

# **NPDES PERMIT NO. NM0029149 FACT SHEET**

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
(NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

## **APPLICANT**

Village of Maxwell  
P.O. Box 356 – 316 Maxwell Ave  
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## **ISSUING OFFICE**

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Region 6  
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## **DATE PREPARED**

February 1, 2014

## **PERMIT ACTION**

Proposed reissuance of the current NPDES permit issued May 25, 2007, with an effective date of June 1, 2007, and an expiration date of May 31, 2012.

## **RECEIVING WATER – BASIN**

Canadian River (NM-2305.A\_200) – Canadian Basin

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## DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

4Q3	lowest four-day average flow rate expected once every three years
BAT	best available technology economically achievable
BCT	best conventional pollutant control technology
BPT	best practicable control technology currently available
BOD5	five-day biochemical oxygen demand
BPJ	best professional judgment
CD	critical dilution
CFR	Code of Federal Regulations
cfs	cubic feet per second
cfu	colony forming units
CFR	Code of Federal Regulations
CWA	Clean Water Act
DMR	discharge monitoring report
ELG	effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
ft.	feet (measurement of distance)
FWS	United States Fish and Wildlife Service
lbs	pounds
LA	Load Allocation (a.k.a. waterbody total assimilative capacity)
ug/L	micrograms per liter (one part per billion)
mg/L	milligrams per liter (one part per million)
MGD	million gallons per day
MQL	minimum quantification level
NAICS	North American Industry Classification System
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES permit implementation procedures
NMWQS	New Mexico state standards for interstate and intrastate surface waters
NPDES	national pollutant discharge elimination system
O&G	oil and grease
POTW	publically owned treatment works
s.u.	standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TMDL	total maximum daily load
TN	total nitrogen
TP	total phosphorus
TRC	total residual chlorine
TSS	total suspended solids
WET	whole effluent toxicity
WLA	Waste Load Allocations
WQMP	water quality management plan
WQS	water quality standards
WWTP	wastewater treatment plant

## A. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit with expiration date of May 31, 2012, are:

1. A 30-day Average Percent Removal for total suspended solids and 5-day biological oxygen demand has been added as a discharge effluent limitation.
2. Bacteria reporting units MUST be reported either as cfu/100 mL or as mpn.
3. In accordance with 40 CFR 122.44(d)(1)(vii)(B), effluent limitations for TN and TP monitoring and limits have been added to comply with the Canadian River TMDL. Monitoring frequency is based on the NMIP for conventional pollutants from a lagoon with a design flow of 0.1 or less.
4. The effluent concentration percentage dilution series has changed from 32, 42, 56, 75, and 100 to 1.7%, 2.3%, 3.0%, 4.0% and 5.3% in order to be protective of state water quality in the Canadian River.
5. WET testing has been added to the proposed draft permit and will be conducted with species Daphnia pulex and Pimephales promelas.
6. Since the permittee has not discharged since 2006, the permittee was authorized to use grab samples instead of 24-hour composite samples when testing for WET.

## B. APPLICANT LOCATION and ACTIVITY

The facility is located at 316 Maxwell Ave Maxwell, New Mexico 87728, in Colfax County, New Mexico.

Under the NAICS code 221320 and SIC code 4952, the applicant operates a sewage treatment plant or facility, here after referred to as a POTW. The facility has a design flow capacity of 0.02 MGD serving a residential population of 300.

The WWTP treatment plant is in the midst of the installation of a lift station near the headworks of the plant.

Raw wastewater currently flows by gravity to the headworks of the plant. The influent enters the headworks through a 4" Parshall flume and proceeds through a 1/2" rectangular manually cleaned bar screen.

Following the headworks, the flow is divided equally through a splitter box to two lagoons. The splitter box provides the option of operating the lagoons in parallel, in series, or it also provides the option of bypassing the south lagoon by routing the wastewater from the north lagoon directly to the chlorine contact chamber.

The wastewater would then proceed to the chlorine contact chamber where chlorine tablets are added to disinfect the water through a Spears chlorine dispenser. Baffles have been added in the chlorine contact chamber in order to increase detention time. The flow is then sent through a weir plate with a metal gauge that indicates flow in gallons per minute. The weir is the primary measurement device and that is calibrated by using a bucket and a watch.

After chlorination, the flow enters a dechlorination unit on the line headed to the outfall. The outfall actually discharges to a broad arroyo. The Canadian River is about 1 mile from the outfall.

