

CVEN 5534, WASTEWATER TREATMENT

REGULATION SUMMARY from USEPA, “Introduction to the Clean Water Act,”

<http://www.epa.gov/watertrain/cwa/>¹

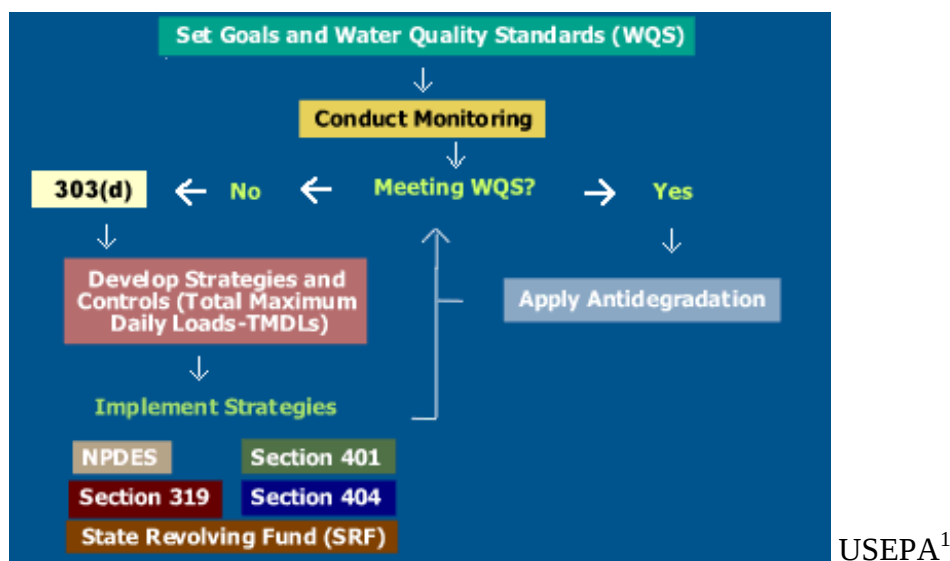
Clean Water Act (FWPCA, 1972, 1977 and subsequent amendments)

Statute passed by US Congress:

- Has authority to regulate pollutants discharged to US surface waters
- Delegated authority to EPA to develop regulations for water pollution control and enforce
- Required setting water quality standards for regulated contaminants
- Required permits for discharge of pollutants to US surface waters
- Funded construction of wastewater treatment

EPA implements statute through regulations

1. Water Quality Standards set
2. Antidegradation and monitoring
3. Total Maximum Daily Load (TMDL) is approach for meeting WQS if not met already as shown by antidegradation monitoring.
4. Reduce pollutant loading to either achieve or maintain WQS
 - a. NPDES permit program regulates point sources (PS)
 - b. Section 319 covers nonpoint sources (NPS) farm, forestry, stormwater (EPA has no regulatory authority over NPS – only can give money to improve)
 - c. Section 404 covers filling wetlands
 - d. Section 401 limits federal agency ability to impair surface water quality by their activity
 - e. State Revolving Funds provides money to states, tribes for control of point and nonpoint sources



Water Quality Standards

Typically set by states considering:

1. **Designated uses (DU)** as set by “society” through some public agency. E.g. in Colorado, the State Water Quality Control Commission appointed by Governor and approved by Legislature
 - a. Can be set based on existing uses – which include past, present and future anticipated uses. Designated uses must include existing uses.
 - b. “Fishable/Swimmable” are designated uses for all surface waters
 - c. Waste transport is not an acceptable designated use
 - d. Can be changed through reclassification
 - e. Include
 - i. Public drinking water supply (PWS) – treated or untreated
 - ii. Water-based recreation – noncontact, contact, short-term, long-term
 - iii. Fishing, eating fish
 - iv. Aquatic life
 1. Cold water species habitat
 2. Warm Water species habitat
 - v. Agriculture supply
 - vi. Industrial supply
 - f. If more than one use, DU requiring strictest WQS determines
 - g. Socio-economic factors can be considered, but not required
 - h. A DU may be downgraded after Use Unattainability Analysis (UAA) showing
 - i. WQS cannot be attained through point source regulation within technology based limits

- ii. Cost-effective and best management practices (BMPs) for non-point sources
 - iii. Lower DU considers
 - 1. Natural conditions prevent attainment (e.g., AMD)
 - 2. Irreversible human activity
 - 3. Attaining DU would cause environmental damage
 - 4. Attaining DU would have high social/economic costs
- 2. **Water Quality Criteria** are measures of physical, chemical and biological conditions required to sustain DUs. SCIENCE BASED. Economic factors CANNOT be considered in WQC.
 - a. Considers both aquatic life and human health through either drinking water or eating food from aquatic sources.
 - b. Universal WQS are
 - i. No putrescent or objectionable bottom deposits
 - ii. No oil, scum or floating debris in visible amounts
 - iii. No nuisance levels of odor, color
 - iv. No undesirable or nuisance aquatic life, e.g. cyanobacteria, nematodes, worms, zebra mussels...
 - v. No substances in amounts toxic to humans or aquatic life
 - c. Mixing zones near point sources may be exempt from WQS

Antidegradation policies are rules to control activities that might lower quality of HIGH QUALITY waters and compromise DUs. (Keep clean waters clean)

In Colorado two designations of waters: Outstanding Waters (OW) and Use Protected (UP).

- 1. Antidegradation rules set by one of 2 approaches:
 - a. parameter-based, classifies waters based on pollutant concentration level.
 - i. No activities allowed to downgrade water below a threshold (e.g., chronic toxicity)
 - b. Multiple factors: measured WQ parameters, indicator species, appearance, etc.
- 2. Public must be part of establishing WQS for antidegradation policies
- 3. Activities (discharges, land use) may be prohibited under antidegradation policies

Monitoring is component to assess attainment of WQS.

- 1. EPA and State agencies designate parameters to be monitored for assessing WQ and methods of measurement

2. Reports (305b) submitted to EPA, available to public on biennial basis usually, include status: HEALTHY, THREATENED, IMPAIRED classifications
3. 303(d) list is threatened or impaired waters and States, tribes must report actions and progress toward improving WQ

Conduct Monitoring	Top 15 Causes of Impairment 1998 and 2000	
	Cause of Impairment	Count
	Sediments	6,133
	Pathogens	5,281
	Nutrients	4,773
	Metals	3,984
	Dissolved Oxygen	3,772
	Other Habitat Alterations	2,112
	Temperature	1,884
	pH	1,798
	Impaired Biologic Community	1,440
	Pesticides	1,432
	Flow Alterations	1,099
	Mercury	1,088
	Organics	1,069
	Noxious Aquatic Plants	831
	Ammonia	752
	Total	37,448

USEPA¹

Conduct Monitoring	Top Four Reasons for 303(d) Listing (by Waterbody Type)		
	LAKES	ESTUARIES	STREAMRIVERS
	NUTRIENTS	PATHOGENS	SEDIMENTS
	SEDIMENTS	FCA²	METALS
	DISSOLVED OXYGEN	METALS	PATHOGENS
	pH	DISSOLVED OXYGEN	NUTRIENTS

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Total Maximum Daily Load (TMDL)

Applies to all waters on 303(d) list where waters WQS cannot be achieved by technology-based discharge limits (typically secondary treatment).

TMDLs are pollutant budgets for a particular water body

EPA is advocating use of TMDLs for “watershed” based water quality control, encompassing more than just threatened or impaired waters – including high quality waters also in more comprehensive approach

Goal is to set capacities of receiving waters for individual pollutants in a water body, with a margin of safety.

Caps for water body lead to:

1. Waste Load Allocation (WLA) used to control point sources.
 - a. Units are mass/time kg/d, lb/yr for constituents like BOD, NH₄, total N, P, Cu, Zn, etc.
 - b. WLAs for individual point sources are not set by EPA in TMDL guidelines – States assign to individual point sources based on location, or other factors.
 - i. Reserve capacity for future activities
 - ii. Nonpoint source contributions
 - iii. Protecting a sub-unit of the water(shed)
2. Load allocations (LA) non-point sources cannot be controlled only estimated and then will impact WLAs

NPDES Permit System

Permits cover collected discharges into surface waters

1. Discharge of municipal wastewater collected in sewers
2. Pipes, ditches, channels, tunnels, ships, oil rigs
3. Collected stormwater discharge
4. Industrial discharges

Exempt

1. Abandoned mines on nonfederal lands
2. Sewage from some ships
3. Agriculture return (drainage) flows
4. Logging drainage
5. Feedlots and aquaculture operations

Effluent Limits

1. Technology-based are derived from studies of operating facilities. Do not specify particular technologies, but act as performance standards
2. EPA regulations issues effluent guidelines for treatment facilities which are enforceable standards regardless of other WQS
 - a. For existing plants, are best available technology economically achievable (BAT)
 - b. For new plants, are New Source Performance standards (NSPS)
3. Water Quality Based Effluent Limits (WQBELs) are applied when technology-based limits will not achieve WQS or DU
4. Effluent limits are linked to TMDL through WLA calculation.

NPDES Permitting

Technology-Based Requirements for Municipal Discharges: Secondary Treatment

	30-Day Average	7-Day Average
5-Day BOD	30 mg/L	45 mg/L
TSS	30 mg/L	45 mg/L
pH	6-9	--
Removal	85% of BOD ⁵ and TSS	--

USEPA¹

Effluent Monitoring and Reporting

Demonstrates compliance with NPDES permit

Basis for enforcement action for noncompliance typically fines, can also include criminal penalties.

KEY TAKE HOME MESSAGE

CWA regulations and particularly water quality standards are **dynamic**! Reflecting:

1. New information on water quality criteria – advances in science and measurement methods
2. Changing designated uses caused by factors like population growth, climate/hydrology effects
3. Changing societal values and economic factors

1970 – 1990 dominated by individual contaminants in technology based effluent limits in NPDES permits focusing on BOD, TSS, pathogens, and/or source control of toxic substances (heavy metals, VOCs, SOCs)

After 1990, more attention to water quality based effluent limits (WQBELs) and application of total maximum daily load (TMDLs) capacity-based approached especially for nutrients

DYNAMICS OF REGULATORY PROCESS CHALLENGE WASTEWATER TREATMENT PLANT PLANNING, DESIGN AND OPERATION BY REQUIREMENT TO INCORPORATE REGULATORY CHANGES WHICH OCCUR OVER YEAR-SCALE CYCLES INTO FACILITIES WHICH HAVE LIFE CYCLES OVER MULTIPLE-DECADES.

RATIONALE

CDPS GENERAL PERMIT - DOMESTIC WASTEWATER TREATMENT FACILITIES
DISCHARGE TO RECEIVING WATERS THAT ARE
UNCLASSIFIED; OR USE PROTECTED; OR ARE DESIGNATED
AS THREATENED AND ENDANGERED SPECIES HABITAT

AUTHORIZATION TO DISCHARGE UNDER THE
COLORADO DISCHARGE PERMIT SYSTEM (CDPS)
PERMIT NUMBER COG-589000

This is an amendment to the general permit for domestic wastewater treatment facilities which discharge to receiving waters that are unclassified, or have a “Use Protected” designation, or are listed as threatened and endangered species habitat (including the 100 year flood plain). The most significant changes in this renewal are as follows:

A. Coverage Changes

This permit has been amended to allow for discharges to state waters designated as threatened and endangered species habitat, which includes the 100 year flood plains. Also, the previous permit contained a clause that limited discharges to Use Protected stream segments with Class 2 Aquatic Life classifications. This permit has been amended to include Class 1 Aquatic Life segments as well as the Class 2 segments.

B. Formatting and Boilerplate Permit Requirements

The formatting, including numbering, has been modified for consistency, and to allow for easier reading. Additionally, the language in Part I, Part II and Part III of the permit were updated to include the most recently available boilerplate language for domestic permits.

C. Total Suspended Solids Monitoring

Influent Total Suspended Solids (TSS) monitoring has been deleted for lagoon systems in accordance with Regulation 62.4(3) of the Regulations for Effluent Limitations. Note that influent TSS monitoring requirements are maintained for mechanical plants as the TSS percent removal requirements apply for mechanical plants.

D. Discharges to 303(d) Listed Waters (Regulation No. 93)

The original general permit included certification requirements under Part I.A.3.e. that specifically excluded discharges with the reasonable potential to cause new or increased loadings for pollutants limited in the permit that discharged to streams included in Regulation 93 (Colorado’s 303(d) list of impaired waters). Under this amendment, the permit has been reworked to: (1) clarify that facilities discharging to 303(d) listed waters may still qualify under this permit; (2) to allow for new or increased loadings to be included as limits as long as they are based on an approved total maximum daily load, where established, or the water quality standard; and (3) to allow for reporting only to be established for pollutants from those facilities not included in the TMDL or where it is not known if the pollutant is of concern for the particular facility.

For facilities that discharge to 303(d) listed streams without an approved TMDL where pollutants are limited in this permit, the facility may still qualify for coverage under this permit. For 303(d) listed streams for pH, fecal coliform or Escherichia Coli (E. Coli), and total inorganic nitrogen/nitrate where a TMDL has not yet been approved, the Division will include the water quality standard as the limit. For facilities discharging to streams on the 303(d) list for ammonia without the benefit of an approved TMDL, limitations will be determined based on a zero low flow condition, and the appropriate table in the permit as discussed later in this rationale.

E. Mixing Zones

Although the original general permit (Part I.A.3.g) included certification requirements that presumed an extreme dilution ratio, the Division had no intent of excluding facilities from coverage under the permit based on dilution ratios. Thus, the permit has been revised to reflect no presumption of mixing zone. The permit writer will be required to evaluate dilution ratios and determine appropriate mixing zone requirements consistent with Section 31.10 of The Basic Standards and Methodologies for Surface Water.

Exclusion from further mixing zone determinations, based on Extreme Mixing Ratios, may be granted if the ratio of the design flow to the chronic low flow (30E3) is greater than 2:1 or if the ratio of the chronic low flow to the design flow is greater than 20:1. The certification will specify whether the extreme mixing ratio has been met based on the calculated dilution ratio.

If the Extreme Mixing Ratio has been met, no additional requirements will be prescribed in the certification. If the Extreme Mixing Zone Ratio has not been met, a compliance schedule will be prescribed in Part I.B.6 of the permit to obtain the necessary information, which will be used to complete the testing of exclusion thresholds, and if applicable, to determine any available dilution.

F. Phosphorous Limits

This amendment provides the ability to include phosphorous limits, where such limit(s) have been established pursuant to the Division's watershed protection control regulations. Note that these limits only apply to dischargers, either directly, or indirectly (e.g., via tributary) to Dillon Reservoir, Cherry Creek Reservoir, Chatfield Reservoir, and the Bear Creek Watershed as contained in Regulation Nos. 71-74. These regulations set forth specific 30-day average phosphorous concentration limits as well as cumulative annual loading limits for phosphorous for specific dischargers. Where a specific facility is identified in these regulations and limits are assigned, the permit will incorporate such limitations and will require monitoring and reporting requirements for phosphorous.

G. Limits for Discharges to Unclassified Waters

The pH, BOD₅ (or CBOD₅), TSS, percent removal, total residual chlorine and oil & grease limits for dischargers to unclassified water are established based on the limits in the Regulations for Effluent Limitations. Note that according to Section 62.4(1) of the regulation, the total residual chlorine limit is waived if the discharge is to an irrigation ditch. Section 62.4(1) also indicates that numeric limitations for fecal coliform shall be determined. Available studies indicate that E. Coli, which is a subset of fecal coliform, is a better predictor of potential human health impacts from waterborne pathogens, and E Coli standards are replacing the dual standard for E. Coli and fecal coliform currently in the regulations. The pathogen limits will only be established for E. Coli.

The Division's Policy Concerning Escherichia coli versus Fecal Coliform establishes a maximum E. Coli 30-day geometric mean limit of 2000 colonies/100 ml and also establishes the 7-day geometric mean limit for E. Coli as two times the 30-day geometric mean limit; consequently, a 30-day geometric mean limit of 2000 colonies/100 ml and a 7-day geometric mean limit of 4000 colonies/100 ml have resulted.

