



Wastewater Committee

Date: December 17, 2009

CMAP Water Quality Review #: 09-WQ-115

Applicant: Village of Mundelein

Re: The Village of Mundelein has requested that 3.22 acres be transferred from the Southeast Central Lake Facility Planning Area (FPA) to the Mundelein FPA. The requested amendment area is within the Village of Mundelein.

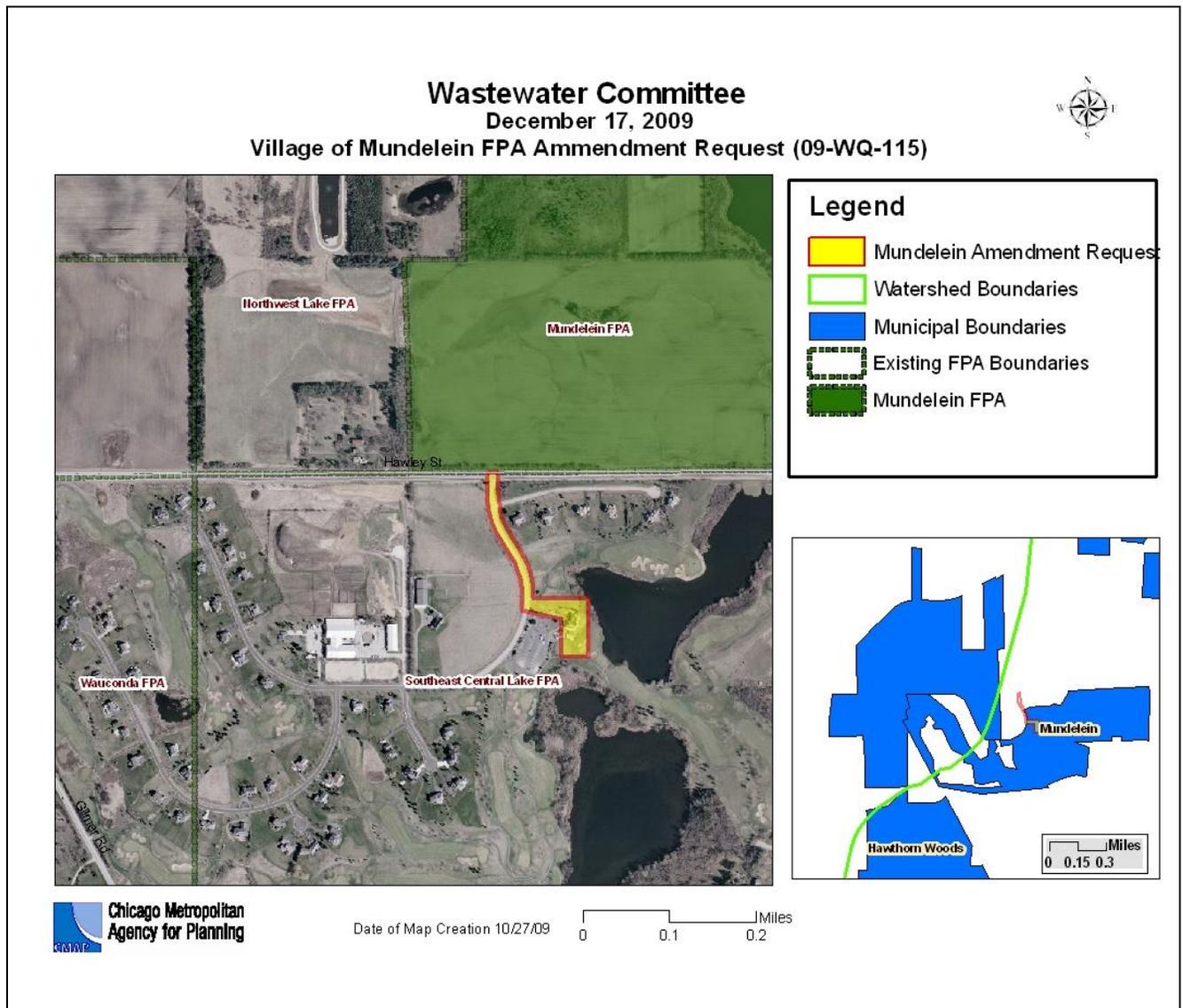
Based on the policies and recommendations of the *Areawide Water Quality Management Plan for Northeastern Illinois*, the *Illinois Water Quality Management Plan*, local government and agency comments, comments received from various interested and affected parties, and staff's analysis, staff recommends a recommendation of "**Support**" for the proposed amendment request.