According to their DMRs and the facility representatives, this facility has not discharged since May 2006.

The discharge is located 1/4 mile north of the Canadian River at Latitude 36° 31' 55" N and Longitude 104° 32' 16" W, in Colfax County, New Mexico. Based on NMED staff observations of the outfall

location and an evaluation of readily-available imagery, flow from the outfall would be toward rills and gullies on an upper terrace of the Canadian River, thence to a swale, thence to the main stem of the Canadian River in Segment 20.6.4.305 NMAC of the Canadian River Basin. NMED has not conducted a hydrology protocol and use attainability analysis.

### **C. EFFLUENT CHARACTERISTICS**

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A in section A.12. Effluent Testing Information cannot be detailed below; the application received June 4, 2012, had no data reported due to no discharge from the facility.

### **D. REGULATORY AUTHORITY/PERMIT ACTION**

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water”; more commonly known as the “swimmable, fishable” goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered the NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The previous permit expired May 31, 2012. EPA received the NPDES application on April 5, 2011. The existing permit is administratively continued until this permit is issued.

### **E. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS**

#### **1. OVERVIEW of TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS**

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

Technology-based effluent limitations are established in the proposed draft permit for TSS and BOD5. Water quality-based effluent limitations are established in the proposed draft permit for *E. coli* bacteria, pH and TRC.

#### **2. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS**

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD5, TSS, *E. coli* bacteria, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Some biological treatment technologies, such as waste stabilization ponds, are capable of achieving significant reductions in BOD5 and TSS but might not consistently achieve the secondary treatment standards for these parameters. Congress recognized that unless alternate limitations were set for facilities with waste stabilization ponds, which often are in small communities, such facilities could be required to construct costly new treatment systems to meet the secondary treatment standards even though their existing treatment technologies could achieve significant biological treatment. To prevent requiring upgrades where facilities were achieving their original design performance levels, Congress included provisions in the 1981 amendments to the Clean Water Act Construction Grants program (*Public Law 97-117, Section 23*) that required EPA to make allowances for alternative biological treatment technologies, such as waste stabilization ponds. In response to that requirement, in 1984, EPA promulgated regulations at § 133.105 that include alternative standards that apply to facilities using “equivalent to secondary treatment.” A facility must meet the criteria in § 133.101(g) to qualify for application of those alternative standards.

The facility is a privately owned facility that treats sanitary wastewater that has technology-based ELG’s established at 40 CFR Part 133, Secondary Treatment Regulation for BOD5, TSS and pH. The BOD5 limits of 30mg/l for the 30-day average and 45 mg/l for the 7-day average with a 65% percent (minimum) removal are found at 40 CFR §133. The regulations at §133.105(f) require a permitting authority to include more stringent limitations when it determines that the 30-day average and 7-day average BOD5 and TSS concentrations are achievable through proper operation and maintenance of the treatment works would enable the treatment works to achieve more stringent limitations than the least stringent effluent quality allowed by the equivalent to secondary standards. In the previous permit, the BOD5 mass loading concentrations of secondary treatment will remain at the previous, more restrictive limit due to ability to achieve the ELG.

In addition to providing secondary treatment standards, the federal regulations allow states to make adjustments to the standards and to apply those adjusted standards on a case-by-case basis. In accordance with regulations adopted by EPA in 1977 and revised in 1984, states can adjust the maximum allowable TSS concentration for waste stabilization ponds upward from those specified in the equivalent to secondary treatment standards to conform to TSS concentrations achievable with waste stabilization ponds. The regulation, found at § 133.103(c), defines “[TSS] concentrations achievable with waste stabilization ponds” as the effluent concentration achieved 90 percent of the time within a state or appropriate contiguous geographical area by waste stabilization ponds that are achieving the levels of effluent quality for BOD5 specified in § 133.105(a)(1) (45 milligrams per liter [mg/L] as a 30-day average). To qualify for an adjustment up to as high as the maximum concentration allowed, a facility must use a waste stabilization pond as its principal process for secondary treatment and its operations and maintenance data must indicate that it cannot achieve the secondary treatment standards or an equivalent to secondary standards. EPA published approved alternate 30-day average TSS requirements in 49 *Federal Register* (FR) 37005, September 20, 1984. To determine the 7-day average, the 30-day average is multiplied by 1.5.

