

North Front Range Water Quality Planning Association Utility Plan Guidance

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ABSTRACT

TITLE North Front Range Water Quality Planning Association Utility Plan Guidance

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ABSTRACT This guidance document provides necessary information and direction to utility departments, consultants, planners or wastewater managers for producing a Wastewater Utility Plan.

TABLE OF CONTENTS

TABLE OF CONTENTS.....	II
LIST OF TABLES	III
EXECUTIVE SUMMARY	1
<u>PREAMBLE</u>	3
1. INTRODUCTION.....	3
Purpose of Guidance Document.....	3
a) General Review and Recognition.....	4
b) Geographic Context	4
c) Who Needs to Complete Wastewater Utility Plans?.....	5
d) What is the Role of Management Agencies?	5
e) When Will Wastewater Utility Plans be Needed?	6
f) First Steps in Starting a Utility Plan.....	7
g) Wastewater Treatment Work Planning	8
h) Wastewater Utility Plan Documents.....	9
i) Documentation Sign-off.....	10
2. IMPORTANT DEFINITIONS	12
3. WASTEWATER SERVICE AREA CONCEPTS.....	14
Major Service Areas	14
Minor Service Areas	14
Ultimate Planning Areas	15
Wastewater Utility Service to Non-urban Areas.....	18
4. RELATIONSHIP TO SITE APPROVAL PROCESS	20
5. UTILITY PLANNING FOR WASTEWATER TREATMENT AND CONVEYANCE FACILITIES.....	23
A. General Requirements	23
6. UTILITY PLAN OUTLINE FORMAT	42
Distribution and Number of Copies	46
7. RECOMMENDED UTILITY PLAN ACCEPTANCE POLICY	47
General Criteria.....	47
Renewal Frequency	49
Submittal and Acceptance Procedure	49
8. REFERENCES.....	51

LIST OF TABLES

Table 1	Key contacts.....	8
Table 2	Local Agency Utility Plan Acceptance/Conditional Acceptance Form	11
Table 3	Factors used in the <i>208 Plan</i> to estimate wastewater flow	31
Table 4	Minimum distribution of copies.....	46

EXECUTIVE SUMMARY

This guidance document provides the necessary information and direction to develop Wastewater Utility Plans. The document provides detailed technical information specifically targeting utility departments, consultants, planners, or wastewater managers who need to produce Wastewater Utility Plans. Utility Plans should be consistent with the guidance contained herein.

The new Wastewater Utility Plans will meet multiple wastewater management documentation needs as detailed in this guidance document. Utility Plans are critical in determining how wastewater service will be provided to urbanized portions of the region and special case locations that have a permitted wastewater treatment facility. The long-term goal is to have a Wastewater Utility Plan for permitted wastewater treatment systems in the North Front Range Water Quality Planning Association (NFRWQPA) region.

This guidance identifies two types of wastewater management service areas termed the 20-year Wastewater Utility Service Area (WUSA) and the Ultimate Planning Area (UPA). Those entities developing Utility Plans should use these service area concepts. Each Wastewater Utility Plan should identify specific service areas and describe how these areas will be served in context with meeting all required water quality limits.

This technical guidance document details who needs to complete a Utility Plan, the role of the water quality management agency, timing schedules, and documentation requirements. A number of logical steps in this process are outlined that increase the effectiveness and efficiency of wastewater management planning within the NFRWQPA region.

Important definitions are provided early in the guidance document, since these definitions are critical in understanding the guidance recommendations. The definitions are consistent with definitions contained in the Colorado site approval process. The site approval regulation should be referenced for additional definitions.

Long-range wastewater service areas are called Ultimate Planning Areas (UPAs). The portion of the UPA beyond the urban growth boundary is based on approved local comprehensive plans, comprehensive long-range Utility Plans, or the area a wastewater provider intends to serve at ultimate development. UPAs can extend significantly beyond the 20-year planning horizon. NFRWQPA planning areas and wastewater utility service areas can be modified through flexibility provisions of the plan amendment process.

Utility Plans will need to meet the requirements of the Colorado Department of Public Health and Environment site approval regulation number 22. The definitions used in the site application regulation define terms used in any Utility Plan. Utility Plans that have been recognized or conditionally recognized by the NFRWQPA will be used in the site approval process. As part of the state Water Quality Act, site approvals are needed for

construction or expansion of wastewater treatment works, lift stations, and major interceptor lines.

Utility Plans document the wastewater management strategy for a wastewater treatment facility (greater than 2,000 gallons per day capacity) and the associated planning area. All Utility Plans should contain a defined set of minimum information (location, sizing, staging, service area, process system, effluent quality, and financial arrangements) outlined in Chapter V of this guidance document, and respond to appropriate state or federal requirements. The checklist of recommended documentation needs for utility planning should be followed in the preparation a new Utility Plan.

The primary goal in establishing Wastewater Utility Plans is to provide reasonable, feasible, and economical wastewater service to areas designated for development within the NFRWQPA watersheds. Utility Plans should consider the water quality impact the treatment system will have on receiving waters. The Utility Plan should include any strategy for meeting all applicable water quality standards and classifications, while quantifying the potential impact a discharger may have on other dischargers.

PREAMBLE

Wastewater Utility Plans are planning tools that can assist wastewater utilities in planning for wastewater collection system and treatment system changes. The North Front Range Water Quality Planning Association (NFRWQPA) has assembled this document to provide guidance to utilities in its region. Beginning January 1, 2008, the NFRWQPA will request that all public wastewater treatment agencies submitting a site application, plan amendment request (including service area boundary change), or district formation and designation, have in place a current Utility Plan which has been recognized or conditionally recognized by NFRWQPA prior to the request. Other agencies not falling into this category will include Utility Plan information in conjunction with any of the above listed requests. These plans will simplify and ease the process by which utilities may seek Site Approvals from Colorado Department of Public Health and Environment's Water Quality Control Division and 208 plan amendments from NFRWQPA.

1. INTRODUCTION

Purpose of Guidance Document

Wastewater Utility Plans are designed to replace 201 facility plans.

This guidance document provides the necessary information and direction to utility departments, consultants, planners, or wastewater managers that need to produce a Wastewater Utility Plan. Utility Plans should be consistent with the guidance contained in this

document. Wastewater Utility Plans, as referenced in the *Areawide Water Quality Management Plan (208 Plan)*; replace the current 201 facility plans.

The new Wastewater Utility Plans will meet multiple wastewater management documentation needs including, but not limited to, the following four basic functions:

- Serve as the primary support document to amend the *Areawide Water Quality Management Plan*.
- Serve as the primary support document for a site approval.
- Provide necessary background and planning information needed by the Water Quality Control Division in the discharge permitting process.
- Serve as a support document for a revolving loan application.

Utility Plans are intended to be broader in scope than 201 facility plans, with the recognition that the amount of detail will vary between plans, depending on facility complexity and size. Some additional support documentation may be required by the Colorado Department of Public Health and Environment, Water Quality Control Division in the site approval, permitting, and loan processes.

Utility Plans are critical in determining how wastewater service will be provided to urbanized portions of the region. This includes small locales requiring centralized services or specialized sites requiring a wastewater treatment plant with a capacity >2000 gallons/day (i.e., church camp, truck stop, and restaurant). The Utility Plan level of detail will be kept flexible to accommodate both major and minor wastewater providers.

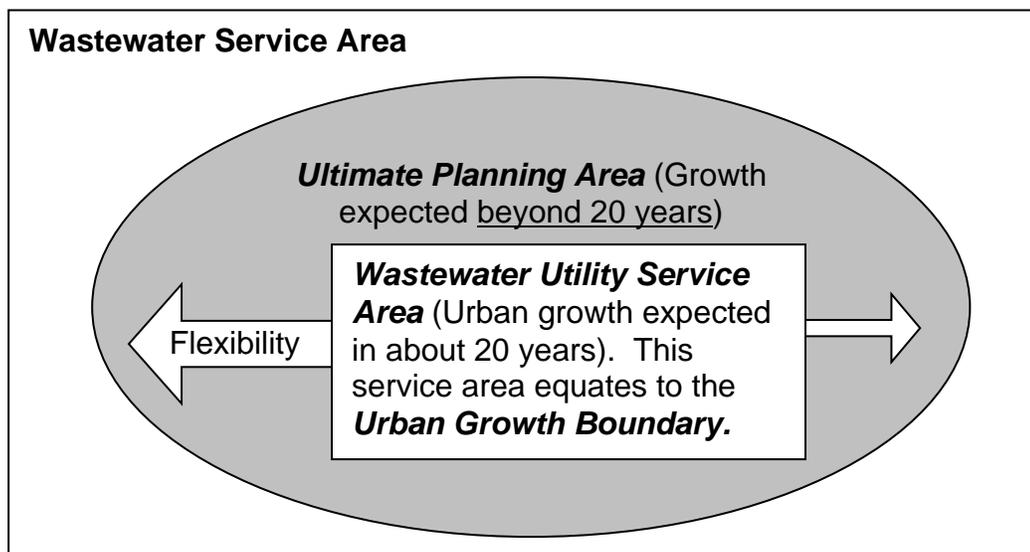
a) General Review and Recognition

The review and acceptance of Wastewater Utility Plans, associated with designated service areas that are prepared according to this guidance is a responsibility of the NFRWQPA. Utility Plans may be accepted by NFRWQPA at any regularly scheduled meeting.

The guidance directions included herein were developed in cooperation with the Water Quality Control Division. While the Division intends to use Utility Plans as source information in its various processes, the acceptance by NFRWQPA does not preclude the Division from requiring additional documentation. This guidance document contains the wastewater planning information needed in the development of Utility Plans to be incorporated by reference into the Areawide Water Quality Management Plan.

b) Geographic Context

The 208 Plan processes define how wastewater service and water quality attainment can be achieved within specific geographies. While a wastewater service area may extend into adjacent watersheds, the basic geographic unit for Wastewater Utility Planning will be the watershed. Additionally, regional water quality planning will be driven by the watershed approach.



The 208 Plan can identify and map two types of wastewater management service areas termed Wastewater Utility Service Areas (WUSAs) and Ultimate Planning Areas (UPAs) as this information is provided and Utility Plans are prepared and accepted. Entities developing Utility Plans as outlined in this guidance document should use the service area concepts of Wastewater Utility Service Areas and Ultimate Planning Areas.

Each Wastewater Utility Plan should identify a specific service area and describe how this area will be served in context with meeting all required water quality limits. WUSAs should include the area requiring urban area services through the 20-year planning horizon.

Areas requiring urban area services beyond the planning horizon are identified as UPAs. These areas should be included in a locally approved comprehensive plan or similarly approved plan. As development patterns change, UPAs can be converted to 20-year planning areas when the needs have been identified. Modifying the urban growth boundary is a local planning responsibility.

c) Who Needs to Complete Wastewater Utility Plans?