Water quality standards do not apply to unclassified waters, however, Regulation 61.8(10)(a) explains that "a permit for a point source discharge to a ditch or other man-made conveyance structure shall include such provisions as are necessary to (i) protect agricultural, domestic, industrial, and municipal beneficial uses made of the waters, which use or uses were decreed and in existence prior to the inception of the discharge, and (ii) assure compliance with any applicable water quality standards for waters of the state that may be affected by the discharge." If a discharge will have no impact on existing uses of irrigation ditches or the downstream classified waters, the discharge is not subject to water quality standards and instead are subject solely to Regulation 62.

If the discharge is to an unclassified water that has the potential to reach a classified state water that is designated as Use Protected or is a T&E water, then the applicable limitations for those discharges may apply as outlined in the permit. If the discharge has the potential to reach a classified state water that is designated as Outstanding or Undesignated, then the discharge cannot be permitted under this general permit. If the discharge may reach the Colorado River basin, salinity monitoring and other salinity requirements, as discussed later in this rationale, may apply.

H. Discharge to Use Protected Waters

The previous permit limited discharges to Use Protected waters to those with only Class 2 Aquatic Life classifications. This has been changed to allow for discharges to use protected waters with both Class 1 and Class 2 Aquatic Life classifications.

The permit has been amended to allow for mixing zone considerations, and therefore, for the use of dilution in calculating the effluent limitations. The Division has calculated the Water Quality Based Effluent Limitations (WQBELs) that apply to TRC, E. Coli, and ammonia. These WQBELs were developed using the Division's mass balance approach and the Ammonia Toxicity Model (AMMTOX). A brief discussion of the mass balance calculation, the AMMTOX model, and the criteria used for these parameters follows.

1. WQBELs

a. Mass Balance Approach

The Division's standard analysis consists of steady-state, mass-balance calculations for most pollutants and modeling for pollutants such as ammonia. The mass-balance equation is used by the Division to calculate the acute (daily maximum) and chronic (30-day average) WQBELs. The mass-balance equation accounts for the upstream concentration of a pollutant at the existing quality, annual low flow, effluent flow and the water quality standard. The mass-balance equation is expressed as:

$$M_2 = \frac{M_3Q_3 - M_1Q_1}{Q_2}$$

Where,

Q_1	= Upstream low flow (acute or chronic)
Q_2	= Average daily effluent flow (design hydraulic capacity)
Q_3	= Downstream flow ($Q_1 + Q_2$)
M_1	= In-stream background pollutant concentrations at the existing quality (ambient water quality)
M_2	= Calculated acute and chronic WQBELs
M_3	= Maximum allowable in-stream pollutant concentration (water quality standards)

b. Low Flows

Chronic and acute in-stream low flows for each month will be determined based on at least the most recent ten-year period of record of available data. Where only limited data are available over the past 10 years or where an extended period of data would be more representative, a more extended period of record of data may be used. Use of daily in-stream flow data obtained from the United States Geological Survey, the Colorado Division of Water Resources, or other local or regional organizations is the preferred method.

Where daily data are available and meet the criteria for the U. S. Environmental Protection DFLOW program, this software will be used to calculate monthly acute and chronic low flows. However, in the absence of daily data from these sources, the Division may rely on estimates from other professionals familiar with the location and other generally accepted methods of estimating flows including but not limited to watershed ratios, visual observations, and other such procedures.

Except for ammonia, where monthly low flows are incorporated into state-approved models, the lowest of the monthly chronic low flows will be used in the calculation of water quality-based effluent limits (WQBELs).

c. Ambient Water Quality

Ambient water quality (a.k.a., "existing quality") shall normally be determined based on the data from the most recent five-year period of record. Where limited data are available, a more extended period of record of data may be used. For most pollutants, existing quality is determined to be the 85th percentile. For pathogens such as E. Coli, existing quality is determined to be the geometric mean. For ammonia, the mean concentration is the value used for headwater conditions for ammonia modeling. Note that in the absence of data immediately upstream of the facility, surrogate data from further upstream locations or downstream locations may be used as representative when establishing existing ambient water quality.

2. Discussion of Limitations

a. Total Residual Chlorine

Tables A and B of the permit contain the modeled conditions for different dilution ratios and ambient water quality concentrations. These tables show relative dilution on the upper axis and approximate upstream concentration on the left hand axis. The values in the tables were calculated using the appropriate stream standards in a simple mass balance equation to establish the maximum allowed effluent limit. To look up the appropriate chronic TRC limit the chronic relative dilution is calculated by comparing the chronic low flow (30E3) to the design flow, and then use the upstream TRC concentration (85th% of appropriate data). To look up the appropriate acute TRC limit the chronic relative dilution is calculated by comparing the acute low flow (1E3) to the design flow, and then using the upstream TRC concentration (85th% of appropriate data). In many cases the upstream water quality will be 0 because of the volatility of TRC in the environment. All axis values should be rounded to the nearest whole number on either axis. The value indicated by using these two values will be the required effluent limits. The TRC values in the tables are capped at the maximum value of 0.5 mg/l allowed by Regulation No. 62. If the discharger wishes to have a more site-specific limit calculated this will need to be done in an individual permit for the WWTF.

b. E. Coli

Tables G, H, and I of the permit contain the modeled conditions for different dilution ratios and ambient water quality concentrations. The tables show relative dilution on the upper axis and approximate upstream concentration on the left hand axis. The values in the tables were calculated using the appropriate stream standard in a simple mass balance equation to establish the maximum allowed effluent limit. To look up the appropriate chronic E. coli limit the relative dilution is calculated by comparing the chronic low flow (30E3) to the design flow, and then use the upstream E. coli concentration (geometric mean of appropriate data). All values should be rounded to the nearest whole number on either axis. The value indicated by using these two values will be the required effluent limit. The E. coli values in the tables are capped at the maximum value of 2,000 #/100 ml, per Division procedure. To establish the appropriate 7-day average E. coli limit, the chronic limit should be multiplied by 2. If the discharger wishes to have a more site-specific limit calculated this will need to be done in an individual permit for the WWTF.

c. Ammonia

The Ammonia Toxicity Model (AMMTOX) requires input of pH and temperature water quality data to establish setpoint and headwater conditions, as well as the mean ambient water quality concentration for ammonia for use in establishing ammonia headwater conditions. Additionally, the model requires input of pH and temperature data to represent facility contributions. The model calculates acute and chronic monthly values of maximum allowable in-stream total ammonia that will protect the in-stream ammonia standard and locates the point on the stream where such values are at a minimum - which is referred to as the "critical point".

The AMMTOX model may be calibrated for a number of variables. However, it is the Division's approach to use the default assumptions for these variables when calculating ammonia chronic and acute WQBELs for general permits. The general default assumptions are:

- Stream velocity = $0.3Q^{0.4d}$
- Default ammonia loss rate = 6/day
- pH amplitude was assumed to be medium
- Default times for pH maximum, temperature maximum, and time of day of occurrence
- pH rebound was set at the default value of 0.2 s.u. per mile
- Temperature rebound was set at the default value of 0.7 degrees C per mile.

The AMMTOX model also includes provisions for designating salmonids, a fish species, as absent or present, and fish in early life stages as absent or present. Division procedures dictate that salmonids are present only in streams classified as Cold 1 or Cold 2, and absent in streams classified as Warm 1 or Warm 2. Division procedures also dictate that early life stages of fish are present all year round in Cold 1 or Cold 2 streams, and are present only from April through August in Warm 1 and Warm 2 streams. Note that these same default assumptions and Division procedures are used when developing ammonia chronic and acute WQBELs for individual permits. If site-specific assumptions are necessary, the Division will consider such only under an individual permit.

Tables C, D, E and F in the permit were developed by the Division to facilitate the calculations of monthly effluent limitations for total ammonia in COG-589000 General Permits. The tables show relative dilution on the upper axis and the month on the left hand axis. The values in the tables were calculated using the AMMTOX ammonia model to establish the maximum allowed total ammonia effluent limit. The AMMTOX model used conservative upstream ammonia, pH, and temperature, with conservative downstream set-point conditions. The effluent pH and temperature for the AMMTOX model were established from WWTF effluent data from across the state. To look up the appropriate monthly chronic total ammonia limit the relative dilution is calculated by comparing the chronic low flow (30E3) to the design flow, and then use the appropriate month. To look up the appropriate acute total ammonia limit the chronic relative dilution is calculated by comparing the acute low flow (1E3) to the design flow, and then use the appropriate month. All dilution values should be rounded to the nearest whole number. The value indicated by using the dilution and the corresponding month will be the required effluent limit. The total ammonia values in the tables are capped at the maximum value of 50 mg/l, because most domestic WWTF influent is less than 50 mg/l of total ammonia. If the discharger wishes to have a more site-specific limit calculated this will need to be done in an individual permit for the WWTF.

d. Total Inorganic Nitrogen

The Division has been incorporating a total inorganic nitrogen (T.I.N.) limit into individual domestic and industrial permits on a case-by-case basis, pursuant to determinations that nitrogen discharges can have the reasonable potential to cause or contribute to nitrate standard exceedances at the point of intake to a water supply. Because nitrite and ammonia can also form nitrate, compliance with the nitrate standard is achieved through imposition of a Total Inorganic Nitrogen (T.I.N.) limit. T.I.N. effectively measures nitrate and its precursors including nitrite and ammonia. Discharges to stream segments with a nitrate standard based on a water supply classification may be subject to a limitation for TIN. The limitation will typically be calculated based on the mass balance approach.

e. Metals Cyanide and Other Pollutants

Metals, cyanide and other pollutants (e.g., chloride, sulfate, sulfide, organics, etc.) are pollutants that are typically not evaluated for small domestic facilities. Consistent with individual minor domestic permits, the Division believes that based upon the size of the discharges regulated under this permit, the lack of industrial contributors, and the fact that no unusually high metals or other unusual pollutant concentrations are expected to be found in the wastewater effluent from small domestic facilities, metals, cyanide and other such pollutants need not be considered.

However, Division procedures dictate monitoring in individual small domestic facility permits for 303(d) listed pollutants as found in Water-Quality-Limited Segments Requiring Total Maximum Daily Loads, Regulation 93, regardless of the previous determination that the small domestic facility shows no reasonable potential to cause or contribute to exceedances of the standard. Additionally, where the pollutant is being evaluated for potential addition to the 303(d) list as found on Colorado's Monitoring and Evaluation List, Regulation 94, monitoring will also been established. To be consistent, this permit will therefore establish monitoring for the pollutants listed in Regulations 93 and 94 for a facility's respective receiving stream, where such pollutants are not quantitatively limited in this permit.

Limitations for metals, cyanide and other parameters, which do not have a wasteload allocated in a TMDL, will typically be based on the mass balance approach to calculating WQBELs.

I. Discharges to Threatened and Endangered Species Designated Waters, Including the 100 Year Flood Plain

Discharges to T&E waters are subject to the Memorandum of Agreement between the Division and the U.S. Fish and Wildlife Service. In summary, a discharge to a T&E water must achieve one of 3 options: 1) The permit contains end of pipe limitations based on the water quality standards; 2) the permittee installs a diffuser, and is then granted a portion of the assimilative capacity of the receiving stream; or 3) the discharge is relocated to a segment that is not designated as T&E habitat.

This general permit assumes that the discharge will meet end of pipe limitations that are set out in Part I.B.7.c of the permit. Tables J, K and O outline the ammonia and E. Coli limitations that would be associated with the appropriate standards. Limitations for other parameters would be set at the more stringent of the applicable water quality standards or the standards set forth in Regulation 62.

If the facility determines that the installation of a diffuser would be desirable, limitations may be set in accordance with the limits for Use Protected waters in Part I.B.7.b of the permit. Note that the Division must approve, with the concurrence of the U.S. Fish and Wildlife Service, the installation plans for the diffuser, and will determine the appropriate allowable dilution that would be

used to determine the limitations under Part I.B.7.b of the permit.

J. Monitoring Requirements

Monitoring requirements in the original and all previous iterations of this general permit were based on the Division's Water Quality Permits Policies and Procedures: Sample Frequency and Sample Type Domestic Wastewater Treatment Facilities. Almost identical monitoring frequencies and sample types are again established in this amendment with several additions. First, for chlorine, monitoring is only required when in use consistent with Division procedures. Second, monitoring for ammonia, nitrate and phosphorous, are established consistent with the above mentioned policy. Note that for phosphorous, where applied, monitoring requirements are also based on the respective regulation (e.g., Regulation 71 through 74).

Reduced monitoring frequencies may be requested and can be accommodated under this permit in accordance with the procedures set out in the draft Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Industrial and Domestic Wastewater Treatment Facilities. Where the facility qualifies for reduced monitoring frequencies, such shall be noted in the certification.

K. Salinity Requirements

The general permit has been modified to indicate that the certification will discuss the applicability of salinity monitoring and other additional requirements, in conformance with Section 61.8(2)(l) of the Colorado Discharge Permit System Regulations. The average influent TDS concentration is subtracted from the average effluent TDS concentration to determine if the average annual incremental increase exceeds 400 mg/l. If not, monitoring can continue with no additional salinity requirements applied in the permit. If the average annual incremental increase is greater than 400 mg/l, the facility will only be subject to additional requirements if the discharged salinity loading is greater than 1 ton per day or 366 tons/year. The certification will indicate if additional salinity reporting requirements are waived and upon what basis. Where the additional requirements apply, which may include the imposition of a compliance schedule in Part I.B.6 of the permit, the certification will indicate such.

Andrew Ross
June 18, 2008

No public comments were received during the Public Notice for this amendment. Minor editorial changes were made from the public notice version.

Andrew Ross
August 12, 2008

CDPS GENERAL PERMIT
DOMESTIC WASTEWATER TREATMENT FACILITIES

DISCHARGING TO RECEIVING WATERS THAT ARE:

UNCLASSIFIED; OR USE PROTECTED; OR ARE DESIGNATED
AS THREATENED AND ENDANGERED SPECIES HABITAT

AUTHORIZATION TO DISCHARGE UNDER THE
COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

In compliance with the provisions of the Colorado Water Quality Control Act (25-8-101 et. seq. CRS, 1973 as amended), and the Federal Water Pollution Control Act (33 U.S.C. 1251 et. seq. as amended; the "Act"), domestic wastewater treatment facilities are authorized to discharge from approved locations throughout the state of Colorado to waters of the State which are unclassified or designated Use Protected or designated as threatened and endangered species habitat. Such discharges shall be in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit specifically authorizes the entity identified in the certification on page one of this permit to discharge from their wastewater treatment facilities, at the location described on page one of this permit, to waters of the state as identified on page one of this permit.

The authorization to discharge under this permit is in effect from the date of certification identified on page one of this permit until the expiration date identified below.

This amended permit becomes effective on **October 1, 2008** and shall expire at midnight, October 31, 2010.

Amended and Issued this 27th day of August, 2008

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT



Janet Kieler, Permits Section Manager
Water Quality Control Division

Permit Action Summary:

Amended August 27, 2008 Effective: October 1, 2008
Originally Issued and Effective: November 1, 2005

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PART I

A. COVERAGE UNDER THIS PERMIT

1. Eligibility

In order to be eligible for authorization to discharge under the terms and conditions of this permit, the owner of any domestic treatment facility that can meet the conditions identified at Part I.A.3., below, must submit a complete permit application form obtained from the Water Quality Control Division ("Division"). Such application shall be submitted at least sixty (60) days prior to the anticipated date of first discharge to:

Colorado Department of Public Health and Environment
Water Quality Control Division, WQCD-P-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530
Attention: Permits Unit

The application form can be obtained from the Division from our website at:
<http://www.cdphe.state.co.us/wq/PermitsUnit/Domestic/index.html> , or by calling 303-692-3599.

The Division shall have up to sixty (60) days after receipt of the application to request additional data and/or deny the authorization for any particular discharge. Upon receipt of additional information the Division shall have an additional 60 days to issue or deny authorization for any particular discharge.

Authorization to discharge shall be site specific and not transferable to alternative locations. If the Division determines that the operation does not fall under the authority of the general permit, then the information received will be treated as an individual permit application.