ELG's for pH are between 6.0 – 9.0 s.u. and are found at 40 CFR §133.102(c). The pH limits in this permit are in compliance with the NMAC 20.6.4.98 and 20.6.4.305 for the Canadian River designated uses and contain requirements for a pH of 6.6 - 9.0 s.u.

Regulations at 40 CFR §122.45(f)(1) require all pollutants limited in permits to have limits expressed in terms of mass such as pounds per day.

When determining mass limits for POTW's, the plant's design flow used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/l \* 8.34 conversion factor \* design flow in MGD

30-day average BOD5 loading = 30 mg/l \* 8.34 conversion factor \* 0.02 MGD

30-day average BOD5 loading = 5.004 lbs/day

Calculated to 2 significant figures is 5.0 lbs/day

7-day average BOD loading = 45 mg/l \* 8.34 conversion factor \* 0.02 MGD

7-day average BOD loading = 7.506 lbs/day

Calculated to 2 significant figures is 7.5 lbs/day

30-day average TSS loading = 90 mg/l \* 8.34 conversion factor \* 0.02 MGD

30-day average TSS loading = 15.012 lbs/day

Calculated to 2 significant figures is 15

7-day average TSS loading = 135 mg/l \* 8.34 conversion factor \* 0.02 MGD

7-day average TSS loading = 22.518 lbs/day

Calculated to 2 significant figures is 23

A summary of the technology-based limits for the facility is:

Table 1

PARAMETER	DISCHARGE LIMITATIONS						MONITORING REQUIREMENTS	
	Mass (lbs/ day, unless noted)			Concentration (mg/L, unless noted)			Measurement Frequency	Sample Type
	30 Day Avg	Daily Max	7 Day Avg	30 Day Avg	Daily Max	7 Day Avg		
Flow	Report GPD	Report GPD	Report GPD	N/A	N/A	N/A	Daily	Grab <sup>1</sup>
BOD5	5.0	***	7.5	30	***	45	2/month	Grab <sup>1</sup>
TSS	15	***	23	90	***	135	2/month	Grab <sup>1</sup>
30-day Average Percent Removal (minimum), BOD5	≥65%	***	***	***	***	***	1/month	Calculation <sup>2</sup>
30-day Average Percent Removal (minimum), TSS	≥65%	***	***	***	***	***	1/month	Calculation <sup>2</sup>
E. coli Bacteria <sup>3</sup>	***	***	***	126	410	***	2/month	Grab <sup>1</sup>
TRC	***	***	***	***	11 ug/l <sup>4</sup>	***	Daily	Grab <sup>1</sup>
pH	***	***	***	6.6 s.u. min	9.0 s.u. max	***	Daily	Grab <sup>1</sup>
TN	***	0.076	***	***	***	***	1/month	Grab <sup>1</sup>
TP	***	0.005	***	***	***	***	1/month	Grab <sup>1</sup>

Footnotes for Factsheet Table 1:

1. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.
2. Percent removal is calculated using the following equation: (average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration
3. Bacteria reporting units MUST be either cfu/100mL OR mpn
4. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. See Part II.A for MQL

## 5. WATER QUALITY BASED LIMITATIONS

### a. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

### b. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

### c. State Water Quality Standards

The general and specific stream standards are provided in 20.6.4.305 and 20.6.4.98 NMAC for Outfall 001, amended June 5, 2013. The discharge is to receiving waters named the Canadian River (waterbody ID: NM-2305.A\_200) of the Canadian River Basin. The designated uses of the receiving water(s) are irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

### d. Permit Action - Water Quality-Based Limits

The Clean Water Act in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at [40 CFR 122.44 (d)] state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant. Regulations promulgated at [40 CFR 122.44(d)] require limits in addition to or more stringent than effluent limitation guidelines (technology based).

In accordance with NMAC 20.6.4.98 and 20.6.4.305, the permit must be developed to allow for the maintenance and attainment of acute numerical criteria at the point of discharge to the receiving stream and for the maintenance and attainment of chronic numerical criteria at the edge of the mixing zone.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity will be documented in a full report, according to the appropriate test method publication. The full reports required by each test section do not need to be submitted unless requested. However, the full report is to be retained following the provisions of [40 CFR Part 122.41 (j) (2)]. The permit requires the submission of the toxicity testing information to be included on the DMR.