Wastewater treatment facilities or plants with a permitted discharge greater than 2,000 gallons per day, as issued through the Colorado Discharge Permit System (CDPS), should complete a Wastewater Utility Plan or set of plans, as appropriate, if their service area is growing.

d) What is the Role of Management Agencies?

Management agencies, as historically designated in the NFRWQPA 208 Plan, are those entities with land control authority. The management agencies and associated operating agencies decide on the need for and specific characteristics of wastewater treatment processes and the details of implementation within specified parameters. Generally, wastewater treatment facility operating agencies will have primary responsibility for developing Utility Plans. Management agencies are responsible for review of Utility Plans developed by associated operating agencies. When the management agency and operating agency are the same, the Utility Plan will be considered as being developed by the management agency.

Management agencies are associated with all wastewater treatment facilities in the NFRWQPA region. Generally, counties are management agencies for most minor wastewater providers. Otherwise, municipalities or other general-purpose governments are management agencies.

Management agencies may be individual municipal governments, general-purpose governments holding National Pollutant Discharge Elimination System (NPDES) discharge permits or other special districts responsible for planning and approving permitted facilities. Management agencies are designated by the governor as recommended by the planning and

regulatory agencies. Management and operating agencies may have the following authority related to utility planning:

- a) Carry out appropriate portions of the *Areawide 208 Plan*.
- b) Facilitate coordination between adjacent service entities as to which can best serve a new area.
- c) Directly or by contract, plan for, design, and construct new wastewater treatment works, including plant and collection system.
- d) Operate and maintain new and existing wastewater treatment works.
- e) Accept and utilize grants, loans, and funds from other sources for wastewater treatment management purposes.
- f) Raise revenues, including the assessment of wastewater treatment charges.
- g) Facilitate implementation of the wastewater treatment management plan, with each participating community paying its proportionate share of treatment costs.
- h) Accept industrial wastewater for treatment and manage pretreatment programs.

e) When Will Wastewater Utility Plans be Needed?

Wastewater Utility Plans meeting minimum recommendations outlined in the Areawide 208 Plan and detailed in this guidance document should be prepared for all major wastewater collection and/or treatment service providers (service providers). For existing major service providers, the development and review of Utility Plans should be completed as soon as possible and should be linked to the five-year permit renewal cycle as necessary. It is anticipated that some service providers will not complete a Utility Plan. Additionally, some wastewater collection system providers may not complete a Utility Plan. If there is no reason to change the treatment plant capacity, modify the service area, or upgrade the treatment works, a Utility Plan may not be necessary. However, any significant changes to the treatment works or service area for these systems will require a Utility Plan for review by NFRWQPA.

The utility planning process will remain flexible for minor wastewater providers. However, *sufficient planning information* must be shown so there *will not be negative water quality effects caused by any proposed new facility, facility expansion or *change* to service area.*

f) First Steps in Starting a Utility Plan

Recommended first steps in preparing a Wastewater Utility Plan are outlined below.

- a) Determine the type and intended use of the Utility Plan:
 - 1) Existing wastewater treatment plant, interceptor, or lift station - no upgrade anticipated within five years
 - 2) Existing wastewater treatment plant, interceptor or lift station – upgrade necessary within five years;
 - 3) Existing wastewater treatment plant, interceptor or lift station – site approval in progress; or
 - 4) New wastewater treatment works.

- b) Determine who needs to be involved in the development of a Utility Plan and the general level of involvement in the process: They may include, but are not limited to, the following:
 - 1) NFRWQPA;
 - 2) Management agency;
 - 3) Operating agency (mandatory);
 - 4) Local governments;
 - 5) Special districts;
 - 6) Technical support group(s) (e.g., consultant company, technical experts);
 - 7) Citizen groups, homeowner associations, and the general public;
 - 8) Industries (either through pretreatment program or direct within service area);
 - 9) Watershed association;
 - 10) State agencies (e.g. Water Quality Control Division, State Engineer, Colorado Division of Wildlife); and
 - 11) Federal agencies (e.g. U.S. Army Corp of Engineers, Federal Fish and Wildlife Service).

- c) Collect all existing documentation and compare to outline to determine missing elements or areas requiring revision for new Utility Plan.

- d) Make preliminary contact with potential key informational contacts (Table 1) to:
 - 1) Obtain information needed in the Utility Plan process; and
 - 2) Determine issues or problems that need to be addressed during the Utility Plan process.

- e) Develop a Utility Plan process schedule and begin.

Table 1 Key contacts

Level	Contacts	Types of Information
Planning Agency	Regional Planning Agency Staff	Guidance documents, maps of service areas, urban growth boundary, population and employment projections, wastewater flows, water quality assessments, wastewater management policies, monitoring information, committee contacts
Local Government	Planning and zoning department; local health department	Urban growth boundary; comprehensive plans; zoning; development plans
Management/ Operating Agency	General-purpose government as a management agency or a watershed association as the management agency	Wastewater strategy; existing permits; watershed plans; TMDLs, facility plans; existing infrastructure plans
State Agencies	Water Quality Control Division staff including watershed coordinator, permit writer (existing permit), revolving loan staff (if potentially interested in state loan); State Engineer	Regulations (i.e., site approval); effluent limits; permits; wasteload allocations, water rights, loan requirements, air quality permit requirements, stormwater management plan requirements, biosolids
Federal Agencies	U.S. Army Corp of Engineers, Federal Fish and Wildlife Service, Environmental Protection Agency, and potentially others	Wetlands, floodplains, biosolids application, endangered species, national environmental protection act (NEPA)

g) Wastewater Treatment Work Planning

The Utility Plan or set of plans can be applied to one or more existing or proposed wastewater treatment works. In some cases, joint Utility Plans between wastewater providers may be appropriate because of management requirements or to meet water quality goals. A Wastewater Utility Plan document or set of documents provides basic planning information for wastewater treatment works to:

Utility Plans will provide information for watershed planning efforts.

- a) Meet requirements of the site approval regulations as adopted by the Colorado Water Quality Control Commission (Regulation 22).
- b) Provide sufficient information to amend the regional 208 Plan related to water quality assessments, watershed management, and wastewater management strategies.
- c) Provide wastewater treatment works or plant information, discharge data or other relevant documentation that are required in the preparation of total maximum daily loads, wasteload allocations, and/or other watershed planning efforts.
- d) Provide wastewater treatment works or plant information to assist in preparing discharge permits or applying for loans.
- e) Assure that boundaries between adjacent 20-year and Ultimate Planning Areas, when identified by a wastewater provider, do not overlap unless these overlap areas are incorporated into established memorandums of understanding (MOU).
- f) Assure that the management and operating responsibilities, as outlined in the 208 Plan, can be met by both major and minor wastewater service providers.

Boundaries between adjacent wastewater utility service areas cannot overlap.

h) Wastewater Utility Plan Documents

A Wastewater Utility Plan can be a set of linked documents, provided all linked documents are filed in the reference library as the *final Utility Plan*.

A Wastewater Utility Plan may consist of one report (document) or a number of separate utility reports prepared by the same agency or a combination of agencies. Multiple documents can provide separate geographical detail and/or facility detail, or they separately meet the goals of the

Wastewater Utility Plan. Multiple documents must be submitted to NFRWQPA as a set, including all appropriate maps, when the Utility Plan is first submitted for acceptance. Thereafter, only those documents that are updated, amended, or otherwise changed need be submitted for acceptance. The Utility Plan report or set of documents and all subsequent support documentation will be filed and maintained by NFRWQPA as the final Utility Plan for a specified treatment plant.

Final Utility Plans, accepted by NFRWQPA, should be updated periodically (please refer to Chapter VII). A database will be maintained by NFRWQPA on final Utility Plans and any supplemental documents.

i) Documentation Sign-off

Utility Plans and any subsequent amendments will have an associated sign-off form. The site approval process identifies a list of agencies which are given an opportunity to make a recommendation on an application for construction of new, modified, or expanded domestic wastewater treatment plants. Those agencies identified in the site approval process should sign-off on all Utility Plans reviewed and accepted by NFRWQPA. These signature agencies will also have the opportunity to attach and file any comments with their signature. This sign-off form is titled *Local Agency Utility Plan Acceptance or Conditional Acceptance Form (Table 2)*. Original sign-off forms will be kept on file at NFRWQPA.

Table 2: Local Agency Utility Plan Acceptance or Conditional Acceptance Form

Entity Name

Local Agency Utility Plan Acceptance or Conditional Acceptance Form

1. _____
Signature: _____ Typed or Printed Name
Management Agency: _____
Date: _____ Approve: _____ Disapprove: _____
Comments:

2. _____
Signature: _____ Typed or Printed Name
Local Health Agency: _____
Date: _____ Approve: _____ Disapprove: _____
Comments:

3. _____
Signature: _____ Typed or Printed Name
Other State or Federal Agency: _____
Date: _____ Approve: _____ Disapprove: _____
Comments:

4. _____
Signature: _____ Typed or Printed Name
208 Agency: North Front Range Water Quality Planning Association
Date: _____ Approve: _____ Disapprove: _____
Comments:

2. IMPORTANT DEFINITIONS

Comprehensive Plan - A Comprehensive Plan is a document that guides the physical land use development of an area. It is comprehensive in that it considers and coordinates the many inter-related aspects of development such as land use, transportation, utilities and public facilities, parks, and open spaces.

Design Capacity - The rated capacity (capability of a treatment plant to meet effluent limitations). This rated capacity shall be given in million gallons per day (MGD) and organic loading in pounds BOD₅ per day. This rated capacity is identified in the discharge permittee's permit; or for proposed facilities it will be specified when the permit has been issued.

Major Wastewater Provider - Major wastewater providers serve over 200 residential equivalents and the permitted wastewater treatment facility has a design capacity greater than 50,000 gallons per day. The treatment plant does not qualify as a minor treatment facility.

Management Agency - Any public agency designated for wastewater management responsibilities in an Area-wide Water Quality Management Plan prepared under Section 208 of the Federal Act and certified by the Governor. Such designation shall be considered final only upon the agency's acceptance of its responsibilities as outlined in the appropriate 208 Plan.

Minor Wastewater Provider - Minor wastewater providers generally serve less than 200 residential equivalents. The permitted wastewater treatment plant has a design capacity not exceeding 50,000 gallons per day and the facility does not plan to increase its capacity beyond 50,000 gallons per day within the 20-year planning horizon.

NEPA Requirements – The National Environmental Policy Act establishes requirements for Environmental Assessments and Environmental Impact Statements.

Non-discharging Wastewater Treatment Works – Some wastewater treatment works that do not discharge to surface or groundwater can be designated by the Water Quality Control Division as non-discharging and do not require a permit to operate.

Planning Agency – The NFRWQPA is the designated planning agency for Larimer and Weld Counties.