Authorization to discharge under this general permit shall commence immediately and shall expire on October 31, 2010. The Division must evaluate this general permit once every five (5) years and must also recertify the applicant's authority to discharge under the general permit at such time. Therefore, a permittee desiring continued coverage under this general permit must re-apply by April 30, 2010. The Division will determine if the applicant is eligible to continue to operate under the terms of the general permit. An application for an individual permit will be required for any facility not reauthorized to discharge under the reissued general permit.

2. Certification Requirements

The applicant must certify or the Division must find that the following conditions exist at the facility or the facility will not be allowed to discharge under the authority of this general permit:

- a. The facility is a domestic wastewater treatment facility discharging to at least one of the following: 1) an unclassified water; 2) a use protected water; or 3) a water that has been designated as threatened and endangered species habitat (including an area within the associated 100-year flood plain).
- b. The discharge to an unclassified water must not return flow to a classified water, that has an Undesignated or Outstanding Water designation.
- c. The hydraulic design capacity of the facility is less than one million gallons per day (1 MGD).
- d. The facility is not required to develop an industrial pretreatment program pursuant to either Section 307 of the Act or Section 63.9.A.(2) of the Colorado Pretreatment Regulations.
- e. The facility does not accept for treatment and discharge, by truck, rail, or dedicated pipeline, any hazardous waste as defined at 40 CFR Part 261, 6 CCR 1007-3.
- f. Except in accordance with an approved total maximum daily load, the discharge cannot be shown to be capable of causing new or increased loadings of parameters with quantitative effluent limits under this general permit for any downstream state waters which are listed in Regulation No. 93 as impaired.

3. Threatened and Endangered Species

If the discharge does go directly to a stream (including an area within the associated 100-year flood plain) that is designated as threatened or endangered habitat for fish by the U.S. Fish and Wildlife Service, then the effluent limitations associated with discharges to threatened and endangered species habitat will apply. Information on those designated waters is available on the Division's website.

4. Mixing Zone

There is no presumption of mixing zones under this general permit. Thus, pursuant to Section 31.10 of The Basic Standards and Methodologies for Surface Water, a mixing zone determination is required for this permitting action. Exclusion from further mixing zone determinations, based on Extreme Mixing Ratios, may be granted if the ratio of the design flow to the chronic low flow (30E3) is greater than 2:1 or if the ratio of the chronic low flow to the design flow is greater than 20:1. The certification will specify whether the extreme mixing ratio has been met based on the calculated dilution ratio.

If the Extreme Mixing Ratio has been met, no additional requirements will be prescribed in the certification. If the Extreme Mixing Zone Ratio has not been met, a compliance schedule will be prescribed in certification in accordance with Part I.B.6. of the permit to obtain the necessary information, which will be used to complete the testing of exclusion thresholds before the next permit renewal.

For discharges to waters designated as threatened or endangered species habitat, mixing zone considerations will be denied, unless a Division approved diffuser is installed, in which case mixing at the approved dilution ratio shall be granted. In the absence of a mixing allowance, effluent limitations will be set equal to the water quality standards.

Mixing zones evaluations will not apply to unclassified waters, where flow does not return to a classified water.

5. Antidegradation

Pursuant to Section 31.8(2)(b) of The Basic Standards and Methodologies for Surface Water, waters designated by the Commission as being Use Protected do not warrant the special protection provided by the antidegradation process. Thus, for discharges to "Use Protected" waters, Section 31.8(2)(b) is met and no further antidegradation evaluation is necessary.

Pursuant to Section 31.8(3)(a), antidegradation review procedures apply to "...regulated activities with new or increased water quality impacts that may degrade the quality of state surface waters..." For discharges that go directly to unclassified waters (e.g., ditch) and which would not impact downstream classified waters, water quality impacts would not occur because limitations based upon the water quality standards would not be applied. Thus, no additional antidegradation requirements are designated for discharges to Unclassified Waters.

Discharges to T&E waters that are not designated as Use Protected or have a chronic low flow to design flow ratio of 100:1 or greater are subject to an antidegradation review. For the purposes of this general permit, the antidegradation limitations will be applied as 15% of the standard, as the presumption for discharge to a T&E water is an end of pipe limitation based upon the standard. This is due to the denial of a mixing zone in a T&E water. If the permittee would like to determine the antidegradation limitations based upon the baseline water quality, as outlined in the antidegradation guidance document, an individual permit will be necessary.

B. TERMS AND CONDITIONS

1. Service Area

The service area for this treatment facility is delineated in the certification. All wastewater flows contributed within this service area may be accepted for treatment by the permittee provided that such acceptance does not exceed the throughput or design capacity of the treatment works or constitute a substantial impact to the functioning of the treatment works, the quality of the receiving waters, human health, or the environment.

In addition, the permittee shall enter into and maintain service agreements with any entities outside of the identified service area whose wastewater is received at the wastewater treatment facility. The service agreements shall contain all provisions necessary to protect the financial, physical, and operational integrity of the complete wastewater treatment works, including appurtenances.

2. Design Capacity

The 30-day average design hydraulic and organic capacities for this domestic wastewater treatment works are established in the certification and shall be binding for the purposes of determining compliance with the requirements described in the following paragraph, number 3.

3. Expansion Requirements

Pursuant to Colorado Law, C.R.S. 25 8 501 (5 d & e), the permittee is required to initiate engineering and financial planning for expansion of the domestic wastewater treatment works whenever throughput and treatment reaches eighty (80) percent of the 30-day average design capacity as identified in the certification. Whenever ninety five (95) percent of the 30-day average design capacity as identified in the certification for throughput and treatment is met, the permittee shall commence construction of the necessary treatment expansion.

In the case of a domestic wastewater treatment works, which treats wastewater from users under the permittee's jurisdiction, where construction is not commenced in accordance with the above paragraph, the permittee shall cease issuance of building permits within the service area until construction has commenced. If the permittee's domestic wastewater treatment works serves other municipalities or connector districts, the permittee shall have made provisions by contract or otherwise, for the municipalities within the service area to cease issuance of taps or building permits within such service area until construction has commenced. Taps or building permits may continue to be issued for any construction, which would not have the effect of increasing the flow or organic loading of wastewater to the wastewater treatment works that is the subject of this permit.

If, during the previous calendar year, the monthly hydraulic loading (MGD) or organic loading (lbs. BOD5/day) to the facility in the maximum month exceeded either 80% or 95% of the hydraulic or organic capacity discussed in Part I.B.2. of this permit and identified in the certification for this permit, the permittee shall submit a report by March 31 the following year that includes:

- a. A schedule for planning for a facility expansion if 80% of the hydraulic or organic capacity was exceeded; or
- b. A schedule for construction of a facility expansion if 95% of the hydraulic or organic capacity was exceeded; or
- c. An analysis that indicates that the exceedance of the applicable percentage of the hydraulic or organic capacity (80% or 95%) was an anomaly and is not expected to occur during the current calendar year.

If the permittee has reason to believe that the peak flow in any major interceptor or lift station is expected to cause an overflow from the interceptor or lift station during the current calendar year, the permittee shall submit a report within 30 days of such finding that includes a schedule of actions to be taken immediately that will prevent any overflow to state waters.

4. Facilities Operation

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances; including lift stations and the collection system owned by the permittee) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes compliance with a plan of operation for the domestic wastewater treatment works, if such a plan has been prepared, that contains provisions for effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision also requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. Any biosolids produced at the wastewater treatment facility shall be disposed of in accordance with State and Federal guidelines and regulations.

5. Change In Conditions

Any change to the treatment facility, or to the wastewater it receives, which results in an inability to meet any condition identified in the "Certification Requirements" at Part I.A.3., above, must be reported to the Division within ten (10) working days of the date the permittee becomes aware of such change. The Division will require the permittee to apply for and obtain an individual permit if it determines that the facility no longer qualifies for authorization to discharge under the general permit.

6. Compliance Schedules

If necessary, any compliance schedule items will be noted in the certification to discharge.

7. Effluent Limitations

a. DISCHARGES TO UNCLASSIFIED WATERS ONLY

The following effluent limitations will apply to discharges to unclassified waters, where there is no return flow to a classified water of the state. For discharges where return flow to a classified state water is possible, and that receiving stream is Use Protected, the limitations under Part I.B.7.b will apply. For discharges where return flow to a classified state water is possible, and that receiving stream is a T&E water, the limitations under Part I.B.7.c will apply. Where return flow is possible to an Undesignated or Outstanding Water, the discharge will not be eligible for coverage under this general permit.

In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Section 61.8(2), the permitted discharge shall not contain effluent parameter concentrations, which exceed the following limitations:

Parameter	Limitation		
	30-day Avg.	7-day Avg.	Daily Max
Flow, MGD	¹	NA	Report
BOD ₅ , mg/l ²	30	45	NA
BOD ₅ , percent removal ⁵	NA	NA	85% (minimum)
Total Suspended Solids, mg/l			
Mechanical Plants	30	45	NA
Aerated Lagoons	75	110	NA
Non-aerated Lagoons	105	160	NA
TSS, percent removal ⁵	NA	NA	85% (minimum)
Mechanical Plants only			
Total Residual Chlorine, mg/l	Report	NA	0.5 ³
pH, s.u.	NA	NA	6.0-9.0
Oil and Grease, mg/l	NA	NA	10
E. Coli, no/100 ml	2,000	4,000	NA
Total Dissolved Solids, mg/l ⁴	Report ⁴	Report ⁴	NA

¹ The 30-day average effluent limitation for flow is identified in the certification and is enforceable under this permit.

² Limitations for 5-day Carbonaceous Biochemical Oxygen Demand (CBOD₅) of 25 mg/l (30-day average) and 40 mg/l (maximum 7-day average) may be substituted for the limits for BOD₅ as identified in the certification.

³ The total residual chlorine limit may be waived for discharges to irrigation ditches, and "Report" may be specified in lieu of the 0.5 mg/l daily maximum limit.

⁴ "Report", only, requirements may be established for total dissolved solids in accordance with Colorado Regulation No. 39 for facilities ultimately discharging to the Colorado River basin. The reporting requirements, where applicable, will be discussed in the certification for this permit and are fully enforceable under this permit.

⁵ In addition to the concentration limitations for BOD₅ and Total Suspended Solids (TSS) indicated above, unless this provision has been specifically waived in the certification, the arithmetic mean of the BOD₅, or CBOD₅ if identified in the certification, and TSS concentrations for effluent samples collected during the calendar month shall demonstrate a minimum of eighty-five percent (85%) removal of BOD₅, or CBOD₅, and TSS, as measured by dividing the respective difference between the mean influent and effluent concentrations for the calendar month by the respective mean influent concentration for the calendar month, and multiplying the quotient by 100.

Where the permittee has demonstrated that the treatment facility is unable to meet the 85 percent removal requirement for a parameter and the inability to meet the requirement is not caused by excessive infiltration, as

defined in 40-CFR 35.2005(b)(16), a lower percent removal requirement or a mass loading limit may be substituted provided that the permittee can demonstrate that the provisions of 40 CFR 133.103(d) can be met.

Note that the TSS percent removal does not apply to lagoon facilities.

b. DISCHARGES TO RECEIVING WATERS DESIGNATED USE PROTECTED WITH AQUATIC LIFE USES

The following effluent limitations will apply to minor domestic facilities only if so identified in the certification of this permit. If the discharge is to a T&E designated water, the limitations in Part I.B.7.c will apply.

In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Section 61.8(2), the permitted discharge shall not contain effluent parameter concentrations, which exceed the following limitations:

Parameter	Limitation		
	30-day Avg. ^{i ii iii}	7-day Avg. ^{i ii iii}	Daily Max ^{i ii iii}
Flow, MGD	¹	NA	Report
BOD ₅ , mg/l ²	30	45	NA
BOD ₅ , percent removal ³	NA	NA	85% (minimum)
Total Suspended Solids, mg/l			
Mechanical Plants	30	45	
Aerated Lagoons	75	110	
Non-aerated Lagoons	105	160	
TSS, percent removal ³	NA	NA	85% (minimum)
Mechanical Plants only			
Total Residual Chlorine, mg/l	⁴	NA	⁴
pH, s.u.	NA	NA	6.5-9.0
Oil and Grease, mg/l	NA	NA	10
E. Coli, no/100 ml ⁵	⁵	⁵	NA
Total Ammonia, mg/l as N	⁶	NA	⁶
Total Inorganic Nitrogen, mg/l	Report ⁷	NA	⁷
Total Phosphorous, mg/l	⁸	NA	Report ⁸
Total Phosphorous, lbs/month	Report ⁸	NA	NA
Total Phosphorous, cumulative lbs/previous 12 consecutive months	⁸	NA	NA
Total Dissolved Solids, mg/l	Report ⁹	NA	Report ⁹
Other Pollutants, units	Report ⁹ⁱ	NA	Report ⁹ⁱ

¹ The 30-day average effluent limitation for flow is identified in the certification and is enforceable under this permit.

² Limitations for 5-day Carbonaceous Biochemical Oxygen Demand (CBOD₅) of 25 mg/l (30-day average) and 40 mg/l (maximum 7-day average) may be substituted for the limits for BOD₅ as identified in the certification.

³ In addition to the concentration limitations for BOD₅ and Total Suspended Solids (TSS) indicated above, unless this provision has been specifically waived in the certification, the arithmetic mean of the BOD₅, or CBOD₅ if identified in the certification, and TSS concentrations for effluent samples collected during the calendar month shall demonstrate a minimum of eighty-five percent (85%) removal of BOD₅, or CBOD₅, and TSS, as measured by dividing the respective difference between the mean influent and effluent concentrations for the calendar month by the respective mean influent concentration for the calendar month, and multiplying the quotient by 100.

Where the permittee has demonstrated that the treatment facility is unable to meet the 85 percent removal requirement for a parameter and the inability to meet the requirement is not caused by excessive infiltration, as defined in 40-CFR 35.2005(b)(16), a lower percent removal requirement or a mass loading limit may be substituted provided that the permittee can demonstrate that the provisions of 40 CFR 133.103(d) can be met. Note that the TSS percent removal does not apply to lagoon facilities.

⁴ Limits for total residual chlorine will be based on the Effluent Limitations by Dilution Ratio contained in Tables A and B. The limits will be identified in the certification and will be fully enforceable under this permit.

- 5 Limits for E. Coli will be determined based on the Effluent Limitations by Dilution Ratio contained in Tables G, H, and I. Note that the 7-day average limitation is calculated as 2x the 30-day average calculation. The limits will identified in the certification and will be fully enforceable under this permit.
- 6 Limits for total ammonia have been calculated with the AMMTOX model and will be based on Effluent Limitations by Dilution Ratio contained in Tables C, D, E, and F. The effluent total ammonia limits and/or reporting requirements will be identified in the certification for this permit and the limits and reporting requirements are fully enforceable under this permit.
- 7 A Total Inorganic Nitrogen limit will be calculated based on the methodology summarized in the rationale to this permit and imposed only where the certification indicates a limit or monitoring is necessary; otherwise, the certification will indicate that neither a limit nor reporting requirements will be specified. The Total Inorganic Nitrogen limit and/or reporting requirements, where applied, will be fully enforceable under this permit.
- 8 Total Phosphorous limits will be established where applicable and will be based on Colorado Regulation Nos. 71-74. The limits and reporting requirements, where applicable, will be fully enforceable under this permit.
- 9 “Report”, only, requirements may be established for total dissolved solids in accordance with Colorado Regulation No. 39 for facilities discharging to the Colorado River basin. Additionally, “Report” only requirements may be established for other pollutants that are not limited in this permit based on findings that the pollutants are listed along with the facility’s receiving stream in Colorado Regulation Nos. 93 and/or 94. The reporting requirements, where applicable, will be discussed in the certification for this permit and are fully enforceable under this permit.
- i. Modified Limitations for Discharges to 303(d) Listed Segments
- Limitations for pH, fecal coliform, E. coli and total inorganic nitrogen/nitrate, or any other applicable parameter may be added or modified by incorporating limits based on the wasteload allocation for the discharge as set forth in an approved total maximum daily load for the segment, and as identified in the certification. In the absence of an approved total maximum daily load, limits may be established at the water quality standard as identified in the certification. These modified limits will be fully enforceable under this permit.
- ii Site-specific limitations
- Site-specific limitations for a parameter may be added on a case-by-case basis that are equivalent to the Basic Standards and Methodologies for Surface Water, or Regulation for Effluent Limitations, or any other applicable regulation, and would be specified in the certification along with the appropriate monitoring frequencies.
- iii Other Site-specific Permit Conditions
- Specific permit conditions may be applied for compliance with any Division compliance order on consent, cease and desist order, or an EPA administrative order, or similar decree promulgated by the Division, EPA or any other public entity.

