

**MAVERICK COUNTY**  
**REGIONAL WATER AND WASTEWATER**  
**FEASIBILITY STUDY**

This Study was prepared by  
Groves and Associates, Inc.  
using funds provided by the Texas Water Development Board  
in cooperation with local funds from:  
City of Eagle Pass  
Maverick County  
City of Eagle Pass Water Works System  
El Indio Water Supply Corporation  
Maverick County WC & ID No. 1

AUG 03 1989

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**STATEMENT OF PURPOSE**

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In order to address quality of life concerns in the Colonias of Maverick County through on site survey, data gathering, idea and information exchange and through technical, social, fiscal and political examinations, this project produces a feasibility - level plan for providing regional water supply and wastewater facilities for the unincorporated and incorporated areas of Maverick County.

The report addresses the four (4) tasks as follows:

TASK I. Evaluate water and wastewater facilities needs for Maverick County, which includes identifying existing water supply and wastewater service systems currently operating in the County. Using demographic data, establish proposed water and wastewater service areas and develop an implementation schedule for the alternatives to correct existing conditions.

TASK II. Determine appropriate financial plans and institutional organizations to implement recommended alternatives. This includes the following:

- Estimation of capital, operation and maintenance costs for the proposed systems
- Determine estimated monthly rates for proposed service to the customer
- Identify and review types of institutional organizations which may be used to plan, finance, develop, operate and maintain the proposed system(s) that are appropriate to Maverick County
- Develop a financial plan based on the above.

TASK III. Develop a project implementation plan and schedule for proposed plan which includes implementation of findings as set out in Tasks I and II above and develop a preliminary analysis of cash flow estimates for both project development and startup applied to a project timeline and cash flow for the implementation schedule of the plan.

TASK IV. Develop Water Conservation Plan for the area in accordance with the Texas Water Development Board Guidelines.

Subsequent to the completion of the above tasks, a draft report on the methodology and findings of the Study containing the recommendations resulting from the above four (4) tasks, will be distributed to all appropriate entities in Maverick County, regional, state and federal organizations for the review and comment.

A public hearing will be held to review the draft report and to receive public input and comments.

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**METHODOLOGY**  
**OF THE**  
**STUDY**

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The Study was conducted by the City of Eagle Pass with the assistance and cooperation of Maverick County, the City of Eagle Pass Water Works System, the El Indio Water Supply Corporation, the Maverick County Water and Control District No. 1, and Groves and Associates, Inc.

City Manager Edward P. Rodrigues served as project coordinator and the following representatives constituted the team:

City of Eagle Pass  
Francisco Martinez  
Arturo Delgado

Maverick County  
Zacarias Chavarria  
Ricardo Lopez

City of Eagle Pass Water Works System  
Roberto Gonzalez

El Indio Water Supply Corporation  
Ricardo Macias

Maverick County WC & ID No. 1  
Felipe Hernandez

Each member was assigned specific tasks to perform in the data location and assembly process.

All potential sources were identified at the first meeting and each member charged to produce all data whether directly or indirectly related to the four tasks of the study. Archives as well as current resources were explored.

In developing the wastewater plan, the controlling factors were the following:

1. Topography and drainage area information
2. Proximity of developed areas to other developed areas
3. Existing density of development
4. Development potentials for each area.

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## **THE STUDY: FINDINGS & CONCLUSIONS**

1. Available Services
2. Demographics
3. Physical Characteristics of Area
4. Political Entities and Efforts to Serve the Colonias



A review of the data furnished by the existing service providers, USGS Contour Maps and aerial photos of the County clearly identified eight (8) service areas, including the incorporated limits of the City of Eagle Pass. The USGS Contour Maps suggested seven (7) separate and apart study areas; Quemado townsite and Normandy to the north, the Radar Base service area, Elm Creek Valley basin & Seco Creek Basin immediately to the north of Eagle Pass City limits, the Eidson Road Basin immediately to the south and west of the Eagle Pass City Limits, the Rosita Valley area south of the Eidson Road Basin, which includes the Kickapoo Indian Village, and the El Indio Township in the southern part of the County. The study will also address the feasibility of abandoning the current wastewater treatment plant in Eagle Pass and relocating same downstream in a location using the existing drainage basins, allowing most of the existing systems to gravity flow into a new and larger regional treatment facility, negating the need for another plan to serve the Rosita Valley area. Long and short range benefits will also be discussed later in the report.

One hundred thirteen subdivisions were located outside of the incorporated limits of the City of Eagle Pass. Some were filed of record at the Maverick County Clerks Office while many are non recorded plats.

The areas were identified by computer runs and aerial maps furnished by the Maverick County Appraisal District and verified by electrical distribution and water supply corporation service records.

Anticipated and projected growth patterns were identified by utility demands, historical trends and land availability. A greater part of the land mass in Maverick County falls within several large ranching operations which generally is not available for uses other than agricultural production. Growth trends indicate most the non urban area development has generally followed the alignment of the Maverick County WC & ID's 400 + mile canal and lateral system. The canal system is a gravity flow system and flows toward the Rio Grande River with the main canal on the upper reaches of the existing contours.

Within the regional service area, there are a total of approximately 9500 lots outside of the city limits of Eagle Pass. These lots are contained in various platted and unplatted subdivisions comprising a total of approximately 3500 acres, or 2.7 units per acre.

Under the normal growth patterns that have prevailed in the region, it is to be anticipated that many of these lots will be further subdivided and that the ultimate density may be as high as 4 units per acre or a possible 14,000 dwelling units.

Of the 9,535 total lots and small tracts that appear on the current tax rolls, 4,383 are improved with a dwelling of some sort, 858 are used for commercial purposes, and 4,294 are vacant and most are available for acquisition and subsequent development. The study

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also considers several large tracts of land adjacent to the four drainage basins that could, for one reason or another, conceivably become available for subdivision and subsequent development.

At the present time all but about 1500 lots are provided with available water service from one of the established water services, City of Eagle Pass Water Works, El Indio Water Supply, or the Maverick County Radar Base. Sewer service is available to approximately 3000 lots with treatment being provided by the City of Eagle Pass Sewage Treatment Plant.

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## THE PLAN

1. Recommendations
  - a) Water System Extension
  - b) Wastewater Service System
  
2. The Implementation Plan
  - a) Schedule
  - b) Capital Cost
  
3. The Financing Plan
  - a) Government Subdivisions (Entities) to Implement
  - b) Methodology of Implementation
  - c) Financing Sources

## REGIONAL WASTEWATER PLAN

The authority of the City of Eagle Pass Water Works System will be expanded to include provisions to construct and operate a regional wastewater treatment and collection system. The County of Maverick will contract with the Water Works System to provide service to the areas of the County as designated within this study.

The County will establish rules and regulations to control subdivision development within the County and to provide for the orderly expansion of sewer and water services to new developments within the County.

The facilities plan for collection and treatment of wastewater provides for one regional treatment plant located approximately 6 miles down river from the central business district of Eagle Pass, Texas.

This plant would provide treatment for all developed areas of the county with the exception of the Quemado/Normandy area, the existing development at the Radar Base, and the El Indio Area.

These three areas were excluded because of the long distances of undeveloped area which separate them from the higher density areas to be served.

In El Indio, the densities are low enough to allow septic tank service to function properly for the existing development, and additional growth can be controlled by proper land use regulations to allow orderly service in the future.

Quemado can be served by a separate treatment plant and collection system, with a design capacity of approximately 2000 persons. Additional growth in the area can be controlled by proper land use controls to be placed in effect by the County.

The existing treatment plant at the Radar Base is adequate for the existing development, and may be expanded to accommodate moderate future demand.

In the event of a major development occurring on the Radar Base property, it would be possible to extend an outfall down the Elm Creek Basin and tie into the proposed regional treatment system.

The collection systems for the Seco Creek and Elm Creek development area will gravity flow to one major lift station near the mouth of Seco Creek. From this point, flows will be lifted into the existing 18" river outfall line that runs to the existing sewage treatment plant. This line has a flow capacity of approximately 2.3 m.g.d. and can accommodate approximately 10,000 persons on connection.

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The existing collection system serving the major portion of the City of Eagle Pass will remain as it is with gravity flow going to the existing treatment plant. When the new regional treatment plant is located downstream, a new river outfall interceptor will be constructed from the existing plant to the new plant. This line is proposed to be 42" in diameter and will accommodate peak flows of 12.5 M.G.D. or a population equivalent of 50,000 persons.

The collection system for the Eidson Rd. basin will gravity flow to the new river outfall line and will include service to those areas in the drainage area that are presently pumped back to the existing treatment plant.

The collection system for the Rosita Valley and the Kickapoo area will gravity flow to one major lift station and be pumped back to the new treatment plant.

The City of Eagle Pass will arrange financing for a total of \$18,000,000 in funds to be used over a five year development period. These funds will be comprised of \$13.5 million in grant funds, \$4.05 million in bond funds with a maximum rate of 8%, and local funds in the amount of \$450,000.

Revenues will commence in year one from the existing connections with 5,500 inside City connections and inside City rates beginning at \$4.00/month average rate and increasing to \$4.60 during the twenty year period.

Outside City rates would be adjusted to reflect the tax contribution being made by inside City residents and would commence at \$6.00 per month with increases to \$7.00 per year over twenty years.

The initial 500 connections outside the City will increase to 10,000 connections by the 13th year, with the resultant service revenues anticipated to be approximately equal to the debt service, operation and maintenance cost over the balance of the twenty year bonds.

The following schedule reflects the above charges with a steady growth of approximately 3.5% per year in the County.

WASTEWATER CONSTRUCTION SCHEDULE

YEAR ONE

(a)	Construct first phase of New Treatment Plant with a capacity of 2 M.G.D.	\$2,500,000
(b)	Construct first portion of River Outfall Line 12,000 L.F. 42" pipe @ \$65.00	780,000
(c)	Construct Eidson Road Outfall from River Outfall to City's major lift station east of FM 2031	560,000
(d)	Construct Las Heraduras Interceptor "B" to existing Lift Station - 6,000 L.F. 10" pipe @ \$22.00	132,000
(e)	Construct Interceptor "C" to two existing Lift Stations 3,500 L.F. 10" pipe @ \$22.00	77,000
(f)	Construct 20,000 L.F. of Collection System @ \$25.00	<u>500,000</u>

TOTAL CONSTRUCTION                      \$4,549,000

Engineering                                      451,000

\$5,000,000

YEAR 2

(a)	Construct Treatment & Collection System for Quemado Area Treatment Plant	350,000
	Collection System 13,000' @ \$20.00	260,000
(b)	Construct Phase Two of Regional Plant to Increase to 4 M.G.D.	2,000,000
(c)	Construct Chula Vista Outfall	
	9,000L.F. 15" @ \$31.00	279,000
	9,000L.F. 12" @ \$22.00	198,000
	6,000L.F. 8" @ \$20.00	120,000
(d)	Construct Rosita Valley Interceptor	
	15,000L.F. 12" @ \$22.00	330,000
(e)	Construct Rosita Valley Lift Station & Force Main	100,000
(f)	Construct Seco & Elm Creek Lift Station & Force Main	85,000
(g)	Construct Elm Creek Outfall 14,000L.F. 10" @ \$22.00	308,000
(h)	Construct Seco Creek Outfall 6,000L.F. 10" @ \$22.00	132,000
(i)	Construct 10,000L.F. of Collection System @ \$25.00	<u>250,000</u>
	TOTAL CONSTRUCTION	\$4,412,000
	Engineering	<u>450,000</u>
		\$4,862,000

YEAR THREE

(a)	Construct Phase Three of Regional Plant to capacity of 6 M.G.D.	\$2,500,000	
(b)	Construct Second Phase of River Outfall 17,000L.F. 36" @ \$65.00	1,105,000	
(c)	Construct 40,000L.F. of Collection System @ \$25.00	<u>1,000,000</u>	
	TOTAL CONSTRUCTION	\$4,605,000	
	Engineering	<u>500,000</u>	
			\$5,105,000

YEAR FOUR

(a)	Construct 80,000L.F. of Collection System @ \$25.00	\$2,000,000	
	Engineering	<u>200,000</u>	
			<u>\$ 2,200,000</u>
	TOTAL PROJECT		\$17,167,000
	CONTINGENCY		<u>833,000</u>
			\$18,000,000

With historical growth as a basis, Maverick County is expected to grow at an average of 3.5% per year.

With the existing population to be served by the proposed main treatment plant being approximately 35,000, the planned 6 M.G.D. plant will be adequate until the year 2004. At this point, additional capacity of 2.5 M.G.D. is proposed which will be adequate until 2015, when an additional 1.5 M.G.D. will be provided to carry the facility to the design population of 98,240 expected in the year 2020.



SINKING  
FUND

YEAR ONE - 1990

Expenditures

Construction - Grant Funds	\$3,000,000
Bond Funds	1,550,000
Local Funds	<u>450,000</u>
Total Construction	5,000,000
Operation & Maintenance	<u>400,000</u>

Total Cash Requirement

\$ 400,000

Income

In City 5500 x \$4.00 x 12	\$ 264,000
County 500 x \$6.00 x 12	36,000
Interest	<u>250,000</u>

Total Income

550,000

150,000

YEAR TWO - 1991

Expenditures

Construction - Grant Funds	\$3,000,000
Bond Funds	<u>2,000,000</u>
Total Construction	5,000,000
Operation & Maintenance	<u>400,000</u>

Total Cash Requirement

400,000

Income

In City 5500 x \$4.00 x 12	\$ 264,000
County 1500 x \$6.00 x 12	108,000
Connection Fees 1000 x \$300	300,000
Interest	<u>250,000</u>

Total Income

922,000

672,000

YEAR THREE - 1992

Expenditures

Construction - Grant Funds	\$4,500,000
Bond Funds	<u>500,000</u>
Total Construction	5,000,000
Debt Service	408,000
Operation & Maintenance	<u>400,000</u>

Total Cash Requirement

808,000

Income

In City 5500 x \$4.00 x 12	\$ 264,000
County 2500 x \$6.00 x 12	180,000
Connection Fees 1000 x \$300	300,000
Interest	<u>50,000</u>

Total Income

794,000

658,000

YEAR FOUR - 1993

Expenditures

Construction - Grant Funds	\$3,000,000
Debt Service	408,000
Operation & Maintenance	<u>450,000</u>

Total Cash Requirement 858,000

Income

In City 5500 x \$4.00 x 12	\$ 264,000
County 5500 x \$6.00 x 12	396,000
Connection Fees 3000 x \$300	900,000
Interest	<u>50,000</u>

Income 1,610,000

1,410,000

YEAR FIVE - 1994

Expenditures

Debt Service	\$ 408,000
Operation & Maintenance	<u>500,000</u>

Total Cash Requirement 908,000

Income

In City 6000 x \$4.00 x 12	\$ 288,000
County 6000 x \$6.00 x 12	432,000
Connection Fees 400 x 300	120,000
Interest	<u>112,800</u>

Income 952,800

1,454,800

YEAR SIX - 1995

Expenditures

Debt Service	\$ 408,000
Operation & Maintenance	<u>500,000</u>

Total Cash Requirement 908,000

Income

In City 6500 x \$4.00 x 12	\$ 312,000
County 6000 x \$6.00 x 12	432,000
Connection Fees 400 x \$300	120,000
Interest	<u>115,000</u>

Income 979,000

1,525,800

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YEAR SEVEN - 1996

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 550,000

Total Cash Requirement 958,000

Income

In City 7000 x \$4.00 x 12 \$ 336,000  
County 5300 x \$6.00 x 12 381,600  
Connection Fees 400 x \$300 120,000  
Interest 120,000

Income 957,600

YEAR EIGHT - 1997

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 600,000

Total Cash Requirement 1,008,000

Income

In City 7500 x \$4.60 x 12 \$ 414,000  
County 5300 x \$7.00 x 12 445,200  
Connection Fees 450 x \$300 135,000  
Interest 120,000

Income 1,114,200

1,631,600

YEAR NINE - 1998

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 610,000

Total Cash Requirement 1,018,000

Income

In City 8000 x \$4.60 x 12 \$ 441,600  
County 5246 x \$7.00 x 12 440,664  
Connection Fees 460 x \$300 138,000  
Interest 130,000

Income 1,150,264

1,763,864

YEAR TEN - 1999

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 650,000

Total Cash Requirement

1,058,000

Income

In City 8500 x \$4.60 x 12 \$ 469,200  
County 5128 x \$7.00 x 12 430,752  
Connection Fees 475 x \$300 142,500  
Interest 136,000

Income

1,178,452

1,884,316

YEAR ELEVEN - 2000

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 650,000

Total Cash Requirement

1,058,000

Income

In City 9000 x \$4.60 x 12 \$ 496,800  
County 5100 x \$7.00 x 12 428,400  
Connection Fees 490 x \$300 147,000  
Interest 150,000

Income

1,222,200

2,048,516

YEAR TWELVE - 2001

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 675,000

Total Cash Requirement

1,083,000

Income

In City 9500 x \$4.60 x 12 \$ 524,400  
County 5100 x \$7.00 x 12 428,400  
Connection Fees 510 x \$300 153,000  
Interest 160,000

Income

1,265,800

2,231,316

YEAR THIRTEEN - 2002

Expenditures

Debt Service	\$ 408,000
Operation & Maintenance	<u>710,000</u>

Total Cash Requirement 1,118,000

Income

In City 10000 x \$4.60 x 12	\$ 552,000
County 5100 x \$7.00 x 12	428,400
Connection Fees 530 x \$300	159,000
Interest	<u>180,000</u>

Income 1,319,400

2,432,716

YEAR FOURTEEN - 2003

Expenditures

Construction	\$2,800,000
Debt Service	408,000
Operation & Maintenance	<u>750,000</u>

Total Cash Requirement 3,958,000

Income

In City 10500 x \$4.60 x 12	\$ 579,600
County 5100 x \$7.00 x 12	428,400
Connection Fees 550 x \$300	165,000
Interest	<u>190,000</u>

Income 1,363,000

(162,284)

YEAR FIFTEEN - 2004

Expenditures

Debt Service	\$ 408,000
Operation & Maintenance	<u>800,000</u>

Total Cash Requirement 1,208,000

Income

In City 11000 x \$5.00 x 12	\$ 660,000
County 5200 x \$8.00 x 12	499,200
Connection Fees 566 x \$300	169,800
	1,329,000
Interest	<u>(5,000)</u>

Income 1,361,200

48,916

YEAR SIXTEEN - 2005

Expenditures

Debt Service \$ 408,000  
 Operation & Maintenance 850,000

Total Cash Requirement 1,258,000

Income

In City 11500 x \$5.00 x 12 \$ 690,000  
 County 5200 x \$8.00 x 12 499,200  
 Connection Fees 590 x \$300 177,000

1,366,200

Interest (5,000)

Income 1,361,200

48,916

YEAR SEVENTEEN - 2006

Expenditures

Debt Service \$ 408,000  
 Operation & Maintenance 875,000

Total Cash Requirement 1,283,000

Income

In City 12000 x \$5.00 x 12 \$ 720,000  
 County 5340 x \$8.00 x 12 512,640  
 Connection Fees 606 x \$300 181,800  
 Interest 5,000

Income 1,419,440

185,356

YEAR EIGHTEEN - 2007

Expenditures

Debt Service \$ 408,000  
 Operation & Maintenance 900,000

Total Cash Requirement 1,308,000

Income

In City 12500 x \$5.00 x 12 \$ 750,000  
 County 5450 x \$8.00 x 12 523,200  
 Connection Fees 630 x \$300 189,000  
 Interest 16,000

Income 1,478,200

355,556

YEAR NINETEEN - 2008

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 950,000

Total Cash Requirement 1,358,000

Income

In City 13000 x \$5.00 x 12 \$ 780,000  
County 5575 x \$8.00 x 12 535,200  
Connection Fees 650 x \$300 195,000  
Interest 30,000

Income 1,540,200

537,756

YEAR TWENTY - 2009

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 1,000,000

Total Cash Requirement 1,408,000

Income

In City 13500 x \$5.00 x 12 \$ 810,000  
County 5725 x \$8.00 x 12 549,600  
Connection Fees 673 x \$300 201,900  
Interest 45,000

Income 1,606,500

736,256

YEAR TWENTY ONE - 2010

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 1,200,000

Total Cash Requirement 1,608,000

Income

In City 14000 x \$5.00 x 12 \$ 840,000  
County 5898 x \$8.00 x 12 566,208  
Connection Fees 695 x \$300 208,500  
Interest 65,000

Income 1,674,708

802,964

YEAR TWENTY TWO - 2011

Expenditures

Debt Service \$ 408,000  
Operation & Maintenance 1,500,000

Total Cash Requirement 1,908,000

Income

In City 14500 x \$5.00 x 12 \$ 870,000  
County 6100 x \$8.00 x 12 585,600  
Connection Fees 720 x \$300 216,000  
Interest 65,000

