



City of Van Alstyne

2003 - 2023
COMMUNITY DEVELOPMENT PLAN

**WATER
WASTEWATER
CAPITAL IMPROVEMENTS
ZONING ORDINANCE
SUBDIVISION ORDINANCE**

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DISCLAIMER

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The preparation of this document was financed through provisions of a Texas Community Development Program Grant from the U.S. Department of Housing and Urban Development.

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INTRODUCTION

The purpose of this segment of the Community Development Plan is to provide an inventory of the existing City of Van Alstyne water supply system, and an analysis of the systems operations. No recent system wide water system analysis has been conducted that considers all of the current development activity occurring in Van Alstyne. A previous study was prepared in December of 1991 for both the water and wastewater systems by the firm of Southwest Consultants.

The furnishing of adequate public utilities such as water facilities is vital to Van Alstyne's life and growth. It was the introduction of water piped under pressure and water-carried waste disposal, which made possible the urban concentrations of population, as we know them today. The average citizen has come to expect water to be available, in the quantity desired, and gives no thought to the source of that water or the destination of the resulting wastes. The instant response to these demands requires considerable planning, effort, and investment in plants and equipment.

The City Council should be concerned with the proper relationship of the utility systems to each other and to the land use plan. The complexity of the utility systems increases greatly as they cover larger areas and serve increasing numbers of customers. This water plan will help direct the City towards the efficient updating and expansion of Van Alstyne's water system.

WATER SYSTEM PLANNING

To properly plan a future water system capable of providing the requirements of the projected community, it is necessary to evaluate the present system, including the water supply and distribution system network and its capability of providing service for the present and projected demands. The City must have a dependable water supply that will provide for all water demands; including domestic, industrial, and commercial, as well as an allowance of about 25 percent for distribution system leakage, fire fighting, and other unmetered uses. The present average usage throughout the United States is around 100 gallons per capita per day. In industrial cities with heavy industrial water consumption the average usage may be 300 gallons per capita per day or more.

Effective February 1, 1998 the Texas Department of Insurance implemented Insurance Services Office's Fire Suppression Rating Schedule and the Public Protection Classification System; the Key rate System, which had been in use for nearly 80 years, was repealed. Key rating uses population as the primary basis for determining a city's fire protection requirements. Key rates were based on a time when Texas towns had a single-core business district. The new rating system should not be used for purposes other than insurance rating. Since Van Alstyne fits the Old Key Rate identity it is still a good measure and useful for planning purposes. Planning for the water utility system must take into account the basis on which this key rate is computed as affected by the water works, which includes pumping

facilities and fire flow pressures, water supply, ground level storage reservoirs, elevated storage, water distribution system and fire hydrants, and pumping station or stations.

Most cities maintain pressure in the water distribution system by providing elevated water storage, preferably at some high topographical location or locations in the city. Water is pumped from ground storage reservoirs located at wells, a treatment plant, or delivery point, into the system to maintain a high level of water in the elevated tank and thus a high pressure in the system. A balanced system should provide pumps with capacity to supply the average daily consumption, with additional pumps, which can put sufficient water into the system to meet the maximum daily demands and maintain the system pressure. To satisfy the peak hourly demands, water can be used from the elevated storage along with that provided by additional pumps.

Water storage reservoirs in a water system provide water for three principal purposes: (1) to meet hourly demands which are in excess of water supply facilities; (2) to meet the increase in demand created during fire event; and (3) to meet the system demands during short interruptions of water supply. The key rate requires 55 gallons of elevated water storage per capita, in addition to required ground level water storage of 130 gallons per person served by the water system. Also, the City

should be in compliance with current per service connection requirement of the Texas Commission on Environmental Quality for elevated storage (Rules and Regulations for Public Water Systems - TCEQ).

Ground storage consists of a reservoir placed on or just below the ground surface. Water in a ground storage reservoir is treated and ready for use, but must be pumped from the reservoir into the distribution system with high service pumps. Ground storage is generally located at a water treatment plant, near a well site, or at a delivery point.

Elevated storage consists of a reservoir elevated above the area, which it is to serve. This elevation can be accomplished via a tower type structure or a tank location on high ground. Water in this type reservoir is also treated and is ready for use. Due to its elevation above the ground there is sufficient pressure to flow the water into the distribution mains by gravity without pumping. However, the elevated storage tank must be filled from the source of supply via the pumping facilities.

Maximum hourly demands for water can be supplied in several ways. One method is to maintain pumping capacity at the source or supply sufficient to pump water at a rate high enough to supply the maximum hour demand. Another method is to supply water with pumps at the source of supply with capacity to meet the maximum daily

consumption rate and to supply the higher maximum hourly demand by permitting water in the elevated tank to drain into the system during peak consumption hours. Either of these methods is acceptable practice; some combination of the two might be determined to be a more economical experience has shown that the peak pumping capacity should be approximately 125 percent of the maximum daily demand.

Materials used in water system construction usually have a fairly long life, but will ultimately have to be replaced. In water system planning, attention should be given to the deterioration of any facilities which have served their purpose and which may be either too expensive to maintain or overly expensive to operate, and an efficient schedule or replacement developed.

In general, no water lines less than six (6) inches (8 inch water lines is the preferred minimum size) in diameter should be installed. Lines should be sized to maintain proper pressure and flow rates at all locations. Consideration must be given to the location of water lines in relation to sanitary sewers and other public utilities.

The proper provision and distribution of fire hydrants and valves is critical to the operation and maintenance of a water distribution system. Fire hydrants should be located so that all structures are within 300 of the fixture. Water valves should be

placed such that no unnecessary interruptions occur over large areas when line repairs are made at any particular location.

The Texas Commission on Environmental Quality has set forth guidelines for the location, installation, and operation of water lines and all other water works utilities (Rules and Regulations for Public Water Systems - TCEQ).

In planning for a growing city, consideration must be given to the extension of the utility system into new areas as building construction progresses. Unless utility expansion is orderly and adequate, growth of the City into new areas cannot and will not occur. Building may not be completely stopped by failure to extend service into the new areas, but the character of the development that does occur is likely to be inferior and has an adverse effect on the City as a whole.

WATER SYSTEM INVENTORY

The City of Van Alstyne owns its water supply distribution system. Potable water is currently obtained from four active wells (a fifth well is inactive). The Van Alstyne water is treated at each well. The City currently serves 1037 active water

connections. The inventory and updating of the existing City system was compiled in November 2003. The results of the inventory are graphically depicted in Figure 1.

Water system capacities are also indicated in Table 1. Pipe diameter ranges in size from 2 inch to 16 inches. The Van Alstyne water system configuration has four ground storage tanks, four active wells, one elevated storage tank, and distribution lines. The only cost of producing well water is the pumping and treatment of water at the wells.

The Water system operation has one operator with a certificate. The highest certificate has a Class "C" Operator's Certificates, which complies with Texas Commission on Environmental Quality. Daily operation and maintenance of the water facilities consists of the following:

1. Check chlorine residual;
2. Check water Ph;
3. Check water alkalinity; and,
4. General maintenance as needed and required.

With respect to system standards and design criteria, the Texas Commission on Environmental Quality has developed specific minimum guidelines. These standards are less than those required for an approved public water supply. They provide a basis for evaluation, however. Current available data from the Van

Alstyne water system, as compared with Texas Commission on Environmental Quality standards, are indicated in Table 2. As shown, the City's standards are not all above those of the Texas Commission on Environmental Quality. All calculations are based on 1037 water connections.

TABLE 1

CITY OF VAN ALSTYNE

WATER SYSTEM INVENTORY

FACILITY	CAPACITY
<u>Well # 1</u>	Average 105 gpm
Ground Storage Tank	155,000 gallons
<u>Well # 2</u>	Inactive
Ground Storage Tank	300,000 gallons
<u>Well # 3</u>	Average 180 gpm
Ground Storage Tank	155,000 gallons
<u>Well # 4</u>	Average 260 gpm
<u>Well # 5</u>	Average 360 gpm
Ground Storage	200,000 gallons
Elevated Storage	210,000 gallons

Additional standard of the Key rate require that minimum line sizes in residential areas be not less than 6 inches in diameter. In addition, all lines must be looped to ensure uninterrupted service should a line breakage occur. In commercial areas, 8-inch lines must be installed. No 6-inch dead-end water mains should be more than 1800 feet in length.