Table A: Acute (Daily Maximum) Total Residual Chlorine Effluent Limitations (mg/l) by Dilution Ratio

		Dilution Ratio (Low Flow : Design Capacity)											
		0:1	1:1	2:1	3:1	4:1	5:1	10:1	20:1	40:1	50:1	75:1	100:1
Upstream TRC Water Concentration (mg/l)	0	0.019	0.038	0.057	0.076	0.095	0.114	0.209	0.399	0.5*	0.5*	0.5*	0.5*
	0.001	0.019	0.037	0.055	0.073	0.091	0.109	0.199	0.379	0.5*	0.5*	0.5*	0.5*
	0.002	0.019	0.036	0.053	0.070	0.087	0.104	0.189	0.359	0.5*	0.5*	0.5*	0.5*
	0.003	0.019	0.035	0.051	0.067	0.083	0.099	0.179	0.339	0.5*	0.5*	0.5*	0.5*
	0.004	0.019	0.034	0.049	0.064	0.079	0.094	0.169	0.319	0.5*	0.5*	0.5*	0.5*
	0.005	0.019	0.033	0.047	0.061	0.075	0.089	0.159	0.299	0.5*	0.5*	0.5*	0.5*
	0.006	0.019	0.032	0.045	0.058	0.071	0.084	0.149	0.279	0.5*	0.5*	0.5*	0.5*
	0.007	0.019	0.031	0.043	0.055	0.067	0.079	0.139	0.259	0.499	0.5*	0.5*	0.5*
	0.008	0.019	0.030	0.041	0.052	0.063	0.074	0.129	0.239	0.459	0.5*	0.5*	0.5*
	0.009	0.019	0.029	0.039	0.049	0.059	0.069	0.119	0.219	0.419	0.5*	0.5*	0.5*
	0.010	0.019	0.028	0.037	0.046	0.055	0.064	0.109	0.199	0.379	0.469	0.5*	0.5*
	0.011	0.019	0.027	0.035	0.043	0.051	0.059	0.099	0.179	0.339	0.419	0.5*	0.5*
	0.012	0.019	0.026	0.033	0.040	0.047	0.054	0.089	0.159	0.299	0.369	0.5*	0.5*
	0.013	0.019	0.025	0.031	0.037	0.043	0.049	0.079	0.139	0.259	0.319	0.469	0.5*
	0.014	0.019	0.024	0.029	0.034	0.039	0.044	0.069	0.119	0.219	0.269	0.394	0.5*
	0.015	0.019	0.023	0.027	0.031	0.035	0.039	0.059	0.099	0.179	0.219	0.319	0.419
	0.016	0.019	0.022	0.025	0.028	0.031	0.034	0.049	0.079	0.139	0.169	0.244	0.319
	0.017	0.019	0.021	0.023	0.025	0.027	0.029	0.039	0.059	0.099	0.119	0.169	0.219
	0.018	0.019	0.020	0.021	0.022	0.023	0.024	0.029	0.039	0.059	0.069	0.094	0.119
	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019

* These limitations were calculated to be greater than 0.5 mg/l, however, as 0.5 mg/l is the technology based limit in Regulation 62, and would be more stringent than the calculated WQBEL, the 0.5 mg/l limit would be applied in the permit. The limitation is therefore capped at 0.5 mg/l.

Table B: Chronic (30-Day Average) Total Residual Chlorine Effluent Limitations (mg/l) by Dilution Ratio

		Dilution Ratio (Low Flow : Design Capacity)											
		0:1	1:1	2:1	3:1	4:1	5:1	10:1	20:1	40:1	50:1	75:1	100:1
Upstream TRC Water Concentration (mg/l)	0	0.011	0.022	0.033	0.044	0.055	0.066	0.121	0.231	0.451	0.5*	0.5*	0.5*
	0.001	0.011	0.021	0.031	0.041	0.051	0.061	0.111	0.211	0.411	0.5*	0.5*	0.5*
	0.002	0.011	0.020	0.029	0.038	0.047	0.056	0.101	0.191	0.371	0.461	0.5*	0.5*
	0.003	0.011	0.019	0.027	0.035	0.043	0.051	0.091	0.171	0.331	0.411	0.5*	0.5*
	0.004	0.011	0.018	0.025	0.032	0.039	0.046	0.081	0.151	0.291	0.361	0.5*	0.5*
	0.005	0.011	0.017	0.023	0.029	0.035	0.041	0.071	0.131	0.251	0.311	0.461	0.5*
	0.006	0.011	0.016	0.021	0.026	0.031	0.036	0.061	0.111	0.211	0.261	0.386	0.5*
	0.007	0.011	0.015	0.019	0.023	0.027	0.031	0.051	0.091	0.171	0.211	0.311	0.411
	0.008	0.011	0.014	0.017	0.020	0.023	0.026	0.041	0.071	0.131	0.161	0.236	0.311
	0.009	0.011	0.013	0.015	0.017	0.019	0.021	0.031	0.051	0.091	0.111	0.161	0.211
	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.021	0.031	0.051	0.061	0.086	0.111
	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011

* These limitations were calculated to be greater than 0.5 mg/l, however, as 0.5 mg/l is the technology based limit in Regulation 62, and would be more stringent than the calculated WQBEL, the 0.5 mg/l limit would be applied in the permit. The limitation is therefore capped at 0.5 mg/l.

Table C: Cold Water Monthly Acute (Daily Maximum) Total Ammonia Effluent Limitations (mg/l) by Dilution Ratio

	Dilution Ratio (Low Flow : Design Capacity)																
	0:1	1:1	2:1	4:1	7:1	10:1	15:1	20:1	25:1	30:1	40:1	50:1	60:1	70:1	80:1	90:1	100:1
JAN	8.5	10	9.2	10	12	15	20	25	30	34	44	50	50	50	50	50	50
FEB	7.5	8.6	8.4	9.5	12	15	19	24	29	34	43	50	50	50	50	50	50
MAR	4.9	7.3	8.6	10	13	17	22	27	32	37	47	50	50	50	50	50	50
APR	4.1	7.2	10	14	18	22	28	34	40	45	50	50	50	50	50	50	50
MAY	5.3	9.0	12	16	20	23	30	35	41	47	50	50	50	50	50	50	50
JUN	7.1	10	14	22	29	33	40	46	50	50	50	50	50	50	50	50	50
JUL	6.4	10	14	21	32	41	50	50	50	50	50	50	50	50	50	50	50
AUG	5.3	7.8	10	15	23	30	38	45	50	50	50	50	50	50	50	50	50
SEP	5.8	8.4	10	16	23	30	39	46	50	50	50	50	50	50	50	50	50
OCT	7.4	10	13	17	20	23	29	34	40	45	50	50	50	50	50	50	50
NOV	7.4	10	10	11	14	17	22	27	32	37	47	50	50	50	50	50	50
DEC	6.0	7.9	8.1	9.8	12	15	21	26	31	35	45	50	50	50	50	50	50

Table D: Cold Water Monthly Chronic (30-Day Average) Total Ammonia Effluent Limitations by Dilution Ratio

	Dilution Ratio (Low Flow : Design Capacity)																
	0:1	1:1	2:1	4:1	7:1	10:1	15:1	20:1	25:1	30:1	40:1	50:1	60:1	70:1	80:1	90:1	100:1
JAN	3.5	5.1	5.0	5.4	6.7	8.2	10	13	15	17	22	27	31	36	40	45	50
FEB	3.1	4.4	4.5	5.0	6.4	7.8	10	12	14	17	22	26	30	35	39	44	50
MAR	2.2	3.4	4.5	5.7	7.3	8.9	11	14	16	19	24	29	34	38	43	48	50
APR	1.9	3.4	4.8	7.4	9.8	11	15	18	21	23	29	34	40	45	50	50	50
MAY	2.4	4.1	5.8	8.5	10	12	15	18	21	24	30	35	40	46	50	50	50
JUN	3.0	4.8	6.5	10	14	16	20	23	26	29	35	40	46	50	50	50	50
JUL	2.3	4.0	5.6	8.9	13	17	21	24	26	29	34	39	44	48	50	50	50
AUG	1.9	3.1	4.2	6.4	9.6	12	15	18	20	23	27	32	36	40	44	48	50
SEP	2.3	3.4	4.5	6.6	9.8	12	16	18	20	23	27	32	36	40	44	48	50
OCT	3.1	4.6	6.1	8.8	10	12	15	18	21	23	29	34	39	44	50	50	50
NOV	3.1	4.6	5.7	6.3	7.6	9.1	11	14	16	19	24	28	33	38	43	47	50
DEC	2.6	4.1	4.4	5.2	6.7	8.3	10	13	15	18	23	28	32	37	41	46	50

Table E: Warm Water Monthly Acute (Daily Maximum) Total Ammonia Effluent Limitations by Dilution Ratio

	Dilution Ratio (Low Flow : Design Capacity)															
	0:1	1:1	2:1	4:1	7:1	10:1	15:1	20:1	25:1	30:1	40:1	50:1	60:1	70:1	80:1	85:1
JAN	13	15	15	16	21	25	33	41	48	50	50	50	50	50	50	50
FEB	11	15	16	19	24	29	38	46	50	50	50	50	50	50	50	50
MAR	7.3	12	15	20	26	32	41	50	50	50	50	50	50	50	50	50
APR	6.1	12	18	28	38	45	50	50	50	50	50	50	50	50	50	50
MAY	7.9	13	19	31	46	50	50	50	50	50	50	50	50	50	50	50
JUN	10	16	22	33	50	50	50	50	50	50	50	50	50	50	50	50
JUL	9.7	15	20	31	47	50	50	50	50	50	50	50	50	50	50	50
AUG	7.9	13	18	28	42	50	50	50	50	50	50	50	50	50	50	50
SEP	8.7	14	20	32	49	50	50	50	50	50	50	50	50	50	50	50
OCT	11	17	24	36	47	50	50	50	50	50	50	50	50	50	50	50
NOV	11	16	20	22	27	32	41	49	50	50	50	50	50	50	50	50
DEC	8.9	11	12	14	19	23	31	38	46	50	50	50	50	50	50	50

Table F: Warm Water Monthly Chronic (30-Day Average) Total Ammonia Effluent Limitations by Dilution Ratio

	Dilution Ratio (Low Flow : Design Capacity)															
	0:1	1:1	2:1	4:1	7:1	10:1	15:1	20:1	25:1	30:1	40:1	50:1	60:1	70:1	80:1	85:1
JAN	5.1	8.4	8.4	9.8	12	14	19	23	28	32	40	49	50	50	50	50
FEB	4.7	8.0	8.7	10	13	16	20	25	29	34	42	50	50	50	50	50
MAR	3.2	5.3	7.0	9.0	11	13	17	21	24	28	34	41	47	50	50	50
APR	1.9	3.8	5.6	9.3	13	16	19	23	26	29	36	42	47	50	50	50
MAY	2.4	4.2	5.9	9.4	14	17	20	23	26	29	34	39	44	49	50	50
JUN	3.0	4.3	5.5	8.1	11	15	21	25	28	31	35	39	43	47	50	50
JUL	2.3	3.3	4.3	6.3	9.4	12	17	22	27	30	35	40	43	47	50	50
AUG	1.9	2.8	3.7	5.5	8.2	10	15	19	23	27	33	37	41	44	47	50
SEP	2.3	3.5	4.7	7.2	10	14	20	25	29	32	36	40	44	48	50	50
OCT	3.4	5.6	7.8	12	16	18	21	24	27	30	36	42	47	50	50	50
NOV	3.7	6.7	8.9	10	12	15	19	23	27	31	38	46	50	50	50	50
DEC	3.7	6.0	6.6	8.1	10	13	17	22	26	30	38	47	50	50	50	50

Table G: Recreation Class E, Class U, and Class 1a: 30-Day Average *E. coli* Effluent Limitations by Dilution Ratio. The 7-day average is determined to be two times the 30-day average limitation.

Upstream Concentration (#/100 ml)	Dilution Ratio (Low Flow : Design Capacity)											
	0:1	1:1	2:1	3:1	4:1	5:1	10:1	20:1	40:1	50:1	75:1	100:1
0	126	252	378	504	630	756	1386	2000	2000	2000	2000	2000
20	126	232	338	444	550	656	1186	2000	2000	2000	2000	2000
40	126	212	298	384	470	556	986	1846	2000	2000	2000	2000
60	126	192	258	324	390	456	786	1446	2000	2000	2000	2000
80	126	172	218	264	310	356	586	1046	1966	2000	2000	2000
100	126	152	178	204	230	256	386	646	1166	1426	2000	2000

Table H: Recreation Class P and Class 1b: 30-Day Average *E. coli* Effluent Limitations by Dilution Ratio. The 7-day average is determined to be two times the 30-day average limitation.

Upstream Concentration (#/100 ml)	Dilution Ratio (Low Flow : Design Capacity)											
	0:1	1:1	2:1	3:1	4:1	5:1	10:1	20:1	40:1	50:1	75:1	100:1
0	205	410	615	820	1025	1230	2000	2000	2000	2000	2000	2000
25	205	385	565	745	925	1105	2000	2000	2000	2000	2000	2000
50	205	360	515	670	825	980	1755	2000	2000	2000	2000	2000
75	205	335	465	595	725	855	1505	2000	2000	2000	2000	2000
100	205	310	415	520	625	730	1255	2000	2000	2000	2000	2000
125	205	285	365	445	525	605	1005	1805	2000	2000	2000	2000

Table I: Recreation Class N and Class 2: 30-Day Average *E. coli* Effluent Limitations by Dilution Ratio. The 7-day average is determined to be two times the 30-day average limitation.

Upstream Concentration (#/100 ml)	Dilution Ratio (Low Flow : Design Capacity)											
	0:1	1:1	2:1	3:1	4:1	5:1	10:1	20:1	40:1	50:1	75:1	100:1
0	630	1260	1890	2000	2000	2000	2000	2000	2000	2000	2000	2000
75	630	1185	1740	2000	2000	2000	2000	2000	2000	2000	2000	2000
150	630	1110	1590	2000	2000	2000	2000	2000	2000	2000	2000	2000
225	630	1035	1440	1845	2000	2000	2000	2000	2000	2000	2000	2000
300	630	960	1290	1620	1950	2000	2000	2000	2000	2000	2000	2000
375	630	885	1140	1395	1650	1905	2000	2000	2000	2000	2000	2000

c. DISCHARGES TO RECEIVING WATERS LISTED AS THREATENED OR ENDANGERED SPECIES HABITAT

The following effluent limitations will apply to minor domestic facilities discharging to T&E species habitat including the 100 year flood plains. Note that if the permittee opts to install a Division approved diffuser system, the limitations will default to those in Part I.B.7.b, for the appropriate approved dilution ratio.