Important Note: CMAP is the designated areawide water quality planning agency and the advisory comprehensive regional planning agency for northeastern Illinois. Therefore, CMAP needs to act as a consensus builder by promoting sound planning principles and practices. Though not specifically required by the Illinois Environmental Protection Agency (IEPA), Criteria Nos. 6 – 9 specifically address CMAP's regional role and promote sound planning.

A. REQUEST SUMMARY

The Village of Mundelein has requested an amendment of the state and areawide water quality management plans to reflect the transfer of 3.22 acres of the Southeast Central Lake Facility Planning Area (FPA) land into the Mundelein FPA. The proposed area is located in Lake County, Fremont Township, Section 27.

Map of FPA Boundary Amendment Area





RELATIONSHIP TO RECOMMENDED CRITERIA FOR FACILITY PLAN AMENDMENTS

The Village of Mundelein is proposing to transfer approximately 3.22 acres from the Southeast Central FPA to the Mundelein FPA. The Illinois Environmental Protection Agency established the Mundelein FPA in 1991. Previous to this date the area that is now the Mundelein FPA was part of the Southeast Central Lake FPA.

The following amendments have been considered by the IEPA for the Mundelein FPA since the adoption of the *Area Water Quality Management Plan* and the *Illinois Water Quality Management Plan*.

Review No.	Action	From FPA	To FPA
05-WQ-189	FPA Amendment	Northwest Lake	Mundelein
02-WQ-064	FPA Amendment	Northwest Lake	Mundelein
98-WQ-001	FPA Amendment	Southeast Central Lake	Mundelein
94-WQ-084	Facility Plan Update and Plant Expansion	---	---
91-WQ-048	FPA Amendment	Northwest Lake	Mundelein



Below is a summary and analysis of the proposed amendment application with regards to these criteria.