### 1) pH

The draft permit will propose a stream segment specific pH limit, specified in 20.6.4.900.D. NMAC, 6.6 to 9.0 s.u., and is continued from the previous permit.

### 2) Bacteria

Stream segment specific NMWQS for *E. coli* bacteria are 126 cfu/100 ml monthly geometric mean and 410 cfu/100 ml single sample maximum as found in 20.6.4.900 D, and is continued from the previous permit. Bacteria reporting units MUST be either cfu/100mL OR mpn.

### 3) Dissolved Oxygen

An evaluation of the permittee's impact on the receiving water dissolved oxygen was completed as part of the permitting process. A steady state model (LA-QUAL) was used to evaluate the biochemical oxygen demand of the discharge and associated constituents including ammonia. A complete characterization of the receiving water was not available. Certain parameters, including flow, were available and were utilized. However, the receiving water model also used default values to estimate the various unavailable hydrodynamic and water quality parameters. The discharge was modeled using data obtained from the application, permits limits and defaults were used for unavailable discharge characterization data.

The evaluation demonstrated that the discharge would not cause an excursion of the in-stream standard of 5 mg/L. The output file is attached as Fact Sheet Appendix 1.

### 4) Toxics

#### i. General Comments

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criteria, the permit must contain an effluent limit for that pollutant.

All applicable facilities are required to fill out appropriate sections of the Form 2A and 2S, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to POTWs and to facilities that are similar to POTWs, but those facilities, which do not meet the regulatory definition of POTW (like privately owned sanitary wastewater treatment facility, or similar facilities on Federal property). The forms were designed and promulgated to "make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities," per the summary statement in the preamble to the Rule. These forms became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

This facility is designated by EPA NPDES as a minor and does not need to fill out the expanded pollutant testing section Part D of Form 2A. There are no toxics that need to be placed in the draft permit except for TRC described below.

## ii. TRC

The previous permit established water quality-based effluent limitations for TRC of 11 ug/L. This requirement will be maintained in the draft permit.

## iii. Critical Conditions

Critical dilutions are used to establish certain permit limitations and conditions. The State of New Mexico WQS allows a mixing zone for establishing pollutant limits in discharges. The mixing zones established by the State of New Mexico do not overlap with tribal/pueblo borders.

Both the NMWQS and NMIP establish a critical low flow designated as 4Q3, as the minimum average four consecutive day flow which occurs with a frequency of once in three years. The SWQB of the NMED provided EPA with the 4Q3 for the Village of Maxwell at 0.76 cfs.

For permitting purposes of certain parameters such as WET, the critical dilution of the effluent to the receiving stream is determined. The critical dilution,  $C_D$ , is calculated as:

$C_D = Q_e / (F \cdot Q_a + Q_e)$ , where:

$Q_e$  = facility flow (0.02 MGD)

$Q_a$  = critical low flow of the receiving waters (0.49 MGD [= 0.76 cfs])

$F$  = fraction of stream allowed for mixing (1.0)

$$\begin{aligned} C_D &= 0.02 \text{ MGD} / (1.0 \times 0.49 + 0.02) \\ &= 0.0392 \\ &= 3.92\% \sim 4\% \text{ (rounded)} \end{aligned}$$

$C_D$  Dilution Series (percentage) = 1.7, 2.3, 3.0, 4.0, 5.3

According to the NMIP, if it is determined that a facility is to receive chronic biomonitoring requirements at a critical dilution of 10% or less, then an acute to chronic ratio of 10:1 may be used in order to allow acute biomonitoring in lieu of chronic. This will result in a shorter test duration, and a higher critical dilution by decreasing the ratio between the amount of effluent and receiving water used as well as a reduction in the cost per biomonitoring test for the permittee.

$$\text{Acute to Chronic Ratio } C_D^1 = 4\% * 10 = 40\%$$

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<sup>1</sup> In the first year of the permit, the Narrative Toxics Implementation Guidance – Whole Effluent Toxicity, (NTIG-WET) requires a chronic 7-day biomonitoring test, using the species *Ceriodaphnia dubia* and *Pimephales promelas*. The discharge for the chronic test shall be tested between November 1, 2007 and December 31, 2007. After the first year the NTIG-WET requires a 48-hour acute biomonitoring test, using the species *Daphnia pulex*. This test will be required every 12-months, after the initial test, for the remaining term of the permit. However, upon failure of any WET test, the permittee must report the test results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification of the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any. (See Part II, Section D)

## 6. MONITORING FREQUENCY FOR LIMITED PARAMETERS

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). Changes to sample frequencies have been made based on the NMIP in order to ensure consistency with similar sized facilities.