In accordance with the Water Quality Control Commission Regulations for Effluent Limitations, Section 62.4, and the Colorado Discharge Permit System Regulations, Section 61.8(2), the permitted discharge shall not contain effluent parameter concentrations, which exceed the following limitations:

Parameter	Limitation		
	30-day Avg. ^{i ii iii}	7-day Avg. ^{i ii iii}	Daily Max ^{i ii iii}
Flow, MGD	¹	NA	Report
BOD ₅ , mg/l ²	30	45	NA
BOD ₅ , percent removal ³	NA	NA	85% (minimum)
Total Suspended Solids, mg/l			
Mechanical Plants	30	45	NA
Aerated Lagoons	75	110	NA
Non-aerated Lagoons	105	160	NA
TSS, percent removal ³			
Mechanical Plants only	NA	NA	85% (minimum)
Total Residual Chlorine, mg/l	0.011	NA	0.019
pH, s.u.	NA	NA	6.5-9.0
Oil and Grease, mg/l	NA	NA	10
E. Coli, no/100 ml	⁴	⁴	NA
Total Ammonia, mg/l as N	⁵	NA	⁵
Total Inorganic Nitrogen, mg/l	Report ⁶	NA	⁶
Total Phosphorous, mg/l	⁷	NA	Report ⁷
Total Phosphorous, lbs/month	Report ⁷	NA	NA
Total Phosphorous, cumulative lbs/previous 12 consecutive months	⁷	NA	NA
Total Dissolved Solids, mg/l	Report ⁸	NA	Report ⁸
Other Pollutants, units	Report ⁸ⁱ	NA	Report ⁸ⁱ

¹ The 30-day average effluent limitation for flow is identified in the certification and is enforceable under this permit.

² Limitations for 5-day Carbonaceous Biochemical Oxygen Demand (CBOD₅) of 25 mg/l (30-day average) and 40 mg/l (maximum 7-day average) may be substituted for the limits for BOD₅ as identified in the certification.

³ In addition to the concentration limitations for BOD₅ and Total Suspended Solids (TSS) indicated above, unless this provision has been specifically waived in the certification, the arithmetic mean of the BOD₅, or CBOD₅ if identified in the certification, and TSS concentrations for effluent samples collected during the calendar month shall demonstrate a minimum of eighty-five percent (85%) removal of BOD₅, or CBOD₅, and TSS, as measured by dividing the respective difference between the mean influent and effluent concentrations for the calendar month by the respective mean influent concentration for the calendar month, and multiplying the quotient by 100.

Where the permittee has demonstrated that the treatment facility is unable to meet the 85 percent removal requirement for a parameter and the inability to meet the requirement is not caused by excessive infiltration, as defined in 40-CFR 35.2005(b)(16), a lower percent removal requirement or a mass loading limit may be substituted provided that the permittee can demonstrate that the provisions of 40 CFR 133.103(d) can be met. Note that the TSS percent removal does not apply to lagoon facilities.

⁴ Limits for E. Coli will be based upon the Recreational Use Classification as shown in **Table J**. The limits will be identified in the certification and will be fully enforceable under this permit.

- 5 Limits for total ammonia will be based on **Table K and Table L**. The effluent total ammonia limits and reporting requirements will be identified in the certification for this permit and the limits and reporting requirements are fully enforceable under this permit.
- 6 A Total Inorganic Nitrogen limit will be calculated based on the methodology summarized in the rationale to this permit and imposed only where the certification indicates a limit or monitoring is necessary; otherwise, the certification will indicate that neither a limit nor reporting requirements will be specified. The Total Inorganic Nitrogen limit and/or reporting requirements, where applied, will be fully enforceable under this permit.
- 7 Total Phosphorous limits will be established where applicable and will be based on Colorado Regulation Nos. 71-75. The limits and reporting requirements, where applicable, will be fully enforceable under this permit.
- 8 “Report”, only, requirements may be established for total dissolved solids in accordance with Colorado Regulation No. 39 for facilities discharging to the Colorado River basin. Additionally, “Report” only requirements may be established for other pollutants that are not limited in this permit based on findings that the pollutants are listed along with the facility’s receiving stream in Colorado Regulation Nos. 93 and/or 94. The reporting requirements, where applicable, will be discussed in the certification for this permit and are fully enforceable under this permit.
- i **Modified Limitations for Discharges to 303(d) Listed Segments**
- Limitations for pH, fecal coliform, E. coli and total inorganic nitrogen/nitrate, or any other applicable parameter may be added or modified by incorporating limits based on the wasteload allocation for the discharge, as set forth in an approved total maximum daily load for the segment, and as identified in the certification. In the absence of an approved total maximum daily load, limits may be established at the water quality standard as identified in the certification. These modified limits will be fully enforceable under this permit.
- ii **Site-specific Limitations**
- Site-specific limitations for a parameter may be added on a case-by-case basis that are equivalent to the Basic Standards and Methodologies for Surface Water, or Regulation for Effluent Limitations, or any other applicable regulation, and would be specified in the certification along with the appropriate monitoring frequencies.]
- iii **Other Site-specific Permit Conditions**
- Specific permit conditions may be applied for compliance with any Division compliance order on consent, cease and desist order, or an EPA administrative order, or similar decree promulgated by the Division, EPA or any other public entity.

Table J: E. coli Effluent Limitations based upon use classifications

Recreational Use Classification	Limitation	
	30-day Avg.	7-day Avg.
Class E, U, and 1a	126	252
Class P and 1b	205	410
Class N and 2	630	1260

Table K: Cold Water Total Ammonia Effluent Limitations

Month	Limitation	
	30-day Avg. (mg/l)	7-day Avg. (mg/l)
Jan	3.5	8.5
Feb	3.1	7.5
Mar	2.2	4.9
Apr	1.9	4.1
May	2.4	5.3
Jun	3.0	7.1
Jul	2.3	6.4
Aug	1.9	5.3
Sep	2.3	5.8
Oct	3.1	7.4
Nov	3.1	7.4
Dec	2.6	6.0

Table O: Warm Water Total Ammonia Effluent Limitations

Month	Limitation	
	30-day Avg. (mg/l)	7-day Avg. (mg/l)
Jan	5.1	13
Feb	4.7	11
Mar	3.2	7.3
Apr	1.9	6.1
May	2.4	7.9
Jun	3.0	10
Jul	2.3	9.7
Aug	1.9	7.9
Sep	2.3	8.7
Oct	3.4	11
Nov	3.7	11
Dec	3.7	8.9

8. Industrial Waste Management

- a. The Permittee has the responsibility to protect the Domestic Wastewater Treatment Works (DWTW), as defined at section 25.8.201(5) of the Colorado Water Quality Control Act, or the Publicly-Owned Treatment Works (POTW), as defined at 40 CFR Section 403.3(o) of the federal pretreatment regulations, from pollutants which would cause pass through or interference, as defined at 40 CFR 403.3(n) and (i), or otherwise be incompatible with operation of the treatment works including interference with the use or disposal of municipal sludge.
- b. As a condition of coverage under this permit, the facility may not accept wastes from a significant industrial user, or be required to develop an industrial pretreatment program pursuant to Section 307 of the Water Quality Act or Section 63.9.A(2) of the Colorado Pretreatment Regulations.

C. MONITORING REQUIREMENTS

1. Influent Parameters

Regardless of whether or not an effluent discharge occurs and in order to obtain an indication of the current influent loading as compared to the approved capacity specified in the certification and in Part I, Section B.2.; the permittee shall monitor influent parameters at the following required frequencies, as identified in the certification of this permit, the results to be reported on the Discharge Monitoring Report (See Part I, Section F.2.):

a. MECHANICAL PLANTS

Influent Monitoring Requirements – Design Flows Less than or Equal to 0.25 MGD (Mechanical)		
Influent Parameter	Measurement Frequency	Sample Type
Flow, MGD	Continuous ¹	Recorder ¹
Biochemical Oxygen Demand, 5-Day, mg/l ²	Monthly	Composite
Biochemical Oxygen Demand, 5-Day, lbs/day ²	Monthly	Calculated
Total Suspended Solids, mg/l	Monthly	Composite
Raw Water Total Dissolved Solids, mg/l ³	Quarterly ³	Grab or Composite ³

Influent Monitoring Requirements – Design Flows Greater than 0.25 MGD (Mechanical)		
Influent Parameter	Measurement Frequency	Sample Type
Flow, MGD	Continuous ¹	Recorder ¹
Biochemical Oxygen Demand, 5-Day, mg/l ²	Weekly	Composite
Biochemical Oxygen Demand, 5-Day, lbs/day ²	Weekly	Calculated
Total Suspended Solids, mg/l	Weekly	Composite
Raw Water Total Dissolved Solids, mg/l ³	Quarterly ³	Grab or Composite ³

¹ The monitoring frequency and sample type for influent flow is specified in the certification and is fully enforceable under this permit. Mechanical type treatment facilities are required to have either an influent or effluent flow measuring and recording device. However, where these devices are not in place at the time of certification, the permittee has one year from the end of the calendar month that certification was given to install the required equipment. Where such equipment is in place, the frequency and type of flow monitoring will be "Continuous" and "Recorder", respectively. Where such equipment is not in place, the frequency and type of flow monitoring, during the interim period, will be specified in the certification. For certain facilities, the use of a metered pumping rate or potable water use may be allowed. In these cases, a monitoring frequency and sample type of "Continuous" and "Meter", respectively, will be specified in the certification.

² Monitoring for CBOD₅ may be substituted for monitoring for BOD₅ as identified in the certification.

³ Monitoring requirements will be established for total dissolved solids in accordance with Colorado Regulation No. 39 only for those facilities discharging to the Colorado River basin, which will be stated in the certification. If more than one source is being utilized, a composite sample proportioned to flow shall be prepared from individual grab samples.

b. LAGOON FACILITIES

Influent Monitoring Requirements – Design Flows Less than or Equal to 0.5 MGD (Lagoon)		
Influent Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
Biochemical Oxygen Demand, 5-Day, mg/l ²	Monthly	Composite
Biochemical Oxygen Demand, 5-Day, lbs/day ²	Monthly	Calculated
Raw Water Total Dissolved Solids, mg/l ³	Quarterly ³	Grab or Composite ³

Influent Monitoring Requirements – Design Flows Greater than 0.5 MGD (Lagoon)		
Influent Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
Biochemical Oxygen Demand, 5-Day, mg/l ²	Weekly	Composite
Biochemical Oxygen Demand, 5-Day, lbs/day ²	Weekly	Calculated
Raw Water Total Dissolved Solids, mg/l ³	Quarterly ³	Grab or Composite ³

¹ The monitoring frequency and sample type for influent flow is specified in the certification and is fully enforceable under this permit. Lagoon type treatment facilities are required to have influent flow measuring and recording devices. However, where these devices are not in place at the time of certification, the permittee has one year from the end of the calendar month that certification was given to install the required equipment. Where such equipment is in place, the frequency and type of flow monitoring will be "Continuous" and "Recorder", respectively. Where such equipment is not in place, the frequency and type of flow monitoring, during the interim period, will be specified in the certification. For certain facilities, the use of a metered pumping rate or potable water use may be allowed. In these cases, a monitoring frequency and sample type of "Continuous" and "Meter," respectively, will be specified in the certification.

² Monitoring for CBOD₅ may be substituted for monitoring for BOD₅ as identified in the certification.

³ Monitoring requirements will be established for total dissolved solids in accordance with Colorado Regulation No. 39 only for those facilities discharging to the Colorado River basin, which will be stated in the certification. If more than one source is being utilized, a composite sample proportioned to flow shall be prepared from individual grab samples.

Self-monitoring samples taken in compliance with the monitoring requirements specified for mechanical facilities shall be taken at the following location: Monitoring point 300I, at a representative point prior to any biological treatment.

2. Effluent Parameters

In order to obtain an indication of the probable compliance or non-compliance with the effluent limitations specified in Part I, Section B.2., the permittee shall monitor effluent parameters at the following required frequencies, as identified in the certification of this permit, the results to be reported on the Discharge Monitoring Report (See Part I, Section F.2.):

a. LAGOON FACILITIES DISCHARGING TO UNCLASSIFIED WATERS

Effluent Monitoring Requirements – Design Flows Less than or Equal to 0.5 MGD (Lagoon/Unclassified)		
Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
BOD ₅ , mg/l ²	Monthly	Grab
BOD ₅ , percent removal ²	Monthly	Calculated
Total Suspended Solids, mg/l	Monthly	Grab
Total Residual Chlorine, mg/l ³	Weekly	Grab
pH, s.u.	Weekly	Grab
Oil and Grease, mg/l	Weekly	Visual
E. Coli, no/100 ml	Monthly	Grab
Total Dissolved Solids, mg/l ⁴	Quarterly	Grab

Effluent Monitoring Requirements – Design Flows Greater than to 0.5 MGD (Lagoon/Unclassified)		
Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
Biochemical Oxygen Demand, 5-Day, mg/l ²	Weekly	Grab
BOD ₅ , percent removal ²	Weekly	Calculated
Total Suspended Solids, mg/l	Weekly	Grab
Total Residual Chlorine, mg/l ³	5X/Week	Grab
pH, s.u.	5X/Week	Grab
Oil and Grease, mg/l	5X/Week	Visual
E. Coli, no/100 ml	Weekly	Grab
Total Dissolved Solids, mg/l ⁴	Quarterly	Grab

¹ The monitoring frequency and sample type for effluent flow is specified in the certification and is fully enforceable under this permit. Lagoon type treatment facilities are required to have, at a minimum, an effluent flow-measuring device. However, where these devices are not in place at the time of certification, the permittee has one year from the end of the calendar month that certification was given to install the required equipment. Where such equipment is in place, the frequency and type of flow monitoring will generally be "3X/Week" and "Measured", respectively. Where such equipment is not in place, the frequency and type of flow monitoring, during the interim period, will be specified in the certification.

² Monitoring for CBOD₅ may be substituted for monitoring for BOD₅ as identified in the certification.

³ Monitoring for total residual chlorine is only required when chlorine is in use.

⁴ For total dissolved solids, if "Report" only is established in the certification, monitoring and reporting will be required. The monitoring frequencies and sample types will be specified in the certification and these are fully enforceable under this permit.

b. LAGOON FACILITIES DISCHARGING TO CLASSIFIED WATERS

Effluent Monitoring Requirements – Design Flows Less than or Equal to 0.5 MGD (Lagoon/Classified)		
Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
BOD ₅ , mg/l ²	Monthly	Grab
BOD ₅ , percent removal ²	Monthly	Calculated
Total Suspended Solids, mg/l	Monthly	Grab
Total Residual Chlorine, mg/l ³	Weekly	Grab
pH, s.u.	Weekly	Grab
Oil and Grease, mg/l	Weekly	Visual
E. Coli, no/100 ml ⁴	Monthly	Grab
Total Ammonia, mg/l as N	Monthly	Grab
Total Inorganic Nitrogen, mg/l	Monthly ⁵	Grab ⁵
Total Phosphorous, mg/l	Monthly ⁶	Grab ⁶
Total Phosphorous, lbs/month	Monthly ⁶	Calculated ⁶
Total Phosphorous, cumulative lbs/previous 12 consecutive months	Monthly ⁶	Calculated ⁶
Total Dissolved Solids, mg/l	Quarterly ⁷	Grab ⁷
Other Pollutants, units	Quarterly ⁷	Grab ⁷

Effluent Monitoring Requirements – Design Flows Greater than 0.5 MGD (Lagoon/Classified)		
Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
BOD ₅ , mg/l ²	Weekly	Grab
BOD ₅ , percent removal ²	Weekly	Calculated
Total Suspended Solids, mg/l	Weekly	Grab
Total Residual Chlorine, mg/l ³	5X/Week	Grab
pH, s.u.	5X/Week	Grab
Oil and Grease, mg/l	5X/Week	Visual
E. Coli, no/100 ml ⁴	Weekly	Grab
Total Ammonia, mg/l as N	Weekly	Grab
Total Inorganic Nitrogen, mg/l	Weekly ⁵	Grab ⁵
Total Phosphorous, mg/l	Weekly ⁶	Grab ⁶
Total Phosphorous, lbs/month	Monthly ⁶	Calculated ⁶
Total Phosphorous, cumulative lbs/previous 12 consecutive months	Monthly ⁶	Calculated ⁶
Total Dissolved Solids, mg/l	Quarterly ⁷	Grab ⁷
Other Pollutants, units	Quarterly ⁷	Grab ⁷

¹ The monitoring frequency and sample type for effluent flow is specified in the certification and is fully enforceable under this permit. Lagoon type treatment facilities are required to have, at a minimum, an effluent flow-measuring device. However, where these devices are not in place at the time of certification, the permittee has one year from the end of the calendar month that certification was given to install the required equipment. Where such equipment is in place, the frequency and type of flow monitoring will generally be "3X/Week" and "Measured", respectively. Where such equipment is not in place, the frequency and type of flow monitoring, during the interim period, will be specified in the certification.

