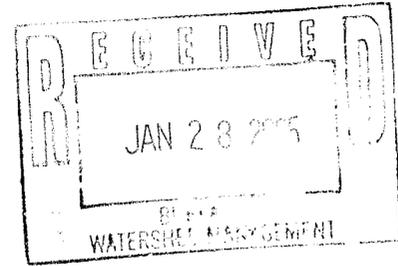


## CORRESPONDENCE/MEMORANDUM

DATE: January 27, 2005  
TO: Laura Bub-WT/2  
FROM: Cindy Koperski-La Crosse 



SUBJECT: Removal of Stream Classifications from NR104 for Ridgeview Inn, Readstown, and Vernon County Home

The following facilities no longer discharge to the identified receiving streams for a variety of reasons. The stream classifications associated with these stream classifications should be removed from NR104.

**Ridgeview Inn, La Crosse County**

Receiving stream: Tollefson Coulee Creek which is a tributary to Bostwick Creek  
Ridgeview Inn burned down in 2002 and the associated wastewater treatment plant was also destroyed. The business and associated wastewater treatment plant has not been rebuilt. The property was sold to a developer for a single family residence development. (See attached news article.)

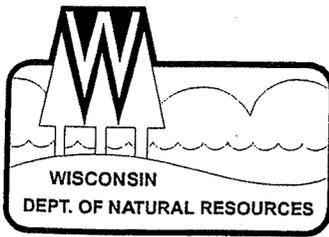
**Readstown, Vernon County**

Receiving stream: Backwater to the Kickapoo River  
Readstown recently completed a facility plan which included the recommendation to move their outfall from the backwater to the mainstem of the Kickapoo River. This work was completed in 2003. Currently Readstown discharges to the Kickapoo River which is FFAL. (See attached page of 1 of inspection report.)

**Vernon County Home, Vernon County**

Receiving stream: A tributary to Springville Branch  
The Vernon County Home abandoned their wastewater treatment plant a number of years ago. They currently discharge to the Viroqua wastewater treatment facility.

att  
cc: Paul La Liberte-WCR  
Charlie Cameron-La Crosse



# State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor  
Scott Hassett, Secretary  
Scott Humrickhouse, Regional Director

La Crosse Service Center  
3550 Mormon Coulee Road  
La Crosse, Wisconsin 54601  
Telephone 608-785-9000  
FAX 608-785-9990

April 15, 2004

Ms. Tammy Kapler, Clerk  
Village of Readstown  
116 N. 4<sup>th</sup> Street HWY 131  
Readstown, WI 54652

Subject: Compliance Evaluation Inspection

WPDES # 0021661

Dear Ms. Kapler:

I want to thank your operator Mr. Kenneth Ahnen for assisting me on the March 24, 2004 Compliance Evaluation Inspection (CEI). The Department conducts formal inspections to ensure that permittees are meeting the conditions of their WPDES permit, provide technical assistance, and to help plan for future needs. This report summarizes the CEI performed at the Village of Readstown.

## ORGANIZATION

The Village of Readstown, having a population of 395 people (DOA figure), is located in southern Vernon County on the boarder with Crawford County. The Village board governs the treatment facility and Alan Strait, President, chairs the Village Board. Certified Operator Kenneth Ahnen (DNR Certification #25676) oversees the daily business of the wastewater utility and operates the treatment facility. Two additional employees assist him.

Prior to the construction of the current treatment plant, the Village had a 1973 contact stabilization treatment facility. After 30 years of service, the facility was taken out of service in 2003 when the new sequencing batch reactor (SBR) plant was constructed. McMahon Associates (1445 McMahon Drive, Neenah Wisconsin 54956) designed the SBR and Wabasha Construction was the general contractor.

The Village does its own sewer cleaning. Davy Laboratories (La Crosse Wisconsin) are currently performing laboratory testing.

The Department issued its first WPDES (Wisconsin Pollution Discharge Elimination System) discharge permit to the Village of Readstown on September 28, 1973. The current WPDES discharge permit was issued on August 9, 1999 and modified on March 28, 2003 to account for a change of discharge location. The discharge now goes directly into the Kickapoo River. Biosolids is hauled by United Liquid Waste (ULW) to the ULW WPDES permitted facility. The permit expires on March 31, 2004.