Income 1,736,600

631,564

YEAR TWENTY THREE - 2012

Expenditures

Operation & Maintenance \$1,800,000

Total Cash Requirement 1,800,000

Income

In City 15000 x \$5.00 x 12 \$ 900,000  
County 6315 x \$8.00 x 12 606,240  
Connection Fees 750 x \$300 225,000  
Interest 50,000

Income 1,781,240

612,804

YEAR TWENTY FOUR - 2013

Expenditures

Operation & Maintenance \$1,600,000

Total Cash Requirement 1,600,000

Income

In City 15500 x \$5.00 x 12 \$ 930,000  
County 6561 x \$8.00 x 12 629,856  
Connection Fees 770 x \$300 231,000  
Interest 50,000

Income 1,840,856

853,660



YEAR TWENTY FIVE - 2014

Expenditures

Construction \$2,000,000  
Operation & Maintenance 1,500,000

Total Cash Requirement 3,500,000

Income

In City 16000 x \$5.00 x 12 \$ 960,000  
County 6833 x \$8.00 x 12 655,968  
Connection Fees 800 x \$300 240,000  
Interest 68,000

Income 1,923,968 (722,372)

YEAR TWENTY SIX - 2015

Expenditures

Operation & Maintenance \$1,600,000

Total Cash Requirement 1,600,000

Income

In City 16500 x \$6.00 x 12 \$1,188,000  
County 7132 x \$9.00 x 12 770,256  
Connection Fees 830 x \$300 249,000  
2,207,256  
Interest (58,000)

Income 2,149,256 (173,116)

YEAR TWENTY SEVEN - 2016

Expenditures

Operation & Maintenance \$1,700,000

Total Cash Requirement 1,700,000

Income

In City 17000 x \$6.00 x 12 \$1,224,000  
County 7500 x \$9.00 x 12 810,000  
Connection Fees 850 x \$300 255,000  
2,289,000  
Interest (13,000)

Income 2,276,000 402,884

YEAR TWENTY EIGHT - 2017

Expenditures

Operation & Maintenance \$1,800,000

Total Cash Requirement 1,800,000

Income

In City 17500 x \$6.00 x 12 \$1,260,000

County 7815 x \$9.00 x 12 844,020

Connection Fees 890 x \$300 267,000

Interest 32,000

Income 2,403,020

1,005,904

YEAR TWENTY NINE - 2018

Expenditures

Operation & Maintenance \$2,000,000

Total Cash Requirement 2,000,000

Income

In City 18000 x \$6.00 x 12 \$1,296,000

County 8200 x \$9.00 x 12 885,600

Connection Fees 917 x \$300 275,100

Interest 80,000

Income 2,536,700

1,542,604

YEAR THIRTY - 2019

Expenditures

Operation & Maintenance \$2,200,000

Total Cash Requirement 2,200,000

Income

In City 18500 x \$6.00 x 12 \$1,332,000

County 8618 x \$9.00 x 12 930,744

Connection Fees 950 x \$300 285,000

Interest 120,000

Income 2,667,744

2,010,348

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YEAR THIRTY ONE - 2020

Expenditures

Operation & Maintenance \$2,400,000

Total Cash Requirement 2,400,000

Income

In City 19000 x \$6.00 x 12 \$1,368,000

County 9067 x \$9.00 x 12 979,236

Connection Fees 980 x \$300 294,000

Interest 160,000

Income 2,801,236

2,411,584

## REGIONAL WATER PLAN

The facilities plan for treatment and distribution of potable water provides for all water supply to be under the operation of a regional authority.

Under this Plan, the Eagle Pass Water Works Board would acquire the El Indio Water System, the County system at the Radar Base, and would construct a new system at Quemado.

All distribution systems would be gradually upgraded to the standards of the Eagle Pass Water Works and interconnections would be made as deemed desirable.

The initial capital cost for treatment and distribution would include construction of a package plant at Quemado and a distribution system to serve the Quemado area. This is estimated to be approximately \$750,000. Additional system improvements, main extensions, interconnects, and modifications to existing county treatment facilities are estimated at \$1,250,000.

Lack of water and water rights are a continuing impediment to development in the region and the regional water supply plan proposes to augment the existing water supply from the Rio Grande River by construction of a surface water reservoir on the Elm Creek Drainage basin. This reservoir will capture water from a vast drainage area of approximately 100 square miles. Water from this reservoir will be processed through a main treatment facility, or can be pumped into the Maverick County Water District Canal to replace water which was treated at the satellite treatment facilities at Quemado, the Radar Base, and El Indio.

A detailed study of this proposed reservoir is beyond the scope of this report, but the preliminary investigations indicate the general feasibility of its development.

The construction of the reservoir would require the acquisition of approximately 1200 - 1500 acres of land and construction of a dam approximately 4,000 feet long and approximately 50 feet in height.

The preliminary cost estimate for the impoundment project is between \$6 and \$8 million and the preliminary firm yield is estimated to be 3,000 - 5,000 acre ft./yr.

### Financing

The existing debt of the Eagle Pass Water Works consists of two issues, \$1,015,000 to

be retired in 2001 at \$137,475 per year, and \$655,000 to be retired in 2003 at \$72,000 per year.

The existing debt of the El Indio System consists of two issues, \$388,356 to be retired in 2019 at \$33,876 per year, and \$575,000 to be retired in 2029 at \$39,612.

The existing operating and maintenance cost for each system is \$200,000 for the El Indio System and \$1,750,000 for the Eagle Pass Water Works.

The financing plan for the water system improvements totaling approximately \$10,000,000 is based on a grant amount of \$7.5 million, local funds of \$250,000 and Water Development bond funds of \$2,250,000 at 8% interest.

The following schedule provides for average water rates of \$20.00 per connection in 1990, increasing to \$24.00 per connection by 2005.

The debt service provides for servicing the existing debt of approximately \$1.7 million City water works debt and approximately \$1.0 million El Indio water supply debt plus \$2.25 million in new bond debt.

The operation and maintenance figures were based on historical figures for existing systems and the system expansion costs have been included to cover upgrading and expanding service during the first six years. Beginning in year 9, or 1998, it is proposed to invest approximately \$2,000,000 per year in new plant.

YEAR ONE - 1990 200,000

Expenditures

Construction - Grant Funds	3,750,000
Bond Funds	1,125,000
Local Funds	<u>125,000</u>
Total Construction	5,000,000
Debt Service - Existing	283,000
Operation & Maintenance	<u>2,000,000</u>

Total Cash Requirement

2,283,000

Income

8500 Connections @ \$20.00 x 12	2,040,000
Interest	<u>16,000</u>

Income

2,056,000

(27,000)

YEAR TWO - 1991

Expenditures

Construction - Grant Funds	3,750,000
Bond Funds	1,125,000
Local Funds	<u>125,000</u>
Total Construction	5,000,000
Debt Service - Existing	283,000
New	224,496
Operation & Maintenance	<u>2,000,000</u>

Total Cash Requirement

2,507,496

Income

11000 Connections @ \$20.00 x 12	2,640,000
Interest	<u>(2,160)</u>

Income

2,637,840

103,344

YEAR THREE - 1992

Expenditures

Debt Service - Existing	283,000
New	224,496
Operation & Maintenance	<u>2,000,000</u>

Total Cash Requirement

2,507,496

Income

11,400 Connections @ \$20.00 x 12	2,736,000
Interest	<u>8,267</u>

Income

2,744,267

340,115

YEAR FOUR - 1993

Expenditures

Debt Service - Existing	
New	283,000
Operation & Maintenance	224,496
System Upgrade	2,000,000
	<u>500,000</u>

Total Cash Requirement

3,007,496

Income

11,800 Connections @ \$20.00 x 12	2,832,000
Interest	<u>27,209</u>

Income

2,859,209

191,828

YEAR FIVE - 1994

Expenditures

Debt Service - Existing	
New	283,000
Operation & Maintenance	224,496
System Upgrade	2,000,000
	<u>500,000</u>

Total Cash Requirement

3,007,496

Income

12,213 Connections @ \$20.00 x 12	2,931,120
Interest	<u>15,346</u>

Income

2,946,466

130,798

YEAR SIX - 1995

Expenditures

Debt Service - Existing	
New	283,000
Operation & Maintenance	224,496
System Upgrade	2,000,000
	<u>500,000</u>

Total Cash Requirement

3,007,496

Income

12,200 Connections @ \$20.00 x 12	2,928,000
Interest	<u>10,464</u>

Income

2,938,464

61,766

YEAR SEVEN - 1996

Expenditures

Debt Service - Existing	283,000
New	224,496
Operation & Maintenance	<u>2,200,000</u>

Total Cash Requirement

2,707,496

Income

12,600 Connections @ \$20.00 x 12	3,024,000
Interest	<u>4,941</u>

Income

3,028,941

383,211

YEAR EIGHT - 1997

Expenditures

Debt Service - Existing	283,000
New	224,496
Operation & Maintenance	<u>2,500,000</u>

Total Cash Requirement

3,007,496

Income

13,100 Connections @ \$22.00 x 12	3,458,400
Interest	<u>30,657</u>

Income

3,489,057

864,772

YEAR NINE - 1998

Expenditures

Debt Service - Existing	283,000
New	224,496
Operation & Maintenance	2,500,000
New Plant Construction	<u>1,000,000</u>

Total Cash Requirement

4,007,496

Income

13,600 Connections @ \$22.00 x 12	3,590,400
Interest	<u>69,182</u>

Income

3,659,582

516,858



YEAR TEN - 1999

Expenditures

Debt Service - Existing	283,000
New	224,496
Operation & Maintenance	2,500,000
New Plant Construction	<u>1,000,000</u>

Total Cash Requirement 4,007,496

14,100 Connections @ \$22.00 x 12	3,722,400
Interest	<u>41,349</u>

Income 3,763,749

273,111

YEAR ELEVEN - 2000

Expenditures

Debt Service - Existing	283,000
New	224,496
Operation & Maintenance	2,500,000
New Plant	<u>1,000,000</u>

Total Cash Requirement 4,007,496

Income	
14,600 Connections @ \$23.00 x 12	4,029,600
Interest	<u>21,849</u>

Income 4,051,449

317,064

YEAR TWELVE - 2001

Expenditures

Debt Service - Existing	283,000
New	224,496
Operation & Maintenance	2,500,000
New Plant	<u>1,000,000</u>

Total Cash Requirement 4,007,496

Income	
15,100 Connections @ \$23.00 x 12	4,167,600
Interest	<u>25,365</u>

Income 4,192,965

502,533

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YEAR THIRTEEN - 2002

Expenditures

Debt Service - Existing	145,525
New	224,496
Operation & Maintenance	2,500,000
New Plant	<u>1,500,000</u>

Total Cash Requirement 4,370,021

Income

15,630 Connections @ \$24.00 x 12	4,501,440
Interest	<u>40,203</u>

Income 4,541,643

674,155

YEAR FOURTEEN - 2003

Expenditures

Debt Service - Existing	145,525
New	224,496
Operation & Maintenance	2,500,000
New Plant	<u>1,500,000</u>

Total Cash Requirement 4,370,021

Income

16,177 Connections @ \$24.00 x 12	4,658,976
Interest	<u>53,932</u>

Income 4,712,908

1,017,042

YEAR FIFTEEN - 2004

Expenditures

Debt Service - Existing	73,525
New	224,496
Operation & Maintenance	2,500,000
New Plant	<u>1,500,000</u>

Total Cash Requirement 4,298,021

Income

16,750 Connections @ \$24.00 x 12	4,824,000
Interest	<u>81,363</u>

Income 4,905,363

1,624,384

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YEAR SIXTEEN - 2005

Expenditures

Debt Service - Existing	73,525
New	224,496
Operation & Maintenance	2,700,000
New Plant	<u>2,000,000</u>

Total Cash Requirement 4,998,021

Income

17,350 Connections @ \$24.00 x 12	4,996,800
Interest	<u>129,951</u>

Income 5,126,751

1,753,114

YEAR SEVENTEEN - 2006

Expenditures

Debt Service - Existing	73,525
New	224,496
Operation & Maintenance	2,700,000
New Plant	<u>2,000,000</u>

Total Cash Requirement 4,998,021

Income

18,000 Connections @ \$24.00 x 12	5,184,000
Interest	<u>140,249</u>

Income 5,324,249

2,079,342

YEAR EIGHTEEN - 2007

Expenditures

Debt Service - Existing	73,525
New	224,496
Operation & Maintenance	2,800,000
New Plant	<u>2,000,000</u>

Total Cash Requirement 5,098,021

Income

18,600 Connections @ \$24.00 x 12	5,356,800
Interest	<u>166,347</u>

Income 5,523,147

2,504,468

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YEAR NINETEEN - 2008

Expenditures

Debt Service - Existing	73,525
New	224,496
Operation & Maintenance	3,000,000
New Plant	<u>2,000,000</u>

Total Cash Requirement 5,298,021

Income

19,250 Connections @ \$24.00 x 12	5,544,000
Interest	<u>200,357</u>

Income 5,744,357

2,950,804

YEAR TWENTY - 2009

Expenditures

Debt Service - Existing	73,525
New	224,496
Operation & Maintenance	3,200,000
New Plant	<u>2,000,000</u>

Total Cash Requirement 5,498,021

Income

20,000 Connections @ \$24.00 x 12	5,760,000
Interest	<u>236,064</u>

Income 5,996,064

3,448,847

YEAR TWENTY ONE - 2010

Expenditures

Debt Service - Existing	73,525
New	224,496
Operation & Maintenance	3,500,000
New Plant	<u>2,000,000</u>

Total Cash Requirement 5,798,021

Income

20,700 Connections @ \$24.00 x 12	5,961,600
Interest	<u>275,908</u>

Income 6,237,508

3,888,334

YEAR TWENTY TWO - 2011

Expenditures

Debt Service - Existing	73,525
Operation & Maintenance	3,800,000
New Plant	<u>2,000,000</u>

Total Cash Requirement	5,873,525
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Income

21,500 Connections @ \$24.00 x 12	6,192,000
Interest	<u>311,066</u>

Income	6,503,066
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4,517,875

YEAR TWENTY THREE - 2012

Expenditures

Debt Service	73,525
Operation & Maintenance	4,500,000
New Plant	<u>2,000,000</u>

Total Cash Requirement	4,713,780
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Income

22,250 Connections @ \$24.00 x 12	6,408,000
Interest	<u>361,430</u>

Income	6,769,430
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4,713,780

YEAR TWENTY FOUR - 2013

Expenditures

Debt Service	73,525
Operation & Maintenance	5,000,000
New Plant	<u>2,000,000</u>

Total Cash Requirement	7,073,525
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Income

23,000 Connections @ \$24.00 x 12	6,624,000
Interest	<u>377,102</u>

Income	7,001,102
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4,641,357

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YEAR TWENTY FIVE - 2014

Expenditures			
Debt Service	73,525		
Operation & Maintenance	5,000,000		
New Plant	<u>2,000,000</u>		
Total Cash Requirement		7,073,525	
Income			
23,800 Connections @ \$24.00 x 12	6,854,400		
Interest	<u>371,309</u>		
Income		7,225,709	4,793,541

YEAR TWENTY SIX - 2015

Expenditures			
Debt Service	73,525		
Operation & Maintenance	5,500,000		
New Plant	<u>2,000,000</u>		
Total Cash Requirement		7,573,525	
Income			
24,600 Connections @ \$24.00 x 12	7,084,800		
Interest	<u>383,483</u>		
Income		7,468,283	4,688,299

YEAR TWENTY SEVEN - 2016

Expenditures			
Debt Service	73,525		
Operation & Maintenance	6,000,000		
New Plant	<u>2,000,000</u>		
Total Cash Requirement		8,073,525	
Income			
25,400 Connections @ \$24.00 x 12	7,315,200		
Interest	<u>375,064</u>		
Income		7,690,264	4,305,038

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YEAR TWENTY EIGHT - 2017

Expenditures

Debt Service	73,525
Operation & Maintenance	6,000,000
New Plant	<u>2,000,000</u>

Total Cash Requirement 8,073,525

Income

26,300 Connections @ \$24.00 x 12	7,574,400
Interest	<u>344,403</u>

Income 7,918,803

4,150,316

YEAR TWENTY NINE - 2018

Expenditures

Debt Service	73,525
Operation & Maintenance	5,500,000
New Plant	<u>2,000,000</u>

Total Cash Requirement 7,573,525

Income

27,200 Connections @ \$24.00 x 12	7,833,600
Interest	<u>332,025</u>

Income 8,165,625

4,742,416

YEAR THIRTY - 2019

Expenditures

Debt Service	73,525
Operation & Maintenance	5,500,000
New Plant	<u>2,000,000</u>

Total Cash Requirement 7,573,525

Income

28,100 Connections @ \$24.00 x 12	8,092,800
Interest	<u>379,393</u>

Income 8,472,193

5,641,084

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YEAR THIRTY ONE - 2020

Expenditures

Debt Service	39,649
Operation & Maintenance	6,000,000
New Plant	<u>2,000,000</u>

Total Cash Requirement	8,039,649
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Income

29,000 Connections @ \$24.00 x 12	8,352,000
Interest	<u>451,287</u>

Income	8,803,287
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6,404,722



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## **EXHIBITS**

Water Conservation and Drought Contingency Plan

Kendall County, Texas, Subdivision Regulations

Survey of Existing Services in the Area

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## CITY OF EAGLE PASS

### WATER CONSERVATION AND DROUGHT CONTINGENCY PLAN

#### INTRODUCTION

##### A. Purpose:

The Texas Water Development Board has promulgated Financial Assistance Rules which require water conservation planning for the City of Eagle Pass. The origin of these requirements is action taken by the 65th Texas Legislature in 1985. The conservation requirements were established by House Bill (HB) 2 and House Joint Resolution (HJR) 6. On November 5, 1985, Texas voters approved an amendment to the Texas Constitution that provided for the implementation of HB 2. This document provides specific guidelines for developing conservation and drought contingency plans and programs that will meet the regulatory requirements of the Texas Water Development Board.

Since the early 1960's, per capita water use in the state has increased approximately four (4) gallons per capita per decade. More important, per capita water use during droughts is typically about one-third greater during periods of average precipitation.

Water used in residential and commercial sector involves day-to-day activities of all citizens of the state and includes water used for drinking, bathing, cooking, toilet flushing, fire protection, lawn watering, swimming pools, laundry, dish washing, car washing, and sanitation. The objective of a conservation program is to reduce the quantity required for each water activity, where practical, through implementation of efficient water use practices. The drought contingency program provides procedures for both voluntary and mandatory actions placed in effect to temporarily reduce usage demand occurring during a water shortage crisis. Drought contingency procedures include water conservation and prohibition of certain uses. Both are tools that city officials will have available to effectively operate in all situations.

##### B. Planning Area:

The planning area spans from Quemado Village in the northern limits of the County, to El Indio Village at the southern most end of the county and includes the Maverick County Air Base/Industrial Park, Seco Mines, Hopedale Elm Creek Communities

to the north of the City of Eagle Pass, the City of Eagle Pass, Eidson Road, Las Quintas Fronterias, Chula Vista, Pueblo Nuevo, Rosita Valley and the Kickapoo Indian Tribe Village on the south.

By current definition, these unplatted subdivisions are referred to as Colonias.

There are three principal water systems in existence at this time. The Maverick County Air Base/Industrial Park, the City of Eagle Pass Waterworks System, and the El Indio Water Supply Corporation. All three systems are dependent of water allocations out of the middle section of the Rio Grande River and released out of Amistad Reservoir at Del Rio, Texas. While the City of Eagle Pass has an elaborate division point and pumping system, the other two systems depend on the Maverick County WC & ID No. 1 canal system for raw water supply. The County of Maverick and the El Indio Water Supply Corporation have contracts with the Water District for a specific amount of water out of the District's total annual allocation of new irrigation and livestock water. The WC&ID's current non-agricultural allocation is committed. The District would have to petition the Texas Water Commission for permit amendment before either of the two systems can expand their service areas, or their customer base in their designated service areas.

The Maverick County WC & ID No. 1 has numerous other political subdivisions, who divert water out of the middle section as well as the lower section, who would welcome the opportunity to attach the Maverick permit and its irrigation allegation. This, along with sporadic releases through the Amistad Dam and its effect on the operation of the Maverick District's 150 miles of gravity flow canals, should cause great concern and support the need for a comprehensive water conservation plan.

The community of Quemado currently pumps water from individually owned shallow wells. Concrete lining of many of the subcanals or "laterals" in the Quemado Valley has lowered the water table drastically and it is beginning to effect the quality of water in the area. The citizens of Quemado are attempting to create a water supply corporation. Since the community does not have water allocated in the Amistad Reservoir and the Rio Grande River, they must turn to the Maverick County WC & ID No. 1 for raw water.