² Monitoring for CBOD₅ may be substituted for monitoring for BOD₅ as identified in the certification.

³ Monitoring for total residual chlorine is only required when chlorine is in use.

⁴ Monitoring for E. Coli will apply based on the corresponding limit imposed; such shall be specified in the certification.

⁵ Where a limitation and/or reporting requirement has been established in the certification, monitoring and reporting will be required. The monitoring frequency and sample type will be specified in the certification and these are fully enforceable under this permit.

⁶ Where phosphorous limits have been established in the certification, monitoring and reporting will be required. The monitoring frequencies and sample types for phosphorous will be specified in the certification and these are fully enforceable under this permit.

⁷ For any other pollutants including total dissolved solids for which "Report" only is established in the certification, monitoring and reporting will be required. The monitoring frequencies and sample types for other pollutants will be specified in the certification and these are fully enforceable under this permit.

Self-monitoring samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Discharge point 001A, at the outfall line following final treatment but prior to entering the receiving stream.

c. MECHANICAL FACILITIES DISCHARGING TO UNCLASSIFIED WATERS

Effluent Monitoring Requirements – Design Flows Less than or Equal to 0.25 MGD (Mechanical/Unclassified)		
Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
BOD ₅ , mg/l ²	Monthly	Composite
BOD ₅ , percent removal ²	Monthly	Calculated
Total Suspended Solids, mg/l	Monthly	Composite
Total Suspended Solids, percent removal	Monthly	Calculated
Total Residual Chlorine, mg/l ³	Weekly	Grab
pH, s.u.	Weekly	Grab
Oil and Grease, mg/l	Weekly	Visual
E. Coli, no/100 ml ⁴	Monthly	Grab
Total Dissolved Solids, mg/l ⁴	Quarterly	Grab

Effluent Monitoring Requirements – Design Flows Greater than 0.25 MGD (Mechanical/Unclassified)		
Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
BOD ₅ , mg/l ²	Weekly	Composite
BOD ₅ , percent removal ²	Weekly	Calculated
Total Suspended Solids, mg/l	Weekly	Composite
Total Suspended Solids, percent removal	Weekly	Calculated
Total Residual Chlorine, mg/l ³	3X/Week	Grab
pH, s.u.	Daily	Grab
Oil and Grease, mg/l	Daily	Visual
E. Coli, no/100 ml	Weekly	Grab
Total Dissolved Solids, mg/l ⁴	Quarterly	Grab

¹ The monitoring frequency and sample type for effluent flow is specified in the certification and is fully enforceable under this permit. Mechanical type treatment facilities are required to have either influent or effluent flow measuring and recording devices. However, where these devices are not in place at the time of certification, the permittee has one year from the end of the calendar month that certification was given to install the required equipment. Where such equipment is in place, the frequency and type of flow monitoring will be "Continuous" and "Recorder", respectively. Where such equipment is not in place, the frequency and type of flow monitoring, during the interim period, will be specified in the certification. For certain facilities, the use of a metered pumping rate or potable water use or may be allowed. In these cases, a monitoring frequency and sample type of "Continuous" and "Meter", respectively, will be specified in the certification.

² Monitoring for CBOD₅ may be substituted for monitoring for BOD₅ as identified in the certification.

³ Monitoring for total residual chlorine is only required when chlorine is in use.

⁴ For total dissolved solids, if "Report" only is established in the certification, monitoring and reporting will be required. The monitoring frequencies and sample types will be specified in the certification and these are fully enforceable under this permit.

d. MECHANICAL FACILITIES DISCHARGING TO CLASSIFIED WATERS

Effluent Monitoring Requirements – Design Flows Less than or Equal to 0.25 MGD (Mechanical/Classified)		
Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
BOD ₅ , mg/l ²	Monthly	Composite
BOD ₅ , percent removal ²	Monthly	Calculated
Total Suspended Solids, mg/l	Monthly	Composite
Total Suspended Solids, percent removal	Monthly	Calculated
Total Residual Chlorine, mg/l ³	Weekly	Grab
pH, s.u.	Weekly	Grab
Oil and Grease, mg/l	Weekly	Visual
E. Coli, no/100 ml ⁴	Monthly	Grab
Total Ammonia, mg/l as N	Monthly	Composite
Total Inorganic Nitrogen, mg/l	Monthly ⁵	Composite ⁵
Total Phosphorous, mg/l	Monthly ⁶	Composite ⁶
Total Phosphorous, lbs/month	Monthly ⁶	Calculated ⁶
Total Phosphorous, cumulative lbs/previous 12 consecutive months	Monthly ⁶	Calculated ⁶
Total Dissolved Solids, mg/l	Quarterly ⁷	Grab ⁷
Other Pollutants, units	Quarterly ⁷	Grab or Composite ⁷

Effluent Monitoring Requirements – Design Flows Greater than 0.25 MGD (Mechanical/Classified)		
Parameter	Measurement Frequency	Sample Type
Flow, MGD	¹	¹
BOD ₅ , mg/l ²	Weekly	Composite
BOD ₅ , percent removal ²	Weekly	Calculated
Total Suspended Solids, mg/l	Weekly	Composite
Total Suspended Solids, percent removal	Weekly	Calculated
Total Residual Chlorine, mg/l ³	3X/Week	Grab
pH, s.u.	Daily	Grab
Oil and Grease, mg/l	Daily	Visual
E. Coli, no/100 ml ⁴	Weekly	Grab
Total Ammonia, mg/l as N	Weekly	Composite
Total Inorganic Nitrogen, mg/l	Weekly ⁵	Composite ⁵
Total Phosphorous, mg/l	Weekly ⁶	Composite ⁶
Total Phosphorous, lbs/month	Monthly ⁶	Calculated ⁶
Total Phosphorous, cumulative lbs/previous 12 consecutive months	Monthly ⁶	Calculated ⁶
Total Dissolved Solids, mg/l	Quarterly ⁷	Grab ⁷
Other Pollutants, units	Quarterly ⁷	Grab or Composite ⁷

¹ The monitoring frequency and sample type for effluent flow is specified in the certification and is fully enforceable under this permit. Mechanical type treatment facilities are required to have either influent or effluent flow measuring and recording devices. However, where these devices are not in place at the time of certification, the permittee has one year from the end of the calendar month that certification was given to install the required equipment. Where such equipment is in place, the frequency and type of flow monitoring will be "Continuous" and "Recorder", respectively. Where such equipment is not in place, the frequency and type of flow monitoring, during the interim period, will be specified in the certification. For certain facilities, the use of a metered pumping rate or potable water use or may be allowed. In these cases, a monitoring frequency and sample type of "Continuous" and "Meter", respectively, will be specified in the certification.

² Monitoring for CBOD₅ may be substituted for monitoring for BOD₅ as identified in the certification.

³ Monitoring for total residual chlorine is only required when chlorine is in use.

⁴ Monitoring for E. Coli will apply based on the corresponding limit imposed; such shall be specified in the certification.

- 5 Where a total inorganic nitrogen limit or reporting requirements have been established in the certification, monitoring and reporting will be required. The monitoring frequency and sample type for total inorganic nitrogen will be specified in the certification and these are fully enforceable under this permit.
- 6 Where phosphorous limits have been established in the certification, monitoring and reporting will be required. The monitoring frequencies and sample types for phosphorous will be specified in the certification and these are fully enforceable under this permit.
- 7 For any other pollutants including total dissolved solids for which "Report" only is established in the certification, monitoring and reporting will be required. The monitoring frequencies and sample types for other pollutants will be specified in the certification and these are fully enforceable under this permit.

Self-monitoring samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: Discharge point 001A, at the outfall line following disinfection but prior to entering the receiving stream.

3. Salinity Parameters

If discharges ultimately reach the Colorado River, as will be indicated in the certification, additional requirements related to salinity are applied. Specifically, in order to obtain an indication of the increase in salinity due to the treatment and use of water within this service area, the permittee shall monitor the raw water source and the wastewater effluent at the following required frequencies, the results to be reported on the Discharge Monitoring Report (See Part I, Section F.2.):

APPLICABLE TO DISCHARGES IN THE COLORADO RIVER BASIN		
Parameter	Measurement Frequency	Sample Type
Raw Water Source - Total Dissolved Solids, TDS, mg/l	Quarterly	Grab ¹
Wastewater Effluent - Total Dissolved Solids, TDS, mg/l	Quarterly	Grab

Self-monitoring samples taken in compliance with the monitoring requirements specified above shall be taken prior to treatment of the raw drinking water source (1with a composite sample proportioned to flow prepared from individual grab samples if more than one source is being utilized), and at the established wastewater treatment facility effluent sampling point identified above in Section I.C.2.

D. DEFINITIONS OF TERMS

1. "Thirty (30) day average" means, except for fecal coliform or *E. coli* bacteria (see geometric mean), the arithmetic mean of all samples collected during a thirty (30) consecutive-day period. When calculating the 30-day average, a value of zero should be used in place of any value that is less than the reporting limit. If all values are less than the reporting limit, "<x" should be reported, where "x" is the reporting limit. The permittee shall report the appropriate mean of all self-monitoring sample data collected during the calendar month on the Discharge Monitoring Reports. Samples shall not be used for more than one (1) reporting period.
2. "Seven (7) day average" means, with the exception of fecal coliform or *E. coli* bacteria (see geometric mean), the arithmetic mean of all samples collected in a seven (7) consecutive day period. When calculating the 7-day average, a value of zero should be used in place of any value that is less than the reporting limit. If all values are less than the reporting limit, "<x" should be reported, where "x" is the reporting limit. Such seven (7) day averages shall be calculated for all calendar weeks, which are defined as beginning on Sunday and ending on Saturday. If the calendar week overlaps two months (i.e. the Sunday is in one month and the Saturday in the following month), the seven (7) day average calculated for that calendar week shall be associated with the month that contains the Saturday. Samples may not be used for more than one (1) reporting period.
3. For fecal coliform bacteria concentrations, the thirty (30) day and seven (7) day averages shall be determined as explained in definitions 1 and 2 above, respectively, except that the geometric mean shall be used instead of the arithmetic mean. The geometric mean may be calculated using two different methods. For the methods shown, a, b, c, d, etc. are individual sample results, and n is the total number of samples.

Method 1:

Geometric Mean = $(a*b*c*d*...)^{(1/n)}$ "*" - means multiply

Method 2:

Geometric Mean = antilog ([log(a)+log(b)+log(c)+log(d)+...]/n)

Graphical methods, even though they may also employ the use of logarithms, may introduce significant error and may not be used.

In calculating the geometric mean, for those individual sample results that are reported by the analytical laboratory to be "less than" a numeric value, the numeric value shall be used in the calculations unless the result is "less than 2.2". If the result is "less than 2.2", use a value of 1 in the calculations. If all individual analytical results for the month are reported to be less than numeric values, then report "less than" the largest of those numeric values on the monthly DMR. Otherwise, report the calculated value.

For any individual analytical result of "too numerous to count" (TNTC), that analysis shall be considered to be invalid and another sample shall be promptly collected for analysis. If another sample cannot be collected within the same sampling period for which the invalid sample was collected (during the same month if monthly sampling is required, during the same week if weekly sampling is required, etc.), then the following procedures apply:

A minimum of two samples shall be collected for coliform analysis within the next sampling period.

If the sampling frequency is monthly or less frequent: For the period with the invalid sample results, leave the spaces on the corresponding DMR for reporting coliform results empty and attach to the DMR a letter noting that a result of TNTC was obtained for that period, and explain why another sample for that period had not been collected.

If the sampling frequency is more frequent than monthly: Eliminate the result of TNTC from any further calculations, and use all the other results obtained within that month for reporting purposes. Attach a letter noting that a result of TNTC was obtained, and list all individual analytical results and corresponding sampling dates for that month.

4. The "Daily Maximum" limitation for Oil & Grease and pH shall be applied as an instantaneous maximum (or, for pH or DO, instantaneous minimum) value. The instantaneous value is defined as the analytical result of any individual sample. Report the maximum (and/or minimum) of all instantaneous values within the calendar month. Any instantaneous value beyond the noted daily maximum limitation for the indicated parameter shall be considered a violation of this permit.
5. The "Daily Maximum" limitation for all other parameters besides Oil & Grease and pH shall be applied as a maximum daily average. The daily average is defined as the arithmetic mean of the analytical results for all samples collected during a 24-hour period. If only one sample is collected during the 24-hour period, the analytical result for that single sample shall be used as the daily average. Report the maximum of all daily average values within the calendar month. Any daily average beyond the noted daily maximum limitation for the indicated parameter shall be considered a violation of this permit.
6. Definitions for sample types are as follows:

A "recorder" requires the continuous operation of a chart and/or totalizer (or drinking water rotor meters or pump hour meters where previously approved).

A "composite" sample, for monitoring requirements, is defined as a minimum of four (4) grab samples collected at equally spaced two (2) hour intervals and proportioned according to flow.

A "24 hour composite" sample is a combination of at least eight (8) sample aliquots of at least 100 milliliters, collected at equally spaced intervals during the operating hours of a facility over a twenty-four (24) hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the wastewater or effluent flow at the time of sampling or the total wastewater or effluent flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected so as to be representative of the parameter being monitored.

An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement using existing monitoring facilities.

A "sludge composite" sample is a representative sample of sludge from a wastewater treatment process unit, storage unit or stabilization process unit. The sample shall consist of a minimum of three grab samples of 500 milliliters each taken at the

start, middle and end of a pumping cycle, or if discharge is continuous or of a cyclical nature, grab samples of 250 milliliters each shall be taken four times during a twenty-four (24) hour period and combined. Composite samples of semi-dewatered, dewatered and dried sludge shall consist of a minimum of four (4) grab samples of 0.5 kilograms each taken four times during a twenty-four (24) hour period and combined.

7. Monitoring is required only when chlorine is used for disinfection. In the calculation of average total residual chlorine concentrations, those analytical results that are less than the method detection limit shall be considered to be zero for calculation purposes. If all individual analytical results that would be used in the calculations are below the method detection limit, then "less than $\underline{x}$ ", where $\underline{x}$ is the method detection limit, shall be reported on the monthly DMR. Otherwise, report the calculated value.

For purposes of this permit the method detection limits of the DPD colorimetric and the amperometric titration methods of analysis for total residual chlorine are as follows:

<u>Method</u>	<u>Method Detection Limit, mg/l</u>
DPD colorimetric	0.10 mg/l
Amperometric titration	0.05 mg/l

If, during the life of this permit, there are improvements in approved analytical procedures that result in lower detection limits, this permit may be reopened to propose the incorporation of those detection limits into this permit. Modification of the permit will be in accordance with the requirements of 40 CFR Part 124.

8. The "average monthly loading" is calculated by dividing the total of the daily loads, as derived from each day's calculated measurement, by the number of days during the month the measurements were made. In completing calculations for these averages, quantities or loadings are to be reported in lbs/day using the following equation:

$$\text{Quantity (lbs/day)} = \text{Flow (MGD)} \times \text{concentration (mg/l)} \times 8.34 \text{ (conversion factor)}$$

9. If visible sheen is noted, a grab sample shall be collected and analyzed for oil and grease. The results are to be reported on the DMR under parameter 03582.
10. When the measurement frequency indicated is quarterly, samples may be collected at any time during the calendar quarter, with the results being reported on the monthly DMR corresponding to the last month of the quarter (March, June, September or December). If the discharge is intermittent, samples must be collected during the period when discharge occurs.
11. To calculate the total phosphorous pounds discharged during the month, multiply the 30-day average effluent flow in MGD for the month by the 30-day average effluent phosphorous concentration for the month, multiplied by the factor 8.34, then multiplied by the number of days in the respective month.
12. The total number of pounds of phosphorous discharged during the previous twelve (12) consecutive months shall be calculated by summing the monthly loadings in pounds, ending with the month for which the DMR is being completed.

