

---

**Staff Analysis of Proposed Amendment to the *Dane County Land Use and Transportation Plan and Water Quality Plan, Revising the Northern Urban Service Area Boundary and Environmental Corridor in the Town of Windsor***

---

**1. Applicant:**

Village of DeForest

**2. Description of Proposal**

The proposed amendment will add 2.5 acres, located in the southwest corner of the intersection of US Highway 51 and Vinburn Road, to the Northern Urban Service Area (NUSA). The amendment proposes adding a 0.9 acre commercial lot, located at 7123 Vinburn Road in the Town of Windsor, and 1.6 acres of adjacent Vinburn Road right-of-way, located in the Town of Windsor, for the purposes of correcting a problem with a septic system that currently does not meet code. Environmental corridor is proposed for 0.1 acre of a drainage way and buffer crossing the southern part of the lot. The parcel is developed with a two-story structure containing a neighborhood bar and grill (Club 51) on the first floor and a rental apartment on the upper floor, off-street parking for approximately 25 vehicles, and a driveway connecting with Vinburn Road. No additional development or redevelopment is proposed. The amendment would add no developable area to the Northern Urban Service Area. (See Table 1 and Maps 1, 2, and 3).

**Table 1: Northern Urban Service Area, Club 51  
Requested by the Village of DeForest**

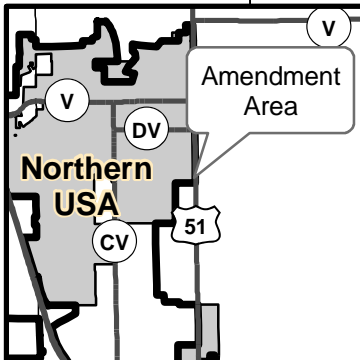
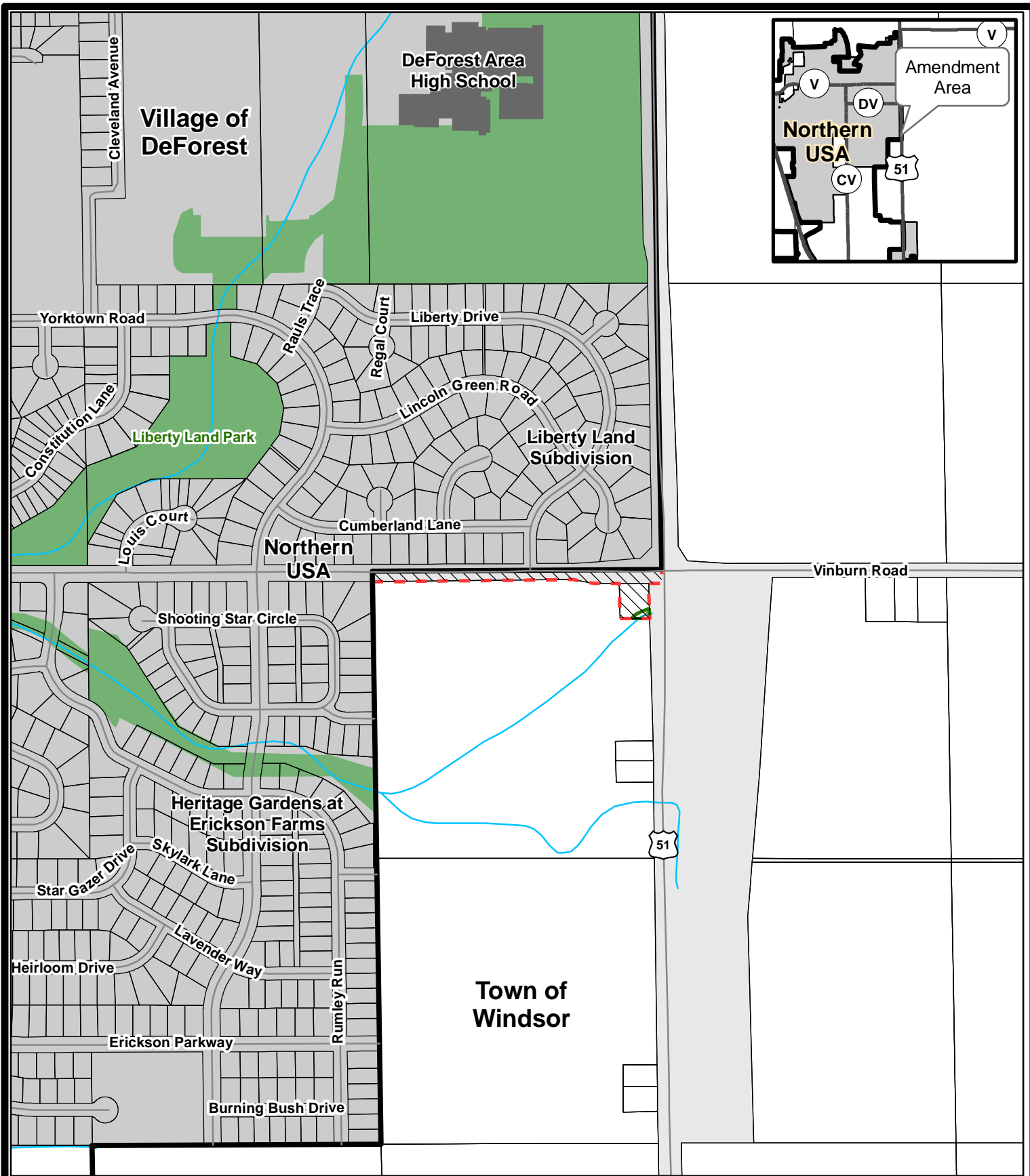
Proposed Land Use	Density (units/acre)		Total ( ac.)	% of Total	Housing Units	No. of Persons	No. of Students	Existing Develop.	Environ. Corridor	Developable
	Proposal	CUSA								
Commercial /Residential			0.8	32%	1			0.8		
Stormwater Mgmt.			0.1	4%					0.1	
Street R-O-W			1.6	64%				1.6		
<b>TOTAL</b>			<b>2.5</b>	<b>100%</b>				<b>2.4</b>	<b>0.1</b>	<b>0.0</b>