The projected growth of the City of Eagle Pass over the next 30 years (2020) and the availability, or lack thereof, of quality raw water creates the need for a comprehensive but flexible water conservation plan along with the development of additional surface water sources. The ground water in the planning area is unacceptable for domestic or agricultural uses.

C. Goals:

The study area is recognized as being second lowest per capita income area in the State of Texas. While the economic situation is unfortunate for the majority of the area's residents, the lack of available income in the same homes also promotes water conservation. The average per capital daily use is 132 gallons. However, it usually is the same families who are struggling to make ends meet, who are not aware of the latest water conservation methods.

Currently, the City Water Works System includes "mail outs" in both English and Spanish as part of their annual water conservation program. The system also works through the Eagle Pass Independent School District's principals and teachers to reach the children in the community. This program includes tours of the water treatment plant the discussions with the employees of the system.

The nine principal conservation methods considered in developing the Water Conservation for the study area include, but are not necessarily limited to:

1. Education and Public Information Programs
2. Plumbing Codes
3. Retrofit Programs for Existing Facilities
4. Conservation Oriented Water and Wastewater Rate Structure
5. Universal Meter and Systematic Meter Repairs
6. Water Conservation Landscaping
7. Leak Detection and Repair Programs
8. Recycling and Reuse
9. Means of Implementation and Enforcement

The drought contingency plan is defined in Chapter 27 of the Codes of the City of Eagle Pass, and more specifically in Section 27-9. The codes permit the Manager of the Eagle Pass Water Works System, and without interference from the Board of Trustees of the Water Works System, to declare that a state of emergency exists and to impose the following regulations:

1. No person shall use water to sprinkle lawns.
2. No person shall use water to wash motor vehicles.
3. No person shall use water to wash down the drives of service stations.
4. No person shall operate any evaporative cooler not equipped with recirculating pump.
5. Residents of the city will be served with water during the hours between 6:00 a.m. and 8:00 a.m., between 11:00 a.m. and 1:30 p.m. and between 6:00 p.m. and 9:00 p.m. daily.

The City shall cut off water service to any person violating the above provisions.

D. Utility System Evaluation Data:

1. Population of Service Area = 35,000 +
2. Area of Service = 3825 Acres
3. Number of and Type of 5/8" Meters
  - a. Residential 6208
  - b. Commercial 776
  - c. Government 142
4. Net Rate of New Connection Additions in 1988 (Less Disconnects)
  - a. Residential 207
  - b. Commercial 1
  - c. Government -11
5. Water Use Information
  - a. Water Production 1,212,829,000 (gal./yr.)(1988)
  - b. Avg. Water Production 1,138,427,000 (gal./yr)(88&87)
  - c. Avg. Monthly Production 94,869,000 (gal./mo.)
  - d. Estimated Monthly Water Sales by Category (gallons) - 1988

Month	Residential	Commercial	Government	Total
January	55,123,000	16,858,000	8,250,000	80,231,000
February	44,541,000	14,573,000	8,362,000	67,476,000
March	67,649,000	19,670,000	12,108,000	99,427,000
April	69,449,000	17,765,000	11,912,000	99,126,000
May	75,043,000	16,611,000	13,122,000	104,776,000
June	97,439,000	26,557,000	15,890,000	139,886,000
July	76,417,000	21,867,000	13,554,000	111,838,000
August	65,333,000	17,642,000	10,232,000	93,207,000
September	93,002,000	21,142,000	15,481,000	129,625,000
October	61,691,000	16,877,000	11,922,000	90,490,000
November	52,707,000	15,621,000	9,667,000	77,995,000
December	53,326,000	17,121,000	9,096,000	79,543,000
<b>TOTAL</b>	<b>811,720,000</b>	<b>222,304,000</b>	<b>139,596,000</b>	<b>1,173,620,000</b>

- e. Average Daily Water Use 3,215,397 gpd
- f. Peak Daily Water Use 4,662,867 gpd
- g. Peak to Average Use Ratio 1.19
- h. Unaccounted Water 10%

6. Wastewater Information
  - a. Percent of potable water customers served by wastewater system 75%
  - b. Percent of potable water customers who have septic tanks or other private disposal systems 25%
  - c. Percent of potable water customers served by another wastewater treatment facility 0%
  - d. Average daily wastewater treated 2.3 million gal.
  - e. Peak daily wastewater flows 2.8 million gal.
  - f. Estimated percent of wastewater flows to the City's wastewater facilities that originate from the following:
    - i) Residential 85%
    - ii) Commercial 13
    - iii) Stormwater 2
7. Safe Annual Yield of Water Supply 6,762 acre ft./yr.
8. Peak Daily Design Capacity of Water System 12,000,000 gpd
9. Major Water Customers
 

Users	Gallons Per Month (AVG)
a. Housing Authority	5,721,000
b. SESA	3,783,000
c. Eagle Pass ISD	3,208,000
10. Percent of Water Supply Connections in System which are Metered 100%
11. Water Rate Structure
 

Minimum (Inside City Limits)	\$2.34
Minimum (Outside City Limits)	\$3.51

Wastewater Rate Structure

- Residential - 60% of Water Consumption @ \$.40/1000 gal.
- Commercial - 100% of Water Consumption @ \$.40/1000 gal.

- 
12. Average Annual Revenues from Water Sales
    - a. Water Sales \$1,800,000
    - b. Sewer Sales 230,000
  13. Average Annual Revenues from Non Rate Derived Sources
    - a. Water \$ 200,000
    - b. Sewer 128,000
  14. Average Annual Cost of Operation
    - a. Water \$1,600,000
    - b. Sewer 375,000

## WATER CONSERVATION PLAN

### A. Plan Elements

#### 1. Education and Information

The City of Eagle Pass, through its Water Works System, will promote water conservation by informing water users of methods to conserve water inside their homes and other buildings, in landscaping and lawn uses, and in recreation uses. Information will be distributed to water users as follows:

##### a. Initial Year

- i) The initial year shall include all the activities outlined in the Maintenance Program as set forth below.
- ii) Distribution of a fact sheet in English and Spanish explaining the newly adopted Water Conservation Program and the elements of the Drought Contingency Plan. The initial fact sheet shall be included with the first distributions of educational material.
- iii) An additional activity, above that scheduled in the Maintenance Program, shall be conducted through the Eagle Pass School System, a door-to-door hand out or mailout. The activity should include an outline of the program and its benefits.

##### b. Maintenance Program

- i) Distribution of educational materials will be made semi-annually, timed to correspond with peak summer demand periods. The city currently practices this program and will incorporate material available from the American Water Works Association (AWWA), Texas Water Development Board (TWDB), and other similar associations to expand the scope of this project.
- ii) Regular articles will be published in the Eagle Pass News Guide and possible the Zocolo and presented over one or both of the local TV stations. These presentations will correspond to the mailouts or more often, if conditions warrant.



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- iii) New customers will be provided with general conservation literature when applying for service.

## 2. Plumbing Codes

The City of Eagle Pass has adopted Appendix J of the 1985 version of the Standard Building Code which requires water saving plumbing devices on all new construction. The Code has been in effect for several years. The City will amend the Code to include insulation of all hot water heater pipes and new swimming pools shall have appropriate filtration equipment.

## 3. Retrofit Program

The Eagle Pass Water Works System will make available, through its education and information programs, information for water customer's use when purchasing and installing plumbing fixtures, lawn watering equipment, or using appliances. The advertising program will inform existing users of the advantages of installing water savings devices. The City will contact local plumbing and hardware stores and encourage them to stock water conserving fixtures including retrofit devices.

## 4. Water Rate Structures

The City of Eagle Pass has adopted a conservation-oriented water rate structure. The rate structure takes the form of a continuously increasing rate structure, while each additional 1,000 gallons cost more per unit than the prior. This rate structure has been in effect since 1981 when it dropped usage per connection by 30 percent.

The first block or base level was established at a rate equal to or above that actual cost of providing service. The City will make a concerted effort to assure that a block rate structure will not place an excessive burden on the poor or fixed income residents. Once the exact cost of the new construction is developed, the block rate structure can be placed in effect.

## 5. Universal Metering

All water users, including utility, City of Eagle Pass offices, and public facilities, are presently metered. Also, master meters are currently installed and periodically calibrated at all existing water sources.

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The Eagle Pass Water Works System, through its computer billing system, currently monitors water consumption and inspects meters which vary from its previously established norms.

6. Water Conserving Landscaping

Most homes and public facilities use landscaping materials indigenous to the arid area. In order to further reduce the demands placed on the water system by landscape watering, the City of Eagle Pass, through its information and education program, will encourage customers and local nursery companies to utilize water saving practices in installation of landscaping for residential and commercial institutions. Some of the methods to be promoted by the education and information program are as follows:

- a. Encourage nursery operators to use low water using plants and grasses and efficient irrigation systems.
- b. Encourage licensed irrigation contractors to use drip irrigation systems, where possible, and to design all irrigation systems with water conservation features, such as sprinklers which emit large drops rather than a fine mist and a sprinkler layout which accommodates prevailing wind patterns.
- c. Encourage commercial establishments to use drip irrigation for landscape watering, when practical, and to install only ornamental fountains that recycle and use minimal quantities of water.
- d. Encourage local nurseries to offer adapted, low water using plans and grasses and efficient watering devices.

7. Leak Detection and Repair

The City will utilize modern leak detection techniques in locating and reducing leaks. A continuous leak detection and repair program is a vital part of the Water Works System operations. A month accounting of water delivery efficiencies can be made by the Water Works System. Once located, all leaks are immediately repaired. Through its computerized billing program, the City can readily identify when excessive leakage occurs.

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8. Recycle and Reuse

The City of Eagle Pass owns and operates a wastewater treatment facility southwest of the City.

The City has a golf course watered by effluent from the treatment plant.

The City in its immediate wastewater regional study calls for a new treatment plant. Contact has been made with area farmers who currently purchase water from the Maverick County WC & ID for irrigation purposes to use the effluent from the new plant, transferring their allocation to other users.

9. Implementation/Enforcement

The Manager of the City of Eagle Pass Water Works System will act as the administrator of the Water Conservation Program. The Manager will oversee the execution and implementation of all elements of the program. He will be responsible to supervise the keeping of adequate records for program verification, and reporting same to the City Manager of the City of Eagle Pass.

The City will adopt the final approved plan and commit to maintain the program for the duration of the City's financial obligation to the State of Texas.

10. Annual Report

In addition to the above outlined responsibilities, the Administrator will submit an annual report to the Texas Water Development Board on the Water Conservation Plan. The report will include the following:

- a. Public information which has been issued
- b. Public response to plan
- c. Effectiveness of water conservation plan in replacing water consumption by providing production and sales records
- d. Implementation progress and status of plan

The plan will be enforced through adoption of the Water Conservation Plan by ordinance of the City Council of the City of Eagle Pass in the following manner:

- a. Service tap will not be provided to customers not meeting the plan requirements.
- b. The proposed block rate structure should encourage retrofitting of old plumbing fixtures which use large quantities of water.

- 
- c. Customers who do not pay their water bills will have service discontinued.
  - d. The building inspection will not issue certificates of occupancy to new construction which fails to meet the plan requirements.

The annual report will be submitted by the City of Eagle Pass Water Works System to the Texas Water Development Board on or before sixty days after the anniversary date of the loan closing each year.

11. **Contracts With Other Political Subdivisions**

The City will, as part of contract for sale of water to any other political subdivision, require that entity to adopt applicable provisions of the City's water conservation and drought contingency plan or have a plan in effect previously approved by the TWDB. These provisions will be through contractual agreement prior to the sale of any water to the political subdivision.

## DROUGHT CONTINGENCY PLAN

### A. Introduction

Drought and other uncontrollable circumstances can disrupt the normal availability of a community or utility water supplies. Even though the City of Eagle Pass may have an adequate water supply, the supply can become contaminated, or a disaster can destroy the supply. During drought periods, consumer demand is typically higher than under normal conditions. System treatment, storage, or distribution failures can also present the City of Eagle Pass with an emergency demand management situation.

It is important to distinguish drought contingency planning from water conservation planning. While water conservation involves implementing permanent water use efficiency or reuse practices, drought contingency plans establish temporary methods or techniques designed to be used only as long as the emergency exists.

An effective drought contingency plan should include the following six elements:

1. Trigger conditions signaling the start of an emergency period
2. Drought contingency measures
3. Information and education
4. Initiation procedures
5. Termination notification actions
6. Means of implementation

### B. System Constraints

The City of Eagle Pass Water Works System currently obtains potable water from Amistad Reservoir released through the middle section of the adjudicated Rio Grande River. Releases for the City of Eagle Pass may come through power plant releases or operating gate. The water is diverted at river mile 76.85 and pumped to the City's treatment plant above the River. From time to time the reservoir pool, during drought periods in the U.S. as well as Mexico, falls below normal levels and both the IBWC and Texas Water Commission implement new water release programs for the reservoir. The drought contingency plan is based on the availability of storage water or release practices at the dam.

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C. Trigger Conditions

The City of Eagle Pass will initiate drought contingency measures upon occurrence of the following conditions:

1. Mild Conditions

a. Daily water demand exceeds 700,000 gallons per day for three consecutive days.

or

b. Distribution pressure remains below 45 p.s.i. for more than 6 consecutive hours.

2. Moderate Conditions

3. Severe Conditions

D. Emergency Management Program

The following actions shall be taken by the City of Eagle Pass Water Works System when trigger conditions are reached:

1. Mild Conditions

a. Inform the public through the news media that a trigger condition has been reached, and that they should look for ways to voluntarily reduce water use. Specific steps which can be taken will be provided through the news media.

b. Notify major commercial water users of the situation and request voluntary water use reductions.

c. Publicize voluntary lawn watering schedule.

d. During winter months request water users to insulate pipes rather than running water to prevent freezing.

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2. Moderate Conditions

- a. Continue implementing all relevant actions in preceding phase.
- b. Car washing, window washing, pavement washing prohibited except when a bucket is used.
- c. The following public water use, not essential for public health or safety, are prohibited:
  1. Street washing
  2. Water hydrant flushing
  3. Filling swimming pools
  4. Athletic field watering
- d. The following mandatory watering schedule shall be implemented:

Customers with even numbered street addresses may water on odd numbered days of the month. Customers with odd numbered street addresses may water on even days of the month. Watering shall occur only between the hours of 6 - 10 a.m. and 8 - 10 p.m.

3. Severe Conditions

- a. Continue all relevant actions defined in the preceding phase
- b. Ban ALL outdoor water use.
- c. Set limits on water use by both commercial and residential users.
- d. Establish monetary fines for exceeding water use limits or violation of drought contingency plan. Notify all customers of penalties.

E. Information/Education

As a component of the Information/Education section in the Water Conservation Plan, the purpose and effect of the Drought Contingency Plan will be communicated to the public through articles in the Eagle Pass News Guide in English and Spanish, through the local television and radio stations and supplemented by pamphlets distributed at the same time.

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When trigger conditions appear to be approaching, the public will be notified through publication of articles in the Eagle Pass News Guide in English and Spanish, with information on water conservation methods.

When trigger conditions have passed, the City of Eagle Pass Water Works System will publish notification that the drought contingency measures are abated for that condition, and if applicable, will outline measures necessary for the reduced condition.

Throughout the period of a trigger condition, regular articles and programs will appear to explain and educate the public on the purpose, cause, and methods of conservation for that condition.

F. Implementation/Enforcement

It will be the responsibility of the Manager of the City of Eagle Pass Water Works System to monitor the status of the water supply and distribution systems. When a trigger condition is reached, the Manager will notify each entity through its chief executive officer, to begin implementation of the Drought Contingency Plan.

The Manager will continue to monitor the water emergency until it is determined that a trigger condition no longer exists. When this takes place, the Manager will notify each entity of such, and the Drought Contingency Abatement procedures will be implemented.

G. Update of Trigger Conditions

Annually, the City of Eagle Pass Water Works System will examine the production requirements and ability to maintain these requirements to determine if trigger conditions need to be re-established, and shall notify the City Council through the City Manager of such appropriate actions.



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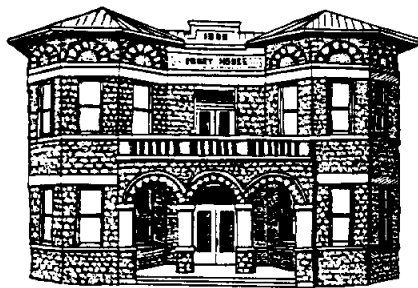
Maverick County will need to adopt sufficient land use controls to assure future compliance with the goals and objectives of this study.

The rules to be adopted must be specifically designed for Maverick County, but the attached Kendall County Subdivision Regulations provide a good model of a set of subdivision regulations that is presently in use and is effective in the control of suburban development.



**KENDALL COUNTY, TEXAS**  
**REGULATIONS, RULES AND SPECIFICATIONS**  
**FOR ROADS AND SUBDIVISIONS**

**1988**



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CHECKLISTS--Checklists located at the end of these Regulations, Rules and Specifications are intended only as an aid to persons using this document, and do not, in themselves, define or limit the requirements as fully stated in the Regulations, Rules and Specifications.

KENDALL COUNTY, TEXAS  
REGULATIONS, RULES AND SPECIFICATIONS  
FOR ROADS AND SUBDIVISIONS

Regulating the Filing for Record of Subdivision Plats and Establishing Construction Standards and Other Requirements Pertinent thereto for all Subdivisions Outside the Boundaries of an Incorporated Town or City in Kendall County, Texas, and Subject to the Jurisdiction of the Commissioners Court of Kendall County.

THE STATE OF TEXAS  
COUNTY OF KENDALL

It is ordered by the Commissioners Court of Kendall County, Texas on this 15th day of March, 1988, that the following Regulations Rules and Specifications be adopted listing requirements precedent to the acceptance of plats of subdivisions for filing for record in Kendall County, Texas.

SYNOPSIS

100	General Provisions
200	Plat Procedure
300	Subdivision Standards
400	Design Criteria
500	Performance Guarantees
600	Figures and Tables

100 GENERAL PROVISIONS

The owner of a tract of land located outside the limits of a municipality who divides the tract into two or more parts to lay out a subdivision of the tract, including an addition, or to lay out suburban lots or building lots, or to lay out streets, alleys, squares, parks or other parts of the tract intended to be dedicated to public use of purchasers or owners of lots fronting on or adjacent to the streets, alleys, squares, parks or other parts must have a plat of the subdivision prepared and must comply with the following rules and regulations.

- a) For an area in municipality's extraterritorial jurisdiction, a plat may not be filed with the county clerk without the approval of both the municipality and the county.
- b) In the extraterritorial jurisdiction of a municipality, the municipality may regulate subdivisions under the statutes applicable to municipalities, and the county may

regulate subdivisions under statutes applicable to counties. If a municipal regulation conflicts with a county regulation, the more stringent provisions prevail.

100.2 These Rules, Regulations and Specifications shall become effective March 15, 1988. Subdivision plats approved in preliminary or final form before March 15, 1988 shall be subject to the Rules, Regulations and Specifications in effect at the time of plat approval except that, where these new Rules, Regulations and Specifications require a less stringent requirement, the developer of a subdivision approved under previous rules may request application of these new Rules, Regulations and Specifications.

100.5 The subdivision of land into two or more parcels in compliance with the terms of any court of competent jurisdiction in the State shall not be subject to Development Permit Fee or Subdivision Application Fee (Filing Fee) but shall be subject to Recording Fee (Sec. 107.2).

### 101 PURPOSE OF REGULATIONS

The purpose of this Regulation is to provide for the orderly, safe and healthful development of the undeveloped areas within the County and to promote the health, safety and general welfare of the community by providing standards for the approval and recording of subdivision plats and to set forth procedures to follow in meeting the requirements of the Kendall County Commissioners Court for acceptance and approval of said plats and the improvements therein.

### 102 STATUTORY AUTHORITY

This order is adopted under the authority of the Constitution and laws of the State of Texas, particularly Texas Law, Local Government Code, Chapters 232 and 242.

### 103 DEFINITIONS

For the purpose of these regulations, the following terms, phrases, words and their derivations shall have the meaning ascribed to them in this section:

103.01 Building Set Back Line: The line within a property defining the minimum horizontal distance between a building and the adjacent street line.