Ultimate Planning Areas (UPA) – It is the intent of NFRWQPA that wastewater service areas identified in the Areawide Water Quality Management Plan (208 Plan) be based on the urban growth boundary and any additional potential service area identified by approved local comprehensive plans, comprehensive long-range utility plans or the area a wastewater provider intends to serve at ultimate development. Ultimate Planning Areas are either equal in total land area to Wastewater Utility Service Areas (WUSA) or

larger. Consequently, no Ultimate Planning Area can be smaller than a WUSA. The portion of the Ultimate Planning Area beyond the urban growth boundary is not expected to require urban services until after 20 years from the time a utility plan is completed. However, this portion of the Ultimate Planning Area can be converted into WUSA as needed through the plan amendment process.

Urban – Land developed in residential, employment, service, and other uses in proximity to each other so as to afford convenience, access, and community. Residential densities in excess of one dwelling unit per acre and served by either central water or sewer services, or both, are considered urban in nature. The exception occurs where dwellings are clustered to preserve open space in conjunction with an open space plan, or in accordance with an approved Wastewater Utility Plan.

Urban Area – The land area that has been developed at densities and in character with the definition of urban and which requires central water and sewer as well as other infrastructure and service needs.

Urban Growth Boundary – Defined through an MOU between a county and a municipality as the land area planned to urbanize within a specific timeframe. This land area is planned by local governments to need urban services and utilities before the year 2020 or other time horizon established by the MOU.

Utility Plan – Complete set of documents or single document that meets the minimum Utility Plan requirements and is accepted or conditionally accepted by NFRWQPA.

Wastewater Utility Service Area (WUSA) – A WUSA is defined as the portion of the Ultimate Planning Area defined by the Urban Growth Boundary. A WUSA requires urban services through the 20-year planning horizon. These service areas are mapped and approved as part of the Areawide Water Quality Management Plan. WUSAs can be modified through the flexibility provisions in the plan amendment process.

3. WASTEWATER SERVICE AREA CONCEPTS

Major Service Areas

Major wastewater utility service areas exceed 200 residential equivalents with a plant design capacity >50,000 gallons/day.

If a wastewater provider serves over 200 residential equivalents and the permitted wastewater treatment facility has a design capacity greater than 50,000 gallons per day, the associated WUSA will be classified as major. Utility Plans for major wastewater providers serving major WUSAs are expected to provide all minimum information as recommended by this guidance document. The 208 Plan will continue to establish the boundaries between

WUSAs to assure that there are no overlaps of service areas. Utility Plans that contain overlapping service areas cannot be accepted by NFRWQPA unless an Intergovernmental Agreement or Memorandum of Understanding is in place between the entities establishing the process for service in the overlap area. Overlap issues must be resolved through local planning processes prior to being submitted to NFRWQPA for acceptance.

The shape or contiguity of a major wastewater utility service area is defined through local planning processes.

Minor Service Areas

Minor wastewater providers generally serve fewer than 200 residential equivalents with a maximum treatment plant capacity of 50,000 gallons/ day.

If a wastewater provider serves fewer than 200 residential equivalents and the permitted wastewater treatment facility has a maximum design capacity of 50,000 gallons per day, then the associated WUSA will be classified as minor. If the minor wastewater provider plans to increase its plant capacity beyond 50,000 gallons per day

within the 20-year planning horizon, then a new and more detailed Utility Plan should be prepared before this expansion can occur.

The shape or contiguity of minor WUSAs not defined by the extent of urban development can be identified through the Utility Planning process. These systems may be isolated wastewater treatment facilities that are not contiguous with the extent of urban development. The accepted minor WUSA may or may not match the property owned by a minor wastewater provider. Utility Plans for minor wastewater providers that serve minor WUSAs may not have to meet all guidance requirements. The minimum information requirements for minor Utility Plans will remain flexible in this guidance document. Minimum requirements will be determined by NFRWQPA on a case-by-case basis.

Wastewater service providers serving minor WUSAs should have active wastewater treatment facility discharge permits. Wastewater service providers with inactive wastewater facilities or permits will not be shown in the 208 Plan, and they will not be

required to complete Utility Plans. Service areas for inactive or non-discharging wastewater treatment works will be dealt with on a case-by-case basis. However, any minor facility being re-issued a discharge permit by the Water Quality Control Division will be treated as a new facility and will be requested to complete a Utility Plan before being incorporated into the *208 Plan*.

For minor facilities or minor WUSAs, the facility capacity and service area is established based only on the area intended to be served and on the current facility sizing as approved in a site application or discharge permit. The minor WUSA and facility design capacities are assumed to remain less than 50,001 gallons per day capacity.

Service areas for some minor wastewater service areas may not be contained within the urban growth boundary.

Minor treatment facilities that expand capacity beyond 50,000 gallons/day will be classified as major treatment facilities.

If a management agency or operating agency expands its wastewater treatment facility above the maximum 50,000 gallons per day capacity, the treatment plant will be treated as a major facility. The minor WUSA and the UPA for the minor treatment facility will be assumed equal in area unless amended.

Ultimate Planning Areas

Long-range wastewater service areas are called Ultimate Planning Areas (UPA). No UPA can be smaller than a WUSA. The portion of the UPA beyond the urban growth boundary is based on approved local comprehensive plans, comprehensive long-range Utility Plans, or the area a wastewater provider intends to serve at ultimate development. In some cases, the UPA may represent the total amount of urban area needed for a projected longer-term population or the ultimate build-out of a utility service area.

Ultimate Planning Areas are either equal to Wastewater Utility Service Areas (WUSA) or larger.

Since WUSAs and UPAs recognize different geographies, the growth density assumptions may also be different for the two areas. Wastewater providers are expected to provide their own density assumptions and flow projections consistent with local comprehensive plans for UPA's.

Ultimate Planning Areas may represent the ultimate build-out of a service area.

Wastewater Utility Service Area

A planning area designation amendment must precede an expansion of a utility service area, if the proposed utility service area extends beyond the accepted planning area boundary.

The WUSA is defined as the portion of the Ultimate Planning Area requiring urban service through the 20-year planning horizon. This area cannot be larger than the identified UPA. The primary goal in establishing WUAs and Wastewater Utility Plans is to provide reasonable, feasible, and economical

wastewater service to an area designated for urban development. Utility Plans should

consider the water quality impact the treatment and collection system will have on receiving water and provide a strategy for meeting all applicable water quality standards and classification, while minimizing the potential impact one may have on another.

A service area is usually defined by urbanized areas requiring services within a planning period of approximately 20 years. These areas are established with the intention of encouraging contiguous and orderly development of utility infrastructure. These areas may be the result of municipal boundaries, legal boundaries of sanitation districts, or hydrologic boundaries. The boundaries should be consistent with the local comprehensive plans and the adopted extent of urban development. By including such areas within a WUSA, the entities assume the responsibility of providing service to that area within a reasonable time frame.

Basic principles relative to water quality need to be considered when establishing service boundaries. These principles include, but are not limited to, such factors as gravity systems preferred over lift stations, standard engineering practices, reasonable management and financial practices, and facility and collection system master planning.

The establishment of a WUSA must be based on adequate long term planning information. Wastewater Utility Plans must address, at a minimum, the following factors for the WUSA over a 20-year planning period.

- The identified service area.
- Population datasets, forecasts, and land use status.
- Collection system requirements.
- Treatment facility requirements.
- Sequence and timing of capital projects.
- Rates and fees necessary to finance improvements when required.
- The entity requesting the amendment must also submit, at a minimum, the following current information:
 - ✓ Population
 - ✓ Peak and average flow
 - ✓ Peak and average loading
 - ✓ Inflow / infiltration
 - ✓ Treatment capacity, hydraulic and organic
 - ✓ NPDES permit requirement and constraints

WUSAs can be modified through the flexible provisions in the Plan Amendment Process. WUSA designations will be mapped and maintained as part of the Areawide Water Quality Management Plan.

Sometimes, property is included within a provider's WUSA or UPA even though it has not yet been annexed or included in the provider's legal boundaries. Until that happens, the provider does not have legal jurisdiction over the property. While property within a provider's WUSA or UPA is expected to be served by that provider, if the property has not been annexed or included, other providers may be able to serve the property. Evaluation of options for service must include referral to the affected local land use entities and consistency with any applicable intergovernmental agreements or other arrangements between the responsible local governments and existing providers.

Wastewater Utility Service Area Conflicts

As stated earlier, overlapping service areas cannot be accepted unless an agreement is in place to establish the process for service in the overlap area. When service area conflicts arise that cannot be resolved the following process will be followed. The approved service area, prior to conflict, will not be changed until the entities have reasonably attempted to resolve the service area in dispute. A watershed association and NFRWQPA staff may provide appropriate technical assistance to help resolve planning area overlap issues through a utility technical support process. Technical support by NFRWQPA staff will only be provided on a request basis. If conflict resolution cannot be achieved on a timely basis, then one or both entities having a conflict can take the issue directly to the Association for recommendation. In these instances, the following guideline will be observed:

- Each entity shall make a presentation, not to exceed 30 minutes, outlining the pros and cons for that entity to provide service. Following the presentation, there will be an opportunity for public comment (limited to five minutes each) followed by questions and discussion from the membership. The entities in conflict will not be allowed to participate in the questions and discussion period except to respond to specific questions from the membership.
- Each member entity, except those involved in the conflict, shall evaluate and recommend the entity that can best provide service based on, but not limited to, the following:
 - ✓ Available and current planned treatment systems
 - Current capacity
 - Planned capacity, sequence, staging
 - History of discharge (violations)
 - Potential impact of effluent discharge on receiving waters
 - Environmental impact
 - Location and site information
 - Type of process treatment
 - Flood plain
 - ✓ Available and planned collection systems
 - Gravity versus lift stations
 - Current capacity

- Planned capacity, sequence, staging
- Route location relative to water quality
- ✓ Economic strength and reasonableness to provide service
 - How is service to the area funded?
 - How are improvements funded?
 - Will this deplete reserves?
- ✓ Long term impact on surrounding entities
- ✓ Requests for wastewater service
- ✓ Protection of water quality and groundwater
- ✓ Referrals from affected local land use entities
- ✓ Consistency with any applicable intergovernmental agreements or other arrangements between the responsible local governments and existing providers

The entity that is recommended by the majority of the membership shall be approved by NFRWQPA. All affected Utility Plans should then be amended to reflect the preferred service option including changes to the WUSA or UPA. These changes will be done through the review process established in this document.

Wastewater Utility Service to Non-urban Areas

Wastewater Utility Service Areas (WUSA) can have land areas designated as non-urban wastewater planning areas.

Wastewater service to non-urban areas, which can include such uses as designated open space, permanent non-urban wastewater served developments, agricultural or special use; which may not be economically served by centralized service in the *near-term*; will require other management solutions. Non-urban wastewater

planning areas may be designated by the land use planning agency as permanent non-urbanized areas that are to be permanently served by individual sewage disposal systems or on-site systems with a design capacity of 2,000 gallons/day or less. Wastewater planning areas may also be designated by the land use planning agency as permanent non-service areas (open space, agricultural areas, and low density non-urban with no more than one residence or structure per 35 acres).