Review Criteria and Staff Analysis	Results																												
<p>1. <i>“The proposed facility amendment must be designed to meet the State of Illinois water quality standards for the receiving waters and the appropriate discharge standards or must receive a variance from the Illinois Pollution Control Board.”</i></p>	<p>Consistent</p>																												
<p>The Village of Mundelein is requesting the addition of 3.22 acres of land to its facility planning area. The purpose of this amendment request is to service the Steeple Chase Golf Course, specifically the clubhouse. The parcel is currently within the Village of Mundelein. The applicant estimated the clubhouse will produce 500 gallons per day of wastewater flow to the Village’s wastewater system. Wastewater service for the amendment area will be provided by connecting to an 8” sanitary sewer stub located adjacent to the amendment area, directly north of Hawley Street.</p> <p>Wastewater flows from the amendment area will serviced by the Village of Mundelein’s 4.95 million gallons per day (mgd) Sewage Treatment Plant (STP) which discharges to the Des Plaines River. The treatment plant operates under NPDES No. IL0022501 which expires September 30, 2010. The treatment plant has a design average flow of 4.95 mgd of wastewater and a design maximum flow of 15.00 mgd. Information provided by the Village suggests that the plant received an average of 4.20 mgd over the last 12 months. However during the same time period, the plant exceeded the design maximum flow rate twice, once in December 2008 and once in March 2009. The Village associates the excess flow to infiltration and inflow. Staff strongly encourages the Village to further investigate the increased flows. If infiltration and inflow are to be blamed, the Village should develop a strategy to reduce these flows. The Village has no plans to expand their treatment plant at this time. The treatment plant is not listed on the Illinois EPA’s “Critical Review” or “Restricted Status” October 2009 lists.</p> <p>The treatment plant has the following limits within its permit:</p> <table border="1" data-bbox="230 1297 1256 1831"> <thead> <tr> <th colspan="3" data-bbox="230 1297 1256 1346">Load Limits lbs/day DAF (DMF)</th> </tr> <tr> <th data-bbox="230 1352 553 1394"></th> <th data-bbox="558 1352 816 1394">Monthly</th> <th data-bbox="821 1352 1256 1394">Daily Maximum</th> </tr> </thead> <tbody> <tr> <td data-bbox="230 1400 553 1442">CBOD5</td> <td data-bbox="558 1400 816 1442">413 (1251)</td> <td data-bbox="821 1400 1256 1442">826 (2502)</td> </tr> <tr> <td data-bbox="230 1449 553 1491">Suspended Solids</td> <td data-bbox="558 1449 816 1491">495 (1501)</td> <td data-bbox="821 1449 1256 1491">991 (3002)</td> </tr> <tr> <td data-bbox="230 1497 553 1539">Dissolved Oxygen</td> <td colspan="2" data-bbox="558 1497 1256 1539">Shall not be less than 6 mg/L</td> </tr> <tr> <td data-bbox="230 1545 553 1587">pH</td> <td colspan="2" data-bbox="558 1545 1256 1587">Shall be in the range of 6 to 9 Standard Units</td> </tr> <tr> <td data-bbox="230 1593 553 1656">Fecal Coliform</td> <td colspan="2" data-bbox="558 1593 1256 1656">Daily Maximum shall not exceed 400 per 100 mL (May through October)</td> </tr> <tr> <td data-bbox="230 1663 553 1831" rowspan="3">Ammonia Nitrogen (March –May/Sept. – October)</td> <td data-bbox="558 1663 816 1747">62 (188)</td> <td data-bbox="821 1663 1256 1747">124 (375)</td> </tr> <tr> <td data-bbox="558 1753 816 1795">165 (500)</td> <td data-bbox="821 1753 1256 1795">300 (1001)</td> </tr> <tr> <td data-bbox="558 1801 816 1831">99 (300)</td> <td data-bbox="821 1801 1256 1831">330 (1001)</td> </tr> </tbody> </table>	Load Limits lbs/day DAF (DMF)				Monthly	Daily Maximum	CBOD5	413 (1251)	826 (2502)	Suspended Solids	495 (1501)	991 (3002)	Dissolved Oxygen	Shall not be less than 6 mg/L		pH	Shall be in the range of 6 to 9 Standard Units		Fecal Coliform	Daily Maximum shall not exceed 400 per 100 mL (May through October)		Ammonia Nitrogen (March –May/Sept. – October)	62 (188)	124 (375)	165 (500)	300 (1001)	99 (300)	330 (1001)	
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<p>The Village of Mundelein wastewater treatment plant discharges into the Des Plaines River. The Des Plaines River is listed on the 2008 Illinois EPA 303(d) Impaired Waterway listing. Causes of impairment include phosphorus, mercury and PCBs. Since the Des Plaines River is an impaired waterway future growth of wastewater treatment plants will require more extensive treatment than currently provided. The Village of Mundelein, as with all other discharges to the Des Plaines River, should be closely evaluating partial water reuse during low flow conditions as a step in restoring the Fox River water quality.</p> <p>The Village of Mundelein wastewater treatment plant's unit treatment process includes: fine screens; aerated grit tanks; primary clarifiers; aeration tanks; secondary clarifiers; sand filters; chlorine contact tanks; return activated sludge pumps; primary anaerobic digesters; secondary anaerobic digester and a belt filter press. A combination of sludge drying beds and two belt presses are used for dewatering sludge. Sludge is contract hauled to land application sites in the spring and the fall.</p>	
<p>2. <i>"The population and employment for which the proposed amendment is designed must fall within the twenty year forecast most recently adopted by the Commission for the facility planning area or the Commission may agree to adjustments within the regional forecast total."</i></p>	<p>Consistent</p>
<p>The amendment area is located in Lake County. The applicant estimates that the clubhouse employs approximately 42 employees (2 full time and 20 part time). The estimated wastewater flow from this amendment area is approximately 500 gallons per day. The wastewater flows are estimated from historical water usage records.</p> <p>The area is currently zoned as Public Use by the Village of Mundelein. The amendment area consists of a La Vista roadway and right-of-way leading to the Steeple Chase Golf Club. It is important to note that only the Clubhouse is in the amendment area. The entire golf course is not included in this request. There are no plans to change the land use of this area and it is completely built out.</p>	
<p>3. <i>"The applicant must demonstrate that the unit of local government granting zoning to the project formally accept financial responsibility for the wastewater treatment system in the event of a system malfunction or failure. Such acceptance must be in the form of a resolution from the unit of government granting zoning."</i></p>	<p>Not Applicable</p>
<p>The requested amendment does not involve the construction, operation or modification of a privately-owned treatment facility.</p>	
<p>4. <i>"The proposed amendment should not reduce the effectiveness of the water quality improvement strategy contained in the original plan, either for point or non-point source control."</i></p>	<p>Consistent</p>
<p>Point Source Impacts (See analysis under Criterion #1)</p>	