2.5 acres in the Town of Windsor,

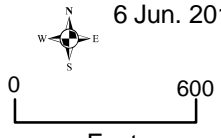
Source: Village of DeForest Planning Submittal and CARPC

The lot is currently served with a private on-site septic system that does not meet code, and is partially located beneath a building addition believed to have been built over 40 years ago. The system is in violation of the minimum five-foot setback between septic systems and buildings. The Madison and Dane County Department of Public Health has ordered discontinuation of the septic system by July 1, 2011, possibly forcing the closure of Club 51. The Department of Public Health has indicated there is no suitable location for a replacement septic system on the property, and the owner of this site is requesting attachment to the Village of DeForest and connection to the Village water and sanitary sewer systems to solve this problem. The property is in an area designated in the *2010 DeForest-Windsor Cooperative Plan* as eligible for attachment to the Village.

The Village anticipates that the current use will continue for the foreseeable future. If redevelopment would occur, it would be guided by the *Village of DeForest Comprehensive Plan*, which calls for “Planned Neighborhood” use, described as a mix of primarily single-family residential development along with other residential development and neighborhood commercial uses.



6 Jun. 2011



Prepared by staff of the CARPC.




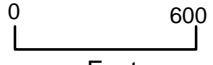
## Map 2 Aerial (2010)

Amendment to the Northern Urban Service Area and Environmental Corridors in the Town of Windsor

-  Existing Service Area
-  Service Expansion Boundary
-  Tax Parcels
-  Environmental Corridor to be Added
-  Municipal Boundary