Interim non-urban areas that do not require centralized services may be served by on-site systems in the interim period.

Interim non-urban areas can also be designated as being expected to eventually urbanize and require centralized services. Wastewater Utility Plans should address how these interim non-urban areas within the UPA planning area will be served. An estimate should be included in the report on when urban service requirements will be available or required.

Management agencies are required to identify a method to evaluate water quality effects related to on-site treatment and disposal systems located within designated Ultimate Planning Areas or Wastewater Utility Service Areas.

The nonpoint source management agency, watershed association, or other responsible management agency that has assumed responsibility for non-urban wastewater planning should be identified. Unless otherwise specified, the county should be considered as the nonpoint source management agency. This management entity should be requested to provide an appropriate method or methods to evaluate water quality effects related to large lot developments served by individual sewage disposal systems within *non-urban* wastewater service areas. The Wastewater Utility Plan will need to map large lot developments located in service areas.

4. RELATIONSHIP TO SITE APPROVAL PROCESS

The Colorado Department of Public Health and Environment Regulation # 22 (Regulations for the Site Approval Process), as approved and amended from time to time, is used as a reference. Utility Plans should meet the requirements of Regulation #22. The definitions used in the site application regulation should be used to define terms used in any Utility Plan. Utility Plans that have been accepted or conditionally accepted by NFRWQPA will be used in the site approval process by NFRWQPA

Site approvals are needed for construction or expansion of wastewater treatment works, lift stations, and major interceptor lines.

As part of the state Water Quality Act, site approvals are needed for construction or expansion of wastewater treatment works, lift stations, and major interceptor lines. Final action on site applications is a function of the Water Quality Control Division after a review by appropriate local entities. The state act lists three items for the division to evaluate:

1. the long-range comprehensive plan for the area as it affects water quality and any approved regional water quality management plan for the area;
2. management of the facility on the proposed site to minimize the potential adverse impact on water quality; and
3. consolidation of wastewater treatment facilities whenever feasible (Water Quality Control Division guidance).

The Colorado Water Quality Control Commission refined these criteria to ensure that:

- existing treatment works are not overloaded when connecting new lift stations or interceptors;
- proposed treatment works are planned and constructed in a timely manner as needed;
- proposed treatment works are developed considering the local long-range comprehensive plan for the area as it affects water quality and any approved regional water quality management plan for the area;
- proposed treatment works or interceptor protect water supplies;
- proposed treatment works or interceptor have been properly reviewed by all necessary local, state, and federal government agencies and planning agencies;

Operating agencies must certify that the treatment works will not be overloaded by the addition of wastewater flow from new lift stations or interceptors.

- proposed location will have no foreseeable adverse effects on the public health, welfare, and safety;
- applicants will provide for adequate operational management, including legal authority and financial capabilities;
- proposed treatment works be located so that they are not unnecessarily endangered by natural hazards; and
- objectives of other water quality regulations will not be adversely affected.

The site approval regulation allows:

In the interest of facilitating a more effective and timely review of proposed new and expanded domestic wastewater treatment works, each planning agency may establish and implement a coordinated review and comment process to carry out the provisions of this regulation in coordination with its water quality planning responsibilities. Where a planning agency wishes to establish such a coordinated process, the Division may enter into an agreement with the planning agency specifying the procedures for this coordinated process. The intent is to establish a single process 1) to meet these site approval requirements, and 2) to meet the requirements for amendments to the water quality management plan. The process should be designed so that a new or expanded domestic wastewater treatment works which is approved as part of the water quality management plan may be concurrently deemed to also meet the requirements of these site approval regulations at the time of its inclusion in the plan. Under such a coordinated process, the Division retains final authority for approval or denial of each project which is regulated under these site approval regulations.

NFRWQPA has not, at this time, entered into an agreement with the Water Quality Control Division that specifies procedures for this type of coordinated process. However, the Wastewater Utility Plans are designed to meet the requirements of a 208 *Plan* amendment, the site application process, and to provide the planning information needed by the Division in the permitting process and in the revolving loan program.

UPAs will be used in the review of site approvals where it is necessary to size facilities such as interceptors based on a planning horizon that extends beyond 20 years to provide cost-effective service. In general, treatment facilities and lift stations should be staged to provide for 10-year capacity increments, but may be staged for shorter (e.g. interim lift stations) or longer periods with appropriate economic justification. Consequently, interceptors and lift stations can be located within designated UPA. However, wastewater infrastructure designed to only serve UPAs will **not** be used in the site approval process or to meet other appropriate regulatory requirements.

Wastewater infrastructure designed to serve areas within the WUSA can be physically sited within UPAs, which are outside of the urban growth boundary. Since interceptors are often sized to last beyond 20 years, they may have excess capacity more appropriate to ultimate build-out of a designated area.

Interceptors may be staged for ultimate build-out with appropriate economic or right-of-way justification.

5. UTILITY PLANNING FOR WASTEWATER TREATMENT AND CONVEYANCE FACILITIES

A. General Requirements

Utility Plans document the wastewater management strategy for a wastewater treatment facility (greater than 2,000 gallons per day capacity) and the associated planning area. All Utility Plans will contain a defined set of minimum information (location, sizing, staging, service area, process system, effluent quality, and financial arrangements) and respond to appropriate state or federal requirements.

Utility Plans for minor facilities or minor WUSA may be approved even though they do not meet all of the recommended planning elements provided sufficient planning is completed to show that potential long-term adverse water quality effects from any proposed new facility or facility expansion will be minimized. Utility Plans will provide planning documentation for both the designated utility service area and planning area, with the utility service area having the maximum level of information.

Utility Plans define location, sizing, staging, service area, process system, effluent quality, financial arrangements and appropriate state or federal requirements.

The primary goals in establishing Wastewater Utility Plans are to provide reasonable, feasible, and economical wastewater service to an area designated for development within the NFRWQPA. Utility Plans should consider the water quality impact the treatment system will have on receiving waters. The Utility Plan should include any strategy for meeting all applicable water quality standards and classifications while estimating the potential impact a discharger may have on other dischargers.

Information in a Utility Plan is used in the *208 Plan* process to document the best method of providing wastewater service while meeting water quality goals through the 20-year planning horizon. Wastewater Utility Plans can also function to define service beyond the 20-year planning horizon. Wastewater Utility Plans are not applied to water supply, nonpoint source, or stormwater service areas.

The NFRWQPA will maintain a reference set of accepted Utility Plans developed by management agencies or operating agencies for all wastewater treatment facilities with an active discharge permit. The siting and expansion of direct industrial discharges will be identified in the *208 Plan* under special provisions. Direct industrial dischargers who also process domestic wastewater will be encouraged to develop Wastewater Utility Plans. Any wasteload allocation or total maximum daily load analysis included in a Utility Plan will be based on population and employment forecasts and wastewater flow estimates developed through acceptable alternate projections.

The following pages in this section provide an organizational structure (outline) for 208 Utility Planning. The structure discussed hereinafter provides information on the intended content of the various sections in the report. The basic report outline is as follows:

OUTLINE FOR UTILITY PLANNING

- I. EXECUTIVE SUMMARY**
- II. INTRODUCTION**
- III. EXISTING CONDITIONS**
- IV. FUTURE CONDITIONS**
- V. RECEIVING STREAM WATER QUALITY**
- VI. WASTEWATER TREATMENT SYSTEM IMPROVEMENTS**
- VII. SYSTEM MANAGEMENT AND FINANCIAL PLAN**
- VIII. APPENDICES:**

Each Section (or Chapter) in the report is discussed below:

SECTION I. EXECUTIVE SUMMARY

The report summary should answer seven basic questions in a brief manner (typically 3 to 4 pages or less). The basic questions include: 1) **Who** is doing the project, 2) **What** is being planned, 3) **Why** is the project being contemplated, 4) **Where** will the project be located, 5) **When** will the project be started and completed, 6) **How much** will the project cost, and 7) **How** will the project be **funded**. Additionally, where treatment facilities are concerned, a site layout map should be provided; and where interceptor sewers or lift stations are concerned, a location map with infrastructure highlighted.

In cases where planning is accomplished and no immediate projects are proposed, provide a summary of future planned projects with a timeline.

The intent is that the basic content of the report can be obtained by reading a few pages in the Executive Summary. The subsequent sections then provide detail on each question answered.

SECTION II. INTRODUCTION

The introductory section of the report should introduce the owner/entity preparing the report that includes a brief history, County location, and adjacent neighbors who also provide wastewater services.

The introduction should also address any deviations from the Utility Plan format and supporting information such as additional studies that have been performed which are in the appendices or any information that is not available that would typically be included such as Preliminary Effluent Limits (PELs), Infiltration/Inflow studies, etc.

SECTION III. EXISTING CONDITIONS

This section contains a broad range of information regarding the entity and its current situation regarding zoning, population, Service Area, and existing collection and treatment facilities. All information regarding future conditions and treatment schemes are covered in later sections.

1. Current Planning in Area. This subsection will cover information regarding current land uses and zoning in the Service Area. Typically, excerpts of local planning and zoning are included in Appendix H and are summarized herein with exhibits. The text should delineate who the land use management agency is and note that service areas not annexed are under County Planning jurisdiction. The existing Wastewater Utility Service Area (WUSA) map is included and discussed in relation to the current Growth Management Area (GMA). Site Application 1-mile and 5-mile maps can be included here if a site application is to be provided with or immediately following submittal of the report.

The existing population history is discussed. Populated areas in the entity's service area that are not served are differentiated here so that a "sewered" population number is derived for use in determining per-capita unit flow contributions. Other flow contributors to the system are mentioned here, including commercial and industrial concerns. Any industries contributing more than 5% of the average flow or load should be discussed in terms of "significant industrial" contributors, and their SIC classification should be provided.

2. Current Wastewater Flows and Loads

(a) Flows. Provide a history (five years minimum) of influent flow records. This information should provide a good basis for an "existing average daily flow" volume. Additionally, the daily peak flow rates should be derived from daily flow records. If this is not possible, determination of current (and future) peak flow rates should be made using information available in Regulation #43 - OWTS and WQCD Design Manual DR-1, Chapter 2, along with information provided in Section IV hereinafter.

The report should present the derivation of current per capita flow rates on an average daily (and Peak, if possible) basis. This information can be used to quickly analyze general Infiltration/Inflow (I/I) levels into the system. The EPA guideline for potentially excessive I/I on an average daily flow basis is 120 gallons per capita per day (gpcd) basis (with industrial flows accounted for). The peak wet weather flow guideline is 260 gpcd. If the values are below these levels, further investigation of I/I is generally unwarranted. If there is any previous information on I/I in the area, it should be included in the appendices (APP. O).

The current average and peak per capita flow rates are also used in conjunction with future population figures to develop future flows for planning and design purposes.