TABLE 2

CITY OF VAN ALSTYNE

WATER SYSTEM STANDARDS

FACILITY CAPACITY	TCEQ	VAN ALSTYNE
Total Storage	200 gal./connection	983
Elevated Storage	100 gal./connection	203
Wells	0.6 gpm/connection	.87
Minimal Residual Pressure	20 psi	50
Normal Operating Pressure	35 psi	40
"C" Certified Operators	2	1

TCEQ = Texas Commission on Environmental Quality

Based Upon 1037 connections served by system.

Additionally, standard three-way fire hydrants require a 6-inch or larger diameter

water main with a minimum of 5 inch valve openings. Fire hydrants are to be properly located every 300 feet in commercial areas and every 600 feet in residential areas so that every building in the City limits will be within 500 feet of a standard City fire hydrant. Fire hydrants on mains less than 6 inches are not recognized by the Key rate as providing effective fire protection.

TABLE 3
CITY OF VAN ALSTYNE

WATER SYSTEM STANDARDS

FACILITY CAPACITY	KEY RATE	VAN ALSTYNE
Minimum Main Size	6 - inch	2 - 16
Elevated Storage	55 gal. per capita	77.5
Ground Storage	130 gal. per capita	298

KEY RATE – OLD KEY RATE STANDARDS

Based Upon 2,711 Residents served by system.

WATER SYSTEM ANALYSIS

As illustrated in Table 2, 3, and 4, most of the major elements of the water

system are adequate according to the standards set forth.

TABLE 4
CITY OF VAN ALSTYNE
POTENTIAL SERVICE CAPACITY

FACILITY	MAXIMUM CONNECTIONS	2003 CONNECTIONS	AVAILABLE CONNECTIONS
Total Storage	5,100	1,037	4,063
Elevated Storage	2,100	1,037	1,063
Well Capacity	1,508	1,037	471

Based on TCEQ Minimum Acceptable Standards and Current Van Alstyne data.

Many portions of the City lack adequate sized looping of distribution lines with several lines in undersized condition. Key Rates recommend a minimum line size of 6 inches for residential areas and 8 inches for commercial and industrial areas to provide adequate fire protection.

The current water rate adopted for 2003 is as follows:

Residential & Commercial - Inside City Limits

Base Charge – 2,000 gallon minimum	\$23.00
Each 1,000 gallons water thereafter	\$2.20

Residential & Commercial - Outside City Limits

Base Charge – 2,000 gallon minimum	\$34.50
Each 1,000 gallons water thereafter	\$3.30

Presently, operation of the City's water system facilities is adequate with maintenance conducted on a regular basis. With the assistance of this study, locating necessary elements of the water system will be easier. As updates are made, a more effective approach can be achieved in evaluating future projects.

In the past, the water system has met the City's needs. The critical elements of the water system are the distribution system's line size, and the lack of looping. As the City grows, additional burdens will be placed on these inadequate facilities of the water system infrastructure.

Based on input from the public, staff, and City Council, the following problems were developed and ranked according to the perceived need of the water system of Van Alstyne:

1. Replace old undersized water mains in the central sector of City
2. Loop distribution lines throughout the City to provide improved distribution and pressure.
3. Plan for the future.
4. The City should strive to keep water cost as low as possible.
5. The City should encourage the conservation of water resources by customers of the water system.

No other problems are perceived as being in need of resolution.

DROUGHT CONTINGENCIES AND CONSERVATION

The TCEQ has published a system for notification for drought-related water problems. This system also includes priorities and states of water rationing during times of drought. This system is recommended as follows:

Priority

- E - Emergency. Could be out of water in 45 days or less.
- P - Priority. Could be out of water in 90 days or less.
- W - Watch. Water shortage possible.
- R - Resolved. No longer experiencing water capacity problems.

Stage

Stages of water rationing

1. Mild rationing. Usage of water for outdoor purposes, such as lawns, gardens, and car washing, can be restricted by utility.
2. Moderate rationing. All outdoor water usage is prohibited except by hand-held hoses with manual on/off nozzles. Water usage for livestock is exempt from this restriction.

3. Severe rationing. All outdoor water usage is prohibited; livestock watering may be exempted by the utility. All consumption may also be limited to each customer in specific ways.

A renewed public interest in water resources was embodied in the passage of Senate Bill 1 (SB 1) by the 75th Texas Legislature. SB 1 is a comprehensive omnibus water bill that addressed improving many different areas of water management, ranging from water planning and regulation to data collection and dissemination. Included in this bill is the establishment of regional water planning groups.

The Texas Water Development Board is responsible for administrating the state and regional water planning groups. Grayson County of which Van Alstyne is part of is within Region C Water Planning Group. Within Appendix A of this document is a complete listing of the Region C members and map of the Region C.

The Texas Water Development Board has also published “Forty-Nine water Saving Tips”. This document has been provided in Appendix B. These tips are for all households and are useful in the conservation of our water resources.

SYSTEM PLAN

A priority action plan listing priorities, estimated costs, and possible funding sources has been developed. The physical aspects of the plan are graphically presented in Figure 2. In order to bring the City's water system into compliance with Texas

Commission on Environmental Quality and Key Rate standards, recommended improvements should be an integral part of an overall five-year Capital Improvements Program.

GOAL - THE GOAL OF THIS PLAN IS TO EFFECTIVELY PROVIDE FOR THE ADEQUATE PROVISION OF WATER SUPPLY, PRESSURE, AND DISTRIBUTION TO ALL AREAS OF THE CITY.

First Priority

The first priority is to replace several water lines as follows:

Nash Avenue	Sherman to Pearl
Sherman Street	Tolson to Cooper
Pearl Street	Clement to Jefferson
E. Marshall Street	Wilson to unknown street
Unkown Street	E. Marshall toFulton

This project will cost approximately \$92,000.

Second Priority

The second priority is to replace several water lines as follows:

Preston Street	Marshall to Umphress
Umphress Street	Preston to Burk
Jefferson Street	Hobson to Waco
Cooper Street	Main to Pearl
Stephens Street	Main to Sherman

Estimated cost of this project will be \$140,000.

Third Priority

The third priority is to replace several water lines as follows:

Main Street	Stephens north
College Ave.	Sixth to Dallas
Preston Street	Stephens to Fifth
Waco Street	Stephens to Carl Umphress

This project will cost approximately \$240,000.

Fourth Priority

The Fourth priority is to replace several water lines as follows:

Stephens Street	Dumas to Dallas
Douglas Street	Stephens to Jefferson

This project will cost approximately \$90,000.

Fifth Priority

The fifth priority is to replace several water lines as follows:

Waco Street	Tolson north to School
Dallas Street	Fifth to Stephens
Sixth Street	College to Stephens
Dallas Street	Fulton to Hynds

This project will cost approximately \$166,000.

Funding for the above prioritized improvements might be secured from several

different sources or combinations thereof. The sources of funding include Revenue Bonds, Farmers Home Administration Loans, the Texas Water Development Board Loan Fund, and the Texas Community Development Program administered by the Office of Rural Community Affairs.

By the end of the fifth year, a significant portion of the water system needs will have been addressed, bringing the system closer to compliance with State Board of Insurance requirements. Following implementation of the proposed improvements, the City's water system should be able to accommodate existing development with capacity to serve additional residential units.