## INFRASTRUCTURE

The wastewater treatment facility was placed into service in 2003 and is now about 1 year old. The following units make up the current system:

WATER QUALITY STANDARDS REVIEW FOR AN  
INTERMITTENT TRIBUTARY TO THE KICKAPOO RIVER  
NEAR READSTOWN, WI

February 4, 1994

PAUL LA LIBERTE

The receiving stream for the Readstown WWTP (referred to here as The Bypass) was originally classified in 1988. The only additional stream data obtained since that time was a dissolved oxygen survey and mix zone study on 9-16-93. During September of 1993, the WWTP reported a maximum effluent BOD<sub>5</sub> concentration of 13 mg/L and an average flow of 0.018 mgd. The minimum oxygen level found in The Bypass which receives the WWTP effluent was 4.6 mg/L. Some minnows were observed in The Bypass below the WWTP outfall.

The Bypass flows into the Kickapoo River at the same location as Day Creek. To determine the mixing pattern of water from the Bypass with the other water bodies, a turbidity plume was induced in Day Creek by disturbing the bottom. This created a turbidity level which was more than The Bypass but less than the Kickapoo River, allowing visual characterization of the mixing pattern. The results are diagramed on the attached figure. It was concluded that flow in Day Creek essentially pushes flow from The Bypass into the Kickapoo River. Significant mixing with Day Creek does not occur with Bypass water until both streams have entered the Kickapoo River.

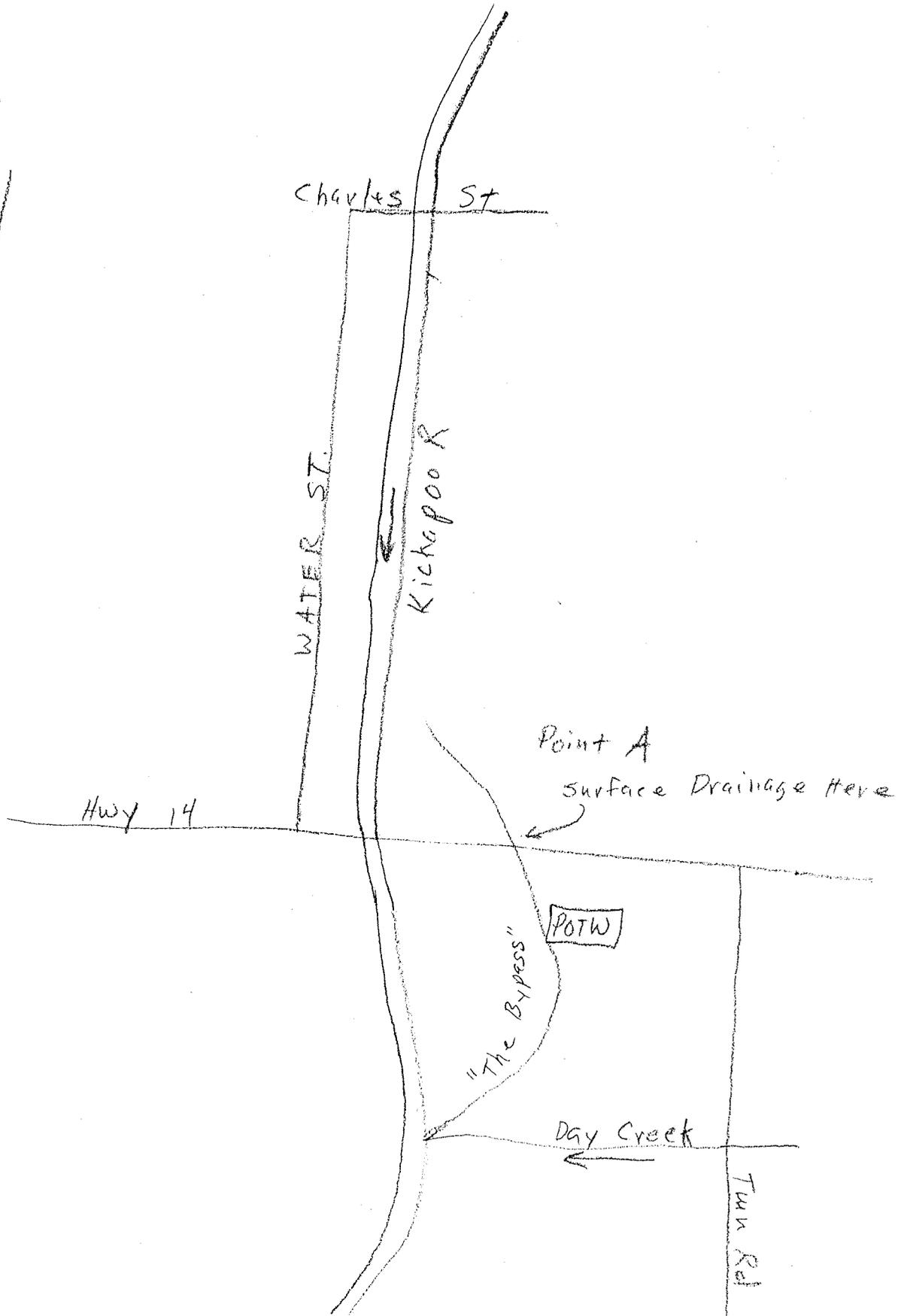
During the 1987 survey, portions of The Bypass north of Hwy 14 were found. By 1993 it appeared that a municipal park had been expanded via earth moving so that most of the bypass channel north of the highway could no longer be located. Wetlands still exist on both sides of the highway.

