* by Revising the Central Urban Service Area Boundary in the City of Madison

WHEREAS, the Capital Area Regional Planning Commission has adopted, amended and reaffirmed the *Dane County Land Use and Transportation Plan* and *Water Quality Plan*; and

WHEREAS, said plans delineate urban service areas as amended through October 2009; and

WHEREAS, the City of Madison has requested an addition to the Central Urban Service Area, which is consistent with the City of Madison Comprehensive Plan, the Cottage Grove Neighborhood Development Plan, and the Town of Blooming Grove and City of Madison Cooperative Plan; and

WHEREAS, a staff analysis of the proposed amendment has been prepared, which indicates that the amendment is generally consistent with adopted regional plans and policies.

NOW, THEREFORE, BE IT RESOLVED that in accordance with §66.0309, Wis. Stats., and Sec. 208 of Public Law 92-500, the Capital Area Regional Planning Commission amends the *Dane County Land Use and Transportation Plan* and recommends the amendment of the *Dane County Water Quality Plan* by revising the Central Urban Service Area boundary as shown on the attached map.

Adoption of this amendment is based on the land use and urban service plans submitted in support of this amendment.

Date Adopted

Jeff Miller, Chairperson