(b) Loads. Provide a five-year history of loadings to the Treatment System including at a minimum; 1) BOD, 2) TSS, 3) Ammonia, 4) Total Inorganic Nitrogen and 5) Phosphorus plus any other constituents of concern. The information should be summarized by year including concentrations and total loadings in pounds/day. For the organic, solids, and nutrient loadings, it is helpful to compare the influent concentrations and unit loadings (lbs/capita/day) to typical values to verify that the system is typical or to identify any areas of concern.

If there is no historical information for a system, some sampling should be accomplished and presented in the report to bench mark the system against typical values.

3. Existing Wastewater Treatment System.

(a) Current Effluent Limitations. In the text provide a summary of the current design capacity of the system (flow and load) as listed in the permit and the effluent requirements which the system is supposed to be meeting. Provide the issuance date of the current permit and when it expires (provide a copy of the permit in Appendix G). Note the point of compliance for the system. Additionally, discuss any concerns or problems with the current permit in relation to the existing system.

(b) Description of the Existing Treatment System. Describe that condition and capacity of each unit process in the facility process train. This helps to point out short comings in the current system and shows the capacity limiting processes. This section should describe any physical problems (equipment) with the existing system. Provide a process schematic of the system (a site layout map is also good information to include).

(c) Performance of the Existing System. Provide history of the performance of the system regarding permitted constituents (three years minimum). This is best provided graphically as it provides a visual representation the winter/summer and average performance condition. The limit can be shown on each graph. In this section discuss the existing systems problems with achieving compliance, if any.

(d) Bio-Solids Management Program. Provide a description of the current bio-solids treatment and disposal process used at the facility. If it is a lagoon system, provide information on the last time the lagoons were cleaned. Note any concerns or problems with the current system going forward. Note that the NFRWQPA promotes the beneficial use of bio-solids and has a policy which is discussed below:

Biosolids Policy

Although there are other legal means of disposing of biosolids (such as incineration and land filling) neither method benefits Colorado as does recycling. Burning biosolids consumes huge amounts of energy and pollutes the air, while burying them takes up valuable space in local landfills. Recycling biosolids is clearly the preferred method for disposal.

NFRWQPA recognizes and supports the economic and environmental benefits of recycling biosolids, and appropriate policy documents will recognize the value of biosolids recycling. The biosolids positions are as follows:

- *Public health and environmental quality are protected under federal and state biosolids regulations. The NFRWQPA encourages member governments not to adopt local public health regulations for biosolids that are more stringent or restrictive than federal or state regulations.*
- *The NFRWQPA encourages the practical and beneficial land application of biosolids in the region. Member governments with land use authority should regulate biosolids disposal through the zoning and platting process. Local regulations should focus on transportation, aesthetics, and land use issues.*

The biosolids policy will be used by the NFRWQPA staff in the site approval process as defined in the 208 Plan.

(e) Need for Improvements. After having reviewed the existing system from mechanical, capacity, and performance standpoint, provide a discussion of the need for a project to keep the entity in compliance going forward. Discuss compliance with either the existing system or the need for new process(s) or a new treatment facility, all of which are presented and discussed in Section VI of this report.

3. Existing Collection System.

(a) Layout. Describe the existing interceptor sewer collection system. Provide information on alignment (map) and sizes within the WUSA. In the discussion, show drainage basins (areas) and note any known condition or capacity issues or I/I issues. On the mapping, show the location of the existing Lift Stations and note station nomenclature.

(b) Lift Stations. For each lift station, note in the report the station's capacity, percent utilization, alarm system, emergency situation protocols, and emergency power generator or other arrangements.

(c) Need for Existing Collection System Improvements (Repairs). Based on the discussion of the current collection system condition and capacities, note any improvements that need to occur to provide current adequate service to existing customers. If these needs will occur down the road, estimate the time frame at which they will occur (exclusive of growth issues which will be discussed in Section IV).

(d) Pretreatment Program. The U.S. EPA administers the National Pretreatment Program under the General Pretreatment Regulations, first adopted in 1978. These regulations, amended in 1981 and again in 1988, establish specific requirements that both wastewater treatment facilities and industries must comply with

to reduce industrial pollutant discharges. The *General Pretreatment Regulations* require that any wastewater treatment facility designed to treat over five million gallons a day of wastewater, or receives significant discharges from industrial sources, must develop a local pretreatment program conforming to EPA regulations. Management and operating agencies must meet specific requirements under the *General Pretreatment Regulations*. Utilities should indicate whether they have an EPA approved pretreatment program.

Discuss the entity's pretreatment program and the industries included in the program. Summarize the quantities of flows and loads from the industries to the treatment system and the pretreatment requirements of each industry. Provide a copy of pretreatment program summary in Appendix G.

SECTION IV. FUTURE CONDITIONS

1. Population and Land Use Projections. Using a 20-year planning horizon, delineate the area to be served by the entity and land uses in that area (comprehensive plan reference). The Utility Plan can recognize two types of wastewater service areas: Wastewater Utility Service Areas (WUSAs) and Ultimate Planning Areas (UPAs). WUSAs are defined as those areas within the region that require urban services through the 20-year planning horizon or any subsequent modification to the urban growth boundary or planning horizon. Ultimate Planning Areas are based on existing local comprehensive plans, comprehensive long-range Utility Plans, or the area a wastewater provider intends to provide with service at ultimate development. UPAs are either equal to WUSAs or larger. Consequently, no UPA can be smaller than a WUSA.

The foundation of water quality planning is the forecast of expected wastewater treatment needs, which is tied to future population levels. Forecasts define wastewater flow rates and the capacity needed to treat the projected volume of wastewater. Forecasts for utility service areas and planning areas are included in the *208 Plan*.

The areas used for the population forecasting are within WUSAs. Associated wastewater flow projections will be generated from this area data, and they will be directly related to WUSAs, but not necessarily to UPAs.

The 208 Plan may use equivalency processes to convert population data sets to WUSAs for selected planning years (five year intervals) through the 20-year planning period for use with longer-term potential development within UPAs. Wastewater Utility Plans can show alternative projections and flows for WUSAs. A number of factors can cause differences in projections. The Utility Plan will need to list the appropriate factors and discuss how these factors alter projections.

Wastewater Utility Plans will need to provide their own projections and flows for UPAs or WUSAs beyond the 20-year period. Forecasts for WUSAs will be used in the site approval process and to meet other appropriate regulatory requirements. As necessary for cost-effective utility service, UPA forecasts (that go beyond 20 years) may be used to size wastewater infrastructure (e.g., the size of an interceptor, land area needed for a treatment facility or lift station site). These forecasts will be so referenced in the site approval or other appropriate regulatory processes.

2. Flow and Load Forecasts. Based upon the population forecasts generated in the previous sub-section, derive the future flows and loads for 20-year planning purposes.

(a) Wastewater Flow Characterization. Population projections through the 20-year planning horizon in the 208 Plan will be linked to each WUSA and to each area designated for interim or permanent non-urban wastewater service. The 208 Plan will predict wastewater flows in five-year increments through 20 years for major and minor WUSAs and for non-urban service areas defined by management agencies at the

watershed level. Wastewater flow projections maintained in the 208 Plan will be adjusted for future years using available discharge monitoring reports (DMRs), when available.

(b) Infiltration and Inflow Analysis (I&I) If preliminary figures presented in Section III indicated potentially excessive I&I flows, further analyses may be required by the Water Quality Control Division for some treatment works. The Utility Plan should contain any I&I study results, if appropriate for the facility (Appendix O). Unit flow allowances for I&I should be reviewed when projecting future flows.

(c) Typical Wastewater Flow Contributions for Planning. If a current unit flow history cannot be developed from recent data, typical values may be used to derive design flows. Table 3 below provides some planning factors used to estimate wastewater flows. These numbers are provided for guidance and other factors can be used, provided they are identified within the Utility Plan. The *208 Plan* recommends using a residential wastewater flow factor of 85 gallons/person/day, which includes a 10 gallon/person/day inflow and infiltration component.

The *208 Plan* also recognizes a wastewater flow generated by employment with the regional average at 50 gallons/employee/day. Generally, this 85/50 wastewater flow factor calculation provides a good projection and the numbers have been verified using the daily and monthly reports submitted to the Water Quality Control Division. Lacking employment data, a factor of 100 gallons/person/day as a residential equivalent can provide, generally, comparable projections.

Table 3 Factors used in the 208 Plan to estimate wastewater flow

Types of Use	Average Wastewater Flow
General Population	
Single or Multi-family Equivalence – Regional	85 gallons/day/person
General Employment	
General Employment – Regional	50 gallons/day/person
Household Equivalent (Residential development without employment)	
Households	250 gallons/household/day
Site Specific Planning Averages (gallons/day/person)	
Stores, Offices, Small Business – Employees	25
Stores, Offices, Small Business – Guests	8
Hotels/Motels – Employees	50
Hotels/Motels - Guests (24-hrs)	20
Cabins - Guests (24-hrs)	50
Dining Facilities (Per Meal)	10
Schools (no showers) - day use (8-hrs)	12
Schools (showers) - day use (8-hrs)	25
Tourist/Trailer Camps – Employees	50
Tourist/Trailer Camps - Guests (24-hrs)	85
Recreational Facilities – Employees	50
Recreational Facilities – Guests	20

The Plan should clearly delineate the design average daily flow, peak hour flowrate, and the maximum month average flow (used for sizing). Refer to the Regulation #43 – OWTS and WQCD Design Manual DR-1 for further direction on design values. Note that a maximum peaking factor of 5.0 (or less) is generally applied to small treatment systems or special use sites (e.g., church camps, restaurants, day camps).

It is recommended that wastewater treatment plants be designed for a 20-year period and to have a projected 20-year design capacity that is 20 percent greater than the projected average flow at the end of the 20-year period. This 20 percent capacity can be identified for 30-day maximum month or annual average. Local population projections used to generate wastewater flow projections should be documented and differences between regional projections and local projections explained.

(d) Design Loadings for Constituents of Concern. As with flow, a similar process is used for determining the future loadings for organics, nutrients, and other constituents of concern. If an adequate data history is not available (from Section III) for

derivation of future loads, typical values may be used. The source of the typical values must be referenced and be compatible with Regulation #43 – OWTS and WQCD Design Manual DR-1 unless otherwise justified.

3. Future Interceptor Collection System Alignments .

(a) Provide a map of future extensions of the current interceptor sewer system which illustrates how the entity will provide sewer service to the entire Service Area. The Map should show interceptor alignment with general line sizing. If growth is envisioned beyond the current service area boundary, show future changes to the WUSA Map and discuss whether the entity will file Plan Amendment as a part of the planning process. Utility Plans must locate existing and planned lift stations to serve areas defined within WUSAs or located in UPAs. Existing facilities and facilities to be built within two years should be shown at a specific location.

(b) The Map discussed above should show the location of future Lift Stations, and the text should discuss the sizing range for the Stations if possible.