#### RECOMMENDATIONS

The stream classification recommendation from 1988, Limited Aquatic Life (Marginal Surface Water), is still appropriate for this stream. The 1988 report recommended a wasteload assimilation study. Current allocation of Department resources does not allow for this recommendation to be implemented. Therefore, once the recommended classification is promulgated in NR104, the effluent limitations associated with the recommended classification will need to be implemented.

cc. J. Ball - WR-2  
K. Barrett - WR/2  
T. Jablonski - LAX

# Map of study area 1994



STREAM CLASSIFICATION FOR A TRIBUTARY  
OF THE KICKAPOO RIVER AT  
READSTOWN, WISCONSIN

The stream which receives the Readstown POTW effluent is locally known as "the Bypass" and is about 1/2 mile in length. Its origin is about 1,500 feet north of the Highway 14 bridge over the Kickapoo River. At that point, a very small channel diverts Kickapoo River water into the Bypass when the river is at an elevated stage. At normal river stage, it is unlikely that any water enters the Bypass from the river. The Bypass travels south, under Highway 14, past the POTW, and joins the Kickapoo River at the mouth of Day Creek. Land use is a combination of floodplain, forest, wetland, urban, and agriculture.

It appears as though the Bypass was formed many years ago when a dam on the Kickapoo River under the Highway 14 bridge was operated for power generation. The river probably formed the Bypass channel around the dam. A crude, apparently man-made rock dam is presently in the Bypass, 100' south of its origin. This rock dam played a major role in excluding river water from the Bypass. The Kickapoo River dam is no longer present, making the likelihood of flow in the Bypass remote other than during overbank floods.

The Bypass has a total bank depth of 3 to 6 feet and a width at the top of the bank of about 15 feet. The bed is composed of sand overlain with 1 to 6 inches of silt. For the majority of the year, the channel probably contains about 3 to 8 inches of standing water ( $Q_{7,10} = 0$ ) with a stream width of 3 to 6 feet. Observations made during a rainfall event found that more water was coming into the Bypass from surrounding wetlands than from the river. Surface water runoff from Readstown enters through a drainage ditch at Highway 14. The Bypass would be expected to freeze solid above the POTW outfall in the winter. Present POTW effluent flow is about .047 MGD (0.074 MGD at  $Q_D$ ). Effluent limitations are categorical, secondary.