<p><u>Non-Point Source Impacts</u></p> <p>The amendment request is subject to the Lake County Watershed Development Ordinance which has provision for Stormwater Management, soil erosion and sediment, control, floodplain management, and stream and wetland protection ordinances. These ordinances are generally consistent with CMAP’s model ordinances with the following exceptions. The stream and wetland ordinance does not meet the following recommendation:</p> <ul style="list-style-type: none"> ○ Prohibit watercourse relation or modification except to remedy existing erosion problems, resource natural conditions, or to accommodate necessary utility crossings; and require mitigation of unavoidable adverse water quality and aquatic habitat impacts; and ○ Designate a minimum 75 foot setback zone from the edge of identified wetlands and waterbodies in which development is limited to the following types of activities: minor improvements like walkways and signs, maintenance of highways and utilities, and park and recreational area development. ○ Discourage culvert crossing of streams unless necessary for allowing acres to a property. <p>The Village states that proper erosion and sediment control practices will be used when constructing wastewater service to the amendment area. The Village will adhere to the Sedimentation and Erosion Control notes published by Lake County Stormwater Management Commissions and the Village’s requirements.</p> <p>The Village also states that the treatment plant implements good housekeeping practices as part of the SWPP required for the NPDES Permit.</p> <p>The National Wetlands Inventory Map does not reveal any wetlands located within the amendment area.</p> <p>According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the amendment area there are no floodplains present.</p>	
<p>5. <i>“The proposed amendment should not adversely affect the cost-effectiveness of the Areawide Water Quality Management Plan for meeting water quality standards in the facility planning areas as a whole.”</i></p>	<i>Consistent</i>
<p>Three alternatives were explore, however a detailed cost analysis was not provided since the applicant felt that the alternatives were infeasible. The first alternative explored was to continue the use of the septic system in place. The current system is beginning to fail and therefore this alternative was not considered because it would not be a viable long term option. The second alternative was to connect to the existing Southeast Central Lake FPA service line, however the closest connection point is over 3 miles away. This alternative was deemed to be cost prohibitive and therefore was not considered.</p>	



<p>The third alternative was to connect to the Mundelein FPA service line. An Engineer's Opinion of Probable Costs was provided for the third alternative and estimated the total cost at \$154, 567.60. This option was chosen to be the most feasible and cost effective.</p> <p>The Mundelein Park & Recreation District will be responsible for the construction costs and will incur a connection fee.</p>	
<p>6. <i>"The proposed amendment should have the endorsement of the designated management agency for wastewater treatment and substantial support by the municipalities within the affected facility planning area."</i></p>	Consistent
<p>During the August 24th, 2009 Regular Meeting of the Village of Mundelein, the Village Board of Trustees authorized Mayor Kessler to submit an amendment application to expand the FPA to serve the Steeple Chase Golf Club Clubhouse. The meeting minutes for this meeting were provided within the application.</p>	
<p>7. <i>"The proposed amendment should not adversely affect adjoining units of government."</i></p>	Consistent
<p>Staff has not received any comments from adjoining units of government.</p>	
<p>8. <i>"The proposed amendment should be consistent with other county and regional or state policies, such as the Governor's Executive Order #4 on the preservation of agricultural land."</i></p>	Consistent
<p><u>Agricultural Protection</u></p> <p>The Illinois Department of Agriculture (IDOA) has submitted a letter of support dated on October 7th, 2009 for the land transfer. The IDOA states that they have no concerns regarding the application because it is a transfer of land from one FPA to another FPA.</p> <p><u>Village of Mundelein Zoning Map</u></p> <p>The Village currently has the area zoned as Public Use, which is appropriate for a public golf course. There are no plans to change the land use within the amendment area, therefore the amendment is consistent.</p>	
<p>9. <i>"Consideration will be given to evidence of municipal or county zoning approval and commencement of development activity prior to Area-wide Water Quality Management Plan adoption in January 1979."</i></p>	Not Applicable