8 Jun. 2011

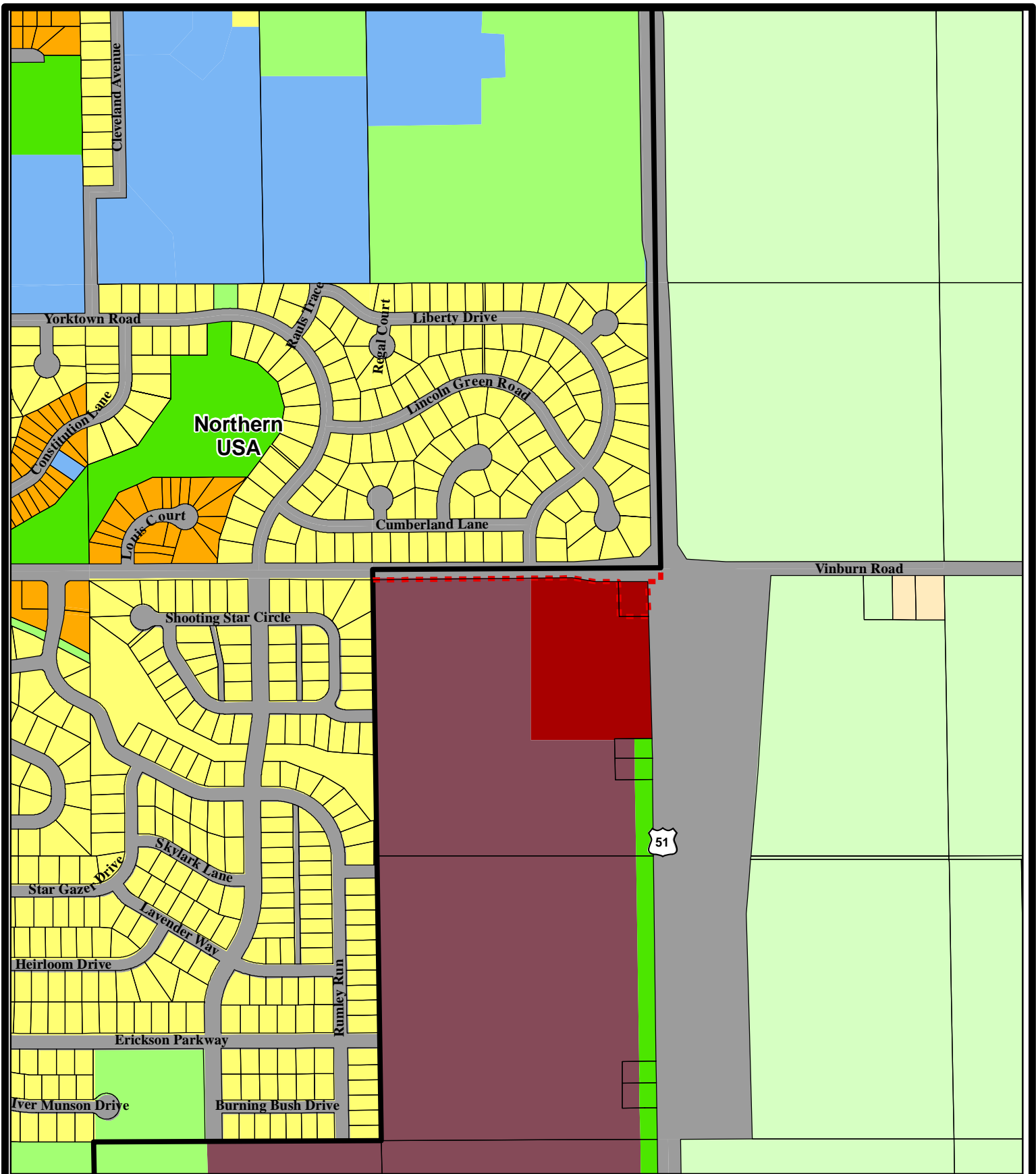




0 600

Feet

Prepared by staff of the CARPC.



### Map 3 Planned Land Use

Amendment to the Northern Urban Service Area and Environmental Corridors in the Town of Windsor

Tax Parcels	High Density Residential	Parks / Outdoor Recreation
Service Area To Be Added	Incorporated	Planned Development
Current Service Area	Industrial / Business	Rural Residential
<b>Planned Land Use (MATPB)</b>	Institutional / Government	Transportation
Agriculture	Residential	Under Construction
Commercial Retail and Services	Medium Density Residential	Water Body
Communication / Utilities	Mixed Commercial / Residential	Woodland
Extractive	Natural Area	

8 Jun. 2011

0 600

Feet

Prepared by staff of the CARPC.

### 3. Existing Environment

**Natural Resources.** The proposed amendment area is located within the Yahara River and Lake Mendota Watershed. There is an unnamed, intermittent stream located in the southeast corner of the amendment area. Intermittent streams flow only after rainfall or snowmelt and as a result are dry most of the year. This intermittent tributary winds through the Village of DeForest for approximately 2 miles, until it joins the Upper Yahara River (see Map 4).

There are no wetlands, steep slopes, or woodlands located within the amendment area.