103.02 City: An incorporated municipality of the State of Texas.

- 103.03 County: Kendall County, Texas.
- 103.04 Crosswalk Way: A public right-of-way, six (6) feet or more in width between property lines, which provides pedestrian circulation.
- 103.05 Cul-de-sac: A street having but one outlet to another street and terminated on the opposite end by vehicular turn-around.
- 103.06 Dead-end Street: A street, other than a cul-de-sac, with only one outlet.
- 103.07 Easement: An acquired privilege or right of use or enjoyment which one person may have in the land of another.
- a) Utility easement: An interest in land granted to the public generally, and/or to a private corporation, for installing or maintaining utilities across, over or under private land, together with the right to enter thereon with machinery and vehicles necessary for the maintenance of said utilities.
  - b) Drainage easement: The right for the passage of natural drainage across private land, together with the right to enter thereon for the purpose of maintaining drainage structures and the free flow of drainage.
  - c) Non-access Easement: An easement dedicated to the County prohibiting vehicular access.
- 103.08 Engineer: A person duly authorized and properly registered under the provisions of the Texas Registration Act, as heretofore or hereafter amended, to practice the profession of engineering.
- 103.085 Improvements: Roads, streets, curbs, sidewalks, drainage structures, water systems, sewage systems, etc., the construction of which may be required by the County.
- 103.09 Lot: An undivided tract or parcel of land having frontage on a public street or county road and which is, or in the future may be offered for sale, conveyance, transfer or improvement; which is designated as a distinct and separate tract, and which is identified by a tract or lot number or symbol in a duly approved subdivision plat which has been properly filed of record.
- 103.10 Pavement Width: The portion of a street that is paved and available for vehicular traffic; where curbs are laid, it is the portion between the face of curbs.

- 103.11 Person: Any individual, association, firm, corporation, governmental agency, or political subdivision.
- 103.12 Shall, May: The word "shall" is always mandatory. The word "may" is merely directory.
- 103.13 Plat: A complete and exact plan for the subdivision of a tract of land into lots for building purposes, which, if approved, may be submitted to the County Clerk for recording.
- 103.14 Street: A public right-of-way, however designated, which provides vehicular access to adjacent land.
- 103.15 Subdivider (or Developer): Any person or agent thereof, dividing or proposing to divide land so as to constitute a subdivision as that term is defined herein. In any event, the term "subdivider" ("developer") shall be restricted to include only the owner, equitable owner, or authorized agent of such owner or equitable owner, of land sought to be subdivided.
- 103.161 Subdivide: The act of division of land into two or more parts.
- 103.17 Surveyor: A licensed State Land Surveyor or Registered Public Surveyor, as authorized by the State Statutes to practice the profession of surveying.
- 103.18 Any office referred to in this Regulation by title means the person employed or appointed by the County in that position, or his duly authorized representative, i.e., Department of County Development Management; County Road Administrator, etc.
- 103.19 Definitions not expressly prescribed herein are to be construed in accordance with customary usage in subdivision planning and engineering practices.
- 103.20 Reserve Strips: Areas of land adjacent to a public roadway, title to which subdivider retains in order control access across the land.
- 103.21 Texas State Highway Department, wherever mentioned refers to Texas State Department of Highways and Public Transportation.
- 103.22 Utilities: Electric and/or telephone lines; water and/or sewer systems, the construction of which may be required by the County.

## 104 SPECIAL REGULATIONS

- 104.1 No permit shall be issued by the County for the installation of septic tanks upon any lot in a subdivision for which a final plat has not been approved and filed for record, or upon any lot in a subdivision in which the standards contained herein or referred to herein have not been complied with in full. See also Sec. 304.25.
- 104.2 The County shall not repair, maintain, or allow installation or provision of any streets or public utility services in any subdivision for which a final plat has not been approved and filed for record, nor in which the standards contained herein or referred to herein have not been complied with in full.
- 104.3 On behalf of the County, the County Attorney shall, when directed by the County Commissioners Court, institute appropriate action in a court of competent jurisdiction to enforce the provisions of this order, or the standards referred to herein with respect to any violation thereof which occurs within the County, under procedures established by State law, by taking the action detailed in Texas Law, Chapter 232.005.
- 104.4 If any subdivision exists for which a final plat has not been approved or in which standards contained herein or referred to herein have not been complied with in full, and the County Commissioners Court shall pass an order reciting the fact of such noncompliance or failure to secure final plat approval, and reciting the fact that the provisions of paragraphs 104.1 and/or 104.2 of this Section will apply to the subdivision and the lots therein, the County Clerk shall when directed by the County Commissioners Court cause a certified copy of such order under the seal of the County to be filed in the Deed Records of Kendall County. If full compliance and final plat approval are secured after the filing of such resolution, the County Clerk shall forthwith file an instrument in the Deed Records of such County stating that paragraphs 104.1 and/or 104.2 no longer apply.
- 104.5 Provided, however, that the provisions of this section shall not be construed to prohibit the issuance of permits for any lots upon which a residence building exists or was in existence prior to passage of Kendall County Commissioners Court Order on November 12, 1985.

## 105 RELIEF BY COUNTY COMMISSIONERS COURT

The County Commissioners may authorize relief from these regulations when, in its opinion undue hardship will result from requiring strict compliance. In granting relief, the County

Commissioners Court shall prescribe only conditions that it deems necessary to or desirable in the public interest. In making findings hereinbelow required, the County Commissioners Court shall take into account the nature of the proposed use of the land involved, existing uses of the land in the vicinity, the number of persons who will reside or work in the proposed subdivision, and the probable effect of such relief upon traffic conditions and upon the public health, safety, convenience, welfare and finances. No relief shall be granted unless the County Commissioners Court finds:

- 105.1 That there are special circumstances or conditions affecting the land involved such that the strict application of the provisions of this Order would deprive the applicant of the reasonable use of his land; and
- 105.2 That the relief is necessary for the preservation and enjoyment of a substantial property right of the applicant; and
- 105.3 That the granting of the relief will not be detrimental to the public finances, health, safety or welfare, or injurious to other property in the area; and
- 105.4 That the granting of the relief will not have the effect of preventing the orderly subdivision of other land in the area in accordance with the provisions of this Order. Such findings of the County Commissioners Court together with the specific facts upon which such findings are based, shall be incorporated into the official minutes of the County Commissioners Court meeting at which such relief is granted. Relief may be granted only when in harmony with the general purpose and intent of the Order so that the public health, safety, welfare, finance may be secured and substantial justice done. Pecuniary hardship to the subdivider, standing alone, shall not be deemed to constitute undue hardship.

## 106 ESTABLISHMENT OF CRITERIA

The County Commissioners Court under its authority established by law, hereby establishes rules, regulations, standards and specifications for the construction, installation, design, location and arrangement of streets, curbs, street lights, street signs, utility layouts, general easements, utility easements, gates for utility easements, sidewalks, water supply and water distribution systems, fire hydrants, sewage disposal systems, septic tanks, water wells, monuments, criteria for drainage easements, drainage facilities, crosswalk ways, and other facilities. Such rules, regulations and specifications are contained in following sections and the subdivider shall plan the subdivision and design, construct and install improvements therein



in accordance with such rules, regulations, specifications and standards unless the Commissioners Court has granted relief. Such rules, regulations, standards and specifications shall supersede any earlier orders of Kendall County Commissioners Court covering subdivision rules and regulations, except as provided in Section 505.

## 107 SUBDIVIDER RESPONSIBILITY FOR COSTS

- 107.1 The responsibility for all costs of the in-place improvements as required by the Order shall be borne by the subdivider.
- 107.2 The developer shall be responsible for the following fees;
- |   |            |
|---|------------|
| A. Development Permit                   | \$ 25.00   |
| B. Subdivision Application (Filing Fee) |            |
| (1) Multiple lot subdivision            | \$200.00   |
| plus                                    | 25.00/lot  |
| (2) Single lot separation               | 50.00      |
| C. Recording fee                        | 25.00/page |

## 200 PLAT PROCEDURES

### 201 PRELIMINARY CONFERENCE

Prior to official presentation of a preliminary plat the Subdivider shall consult with and present a proposed plan of subdivision to the County Development Manager for comments and advice on the procedures, specifications and standards required by the County for the subdivision of land. At this time the information required by Sec. 202.501, 202.509, 202.630 and 202.632 shall be available for review by the Development Manager prior to preparation of a preliminary plat.

- 201.1 The subdivider shall be required to follow the steps listed below:

Preliminary conference (Sec. 201)  
Submission of preliminary plat and data (Sec. 202)  
Obtain approval of preliminary plat (Sec. 202.7)  
Submission of final plat and data (Sec. 203)  
Provide letter of credit insuring completion of required site improvements (Sec. 204.10)  
Obtain approval of final plat (Sec. 204)  
Record final plat (Sec. 204.60)  
Make required site improvements (Sec. 204.70)  
Obtain acceptance of site improvements (Sec. 204.80)

202      PRELIMINARY PLAT AND DATA

- 202.1 The subdivider shall present a preliminary plat prepared by a registered land surveyor in accordance with this Order. This Plat shall be submitted, together with required accompanying data (See Sec. 202.6 to 202.634) to the County through the County Development Manager for review and transmission, when complete, to the County Commissioners Court. Within fifteen (15) days after receipt of the preliminary plat and data the County Development Manager shall provide the subdivider or his agent with review comments for correction and resubmission of the preliminary plat and data (if needed). When the County Development Manager determines that the plat and data conform to this Order, he shall submit them to County Commissioners Court for approval or rejection at the first meeting of Commissioners Court following a fifteen (15) day period after receipt of the preliminary plat and data in complete form.
- 202.2 The subdivider shall file four (4) black or blue line copies of the plat with the County Development Manager.
- 202.3 The subdivider shall obtain a Development Permit which he shall deliver to the County Development Manager.
- 202.4 Form and Content: The plat shall be drawn on sheets no longer than thirty-six (36) inches wide and forty-eight (48) inches long, and to a scale no smaller than four hundred (400) feet to one inch. When more than one sheet is necessary to accommodate the entire area, an index sheet showing the entire subdivision at an appropriate scale shall accompany the plat.
- 202.5 Content: The plat shall show the following:
- 202.501 Proposed name of the subdivision, which shall not have the same spelling as, nor be pronounced similar to the name of any other subdivision located within the County or its incorporated cities, or within the same postal zip codes of such areas.
- 202.502 Names of contiguous subdivisions and/or indication of whether or not contiguous properties are platted.
- 202.503 Subdivision boundary lines, indicated by heavy lines, and the approximate acreage of the subdivision to the nearest half acre.
- 202.504 The subdivision boundaries shall be described accurately by metes and bounds or bearings and distances, with respect to an original corner of the original survey of which it is a part.

- 202.505 Location of lots, streets, parks, easements and other features must be shown with approximate dimensions in feet.
- 202.506 Existing facilities as follows:
- a. The location, dimensions, name and description all existing or recorded streets, reservations, easements, or other public rights-of-way within the subdivision, intersecting, or contiguous with its boundaries or forming such boundaries.
  - b. The location, description, dimensions and names of all existing or recorded residential lots, parks, public areas, and other sites within the subdivision.
- 202.507 The location, dimensions and name of all proposed streets, alleys, parks, other public areas, reservations, easements or other rights-of-way, blocks, lots and other sites within the subdivision.
- 202.508 Date of preparation, scale of plat, and north arrow.
- 202.509 Names and addresses of the developer, record owner and engineer. This shall be accompanied by proof of ownership of the property.
- 202.510 Topographical information shall include contour lines on a basis of twenty (20) vertical feet, or less for small lots where 20 foot contours would not be significant.
- 202.511 A number to identify each block and each lot or site. Lot and block numbers shall be systematic. Any lots or blocks which are not contiguous shall be numbered after consultation with Kendall County Appraisal District and shall conform to such recommendation.
- 202.512 Front setback lines, if any, on all lots and sites. Building setbacks lines, if any, at street intersections and crosswalk ways.
- 202.513 Location map at a scale of not more than 4000 feet to an inch which shall show existing adjacent subdivisions and major streets. Where adjacent subdivisions have dead end streets close to the boundaries of the proposed new subdivision, provision may be made for through traffic circulation.
- 202.514 Area of each lot or tract to the nearest 1/10 acre.
- 202.515 Areas subject to flooding in accordance with the Federal Flood Insurance Program shall be shown on the plat, or

- there shall be a statement that there is no such area.
- 202.516 The approximate frontage of each lot on the street serving the lot shall be shown.
- 202.517 If a public water supply is to be used, the location of a proposed site that could be used for a well as an alternate source of water shall be indicated.
- 202.519 Lineal feet of proposed roads.
- 202.6 Accompanying data: When submitted the preliminary plat shall be accompanied by:
- 202.610 Proposed master plan, if available, of all of developer's property when subdivision is part of a larger tract in accordance which shall be prepared at a scale of not more than four-hundred (400) feet per inch.
- 202.611 The master plan shall show existing and proposed subdivisions, including streets, parks, drainage easements and rights-of-way.
- 202.612 The master plan shall show location of any City limits line, the outer border of any City's extraterritorial jurisdiction, if they lie within the vicinity map, and location of Kendall County limit if pertinent.
- 202.613 The master plan shall show the general drainage plan, existing water courses, existing drainage structures, and destination water.
- 202.620 Draft copy of subdivision deed restrictions, if available.
- 202.630 Letter of agency from owner to person representing owner before the Commissioners Court.
- 202.631 Letter from the subdivider's engineer stating that he has been retained by the subdivider to design roads, drainage, sewage disposal and water systems if one is utilized.
- 202.632 Statement on the plat regarding the method of sewage disposal and the method by which lots will be furnished with water.
- 202.633 If field inspection of a proposed subdivision discloses that the developer may have difficulty complying with one or more requirements for the final plat, Commissioners Court may require the developer to present preliminary plans on how such requirements will be met in addition to other data submitted with the preliminary plat.

202.634 If lots front upon a U.S. Highway or upon a State Highway, letter of authorization from the appropriate highway official, authorizing private driveway(s) from the lot(s) onto the highway.

202.7 Processing of Preliminary Plat

202.711 At the first meeting of the Commissioners Court following a 15-day period after the Preliminary Plat is submitted in form found to be complete by the County Development Manager the Commissioners Court shall conditionally approve or disapprove such plat or conditionally approve it with modifications. If it is conditionally disapproved or conditionally approved with modifications, the County Development Manager shall inform the subdivider, in writing, of the reasons at the time such action is taken.

202.712 Approval of a Preliminary Plat by the County Commissioners Court shall be deemed an expression of approval of the layouts submitted on the preliminary plat as a guide to the installation of streets, water, sewer and other required improvements and utilities and to the preparation of the final or record plat. Conditional approval of a preliminary plat shall not constitute approval of the Final Plat, automatic or otherwise.

202.713 Approval of a Preliminary Plat shall be effective for one (1) year unless reviewed by the County Commissioners Court in the light of new or significant information which would necessitate a revision of the Preliminary Plat.

202.714 Approval of the preliminary plat shall not constitute or imply approval of the final plat when submitted, nor shall approval of the preliminary plat constitute permission to record.

202.715 If no final plat has been submitted which would affect the proposed plat after one (1) year of effective approval, the County Commissioners Court may, upon the application of the subdivider, extend the approval six months. If extension is not requested before the end of the one year period, approval of the Preliminary Plat shall expire.

203 FINAL PLAT AND DATA

203.1 Except as provided in Sec. 100.5 or Sec. 204.30 a filing fee (subdivision application fee) of Two Hundred Dollars (\$200.00) per plat, plus Twenty-five Dollars (\$25.00) per

lot, shall be paid before the final plat is submitted to the Commissioners Court for approval. No action on the final plat by the Commissioners Court shall be valid until the filing fee has been paid. This fee shall not be refunded should the subdivider fail to make formal application for final approval, or should the final plat be disapproved.

- 203.2 The subdivider shall present a final plat and accompanying site improvement data to the County through the County Development Manager for review and consideration for submission to the County Commissioners Court. Within fifteen (15) days after receipt of the final plat the County Development Manager shall provide the subdivider or his agent with review comments for correction and resubmission of the final plat (if needed). When the County Development Manager confirms that the final plat and accompanying data conform to this order, he shall submit the plat and documents to the Commissioners Court for approval or rejection at the first meeting of Commissioners Court following a fifteen (15) day period after receipt of the final plat and data conforming to this order.
- 203.3 The subdivider shall file six (6) black or blue line copies of the final plat to the County Development Manager. The original copies of the final plat, bearing all necessary signatures, will be delivered to Commissioners Court through the County Development Manager before the Final Plat is filed for record.
- 203.4 Form and Content: The final plat shall be drawn with India ink on tracing cloth or a permanent type of material on sheets 18 inches wide and 24 inches long, with margins of not less than 3/8 inch on the sides. The plat shall be drawn to a scale of not more than two hundred (200) feet per inch and preferably to a scale of one hundred (100) feet to the inch. Contours shall be shown to a contour interval of ten (10) feet, or lesser interval if requested by Commissioners Court, when size of lots and/or topographic conditions warrant. When more than one sheet is required to accommodate the entire area, a separate index sheet showing the entire subdivision at an appropriate scale shall accompany the plat.
- 203.5 The final plat must be made from an actual survey on the ground made by or under the supervision of a registered surveyor authorized to make such survey, and his certificate to that effect must appear on the final plat.
- 203.518 The final plat shall show the location of any man-made structures of any type, excluding fences.

- 203.6 In areas under a city's extraterritorial jurisdiction as defined by Section 3, Municipal Annexation Act (Art. 970a, Vernon's Texas Civil Statutes), a copy of the city's authorization for the subdivision must be presented, showing approval by the Zoning Commission.
- 203.7 The final plat shall show the following:
- 203.701 It shall conform to the preliminary plat as approved by the County Commissioners Court, incorporating any and all changes, modifications, alterations, corrections and conditions recommended by the County Commissioners Court.
- 203.702 The final plat shall contain all of the features required for the preliminary plat (Sections 202.501 to 202.519 inclusive) and shall also include the following:
- 203.703 The exact location, dimensions, names and descriptions of all existing or recorded streets, alleys, reservations, easements or other public rights-of-way within the subdivision, intersecting or contiguous with its boundary or forming such boundary, with accurate dimensions, bearing or deflecting angles and radii, computed areas and central angle, tangent distance and length of curve, where appropriate.
- 203.704 The exact location, dimensions, description and name of all proposed streets, alleys, parks and other public areas, reservations, easements or other rights-of-way, blocks, lots, monuments and other sites within the subdivision, with accurate dimensions, bearing or deflecting angles and length of all curves, where appropriate. All lot corners shall be marked with 1/2 inch diameter steel pins two (2) feet long.
- 203.705 Appropriate statement of dedication of easements for utilities must be provided. (Supported by approval of utility companies -- see Section 203.880).
- 203.706 The acreage of proposed roads in each survey is to be stated on the final plat.

203.707 Owner's acknowledgement in the following form:

STATE OF TEXAS )(  
)

COUNTY OF KENDALL )(  
)

The owner of the land shown on this plat, and whose name is subscribed hereto, and in person or through a duly authorized agent, acknowledge that this plat was made from actual surveys on the ground and dedicate to the use of the public forever all streets, alleys, parks, water courses, drain easements, and public places shown thereon for the purpose and consideration therein expressed.

-----  
Owner

STATE OF TEXAS )(  
)

COUNTY OF KENDALL )(  
)

BEFORE ME, the undersigned authority, on this day personally appeared \_\_\_\_\_, known by me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed, and in the capacity therein stated.

GIVEN under my hand and seal of office this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

-----  
Notary Public  
State of Texas



203.708 Certification of the surveyor responsible for surveying the subdivision area, attesting to its accuracy in the following form:

STATE OF TEXAS )(  
)

COUNTY OF KENDALL )(  
)

I hereby certify that this plat is true and correct and was prepared from an actual survey of the property made under my supervision on the ground.

-----  
Registered Public Surveyor

(Surveyor's Seal)

Sworn to and subscribed before me this the \_\_\_\_\_ day of \_\_\_\_\_, A.D. 19\_\_\_\_.

-----  
Notary Public  
State of Texas

203.709 Certification by the engineer responsible for assembling the supporting data, attesting to its accuracy, in the following form:

STATE OF TEXAS )(  
)

COUNTY OF KENDALL )(  
)

I hereby certify that recognized engineering practices and standards were used in the preparation of this final plat and in the design of site improvement structures and was accomplished under my direct supervision.

(Engineer's Seal)

-----  
Registered Professional Engineer

Sworn to and subscribed before me this the \_\_\_\_\_ day of \_\_\_\_\_, A.D. 19\_\_\_\_.

(Seal)

-----  
Notary Public, State of Texas

203.710 Certification by the County's Engineer or Engineering Consultant in the following form:

The Engineering Consultant or County Engineer of Kendall County, Texas, hereby certifies that this subdivision plat conforms to all requirements of the Kendall County Commissioners Court Order to which his signature is required.

(Engineers Seal)

\_\_\_\_\_  
Engineer

203.711 Approval of the County Commissioners Court in the following form: (To be left blank for signatures upon approval.)