(c) The report should summarize all future collection system and pump station improvements and provide a generalized time frame for when these improvements might occur based upon current planning and growth projections. Cost estimates should be provided for improvements that are deemed necessary within the next five years. These improvements and costs would be presented as “near term” projects along with any near term treatment system improvements.

SECTION V. RECEIVING STREAM WATER QUALITY

1. Watershed Identification

(a) Water Quality Limited Segments. For all treatment facilities, the Utility Plan should identify whether the receiving waterbody (or any downstream waterbody affected by the discharge) is currently water quality limited. This applies to all constituents discharged or to be discharged by the facility. Additionally, if there is a potential for water quality limited segment within a 10-year period, based on the current 305(b) report, modeling, or other water quality data, this should be included in the Utility Plan.

If the discharge quality is/will be controlled by a water quality limited waterbody, then an identification of the constituent(s) of concern and source identification of water quality limited designation (e.g., 303(d) list, 305(b) report or watershed association planning and implementation effort) needs to be included in the Utility Plan. The Utility Plan must identify any wasteload allocation (concentration, poundage and/or other alternatives) by constituent(s) as they apply to the treatment plant. Therefore, the Utility Plan should contain:

- For treatment plants that will not be built or expanded for 10 or more years, a general discussion of the constituents to be controlled and the availability of allocations for the waterbody are sufficient. Exact concentration or poundage estimates are not necessary unless there is a conflict with an existing total maximum daily load (TMDL) or wasteload allocation (WLA).
- For wastewater treatment plants to be built or expanded within the next 10 years, a recommended treatment technology and treatment plant configuration to meet the projected discharge permit limitations and a listing of alternative technologies for consideration. The Utility Plan must provide documentation that achieving the projected effluent limitations is technically and economically feasible.

(a) Watershed Issues. Utility Plans should document any watershed programs and implementation strategies. Since the watershed protection approach is advocated in the 208 Plan, the Utility Plan will need to address how a wastewater management plan fits into the watershed program.

(b) Map of Watershed Basin. From 208 plan or reference PEL document.

2. Total Maximum Daily Loads or Waste Load Allocations. Utility Plans should document any approved or proposed total maximum daily load studies or wasteload allocations. The receiving waters need to be checked against the Water Quality Control Division's 303(d) List and the 305(b) Report. Wasteload allocation requirements can affect effluent limits and treatment options

3. Future Level of Treatment Required.

(a) Current Permit. Provide a copy of current discharge permit in Appendix and summarize current effluent requirements here.

(b) Preliminary Effluent Limits (PELs). Provide a copy of the PEL document prepared by the WQCD. The Utility Plan shall list the effluent discharge quality necessary to meet receiving water quality classifications and standards, including:

Provide the WQCD recommended effluent discharge quality (PELs).

Present a list of projected discharge permit limitations based on state effluent standards (copy of PELs from Water Quality Control Division), receiving water classifications and established water quality standards; discharge quality necessary to meet any total maximum daily loads or wasteload allocations as listed or recognized in the *208 Plan* for time horizon identified in the plan; and any other effluent limits recommended in the *208 Plan* and/or necessary to meet state requirements.

SECTION VI. WASTEWATER TREATMENT SYSTEM IMPROVEMENTS

1. Development and Screening of Alternatives.

(a) Optimization. Discuss the feasibility of optimizing the performance of the existing facility to meet future required effluent limits presented in Section V above.

(b) Regional Consolidation Opportunities. The Wastewater Utility Plan should identify opportunities for wastewater treatment system consolidation. Often, larger wastewater treatment facilities can provide service more effectively while providing a higher degree of treatment than can be achieved through smaller treatment facilities. While large facilities do not always provide better water quality treatment, consolidation of facilities can eliminate smaller treatment facilities, which may not be financially capable of operating properly and may be exceeding their discharge permits. The decision for facility consolidation is determined in the Utility Planning process and is based on economics, cost effectiveness, operations, water quality impacts, physical constraints, and water rights. Any consolidation analysis must be consistent with the Water Quality Control Division policy on consolidation. Refer to Regulation #22 –Site Location & Design Approval and WQCD Design Manual DR-1.

(c) Wastewater Reuse Opportunities. The Utility Plan should explore any opportunities for wastewater reuse for non-potable uses, future potable use, or as a method for additional pollutant removal, as appropriate. The Utility Plan should identify those situations where reuse can be used to fulfill water rights and augmentation plans. The Utility Plans should identify any reuse considerations as part of the alternative analysis. If reuse is not an option, this should be clearly stated in the Utility Plan documents.

Reuse is an efficient means of preserving water resources in areas where those resources need to be protected. Reuse of wastewater for water rights or augmentation purposes should be carefully reviewed in relation to downstream water supplies as related to potential health hazards and environmental risks. The quantity and quality of wastewater for reuse should be determined during the planning process.

(d) Feasible Treatment Alternatives (New System and/or Upgrading). Discuss alternatives for meeting future treatment requirements which can include new and/or upgraded facilities. This typically involves three alternatives; though there are occasions where the system is relatively new and just needs to be upgraded with the next planned phase, in which case it is essentially the only alternative. A general description of each option should be provided which contains sufficient information to differentiate each from the other.

2. Alternatives Evaluation. For proposed new or upgraded wastewater treatment works, the Utility Plan needs to provide alternatives analyses. The Utility Plan needs to list the criteria used to select a preferred alternative as discussed below.

Additionally, the selection of a preferred alternative should have a public review and comment component. Alternatives evaluation should include:

- (a) Monetary Costs:
 - (i) Capital Costs
 - (ii) Annual Operation & Maintenance (O&M) Costs
 - (iii) 20-Year Present Worth Valuation
- (b) Energy Costs comparisons
- (c) Reliability with Respect to Effluent Compliance
- (d) Ease of Implementation (Constructability)
- (e) Environmental Issues: (Wetlands, Flood Plain, Soils, etc).

Wetlands - *If the Utility Plans will have any effect on wetlands, then the NFRWQPA wetland policy should be considered in the planning process. Wetlands can have ecological and societal values, which make them an important regional resource. NFRWQPA supports the concept of wetlands protection, and all NFRWQPA plans will recognize the value of wetlands as part of the planning process. In recognition of this regional concept, NFRWQPA adopted the following position.*

The adopted regional wetland policy states ... no net loss of wetland functions within the NFRWQPA region.

The NFRWQPA wetland policy is: no net loss of wetland functions should occur within the region, and cost-effective use of wetlands in urban design should be encouraged. Development within a designated or delineated wetland should occur only when no other alternative exists. Wetland mitigation

should consist of replacement wetlands of a similar type and quality, as determined by appropriate scientific analysis, which results in an equal (at the minimum) replacement of lost wetland functions. Wetland replacement within the same hydrologic watershed as defined in the 208 Plan is the preferred compensatory mitigation measure.

3. **Plan Selection.** The report author should use a form of matrix analysis to compare the alternatives both in terms of monetary and non-monetary factors. The resulting analysis provides an alternative to be selected and implemented. The report should provide justification of the plan selected and discuss this process. The NFRWQPA review committee discourages the naming of specific manufacturers in this process where more than one company can provide equipment for the process being selected.

(a) **Plan Selection Matrix or Other Process.** Provide discussion of costs comparisons and non-monetary factors of each alternative.

(b) **Selected Plan Description.** For the plan selected, describe the improvements in more detail and discuss:

- (i) Near term/long term treatment capabilities.
- (ii) Biosolids Treatment and solids management plan.

(iii) Green Elements to be incorporated into Project. The term “green” refers to alternative technologies which result in water or energy efficiencies for the treatment facilities. The Utility Plan should explore opportunities for green elements and identify those situations where green elements have been installed or are planned for installation. If green elements are not an option, this should also be stated in the Utility Plan. In addition, projects seeking Clean Water State Revolving Fund support may be required to direct a portion of their capitalization grant towards projects that address green infrastructure, water efficiency, energy efficiency, or other environmentally innovative activities. These green elements might include such things as:

- Installing or retrofitting water efficient devices
- Installing energy efficient technology:
 - Cogeneration
- Renewable energy projects:
 - Solar power
 - Wind power
 - Biodiesel production
 - Enhanced production of biogas
- Energy management planning
- Projects that achieve a 20% reduction in energy consumption
- Equipment and collection system upgrades including:
 - Installing variable-frequency drives
 - Upgrading to energy efficient motors and motor systems
 - Heating, cooling, lighting, and ventilation system upgrades
- Collection system Infiltration/Inflow (I/I) detection equipment
- Construction of US Building Council LEED certified building or renovation of an existing WWTF building
- Reuse facilities
- Integrated Planning with other Utilities

Additional information on water and energy efficiencies for wastewater facilities can be found at:

www.epa.gov/region9/waterinfrastructure/howto.html or at
http://water.epa.gov/grants_funding/cwsrf/Green-Project-Reserve.cfm.

(iv) Emergency Standby Power System. Discuss provisions for providing power under emergency conditions including the automated control and alarm notification system.

(v) Odor Control Considerations. Odor control should be considered an important component of the system design and alternative selection process. The Utility Plan should include any odor control studies, strategies, or abatement programs. Some wastewater treatment facilities are required to meet odor control regulations.

(vi) Air Quality requirements. Some wastewater treatment plants are identified as stationary sources; consequently, wastewater treatment plants with a design capacity of 10 million gallons per day or greater may require an air quality

permit. The Water Quality Control Division should be contacted for air quality permitting requirements. The Utility Plan should identify any air quality permitting requirements.

(vii) Site – Stormwater Management Plan. Some wastewater treatment plants may be required to prepare a stormwater management plan as part of the stormwater permitting requirements. The Water Quality Control Division should be contacted for stormwater permitting requirements. The Utility Plan should include the approved stormwater management plan, if applicable.

(viii) Provide a site layout map and Schematic of the system.

(ix) Site - Characteristics. The site approval process for new wastewater treatment works and new lift stations requires evidence of the suitability of the site. The site must be characterized in relation to floodplains and other natural hazards. Specifically, the Utility Plan must identify flood hazard issues and geological suitability issues related to the proposed site (or site envelope) and the measures to be taken to mitigate any identified problems or risks. For all new sites, a soil testing report should be attached to the Utility Plan.

The utility plan must include location of treatment works (site foot-print) and related infrastructure.

(x) NEPA Components. If a wastewater provider intends to apply for a state revolving loan, the requirements of the National Environmental Protection Act (NEPA) apply to the planning and review process (40 CFR, Parts 1500-1517). Integrating the NEPA process early in the planning stages ensures that decisions reflect environmental values, avoid potential delays later in the process, and reduce conflicts. The NEPA process can result in the preparation of an Environmental Assessment or an Environmental Impact Statement. The Utility Plan should reference any NEPA processes that are or may be required to implement the wastewater management strategy.