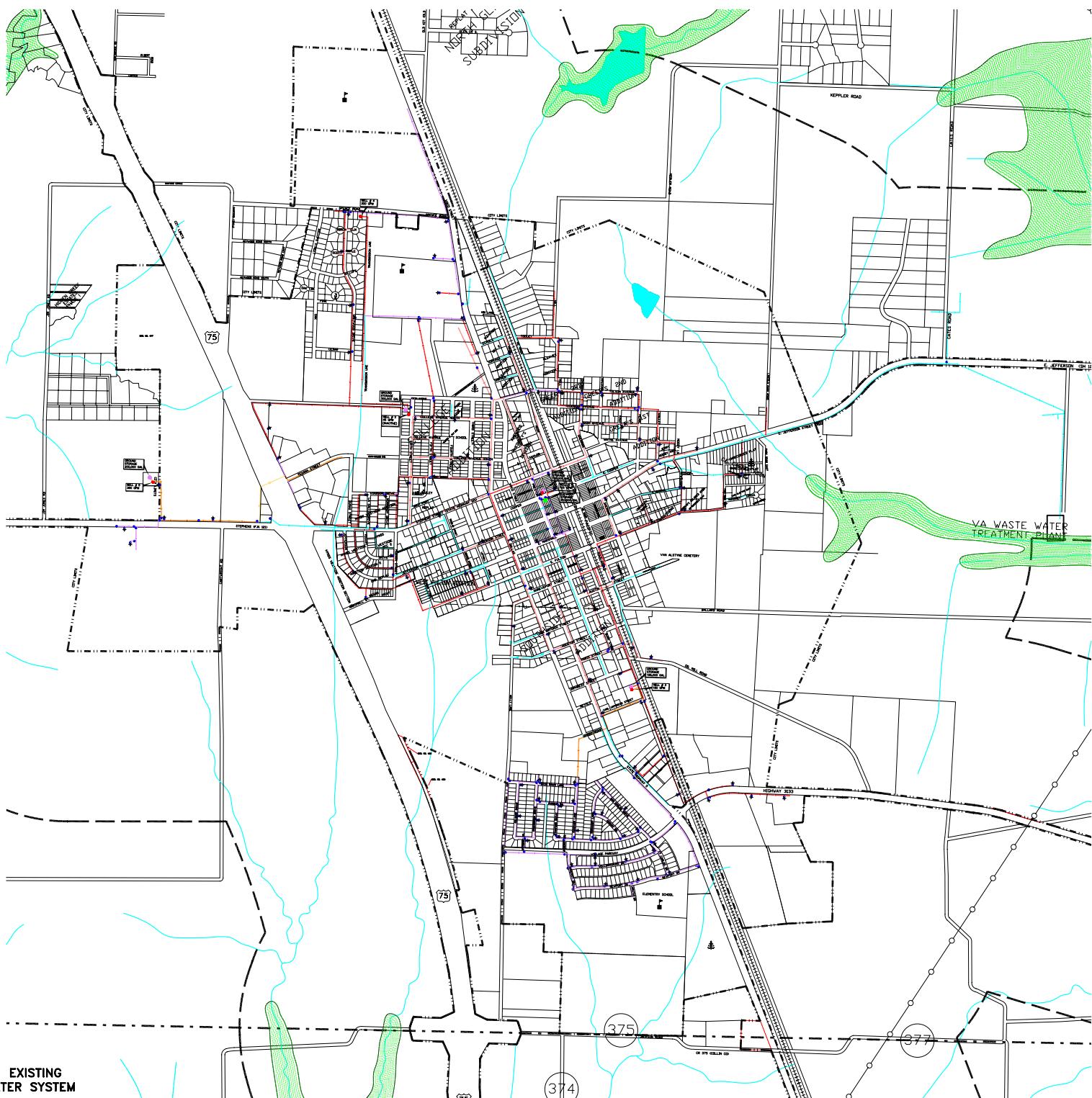
Future Development outside of the existing urbanized area will need to be addressed in an orderly fashion. Because of this the plan map identifies water system distribution mains to address anticipated growth in undeveloped portions of the City as well as portion of the Extra Territorial Jurisdiction. These lines should be funded and built using the Subdivision Ordinance and by the establishment of Impact Fees by the City.

The Initially Prepared Region C Water Plan is contained in Appendix C. Within this report three recommendations/observations affect the City of Van Alstyne and are as follow:

1. Current groundwater use in Grayson County exceeds TWDB's estimated long-term reliable supply of water.
2. Development of the Grayson County Water Supply System is proposed to deliver water to users throughout the county. The system includes a raw

- water pipeline from Lake Texoma, a treatment and desalination plant, and treated water pipelines.
3. Water users will temporarily overdraft groundwater while developing surface supplies.

These recommendations/observations were formed to address the next 50 years.



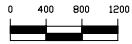
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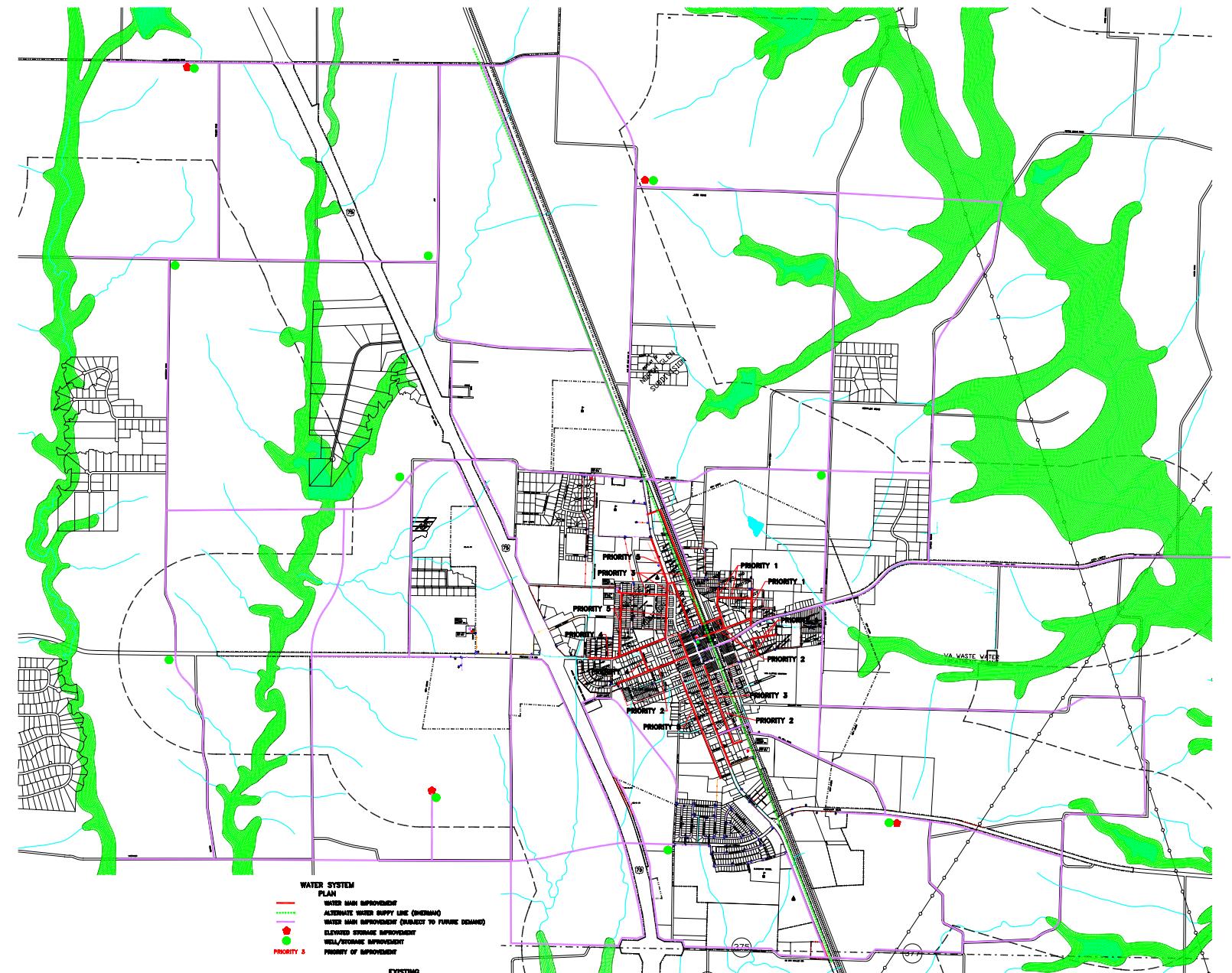
LEGEND

- CITY PARK
- WATER TOWER
- GROUND STORAGE
- SCHOOL



DECEMBER 2003

PREPARED THROUGH A JOINT VENTURE OF
SOUTHWEST CONSULTANTS
1209 SOUTHWOOD BLVD.
RICHARDSON, TEXAS
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MAURICE SCHWARTZ & COMPANY
1209 SOUTHWOOD BLVD.
ARLINGTON, TEXAS



CITY OF VAN ALSTYNE

PROPOSED 2004-2005 CYCLE OF
SOUTHERN TEXAS RURAL
DEVELOPMENT
AND
MARKEE ASSOCIATES, INC.
MIDLAND, TEXAS

INTRODUCTION

This wastewater system study and analysis consists of an inventory of current conditions and problems facing the City of Van Alstyne in the treatment and collection of its wastewater. The second portion of this report focuses on the development of a wastewater system plan with a long-term strategy for improvements to the existing system.