In the 2007 permit the facility was given a monitoring frequency of two (2) times per month for BOD, TSS, and E. coli because the discharger had violated permit effluent limitations for pH, BOD, TSS and fecal coliform. Monitoring requirements for BOD, TSS and E. coli are continuing the previous monitoring requirements of two times per month, pH and TRC are continuing the previous monitoring requirements of daily. According to the Procedures for Implementing NPDES Permits in New Mexico NMIP, based on treatment technology and design flow, the frequency for TRC increased in the proposed 2014 permit to 5/week from the previous 1/day when discharging. TSS concentration and mass limit averages for 7-day and 30-day are continued from the previous permit to reflect the regulation limit for treatment equivalent to secondary standard (40 CFR 133). Sample type for BOD and TSS are grab which is consistent with the previous permit. Monitoring must be conducted according to test procedures approved in 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.

Influent BOD5 & TSS (for use in calculating percent removal shall be monitored once per year during April. This frequency avoids effectively doubling the BOD and TSS analytical costs for a small discharge operated by a school system whose discharge influent would not be subject to the variability of a larger system with more varied system users.

## 7. WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE NOEC FRESHWATER)

In Section E.3.d.3) iii above; “Critical Conditions”, it was shown that the Acute to Chronic Ratio  $C_D$  for the facility is 39.2%. Based on the nature of the discharge; POTW, the design flow; less than 0.1 MGD, the nature of the receiving water; intermittent, and the critical dilution; the NMIP directs the WET test to be a 7-day chronic test using Daphnia pulex and Pimephales promelas (fathead minnow) a once per five year frequency.

The proposed permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests based on a 0.5 dilution series. These additional effluent concentrations shall be 1.7%, 2.3%, 3.0%, 4.0% and 5.3%. The low-flow effluent concentration (critical low-flow dilution) is 39.2% effluent, using a 10:1 acute to chronic ratio from the actual 3.92% critical dilution for acute toxicity. An additional dilution series point was added “for better test resolution and more precise effect concentration estimates” as is consistent with EPA’s “Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136) (EPA 821-B-00-004). Since the permittee is a very low volume discharger, the permittee is authorized to use grab samples instead of 24-hour composite samples when testing for WET during the permit term.

During the period beginning the effective date of the permit and lasting through the expiration date of the permit, the permittee is authorized to discharge from Outfall 001 - the discharge to the Canadian River. The aeration basin receives process area wastewater, process area stormwater, and treated sanitary wastewater. Discharges shall be limited and monitored by the permittee as specified below:

Final Effluent Limits - 0.02 MGD design flow.

**Table 2**

Effluent Characteristic	Discharge Monitoring	
	30-day Avg Min	48 Hr. Minimum
WET Testing (48 Hr. Static Renewal) (*1)		
<u>Daphnia pulex</u>	Report	Report
<u>Pimephales promelas</u>	Report	Report

**Table 3**

Effluent Characteristic	Monitoring Requirements	
	Frequency	Type
WET Testing (48 Hr. Static Renewal) (*1)		
<u>Daphnia pulex</u>	Once per term (*2)	24-Hr. Composite
<u>Pimephales promelas</u>	Once per term (*2)	24-Hr. Composite

Footnotes for Table 2 & 3:

(\*1) Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

(\*2) Once per permit-term. The test shall take place between November 1 and April 30 during the first year of the permit term. This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple failures. However, upon failure of any WET test, the permittee must report the results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification of the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any.

**F. FACILITY OPERATIONAL PRACTICES**

**1. SEWAGE SLUDGE**

The permittee shall use only sewage sludge disposal or reuse practices that comply with the federal regulations established in 40 CFR Part 503 "Standards for the Use or Disposal of Sewage Sludge". EPA may at a later date issue a sludge-only permit. Until such future issuance of a sludge-only permit, sludge management and disposal at the facility will be subject to Part 503 sewage sludge requirements. Part 503 regulations are self-implementing, which means that facilities must comply with them whether or not a sludge-only permit has been issued. Part IV of the draft permit contains sewage sludge permit requirements.