#### Yahara River

The Yahara River originates in south central Columbia County and flows southward toward the Village of DeForest where it continues through the Town of Windsor and then enters the Cherokee Marsh wetland complex before discharging into Lake Mendota. The Upper Yahara River sub-watershed, upstream of Token Creek, drains an area of approximately 28.4 square miles.

The current biological use for the reach of the Yahara River from CTH V to Windsor Road is warmwater sport fishery. The amount of available aquatic habitat in this reach is very good. Macro-invertebrate samples indicate good water quality. The gradient and flow in this reach is also very good. In a 2004 DNR memo listing streams that warrant thermal protection under Chapter 14 of the Dane County Ordinances, the DNR indicated that the segment of the river between South Street in DeForest to Windsor Road is a coldwater system.

#### 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 northwest part of amendment area are Plano Silt Loam (PnB). These soils are deep, well drained and moderately well drained, nearly level to sloping soils on glaciated uplands. The soils have a high fertility, moderate permeability, and a moderate hazard of erosion. The NRCS currently rates this soil type as very limited (i.e. unfavorable) for septic tank absorption fields. Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. The maximum application rates allowed by Comm 83 for this soil type could be very limited depending on the specific soil characteristics at the site. The soils in the southeast part of amendment area are Troxel Silt Loam (TrB). These soils are deep, well drained and moderately well drained, gently sloping soils in draws, on fans, and in drainage ways. The soils have a high fertility, moderate permeability, and a moderate hazard of erosion. The NRCS currently rates this soil type as somewhat limited (i.e. moderately favorable) for septic tank absorption fields (see Map 5).

Historically the depth to groundwater is generally over 25 feet in the amendment area. The Plano and Troxel silt loam soils can have a seasonal (April to June) zone of water saturation within 3 to 5 feet of the ground surface. 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. The depth to bedrock is from 10 to 50 feet in the amendment area.

Archaeology

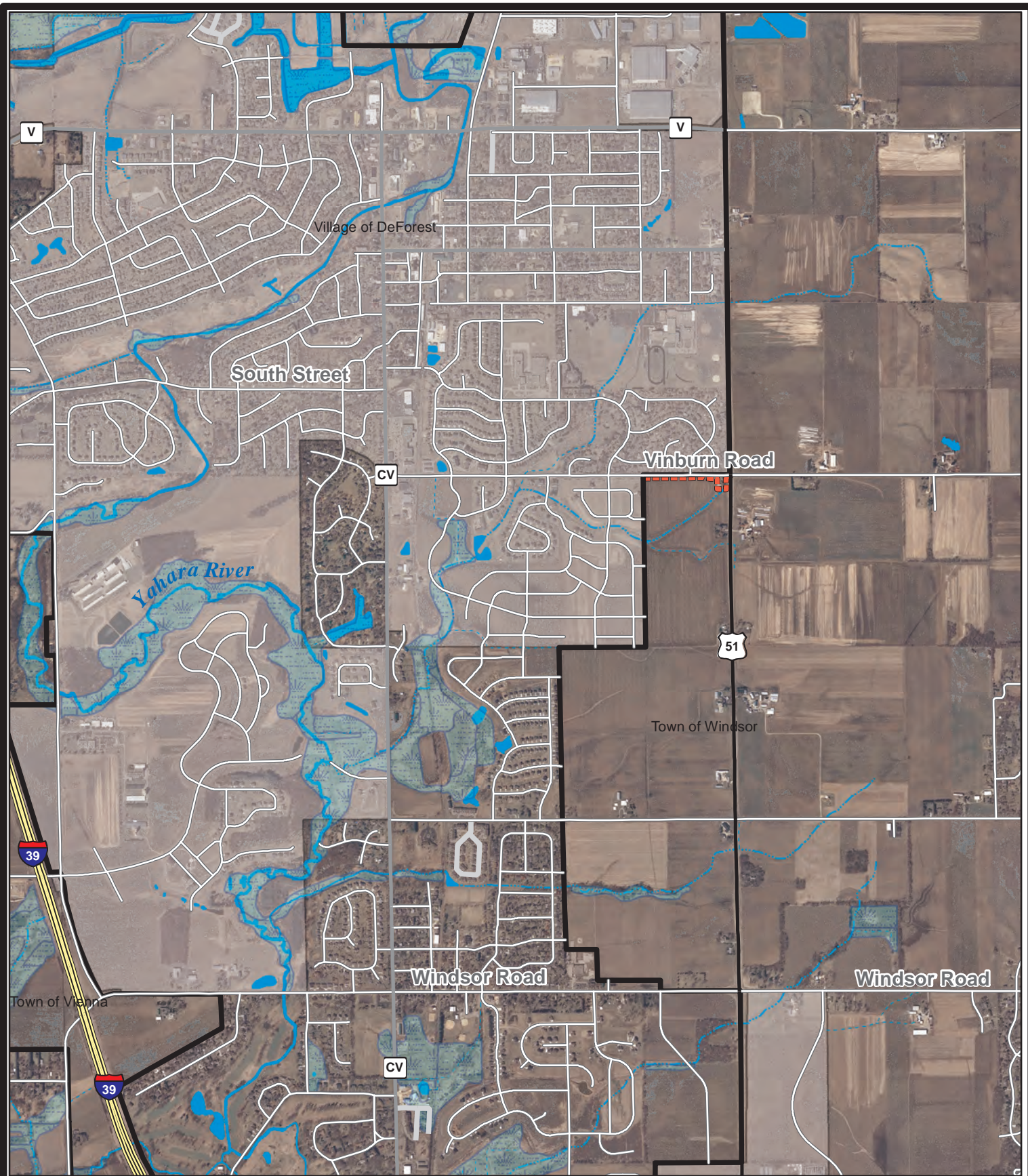
The parcel is currently developed and any archaeological resources would have been destroyed as part of the construction of the current structure. No impact on archaeological resources is foreseen.