To properly plan a wastewater collection and treatment system for a community, the planner must have knowledge of the existing system, area topography and growth trends. Peak wastewater flows which are expected to be generated at selected points in the service area are then determined and compared with the existing system capacities. Adjustments to the system can then be proposed.

Wastewater collection and treatment is heavily influenced by the topography of a community. Since gravity sewers are much preferable to lift stations and force mains (in terms of both economics and operational complexity) the ideal arrangement is a sewage treatment plant located at the downstream end of a drainage basin with gravity sewers extending along drainage ways within the basin. A Van Alstyne is not fortunate in this regard since the City sits on a

ridgeline and drains generally to all directions. The current location of mains in Van Alstyne has the need for 1 public lift stations.

WASTEWATER SYSTEM INVENTORY

The first step in the inventory process was to insure that all know lines and capacities of lift stations were determined and mapped. This was accomplished with the help of the Van Alstyne Public Works director and Assistant City Administrator. A previous study was prepared in December of 1991 for both the water and wastewater systems by the firm of Southwest Consultants.

The City of Van Alstyne owns its wastewater system. The collection system is comprised of gravity flow wastewater mains, 1 lift stations, 1 force mains and a wastewater treatment plant located at the eastern edge of the City.

The wastewater collection system is comprised of clay tile and polyvinyl-chloride pipe ranging from 6-inch to 18-inch pipe terminating at the wastewater treatment plant. The location of trunk and collector lines, manholes, lift station, and force main are illustrated in Figure 3. The wastewater collection system serves over 1,000 residential connections within the City Limits. Inside the City not all

residential customers are served with wastewater services. The wastewater rates are based on water usage with the following rates adopted in 2003:

Residential and commercial users

Base Charge (first 2,000 gallons)	\$23.00
Each 1,000 gallons of water usage	\$2.75

For apartments, apartment complexes or other multi-family dwellings, each living unit is considered to be a separate customer for billing.

The annual operating expenses of wastewater treatment, and maintenance of all wastewater and water system is approximately \$760,000 annually. As this rate increases over time Van Alstyne will need to adjust customer cost proportionately. Additionally, if Van Alstyne continues to grow the need for additional funds to retire new debt will be reduced because of new connections added to the existing system.

WASTEWATER SYSTEM ANALYSIS

Criteria of to analyze the wastewater system is based on TCEQ standards which are derived from the Texas Administrative Code Title 30, Part I, Chapter 317 - Design Criteria for Sewerage Systems. Some of the wastewater collection system's major components are in good condition. However, many lines are still clay tile allowing for excessive infiltration. This problem should be addressed by finding the leaks and correcting the problem.

The Fairlie-Austin-Houston Black Map Unit is the predominate soils impacting the development of Van Alstyne. This association consists of moderately deep and deep, moderately slowly permeable and very slowly permeable, clayey soils. The soils consist of nearly level to gently sloping (0 to 5 percent) on uplands. Additionally, the limitations associated with this association with regard to community development include areas of high shrink-swell and low potential for septic tank filter fields. The City of Van Alstyne should adopt and enforce standards for the design and construction of development in order to mitigate the limitations posed by its soils. Any septic tanks should be carefully controlled and monitored.

Industrial wastewater is currently not a problem in the City. If an industrial user requiring special treatment move into Van Alstyne the city should adopt ordinances that will address unusual treatment needs.

Operational procedures designed to maintain compliance with the Texas Health Department and U.S. Environmental Protection Agency standards are adequate for plant operation. Daily operational procedures carried out by City licensed "C" operator to ensure adequate maintenance of the systems and facilities. Daily maintenance procedures for the plant should include:

1. Inspect treatment facilities;
2. Check chlorine residual;
3. Check pumps and pumping rates; and,
4. General maintenance as required.

Currently, All of the wastewater lines are 6 inches in size or larger. Any new line construction should be 6-inches or larger.

The City of Van Alstyne wastewater treatment plant is permitted by TCEQ for 0.95 mgd and discharging to a tributary of Sisters Grove Creek. The current design capacity is meeting the needs of the current population and will accommodate the anticipated future growth during the planning period if inflow and infiltration is controlled. No special sewer treatment is needed in Van Alstyne.

In regards to sanitary sewer system improvements the highest priority and greatest community needs are ranked as follows:

1. Replacing existing clay tile lines and controlling the existing infiltration/inflow problems in several areas of Van Alstyne.
2. Add Manholes on lines where needed
3. Making provisions for future development

In analysis of the wastewater system, standards for review are as follows:

1. No wastewater lines other than house laterals and force mains shall be less than 6 inches in diameter.
2. All wastewater lines shall be designed and constructed with hydraulic slopes sufficient to give a velocity when flowing full of not less than 2.0 feet per second.
3. Wastewater lines should be laid in straight alignment where possible with uniform grade between manholes.

4. Manholes should be placed at points of changes in alignment, grade or size of wastewater line, and at the intersection of wastewater lines and the end of all wastewater lines that will be extended at a later date.
5. The inside diameter of the manholes shall be not less than 4 feet.
6. Provide an average of 100 gallons of wastewater treatment facilities per capita.
7. Wastewater lines shall be designed for the estimated future population to be served, plus adequate allowance for institutional and commercial flows.
8. Wastewater and water lines shall be installed no closer to each other than nine feet between outside diameters.

WASTEWATER SYSTEM PLAN

The Action Plan listing priorities, estimated costs, and possible funding sources has been developed and presented. Improvements to the Van Alstyne wastewater system, which comply with Texas Natural Resources Conservation Commission and Environmental Protection Agency standards, will be an integral part of an overall Five-Year Capital Improvement Program for the City. The recommended wastewater system improvements have been indicated on Figure 4.

GOAL - THE GOAL OF THIS PLAN IS TO EFFECTIVELY PROVIDE FOR THE ADEQUATE TREATMENT AND COLLECTION OF WASTEWATER FOR ALL AREAS OF THE CITY DURING THE NEXT FIVE YEARS AND TO PROVIDE FOR FUTURE GROWTH.

First Priority

The First priority construction activities include the replacement several wastewater lines as follows:

Main Street	Sherman to Fulton
Fulton	Main to Unknown Street
Unknown Street	Fulton to Marshall
Marshall Street	Unknow to Wilson
Wilson Street	Marshall to Jefferson

The cost of this project is approximately \$273,000

Second Priority

The Second priority is to construct a short section of wastewater line east of an Unknown Street east to service several residences.

The cost of this project is approximately \$25,000

Third Priority

The third priority is to install a relief sewer main north of the existing lift station along U.S. Highway 75 to a point north of Fulton Street

The estimated cost of this project is \$275,000.

Fourth Priority

The fourth priority project is the replacement of a wastewater main in the following locations:

Nash Avenue

NE. Main to Pearl

Clement Street

Sherman to Pearl

The anticipated cost of this project is \$85,000

Fifth Priority

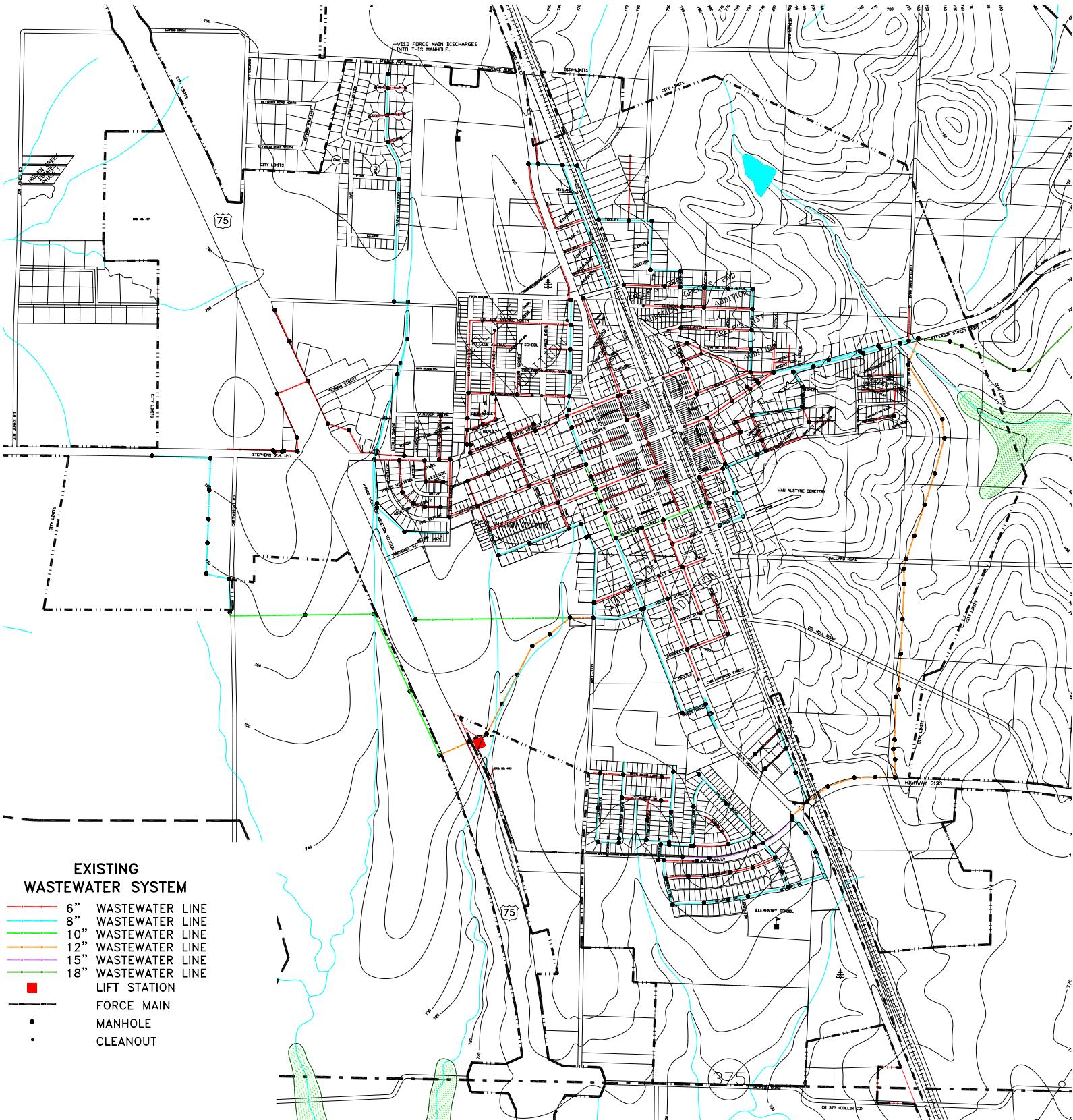
The fifth priority is the construction of a new relief wastewater main from the intersection of Waco Street With Village Parkway to the wastewater treatment plant.

The anticipated cost of this project is \$620,000.

Several sources are available for funding of the Five-Year Action Plan. Sources could include applying for Texas Community Development Grant funds, Texas Capital Funds, F.H.A. loans, Revenue Bonds, **Private Sector funds, and impact fees**, and using local inkind labor and equipment on a pay-as-you-go method.

Future Development outside of the existing urbanized area will need to be addressed in an orderly fashion. Because of this the plan map identifies wastewater system collection mains, lift stations and force mains that will be necessary to address growth in undeveloped portions of the City as well as the Extra Territorial Jurisdiction. The proposed facilities generally follow existing drainage basins with lift stations placed strategically at the lowest elevations to maximize the potential size of the service areas. Force mains are then projected back towards existing development. Care needs to be taken to ensure that the downstream lines are sized adequately to handle the drainage basins that are proposed to be added to system. These lines should be

funded and built using the Subdivision Ordinance and by the establishment of Impact Fees by the City.



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LEGEND

- CITY PARK
- ▲ WATER TOWER
- ⊕ GROUND STORAGE
- SCHOOL



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DECEMBER 2003

PREPARED THROUGH A JOINT VENTURE OF
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INTRODUCTION

The Capital Improvement Program is a five-year expenditure plan providing the City with a comprehensive view of major facility needs and financing strategies. It is both a funding strategy, in part dictated by the various restrictions on funding sources, and a program plan reflecting the City's priorities. The majority of funds within the Capital Improvement Program are restricted for use and are not available to offset the operating expenses.

The CIP examines the infrastructure and capital needs of the City for the next five years. The CIP should be reviewed and updated on an annual basis to reflect the changing needs of the community and changes in available funding for financing capital projects. The CIP should be considered as a financial planning tool that lists the City's capital improvement projects, and schedules the projects for funding and implementation. The CIP should also be considered one of the primary policy-making instruments utilized by the Mayor and City Council.

The City finances capital improvements primarily on a pay as you go basis utilizing revenue from the general fund and operating revenues from and Water & Sewer Fund. Long-term debt is considered and utilized only for projects that are of such dimension as to warrant a bond issue.

Projects are identified and funded taking into consideration government imposed mandates, usefulness to the community, and affect on operational expenses. Projects which have a total cost of \$ 25,000 or more should be included in the CIP. Projects in the CIP may include the following:

obligations for labor, materials, and contractors involved in completing a project, acquisition of land or structures, engineering or architectural services, and other professional services, expenses for City vehicles and equipment used on construction projects, renovating or expanding City facilities and grounds, significant maintenance or repair cost extending useful lives or facilities.

The Capital Improvements Program is the City's recurring commitment for the planning and design to upgrade, expand and/or construct new buildings, parks, grounds, open space, streets, and sewers. The intent of CIP is to serve as a guide in the provision of new facilities; to meet the increasing demands for Capital Improvements created by outdated facilities, growth and ever-changing building codes and methods in the industry. CIP should continue with its primary goal in assisting to define City Government and Community goals and policies that will eventually lead to their implementation.

WHAT IS A CAPITAL IMPROVEMENT?

Capital Improvements are major projects undertaken by the City that are generally not recurring and are either: 1) any project, facility, or equipment that will cost \$25,000 or more and last longer than five (5) years; or 2) Long-range plans or studies of capital projects, facilities or equipment that will cost \$4,000 or more. The capital improvement program is reviewed in conjunction with the annual operating

budget, but is not dependent upon it since the funds for capital improvements come from the Capital Replacement monies that are appropriated each year in the annual budget. However, the capital improvement should be reviewed each year and revised as necessary which will also change the Five Year Capital Improvement Program.

PRIORITY SCHEMES

There are various rating schemes available for establishing capital improvements priorities. The following set of standards is briefly mentioned for evaluation of the capital improvements program. The standards discussed here are based on rating systems used in most cities with minor variations:

1. **Mandatory** or essential projects are activities needed to protect life and health of the community. Projects classified under this category are projects of the highest priority.
2. **Necessary** capital improvements are projects which are necessary for the convenience and conservation of endangered resources or for the completion of partially completed projects. Projects of this type include improvements which are considered necessary for a progressive growing community and for problems that do not endanger life or public health.

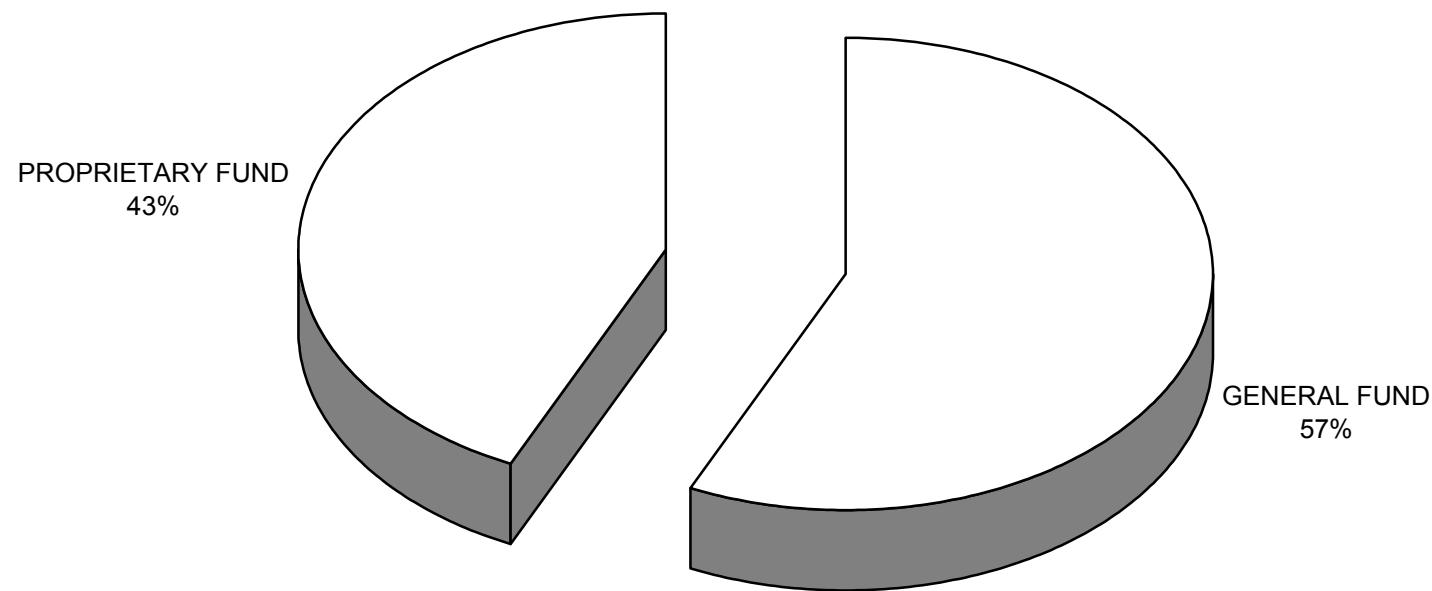
3. **Desirable** capital improvements are projects which protect property, replace obsolete facilities, reduce operating costs and add to the attractiveness of the community. Projects of this type are not considered absolutely necessary and may be deleted from the capital improvements program.
4. **Deferrable** projects are capital improvements of the lowest priority which can be postponed or eliminated from the capital improvements program because of questions over cost, timing, or need.