**2. WASTEWATER POLLUTION PREVENTION REQUIREMENTS**

The permittee shall institute programs directed towards pollution prevention. The permittee will institute programs to improve the operating efficiency and extend the useful life of the treatment system.

**3. INDUSTRIAL WASTEWATER CONTRIBUTIONS**

The treatment plant has no non-categorical Significant Industrial User's (SIU) and no Categorical Industrial User's (CIU). The EPA has tentatively determined that the permittee will not be required to develop a full pretreatment program. However, general pretreatment provisions have been required. The

facility is required to report to EPA, in terms of character and volume of pollutants any significant indirect dischargers into the privately owned treatment works subject to pretreatment standards under §307(b) of the CWA and 40 CFR Part 403.

#### 4. OPERATION AND REPORTING

The applicant is required to operate the treatment facility at maximum efficiency at all times; to monitor the facility's discharge on a regular basis; and report the results quarterly. The monitoring results will be available to the public.

#### G. 303(d) LIST

Section 303(d) of the Federal Clean Water Act requires states to develop a TMDL management plan for water bodies determined to be water quality limited. A TMDL documents the amount of a pollutant a water body can assimilate without violating a state's water quality standards. It also allocates a load capacity to known point sources and nonpoint sources at a given flow. EPA defines TMDLs in 40 CFR Part 130 as the sum of the individual WLAs for point sources and background conditions, and includes a margin of safety.

The NPDES regulations at 40 CFR 122.44(d)(1)(vii)(B) require that NPDES permits include effluent limitations developed consistent with the assumptions and requirements of any WLA that has been assigned to the discharge as part of an approved TMDL. Permit writers might also choose to consider any pollutant associated with an impairment of the receiving water by a pollutant of concern, regardless of whether an approved TMDL has been developed for that pollutant, a WLA has been assigned to the permitted facility, or the permitted facility has demonstrated that the pollutant is present in its effluent. Permitting authorities might consider monitoring requirements to collect additional data related to the presence or absence of the impairing pollutant in a specific discharge to provide information for further analyses.

The potential for excessive nutrients in the mainstream of the Canadian River was noted through visual observation during the 2006 SWQB watershed survey. A detailed assessment of various water quality parameters indicated nutrient impairment in the Canadian River (Cimarron River to Colorado border). The Canadian River, from the Cimarron River to the Colorado border (assessment unit NM-2305.A\_200) does not support Marginal Warmwater Aquatic Life. The listed probable causes of impairment include nutrient/eutrophication biological indicators. The listed probable sources of impairment include animal feeding operations; flow alterations from water diversions; and rangeland grazing. The Village of Maxwell POTW, having not discharged since the effective date of the permit issued May 25, 2007, is not listed as a probable source to the impairment and was not provided a WLA for the authorized discharge. According to the TMDL (Table 5.1 and Table 5.2), the Canadian River has an in-stream nutrient target concentration of 0.03 mg/L for TP and 0.45 mg/L for TN. Based on the TMDL target concentrations of 0.115 mg/L TP and 1.73 mg/L TN and the design flow indicated in the existing permit, effluent permit limits would be:

$$\text{Total Phosphorus} = 0.02 \text{ MGD} \times 8.34 \text{ Conversion Factor} \times 0.03 \text{ mg/L} = 0.005 \text{ lbs/day}$$

$$\text{Total Nitrogen} = 0.02 \text{ MGD} \times 8.34 \text{ Conversion Factor} \times 0.45 \text{ mg/L} = 0.076 \text{ lbs/day}$$

NMED SWQB TMDL staff has been consulted and there is sufficient room in the current TMDL to allow for the Maxwell WWTP WLA of 0.005 mg/L TP and 0.08 mg/L TN as calculated above.

Due to the review of the TMDL, EPA has determined that the NPDES Permitted Facility Village of Maxwell WWTP NM0029149 will monitor the effluent at discharge from the WWTP. This determination complies with the TMDL.

EPA is not proposing a compliance schedule in the proposed permit for the TP and TN TMDL based on the ability of the Village of Maxwell WWTP to comply with the TN and TP limits by not discharging as has been the practice since the effective date of the previous permit.