**Land Use.** The proposed amendment area is composed of lands currently in commercial use, with an upper residential unit, and existing right-of-way in Vinburn Road. The parcel and right-of-way are currently in the Town of Windsor but annexation to the Village of DeForest and connection to the DeForest public sewer and water systems have been requested.

Land uses adjacent to the proposed amendment are as follows:

North: Residential (Village of DeForest)  
South: Agriculture (Town of Windsor)  
East: Agriculture (Town of Windsor)  
West: Agriculture (Town of Windsor)

**Existing Transportation System.** The amendment area is located at the intersection of Vinburn Road and US Highway 51, and the commercial parcel has a driveway accessing Vinburn Road.



**Map 4 Water Resources**

Amendment to the  
Northern Urban Service Area  
and Environmental Corridors  
in the Town of Windsor

8 June 2011

0 2,000  
Feet  
Prepared by staff  
of the CARPC.

Village of DeForest

PnB

Town of Windsor

TrB

RnB

GwC

### Map 5 Soil Suitability for Septic Tank Absorption Field

Amendment to the Northern Urban Service Area and Environmental Corridors in the Town of Windsor



Existing Urban Service Area



Service Area to be Added

#### NRCS Rating



Somewhat limited



Very limited



6 June 2011



Feet

Prepared by staff of the CARPC.

#### 4. Consistency or Conflict With Adopted Plans and Policies

The proposed amendment is consistent with the *Village of DeForest Comprehensive Plan* and the *2010 DeForest-Windsor Cooperative Plan*. The property is in an area identified in the *Cooperative Plan* as subject to attachment to the Village of DeForest. The application includes a May 2011 finding by the Village of DeForest Planning and Zoning Commission that the urban service area amendment proposed is consistent with the Village Comprehensive Plan.

The amendment area is adjacent to the existing Northern Urban Service Area to the north, and public sanitary sewer service can be extended to the area from existing public sanitary sewer 500 feet west of the amendment area.

This addition to the Northern Urban Service Area includes no developable area and proposes no changes to the current development. A small portion of a drainage way crossing the property is to be designated as environmental corridor.

**Need.** The proposed amendment area adds no developable area and no changes to the current development are proposed. The amendment is requested based on a need to connect to public sewer service as the use of an illegal septic system is discontinued to protect public health. The amendment application includes a statement from the Department of Public Health that there is no suitable location for a replacement septic system on the property. The only private option for the continued operation of the Club 51 Tavern is a holding tank, which is less cost effective than connection to public sewer and is not a sound long-term method for sanitary waste disposal from a commercial establishment.