Iron bacteria and iron precipitate are present on the streambed above the POTW outfall. A few minnows were observed in the Bypass at Point A on the map. There is essentially no substrate present in the Bypass for macroinvertebrate colonization other than the sand/silt bottom. Due to lack of flow during most of the year and lack of habitat, the Bypass does not support an aquatic macroinvertebrate community other than a few very tolerant species. Day Creek is unaffected by the POTW and the Kickapoo River has adequate assimilative capacity ( $Q_{7,10} = >63$  cfs).

A dissolved oxygen survey of the POTW effluent as it flowed through "the Bypass" to the Kickapoo River was conducted on 7-7-87 between 7:00-8:00 a.m. Stream DO ranged from 0.9-1.6 mg/l. Effluent DO was 4.3 mg/l. Effluent  $BOD_5$ , as monitored by the POTW that week, was 11, 18, and 18 mg/l. This data suggests that the DO standard for marginal streams (1 mg/l) is generally being met when POTW  $BOD_5$  is below 20 mg/l. The effect of POTW effluent  $BOD_5$  in the range of 20-45 mg/l on compliance with the 1 mg/l water quality standard cannot be projected without a water quality model. Since the POTW rarely exceeds 30 mg/l effluent  $BOD_5$ , empirical stream DO data at higher effluent BOD cannot be obtained.

april 88

Stream Classification Recommended:

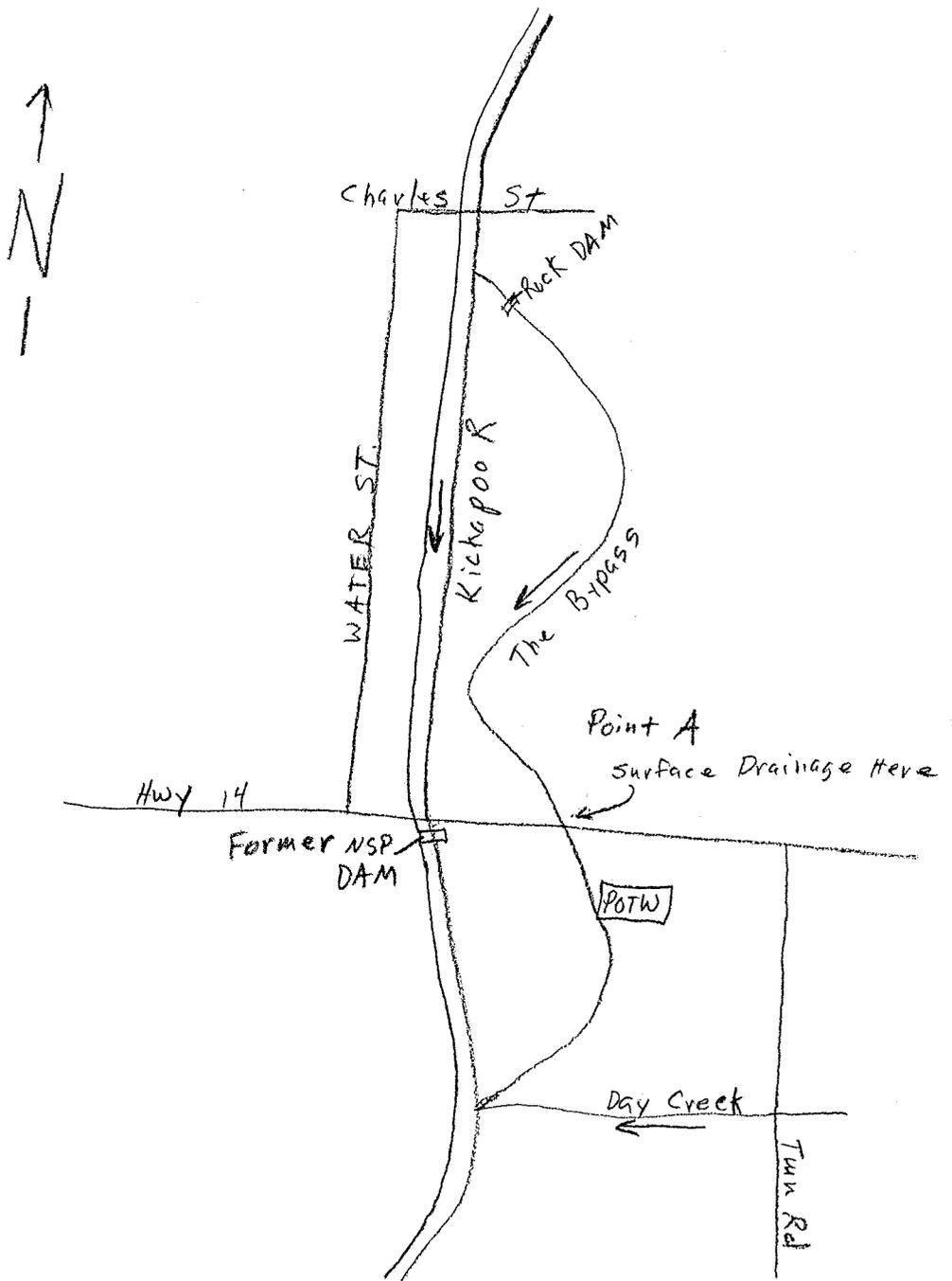
1. In the absence of effluent - The Bypass is noncontinuous and is capable of supporting only very tolerant or no macroinvertebrates (use class E or marginal fish and aquatic life).
2. In the presence of effluent - The Bypass is noncontinuous above the POTW outfall and continuous below it. Both segments are capable of supporting only very tolerant or no macroinvertebrates (use class E or marginal fish and aquatic life).