## H. ANTIDegradation

The State of New Mexico has antidegradation requirements to protect existing uses through implementation of NMWQS. The limitations and monitoring requirements set forth in the proposed draft are developed from the appropriate State WQS and are protective of those designated uses. Furthermore, the policy's set forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The design flow rate of the facility has not changed. The proposed draft permit does not authorize a new or increased discharge. Therefore, the need for an Antidegradation Tier 2 Review was determined not necessary (was not conducted) by the State of New Mexico Environment Department. The draft permit is consistent with the NM WQMP. The Village of Maxwell's renewal application is for a permit to discharge into an impaired waterbody that has an approved TMDL that does not contain a WLA. The proposed draft permit contains TN and TP effluent limitations at or less than the in-stream TMDL target concentrations that are protective of designated uses.

## I. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR §122.44(l)(i)(A), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. The proposed permit maintains the mass loading requirements of the previous permit for BOD5 and more stringent mass loading requirements for TSS.

## J. ENDANGERED SPECIES CONSIDERATIONS

According to the Southwest Region FWS website, <http://www.fws.gov/southwest/es/NewMexico/>, four (4) species in Colfax County, NM are endangered or threatened. The southwestern willow flycatcher (*Empidonax traillii extimus*) and the black footed ferret (*Mustela nigripes*) are endangered species. The Mexican spotted owl (*Strix occidentalis lucida*) and the Piping Plover (*Charadrius melodus*) are listed as threatened species. The Arkansas River shiner (*Notropis girardi*) and the bald eagle (*Haliaeetus leucocephalus*) have been delisted since the last permit. The species listed that were not previously listed include: the Canada Lynx (*Lynx Canadensis*) is listed as proposed threatened. Proposed species are imperiled species, but do not receive Endangered Species Act protection.

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. EPA has consulted with the USFWS Critical Habitat Mapper (<http://ecos.fws.gov/crithab/>) and did not find critical habitat at the discharge location or downstream of the discharge. EPA has determined that the issuance of this permit will have *no effect* on the federally listed threatened or endangered species and their critical habitat based on the previous permit determination of 'no effect,'

the facility has not made major changes to their effluent discharge and no change in the endangered or threatened species.

#### **K. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS**

The reissuance of the permit should not have an impact on historical and/or archeological sites since no construction activities are planned in the reissuance.

#### **L. PERMIT REOPENER**

The permit may be reopened and modified during the life of the permit if State water quality standards are promulgated or revised. In addition, if the State develops a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

#### **M. VARIANCE REQUESTS**

No variance requests have been received.

#### **N. CERTIFICATION**

The permit is in the process of certification by the State Agency following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

#### **O. FINAL DETERMINATION**

The public notice describes the procedures for the formulation of final determinations.

#### **P. ADMINISTRATIVE RECORD**

The following information was used to develop the proposed permit:

##### **1. APPLICATION(s)**

EPA Application Form 2A received October 21, 2013.

##### **2. 40 CFR CITATIONS**

Citations to 40 CFR are as of July 17, 2013  
Sections 122, 124, 125, 130, 133, 136, 261, 403

##### **3. STATE OF NEW MEXICO REFERENCES**

2012-2014 State of New Mexico Clean Water Act 303(d)/305(6) Integrated Report – Appendix A – List of Assessed Surface Waters USEPA – Approved May 8, 2012,  
<http://www.nmenv.state.nm.us/swqtb/303d-305b/2012-2014/index.html>

2008-2010 State of New Mexico Clean Water Act §303(d)/305(b) Integrated List.  
<http://www.nmenv.state.nm.us/swqtb/303d-305b/2008-2010/documents/AppendixA.pdf>

Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico, NMIP. March 15, 2012.

Statewide Water Quality Management Plan, June 5, 2013.

State of New Mexico Standards for Interstate and Intrastate Surface Waters, 20.6.4.305, 20.6.4.98 and 20.6.4.900 NMAC, as amended through June 5, 2013.

#### 4. MISCELLANEOUS

Handbook for Sampling and Sample Preservation of Water & Wastewater. September 1982. EPA Report Number EPA-600/4-82-029.

Part 503 Implementation Guidance – 1995, EPA 833-R-95-001 – Office of Water, October 1995. [www.epa.gov/npdes/pubs/owm0237.pdf](http://www.epa.gov/npdes/pubs/owm0237.pdf)

POTW Sludge Sampling and Analysis Guidance Document – 1989, EPA 833-B-89-100 – Office of Water, August 1989. <http://www.epa.gov/npdes/pubs/owm012.pdf>

Technical Support Document for Water Quality based Toxics Control (EPA/505/2 90 001), page 47.