This final plat of \_\_\_\_\_ has been submitted to and considered by the Commissioners Court of Kendall County, Texas and is hereby approved by such court.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

By: \_\_\_\_\_  
County Judge

\_\_\_\_\_  
Commissioner, Prec. 1

\_\_\_\_\_  
Commissioner, Prec. 2

\_\_\_\_\_  
Commissioner, Prec. 3

\_\_\_\_\_  
Commissioner, Prec. 4

203.712 County Clerk's Recording Acknowledgement in following form: (To be left blank for signature upon recording).

STATE OF TEXAS )(  
COUNTY OF KENDALL )(  
  
I, \_\_\_\_\_, County Clerk of said county, do hereby certify that the foregoing instrument of writing with its certificate of authentication was filed for record in my office, on the \_\_\_\_ day of \_\_\_\_\_, A.D. 19\_\_\_\_, at \_\_\_\_\_ .M. in the Records of Deeds and Plats of said county, in book Volume \_\_\_\_\_, on Page \_\_\_\_\_.

In testimony whereof, witness my hand and official seal of office, this \_\_\_\_ day of \_\_\_\_\_, A.D. 19\_\_\_\_\_.

County Clerk,  
Kendall County, Texas

By: \_\_\_\_\_, Deputy

203.713 The boundary lines of school districts shall be shown where applicable, and the districts shall be named on the plat.

203.8 ~~Accompanying data:~~ When submitted the final plat shall be accompanied by the following site improvement data, with all plans and calculations bearing the seal of a registered professional engineer:

203.812 Letter from subdivider accepting inclusion in title transfers of lots, a clause requiring the buyer of any lot to be used for commercial or industrial use to comply with all Federal and State laws and regulations covering air pollution, water pollution, toxic and hazardous wastes.

203.814 Letters of approval of sewer systems and of water systems from the appropriate State regulatory agencies having jurisdiction.

203.815 Letter of approval from city or from a Water Control

- District if the sanitary sewer lies within a Water Control District or is to be connected to a city system.
- 203.821 Letter indicating approval of hydrant connection sizes from the fire department normally serving the area of the subdivision.
- 203.824 Letter of approval from city or from a Water Control District if the system lies within a Water Control District or is to be connected to a city system.
- 203.825 Certificate of Convenience and Necessity issued by the appropriate State regulatory agency, if necessary.
- 203.826 Letter of approval from the Texas State Department of Health or from the appropriate State regulatory agency.
- 203.827 One copy of all plans as approved by the State regulatory agency for lines or water systems.
- 203.830 Two copies of plans and profiles of all streets and of drainage improvements.
- 203.831 Two copies of street or road specifications, or of a listing of the specific Texas State Highway Department or Kendall County Road specifications which will govern the construction of roads and streets.
- 203.840 For control of drainage, the following information shall be furnished:
- 203.841 A general location map showing relation of the subdivision to the entire watershed (U.S.G.S. quadrangle 1:24,000 is satisfactory).
- 203.842 Two copies of the storm drainage plan, prepared to a scale of one hundred (100) feet to an inch and with the same contours and scaled lot sizes as shown on the plat. All street widths and grades shall be indicated, and runoff figures shall be indicated at the inlet side of all drainage ditches and storm sewers, and at request of the County, at all points in the streets at changes of grade or where the water enters another street or storm sewer or drainage ditch. Drainage easements shall be indicated, and construction details shall be shown.
- 203.843 Hydraulic calculations based on anticipated storm water flow from consideration of rainfall intensity, watershed area, percent runoff, time of concentration, and nature of terrain and cover shall be submitted for each storm sewer, drainage ditch and/or culvert.
- 203.846 If "French Drain System" is proposed, a statement as to

the need must be furnished by the subdivider's engineer, together with two copies of construction plans.

- 203.850 A letter signed by the subdivision developer authorizing the plat to be filed for record.
- 203.860 Evidence indicating adequacy of potable water supply if public water supply is not to be used, provided by logs of wells. The well logs must be from tests made within one year prior to date of submission of the final plat and shall be from a well within the subdivision or, in lieu thereof, copies of well logs of three contiguous property owners.
- 203.861 Where use of public water supply system is proposed, evidence of the satisfactory quality of the water must be furnished in the form of a bacteriological analysis of the water, approved by the Texas State Department of Health.
- 203.862 If all lots in a proposed subdivision are in excess of three hundred (300) feet by three hundred (300) feet in size, the final plat may be submitted without complying with Sections 203.830, 203.831, 203.841, 203.842 and 203.843 unless such information is specifically requested by the County Commissioners Court.
- 203.870 Tax Certificates from each School District involved, from Kendall County, and from W.C.I.D. #1 (where appropriate) showing that all ad valorem taxes have been paid up to and including taxes for which tax bills have been mailed out, on all land included in the subdivision shown on the final plat.
- 203.880 Signatures of Certification by the proper authorized official of each public utility company or board involved to be inscribed on the respective plat required herein certifying approval of the same by said utility company or board, or indicated by an accompanying letter signed by the proper authorized official confirming approval of the utility easements proposed, as shown or stated on the Final Plat.
- 203.890 A check, payable to the County Clerk of Kendall County in the amount required for recording the final plat at the Courthouse, to be delivered to the County Clerk at the time the final plat is filed for record.
- 203.895 When the subdivision lies within or in part within the one hundred (100) year floodplain, a separate detailed floodplain study prepared by a registered engineer shall be submitted to provide theoretical verification of the maximum floodwater elevations that may be expected so

the potential effect on subdivision lots may be examined. The floodplain as verified by the floodplain study shall be shown on the final plat.

- 203.896 When a subdivision street, road or drainage system joins or connects to the Texas State Highway System, a permit issued by the authorized representative of the State Highway Department, shall be required.

#### 204 PROCESSING FINAL PLAT

- 204.10 Prior to application to the Kendall County Commissioners Court for approval of the final plat, the subdivider must provide the Kendall County Commissioners Court with an irrevocable letter of credit from a state or federally chartered savings and loan or bank, in a form acceptable to the Kendall County Commissioners Court; or post funds to the account of the County Judge and deposit the funds with the County Treasurer of Kendall County, any interest earned shall be the property of the depositor; or give a good and sufficient surety bond executed by a surety company authorized to do business in the State of Texas and acceptable to Commissioners Court, with such securities as may be approved by the Court. Said letter of credit or said bond or said funds deposited with the County must be in an amount as determined by the Kendall County Commissioners Court not to exceed the actual cost of constructing the roads, streets, water and/or sewer systems (if any) and drainage structures within the proposed subdivision. Said letter of credit, if used, shall be renewed forty-five (45) days prior to the one-year anniversary date of the letter of credit in an amount equal to the original letter of credit or in an escalated amount determined by the Kendall County Commissioners Court if the Court considers construction costs have increased. In any event, a letter of credit shall remain in full force until the subdivision improvements are accepted or certified by the Kendall County Commissioners Court. If funds or bonds are deposited with the Kendall County Treasurer in lieu of a letter of credit, said funds or bond shall remain on deposit posted to the account of the County Judge until said improvements are accepted or certified by the Kendall County Commissioners Court. In the event the subdivider fails to renew the letter of credit within the specified time, then the Kendall County Commissioners Court will begin procedures to collect the letter of credit after fourteen (14) days written notice by certified-mail-return-receipt. If said improvements are not completed and accepted or certified by the Kendall County Commissioners Court within three (3) years from the date of approval of the final plat by the Kendall County Commissioners Court due to the failure of the

subdivider to perform, then the Kendall County Commissioners Court will collect the full amount of the letter of credit, transfer the funds posted to the account of the County Judge to the Road and Bridge fund of Kendall County, collect the bond which was given, or if any combination of the three methods is used, then all methods used will be acted upon for collection or transfer as appropriate. In the event that some construction has been performed prior to said three (3) year date (or at the end of the renewal period if the subdivider fails to renew the letter of credit), then any amount due the subdivider for any equitable costs incurred in the construction, suitably evidenced as such to the Kendall County Commissioners Court by the subdivider will be credited to the subdivider and the same amount deducted from the full amount of the letter of credit, funds to be transferred or bond or any combination thereof and the county will then use the money so collected to complete the items covered by the letter of credit, surety bond or funds. Said collection of letter of credit, transfer of funds, bond or any combination thereof will occur ninety (90) days after the subdivider (and the institutional lender issuing the letter of credit if a letter of credit is involved, or surety company issuing surety bond if a surety bond is involved) has (have) received written notice by certified-mail-return-receipt from Kendall County Commissioners Court advising of the impending collection, transfer, or any combination thereof.

204.11 When a letter of credit, funds or bond as required by Sec. 204.10 or Sec. 501.20 has not been renewed within thirty (30) days prior to the one year anniversary date from the original date of the letter of credit, funds or bond, and the construction of improvements has not been completed or roads have not been accepted for maintenance by the County, the County is authorized to begin procedures to collect the letter of credit, funds or bond before its expiration as specified in the above cited sections of Kendall County Texas Regulations, Rules and Specifications 1985, as amended.

204.15 In the event that ownership of the subdivision changes before completion of the required improvements and while the letter of credit, posted funds or bond remain in effect, the new owner shall be required to furnish a new letter of credit, post funds or provide bond in an amount not to exceed the actual cost of constructing the roads, streets and drainage structures within the subdivision which have not formally been accepted by the County. Upon receipt of the new letter of credit, posted funds or bond from the new owner, the letter of credit, posted

funds or bond provided by the old owner shall be released.

- 204.30 No final plat will be considered unless a preliminary plat has been submitted and approved. However, if an approved plat has been duly recorded and the subdivider wishes to increase the size of lots by combining two or more lots or by combining one lot with a portion of an adjacent lot in such manner that no remaining portion of a lot be smaller than other lots in the same subdivision, no preliminary plat will be necessary and no application fee will be required.
- 204.31 No preliminary plat will be required in case of subdivision or resubdivision of an area if no new road construction is involved and the lots are fronting on a public or county road or street.
- 204.315 If a final plat is submitted without a preliminary plat (under Sec. 204.31) the final plat must show the contiguous subdivisions, if any, and indicate any streets or roads in such contiguous subdivisions that will relate to the new subdivision.
- 204.32 When a resubdivision is proposed, the subdivider shall consult with the County Assessment Office to assure that renumbering of lots is in accordance with the requirements of that office.
- 204.33 Proposed resubdividing of a subdivision must formally be posted in advance to conform to Texas Law, Local Government Code, Chapter 232.009.
- 204.34 Vacating: Application to the Commissioners Court to vacate one or more areas of land in a subdivision that has previously been officially recorded may be made by submitting through the County Development Manager the following:
- a) Six copies of a plan to a scale of not more than two hundred (200) feet per inch showing the areas proposed to be vacated.
  - b) The plat shall indicate the disposition proposed for the lots to be vacated.
  - c) Six copies of a plat of the entire subdivision wherein is located the areas to be vacated, at a scale of not more than four hundred (400) feet per inch, and which shall show the relation of the areas proposed for vacating to all other lots, streets, public areas, etc., of the subdivision.
  - d) A statement of the reason the vacating action is requested.
  - e) A filing fee of \$200.00 plus \$25.00 per additional



lot, if any, created by the proposed vacating and resubdivision shall be paid before the application is made to Commissioners Court.

- f) A preliminary plat shall not be required for consideration of vacating.
- g) A statement that all requirements of Texas Law, Local Government Code, Chapter 232.009 have been satisfied.

- 204.40 If desired by the subdivider and approved by the Commissioners Court, the final plat may constitute only that portion of the approved preliminary plat which he proposes to record and develop. However, such portion shall conform to all the requirements of this order.
- 204.50 If the final plat is disapproved, the County Development Manager shall inform the subdivider in writing of the reasons at the time such action is taken.
- 204.60 After the final plat receives approval of the Commissioners Court, the final plat shall be presented for recording with the County Clerk.
- 204.70 After the final plat receives approval the subdivider shall proceed with required site development, complying with the subdivision standards and design criteria (specifications) as set forth in Sections 300 and 400 of this order.
- 204.71 The subdivider must furnish the Kendall County Road Administrator with a report on the construction of all roads that have been constructed in a subdivision, except private driveways. Said report must be from a Registered Professional Engineer and must state whether or not all requirements of the Kendall County Subdivision Rules and Regulations Construction Specifications have been met. Said Engineer shall perform all tests as required by the Kendall County Subdivision Rules and Regulations Construction Specifications; the conclusions from said tests must be stated in said Engineer's Report. The cost of all said engineering functions and testing shall be borne solely by the subdivider at no cost to Kendall County, Texas. Said Engineer and the Kendall County Road Administrator must recommend said Engineer's Report to the Kendall County Commissioners Court before said roads in the subdivision can be considered for acceptance or certification. While said Engineer's Report will be a factor in determining acceptability of said roads, said Engineer's Report alone does not commit or bind the Kendall County Commissioners Court to act to accept said roads.
- 204.80 All streets and roads will not receive consideration for

final approval (acceptance for maintenance) by Commissioners Court until at least one (1) year after original construction of Streets and Roads is completed and construction is accepted by the County, and the volume of traffic using the road is sufficient to show that it will stand up under traffic, as evidenced by there being a minimum traffic volume of six (6) vehicles per day per mile of road constructed. Upon final approval (acceptance for maintenance) the subdivider shall permanently dedicate to public use the land used as streets or roads or may, at his option, convey to the County by Warranty Deed the title to roads and streets. If deeded, the deed shall be accompanied by an adequate description of streets and roads either by reference to approved subdivision plat or by field notes prepared by a Registered Surveyor from a survey made on the ground. The County thereafter shall maintain such roads and streets.

204.82 In the event the owner shall fail to meet the requirements as set forth heretofore, the County will not be obliged to operate, maintain, or accept said proposed roads, ditches, etc. until said time as they are acceptable to Commissioners Court. Prior to the expiration of the one year in which the owner has to comply with the Road Specifications herein, the County shall notify the owner so that the work can be completed prior to the expiration of the Bond or Funds posted. In no event shall the Court be obliged to complete the work being done by the owner.

204.83 In the event a homeowners association or similar organization is to own and maintain any subdivision roads, then their deed restrictions, bylaws, and corporate charter must be filed with the proper governmental offices where such documents are filed. Such filing must take place at least fifteen (15) days prior to approval of the final plat by the Kendall County Commissioners Court, proof of filing must be presented to the Kendall County Commissioners Court as well as a duplicate copy for the Court minutes. Such an organization which is to own and maintain the subdivision roads must be able to assess fees to the property owners to provide funds for maintenance of the subdivision roads. Such private ownership and maintenance in no way exempts the subdivider from any of the requirements of the Kendall County Subdivision Rules and Regulations.

204.85 Lots within a subdivision shall not be sold until approval has been given by Commissioners Court to the final plat for the subdivision and the plat has been recorded with the County Clerk.

204.90 The Commissioners Court of Kendall County will cause an employee of the Court or any other person or persons it so designates to review at least bi-monthly those deeds or sales contracts being recorded in the County Clerk's office to see that any subdivisions affected thereby shall comply with requirements of Local Government Code, Chapters 232. If deeds, contracts of sale, transfers of title, or other transactions do not comply with the plat requirements, the Commissioners Court of Kendall County or its representative shall so notify the party selling or transferring title in whole or in part to comply with the said requirements. In the event the said party refuses to comply with the requirements of Chapters 232 of the Local Government Code, the Commissioners Court of Kendall County will take appropriate action to obtain compliance. In accordance with Local Government Code Chapter 232 any party violating any provision shall be guilty of a Class B Misdemeanor and upon conviction thereof shall be fined in a sum not less than Ten Dollars (\$10.00) nor more than Five Hundred Dollars (\$500.00), or confined in the County Jail not exceeding ninety (90) days, or both such fine and imprisonment, and each act of violation shall constitute a separate offense.

### 300 SUBDIVISION STANDARDS

- 301.100 The entrance and/or exit to a subdivision shall be by public road or street and each lot shall front upon a public street.
- 301.105 Lots must have a minimum frontage on roads serving them of three hundred (300) feet or a minimum frontage of two hundred (200) feet if the lot size exceeds 3.0 acres, except that in subdivisions utilizing a public water supply system the minimum frontage shall be one hundred (100) feet.
- 301.106 The minimum frontage of lots on the turn-around of a cul-de-sac shall be fifty (50) feet, chord length.
- 301.107 Widened street sections (semi-cul-de-sacs or bulges) shall not be considered cul-de-sacs for the purpose of authorizing reduced lot frontage.
- 301.110 In subdivisions utilizing a public sewer system the required minimum lot size shall be 15,000 sq. ft. with all lots in the subdivision averaging at least 20,000 sq. ft., except as further restricted by Sec. 304.40.
- 301.120 When lots of a proposed subdivision front on a narrow county or public road, the developer will be requested to dedicate to public use twenty-five (25) feet on each side of the center line of such road to allow for later

conversion to a higher class road.

- 301.130 There shall be no reserve strips controlling access to land dedicated or intended to be dedicated to public use; however the developer will not be forced to provide access to adjoining property.
- 301.140 No roads on proposed public property in the subdivision may be of a nature that will impound water.
- 301.150 Any lots or blocks in the proposed subdivision which are not contiguous must be shown as separate blocks or separate subdivisions.
- 301.160 Houses built on a sloping lot which is lower than the road on which it fronts shall be built at an elevation high enough to prevent damage from drainage flow from the road. The developer or subdivider is responsible to notify a prospective buyer of this requirement.

### 302 STREET LAYOUT

- 302.10 Street Layout. Adequate streets shall be provided by the subdivider, and the arrangement, character, extent, width, grade and location of each shall conform to these regulations and shall be considered in their relation to existing and planned streets, to topographical conditions, to public safety and convenience, and in their appropriate relationship to the proposed uses of land to be served by such streets. The street layout shall be devised for the most advantageous development of the entire neighborhood.
- 302.11 Relation to adjoining street system. Where necessary to the neighborhood pattern, existing streets in adjoining areas shall be continued, and shall be at least as wide as such existing streets and in alignment therewith.
- 302.12 Projection of streets. Where adjoining areas are not subdivided, the arrangement of streets in the subdivision may make provision for the proper projection of streets into such unsubdivided areas, if possible.
- 302.125 Except at street intersections curves shall not approach 90, nor shall any curve have a degree of curvature more than 90.
- 302.13 Dead-end streets: Dead end streets shall be prohibited except as short stubs to permit future expansion.
- 302.14 Cul-de-sacs shall have a turnaround right-of-way of not less than one hundred (100) feet in diameter.

- 302.15 Street Jogs. Whenever possible, street jogs with center line offsets of less than 150 feet will be avoided.
- 302.165 No squares, "islands" or other obstructions to traffic shall be reserved or constructed within the right-of-way. A divided road or street will be permitted provided the owner agrees to maintain center strip.
- 302.17 All streets and roads preferably shall intersect at ninety degree angles; where this is not practical, the intersection on the side of the acute angle must be cut back as specified by Commissioners Court, but in no case shall the cut back be less than 25 feet.

- 302.18 Where part of a road or street has been dedicated and deeded in an adjoining subdivision adjacent to and along the common property lines of the two subdivisions, enough width of right-of-way must be dedicated in the new subdivision to provide the minimum width specified herein, and there shall be paved so much of said right-of-way as to make the full pavement width correspond with Section 302.20 or 302.21. Before any pavement is laid to widen existing pavement, the existing pavement shall be cut back two (2) feet to assure an adequate sub-grade and pavement joint.
- 302.20 Roads and streets to be constructed shall have a minimum width of fifty (50) feet right-of-way and a paved surface width of at least thirty-six (36) feet where curbs are provided, or a paved width of at least twenty-two (22) feet where curbs are not provided, and must provide unhampered circulation through the subdivision.
- 302.21 In subdivisions where public sewer and/or water systems are provided and the developer requests lots smaller than three hundred (300) feet by three hundred (300) feet, the minimum width right-of-way for streets shall be sixty (60) feet and the paved surface width shall be at least thirty-six (36) feet, and the streets shall be curbed.
- 302.22 Right-of-way width shall be increased if necessary because of roadway cuts or fills so that there is a minimum of five (5) feet beyond the toe of slope or top of cut.
- 302.23 Proposed street names shall not be spelled nor pronounced similar to the name of any other street or road located within the County or its incorporated cities, or within the same postal zip codes of such areas unless the streets are a continuation of or in alignment with existing streets, in which case the names of existing streets shall be used.
- 302.24 The grade of roads or streets shall not exceed 12.0 percent, nor be less than 0.3 percent. For 40 MPH traffic, horizontal curves shall have a radius of not less than 575 feet, a sight distance of 275 feet shall be maintained, and in sags the vertical curve length shall not be less than 60 times the difference in grade expressed in percent, - for descending and + for ascending. If speed restrictions are established, curve limitations shall be considered case by case.

### 303 WATER INSTALLATIONS

- 303.10 All subdivision lots shall have access to an adequate supply of potable water. Where individual wells are to

furnish water supply for each lot the subdivider shall determine the availability of water of sufficient quantity and adequate quality by causing a test well or wells to be drilled in accordance with Section 203.860. The County Commissioners Court may require additional test wells if topographic or geologic conditions warrant.