Recommended Effluent Limitations:

Because the brief stream survey in 1987 indicated that the current Readstown discharge is supporting stream dissolved oxygen levels consistent with an aquatic life use classification of "E-marginal," and the village is experiencing a drop-in population (1970-1980 census data), the WPDES effluent limitations should not be changed until a stream wasteload assimilation model can be run. A new POTW design flow should be determined as part of that effort.

PL:sz  
PLT382

Map of study area.



FIELD DATA SHEET

STUDY: Readstown  
 DATE: 7-7-87 - LaLiberte  
"Bypass" Channel

overcast  
 all am  
 rain yesterday  
 drizzle today

Station Number	Station Location	Time: 24 hr	Temp: °C	D.O. mg/l	pH (SU)	Comments
1	Hwy 14	0720		3.5		
2	10' Above STP		15	2.5		
3	STP			4.3		
4	below outfall 150'	0745		1.3		
5	400' below outfall		18	0.9		
C	@ Day CV	0755	18	1.6		
<div style="border: 1px solid black; padding: 5px; display: inline-block;">                     from DMRS via Stibbe                 </div>						
BODs 7-7 to 7-14-87						
11, 18, 18 mg/l						
Flow 45-50,000 gpd						
STP @ 40-45% of capacity						

STREAM SYSTEM HABITAT RATING FORM

Stream "Bypass"