**Goals and Objectives.** The adopted 14 major goals of the *Dane County Land Use and Transportation Plan*, as updated in 2008, can be found on pages one and two of the Goals and Objectives update document on the CARPC website at:  
[http://danedocs.countyofdane.com/webdocs/PDF/capd/LUTP\\_GandO\\_adopted\\_2.28.08.pdf](http://danedocs.countyofdane.com/webdocs/PDF/capd/LUTP_GandO_adopted_2.28.08.pdf).

The amendment proposal supports the following three CARPC goals:

1. *Promote an economic development strategy that will provide suitable employment opportunities and a stable and diversified economic base.*

The amendment somewhat supports this goal but, more specifically, supports the related CARPC economic development objectives of supporting local small businesses and retaining existing businesses. Club 51 Tavern currently operates in the proposed amendment area with an illegal septic system due to the location of a building addition constructed over 40 years ago. In the interest of public health, the Madison and Dane County Public Health Department requires that the business discontinue use of the illegal septic system by July 1, 2011. Conditions of the site allow no feasible private options for sanitary waste disposal other than a holding tank. The costs and inconvenience of a holding tank on the property make it a highly undesirable option for the business, and it is not a preferred approach for sanitary waste disposal. By allowing Club 51 to resume operations by taking advantage of

the cost-effective alternative of public sewer service, the amendment supports CARPC objectives supporting local and small businesses and encouraging business retention.

- 2. Promote, conserve and restore all water resources in the region as to both quality and quantity.*

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 failed septic system. The drainage field for the current septic system is unknown and may extend into the nearby drainage way. The Madison and Dane County Public Health Department has provided a letter stating that the agency supports connection of the property to the Village of DeForest public sewer. The current septic system will be properly abandoned as part of connection to public sanitary sewers.

- 3. Develop and promote a county-wide system of open space corridors as a framework to protect the natural environment and scenic values, and provide outdoor recreation opportunities.*

The designation of the 0.1 acre drainage way area as environmental corridor supports the CARPC goal to develop a county-wide system of open space corridors because, although small, it fits into a broader network of corridors that will eventually be established along the drainage way.

In addition, the applicant Village of DeForest is supporting a fourth CARPC goal:

*The CARPC shall work with communities to update the Dane County Water Quality Plan. In addition to the elements required by NR121 of the Wisconsin Administrative Code, the Water Quality Plan shall also define areas that should be protected from development based on provisions to protect water quality as contained in NR 121 of the Wisconsin Administrative Code. The Plan shall also define areas that can be developed with measures to protect, restore or minimize degradation of water quality. (goal continues with description of FUDA plans)*

The amendment area is included in the Northern FUDA, for which planning efforts are underway. The Village of DeForest and Town of Windsor are working cooperatively with the CARPC on FUDA planning.

The proposed amendment is neutral with regard to the following ten CARPC goals:

- 1. Promote the development of balanced communities throughout the county with sufficient commercial, industrial, residential, and open space land to meet the needs of existing and future residents.*

The amendment will allow the continuation of the commercial use at the current location, but does not add to the balance of the community.

- 2. Promote compact urban development in new areas adjacent to existing urban areas and in the redevelopment or infill development of existing neighborhoods.*

The amendment area proposes no new development.

- 3. Promote the development of functionally and visually distinct communities encouraging compact, mixed-use neighborhoods and the efficient provision of a full range of public services.*

The proposed amendment area includes a building accommodating commercial and residential uses but does not have qualities that particularly promote functionally or visually distinct communities encouraging compact, mixed use neighborhoods.

- 4. Provide a full range of safe and affordable housing opportunities and choices for all residents throughout the county.*

With no new residential component, the proposed amendment does not add to the range of housing opportunities.

- 5. Provide an integrated, all-mode transportation system which offers the efficient, effective and safe movement of people and goods, and provides mode choice wherever possible while enhancing and, where relevant, preserving the character and livability of the neighborhoods and residential areas where transportation facilities are located.*

There is no all-mode transportation component in the proposed amendment.

- 6. Encourage concentration of employment and activity centers at nodes and along transit corridors to maximize the efficiency of the existing and future transportation system.*

The amendment neither supports nor conflicts with this goal.

- 7. Support and maintain the central urban core as the region's major activity center and seek greater diversity and vitality in that area.*

The amendment is small and proposes no new development. It does not have a positive or negative impact on the role of the central urban core.

- 8. Protect agricultural lands and limit non-farm developments in order to maintain the county as one of the nation's most productive agricultural areas.*

No agricultural land is impacted by the amendment proposal.