303.11 If a public water supply is to be installed in the subdivision, one or more test wells must be drilled to confirm that there is an adequate source available of potable water. Wells must be tested a minimum of 36 hours pumping at the desired gallons per minute rate to be used for production standards by the State Board of Health.

303.20 For all lots proposed to be supplied with water from a public or private water supply system the subdivider shall furnish the Commissioners Court evidence that the system has received the required approvals of the appropriate regulatory agencies, (See Sec. 203.824 to 203.826 and 203.861), and that the minimum production of the system shall at least equal the requirements of the regulatory agency.

#### 304 SEWERS

All subdivision lots shall be capable of having an adequate system for sanitary sewage disposal, either by connection to an approved public sanitary sewer or by individual septic tanks.

304.10 Connection to an existing public sanitary sewer system shall be required unless the developer can demonstrate to Commissioners Court that such connection would be unreasonably costly, or if the subdivision is not within the certificated area of the sewer system.

304.11 If a sanitary sewage system is to be installed, the plans for such systems must be approved by the appropriate State regulatory agency prior to approval of the final plat by the County. If connection is to be made to an existing public sanitary sewage system, evidence must be presented that such system has previously received such approval.

304.20 If a State approved sewage disposal system is not proposed to be used and use of individual septic tanks is to be utilized, the subdivider shall cause to have percolation tests made in accordance with applicable Kendall County and State regulations in effect for installations of septic tank systems. The tests shall be made by a registered professional engineer or sanitarian

- authorized to conduct such tests in Kendall County. The County Development Manager shall be notified at least 24 hours before percolation tests are to be made so the testing may be observed if desired by County authorities.
- 304.21 The nature and results of these percolation tests will be submitted in a written report to the County Commissioners Court through the County Development Manager and shall include a description of the soil on and below the platted land to a depth of thirty-six (36) inches. The report shall also include a statement as to the engineer's professional opinion as to the type and size of a private septic tank appropriate to the tracts, and shall confirm that neither ground water nor impervious strata exist at depths less than four (4) feet from the bottom of proposed absorption system trench or bed, or, if found, a statement of how the developer proposes to handle the problem.
- 304.22 The number of percolation tests to be made may depend on soil conditions, but the minimum number of such tests shall not be less than one (1) for each ten (10) lots, or one (1) for each (10) acres, whichever results in the greater number of tests. However, no more than one test shall be required on a single lot.
- 304.23 On smaller lots than 300 feet by 300 feet, consideration shall be given to a second site on each lot that could be used for septic systems.
- 304.25 Subdividers or property owners wishing to construct a septic tank system shall obtain a permit from the County Development Manager. Such permit shall not be issued until the final plat for the subdivision has been approved by the Commissioners Court, recorded with the County Clerk, and until the planned water supply is available.
- 304.30 Septic tanks, if used, shall be designed, constructed and maintained in accordance with applicable Kendall County and State regulations.
- 304.31 The construction and maintenance of septic tanks in accordance with Section 304.30 shall be considered to be meeting minimum requirements. Inspection and/or acceptance of the septic tanks by County authorities shall indicate only the facility meets minimum requirements and does not relieve the owner of the property from complying with County, State and Federal regulations. Septic tank systems, although approved as meeting minimum standards, must be upgraded by the owner at the owner's expense if normal operation of the facility results in objectionable odors, if unsanitary conditions are created, or if the facility when used does



not comply with governmental regulations.

- 304.40 If a public or private water supply system and a public sanitary system will serve each lot, the minimum size shall be 7,500 sq. ft. per lot, with a minimum frontage of seventy-five (75) feet.
- 304.50 All planned utility lines that will be located under a street shall be installed before the street is paved. If utility lines are to cross under a street, they shall be installed to a point at least four (4) feet beyond the location of the edge of the proposed pavement.
- 304.60 Where a subdivision is traversed by a water course, drainage way, natural channel or stream, there shall be provided an easement or right-of-way conforming substantially to the limit of such water course, plus additional width to accommodate future needs and maintenance. A note shall be affixed to each plat advising each property owner that the County will not assume maintenance responsibility on drainage easements and prohibiting the owner from blocking the flow of water or constructing improvements in these easements that will be detrimental to its intended use.
- 304.61 Drainage facilities shall be provided where needed and shall be constructed in accordance with approved plans. (See 203.840 to 203.846 and design criteria, Sec. 400).

#### 400 DESIGN CRITERIA (CONSTRUCTION SPECIFICATIONS)

Subdivision roads and streets shall, under normal conditions, be constructed with a flexible base and with Two Course Surface Treatment or a minimum of one and one-half (1-1/2) inch Plant-Mix compacted with a tack coat asphalt treatment under the Plant-Mix. If a concrete pavement is proposed, then the materials, design, specifications and procedure shall conform to those of the Kendall County Road Department. Roads and streets will be built corresponding in section to "Typical Street Section" as shown in Sec. .610.

- 400.10 The County Road Administrator and County Development Manager shall be notified at least twenty-four hours before work is started on laying the base course of a road or before paving is to be started, so that they or their representatives may have opportunity to visit the site to verify that specifications are being met.

401      PREPARING AND CLEANING THE ROADWAY

- 401.10 The subdivider shall clear the right-of-way between the borrow ditches to a depth of one (1) foot below natural ground (where practical) in a manner conforming to Texas State Highway current specifications Items 100.1, 100.2, 102.1 and 102.2. All cleared and grubbed materials shall be burned and/or removed and disposed of.
- 401.20 The subdivider shall remove any unstable sub-base or objectionable material and replace it with material acceptable to the County Road Administrator. At this time any "French Drains" that the Road Administrator deems necessary shall be built.

402      ROADWAY EXCAVATION AND EMBANKMENT

- 402.10 Any roadway excavation necessary to attain conformance with proposed road grades and typical cross sections shall be done in conformity with Texas State Highway current specifications Items 110.1 and 110.2.
- 402.20 In cases where the proposed road grades and cross sections require the placing of fill material to raise the roadway, such embankment fill shall be constructed in conformity with Texas State highway current specifications Items 132.1 and 132.2. Completed side slopes shall not be steeper than 3 to 1.
- 402.30 Completed cuts shall have side slopes no steeper than 2 to 1.
- 402.35 Requirements of Sec. 402.20 and 402.30 for slopes in cuts and on fills may be modified if the developer presents plans designed, signed and sealed by an engineer, substituting adequate retaining walls or demonstrates that cuts are in rock of adequate stability.
- 402.40 If blasting is required, Texas State Highway Department current specifications, Item 7.9 shall be strictly followed.

403      SUBGRADE AND BASE COURSES

- 403.10 The embankment or subgrade and also the base course materials shall be compacted by suitable type rollers in all cases where required to consolidate fill materials or to attain adequate solidity of subgrade materials and of base courses. The County Road Administrator shall require "Density Control" method of compaction to attain the 90%

compaction of subgrade and 95% compaction of base course. These percentages of compaction shall be required for all road construction.

- 403.11 Rolling equipment and construction methods shall conform to Texas State Highway current specifications, Items 210 to 214 inclusive. Except that other rolling equipment may be used if approved by the County Road Administrator.
- 403.20 Prior to placing the base course the roadbed shall be shaped to conform to the subgrade section (See Sec. 610, "Typical Street Section") and shall be tested (Sec. 407.11 a) before placing the base course. It shall be firm and to the line and grade called for on the plans and shall be free of holes, ruts and depressions.
- 403.21 Materials used for the base course shall meet the requirements of the specifications for such materials shown in Sec. 403.23. Samples for testing the materials shall be taken prior to compaction and the samples shall be taken with the frequency determined by Section 407.11.
- 403.22 Testing tolerances: The County may accept the material, providing not more than 2 out of 10 consecutive gradation tests performed are outside the specified limit on any individual or combination of sieves by no more than 5% and where no two consecutive tests are outside the specified limit. The County may accept the material providing not more than 2 out of 10 consecutive plasticity index samples tested are outside the specified limit by no more than 2 points and where no two consecutive tests are outside the specified limit.
- 403.23 Base materials used for roads or streets shall conform to the requirements of Texas State Highway current specifications for Flexible Base materials Type A (crushed stone or broken aggregate, excluding gravel aggregate), or materials Type F (Caliche). The physical requirements for these materials are:

Percent retained on Sq. Sieve	Type A	Type F
1 - 3/4"	0-10	0
No. 4	45-75	45-75
No. 40	60-85	50-85

The material passing the No. 40 sieve shall be known as soil binder and shall meet the following requirements:

Max. LL	40	40
Max. PI	12	12

- 403.24 Testing of flexible base materials shall be in accordance

with the following Texas State Highway Department standard laboratory test procedures:

Preparation of Soil

Constants and Sieve Analysis.....	Tex-101-E
Liquid Limit.....	Tex-104-E
Plastic Limit.....	Tex-105-E
Plasticity Index.....	Tex-106-E
Sieve Analysis.....	Tex-110-E

- 403.25 Before placing any material, the contractor shall furnish the Commissioners Court of Kendall County with reports of analysis of the proposed material made by an approved laboratory. Preliminary approval of a source does not guarantee acceptability or evidence of conformity with these specifications whenever called upon to do so by the Commissioners Court of Kendall County.
- 403.30 Within 48 hours before placing the base material the subgrade shall be checked as to conformity with grade and section (see Sec. 610, "Typical Street Section") and shall be tested for density in accordance with Sec. 407.11 (a). It shall be the charge of the Contractor that the required amount of specified material shall be delivered in each 100-foot station. Material deposited upon the subgrade shall be spread and shaped the same day unless otherwise directed by the County Road Administrator. In the event inclement weather or other unforeseen circumstances render impractical the spreading of the material during the first 24-hour period, the material shall be scarified and spread as directed by the County Road Administrator. The material shall be sprinkled, if directed, and shall then be bladed, dragged and shaped to conform to typical sections as shown on plans. All areas and "nests" of segregated coarse or fine material shall be corrected or removed and replaced with well graded material, as directed by the County Road Administrator. If additional binder is considered desirable or necessary after the material is spread and shaped, it shall be furnished and applied in the amount directed by the County Road Administrator. Such binder material shall be carefully and evenly incorporated with the material in place by scarifying, harrowing, brooming or by other approved methods.
- 403.31 The base course may be placed and compacted by the contractor in a single six (6) inch lift, or in multiple lifts, at the option of the contractor. Total base material placed shall not be less than 660 pounds per square yard.
- 403.32 The course shall be sprinkled as required and compacted to the extent necessary to provide not less than the 95%

density specified. In addition to the requirements specified for density, the full depth of flexible base shown on the plans shall be compacted to the extent necessary to remain firm and stable under construction equipment. Construction equipment shall be limited to units not exceeding legal loads. After each section of flexible base is completed, tests as necessary will be made. If the material fails to meet the density requirements, it shall be reworked as necessary to meet these requirements. Throughout this entire operation the shape of the course shall be maintained by blading, and the surface upon completion shall be smooth and in conformity with the typical sections shown on the plans and to the established lines and grades. In that area on which pavement is to be placed, any deviation in excess of 1/4 inch in cross section and in length of 16 feet measured longitudinally shall be corrected by loosening, adding or removing material, reshaping and recompacting by sprinkling and rolling. All irregularities, depressions or weak spots which develop shall be corrected immediately by scarifying the areas affected, adding suitable material as required, reshaping and recompacting by sprinkling and rolling. Should the base course, due to any reason or cause, lose the required stability, density or finish before the surfacing is complete, it shall be recompacted and refinished at the sole expense of the Contractor.

- 403.34 If base materials are not hauled directly to the site and applied they shall be stockpiled for later use. In this case the stockpile shall be not less than the height indicated and shall be made up of layers of material not to exceed the depth shown on the plans. After a sufficient stockpile has been constructed as specified on the plans, the Contractor may proceed with loading from the stockpile for delivery to the road. In loading from the stockpile for delivery to the road, the material shall be loaded by making successive vertical cuts through the entire depth of the stockpile.

#### 404 SURFACE TREATMENT

- 404.10 Where a road or street section (without curbs) is constructed, the flexible base shall be as shown on "Typical Street Section" (See Sec. 610). The pavement shall be at least twenty-two (22) feet wide (See Sec. 302.20) of a "Double Asphalt Surface Treatment" (also known as "Two Course Surface Treatment"), or a minimum of one and one-half (1-1/2) inches of "Plant-Mix" compacted with a One Course Surface Treatment under the Plant-Mix.
- 404.20 The "Double Asphalt Surface Treatment" (or "Two Course Surface Treatment") shall conform to Texas State Highway

current specifications for street construction, Item 322, except as modified herein.

404.205 "The One Course Surface Treatment" shall conform to Texas State Highway Department current specifications for street construction, Item 320, except as modified herein.

404.206 One or Two Course Surface Treatments shall not be applied when the temperature of air is below 60° F and is falling or when the roadway surface temperature is below 60° F. It may be applied when the air temperature is above 50° F and rising, provided roadway temperature is 60° F or above.

404.21 Aggregates for use on the One or Two Course Surface Treatments shall conform to the following as to types (Texas State Highway Department current specifications, Items 302 and 304):

Type B aggregate shall consist of crushed gravel, crushed slag, crushed stone or natural limestone rock asphalt.

Type PB aggregate shall consist of materials of Type B which have been treated (coated or fluxed) with 0.5 to 2.0 percent by weight of pre-coat or fluxing material which meets Texas State Highways current specifications Item 300 for such materials.

404.22 Aggregates for use on the One or Two Course Surface Treatment shall conform to the following as to grades:

Percent by weight <u>Retained on</u> -----	<u>Grade 3</u>	<u>Grade 4</u>	<u>Grade 5</u>
3/4" sieve	0	-	-
5/8" sieve	0-2	0	-
1/2" sieve	20-35	0-2	0
3/8" sieve	85-100	20-35	0-5
1/4" sieve	95-100	-	-
No. 4 sieve	-	95-100	40-85
No. 10 sieve	99-100	99-100	98-100
No. 20 sieve	-	-	99-100

404.23 For one or Two Course Surface Treatment the asphaltic material shall be Type AC-5 with 3% latex, or Type AC-10 with 3% latex, or HFRS or HFRS-2 or equivalent materials used by the Texas State Highway Department for such use, and approved in writing by the County Road Administrator.

404.24 Asphaltic materials are very flammable. The utmost care must be taken to prevent open flames from coming in contact with the asphaltic material or the gasses of same.

The contractor shall be responsible for damage from fires or accidents which may result from heating the asphaltic materials.

- 404.25 a) AC-5 with latex or AC-10 with latex should be applied within a temperature range of 275° to 350° F, and the maximum allowable temperature for application shall be 375° F.
- b) HFRS and HFRS-2 should be applied within a temperature range of 110° F to 160° F, and the maximum allowable temperature for application shall be 170° F.
- 404.27 Rate of application for asphaltic materials shall be 0.3 gallons per square yard for One Course Surface Treatment. Rate of application shall be 0.35 gallons per square yard for the first course and 0.30 gallons per square yard for the second course of a Two Course Surface Treatment.
- 404.28 For Two Course Surface Treatment the aggregate for the first course shall be Grade 3, Type B or PB; second course aggregate shall be Grade 4, Type B or PB. For One Course Surface Treatment aggregate shall be Grade 4, Type B or PB.
- 404.29 Rolling is required to achieve a uniform embedment and the contractor shall broom off loose aggregate remaining after rolling each course. If bleeding occurs the contractor shall apply sand or Grade 5 material to the finished surface for whatever period of time is required to absorb the excess asphalt. All other construction methods and specifications of Texas State Highway current specifications Items 320 and 322 shall apply.
- 404.30 Aggregate rock will be applied at the rate of one (1) cubic yard per one hundred (100) square yards for the first course and at the rate of one (1) cubic yard per one hundred (100) square yards for the second course. Rolling is required to achieve a uniform embedment and the contractor shall broom off loose aggregate remaining. If bleeding occurs, the contractor shall apply sand or Grade 5 material to the finish surface for whatever period is required to absorb the excess asphalt.
- 404.31 The one and one-half (1-1/2) inch compacted "Plant-Mix" material shall conform to Texas State Highway Department current specifications, Item 340 for Hot Mix, Type D (Fine Graded Surface Course) and the percent aggregate by weight or volume shall be:
- |   |        |
|---|--------|
| Passing 1/2" sieve                          | 100    |
| Passing 3/8" sieve                          | 85-100 |
| Passing 3/8" sieve, retained on No. 4 sieve | 21-53  |

Passing No. 4 sieve, retained on No. 10 sieve	11-32
Total retained on No. 10 sieve	54-74
Passing No. 10 sieve, retained on No. 40 sieve	6-32
Passing No. 40 sieve, retained on No. 80 sieve	4-27
Passing No. 80 sieve, retained on No. 200 sieve	3-27
Passing No. 200 sieve	1- 8

The asphaltic material shall form from 4 to 8 percent of the mixture by weight, or from 9 to 19 percent of the mixture by volume.

- 404.315 The asphaltic materials for the tack coat shall be cut-back asphalt MC-30 or other material used by the Texas Department of Highways and Public Transportation for that purpose with the approval of the County Road Administrator.
- 404.32 The Plant-Mix material shall be discharged from mixer at a temperature not to exceed 375° F, and applied to the roadway at a temperature of not less than 275° F.
- 404.325 MC-30 should be applied within a temperature range of 70° to 150° F, and the maximum allowable temperature for application shall be 175° F.
- 404.33 Construction methods used to produce, transport, place and compact Plant-Mix materials shall correspond to Texas State Highway current specifications Item 340.6.

#### 405 DRAINAGE STRUCTURES

- 405.10 Runoff calculations shall be based on rainfall intensity, drainage area, time of concentration and nature of terrain. Drainage structures shall be designed on the basis of a 10-year rainfall frequency for bridges, on a 5-year rainfall frequency for culverts and storm sewers, and on a 2-year rainfall for channels and streets, the same as used for Texas State Highways.



405.105 Design discharge for hydraulic facilities should be calculated for natural rural areas above 200 acres (but not for urban areas, areas with significant man-made hydraulic controls, nor for major river main stream locations) based on the following:

Q	=	4.82	A	.779	S	.966	3
						Ft. /S	
		2 yr					
Q	=	36.4	A	.776	S	.706	3
						Ft. /S	
		5 yr					
Q	=	82.6	A	.776	S	.622	3
						Ft. /S	
		10 yr					
Q	=	179.9	A	.776	S	.554	3
						Ft. /S	
		25 yr					
Q	=	278	A	.778	S	.522	3
						Ft. /S	
		50 yr					
Q	=	399	A	.782	S	.497	3
						Ft. /S	
		100 yr					

where S is the slope in feet per mile between the 10% and 85% points on the drainage area length, and A is the drainage area in square miles.

405.11 Runoff rates for drainage areas of less than 200 acres shall be calculated by the Rational Method ( $Q=CIA$ ) per Sec. 2-203 of the Hydraulic Manual of the Texas State Department of Highways and Public Transportation, second edition, as revised, and shall not be less than the following:

Character of Area	Up to 1% Slopes	Up to 2% Slopes	Up to 5% Slopes	Over 5% Slopes
Business or Commercial (90% or more impervious)	95	96	97	97
Densely developed area (80%-90% impervious)	85	88	91	95
Closely built-up areas	75	77	80	84
Average residential areas	65	67	69	72
Undeveloped areas	68	70	72	75

In all cases wet antecedent conditions shall be assumed. Run-off rates shall be computed on the basis of ultimate development of the entire watershed contributing run-off water to the proposed subdivision. For determination of time of concentration, velocities shall be assumed on the basis of concrete lined channels and streets carrying storm waters in the contributing watershed area.

- 405.12 Streets may be used for storm water drainage if the calculated storm water flow does not exceed the carrying capacity of the street or the velocity does not exceed 10 feet per second where curbed, 6 FPS in sodded ditches. Street drainage shall be designed on a basis of a 2-year frequency. Where streets are not capable of carrying storm waters as outlined above, off street drainage or a storm sewer shall be provided. Minimum street slope shall be 0.3% and maximum 12.0%.
- 405.13 The design of concrete-lined channels shall be based on a 2-year frequency and is subject to the approval of the County's Engineering Consultant, if one is employed, and shall comply with the following general requirements:
- a. The concrete lining shall extend one foot above the height of the design flow height of the channel. From top of the concrete lining to the top of the ditch, a side slope, not steeper than three (3) horizontal to one (1) vertical with mulch sodding will be allowed.
  - b. Vertical walls will be permissible in depths not to exceed two (2) feet unless properly fenced or enclosed.
  - c. Easements for channels shall extend a minimum of two (2) feet on one side and fifteen (15) feet on the opposite side of the extreme limits of the channel, when such channel does not abut a roadway. When such channels abut a roadway, the easement shall extend a minimum of two (2) feet on both sides of the extreme limits of the channel.
- 405.14 The design of earth-sodded channels shall be based on a 2-year frequency, and shall comply with the following general requirements:
- a. The mulch sodding shall be placed and established as growing over the entire surface area.
  - b. The side slopes shall not be steeper than three (3) horizontal to one (1) vertical.
  - c. Easements shall be as stated in Sec. 405.13 (c)
- 405.15 Storm sewers shall be designed on a 5-year frequency and shall be subject to approval of the County.