FINANCIAL ANALYSIS

The City of Van Alstyne has many sources of income. Typical for Texas municipalities, user/utility fees, ad valorem taxes, franchise taxes, and sales taxes are the more predominant forms of income. In Van Alstyne, the revenues of the general fund and the enterprise fund (sanitation, water and sewer) have a significant split in amounts as shown in Figure 5. The revenue of Van Alstyne is generated from sanitation, water and sewer portion of the proprietary fund at 40 percent and the general fund at 60 percent. The General Fund Revenue components are shown in Figure 6. Major components of the General Fund include ad valorem taxes at 28 percent, sales tax at 35 percent, franchise fees at 7%, and all others combined at 30 percent. The following Table 5 indicates the past three complete financial statement's revenues for the General Fund and Proprietary (Sanitation, Water and Wastewater).

FIGURE 5

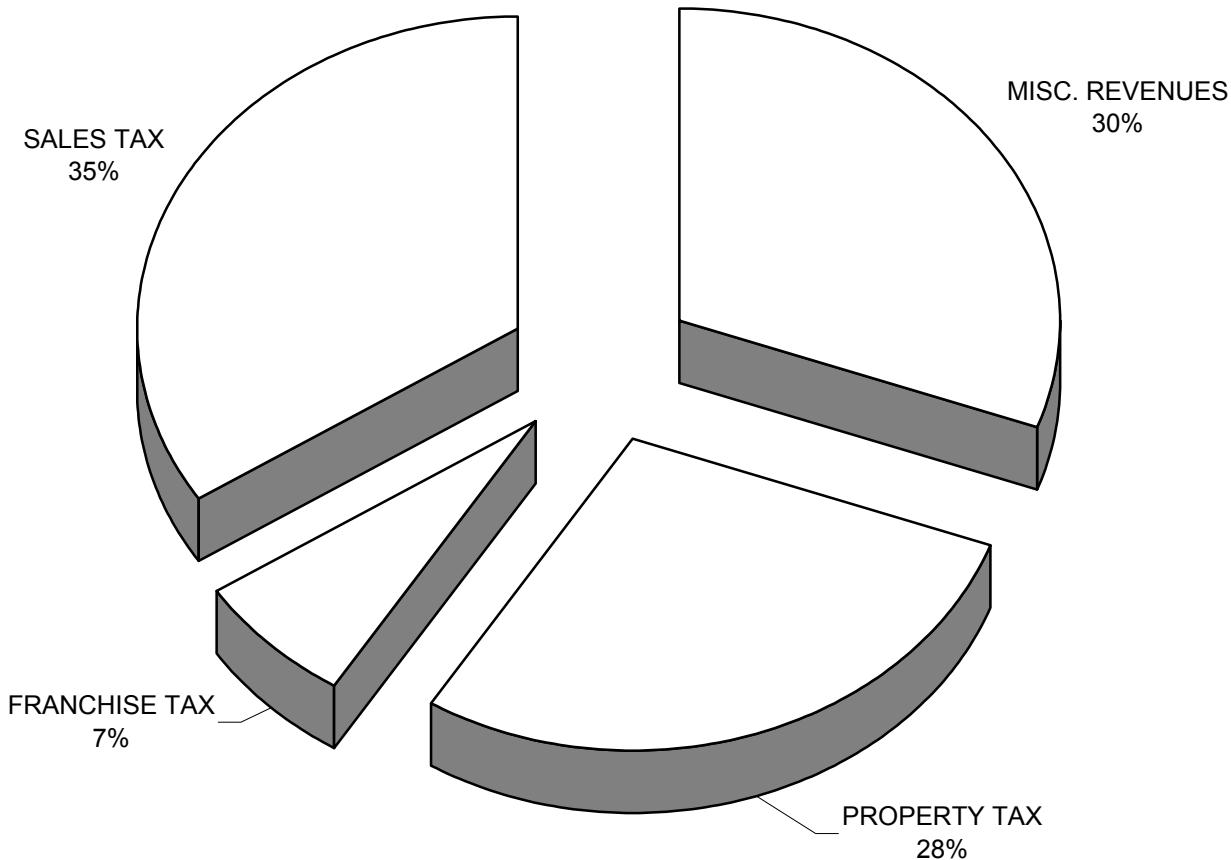
**CITY OF VAN ALSTYNE
BUDGET REVENUES 2001-2002**



SOURCE: 2002 VAN ALSTYNE AUDIT

FIGURE 6

CITY OF VAN ALSTYNE GENERAL FUND REVENUES



SOURCE: 2002 VAN ALSTYNE AUDIT

TABLE 5
CITY OF VAN ALSTYNE
REVENUES BY FUND

	2000	2001	2002
General Fund	\$ 1,293,167	\$1,515,352	\$ 1,266,362
Enterprise Fund	\$ 802,022	\$ 794,816	\$ 956,550
Totals	\$ 2,095,189	\$2,310,168	\$ 2,222,912

The City of Van Alstyne prepares annual budgets as required by law and sound management. Budgets are important as they provide an effective tool for management and policy decisions. With careful consideration and thorough planning, budgets assist the City in tracking its finances, costs, and most importantly, whether or not a particular operation is losing money or is in the black.

The City of Van Alstyne has a total indebtedness of \$10,603,218 including principal and interest. This indebtedness is made up combination tax and revenue certificates and revenue bonds. For a review of all City indebtedness and future annual repayment schedules, Table 6 has been prepared.

TABLE 6
CITY OF VAN ALSTYNE
INDEBTEDNESS(PRINCIPLE AND INTEREST)

TYPE	Debt
Combination Tax and Revenue Certificates of obligation, series 2000	\$ 2,396,660
GTUA Contract Revenue Bonds, Series 1995	\$ 419,125
GTUA Contract Revenue Bonds, Series 2000 – Water Quality Enhancement Portion	\$ 2,556,790
GTUA Contract Revenue Bonds, Series 2000 –State Revolving Fund Portion	\$ 1,289,298
GTUA Contract Revenue Bonds, Series 2002 - Water	\$ 2,507,700
GTUA Contract Revenue Bonds, Series 2002 - Sewer	\$ 1,433,645
TOTAL DEBT	\$ 10,603,218

An important factor regarding debt is the ability to repay. This ability is affected by the overlapping debt and overlapping effective tax rate of all taxing authorities. The residents of the City of Van Alstyne are faced with an overlapping tax rate of \$2.81426/\$100. The Values are broken down in Table 7. These rates are slightly higher than many other overlapping tax rates in the Texoma Region of the State.