Reach Location Entire length through Readstown

Reach Score/Rating 190 - Fair

County DeWitt

Date 10-11-83 Evaluator L. Lib / M. Moe

Classification \_\_\_\_\_

Rating Item	Category							
	Excellent	Good	Fair	Poor				
1. Watershed Erosion 12	No evidence of significant erosion. Stable forest or grass land. Little potential for future erosion.	8	Some erosion evident. No significant "raw" areas. Good land mgmt. practices in area. Low potential for significant erosion.	10	Moderate erosion evident. Erosion from heavy storm events obvious. Some "raw" areas. Potential for significant erosion.	14 12	Heavy erosion evident. Probable erosion from any runoff.	16
2. Watershed Nonpoint Source 8	No evidence of significant source. Little potential for future problem.	4	Some potential sources. (roads, urban area, farm fields).	8	Moderate sources. (Small wetlands, tile fields, urban area, intense agriculture).	16	Obvious sources. (Major wetland drainage, high use urban or industrial area, feed lots, impoundment).	20
3. Bank Erosion, Failure 6	No evidence of significant erosion or bank failure. Little potential for future problem.	6	Infrequent, small areas, mostly healed over. Some potential in extreme floods.	9	Moderate frequency and size. Some "raw" spots. Erosion potential during high flow.	15	Many eroded areas. "Raw" areas frequent along straight sections and bends.	18
4. Bank Vegetative Protection 18	90% plant density. Diverse trees, shrubs, grass. Plants healthy with apparently good root system.	6	70-90% density. Fewer plant species. A few barren or thin areas. Vegetation appears generally healthy.	9	50-70% density. Dominated by grass, sparse trees and shrubs. Plant types and conditions suggest poorer soil binding.	15	<50% density. Many raw areas. Thin grass, few if any trees and shrubs.	18
5. Lower Bank Channel Capacity 8	Ample for present peak flow plus some increase. Peak flows contained. W/D ratio $\leq 7$ .	8	Adequate. Overbank flows rare. W/D ratio 8-15.	10	Barely contains present peaks. Occasional overbank flow. W/D ratio 15 to 25.	14	Inadequate, overbank flow common. W/D ratio > 25.	16
6. Lower Bank Deposition 16	Little or no enlargement of channel or point bars.	6	Some new increase in bar formation, mostly from course gravel.	9	Moderate deposition of new gravel and course sand on old and some new bars.	15	Heavy deposits of fine material, increased bar development.	18 16
7. Bottom Scouring and Deposition 18	Less than 5% of the bottom affected by scouring and deposition.	4	5 to 30% affected. Scour at constrictions and where grades steepen. Some deposition in pools.	8	30 to 50% affected. Deposits and scour at obstructions, constrictions and bends. Some filling of pools.	16	More than 50% of the bottom changing nearly year long. Pools almost absent due to deposition.	20 18

Rating Item	Category							
	Excellent		Good		Fair		Poor	
8. Bottom Substrate <u>22</u>	Greater than 50% rubble, gravel or other stable habitat.	2	30 to 50% rubble, gravel or other stable habitat. Adequate habitat.	7	10 to 30% rubble, gravel or other stable habitat. Habitat availability less than desirable.	17	Less than 10% rubble, gravel or other stable habitat. Lack of habitat is obvious.	<u>22</u>
9. Average Depth at Rep. Low Flow <u>24</u>	Greater than 24".	0	12" to 24".	6	6" to 12".	18	Less than 6".	<u>24</u>
10. Flow, at Rep. Low Flow <u>24</u>	Warm water, >5 cfs. Cold water, >2 cfs	0	Warm water, 2 to 5 cfs. Cold water, 1 to 2 cfs.	6	Warm water, .5 to 2 cfs. Cold water, .5 to 1 cfs. Continuous flow.	18	Less than .5 cfs. Stream may cease to flow in very dry years.	<u>24</u>
11. Pool/Riffle, Run/Bend Ratio <u>20</u>	5 to 7. Variety of habitat. Deep riffles and pools.	4	7 to 15. Adequate depth in pools and riffles. Bends provide habitat.	8	15 to 25. Occasional riffle or bend. Bottom contours provide some habitat.	16	Greater than 25. Essentially a straight stream. Generally all "flat water" or shallow riffle. Poor habitat.	<u>20</u>
12. Aesthetics <u>14</u>	Wilderness characteristics, outstanding natural beauty. Usually wooded or unpastured corridor.	8	High natural beauty. Trees, historic site. Some development may be visible.	10	Common setting, not offensive. Developed but uncluttered area.	<u>14</u>	Stream does not enhance aesthetics. Condition of stream is offensive.	16