Additional relevant definitions are found in the Colorado Water Quality Control Act, CRS §§ 25-8-101 et seq., the Regulations for the State Discharge Permit System, 5 CCR 1002-2, § 6.1.0 et seq and other applicable regulations.

E. GENERAL MONITORING, SAMPLING AND REPORTING REQUIREMENTS

1. Routine Reporting of Data

Reporting of the data gathered in compliance with Part I.B.1 shall be on a **monthly** basis. Reporting of all data gathered shall comply with the requirements of Part I.E. (General Requirements). Monitoring results shall be summarized for each calendar month and reported on Division approved discharge monitoring report (DMR) forms (EPA form 3320-1). One form shall be mailed to the Water Quality Control Division, as indicated below, so that the DMR is received no later than the 28th day of the following month (for example, the DMR for the first calendar quarter must be received by the Division by April 28th). If no discharge occurs during the reporting period, "No Discharge" shall be reported.

The DMR forms consist of four pages - the top "original" copy, and three attached no-carbon-required copies. After the DMR form has been filled out and signed, the four copies must be separated and distributed as follows:

The first original signed copy of each discharge monitoring report (DMR) shall be submitted to the Division at the following address:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD-P-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Additional copies are for the permittee records. The Discharge Monitoring Report forms shall be filled out accurately and completely in accordance with requirements of this permit and the instructions on the forms. They shall be signed by an authorized person as identified in Part I.E.6.

2. Annual Biosolids Report

The permittee shall provide the results of all biosolids monitoring and information on management practices, land application sites, site restrictions and certifications. Such information shall be provided no later than **February 19th** of each year. Reports shall be submitted addressing all such activities that occurred in the previous calendar year. If no biosolids were applied to the land during the reporting period, "no biosolids applied" shall be reported. Until further notice, biosolids monitoring results shall be reported on forms, or copies of forms, provided by the Division. Annual Biosolids Reports required herein, shall be signed and certified in accordance with the Signatory Requirements, Part I.D.1, and submitted as follows:

The original copy of each form shall be submitted to the following address:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT,
WATER QUALITY CONTROL DIVISION
WQCD-PERMITS-B2
4300 CHERRY CREEK DRIVE SOUTH
DENVER, COLORADO 80246-1530

A copy of each form shall be submitted to the following address:

WATER PROGRAM REGIONAL BIOSOLIDS PROGRAM
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION VIII,
1595 WYNKOOP STREET
DENVER, CO 80202-2466

ATTENTION: BIOSOLIDS PROGRAM MANAGER

3. Representative Sampling

Samples and measurements taken for the respective identified monitoring points as required herein shall be representative of the volume and nature of: 1) all influent wastes received at the facility, including septage, biosolids, etc.; 2) the monitored effluent discharged from the facility; and 3) biosolids produced at the facility. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the influent, effluent, or biosolids wastestream joins or is diluted by any other wastestream, body of water, or substance. Monitoring points shall not be changed without notification to and prior approval by the Division.

4. Influent and Effluent Sampling Points

Influent and effluent sampling points shall be so designed or modified so that: 1) a sample of the influent can be obtained after preliminary treatment and prior to primary or biological treatment and 2) a sample of the effluent can be obtained at a point after the final treatment process and prior to discharge to state waters. The permittee shall provide access to the Division to sample at these points.

5. Analytical and Sampling Methods for Monitoring

The permittee shall install, calibrate, use and maintain monitoring methods and equipment, including biological and indicated

pollutant monitoring methods. All sampling shall be performed by the permittee according to specified methods in 40 C.F.R. Part 136; methods approved by EPA pursuant to 40 C.F.R. Part 136; or methods approved by the Division, in the absence of a method specified in or approved pursuant to 40 C.F.R. part 136. **The analytical method selected for a parameter shall be the one that can measure the lowest practical quantitation limit (PQL) for that parameter unless the permit limitation or stream standard for those parameters, is within the testing range of another approved method.** When requested in writing, the Division may approve an alternative analytical procedure or any significant modification to an approved procedure.

When the most sensitive analytical method which complies with this part, has a PQL greater than or equal to the permit limit, the permittee shall report "less than (the PQL)," as appropriate. Such reports shall not be considered as violations of the permit limit. The present lowest PQLs (State Lab Sept 2007) for specific parameters (which have limitations that are, in some cases, less than or equal to the detection limit) are as follows:

Effluent Characteristic	Practical Quantitation Limits, µg/l	
Arsenic	1	
Cadmium	0.06	
Total Residual Chlorine		
DPD colorimetric	0.10	mg/l
Amperometric titration	0.05	mg/l
Chromium	2	
Chromium, Hexavalent	2	
Copper	5	
Cyanide	10	
Iron	10	
Lead	1	
Manganese	2	
Mercury	0.003	
Nickel	3	
Phenols	15	
Selenium	1	
Silver	0.5	
Uranium	1	
Zinc	10	

These limits apply to the total recoverable or the potentially dissolved fraction of metals.

For hexavalent chromium, samples must be unacidified so dissolved concentrations will be measured rather than potentially dissolved concentrations.

Due to the fact that there is no reliable method of measuring free cyanide in a chlorinated effluent, the American Society for Testing and Materials (ASTM) analytical procedure D2036-81, Method C, which detects weak acid dissociable cyanides, shall be the analytical procedure used. The lower practical quantitation limit for the analysis described above must be at least as low as 0.030 mg/l. In the calculation of average concentrations of cyanide, those analytical results that are less than the practical quantitation limit shall be considered to be zero for calculation purposes. If all individual analytical results that would be used in the calculations are below the practical quantitation limit, then "less than x ", where x is the practical quantitation limit, shall be reported on the monthly DMR. Otherwise, report the calculated value.

6. Records

- a. The permittee shall establish and maintain records. Those records shall include, but not be limited to, the following:
 - i. The date, type, exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) the analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical techniques or methods used; and
 - vi. The results of such analyses.

- b. The permittee shall retain for a minimum of three (3) years records of all monitoring information, including all original strip chart recordings for continuous monitoring instrumentation, all calibration and maintenance records, copies of all reports required by this permit and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Division or Regional Administrator.

7. Flow Measuring Devices

Flow metering at the headworks shall be provided to give representative values of throughput and treatment of the wastewater system. The metering device shall be equipped with a local flow indication instrument and a flow indication-recording-totalization device suitable for providing permanent flow records, which should be in the plant control building. For mechanical facilities, where influent flow metering is not practical and the same results may be obtained from metering at the effluent end of the treatment facility, this type of flow metering arrangement will be considered. For lagoons, an instantaneous or continuous effluent flow measuring device shall be required in addition to the above described influent flow measuring device. At the request of the Division, the permittee must be able to show proof of the accuracy of any flow-measuring device used in obtaining data submitted in the monitoring report. The flow-measuring device must indicate values within ten (10) percent of the actual flow entering the facility.

8. Signatory Requirements

All reports, and other information required by the Division shall be signed and certified for accuracy by the permittee in accord with the following criteria:

- a. In the case of corporations, by a principal executive officer of at least the level of vice-president or his or her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the form originates;
- b. In the case of a partnership, by a general partner;
- c. In the case of a sole proprietorship, by the proprietor;
- d. In the case of a municipal, state, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

The permittee shall make the following certification on all such documents:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

PART II

A. NOTIFICATION REQUIREMENTS

1. Notification to Parties

All notification requirements under this section shall be directed as follows:

- a. Oral Notifications, **other than for spills**, during normal business hours shall be to:

Water Quality Protection Section - Industrial Compliance Program
Water Quality Control Division
Telephone: (303) 692-3500

Spills notifications at any time and **other notifications** after hours shall be to:

Emergency Response Coordinator
Telephone: 1-877-518-5608

- b. Written notification shall be to:

Water Quality Protection Section - Industrial Compliance Program
Water Quality Control Division
Colorado Department of Public Health and Environment
WQCD-WQP-B2
4300 Cherry Creek Drive South
Denver, CO 80246-1530

2. Change in Discharge

The permittee shall notify the Division, in writing, of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- a. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged, or;
- b. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported pursuant to an approved land application plan.

The permittee shall give advance notice to the Division of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

Whenever notification of any planned physical alterations or additions to the permitted facility is required pursuant to this section,, the permittee shall furnish the Division such plans and specifications which the Division deems reasonably necessary to evaluate the effect on the discharge, the stream, or ground water. If the Division finds that such new or altered discharge might be inconsistent with the conditions of the permit, the Division shall require a new or revised permit application and shall follow the procedures specified in Sections 61.5 through 61.6, and 61.15 of the Colorado Discharge Permit System Regulations.

3. Special Notifications - Definitions

- a. **Bypass:** The intentional diversion of waste streams from any portion of a treatment facility.
- b. **Severe Property Damage:** Substantial physical damage to property at the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. It does not mean economic loss caused by delays in production.

- c. Spill: An incident in which flows or solid materials are accidentally or unintentionally allowed to flow or escape so as to be lost from the treatment, processing or manufacturing system which may cause or threaten pollution of state waters.
- d. Upset: An exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

4. Noncompliance Notification

- a. If, for any reason, the permittee does not comply with or will be unable to comply with any discharge limitations or standards specified in this permit, the permittee shall, at a minimum, provide the Division and EPA with the following information:
 - i) A description of the discharge and cause of noncompliance;
 - ii) The period of noncompliance, including exact dates and times and/or the anticipated time when the discharge will return to compliance; and
 - iii) Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.
- b. The permittee shall report the following circumstances **orally within twenty-four (24) hours** from the time the permittee becomes aware of the circumstances, and shall mail to the Division a written report containing the information requested in Part II.A.4 (a) **within five (5) days** after becoming aware of the following circumstances:
 - i) Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident;
 - ii) Circumstances leading to any unanticipated bypass which exceeds any effluent limitations in the permit;
 - iii) Circumstances leading to any upset or spill which causes an exceedance of any effluent limitation in the permit;
 - iv) Daily maximum violations for any of the pollutants limited by Part I.A of this permit and specified as requiring 24-hour notification. This includes any toxic pollutant or hazardous substance or any pollutant specifically identified as the method to control any toxic pollutant or hazardous substance.
- c. The permittee shall report instances of non-compliance which are not required to be reported within 24-hours at the time Discharge Monitoring Reports are submitted. The reports shall contain the information listed in sub-paragraph (a) of this section.

5. Other Notification Requirements

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule in the permit shall be submitted no later than fourteen (14) days following each scheduled date, unless otherwise provided by the Division.

The permittee shall notify the Division, in writing, thirty (30) days in advance of a proposed transfer of permit as provided in Part II.B.3.

The permittee's notification of all anticipated noncompliance does not stay any permit condition.

All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Division as soon as they know or have reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- i) One hundred micrograms per liter (100 µg/l);
 - ii) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and one milligram per liter (1.0 mg/l) for antimony;
 - iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Section 61.4(2)(g).
 - iv) The level established by the Division in accordance with 40 C.F.R. § 122.44(f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- i) Five hundred micrograms per liter (500 µg/l);
 - ii) One milligram per liter (1 mg/l) for antimony; and
 - iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application.
 - iv) The level established by the Division in accordance with 40 C.F.R. § 122.44(f).

6. Bypass Notification

If the permittee knows in advance of the need for a bypass, a notice shall be submitted, at least ten days before the date of the bypass, to the Division. The bypass shall be subject to Division approval and limitations imposed by the Division. Violations of requirements imposed by the Division will constitute a violation of this permit.

7. Upsets

a. Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with permit effluent limitations if the requirements of paragraph (b) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

b. Conditions Necessary for a Demonstration of Upset

A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed contemporaneous operating logs, or other relevant evidence that:

- i) An upset occurred and that the permittee can identify the specific cause(s) of the upset; and
- ii) The permitted facility was at the time being properly operated and maintained; and
- iii) The permittee submitted proper notice of the upset as required in Part II.A.4. of this permit (24-hour notice); and
- iv) The permittee complied with any remedial measure necessary to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

In addition to the demonstration required above, a permittee who wishes to establish the affirmative defense of upset for a violation of effluent limitations based upon water quality standards shall also demonstrate through monitoring, modeling or other methods that the relevant standards were achieved in the receiving water.

c. Burden of Proof

In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

8. Discharge Point

Any discharge to the waters of the State from a point source other than specifically authorized by this permit is prohibited.

9. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee as necessary to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when necessary to achieve compliance with the conditions of the permit.

10. Minimization of Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any discharge of sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. As necessary, accelerated or additional monitoring to determine the nature and impact of the noncomplying discharge is required.

11. Removed Substances

Solids, sludges, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed in accordance with applicable state and federal regulations.

For all domestic wastewater treatment works, at industrial facilities, the permittee shall dispose of sludge in accordance with all State and Federal regulations.

12. Submission of Incorrect or Incomplete Information

Where the permittee failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or report to the Division, the permittee shall promptly submit the relevant information which was not submitted or any additional information needed to correct any erroneous information previously submitted.

13. Bypass

a. Bypasses are prohibited and the Division may take enforcement action against the permittee for bypass, unless:

- i) The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;
- ii) There were no feasible alternatives to bypass such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
- iii) Proper notices were submitted in compliance with Part II.A.4.

b. "Severe property damage" as used in this Subsection means substantial physical damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

- c. The permittee may allow a bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance or to assure optimal operation. These bypasses are not subject to the provisions of paragraph (a) above.
- d. The Division may approve an anticipated bypass, after considering adverse effects, if the Division determines that the bypass will meet the conditions specified in paragraph (a) above.

14. Reduction, Loss, or Failure of Treatment Facility

The permittee has the duty to halt or reduce any activity if necessary to maintain compliance with the effluent limitations of the permit. Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production, control sources of wastewater, or all discharges, until the facility is restored or an alternative method of treatment is provided. This provision also applies to power failures, unless an alternative power source sufficient to operate the wastewater control facilities is provided.

It shall not be a defense for a permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B. RESPONSIBILITIES

1. Inspections and Right to Entry

The permittee shall allow the Division and/or the authorized representative, upon the presentation of credentials:

- a. To enter upon the permittee's premises where a regulated facility or activity is located or in which any records are required to be kept under the terms and conditions of this permit;
- b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit and to inspect any monitoring equipment or monitoring method required in the permit; and
- c. To enter upon the permittee's premises in a reasonable manner and at a reasonable time to inspect and/or investigate, any actual, suspected, or potential source of water pollution, or to ascertain compliance or non compliance with the Colorado Water Quality Control Act or any other applicable state or federal statute or regulation or any order promulgated by the Division. The investigation may include, but is not limited to, the following: sampling of any discharge and/or process waters, the taking of photographs, interviewing of any person having knowledge related to the discharge permit or alleged violation, access to any and all facilities or areas within the permittee's premises that may have any affect on the discharge, permit, or alleged violation. Such entry is also authorized for the purpose of inspecting and copying records required to be kept concerning any effluent source.
- d. The permittee shall provide access to the Division to sample the discharge at a point after the final treatment process but prior to the discharge mixing with state waters upon presentation of proper credentials.

In the making of such inspections, investigations, and determinations, the Division, insofar as practicable, may designate as its authorized representatives any qualified personnel of the Department of Agriculture. The Division may also request assistance from any other state or local agency or institution.

2. Duty to Provide Information

The permittee shall furnish to the Division, within a reasonable time, any information which the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Division, upon request, copies of records required to be kept by this permit.

3. Transfer of Ownership or Control

- a. Except as provided in paragraph b. of this section, a permit may be transferred by a permittee only if the permit has been modified or revoked and reissued as provided in Section 61.8(8) of the Colorado Discharge Permit System Regulations, to identify the new permittee and to incorporate such other requirements as may be necessary under the Federal Act.
- b. A permit may be automatically transferred to a new permittee if:
 - i) The current permittee notifies the Division in writing 30 days in advance of the proposed transfer date; and
 - ii) The notice includes a written agreement between the existing and new permittee(s) containing a specific date for transfer of permit responsibility, coverage and liability between them; and
 - iii) The Division does not notify the existing permittee and the proposed new permittee of its intent to modify, or revoke and reissue the permit.
 - iv) Fee requirements of the Colorado Discharge Permit System Regulations, Section 61.15, have been met.

4. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Clean Water Act and the Colorado Discharge Permit System Regulations 5 CCR 1002-61, Section 61.5(4), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division and the Environmental Protection Agency.

The name and address of the permit applicant(s) and permittee(s), permit applications, permits and effluent data shall not be considered confidential. Knowingly making false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Clean Water Act, and Section 25-8-610 C.R.S.

5. Modification, Suspension, Revocation, or Termination of Permits By the Division

The filing of a request by the permittee for a permit modification, revocation and reissuance, termination or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

- a. A permit may be modified, suspended, or terminated in whole or in part during its term for reasons determined by the Division including, but not limited to, the following:
 - i) Violation of any terms or conditions of the permit;
 - ii) Obtaining a permit by misrepresentation or failing to disclose any fact which is material to the granting or denial of a permit or to the establishment of terms or conditions of the permit; or
 - iii) Materially false or inaccurate statements or information in the permit application or the permit.
 - iv) A determination that the permitted activity endangers human health or the classified or existing uses of state waters and can only be regulated to acceptable levels by permit modifications or termination.
- b. A permit may be modified in whole or in part for the following causes, provided that such modification complies with the provisions of Section 61.10 of the Colorado Discharge Permit System Regulations:
 - i) There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.
 - ii) The Division has received new information which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of different permit conditions at the time of issuance. For permits issued to new sources or new dischargers, this cause includes information derived from effluent testing required under Section 61.4(7)(e) of the Colorado Discharge Permit System Regulations. This provision allows a modification of the permit to include conditions that are less stringent

than the existing permit only to the extent allowed under Section 61.10 of the Colorado Discharge Permit System Regulations.

- iii) The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. Permits may be modified during their terms for this cause only as follows:
 - (A) The permit condition requested to be modified was based on a promulgated effluent limitation guideline, EPA approved water quality standard, or an effluent limitation set forth in 5 CCR 1002-62, § 62 et seq.; and
 - (B) EPA has revised, withdrawn, or modified that portion of the regulation or effluent limitation guideline on which the permit condition was based, or has approved a Commission action with respect to the water quality standard or effluent limitation on which the permit condition was based; and
 - (C) The permittee requests modification after the notice of final action by which the EPA effluent limitation guideline, water quality standard, or effluent limitation is revised, withdrawn, or modified; or
 - (D) For judicial decisions, a court of competent jurisdiction has remanded and stayed EPA promulgated regulations or effluent limitation guidelines, if the remand and stay concern that portion of the regulations or guidelines on which the permit condition was based and a request is filed by the permittee in accordance with this Regulation, within ninety (90) days of judicial remand.
 - iv) The Division determines that good cause exists to modify a permit condition because of events over which the permittee has no control and for which there is no reasonable available remedy.
 - v) The permittee has received a variance.
 - vi) When required to incorporate applicable toxic effluent limitation or standards adopted pursuant to § 307(a) of the Federal act.
 - vii) When required by the reopener conditions in the permit.
 - viii) As necessary under 40 C.F.R. 403.8(e), to include a compliance schedule for the development of a pretreatment program.
 - ix) When the level of discharge of any pollutant which is not limited in the permit exceeds the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under Section 61.8(2) of the Colorado Discharge Permit System Regulations.
 - x) To establish a pollutant notification level required in Section 61.8(5) of the Colorado Discharge Permit System Regulations.
 - xi) To correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions, to the extent allowed in Section 61.10 of the Colorado State Discharge Permit System Regulations.
 - xii) When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
 - xiii) For any other cause provided in Section 61.10 of the Colorado Discharge Permit System Regulations.
- c. At the request of a permittee, the Division may modify or terminate a permit and issue a new permit if the following conditions are met:
- i) The Regional Administrator has been notified of the proposed modification or termination and does not object in writing within thirty (30) days of receipt of notification,
 - ii) The Division finds that the permittee has shown reasonable grounds consistent with the Federal and State statutes and regulations for such modifications or termination;

iii) Requirements of Section 61.15 of the Colorado Discharge Permit System Regulations have been met, and

iv) Requirements of public notice have been met.

- d. Permit modification (except for minor modifications), termination or revocation and reissuance actions shall be subject to the requirements of Sections 61.5(2), 61.5(3), 61.6, 61.7 and 61.15 of the Colorado Discharge Permit System Regulations. The Division shall act on a permit modification request, other than minor modification requests, within 180 days of receipt thereof. Except for minor modifications, the terms of the existing permit govern and are enforceable until the newly issued permit is formally modified or revoked and reissued following public notice.
- e. Upon consent by the permittee, the Division may make minor permit modifications without following the requirements of Sections 61.5(2), 61.5(3), 61.7, and 61.15 of the Colorado Discharge Permit System Regulations. Minor modifications to permits are limited to:
- i) Correcting typographical errors; or
 - ii) Increasing the frequency of monitoring or reporting by the permittee; or
 - iii) Changing an interim date in a schedule of compliance, provided the new date of compliance is not more than 120 days after the date specific in the existing permit and does not interfere with attainment of the final compliance date requirement; or
 - iv) Allowing for a transfer in ownership or operational control of a facility where the Division determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittees has been submitted to the Division; or
 - v) Changing the construction schedule for a discharger which is a new source, but no such change shall affect a discharger's obligation to have all pollution control equipment installed and in operation prior to discharge; or
 - vi) Deleting a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits.
- f. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term.
- g. The filing of a request by the permittee for a permit modification, revocation and reissuance or termination does not stay any permit condition.
- h. All permit modifications and reissuances are subject to the antibacksliding provisions set forth in 61.10(e) through (g).

6. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 (Oil and Hazardous Substance Liability) of the Clean Water Act.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority granted by Section 510 of the Clean Water Act. Nothing in this permit shall be construed to prevent or limit application of any emergency power of the division.

8. Permit Violations

Failure to comply with any terms and/or conditions of this permit shall be a violation of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of

the permit. Except as provided in Part I.D and Part II.A or B, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance (See 40 CFR 122.41).

9. Property Rights

The issuance of this permit does not convey any property or water rights in either real or personal property, or stream flows, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Severability

The provisions of this permit are severable. If any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the application of the remainder of this permit shall not be affected.

11. Renewal Application

If the permittee desires to continue to discharge, a permit renewal application shall be submitted at least one hundred eighty (180) days before this permit expires. If the permittee anticipates there will be no discharge after the expiration date of this permit, the Division should be promptly notified so that it can terminate the permit in accordance with Part II.B.5.

12. Confidentiality

Any information relating to any secret process, method of manufacture or production, or sales or marketing data which has been declared confidential by the permittee, and which may be acquired, ascertained, or discovered, whether in any sampling investigation, emergency investigation, or otherwise, shall not be publicly disclosed by any member, officer, or employee of the Commission or the Division, but shall be kept confidential. Any person seeking to invoke the protection of this Subsection (12) shall bear the burden of proving its applicability. This section shall never be interpreted as preventing full disclosure of effluent data.

13. Fees

The permittee is required to submit payment of an annual fee as set forth in the 2005 amendments to the Water Quality Control Act. Section 25-8-502 (l) (b), and the Colorado Discharge Permit System Regulations 5 CCR 1002-61, Section 61.15 as amended. Failure to submit the required fee when due and payable is a violation of the permit and will result in enforcement action pursuant to Section 25-8-601 et. seq., C.R.S. 1973 as amended.

14. Duration of Permit

The duration of a permit shall be for a fixed term and shall not exceed five (5) years. Filing of a timely and complete application shall cause the expired permit to continue in force to the effective date of the new permit. The permit's duration may be extended only through administrative extensions and not through interim modifications.

15. Section 307 Toxics

If a toxic effluent standard or prohibition, including any applicable schedule of compliance specified, is established by regulation pursuant to Section 307 of the Federal Act for a toxic pollutant which is present in the permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in the discharge permit, the Division shall institute proceedings to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition.

16. Effect of Permit Issuance

a. The issuance of a permit does not convey any property rights or any exclusive privilege.

- b. The issuance of a permit does not authorize any injury to person or property or any invasion of personal rights, nor does it authorize the infringement of federal, state, or local laws or regulations.
- c. Except for any toxic effluent standard or prohibition imposed under Section 307 of the Federal act or any standard for sewage sludge use or disposal under Section 405(d) of the Federal act, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Sections 301, 302, 306, 318, 403, and 405(a) and (b) of the Federal act. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in Section 61.8(8) of the Colorado Discharge Permit System Regulations.
- d. Compliance with a permit condition which implements a particular standard for sewage sludge use or disposal shall be an affirmative defense in any enforcement action brought for a violation of that standard for sewage sludge use or disposal.

PART III

CATEGORICAL INDUSTRIES

Aluminum Forming	Meat Products
Asbestos Manufacturing	Metal Finishing
Battery Manufacturing	Metal Molding and Casting (Foundries)
Builders' Paper and Board Mills	Mineral Mining and Processing
Canned & Preserved Fruits and Vegetables Processing	Nonferrous Metals Manufacturing
Canned & Preserved Seafood Processing	Nonferrous Metals Forming and Metal Powders
Carbon Black Manufacturing	Oil and Gas Extraction
Cement Manufacturing	Organic Chemicals, Plastics, and Synthetic Fibers
Coal Mining	Ore Mining and Dressing
Coil Coating	Paint Formulation
Copper Forming	Paving and Roofing Materials (Tars and Asphalt)
Dairy Products Processing	Pesticide Chemicals
Electrical and Electronic Components	Petroleum Refining
Electroplating	Pharmaceutical Manufacturing
Explosives Manufacturing	Phosphate Manufacturing
Feedlots	Photographic
Ferroalloy Manufacturing	Plastics Molding and Forming
Fertilizer Manufacturing	Porcelain Enameling
Glass Manufacturing	Pulp, Paper, and Paperboard Manufacturing
Grain Mills	Rubber Manufacturing
Gum and Wood Chemicals Manufacturing	Soap and Detergent Manufacturing
Hospital	Steam Electric Power Generating
Ink Formulation	Sugar Processing
Inorganic Chemicals Manufacturing	Textile Mills
Iron and Steel Manufacturing	Timber Products Processing
Leather Tanning and Finishing	

PRIORITY POLLUTANTS AND HAZARDOUS SUBSTANCES

ORGANIC TOXIC POLLUTANTS IN EACH OF FOUR FRACTIONS
IN ANALYSIS BY GAS CHROMATOGRAPHY/MASS SPECTROSCOPY (GC/MS)

<u>Volatiles</u>	<u>Base/Neutral</u>	<u>Acid Compounds</u>	<u>Pesticides</u>
acrolein	acenaphthene	2-chlorophenol	aldrin
acrylonitrile	acenaphthylene	2,4-dichlorophenol	alpha-BHC
benzene	Anthracene	2,4,-dimethylphenol	beta-BHC
bromoform	Benzidine	4,6-dinitro-o-cresol	gamma-BHC
carbon tetrachloride	benzo(a)anthracene	2,4-dinitrophenol	delta-BHC
chlorobenzene	benzo(a)pyrene	2-nitrophenol	chlordane
chlorodibromomethane	3,4-benzofluoranthene	4-nitrophenol	4,4'-DDT
chloroethane	benzo(ghi)perylene	p-chloro-m-cresol	4,4'-DDE
2-chloroethylvinyl ether	benzo(k)fluoranthene	pentachlorophenol	4,4'-DDD
chloroform	bis(2-chloroethoxy)methane	phenol	dieldrin
dichlorobromomethane	bis(2-chloroethyl)ether	2,4,6-trichlorophenol	alpha-endosulfan
1,1-dichloroethane	bis(2-chloroisopropyl)ether		beta-endosulfan
1,2-dichloroethane	bis(2-ethylhexyl)phthalate		endosulfan sulfate
1,1-dichloroethylene	4-bromophenyl phenyl ether		endrin
1,2-dichloropropane	butylbenzyl phthalate		endrin aldehyde
1,3-dichloropropylene	2-chloronaphthalene		heptachlor
ethylbenzene	4-chlorophenyl phenyl ether		heptachlor epoxide
methyl bromide	Chrysene		PCB-1242
methyl chloride	dibenzo(a,h)anthracene		PCB-1254
methylene chloride	1,2-dichlorobenzene		PCB-1221

PRIORITY POLLUTANTS AND HAZARDOUS SUBSTANCES
ORGANIC TOXIC POLLUTANTS IN EACH OF FOUR FRACTIONS
IN ANALYSIS BY GAS CHROMATOGRAPHY/MASS SPECTROSCOPY (GC/MS)

<u>Volatiles</u>	<u>Base/Neutral</u>	<u>Acid Compounds</u>	<u>Pesticides</u>
1,1,2,2-tetrachloroethane	1,3-dichlorobenzene		PCB-1232
tetrachloroethylene	1,4-dichlorobenzene		PCB-1248
toluene	3,3-dichlorobenzidine		PCB-1260
1,2-trans-dichloroethylene	diethyl phthalate		PCB-1016
1,1,1-trichloroethane	dimethyl phthalate		toxaphene
1,1,2-trichloroethane	di-n-butyl phthalate		
trichloroethylene	2,4-dinitrotoluene		
vinyl chloride	2,6-dinitrotoluene		
	di-n-octyl phthalate		
	1,2-diphenylhydrazine (as azobenzene)		
	Fluorine		
	fluoranthene		
	hexachlorobenzene		
	hexachlorobutadiene		
	hexachlorocyclopentadiene		
	hexachloroethane		
	indeno(1,2,3-cd)pyrene		
	Isophorone		
	naphthalene		
	nitrobenzene		
	N-nitrosodimethylamine		
	N-nitrosodi-n-propylamine		
	N-nitrosodiphenylamine		
	phenanthrene		
	Pyrene		
	1,2,4-trichlorobenzene		

OTHER TOXIC POLLUTANTS
(METALS AND CYANIDE) AND TOTAL PHENOLS

Antimony, Total
Arsenic, Total
Beryllium, Total
Cadmium, Total
Chromium, Total
Copper, Total
Lead, Total
Mercury, Total
Nickel, Total
Selenium, Total
Silver, Total
Thallium, Total
Zinc, Total
Cyanide, Total
Phenols, Total

TOXIC POLLUTANTS AND HAZARDOUS SUBSTANCES
REQUIRED TO BE IDENTIFIED BY EXISTING DISCHARGERS
IF EXPECTED TO BE PRESENT

Toxic Pollutants

Asbestos

Hazardous Substances

Acetaldehyde	Isoprene
Allyl alcohol	Isopropanolamine
Allyl chloride	Keithane
Amyl acetate	Kepone
Aniline	Malathion
Benzonitrile	Mercaptodimethur
Benzyl chloride	Methoxychlor
Butyl acetate	Methyl mercaptan
Butylamine	Methyl methacrylate
Captan	Methyl parathion
Carbaryl	Mexacarbate
Carbofuran	Monoethyl amine
Carbon disulfide	Monomethyl amine
Chlorpyrifos	Naled
Coumaphos	Napthenic acid
Cresol	Nitrotoluene
Crotonaldehyde	Parathion
Cyclohexane	Phenolsulfanate
2,4-D(2,4-Dichlorophenoxy acetic acid)	Phosgene
Diazinon	Propargite
Dicamba	Propylene oxide
Dichlobenil	Pyrethrins
Dichlone	Quinoline
2,2-Dichloropropionic acid	Resorcinol
Dichlorvos	Strontium
Diethyl amine	Strychnine
Dimethyl amine	Styrene
Dinitrobenzene	TDE (Tetrachlorodiphenylethane)
Diquat	2,4,5-T (2,4,5-Trichlorophenoxy acetic acid)
Disulfoton	2,4,5-TP [2-(2,4,5-Trichlorophenoxy) propanoic acid]
Diuron	Trichlorofan
Epichlorohydrin	Triethylamine
Ethanolamine	Trimethylamine
Ethion	Uranium
Ethylene diamine	Vandium
Ethylene dibromide	Vinyl Acetate
Formaldehyde	Xylene
Furfural	Xylenol
Guthion	Zirconium