- 405.16 Low water crossings are prohibited on constantly running creeks. Dip sections (swales) will be allowed provided calculated design flow depth would not exceed one (1) foot at a velocity not to exceed six (6) feet per second. The pavement section will be cement stabilized at a rate of two sacks per cu. yd. for twenty-five (25) feet beyond the limits of the calculated one foot depth of flow and for a width of ten (10) feet beyond the edge of the pavement on each side.

#### 406 CULVERTS, BRIDGES AND STRUCTURES

- 406.05 Concrete, wherever mentioned in these regulations, shall be Class A concrete as defined in Texas State Highway Department current specifications, Item 421.9, except for machine-laid curb, which shall be Class C concrete. Concrete materials, placement methods, placement temperatures, curing, etc., shall be in accordance with Texas State Highway Department current specifications, Items 420 and 421.
- 406.10 Pipe culverts shall be of corrugated metal pipe or reinforced concrete pipe and shall conform to Texas State Highway Department current specifications, Items 460, 461, 463, or 464.
- 406.11 Corrugated metal pipe shall be bituminous coated on the invert when required by the Commissioners Court. In such case, Texas State Highway Department current specifications, Item 460.7 shall govern.
- 406.12 Where metal or concrete pipe culverts are installed, concrete headwalls shall be built at the inlet and outlet and shall conform to the drawing entitled "Headwalls for Culverts" (See Sec. 630). Headwalls shall have a slope corresponding to the embankment, but not exceeding three to one. Minimum pipe culvert size shall be eighteen (18) inch.
- 406.13 In high embankments, headwalls need not be carried to top of slope if wingwalls and an adequate parapet headwall are provided. The design of wingwalls and parapets must be submitted for approval and must bear signature and seal of the designing engineer.
- 406.20 The County Road Administrator shall be advised at least 24 hours before culverts are placed or concrete headwalls are poured so necessary inspections may be made by the County.
- 406.30 Concrete box culverts, if used, shall conform to Texas State Highway current specifications, Item 462.

407      TESTING AND INSPECTIONS

- 407.10 The subdivider is responsible for coordinating and paying for all inspections, on-site collection and delivery of samples by an authorized laboratory and for on-site and off-site testing done by the laboratory.
- 407.11 Street, Road and Structures testing by an authorized laboratory is required as follows:
- (a) Street Subgrade - Proctor Determination on each class of soil to be encountered. Density test - 1 each per 500' of street with retest as necessary (minimum of 3 tests).
  - (b) Base Course - Proctor test shall be required to establish quality and moisture density relationship. Density test: 1 each per 500 feet of street or road, with retest as necessary (minimum of 3 tests).
  - (c) Concrete structures - Inspection by County prior to pouring concrete. Concrete compressive strength test (minimum of three per structure). Testing will not be required for Class C concrete curbs.
- 407.12 The subdivider shall provide the County with a minimum of 24 hours notice prior to any inspection that the County is to perform. Laboratory testing companies to be used by the Developer must be approved by the County.

408      STREET AND CROSS-WALK PLANS

- 408.10 Typical sections showing the proposed pavement width, type, thickness, and crown; the proposed curb or curb and gutter type, location in relation to centerline and exposure; the proposed sidewalk dimensions and location in relation to curbs and property lines, the proposed parkway grading slopes. This information shall be given for each of different types of streets in the subdivision. Construction details of all drainage structures including dimensions, reinforcing and components such as grates and manhole covers.
- 408.20 Alignment of each street, cross walk-way, and drainage easement showing a beginning and ending station, each deflection angle of the centerline and the station of the point of intersection; the station of the point of curvature and the point of tangency of each curve; the station and angle of intersection of each intersection with another street, or drainage easement, the station and radius of each curb return; the location of adjacent

right-of-way lines; the location and limits of sidewalks and curbs of each street; the location of each drainage structure. The location and size of all storm sewers.

- 408.30 Location, description, and elevation of Bench Marks; the top of curb grade at each curb return; the centerline grade at each end and at grade changes along drainage ditches; the gradient of each tangent grade and the location and length of each vertical curve; the direction of storm drainage flow at each intersection; the flow line elevation of each storm sewer at each point of change of grade and each end and the intervening gradients. The profiles of streets, and drainage ditches shall show the natural ground at adjacent property lines and the proposed centerline.
- 408.40 Scale, north arrow and date. Plan and profile shall be drawn to scales of one inch equals fifty feet horizontally and one inch equals five feet vertically.
- 408.50 All street plans and profiles shall bear the seal of a Registered Professional Engineer.
- 408.60 Private driveways crossing the right-of-way of public roads or streets which they enter, shall not include any construction of rock, concrete, metal or wood, except for driveway pavement and any necessary culverts, as approved by Commissioners Court.
- 408.61 Property owners constructing private driveways crossing the right-of-way and intersecting public roads or streets shall obtain a permit from the County Road Administrator and shall construct the portion of the driveway within the right-of-way in accordance with his instructions.
- 408.62 If culverts are used in construction of private driveways under Sec. 408.61 they shall meet the following minimum specifications:
- a) Size to be determined by the developer's or owner's engineer and approved by the County's engineer.
  - b) Material shall be either corrugated galvanized metal pipe or reinforced concrete pipe.
  - c) Fifteen (15) feet length.

#### 410 SIGNS

- 410.10 All roads except streets on cul-de-sacs of 300 feet length or less, shall be provided with center line marking, using yellow paint of the quality used for that purpose by the Texas State Highway Department.

- 410.11 All roads shall be provided with standard road signs common to highways in Texas after proper approval by Kendall County Commissioners Court. Signs shall be of aluminum, of one piece construction, and shall conform to Texas Highway Department current specifications, Item 636.
- 410.12 Street name signs shall be installed by the subdivider at all intersections within or abutting the subdivision. They shall be of aluminum, of one piece construction, and shall be of uniform six (6) inch height. They shall be mounted on two (2) inch pipe standards, seven (7) feet above pavement to bottom of sign, and shall be placed in a uniform manner as the designated County official shall indicate to the subdivider.
- 410.13 Reflecting yellow markers shall be placed by the subdivider on each side of all culverts at the location designated by the County Road Administrator, and shall conform to Texas State Highway Department current specifications, Item 656.
- 410.14 Markings, Barricades and Safety. All subdivision streets and drainage structures shall be marked and protected in accordance with the provisions of the Manual on Uniform Traffic Control Devices as published by the U.S. Department of Transportation.

#### 500      PERFORMANCE GUARANTEES

- 501.10 Prior to application to the Kendall County Commissioners Court for approval of the final plat, the subdivider must provide said Court with an irrevocable letter of credit, surety bond or funds as detailed in Section 204.10.
- 501.20 The subdivider also shall file an agreement in writing prior to final subdivision plat approval to provide a maintenance bond, executed by a surety company holding a license to do business in the State of Texas, and acceptable to the County, in an amount equal to ten percent (10%) of the total cost of the improvements required to be constructed in said subdivision and in accordance with Sec. 502.10 or a letter of credit (Sec. 503) after acceptance of construction of the improvements required (roads, streets, sidewalks, curbs, drainage structures, etc.) but before County acceptance for maintenance of such improvements. Such bond or letter of credit shall guarantee that the developer will maintain the improvements in good condition at his expense for a period of at least one year and beyond that until acceptance for maintenance by the County. The Commissioners Court shall not accept such streets and

drainage in behalf of the County for a period of a least one year after such proper completion and not then unless and until the County again certifies that they have been maintained in good condition for said period of one year and are in good condition at such time. The County shall accept such streets and drainage only by written order duly passed at a regular or legally called special meeting of the Commissioners Court, and the subdivider shall remain responsible for the maintenance of such improvements until thus legally accepted by the County.

501.30 Where good cause exists, the County may extend the period of time for completion under Sec. 501.10 of this Section for an additional period of time not to exceed six (6) months if the subdivider has not completed the required site improvements or completed such improvements in compliance with this order. No such extension shall be granted unless additional security of the type provided in Sec. 501.20 is first provided by the Subdivider to cover the extended period of time.

502      MAINTENANCE BOND

The maintenance bond required by Sec. 501.20 above, shall be in the following form:

502.10

STATE OF TEXAS

) (

COUNTY OF KENDALL

) (

KNOW ALL MEN BY THESE PRESENTS:

MAINTENANCE BOND

That we, \_\_\_\_\_, the undersigned subdivider, as Principal, and \_\_\_\_\_, as Surety, do hereby acknowledge ourselves to be held and firmly bound unto Kendall County in the full and just sum of \$ \_\_\_\_\_, (being 10% of the estimated cost of the hereinafter enumerated site improvement) for the payment of which well and truly to be made, we hereby bind ourselves and our respective heirs, administrators, executors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has petitioned the Commissioners Court of Kendall County for permission to develop a subdivision within the jurisdiction of Kendall County more particularly described as follows to-wit: \_\_\_\_\_

\_\_\_\_\_ which is shown on a subdivision plat, entitled \_\_\_\_\_ Subdivision, heretofore conditionally approved by the County Clerk of Kendall County on \_\_\_\_\_, 19\_\_\_\_; and

WHEREAS, the Commissioners Court of Kendall County requires, as a condition precedent to the granting of such petition, that the Principal furnish a guarantee that he will maintain and cause to be maintained, according to the requirements of such subdivision control ordinance, the following site improvements for a period on one (1) year after the approval of the construction thereof by the County: \_\_\_\_\_

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall maintain, and cause to be maintained, the above mentioned improvements in accordance with the requirements of Kendall County for the period of one (1) year after the approval of the construction thereof by the County of Kendall and until the final approval, and until the official acceptance thereof by the Commissioners Court by ordinance, then this obligation shall be void; otherwise, the obligations made under this bond will remain in full force and effect.



IN TESTIMONY WHEREOF, WITNESS OUR HANDS and seal, this, the  
\_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_.

-----  
Subdivider and Principal

Surety \_\_\_\_\_

By: \_\_\_\_\_  
Attorney in Fact

APPROVED AND ACCEPTED, THIS THE \_\_\_\_\_ day of  
\_\_\_\_\_, 19\_\_\_\_\_.

KENDALL COUNTY

By: \_\_\_\_\_  
Title: \_\_\_\_\_

### 503 MAINTENANCE LETTER OF CREDIT

In lieu of a maintenance bond as provided for above the developer may furnish the court with an irrevocable letter of credit from a state or federally chartered savings and loan or bank, in a form acceptable to the Kendall County Commissioners Court in the same amount (10%).

### 504 COUNTY OBLIGATION

In no event is the County obliged to complete the work proposed by a Developer and approved by the County or to otherwise assume the obligations of the Developer.

### 505 PRIOR APPROVAL

Subdivisions heretofore granted preliminary approval, or final approval and filed of record, are hereby exempted from this order for a period of one (1) year from the date of enactment of this Order.

### 506 SEVERABILITY

If any section, paragraph, subdivision, clause, phrase, or

provision of the Order shall be adjudged invalid or held unconstitutional, the same shall not affect the validity of this Order as a whole, or any part or provision thereof, other than the part so decided to be invalid or unconstitutional.

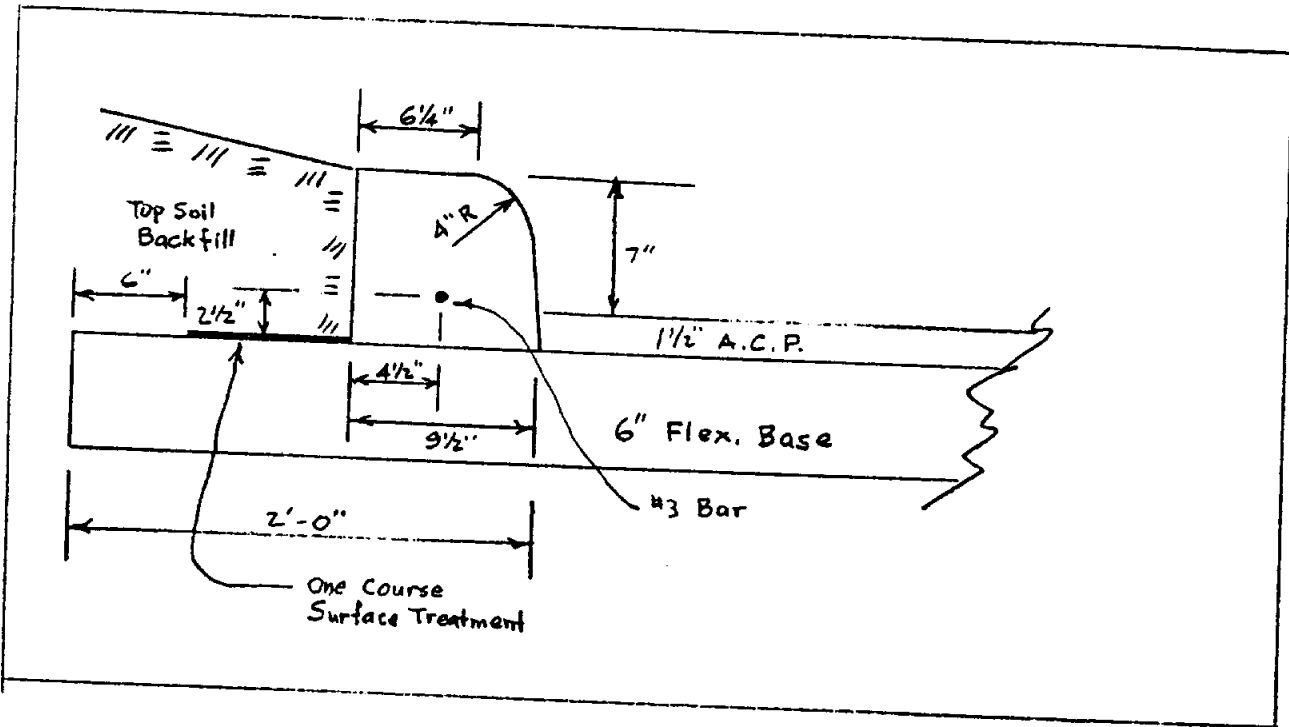
**600 FIGURES AND/OR TABLES**

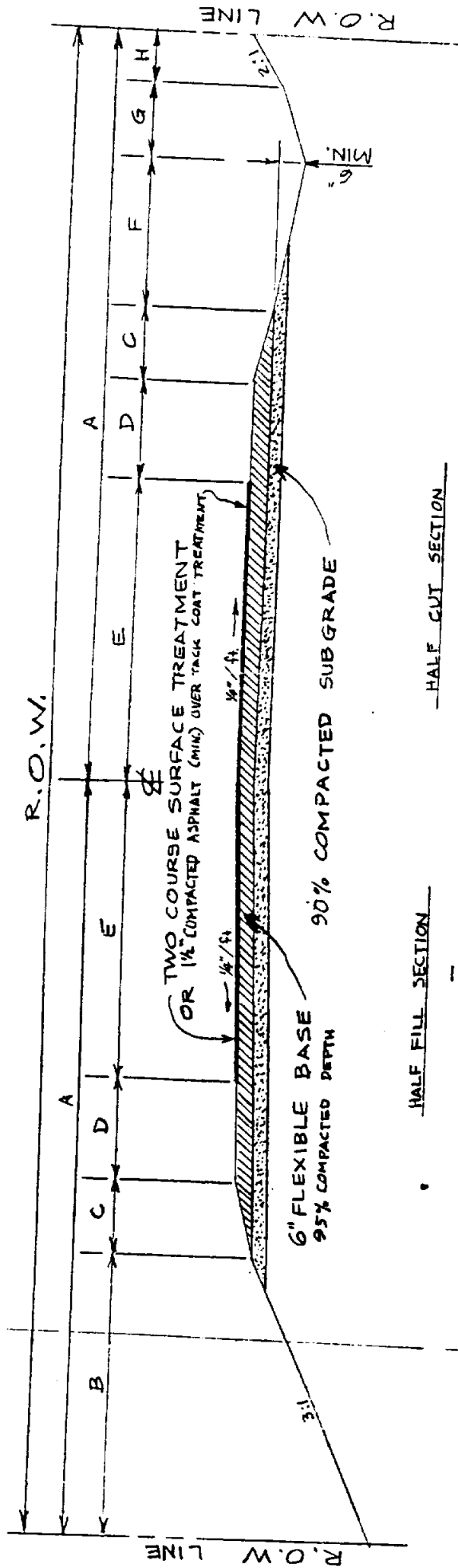
**610 STREET OR ROAD SECTION**  
(See following sheet)

**620 CURB AND GUTTER DETAILS**

620.1 Curbs, where installed, shall be located as indicated in Sec. 620.2 below. Curbs may be machine laid, and shall be reinforced with #3 bar. Curbs shall be backfilled on the property line side with tamped topsoil, prior to placing of A.C.P.

620.2 Typical Curb Section:





R.O.W. #	22' Pavement	36' Pavement
A	50'	60'
B	25'	30'
C	8'	6'
D	3'	3'
E	3'	3'
F	11'	16'
G	4'	4'
H	4'	2'

\* NOTES- PAVEMENT AND ROW, WIDTHS IN ACCORDANCE WITH SEC 302.20 TO 302.22

HALF FILL SECTION

HALF CUT SECTION

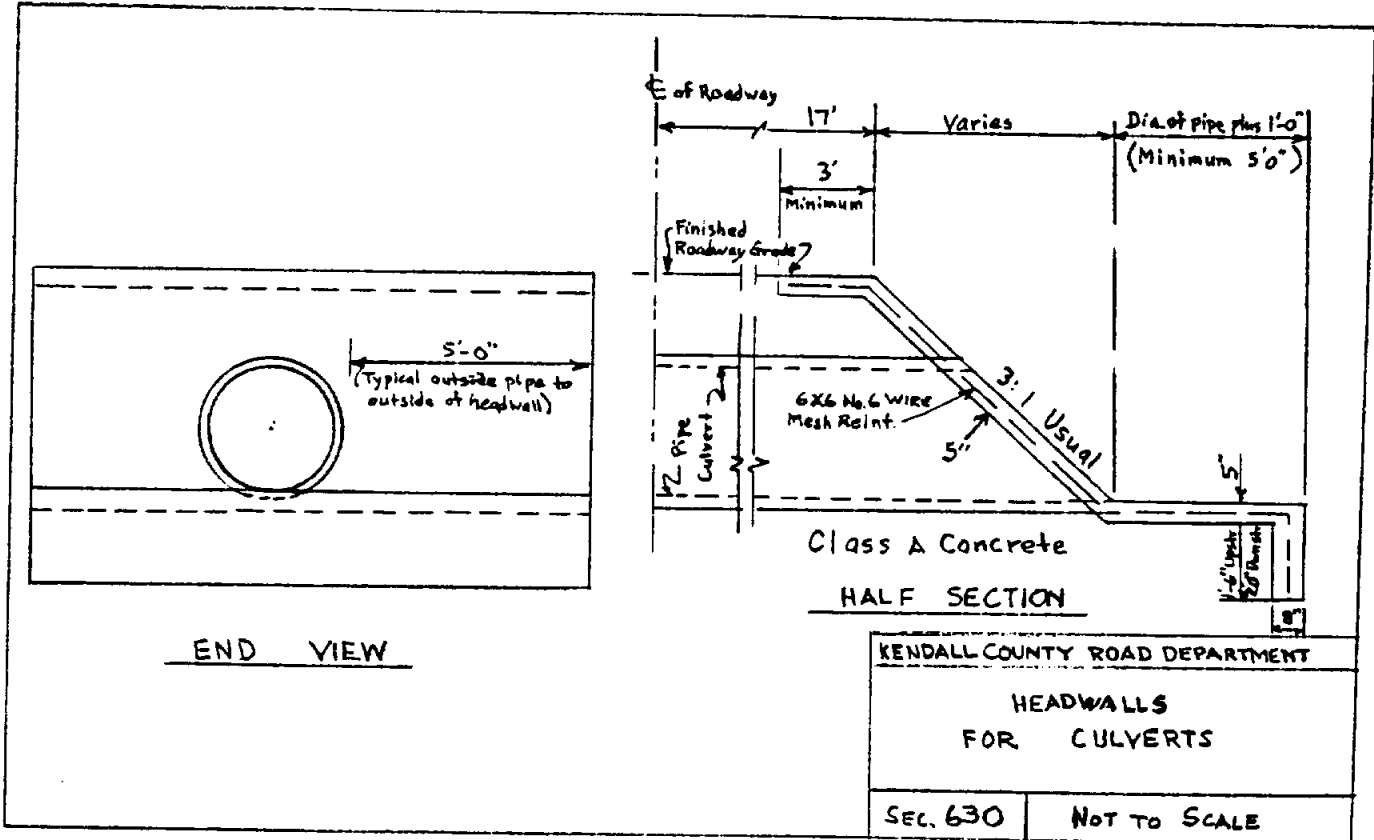
KENDALL COUNTY, TEXAS

TYPICAL STREET SECTION

SEC. 610

JAN 1987

NOT TO SCALE



630.1 In cases where a culvert with its headwalls would extend more than forty (40) feet from the center line of the roadway, the subdivider shall dedicate such additional drainage easement or right-of-way as is required to provide normal access and egress to drainage flow.