TABLE 7
CITY OF VAN ALSTYNE

OVERLAPPING TAX RATE

Taxing Authority	Tax Rate
City	\$0.4671/\$100
Grayson County	\$0.4909/\$100
Van Alstyne ISD	\$1.73/\$100
Grayson CO. JC.	\$0.12626/\$100
Total	\$2.81426/\$100

**RECOMMENDED STANDARDS OF DEBT
LIMITATIONS**

A money manager of today has many factors to consider before issuing new debt for its municipality. The first of these considered factors must be the entity's current level of debt and its ability to finance additional indebtedness. While reviewing the City's debt, certain statistical information is worth reviewing. This includes: (1) the total debt as a

percent of the total market value of all taxable property; (2) the per capita indebtedness; (3) the debt to household ratio; and (4) a comparison of the annual debt service requirement against the annual revenues. Generally, the total debt as a percent of the total market value of all taxable property, Number 1 above, should not exceed ten percent. Cities with debts nearing or exceeding ten percent of the taxable property should be very careful of increasing their debt as their financial ability to repay will be extremely lessened. A rate of six percent may be considered a more conservative rate in order to promote a more conservative/traditional debt policy. With regards to Number 2, per capita bonded indebtedness, the upper limits should not exceed \$2,000 of debt per capita. A lower, more conservative fiscal policy might call for a maximum per capita rate of \$1200-\$1400. With regards to Number 3 above, debt to household ratio, an acceptable range would be between \$1,500-\$2,000. With regards to Number 4 above, the annual debt service should not exceed 20 percent of annual revenues.

The 2000 total assessed valuation of all taxable property was \$93,094,531. The total indebtedness (principle and interest) is \$10,603,218. Therefore, the indebtedness represents 11.4 percent of the total value of taxable property in the City. This rate is slightly above the 10 percent maximum.

Based on the 2003 population estimate of 2,711 the per capita indebtedness of principle and interest in Van Alstyne is \$3,911 per capita. In other words, every man, woman, and child in the City is responsible for approximately \$3,911 of City debt. This statistic is well above the recommended standard of \$2,000 per capita.

The debt to household ratio using the housing survey count of 1,001 (excludes group quarters and vacant units) occupied housing units would put the ratio at \$10,592 per household. This means that each household in Van Alstyne is responsible for approximately \$10,592 of City debt.

The annual debt service (approximately \$530,000 per year) makes up approximately 23.84 percent of the total annual revenues. This number is above the maximum 20 percent recommended.

The City of Van Alstyne has had a practice of financing improvements through the use of revenue bond, tax certificates, using a pay-as-you-go method, and by leveraging local funds by securing grant funds. It is recommended that the City continue to apply for grant funds through the Office of Rural Community Affairs to leverage local funds and to continue using a pay-as-you-go method of financing. The City has used this option in the past effectively. Van Alstyne has no capacity available under the above stated debt level indicators to assume addition debt load. It should be noted that Van Alstyne is growing rapidly and the ability to take on more debt is improving.

The 70th Texas Legislature passed Senate Bill 336 regulating various types of utility fees, defined in the legislation as "**impact fees**". Such fees included traditional impact (or capital recovery) fees, but also lot, acreage, frontage and other typical utility fees. Impact fees also include "contributions in aid of construction" such as off-site approach main dedications. The legislation laid out very specific requirements for the technical development of such fees as well as the procedures necessary for enactment of such fee programs. SB 336 is incorporated with the Texas Local Government Code as Chapter 395 as it was amended by the 71st Legislature effective August 28, 1989. Chapter 395 authorizes municipalities and certain special districts to impose impact fees against new development. An impact fee is a form of development exaction, which may be defined as a contribution of land, improvements or money imposed as a condition of development approval in order to mitigate the impacts of the development project.

These impact fees should be established to pay for many of the capital improvements needed in the future for Van Alstyne.

CAPITAL NEEDS LIST

Several Meetings were held with the City staff in regard to needed improvements. Based upon the Meetings and knowledge of the City's infrastructure capital needs lists were prepared to outline needed capital improvements. These lists were finalized at a meeting with city officials in

December of 2003. The lists were prepared to identify general priorities to be accomplished by the City of Van Alstyne during the planning period's five year working plan. The capital needs list is divided into improvements to the wastewater and water systems, and miscellaneous improvements. Tables 8 through 10 outline the needed improvements.

TABLE 8

CITY OF VAN ALSTYNE

WATER SYSTEM CAPITAL NEEDS LIST

PRIORITY*	PROJECT	LOCATION
M	This project is to replace several water lines as follows:	
	Nash Avenue	Sherman to Pearl
	Sherman Street	Tolson to Cooper
	Pearl Street	Clement to Jefferson
	E. Marshall Street	Wilson to unknown street
	Unkown Street	E. Marshall toFulton
	This project will cost approximately \$92,000.	

N	This project is to replace several water lines as follows:
	Preston Street
	Marshall to Umphress
	Umphress Street
	Preston to Burk
	Jefferson Street
	Hobson to Waco
	Cooper Street
	Main to Pearl
	Stephens Street
	Main to Sherman

Estimated cost of this project will be \$140,000.

N This project is to replace several water lines as follows:

Main Street	Stephens north
College Ave.	Sixth to Dallas
Preston Street	Stephens to Fifth
Waco Street	Stephens to Carl Umphress

This project will cost approximately \$240,000.

N This project is to replace several water lines as follows:

Stephens Street	Dumas to Dallas
Douglas Street	Stephens to Jefferson

This project will cost approximately \$90,000.

D This project is to replace several water lines as follows:

Waco Street	Tolson north to School
Dallas Street	Fifth to Stephens
Sixth Street	College to Stephens
Dallas Street	Fulton to Hynds

This project will cost approximately \$166,000.

M - Mandatory N - Necessary

D - Desirable Z - Deferrable

TABLE 9

CITY OF VAN ALSTYNE

WASTEWATER SYSTEM CAPITAL NEEDS LIST

PRIORITY*	PROJECT	LOCATION
M	This project is to replace several wastewater lines as follows:	
Main Street		Sherman to Fulton
Fulton		Main to Unknown Street
Unknown Street		Fulton to Marshall
Marshall Street		Unknow to Wilson
Wilson Street		Marshall to Jefferson

The cost of this project is approximately \$273,000

M This project is to construct a short section of wastewater line east of an
Unkown Street east to service several residences.

The cost of this project is approximately \$25,000

M The project is to install a relief sewer main north of the existing lift station
along U.S. Highway 75 to a point north of Fulton Street

The estimated cost of this project is \$275,000.

N This project is to replace several wastewater lines as follows:

Nash Avenue NE. Main to Pearl

Clement Street Sherman to Pearl

The anticipated cost of this project is \$85,000

M The fifth priority is the construction of a new relief wastewater main from the intersection of Waco Street With Village Parkway to the wastewater treatment plant.

The anticipated cost of this project is \$620,000.

M - Mandatory N - Necessary

D - Desirable Z - Acceptable

TABLE 10
CITY OF VAN ALSTYNE
MISCELLANEOUS CAPITAL NEEDS LIST

PRIORITY*	PROJECT	LOCATION
Z	Construction of a new City Hall facility. Location should be within the Central Business District . Estimated Cost up to \$1,500,000.	
M - Mandatory	N - Necessary	D - Desirable
		Z - Deferrable

CAPITAL IMPROVEMENTS PROGRAM (2004-2008)

Each proposed capital improvement project identified in this document, as well as other critical needs outlined by the City of Van Alstyne, were rated based on the preceding section's guidelines. A schedule of improvements for a five-year period was prepared. The schedule includes the estimated costs for improvements, anticipated sources of income, and recommended priority for implementation. The improvements are graphically displayed in Figure 7. The footnotes referencing the possible sources of funds which might be applicable to each of the specific projects are keyed to the following:

- (1) Local Van Alstyne City Tax Funds.
- (2) Local Van Alstyne Water & Sewer Revenue
- (3) City of Van Alstyne Water & Sewer Bonds
- (4) Grant through the Texas Community Development Program

- (5) Texas Water Development Board (Loan)
- (6) Farmer's Home Administration Loan and/or Grant
- (7) Texas Capital Fund (Infrastructure Loan)
- (8) Developer Participation
- (9) Private Donations
- (10) Impact Fees

First Year Projects

The First year construction activities replace several wastewater lines as follows:

Main Street	Sherman to Fulton
Fulton	Main to Unknown Street
Unknown Street	Fulton to Marshall
Marshall Street	Unknow to Wilson
Wilson Street	Marshall to Jefferson

The cost of this project is approximately \$273,000

Funds can be secured through 2 and 4.