- 9. Promote planning and design that preserves and restores environmental functions and protects important environmental, cultural and historic resources.*

The amendment proposal does not include any provisions for preservation or restoration of environmental functions other than those outlined on top of the previous page under #2 of goal achievement.

- 10. Promote a sustainable capital area region. A sustainable region is one that is far-seeing enough, flexible enough, and wise enough to maintain and enhance its physical, environmental, and social systems of support.*

The proposal for development of the amendment area does not include any specific plans for sustainable development.

## **5. Proposed Urban Services**

**Public Water System.** The DeForest Water Utility proposes to provide public water service to the amendment area from the DeForest North water system through an extension of the water main located on Liberty Drive. The DeForest North water system has a firm capacity (with the largest pump out of service) of 1,150 gallons per minute and 900,000 gallons of storage capacity. The largest projected daily water demand for the DeForest North water system is currently estimated to be 1.568 mgd.

The Village estimates that the proposed amendment area will require a water supply of about 830 gallons per day. This will slightly increase the largest projected daily water demand for the DeForest North water system to a total of 1.569 mgd, or 1,090 gallons per minute (gpm). The peak rate is assumed to be twice the maximum daily demand or 2,180 gpm.

The CARPC criterion for water supply is to be able to provide the peak water demand plus 2,500 gpm for fire protection for 2 hours with the available firm pumping capacity and storage. The storage required to meet this criteria is 423,482 gallons, which is less than the existing 900,000 storage capacity of the North water system. Therefore this criterion will be met.

**Wastewater.** The Village of DeForest proposes to provide sanitary sewer service with the existing 8" sanitary sewer on Liberty Drive. A duplex grinder pump station and approximately 500 feet of 2" diameter forcemain will be required to serve the amendment area. The Village estimates that the existing bar/restaurant and apartment in the amendment area will generate approximately 830 gallons of wastewater per day. No additional development is planned or proposed. The Village of DeForest has determined that their sanitary sewer system has adequate capacity to serve the amendment area.

#### Treatment

The Madison Metropolitan Sewerage District (MMSD) provides wastewater treatment for the Village of DeForest. MMSD's Northeast Interceptor - DeForest Extension transports wastewater from the Village's sanitary sewer system to MMSD Pumping Station 14. This pumping station is expected to be at capacity during periods of peak flow by 2030. MMSD is planning a capacity improvement for this pumping station. The Nine Springs Treatment Facility has a design capacity of 50 million gallons per day (mgd) and received an average of 43.0 mgd in 2010, including infiltration and inflow. 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. The facility is a conventional activated sludge plant with anaerobic sludge digestion, ultraviolet light disinfection, and land spreading of biosolids. The facility has been in compliance with its discharge permit for 11 of the past 12 quarters. The effluent dissolved oxygen concentration was below 5 mg/l in June 2008, which was a period of heavy rainfall. MMSD continues to work with municipalities in its service area to reduce infiltration and inflow, which can cause operational problems during periods of wet weather.

**Stormwater Management System.** The amendment area drains to the southeast towards the intermittent drainage way. There are no stormwater management facilities currently serving the amendment area, because the facility was built prior to stormwater management requirements. A new stormwater management system would be required if the amendment redevelops in the future and exceeds four thousand square feet of land disturbance.

**Environmental Corridors.** The CARPC buffer strip guideline for intermittent drainage ways with no recreational access is a minimum of 25 feet on each side of the bank, and a

75-foot total minimum width. The intermittent drainage way in the southeast corner of the proposed amendment area is approximately 15-feet wide. The amendment proposal includes an 80-foot wide Environmental Corridor for this drainage way (40 feet on each side of the center), which meets the buffer strip guidelines. A small portion of the existing parking lot will encroach into the proposed environmental corridor. The environmental corridor will have connectivity to the existing environmental corridor in the Heritage Gardens subdivision to the west, when the area in between is developed.

**Public Safety Services.** The DeForest Police Department will provide police protection services to the amendment area when it is attached to the Village. The DeForest Police Department is headquartered less than a mile from the amendment area, and is staffed by 17 full time equivalent police officers. The current ratio of about 1.9 officers per 1,000 population is well within the CARPC guideline of one officer per 1,000 residents.