Column Total Without Effluent --

Column Total With Effluent --

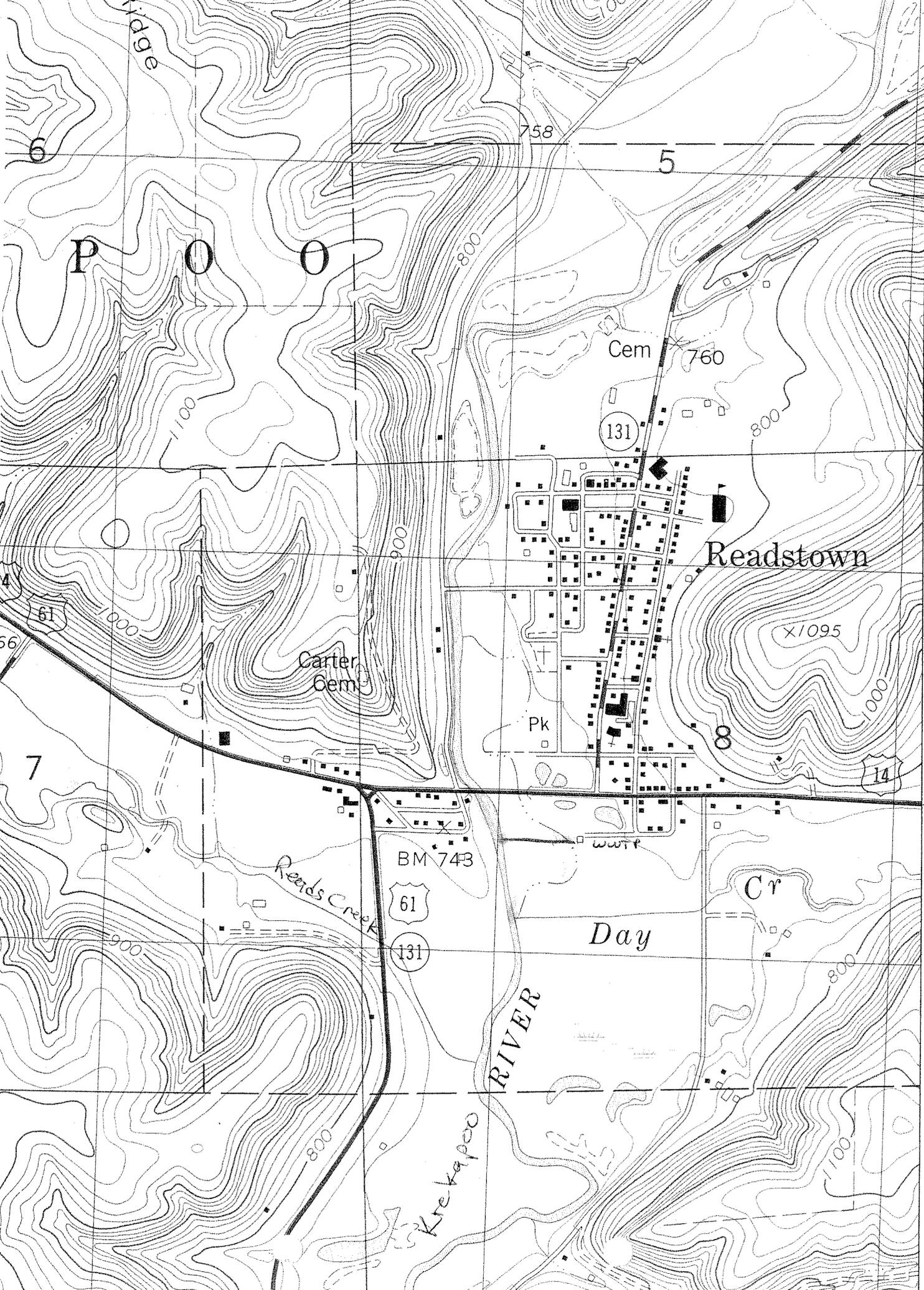
Add Column Scores Without Effluent,  $E \underline{14} + G \underline{8} + F \underline{26} + P \underline{42} =$  Reach Score 190

Add Column Scores With Effluent,  $E \underline{14} + G \underline{8} + F \underline{26} + P \underline{42} =$  Reach Score 190

≤ 70 = Excellent, 71-129 = Good, 130-200 = Fair, > 200 = Poor

0258T

\* hard to apply to situation due to lack of flow and floodplain location



VIOLA

27'3

Readstown movement of outfall pipe to Kretapeo River Sept 2002

BOSSTOWN 10 MI.  
 RICHLAND CENTER 25 MI.

48'12

GROVE)  
 I NW