Second Year Project

The Second year projects install a relief sewer main north of the existing lift station along U.S. Highway 75 to a point north of Fulton Street

The estimated cost of this project is \$275,000.

Funds can be secured through 2, 3, 4, 5, 8, and 10.

Third Year Projects

The third year project is to replace several water lines as follows:

Nash Avenue	Sherman to Pearl
Sherman Street	Tolson to Cooper
Pearl Street	Clement to Jefferson
E. Marshall Street	Wilson to unknown street
Unkown Street	E. Marshall to Fulton

This project will cost approximately \$92,000.

Funds can be secured through 2, 3, 4, 5, 8, and 10.

Fourth Year Projects

This project is to replace several water lines as follows:

Preston Street	Marshall to Umphress
Umphress Street	Preston to Burk
Jefferson Street	Hobson to Waco
Cooper Street	Main to Pearl
Stephens Street	Main to Sherman

Estimated cost of this project will be \$140,000.

Funds can be secured through 2, 3, 4, 5, 8, and 10.

Fifth Year Projects

This project is to replace several wastewater lines as follows:

Nash Avenue NE. Main to Pearl

Clement Street Sherman to Pearl

The anticipated cost of this project is \$85,000

Funds can be secured through 2, 3, 4, 5, 6, 8, and 10.

Another fifth project is the construction of a new relief wastewater main from the intersection of Waco Street With Village Parkway to the wastewater treatment plant.

The anticipated cost of this project is \$620,000.

Funds can be secured through 2, 3, 4, 5, 6, 8, and 10.

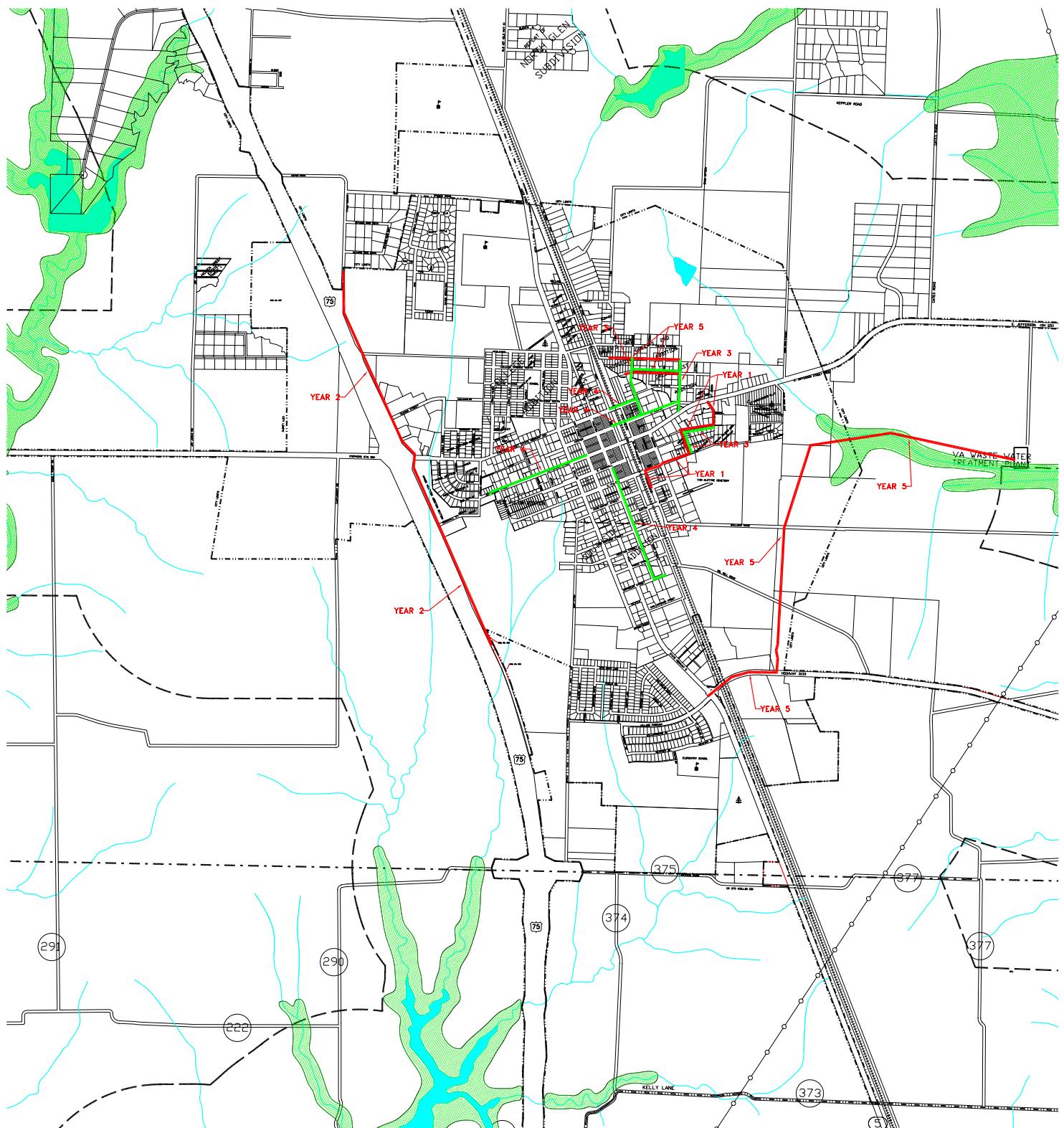
TOTAL COST AND ALLOCATION SCHEDULED PER YEAR

The total project cost for all projects in the 2004-2008 CIP Program is \$2,901,680. Table 11 summarizes the total cost for each year for the 2004-2008 recommended capital improvements projects. Actual cash expenditures may vary depending on funding methods selected and the availability of grants, etc. This Capital Improvement Program includes all identified City Needs.

TABLE 11
CITY OF VAN ALSTYNE
SUMMARY OF 2004-2008 CIP PROGRAM

	2004	2005	2006	2007	2008	
WATER CATEGORY:						
Cip Year 3 water line improvements			\$ 92,000.00			
*Funds can be secured through 2, 3, 4, 5, 8, and 10.						
Cip Year 4 water line improvements						
*Funds can be secured through 2, 3, 4, 5, 8, and 10.				\$ 70,000.00	\$ 70,000.00	
WASTEWATER CATEGORY:						
CIP Year1 wastewater treatment plant and lines	\$ 100,000.00	\$ 173,000.00			\$ 1,416,680.00	
*Funds can be secured through 2, and 3.						
CIP Year 2 of wastewater system		\$ 100,000.00	\$ 175,000.00			
*Funds can be secured through 2, 3, 4, 5, 8 and 10.						
CIP Year 5 of wastewater system					\$ 85,000.00	
*Funds can be secured through 2, 3, 5, 6, 8 and 10						
CIP Year 5 of wastewater system					\$ 620,000.00	
*Funds can be secured through 2, 3, 5, 6, 8 and 10						
MISCELLANEOUS CATEGORY:						
TOTALS						
*NOTE: NUMBERS INDICATE FUNDING SOURCES.	\$ 100,000.00	\$ 273,000.00	\$ 267,000.00	\$ 70,000.00	\$ 2,191,680.00	\$ 2,901,680.00

- (1) Local Van Alstyne City Tax Funds.
- (2) Local Van Alstyne Water & Sewer Revenue
- (3) City of Van Alstyne Water & Sewer Bonds
- (4) Grant through the Texas Community Development Program
- (5) Texas Water Development Board (Loan)
- (6) Farmer's Home Administration Loan and/or Grant
- (7) Texas Capital Fund (Infrastructure Loan)
- (8) Developer Participation
- (9) Private Donations
- (10) Greater Texoma Utility Authority



CITY OF VAN ALSTYNE

FINANCED
THROUGH THE
OFFICE OF RURAL COMMUNITY AFFAIRS
OF THE TEXAS
STATE OF TEXAS
The preparation of this document was financed through
provisions of a Texas Community Development Program
Grant from the U.S. Department of Housing and Urban
Development.

CAPITAL IMPROVEMENTS PLAN

SEWER SYSTEM IMPROVEMENT
WATER LINE IMPROVEMENT

LEGEND

- CITY PARK
- ▲ WATER TOWER
- GROUND STORAGE
- SCHOOL



0 400 800 1200

DECEMBER 2003

PREPARED THROUGH A JOINT VENTURE OF
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