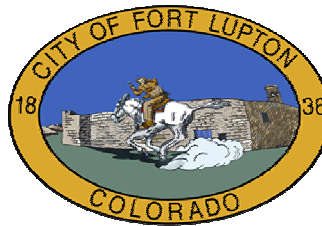


UTILITIES MASTER PLAN

A part of the

CITY OF FORT LUPTON COMPREHENSIVE PLAN

Prepared for:



City of Fort Lupton
130 South McKinley Avenue
Fort Lupton, CO 80621

Prepared by:



*clear***WATER***solutions*
water rights • planning • engineering

Clear Water Solutions, Inc.

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8010 S. County Road 5, Suite 105

Windsor, CO 80528

(T) 970.223.3706

(F) 970.223.3763

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- Claud Hanes City Finance Director
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- Ramon Hernandez..... Public Works Manager
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ACRONYMS AND ABBREVIATIONS

ADD -	Average Day Demand
ADF -	Average Daily Flow
AF -	Acre-feet
AWWA -	American Water Works Association
CCI -	Construction Cost Index
CDIS	Colorado Demographic Information Service
CDPHE	Colorado Department of Public Health and Environment
CFS	Cubic Feet per Second
CIP	Capital Improvement Program
DBP	Disinfection By-Products
DIP	Ductile Iron Pipe
DU	Dwelling Units
EDU	Equivalent Dwelling Unit
Fps	Feet per Second
Gal	Gallons
GIS	Geographical Information System
GPAD	Gallons per Acre per Day
GPCD	Gallons Per Capita per Day
GPD	Gallons per Day
GPM	Gallons per Minute
HAA5	Haloacetic Acids
HGL	Hydraulic Grade Line
Hp	Horsepower
MCL	Maximum Contaminant Level
MDD	Maximum Day Demand
MFDU	Multi-Family Dwelling Unit
MG	Million Gallons
MGD	Million Gallons per Day
MRDL	Maximum Residual Disinfectant Level
NFRWQPA	North Front Range Water Quality Planning Association
PF	Peaking Factor
PRV	Pressure Reducing Valve
Psi	Pounds per Square Inch
SFDU	Single Family Dwelling Unit
SFE	Single Family Equivalent
TTHM	Total Trihalomethanes
UPA	Ultimate Planning Area
VCP	Vitrified Clay Pipe
VFD	Variable Frequency Drive
WUSA	Water/Wastewater Utility Service Area
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

GLOSSARY OF TERMS AND DEFINITIONS

Acre-foot (AF) - A volume of water equal to 325,851 gallons.

Augmentation - the one-for-one replacement of water to the stream system for groundwater that is consumptively used.

Average Day Demand - The average demand over a specific time period over which the average is calculated. For example, the annual water consumption divided by 365 days in a year.

CBT – Colorado Big Thompson water project - the provider of the City’s raw (“Mountain”) water.

CBT Carryover – The ability to carry excess water from year to year in the CBT system. Carryover is the lesser of (90%*Oct 31st Account Balance) or (20% of CBT Units Owned).

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.

Drinking Water - Water that meets or exceeds all applicable federal, state, county, city, and local requirements concerning safety. Drinking water is also called potable water.

Dry Utilities – Utilities other than water, wastewater or storm drainage. Examples include but are not limited to electric, cable and gas.

Master Plan – A Plan that provides overall guidance to decision makers and provides a framework upon which more detailed project specific plans are developed.

Maximum Day Demand - The maximum demand over a one-day period. Maximum Day Demand typically occurs during mid to late summer.

Non-Potable System - Collectively, all property involved in the production, distribution, and treatment of reclaimed water, including land, water source, water lines, reservoirs, pumps, motors, hydraulic structures, and general properties.

Numeric Model - A computer program used to design and analyze water, wastewater or storm drainage systems.

Peak Hour Demand - The maximum demand over a one-hour period. Peak Hour Demand typically occurs late in the evening on Maximum Day Demand due to lawn watering.

Planning Agency –The NFRWQPA is the designated planning agency for Weld County.

Planning Level Cost Estimates – Cost estimates based on the information available at the time of this study. Planning level costs estimates are historically low – accordingly, this Master Plan includes contingencies for design, legal and administrative costs as well as contingencies for construction.

Reclaimed Water - Wastewater that has been treated and recovered for useful purposes.

SWSP – Southern Water Supply Pipeline...the Northern Districts 20” pipeline that feeds the City of Fort Lupton WTP.

Single Family Equivalent – A planning term used to define a “typical” single family in terms of number of people per household. This report defines a SFE as 2.8 people.

Ultimate Planning Areas – This plan complies with the NFRWQPA requirements in that wastewater service areas identified in the Areawide Water Quality Management Plan (208 Plan) are 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.

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 municipality (i.e. Fort Lupton) and an interested “other party” 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.

Wastewater - The used water from a community, customer, or individual.

Wastewater System - Collectively, all property involved in the collection and treatment of wastewater, including land, sanitary sewer lines, treatment plants, pumps, motors, hydraulic structures, and general properties.

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. For example, WUSA 2007-2012 defines the anticipated growth and utility needs within the City between the years 2007 and 2012.

Water System - Collectively, all property involved in the production, distribution, and treatment of drinking water, including land, water source, water lines, reservoirs, pumps, motors, hydraulic structures, and general properties.

WWTP Design Capacity - The capability of the wastewater treatment plant to meet effluent limitations. The rated capacity shall be given in million gallons per day (MGD) and may be less than the permitted capacity based on existing facility limitations and proposed future regulations.

Wet Utilities – Water, wastewater and Storm Drainage systems.

REFERENCES

Engineering Report for Water, Wastewater and Storm Drainage Master Plan for the City of Fort Lupton by Rothberg, Tamburini and Winsor, November 1999