4. Record of Public Participation in Plan Selection Process. Provide discussion of public meetings, dates, and public hearings held to discuss the proposal with the public. If a public hearing was held for the purpose of using SRF funds, provide minutes of that meeting in the Appendix (N).

SECTION VII. SYSTEM MANAGEMENT AND FINANCIAL PLAN

1. Wastewater Management Plan. The Utility Plan must identify the management agency, associated watershed association, if applicable, and operating agency(ies), along with applicable management agency agreements or other memorandums of understanding. Utility Plans should include maps of collection and other associated special districts. Key contact(s) with the management agency will need to be listed in the Utility Plan. The Utility Plan should also reference special control regulations or other water quality regulations specific to the WUSA or UPA. The Utility Plan may need to list any special rules or regulations applicable to the service area, along with external service contracts and other operational or management agreements.

(a) Management Structure. Describe the organizational structure of the entity (city, town or District) and indicate whether it is a management agency (Land Use) or operational agency (operations only). Summarize the ordinances under which the system is controlled.

(b) Provisions for Operation and Maintenance. Discuss who will operate the system and what level of operator license will be required by the State. Describe the entities' ability to hire and maintain operations staff for the conveyance and treatment facilities. If the entity is to contract operations to others, discuss the requirements and legal arrangements that have been made and the ability of the entity to pay for those services.

(c) Emergency Response Protocols. Describe the emergency operating sequence for the system in the event of power failure, flood, or other catastrophic event. What back up plans have been put in place to maintain adequate operation? Do all lift stations and treatment facilities have back up emergency power and remote alarm telemetry?

(d) Provide an Implementation Schedule for the Project. Provide an estimated schedule of events for through project start-up with target dates as they are currently planned such as:

- i. Utility Plan approval
- ii. Site Application Approval
- iii. Design Approval
- iv. Bidding Date
- v. Construction Completion Date
- vi. Project Start Up

2. Arrangements for Implementation.

(a) Provide documentation of Site Ownership or Site Control for the life of the project.

(b) Provide copies of Intergovernmental Agreements (IGAs) as may be necessary for this project or previous agreements which are still active going forward. Summarize here and include copies in Appendix I.

3. Financial Management Plan. Wastewater treatment agencies need a financial management plan which addresses, at the minimum, the following items:

- rate and charge structures;
- financial solvency should project growth not occur;
- institutional arrangements to guarantee payment of charges from large connectors (over 10 percent of the projected revenue) and from other governmental connectors;
- interest in applying for a state revolving loan to finance any infrastructure or improvements;
- significant industrial user(s) under pretreatment regulations, arrangements for meeting pretreatment responsibilities; and
- industrial or commercial sewer connections with the potential to overload the treatment plant hydraulically or with organic loading, a description of the methods for controlling rates of flow to the treatment facility.

(a) Discuss the proposed method of financing the project and work that has been accomplished to date to conclude financing. If the project will be cash funded by the Owner, provide a written statement certifying that the funds exist and have been escrowed for this project. This will be signed off by those in control of the funds. If bonding the project, delineate the amount of funds to be borrowed, the term of the loan, and the annual payment to be made with “coverage” included.

(b) Using the financial figures presented above, indicate how this will impact the current typical residential user charges on monthly basis. Provide estimated figures for near term (0-5 years) monthly residential user fees, and long term (over 10 years) monthly cost should be provided (also include in the executive summary).

(c) State Interest in Applying for a State Revolving Funding (SRF) loan to finance the project. It is a good idea to contact the State Financial Services group early on to see what funds are available before completing the Utility Plan. You must be on the Priority List to be considered, and there must be funds available before you are awarded an SRF loan. Another requirement of the SRF application process is that you conduct a formal Public Hearing to discuss the project and costs. The minutes of that meeting must be included with this Utility Plan when submitted to the NFRWQPA for review.

GENERAL: Minimum Graphic / Mapping Requirements

Mapping requirements may differ between minor and major Wastewater Utility Plans. Both electronic (AutoCAD or ESRI – current versions) and hard copy maps will be acceptable for NFRWQPA review. They must be of a large enough scale and clear enough to adequately illustrate the necessary features. The minimum features to be included on maps include, but are not limited to, drainage basin and watershed, service area (WUSA and UPAs), treatment plant or treatment works, lift stations, interceptors, water features (stream segments, lakes, reservoirs), discharge point, water well fields, sanitary sewer tributary areas (if available), and local comprehensive plan features. Mapped features should be consistent with the site approval regulations. U.S. Geological Survey topographic maps at the 1:24,000 scale may be used for mapping most features, if ESRI program mapping is not available.

The Wastewater Utility Service Area map must show the WUSAs and, if desired, the UPA (or more than one plant operated as a coordinated system, e.g. satellite plants). For WUSA and UPAs, the Utility Plan maps should identify areas to be served by gravity sewers and identify those areas served through one or more major lift stations. Adjacent WUSAs and UPAs should be mapped to ensure that there are no overlapping areas.

6. UTILITY PLAN OUTLINE FORMAT

The following is the **Suggested Outline** for the report. A checklist form is provided at the end of the document (follows page 48).

2015 - OUTLINE FOR UTILITY PLANNING

I. EXECUTIVE SUMMARY

1. Who is doing the project
2. What is being planned (near term and long term)
3. Why is the project(s) being proposed
4. Where will the project(s) take place
5. When will the project(s) occur (Implementation Schedule)
6. How much will the project(s) cost (capital costs and monthly user fees)
7. How will the project(s) be funded
8. Site/System Exhibit(s)

II. INTRODUCTION

1. General background of the Entity preparing the report
2. General Format of Utility Plan and Supporting Information

III. EXISTING CONDITIONS

1. Current General Planning of Area
 - a. Land Use Management
 - b. Zoning
 - c. Current Wastewater Utility Service Area
 - d. Population
2. Current Wastewater Loads and Flows
 - a. Flow History (three years minimum)
 - i. Averages, Peaks and Unit Volumes
 - ii. Assessment of Infiltration / Inflow
 - b. Historical wastewater loadings (three years minimum)
 - i. Biochemical Oxygen Demand (BOD)
 - ii. Suspended Solids (TSS)
 - iii. Ammonia (NH₃)
 - iv. Other Constituents of Concern
3. Existing Wastewater Treatment System
 - a. Current Effluent Limitations
 - b. Description of Existing Treatment System
 - i. Schematic of system

- c. Performance of Existing System (three years minimum)
 - i. For Constituents of Concern,: BOD, TSS, NH3, Etc
 - d. Bio-solids Management Program
 - e. Need for Improvements
 - 4. Existing Collection System
 - a. Interceptor System
 - i. Layout and Condition Discussion
 - ii. Service Area Map with Interceptor System & Lift Stations
 - b. Existing Lift Stations
 - i. Locations (on map in ii. above)
 - ii. Capacities and % Utilization
 - iii. Emergency Response Protocols
 - iv. Emergency Power Availability
 - c. Need for Improvements to Existing Collection System
 - d. Pretreatment Program

IV. FUTURE CONDITIONS

- 1. Population and Land Use Projections
- 2. Flow and Load Forecasts
 - a. Flow Characterization
 - b. Design Loadings for Constituents of Concern
- 3. Future Collection System Interceptor Alignments
 - a. Interceptor Layout, Sizing & Changes to Current Service Area
 - b. Location and Size of Future Lift Stations
 - c. Timeline Staging of Future Collection System Improvements

V. RECEIVING STREAM WATER QUALITY

- 1. Watershed Identification
 - a. Watershed Issues: 303d & M&E Segments
 - b. Basin Map (from 208 or PEL)
- 2. TMDL'S and/or Waste Load Allocations
- 3. Future Level of Treatment Required
 - a. Current Permit
 - b. Preliminary Effluent Limits (PELs)

VI. WASTEWATER TREATMENT SYSTEM IMPROVEMENTS

- 1. Development and Screening of Alternatives
 - a. Feasibility of Optimizing Existing Facilities – to Meet PELs
 - b. Regional Consolidation Opportunities
 - c. Wastewater Re-Use Opportunities
 - d. Feasible Treatment Alternatives (new or upgrading)

2. Treatment Alternatives Discussion:
 - a. Monetary Costs
 - i. Capital Costs
 - ii. Annual Operating Costs
 - b. Energy Costs for Comparison
 - c. Reliability with Respect to Effluent Compliance
 - d. Ease of Implementation
 - e. Environmental Issues – wetlands, flood plan, etc.
3. Plan Selection
 - a. Plan Selection Matrix or Process
 - i. Monetary & Non-Monetary Evaluations
 - b. The Selected Plan - Description
 - i. Treatment Capabilities – Initial & Future
 - ii. Biosolids Treatment & Disposal Process
 - iii. Green Elements to be incorporated
 - iv. Emergency Standby Power System
 - v. Odor Control Considerations
 - vi. Air Quality requirements
 - vii. Site Storm Water Management Plan
 - viii. Site Layout and Schematic of System
4. Record of Public Participation in Plan Selection

VII. SYSTEM MANAGEMENT AND FINANCIAL PLAN

1. Wastewater Management Plan
 - a. Management Structure of the Entity
 - b. Provisions for Operation and Maintenance
 - c. Emergency Response Protocols
 - d. Proposed Implementation Schedule
2. Arrangements for Plan Implementation
 - a. Control of Site – Ownership Documentation
 - b. Intergovernmental Agreements – as necessary
3. Financial Management Plan
 - a. Financing for Proposed Project
 - b. User Charge Rate Studies
 - i. Residential User Charge Rates: Initial – Long Term
 - c. Interest In State Revolving Loan Fund (SRF)
 - i. State Intentions to seek SRF Funds
 - ii. Requires Formal Public Hearing and Minutes of Meeting in Appendix.

APPENDICES:

- A. Reports and Special Studies
- B. Legal Description of Site and Deed or Tax Payment Record for Site
- C. Copies of Agency Contact Letters – transmittal letters
- D. Special Surveys (Environmental or Endangered Species)
- E. Site Characterization: Wetlands, Flood Plain, Soils Reports, Geology
- F. Copy of PEL report
- G. Copy of Current Effluent Permit Requirements
- H. Planning and Zoning Information (Excerpts from local Comp Plan)
- I. Copies of Intergovernmental Agreements (IGA's)
- J. User Charge Studies
- K. Air Quality Permit
- L. Odor Control Studies or Plans
- M. Site Storm water Management Plan - Permit
- N. Minutes of Public Hearing and/or Record of Public Meetings
- O. Infiltration / Inflow Studies

Distribution and Number of Copies

Copies of all final or interim Utility Plans, with associated maps, will be distributed to NFRWQPA and other review agencies by the submitting entity. The number of copies varies, depending on the utility plan area. Generally, the minimum distribution of copies will follow Table 4.