The DeForest Area Fire and Emergency Medical Services Department currently provides fire protection and emergency medical services for the amendment area, and will continue to do so. The Village of DeForest has an ISO fire rating of four (4), well within CARPC fire protection guidelines. The DeForest Fire Station is located in the Public Safety Building at 305 E. Holum Street, less than one mile from the proposed amendment area. Response time is estimated to be five minutes.

**Streets and Sanitation Services.** The Village of DeForest will provide garbage and recycling services through a contract with a private waste disposal company.

**School and Park Facilities.** The amendment area is in the DeForest Area School District. Currently, students residing at this location would attend Windsor Elementary School, DeForest Middle School and DeForest High School. The elementary school is located approximately 1 ½ miles southwest of the amendment area, and the middle and high schools are located approximately ¼ mile to the north.

The nearest developed park is Libertyland Park, ¼ mile to the northwest. A dedicated but not yet developed neighborhood park is to be located in Heritage Gardens, about ½ mile southwest.

**Urban Transportation System.** The amendment area is at the intersection of US Highway 51 and Vinburn Road. US Highway 51 is scheduled for reconstruction, with this section to be relocated further east and no access provided at Vinburn Road. Following reconstruction, the “old” Highway 51 will be jurisdictionally transferred to DeForest and Windsor to become North Towne Road. Both Vinburn Road and the current Highway 51 have adequate capacity to handle traffic from the amendment area.

## 6. Impacts or Effects of Proposal

**Surface Water and Groundwater Impacts.** Information on the design and location of the absorption field for the existing septic system is unavailable, due to its age. Improperly designed, located, or 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. Improper 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 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 development. Adding this existing impervious area to the urban service area will not change the existing peak flow rates, volumes, quality, or temperature of the current stormwater runoff. There is currently no stormwater management being provided due to the age of the existing development. The existing development is contributing to the impairment of water resources, like other areas built before our current stormwater management standards.

**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 existing development.

**School System Impacts.** There are no anticipated impacts to the DeForest Area School District. The area is already in the district and developed. 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 does not meet state code because a building expansion was constructed over the septic tank (this is believed to have occurred in the 1960s). COMM 83.43-1 requires a 5-foot minimum setback from a septic tank to any structure. The location of the existing adsorption field is unknown. The Madison and Dane County Public Health Department has determined that there is no suitable location for a replacement septic system on the property and that the only on-site option is a holding tank. The estimated capital cost of a 5,000-gallon holding tank is \$15,000 to \$20,000 (\$17,500 was assumed for the present value cost analysis). Based on the estimated wastewater generation rate, the tank would require weekly pumping at a cost of \$140 per visit, or an annual cost of \$7,280. According to the Village's consulting engineer, the cost to the property owner to connect to the Village's sanitary sewer is approximately \$15,000. The operation and maintenance cost of the public system is reflected in the Village's sewer fee, which is estimated to be about \$1,800 per year. 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 \$113,232 for the holding tank versus \$38,670 for the connection to the public sanitary sewer. Thus sanitary sewer connection is clearly the more cost-effective option.

## **8. Controversies, Comments Received, Unresolved Issues**

A public hearing before the Capital Area Regional Planning Commission is scheduled for July 14, 2011. The application includes a letter from the Madison and Dane County Public Health Department supporting connection of the Club 51 property to public sewer. No other comments have been received and no controversies are noted.

## **9. Conclusions and Staff Recommendation**

The proposed amendment is adjacent to the existing urban service area and provides the full range of urban services. It supports CARPC goals by supporting a local business, protecting the groundwater, and adding to the system of open space corridors. In addition, the Village of DeForest is a participant in the FUDA planning process for the area.

The proposed environmental corridor meets the CARPC buffer strip guideline for intermittent drainage ways with no recreational access.

Eliminating the improperly located 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 existing development is impacting water resources because it is not served by any stormwater management facilities. This is the case for most development built before our current stormwater management standards. Stormwater management practices cannot be required for individual, existing, developments under current regulations. However, the voluntary installation of a retrofit stormwater practice would make a small contribution to improving water quality and should be encouraged. Therefore, staff recommends that the Village of DeForest work with the property owner to facilitate the installation of a rain garden / bioretention area, filter strip of native vegetation, or other retrofit stormwater management practice to manage the stormwater runoff from the existing parking lot.

Staff recommends approval of this urban service area amendment based on the proposed services.