CHECKLIST -- PRELIMINARY PLAT

- 202.1 Plat signed and sealed by registered engineer
- 202.2 Four copies filed
- 202.3 Development Permit delivered
- 202.4 Correct size and scale
- 202.4 Index sheet if more than one sheet
- 202.501 Subdivision named
- 202.501 No name conflict with other subdivisions
- 202.502 Contiguous subdivisions named and indicated if platted
- 202.503 Boundary lines shown by heavy lines
- 202.503 Acreage of subdivision given to nearest half acre
- 202.504 Boundaries described by bearings and distances
- 202.505 Location of new features with approximate dimensions
- 202.506 Location of existing facilities
- 202.507 Location of proposed roads, easements, etc.
- 202.508 Date, scale and north arrow
- 202.509 Names of owner
- 202.510 Contours at 20 ft interval or less
- 202.511 Lot and block numbers
- 202.512 Setback lines, if any
- 202.513 Location map showing adjacent subdivisions
- 202.514 Area of lots to 1/10 acre
- 202.515 Floodplain area, or statement there is none
- 202.516 Approximate frontage of lots
- 202.517 If public water supply approved, location of alternate well site

- 202.519 Lineal feet of proposed roads
- 202.610/613 Master plan of developer's property
- 202.620 Draft copy of subdivision deed restrictions
- 202.630 Letter of agency
- 202.631 Letter from subdivider's engineer
- 202.632 Statement of proposed method of water supply
- 202.632 Statement of proposed method of sewage disposal
- 202.634 Highway Dept. approval if driveways enter State Highway

CHECKLIST--FINAL PLAT

- 100 Municipal approval if within ETJ
- 203.1 Filing fee paid
- 203.3 Six copies filed (original to be filed upon recording)
- 203.4 Correct size and scale
- 203.4 Index sheet if more than one sheet
- 203.4 Contours on 10 ft. interval or less
- 203.518 Man-made structures shown
- 203.5 Copy of city's authorization, if within extra-
- 203.6 territorial jurisdiction
- 203.701 Plat conforms to preliminary plat as approved
- 203.701 Plat includes modifications, conditions, etc., on which preliminary plat approval was given
- 203.702 Plat shows all features required for preliminary plat
- 203.703 Details of existing facilities
- 203.704 Details of proposed facilities
- 203.705 Statement of utility easement dedications
- 203.706 Acreage of proposed roads
- 203.707 Owner's acknowledgement
- 203.708 Surveyor's certification
- 203.709 Engineer certification
- 203.710 Certification by County's engineer
- 203.711 Provision for signature of members of Commissioners Court
- 203.712 Provision for County Clerk's acknowledgement
- 203.713 Boundaries of school districts shown
- 203.8 Engineering plans, calculations and reports all carry engineer's seal

- 203.812 Subdivider's letter requiring environmental compliance for non-residential lots
- 203.814 Regulatory agency letter of approval of sewer system plans
- 203.815 Letter of approval from city or Water Control District if sewer lies within their jurisdiction
- 203.821 Fire department approval of proposed hydrants
- 203.824 Letter of approval from city or Water Control District if water system lies within their jurisdiction
- 203.825 Certificates of Convenience and Necessity, if needed
- 203.826 Letter of approval from Texas Department of Health on water system

NOTE--Items marked (\*) are not required if all lots exceed 300 ft. by 300 ft. (2 acres) in size (Sec. 203.862) unless specifically requested by Commissioners Court

- 203.830 (\*) 2 copies of street and drainage plans and profiles
- 203.831 (\*) 2 copies of road specifications to be used
- 203.841 (\*) Location map showing watershed (USGS)
- 203.842 (\*) 2 copies of storm drainage plans
- 203.843 (\*) Hydraulic calculations supporting drainage plans
- 203.846 Statement of need for French Drains, and 3 copies of plans
- 203.850 Subdivider's letter, authorizing plat to be filed of record
- 203.860
- 303.10 Evidence of adequacy of water supply (test well logs)
- 303.11
- 203.861 For public water supply, approval by Texas Dept. of Health
- 203.870 Tax certificates showing all taxes paid
- 203.880 Certification by utility company officers
- 203.890 Check to cover recording fee



- 203.895 Detailed floodplain study, if within floodplain
- 203.896 State Highway permit if facilities join or connect
  
- 204.10
- 501 Guarantee of performance (letter of credit, bond or funds)
- 204.30/
- 204.35 Resubdivision requirements
  
- 204.85 Lots not sold until final plat recorded
  
- 301.100 Each lot fronts on public street and there is public entry
  
- 301.105
- 301.106 Lots have minimum frontage
- 304.40
  
- 301.110
- 304.40 Lots have minimum size
  
- 301.120 Lots on narrow roads, dedicate 25 ft. for roads
  
- 301.130 No reserve strips proposed
  
- 301.140 Roads on public property will not impound water
  
- 302.10 Street layout adequate
  
- 302.11
- 302.12 Street relation proper
  
- 302.13 No dead end streets (except cul-de-sacs)
  
- 302.14 Cul-de-sacs not less than 100 ft. diameter turnaround
  
- 302.15 No excessive street jogs
  
- 302.165 No islands in streets
  
- 302.17 Acute intersection angles cut back
  
- 302.18 Full street width obtained on boundary streets
  
- 302.20
- 302.21 Street widths correct
  
- 302.21 Curbs provided where required
  
- 302.23 Street names have no conflict

- 304.10 Connection made to public sewer system or excessive cost demonstrated
- 304.11 Sewer system been approved
- 304.20 Percolation tests made, where required
- 304.21 Percolation tests satisfactory
- 304.21 Engineer's report on conditions for septic system
- 304.22 Number of percolation tests adequate
- 304.60 Drainage easements shown
- 400 Type road or street surfacing proposed must be stated
- 400/404.33 &
- 408/408.50 Road plans comply with specifications
- 405/406.30 Drainage structures comply with specifications
- 501.20 Agreement in writing to provide maintenance bond

CHECKLIST FOR APPROVAL OF IMPROVEMENTS CONSTRUCTION

- 204.71 Report from developer's engineer
- 204.80 One year has elapsed, traffic volume adequate (for maint.)
- 204.80 Streets dedicated to public
- 204.85 Lots not sold until final plat filed for record
- 400 Type pavement
- 401.10 Cleared properly
- 402.20 Fill and slopes proper
- 402.30/35 Cut slopes proper
- 403.10 Subgrade compaction tests OK
- 403.21 Base materials frequency tests OK
- 403.23 Base materials tests OK
- 403.25 Tests approved before placing base
- 403.31 Base placed in proper lifts
- 403.32 Base compaction tests OK
- 404.10  
610 Pavement proper width and thickness
- 404.206 Pavement placed at proper temperature
- 404.22  
404.28 Aggregates meet specifications
- 404.23  
404.25 Asphaltic materials meet specifications
- 404.31 Hot-mix asphalt meets specifications
- 405.14 Sodded channels meet specifications
- 405.16 Low water crossing meet specifications
- 406.05 Concrete tests made and meet specifications

- 406.12/13
- 630 Culvert headwalls proper
- 408.10 Streets, curbs, sidewalks built per plans
- 408.60 No private solid construction on public R/W
- 410.10 Center line marking done
- 410.11 Highway signs placed
- 410.12 Street name signs placed
- 410.13 Culvert markers placed
- 501 Maintenance bond or letter of credit furnished
- 302.20
- 620.2 Curbs, where needed, properly built

KENDALL COUNTY, TEXAS

REGULATIONS, RULES AND SPECIFICATIONS

FOR ROADS AND SUBDIVISIONS

1988

SURVEY OF EXISTING CONDITIONS  
ALL BASINS RECAP

NAME OF UNIT	EXISTING		TOTAL LOTS	IMPROVED	VA- CANT
	WATER SYSTEM	WASTEWATER SYSTEM			
QUEMADO	0	0	1,002	920	82
RADAR BASE	180	180	180	76	104
ELM CREEK	884	0	884	160	724
SECO CREEK	1,325	1,295	1,325	765	560
EIDSON ROAD	3,500	1,500	3,720	1,732	1,988
ROSITA CREEK	632	0	1,632	507	1,125
EL INDIO	300	0	300	76	224
TOTALS			9,043	4,236	4,807

ABBREVIATIONS USED

Ind. - Septic Tank and/or Privy

CEP - City of Eagle Pass

EI WSC - El Indio Water Supply Co.

MCIP - Maverick County Industrial Park

C & C - Haul & Canal

SURVEY OF EXISTING CONDITIONS  
QUEMADO

NO.	NAME OF UNIT	EXISTING		CURRENT		TOTAL LOTS	IMP.	VA- CANT
		WATER SYSTEM	WASTEWATER SYSTEM	WATER SUPPLY	SEWER METH.			
74	Quemado	None	None	Wells	Ind.	763	736	* 27
75	Quemado Sub. B	None	None	Wells	Ind.	49	49	* 0
76	Quemado Townsite	None	None	Wells	Ind.	172	117	* 55
-	Normandy	None	None	Wells	Ind.	18	18	0
						1,002	920	82

\* See State Health Dept. Well Survey in Appendix

SURVEY OF EXISTING CONDITIONS  
RADAR BASE

NO.	NAME OF UNIT	EXISTING		CURRENT		TOTAL METH. LOTS	IMP.	VA- CANT
		WATER SYSTEM	WASTEWATER SYSTEM	WATER SUPPLY	SEWER			
1	Airport Addition	MCIP	MCIP	Same	Ind.	133	33	*100
81	Radar Base	MCIP	MCIP	Same	MCIP	47	43	4
						180	76	104

\* Sewer collection within 1 1/2 miles from subdivision

SURVEY OF EXISTING CONDITIONS  
ELM CREEK

NO.	NAME OF UNIT	EXISTING		CURRENT		TOTAL LOTS	IMP.	VA- CANT
		WATER SYSTEM	WASTEWATER SYSTEM	WATER SUPPLY	SEWER METH.			
30	Elm Creek Unit 1	CEP	None		Ind.	91	27	64
31	Elm Creek Unit 2	CEP	None		Ind.	45	10	35
	S. ELM CREEK							
90	Unit 1	CEP	None		Ind.	30	3	27
91	Unit 2	CEP	None		Ind.	24	1	23
16	Deer Run Unit 1	CEP	None	*		151	7	144
17	Deer Run Unit 2	CEP	None	*		175	34	141
18	Deer Run Unit 3	CEP	None	*		53	2	51
19	Deer Run Unit 4	CEP	None	*		151	9	142
20	Deer Run Unit 5	CEP	None	*		119	22	97
	Hopedale Area +	CEP	None		Ind.	45	45	-
						884	160	724

\*A small number of lots have CEP water - service not extended to interior lots.

Some residents use canal water and some with shallow wells, tapping canal seep water  
+ Large tracts, can be subdivided.



SURVEY OF EXISTING CONDITIONS  
SECO CREEK BASIN

NO.	NAME OF UNIT	EXISTING		CURRENT		TOTAL LOTS	IMP.	V A - CANT
		WATER SYSTEM	WASTEWATER SYSTEM	WATER SUPPLY	SEWER METH.			
114	Cruse Addition	CEP	None	Same	Ind.	6	3	3
88	Sauz Creek	CEP	None	Same	Ind.	24	19	5
	SIESTA ACRES							
94	Unit 1	CEP	CEP	Same	CEP	119	91	28
95	Unit 2	CEP	CEP	Same	CEP	77	52	25
96	Unit 3	CEP	CEP	Same	CEP	36	27	9
97	Unit 4	CEP	CEP	Same	CEP	35	30	5
98	Unit 5	CEP	CEP	Same	CEP	32	26	6
99	Unit 6	CEP	CEP	Same	CEP	47	30	17
100	Unit 6A	CEP	CEP	Same	CEP	7	5	2
101	Unit 7	CEP	CEP	Same	CEP	30	17	13
102	Unit 8	CEP	CEP	Same	CEP	48	30	18
103	Unit 9	CEP	CEP	Same	CEP	47	37	10
104	Unit 10	CEP	CEP	Same	CEP	47	34	13
106	Unit 11	CEP	CEP	Same	CEP	38	25	13
107	Unit 12	CEP	CEP	Same	CEP	51	30	21
108	Unit 13	CEP	CEP	Same	CEP	19	8	11
89	Seco Mines Sub.	CEP	CEP	Same	CEP	107	64	43
	CENIZO HEIGHTS							
6	Unit 1	CEP	CEP	Same	CEP	17	12	5
7	Unit 2	CEP	CEP	Same	CEP	37	22	15
8	Unit 3	CEP	CEP	Same	CEP	15	12	3
83	Rio Vista Sub.	CEP	CEP	Same	CEP	1	0	1
32	Fabrica Sub.	CEP	CEP	Same	CEP	485	191	294
						1,325	765	560

SURVEY OF EXISTING CONDITIONS  
EIDSON ROAD

NO.	NAME OF UNIT	EXISTING		CURRENT		TOTAL LOTS	IMP.	VA- CANT
		WATER SYSTEM	WASTEWATER SYSTEM	WATER SUPPLY	SEWER METH.			
109	Westlake Unit 1	CEP	CEP	Same	Ind.	51	19	32
110	Westlake Unit 2	CEP	CEP	Same	Ind.	29	13	16
QUINTAS FRONTERIZAS								
77	Block 1	EI WSC	None	Same	Ind.	294	135	159
78	Block 2	EI WSC	None	Same	Ind.	160	76	84
79	Block 3	EI WSC	None	Same	Ind.	164	79	85
80	Block 4	EI WSC	None	Same	Ind.	128	45	83
CEDAR RIDGE								
4	Unit 1	?	CEP		CEP	87	22	65
5	Unit 2	?	CEP		CEP	17	3	14
MORALES LANDS								
64	Unit 2		None		Ind.	22	16	6
65	Unit 2A	EI WSC	None	Same	Ind.	11	5	6
66	Unit 3	CEP	None	Same	Ind.	76	53	23
67	Unit 3A	CEP	None	Same	Ind.	6	1	5
68	Unit 4	CEP	None	Same	Ind.	5	2	3
NELLIS LANDS								
69	Northside	CEP	CEP	Same	CEP	36	32	4
70	Southside	CEP	CEP	Same	CEP	62	46	16
40	J.R. Rodriguez	CEP	CEP	Same	Same	34	12	22
47	Lago Vista Sub.	CEP	CEP	Same	Ind.	42	26	16
21	Eagle Canal	CEP	None	Same	Ind.	17	3	14
38	Heritage Farm Sub	CEP	None	Same	Ind.	30	14	16
9	Chula Vista Carr	?	None		Ind.	64	43	21
41	Jardines Verdes Sub	EI WSC	None		Ind.	40	18	22
93	Valle De Las Brisas	EI WSC	None	Same	Ind.	50	22	28
48	Las Brisas Sub	EI WSC	None	Same	Ind.	310	205	105
111	Wilson & Bargo	EI WSC	None	Same	Ind.	17	10	7
113	Zamora Lands	EI WSC	None	Same	Ind.	12	6	6
EAGLE HEIGHTS								
22	Unit 1	CEP	None	Same	Ind.	106	56	50
23	Unit 2	CEP	None	Same	Ind.	18	7	11
24	Unit 3	CEP	CEP	Same	Ind.	61	11	* 50
LA HERRUDURA								
42	Unit 1	CEP	CEP	Same	Ind.	50	17	** 33
43	Unit 2	CEP	CEP	Same	Ind.	50	22	28
44	Unit 3	CEP	CEP	Same	Ind.	66	24	42
45	Unit 4	CEP	CEP	Same	Ind.	35	11	24
46	Unit 5	CEP	CEP	Same	Ind.	5	1	4
GREEN ACRE								
35	Unit 1	CEP	None	C & C		27	11	16
36	Unit 2	CEP	None	C & C		33	4	29

PAIZANO HEIGHTS								
71	Unit 1	None	None	C & C	Ind.	78	4	74
72	Unit 2	None	None	C & C	Ind.	1	0	1
LOMA BONITO HTS.								
50	Unit 1	CEP	CEP		Ind.	54	27	27
51	Unit 2	CEP	CEP		Ind.	86	20	66
52	Unit 3	CEP	CEP		Ind.	41	1	40
53	LOMA BONITO NE	CEP	CEP		Ind.	8	2	6
54	Unit 1	CEP	CEP		Ind.	171	109	62
55	Unit 2	CEP	CEP		Ind.	85	66	19
56	Unit 3	CEP	CEP		Ind.	451	287	164
57	Unit 3B	CEP	None	Same	Ind.	114	63	51
47	Lago Vista Sub	CEP	None	Same	Ind.	47	31	16
84	Rockaway Country Sites	EI WSC	None	Same	Ind.	27	6	21
29	El Pueblo Nuevo	EI WSC	None	Same	Ind.	285	27	258
10	Chula Vista School Blk	EI WSC	None	Same	Ind.	57	19	38
						3,720	1,732	1,988

\* Nearby at new school site

\*\* Project underway to fund sewer service

SURVEY OF EXISTING CONDITIONS  
ROSITA CREEK

NO.	NAME OF UNIT	EXISTING			CURRENT		TOTAL LOTS	IMP.	VA- CANT
		WATER SYSTEM	WASTEWATER SYSTEM	WATER SUPPLY	SEWER METH.				
	CHULA VISTA								
11	Unit 1	EI	WSC	None	Same	Ind.	93	34	59
12	Unit 2	EI	WSC	None	Same	Ind.	367	145	222
13	Unit 3	EI	WSC	None	Same	Ind.	44	6	38
14	Unit 4	EI	WSC	None	Same	Ind.	19	3	16
15	Unit 5	EI	WSC	None	Same	Ind.	25	6	19
58	Loma Linda Sub.	EI	WSC	None	Same	Ind.	371	72	299
	LOS GUJILLOS								
59	Unit 1	EI	WSC	None	Same	Ind.	53	18	35
34	Florentino Ramos Tracts	EI	WSC	None	?	Ind.	6	4	2
61	Maverick Subdivision	EI	WSC	None	?	Ind.	60	0	60
92	Victoriano *	EI	WSC	None	?	Ind.	68	12	56
	Hernandez								
49	Lewis Subdivision	EI	WSC	None	Same	Ind.	71	22	49
37	H.F. Lewis Sub.	EI	WSC	None	Same	Ind.	33	5	28
	ROSITA VALLEY								
86	Unit 1	EI	WSC	None	Same	Ind.	83	48	35
87	Unit 2	EI	WSC	None	Same	Ind.	42	40	2
82	Rio Grande Valley Lands	EI	WSC	None	Same	Ind.	6	6	0
83	Rio Vista Sub.	EI	WSC	None	Same	Ind.	1	0	1
85	Rosita Gardens	EI	WSC	None	Same	Ind.	158	14	144
-	Kickapoo Indian Village	EI	WSC	None	Same	Ind.	132 +	72	60
							1,632	507	1,125

\* Developer has one meter and private distribution line.  
+ 112 Lots Presently - 21 Additional Lots Planned

SURVEY OF EXISTING CONDITIONS  
EL INDIO

NO.	NAME OF UNIT	EXISTING		CURRENT		TOTAL LOTS	IMP.	VA- CANT
		WATER SYSTEM	WASTEWATER SYSTEM	WATER SUPPLY	SEWER METH.			
60 25	Los Indio Ranchetts	EI WSC	None	Same	Ind.	21	1	* 20
	El Indio Sub A	EI WSC	None	Same	Ind.	178	58	120
	El Indio Sub B	EI WSC	None	Same	Ind.	21	2	19
	El Indio Sub C	EI WSC	None	Same	Ind.	74	14	60
	El Indio Sub D	EI WSC	None	Same	Ind.	6	1	5
						300	76	224

\* No Dwellings, but water meters in place.

Maverick County Regional Water  
And Wastewater Feasibility Study  
Contract No. 9-483-713

The following maps are not attached to this report. Due to their size, they could not be copied. They are located in the official file and may be copied up request.

1. Maverick County Sewer Study
2. Other Maps