Table 4 Minimum Distribution of Copies

Agency	Number of Copies
NFRWQPA	2 hard copies (1 review and 1 permanent file copy following approval) and 1 electronic copy
WQCD	Determined by WQCD
NFRWQPA Utility Plan Review Team	1 per team member (as determined by NFRWQPA staff)
Other Sign-off Agencies	As determined by Table 2

7. RECOMMENDED UTILITY PLAN ACCEPTANCE POLICY

General Criteria

Only accepted and conditionally accepted Utility Plans will be referenced in the 208 Plan.

Accepted and conditionally accepted Utility Plans will be referenced in the *208 Plan* and these plans will represent the preferred wastewater management strategy for the Wastewater Utility Service Area and the Ultimate Planning Area. Accepted and conditionally accepted Utility Plans will be used in the site approval process, as *208 Plan* amendments, and to meet other appropriate regulatory requirements.

Utility Plans or a set of Utility Plan documents can be submitted to NFRWQPA at any time. Utility Plans submitted to NFRWQPA should address any locally adopted watershed objectives and wastewater management strategies. Formal action by a management agency is required before consideration of a Utility Plan by NFRWQPA.

NFRWQPA will take formal action on presented documents following a completed review by the Utility Plan Review Committee. NFRWQPA can make one of the following three recommendations related to Utility Plan acceptance:

- accept;
- conditionally accept with the conditions listed; or
- refer back to the Utility Plan submitting agency and/ or the designated management agency for additional actions, analyses or information.

A NFRWQPA Utility Plan Review Team will be established from members and alternates. The review team will have a maximum of six participants per Utility Plan. Participation on the review team will be confirmed by NFRWQPA action. Review team membership can be altered as needed to facilitate reviews. The review team will check the Utility Plan or set of Utility Plans for consistency with adopted policy and minimum requirements. The review team will summarize findings for NFRWQPA at a regularly scheduled meeting. The submitting agency will distribute copies of the Utility Plan or set of Utility Plans to those jurisdictions who will be required to sign the Wastewater Utility Plan Acceptance Form (Table 2) that will be kept on file at NFRWQPA. These signature entities may also submit comments, which will be considered by the Review Team and NFRWQPA at the time of the review.

Update and Amendment Criteria

Approved Utility Plans will require updates or amendments periodically in order to provide current planning information.

Updates:

A Utility Plan update is a revision to a previously approved plan and includes an overall update of the information in the entire plan. Updates shall provide overall current planning information throughout the document including current information for the following:

- descriptions of treatment facilities and collection system along with plans for modifications
- permit information including permitted flow and load
- 20-year flow and loading projections
- 20-year population projections
- 20-year financial information
- Wastewater Utility Service Area (WUSA) descriptions
- identification of projects requiring site application approvals

The Utility Plan Format Checklist should be used for updates to ensure that all required elements have been addressed.

Amendments:

In general, amendments will be more limited in scope than the changes provided in an update. Amendments should clearly define what portions of the previous plan have changed. When submitting amendments, agencies should consider whether other portions of the plan will be affected by the proposed change (i.e. whether the financial information will be effected by a decision to expand a facility earlier than previously planned.) Examples of modifications that would be covered by a Utility Plan amendment would include such things as:

- a change in the design capacity of a planned WWTP expansion
- a change in the timing of a planned WWTP expansion
- the addition of a lift station to accommodate development short term

Submitting agencies will be provided options for the format of updates and amendments. These options should be discussed with NFRWQPA staff prior to development and submittal to ensure efficient reviews. For minor changes the update or amendment should be submitted as a “track changes” document showing what information is being replaced in the currently approved plan. For more substantial changes, replacement sections/chapters can be provided. For these types of changes it is helpful to include notes at the beginning of each section that explain how and where this section will fit into the existing plan. In some cases, the number and amount of changes will be significant enough to warrant a full replacement document. For all options the submitting agencies should include a cover letter that outlines the format of the submittal, what

information has been modified, and a brief justification for the modifications. In addition, the Executive Summary section of the plan should be modified to provide information on when the original Utility Plan was approved and the timing and scope of all amendments and updates, including the one being proposed.

Once the update or amendment has been approved by NFRWQPA a final copy of the revised Utility Plan and appendices (hard copy and electronic copy) will need to be submitted and kept on file at the NFRWQPA office. This final copy shall be a cohesive document which includes the amended/updated information along with any previously approved portions of the plan and appendices that are still relevant.

Renewal Frequency

It is recommended that all entities review their plans every five years and determine whether an amendment or update is needed. Any significant revision and re-adoption of a local comprehensive plan or other local long-range wastewater management plan may also require a review and re-acceptance of the associated Wastewater Utility Plan. Management agencies shall notify NFRWQPA of any re-adoption or significant update of their local comprehensive plan.

Submittal and Acceptance Procedure

- The following procedure will apply to the NFRWQPA review and acceptance of Utility Plans. Submitting agency contacts NFRWQPA staff to discuss number and format of copies to be delivered.
- Utility Plan delivered to NFRWQPA.
- As appropriate, NFRWQPA staff distributes review copies to team members, and the submitting agency distributes copies to other sign-off agencies.
- Meeting scheduled within 60 days of distribution to review interim or final Utility Plan with review team members, the submitter of the Utility Plan, and other interested agencies. Notice will be sent to the membership identifying the meeting schedule. Other interested agencies will be requested to identify any issues or concerns prior to this review meeting (generally a 30-day response time). For updates and amendments, the review team will be given the flexibility to determine whether a meeting is necessary.
- At the review meeting, (or individually for minor updates and amendments) the review team will mark-off a checklist of minimum requirements, assure that there are no overlapping service areas, review assumptions, and provide any appropriate comments.

- Based on the review team comments and comments from other interested agencies, NFRWQPA staff will prepare a written response and recommendation for inclusion in the following NFRWQPA meeting agenda.
- NFRWQPA and other appropriate agencies acknowledge acceptance, conditional acceptance, or refer back the Utility Plan at the NFRWQPA meeting. Based on the action, the appropriate sign-off forms will be filled out following the meeting.
- Once the plan has been approved by NFRWQPA, a final copy (hard copy and electronic copy) will need to be submitted and kept on file at the NFRWQPA office.

8. REFERENCES

North Front Range Water Quality Planning Association - Areawide Water Quality Management Plan Updates

Larimer-Weld Regional Council of Governments - Areawide Water Quality Management Plan Update - 1985

Colorado Department of Public Health and Environment, Water Quality Control Commission – Regulation No. 22 – Site Location and Design Approval Regulations for Domestic Wastewater Treatment Works

Colorado Water Quality Control Division – Policy No. 5 – Consolidation of Domestic Wastewater Treatment Works

EPA Website: Water and Energy Efficiency in Water and Wastewater Facilities.
www.epa.gov/region9/waterinfrastructure/howto.html

Colorado Department of Public Health and Environment, Water Quality Control Division - Categorical Green Projects List – Clean Water State Revolving Fund (July 2012)

UTILITY PLANNING OUTLINE CHECKLIST

Date: _____

Entity: _____

Page No.

I.	EXECUTIVE SUMMARY	
	1. Who is doing the project	
	2. What is being planned (near term/long term)	
	3. Why is the project being proposed	
	4. Where will the project(s) take place	
	5. When will the project(s) occur - (Implementation Schedule)	
	6. How much will the project(s) cost (Capital, O&M and User Fees)	
	7. How will the projects(s) be funded	
	8. Site / System Exhibits	
II.	INTRODUCTION	
	1. General Background of Entity	
	2. General Format of Report & supporting Information	
III.	EXISTING CONDITIONS	
	1. Current General Planning of Area	
	a. Land Use Management	
	b. Zoning	
	c. Current Wastewater WUSA	
	d. Current Service Population	
	2. Current Wastewater Flows and Loads	
	a. Flow History (3 Yrs)	
	i. Averages, Peaks & Unit Volumes	
	ii. Assessment of Infiltration / Inflow (I&I)	
	b. Historical Wastewater Loadings (3 Yrs)	
	i. Biochemical Oxygen Demand (BOD)	
	ii. Suspended Solids (TSS)	
	iii. Ammonia (NH3)	

	IV. Other Constituents of Concern	
	3. Existing Wastewater Treatment system	
	a. Current Effluent Limitations	
	b. Description of Existing Treatment System	
	i. System Schematic	
	c. Performance of Existing System (3 yrs)	
	i. Constituents of Concern - BOD, TSS, NH3, P, etc	
	d. Current Biosolids Management Program	
	e. Need for Improvements	
	4. Existing Collection System	
	a. Interceptor System	
	i. Layout and Condition	
	ii. Service Area Map with Interceptors & Lift Stations	
	b. Existing Lift Stations	
	i. Location on WUSA Map (above)	
	ii. Capacities and (Percent Utilization)	
	iii. Emergency Response Protocols (Telemetry)	
	iv. Emergency Power Availability	
	c. Summarize Need for Improvements to Existing Collection System	
	d. Entity Pretreatment Program Discussion	
IV.	FUTURE CONDITIIONS	
	1. Population and Land Use Projections	
	2. Flow and Load Forecasts	
	a. Flow Characterization	
	b. Design Loadings for Constituents of Concern	
	3. Future Collection System Interceptor Alignments	
	a. Future Interceptor Layout, Sizing & WUSA Changes	
	b. Location and Size of Future Lift Stations	
	c. Timeline for Staging future Collection System Improvements.	

V.	RECEIVING STREAM WATER QUALITY	
	1. Watershed Identifications	
	a. Watershed Issues: 303d and/or M&E Listing	
	b. Basin Map (showing location of discharge)	
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	3. Future Level of Treatment Required	
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	b. Preliminary Effluent Limits (PELs)	
VI.	WASTEWATER TREATMENT SYSTEM IMPROVEMENTS	
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	b. Regional Consolidation Opportunities	
	c. Wastewater Re-Use Opportunities	
	d. Feasible Treatment Alternatives (New or Upgrading)	
	2. Treatment Alternatives Discussion	
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	ii. Annual Operation & Maintenance Costs	
	b. Energy Use for Comparison	
	c. Reliability with Respect to Effluent Compliance	
	d. Ease of Implementation	
	e. Environmental Issues - wetlands, flood plain, etc.	
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	a. Plan Selection Matrix or Process	
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	ii. Biosolids Treatment and & Disposal Process	
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	<ul style="list-style-type: none"> iv. Emergency Standby Power System v. Odor Control Considerations vi. Air Quality Requirements vii. Site Storm Water Management Plan viii. Site Layout and Schematic of System 	
	4. Record of Public Participation in Plan Selection.	
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	2. Arrangements for Plan Implementation	
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APPENDICES	
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F.	Copy of Preliminary Effluent Limits (PELs) Report
G.	Copy of Current Effluent Permit Requirements
H.	Planning and Zoning Information
I.	Copies of Intergovernmental Agreements (IGAs)
J.	User Charge Studies
K.	Air Quality Permit
L.	Odor Control Studies or Plans
M.	Site Storm Water Management Plan - Permit
N.	Minutes of Public Hearing and/or Record of Public Meetings
O.	Infiltration / Inflow Studies